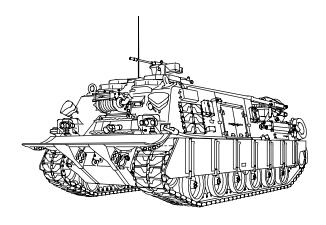
MARINE CORPS TM 07769B-20/2-2

TECHNICAL MANUAL VOLUME 2 OF 2

UNIT MAINTENANCE MANUAL FOR

RECOVERY VEHICLE, HEAVY, FULL-TRACKED: M88A2 (NSN 2350-01-390-4683) (EIC: ACQ)



This manual supercedes TM 9-2350-292-20-2 dated 1 October 2000. Distribution Statement A: Approved for public release; distribution is unlimited.

01 JANUARY 2002 HEADQUARTERS, DEPARTMENT OF THE ARMY HEADQUARTERS, U.S. MARINE CORPS

WARNING SUMMARY





CARBON MONOXIDE POISONING IS DEADLY

Carbon monoxide is a colorless, odorless, DEADLY POISONOUS gas and when breathed deprives the body of oxygen and causes SUFFOCATION. Breathing air with carbon monoxide produces symptoms of headache, dizziness, loss of muscular control, a sleepy feeling, and coma. Permanent BRAIN DAMAGE or DEATH can result from severe exposure.

The following precautions MUST be followed to ensure personnel are safe whenever the personnel heater, main, or auxiliary engine of any vehicle is operated for any purpose.

DO NOT operate personnel heater or engine of vehicle in enclosed area without adequate ventilation.

DO NOT idle engine for long periods without ventilator blower operation. If tactical situation permits, open hatches.

DO NOT drive any vehicle with inspection plates, cover plates, or engine compartment doors removed unless necessary for maintenance purposes.

NEVER sleep in a vehicle when the heater is operating or engine is idling.

BE ALERT at all times during vehicle operation for exhaust odors and exposure symptoms. If either are present, IMMEDIATELY EVACUATE AND VENTILATE the area. Affected personnel treatment shall be: expose to fresh air; keep warm; DO NOT PERMIT PHYSICAL EXERCISE; if necessary, administer artificial respiration as described in FM 21-11 and get medical attention.

BE AWARE; neither the gas particulate filter unit nor field protection mask for nuclear-biological-chemical protection will protect you from carbon monoxide poisoning.

THE BEST DEFENSE AGAINST CARBON MONOXIDE POISONING IS ADEQUATE VENTILATION.





EXHAUST GASES CAN KILL

Brain damage or death can result from heavy exposure. Precautions must be followed to ensure crew safety when personnel heater, main, or auxiliary engine of any vehicle is operated for any purpose.

- 1. Do not operate vehicle engine in enclosed areas.
- 2. Do not idle vehicle engine with vehicle windows closed.
- 3. Be alert at all times for exhaust odors.
- 4. Be alert for exhaust poisoning symptoms. They are:

Headache.

Dizziness.

Sleepiness.

Loss of muscular control.

5. If you see another person with exhaust poisoning symptoms:

Remove person from area.

Expose to open air.

Keep person warm.

Do not permit physical exercise.

Administer artificial respiration, if necessary*

Seek immediate medical attention.

*For artificial respiration, refer to FM 21-11.

6. BE AWARE, the field protective mask for Nuclear-Biological-Chemical (NBC) protection will not protect you from carbon monoxide poisoning.

THE BEST DEFENSE AGAINST EXHAUST POISONING IS ADEQUATE VENTILATION.









CHEMICAL AGENT RESISTANT COATING (CARC) PAINTING HAZARD

CARC paint contains isocyanate (HDI) which is highly irritating to skin and respiratory system. High concentrations of HDI can produce symptoms of itching and reddening of skin, a burning sensation in throat and nose and watering of the eyes. In extreme concentrations, HDI can cause cough, shortness of breath, pain during respiration, increased sputum production, and chest tightness. The following precautions must be taken whenever using CARC paint:

ALWAYS use air line respirators when using CARC paint unless air sampling shows exposure to be below standards. Use chemical cartridge respirator if air sampling is below standards.

DO NOT let skin or eyes come in contact with CARC paint. Always wear protective equipment (gloves, ventilation mask, safety goggles, etc.).

DO NOT use CARC paint without adequate ventilation.

NEVER weld or cut CARC-coated materials.

DO NOT grind or sand painted equipment without high-efficiency air purifying respirators in use.

BE AWARE of CARC paint exposure symptoms; symptoms can occur a few days after initial exposure. Seek medical help immediately if symptoms are detected.



NOISE HAZARD

Personnel hearing can be PERMANENTLY DAMAGED if exposed to constant high noise levels of 85 dB (A) or greater. Wear approved hearing protection devices when working in high noise level areas. Personnel exposed to high noise levels shall participate in a hearing conservation program in accordance with DA PAM 40-501. Hearing loss occurs gradually but becomes permanent over time.



FALLING EQUIPMENT HAZARDS

Never crawl under equipment when performing maintenance unless equipment is securely blocked. Equipment may fall and cause serious injury or death to personnel.

Keep clear of equipment when it is being raised or lowered. Equipment may fall and cause serious injury or death to personnel.

Do not work on any item supported by only lift jacks or hoist. Always use blocks or proper stands to support the item prior to work. Equipment may fall and cause serious injury or death to personnel.

Do not allow heavy components to swing while suspended by lifting device. Equipment may strike personnel and cause injury.

Exercise extreme caution when working near a cable or chain under tension. A snapped cable, shifting or swinging load may result in injury or death to personnel.

All personnel must stand clear during lifting operations. A swinging or shifting load may cause injury or death to personnel.

Unless otherwise specified, perform all maintenance procedures with all equipment lowered to the ground, transmission in neutral, parking/emergency brake applied, and the engine stopped to prevent possible injury to personnel due to falling equipment or rolling vehicle (ref. FM 21–11).









FIRE HAZARD

Diesel fuel and combustible materials are used in operation and maintenance of this equipment. Do not smoke or allow open flames or sparks in areas where diesel fuel and combustible materials are used or stored. DEATH or severe injury may result if personnel fail to observe this precaution. If you are burned, seek medical aid immediately (ref. FM 21–11).











DO NOT USE MINERAL SPIRITS OR PAINT THINNER TO CLEAN THE M88 HRV.

Mineral spirits and paint thinners are highly toxic and combustible. Prolonged breathing can cause dizziness, nausea, and even death (ref. FM 21–11).

DO NOT USE THESE MATERIALS





Use care when removing snap and retaining rings. Snap and retaining rings are under spring tension and can act as projectiles when released and could cause severe eye injury.

Use care when cutting lockwire. Wire can act as a projectile when cut and could cause severe eye injury.





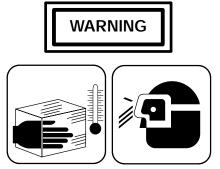






DRY-CLEANING SOLVENT

Dry-cleaning solvent (P-D-680) used to clean parts, is toxic and flammable. Wear protective goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes. Do not breathe vapors. Do not use near open flame or excessive heat. Do not smoke when using solvent. Failure to do so could cause SERIOUS INJURY. If you become dizzy while using cleaning solvent, get fresh air immediately, and if necessary, get medical attention. If contact with skin or clothes is made, flush thoroughly with water. If the solvent contacts your eyes, wash with water immediately, and obtain medical aid (ref. FM 21-11).



FIRE EXTINGUISHING SYSTEM HAZARDS

Fire bottles can discharge and injure personnel. Insert antirecoil plugs, lock pins, and cotter pins before working on or near bottles.

CO² can cause frostbite or eye injury. Wear protective clothing and goggles to avoid contact. If CO² contacts hands, hold hands under armpits or in warm water until warmed. If CO² contacts eyes, flush with large amounts of water and get medical attention immediately.



FASTENERS AND ATTACHING HARDWARE HAZARD

Always use the same fastener part number (or equivalent) when replacing fasteners. Do not risk using a fastener of less quality; do not mix metric and inch (customary) fasteners. Mismatched or incorrect fasteners can result in damage, malfunction, or injury.









NBC EXPOSURE AND VEHICLE AIR FILTER HAZARDS

NBC-contaminated air filters must be handled and disposed of only by authorized and trained personnel. The unit commander or senior officer in charge of maintenance personnel must ensure that prescribed protective clothing (FM 3-4) is used, and prescribed safety measures and decontamination procedures (FM 3-5) are followed. The local unit SOP is responsible for final disposal of contaminated air filters. Failure to comply may cause severe injury or death to personnel.

The NBC protection filters use a type of carbon that contains Chromium VI. This is a known carcinogen if inhaled or swallowed. Damaged or unusable filters are classified as hazardous waste.

- a. Do not throw away damaged or unusable filters as trash.
- b. Turn in damaged or unusable filters to your Hazardous Waste Management Office or Defense Reutilization and Marketing Office (DRMO).

Filters are completely safe to handle and use if they are not damaged in such a way that carbon leaks from them. If carbon does leak, use protection such as a dust respirator to cover nose and mouth and put carbon in container such as self-sealing plastic bag; turn in to Hazardous Waste Management Office or DRMO.

Disposal of hazardous waste is restricted by law. Violation is subject to criminal penalties.





ELECTRICAL HAZARDS

Be certain vehicle MASTER switch is OFF when working on vehicle electrical system to prevent injury due to electrical shock (ref. FM 21-11).

Remove rings, bracelets, wristwatches and neck chains before working on any vehicle. Jewelry can catch on equipment and cause injury, or may short across an electrical circuit and cause severe burns or electrical shock.











BATTERY HAZARDS

Lead-acid gases can explode. Do not smoke, have open flames, or make sparks around a battery, especially if caps are off. If a battery is gassing, it can explode and cause injury to personnel.

- a. Ventilate when charging or using in a enclosed space.
- b. Wear safety goggles and acid-proof gloves when battery cover must be removed or when adding electrolyte.
- c. Avoid electrolyte contact with skin, eyes, or clothing. If battery electrolyte spills, take immediate action to stop burning effects:

External: Immediately flush with cold running water to remove all acid.

Eyes: Flush with cold water for at least 15 minutes. Seek immediate medical attention.

Internal: Drink large amounts of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Seek immediate medical attention.

Clothing or Vehicle: Wash at once with cold water. Neutralize with baking soda or household ammonia solution.

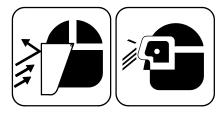




EXPLOSION HAZARD

Cylinders containing compressed gases must not be dropped, struck, or subjected to any temperature above +140°F (+60°C). This could result in an explosion and injury to personnel (ref. FM 21–11).





COMPRESSED AIR HAZARD

Compressed air used for cleaning purposes will not exceed 30 psi (207 kPa). Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc.).





ADHESIVE HAZARDS

Adhesive causes immediate bonding on contact with eyes, skin, or clothing and also gives off harmful vapors. Wear protective goggles and use it in a well-ventilated area. If adhesive gets in eyes, try to keep eyes open; flush eyes with water for 15 minutes and get immediate medical attention.

Adhesive sealant MIL-S-46163 can damage your eyes. Wear your safety goggles/glasses when using; avoid contact with eyes. If sealant contacts eyes, flush eyes with water and get immediate medical attention.





ROTATION HAZARD

When working on a running engine, provide shielding for exposed rotating parts. Tools, clothing, or hands can get caught and cause serious injury to personnel.





BURN HAZARD

Allow engine to cool before performing maintenance on the muffler, exhaust pipe, exhaust manifold, or turbocharger. If necessary, use insulated pads or gloves.

Do not touch hot exhaust system with bare hands; injury to personnel will result.

Wheels/hubs may be hot after operation. Exercise extreme care when checking wheels/hubs for proper operation. Failure to comply may result in injury to personnel.





To avoid personal injury, use an assistant when lifting parts or components that weigh more than 40 lbs (23 kg). Failure to comply may cause injury to personnel.









FIRE RETARDANT HYDRAULIC OIL (FRH)

FRH hydraulic fluid may contain Tricresyl Phosphate which if taken internally, can cause paralysis.

Hydraulic Fluid may be absorbed through the skin. Follow these precautions.

Wear long sleeves, gloves, goggles, and face shield when using FRH.

If FRH contacts eyes, immediately flush eyes with water and get immediate medical attention.

If FRH contacts skin, thoroughly wash with soap and water.

Wash hands thoroughly before eating or smoking after using FRH.





Use two personnel to guide driver when backing the vehicle for emplacement or any other reason. Failure to comply may result in injury or DEATH to personnel or damage to equipment.









Never disconnect any hydraulic line or fitting without first dropping pressure to zero. High-pressure hydraulics operate this equipment. Refer to vehicle operator and maintenance manuals for hydraulic oil pressure. A high-pressure oil stream can pierce body and cause severe injury to personnel.

To prevent personnel injury or death, do not attempt to loosen or tighten hydraulic fittings or lines when system is pressurized. Activate hydraulic controls several times with engine and auxiliary power unit OFF to relieve residual pressure in the hydraulic system.

Diesel or hydraulic fluid leaks under pressure may not be visible. Use a piece of wood or cardboard to find leaks, DO NOT use a bare hand. Wear safety goggles for protection. Failure to comply may result in injury to personnel.

INSERT LATEST CHANGED PAGES./WORK PACKAGES. DESTROY SUPERSEDED DATA

LIST OF EFFECTIVE PAGES/WORK PACKAGES

Note: This manual supercedes TM 9-2350-292-20-2 dated 01 October 2000.

Date of issue for original and changed pages/work packages are:

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TM 9-2350-292-20-2 MARINE CORPS TM 07769B-20/2-2

HEADOUARTERS DEPARTMENT OF THE ARMY U.S. MARINE CORPS WASHINGTON, D.C. 01 JANUARY 2002

TECHNICAL MANUAL

UNIT MAINTENANCE MANUAL

RECOVERY VEHICLE, HEAVY, FULL-TRACKED:M88A2 NSN 2350-01-390-4683 (EIC: ACQ)

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

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HOW TO USE THIS MANUAL

This manual was designed to provide you with the information you will need to maintain the M88A2 recovery vehicle.

The information contained in this manual is presented in chapters and work packages. Each chapter is divided into work packages to cover the subject for vehicle system(s) or components. Where references are made to tables, figures, and work packages, refer to those portions of the text.

To find information relating to a specific component or system:

Determine the specific name or function of the component/system.

Find the name or function in the Index Listing, located in the back of this manual.

Refer to appropriate work package(s) called out in the Index Listing.

To find information pertaining to a broader range of information (such as vehicle troubleshooting, preventive maintenance component repair, and component descriptions):

Identify the desired topic.

Find the general topic in the Table of Contents, located in the front of this manual.

Refer to appropriate work package(s) called out in the Table of Contents.

MAINTENANCE

Throughout this manual you will frequently see "notify direct support maintenance". When you are instructed to notify direct support maintenance, do exactly that; they have the tools and training to efficiently and correctly perform the next level of maintenance.

Maintenance procedures are to be performed in the sequence shown in the text and illustrations. Step 1 must be performed before step 2 and so on.

Equipment illustrations use numbers to identify parts of the system/components.

Throughout this manual the words WARNING, CAUTION, and NOTE will appear. There is a reason for every one of them.

WARNING

A warning is used to alert the user to hazardous operating and maintenance procedures, practices, conditions, statements, etc. that may result in injury to or DEATH or personnel if not strictly observed.

CAUTION

A caution is used to alert the user of hazardous operating and maintenance procedures, practices, conditions, statement, etc. that may result in damage to or destruction of equipment or of mission effectiveness if not observed.

NOTE

A note is used to inform the user of essential information which is of special interest or importance or will aid the user in performing a job.

CHAPTER 9 TRANSMISSION MAINTENANCE

TRANSMISSION OIL COOLER LINES REPLACEMENT

0345 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools

General mechanic's tool kit (item 1, WP 0717 00) Adjustable wrench (item 22, WP 0717 00) Crowfoot attachment (item 91, WP 0717 00) Suitable container (2.5 gal. (9.5 L) min cap)

Materials/Parts

Self-locking nuts (2) (item 234, WP 0718 00) Lockwashers (2) (item 12, WP 0718 00) Sealing compound (item 16, WP 0716 00)

Equipment Conditions

Transmission oil temperature transmitter removed (WP 0348 00)
Transmission oil temperature switch removed (WP 0349 00)

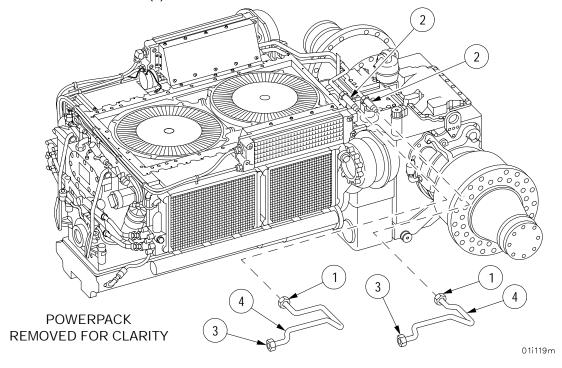
NOTE

Perform Removal steps 1 and 8 and Installation step 9 formaintenance of left side oil cooler lines.

Perform Removal steps 2 through 4 and 8 and Installation steps 6 through 8 for maintenance of right side oil cooler lines and bracket.

Removal

1. Disconnect coupling nut (1) at each of two tees (2) and coupling nut (3) on two left side oil cooler lines (4). Remove left side oil cooler lines (4).



0345 00

Removal-Continued

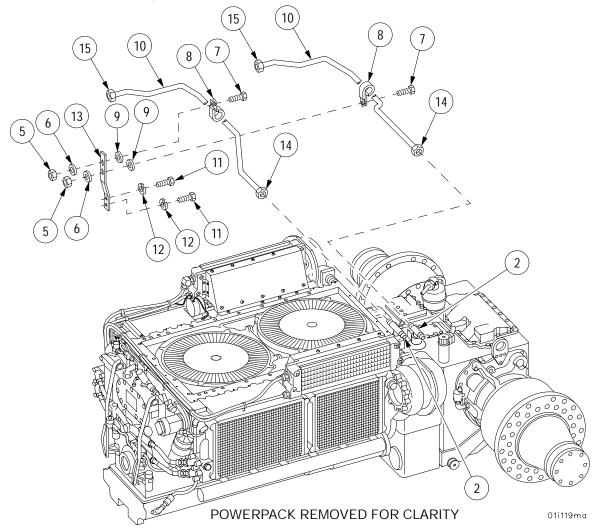
2. Remove two self-locking nuts (5), two flat washers (6), two screws (7), two clamps (8), and shim(s) (9) from two right side oil cooler lines (10). Discard two self-locking nuts.

NOTE

For removal of right side oil cooler lines bracket use existing transmission hardware.

Note the quantity and position of shim(s) being removed to ensure shim(s) are installed in the same position.

- 3. Remove two screws (11), two lockwashers (12) and bracket (13). Discard lockwashers.
- 4. Disconnect coupling nut (14) at each of two tees (2) and coupling nut (15) on opposite end of two right side oil cooler lines (10). Remove right side oil cooler lines (10).



TRANSMISSION OIL COOLER LINES REPLACEMENT - CONTINUED

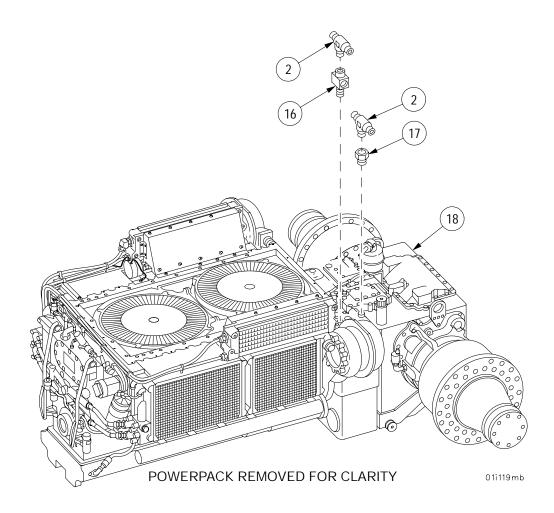
0345 00

Removal-Continued

- 5. Remove two tees (2) from cross (16) and bushing (17).
- 6. Remove bushing (17) from transmission (18).
- 7. Remove cross (16) from transmission (18).
- 8. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to male pipe threads of cross (16) and bushing (17).
- 2. Install cross (16) in transmission (18).
- 3. Install bushing (17) in transmission (18).
- 4. Apply sealing compound to male pipe threads of two tees (2) which are to be installed in cross (16) and bushing (17).
- 5. Install two tees (2) in bushing (17) and cross (16).



0345 00

Installation-Continued

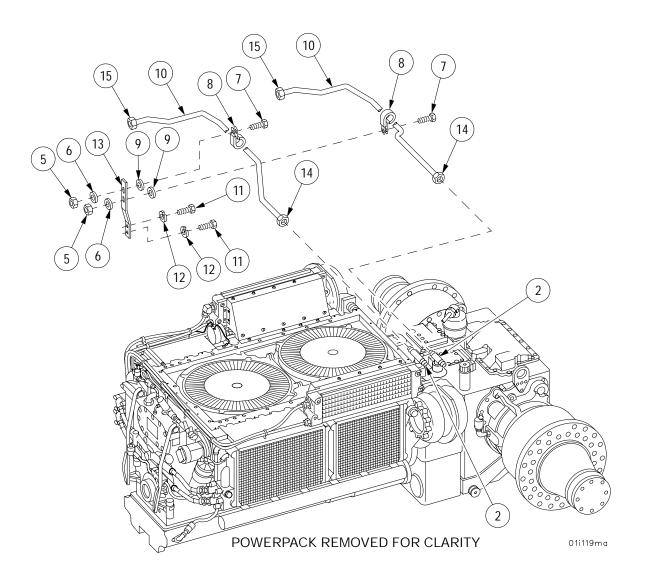
6. Install two right side oil cooler lines (10) with coupling nuts (14) at tees (2) and coupling nuts (15) on opposite ends of lines (10) at oil cooler.

NOTE

Using existing side transmission hardware for mounting right oil cooler lines bracket.

Shim so that tube clamps fits flush with transmission bracket.

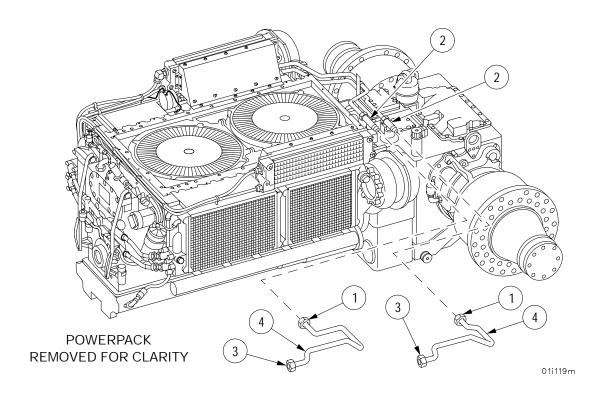
- 7. Install bracket (13) with two screws (11) and two new lockwashers (12).
- 8. Install two clamps (8) around two right side oil cooler lines (10) with two screws (7), shim(s) (9), two flat washers (6) and two new self-locking nuts (5).



0345 00

Installation-Continued

9. Install two left side oil cooler lines (4) with coupling nuts (1) at tees (2) and coupling nuts (3) on opposite ends of lines (4) at oil cooler.



NOTE

FOLLOW-ON MAINTENANCE:

Install transmission oil temperature transmitter (WP 0348 00)

Install transmission oil temperature switch (WP 0349 00)

TRANSMISSION OIL SAMPLING VALVE REPLACEMENT

0346 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00)

Equipment Conditions

Engine deck doors opened (TM 9-2350-292-10)

References

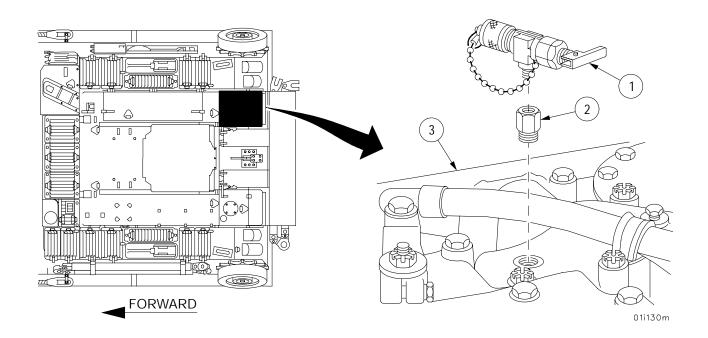
TM 9-2350-292-10

Removal

- 1. Remove oil sampling valve (1) from bushing (2).
- 2. Remove bushing (2) from transmission (3).
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to male pipe threads of bushing (2).
- 2. Install bushing (2) in transmission (3).
- 3. Apply sealing compound to male pipe threads of oil sampling valve (1).
- 4. Install oil sampling valve (1) in bushing (2).



NOTE

FOLLOW-ON MAINTENANCE:

Close engine deck doors (TM 9-2350-292-10)

END OF TASK

TRANSMISSION BRACKET ASSEMBLY REPAIR

0347 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (5) (item 12, WP 0718 00) Lockwasher (item 297, WP 0718 00)

Equipment Conditions

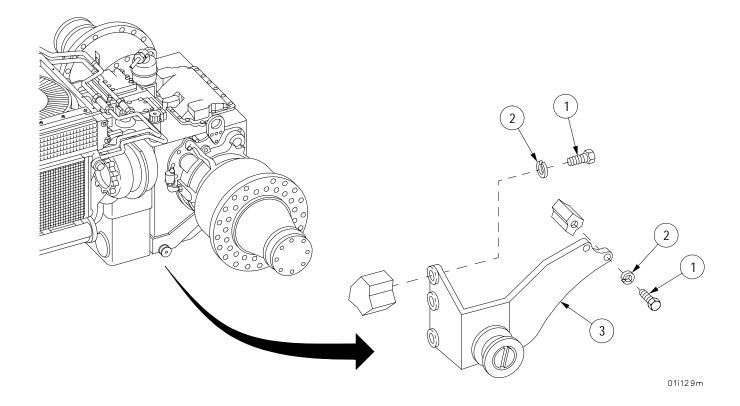
Powerpack removed (WP 0188 00)

NOTE

Left and right transmission bracket assemblies are repaired in the same manner.

Removal

Remove five screws (1), five lockwashers (2) and bracket assembly (3). Discard lockwashers.



TRANSMISSION BRACKET ASSEMBLY REPAIR - CONTINUED

0347 00

Disassembly

- 1. Remove nut (4), lockwasher (5), screw (6) and roller (7) from transmission bracket (8). Discard lockwasher.
- 2. Inspect parts for damage and replace as required.

Assembly

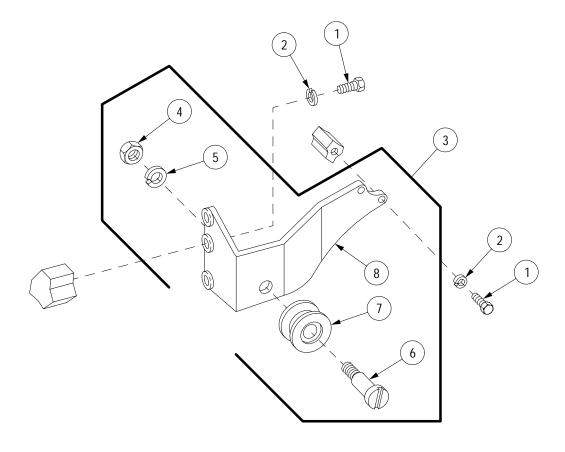
Install roller (7) with screw (6), new lockwasher (5) and nut (4) on transmission bracket (8).

Installation

NOTE

For mounting of transmission bracket assemblies use existing transmission hardware.

Install transmission bracket assembly (3) with five new lockwashers (2) and five screws (1).



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NOTE

FOLLOW-ON MAINTENANCE: Install powerpack (WP 0188 00)

END OF TASK

TRANSMISSION OIL TEMPERATURE TRANSMITTER REPLACEMENT

0348 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Marker tags (item 49, WP 0716 00)

Equipment Conditions

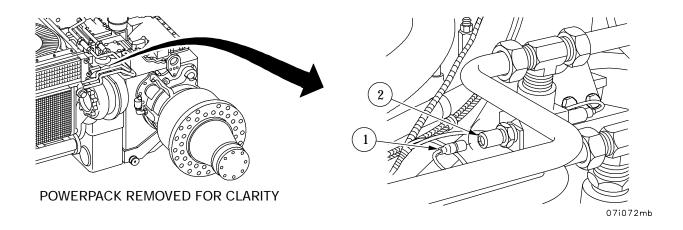
Engine deck assembly removed (WP 0417 00) Battery power disconnected (WP 0256 00)

Removal

- 1. Disconnect wiring harness 3W202 wire 324 (1) from transmission oil temperature transmitter (2).
- 2. Remove transmission oil temperature transmitter (2).
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Install transmission oil temperature transmitter (2).
- 2. Connect wiring harness 3W202 wire 324 (1) to transmission oil temperature transmitter (2).



NOTE

FOLLOW-ON MAINTENANCE:

Connect batter power (WP 0256 00)
Installation engine deck assembly (WP 0417 00)

TRANSMISSION OIL TEMPERATURE SWITCH AND OIL PRESSURE TRANSMITTER REPLACEMENT

0349 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Material/Parts

Marker tags (item 49, WP 0716 00)

Equipment Conditions

Engine deck assembly removed (WP 0417 00) Battery power disconnected (WP 0256 00)

NOTE

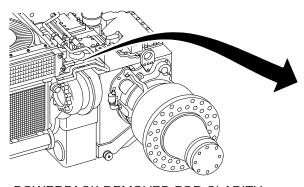
Perform Removal steps 1, 2 and 5 and Installation steps 3 and 4 for maintenance of oil temperature switch.

Perform Removal steps 3 through 5 and Installation steps 1 and 2 for maintenance of oil pressure transmitter.

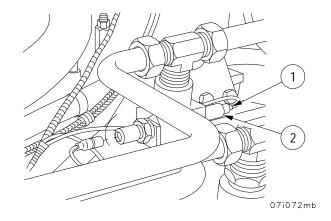
Tag all electrical connections and electrical leads prior to removal to aid in installation.

Removal

- 1. Disconnect wiring harness 3W202 wire 509 (1) from transmission oil temperature switch (2).
- 2. Remove transmission oil temperature switch (2).







TRANSMISSION OIL TEMPERATURE SWITCH AND OIL PRESSURE TRANSMITTER REPLACEMENT - CONTINUED

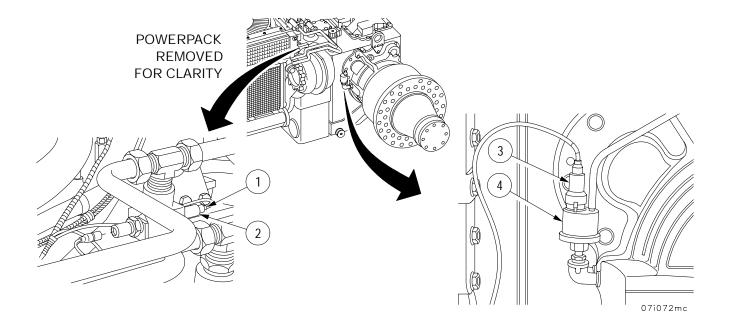
0349 00

Removal-Continued

- 3. Disconnect wiring harness 3W202 wire 321 (3) from transmission oil pressure transmitter (4).
- 4. Remove transmission oil pressure transmitter (4).
- 5. Inspect parts for damage and replace as required.

Installation

- 1. Install transmission oil pressure transmitter (4).
- 2. Connect wiring harness 3W202 wire 321 (3) to transmission oil pressure transmitter (4).
- 3. Install transmission oil temperature switch (2).
- 4. Connect wiring harness 3W202 wire 509 (1) to transmission oil temperature switch (2).



NOTE

FOLLOW-ON MAINTENANCE:

Connect battery power (WP 0256 00) Install engine deck assembly (WP 0417 00)

TRANSMISSION CONTROL ASSEMBLY REPLACEMENT

0350 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (5) (item 2, WP 0718 00) Cotter pin (item 15, WP 0718 00)

Equipment Conditions

Vehicle parked on level ground (TM 9-2350-292-10)
Tracks blocked (TM 9-2350-292-10)
Vehicle parking brake set (TM 9-2350-292-10)
Hydraulic control panel, bracket and clamp removed (WP 0246 00)

References

TM 9-2350-292-10

Removal

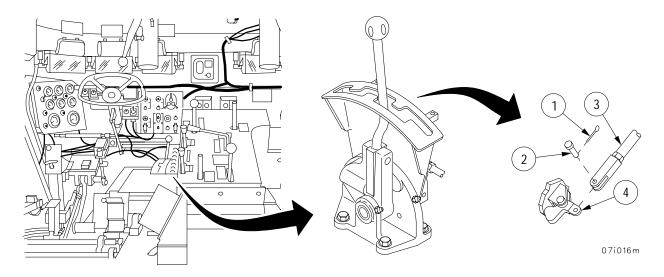


Vehicle can move when linkage is disconnected. Park vehicle on level ground and block vehicle tracks. Failure to comply may result in personnel death or injury or equipment damage.

NOTE

To aid in installation, make sure adjustment holes have been pinned before removal of component.

- 1. Remove cotter pin (1) from straight headed pin (2). Discard cotter pin.
- 2. Remove straight headed pin (2) securing lever (3) to remote control lever (4).



TRANSMISSION CONTROL ASSEMBLY REPLACEMENT - CONTINUED

0350 00

Removal - Continued

3. Remove screw (5) and lockwasher (6) securing lever (7) to remote control lever (8). Discard lockwasher.

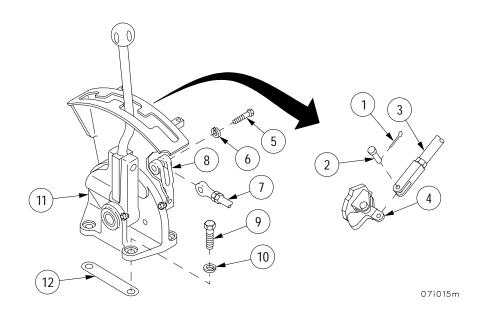
NOTE

Note the quantity and position of shim(s) being removed to ensure shim(s) are installed in the same position.

- 4. Remove four screws (9), four lockwashers (10), transmission shift control assembly (11) and shim(s) (12) from vehicle deck. Discard lockwashers.
- 5. Inspect parts for damage and replace as required.

Installation

- 1. Install transmission shift control assembly (11) on vehicle deck with shim(s) (12), four screws (9) and four new lockwashers (10).
- 2. Secure lever (7) to remote control lever (8) with screw (5) and new lockwasher (6).
- 3. Secure lever (3) to remote control lever (4) with straight headed pin (2) and new cotter pin (1).
- 4. Adjust transmission control assembly (WP 0408 00).
- 5. Lubricate transmission control assembly (11) (WP 0187 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic control panel, bracket and clamp (WP 0246 00)

TRANSMISSION OIL BREATHER, TRANSMISSION OIL BREATHER TUBE, HOSE, FITTINGS AND OIL PRESSURE TRANSMITTER FITTINGS REPLACEMENT

0351 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Self-locking screw (item 393, WP 0718 00) Lockwashers (2) (item 402, WP 0718 00) Marker tags (item 49, WP 0716 00) Sealing compound (item 16, WP 0716 00)

Equipment Conditions

Engine deck assembly removed (WP 0417 00) Battery power disconnected (WP 0256 00)

NOTE

Perform Removal steps 1 and 13 and Installation step 14 for maintenance of oil breather tube.

Perform Removal steps 1 through 3 and 13 and Installation steps 12 through 15 for maintenance of oil breather tube fittings.

Perform Removal steps 2, 6, 8, 9 and 13 and Installation steps 5, 6, 7, 9, 13 through 15 for maintenance of oil breather.

Perform Removal steps 4 through 7 and 13 and Installation steps 8 through 11 for maintenance of oil breather hose.

Perform Removal steps 4 through 9 and 13 and Installation steps 5 through 11 for maintenance of oil breather hose fittings.

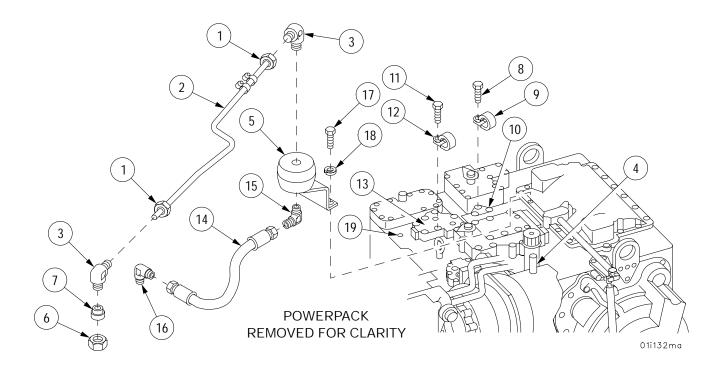
Perform Removal steps 10 through 13 and Installation steps 1 through 4 for maintenance of oil pressure transmitter fittings.

TRANSMISSION OIL BREATHER, TRANSMISSION OIL BREATHER TUBE, HOSE, FITTINGS AND OIL PRESSURE TRANSMITTER FITTINGS REPLACEMENT - CONTINUED

0351 00

Removal

- 1. Loosen two coupling nuts (1), remove transmission breather tube (2).
- 2. Remove two elbows (3) from exhaust pipe (4) and breather (5).
- 3. Remove nut (6) and sleeve (7) from exhaust pipe (4).
- 4. Remove screw (8) securing hose clamp (9) to control valve body (10).
- 5. Remove self-locking screw (11) securing hose clamp (12) to steer oil pressure regulator (13). Discard self-locking screw.
- 6. Disconnect hose (14) from elbow (15) and elbow (16).
- 7. Remove two hose clamps (9 and 12) from hose (14).
- 8. Remove two screws (17), two lockwashers (18) and breather (5). Discard lockwashers.
- 9. Remove elbow (15) from breather (5) and elbow (16) from transmission (19).



TRANSMISSION OIL BREATHER, TRANSMISSION OIL BREATHER TUBE, HOSE, FITTINGS AND OIL PRESSURE TRANSMITTER FITTINGS REPLACEMENT - CONTINUED

0351 00

Removal - Continued

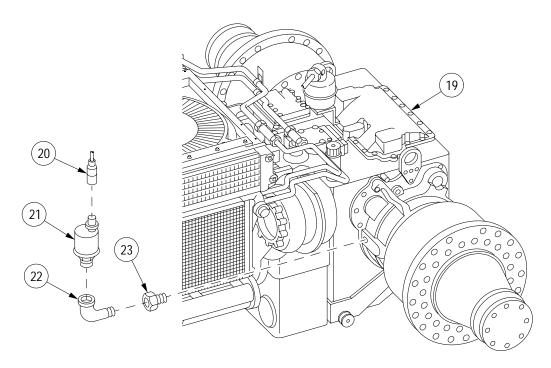
NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 10. Disconnect wiring harness 3W202 wire 321 (20) from oil pressure transmitter (21).
- 11. Remove oil pressure transmitter (21) from transmission (19).
- 12. Remove elbow (22) and bushing (23) from transmission (19).
- 13. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to male pipe threads of bushing (23) and elbow (22).
- 2. Install bushing (23) and elbow (22) in transmission (19).
- 3. Install oil pressure transmitter (21) in transmission (19).
- 4. Connect wiring harness 3W202 wire 321 (20) to oil pressure transmitter (21).



POWERPACK REMOVED FOR CLARITY

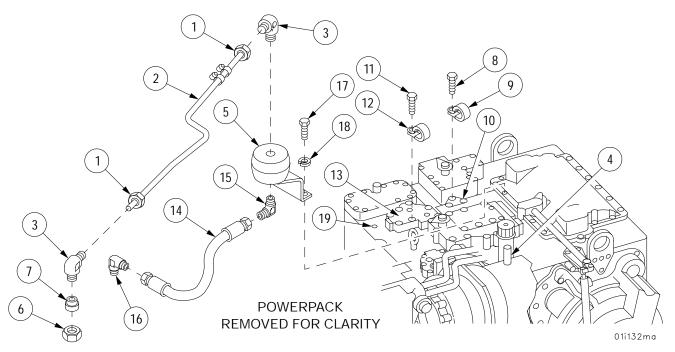
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TRANSMISSION OIL BREATHER, TRANSMISSION OIL BREATHER TUBE, HOSE, FITTINGS AND OIL PRESSURE TRANSMITTER FITTINGS REPLACEMENT - CONTINUED

0351 00

Installation - Continued

- 5. Apply sealing compound to male pipe threads of elbow (16) to be installed in transmission (19) and elbow (15) to be installed in breather (5).
- 6. Install elbow (16) in transmission (19) and elbow (15) in breather (5).
- 7. Install breather (5) on transmission (19) with two screws (17) and two new lockwashers (18).
- 8. Install two hose clamps (12 and 9) on hose (14).
- 9. Connect hose (14) to elbow (16) and elbow (15).
- 10. Secure hose clamp (12) to steer oil pressure regulator (13) with new self-locking screw (11).
- 11. Secure hose clamp (9) to control valve body (10) with screw (8).
- 12. Install sleeve (7) and nut (6) in exhaust pipe (4).
- 13. Apply sealing compound to male pipe threads of two elbows (3) to be installed in exhaust pipe (4) and breather (5).
- 14. Install two elbows (3) in exhaust pipe (4) and breather (5).
- 15. Install transmission breather tube (2), tighten two coupling nuts (1).



NOTE

FOLLOW-ON MAINTENANCE:

Connect battery power (WP 0256 00) Install engine deck assembly (WP 0417 00)

TRANSMISSION FILTER SWITCH REPLACEMENT

0352 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Engine deck assembly removed (WP 0417 00) Battery power disconnected (WP 0256 00)

References

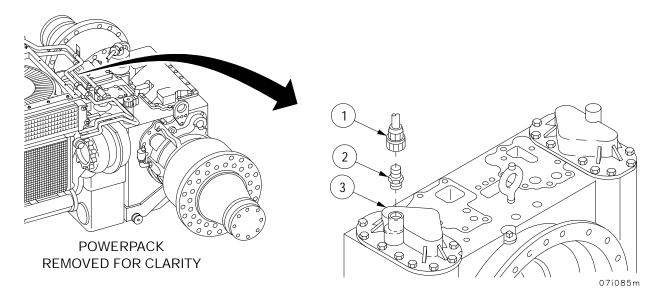
TM 9-2350-292-10

Removal

- 1. Disconnect wiring harness 3W202 wire GND/310 (1) from transmission filter switch (2).
- 2. Remove transmission filter switch (2) from transmission filter head assembly (3).
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Install transmission filter switch (2) in transmission filter head assembly (3).
- 2. Connect wiring harness 3W202 wire GND/310 (1) to transmission filter switch (2).



NOTE

FOLLOW-ON MAINTENANCE:

Connect battery power (WP 0256 00) Install engine deck assembly (WP 0417 00)

TRANSMISSION OIL FILTERS REPAIR

0353 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) C-clamp (item 124, WP 0717 00) Retaining pliers set (item 15, WP 0717 00) Suitable container (1.0 gal. (3.8 L) min cap) Torque wrench (item 2, WP 0717 00)

Materials/Parts

Transmission filter and gasket kit (right side) (item 399, WP 0718 00)
Retaining ring (item 398, WP 0718 00)
Dry-cleaning solvent (item 1, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Lubricant (item 85, WP 0716 00)
Lubricant (item 31, WP 0716 00)
Transmission filter and gasket kit (left side) (item 400, WP 0718 00)

Equipment Conditions

Engine deck assembly removed (WP 0417 00)
Transmission filter switch removed (WP 0352 00)
For maintenance of right side transmission
oil filters only
Transmission breather tube removed
(WP 0351 00)
For maintenance of right side transmission
filters only
Transmission oil cooler lines (WP 0345 00)

For maintenance of right side filters only

References

TM 9-2350-292-10

NOTE

There are two sets of transmission filters; one set on each side of the transmission.

Perform Removal steps 1, 2, 3 and 4, Disassembly step 4 and Installation steps 1 through 5 for maintenance of left or right side transmission filters.

Perform Disassembly steps 1 through 4 and assembly steps 1 through 3 for maintenance of left side transmission filter head only.

Removal



1. Remove 12 screws (1) and 12 lockwashers (2) from transmission filter head (3). Discard lockwashers.

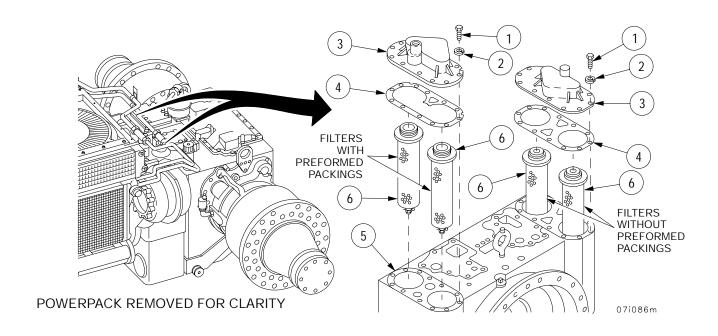


Do not attempt to pry the transmission oil filter head off of the transmission with a screwdriver or other such items, damage to mating surfaces could occur.

- 2. Use two screws (1) as jackscrews to remove transmission filter head (3) and gasket (4) from transmission (5). Discard gasket.
- 3. Remove two filter elements (6) from transmission (5). Discard filter elements.



4. Clean all components with dry-cleaning solvent, remove any residual gasket material from mating surfaces.



TRANSMISSION OIL FILTERS REPAIR - CONTINUED

0353 00

Disassembly



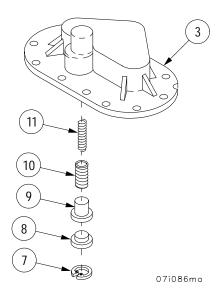
- 1. Remove retaining ring (7), relief valve seat (8) and relief valve (9) from transmission filter head (3). Discard retaining ring.
- 2. Remove outer compression spring (10) and inner compression spring (11) from transmission filter head (3).



- 3. Clean all components with dry-cleaning solvent, remove any residual gasket material from mating surfaces.
- 4. Inspect parts for damage and replace as required.

Assembly

- 1. Install inner compression spring (11) in outer compression spring (10).
- 2. Install outer compression spring (10) in transmission filter head (3).
- 3. Install relief valve (9), relief valve seat (8) and new retaining ring (7) in transmission filter head (3).



TRANSMISSION OIL FILTERS REPAIR - CONTINUED

0353 00

Installation

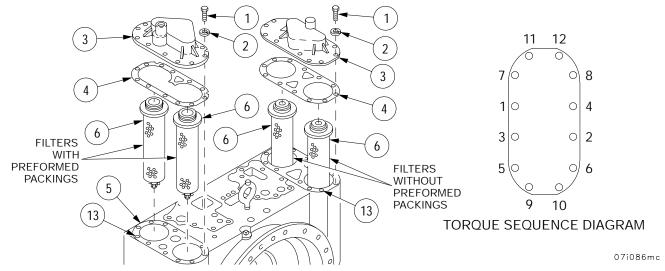


- 1. Clean 12 screws (1) and 12 transmission screw holes (13) with dry-cleaning solvent.
- 2. Install two new filter elements (6) in transmission (5). Lubricate right side filters preformed packings with lubricant (item 31, WP 0716 00) prior to installation of filter.
- 3. Apply lubricant (item 85, WP 0716 00) to threads of 12 screws (1).
- 4. Install new gasket (4) and transmission filter head (3) on transmission (5) with 12 screws (1) and 12 new lockwashers (2). Torque 12 screws to 25–31 lb-ft (34–42 NSm) in accordance with torque sequence diagram.



Oil sprayed from improperly installed oil filter head assembly can cause fire in engine compartment.

5. Verify torque to specified limit on each of 12 screws (1). If any screws (1) move during recheck, repeat torque process.



NOTE

FOLLOW-ON MAINTENANCE:

Install transmission filter switch, if removed (WP 0352 00)
Install transmission breather tube, if removed (WP 0351 00)
Install transmission oil cooler lines, if removed (WP 0345 00)
Operate engine (TM 9-2350-292-10) and check transmission filter head for leaks.
Install engine deck assembly (WP 0417 00)

END OF TASK

CHAPTER 10 FINAL DRIVES MAINTENANCE

OUTPUT REDUCTION UNIT (OUTPUT DRIVE) REPLACEMENT

0354 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable lifting device (2,000 lbs (908 kg) min cap) Suitable container(20.0 gal. (75.8 L) min cap) Final drive sling (item 37, WP 0717 00) Lifting sling (item 25, WP 0717 00)

Final drive sling adapter plate (item 78, WP 0717 00) Torque wrench (item 9, WP 0717 00)

Torque wrench (item 2, WP 0717 00)

Screws (2) (item 110, WP 0717 00)

Materials/Parts

Lockwashers (12) (item 52, WP 0718 00)
Gaskets (2) (item 238, WP 0718 00)
Cotter pins (2) (item 17, WP 0718 00)
Cotter pin (item 239, WP 0718 00)
Lockwashers (12) (item 240, WP 0178 00)
Dry-cleaning solvent (item 1, WP 0716 00)

Pressure sensitive tape (item 41, WP 0716 00)

Materials/Parts-Continued

Self-locking screws (19) (item 241, WP 0718 00) Preformed packings (4) (item 230, WP 0718 00) Sealing compound (item 42, WP 0716 00) Hardwood lumber (item 4, WP 0716 00) Adhesive (item 25, WP 0716 00)

Equipment Conditions

Steering control linkage disconnected (WP 0404 00)
Shifting control linkage disconnected (WP 0407 00)
Final drive hub and sprocket removed on defective drive (WP 0397 00)
Engine deck assembly removed (WP 0417 00)

Personnel Required

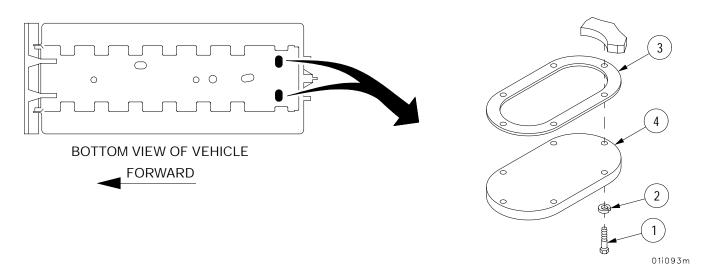
Two

NOTE

The following procedures are applicable to either the left or right output drive; however, when either is being removed, the other must also be partially dismantled to permit raising the powerpack during the removal process.

Removal

1. Remove six screws (1), six lockwashers (2), gasket (3) and cover (4) at each of two hull drains. Discard lockwashers and gaskets.



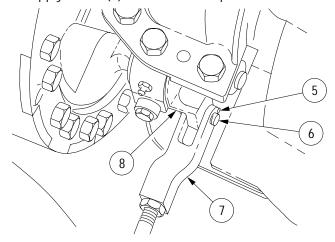
0354 00

Removal-Continued

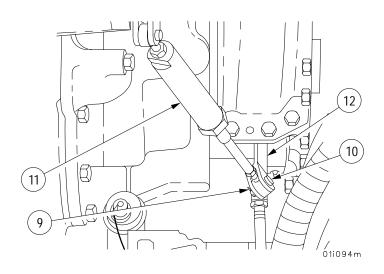
CAUTION

To prevent damage to brake apply lever, do not dislodge seals and bearing in end of brake apply lever. Cover end of brake apply lever with tape after disconnecting brake rod.

2. At both left and right output drives, remove cotter pin (5) and straight pin (6) with lubrication fitting and disconnect brake rod clevis (7) from brake apply levers (8). Discard cotter pins.



3. At left output drive, remove cotter pin (9) and straight pin (10) and disconnect air valve linkage (11) from bell crank (12). Discard cotter pin.



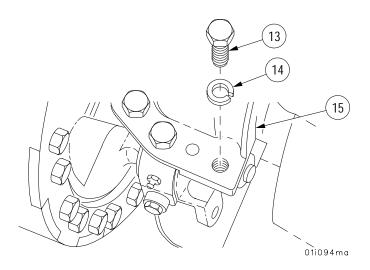
0354 00

Removal-Continued

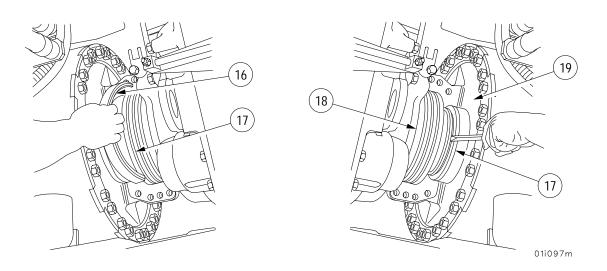
NOTE

Perform the following procedures on both left and right output drives.

4. Remove six screws (13), six lockwashers (14) and saddle cap (15). Discard lockwashers.



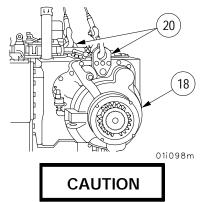
- 5. Remove coupling retainer (16) from drive output coupling (17).
- 6. Pry output coupling (17) out of transmission output housing (18) and into output drive (19).



0354 00

Removal-Continued

7. Attach lifting sling (item 25, WP 0717 00) to two lifting brackets (20) above transmission output housings (18). Attach lifting sling to suitable lifting device.



If removing right output drive, ensure powerpack is raised high enough above drive saddle to permit alignment half ring in lower drive saddle to clear transmission housing.

8. With suitable lifting device, raise rear of powerpack until transmission output housing on each side is clear of the respective drive saddle. Several inches should be sufficient. Position hardwood blocks (4 x 4 x 6) under transmission. Lower powerpack until transmission rests on hardwood blocks. Remove sling from suitable lifting device.

NOTE

Perform the following procedures on the output drive being replaced.





To keep output drive balanced as it is being removed from the vehicle, ensure sling assembly bracket is as close as possible to open end of sling. Be careful when lifting output drive to ensure output drive clears the hull. To avoid failure of sling or suitable lifting device, do not force suitable lifting device to pull against weight of vehicle. Failure to comply may cause damage to equipment or injury to personnel.

0354 00

Removal-Continued

CAUTION

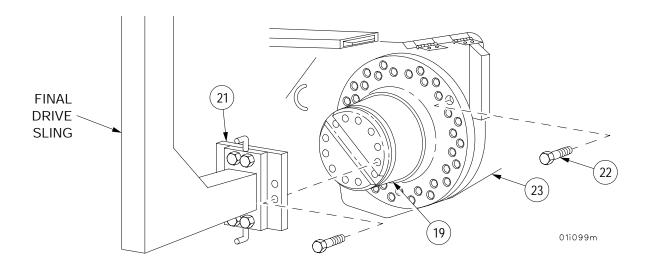
To avoid damage to drive shaft, attach final drive sling to final drive sling adapter plate and to output drive with screws normally used to secure track drive hub to output drive and previously removed as part of the track drive hub and sprocket removal process.

9. Attach final drive sling (item 37, WP 0717 00) to suitable lifting device. Attach final drive sling adapter plate (21) to final drive sling with four screws normally used to secure track drive hub to output drive. Raise suitable lifting device sufficiently to align adapter plate (21) to output drive (19). Fasten final drive sling adapter plate (21) to output drive (19) with four screws normally used to secure track drive hub.

CAUTION

Carefully and gradually increase suitable lifting device line tension until suitable lifting device is carrying the full output drive weight as screws are removed and output drive is separated from hull.

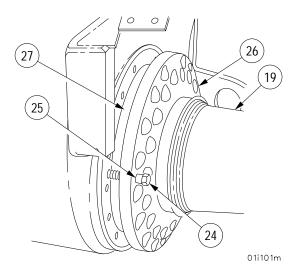
10. Remove 19 self-locking screws (22) securing output drive (19) to hull (23). Discard self-locking screws.



0354 00

Removal-Continued

- 11. Install two 3/4 UNF 16 x 4 screws (24) into threaded holes (25) in output drive housing (26). Tighten both screws (24) alternately as far as possible or until output drive (19) is supported by the suitable lifting device.
- 12. Carefully pull output drive (19) out of the hull until brake housing (27) is clear of hull and brake apply lever (hidden) is almost against inside of hull. Raise output drive until brake apply lever clears hull opening rim then pull output drive away from hull.



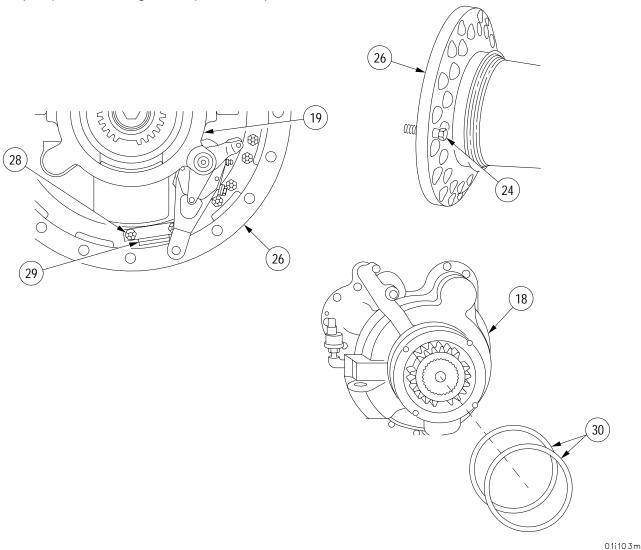
0354 00

Removal-Continued

NOTE

Output drives contain about one gallon of residual oil.

- 13. To drain residual oil, place a suitable container under output drive (19). Remove lower of two screws (28) holding brake apply lever stop (29).
- 14. Replace screw (28) in brake apply lever stop (29), remove screws (24) from output drive housing (26).
- 15. Remove four preformed packings (large O-rings) (30) in inner and middle grooves on both transmission output housings (18). Discard preformed packings.
- 16. Inspect parts for damage and replace as required.



0354 00

Installation

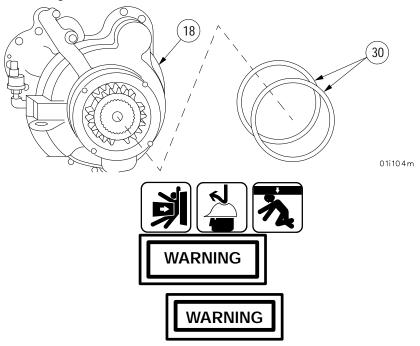


1. Clean screws (22) and mating surfaces of output reduction drive (19) and vehicle hull with dry-cleaning solvent.

CAUTION

Do not apply pressure sensitive tape when ambient temperature is below 45°F (7.2° C). Failure to comply may cause loss of screw torque and equipment damage.

- 2. Apply sealing compound to threads and under heads of screws (22). Apply sealing compound or pressure sensitive tape to surfaces of output reduction drives and vehicle hull.
- 3. Install four new preformed packings (large O-rings) (30) in inner and middle grooves of both left and right side transmission output housings (18).



To keep output drive balanced as it is being installed in the vehicle, ensure sling assembly bracket is as close as possible to open end of sling. Be careful when lifting output drive to ensure output drive clears the hull. To avoid failure of sling or suitable lifting device, do not force suitable lifting device to pull against weight of vehicle. Failure to comply may cause damage to equipment or injury to personnel.

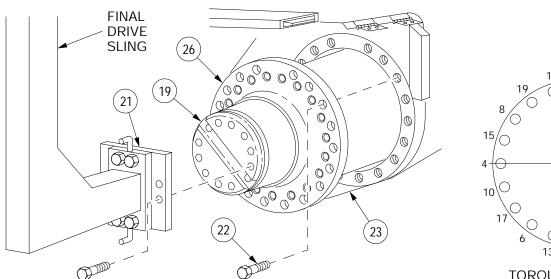
0354 00

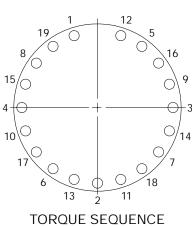
Installation-Continued

CAUTION

To avoid damage to drive shaft, attach final drive sling to final drive sling adapter plate and to output drive with screws normally used to secure track drive hub to output drive and previously removed as part of the track drive hub and sprocket removal process.

- 4. Attach final drive sling (item 37, WP 0717 00) to suitable lifting device. Attach final drive sling adapter plate (21) to final drive sling with four screws normally used to secure track drive hub to output drive. Raise suitable lifting device sufficiently to align final drive sling adapter plate (21) to output drive (19). Fasten final drive sling adapter plate (21) to output drive (19) with four screws normally used to secure track drive hub.
- 5. Position output drive (19) next to hull opening. Raise output drive sufficiently to get brake apply lever (hidden) to clear hull opening. Lower drive and align to hull opening. Push output drive into hull until output drive housing (26) is against hull (23).
- 6. Install 19 new self-locking screws (22) to secure output drive to hull (23). Torque screws using indicated sequence to 200–225 lb-ft (271–305 NSm) (item 9, WP 0717 00).
- 7. Remove final drive sling and final drive sling adapter plate (21) from output drive and suitable lifting device.

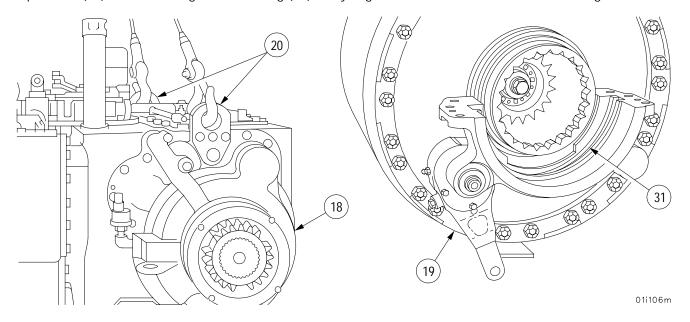




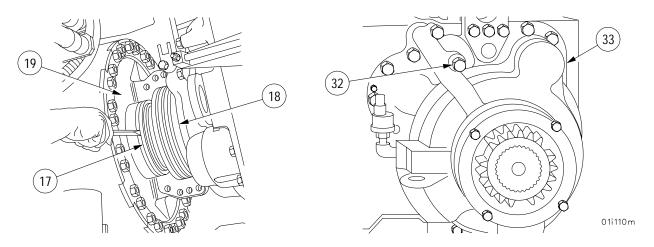
0354 00

Installation-Continued

- 8. If not previously accomplished, attach lifting sling (item 25, WP 0717 00) to two lifting brackets (20) above transmission output housings (18). Attach lifting sling to suitable lifting device.
- 9. At right output drive, verify that alignment half ring (31) is properly seated in single groove in lower saddle of output drive (19). If not, set alignment half ring (31) firmly in groove with ends flush with saddle flange.



- 10. With suitable lifting device, raise rear of powerpack and remove hardwood blocks under transmission. Lower powerpack until transmission output housings (18) rest on saddles of output drives (19) with right drive alignment half ring (not shown) in bottom of outer groove of right output housing.
- 11. Pry output couplings (17) out of output drives (19) and into both transmission output housings (18) as far as possible.
- 12. Remove access plug (32) from left steer clutch housing (33).



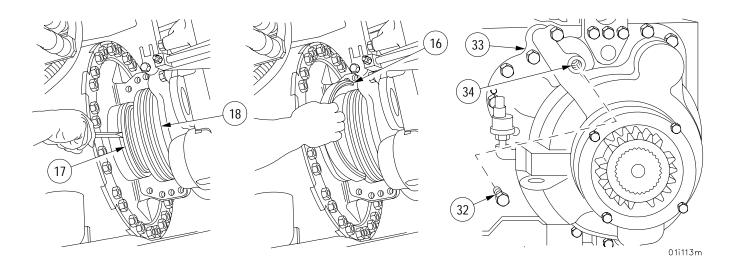
0354 00

Installation-Continued

CAUTION

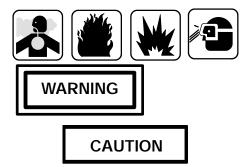
Tie shafts are difficult to move and may require use of a wrench or screwdriver to turn shaft. Be sure to use a heavy-duty screwdriver to turn steer tie shaft. Shaft resistance could break a light duty screwdriver shaft inside transmission, which would require replacement of entire transmission assembly.

- 13. Insert screwdriver in left steer clutch housing access hole (34) and engage slot in steer tie shaft.
- 14. Have associate with screwdriver pry left drive output coupling (17) toward transmission output housing (18) while you turn steer tie shaft until output coupling and transmission output gears mesh. Slide output coupling into transmission as far as possible, install coupling retainer (16).
- 15. Repeat step 12 for right drive output coupling.
- 16. Remove screwdrivers, install access plug (32) in left steer clutch housing (33).



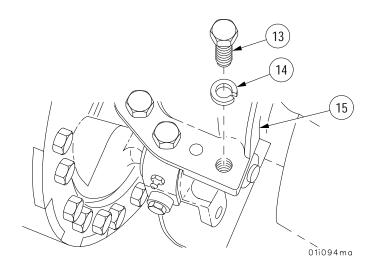
0354 00

Installation-Continued



Do not scratch or damage saddle caps. A defective cap may cause oil leaks after installation. Remove nicks and burrs prior to installation.

- 17. Clean saddle caps (15) and screws (13) using dry-cleaning solvent.
- 18. Apply adhesive uniformly on saddle cap flanges and mounting screws (13).
- 19. Install saddle caps (15) on both output drives with six screws (13) and six new lockwashers (14). Torque screws to 83–100 lb-ft (113–136 NSm) (item 2, WP 0717 00).



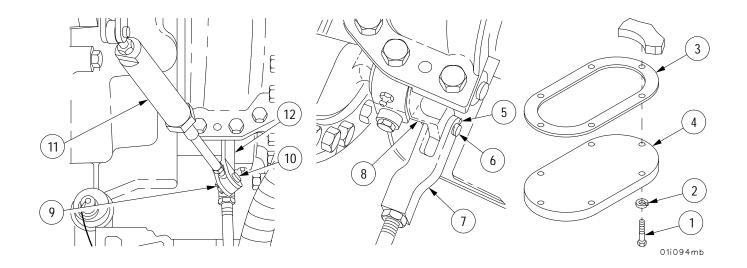
0354 00

Installation-Continued

CAUTION

Do not damage or dislodge seals and bearing in end of brake apply lever when installing pin.

- 20. At left output drive, attach lower end of air valve linkage (11) to bell crank (12) with straight pin (10) and new cotter pin (9).
- 21. At both left and right output drives, connect brake rod (7) to brake apply lever (8) with straight pin (6) with lubrication fitting and new cotter pin (5).
- 22. Install two hull drain covers (4) and two new gaskets (3) with six screws (1) and six new lockwashers (2).
- 23. Adjust brakes (WP 0355 00 or WP 0356 00 or WP 0357 00).
- 24. Adjust brake air valve linkage (WP 0384 00).



NOTE

FOLLOW-ON MAINTENANCE: Install engine deck assembly (WP 0417 00) Install final drive hub and sprocket (WP 0397 00) Connect shifting control linkage (WP 0407 00) Connect steering control linkage (WP 0404 00)

END OF TASK

CHAPTER 11 BRAKES MAINTENANCE

0355 00

THIS WORK PACKAGE COVERS:

Alignment, Adjustment, Bleeding

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Cotter pins (4) (item 17, WP 0718 00) Safety goggles (item 93, WP 0716 00) Lubricant (item 51, WP 0716 00) Rope (item 34, WP 0716 00) Lubricant (item 87, WP 0716 00)

Equipment Conditions

Vehicle parked on level surface with tracks blocked and brakes released (TM 9-2350-292-10)

Powerpack removed (WP 0188 00)

For alignment only

Subfloor access plate #6 removed (WP 0454 00)

For alignment only

Hull engine compartment access covers removed (WP 0434 00)

For access to brake linkages

Subfloor access plate #16 opened (WP 0454 00) For bleeding only

Personnel Required

Two

References

TM 9-2350-292-10



Adjustment to length of rod assemblies must be accomplished by adjusting both end clevises or rod end bearings evenly. Rod end clevises or rod end bearings must maintain specified thread engagement length from end of rod assemblies as a minimum at all times. Failure to comply could result in rod assembly separation causing loss of vehicle service brake, resulting in personnel injury or equipment damage.

NOTE

If an alignment is performed, an adjustment is also necessary. An adjustment alone can be performed, if required. Bleeding must be performed if any hydraulic lines or components are repaired or replaced.

0355 00

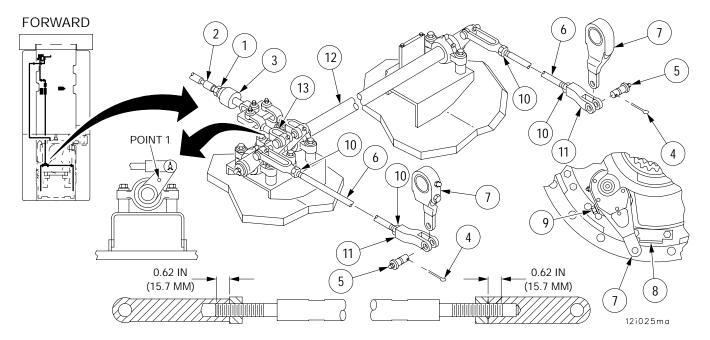
Alignment

- 1. Loosen nut (1) and disconnect brake cable assembly (2) from clevis (3).
- 2. Remove two cotter pins (4), two grooved head pins (5) and two rear brake rod assemblies (6) from two brake apply levers (7). Discard cotter pins.
- 3. Check both brake apply levers (7) to ensure that they are in the fully released position against their external stops (8). If not fully released, push in on the adjustment screw collar (9) while turning the adjustment screw to position the brake apply lever (7) against the stop (8).
- 4. Loosen four locking nuts (10) on two rear brake rod assemblies (6).
- 5. Insert a 1/8-inch locating pin at point 1.



Adjustment to length of rod assemblies must be accomplished by adjusting both end clevises evenly. Rod end clevises must maintain a minimum of 0.62 inch (15.7 mm) thread engagement from end of rod assemblies at all times. Failure to comply could result in rod assemblies separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

- 6. Adjust both ends of two rear brake rod assemblies (6) evenly until holes in clevis (11) align with holes in brake apply levers (7) and long brake shaft (12) is lined up with short brake shaft (13). Verify thread engagement of 0.62 inch (15.7 mm) exists between face of locking nut and end of rod assemblies.
- 7. Connect two rear brake rod assemblies (6) to two brake apply levers (7) with two grooved head pins (5) and two new cotter pins (4).
- 8. Tighten four locking nuts (10) and remove 1/8-inch locating pin from point 1.



0355 00

Alignment - Continued



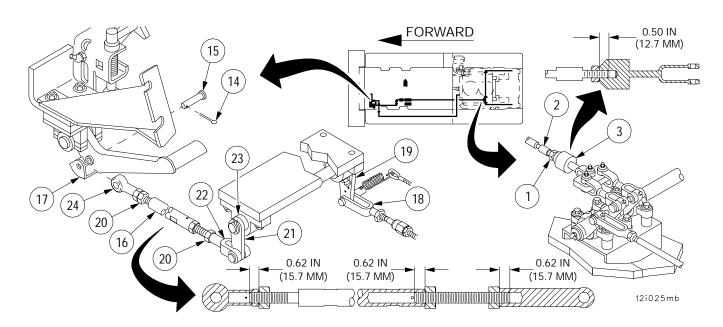
A minimum thread engagement of 0.50 inch (12.7 mm) between brake cable assembly and clevis must be maintained at all times. Failure to comply could result in assemblies separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

- 9. Attach brake cable assembly (2) to clevis (3). Verify that a thread engagement of 0.50 inch (12.7 mm) between threaded rod portion of brake cable assembly (2) and clevis (3) exist. Torque nut (1) to 15–20 lb-ft (20–27 NSm).
- 10. Remove cotter pin (14), pin (15) and rod assembly (16) from brake pedal (17). Discard cotter pin.
- 11. Disconnect rod assembly (18) from lever assembly (19) (WP 0366 00).
- 12. Restrain brake pedal (17) in UP position to steering wheel with rope.



A minimum thread engagement of 0.62 inch (15.7 mm) between rod assembly and clevis must be maintained at all times. Failure to comply could result in assemblies separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

- 13. Loosen two nuts (20) and maximize the length of rod assembly (16) so that when rod assembly (16) is attached to lever assembly (21), clevis (22) is within 0.12 inch (3 mm) of contacting brake shaft (23).
- 14. Verify thread engagement of 0.62 inch (15.7 mm) exists between ends of rod assembly (16) and clevises (22 and 24). Tighten two nuts (20).
- 15. Connect rod assembly (16) to brake pedal (17) with headed pin (15) and new cotter pin (14).



0355 00

Alignment - Continued

NOTE

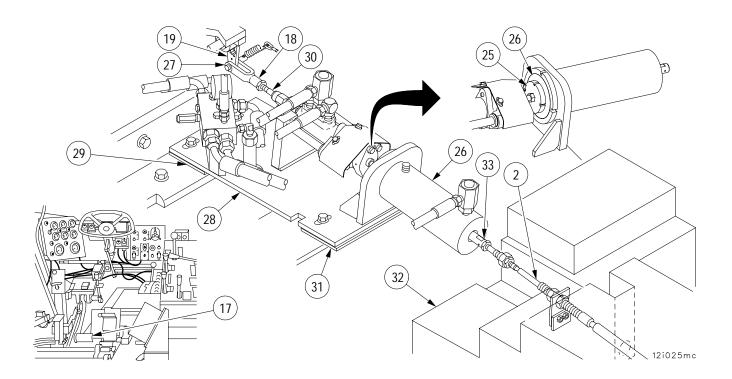
Do not adjust linkage between modulating valve and brake cylinder. This adjustment was made at the subassembly level.

- 16. Ensure that disc (25) is resting against the face of brake cylinder (26), adjust rod assembly (18) until holes in lever (19) and clevis (27) are aligned.
- 17. Connect rod assembly (18) to lever assembly (19) (WP 0366 00).
- 18. Release brake pedal (17) from steering wheel.
- 19. Remove screws securing plate assembly (28) to vehicle (WP 0374 00).

CAUTION

If shim stack is too high or too low, ball swivel may reach the extent of its 10 percent misalignment capability and introduce binding, causing equipment damage or failure.

- 20. Adjust height of the front of plate assembly (28) (remove or add plates (29) until linkage (30) moves freely without binding).
- 21. Adjust height of the rear end of plate assembly (28) (remove or add plates (31) until the brake cable (2) is optimized within the fuel tank (32) and rod assembly (33) is optimized in the center of hollow in brake cylinder (26)).
- 22. Secure plate assembly (28) to vehicle (WP 0374 00).



0355 00

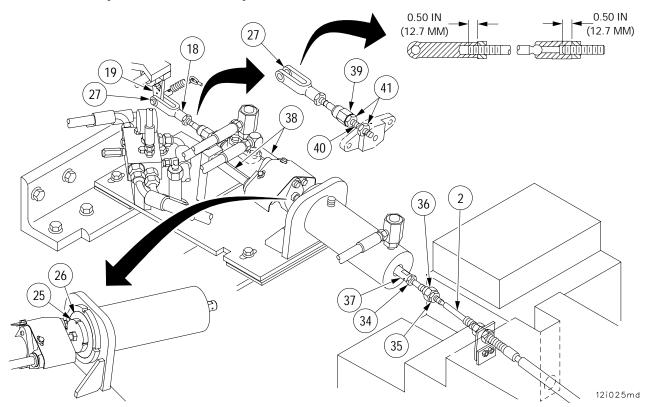
Alignment - Continued

- 23. Disconnect rod assembly (18) from lever assembly (19) (WP 0366 00).
- 24. Loosen two nuts (34 and 35) and remove ball joint (36) from rod assembly (37) and brake cable assembly (2).
- 25. Ensure that disc (25) is resting against the face of brake cylinder (26). If disk (25) does not return to face of brake cylinder (26) clean and lubricate spacers (38). Operate brake pedal through its entire range while observing disk (25) and brake cylinder (26). If disk (25) doesn't return to rest against brake cylinder (26), replace spacers (WP 0376 00).
- 26. Adjust rod assembly (18) until holes in lever assembly (19) and clevis (27) are aligned.



A minimum thread engagement of 0.50 inch (12.7 mm) between clevis and ball joint must be maintained at all times. Failure to comply could result in assemblies separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

- 27. Verify thread engagement of 0.50 inch (12.7 mm) exists between clevis (27) and threaded rod portion of ball joint (39) and between ball joint (39) and rod (40). Tighten two nuts (41).
- 28. Connect rod assembly (18) to lever assembly (19) (WP 0366 00).



0355 00

Alignment - Continued



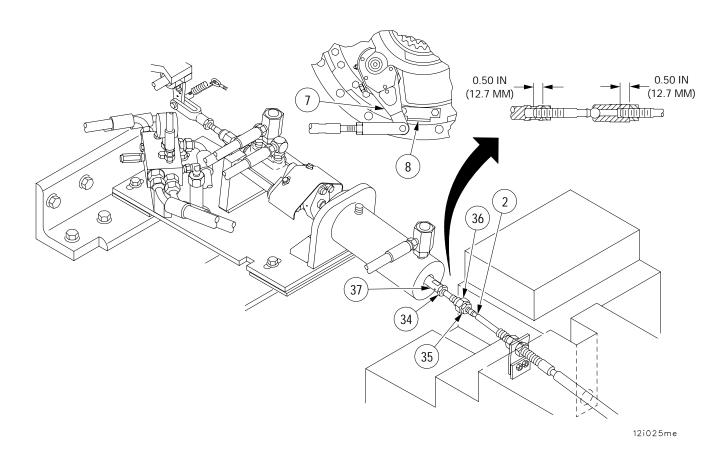
A minimum thread engagement of 0.50 inch (12.7 mm) between brake cable assembly and ball swivel must be maintained at all times. Failure to comply could result in assemblies separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

- 29. Verify thread engagement of 0.50 inch (12.7 mm) exists between ball joint (36) and threaded rod portion of brake cable assembly (2). Torque nut (35) to 30–35 lb-ft (40–47 NSm).
- 30. Attach ball joint (36) to rod assembly (37).

NOTE

Brake apply levers must remain resting against external stops during this alignment.

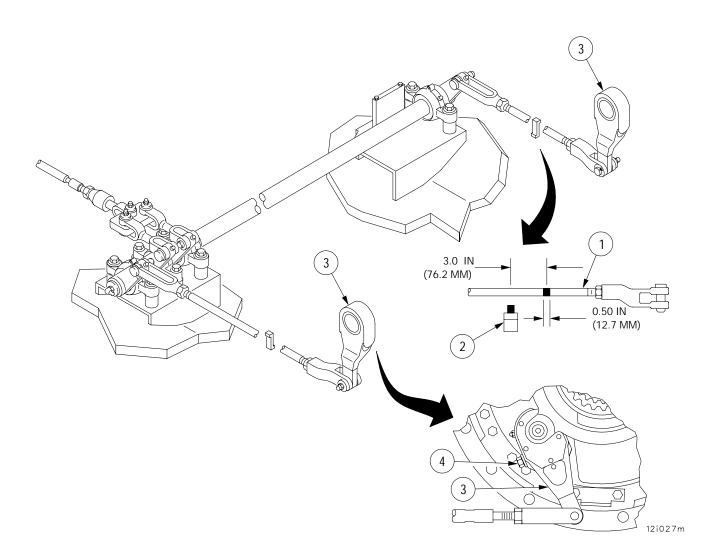
- 31. With brake apply levers (7) resting against their external stops (8), adjust brake cable assembly (2) to remove all slack from brake cable assembly (2) and rear brake linkage.
- 32. Verify a minimum of 0.50 inch (12.7 mm) thread engagement exists between threaded rod portion of ball joint (36) and rod assembly (37). Torque nut (34) to 30–35 lb-ft (40–47 NSm).



0355 00

Adjustment

- 1. Make sure brake linkage is in the relaxed position (not applied) (TM 9-2350-292-10).
- 2. Place a 0.50 inch (12.7 mm) wide mark on each rear brake rod assembly (1). The centerline of the mark must be 3.0 inch (76.2 mm) from the centerline of the brake adjustment indicator (2).
- 3. Apply brake fully and note position of mark with respect to brake adjustment indicator (2). If mark and brake adjustment indicator (2) do not align, release brake, adjust brake apply levers (3) using adjusting screw (4) until mark and brake adjustment indicator (2) align when brake is applied.



0355 00

Bleeding

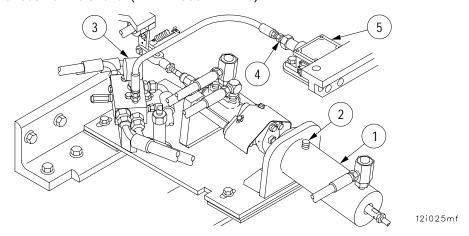


1. Turn vehicle power switch to ON position to charge the brake system (TM 9-2350-292-10).



Depressing brake pedal farther than necessary causes pressure in brake cylinder to rise significantly. Brake pressure can rise to 900 psi (6201 kPa) if brake pedal is depressed too far. Use only as much pedal travel as required to achieve steady fluid flow.

- 2. Depress brake pedal sufficiently to permit pressure to flow through brake cylinder (1).
- 3. Slowly loosen cylinder bleed screw (2) and allow fluid to flow until a steady stream of fluid is observed. This indicates that all trapped air has been purged from cylinder (1).
- 4. Tighten cylinder bleed screw (2). Release brake pedal.
- 5. Turn vehicle MASTER switch to OFF (TM 9-2350-292-10). Exercise brake pedal while monitoring pressure gauge (3) until the system pressure drops below 150 psi (1034 kPa).
- 6. Slowly loosen swivel fitting (4) at pressure switch (5) and allow fluid to flow until a steady stream of fluid is observed. This indicates that all trapped air has been purged from lines.
- 7. Tighten swivel fitting (4).
- 8. Check hydraulic reservoir fluid level (TM 9-2350-292-10).



NOTE

FOLLOW-ON MAINTENANCE:

Close subfloor access plate #16, if opened (WP 0454 00) Install hull engine compartment access covers, if removed (WP 0434 00)

Install subfloor access plate #6, if removed (WP 0454 00) Install powerpack, if removed (WP 0188 00)

END OF TASK

BRAKE LINKAGE ALIGNMENT, ADJUSTMENT AND BLEEDING (NEW CONFIGURATION)

0356 00

THIS WORK PACKAGE COVERS:

Alignment, Adjustment, Bleeding

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Cotter pins (4) (item 17, WP 0718 00) Safety goggles (item 93, WP 0716 00) Lubricant (item 51, WP 0716 00) Rope (item 34, WP 0716 00) Cotter pin (item 19, WP 0718 00)

Equipment Conditions

Vehicle parked on level surface with tracks blocked and brakes released (TM 9-2350-292-10)
Powerpack removed (WP 0188 00)
For alignment only
Subfloor access plate #6 removed (WP 0454 00)
For alignment only
Hull engine compartment access covers removed (WP 0434 00)
For access to brake linkages

Personnel Required

Two

References

TM 9-2350-292-10



Adjustment to length of rod assemblies must be accomplished by adjusting both end clevises or rod end bearings evenly. Rod end clevises or rod end bearings must maintain specified thread engagement length from end of rod assemblies as a minimum at all times. Failure to comply could result in rod assembly separation causing loss of vehicle service brake, resulting in personnel injury or equipment damage.

NOTE

If an alignment is performed, an adjustment is also necessary. An adjustment alone can be performed, if required. Bleeding must be performed if any hydraulic lines or components are repaired or replaced.

0356 00

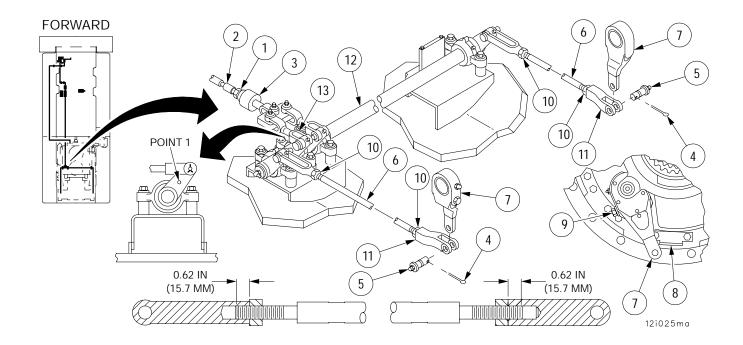
Alignment

- 1. Loosen nut (1) and disconnect brake cable assembly (2) from clevis (3).
- 2. Remove two cotter pins (4), two grooved head pins (5) and two rear brake rod assemblies (6) from two brake apply levers (7). Discard cotter pins.
- 3. Check both brake apply levers (7) to ensure that they are in the fully released position against their external stops (8). If not fully released, push in on the adjustment screw collar (9) while turning the adjustment screw to position the brake apply lever (7) against the stop (8).
- 4. Loosen four locking nuts (10) on two rear brake rod assemblies (6).
- 5. Insert a 1/8-inch locating pin at point 1.



Adjustment to length of rod assemblies must be accomplished by adjusting both end clevises evenly. Rod end clevises must maintain a minimum of 0.62 inch (15.7 mm) thread engagement from end of rod assemblies at all times. Failure to comply could result in rod assemblies separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

- 6. Adjust both ends of two rear brake rod assemblies (6) evenly until holes in clevis (11) align with holes in brake apply levers (7) and long brake shaft (12) is lined up with short brake shaft (13). Verify thread engagement of 0.62 inch (15.7 mm) exists between face of locking nut and end of rod assemblies.
- 7. Connect two rear brake rod assemblies (6) to two brake apply levers (7) with two grooved head pins (5) and two new cotter pins (4).
- 8. Tighten four locking nuts (10) and remove 1/8-inch locating pin from point 1.



0356 00

Alignment - Continued



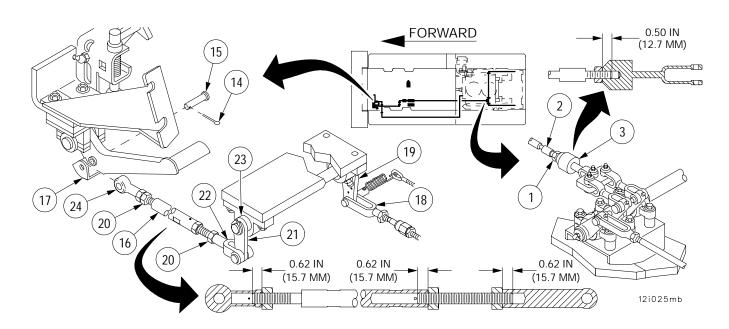
A minimum thread engagement of 0.50 inch (12.7 mm) between brake cable assembly and clevis must be maintained at all times. Failure to comply could result in assemblies separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

- 9. Attach brake cable assembly (2) to clevis (3). Verify that a thread engagement of 0.50 inch (12.7 mm) between threaded rod portion of brake cable assembly (2) and clevis (3) exist. Torque nut (1) to 15-20 lb-ft (20-27 NSm).
- 10. Remove cotter pin (14), pin (15) and rod assembly (16) from brake pedal (17). Discard cotter pin.
- 11. Disconnect rod assembly (18) from lever assembly (19) (WP 0366 00).
- 12. Restrain brake pedal (17) in UP position to steering wheel with rope.



A minimum thread engagement of 0.62 inch (15.7 mm) between rod assembly and clevis must be maintained at all times. Failure to comply could result in assemblies separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

- 13. Loosen two nuts (20) and maximize the length of rod assembly (16) so that when rod assembly (16) is attached to lever assembly (21), clevis (22) is within 0.12 inch (3 mm) of contacting brake shaft (23).
- 14. Verify thread engagement of 0.62 inch (15.7 mm) exists between ends of rod assembly (16) and clevises (22 and 24). Tighten two nuts (20).
- 15. Connect rod assembly (16) to brake pedal (17) with headed pin (15) and new cotter pin (14).



0356 00

Alignment - Continued

NOTE

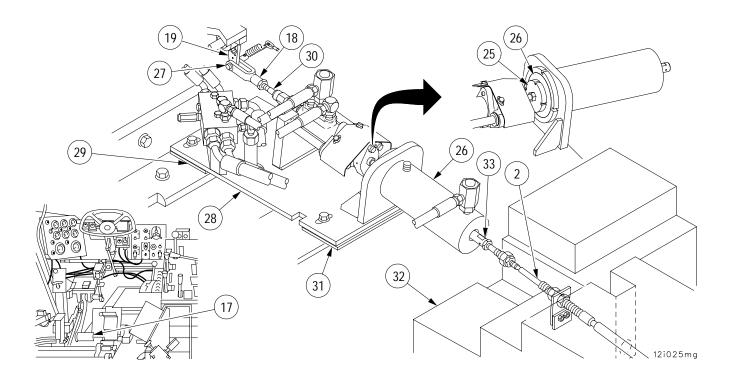
Do not adjust linkage between modulating valve and brake cylinder. This adjustment was made at the subassembly level.

- 16. Ensure that disc (25) is resting against the face of brake cylinder (26), adjust rod assembly (18) until holes in lever (19) and clevis (27) are aligned.
- 17. Connect rod assembly (18) to lever assembly (19) (WP 0366 00).
- 18. Release brake pedal (17) from steering wheel.
- 19. Remove screws securing plate assembly (28) to vehicle (WP 0374 00).

CAUTION

If shim stack is too high or too low, ball swivel may reach the extent of its 10 percent misalignment capability and introduce binding, causing equipment damage or failure.

- 20. Adjust height of the front of plate assembly (28) (remove or add plates (29) until linkage (30) moves freely without binding).
- 21. Adjust height of the rear end of plate assembly (28) (remove or add plates (31) until the brake cable (2) is optimized within the fuel tank (32) and rod assembly (33) is optimized in the center of hollow in brake cylinder (26).
- 22. Secure plate assembly (28) to vehicle (WP 0374 00).



0356 00

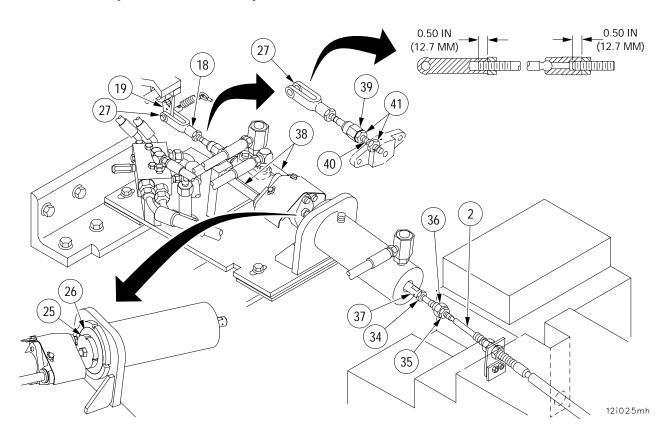
Alignment - Continued

- 23. Disconnect rod assembly (18) from lever assembly (19) (WP 0366 00).
- 24. Loosen two nuts (34 and 35) and remove ball joint (36) from rod assembly (37) and brake cable assembly (2).
- 25. Ensure that disc (25) is resting against the face of brake cylinder (26). If disk (25) does not return to face of brake cylinder (26), clean and lubricate spacers (38). Operate brake pedal through its entire range while observing disk (25) and brake cylinder (26). If disk (25) doesn't return to rest against brake cylinder (26) replace spacers (WP 0361 00).
- 26. Adjust rod assembly (18) until holes in lever assembly (19) and clevis (27) are aligned.



A minimum thread engagement of 0.50 inch (12.7 mm) between clevis and ball joint must be maintained at all times. Failure to comply could result in assemblies separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

- 27. Verify thread engagement of 0.50 inch (12.7 mm) exists between clevis (27) and threaded rod portion of ball joint (39) and between ball joint (39) and rod (40). Tighten two nuts (41).
- 28. Connect rod assembly (18) to lever assembly (19) (WP 0366 00).



0356 00

Alignment - Continued



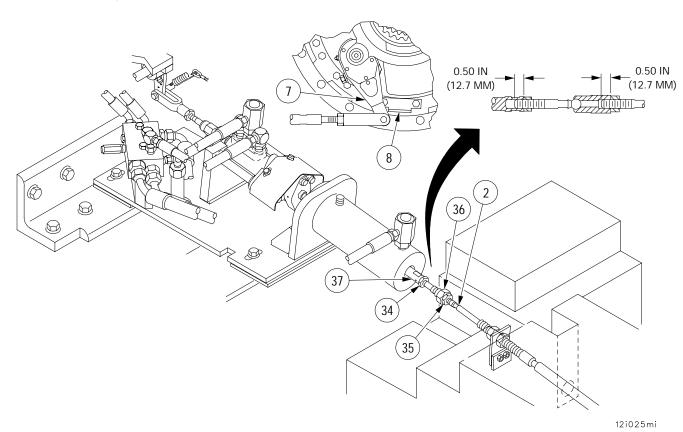
A minimum thread engagement of 0.50 inch (12.7 mm) between brake cable assembly and ball swivel must be maintained at all times. Failure to comply could result in assemblies separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

- 29. Verify thread engagement of 0.50 inch (12.7 mm) exists between ball joint (36) and threaded rod portion of brake cable assembly (2). Torque nut (35) to 30–35 lb-ft (40–47 NSm).
- 30. Attach ball joint (36) to rod assembly (37).

NOTE

Brake apply levers must remain resting against external stops during this alignment.

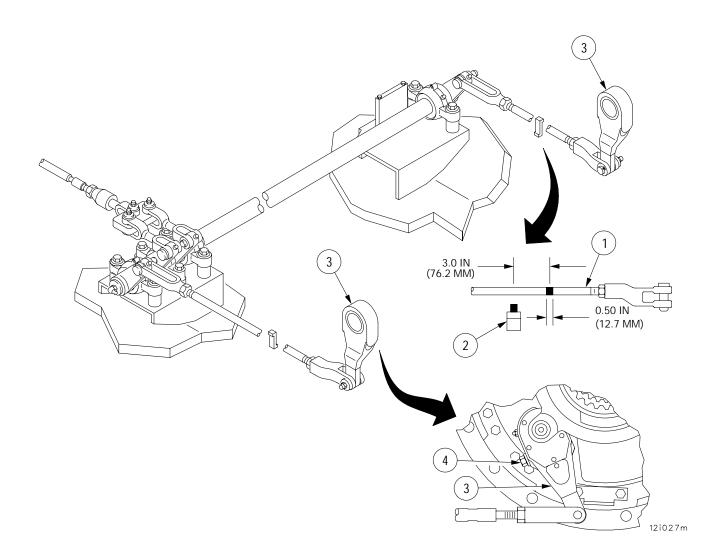
- 31. With brake apply levers (7) resting against their external stops (8), adjust brake cable assembly (2) to remove all slack from brake cable assembly (2) and rear brake linkage.
- 32. Verify a minimum of 0.50 inch (12.7 mm) thread engagement exists between threaded rod portion of ball joint (36) and rod assembly (37). Torque nut (34) to 30–35 lb-ft (40–47 NSm).



0356 00

Adjustment

- 1. Make sure brake linkage is in the relaxed position (not applied) (TM 9-2350-292-10).
- 2. Place a 0.05 inch (12.7 mm) wide mark on each rear brake rod assembly (1). The centerline of the mark must be 3.0-in. (76.2 mm) from the centerline of the brake adjustment indicator (2).
- 3. Apply brake fully and note position of mark with respect to brake adjustment indicator (2). If mark and brake adjustment indicator (2) do not align, release brake, adjust brake apply levers (3) using adjusting screw (4) until mark and brake adjustment indicator (2) align when brake is applied.

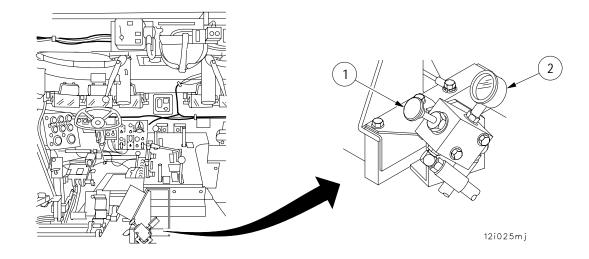


0356 00

Bleeding



- 1. Turn vehicle power switch to ON position to charge the brake system (TM 9-2350-292-10).
- 2. Pull brake bleed valve handle (1), hold for 30 seconds, then release.
- 3. Observe brake pressure gauge (2). Pressure should build up to 950 psi (6550 kPa) and brake pump motor should shut off.
- 4. Repeat steps 2 and 3 if pressure does not reach 950 psi (6550 kPa) and the brake pump motor does not shut off.



NOTE

FOLLOW-ON MAINTENANCE:

Install hull engine compartment access covers, if removed (WP 0434 00)

Install subfloor access plate #6, if removed (WP 0454 00) Install powerpack, if removed (WP 0188 00)

0357 00

THIS WORK PACKAGE COVERS:

Alignment, Adjustment, Bleeding

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Cotter pins (3) (item 17, WP 0718 00) Safety goggles (item 93, WP 0716 00) Lubricant (item 51, WP 0716 00) Lubricant (item 87, WP 0716 00) Rope (item 34, WP 0716 00) Cotter pin (item 19, WP 0718 00)

Equipment Conditions

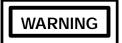
Vehicle parked on level surface with tracks blocked and brakes released (TM 9-2350-292-10)
Powerpack removed (WP 0188 00)
For alignment only
Subfloor access plate #6 removed (WP 0454 00)
For alignment only
Hull engine compartment access covers removed (WP 0434 00)
For access to brake linkages

Personnel Required

Two

References

TM 9-2350-292-10



Adjustment to length of rod assemblies must be accomplished by adjusting both end clevises or rod end bearings evenly. Rod end clevises or rod end bearings must maintain specified thread engagement length from end of rod assemblies as a minimum at all times. Failure to comply could result in rod assembly separation causing loss of vehicle service brake, resulting in personnel injury or equipment damage.

NOTE

If an alignment is performed, an adjustment is also necessary. An adjustment alone can be performed, if required. Bleeding must be performed if any hydraulic lines or components are repaired or replaced.

0357 00

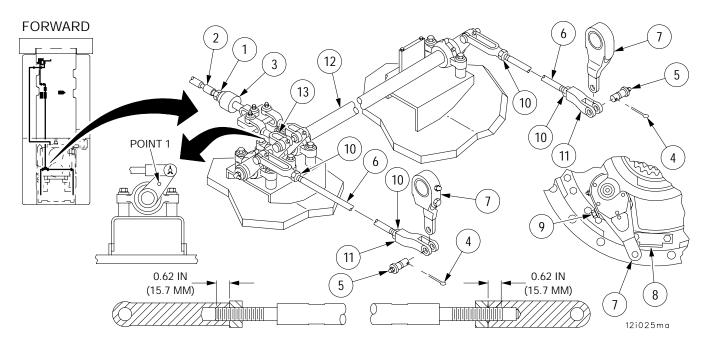
Alignment

- 1. Loosen nut (1) and disconnect brake cable assembly (2) from clevis (3).
- 2. Remove two cotter pins (4), two grooved head pins (5) and two rear brake rod assemblies (6) from two brake apply levers (7). Discard cotter pins.
- 3. Check both brake apply levers (7) to ensure that they are in the fully released position against their external stops (8). If not fully released, push in the adjustment screw collar (9) while turning the adjustment screw, to position the brake apply lever (7) against the stop (8).
- 4. Loosen four locking nuts (10) on two rear brake rod assemblies (6).
- 5. Insert two 1/8 inch diameter locating pins on both sides of vehicle at point 1.



Adjustment of length of rod assemblies must be accomplished by adjusting both end clevises evenly. Rod end clevises must maintain a minimum of 0.62 inch (15.7 mm) thread engagement from end of rod assemblies at all times. Failure to comply could result in rod assembly separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

- 6. Adjust both ends of two rear brake rod assemblies (6) evenly until holes in clevis (11) align with holes in brake apply levers (7) and long brake shaft (12) is lined up with short brake shaft (13). Verify thread engagement of 0.62 inch (15.7 mm) exists between face of locking nut and end of rod assemblies.
- 7. Connect two rear brake rod assemblies (6) to two brake apply levers (7) with two grooved head pins (5) and two new cotter pins (4).
- 8. Tighten four locking nuts (10) and remove 1/8 inch diameter locating pins from both sides of vehicle at point 1.



0357 00

Alignment - Continued



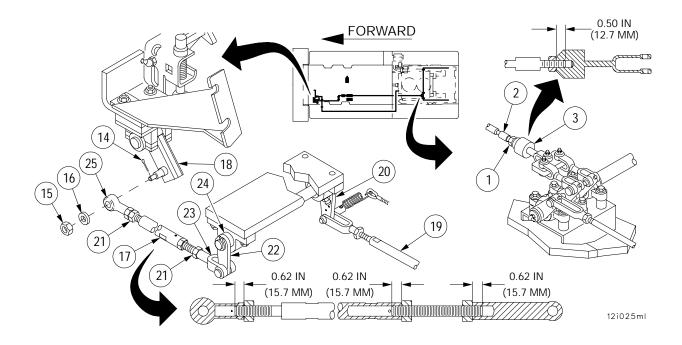
A minimum thread engagement of 0.50 inch (12.7 mm) between brake cable assembly and clevis must be maintained at all times. Failure to comply could result in assembly separation, causing loss of vehicle service brakes, resulting in personnel injury or vehicle damage.

- 9. Attach brake cable assembly (2) to clevis (3). Verify that a thread engagement of 0.50 inch (12.7 mm) between threaded rod portion of brake cable assembly (2) and clevis (3) exist. Torque nut (1) to 15–20 lb-ft (20–27 NSm).
- 10. Remove cotter pin (14), nut (15), flat washer (16) and rod assembly (17) from lever (18). Discard cotter pin.
- 11. Disconnect rod assembly (19) from lever assembly (20) (WP 0367 00).
- 12. With the shift lever in "PARK", restrain brake lever in the "up" position.



A minimum thread engagement of 0.62 inch (15.7 mm) between rod assembly and clevis must be maintained at all times. Failure to comply could result in assembly separation, causing loss of vehicle service brakes, resulting in personnel injury or vehicle damage.

- 13. Loosen two nuts (21) and maximize the length of rod assembly (17) so that when rod assembly (17) is attached to lever assembly (22), clevis (23) is within 0.12 inch (3.0 mm) of contacting brake shaft (24).
- 14. Verify thread engagement of 0.62 inch (15.7 mm) exists between ends of rod assembly (17) and clevis (23 and 25). Tighten two nuts (21).
- 15. Connect rod assembly (17) to lever (18) with flat washer (16), nut (15) and new cotter pin (14).



0357 00

Alignment - Continued

NOTE

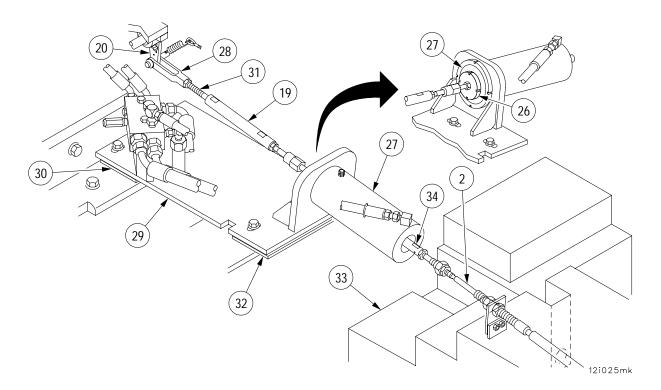
Do not readjust linkage between the disc and the cylinder. Linkage has been adjusted at the subassembly level for proper clearance and should not be readjusted.

- 16. Ensure that disc (26) is resting against the face of the brake cylinder (27). Adjust rod assembly (19) until holes in lever (20) and clevis (28) are aligned.
- 17. Connect rod assembly (19) to lever assembly (20) (WP 0367 00).
- 18. Temporarily remove restraint from lever.
- 19. Remove screws securing plate assembly (29) to vehicle (WP 0375 00).

CAUTION

If plate stack is too high or too low, ball swivel may reach the extent of its 10 percent misalignment capability and introduce binding, causing equipment damage or failure.

- 20. Adjust height of the front plate assembly (29) (remove or add plate (30) until linkage (31) moves freely without binding).
- 21. Adjust height of the rear end of plate assembly (29) (remove or add plates (32) until brake cable (2) is optimized within the fuel tank (33) and rod assembly (34) is optimized within the fuel tank (33) and rod assembly (34) is optimized in the center of hollow in brake cylinder (27)).
- 22. Secure plate assembly (29) to vehicle (WP 0375 00).
- 23. Restraint parking brake pedal in "up" position.
- 24. Repeat steps 13 through 14. Torque nuts 15-20 lb-ft (20-27 NSm).



0357 00

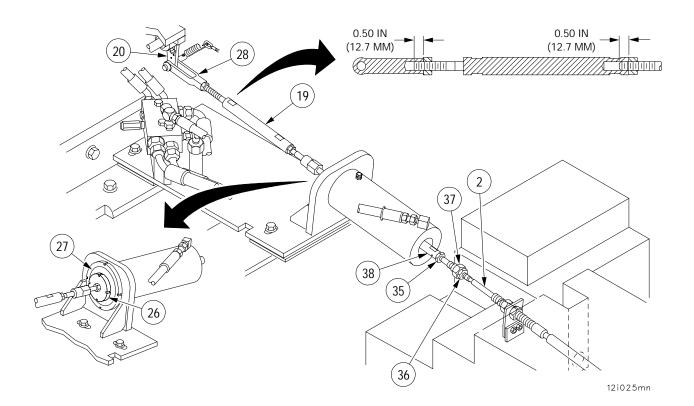
Alignment - Continued

- 25. Disconnect rod assembly (19) from lever assembly (20) (WP 0367 00).
- 26. Loosen two nuts (35 and 36) and remove ball joint (37) from rod assembly (38) and brake cable assembly (2).
- 27. Ensure that disc (26) is resting against the face of brake cylinder (27).
- 28. Adjust rod assembly (19) until holes in lever assembly (20) and clevis (28) are aligned.



A minimum thread engagement of 0.50 inch (12.7 mm) between clevis and ball joint must be maintained at all times. Failure to comply could result in assemblies separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

29. Connect rod assembly (19) to lever assembly (20) (WP 0367 00).



0357 00

Alignment - Continued



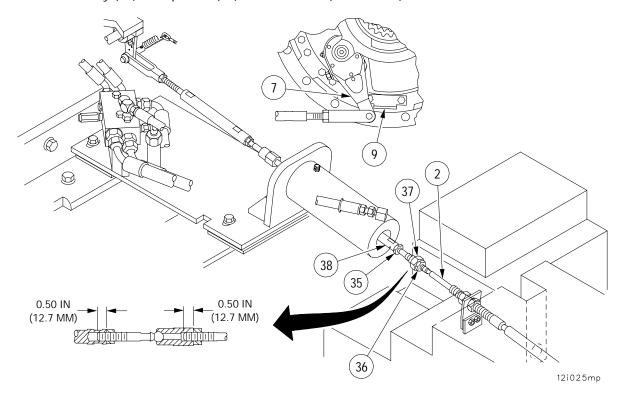
A minimum thread engagement of 0.50 inch (12.7 mm) between brake cable assembly and ball swivel must be maintained at all times. Failure to comply could result in assemblies separation, causing loss of vehicle service brake, resulting in personnel injury or vehicle damage.

- 30. Verify thread engagement of 0.50 inch (12.7 mm) exists between ball joint (37) and threaded rod portion of brake cable assembly (2). Torque nut (36) to 15–20 lb-ft (21–27 NSm).
- 31. Attach ball swivel (37) to rod assembly (38).

NOTE

Brake apply levers must remain resting against external stops during this alignment or misalignment can occur. The operator holds the brake pedal to the floor while the maintainer checks the rear brake rod alignment marks (black mark painted on the rod) aligns with the alignment tabs.

- 32. With brake apply levers (7) resting against their external stops (9), adjust brake cable assembly (2) to remove all slack from brake cable assembly (2) and rear brake linkage.
- 33. Verify a minimum of 0.50 inch (12.7 mm) thread engagement exists between threaded rod portion of ball swivel (37) and rod assembly (38). Torque nut (35) to 15–20 lb-ft (20–27 NSm).



0357 00

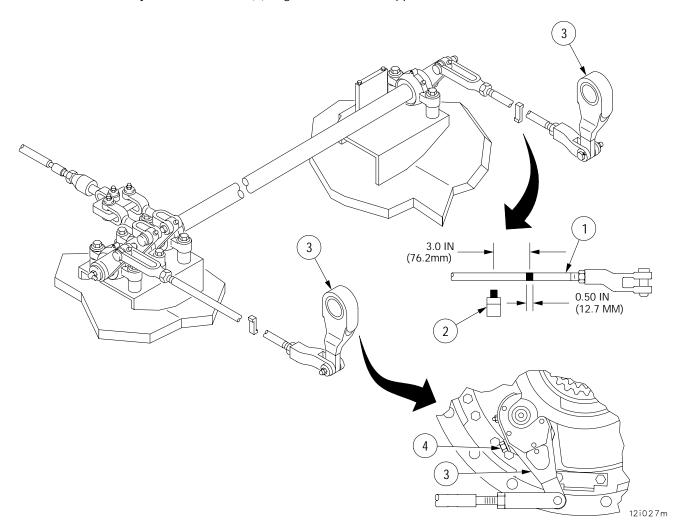
Adjustment

- 1. Make sure brake linkage is in the relaxed position (not applied) (TM 9-2350-292-10).
- 2. Place a 0.50 inch (12.7 mm) wide mark on each rear brake rod assembly (1). The centerline of the mark must be 3.0 inch (76.2 mm) from the centerline of the brake adjustment indicator (2).



Make sure brake alignment mark on rod and brake adjustment indicator are aligned. Failure to comply could result in loss of vehicle service brakes resulting in personnel injury or vehicle damage.

3. Apply brake fully and note position of mark with respect to brake adjustment indicator (2). If mark and brake adjustment indicator (2) do not align, release brake, adjust brake apply levers (3) using adjusting screw (4) until mark and brake adjustment indicator (2) align when brake is applied.

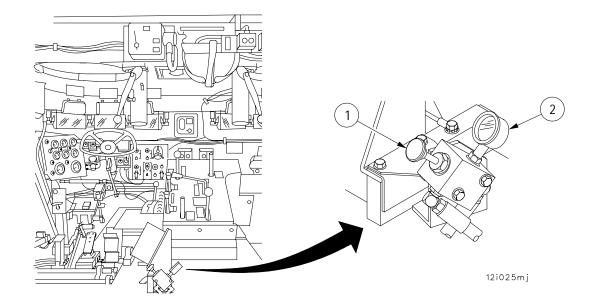


0357 00

Bleeding



- 1. Turn vehicle MASTER switch to ON position.
- 2. Depress and release hydraulic brake pedal with full slow strokes.
- 3. Open the PULL valve (1) and listen for trapped air traveling in the line to the reservoir.
- 4. Close PULL valve (1) when the gurgle sound stops, indicating the air has been purged from the line.
- 5. Observe brake pressure gauge (2). Pressure should build up to 1300 psi (8963 kPa) and brake pump motor should shut off.
- 6. Repeat steps 2 and 3 if pressure does not reach 1300 psi (8963 kPa) and the brake pump motor does not shut off



NOTE

FOLLOW-ON MAINTENANCE:

Close subfloor access plate #16, if opened (WP 0454 00).
Install hull engine compartment access covers, if removed (WP 0434 00).
Install subfloor access plate #6, if removed (WP 0454 00).
Install powerpack, if removed (WP 0188 00).
Perform WP 0359 00 Neutral Safety Switch, Steering Control Lock and Brake Lock Adjustment, if necessary.

END OF TASK

NEUTRAL SAFETY SWITCH, STEERING CONTROL LOCK AND BRAKE LOCK ADJUSTMENT (OLD CONFIGURATION)

0358 00

THIS WORK PACKAGE COVERS:

Adjustment

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

Vehicle parked on level surface with tracks blocked (TM 9-2350-292-10)
Shifting control linkage adjusted (WP 0408 00)
Driver's seat in stowed position

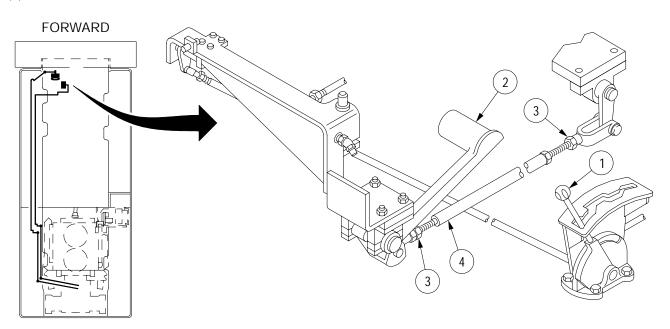
(TM 9-2350-292-10)

Subfloor plate #6 removed (WP 0454 00)

References TM 9-2350-292-10

Adjustment

- 1. Place shift control lever (1) in PARK (P) position (TM 9-2350-292-10).
- 2. Push brake pedal (2) down as far as possible. Brake pedal (2) should lock in down position.
- 3. If brake pedal (2) does not lock in down position, loosen two nuts (3) on rod (4).
- 4. Adjust rod (4) until brake pedal (2) locks in down position.
- 5. Release brake pedal (2). If brake pedal (2) does not release, adjust rod (4) until it does.
- 6. Check that brake pedal (2) will lock and release properly. If brake pedal (2) operates properly, tighten two nuts (3).



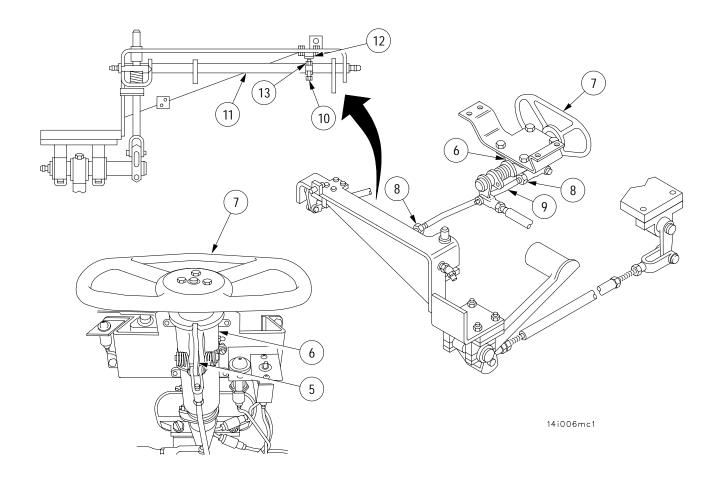
14i005m

NEUTRAL SAFETY SWITCH, STEERING CONTROL LOCK AND BRAKE LOCK ADJUSTMENT (OLD CONFIGURATION) - CONTINUED

0358 00

Adjustment-Continued

- 7. Check to see if steering control lock (5) engages recess in steering control (6) when steering wheel (7) is centered and shift control lever is in PARK.
- 8. If steering control lock (5) does not engage, loosen two nuts (8) on linkage rod (9) and adjust linkage rod (9) until steering control lock (5) engages recess in steering control (6). Tighten two nuts (8).
- 9. Check adjustment screw (10) on lever assembly (11) for contact with neutral safety switch (12).
- 10. If adjustment screw (10) does not contact neutral safety switch (12), loosen nut (13) and turn adjustment screw (10) until it contacts neutral safety switch (12). Tighten nut (13).



NOTE

FOLLOW-ON MAINTENANCE:

Lock brakes (TM 9-2350-292-10) Install subfloor plate #6 (WP 0454 00)

NEUTRAL SAFETY SWITCH, STEERING CONTROL LOCK AND BRAKE LOCK ADJUSTMENT (NEW CONFIGURATION WITH BRAKE MODULATION)

0359 00

THIS WORK PACKAGE COVERS:

Adjustment

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

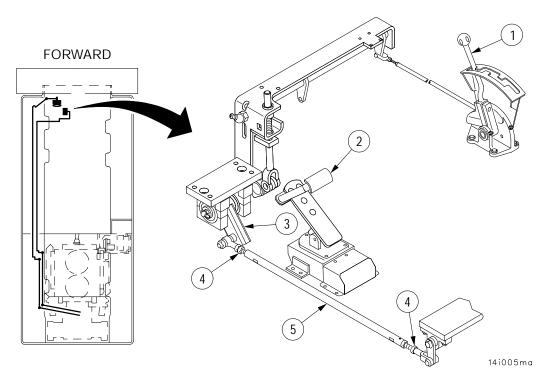
Vehicle parked on level surface with tracks blocked (TM 9-2350-292-10)
Shifting control linkage adjusted (WP 0408 00)
Driver's seat in stowed position (TM 9-2350-292-10)
Subfloor plate #6 removed (WP 0454 00)

References

TM 9-2350-292-10

Adjustment

- 1. Turn vehicle MASTER switch ON.
- 2. Place shift control lever (1) in PARK (P) position (TM 9-2350-292-10).
- 3. Push brake pedal (2) down as far as possible. Brake linkage (3) should lock in forward position.
- 4. If brake linkage (3) does not lock in forward position, loosen two nuts (4) on rod (5).
- 5. Adjust rod (5) until brake linkage (3) locks in forward position.
- 6. Place vehicle in neutral and release brake linkage (3). If brake linkage (3) does not release, adjust rod (5) until it does.
- 7. Check that brake linkage (3) will lock and release properly. If brake linkage (3) operates properly, tighten two nuts (4).



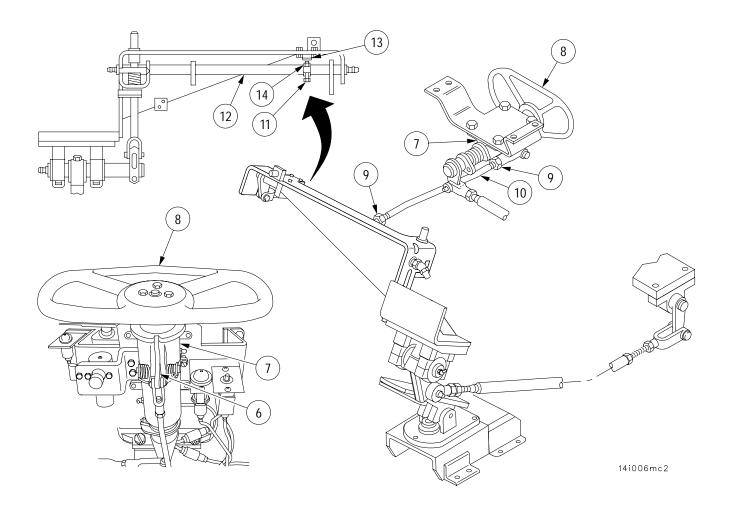
NEUTRAL SAFETY SWITCH, STEERING CONTROL LOCK AND BRAKE LOCK ADJUSTMENT (NEW CONFIGURATION WITH BRAKE MODULATION)

0359 00

- CONTINUED

Adjustment-Continued

- 8. Check to see if steering control lock (6) engages recess in steering control (7) when steering wheel (8) is centered and shift control lever is in PARK.
- 9. If steering control lock (6) does not engage, loosen two nuts (9) on linkage rod (10) and adjust linkage rod (10) until steering control lock (6) engages recess in steering control (7). Tighten two nuts (9).
- 10. Check adjustment screw (11) on lever assembly (12) for contact with neutral safety switch (13).
- 11. If adjustment screw (11) does not contact neutral safety switch (13), loosen nut (14) and turn adjustment screw (11) until it contacts neutral safety switch (13). Tighten nut (14).



NOTE

FOLLOW-ON MAINTENANCE:

Lock brakes (TM 9-2350-292-10) Install subfloor plate #6 (WP 0454 00)

END OF TASK

0360 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Combination wrench (item 30, WP 0717 00)

Materials/Parts

Dust protective cap (item 10, WP 0716 00)
Dust protective plugs (3) (item 11, WP 0716 00)
Dust protective plugs (24) (item 12, WP 0716 00)
Dust protective caps (2) (item 44, WP 0716 00)
Dust protective plugs (2) (item 14, WP 0716 00)
Preformed packing (item 20, WP 0718 00)
Preformed packing (item 21, WP 0718 00)
Preformed packings (11) (item 22, WP 0718 00)
Lubricant (item 51, WP 0716 00)

Materials/Parts - Continued

Preformed packing (item 23, WP 0718 00) Wiping rags (item 7, WP 0716 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked and brakes released (TM 9-2350-292-10) Subfloor plates #13, #16, #18 and #22 removed (WP 0454 00) Interior stowage baskets removed (WP 0465 00) Hydraulic reservoir drained (WP 0187 00)

References

TM 9-2350-292-10





Do not work on hydraulic lines or fittings when system is pressurized. Hydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge indicates zero.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to the hydraulic system.

NOTE

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedures.

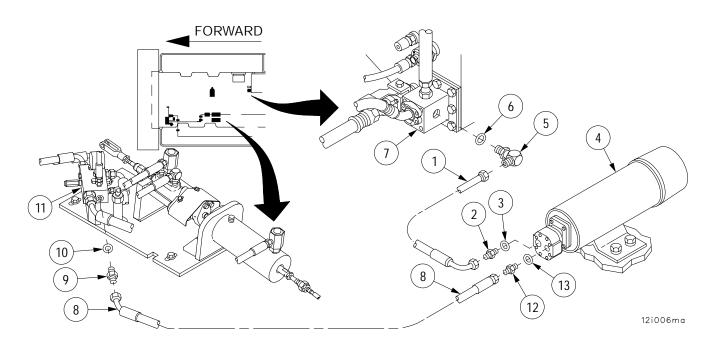
The following table lists the removal and installation steps for the eight hydraulic hose assemblies in the brake system.

0360 00

Hose Assembly to be Replaced	Hose Asseml From	bly Location To	Removal Steps	Installation Steps
12365278-89	Port INLET of pump and motor assembly	Reservoir	1 - 2	15 - 18
12365278-90	Port OUTLET of pump and motor assembly	Port PIN of power boost manifold	3 - 4	13 - 14, 17 - 18
12365278-91	Accumulator	Port ACC of power boost manifold	5 - 6	11 - 12, 17 - 18
12365278-94	Port A of modulation valve	Hydraulic cylinder	7 - 8	9 - 10, 17 - 18
12365278-92	Port T of modulation valve	Port RIN of power boost manifold	9 - 10	7 - 8, 17 - 18
12365278-93	Port P of modulation valve	Port POUT of power boost manifold	11 - 12	5 - 6, 17 - 18
12365278-95	Filter manifold tee	Port ROUT of power boost manifold	13 - 14	3 - 4, 17 - 18
12365278-142	Pressure switch	Port PS of power boost manifold	15 - 16	1 - 2, 17 - 18

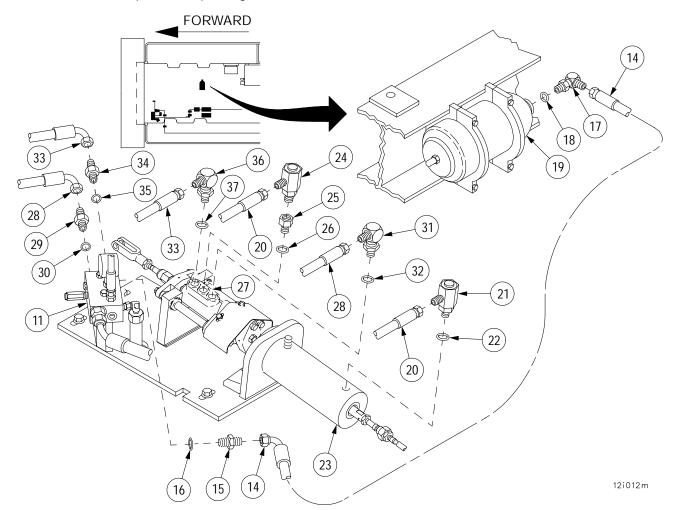
Removal

- 1. Remove one end of hose assembly (1), adapter (2) and preformed packing (3) from port INLET of pump and motor assembly (4). Discard preformed packing.
- 2. Remove other end of hose assembly (1), adapter (5) and preformed packing (6) from reservoir (7). Discard preformed packing.
- 3. Remove one end of hose assembly (8), adapter (9) and preformed packing (10) from port PIN of power boost manifold (11). Discard preformed packing.
- 4. Remove other end of hose assembly (8), adapter (12) and preformed packing (13) from port OUTLET of pump and motor assembly (4). Discard preformed packing.



0360 00

- 5. Remove one end of hose assembly (14), adapter (15) and preformed packing (16) from port ACC of power boost manifold (11). Discard preformed packing.
- 6. Remove other end of hose assembly (14), adapter (17) and preformed packing (18) from accumulator (19). Discard preformed packing.
- 7. Remove one end of hose assembly (20), adapter (21) and preformed packing (22) from hydraulic cylinder (23). Discard preformed packing.
- 8. Remove other end of hose assembly (20), adapter (24), reducer (25) and preformed packing (26) from port A of modulating valve (27). Discard preformed packing.
- 9. Remove one end of hose assembly (28), adapter (29) and preformed packing (30) from port RIN of power boost manifold (11). Discard preformed packing.
- 10. Remove other end of hose assembly (28), adapter (31) and preformed packing (32) from port T of modulating valve (27). Discard preformed packing.
- 11. Remove one end of hose assembly (33), adapter (34) and preformed packing (35) from port POUT of power boost manifold (11). Discard preformed packing.
- 12. Remove other end of hose assembly (33), adapter (36) and preformed packing (37) from port P of modulating valve (27). Discard preformed packing.



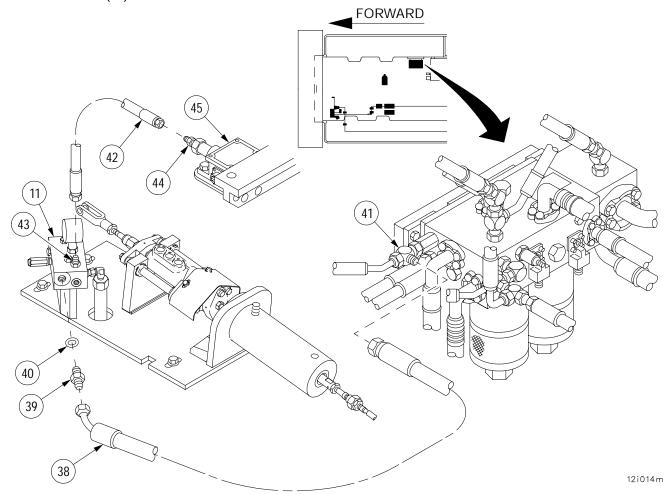
0360 00

Removal-Continued

- 13. Remove one end of hose assembly (38), adapter (39) and preformed packing (40) from port ROUT of power boost manifold (11). Discard preformed packing.
- 14. Remove other end of hose assembly (38) from filter manifold tee (41).
- 15. Remove one end of hose assembly (42) from adapter (43) in port PS of power boost manifold (11).
- 16. Remove other end of hose assembly (42) from adapter (44) in pressure switch (45).
- 17. Inspect parts for damage and replace as required.

Installation

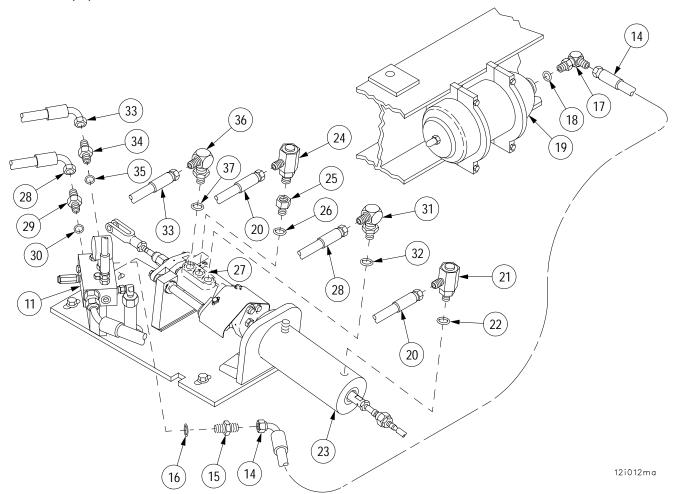
- 1. Install one end of hose assembly (42) in adapter (44) of pressure switch (45).
- 2. Install other end of hose assembly (42) in adapter (43) of port PS of power boost manifold (11).
- 3. Install one end of hose assembly (38) in filter manifold tee (41).
- 4. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 5. Install other end of hose assembly (38), adapter (39) and new preformed packing (40) in port ROUT of power boost manifold (11).



0360 00

Installation-Continued

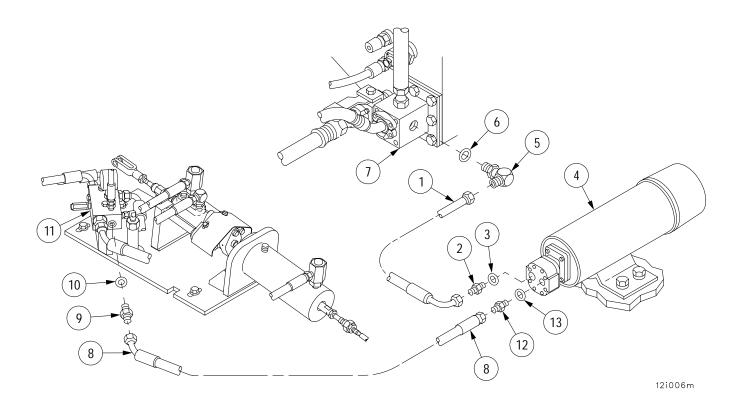
- 6. Install one end of hose assembly (33), adapter (36) and new preformed packing (37) in port P of modulating valve (27).
- 7. Install other end of hose assembly (33), adapter (34) and new preformed packing (35) in port POUT of lower boost manifold (11).
- 8. Install one end of hose assembly (28), adapter (31) and new preformed packing (32) in port T of modulating valve (27).
- 9. Install other end of hose assembly (28), adapter (29) and new preformed packing (30) in port RIN of power boost manifold (11).
- 10. Install one end of hose assembly (20), reducer (25), adapter (24) and new preformed packing (26) in port A of modulating valve (27).
- 11. Install other end of hose assembly (20), adapter (21) and new preformed packing (22) in hydraulic cylinder (23).
- 12. Install one end of hose assembly (14), adapter (17) and new preformed packing (18) in accumulator (19).
- 13. Install other end of hose assembly (14), adapter (15) and new preformed packing (16) in port ACC of power boost manifold (11).



0360 00

Installation-Continued

- 14. Install one end of hose assembly (8), adapter (12) and new preformed packing (13) in port OUTLET of pump and motor assembly (4).
- 15. Install other end of hose assembly (8), adapter (9) and new preformed packing (10) in port PIN of power boost manifold (11).
- 16. Install one end of hose assembly (1), adapter (5) and new preformed packing (6) in reservoir (7).
- 17. Install other end of hose assembly (1), adapter (2) and new preformed packing (3) in port INLET of pump and motor assembly (4).
- 18. Fill reservoir (7) to the proper level with lubricant (WP 0187 00).
- 19. Power up hydraulic system (TM 9-2350-292-10) and check for leaks. Repair as necessary.
- 20. Bleed air from brake system (WP 0355 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install interior stowage baskets (WP 0465 00) Install subfloor plates #13, #16, #18 and #22 (WP 0454 00)

END OF TASK

0361 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Combination wrench (item 30, WP 0717 00)

Materials/Parts

Dust protective cap (item 10, WP 0716 00)
Dust protective plugs (3) (item 11, WP 0716 00)
Dust protective plugs (24) (item 12, WP 0716 00)
Dust protective caps (2) (item 44, WP 0716 00)
Dust protective plugs (2) (item 14, WP 0716 00)
Preformed packings (2) (item 20, WP 0718 00)
Preformed packing (item 21, WP 0718 00)
Preformed packings (11) (item 22, WP 0718 00)
Lubricant (item 51, WP 0716 00)
Preformed packing (item 43, WP 0718 00)
Lockwashers (4) (item 9, WP 0718 00)

Materials/Parts - Continued

Lockwasher (item 2, WP 0718 00) Preformed packing (item 23, WP 0718 00) Wiping rags (item 7, WP 0716 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked and brakes released (TM 9-2350-292-10) Subfloor plates #13, #16, #18 and #22 removed (WP 0454 00) Interior stowage baskets removed (WP 0465 00) Hydraulic reservoir drained (WP 0187 00)

References

TM 9-2350-292-10



Do not work on hydraulic lines or fittings when system is pressurized. Hydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge indicates zero.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to the hydraulic system.

0361 00

NOTE

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedures.

The following table lists the removal and installation steps for the eleven hydraulic hose assemblies in the brake system.

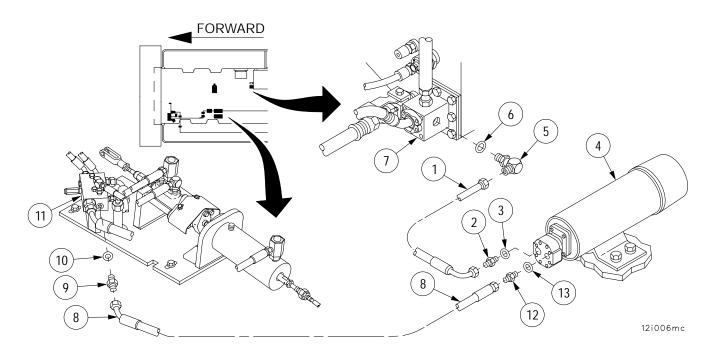
Hose Assembly	Hose Assembly Location		Removal	Installation
to be Replaced	From	То	Steps	Steps
12365278-89	Port INLET of pump and motor assembly	Reservoir	1 - 2	29 - 33
12365278-90	Port OUTLET of pump and motor assembly	Port PIN of power boost manifold	3 - 4	27 - 28, 31 - 33
12365278-91	Accumulator	Port ACC of power boost manifold	5 - 6	25 - 26, 31 - 33
12365278-94	Port A of modulation valve	Hydraulic cylinder	7 - 8	23 - 24, 31 - 33
12365278-92	Port T of modulation valve	Port RIN of power boost manifold	9 - 10	21 - 22, 31 - 33
12365278-93	Port P of modulation valve	Port POUT of power boost manifold	11 - 12	19 - 20, 31 - 33
12365278-95	Filter manifold tee	Port ROUT of power boost manifold	13 - 14	17 - 18, 31 - 33
12365278-142	Tee of pressure switch	Port PS of power boost manifold	15 - 16	15 - 16, 31 - 33
12365278-145	Tee of pressure switch	Elbow adapter on floor plate	17 - 18	13 - 14, 31 - 33
12365278-147	Elbow adapter on floor plate (driver's side)	Port on backside of bleed valve manifold	19 - 20	10 - 11, 31 - 33
12365278-148	Port on bottom side of bleed valve manifold	Elbow adapter on floor plate (mechanic's side)	22 - 23	8 - 9, 31 - 33

0361 00

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Removal

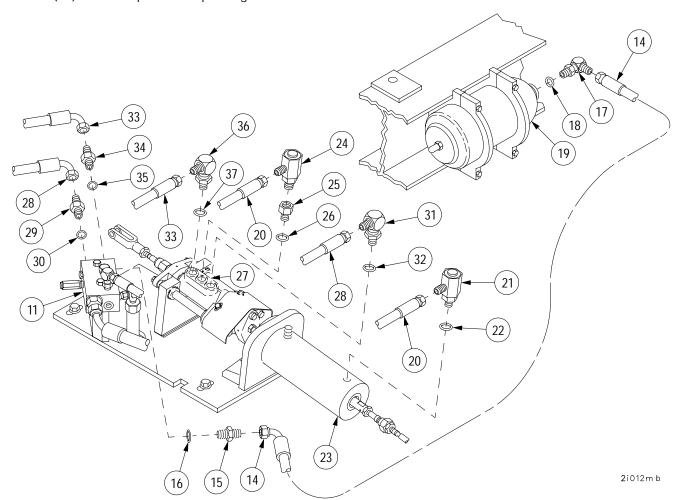
- 1. Remove one end of hose assembly (1), adapter (2) and preformed packing (3) from port INLET of pump and motor assembly (4). Discard preformed packing.
- 2. Remove other end of hose assembly (1), adapter (5) and preformed packing (6) from reservoir (7). Discard preformed packing.
- 3. Remove one end of hose assembly (8), adapter (9) and preformed packing (10) from port PIN of power boost manifold (11). Discard preformed packing.
- 4. Remove other end of hose assembly (8), adapter (12) and preformed packing (13) from port OUTLET of pump and motor assembly (4). Discard preformed packing.



0361 00

- CONTINUED

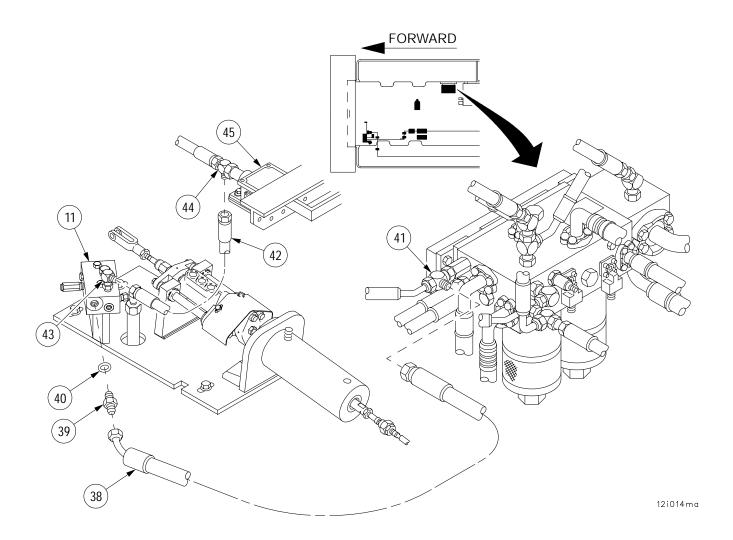
- 5. Remove one end of hose assembly (14), adapter (15) and preformed packing (16) from port ACC of power boost manifold (11). Discard preformed packing.
- 6. Remove other end of hose assembly (14), adapter (17) and preformed packing (18) from accumulator (19). Discard preformed packing.
- 7. Remove one end of hose assembly (20), adapter (21) and preformed packing (22) from hydraulic cylinder (23). Discard preformed packing.
- 8. Remove other end of hose assembly (20), adapter (21) and preformed packing (22) from hydraulic cylinder (23). Discard preformed packing.
- 9. Remove one end of hose assembly (28), adapter (29) and preformed packing (30) from port RIN of power boost manifold (11). Discard preformed packing.
- 10. Remove other end of hose assembly (28), adapter (31) and preformed packing (32) from port T of modulating valve (27). Discard preformed packing.
- 11. Remove one end of hose assembly (33), adapter (34) and preformed packing (35) from port POUT of power boost manifold (11). Discard preformed packing.
- 12. Remove other end of hose assembly (33), adapter (36) and preformed packing (37) from port P of modulating valve (27). Discard preformed packing.



0361 00

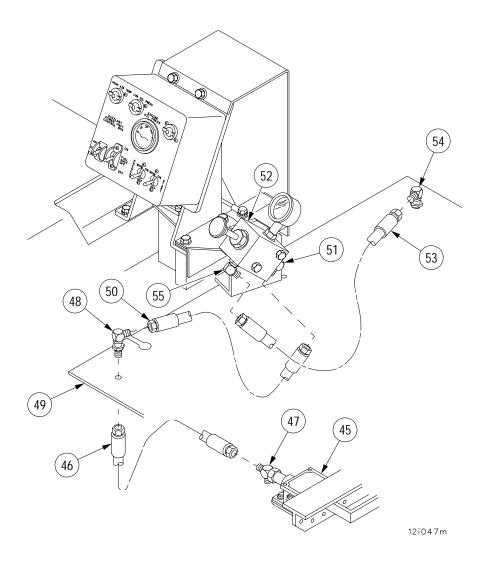
- CONTINUED

- 13. Remove one end of hose assembly (38), adapter (39) and preformed packing (40) from port ROUT of power boost manifold (11). Discard preformed packing.
- 14. Remove other end of hose assembly (38) from filter manifold tee (41).
- 15. Remove one end of hose assembly (42) from elbow (43) in port PS of power boost manifold (11).
- 16. Remove other end of hose assembly (42) from tee (44) in pressure switch (45).



0361 00

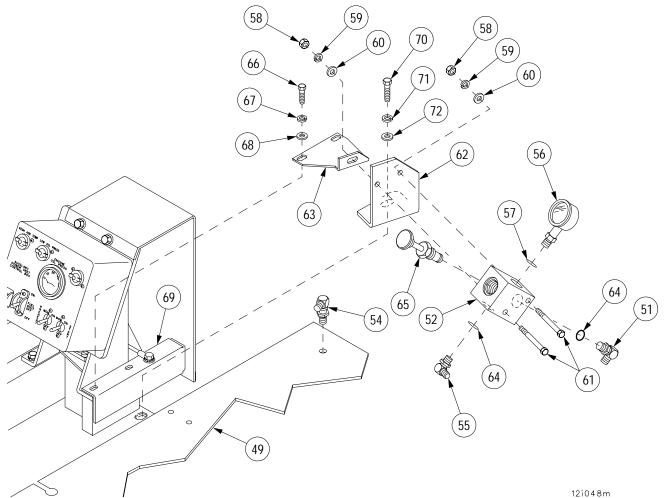
- 17. Remove one end of hose assembly (46) from tee (47) in pressure switch (45).
- 18. Remove other end of hose assembly (46) from elbow (48) in floor plate (49).
- 19. Remove one end of hose assembly (50) from elbow (48) on floor plate (49).
- 20. Remove other end of hose assembly (50) from elbow (51) on floor plate (52).
- 21. Remove elbow (48) from floor plate (49).
- 22. Remove one end of hose assembly (53) from elbow (54) in floor plate (49).
- 23. Remove other end of hose assembly (53) from elbow (55) on bottom side of bleed valve manifold (52).



0361 00

- CONTINUED

- 24. Remove elbow (54) from floor plate (49).
- 25. Remove brake pressure gauge (56) and preformed packing (57) from bleed valve manifold (52). Discard preformed packing.
- 26. Remove two nuts (58), two lockwashers (59), two flat washers (60), two screws (61) and bleed valve manifold (52) from angle (62) and bracket (63). Discard lockwashers.
- 27. Remove elbow (51), elbow (55), two preformed packings (64) and manual pull valve (65) from bleed valve manifold (52). Discard preformed packings.
- 28. Remove two screws (66), two lockwashers (67), two flat washers (68) and brace (63) from APU control box mount (69). Discard lockwashers.
- 29. Remove screw (70), lockwasher (71), flat washer (72) and angle (62) from floor plate (49). Discard lockwasher.
- 30. Inspect parts for damage and repair as required.

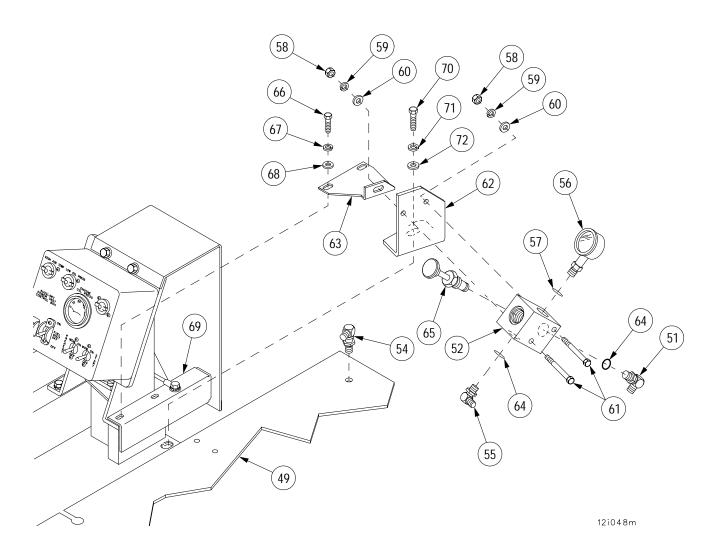


0361 00

- CONTINUED

Installation

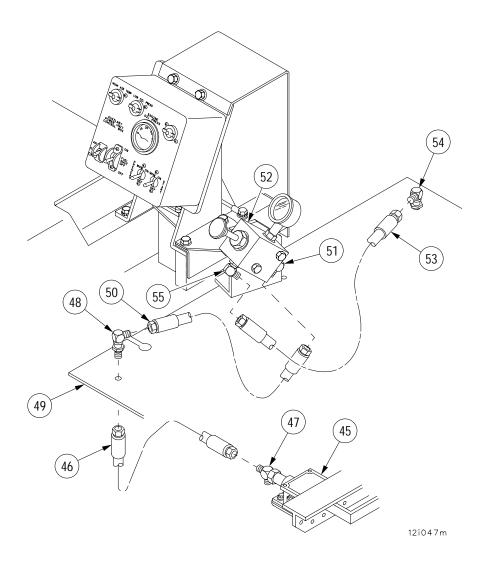
- 1. Install angle (62) to floor plate (49) with new lockwasher (71), flat washer (72) and screw (70).
- 2. Install brace (63) to APU control box mount (69) with two new lockwashers (67), two flat washers (68) and two screws (66).
- 3. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 4. Install elbow (51), elbow (55), two new preformed packings (64) and manual pull valve (65) in bleed valve manifold (52). Elbow (51) should be oriented so it points toward the floor of the vehicle when bleed valve manifold (52) is installed. Elbow (55) should point away from the manual pull valve (65).
- 5. Install bleed valve manifold (52) on angle (62) and bracket (63) with two screws (61), two flat washers (60), two new lockwashers (59) and two nuts (58).
- 6. Install brake pressure gauge (56) and new preformed packing (57) in bleed valve manifold (52).
- 7. Install elbow (54) in floor plate (49).



0361 00

Installation

- 8. Install one end of hose assembly (53) on elbow (55) on bottom side of bleed valve manifold (52).
- 9. Install other end of hose assembly (53) on elbow (54) in floor plate (49).
- 10. Install elbow (48) in floor plate (49).
- 11. Install one end of hose assembly (50) on elbow (51) on back side of bleed valve manifold (52).
- 12. Install other end of hose assembly (50) on elbow (48) in floor plate (49).
- 13. Install one end of hose assembly (46) on elbow (48) in floor plate (49).
- 14. Install other end of hose assembly (46) on tee (47) in pressure switch (45).

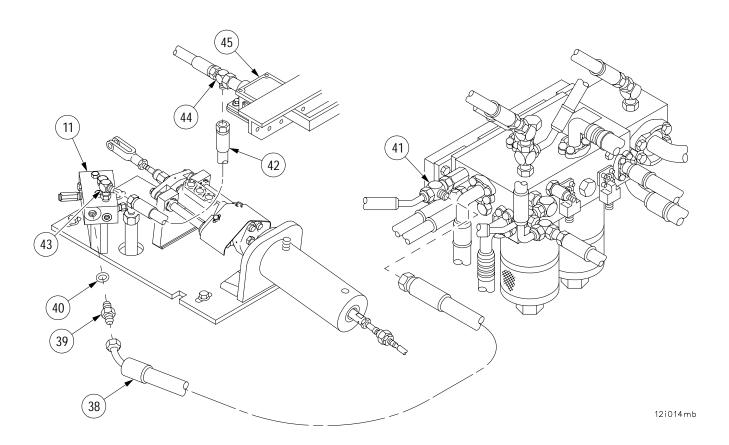


0361 00

- CONTINUED

Installation-Continued

- 15. Install one end of hose assembly (42) in tee (44) in pressure switch (45).
- 16. Install other end of hose assembly (42) in elbow (43) in port PS of power boost manifold (11).
- 17. Install one end of hose assembly (38) in filter manifold tee (41).
- 18. Install other end of hose assembly (38), adapter (39) and new preformed packing (40) in port ROUT of power boost manifold (11).

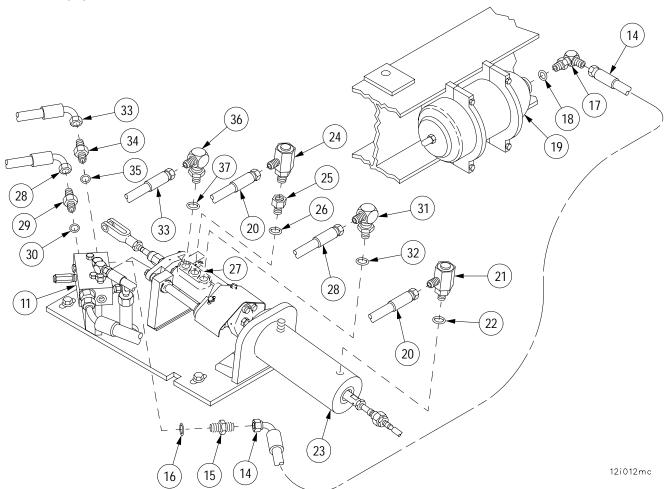


0361 00

- CONTINUED

Installation-Continued

- 19. Install one end of hose assembly (33), adapter (36) and new preformed packing (37) in port P of modulating valve (27).
- 20. Install other end of hose assembly (33) and adapter (34) and new preformed packing (35) in POUT of power boost manifold (11).
- 21. Install one end of hose assembly (28), adapter (31) and new preformed packing (32) in port T of modulating valve (27).
- 22. Install other end of hose assembly (28), adapter (29) and new preformed packing (30) in port RIN of power boost manifold (11).
- 23. Install one end of hose assembly (20), reducer (25), adapter (24) and new preformed packing (26) in port A of modulating valve (27).
- 24. Install other end of hose assembly (20), adapter (21) and new preformed packing (22) in hydraulic cylinder (23).
- 25. Install one end of hose assembly (14), adapter (17) and new preformed packing (18) in accumulator (19).
- 26. Install other end of hose assembly (14), adapter (15) and new preformed packing (16) in port ACC of power boost manifold (11).

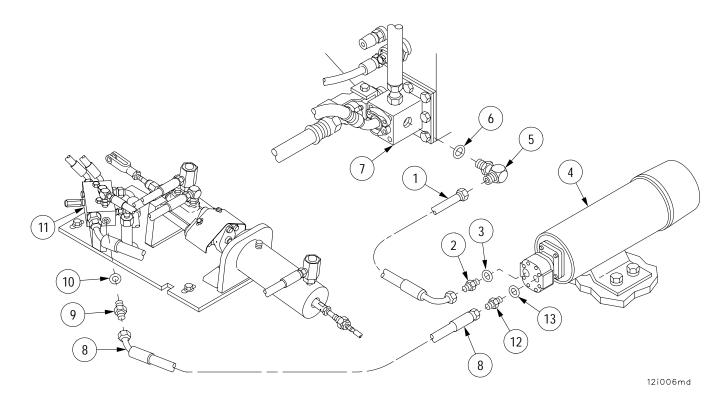


0361 00

- CONTINUED

Installation-Continued

- 27. Install one end of hose assembly (8), adapter (12) and new preformed packing (13) in port OUTLET of pump and motor assembly (4).
- 28. Install other end of hose assembly (8), adapter (9) and new preformed packing (10) in port PIN of power boost manifold (11).
- 29. Install one end of hose assembly (1), adapter (5) and new preformed packing (6) in reservoir (7).
- 30. Install other end of hose assembly (1), adapter (2) and new preformed packing (3) in port INLET of pump and motor assembly (4).
- 31. Fill reservoir (7) to the proper level with lubricant (WP 0187 00).
- 32. Power up hydraulic system (TM 9-2350-292-10) and check for leaks. Repair as necessary.
- 33. Bleed air from brake system (WP 0356 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install interior stowage baskets (WP 0465 00) Install subfloor plates #13, #16, #18 and #22 (WP 0454 00)

END OF TASK

0362 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit(item 1, WP 0717 00) Combination wrench (item 30, WP 0717 00)

Materials/Parts

Dust protective cap (item 10, WP 0716 00)
Dust protective plugs (3) (item 11, WP 0716 00)
Dust protective plugs (24) (item 12, WP 0716 00)
Dust protective caps (2) (item 44, WP 0716 00)
Dust protective plugs (2) (item 14, WP 0716 00)
Preformed packings (2) (item 20, WP 0718 00)
Preformed packing (item 21, WP 0718 00)
Preformed packings (11) (item 22, WP 0718 00)
Lubricant (item 51, WP 0716 00)
Preformed packing (item 43, WP 0718 00)
Lockwashers (4) (item 9, WP 0718 00)
Preformed packings (3) (item 485, WP 0718 00)

Silicone compound (item 96, WP 0716 00)

Materials/Parts - Continued

Lockwashers (5) (item 2, WP 0718 00) Strap, tiedown (2) (item 486, WP 0718 00) Preformed packing (item 23, WP 0718 00) Wiping rags (item 7, WP 0716 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked and brakes released (TM 9-2350-292-10) Subfloor plates #7, #13, #16, #18 and #22 removed (WP 0454 00) Interior stowage baskets removed (WP 0465 00) Hydraulic reservoir drained (WP 0187 00)

References

TM 9-2350-292-10



Do not work on hydraulic lines or fittings when system is pressurized. Hydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge indicates zero.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to the hydraulic system.

0362 00

NOTE

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedures.

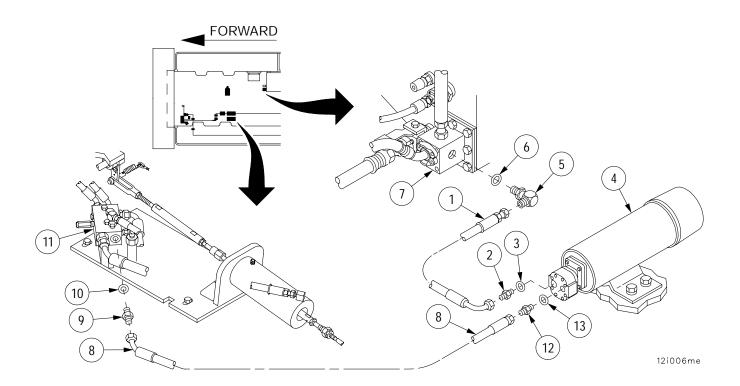
The following table lists the removal and installation steps for the eleven hydraulic hose assemblies in the brake system.

Hose Assembly	Hose Assembly Location		Removal	Installation
to be Replaced	From	То	Steps	Steps
12365278-89	Port INLET of pump and motor assembly	Reservoir	1 - 2	32 - 36
12365278-90	Port OUTLET of pump and motor assembly	Port PIN of power boost manifold	3 - 4	30 - 31, 34 - 36
12365278-91	Accumulator	Port ACC of power boost manifold	5 - 6	28 - 29, 34 - 36
12365278-144	Port A of modulation valve	Hydraulic cylinder	7 - 9, 14	19, 24 - 27, 34 - 36
12365278-149	Port T of modulation valve	Port RIN of power boost manifold	7, 10 - 11, 14	19, 22 - 23, 26, 27, 34 - 36
12365278-150	Port P of modulation valve	Port POUT of power boost manifold	7, 12 - 13, 14	19, 20 - 21, 26, 27, 34 - 36
12365278-95	Filter manifold tee	Port ROUT of power boost manifold	15 - 16	17- 18, 34 - 36
12365278-142	Tee of pressure switch	Port PS of power boost manifold	17 - 18	15 - 16, 34 - 36
12365278-145	Tee of pressure switch	Elbow adapter on floor plate	19 - 20	13 - 14, 34 - 36
12365278-147	Elbow adapter on floor plate (driver's side)	Port on backside of bleed valve manifold	21 - 22	10 - 12, 34 - 36
12365278-148	Port on bottom side of bleed valve manifold	Elbow adapter on floor plate (mechanic's side)	23 - 25	8 - 9, 34 - 36

0362 00

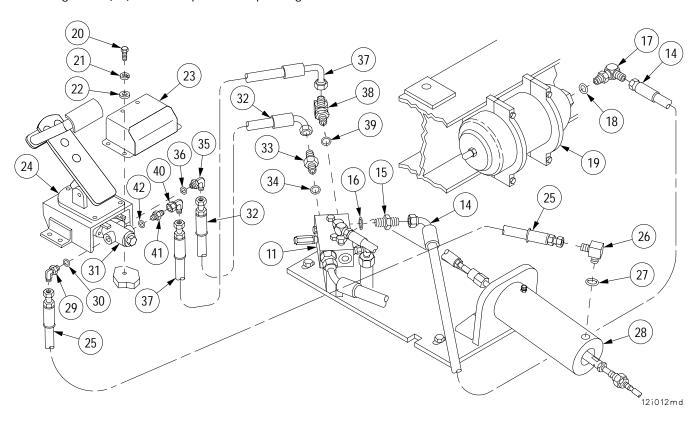
Removal

- 1. Remove one end of hose assembly (1), adapter (2) and preformed packing (3) from port INLET of pump and motor assembly (4). Discard preformed packing.
- 2. Remove other end of hose assembly (1), adapter (5) and preformed packing (6) from reservoir (7). Discard preformed packing.
- 3. Remove one end of hose assembly (8), adapter (9) and preformed packing (10) from port PIN of power boost manifold (11). Discard preformed packing.
- 4. Remove other end of hose assembly (8), adapter (12) and preformed packing (13) from port OUTLET of pump and motor assembly (4). Discard preformed packing.



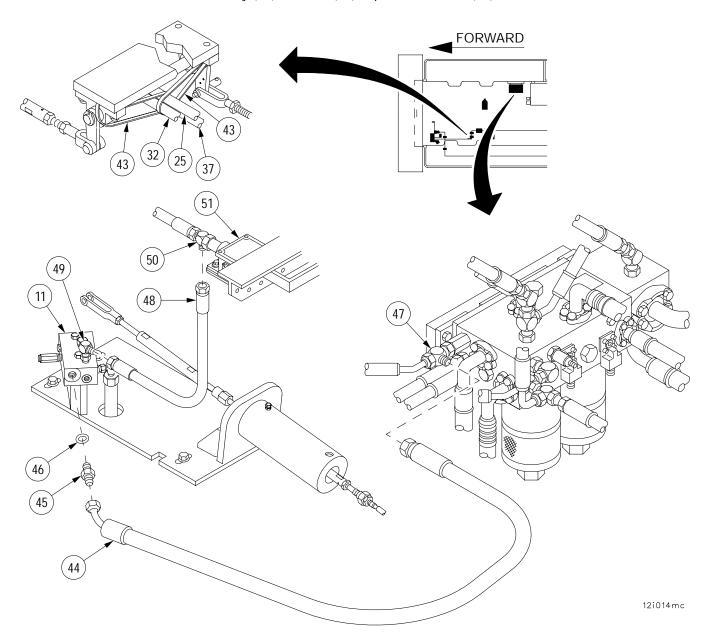
0362 00

- 5. Remove one end of hose assembly (14), adapter (15) and preformed packing (16) from port ACC of power boost manifold (11). Discard preformed packing.
- 6. Remove other end of hose assembly (14), adapter (17) and preformed packing (18) from accumulator (19). Discard preformed packing.
- 7. Remove five screws (20), five lockwashers (21), five washers (22) and brake assembly cover (23) from brake valve assembly (24). Discard lockwashers.
- 8. Remove one end of hose assembly (25), adapter (26) and preformed packing (27) from hydraulic cylinder (28). Discard preformed packing.
- 9. Remove other end of hose assembly (25), adapter (29) and preformed packing (30) from port A of modulating valve (31). Discard preformed packing.
- 10. Remove one end of hose assembly (32), adapter (33) and preformed packing (34) from port RIN of power boost manifold (11). Discard preformed packing.
- 11. Remove other end of hose assembly (32), adapter (35) and preformed packing (36) from port T of modulating valve (32). Discard preformed packing.
- 12. Remove one end of hose assembly (37), adapter (38) and preformed packing (39) from port POUT of power boost manifold (11). Discard preformed packing.
- 13. Remove other end of hose assembly (37), adapters (40 and 41) and preformed packing (42) from port P of modulating valve (31). Discard preformed packing.



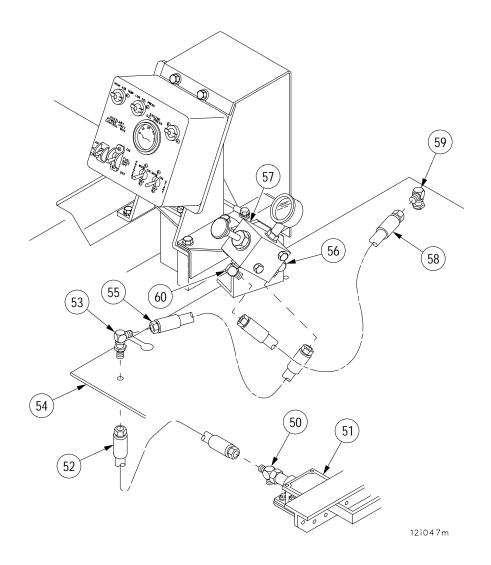
0362 00

- 14. Remove tiedown straps (43) and remove hose assemblies (25, 32 and 37).
- 15. Remove one end of hose assembly (44), adapter (45) and preformed packing (46) from port ROUT of power boost manifold (11). Discard preformed packing.
- 16. Remove other end of hose assembly (44) from filter manifold tee (47) using a combination wrench.
- 17. Remove one end of hose assembly (48) from elbow (49) in port PS of power boost manifold (11).
- 18. Remove other end of hose assembly (48) from tee (50) in pressure switch (51).



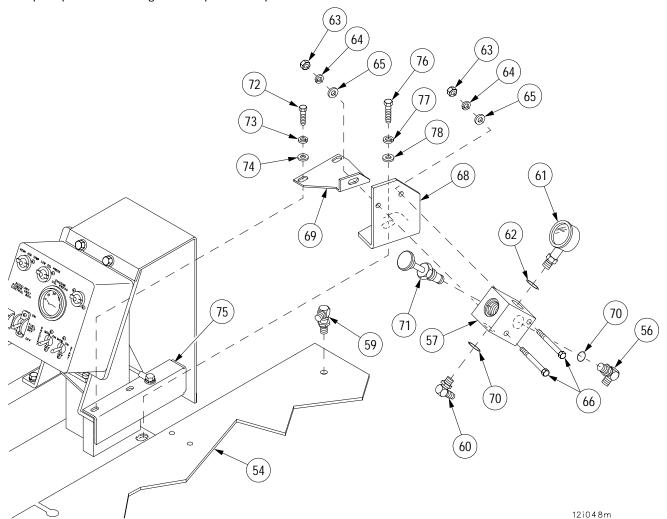
0362 00

- 19. Remove one end of hose assembly (52) from tee (50) in pressure switch (51).
- 20. Remove other end of hose assembly (52) from elbow (53) in floor plate (54).
- 21. Remove one end of hose assembly (55) from elbow (53) in floor plate (54).
- 22. Remove other end of hose assembly (55) from elbow (56) on back side of bleed valve manifold (57).
- 23. Remove elbow (53) from floor plate (54).
- 24. Remove one end of hose assembly (58) from elbow (59) in floor plate (54).
- 25. Remove other end of hose assembly (58) from elbow (60) on bottom side of bleed valve manifold (57).



0362 00

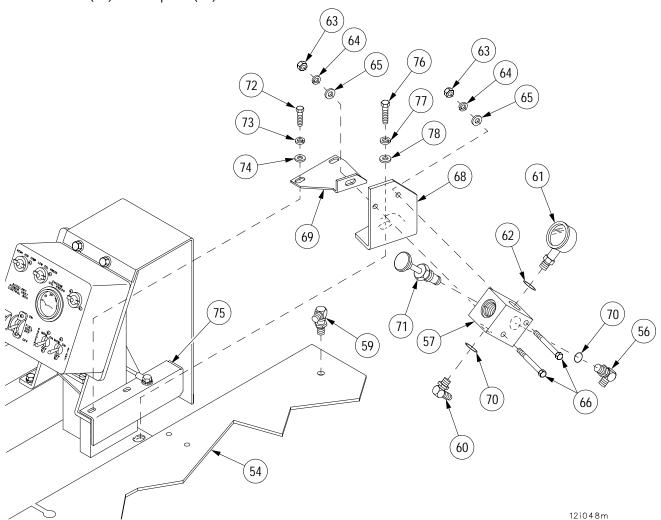
- 26. Remove elbow (59) from floor plate (54).
- 27. Remove brake pressure gauge (61) and preformed packing (62) from bleed valve manifold (57). Discard preformed packing.
- 28. Remove two nuts (63), two lockwashers (64), two flat washers (65), two screws (66) and bleed valve manifold (57) from angle (68) and bracket (69). Discard lockwashers.
- 29. Remove elbow (56), elbow (60), two preformed packings (70) and manual pull valve (71) from bleed valve manifold (57). Discard preformed packings.
- 30. Remove two screws (72), two lockwashers (73), two flat washers (74) and brace (69) from APU control box mount (75). Discard lockwashers.
- 31. Remove screw (76), lockwasher (77), flat washer (78) and angle (68) from floor plate (54). Discard lockwashers.
- 32. Inspect parts for damage and repair as required.



0362 00

Installation

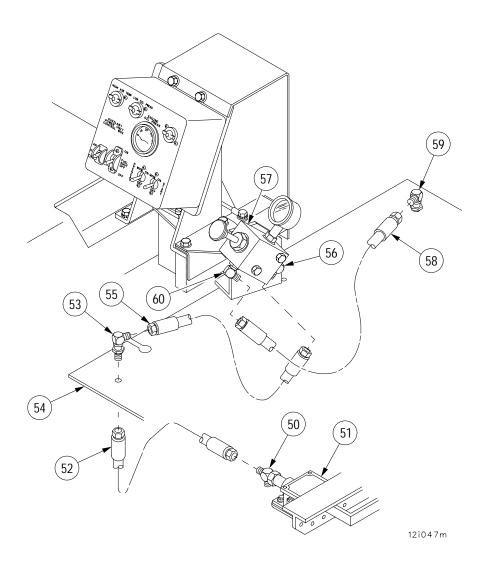
- 1. Install angle (68) to floor plate (54) with new lockwasher (77), flat washer (78) and screw (76).
- 2. Install brace (60) to APU control box mount (75) with two new lockwashers (73), two flat washers (74) and two screws (72).
- 3. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 4. Install elbow (56), elbow (60), two new preformed packings (70) and manual pull valve (71) in bleed valve manifold (57). Elbow (56) should be oriented so it points toward the floor of the vehicle when bleed valve manifold (57) is installed. Elbow (60) should point away from the manual pull valve (71).
- 5. Install bleed valve manifold (57) on angle (68) and bracket (69) with two screws (66), two flat washers (65), two new lockwashers (64) and two nuts (63).
- 6. Install brake pressure gauge (61) and new preformed packing (62) in bleed valve manifold (57).
- 7. Install elbow (59) in floor plate (63).



0362 00

Installation-Continued

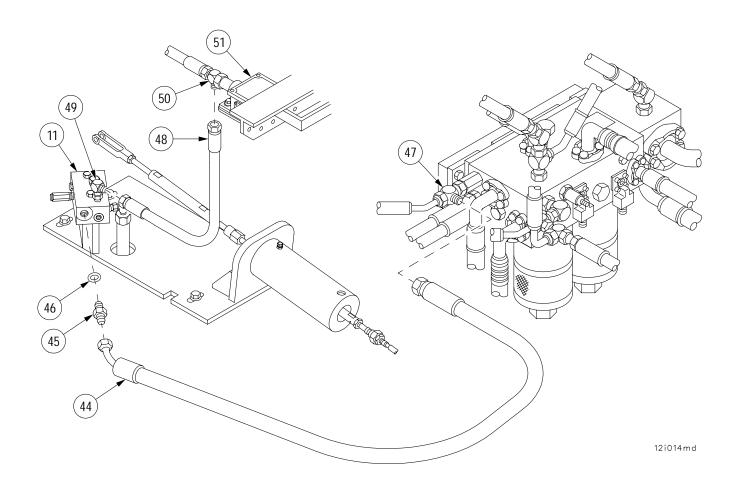
- 8. Install one end of hose assembly (58) on elbow (60) on bottom side of bleed valve manifold (57).
- 9. Install other end of hose assembly (58) on elbow (59) in floor plate (54).
- 10. Install one end of hose assembly (55) on elbow (56) on back side of bleed valve manifold (57).
- 11. Install elbow (53) in floor plate (54).
- 12. Install other end of hose assembly (55) on elbow (53) in floor plate (54).
- 13. Install one end of hose assembly (52) on bottom of elbow (53) in floor plate (54).
- 14. Install other end of hose assembly (52) on tee (50) in pressure switch (51).



0362 00

Installation-Continued

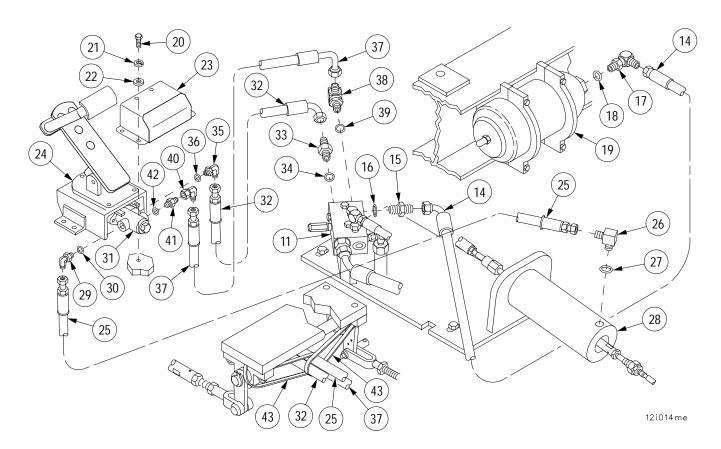
- 15. Install one end of hose assembly (48) in adapter (50) of pressure switch (51).
- 16. Install other end of hose assembly (48) in adapter (49) of port PS of power boost manifold (11).
- 17. Install one end of hose assembly (44) in filter manifold tee (47) using a combination wrench.
- 18. Install other end of hose assembly (44), adapter (45) and new preformed packing (46) in port ROUT of power boost manifold (11).



0362 00

Installation-Continued

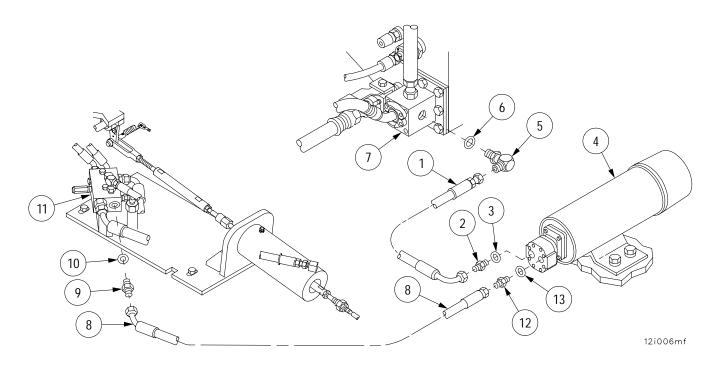
- 19. Apply a thin coat of silicone compound to new preformed packings (30, 36 and 42).
- 20. Install one end of hose assembly (37), adapters (40 and 41) and new preformed packing (42) in port P of modulating valve (31).
- 21. Install other end of hose assembly (37) and adapter (38) and new preformed packing (39) in port POUT of power boost manifold (11).
- 22. Install one end of hose (32), adapter (35) and new preformed packing (36) in port T of modulating valve (31).
- 23. Install other end of hose assembly (32), adapter (33) and new preformed packing (34) in port RIN of power boost manifold (11).
- 24. Install one end of hose assembly (25), adapter (29) and new preformed packing (30) in port A of modulating valve (31).
- 25. Install other end of hose assembly (25), adapter (26) and new preformed packing (27) in hydraulic cylinder (28).
- 26. Install two tiedown straps (43) around pillow blocks to support hose assemblies (25, 32 and 37) as illustrated in figure.
- 27. Install five screws (20), five new lockwashers (21), five washers (22) and brake assembly cover (23) to brake assembly (24).
- 28. Install one end of hose assembly (14), adapter (17) and new preformed packing (18) in accumulator (19).
- 29. Install other end of hose assembly (14), adapter (15) and new preformed packing (16) in port ACC of power boost manifold (11).



0362 00

Installation-Continued

- 30. Install one end of hose assembly (8), adapter (12) and new preformed packing (13) in port OUTLET of pump and motor assembly (4).
- 31. Install other end of hose assembly (8), adapter (9) and new preformed packing (10) in port PIN of power boost manifold (11).
- 32. Install one end of hose assembly (1), adapter (5) and new preformed packing (6) in reservoir (7).
- 33. Install other end of hose assembly (1), adapter (2) and new preformed packing (3) in port INLET of pump and motor assembly (4).
- 34. Fill reservoir (7) to the proper level with lubricant (WP 0187 00).
- 35. Power up hydraulic system (TM 9-2350-292-10) and check for leaks. Repair as necessary.
- 36. Bleed air from brake system (WP 0357 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install interior stowage baskets (WP 0465 00) Install subfloor plates #13, #16, #18 and #22 (WP 0454 00)

BRAKE ROD ASSEMBLY 12366874 REPAIR (OLD CONFIGURATION)

0363 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Cotter pins (2) (item 17, WP 0718 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked (TM 9-2350-292-10)

Vehicle MASTER switch OFF (TM 9-2350-292-10) Subfloor plates #6 and #13 removed (WP 0454 00) Brake pedal released (TM 9-2350-292-10) Driver's seat in stowed position and driver's hatch opened (TM 9-2350-292-10) Accelerator linkage removed as required (WP 0226 00)

References

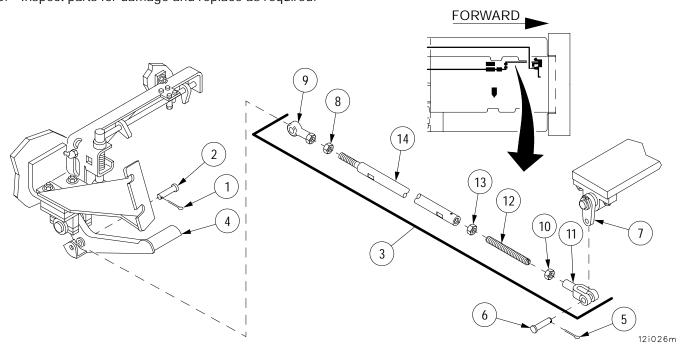
TM 9-2350-292-10

Removal

- Remove cotter pin (1), headed straight pin (2) and rod assembly (3) from brake pedal and bracket assembly (4).
 Discard cotter pin.
- 2. Remove cotter pin (5), headed straight pin (6) and rod assembly (3) from lever (7). Discard cotter pin.

Disassembly

- 1. Loosen nut (8), remove rod end bearing (9) and nut (8) from rod assembly (3).
- 2. Loosen nut (10), remove rod end clevis (11) and nut (10) from stud (12).
- 3. Loosen nut (13) and remove stud (12) and nut (13) from rod (14).
- 4. Remove nut (13) from stud (12).
- 5. Inspect parts for damage and replace as required.



BRAKE ROD ASSEMBLY 12366874 REPAIR (OLD CONFIGURATION) - CONTINUED

0363 00

Assembly

NOTE

A minimum of 0.62 inch (15.7 mm) must be maintained between face of nuts and end of rod assembly.

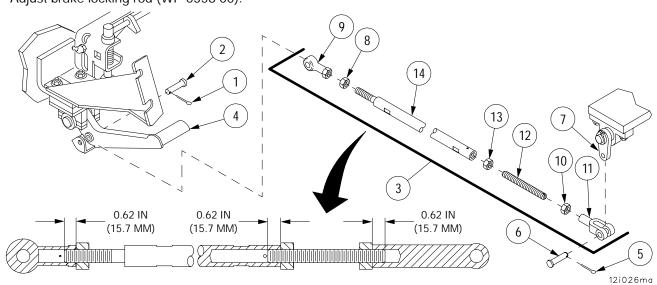
- 1. Install nut (13) on stud (12).
- 2. Install stud (12) with nut (13) on rod (14). Do not tighten nut (13).
- 3. Install nut (10) and rod end clevis (11) on stud (12). Do not tighten nut (10).
- 4. Install nut (8) and rod end bearing (9) on rod assembly (3). Do not tighten nut (8).

Installation



Adjustment to length of rod assemblies must be accomplished by adjusting both rod end clevises evenly. Rod end clevises must maintain a minimum of 0.62 inch (15.7 mm) thread engagement from end of rod assemblies at all times. Failure to comply could result in rod assembly separation causing loss of vehicle service brake, resulting in personnel injury or equipment damage.

- 1. Adjust rod end bearing (9), rod end clevis (11) and stud (12) on rod assembly (3) until two headed straight pins (2 and 6) can be freely installed in brake pedal and bracket assembly (4) and lever (7).
- 2. Install two headed straight pins (2 and 6) and two new cotter pins (1 and 5).
- 3. Tighten three nuts (8, 10 and 13).
- 4. Perform brake linkage alignment (WP 0355 00 or WP 0356 00).
- 5. Adjust brake locking rod (WP 0358 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install accelerator linkage as required (WP 0226 00) Install subfloor plates #6 and #13 (WP 0454 00)

END OF TASK

BRAKE ROD ASSEMBLY 12366874 REPAIR (NEW CONFIGURATION WITH BRAKE MODULATION)

0364 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Cotter pin (item 17, WP 0718 00) Cotter pin (item 19, WP 0718 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked (TM 9-2350-292-10)

Vehicle MASTER switch OFF (TM 9-2350-292-10) Subfloor plates #6 and #13 removed (WP 0454 00) Brake pedal released (TM 9-2350-292-10) Driver's seat in stowed position and driver's hatch opened (TM 9-2350-292-10) Accelerator linkage removed, as required (WP

0226 00) References

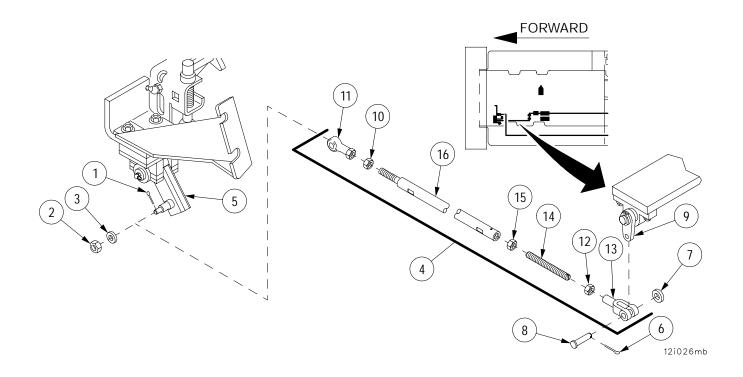
TM 9-2350-292-10

Removal

- 1. Remove cotter pin (1), nut (2), washer (3) and rod assembly (4) from lever (5). Discard cotter pin.
- 2. Remove cotter pin (6), washer (7), headed straight pin (8) and rod assembly (4) from lever (9). Discard cotter pin.

Disassembly

- 1. Loosen nut (10), remove rod end bearing (11) and nut (10) from rod assembly (4).
- 2. Loosen nut (12), remove rod end clevis (13) and nut (12) from stud (14).
- 3. Loosen nut (15) and remove stud (14) and nut (15) from rod (16).
- 4. Remove nut (15) from stud (14).
- 5. Inspect parts for damage and replace as required.



BRAKE ROD ASSEMBLY 12366874 REPAIR (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

0364 00

Assembly

NOTE

A minimum of 0.62 inch (15.7 mm) must be maintained between face of nuts and end of rod assembly.

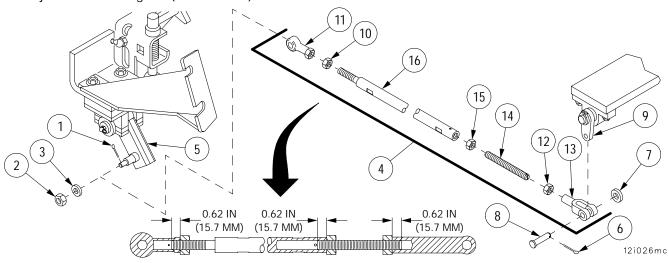
- 1. Install nut (15) on stud (14).
- 2. Install stud (14) with nut (15) on rod (16). Do not tighten nut (15).
- 3. Install nut (12) and rod end clevis (13) on stud (14). Do not tighten nut (12).
- 4. Install nut (10) and rod end bearing (11) on rod assembly (4). Do not tighten nut (10).

Installation



Adjustment to length of rod assemblies must be accomplished by adjusting both rod end clevises evenly. Rod end clevises must maintain a minimum of 0.62 inch (15.7 mm) thread engagement from end of rod assemblies at all times. Failure to comply could result in rod assembly separation causing loss of vehicle service brake, resulting in personnel injury or equipment damage.

- 1. Adjust rod end bearing (11), rod end clevis (13) and stud (14) on rod assembly (4) until headed straight pin (8) can be freely installed in lever (9) and rod end bearing (11) can be attached to lever (5).
- 2. Install headed straight pin (8), washer (7) and a new cotter pin (6) to attach clevis (13) to lever (9).
- 3. Install flat washer (3), nut (2) and cotter pin (1) to attach rod end bearing (11) to lever (5).
- 4. Tighten three nuts (10, 12 and 15).
- 5. Perform brake linkage alignment (WP 0357 00).
- 6. Adjust brake locking rod (WP 0359 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install accelerator linkage as required (WP 0226 00) Install subfloor plates #6 and #13 (WP 0454 00)

END OF TASK

BRAKE ROD ASSEMBLIES 12364827-2 REPAIR

0365 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Cotter pins (4) (item 17, WP 0718 00) Lubricant (item 3, WP 0716 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked (TM 9-2350-292-10)
Powerpack removed (WP 0188 00)

References

TM 9-2350-292-10

NOTE

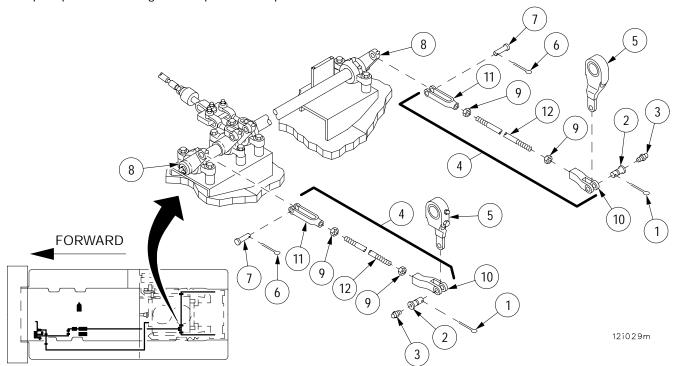
This procedure applies to both the left and right hand rod assemblies.

Removal

- 1. Remove cotter pin (1), straight pin (2) with lubrication fitting (3) and rod assembly (4) from brake apply lever (5). Discard cotter pin.
- 2. Remove lubrication fitting (3) from straight pin (2).
- 3. Remove cotter pin (6), straight pin (7) and rod assembly (4) from lever assembly (8). Discard cotter pin.

Disassembly

- 1. Loosen two nuts (9), remove two rod end clevises (10 and 11) and two nuts (9) from rod (12).
- 2. Inspect parts for damage and replace as required.



BRAKE ROD ASSEMBLIES 12364827-2 REPAIR - CONTINUED

0365 00

Assembly

NOTE

Nuts must be installed on rods with a minimum thread length of 0.62 inch (15.7 mm) between face of nuts and end of rod.

Install two nuts (9) and two rod end clevises (10 and 11) on rod (12). Do not tighten nuts.

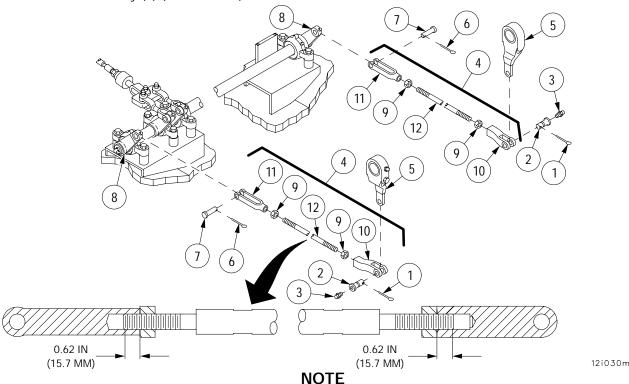
Installation

1. Install lubrication fitting (3) in straight pin (2).



Adjustment to length of rod assemblies must be accomplished by adjusting both rod end clevises evenly. Rod end clevises must maintain a minimum of 0.62 inch (15.7 mm) thread engagement from end of rod assemblies at all times. Failure to comply could result in rod assembly seWPtion causing loss of vehicle service brake, resulting in personnel injury or equipment damage.

- 2. Adjust rod end clevises (10 and 11) equally on rod assembly (4) until two straight pins (2 and 7) can be freely inserted into clevises (10 and 11) and levers (5 and 8).
- 3. Install straight pin (2) with lubrication fitting (3) and straight pin (7).
- 4. Install two new cotter pins (1 and 6).
- 5. Tighten two nuts (9) against two rod end clevises (10 and 11).
- 6. Lubricate rod assembly (4) (WP 0187 00).



FOLLOW-ON MAINTENANCE:

Install powerpack (WP 0188 00)
Perform brake linkage adjustment (WP 0356 00 or WP 0355 00)

END OF TASK

BRAKE SHAFT ASSEMBLY 12364824 AND BRAKE PEDAL RETURN SPRING REPLACEMENT (OLD CONFIGURATION)

0366 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Retaining pliers set (item 15, WP 0717 00)

Materials/Parts

Lockwasher (item 10, WP 0718 00) Lockwashers (4) (item 12, WP 0718 00) Cotter pins (2) (item 17, WP 0718 00) Lubricant (item 3, WP 0716 00) Retaining rings (2) (item 354, WP 0718 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked and brakes released (TM 9-2350-292-10) Subfloor plates #6, #13 and #16 removed (WP 0454 00) For access to shaft 12364824

References

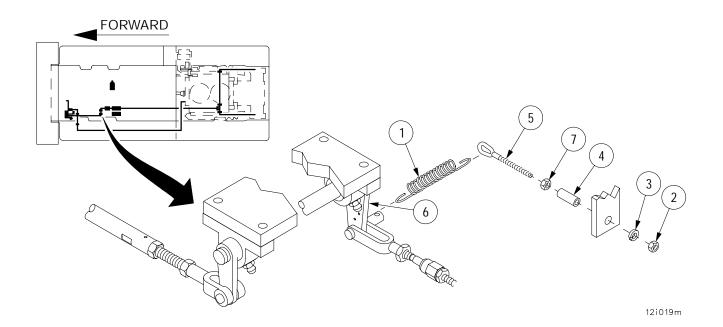
TM 9-2350-292-10

Removal



Spring is under tension. Do not let spring fly when removing eyebolt. Personnel injury may result from flying spring.

- 1. While holding spring (1), remove nut (2), lockwasher (3) and tube support (4) from eyebolt (5). Discard lockwasher.
- 2. Disconnect spring (1) from lever (6).
- 3. Remove nut (7) and eyebolt (5) from spring (1).



BRAKE SHAFT ASSEMBLY 12364824 AND BRAKE PEDAL RETURN SPRING REPLACEMENT (OLD CONFIGURATION) - CONTINUED

0366 00

Removal-Continued

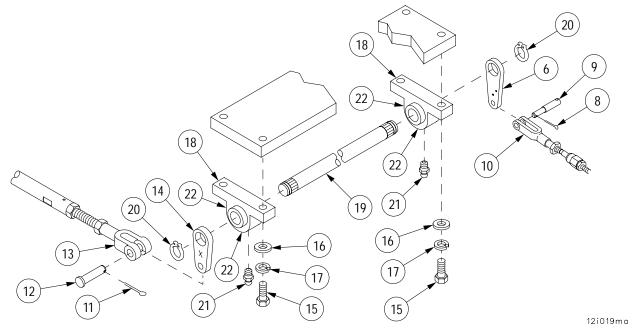
NOTE

Before removing rod assemblies, scribe positions on levers and rod assemblies to aid during installation.

- 4. Remove cotter pin (8), straight headed pin (9) and rod assembly (10) from lever (6). Discard cotter pin.
- 5. Remove cotter pin (11), straight headed pin (12) and rod assembly (13) from lever (14). Discard cotter pin.
- 6. Remove four screws (15), four flat washers (16), four lockwashers (17), two bearing housings (18) and shaft (19) from vehicle. Discard lockwashers.



- 7. Remove two retaining rings (20) and two levers (6 and 14) from shaft (19). Discard retaining rings.
- 8. Remove two lubrication fittings (21) from two bearing housings (18).
- 9. Loosen four set screws (22) on two bearing housings (18), remove shaft (19)
- 10. Inspect parts for damage and replace as required.



BRAKE SHAFT ASSEMBLY 12364824 AND BRAKE PEDAL RETURN SPRING REPLACEMENT (OLD CONFIGURATION) - CONTINUED

0366 00

Installation

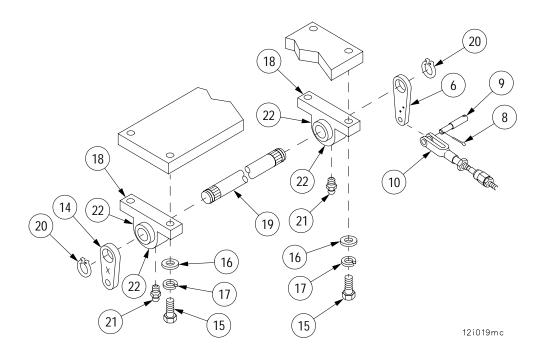
- 1. Install two bearing housings (18) on shaft (19), tighten four set screws (22).
- 2. Install two lubrication fittings (21) in two bearing housings (18).
- 3. Lubricate two bearing housings (18) through two lubrication fittings (21) (WP 0187 00).



NOTE

Lever on left side of shaft must be installed with side marked "X" toward the left or outside of vehicle.

- 4. Install two levers (6 and 14) with two new retaining rings (20). Position levers (6 and 14) on shaft (19) so both hang down after installation.
- 5. Install two bearing housings (18) and shaft (19) with four screws (15), four new lockwashers (17) and four flat washers (16).
- 6. Install rod assembly (10) on lever (6) with straight headed pin (9) and new cotter pin (8).



BRAKE SHAFT ASSEMBLY 12364824 AND BRAKE PEDAL RETURN SPRING REPLACEMENT (OLD CONFIGURATION) - CONTINUED

0366 00

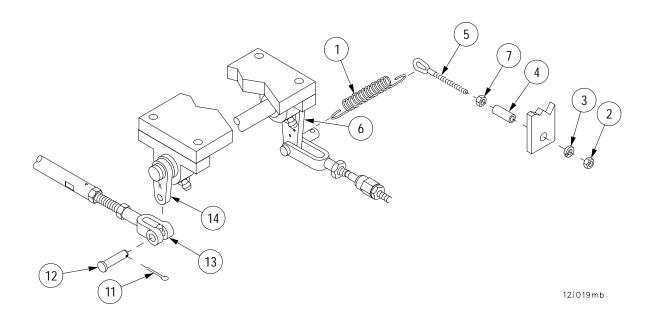
Installation-Continued

7. Connect spring (1) to lever (6).

NOTE

Nut must be tight against end of threaded portion of eye bolt prior to installation of support tube.

- 8. Install nut (7) and tube support (4) on eyebolt (5).
- 9. Connect spring (1) to eyebolt (5).
- 10. Install eyebolt (5), nut (7) and tube support (4) in vehicle bracket with new lockwasher (3) and nut (2).
- 11. Tighten nut (7) against vehicle bracket to secure eyebolt (5) in place.
- 12. Install rod assembly (13) on lever (14) with straight headed pin (12) and new cotter pin (11).
- 13. Perform brake linkage alignment (WP 0355 00 or WP 0356 00).
- 14. Adjust brake pedal locking rod (WP 0358 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #6, #13 and #16, if removed (WP 0454 00)

BRAKE SHAFT ASSEMBLY 12364824 AND BRAKE PEDAL RETURN SPRING REPLACEMENT (NEW CONFIGURATION WITH BRAKE MODULATION)

0367 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Retaining pliers set (item 15, WP 0717 00)

Materials/Parts

Lockwasher (item 10, WP 0718 00) Lockwashers (4) (item 12, WP 0718 00) Cotter pins (2) (item 17, WP 0718 00) Lubricant (item 3, WP 0716 00) Retaining rings (2) (item 354, WP 0718 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked and brakes released (TM 9-2350-292-10) Subfloor plates #6, #13 and #16 removed (WP 0454 00)

For access to shaft 12364824

References

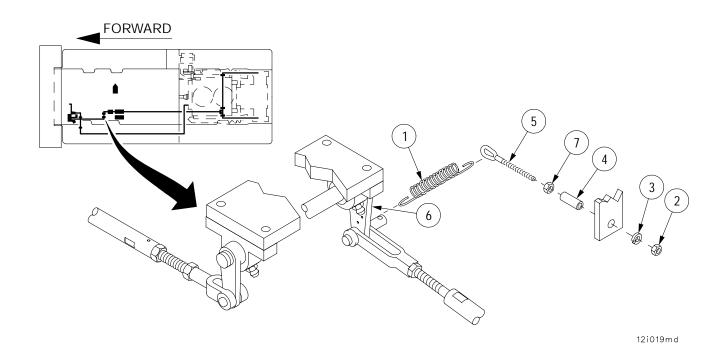
TM 9-2350-292-10

Removal



Spring is under tension. Do not let spring fly when removing eyebolt. Personnel injury may result from flying spring.

- 1. While holding spring (1), remove nut (2), lockwasher (3) and tube support (4) from eyebolt (5). Discard lockwasher.
- 2. Disconnect spring (1) from lever (6).
- 3. Remove nut (7) and eyebolt (5) from spring (1).



BRAKE SHAFT ASSEMBLY 12364824 AND BRAKE PEDAL RETURN SPRING REPLACEMENT (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

0367 00

Removal-Continued

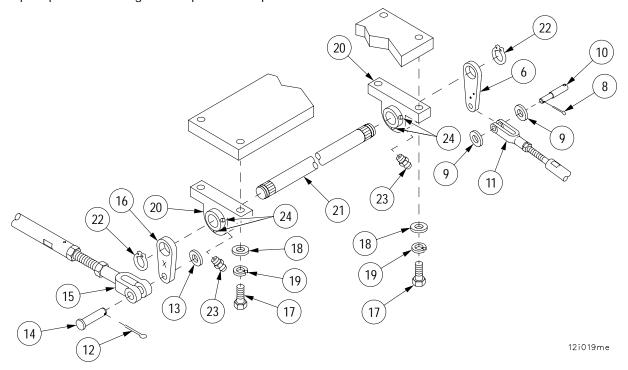
NOTE

Before removing rod assemblies, scribe positions on levers and rod assemblies to aid during installation.

- 4. Remove cotter pin (8), two washers (9), straight headed pin (10) and rod assembly (11) from lever (6). Discard cotter pin.
- 5. Remove cotter pin (12), flat washer (13), straight headed pin (14) and rod assembly (15) from lever (16). Discard cotter pin.
- 6. Remove four screws (17), four flat washers (18), four lockwashers (19), two bearing housings (20) and shaft (21) from vehicle. Discard lockwashers.



- 7. Remove two retaining rings (22) and two levers (6 and 16) from shaft (21). Discard retaining rings.
- 8. Remove two lubrication fittings (23) from two bearing housings (20).
- 9. Loosen four set screws (24) on two bearing housings (20), remove shaft (21)
- 10. Inspect parts for damage and replace as required.



BRAKE SHAFT ASSEMBLY 12364824 AND BRAKE PEDAL RETURN SPRING REPLACEMENT (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

0367 00

Installation

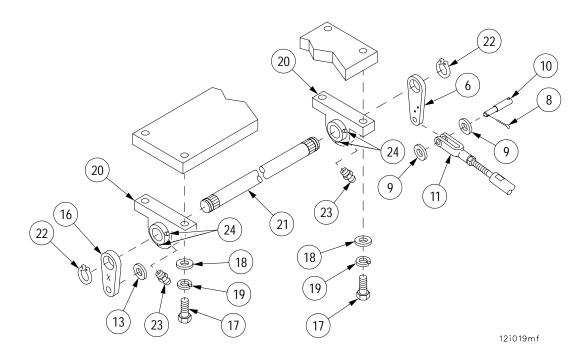
- 1. Install two bearing housings (20) on shaft (21), tighten four set screws (24).
- 2. Install two lubrication fittings (23) in two bearing housings (20).
- 3. Lubricate two bearing housings (20) through two lubrication fittings (23) (WP 0187 00).



NOTE

Lever on left side of shaft must be installed with side marked "X" toward the left or outside of vehicle.

- 4. Install two levers (6 and 16) with two new retaining rings (22). Position levers (6 and 16) on shaft (21) so both hang down after installation.
- 5. Install two bearing housings (20) and shaft (21) with four screws (17), four new lockwashers (19) and four flat washers (18).
- 6. Install rod assembly (11) on lever (6) with straight headed pin (10), two washers (9) and new cotter pin (8).



BRAKE SHAFT ASSEMBLY 12364824 AND BRAKE PEDAL RETURN SPRING REPLACEMENT (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

0367 00

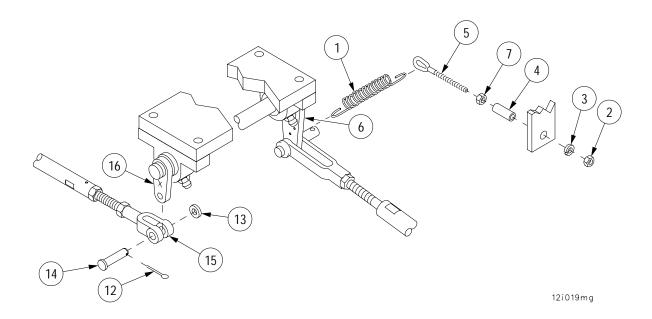
Installation-Continued

7. Connect spring (1) to lever (6).

NOTE

Nut must be tight against end of threaded portion of eye bolt prior to installation of support tube.

- 8. Install nut (7) and tube support (4) on eyebolt (5).
- 9. Connect spring (1) to eyebolt (5).
- 10. Install eyebolt (5), nut (7) and tube support (4) in vehicle bracket with new lockwasher (3) and nut (2).
- 11. Tighten nut (7) against vehicle bracket to secure eyebolt (5) in place.
- 12. Install rod assembly (15) on lever (16) with straight headed pin (14), washer (13) and new cotter pin (12).
- 13. Perform brake linkage alignment (WP 0357 00).
- 14. Adjust brake pedal locking rod (WP 0359 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #6, #13 and #16, if removed (WP 0454 00)

BRAKE SHAFTS 12364630 AND 12364780 REPLACEMENT

0368 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Retaining pliers set (item 15, WP 0717 00)

Materials/Parts

Cotter pins (7) (item 17, WP 0718 00) Lockwashers (8) (item 12, WP 0718 00) Retaining rings (3) (item 354, WP 0718 00) Retaining ring (item 355, WP 0718 00) Lubricant (item 3, WP 0716 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked (TM 9-2350-292-10) Powerpack removed (WP 0188 00)

References

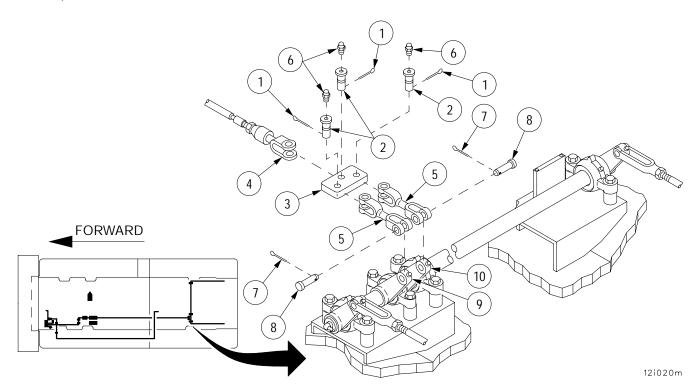
TM 9-2350-292-10

NOTE

Disassemble equipment only to the extent necessary to effect repairs.

Removal

- 1. Remove three cotter pins (1), three grooved headed pins (2) and plate (3) from brake cable (4) and two yokes (5). Discard cotter pins.
- 2. Remove three lubrication fittings (6) from three grooved headed pins (2).
- 3. Remove two cotter pins (7), two straight headed pins (8) and two yokes (5) from two levers (9 and 10). Discard cotter pins.



0368 00

Removal-Continued

4. Remove two cotter pins (11), two straight headed pins (12) and two rear brake rod assemblies (13) from two levers (14 and 15). Discard cotter pins.

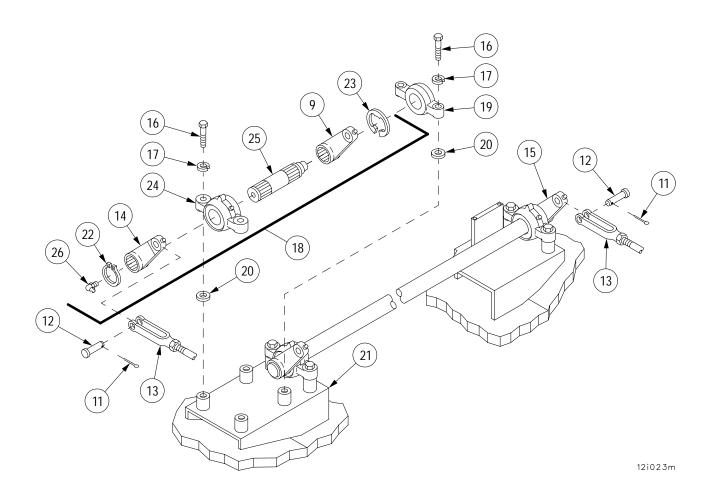
NOTE

Quantity of shims may vary. Note quantity and location of shims removed to aid in installation.

5. Remove four screws (16), four lockwashers (17), shaft assembly (18), bearing housing (19) and shims (20) from support (21). Discard lockwashers.



- 6. Remove two retaining rings (22 and 23), two levers (9 and 14) and bearing housing (24) from shaft (25). Discard retaining rings.
- 7. Remove lubrication fitting (26) from shaft (25).



BRAKE SHAFTS 12364630 AND 12364780 REPLACEMENT - CONTINUED

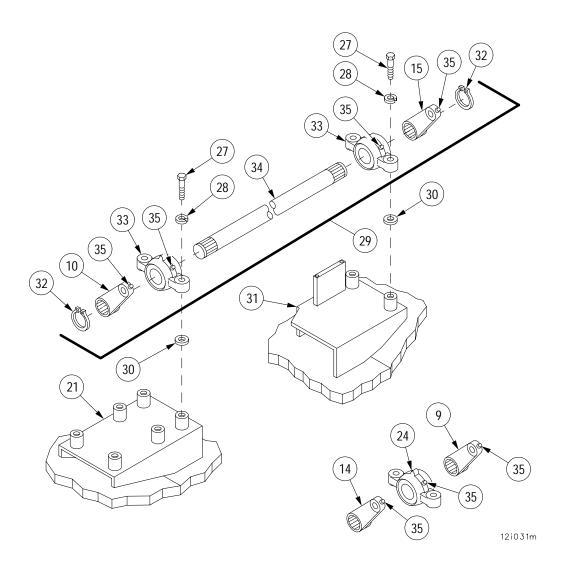
0368 00

Removal-Continued

8. Remove four screws (27), four lockwashers (28), shaft assembly (29) and shims (30) from two supports (21 and 31). Discard lockwashers.



- 9. Remove two retaining rings (32), two levers (10 and 15) and two bearing housings (33) from shaft (34). Discard retaining rings.
- 10. Remove seven lubrication fittings (35) from four levers (9, 10, 14 and 15) and three bearing housings (24 and 33).
- 11. Inspect parts for damage and replace as required.

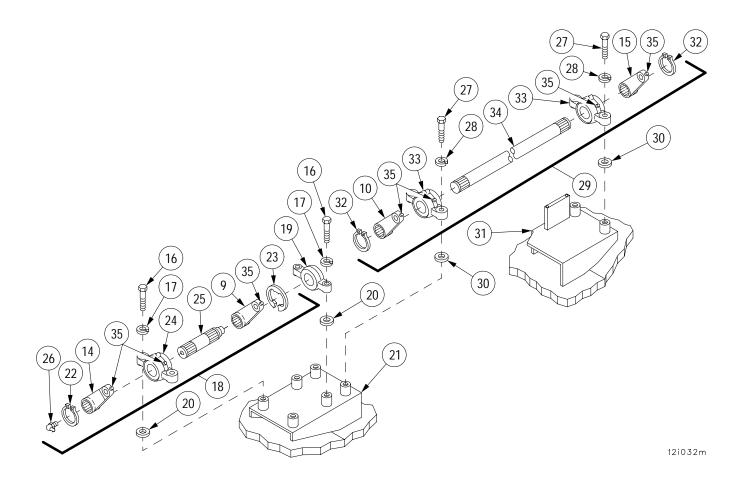


Installation

1. Install seven lubrication fittings (35) in four levers (9, 10, 14 and 15) and three bearing housings (24 and 33).



- 2. Install two bearing housings (33), two levers (10 and 15) and two new retaining rings (32) on shaft (34). Position levers (10 and 15) on shaft (34) so holes in ends of levers align.
- 3. Install shims (30), shaft assembly (29), four new lockwashers (28) and four screws (27) on two supports (21 and 31).
- 4. Install lubrication fitting (26) in shaft (25).
- 5. Install bearing housing (24), two levers (9 and 14) and two new retaining rings (22 and 23) on shaft (25). Position levers (9 and 14) on shaft (25) so holes in ends of levers align.
- 6. Install shims (20), bearing housing (19), shaft assembly (18), four new lockwashers (17) and four screws (16).

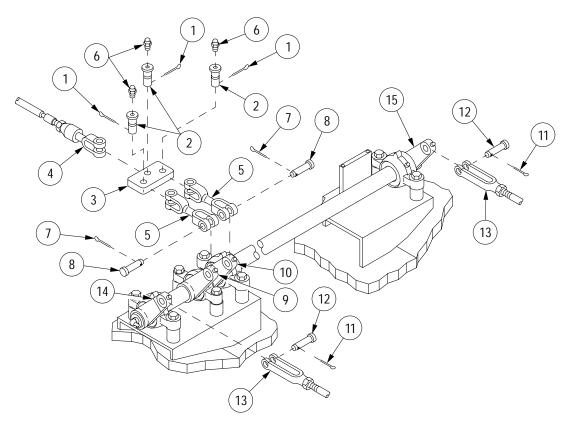


BRAKE SHAFTS 12364630 AND 12364780 REPLACEMENT - CONTINUED

0368 00

Installation-Continued

- 7. Install two yokes (5) on two levers (9 and 10) with two straight headed pins (8) and two new cotter pins (7).
- 8. Install three lubrication fittings (6) in three grooved headed pins (2).
- 9. Install plate (3) on brake cable (4) and two yokes (5) with three grooved headed pins (2) and three new cotter pins (1).
- 10. Perform brake control alignment (WP 0355 00 or WP 0356 00).
- 11. Install two rear brake rod assemblies (13) on two levers (14 and 15) with two straight headed pins (12) and two new cotter pins (11).
- 12. Perform brake control adjustment (WP 0355 00 or WP 0356 00).
- 13. Lubricate brake system (WP 0187 00).



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NOTE

FOLLOW-ON MAINTENANCE: Install powerpack (WP 0188 00)

END OF TASK

BRAKE CABLE REPLACEMENT

0369 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00) Hand lubrication gun (item 13, WP 0717 00)

Materials/Parts

Cotter pin (item 17, WP 0718 00) Lockwashers (4) (item 9, WP 0718 00) Lockwashers (2) (item 27, WP 0718 00) Lubricant (item 3, WP 0716 00) Electrical tiedown strap (item 77, WP 0718 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked (TM 9-2350-292-10)
Powerpack removed (WP 0188 00)
Subfloor plates #13, #16 and #20 removed (WP 0454 00)

References

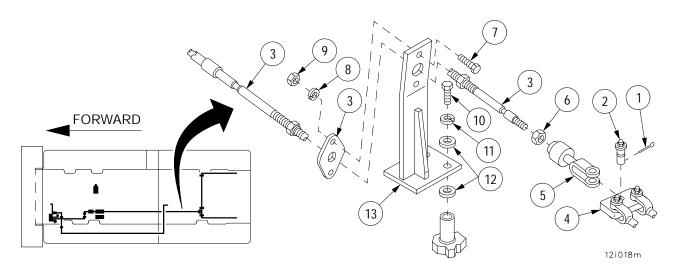
TM 9-2350-292-10

Removal

NOTE

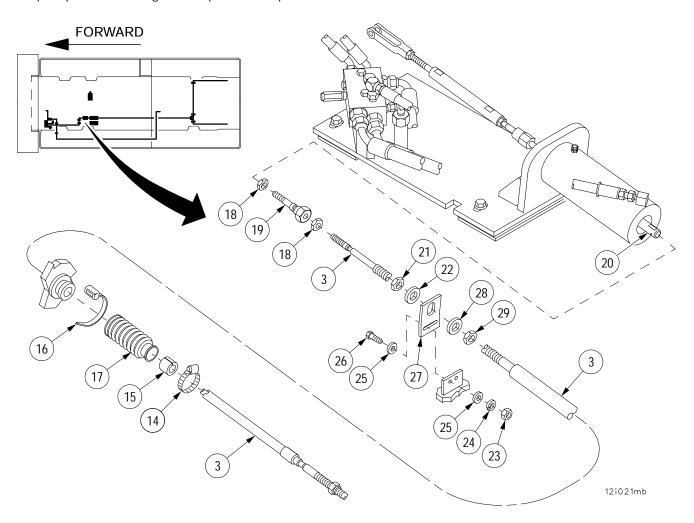
The brake cable replacement is the same procedure regardless of the braking system contained in the vehicle. This task shows the new configuration with brake modulation.

- 1. Remove cotter pin (1), straight headed pin with lubrication fitting (2) and brake cable assembly (3) from plate (4). Discard cotter pin.
- 2. Remove clevis (5) from brake cable assembly (3).
- 3. Remove nut (6) from brake cable assembly (3).
- 4. Remove two screws (7), two lockwashers (8) and two nuts (9) from brake cable assembly (3). Discard lockwashers.
- 5. Remove two screws (10), two lockwashers (11) and four flat washers (12) securing bracket (13) to hull. Discard lockwashers.
- 6. Slide bracket (13) off brake cable assembly (3).



0369 00

- 7. Remove clamp (14), bushing (15) and electrical tiedown strap (16) from boot (17) and brake cable assembly (3). Discard electrical tiedown strap.
- 8. Loosen two nuts (18), remove one nut (18) and ball joint (19) from threaded rod (20). Remove nut (18) from ball joint (19).
- 9. Remove remaining nut (18) and ball joint (19) from brake cable assembly (3).
- 10. Remove nut (21) and washer (22) from brake cable assembly (3).
- 11. Remove two nuts (23), two lockwashers (24), four flat washers (25), two screws (26) and bracket (27) from vehicle hull. Discard lockwashers.
- 12. Remove bracket (27), flat washer (28) and nut (29) from brake cable assembly (3).
- 13. Slide brake cable assembly (3) through bulkhead and boot (17) into engine compartment and remove from vehicle.
- 14. Remove boot (17) from vehicle.
- 15. Inspect parts for damage and replace as required.



BRAKE CABLE REPLACEMENT - CONTINUED

0369 00

Installation

NOTE

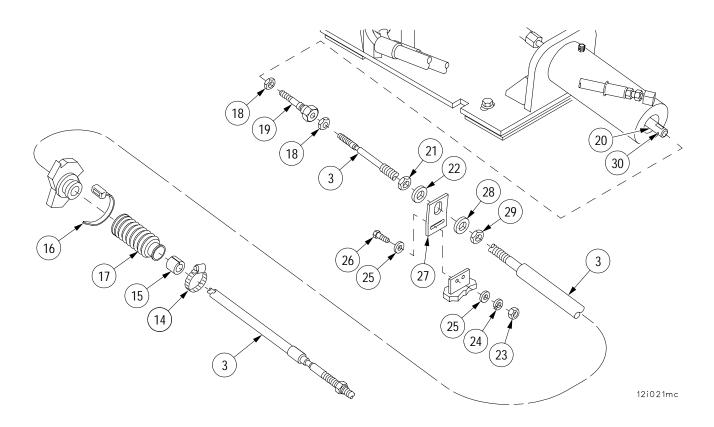
If installing new brake cable assembly, remove nut and swivel that come with it prior to installation.

- 1. Install boot (17) on brake cable assembly (3).
- 2. Slide brake cable assembly (3) through bulkhead into crew compartment.
- 3. Install nut (29) and flat washer (28) on brake cable assembly (3), slide brake cable assembly (3) through bracket (27).
- 4. Install nut (21) and flat washer (22) on brake cable assembly (3). Do not tighten nuts (21 and 29) at this time.

NOTE

Bracket may be installed in front or behind hull mounting point.

- 5. Install bracket (27) on vehicle hull with two screws (26), four flat washers (25), two new lockwashers (24) and two nuts (23).
- 6. Install nut (18) and ball joint (19) on brake cable assembly (3).
- 7. Install remaining nut (18) on to ball joint (19).
- 8. Screw ball joint (19) into end of threaded rod (20). Ensure threads of ball joint (19) are visible through hole (30) in threaded rod (20).
- 9. Secure boot (17) to brake cable assembly (3) with clamp (14), bushing (15) and new tiedown strap (16).
- 10. Torque two nuts (18) to 30-35 lb-ft (40.7-47.5 NSm).



BRAKE CABLE REPLACEMENT - CONTINUED

0369 00

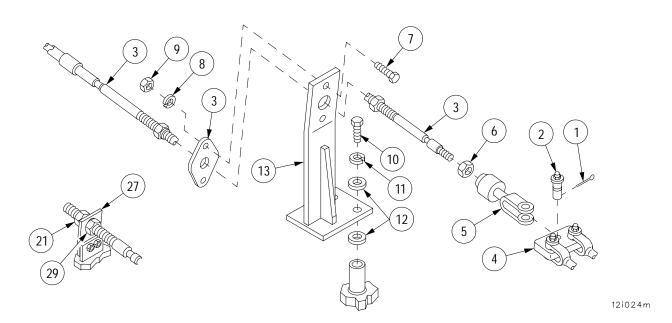
Installation-Continued

- 11. Slide bracket (13) on brake cable assembly (3).
- 12. Secure bracket (13) to hull with two screws (10), two new lockwashers (11) and four flat washers (12).
- 13. Secure brake cable assembly (3) to bracket (13) using two screws (7), two new lockwashers (8) and two nuts (9).
- 14. Install nut (6) on brake cable assembly (3).
- 15. Tighten nuts (21 and 29) against bracket (27).



Clevis must engage threads of brake cable a minimum of 0.50 inch (12.7 mm) at all times. Failure to comply could result in cable separation from clevis causing loss of vehicle service brake, resulting in personnel injury or equipment damage.

- 16. Install clevis (5) on brake cable assembly (3).
- 17. Torque nut (6) to 30-35 lb-ft (40.7-47.5 NSm).
- 18. Connect brake cable assembly (3) to plate (4) using straight headed pin with lubrication fitting (2) and new cotter pin (1).
- 19. Lubricate straight headed pin with lubrication fitting (2).
- 20. Perform brake control alignment and adjustment ((WP 0355 00 or WP 0356 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #13, #16 and #20 (WP 0454 00) Install powerpack (WP 0188 00)

END OF TASK

BRAKE BALL JOINT ASSEMBLY REPLACEMENT

0369 01

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00)

Materials/Parts

Safety goggles (item 93, WP 0716 00) Wiping rags (item 7, WP 0716 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked and brakes released (TM 9-2350-292-10) Subfloor plates #13 and #16 removed (WP 0454 00)

References

TM 9-2350-292-10



Do not work on hydraulic lines or fittings when system is pressurized. Hydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge indicates zero.

Removal

- 1. Loosen two nuts (1 and 2).
- 2. Remove nut (1) and ball joint assembly (3) from threaded rod (4).
- 3. Remove nut (2) and ball joint assembly (3) from brake cable assembly (5).
- 4. Inspect parts for damage and replace as required.

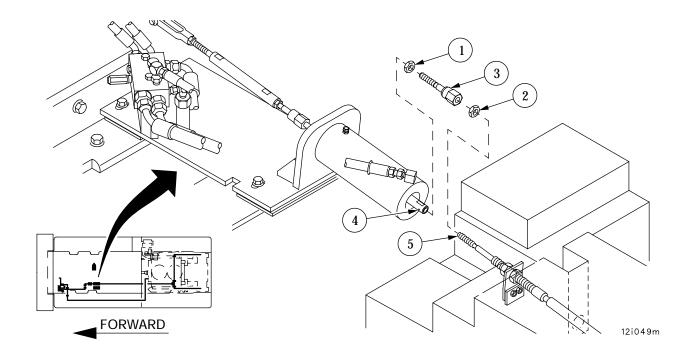
Installation

- 1. Install nut (2) and ball joint assembly (3) to brake cable assembly (5). Do not thread brake cable assembly (5) past the hole in the ball joint assembly (3).
- Install nut (1) onto ball joint assembly (3) and the threaded rod (4).
- 3. Using torque wrench, tighten nuts (1 and 2) to 30–35 lb-ft (40.7-47.5 NSm).
- 4. Perform brake control alignment and adjustment (WP 0355 00 or WP 0356 00).

NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #13 and #16 (WP 0454 00)



BRAKE HYDRAULIC CYLINDER REPLACEMENT (OLD CONFIGURATION)

0370 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00) Spanner wrench (item 47, WP 0717 00)

Materials/Parts

Dust protective plugs (2) (item 12, WP 0716 00) Safety goggles (item 93, WP 0716 00) Wiping rags (item 7, WP 0716 00) Preformed packing (item 22, WP 0718 00) Lubricant (Item 51, WP 0716 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked and brakes released (TM 9-2350-292-10) Subfloor plates #13 and #16 removed (WP 0454 00)

References

TM 9-2350-292-10



Do not work on hydraulic lines or fittings when system is pressurized. Hydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge indicates zero.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to the hydraulic system.

NOTE

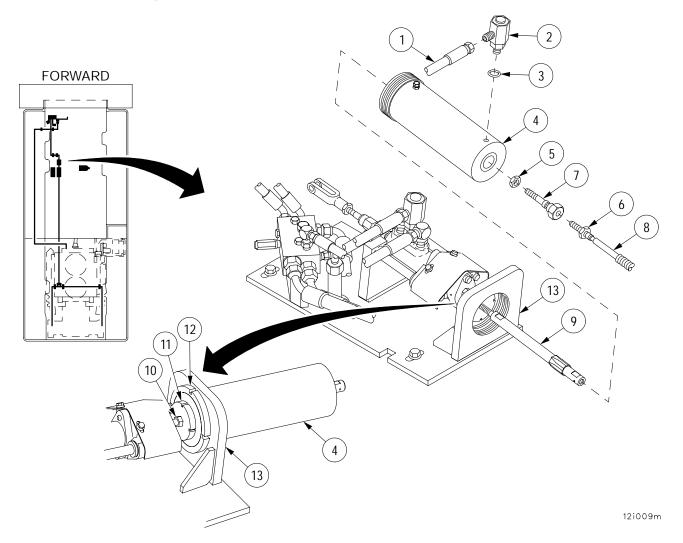
Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedures.

BRAKE HYDRAULIC CYLINDER REPLACEMENT (OLD CONFIGURATION) - CONTINUED

0370 00

Removal

- 1. Remove hose assembly (1), swivel adapter (2) and preformed packing (3) from hydraulic cylinder (4). Discard preformed packing.
- 2. Loosen two nuts (5 and 6).
- 3. Slightly depress vehicle brakes and remove nut (5) and swivel (7) from brake cable assembly (8).
- 4. Remove nut (5) and swivel (7) from threaded rod (9).
- 5. Loosen nut (10) and move disc (11) away from spanner plate (12).
- 6. Remove spanner plate (12) securing hydraulic cylinder (4) to threaded bracket (13).
- 7. Remove hydraulic cylinder (4) from threaded bracket (13) and remove from vehicle.
- 8. Inspect parts for damage and replace as required.



BRAKE HYDRAULIC CYLINDER REPLACEMENT (OLD CONFIGURATION) - CONTINUED

0370 00

Installation

- 1. Install hydraulic cylinder (4) on threaded bracket (13).
- 2. Secure hydraulic cylinder (4) to threaded bracket (13) with spanner plate (12).

NOTE

Hydraulic cylinder must be flush with spanner plate within \pm 0.06 in. (1.5 mm)

3. Torque spanner plate (12) to 30-35 lb-ft (40.7-47.5 NSm).

NOTE

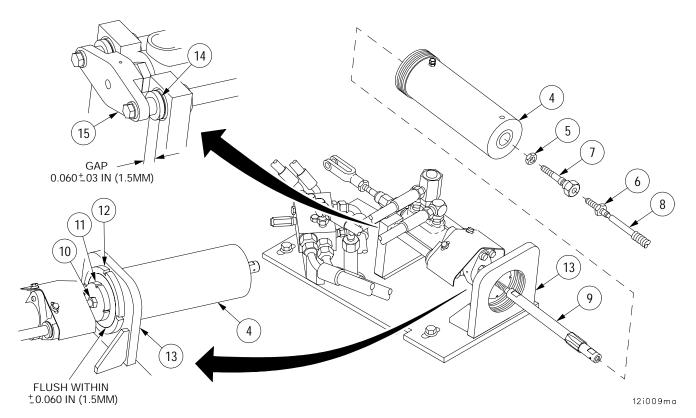
Disc must remain in contact with face of hydraulic cylinder during adjustment.

- 4. Adjust disc (11) to achieve a gap of 0.06 \pm .03 inch (1.5 mm) between bearings (14) and flange (15).
- 5. Tighten nut (10). Torque nut (10) to 30-35 lb-ft (40.7-47.5 NSm).

NOTE

Threads of swivel must be visible through hole in threaded rod.

- 6. Install swivel (7) with nut (5) into threaded rod (9).
- 7. Tighten nut (5) to lock swivel (7) in place. Torque nut (5) to 30-35 lb-ft (40.7-47.5 NSm).
- 8. Connect brake cable assembly (8) to swivel (7).
- 9. Tighten nut (6) to lock brake cable assembly (8) to swivel (7).

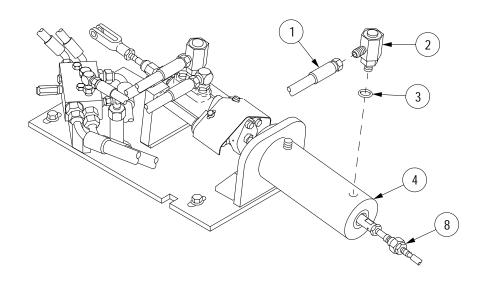


BRAKE HYDRAULIC CYLINDER REPLACEMENT (OLD CONFIGURATION) - CONTINUED

0370 00

Installation - Continued

- 10. Apply a thin even coat of clean lubricant to two new preformed packings (3).
- 11. Install swivel adapter (2) with new preformed packing (3) on hydraulic cylinder (4).
- 12. Connect hose assembly (1) to swivel adapter (2).
- 13. Lubricate brake cable assembly (8) (WP 0187 00).
- 14. Perform alignment procedure (WP 0355 00 or WP 0356 00).
- 15. Bleed air from brake system (WP 0355 00 or WP 0356 00).



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NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #13 and #16 (WP 0454 00)

END OF TASK

BRAKE HYDRAULIC CYLINDER REPLACEMENT (NEW CONFIGURATION WITH BRAKE MODULATION)

0371 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00) Spanner wrench (item 47, WP 0717 00)

Materials/Parts

Dust protective plugs (2) (item 12, WP 0716 00) Safety goggles (item 93, WP 0716 00) Wiping rags (item 7, WP 0716 00) Preformed packing (item 22, WP 0718 00) Lubricant (Item 51, WP 0716 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked and brakes released (TM 9-2350-292-10) Subfloor plates #13 and #16 removed (WP 0454 00)

References

TM 9-2350-292-10





Do not work on hydraulic lines or fittings when system is pressurized. Hydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge indicates zero.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to the hydraulic system.

NOTE

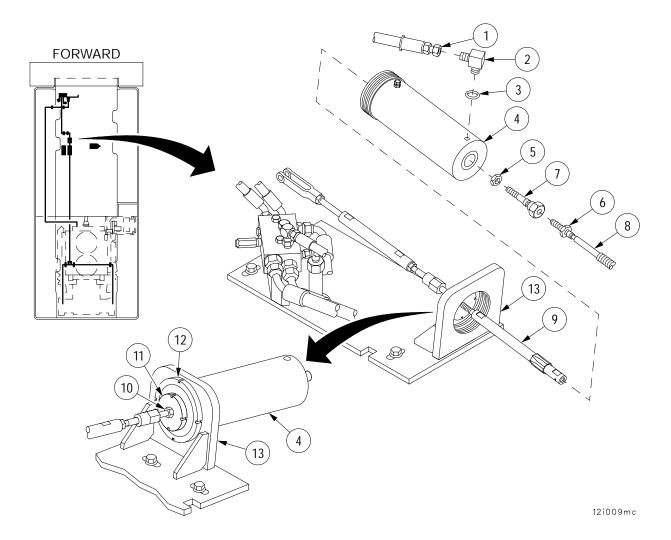
Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedures.

BRAKE HYDRAULIC CYLINDER REPLACEMENT (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

0371 00

Removal

- 1. Remove hose assembly (1), swivel adapter (2) and preformed packing (3) from hydraulic cylinder (4). Discard preformed packing.
- 2. Loosen two nuts (5 and 6).
- 3. Remove nut (5) and swivel (7) from brake cable assembly (8).
- 4. Remove nut (5) and swivel (7) from threaded rod (9).
- 5. Loosen nut (10) and move disc (11) away from spanner plate (12).
- 6. Remove spanner plate (12) securing hydraulic cylinder (4) to threaded bracket (13).
- 7. Remove hydraulic cylinder (4) from threaded bracket (13) and remove from vehicle.
- 8. Inspect parts for damage and replace as required.



BRAKE HYDRAULIC CYLINDER REPLACEMENT (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

0371 00

Installation

- 1. Install hydraulic cylinder (4) on threaded bracket (13).
- 2. Secure hydraulic cylinder (4) to threaded bracket (13) with spanner plate (12).

NOTE

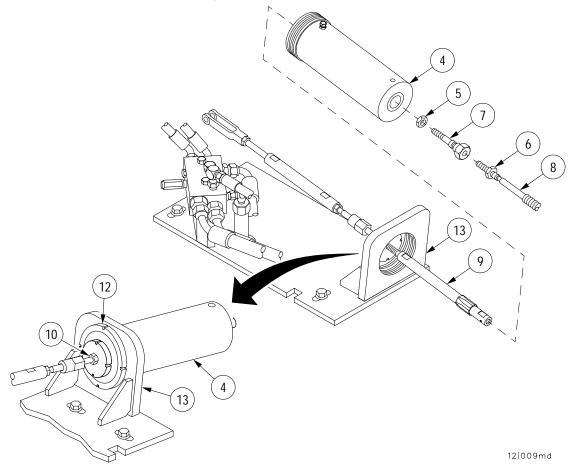
Hydraulic cylinder must be flush with spanner plate within \pm 0.06 in. (1.5 mm)

- 3. Torque spanner plate (12) to 30-35 lb-ft (40.7-47.5 NSm).
- 4. Tighten nut (10). Torque nut (10) to 30-35 lb-ft (40.7-47.5 NSm).

NOTE

Threads of swivel must be visible through hole in threaded rod.

- 5. Install swivel (7) with nut (5) into threaded rod (9).
- 6. Tighten nut (5) to lock swivel (7) in place. Torque nut (5) to 30-35 lb-ft (40.7-47.5 NSm).
- 7. Connect brake cable assembly (8) to swivel (7).
- 8. Tighten nut (6) to lock brake cable assembly (8) to swivel (7).

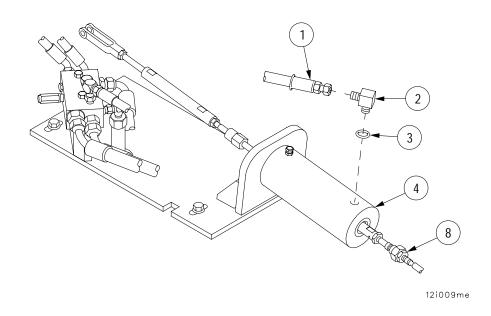


BRAKE HYDRAULIC CYLINDER REPLACEMENT (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

0371 00

Installation - Continued

- 9. Apply a thin even coat of clean lubricant to two new preformed packings (3).
- 10. Install swivel adapter (2) with new preformed packing (3) on hydraulic cylinder (4).
- 11. Connect hose assembly (1) to swivel adapter (2).
- 12. Lubricate brake cable assembly (8) (WP 0187 00).
- 13. Perform alignment procedure (WP 0357 00).
- 14. Bleed air from brake system (WP 0357 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #13 and #16 (WP 0454 00)

END OF TASK

BRAKE ACCUMULATOR REPLACEMENT

0372 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective plugs (2) (item 12, WP 0716 00) Lockwashers (4) (item 14, WP 0718 00) Preformed packing (item 23, WP 0718 00) Safety goggles (item 93, WP 0716 00) Wiping rags (item 7, WP 0716 00) Lubricant (Item 51, WP 0716 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked and brakes released (TM 9-2350-292-10) Subfloor plates #15 and #18 removed (WP 0454 00)

References

TM 9-2350-292-10





Do not work on hydraulic lines or fittings when system is pressurized. Hydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge indicates zero.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to the hydraulic system.

NOTE

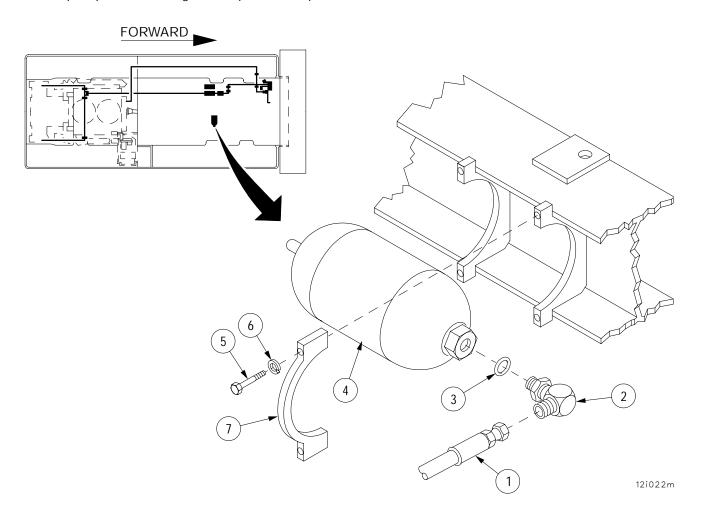
Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedures.

Removal



Hydraulic fluid in hose assembly connected to the accumulator is under pressure and can cause personnel injury. Hose assembly must be loosened only enough to relieve pressure at a very slow rate to avoid injury.

- 1. Wrap rags around end of hose assembly (1) to stop hydraulic fluid from spraying.
- 2. Loosen hose assembly (1) only enough to relieve hydraulic pressure.
- 3. Remove hose assembly (1), adapter (2) and preformed packing (3) from accumulator (4). Discard preformed packing (3).
- 4. Remove four screws (5), four lockwashers (6), two clamps (7) and accumulator (4) from hull. Discard lockwashers (6).
- 5. Inspect parts for damage and replace as required.

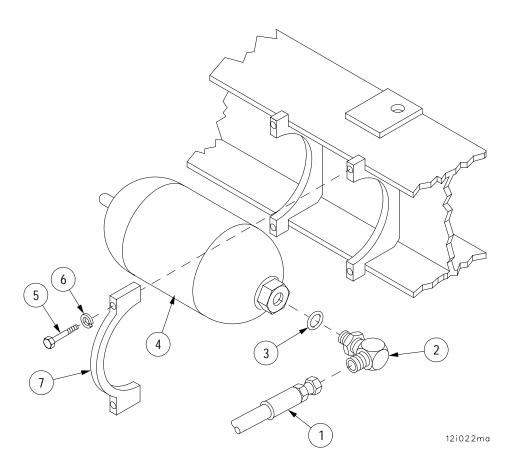


BRAKE ACCUMULATOR REPLACEMENT - CONTINUED

0372 00

Installation

- 1. Install accumulator (4) in hull with four screws (5), four new lockwashers (6) and two clamps (7).
- 2. Apply a thin even coat of clean lubricant to new preformed packing (3).
- 3. Install adapter (2), new preformed packing (3) and hose assembly (1) on accumulator (4).
- 4. Charge accumulator, if required (WP 0373 00).
- 5. Start vehicle (TM 9-2350-292-10) to pressurize system and check for leaks.



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #15 and #18 (WP 0454 00)

CHARGING BRAKE ACCUMULATOR

0373 00

THIS WORK PACKAGE COVERS:

Connecting charging device, Checking precharge pressure, Charging accumulator, Disconnecting charging device

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Temperature indicator (item 19, WP 0717 00) Nitrogen charging kit (item 20, WP 0717 00)

Materials/Parts

Nitrogen (item 13, WP 0716 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked and brakes released (TM 9-2350-292-10) Subfloor plates #15 and #18 removed (WP 0454 00)

References

TM 9-2350-292-10



High pressure nitrogen gas is used in this equipment. Keep face and hands away from valves and hose ends. Failure to do this could result in serious injury.

Do not breathe nitrogen gas. Nitrogen gas can cause death when inhaled.

When charging the accumulator use only oil-free nitrogen per BB-N-411 Type 1, Class 1. Oil-free nitrogen tanks are marked with one or two black bands at the top of the tank. Do not use tanks without black band. Certain other types of gases will cause the accumulator to explode, resulting in possible death or injury.

To ensure that no damage is done to the braking system, the accumulator must be charged to proper psi for the braking system used in the vehicle. Maintenance personnel must determine which type of braking system (old configuration, new configuration or new configuration with braking modulation) is contained in the vehicle. Then the appropriate Temperature vs. Pressure chart can be selected and the proper charging pressure determined.

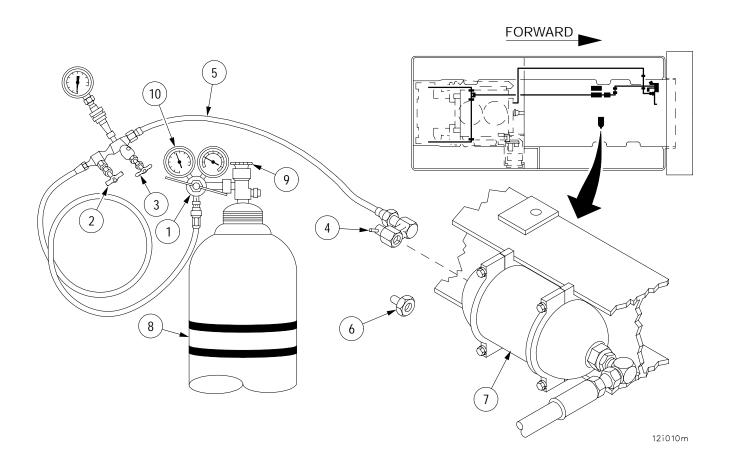
NOTE

Several types of charging devices are available for use in charging the accumulator. This procedure is based on one of those devices. If a different charging device is used, alter the instructions in this procedure as necessary.

0373 00

Connecting Charging Device

- 1. Determine ambient temperature and vehicle's braking system.
- 2. Pump brake pedal to bleed brake hydraulic pressure down to zero.
- 3. Ensure valves (1, 2, 3 and 4) on charging device (5) are closed.
- 4. Remove valve cap (6) from accumulator (7), then attach charging device (5) loosely to accumulator (7).
- 5. Connect opposite end of charging device (5) to nitrogen bottle (8).
- 6. Open valves (9 and 2).
- 7. Open regulator valve (1) until 50 psig is indicated on gauge (10).
- 8. Open valve (3) to bleed any air from charging device lines.
- 9. Close valves (2 and 3) and tighten charging device (5) connection at accumulator (7).
- 10. Close regulator valve (1) to shut off nitrogen gas pressure.



Checking Precharge Pressure

CAUTION

Accumulator precharge pressure is determined by using Temperature Vs. Pressure Chart. Always check accumulator precharge pressure with hydraulic pressure at zero. Failure to comply will cause an inaccurate pressure indication which will result in an improperly charged accumulator.

Temperature Vs. Pressure Chart (Old Configuration or New Configuration)

Temperature		Pressure	Temperature		Pressure	Temperature		Pressure
F	С	PSIG*	F	С	PSIG*	F	С	PSIG*
-26	-32	266	26	-4	298	78	25	330
-24	-31	267	28	-3	299	80	27	331
-22	-30	269	30	-2	300	82	28	332
-20	-29	270	32	0	302	84	29	334
-18	-28	271	34	1	303	86	30	335
-16	-27	272	36	2	304	88	31	336
-14	-26	273	38	3	305	90	32	337
-12	-25	275	40	4	307	92	33	338
-10	-24	276	42	5	308	94	34	340
-8	-23	277	44	6	309	96	35	341
-6	-22	278	46	7	310	98	36	342
-4	-21	280	48	8	312	100	37	343
-2	-20	281	50	9	313	102	38	345
0	-18	282	52	10	314	104	39	346
2	-17	283	54	12	315	106	40	347
4	-16	285	56	13	316	108	41	348
6	-15	286	58	14	318	110	43	350
8	-14	287	60	15	319	112	44	351
10	-13	288	62	16	320	114	45	352
12	-12	289	64	17	321	116	46	353
14	-11	291	66	18	323	118	47	354
16	-10	292	68	19	324	120	48	356
18	-9	293	70	21	325	122	49	357
20	-8	294	72	22	326	124	50	358
22	-7	296	74	23	327	126	51	359
24	-5	297	76	24	329	128	53	361

^{*} Accumulator pressure tolerance is =+/- 5 psig.

0373 00

Checking Precharge Pressure - Continued

Temperature Vs. Pressure Chart (New Configuration with Brake Modulation)

Temperature		Pressure	Temperature		Pressure	Temperature		Pressure
F	С	PSIG*	F	С	PSIG*	F	С	PSIG*
-26	-32	491	26	-4	550	78	25	609
-24	-31	494	28	-3	552	80	27	611
-22	-30	496	30	-2	555	82	28	614
-20	-29	498	32	0	557	84	29	616
-18	-28	500	34	1	559	86	30	618
-16	-27	503	36	2	561	88	31	620
-14	-26	505	38	3	564	90	32	623
-12	-25	507	40	4	566	92	33	625
-10	-24	509	42	5	568	94	34	627
-8	-23	512	44	6	571	96	35	629
-6	-22	514	46	7	573	98	36	632
-4	-21	516	48	8	575	100	37	634
-2	-20	518	50	9	577	102	38	636
0	-18	521	52	10	580	104	39	639
2	-17	523	54	12	582	106	40	641
4	-16	525	56	13	584	108	41	643
6	-15	528	58	14	586	110	43	645
8	-14	530	60	15	589	112	44	648
10	-13	532	62	16	591	114	45	650
12	-12	534	64	17	593	116	46	652
14	-11	537	66	18	595	118	47	654
16	-10	539	68	19	598	120	48	657
18	-9	541	70	21	600	122	49	659
20	-8	543	72	22	602	124	50	661
22	-7	546	74	23	605	126	51	663
24	-5	548	76	24	607	128	53	665

^{*} Accumulator pressure tolerance is =+/- 5 psig.

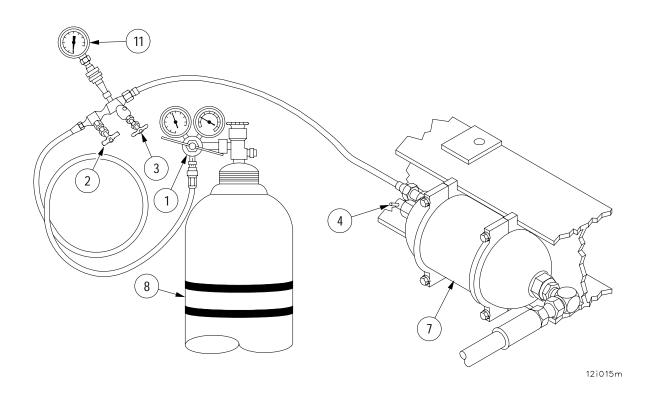
0373 00

Checking Precharge Pressure-Continued

Open valves (3 and 4). Verify accumulator precharge pressure in accordance with the Temperature Vs. Pressure Charts using gauge (11). If accumulator pressure is in accordance with the Temperature Vs. Pressure Charts in this work package, accumulator does not need to be charged.

Charging Accumulator

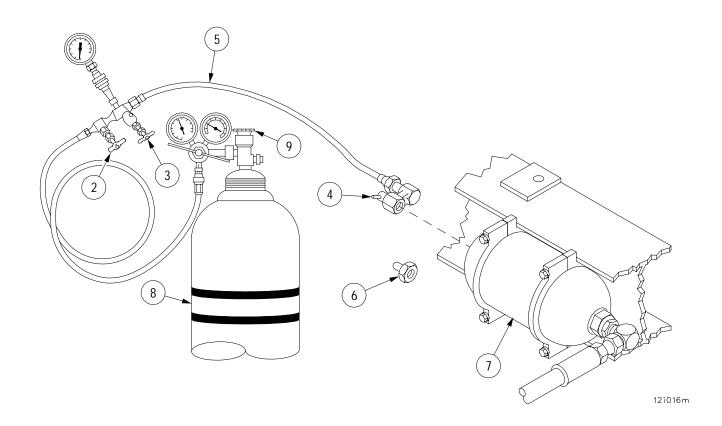
- 1. Close valve (3) and open regulator valve (1).
- 2. Turn handle of regulator valve (1) to adjust nitrogen bottle (8) output pressure to the pressure indicated on the Temperature Vs. Pressure Chart.
- 3. Open valve (2) and slowly open valve (3) to charge accumulator (7).
- 4. Monitor gauge (11). When required pressure indication is obtained, close valve (2) and regulator valve (1).



0373 00

Disconnecting Charging Device

- 1. Close valves (4 and 9).
- 2. Open bleeder valve (2).
- 3. Disconnect charging device (5) from nitrogen bottle (8) and accumulator (7).
- 4. Replace valve cap (6) on accumulator (7).
- 5. Close valves (2 and 3).



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #15 and #18 (WP 0454 00)

POWER BOOST MANIFOLD AND MODULATING VALVE PLATE REPAIR (OLD CONFIGURATION)

0374 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00) Retaining ring pliers set (item 15, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 35, WP 0718 00) Retaining rings (4) (item 451, WP 0718 00) Lockwashers (2) (item 2, WP 0718 00) Safety goggles (item 93, WP 0716 00) Lubricant (item 3, WP 0716 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked and brakes released (TM 9-2350-292-10)
Brake shaft and brake pedal return spring disconnected from modulating valve assembly (WP 0366 00)
Hydraulic bases disconnected from brake modulating

Hydraulic hoses disconnected from brake modulating valve, hydraulic brake cylinder and power boost manifold assembly (WP 0360 00)

References

TM 9-2350-292-10

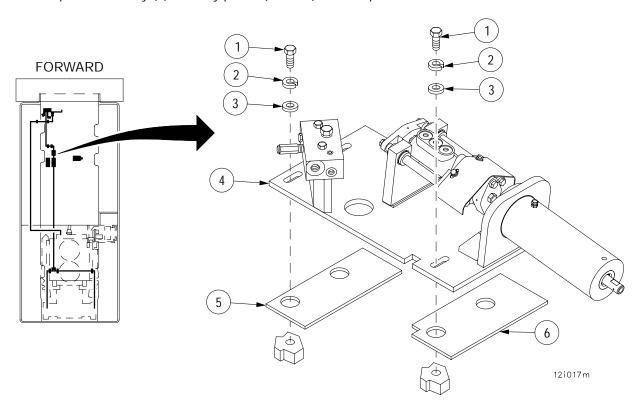
Removal

1. Remove four screws (1), four lockwashers (2) and four flat washers (3) from plate assembly (4). Discard lockwashers.

NOTE

Quantity of plates may vary. Note quantity and location of plates removed to aid in installation.

2. Remove plate assembly (4) and any plates (5 and 6) that are present.



POWER BOOST MANIFOLD AND MODULATING VALVE PLATE REPAIR (OLD CONFIGURATION) - CONTINUED

0374 00

Disassembly

NOTE

Perform only those steps necessary to replace the defective parts.

- Remove power boost manifold assembly (7) (WP 0378 00).
- 2. Remove modulating valve assembly (8) (WP 0376 00).
- 3. Remove brake hydraulic cylinder assembly (9) (WP 0370 00).

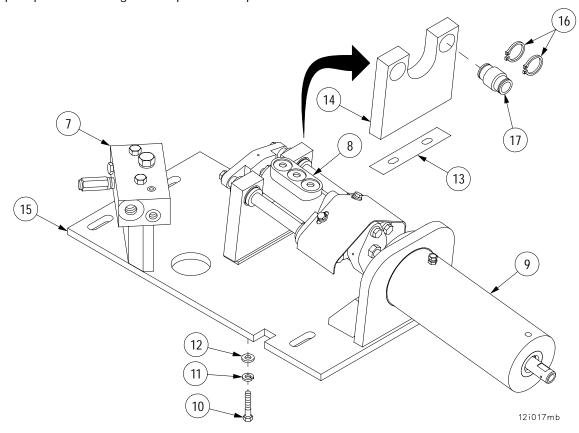
NOTE

Quantity of shims may vary. Note location of shims removed to aid in installation.

4. Remove two screws (10), two lockwashers (11), two flat washers (12), shims (13) and plate (14) from plate (15). Discard lockwashers.



- 5. Remove four retaining rings (16) and two bearing kits (17) from plate (14). Discard retaining rings.
- 6. Inspect parts for damage and replace as required.



POWER BOOST MANIFOLD AND MODULATING VALVE PLATE REPAIR (OLD CONFIGURATION) - CONTINUED

0374 00

Assembly



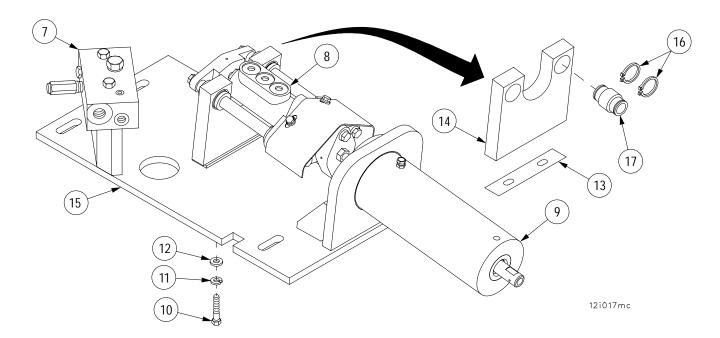
Retaining rings in new bearing kits must be discarded and replaced with retaining rings listed as mandatory replacement parts. Failure to comply could result in bearing separation, causing equipment damage.

1. Install two bearing kits (17) on plate (14) with four new retaining rings (16).

NOTE

Shim plate as required to align with centerline of brake hydraulic cylinder.

- 2. Install plate (14) and shims (13) on plate (15) with two screws (10), two new lockwashers (11) and two flat washers (12).
- 3. Torque two screws (10) to 30-35 lb-ft (40.7-47.5 NSm).
- 4. Install modulating valve assembly (8) (WP 0376 00).
- 5. Install brake hydraulic cylinder assembly (9) (WP 0370 00).
- 6. Install power boost manifold assembly (7) (WP 0378 00).

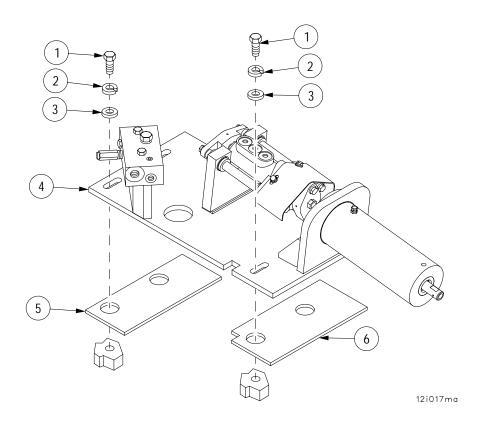


POWER BOOST MANIFOLD AND MODULATING VALVE PLATE REPAIR (OLD CONFIGURATION) - CONTINUED

0374 00

Installation

- 1. Install plates (5 and 6) and plate assembly (4).
- 2. Secure plate assembly (4) to hull with four screws (1), four new lockwashers (2) and four flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Connect hydraulic hoses to power boost manifold, modulating valve assembly and hydraulic brake cylinder (WP 0360 00)

Connect brake shaft and brake pedal

Return spring to modulating valve assembly

(WP 0366 00)

Bleed brake system (WP 0355 00)

Align brake system (WP 0355 00)

POWER BOOST MANIFOLD AND PLATE REPAIR (NEW CONFIGURATION WITH BRAKE MODULATION)

0375 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 35, WP 0718 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked and brakes released (TM 9-2350-292-10)

Equipment Conditions - Continued

Hydraulic hoses disconnected from power boost manifold assembly and hydraulic brake cylinder (WP 0362 00).

Disconnect rod end assembly (WP 0364 00) and brake cable assembly (WP 0369 00).

Disconnect return spring assembly from pillow block shaft and lever (WP 0367 00).

References

TM 9-2350-292-10

Removal

 Remove four screws (1), four lockwashers (2) and four flat washers (3) from plate assembly (4). Discard lockwashers.

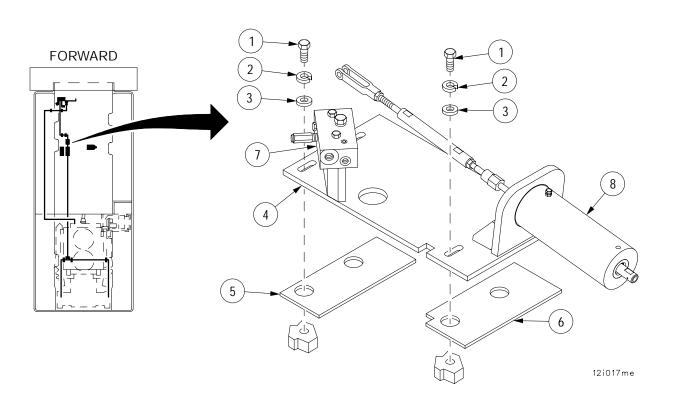
NOTE

Quantity of plates may vary. Note quantity and location of plates removed to aid in installation.

2. Remove plate assembly (4) and any plates (5 and 6) that are present.

Disassembly

- 1. Remove power boost manifold assembly (7) (WP 0380 00).
- 2. Remove brake hydraulic cylinder assembly (8) (WP 0371 00).
- 3. Inspect parts for damage and replace as required.



POWER BOOST MANIFOLD AND PLATE REPAIR (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

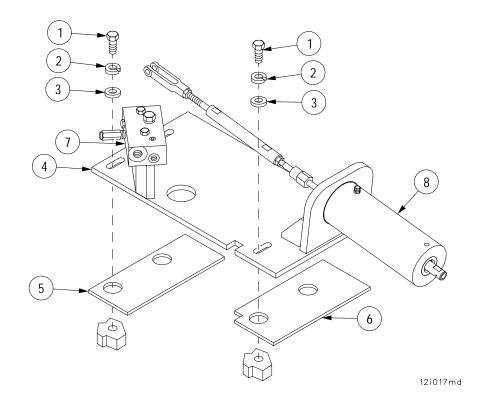
0375 00

Assembly

- 1. Install brake hydraulic cylinder assembly (8) (WP 0371 00).
- 2. Install power boost manifold assembly (7) (WP 0380 00).

Installation

- 1. Install plates (5 and 6) and plate assembly (4).
- 2. Secure plate assembly (4) to hull with four screws (1), four new lockwashers (2) and four flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Connect rod end assembly (WP 0364 00) to hydraulic brake cylinder

Connect hydraulic hoses to power boost manifold and hydraulic brake cylinder (WP 0362 00)

Connect brake cable to hydraulic brake cylinder (WP 0369 00)

Connect return spring to pillow block shaft and lever (WP 0367 00)

Bleed brake system (WP 0357 00)

Align brake system (WP 0357 00)

BRAKE MODULATING VALVE ASSEMBLY REPAIR (OLD CONFIGURATION)

0376 00

THIS WORK PACKAGE COVERS:

Disassembly, Assembly

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00) Retaining ring pliers set (item 15, WP 0717 00)

Materials/Parts

Lockwashers (6) (item 37, WP 0718 00) Safety goggles (item 93, WP 0716 00) Retaining rings (4) (item 451, WP 0718 00) Lubricant (item 3, WP 0716 00) Lockwashers (2) (item 9, WP 0718 00)

Equipment Conditions

and brakes released (TM 9-2350-292-10) Subfloor plates #14 and #16 removed (WP 0454 00) Hydraulic hoses disconnected from modulating valve assembly (WP 0360 00) Shaft and brake pedal return spring disconnected from modulating valve assembly (WP 0366 00) Brake hydraulic cylinder removed (WP 0370 00)

Vehicle parked on level surface with tracks blocked

References

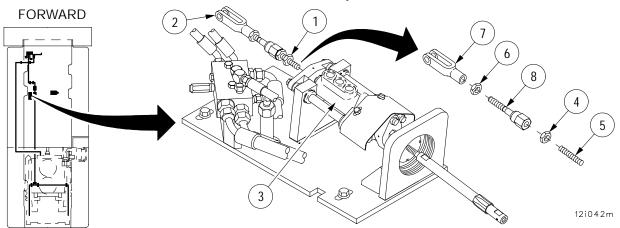
TM 9-2350-292-10



Do not work on hydraulic lines or fittings when system is pressurized. Hydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge indicates zero.

Disassembly

- 1. Loosen nut (1), remove clevis assembly (2) and nut (1) from modulating valve assembly (3).
- 2. Remove nut (4) and rod (5) from clevis assembly (2).
- 3. Loosen nut (6), remove rod end clevis (7) and nut (6) from ball joint (8).



BRAKE MODULATING VALVE ASSEMBLY REPAIR (OLD CONFIGURATION) - 0376 00 CONTINUED

Disassembly-Continued

- 4. Remove two screws (9), two lockwashers (10), two flat washers (11) and shield (12) from modulating valve (3). Discard lockwashers.
- 5. Loosen two nuts (13). Screw disc (14) forward on threaded rod (15).
- 6. Remove threaded rod (15), disc (14), spanner plate (16) and two nuts (13) from modulating valve assembly (3).

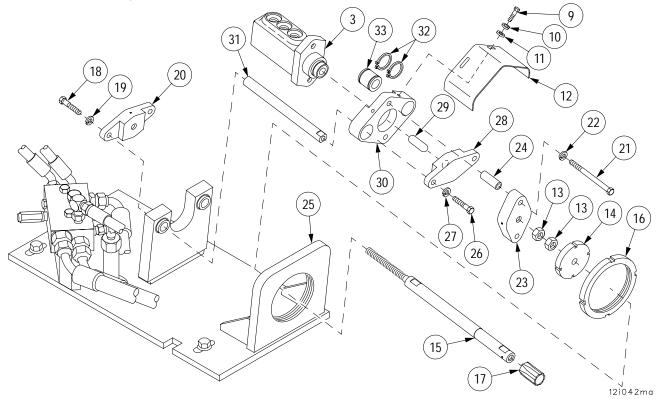
NOTE

Do not remove bushing unless worn or damaged.

- 7. Remove two nuts (13), disc (14) and bushing (17), if damaged, from threaded rod (15).
- 8. Remove two screws (18), two lockwashers (19), flange (20) from modulating valve assembly (3). Discard lockwashers.
- 9. Remove two screws (21), two lockwashers (22), flange (23), two spacers (24) and modulating valve assembly (3) from power boost manifold and modulating valve plate (25). Discard lockwashers.
- 10. Remove two screws (26), two lockwashers (27), flange (28), pushrod (29), support assembly (30) and two spacers (31) from power boost manifold and modulating valve plate (25). Discard lockwashers.



- 11. Remove four retaining rings (32) and two bearings (33) from support assembly (30). Discard retaining rings.
- 12. Inspect parts for damage and replace as required.



BRAKE MODULATING VALVE ASSEMBLY REPAIR (OLD CONFIGURATION) - CONTINUED

0376 00

Assembly

1. Lubricate two bearings (33).

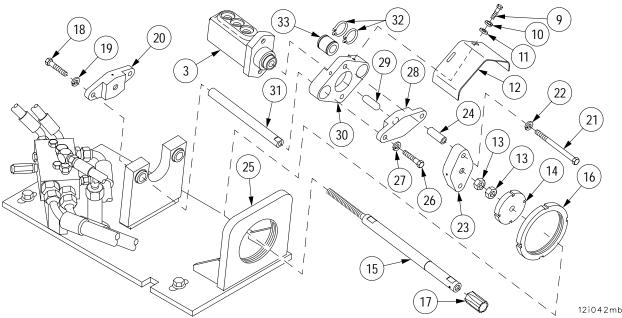


- 2. Install two bearings (33) in support (30) with four new retaining rings (32).
- 3. Install two spacers (31), support assembly (30) and flange (28) on power boost manifold and modulating valve plate (25) with two screws (26) and two new lockwashers (27).
- 4. Torque two screws (26) to 30-35 lb-ft (40.7-47.5 NSm).
- 5. Install pushrod (29), modulating valve assembly (3), two spacers (24) and flange (23) on power boost manifold and modulating valve plate (25) with two screws (21) and two new lockwashers (22).
- 6. Install flange (20) on modulating valve assembly (3) with two screws (18) and two new lockwashers (19). Torque two screws (18) to 30-35 lb-ft (40.7-47.5 NSm).
- 7. Install disc (14), two nuts (13) and bushing (17), if removed, onto threaded rod (15).

CAUTION

A minimum of 0.50 inch (12.7 mm) thread engagement must be maintained between threaded rod and flange. Failure to comply could result in loss of service brake resulting in equipment damage.

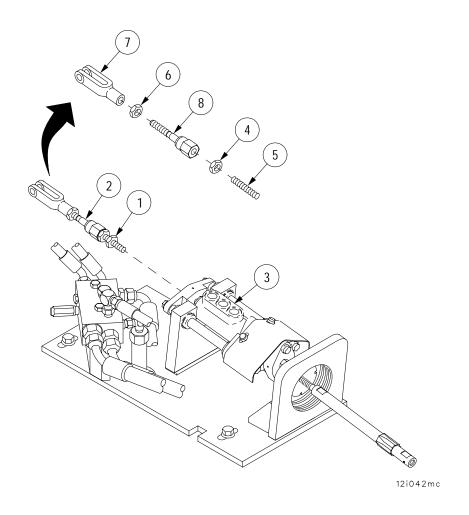
- 8. Install threaded rod (15), disc (14), two nuts (13), new bushing (17) and spanner plate (16) on modulating valve assembly (3). Verify 0.50 inch (12.7 mm) thread engagement.
- 9. Install shield (12) on modulating valve assembly (3) with two screws (9), two new lockwashers (10) and two flat washers (11).



BRAKE MODULATING VALVE ASSEMBLY REPAIR (OLD CONFIGURATION) - 0376 00 CONTINUED

Assembly - Continued

- 10. Install nut (6) and rod end clevis (7) on ball joint (8).
- 11. Install rod (5) and nut (4) on clevis assembly (2).
- 12. Install nut (1) and clevis assembly (2) on modulating valve assembly (3).
- 13. Install brake hydraulic cylinder (WP 0370 00).
- 14. Install shaft and brake pedal return spring (WP 0366 00).
- 15. Connect hydraulic hoses to modulating valve assembly (3) (WP 0360 00 or WP 0361 00).
- 16. Perform brake alignment (WP 0355 00 or WP 0356 00).
- 17. Adjust brakes (WP 0355 00 or WP 0356 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #14 and #16 (WP 0454 00)

END OF TASK

BRAKE MODULATION VALVE ASSEMBLY AND BRAKE PEDAL REPAIR (NEW CONFIGURATION WITH BRAKE MODULATION)

0377 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 9, WP 0718 00) Lockwashers (9) (item 2, WP 0718 00)

Equipment Conditions

Vehicle parked on level surface with tracks blocked and brakes released (TM 9-2350-292-10)
Subfloor plate #7 removed (WP 0454 00)
Brake assembly cover removed (WP 0362 00)
Hydraulic hoses disconnected from modulating valve assembly (WP 0362 00)

References

TM 9-2350-292-10



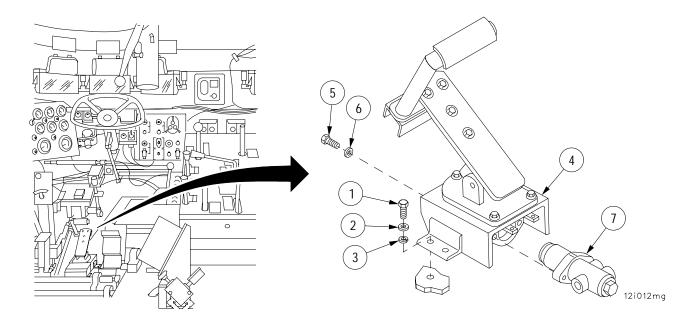
Do not work on hydraulic lines or fittings when system is pressurized. Hydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge indicates zero.

Removal

Remove four screws (1), four washers (2), and four lockwashers (3) and base mounting (4) from vehicle. Discard lockwashers.

Disassembly

1. Remove two screws (5), two lockwashers (6), and modulating valve (7) from base mounting (4). Discard lockwashers.



BRAKE MODULATION VALVE ASSEMBLY AND BRAKE PEDAL REPAIR (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

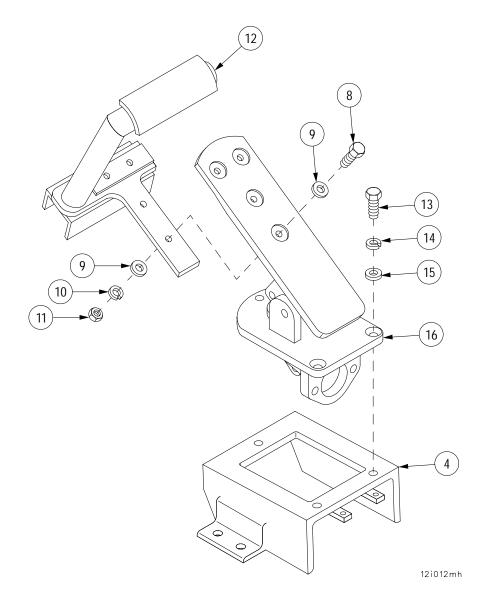
0377 00

Disassembly - Continued

- 2. Remove four screws (8), eight washers (9), four lockwashers (10), four nuts (11) and pedal assembly (12). Discard lockwashers.
- 3. Remove three screws (13), three lockwashers (14), three washers (15) and pedal (16) from base mounting (4). Discard lockwashers.

Assembly

- 1. Install pedal (16), three washers (15), three new lockwashers (14) and three screws (13) to base mounting (4).
- 2. Install pedal assembly (12), four nuts (11), four new lockwashers (10), eight washers (9) and four screws (8) to pedal (16).



BRAKE MODULATION VALVE ASSEMBLY AND BRAKE PEDAL REPAIR (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

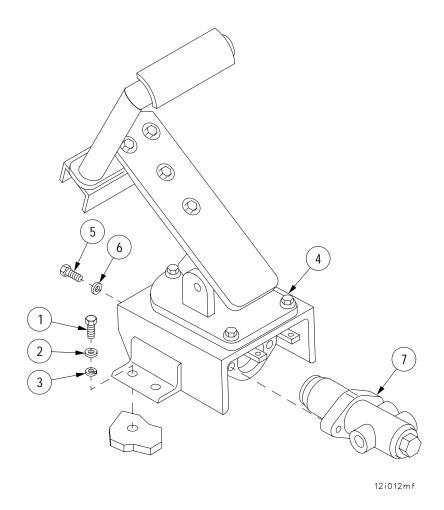
0377 00

Assembly - Continued

3. Install modulating valve (7) to base mounting (4) with two screws (5) and two new lockwashers (6).

Installation

Install base mounting (4) onto vehicle with four screws (1), four washers (2) and four new lockwashers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Reconnect hydraulic hoses to modulating valve assembly (WP 0362 00)
Install brake assembly cover (WP 0362 00)
Replace subfloor plate #7 (WP 0454 00)

BRAKE POWER BOOST HYDRAULIC MANIFOLD REPAIR (OLD CONFIGURATION)

0378 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Preformed packing (item 39, WP 0718 00)

Preformed packing (item 40, WP 0718 00)

Preformed packing (item 41, WP 0718 00)

Preformed packings (3) (item 43, WP 0718 00)

Lockwashers (4) (item 2, WP 0718 00)

Lockwashers (2) (item 9, WP 0718 00)

Dust protective plug (item 12, WP 0716 00)

Dust protective plugs (6) (item 14, WP 0716 00)

Dust protective caps (2) (item 44, WP 0716 00)

Wiping rags (item 7, WP 0716 00)

Safety goggles (item 93, WP 0716 00)

Preformed packing (item 452, WP 0718 00)

Lubricant (item 51, WP 0716 00)

Equipment Conditions

Vehicle parked on level surface with tracks blocked and brakes released (TM 9-2350-292-10)
Vehicle MASTER switch OFF (TM 9-2350-292-10)
Battery power disconnected (WP 0256 00)
Subfloor plates #14 and #16 removed (WP 0454 00)
Hydraulic hoses disconnected from brake power boost hydraulic manifold (WP 0360 00)

References

TM 9-2350-292-10



Do not work on hydraulic lines or fittings when system is pressurizeHydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge boost indicates zero.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to the hydraulic system.

NOTE

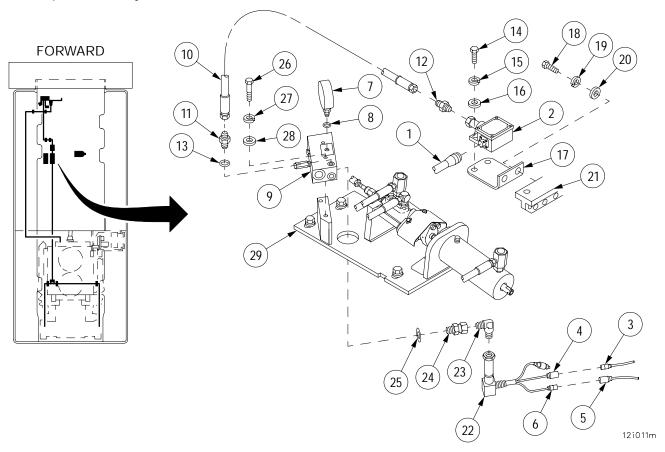
Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedures.

BRAKE POWER BOOST HYDRAULIC MANIFOLD REPAIR (OLD CONFIGURATION) - CONTINUED

0378 00

Removal

- 1. Disconnect wiring harness 4W100 connector P1 (1) from pressure switch (2).
- 2. Disconnect wiring harness 4W100 wire 48 (3) from pressure switch lead (4).
- 3. Disconnect wiring harness 2W601 wire 591 (5) from pressure switch lead (6).
- 4. Remove pressure gauge (7) and preformed packing (8) from power boost hydraulic manifold (9). Discard packing preformed.
- 5. Disconnect hose #444 (10) from adapter (11) and adapter (12). Remove adapter (11) and preformed packing (13) from power boost hydraulic manifold (9). Discard preformed packing.
- 6. Remove two screws (14), two lockwashers (15), two flat washers (16) and pressure switch (2) from pressure switch bracket (17). Remove adapter (12) from pressure switch (2). Discard lockwashers.
- 7. Remove two screws (18), two lockwashers (19), two flat washers (20) and pressure switch bracket (17) from support (21). Discard lockwashers.
- 8. Remove pressure switch (22), adapter (23), adapter (24) and preformed packing (25) from power boost hydraulic manifold (9). Discard preformed packing.
- 9. Remove two screws (26), two lockwashers (27), two flat washers (28) and power boost hydraulic manifold (9) from plate assembly (29). Discard lockwashers.



BRAKE POWER BOOST HYDRAULIC MANIFOLD REPAIR (OLD CONFIGURATION) - CONTINUED

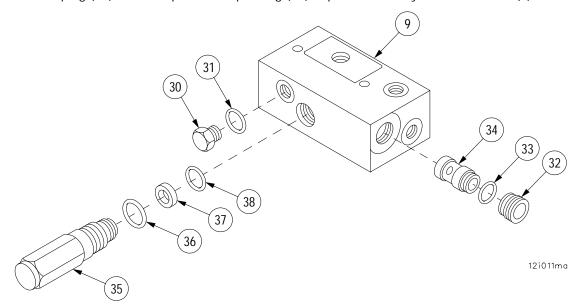
0378 00

Disassembly

- 1. Remove machine plug (30) and preformed packing (31) from power boost hydraulic manifold (9). Discard preformed packing.
- 2. Remove retainer (32), preformed packing (33) and check valve (34) from power boost hydraulic manifold (9). Discard preformed packing.
- 3. Remove pressure relief valve (35), preformed packing (36), packing retainer (37) and preformed packing (38) from power boost hydraulic manifold (9). Discard preformed packings.
- 4. Inspect parts for damage and replace as required.

Assembly

- 1. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 2. Install pressure relief valve (35), new preformed packing (36), packing retainer (37) and new preformed packing (38) in power boost hydraulic manifold (9).
- 3. Install check valve (34), retainer (32) and new preformed packing (33) in power boost hydraulic manifold (9).
- 4. Install machine plug (30) and new preformed packing (31) in power boost hydraulic manifold (9).

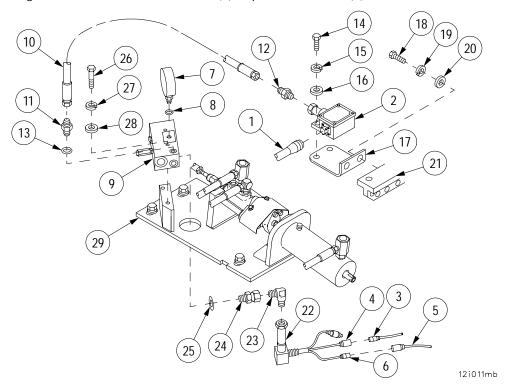


BRAKE POWER BOOST HYDRAULIC MANIFOLD REPAIR (OLD CONFIGURATION) - CONTINUED

0378 00

Installation

- 1. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 2. Install power boost hydraulic manifold (9) on plate assembly (29) with two screws (26), two new lockwashers (27) and two flat washers (28).
- 3. Install new preformed packing (25), adapter (24), adapter (23) and pressure switch (22) on power boost hydraulic manifold (9).
- 4. Install pressure switch bracket (17) on support (21) with two screws (18), two new lockwashers (19) and two flat washers (20).
- 5. Install pressure switch (2) on pressure switch bracket (17) with two screws (14), two new lockwashers (15) and two flat washers (16).
- 6. Install adapter (11) with new preformed packing (13) in power boost hydraulic manifold (9) and adapter (12) in pressure switch (2).
- 7. Connect hose #444 (10) to adapter (12) and adapter (11).
- 8. Install pressure gauge (7) with new preformed packing (8) on power boost hydraulic manifold (9).
- 9. Connect wiring harness 2W601 wire 591 (5) to pressure switch lead (6).
- 10. Connect wiring harness 4W100 wire 48 (3) to pressure switch lead (4).
- 11. Connect wiring harness 4W100 connector P1 (1) to pressure switch (2).



NOTEFOLLOW-ON MAINTENANCE:

Connect hydraulic hoses to brake power boost hydraulic manifold (WP 0360 00)
Install subfloor plates #14 and #16 (WP 0454 00)
Connect battery power (WP 0256 00)

END OF TASK

BRAKE POWER BOOST HYDRAULIC MANIFOLD REPAIR (NEW CONFIGURATION)

0379 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Preformed packing (item 39, WP 0718 00)

Preformed packing (item 40, WP 0718 00)

Preformed packing (item 41, WP 0718 00)

Preformed packings (3) (item 43, WP 0718 00)

Lockwashers (4) (item 2, WP 0718 00)

Lockwashers (2) (item 9, WP 0718 00)

Dust protective plug (item 12, WP 0716 00)

Dust protective plugs (6) (item 14, WP 0716 00)

Dust protective caps (2) (item 44, WP 0716 00)

Wiping rags (item 7, WP 0716 00)

Safety goggles (item 93, WP 0716 00)

Preformed packing (item 452, WP 0718 00)

Lubricant (Item 96, WP 0716 00)

Equipment Conditions

Vehicle parked on level surface with tracks blocked and brakes released (TM 9-2350-292-10)
Vehicle MASTER switch OFF (TM 9-2350-292-10)
Battery power disconnected (WP 0256 00)
Subfloor plates #14 and #16 removed (WP 0454 00)
Hydraulic hoses disconnected from brake power boost hydraulic manifold (WP 0361 00)

References

TM 9-2350-292-10



Do not work on hydraulic lines or fittings when system is pressurized. Hydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge indicates zero.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to the hydraulic system.

NOTE

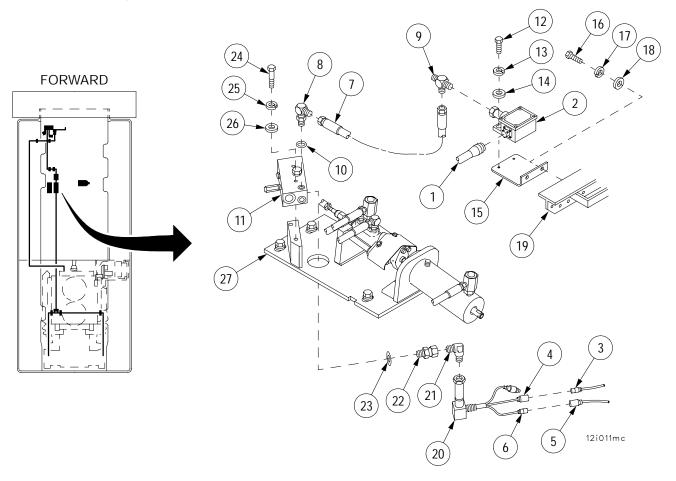
Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedures.

BRAKE POWER BOOST HYDRAULIC MANIFOLD REPAIR (NEW CONFIGURATION) - CONTINUED

0379 00

Removal

- 1. Disconnect wiring harness 4W100 connector P1 (1) from pressure switch (2).
- 2. Disconnect wiring harness 4W100 wire 48 (3) from pressure switch lead (4).
- 3. Disconnect wiring harness 2W601 wire 591 (5) from pressure switch lead (6).
- 4. Disconnect hose #444 (7) from elbow (8) and tee (9). Remove elbow (8) and preformed packing (10) from power boost hydraulic manifold (11). Discard preformed packing.
- 5. Remove two screws (12), two lockwashers (13), two flat washers (14) and pressure switch (2) from pressure switch bracket (15). Remove tee (9) from pressure switch (2). Discard lockwashers.
- 6. Remove two screws (16), two lockwashers (17), two flat washers (18) and pressure switch bracket (15) from support (19). Discard lockwashers.
- 7. Remove pressure switch (20), adapter (21), adapter (22) and preformed packing (23) from power boost hydraulic manifold (11). Discard preformed packing.
- 8. Remove two screws (24), two lockwashers (25), two flat washers (26) and power boost hydraulic manifold (11) from plate assembly (27). Discard lockwashers.



BRAKE POWER BOOST HYDRAULIC MANIFOLD REPAIR (NEW CONFIGURATION) - CONTINUED

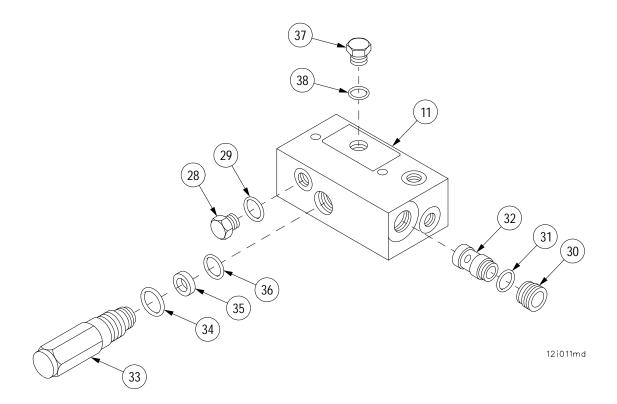
0379 00

Disassembly

- 1. Remove machine plug (28) and preformed packing (29) from power boost hydraulic manifold (11). Discard preformed packing.
- 2. Remove retainer (30), preformed packing (31) and check valve (32) from power boost hydraulic manifold (11). Discard preformed packing.
- 3. Remove pressure relief valve (33), preformed packing (34), packing retainer (35) and preformed packing (36) from power boost hydraulic manifold (11). Discard preformed packings.
- 4. Remove machine plug (37) and preformed packing (38) from power boost hydraulic manifold (11). Discard preformed packing.
- 5. Inspect parts for damage and replace as required.

Assembly

- 1. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 2. Install machine plug (37) and new preformed packing (38) in power boost hydraulic manifold (11).
- 3. Install pressure relief valve (33), new preformed packing (34), packing retainer (35) and new preformed packing (36) in power boost hydraulic manifold (11).
- 4. Install check valve (32), retainer (30) and new preformed packing (31) in power boost hydraulic manifold (11).
- 5. Install machine plug (28) and new preformed packing (29) in power boost hydraulic manifold (11).

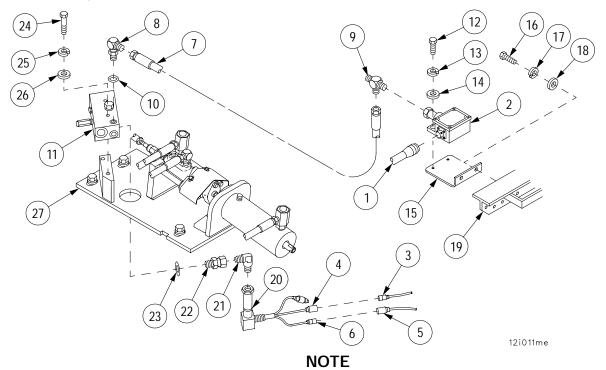


BRAKE POWER BOOST HYDRAULIC MANIFOLD REPAIR (NEW CONFIGURATION) - CONTINUED

0379 00

Installation

- 1. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 2. Install power boost hydraulic manifold (11) on plate assembly (27) with two screws (24), two new lockwashers (25) and two flat washers (26).
- 3. Install new preformed packing (23), adapter (22), adapter (21) and pressure switch (20) on power boost hydraulic manifold (11).
- 4. Install pressure switch bracket (15) on support (19) with two screws (16), two new lockwashers (17) and two flat washers (18).
- 5. Install pressure switch (2) on pressure switch bracket (15) with two screws (12), two new lockwashers (13) and two flat washers (14).
- 6. Install elbow (8) with new preformed packing (10) in power boost hydraulic manifold (11) and tee (9) in pressure switch (2).
- 7. Connect hose #444 (7) to tee (9) and elbow (8).
- 8. Connect wiring harness 2W601 wire 591 (5) to pressure switch lead (6).
- 9. Connect wiring harness 4W100 wire 48 (3) to pressure switch lead (4).
- 10. Connect wiring harness 4W100 connector P1 (1) to pressure switch (2).



FOLLOW-ON MAINTENANCE:

Connect hydraulic hoses to brake power boost hydraulic manifold (WP 0361 00)
Install subfloor plates #14 and #16 (WP 0454 00)
Connect battery power (WP 0256 00))

BRAKE POWER BOOST HYDRAULIC MANIFOLD REPAIR (NEW CONFIGURATION WITH BRAKE MODULATION)

0380 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Preformed packing (item 39, WP 0718 00)

Preformed packing (item 40, WP 0718 00)

Preformed packing (item 41, WP 0718 00)

Preformed packings (3) (item 43, WP 0718 00)

Lockwashers (4) (item 2, WP 0718 00)

Lockwashers (2) (item 9, WP 0718 00)

Dust protective plug (item 12, WP 0716 00)

Dust protective plugs (6) (item 14, WP 0716 00)

Dust protective caps (2) (item 44, WP 0716 00)

Wiping rags (item 7, WP 0716 00)

Safety goggles (item 93, WP 0716 00)

Preformed packing (item 452, WP 0718 00)

Lubricant (Item 96, WP 0716 00)

Equipment Conditions

Vehicle parked on level surface with tracks blocked and brakes released (TM 9-2350-292-10)
Vehicle MASTER switch OFF (TM 9-2350-292-10)
Battery power disconnected (WP 0256 00)
Subfloor plates #14 and #16 removed (WP 0454 00)
Hydraulic hoses disconnected from brake power boost hydraulic manifold (WP 0362 00)

References

TM 9-2350-292-10



Do not work on hydraulic lines or fittings when system is pressurized. Hydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge indicates zero.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to the hydraulic system.

NOTE

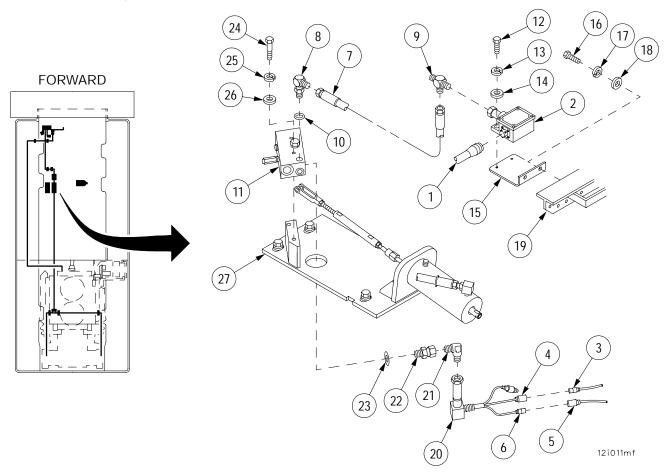
Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedures.

BRAKE POWER BOOST HYDRAULIC MANIFOLD REPAIR (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

0380 00

Removal

- 1. Disconnect wiring harness 4W100 connector P1 (1) from pressure switch (2).
- 2. Disconnect wiring harness 4W100 wire 48 (3) from pressure switch lead (4).
- 3. Disconnect wiring harness 2W601 wire 591 (5) from pressure switch lead (6).
- 4. Disconnect hose #444 (7) from elbow (8) and tee (9). Remove elbow (8) and preformed packing (10) from power boost hydraulic manifold (11). Discard preformed packing.
- 5. Remove two screws (12), two lockwashers (13), two flat washers (14) and pressure switch (2) from pressure switch bracket (15). Remove tee (9) from pressure switch (2). Discard lockwashers.
- 6. Remove two screws (16), two lockwashers (17), two flat washers (18) and pressure switch bracket (15) from support (19). Discard lockwashers.
- 7. Remove pressure switch (20), adapter (21), adapter (22) and preformed packing (23) from power boost hydraulic manifold (11). Discard preformed packing.
- 8. Remove two screws (24), two lockwashers (25), two flat washers (26) and power boost hydraulic manifold (11) from plate assembly (27). Discard lockwashers.



BRAKE POWER BOOST HYDRAULIC MANIFOLD REPAIR (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

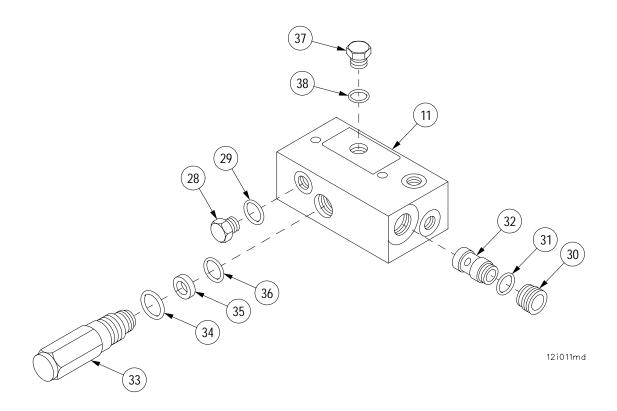
0380 00

Disassembly

- 1. Remove machine plug (28) and preformed packing (29) from power boost hydraulic manifold (11). Discard preformed packing.
- 2. Remove retainer (30), preformed packing (31) and check valve (32) from power boost hydraulic manifold (11). Discard preformed packing.
- 3. Remove pressure relief valve (33), preformed packing (34), packing retainer (35) and preformed packing (36) from power boost hydraulic manifold (11). Discard preformed packings.
- 4. Remove machine plug (37) and preformed packing (38) from power boost hydraulic manifold (11). Discard preformed packing.
- 5. Inspect parts for damage and replace as required.

Assembly

- 1. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 2. Install machine plug (37) and new preformed packing (38) in power boost hydraulic manifold (11).
- 3. Install pressure relief valve (33), new preformed packing (34), packing retainer (35) and new preformed packing (36) in power boost hydraulic manifold (11).
- 4. Install check valve (32), retainer (30) and new preformed packing (31) in power boost hydraulic manifold (11).
- 5. Install machine plug (28) and new preformed packing (29) in power boost hydraulic manifold (11).

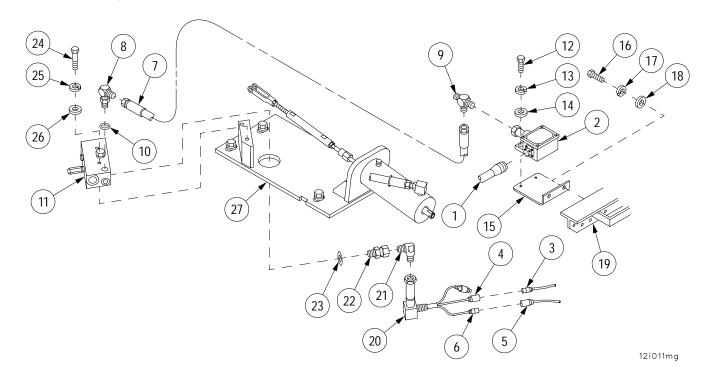


BRAKE POWER BOOST HYDRAULIC MANIFOLD REPAIR (NEW CONFIGURATION WITH BRAKE MODULATION) - CONTINUED

0380 00

Installation

- 1. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 2. Install power boost hydraulic manifold (11) on plate assembly (27) with two screws (24), two new lockwashers (25) and two flat washers (26).
- 3. Install new preformed packing (23), adapter (22), adapter (21) and pressure switch (20) on power boost hydraulic manifold (11).
- 4. Install pressure switch bracket (15) on support (19) with two screws (16), two new lockwashers (17) and two flat washers (18).
- 5. Install pressure switch (2) on pressure switch bracket (15) with two screws (12), two new lockwashers (13) and two flat washers (14).
- 6. Install elbow (8) with new preformed packing (10) in power boost hydraulic manifold (11) and tee (9) in pressure switch (2).
- 7. Connect hose #444 (7) to tee (9) and elbow (8).
- 8. Connect wiring harness 2W601 wire 591 (5) to pressure switch lead (6).
- 9. Connect wiring harness 4W100 wire 48 (3) to pressure switch lead (4).
- 10. Connect wiring harness 4W100 connector P1 (1) to pressure switch (2).



NOTE

FOLLOW-ON MAINTENANCE:

Connect hydraulic hoses to brake power boost hydraulic manifold (WP 0362 00)
Install subfloor plates #14 and #16 (WP 0454 00)
Connect battery power (WP 0256 00)

END OF TASK

SERVICE BRAKE PUMP AND MOTOR ASSEMBLY REPLACEMENT

0381 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 10, WP 0718 00) Grommets (4) (item 50, WP 0718 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Vehicle parked on level surface with tracks blocked and brakes released (TM 9-2350-292-10) Vehicle MASTER switch OFF (TM 9-2350-292-10) Battery power disconnected (WP 0256 00) Subfloor plates #14 and #16 removed (WP 0454 00)

Hydraulic hoses disconnected from brake pump and motor assembly (WP 0360 00 or WP 0361 00)

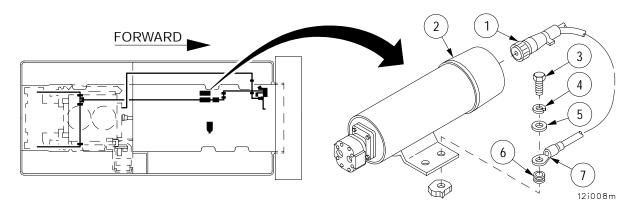




Do not work on hydraulic lines or fittings when system is pressurized. Hydraulic fluid under pressure can cause personnel injury. Depressurize brake system by stepping on the brake pedal several times to bleed off the hydraulic pressure. Make sure brake pressure gauge indicates zero.

Removal

- 1. Disconnect wiring harness 4W110 connector P1 (1) from brake pump and motor assembly (2).
- 2. Remove four screws (3), four lockwashers (4), four flat washers (5), four grommets (6), wiring harness 4W110 wire GND (7), and brake pump and motor assembly (2) from vehicle. Discard lockwashers and grommets.
- 3. Inspect parts for damage and replace as required.

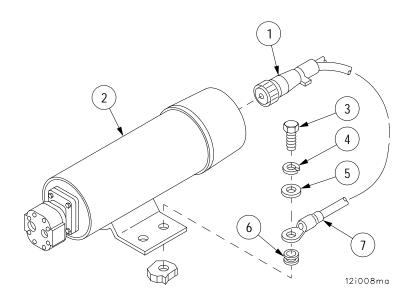


SERVICE BRAKE PUMP AND MOTOR ASSEMBLY REPLACEMENT - CONTINUED

0381 00

Installation

- 1. Install brake pump and motor assembly (2), four new grommets (6), four screws (3), four new lockwashers (4), four flat washers (5) and wiring harness 4W110 wire GND (7) in vehicle.
- 2. Connect wiring harness 4W110 connector P1 (1) to brake pump and motor assembly (2).



NOTE

FOLLOW-ON MAINTENANCE:

Connect hydraulic hoses to brake pump and motor assembly (WP 0360 00 or WP 0361 00)
Install subfloor plates #14 and #16 (WP 0454 00)
Connect battery power (WP 0256 00)

END OF TASK

BRAKE PEDAL AND BRACKET ASSEMBLY REPAIR (OLD CONFIGURATION)

0382 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Retaining pliers set (item 15, WP 0717 00)

Materials/Parts

Cotter pins (4) (item 15, WP 0718 00) Cotter pins (2) (item 17, WP 0718 00) Lockwashers (5) (item 2, WP 0718 00) Lockwashers (4) (item 12, WP 0718 00) Lubricant (item 3, WP 0716 00)

Retaining rings (2) (item 484, WP 0718 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked (TM 9-2350-292-10)

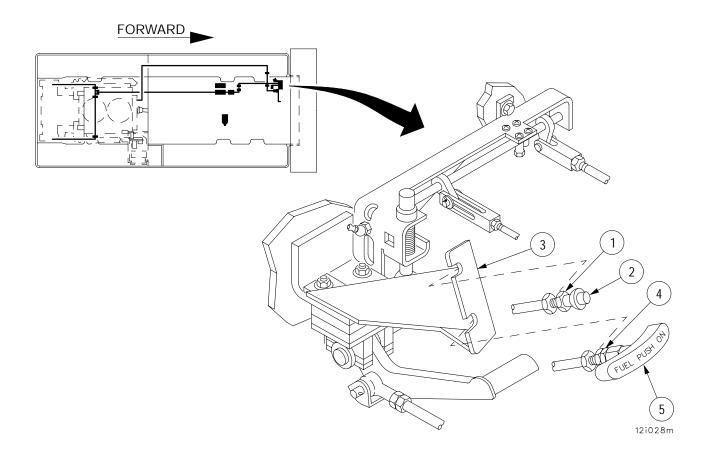
Neutral safety switch removed (WP 0252 00)

Spade release valve bracket removed (WP 0558 00)

Shifting control linkage disconnected (WP 0406 00)

Removal

- 1. Loosen nut (1) on hand throttle control handle assembly (2), slide handle off bracket assembly (3).
- 2. Loosen nut (4) on manual fuel shutoff handle assembly (5), slide handle off bracket assembly (3).

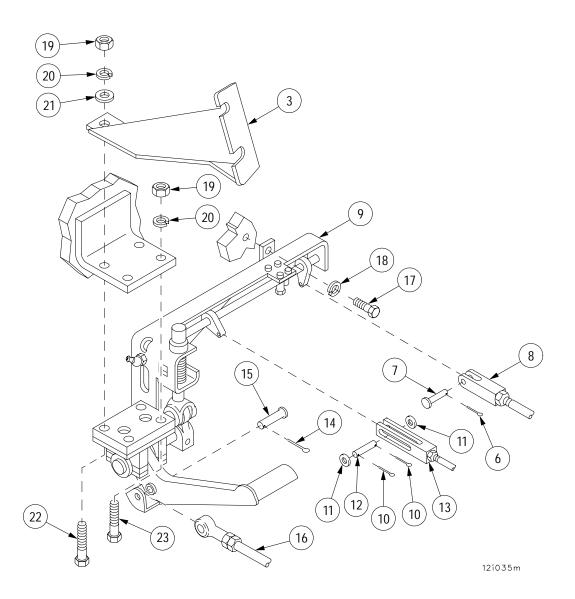


BRAKE PEDAL AND BRACKET ASSEMBLY REPAIR (OLD CONFIGURATION) - CONTINUED

0382 00

Removal-Continued

- 3. Remove cotter pin (6), straight headed pin (7) and shaft assembly (8) from brake pedal and bracket assembly (9). Discard cotter pin.
- 4. Remove two cotter pins (10), two flat washers (11), straight headed pin (12) and shaft assembly (13) from brake pedal and bracket assembly (9). Discard cotter pin.
- 5. Remove cotter pin (14), straight headed pin (15) and shaft assembly (16) from brake pedal and bracket assembly (9). Discard cotter pin.
- 6. Remove screw (17) and lockwasher (18) from brake pedal and bracket assembly (9). Discard lockwasher.
- 7. Remove four nuts (19), four lockwashers (20), two flat washers (21), bracket assembly (3), two screws (22) and two screws (23) securing brake pedal and bracket assembly (9) to vehicle. Discard lockwashers.



BRAKE PEDAL AND BRACKET ASSEMBLY REPAIR (OLD CONFIGURATION) - CONTINUED

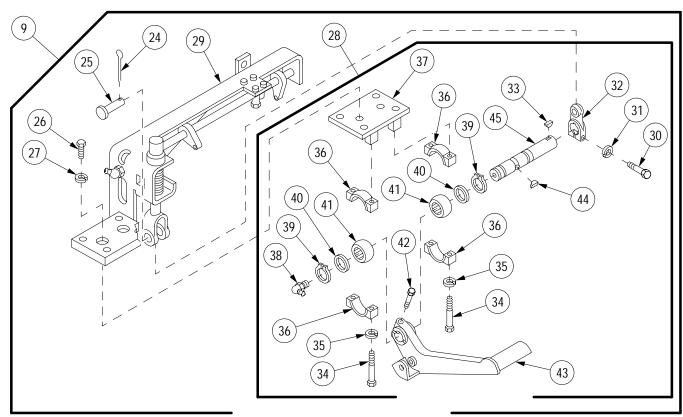
0382 00

Disassembly

- 1. Remove cotter pin (24) and straight headed pin (25) from brake pedal and bracket assembly (9). Discard cotter pin.
- 2. Remove two screws (26), two lockwashers (27) and brake pedal assembly (28) from bracket assembly (29). Discard lockwashers.
- 3. Remove screw (30), lockwasher (31), lever (32) and woodruff key (33) from brake pedal assembly (28). Discard lockwasher.
- 4. Remove four screws (34), four lockwashers (35), four bearing caps (36) and support assembly (37) from brake pedal assembly (28). Discard lockwashers.
- 5. Remove lubrication fitting (38) from brake pedal assembly (28).



- 6. Remove two retaining rings (39), two flat washers (40) and two roller bearings (41) from brake pedal assembly (28). Discard retaining rings.
- 7. Remove screw (42), brake pedal (43) and woodruff key (44) from shaft (45).



12i036m

BRAKE PEDAL AND BRACKET ASSEMBLY REPAIR (OLD CONFIGURATION) - CONTINUED

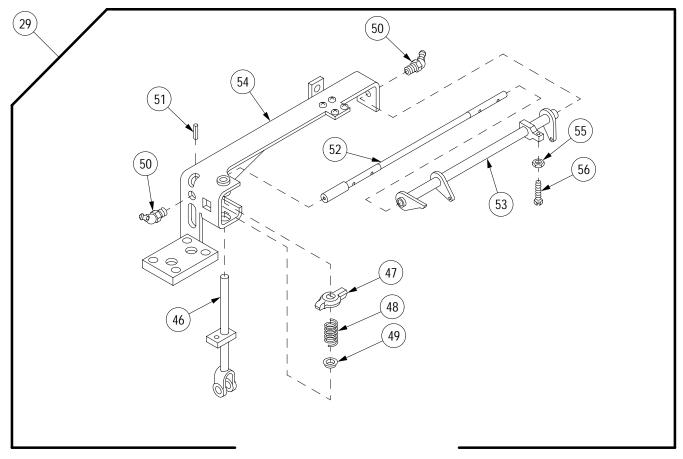
0382 00

Disassembly-Continued

- 8. Remove pedal stop rod (46), cam control (47), spring (48) and brake collar (49) from bracket assembly (29).
- 9. Remove two lubrication fittings (50) from bracket assembly (29).
- 10. Remove grooved pin (51), shaft (52) and lever assembly (53) from bracket (54).
- 11. Loosen nut (55), remove screw (56) and nut (55) from lever assembly (53). Separate nut (55) from screw (56).
- 12. Inspect parts for damage and replace as required.

Assembly

- 1. Install screw (56) and nut (55) on lever assembly (53).
- 2. Install shaft (52) and lever assembly (53) on bracket (54) with grooved pin (51).
- 3. Install two lubrication fittings (50) on bracket assembly (29).
- 4. Install pedal stop rod (46), brake collar (49), spring (48) and cam control (47) on bracket assembly (29).



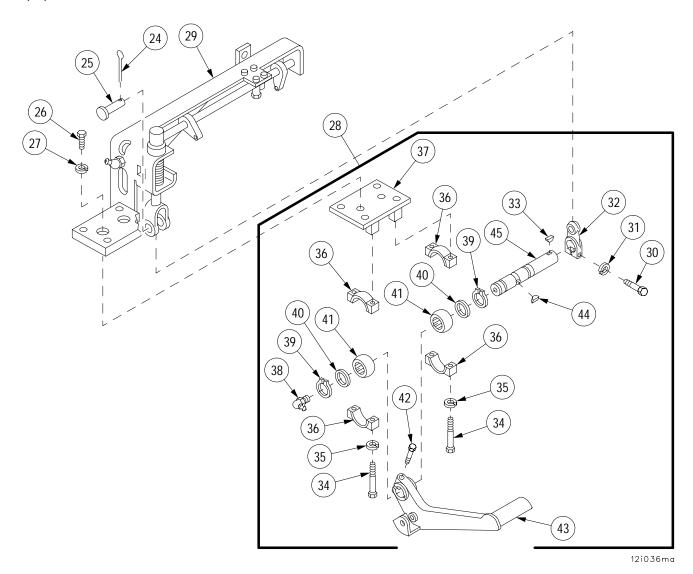
12i037m

BRAKE PEDAL AND BRACKET ASSEMBLY REPAIR (OLD CONFIGURATION) - CONTINUED

0382 00

Assembly-Continued

- 5. Install woodruff key (44) and brake pedal (43) on shaft (45) with screw (42).
- 6. Install two roller bearings (41) and two flat washers (40) on brake pedal assembly (28) with two new retaining rings (39).
- 7. Install lubrication fitting (38) on brake pedal assembly (28).
- 8. Install four bearing caps (36) and support assembly (37) on brake pedal assembly (28) with four screws (34) and four new lockwashers (35).
- 9. Install woodruff key (33) and lever (32) on brake pedal assembly (28) with screw (30) and new lockwasher (31).
- 10. Install brake pedal assembly (28) on bracket assembly (29) with two screws (26) and two new lockwashers (27).
- 11. Connect brake pedal assembly (28) to bracket assembly (29) with straight headed pin (25) and new cotter pin (24).

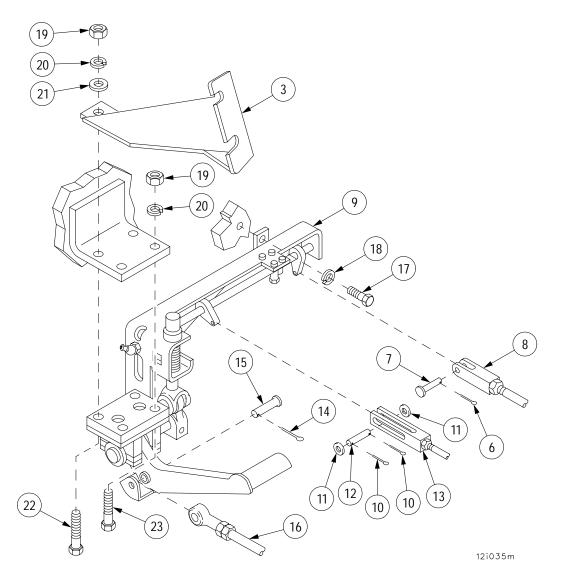


BRAKE PEDAL AND BRACKET ASSEMBLY REPAIR (OLD CONFIGURATION) - CONTINUED

0382 00

Installation

- 1. Install brake pedal and bracket assembly (9) and bracket assembly (3) in vehicle with two screws (22), two screws (23), two flat washers (21), four new lockwashers (20) and four nuts (19).
- 2. Secure brake pedal and bracket assembly (9) to vehicle with screw (17) and new lockwasher (18).
- 3. Connect shaft assembly (16) to brake pedal and bracket assembly (9) with straight headed pin (15) and new cotter pin (14).
- 4. Connect shaft assembly (13) to brake pedal and bracket assembly (9) with straight headed pin (12), two washers (11) and two new cotter pins (10).
- 5. Connect shaft assembly (8) to brake pedal and bracket assembly (9) with straight headed pin (7) and new cotter pin (6).

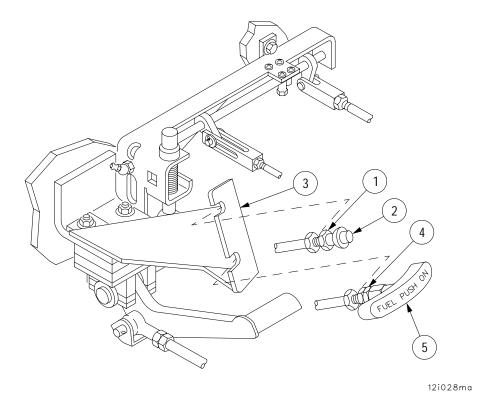


BRAKE PEDAL AND BRACKET ASSEMBLY REPAIR (OLD CONFIGURATION) - CONTINUED

0382 00

Installation-Continued

- 6. Install manual fuel shutoff handle assembly (5) on bracket assembly (3) with nut (4).
- 7. Install hand throttle control handle assembly (2) on bracket assembly (3) with nut (1).
- 8. Lubricate brake pedal and bracket assembly (WP 0187 00).
- 9. Perform brake linkage alignment (WP 0355 00).
- 10. Bleed air from brake system (WP 0355 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install shifting control linkage (WP 0406 00)
Install neutral safety switch (WP 0252 00)
Perform neutral safety switch, steering control lock and brake lock adjustment (WP 0358 00)
Install spade release bracket (WP 0558 00)

0383 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Retaining pliers set (item 15, WP 0717 00)

Materials/Parts

Cotter pins (4) (item 15, WP 0718 00) Cotter pins (2) (item 17, WP 0718 00) Cotter pin (item 19, WP 0718 00) Lockwashers (5) (item 2, WP 0718 00) Lockwashers (4) (item 12, WP 0718 00)

Lubricant (item 3, WP 0716 00)

Retaining rings (2) (item 484, WP 0718 00)

Equipment Conditions

Vehicle parked on a level surface with tracks blocked (TM 9-2350-292-10)

Neutral safety switch removed (WP 0252 00)

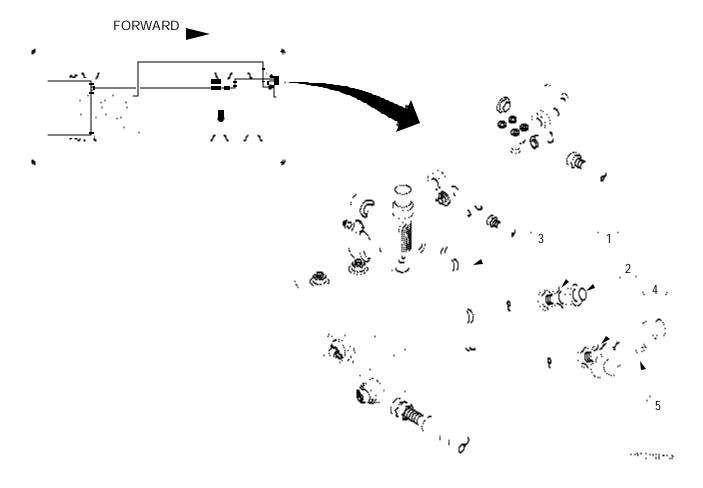
Spade release valve bracket removed (WP 0558 00) Shifting control linkage disconnected (WP 0406 00)

References

TM 9-2350-292-10

Removal

- 1. Loosen nut (1) on hand throttle control handle assembly (2), slide handle off bracket assembly (3).
- 2. Loosen nut (4) on manual fuel shutoff handle assembly (5), slide handle off bracket assembly (3).



0383 00

Removal - Continued

- 3. Remove cotter pin (6), straight headed pin (7) and shaft assembly (8) from brake pedal and bracket assembly (9). Discard cotter pin.
- 4. Remove two cotter pins (10), two flat washers (11), straight headed pin (12) and shaft assembly (13) from brake pedal and bracket assembly (9). Discard cotter pins.
- 5. Remove cotter pin (14), nut (15), washer (16) and shaft assembly (17) from lever (18) on brake pedal and bracket assembly (9). Discard cotter pin.
- 6. Remove screw (19) and lockwasher (20) from brake pedal and bracket assembly (9). Discard lockwasher.
- 7. Remove four nuts (21), four lockwashers (22), two flat washers (23), bracket assembly (3), two screws (24) and two screws (25) securing brake pedal and bracket assembly (9) to vehicle. Discard lockwashers.



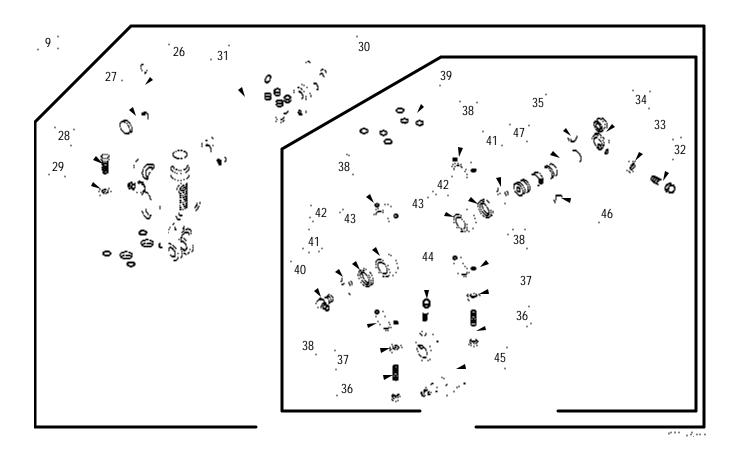
0383 00

Disassembly

- 1. Remove cotter pin (26) and straight headed pin (27) from brake pedal and bracket assembly (9). Discard cotter pin.
- 2. Remove two screws (28), two lockwashers (29) and brake pedal assembly (30) from bracket assembly (31). Discard lockwashers.
- 3. Remove screw (32), lockwasher (33), lever (34) and woodruff key (35) from brake pedal assembly (30). Discard lockwasher.
- 4. Remove four screws (36), four lockwashers (37), four bearing caps (38) and support assembly (39) from brake pedal assembly (30). Discard lockwashers.
- 5. Remove lubrication fitting (40) from brake pedal assembly (30).



- 6. Remove two retaining rings (41), two flat washers (42) and two roller bearings (43) from brake pedal assembly (30). Discard retaining rings.
- 7. Remove screw (44), lever (45) and woodruff key (46) from shaft (47).



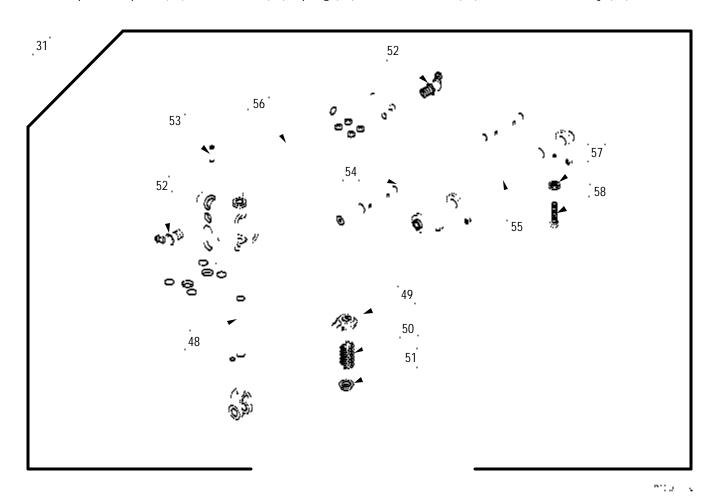
0383 00

Disassembly-Continued

- 8. Remove pedal stop rod (48), cam control (49), spring (50) and brake collar (51) from bracket assembly (31).
- 9. Remove two lubrication fittings (52) from bracket assembly (31).
- 10. Remove grooved pin (53), shaft (54) and lever assembly (55) from bracket (56).
- 11. Loosen nut (57), remove screw (58) and nut (57) from lever assembly (55). Separate nut (57) from screw (58).
- 12. Inspect parts for damage and replace as required.

Assembly

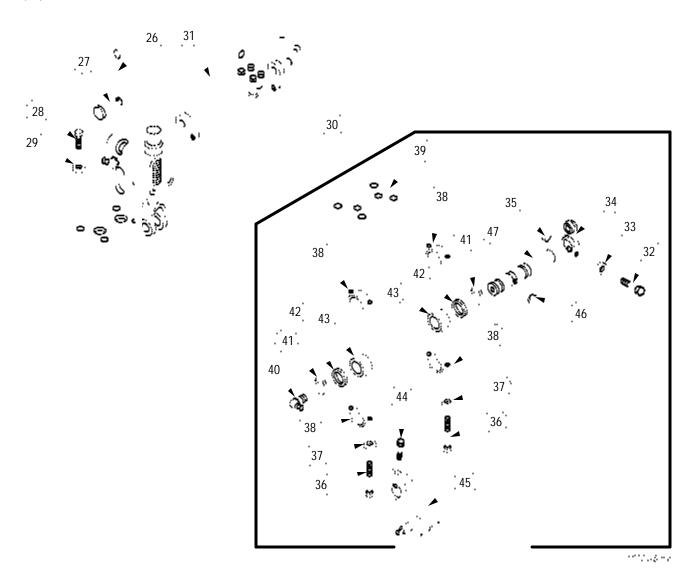
- 1. Install screw (58) and nut (57) on lever assembly (55).
- 2. Install shaft (54) and lever assembly (55) on bracket (56) with grooved pin (53).
- 3. Install two lubrication fittings (52) on bracket assembly (31).
- 4. Install pedal stop rod (48), brake collar (51), spring (50) and cam control (49) on bracket assembly (31).



0383 00

Assembly-Continued

- 5. Install woodruff key (46) and lever (45) on shaft (47) with screw (44).
- 6. Install two roller bearings (43) and two flat washers (42) on brake pedal assembly (30) with two new retaining rings (41).
- 7. Install lubrication fitting (40) on brake pedal assembly (30).
- 8. Install four bearing caps (38) and support assembly (39) on brake pedal assembly (30) with four screws (36) and four new lockwashers (37).
- 9. Install woodruff key (35) and lever (34) on brake pedal assembly (30) with screw (32) and new lockwasher (33).
- 10. Install brake pedal assembly (30) on bracket assembly (31) with two screws (28) and two new lockwashers (29).
- 11. Connect brake pedal assembly (30) to bracket assembly (31) with straight headed pin (27) and new cotter pin (26).



0383 00

Installation

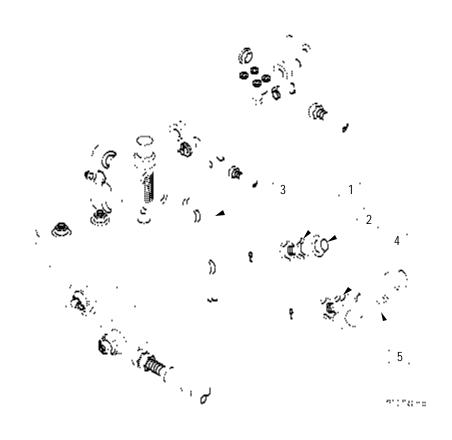
- 1. Install brake pedal and bracket assembly (9) and bracket assembly (3) in vehicle with two screws (24), two screws (25), two flat washers (23), four new lockwashers (22) and four nuts (21).
- 2. Secure brake pedal and bracket assembly (9) to vehicle with screw (19) and new lockwasher (20).
- 3. Connect shaft assembly (17) to lever (18) on brake pedal and bracket assembly (9) with nut (15), washer (16) and new cotter pin (14).
- 4. Connect shaft assembly (13) to brake pedal and bracket assembly (9) with straight headed pin (12), two flat washers (11) and two new cotter pins (10).
- 5. Connect shaft assembly (8) to brake pedal and bracket assembly (9) with straight headed pin (7) and new cotter pin (6).



0383 00

Installation-Continued

- 6. Install manual fuel shutoff handle assembly (5) on bracket assembly (3) with nut (4).
- 7. Install hand throttle control handle assembly (2) on bracket assembly (3) with nut (1).
- 8. Lubricate brake pedal and bracket assembly (WP 0187 00).
- 9. Perform brake linkage alignment (WP 0357 00).
- 10. Bleed air from brake system (WP 0357 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install shifting control linkage (WP 0406 00)
Install neutral safety switch (WP 0252 00)
Perform neutral safety switch, steering control lock and brake lock adjustment (WP 0359 00)
Install spade release bracket (WP 0558 00)

BRAKE ACTUATING LINK REPLACEMENT

0384 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Adjustment

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Cotter pins (2) (item 19, WP 0718 00)

Equipment Conditions

Vehicle parked on level ground, tracks blocked and brake released

(TM 9-2350-292-10)

Engine deck assembly removed (WP 0417 00)

Personnel Required

Two

References

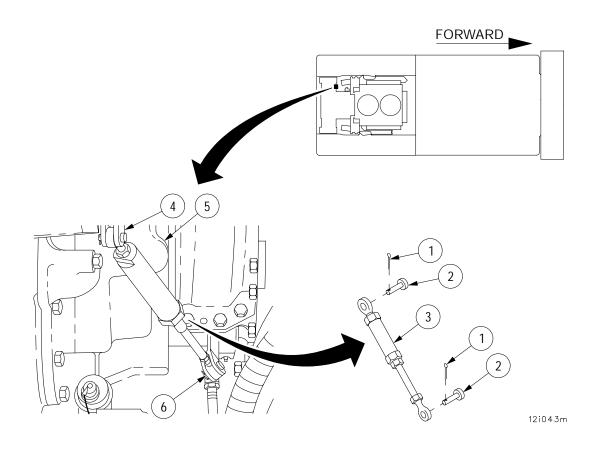
TM 9-2350-292-10

Removal

- Remove two cotter pins (1), two headed pins (2) and brake actuating link (3) from air valve linkage (4) on transmission (5) and brake linkage (6). Discard cotter pins.
- 2. Inspect parts for damage and replace as required.

Installation

Install brake actuating link (3) to air valve linkage (4) on transmission (5) and brake linkage (6) with two headed pins (2) and two new cotter pins (1).



BRAKE ACTUATING LINK REPLACEMENT - CONTINUED

0384 00

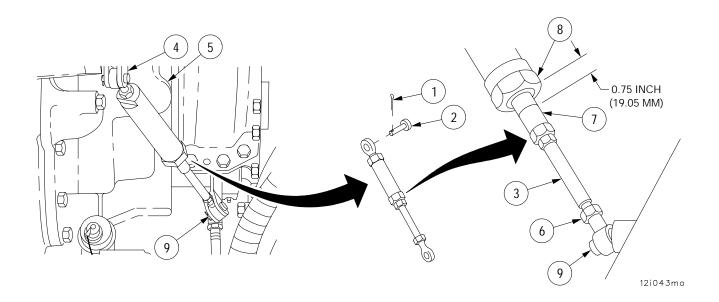
Adjustment

- 1. Remove cotter pin (1) and headed pin (2), disconnect brake actuating link (3) from air valve linkage (4) on transmission (5). Discard cotter pin.
- 2. Loosen rod end locknut (6) and turn brake actuating link (3) to adjust free length of brake actuating link (3) until headed pin (2) can be inserted freely through brake actuating link (3) and air valve linkage (4), with air valve linkage (4) in release position (down).
- 3. Tighten rod end locknut (6). Attach brake actuating link (3) to air valve linkage (4) with headed pin (2) and new cotter pin (1).

NOTE

A mark appears on the brake actuating link plunger, 0.75 in. (19.05 mm) from the edge of the brake actuating link plunger stop.

- 4. Apply brakes (TM 9-2350-292-10) and check position of mark (7), mark (7) must align with edge of brake actuating link plunger stop (8).
- 5. Loosen brake actuating link locknut (6) at brake linkage (9) and adjust brake actuating link (3) until marks (7) and (8) align. Tighten brake adjusting link locknut (6).



NOTE

FOLLOW-ON MAINTENANCE:

Install engine deck assembly (WP 0417 00) Lock vehicle brakes (TM 9-2350-292-10)

END OF TASK

CHAPTER 12 WHEELS AND TRACKS MAINTENANCE

IDLER ARM SUPPORT HOUSING LUBRICATION FITTINGS, RELIEF VALVES AND BUSHINGS REPLACEMENT

0385 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

Armor skirt panel # 1 opened (TM 9-2350-292-10)

References

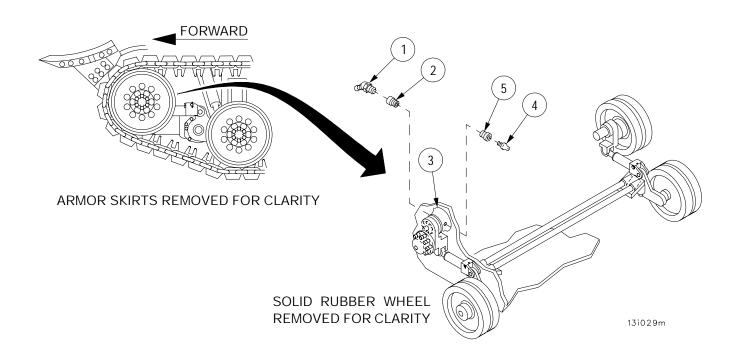
TM 9-2350-292-10

NOTE

This task applies to left or right idler arm support lubrication fittings, relief valves or bushings.

Removal

- 1. Remove lubrication fitting (1) from bushing (2).
- 2. Remove bushing (2) from idler arm support housing (3).
- 3. Remove relief valve (4) from bushing (5).
- 4. Remove bushing (5) from idler arm support housing (3).
- 5. Inspect parts for damage and replace as required.

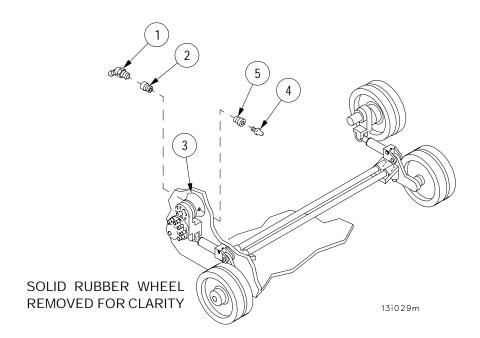


IDLER ARM SUPPORT HOUSING LUBRICATION FITTINGS, RELIEF VALVES AND BUSHINGS REPLACEMENT - CONTINUED

0385 00

Installation

- 1. Install bushing (5) in idler arm support housing (3).
- 2. Install relief valve (4) in bushing (5).
- 3. Install bushing (2) in idler arm support housing (3).
- 4. Install lubrication fitting (1) in bushing (2).
- 5. Lubricate idler arm support housing (WP 0187 00).



NOTE

FOLLOW-ON MAINTENANCE:

Close armor skirt panel #1 (TM 9-2350-292-10)

SOLID RUBBER WHEELS REPLACEMENT

0386 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Roadwheel lifter (item 51, WP 0717 00) Hydraulic jack (item 10, WP 0717 00) Crowbar (item 52, WP 0717 00) Torque wrench (item 9, WP 0717 00) Socket wrench socket (item 28, WP 0717 00)

Materials/Parts

Self-locking nuts (10) (item 140, WP 0718 00) Detergent (item 32, WP 0716 00)

Equipment Conditions

Left or right track disconnected (TM 9-2350-292-10)
For idler wheel only
Left or right armor skirt panels opened
(TM 9-2350-292-10)

Personnel Required

Two

References

TM 9-2350-292-10

NOTE

This task applies to the left or right side solid rubber wheels. All solid rubber wheels are replaced using the same method, except as noted.

To replace idler arm hub assembly solid rubber wheels, perform Removal steps 1, 2 and 6 through 9 and Installation step 1, connect track (TM 9-2350-292-10) and Installation step 3.

To replace suspension hub assembly outside solid rubber wheels, perform Removal steps 1, 3 and 6 through 9 and Installation steps 1 through 3.

To replace suspension hub assembly inside solid rubber wheels, perform Removal steps 1 and 4 through 9 and Installation steps 1 through 4.

SOLID RUBBER WHEELS REPLACEMENT - CONTINUED

0386 00

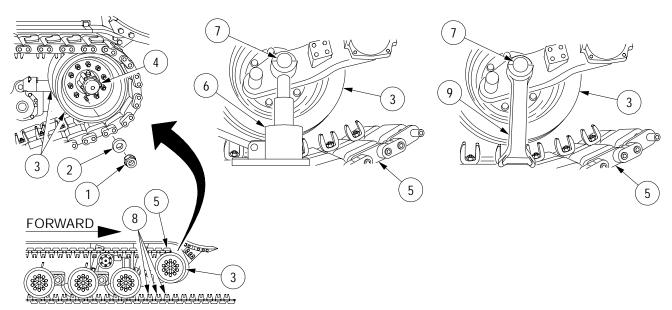
Removal

- 1. Loosen, but do not remove 10 self-locking nuts (1) and 10 flat washers (2) securing solid rubber wheels (3) to hub assembly (4).
- 2. Raise track (5) from solid rubber wheels (3).
- 3. Position hydraulic jack (6) under suspension arm spindle (7), raise solid rubber wheels (3) to clear the track (5).
- 4. Remove three center guides (8) ahead of solid rubber wheels (3) to be removed (para 12-14).



When driving vehicle on or off lifter, clear the area. Lifter may fly out from under the vehicle and cause serious injury to personnel.

- 5. Position lifter (9) on suspension arm spindle (7) and ahead of solid rubber wheels (3). Operate vehicle forward to raise solid rubber wheels (3) off of track (5) onto lifter (9) (TM 9-2350-292-10).
- 6. Remove 10 self-locking nuts (1), 10 flat washers (2) and two solid rubber wheels (3) from hub assembly (4). Discard locknuts.
- 7. Clean solid rubber wheels (3) with hot soapy water. If available, steam may be used to remove accumulated grease and dirt.
- 8. Check solid rubber wheels (3) for gouges, chips, cuts or separation from rim. If separation from rim is severe enough to cause thumping during operation, replace solid rubber wheel.
- 9. Inspect parts for damage and replace as required.



ARMOR SKIRTS REMOVED FOR CLARITY

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SOLID RUBBER WHEELS REPLACEMENT - CONTINUED

0386 00

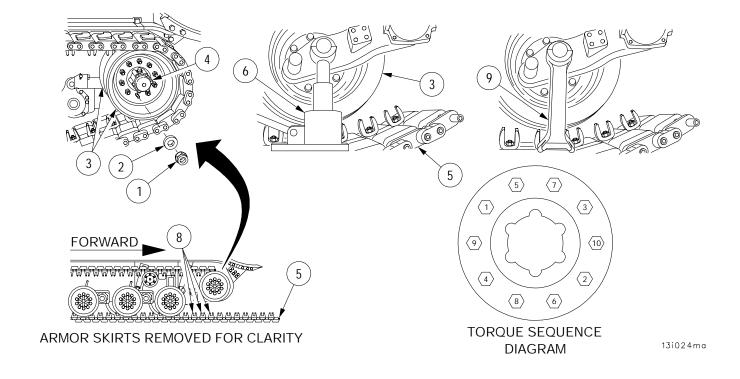
Installation

- 1. Install inner and outer solid rubber wheels (3) on hub assembly (4) with 10 flat washers (2) and 10 new self-locking nuts (1).
- 2. Lower solid rubber wheels (3) on track (5). Remove hydraulic jack (6).
- 3. Torque 10 self-locking nuts (1) to 350-400 lb-ft (475-542 NSm), in accordance with torque sequence diagram.



When driving vehicle on or off lifter, clear the area. Lifter may fly out from under the vehicle and cause serious injury to personnel.

- 4. Operate vehicle forward off lifter (9) (TM 9-2350-292-10), remove lifter (9).
- 5. Install three center guides (8) on track (5) (WP 0398 00).



NOTE

FOLLOW-ON MAINTENANCE:

Connect track, if disconnected (TM 9-2350-292-10) Close left or right armor skirt panels (TM 9-2350-292-10)

END OF TASK

SUSPENSION HUB ASSEMBLY REPAIR

0387 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Socket wrench socket (item 62, WP 0717 00) Face wrench socket (item 3, WP 0717 00) Torque wrench (item 2, WP 0717 00)

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Remover and replacer handle (item 4, WP 0717 00)

Seal inserter (item 45, WP 0717 00)

Bearing inserter set (item 61, WP 0717 00)

Bearing inserter set (item 7, WP 0717 00)

Torque wrench (item 21, WP 0717 00)

Socket wrench set (item 89, WP 0717 00)

Socket wrench adapter (item 38, WP 0717 00)

Materials/Parts

Lockwashers (14) (item 2, WP 0718 00)

Gasket (item 150, WP 0718 00)

Gasket (item 149, WP 0718 00)

Flat washer (item 7, WP 0718 00)

Preformed packing (item 146, WP 0718 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Lubricant (item 3, WP 0716 00)

Equipment Conditions

Solid rubber wheels removed (WP 0386 00)

Personnel Required

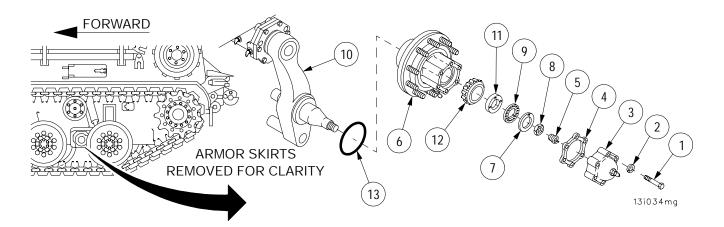
Two

NOTE

This task applies to left or right side suspension hub assemblies.

Removal

- 1. Remove six screws (1), six lockwashers (2), access cover (3), gasket (4) and spring (5) from hub assembly (6). Discard lockwashers and gasket.
- 2. Straighten edges of bearing nut lock (7) and remove bearing nut (8), bearing nut lock (7) and flat washer (9) from suspension arm assembly (10).
- 3. Remove adjusting nut (11) and outer bearing (12) from suspension arm assembly (10).
- 4. Remove hub assembly (6) and preformed packing (13) from suspension arm assembly (10). Discard preformed packing.



0387 00

Disassembly

- Remove eight screws (14), eight lockwashers (15), seal assembly (16) and gasket (17) from hub assembly (6).
 Discard lockwashers and gasket.
- 2. Remove inner bearing (18) from suspension arm assembly (10) spindle.
- 3. Remove relief valve (19) and bushing (20) from access cover (3).
- 4. Remove lubrication fitting (21) and bushing (22) from hub assembly (6).
- 5. Remove plug (23) from hub assembly (6).

NOTE

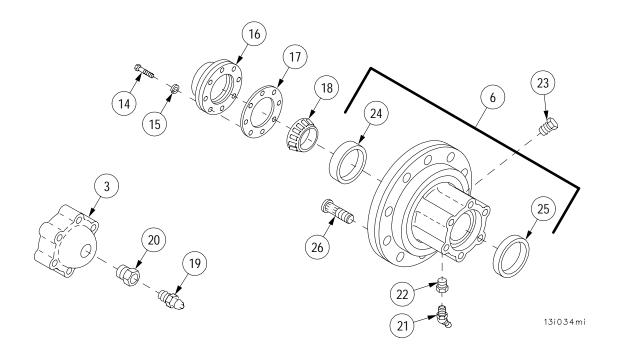
Bearing cones and bearing cups are used in matched sets only. If either is damaged, cone and cup must be replaced as a set.

- 6. Remove inner bearing cup (24) from hub assembly (6), if damaged.
- 7. Remove outer bearing cup (25) from hub assembly (6), if damaged.

NOTE

There are 10 screws in suspension hub assembly. Remove only those screws that are damaged.

8. Remove screws (26) from hub assembly (6).



0387 00

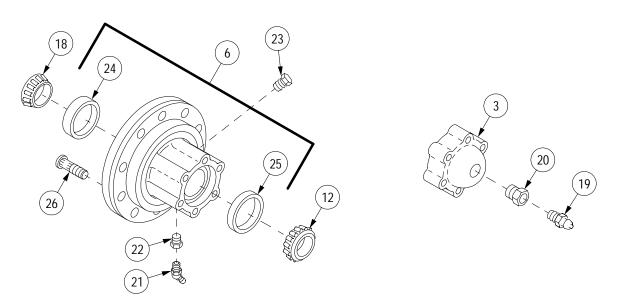
Disassembly-Continued



- 9. Clean all components with dry-cleaning solvent.
- 10. Inspect all parts for wear and damage. Discard all worn or damaged components.

Assembly

- 1. Apply a light coating of lubricant to all components prior to assembly.
- 2. Install new screws (26) in hub assembly (6), if removed.
- 3. Install new inner bearing cup (24) in hub assembly (6), if removed.
- 4. Install new outer bearing cup (25) in hub assembly (6), if removed.
- 5. Install plug (23) in hub assembly (6).
- 6. Install bushing (22) and lubrication fitting (21) in hub assembly (6).
- 7. Install bushing (20) and relief valve (19) in access cover (3).
- 8. Pack inner bearing (18) and outer bearing (12) with lubricant.



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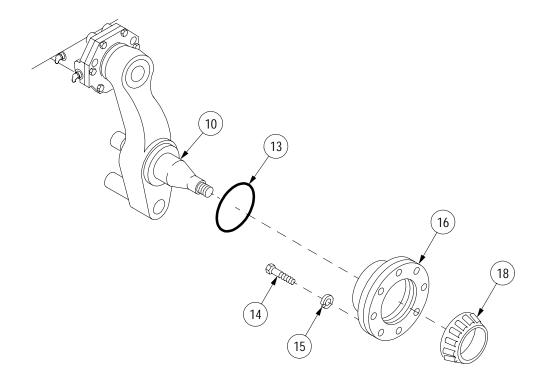
0387 00

Assembly - Continued

NOTE

Once the seal assembly is unbolted from the hub during maintenance, the alignment is lost and must be re-established. Perform steps 9 through 17 to re-establish alignment.

- 9. Position four screws (14) with four new lockwashers (15) equally spaced around seal assembly (16).
- 10. Install new preformed packing (13) on suspension arm assembly (10) spindle spacer.
- 11. Install seal assembly (16) over spacer on suspension arm assembly (10) spindle and flush against mating surface on suspension arm assembly (10).
- 12. Install inner bearing (18) on suspension arm assembly (10) spindle. Make sure that bearing (18) is seated against spacer on suspension arm assembly (10) spindle.

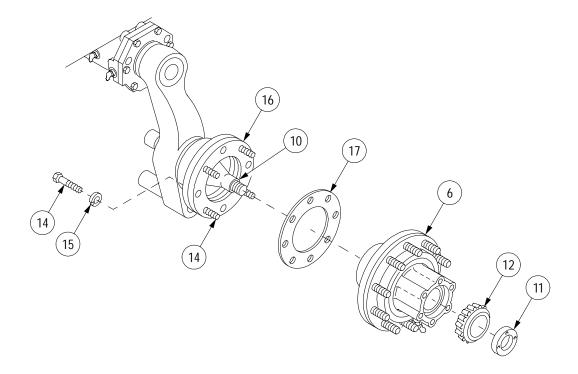


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0387 00

Assembly-Continued

- 13. Install gasket (17) and hub assembly (6) on suspension arm assembly (10) spindle and mate to seal assembly (16).
- 14. Install outer bearing (12) and adjusting nut (11) on suspension arm assembly (10) temporarily for support.
- 15. Align and tighten four screws (14) to secure seal assembly (16) and gasket (17) to hub assembly (6).
- 16. Remove adjusting nut (11) and outer bearing (12) from suspension arm assembly (10).
- 17. Remove hub assembly (6) with seal assembly (16) from suspension arm assembly (10) spindle. Install remaining four screws (14) and four new lockwashers (15). Torque screws to 20 35 lb-ft (27.1 47.5 NSm).



13i034mo

SUSPENSION HUB ASSEMBLY REPAIR - CONTINUED

0387 00

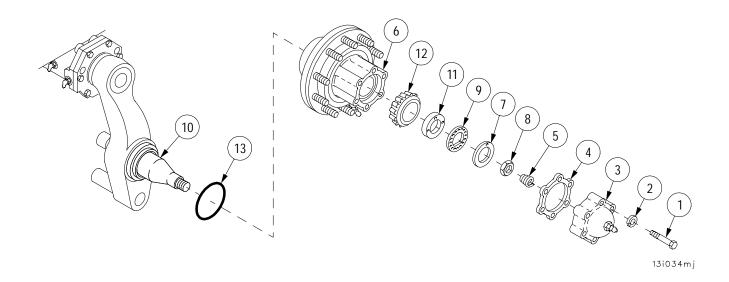
Installation

- 1. Recheck position of new preformed packing (13) and install hub assembly (6) on suspension arm assembly (10).
- Install outer bearing (12) and adjusting nut (11) on suspension arm assembly (10).
- 3. Torque adjusting nut (11) to 35-40 lb-ft (48-54 N•m) (item 2, WP 0717 00) while rotating hub assembly (6) in both clockwise and counterclockwise directions.
- Recheck torque adjusting nut (11) to 35-40 lb-ft (48-54 N•m) (item 2, WP 0717 00) to insure bearings have seated.
- 5. Loosen adjusting nut (11), torque adjusting nut (11) to 45–50 lb-in. (5.1–5.7 NSm) (item 2, WP 0717 00). No end play should be present. If end play is present, repeat installation steps 3 through 5.
- 6. Install flat washer (9), bearing nut lock (7) and bearing nut (8) on suspension arm assembly (10). Reverse flat washer (9) if necessary to index pin.

CAUTION

Improper torque could affect the bearing adjustment and cause equipment damage.

- 7. Torque nut (8) to 120-125 lb-ft (162.12-169 NSm) (item 2, WP 0717 00).
- 8. Bend one end of bearing nut lock (7) over flat of nut (8).
- 9. Install spring (5), new gasket (4) and access cover (3) to hub assembly (6) with six screws (1) and six new lockwashers (2).



SUSPENSION HUB ASSEMBLY REPAIR - CONTINUED

0387 00

Installation-Continued

NOTE

If rolling torque is less than 45 lb-in (5.1 NSm) or more than 75 lb-in (8.5 NSm) repeat installation steps 3 through 9.

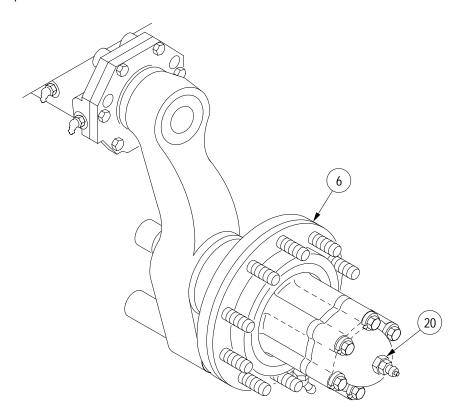
- 10. Place a socket wrench socket on bushing (20) and use torque wrench (item 21, WP 0717 00) to rotate hub assembly (6), a rolling torque 45–75 lb-in (5.1–8.5 N•m) over one full rotation should be required.
- 11. Install solid rubber wheels (WP 0386 00).
- 12. Lubricate suspension hub assembly (WP 0187 00).

NOTE

End play is validated by applying a straight axial pushpull motion to hub assembly.

If no end play is detected, do not readjust bearings. If end play is detected, repeat Removal step 1 and Installation steps 3 through 13. This setting applies to used bearings also.

13. After five mile road test. Raise suspension hub (6) from track assembly (para 12-2) and check end play. No end play should be present.



13i034mk

SUSPENSION ARM ASSEMBLY REPAIR

0388 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Face wrench socket (item 3, WP 0717 00) Torque wrench (item 9, WP 0717 00)

Materials/Parts

Key washer (item 183, WP 0718 00) Lockwashers (6) (item 130, WP 0718 00) Lockwashers (6) (item 27, WP 0718 00)

Materials/Parts-Continued

Seal encased (item 184, WP 0718 00) Dry-cleaning solvent (item 1, WP 0716 00) Lubricant (item 3, WP 0716 00)

Equipment Conditions

Torsion bars removed (WP 0389 00)
Shock absorbers removed (WP 0412 00)
For suspension arm positions 1, 2 and 6 only

Personnel Required

Two

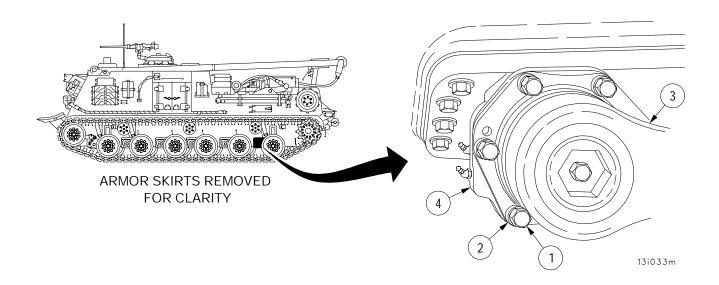
NOTE

This task applies to the left or right suspension arm assembly.

It may be necessary to use two screws removed from suspension arm assembly as jackscrews to break suspension arm assembly loose from housing.

Removal

Remove six screws (1), six lockwashers (2) and suspension arm assembly (3) from housing (4). Discard lockwashers.



SUSPENSION ARM ASSEMBLY REPAIR - CONTINUED

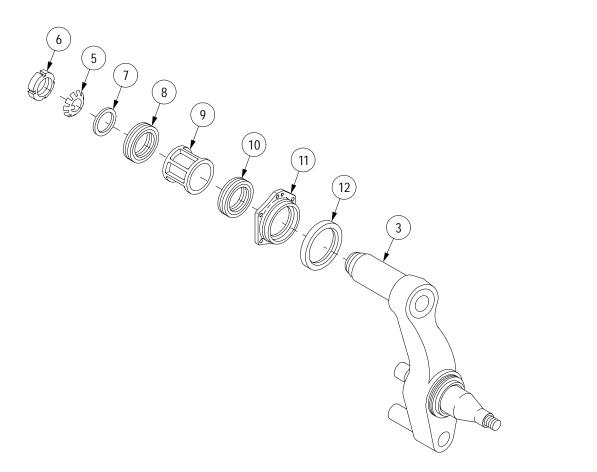
0388 00

Disassembly

- 1. Straighten edges of key washer (5).
- 2. Remove bearing nut (6) and key washer (5) from suspension arm assembly (3). Discard key washer.
- 3. Remove flat washer (7) and sleeve bearing (8) from suspension arm assembly (3).
- 4. Remove spacer (9) and sleeve bearing (10) from suspension arm assembly (3).
- 5. Remove retainer (11) with seal (12) as an assembly from suspension arm assembly (3).
- 6. Remove seal (12) from retainer (11). Discard seal.



- 7. Clean all components with dry-cleaning solvent.
- 8. Inspect all parts for wear and damage. Discard all worn or damage components.



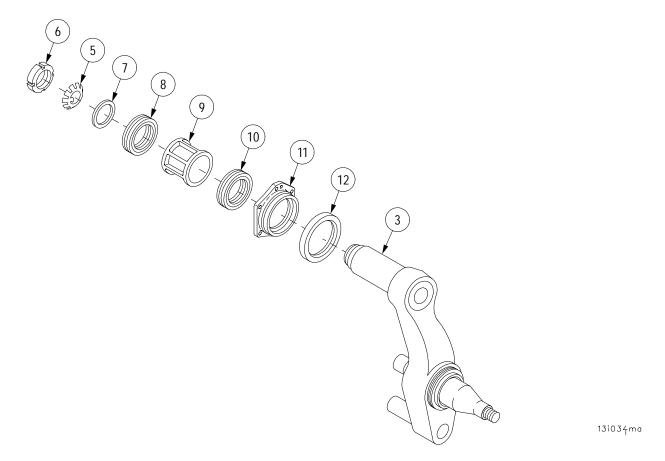
13i034ma

SUSPENSION ARM ASSEMBLY REPAIR - CONTINUED

0388 00

Assembly

- 1. Apply a light coating of lubricant to all components prior to assembly.
- Install new seal (12) in retainer (11) with spring loaded lip facing inside of retainer (11).
- 3. Install retainer (11) with new seal (12) on suspension arm assembly (3).
- 4. Install sleeve bearing (10) and spacer (9) on suspension arm assembly (3).
- 5. Install sleeve bearing (8) on suspension arm assembly (3).
- 6. Install flat washer (7) and new key washer (5) on suspension arm assembly (3).
- 7. Install bearing nut (6). Torque bearing nut (6) to minimum of 150 lb-ft (203 NSm).
- 8. Loosen bearing nut (6) until bearing assembly can rotate by hand one full revolution. Torque nut (6) to 15–20 lb-ft (20–27 NSm).
- 9. Bend tang on new key washer (5) to lock bearing nut (6) in place.

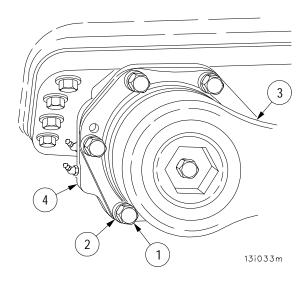


SUSPENSION ARM ASSEMBLY REPAIR - CONTINUED

0388 00

Installation

- 1. Install arm assembly (3) to housing (4) with six screws (1) and six new lockwashers (2). Torque screws (1) to 210-230 lb-ft (285-312 NSm).
- 2. Lubricate suspension arm assembly (3) (WP 0187 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install torsion bars (WP 0389 00) Install shock absorber, if removed (WP 0412 00)

TORSION BARS AND TORSION BAR ANCHORS REPLACEMENT

0389 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Slide puller (item 46, WP 0717 00) Torque wrench (item 2, WP 0717 00) Socket wrench adapter (item 53, WP 0717 00) Torsion bar adapter (item 54, WP 0717 00) Hand lubricating gun (item 13, WP 0717 00) Crowbar (item 52, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 12, WP 0718 00) Lockwashers (8) (item 27, WP 0718 00) Gasket (2) (item 160, WP 0718 00) Lubricant (item 3, WP 0716 00)

Equipment Conditions

For positions 2, 3 or 4 only Solid rubber wheels removed (WP 0386 00) Shock absorber disconnected For positions 1, 2, and 6 (WP 0412 00) Adjusting link disconnected (WP 0392 00 old configuration) (WP 0393 00 new configuration) For position 1 only Track disconnected (TM 9-2350-292-10) For front and rear torsion bars only Broken torsion bar: Main winch and spade removed (WP 0497 00) For position 1 only Powerpack removed (WP 0188 00) For positions 5 or 6 only Subfloor plates removed (WP 0454 00) For positions 2, 3 or 4 only

Vehicle driven onto spade (TM 9-2350-292-10)

Personnel Required

Two

References

TM 9-2350-292-10

NOTE

This task applies to the replacement of either left or right side torsion bars and torsion bar anchors.

If torsion bar is broken so that one end remains in torsion anchor plug, proceed as follows: If an electric welder is available, attach a long insulated rod with forward tip bare to welding clip. Fuse rod to broken end of torsion bar remaining in vehicle and pull out broken torsion bar. If this procedure fails, it will be necessary to gain access to torsion bar from its anchor or from within the hull. Be sure to remove all broken pieces of torsion bar.

0389 00

Removal

- 1. Remove screw (1), lockwasher (2), end plug (3) and spacer ring (4) from arm assembly (5). Discard lockwasher.
- 2. Install torsion bar adapter in end of torsion bar (6).
- 3. Install slide puller on torsion bar adapter.



Arm assembly will fall free when torsion bar is removed. Use extreme care to prevent injury.

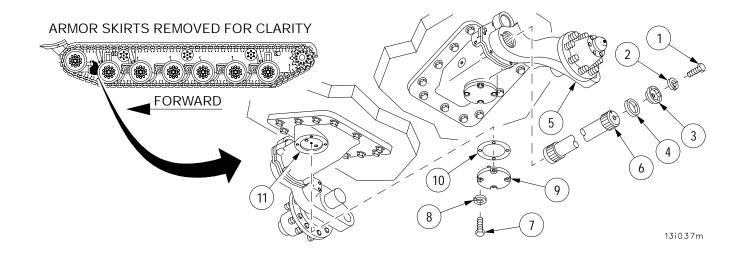
- 4. Lift arm assembly (5) sufficiently to allow torsion bar (6) to be removed.
- 5. Pull torsion bar (6) through arm assembly (5) until torsion bar (6) splines clear arm assembly (5).
- 6. Remove slide puller and torsion bar adapter from torsion bar (6).



Torsion bar weighs 110 lbs (49.94 kg). To avoid injury, assistance is required to properly lift and safely remove torsion bar from suspension arm.

Broken torsion bars have jagged and sharp edges. Extreme caution should be taken to prevent injury during removal.

- 7. Remove torsion bar (6) from arm assembly (5).
- 8. Remove four screws (7), four lockwashers (8), access cover (9) and gasket (10) from torsion bar housing (11). Discard gasket and lockwashers.



0389 00

Removal-Continued

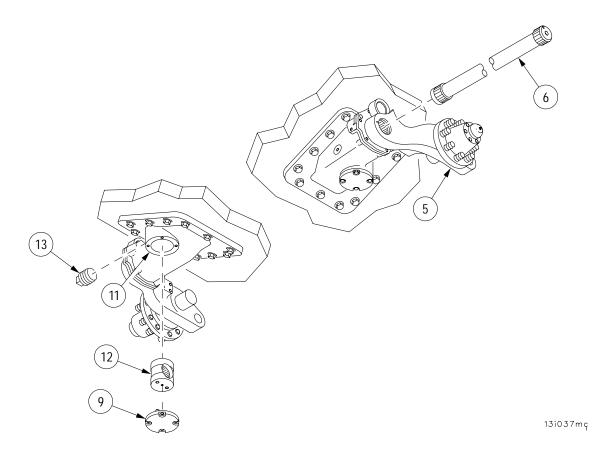
NOTE

Each torsion bar anchor is nested in a support housing opposite the wheel for which the torsion bar acts. Each anchor has serrated opening to mate with the end serration on the torsion bar.

- 9. Remove torsion bar anchor (12) from torsion bar housing (11).
- 10. Remove plug (13) from torsion bar housing (11).



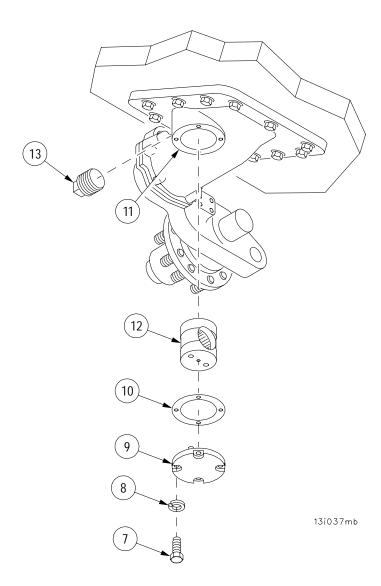
- 11. Clean all components with dry-cleaning solvent.
- 12. Inspect torsion bar (6), torsion bar anchor (12), access cover (9) and arm assembly (5) for wear, cracks, broken splines or serrations. Replace any unserviceable components.



0389 00

Installation

- 1. Install plug (13) in torsion bar housing (11).
- 2. Install torsion bar anchor (12) in torsion bar housing (11) with the word "FRONT" facing toward the front of the vehicle.
- 3. Install access cover (9) and new gasket (10) with four screws (7) and four new lockwashers (8). Dowel pins on access cover (9) must engage the spanner holes in torsion bar anchor (12).
- 4. Torque four screws (7) to 40-50 lb-ft (54-68 NSm).



0389 00

Installation-Continued

CAUTION

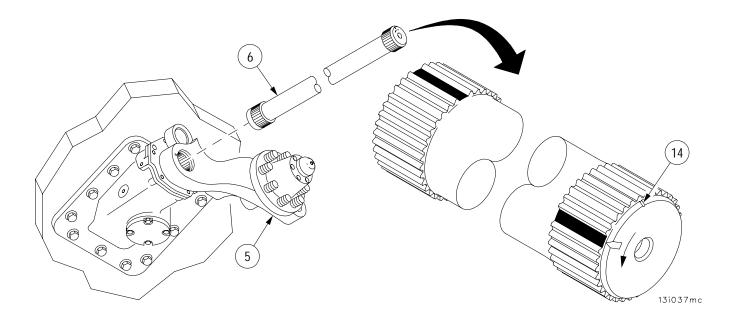
Torsion bars installed in left side arm assemblies have an arrow stamped in solid rubber wheel end of torsion bar pointing in counterclockwise direction. Torsion bars installed in right side arm assemblies have an arrow stamped in solid rubber wheel end of torsion bar pointing in a clockwise direction. Torsion bars must not be interchanged.

NOTE

When installing torsion bars it is not necessary to drive torsion bars into torsion bar anchors. When torsion bars are properly aligned, torsion bars will slide easily into torsion bar anchors.

Torsion bars must not be interchanged. Each torsion bar is stamped (on the outside face) with a part number and arrow showing the direction of loading torque. Before installing a new torsion bar be certain that the correct bar is being installed.

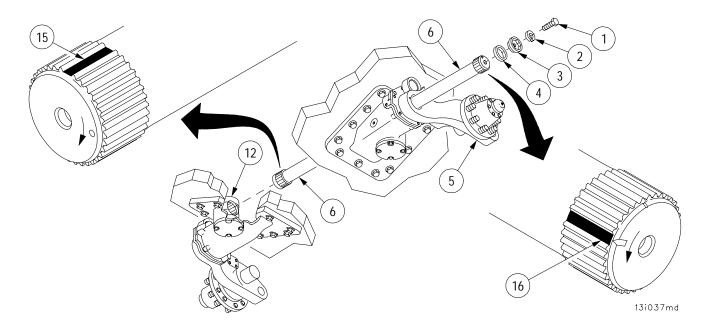
- 5. Coat splines on both ends of torsion bar (6) and splines on arm assembly (5) with lubricant.
- 6. Install torsion bar adapter in tapped hole in outside end of torsion bar (6) and attach slide puller to torsion bar adapter.
- 7. Position torsion bar (6) so that V-notch (14) cut in chamfer on outer end of torsion bar (6) is on top side (12 o'clock).



0389 00

Installation-Continued

- 8. Install torsion bar (6) through arm assembly (5), rotate torsion bar (6) in direction of arrow on torsion bar outer end until blank serration (15) on inner end of torsion bar (6) aligns with blank serration in torsion bar anchor (12).
- 9. Align blank serration (16) on arm assembly end of torsion bar (6) with blank serration in arm assembly (5) by rotating arm assembly (5) until V-notch on torsion bar (6) aligns with V-notch on arm assembly (5). Push firmly against torsion bar (6) until torsion bar (6) is fully seated in torsion bar anchor (12).
- 10. Remove slide puller and torsion bar adapter from torsion bar (6).
- 11. Install spacer ring (4) and end plug (3) on arm assembly (5) with screw (1) and new lockwasher (2). Torque screw (1) to 75–100 lb-ft (102–136 NSm).



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates, if removed (WP 0454 00)
Install powerpack, if removed (WP 0188 00)
Install main winch and spade, if removed (WP 0497 00)
Connect track, if disconnected (TM 9-2350-292-10)
Connect adjusting link, if disconnected
(WP 0392 00 old configuration)
(WP 0393 00 new configuration)
Connect shock absorber, if disconnected (WP 0412 00)
Install solid rubber wheel (WP 0386 00)
Raise and lock spade in stowed position, if lowered
(TM 9-2350-292-10)

END OF TASK

PIVOT ARM ASSEMBLY REPAIR

0390 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Hydraulic jack (item 10, WP 0717 00) Torque wrench (item 9, WP 0717 00)

Materials/Parts

Lockwashers (11) (item 130, WP 0718 00) Sealing compound (item 42, WP 0716 00) Dry-cleaning solvent (item 1, WP 0716 00) Pressure sensitive tape (item 41, WP 0716 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Track disconnected (TM 9-2350-292-10)
For positions 1 and 6 only
Suspension arm assembly removed (WP 0388 00)

Personnel Required

Two

References

TM 9-2350-292-10

NOTE

This task applies to either the left or right pivot arm assemblies stations 1 through 6.

Removal

- 1. Position hydraulic jack to support pivot arm assembly (1).
- 2. Remove 11 screws (2) and 11 lockwashers (3) securing arm assembly (1) to vehicle hull. Discard lockwashers.
- 3. Lower hydraulic jack and remove pivot arm assembly (1) from vehicle hull.



PIVOT ARM ASSEMBLY REPAIR - CONTINUED

0390 00

Disassembly

NOTE

It is not necessary to remove pivot arm assembly to remove the three lubrication fittings.

1. Remove three lubrication fittings (4) from pivot arm assembly (1).

NOTE

Perform step 2 only if pivot arm assembly shoulder pin or pins are damaged.

2. Remove two shoulder pins (5) from pivot arm assembly (1).



- 3. Clean all components with dry-cleaning solvent.
- 4. Inspect all components for wear, pitting or other damage. Discard worn or damaged components.

Assembly

- 1. Install two shoulder pins (5) in pivot arm assembly (1) (shoulder pins (5) must extrude 3/4 in. out of pivot arm assembly (1)).
- 2. Install three lubrication fittings (4) in pivot arm assembly (1).



PIVOT ARM ASSEMBLY REPAIR - CONTINUED

0390 00

Installation



Do not apply pressure sensitive tape when ambient temperature is below 45°F (7.2°C). Failure to comply may cause loss of screw torque and equipment damage.

- 1. Apply pressure sensitive tape or sealing compound to mounting surface of pivot arm assembly (1).
- 2. Raise pivot arm assembly (1) to mounting position with hydraulic jack.
- 3. Apply sealing compound under the heads and on threads of screws (2).
- 4. Install pivot arm assembly (1) to vehicle hull with 11 screws (2) and 11 new lockwashers (3). Torque 11 screws (2) to 245-270 lb-ft (332-366 NSm).
- 5. Remove hydraulic jack from under vehicle.



NOTE

FOLLOW-ON MAINTENANCE:

Install suspension arm assembly (WP 0388 00) Connect track, if disconnected (TM 9-2350-292-10)

END OF TASK

TRACK SUPPORT ROLLER REPAIR

0391 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Face wrench socket (item 3, WP 0717 00) Torque wrench (item 2, WP 0717 00) Torque wrench (item 9, WP 0717 00) Seal inserter set (item 8, WP 0717 00)

Track support roller wheel hub inner bearing cup remover/replacer (item 5, WP 0717 00)

Bearing inserter set (item 7, WP 0717 00) Remover/replacer handle (item 4, WP 0717 00)

Manual control handle (item 6, WP 0717 00)

Hydraulic jack (item 10, WP 0717 00) Dial indicator (item 48, WP 0717 00)

Socket wrench adapter (item 86, WP 0717 00)

Materials/Parts

Cotter pin (item 5, WP 0718 00) Gaskets (2) (item 6, WP 0718 00) Flat washer (item 7, WP 0718 00) Sealing compound (item 42, WP 0716 00)

Materials/Parts-Continued

Lockwashers (6) (item 2, WP 0718 00) Lockwashers (4) (item 8, WP 0718 00) Seal, plain encased (item 3, WP 0718 00) Seal, plain encased (item 4, WP 0718 00) Lubricant (item 3, WP 0716 00) Hardwood lumber (item 4, WP 0716 00)

Equipment Conditions

Track tension released (TM 9-2350-292-10)
Three track shoe guides removed (WP 0398 00)

Personnel Required

Two

References

TM 9-2350-292-10

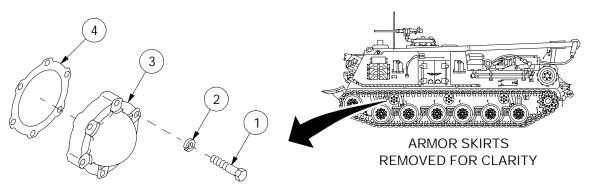
NOTE

Perform Removal steps 1 and 3 through 12 and Disassembly step 5 and Installation steps 1 through 12 and 14 through 19 for maintenance of the left front track support roller.

Perform Removal steps 1, 2, 5, 6, and 8 through 12 and Disassembly step 5 and Installation steps 1 through 10, 13 and 15 through 19 for maintenance of all track support rollers except the left front.

Removal

1. Remove six screws (1), six lockwashers (2), hubcap (3) and gasket (4). Discard lockwashers and gasket.



13i020m

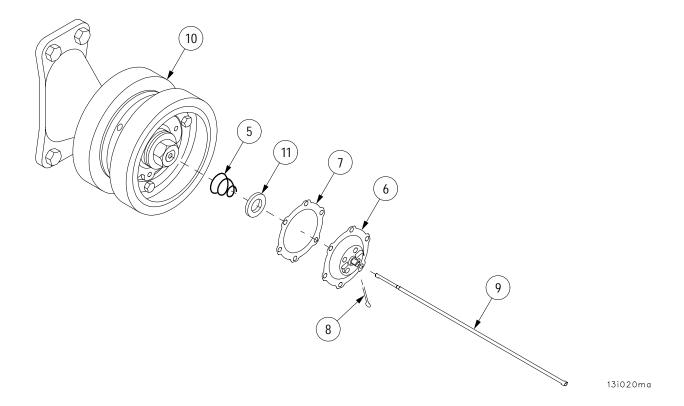
0391 00

Removal-Continued

NOTE

A static grounding spring is located under every hubcap of every support roller except the left front roller.

- 2. Remove static grounding spring (5).
- 3. Remove cup assembly (6) and gasket (7). Discard gasket.
- 4. Remove cotter pin (8) and separate flexible end fitting (9) from cup assembly (6). Discard cotter pin.
- 5. Start vehicle (TM 9-2350-292-10). Position track so that track links, from which track shoe guides were removed, are directly on support roller assembly (10) to be removed.
- 6. Place hardwood lumber on top of solid rubber wheel and position hydraulic jack on hardwood lumber. Raise track clear of support roller assembly (10) using hydraulic jack.
- 7. Remove seal (11). Discard seal.



0391 00

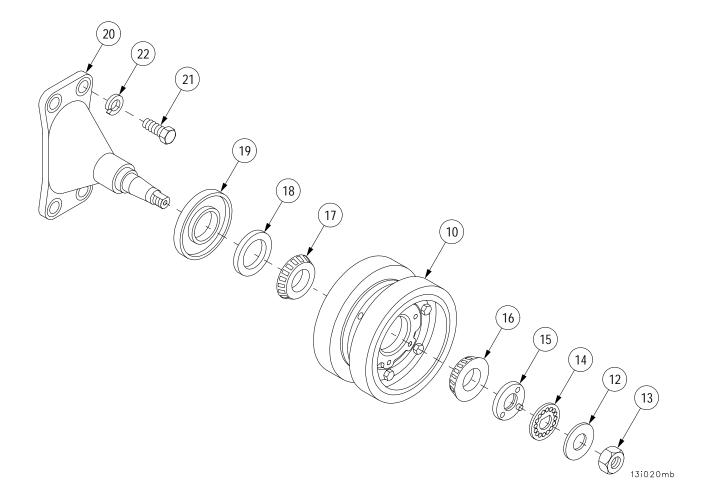
Removal-Continued

- 8. Straighten edges of flat washer (12).
- 9. Remove nut (13), flat washer (12) and flat washer (14). Discard flat washer (12).

NOTE

Bearing and cup must be replaced as an assembly. If either bearing or cup is damaged, bearing and cup must be replaced.

- 10. Remove nut (15), outer bearing (16) and support roller assembly (10).
- 11. Remove inner bearing (17), seal (18) using seal inserter set and remover and replacer handle and dirt deflector (19) from bracket (20). Discard seal.
- 12. Remove four screws (21), four lockwashers (22) and bracket (20). Discard lockwashers.



0391 00

Disassembly

- 1. Remove 12 screws (23) and separate two support roller wheels (24) from hub (25).
- 2. Remove inner bearing cup (26) from hub (25) if damaged, using track support roller remover/replacer. Discard inner bearing cup.
- 3. Remove outer bearing cup (27) from hub (25) if damaged, using bearing inserter set. Discard outer bearing cup.
- 4. Remove lubrication fitting (28) from hubcap (3).
- 5. Inspect parts for damage and replace as required.

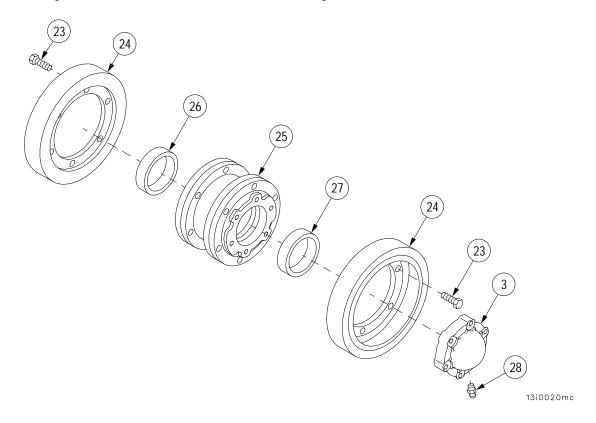
Assembly

- 1. Install new outer bearing cup (27) into hub (25) if removed, using bearing inserter set.
- 2. Install new inner bearing cup (26) into hub (25) if removed, using track support roller remove/replacer.
- 3. Install two support roller wheels (24) onto hub (25) with 12 screws (23).
- 4. Install lubrication fitting (28) into hubcap (3).

Installation



1. Clean mating surface of hull and bracket (20) with cleaning solvent.



0391 00

Installation-Continued

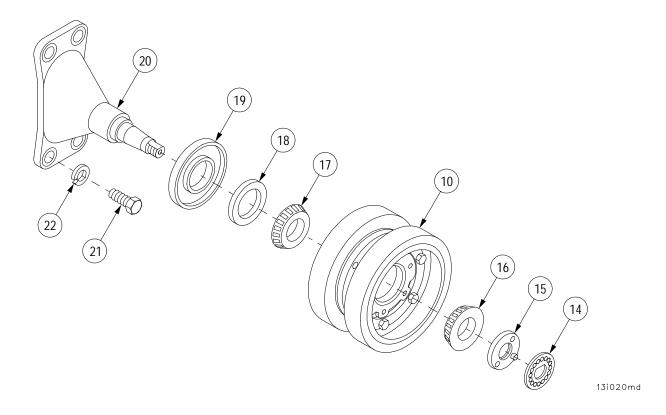


- 2. Apply sealing compound to mating surface of hull and bracket (20).
- 3. Install bracket (20) with four screws (21) and four new lockwashers (22). Torque four screws (21) to 350-400 lb-ft (475-542 N•m).
- 4. Install dirt deflector (19) onto bracket (20).
- 5. Install oil seal (18) onto bracket (20) using oil seal remover/replacer with remover and replacer handle. Make sure that seal is tightly seated against the dirt deflector.
- 6. Pack inner bearing (17) and outer bearing (16) with lubricant.
- 7. Install inner bearing (17) and support roller assembly (10) onto bracket (20).
- 8. Install outer bearing (16) and nut (15) onto bracket (20). Turn nut (15) tight, while at the same time rotating the support roller in one direction and then in the other to assure contact of all bearing surfaces.
- 9. Backoff nut (15). Torque nut (15) to 50-70 lb-ft (68-95 NSm) and then backoff nut (15) 1/4-turn.

NOTE

Flat washer may be reversed to ensure that hole indexes with dowel pin on nut.

10. Install flat washer (14), ensure hole in flat washer (14) indexes with dowel on nut (15). Using dial indicator, check that end play is 0.0075-0.0105 in. (0.1905-0.2667 mm).



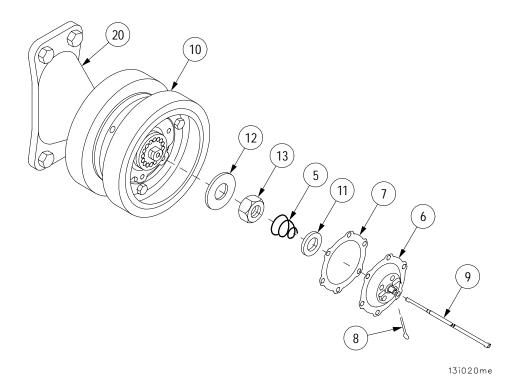
0391 00

Installation-Continued

CAUTION

Damage to bearing may occur if nut is over torque. Care should be taken as this may affect the adjustment by forcing the nut forward, thereby tightening the bearing adjustment.

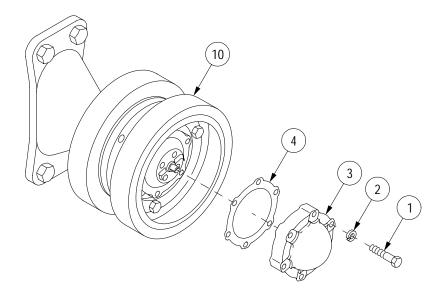
- 11. Install new flat washer (12) and nut (13). Torque nut (13) to 150-300 lb-ft (203-407 NSm). Using a dial indicator, check that end play does not exceed 0.0005-0.005 in. (0.0127-0.127 mm). Bend edges of flat washer (12) along flats of nut (13).
- 12. Install three track shoe guides directly above track support roller assembly (10) (TM 9-2350-292-10).
- 13. Install flexible end fitting (9) in cup assembly (6) with new cotter pin (8).
- 14. Install new gasket (7) and cup assembly (6) onto bracket (20).
- 15. Install static spring (5).
- 16. Install new seal (11).



0391 00

Installation-Continued

- 17. Install new gasket (4) and hubcap (3) with six screws (1) and six new lockwashers (2).
- 18. Lubricate track support roller assembly (10) (WP 0187 00).
- 19. Adjust track tension (TM 9-2350-292-10).
- 20. Perform five mile road test. Remove hubcap (3) and check that end play is between 0.001-0.010 in. (0.0254-0.254 mm). If readjustment is required, set end play to 0.001-0.005 in. (0.0254-0.127 mm). Install hubcap (3).
- 21. Lubricate track support roller assembly (10) (WP 0187 00).



13i020mf

ADJUSTING LINK AND COMPONENTS REPAIR (OLD CONFIGURATION)

0392 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Slide puller (item 46, WP 0717 00) Mechanical puller (item 49, WP 0717 00) Torque wrench (item 2, WP 0717 00)

Materials/Parts

Cotter pins (2) (item 107, WP 0718 00) Lockwashers (2) (item 9, WP 0718 00) Preformed packing (item 106, WP 0718 00) Antiseize compound (item 90, WP 0716 00)

Equipment Conditions

Lower armor skirt panel # 1 support removed (WP 0442 00) Idler hub assembly removed (WP 0394 00)

Personnel Required

Two

NOTE

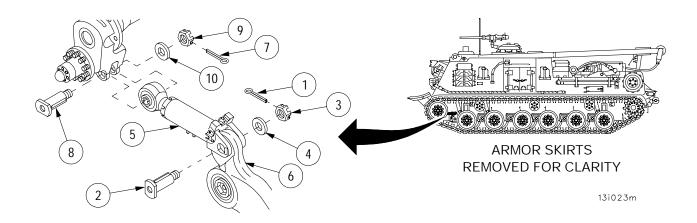
This task pertains to the left and right adjusting link.

Left and right adjusting links look identical, however the right adjusting link is longer.

Removal



- 1. Remove cotter pin (1) from clevis pin (2). Discard cotter pin.
- 2. Remove nut (3), flat washer (4) and clevis pin (2) from adjusting link (5) and arm and hub assembly (6).
- 3. Remove cotter pin (7) from clevis pin (8). Discard cotter pin.
- 4. Remove nut (9), flat washer (10), clevis pin (8) and adjusting link (5) from vehicle.



0392 00

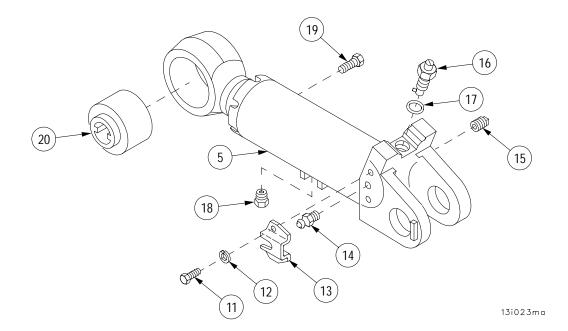
Disassembly

- 1. Remove two screws (11), two lockwashers (12) and bracket (13) from adjusting link (5). Discard lockwashers.
- 2. Remove lubrication fitting (14) from adjusting link (5).
- 3. Remove plug (15) from adjusting link (5).
- 4. Remove valve assembly (16) and preformed packing with retainer (17) from adjusting link (5). Discard preformed packing.
- 5. Remove relief valve (18) from adjusting link (5).
- 6. Remove screw (19) from adjusting link (5).

CAUTION

All signs of previous stake positions on adjusting link must be completely removed. Failure to comply could result in improper bearing fit causing damage to bearing and adjusting link.

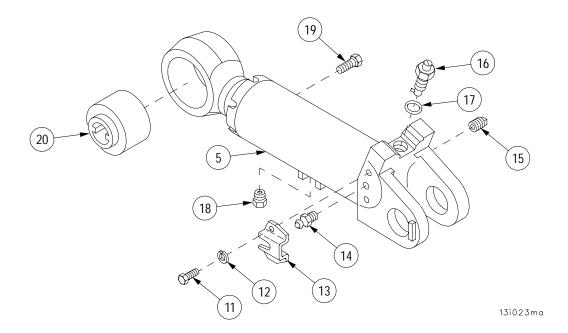
- 7. Remove staked portion of adjusting link (5) that retains bearing (20).
- 8. Remove bearing (20) from adjusting link (5).
- 9. Inspect parts for damage and replace as required.



0392 00

Assembly

- 1. Install bearing (20) in adjusting link (5).
- 2. Stake bearing (20) in three equally spaced places on both sides of adjusting link (5).
- 3. Install screw (19) in adjusting link (5). Do not tighten screw (19).
- 4. Install relief valve (18) to adjusting link (5).
- 5. Install valve assembly (16) and new preformed packing with retainer (17) on adjusting link (5). Torque valve assembly (16) to 40-60 lb-ft (54-81 N•m).
- 6. Install plug (15) in adjusting link (5).
- 7. Install lubrication fitting (14) in adjusting link (5).
- 8. Install bracket (13) to adjusting link (5) with two screws (11) and two new lockwashers (12).



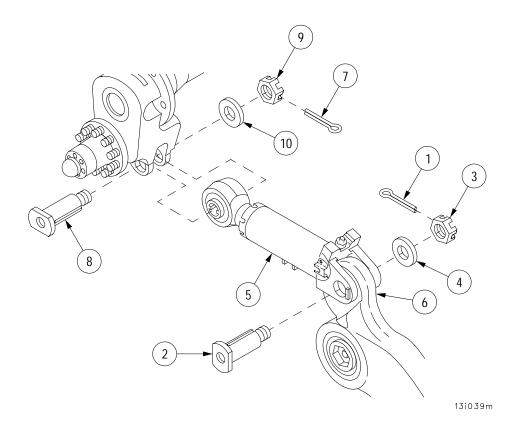
0392 00

Installation

NOTE

Link assemblies must be installed in front suspension assembly so that lock screws and valve assemblies are oriented upward and toward rear of vehicle.

- 1. Apply antiseize compound to threaded ends of clevis pins (2) and (8).
- 2. Install end of adjusting link (5) to vehicle with clevis pin (8), flat washer (10) and nut (9).
- 3. Install new cotter pin (7) in clevis pin (8).
- 4. Connect the other end of adjusting link (5) to hub and arm assembly (6) with clevis pin (2), flat washer (4) and nut (3).
- 5. Install new cotter pin (1) in clevis pin (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install idler hub assembly (WP 0394 00) Install lower armor skirt panel #1 support (WP 0442 00)

0393 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Slide puller (item 46, WP 0717 00) Mechanical Puller (item 49, WP 0717 00) Torque wrench (item 2, WP 0717 00) Electrical heat gun (item 34, WP 0717 00)

Materials/Parts

Cotter pins (2) (item 107, WP 0718 00) Preformed packing (item 450, WP 0718 00) Preformed packing (item 458, WP 0718 00) Preformed packing (item 459, WP 0718 00) Dry-cleaning solvent (item 1, WP 0716 00)

Materials/Parts - Continued

Sleeving insulation (item 401, WP 0718 00) Sealing compound (item 30, WP 0716 00) Anti-seize compound (item 90, WP 0716 00) Lubricant (item 3, WP 0716 00) Wiping rags (item 7, WP 0716 00)

Equipment Conditions

Lower armor skirt panel #1 support removed (WP 0442 00) Idler hub assembly removed (WP 0394 00)

Personnel Required

Two

NOTE

This task pertains to the left and right adjusting link.

Left and right adjusting links look identical, however the right adjusting link is longer.

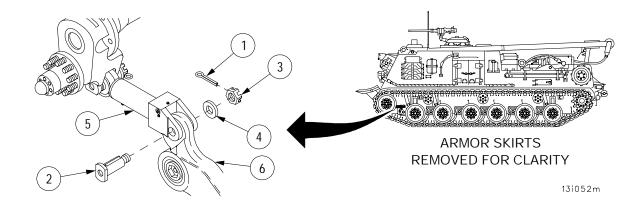
Removal







- 1. Remove cotter pin (1) from clevis pin (2). Discard cotter pin.
- 2. Remove nut (3), flat washer (4) and clevis pin (2) from adjusting link (5) and arm and hub assembly (6).



0393 00

Removal - Continued

- 3. Remove cotter pin (7) from clevis pin (8). Discard cotter pin.
- 4. Remove nut (9), flat washer (10), clevis pin (8) and adjusting link (5) from vehicle.

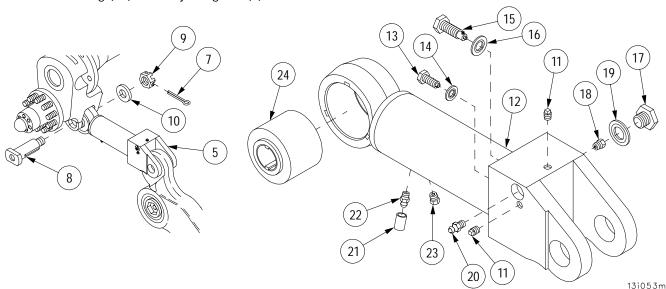
Disassembly

- 1. Remove two pipe plugs (11) from cylinder (12).
- 2. Remove grease bleed valve assembly (13) from cylinder (12). Discard preformed packing (14).
- 3. Remove pressure relief valve assembly (15) from cylinder (12). Discard preformed packing (16).
- 4. Remove plug (17) and safety relief valve (18) from cylinder (12). Discard preformed packing (19).
- 5. Remove lubrication fitting (20) from cylinder (12).
- 6. Remove sleeving insulation (21) and lubrication fitting (22) from cylinder (12). Discard sleeving insulation (21).
- 7. Remove safety relief valve (23) from cylinder (12).

CAUTION

All signs of previous stake positions on adjusting link must be completely removed. Failure to comply could result in improper bearing fit causing damage to bearing and adjusting link.

- 8. Remove staked portion of adjusting link (5) that retains bearing (24).
- 9. Remove bearing (24) from adjusting link (5).



0393 00

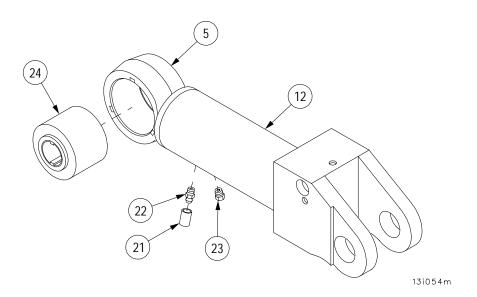
Disassembly - Continued



10. Clean all parts with dry-cleaning solvent. Inspect parts for damage and replace as required.

Assembly.

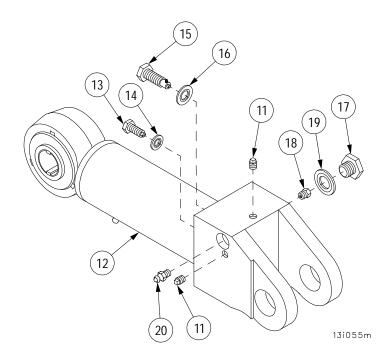
- 1. Install bearing (24) in adjusting link (5).
- 2. Stake bearing (24) in three equally spaced places on both sides of adjusting link (5).
- 3. Apply lubricant to threads of safety relief valve (23).
- 4. Install safety relief valve (23) in cylinder (12). Torque safety relief valve to 3-7 lb-ft (4.0-9.5 N•m).
- 5. Apply lubricant to threads of lubrication fitting (22).
- 6. Install lubrication fitting (22) in cylinder (12). Torque lubrication fitting to 6-8 lb-ft (8.1-10.8 N•m).
- 7. Cut new sleeving insulation (21) to 0.50 (12.7 mm).long.
- 8. Install sleeving insulation (21) over lubrication fitting (22). Heat shrink sleeving insulation (21) over lubrication fitting (22). Do not cover hex portion of lubrication fitting (22).



0393 00

Assembly - Continued

- 9. Apply lubricant to threads of lubrication fitting (20).
- 10. Install lubrication fitting (20) in cylinder (12). Torque lubrication fitting to 3-7 lb-ft (4.0-9.5 N•m).
- 11. Apply lubricant to threads of safety relief valve (18) and new preformed packing (19).
- 12. Install safety relief valve (18). Torque safety relief valve (18) to 3-7 lb-ft (4.0-9.5 N•m).
- 13. Install new preformed packing (19) on plug (17). Apply sealing compound to threads of plug (17) and install plug (17) in cylinder (12).
- 14. Apply lubricant to threads of pressure relief valve assembly (15) and new preformed packing (16).
- 15. Install pressure relief valve assembly (15) with new preformed packing (16) in cylinder (12). Torque pressure relief valve assembly to 40− 60 lb-ft (54.2−81.4 N•m).
- 16. Apply lubricant to new preformed packing (14).
- 17. Install grease bleed valve assembly (13) with new preformed packing (14) in cylinder (12).
- 18. Apply sealing compound to threads of two pipe plugs (11).
- 19. Install two pipe plugs (11) in cylinder (12).



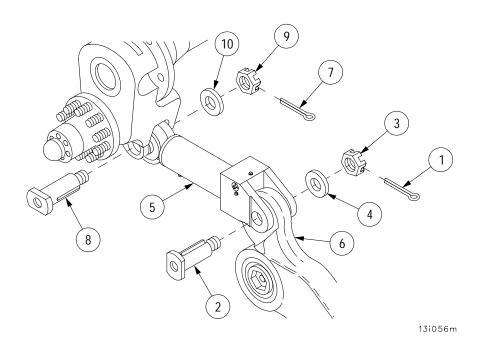
0393 00

Installation

NOTE

Link assemblies must be installed in front suspension assembly so that clevis-end grease fitting is facing outboard.

- 1. Apply anti-seize compound to shaft and threads of clevis pins (8 and 2) prior to installation.
- 2. Install end of adjusting link (5) to vehicle with clevis pin (8), flat washer (10) and nut (9).
- 3. Install new cotter pin (7) in clevis pin (8).
- 4. Connect the other end of adjusting link (5) to hub and arm assembly (6) with clevis pin (2), flat washer (4) and nut (3).
- 5. Install new cotter pin (1) in clevis pin (2).



NOTE

FOLLOW-ON MAINTENANCE: Install idler hub assembly (WP 0394 00) Install lower armor skirt panel #1 support (WP 0442 00)

IDLER HUB ASSEMBLY REPAIR

0394 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Seal inserter (item 45, WP 0717 00)

Remover/replacer handle (item 4, WP 0717 00)

Face wrench socket (item 3, WP 0717 00)

Torque wrench (item 2, WP 0717 00)

Torque wrench (item 21, WP 0717 00)

Socket wrench set (item 89, WP 0717 00)

Bearing inserter set (item 61, WP 0717 00)

Bearing inserter set (item 7, WP 0717 00)

Socket wrench socket (item 62, WP 0717 00)

Socket wrench adapter (item 38, WP 0717 00)

Materials/Parts

Lockwashers (14) (item 2, WP 0718 00)

Gasket (item 150, WP 0718 00)

Gasket (item 149, WP 0718 00)

Flat washer (item 7, WP 0718 00)

Preformed packing (item 146, WP 0718 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Lubricant (item 3, WP 0716 00)

Equipment Conditions

Solid rubber idler wheel removed (WP 0386 00)

Personnel Required

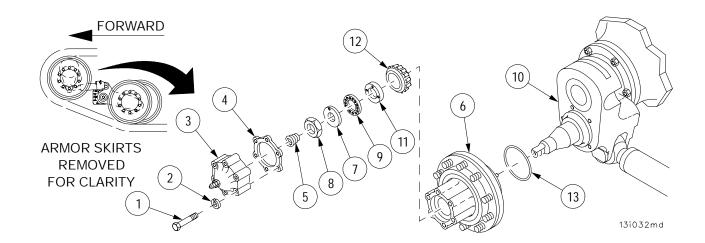
Two

NOTE

This task applies to left or right side idler hub assemblies.

Removal

- 1. Remove six screws (1), six lockwashers (2), access cover (3), gasket (4) and spring (5) from hub assembly (6). Discard lockwashers and gasket.
- 2. Straighten edges of bearing nut lock (7) and remove bearing nut (8), bearing nut lock (7) and flat washer (9) from idler arm assembly (10).
- 3. Remove adjusting nut (11) and bearing (12) from idler arm assembly (10).
- 4. Remove hub assembly (6) and preformed packing (13) from idler arm assembly (10).



Disassembly

- 1. Remove eight screws (14), eight lockwashers (15), gasket (16) and seal assembly (17) from hub assembly (6). Discard lockwashers and gasket.
- 2. Remove inner bearing (18) from idler arm assembly (10) spindle.
- 3. Remove relief valve (19) and bushing (20) from access cover (3).

NOTE

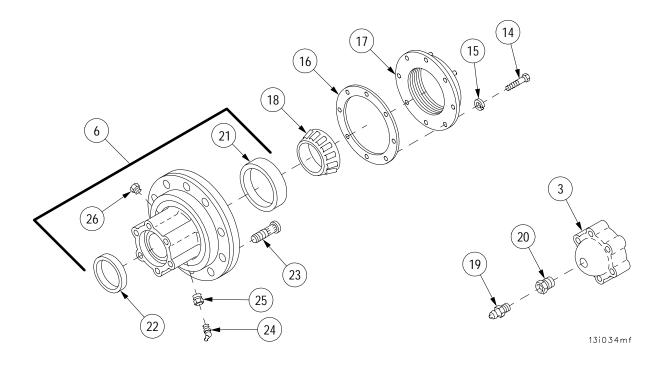
Bearing cones and bearing cups are used in matched sets only. If either is damaged, cone and cup must be replaced as a set.

- 4. Remove inner bearing cup (21) from hub assembly (6), if damaged.
- 5. Remove outer bearing cup (22) from hub assembly (6), if damaged.

NOTE

There are 10 screws in idler hub assembly. Remove only those screws that are damaged.

- 6. Remove screws (23) from hub assembly (6).
- 7. Remove lubrication fitting (24) and bushing (25) from hub assembly (6).
- 8. Remove plug (26) from hub assembly (6).



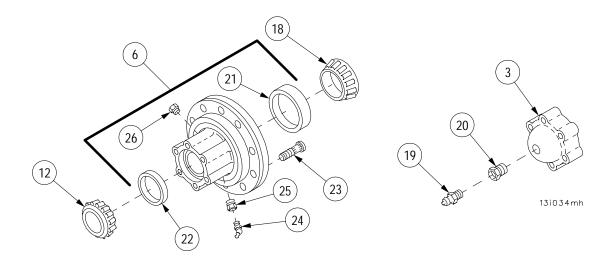
Disassembly-Continued



- 9. Clean all components with dry-cleaning solvent.
- 10. Inspect all parts for wear and damage. Discard all worn or damaged components.

Assembly

- 1. Apply a light coating of lubricant to all components prior to assembly.
- 2. Install plug (26) in hub assembly (6).
- 3. Install bushing (25) and lubrication fitting (24) in hub assembly (6).
- 4. Install new screws (23) in hub assembly (6), if removed.
- 5. Install new outer bearing cup (22) in hub assembly (6), if removed.
- 6. Install new inner bearing cup (21) in hub assembly (6), if removed.
- 7. Pack inner bearing (18) and outer bearing (12) with lubricant.
- 8. Install bushing (20) and relief valve (19) in access cover (3).

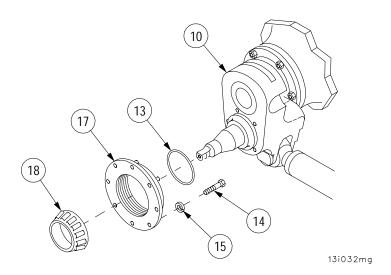


Assembly - Continued

NOTE

Once the seal assembly is unbolted from the hub during maintenance, the alignment is lost and must be re-established. Perform steps 9 through 17 to re-establish alignment.

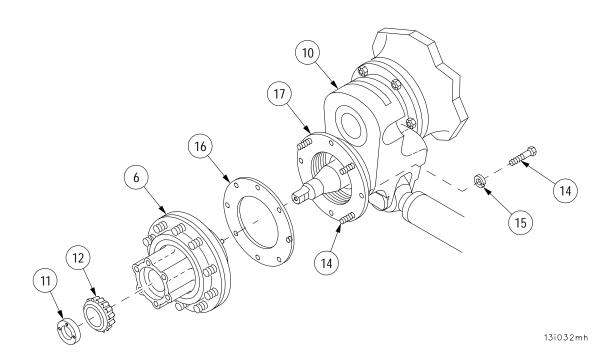
- 9. Position four screws (14) with four new lockwashers (15) equally spaced around seal assembly (17).
- 10. Install new preformed packing (13) on idler arm assembly (10) spindle spacer.
- 11. Install seal assembly (17) over spacer on idler arm assembly (10) spindle and flush against mating surface on idler arm assembly (10).
- 12. Install inner bearing (18) on idler arm assembly (10) spindle. Make sure that bearing (18) is seated against spacer on idler arm assembly (10) spindle.



0394 00

Assembly - Continued

- 13. Install gasket (16) and hub assembly (6) on idler arm assembly (10) spindle and mate to seal assembly (17).
- 14. Install outer bearing (12) and adjusting nut (11) on idler arm assembly (10) temporarily for support.
- 15. Align and tighten four screws (14) to secure seal assembly (17) and gasket (16) to hub assembly (6).
- 16. Remove adjusting nut (11) and outer bearing (12) from idler arm assembly (10).
- 17. Remove hub assembly (6) from idler arm assembly (10) spindle. Install remaining four screws (14) and four new lockwashers (15). Torque screws to 20 35 lb-ft (27.1 47.5 N•m).



0394 00

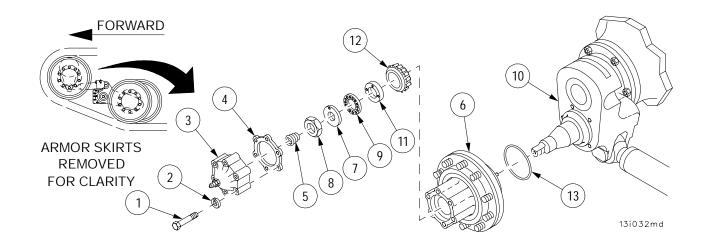
Installation

- 1. Recheck position of new preformed packing (13) on idler arm assembly (10) and install hub assembly (6).
- 2. Install bearing (12) and adjusting nut (11) on idler arm assembly (10).
- 3. Torque adjusting nut (11) to 35-40 lb-ft (48-54 NSm) (item 2, WP 0717 00) while rotating hub assembly (6) in both clockwise and counter-clockwise directions.
- 4. Recheck torque adjusting nut (11) to 35–40 lb-ft (48–54 NSm) (item 2, WP 0717 00) to insure bearings have seated.
- 5. Loosen adjusting nut (11), torque adjusting nut (11) to 50 lb-in (5.7 NSm) (item 21, WP 0717 00). No end play should be present. If end play is present, repeat Installation steps 3 through 5.
- 6. Install flat washer (9), bearing nut lock (7) and bearing nut (8) on idler arm assembly (10). Reverse flat washer (9) if necessary to index pin.

CAUTION

Improper torque could affect the bearing adjustment and cause equipment damage.

- 7. Torque nut (8) to 120-125 lb-ft (162.12-169 NSm) (item 2, WP 0717 00).
- 8. Bend one end of bearing nut lock (7) over the flat of nut (8).
- 9. Install spring (5), new gasket (4) and access cover (3) to hub assembly (6) with six screws (1) and six new lockwashers (2).



0394 00

Installation-Continued

NOTE

If rolling torque is less than 45 lb-in (5.1 NSm) or more than 75 lb-in (8.5 NSm) repeat Removal step 1 and Installation steps 3 through 9.

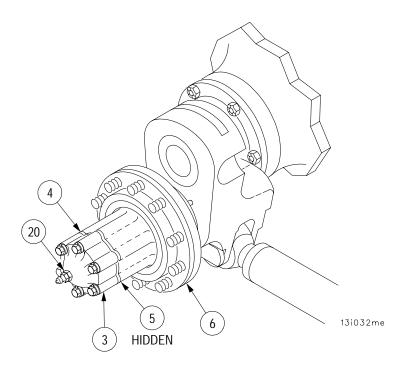
- 10. Place a socket wrench socket on bushing (20) and use torque wrench (item 21, WP 0717 00) to rotate hub assembly (6), a rolling torque of 45–75 lb-in (5.1–8.5 NSm) over one full rotation is required.
- 11. Install solid rubber idler wheel (WP 0386 00).
- 12. Lubricate hub and arm assembly (WP 0187 00).

NOTE

End play is validated by applying a straight axial pushpull motion to hub assembly.

If no end play is present, do not readjust bearings. If end play is detected, repeat Installation Removal step 1 and Installation steps 3 through 13. This setting applies to used bearings also.

13. After five mile road test, remove access cover (3), gasket (4) and spring (5) and check for end play.



IDLER ARM ASSEMBLY REPAIR

0395 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Spanner wrench (item 47, WP 0717 00) Torque wrench (item 9, WP 0717 00) Torque wrench (item 2, WP 0717 00) Seal inserter (item 42, WP 0717 00)

Materials/Parts

Preformed packing (item 146, WP 0718 00) Key washer (item 148, WP 0718 00) Seal (item 147, WP 0718 00)

Materials/Parts-Continued

Dry-cleaning solvent (item 1, WP 0716 00) Lubricant (item 3, WP 0716 00)

Equipment Conditions

Adjusting link disconnected from idler arm (WP 0392 00 old configuration) (WP 0393 00 new configuration)

Personnel Required

Three

NOTE

This task applies to left or right side idler arm assemblies.

It may be necessary to use two screws removed from the suspension arm assembly as jackscrews to break suspension arm assembly loose from housing.

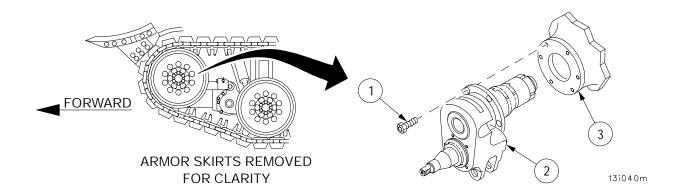


Adjusting link must be secured to vehicle tie down ring after removing connecting pin. Failure to comply could result in adjusting link falling and causing injury to personnel.



Removal

Remove six screws (1) and idler arm assembly (2) from housing (3).



IDLER ARM ASSEMBLY REPAIR - CONTINUED

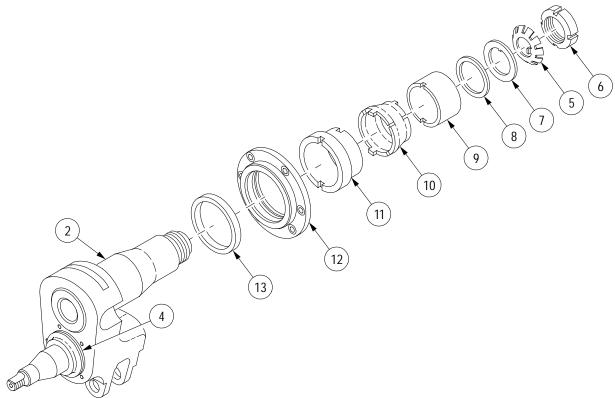
0395 00

Disassembly

- 1. Remove preformed packing (4) from idler arm assembly (2). Discard preformed packing.
- 2. Straighten edges of key washer (5).
- 3. Remove bearing nut (6) and key washer (5) from idler arm assembly (2). Discard key washer.
- 4. Remove key washer (7), flat washer (8) and sleeve bearing (9) from idler arm assembly (2).
- 5. Remove spacer (10) and sleeve bearing (11) from idler arm assembly (2).
- 6. Remove retainer (12) with seal (13) as an assembly from idler arm assembly (2).
- 7. Remove seal (13) from retainer (12). Discard seal.



- 8. Clean all components with dry-cleaning solvent.
- 9. Inspect all parts for wear and damage. Discard all worn or damaged components.



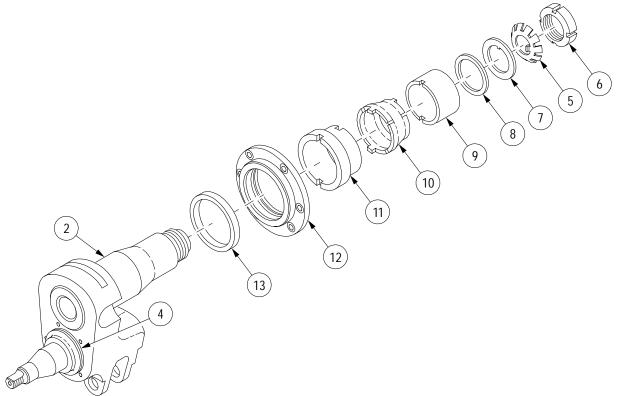
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IDLER ARM ASSEMBLY REPAIR - CONTINUED

0395 00

Assembly

- 1. Apply a light coating of lubricant to all components.
- 2. Install new seal (13) with spring loaded lip facing the inside of retainer (12).
- 3. Install retainer (12) and new seal (13) on idler arm assembly (2).
- 4. Install sleeve bearing (11) and spacer (10) on idler arm assembly (2).
- 5. Install sleeve bearing (9) on idler arm assembly (2).
- 6. Install flat washer (8), key washer (7) and new key washer (5) on idler arm assembly (2).
- 7. Install bearing nut (6). Torque bearing nut (6) to minimum of 150 lb-ft (203 NSm) (item 2, WP 0717 00).
- 8. Loosen bearing nut (6) until bearing assembly can rotate by hand one full revolution. Torque nut (6) to 15-20 lb-ft (20-27 NSm) (item 2, WP 0717 00).
- 9. Bend tang on new key washer (5) to secure bearing nut (6) in place.
- 10. Install new preformed packing (4) on spacer on idler arm assembly (2).



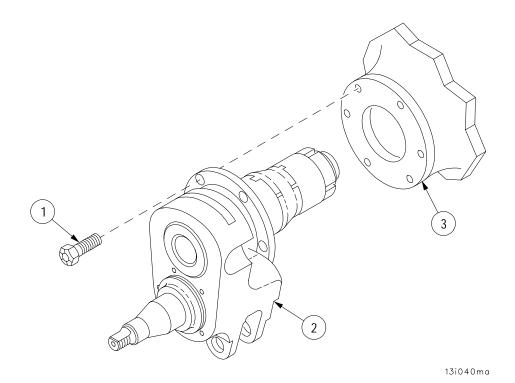
IDLER ARM ASSEMBLY REPAIR - CONTINUED

0395 00

Installation



Install idler arm assembly (2) to housing (3) with six screws (1). Torque six screws (1) to 210-230 lb-ft (285-312 NSm) (item 9, WP 0717 00).



NOTE

FOLLOW-ON MAINTENANCE:

Connect adjusting link to idler arm (WP 0392 00 old configuration) (WP 0393 00 new configuration)

END OF TASK

IDLER ARM HOUSING PACKING AND SEAL REPLACEMENT

0396 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Seal inserter (item 42, WP 0717 00)

Materials/Parts

Seal (item 144, WP 0718 00)

Preformed packing (item 145, WP 0718 00)

Equipment Conditions

Idler arm assembly removed (WP 0395 00)

NOTE

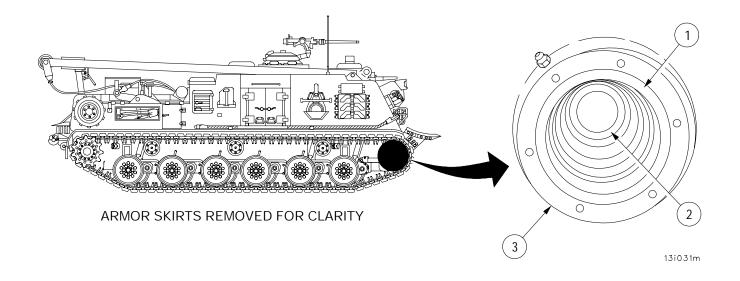
This task applies to left and right idler arm hull mounted housing.

Removal

- Remove preformed packing (1) and seal (2) from vehicle hull (3). Discard packing and seal.
- 2. Inspect parts for damage and replace as required.

Installation

Install new seal (2) and new preformed packing (1) in vehicle hull (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install idler arm assembly (WP 0395 00)

FINAL DRIVE HUB AND SPROCKET REPLACEMENT

0397 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Wire rope assembly (item 36, WP 0717 00) Final drive sling (item 37, WP 0717 00) Torque wrench (item 2, WP 0717 00)

Torque wrench (item 9, WP 0717 00)

Suitable lifting device (600 lbs (272.4 kg) min cap)

Torque wrench bar (item 39, WP 0717 00)

Torque wrench multiplier (item 40, WP 0717 00) Socket wrench socket (item 41, WP 0717 00)

Adapter plate (item 78, WP 0717 00)

Materials/Parts

Self-locking nuts (44) (item 235, WP 0718 00)

Lubricant (item 3, WP 0716 00)

Adhesive (item 30, WP 0716 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Primer (item 107, WP 0716 00)

Equipment Conditions

Left or right track removed (TM 9-2350-292-10) Left or right hinged fender removed (WP 0443 00)

Personnel Required

Two

References

TM 9-2350-292-10

NOTE

This task pertains to the right and left final drive hubs and sprockets.

The outer sprockets can be replaced without removing the final drive hub.

To replace the outer sprocket perform Removal steps 1 through 6 and 19 and Installation steps 12 and 13.

To replace the inner sprocket perform Removal steps 7 through 17 and 19 and Installation steps 3 through 11.

To replace the final drive hub, inner and outer sprockets as an assembly, perform Removal steps 7 through 11 and 19 and Installation steps 5 through 11.

To replace the final drive hub perform Removal steps 1 through 17 and 19 and Installation steps 2 through 13.

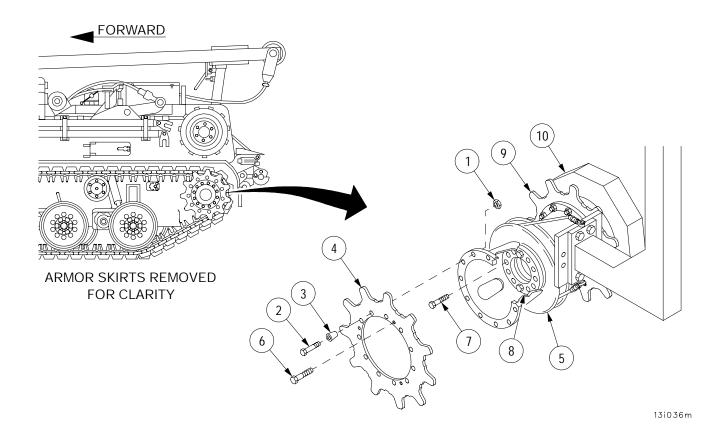
To replace block on final drive perform Removal steps 7 through 11, 18 and 19 and Installation steps 2 and 5 through 11.

FINAL DRIVE HUB AND SPROCKET REPLACEMENT - CONTINUED

0397 00

Removal

- 1. Remove 10 of 11 self-locking nuts (1), 10 of 11 screws (2) and 10 of 11 tapered bushings (3) securing sprocket (4) to final drive hub (5). Discard self-locking nuts.
- 2. Loosen remaining self-locking nut (1). Do not remove self-locking nut (1).
- 3. Using three screws removed in step 1, install jackscrews (6) in three threaded holes in sprocket (4).
- 4. Tighten three jackscrews (6) evenly, until sprocket (4) is loose from final drive hub (5).
- 5. Remove three jackscrews (6) from sprocket (4).
- 6. Remove self-locking nut (1), tapered bushing (2), screw (3) and sprocket (4) from drive hub (5). Discard self-locking nut.
- 7. Remove 10 of 12 screws (7) securing final drive hub (5), spacer (8) and inner sprocket (9) to final drive assembly (10). Leave one screw (7) on the bottom and one screw (7) on the top of final drive hub (5).
- 8. Loosen, but do not remove the two remaining screws (7) to prevent the final drive hub (5), spacer (8) and inner sprocket (9) from falling off of final drive assembly (10).
- 9. Attach final drive lifting sling to final drive hub (5).
- 10. Attach wire rope assembly to final drive lifting sling and suitable lifting device.

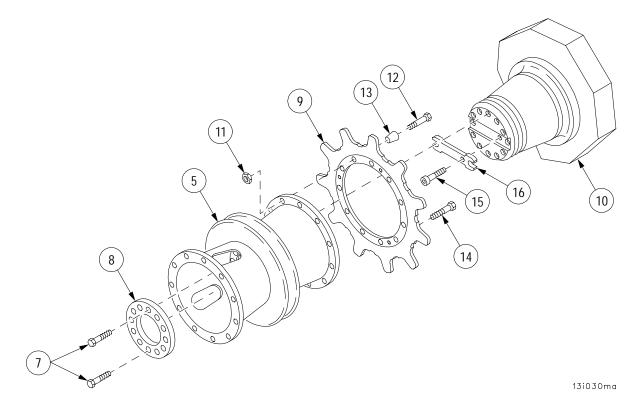


0397 00

Removal-Continued



- 11. Remove two screws (7), spacer (8), final drive hub (5) and sprocket (9) from final drive assembly (10).
- 12. Remove 10 of 11 self-locking nuts (11), 10 of 11 screws (12) and 10 of 11 tapered bushings (13) securing inner sprocket (9) to final drive hub (5). Discard self-locking nuts.
- 13. Loosen remaining self-locking nut (11). Do not remove self-locking nut (11).
- 14. Using three screws removed in step 12, install jackscrews (14) in three threaded holes in sprocket (9).
- 15. Tighten three jackscrews (14) evenly until sprocket (9) is loose from final drive hub (5).
- 16. Remove three jackscrews (14) from sprocket (9).
- 17. Remove locknut (11), tapered bushing (13), screw (12) and sprocket (9) from final drive hub (5). Discard locknut.
- 18. Remove screw (15) and block (16) from final drive assembly (10).
- 19. Inspect parts for damage and replace as required.



FINAL DRIVE HUB AND SPROCKET REPLACEMENT - CONTINUED

0397 00

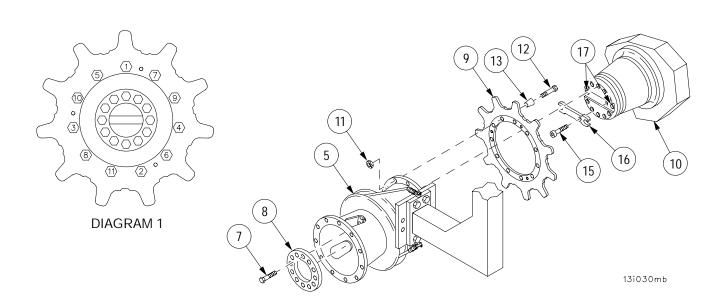
Installation



- 1. Clean all serviceable parts and mating surface of final drive assembly (10) with dry-cleaning solvent.
- 2. Install block (16) on final drive assembly (10) with screw (15). Make sure that two mounting holes (17) are not blocked.
- 3. Coat mounting surface of inner sprocket (9) and threads of 11 screws (12) with lubricant.
- 4. Install inner sprocket (9) on final drive hub (5) with 11 screws (12), 11 tapered bushings (13) and 11 new self-locking nuts (11). Torque 11 screws (12) to 225-250 lb-ft (305-339 NSm) and 11 new self-locking nuts (11) to 70-90 lb-ft (95-122 NSm). See Diagram 1 for torque sequence.
- 5. Attach final drive lifting sling to final drive hub (5) and attach wire rope assembly to final drive lifting sling and a suitable lifting device.
- 6. Coat mating surface of final drive hub (5) and spacer (8) with lubricant.
- 7. Apply primer to threads of screws (7) before applying adhesive.
- 8. Apply adhesive to threads of screws (7).



9. Attach final drive hub (5) and spacer (8) to final drive assembly (10) with 12 screws (7).



FINAL DRIVE HUB AND SPROCKET REPLACEMENT - CONTINUED

0397 00

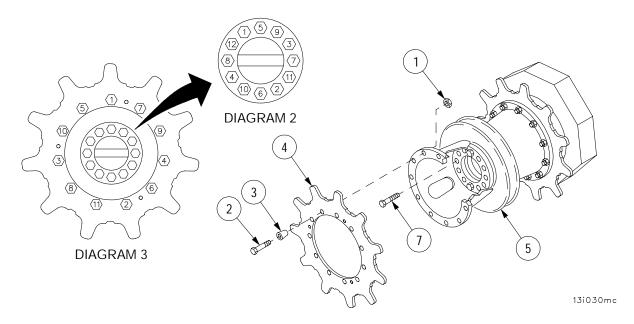
Installation-Continued

- 10. Remove final drive lifting sling and wire rope assembly from suitable lifting device and from final drive hub (5).
- 11. Torque 12 screws (7) to 700-750 lb-ft (940.2-1017.0 NSm). See Diagram 2 for torque sequence.

CAUTION

Do not re-torque bolts without first applying primer and adhesive. Failure to comply could result in equipment damage.

- 12. Coat mounting surface of outer sprocket (4) and 11 screws (2) with lubricant.
- 13. Install outer sprocket (4) on final drive hub (5) with 11 screws (2), 11 tapered bushings (3) and 11 new self-locking nuts (1). Torque 11 screws (2) to 225–250 lb-ft (305–339 NSm) and 11 new self-locking nuts (1) to 70–90 lb-ft (95–122 NSm). See Diagram 3 for torque sequence.



NOTE

FOLLOW-ON MAINTENANCE:

Install left or right track (TM 9-2350-292-10) Install left or right hinged fender (WP 0443 00)

TRACK SHOE ASSEMBLY REPLACEMENT

0398 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Track connecting fixtures (2) (item 56, WP 0717 00) Socket wrench adapter (item 55, WP 0717 00) Track end connector puller and pump (item 57, WP 0717 00)

Hand hammer (item 58, WP 0717 00)

Crowbar (item 52, WP 0717 00)

Torque wrench (item 9, WP 0717 00)

Socket wrench (item 129, WP 0717 00)

Materials/Parts

Parts kit, track (item 169, WP 0718 00)

Parts kit, track (item 170, WP 0718 00)

Externally released bolts (4) (item 171, WP 0718 00)

Metal wedges (4) (item 172, WP 0718 00)

Equipment Conditions

Left or right armor skirt panels #1, #3, #5 and #7 opened (TM 9-2350-292-10)

Personnel Required

Two

References

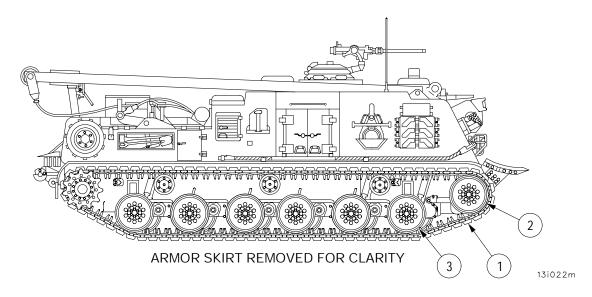
TM 9-2350-292-10

NOTE

This task applies to all track shoe assemblies, on left or right track assemblies. Each track assembly consist of 84 track shoe assemblies. This task replaces only one track shoe Assembly

Removal

- 1. Position vehicle so that track shoe assembly (1) to be replaced is between idler wheel (2) and front roadwheel (3) (TM 9-2350-292-10).
- 2. Install track binder (TM 9-2350-292-10).
- 3. Release track tension (TM 9-2350-292-10).



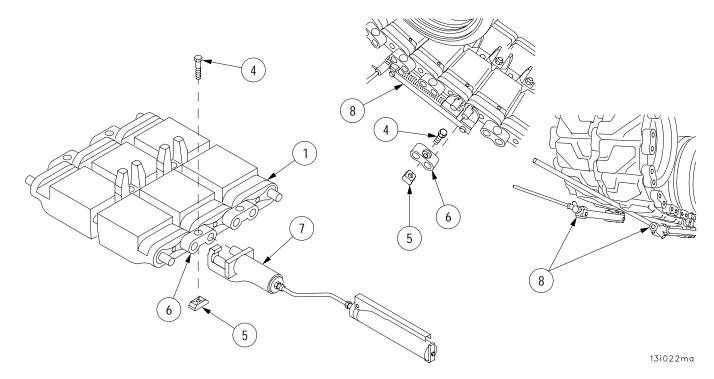
0398 00

Removal-Continued



Track must be blocked so that vehicle will not roll out of control during track maintenance. Failure to securely block vehicle tracks could result in severe injury to personnel and damage to equipment.

- 4. Loosen two externally released bolts (4) and two metal wedges (5) securing two end connectors (6) to track shoe assembly (1) pins. Hit externally released bolts (4) to loosen metal wedges (5).
- 5. Remove two externally released bolts (4) and two metal wedges (5) from two end connectors (6). Discard externally released bolts and metal wedges.
- 6. Rap two end connectors (6) to loosen end connectors on track shoe assembly (1) pins.
- 7. Position hooks on track end connector puller and pump (7) behind end connector (6), align studs on track end connector puller and pump (7) with pins on track shoe assembly (1).
- 8. Pump handle on track end connector puller and pump (7) until the space between end connector (6) and track shoe assembly (1) is 1 in. (25.4 mm).
- 9. Install track connecting fixture (8) behind end connector (6) and hook on track shoe assembly (1) pins.
- 10. Repeat steps 6 through 8 to install second track connecting fixture (8) on opposite side of track shoe assembly (1) pins.

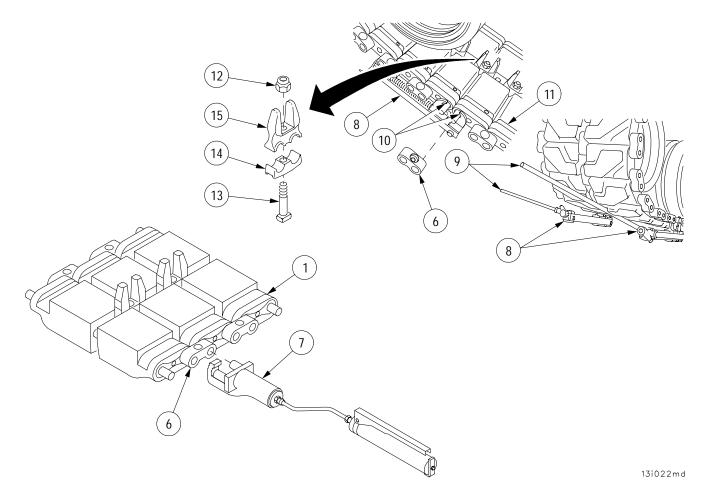


TRACK SHOE ASSEMBLY REPLACEMENT - CONTINUED

0398 00

Removal-Continued

- 11. Using ratchet (9), close track connecting fixtures (8) until jaws (10) are tight against track shoe assembly (1) pins.
- 12. Remove self-locking nut (12), screw (13), cap (14) and center guide (15) from track shoe assembly (1). Discard self-locking nut.
- 13. Remove two end connectors (6) and track end puller and pump (7) from track shoe assembly (1).
- 14. Hold track assembly (11) up, remove two track connecting fixtures (8) and separate track assembly (11). Lower track.
- 15. Remove two remaining end connectors (6) and track shoe assembly (1) from track assembly (11). Discard externally released bolts and metal wedges.
- 16. Remove remaining self-locking nut (12), screw (13), cap (14) and center guide (15) from track shoe assembly (1). Discard self-locking nut.
- 17. Inspect end connectors (6), caps (14), center guides (15) and screws (13). Discard worn or damaged components.



0398 00

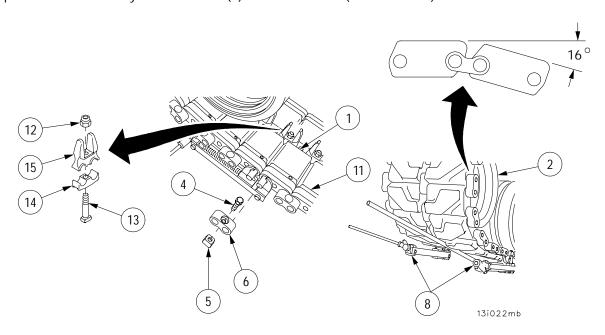
Installation

- 1. Connect one end of new track shoe assembly (1) to track assembly (11) with two end connectors (6), two new externally released bolts (4) and two new metal wedges (5).
- 2. Install center guide (15) and cap (14) on new track shoe assembly (1) with screw (13) and new self-locking nut (12). Torque self-locking nut (12) to 20 lb-ft (27 NSm).

NOTE

It may be necessary to lift end of track assembly to install track connecting fixtures.

- 3. Install two track connecting fixtures (8) on track shoe assembly (1) pins and other end of track assembly (11).
- 4. Tighten two track connecting fixtures (8) until two end connectors (6) can be installed on track shoe assembly (1) pins.
- 5. Install two end connectors (6), two new externally released bolts (4) and two new metal wedges (5) on track shoe assembly pins (1).
- 6. Remove two track connecting fixtures (8) from track shoe assembly (1) pins.
- 7. Apply pressure to four end connectors (6) until end connector (6) contacts the ends of new track shoe assembly (1) pins.
- 8. Install remaining center guide (15) and cap (14) on track shoe assembly (1) with screw (13) and new self-locking nut (12). Torque self-locking nut (12) to 20 lb-ft (27 NSm).
- 9. Remove track binder (TM 9-2350-292-10).
- 10. Move vehicle (TM 9-2350-292-10), so that new track shoe assembly (1) is just starting over idler wheel (2) (angle between track shoes should be approximately 16-degrees).
- 11. Torque four new externally released bolts (4) to 180-200 lb-ft (244-271 NSm).

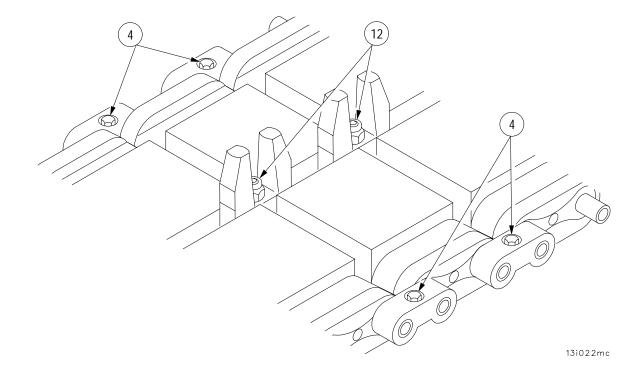


TRACK SHOE ASSEMBLY REPLACEMENT - CONTINUED

0398 00

Installation-Continued

- 12. Move vehicle (TM 9-2350-292-10) until new self-locking nut (12) is accessible. Torque new self-locking nut (12) to 300-320 lb-ft (407-434 NSm).
- 13. Adjust track tension (TM 9-2350-292-10).
- 14. Close left or right armor skirt panels #1, #3, #5 and #7 (TM 9-2350-292-10).
- 15. After 30-50 miles (48-80 km), retorque four new externally released bolts (4) to 180-200 lb-ft (244-271 NSm) and two self-locking nuts (12) to 300-320 lb-ft (407-434 NSm).



TRACK ASSEMBLY REPLACEMENT

0399 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Socket wrench adapter (item 55, WP 0717 00) Crowbar (item 52, WP 0717 00) Torque wrench (item 9, WP 0717 00) Socket (item 129, WP 0717 00)

Materials/Parts

Externally released bolts (2) (item 171, WP 0718 00) Metal wedges (2) (item 172, WP 0718 00) Fibrous rope (item 34, WP 0716 00) Hardwood lumber (item 5, WP 0716 00)

Equipment Conditions

Track assembly disconnected (TM 9-2350-292-10) Fender removed (WP 0443 00)

Personnel Required

Three

References

TM 9-2350-292-10

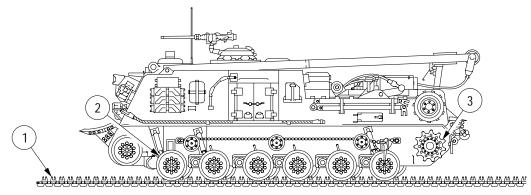
Removal



NOTE

Turn steering wheel to right if removing left track assembly, turn steering to left if removing right track Assembly

- 1. Start vehicle engine (TM 9-2350-292-10), drive slowly backward off of track assembly (1) allowing track assembly (1) to unravel from roadwheel (2).
- 2. As soon as track assembly (1) leaves sprocket (3), stop vehicle, lock brakes and shut engine off (TM 9-2350-292-10).
- 3. Inspect parts for damage and replace as required.



ARMOR SKIRTS REMOVED FOR CLARITY

13i027m

TRACK ASSEMBLY REPLACEMENT - CONTINUED

0399 00

Installation

NOTE

If installing new track assembly, attach new track assembly to track assembly being replaced with two end connectors, but without metal wedges or externally released bolts.

1. Lay new track assembly (1) in front of vehicle and in line with roadwheels (2), "V" pattern of track pads pointing to rear of vehicle.

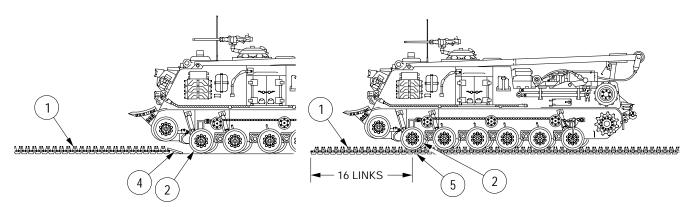
CAUTION

Use extreme care when driving vehicle on only one track Assembly Drive slowly, moving only short distances.

- 2. Place metal plate or hardwood lumber (4) on track assembly (1) near vehicle to form ramp.
- 3. Close armor skirt panels (TM 9-2350-292-10).
- 4. Start engine, select 1st gear and release brakes (TM 9-2350-292-10).
- 5. Turn steering wheel in direction of track assembly (1) being replaced (TM 9-2350-292-10).



- 6. Using a ground guide, drive vehicle forward onto track assembly (1) until center of first roadwheel (2) is resting on 16th track shoe assembly (5) from front of track assembly (1).
- 7. Stop vehicle and lock brakes (TM 9-2350-292-10).
- 8. Open armor skirt panels (TM 9-2350-292-10).



ARMOR SKIRTS REMOVED FOR CLARITY

13i027ma

TRACK ASSEMBLY REPLACEMENT - CONTINUED

0399 00

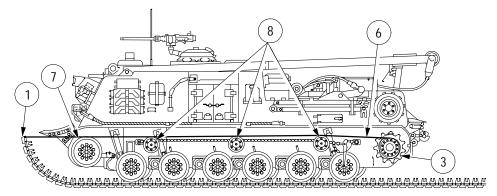
Installation-Continued

- 9. Tie fibrous rope (6) to center of track assembly (1), guide fibrous rope (6) over idler wheel (7) and through center guide grooves on track support rollers (8) to drive sprocket (3).
- 10. Raise front of track assembly (1) as high as possible.
- 11. Keep fibrous rope (6) taut, wrap two turns around drive sprocket (3) (clockwise for left track assembly and counterclockwise for right track assembly), over and around top tooth on drive sprocket (3).

NOTE

Turn steering wheel to right if installing left track assembly, turn steering to left if installing right track Assembly

- 12. With engine at idle, shift transmission to reverse and release brakes (TM 9-2350-292-10).
- 13. Holding free end of fibrous rope (6) taut, stand to side of drive sprocket (3). This setup forms a power pulley system which pulls front of track assembly (1) onto idler wheel (7).
- 14. When track assembly (1) starts over idler wheel (7) move slowly backward keeping fibrous rope (6) taut around drive sprocket (3).



ARMOR SKIRTS REMOVED FOR CLARITY

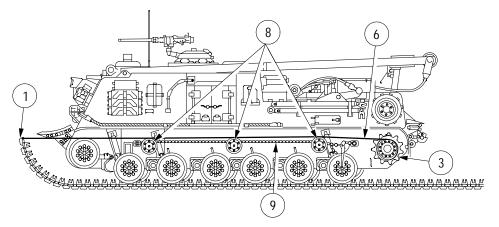
13i027mb

TRACK ASSEMBLY REPLACEMENT - CONTINUED

0399 00

Installation-Continued

- 15. Carefully guide track assembly (1) over support rollers (8).
- 16. When end of track assembly (1) has engaged drive sprocket (3), stop vehicle and remove fibrous rope (6) from drive sprocket (3), pull straight back on fibrous rope (6) and guide track assembly (1) over drive sprocket (3).
- 17. Stop vehicle, lock brakes and shut engine off (TM 9-2350-292-10).
- 18. Disconnect fibrous rope (6) from track assembly (1).
- 19. Reconnect track assembly (1) (TM 9-2350-292-10). Torque two new externally released bolts to 180-200 lb-ft (244-271 NSm).
- 20. Remove track binder (9) (TM 9-2350-292-10).
- 21. Close armor skirt plates (TM 9-2350-292-10).
- 22. Install fender (para 16-31).
- 23. After 30-50 miles (48-80 km), retorque two externally released bolts to 180-200 lb-ft (244-271 NSm).



ARMOR SKIRTS REMOVED FOR CLARITY

13i027mc

TRACK BINDER RETAINERS REPLACEMENT

0400 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00)

Equipment Conditions

Armor skirt panels opened (TM 9-2350-292-10)

References

TM 9-2350-292-10

NOTE

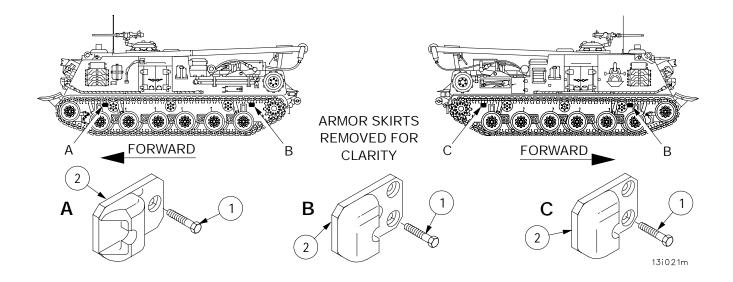
There are four track binder retainers, one each located at the left and right front and one each at the left rear and right rear. All track binder retainers are replaced in the same manner. This task replaces only one.

Removal

- 1. Remove three screws (1) and track binder retainer (2) from vehicle.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to threads of three screws (1).
- 2. Install track binder retainer (2) on vehicle with three screws (1).



NOTE

FOLLOW-ON MAINTENANCE:

Close armor skirt panels (TM 9-2350-292-10)

END OF TASK

CHAPTER 13

STEERING AND SHIFTING CONTROL COMPONENTS MAINTENANCE

STEERING CONTROL ASSEMBLY REPAIR

0401 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Retaining pliers set (item 15, WP 0717 00)

Materials/Parts

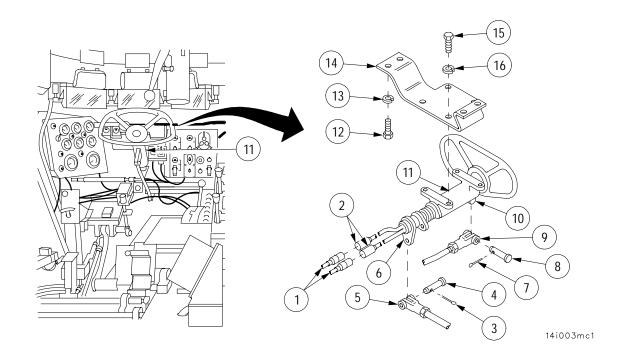
Cotter pins (5) (item 15, WP 0718 00) Lockwashers (8) (item 2, WP 0718 00) Retaining ring (item 16, WP 0718 00)

Equipment Conditions

Directional signal control switch removed (old configuration) (WP 0267 00)
Directional signal control switch, dimmer switch and bracket replacement (new configuration with brake modulation) (WP 0268 00)
High beam indicator removed (WP 0249 00)
Passive night viewer indicator removed (WP 0266 00)

Removal

- 1. Disconnect two leads (1) from two connectors (2).
- 2. Remove cotter pin (3) and headed pin (4) from control tube (5) and remote control lever (6). Discard cotter pin.
- 3. Remove cotter pin (7) and headed pin (8) from locking rod clevis (9) and bell crank (10). Discard cotter pin.
- 4. Remove four screws (12), four lockwashers (13), bracket (14) and steering control assembly (11) from vehicle. Discard lockwashers.
- 5. Remove four screws (15), four lockwashers (16) and steering control assembly (11) from bracket (14). Discard lockwashers.



STEERING CONTROL ASSEMBLY REPAIR - CONTINUED

0401 00

Disassembly

- 1. Remove proximity switch (17) (WP 0287 00).
- 2. Remove cotter pin (18) and headed pin (19) from remote control lever (6). Discard cotter pin.
- 3. Remove remote control lever (6) and spring (20) from steering column (21).
- 4. Remove two cotter pins (22) and two flat washers (23) from headless pin (24). Discard cotter pins.
- 5. Remove headless pin (24), bell crank (10), spring (25) and two spacers (26) from steering control housing (27).

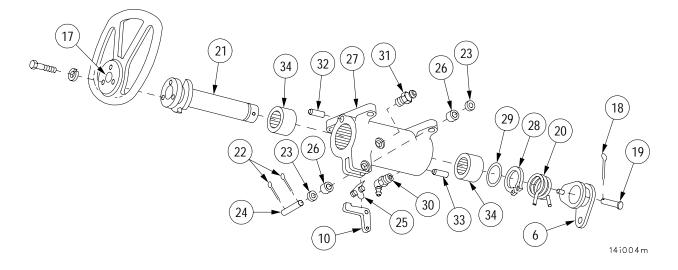


- 6. Remove retaining ring (28) and flat washer (29) from steering column (21). Discard retaining ring.
- 7. Remove steering control housing (27) from steering column (21).
- 8. Remove two lubrication fittings (30 and 31) from steering control housing (27).

NOTE

Bearings and pins must be replaced if worn, pitted or damaged bearings or pins are evident.

- 9. Remove two pins (32 and 33) from steering control housing (27).
- 10. Remove two bearings (34) from steering control housing (27).
- 11. Inspect parts for damage and replace as required.



STEERING CONTROL ASSEMBLY REPAIR - CONTINUED

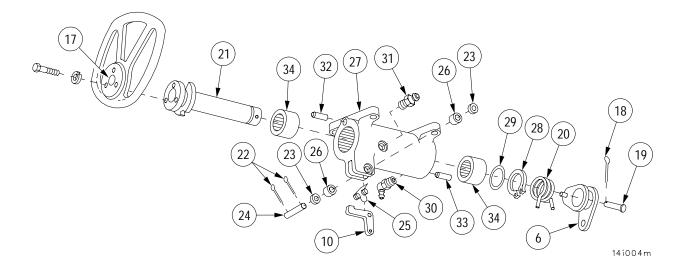
0401 00

Assembly

- 1. Install two bearings (34) and two pins (32 and 33) in steering control housing (27).
- 2. Install two lubrication fittings (30 and 31) in steering control housing (27).



- 3. Install steering column (21) in steering control housing (27) with flat washer (29) and new retaining ring (28).
- 4. Install two spacers (26), spring (25), bell crank (10) and headless pin (24) on steering control housing (27).
- 5. Secure headless pin (24) with two flat washers (23) and two new cotter pins (22).
- 6. Install spring (20) and remote control lever (6) on steering column (21) with headed pin (19) and new cotter pin (18).
- 7. Install proximity switch (17) (WP 0287 00).

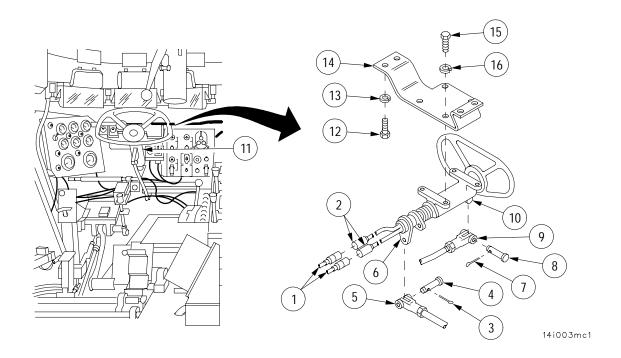


STEERING CONTROL ASSEMBLY REPAIR - CONTINUED

0401 00

Installation

- 1. Install steering control assembly (11) on bracket (14) with four screws (15) and four new lockwashers (16).
- 2. Install steering control assembly (11) and bracket (14) in vehicle with four screws (12) and four new lockwashers (13).
- 3. Connect locking rod clevis (9) to bell crank (10) with headed pin (8) and new cotter pin (7).
- 4. Connect remote control lever (6) to control tube (5) with headed pin (4) and new cotter pin (3).
- 5. Connect two connectors (2) to two leads (1).
- 6. Adjust steering locking rod assembly (WP 0058 00).
- 7. Lubricate steering control assembly (14) (WP 0187 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install passive night viewer indicator (WP 0266 00) Install high beam indicator (WP 0249 00) Install directional signal control switch (old configuration) (WP 0267 00) Install directional control switch, dimmer switch and bracket replacement (new configuration with brake modulation) (WP 0268 00)

STEERING CONTROL LOCKING ROD ASSEMBLY REPAIR

0402 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Cotter pins (3) (item 15, WP 0718 00)

Equipment Conditions

Vehicle parked on level ground with parking brake set (TM 9-2350-292-10) Vehicle tracks blocked (TM 9-2350-292-10)

References

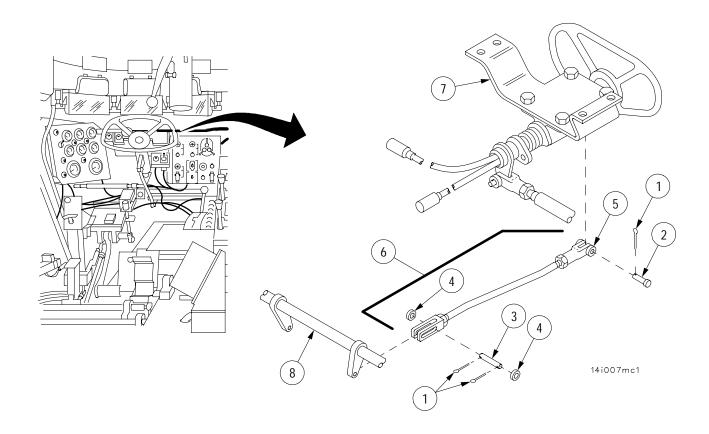
TM 9-2350-292-10

Removal



Vehicle can move when steering control lock is disconnected. Park vehicle on level ground and block tracks. Failure to comply may result in personnel death or injury or equipment damage.

- 1. Remove three cotter pins (1) from straight headed pin (2) and headless pin (3). Discard cotter pins.
- 2. Remove straight headed pin (2), headless pin (3) and two flat washers (4) from two clevises (5), remove locking rod assembly (6) from steering wheel assembly (7) and locking bar (8).



STEERING CONTROL LOCKING ROD ASSEMBLY REPAIR - CONTINUED

0402 00

Disassembly

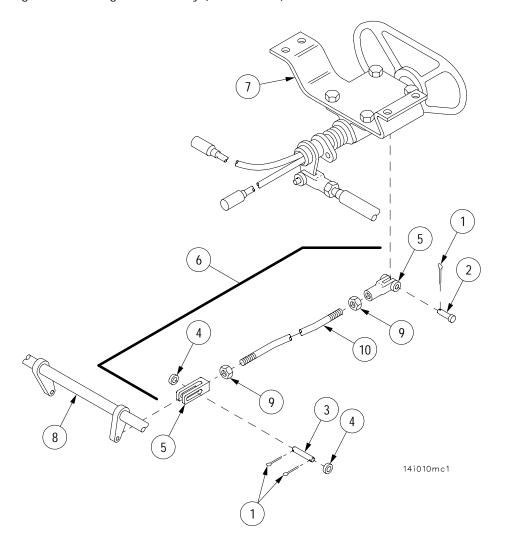
- 1. Loosen two nuts (9), remove two clevises (5) and two nuts (9) from stud (10).
- 2. Inspect parts for damage and replace as required.

Assembly

Loosely install two nuts (9) and two clevises (5) on stud (10).

Installation

- 1. Install locking rod assembly (6) on locking bar (8) and steering wheel assembly (7) with headless pin (3), two flat washers (4), straight headed pin (2) and three new cotter pins (1).
- 2. Adjust steering control locking rod assembly (WP 0358 00).



STEERING CONTROL LINKAGE (CREW COMPARTMENT) REPAIR

0403 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Retaining pliers set (item 15, WP 0717 00)

Materials/Parts

Lockwashers (12) (item 2, WP 0718 00) Lockwasher (item 27, WP 0718 00) Cotter pin (item 19, WP 0718 00) Retaining rings (2) (item 28, WP 0718 00) Welding electrodes (AR) (item 9, WP 0716 00)

Equipment Conditions

Vehicle parked on level ground with tracks blocked and parking brake set (TM 9-2350-292-10)
Subfloor plates #7, #19 and #24 removed (WP 0454 00)
Gauge panel removed (WP 0243 00)
Driver's seat removed (WP 0461 00)
Vehicular tool box rack, oddment tray and bracket removed (WP 0480 00)

Left side air cleaner assembly removed (WP 0208 00)

References

TM 9-2350-292-10

Removal

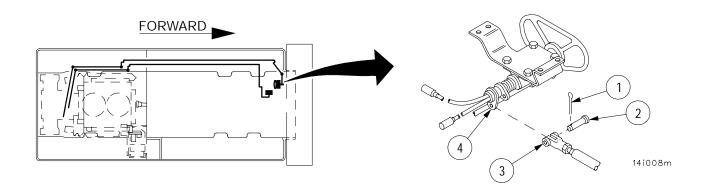


Vehicle can move when steering linkage are disconnecte-Park vehicle on level ground and block vehicle tracks. Failure to comply may result in equipment damage or personnel injury or death.

NOTE

All levers, brackets and bell cranks are provided with a 1/8 in. alignment hole to aid in proper alignment during installation. Pin levers, brackets or bell cranks not being removed, before disconnecting components.

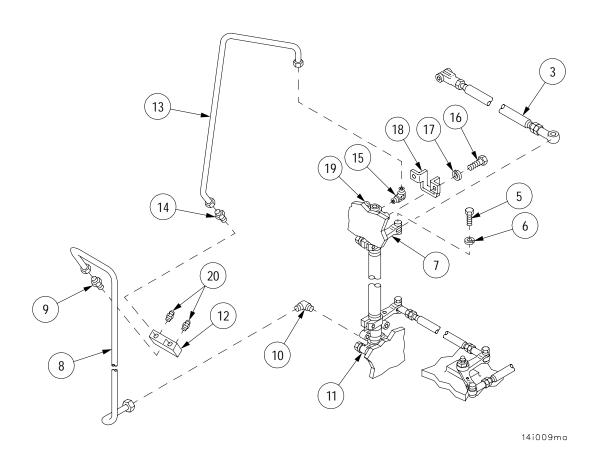
1. Remove cotter pin (1) and straight headed pin (2), disconnect connecting link assembly (3) from steering control assembly (4). Discard cotter pin.



0403 00

Removal-Continued

- 2. Remove screw (5), lockwasher (6) and connecting link assembly (3) from remote control lever (7). Discard lockwasher.
- 3. Remove tube (8) from adapter (9) and elbow (10).
- 4. Remove elbow (10) from bearing housing (11).
- 5. Remove adapter (9) from fitting and tube adapter (12).
- 6. Remove tube (13) from adapter (14) and elbow (15).
- 7. Remove two screws (16), two lockwashers (17) and bracket (18) from bulkhead. Discard lockwashers.
- 8. Remove elbow (15) from bearing housing (19).
- 9. Remove adapter (14) from fitting and tube adapter (12).
- 10. Remove two lubrication fittings (20) from fitting and tube adapter (12).



0403 00

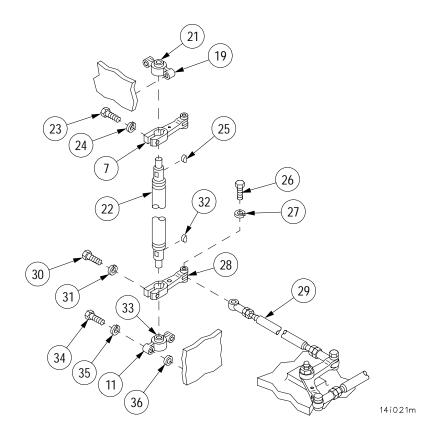
Removal-Continued

- 11. Remove bearing housing (19) with bearing (21) from shaft (22).
- 12. Remove screw (23) and lockwasher (24) from remote control lever (7). Discard lockwasher.
- 13. Remove remote control lever (7) and key (25) from shaft (22).
- 14. Remove screw (26) and lockwasher (27) from remote control lever (28), disconnect tube assembly (29) from remote control lever (28). Discard lockwasher.
- 15. Remove screw (30) and lockwasher (31) from remote control lever (28). Discard lockwasher.
- 16. Remove shaft (22), remote control lever (28) and key (32) from bearing (33).

NOTE

Quantity of flat washers may vary. Note quantity and location of flat washers removed to aid in installation.

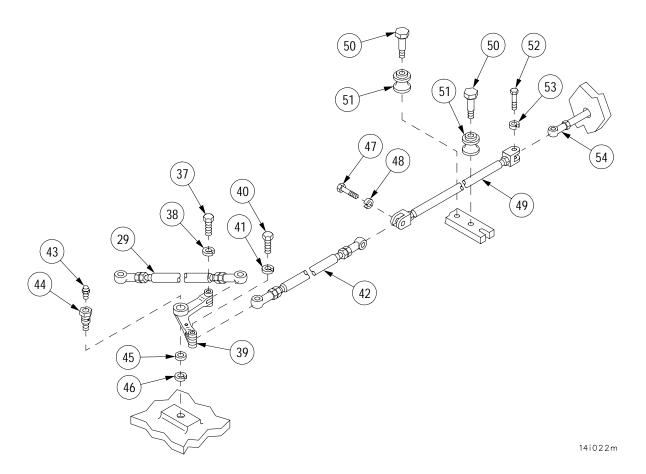
17. Remove two screws (34), two lockwashers (35), bearing housing (11) with bearing (33) and flat washers (36) from bulkheaDiscard lockwashers.



0403 00

Removal-Continued

- 18. Remove screw (37), lockwasher (38) and tube assembly (29) from bell crank (39). Discard lockwasher.
- 19. Remove screw (40), lockwasher (41) and rod assembly (42) from bell crank (39). Discard lockwasher.
- 20. Remove lubrication fitting (43) from bolt (44).
- 21. Remove bolt (44), flat washer (45), lockwasher (46) and bell crank (39) from hull mounting pad. Discard lockwasher.
- 22. Remove screw (47), lockwasher (48) and rod assembly (42) from connecting link (49). Discard lockwasher.
- 23. Remove six screws (50) and six rollers (51) from vehicle hull.
- 24. Remove screw (52), lockwasher (53) and connecting link (49) from connecting link (54). Discard lockwasher.



0403 00

Disassembly

NOTE

All tubes, rods and connecting link assemblies are disassembled in the same manner.

- 1. Loosen two nuts (55) on threaded rod, tube or connecting link (56).
- 2. Remove bearings or clevis (57) from threaded rod, tube or connecting link (56).
- 3. Remove two nuts (55) from threaded rod, tube or connecting link (56).
- 4. Remove retaining ring (58) and bearing (33) from bearing housing (11). Discard retaining ring.
- Remove retaining ring (59) and bearing (21) from bearing housing (19). Discard retaining ring.
- 6. Inspect parts for damage and replace as required.

Assembly

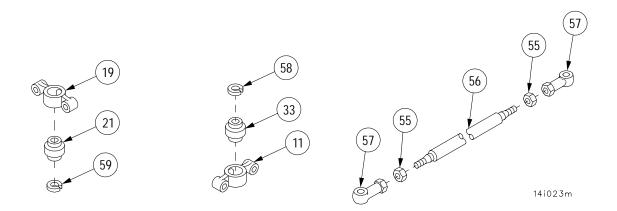
- 1. Install bearing (21) with new retaining (59) into bearing housing (19).
- 2. Install bearing (33) with new retaining ring (58) into bearing housing (11).

NOTE

All tubes, rods and connecting link assemblies are assembled in the same manner.

Do not tighten nuts on tubes, rods and connecting link assemblies during assembly, nuts will be tightened during adjustment.

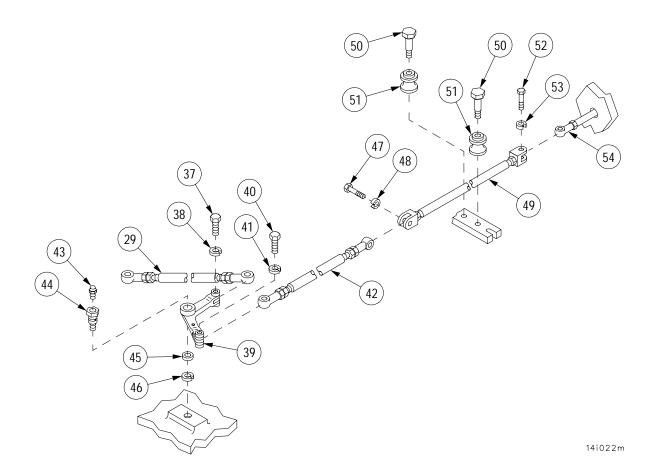
- 3. Install two nuts (55) on connecting link, tube or threaded rod (56).
- 4. Install two bearings or clevis (57) on connecting link, tube or threaded rod (56).



0403 00

Installation

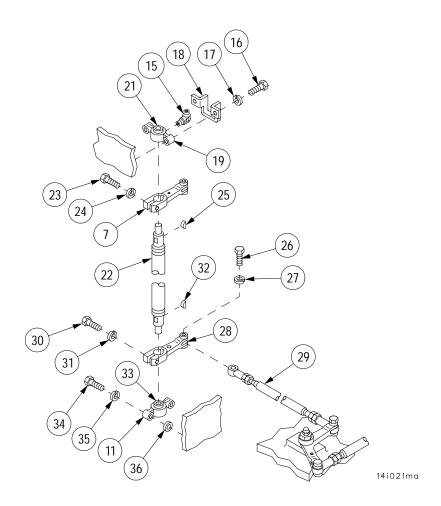
- 1. Connect connecting link (49) to connecting link (54) with screw (52) and new lockwasher (53).
- 2. Install six rollers (51) in vehicle hull with six screws (50).
- 3. Connect rod assembly (42) to connecting link (49) with screw (47) and new lockwasher (48).
- 4. Install bell crank (39) on hull mounting pad with bolt (44), flat washer (45) and new lockwasher (46).
- 5. Install lubrication fitting (43) in bolt (44).
- 6. Connect rod assembly (42) to bell crank (39) with screw (40) and new lockwasher (41).
- 7. Connect tube assembly (29) to bell crank (39) with screw (37) and new lockwasher (38).



0403 00

Installation-Continued

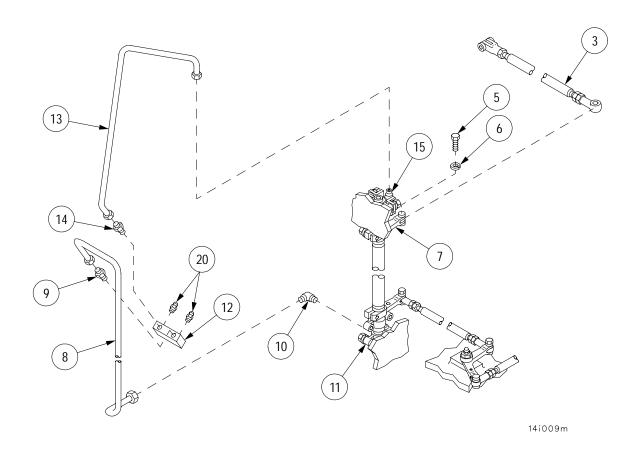
- 8. Install bearing housing (11) with bearing (33) on bulkhead with two screws (34), two new lockwashers (35) and flat washers (36).
- 9. Install key (32) and remote control lever (28) on shaft (22) with screw (30) and new lockwasher (31).
- 10. Install shaft (22) through bearing (33).
- 11. Connect tube assembly (29) to remote control lever (28) with screw (26) and new lockwasher (27).
- 12. Install remote control lever (7) and key (25) on shaft (22) with screw (23) and new lockwasher (24).
- 13. Install bearing housing (19) with bearing (21) on shaft (22).
- 14. Install elbow (15) in bearing housing (19).
- 15. Install shaft (22) and bearing housing (19) on vehicle hull with bracket (18), two screws (16) and two new lockwashers (17).



0403 00

Installation-Continued

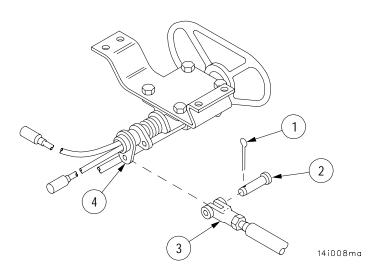
- 16. Install two lubrication fittings (20) in fitting and tube adapter (12).
- 17. Install adapter (14) in fitting and tube adapter (12).
- 18. Install tube (13) on elbow (15) and adapter (14).
- 19. Install adapter (9) in fitting and tube adapter (12).
- 20. Install elbow (10) in bearing housing (11).
- 21. Install tube (8) on adapter (9) and elbow (10).
- 22. Install connecting link assembly (3) on remote control lever (7) with screw (5) and new lockwasher (6).



0403 00

Installation-Continued

- 23. Install connecting link (3) on steering control assembly (4) with straight headed pin (2) and new cotter pin (1).
- 24. Adjust steering control linkage (WP 0405 00).
- 25. Lubricate steering control linkage (WP 0187 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install left side air cleaner assembly (WP 0208 00) Install vehicular tool box rack, oddment tray and bracket (WP 0480 00) Install driver's seat (WP 0461 00)

Install gauge panel (WP 0243 00)

Install subfloor plates #7, #19 and #24 (WP 0454 00)

STEERING CONTROL LINKAGE (ENGINE COMPARTMENT) REPAIR

0404 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Retaining pliers set (item 15, WP 0717 00)

Materials/Parts

Lockwashers (10) (item 2, WP 0718 00) Lockwasher (item 27, WP 0718 00) Lockwasher (item 9, WP 0718 00) Lockwasher (item 12, WP 0718 00) Retaining rings (2) (item 44, WP 0718 00) Adhesive (item 15, WP 0716 00) Welding electrodes (AR) (item 9, WP 0716 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Equipment Conditions

Vehicle parked on level ground with tracks blocked and parking brake set (TM 9-2350-292-10) Subfloor plates #19 and #24 removed (WP 0454 00) Battery trays removed (WP 0288 00) Left side air cleaner assembly removed (WP 0208 00) Engine deck assembly removed (WP 0417 00) Powerpack removed (WP 0188 00) Lubrication tubes disconnected and fittings removed from bell crank (WP 0409 00)

References

TM 9-2350-292-10

NOTE

This task replaces the portion of the steering control linkage found in the engine compartment. Perform only those steps necessary to replace the defective parts.

Removal of the left side floor plates, left side air cleaner assembly and battery trays are required only for replacement of the thru bulkhead linkage.

Removal of the battery trays are required only for replacement of the near bulkhead linkage.

Removal of powerpack is required for replacement of bell crank on mounting bracket near battery compartment.

Removal of engine deck assembly is required only for replacement of bell crank and linkage on mounting bracket near transmission.

All levers, brackets and bell cranks are provided with a 1/8 in. alignment hole to aid in the proper alignment during installation. Levers, brackets or bell cranks not being removed must be pinned before disconnecting components.

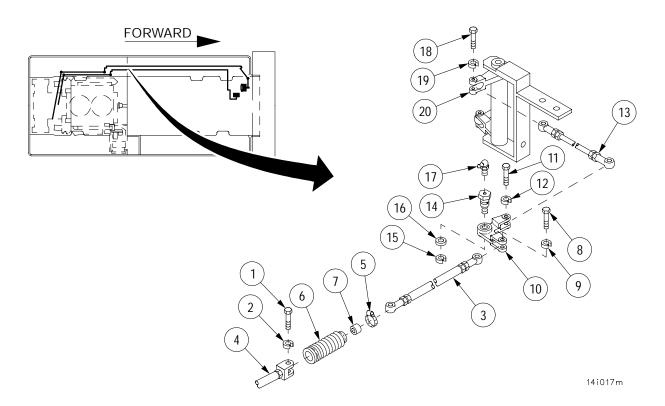
0404 00

Removal



Vehicle can move when steering linkage is disconnecte-Park vehicle on level ground and block vehicle tracks. Failure to comply may result in personnel death or injury or damage to the equipment.

- 1. Remove screw (1) and lockwasher (2), disconnect connecting link assembly (3) from connecting link assembly (4). Discard lockwasher.
- 2. Loosen clamp (5) securing bellows (6) and bushing (7) to connecting link assembly (3).
- 3. Remove screw (8), lockwasher (9) and connecting link assembly (3) from bell crank (10). Discard lockwasher.
- 4. Remove bellows (6) from bulkhead, bushing (7) and clamp (5) from connecting link assembly (3).
- 5. Remove screw (11) and lockwasher (12), disconnect stud assembly (13) from bell crank (10). Discard lockwasher.
- 6. Remove bolt (14), bell crank (10), lockwasher (15) and flat washer (16) from vehicle hull. Discard lockwasher.
- 7. Remove lubrication fitting (17) from bolt (14).
- 8. Remove screw (18), lockwasher (19) and stud assembly (13) from bell crank (20). Discard lockwasher.



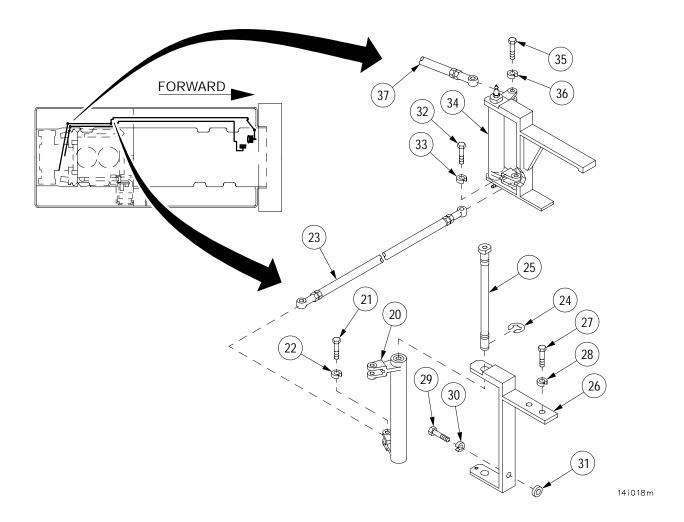
0404 00

Removal-Continued

9. Remove screw (21) and lockwasher (22), disconnect tube assembly (23) from bell crank (20). Discard lockwasher.



- 10. Remove retaining ring (24) from pin (25). Discard retaining ring.
- 11. Remove pin (25) and bell crank (20) from mounting bracket (26).
- 12. Remove two screws (27) and two lockwashers (28) from mounting bracket (26). Discard lockwashers.
- 13. Remove screw (29), lockwasher (30), flat washer (31) and mounting bracket (26). Discard lockwasher.
- 14. Remove screw (32) and lockwasher (33), disconnect tube assembly (23) from bell crank (34). Discard lockwasher.
- 15. Remove screw (35) and lockwasher (36), disconnect connecting link assembly (37) from bell crank (34). Discard lockwasher.



0404 00

Removal-Continued

16. Remove lubrication fitting (38) from pin (39).



- 17. Remove retaining ring (40) from pin (39). Discard retaining ring.
- 18. Remove pin (39) and bell crank (34) from mounting bracket (41).
- 19. Remove lubrication fitting (42) from pin (39).
- 20. Remove screw (43) and lockwasher (44), disconnect connecting link assembly (37) from remote control lever (45). Discard lockwasher.
- 21. Remove screw (46), lockwasher (47) and remote control lever (45) from transmission. Discard lockwasher.



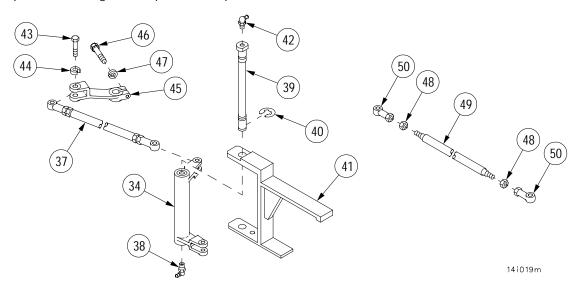
22. Clean all parts with dry-cleaning solvent.

Disassembly

NOTE

All tubes, threaded rods, studs and connecting link assemblies are disassembled in the same manner.

- 1. Loosen two nuts (48) on tube, threaded rod, stud or connecting link (49).
- 2. Remove two bearings or clevis (50) from tube, threaded rod, stud or connecting link (49).
- 3. Remove two nuts (48) from tube, threaded rod, stud or connecting link (49).
- 4. Inspect parts for damage and replace as required.



0404 00

Assembly

NOTE

All tubes, threaded rods, studs and connecting link assemblies are assembled in the same manner.

Do not tighten nuts on tubes, threaded rods, studs, or connecting link assemblies during assembly. Nuts will be tightened during adjustment.

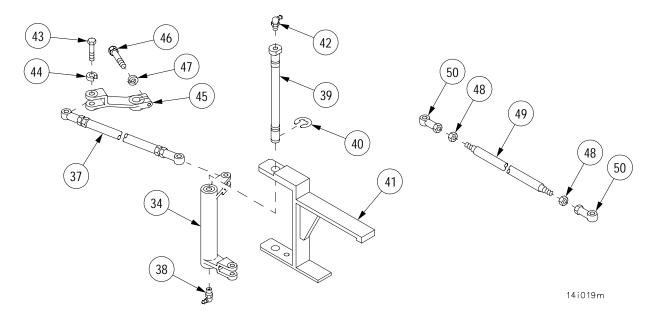
- 1. Install two nuts (48) on tube, threaded rod, stud or connecting link (49).
- 2. Install two bearings or clevises (50) on tube, threaded rod, stud or connecting link (49).

Installation

- 1. Install remote control lever (45) on transmission with screw (46) and new lockwasher (47).
- 2. Connect connecting link assembly (37) to remote control lever (45) with screw (43) and new lockwasher (44).
- 3. Install lubrication fitting (42) in pin (39).
- 4. Install bell crank (34) in mounting bracket (41) with pin (39).



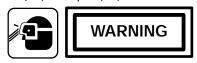
- 5. Install new retaining ring (40) on pin (39).
- 6. Install lubrication fitting (38) in pin (39).



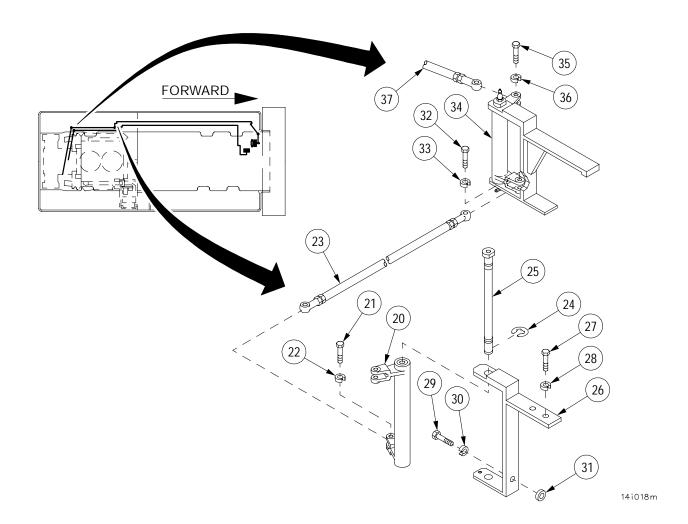
0404 00

Installation-Continued

- 7. Connect connecting link assembly (37) to bell crank (34) with screw (35) and new lockwasher (36).
- 8. Connect tube assembly (23) to bell crank (34) with screw (32) and new lockwasher (33).
- 9. Install mounting bracket (26) with screw (29), new lockwasher (30) and flat washer (31).
- 10. Install two screws (27) and two new lockwashers (28) in mounting bracket (26).
- 11. Install bell crank (20) in mounting bracket (26) with pin (25).



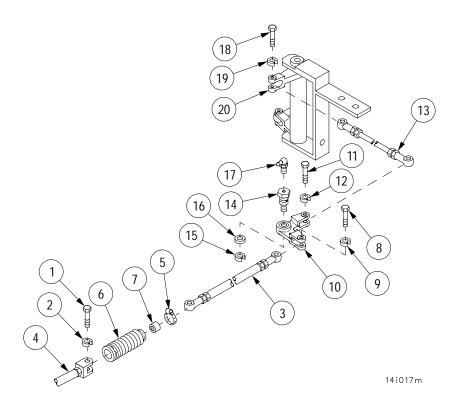
- 12. Install new retaining ring (24) on pin (25).
- 13. Connect tube assembly (23) to bell crank (20) with screw (21) and new lockwasher (22).



0404 00

Installation-Continued

- 14. Connect stud assembly (13) to bell crank (20) with screw (18) and new lockwasher (19).
- 15. Install bell crank (10) in vehicle hull with bolt (14), new lockwasher (15) and flat washer (16).
- 16. Install lubrication fitting (17) in bolt (14).
- 17. Connect stud assembly (13) to bell crank (10) with screw (11) and new lockwasher (12).
- 18. Install bushing (7), bellows (6) and clamp (5) on connecting link assembly (3). Do not tighten clamp (5).
- 19. Apply adhesive to bulkhead-end of bellows (6) and push the end of bellows (6) into bulkhead.
- 20. Connect connecting link assembly (3) to bell crank (10) with screw (8) and new lockwasher (9).
- 21. Connect connecting link (3) to connecting link assembly (4) with screw (1) and new lockwasher (2).
- 22. Measure 4.5 inches (114.3 mm) back from bulkhead and cement bushing (7) to connecting link assembly (3).
- 23. Secure bellows (6) to connecting link assembly (3) with clamp (5).
- 24. Adjust steering control linkage (WP 0405 00).



0404 00

Installation-Continued

25. Lubricate engine compartment steering control linkage (WP 0187 00).

NOTE

FOLLOW-ON MAINTENANCE:

Install lubrication tubes and fittings to bell crank, if removed (WP 0409 00)
Install powerpack, if removed (WP 0188 00)
Install engine deck assembly, if removed (WP 0417 00)
Install left side air cleaner assembly, if removed (WP 0208 00)
Install battery trays, if removed (WP 0288 00)
Install subfloor plates #19 and #24, if removed (WP 0454 00)

END OF TASK

STEERING CONTROL LINKAGES ADJUSTMENT

0405 00

THIS WORK PACKAGE COVERS:

Adjustment

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (5) (item 2, WP 0718 00) Cotter pin (item 19, WP 0718 00) Welding electrodes (AR) (item 9, WP 0716 00)

Equipment Conditions

Storage rack assembly and rocket launcher bracket removed (WP 0463 00)

Vehicular tool box rack, oddment tray assembly and bracket removed (WP 0480 00)

Left side air cleaner assembly removed (WP 0208 00) Left side air cleaner intake hoses and tubes removed (WP 0212 00)

Subfloor plates #7, #19 and #24 removed (WP 0454 00)

Engine deck assembly removed (WP 0417 00)

Personnel Required

Two

References

TM 9-2350-292-10

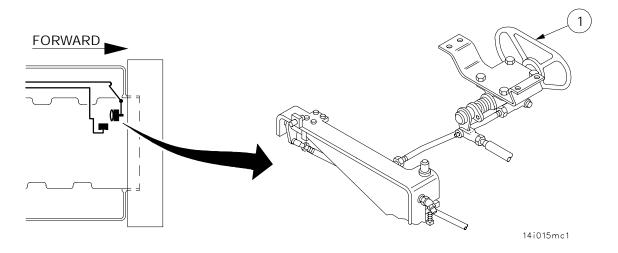
Adjustment

NOTE

All adjustments to steering linkage must finish with transmission steer lever in neutral position (pointer on the transmission steer shaft pointing to center mark) and steering control assembly in center (no steer) position.

All levers and brackets are provided with a 1/8-in. alignment hole to aid in proper alignment. All levers and brackets must be pinned at points designated. All levers and brackets must remain pinned until adjustment is completed.

1. Position steering control assembly (1) in center (no steer) position (TM 9-2350-292-10).



0405 00

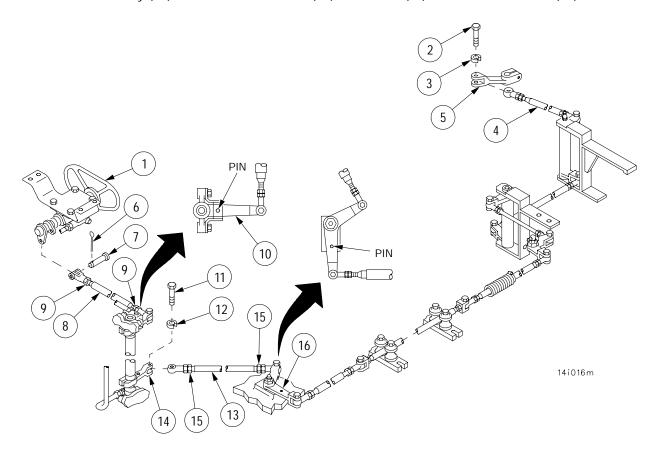
Adjustment-Continued

- 2. Remove screw (2) and lockwasher (3), disconnect rod assembly (4) from remote control lever (5) at transmission. Discard lockwasher.
- 3. Remove cotter pin (6) and straight headed pin (7), disconnect connecting link (8) from steering control assembly (1). Discard cotter pin.

NOTE

All steering control rod and tube assemblies are adjusted in the same manner. Loosen two nuts and turn rod or tube assembly, one direction to make it shorter, or the other direction to make it longer. Both ends must be adjusted equally.

- 4. Loosen two nuts (9), adjust connecting link (8) until steering control assembly (1) is in center (no steer) position and bell crank (10) can be pinned. Tighten two nuts (9).
- 5. Connect connecting link (8) to steering control assembly (1) with straight headed pin (7) and new cotter pin (6).
- Remove screw (11) and lockwasher (12), disconnect tube assembly (13) from remote control lever (14). Discard lockwasher.
- 7. Loosen two nuts (15), adjust tube assembly (13) until bell crank (16) can be pinned. Tighten two nuts (15).
- 8. Connect tube assembly (13) to remote control lever (14) with screw (11) and new lockwasher (12).

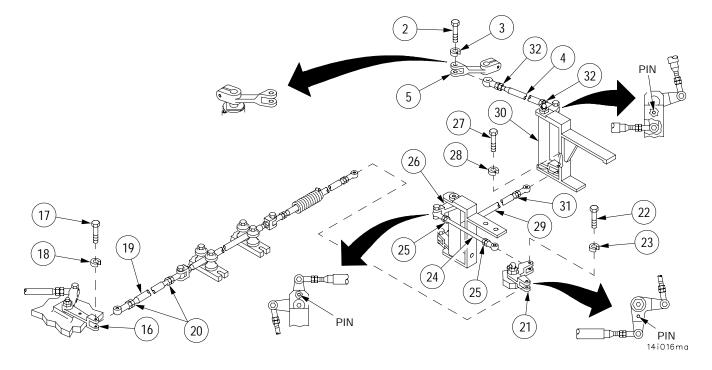


STEERING CONTROL LINKAGES ADJUSTMENT - CONTINUED

0405 00

Adjustment-Continued

- 9. Remove screw (17) and lockwasher (18), disconnect tube assembly (19) from bell crank (16). Discard lockwasher.
- 10. Loosen two nuts (20), adjust tube assembly (19) until bell crank (21) can be pinned. Tighten two nuts (20).
- 11. Connect tube assembly (19) to bell crank (16) with screw (17) and new lockwasher (18).
- 12. Remove screw (22) and lockwasher (23), disconnect tube assembly (24) from bell crank (21). Discard lockwasher.
- 13. Loosen two nuts (25), adjust tube assembly (24) until bell crank (26) can be pinned. Tighten two nuts (25).
- 14. Connect tube assembly (24) to bell crank (21) with screw (22) and new lockwasher (23).
- 15. Remove screw (27) and lockwasher (28), disconnect tube assembly (29) from bell crank (30). Discard lockwasher.
- 16. Loosen two nuts (31), adjust tube assembly (29) until bell crank (30) can be pinned. Tighten two nuts (31).
- 17. Make sure remote control lever (5) is in neutral position (pointing to center mark on transmission), loosen two nuts (32) and adjust rod assembly (4) until remote control lever (5) and rod assembly (4) can be connected. Tighten two nuts (32).
- 18. Connect rod assembly (4) to remote control lever (5) with screw (2) and new lockwasher (3).
- 19. Remove welding electrodes from bell cranks.

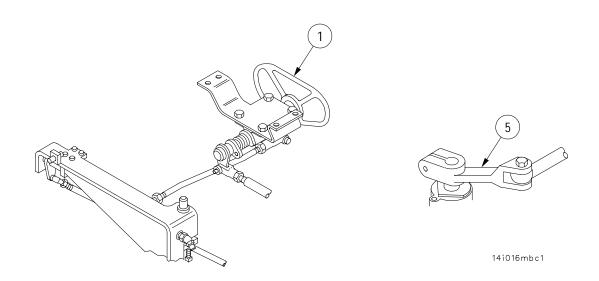


STEERING CONTROL LINKAGES ADJUSTMENT - CONTINUED

0405 00

Adjustment-Continued

20. Make sure steering control assembly (1) is in center (no steer) position and remote control lever (5) is in neutral position (pointing to center mark) on transmission. If not, return to step1.



NOTE

FOLLOW-ON MAINTENANCE:

Install engine deck assembly (WP 0417 00)
Install subfloor plates #7, #19 and #24 (WP 0454 00)
Install left side air cleaner intake hoses and tubes (WP 0212 00)
Install left side air cleaner assembly (WP 0208 00)
Install vehicular tool box rack, oddment tray assembly and bracket (WP 0480 00)
Install storage rack assembly and rocket launcher bracket (WP 0463 00)

SHIFTING CONTROL LINKAGE (CREW COMPARTMENT) REPAIR

0406 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (16) (item 2, WP 0718 00) Lockwashers (2) (item 38, WP 0718 00) Cotter pins (2) (item 15, WP 0718 00) Welding electrodes (AR) (item 9, WP 0716 00)

Equipment Conditions

Vehicle parked on level ground with tracks blocked and parking brake set (TM 9-2350-292-10)
Subfloor plates #19 and #24 removed (WP 0454 00)
Driver's seat raised (TM 9-2350-292-10)
Vehicular tool box rack, oddment tray and bracket removed (WP 0480 00)
Left side air cleaner assembly removed (WP 0208 00)

References

TM 9-2350-292-10

Removal

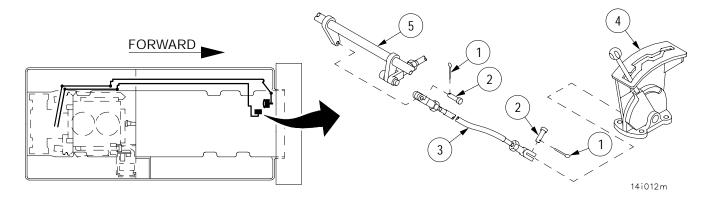


Vehicle can move when shifting control linkage is disconnectePark vehicle on level ground and block vehicle tracks. Failure to comply may result in personnel death or injury or damage to the equipment.

NOTE

All levers, brackets and bell cranks are provided with 1/8-in. alignment hole to aid in proper alignment during installation. Pin levers, brackets or bell cranks not being removed, before disconnecting components.

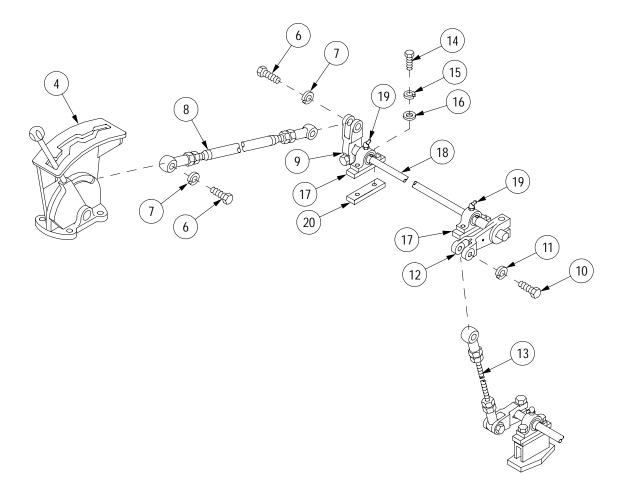
1. Remove two cotter pins (1), two straight headed pins (2) and threaded rod assembly (3) from shift control assembly (4) and locking bar (5). Discard cotter pins.



0406 00

Removal-Continued

- 2. Remove two screws (6), two lockwashers (7) and tube assembly (8) from shift control assembly (4) and remote control lever (9). Discard lockwashers.
- 3. Remove screw (10) and lockwasher (11) from remote control lever (12) and stud assembly (13). Discard lockwasher.
- 4. Remove four screws (14), four lockwashers (15) and four flat washers (16) from two bearing units (17). Discard lockwashers.
- 5. Remove remote control lever (9), shift shaft (18), two bearing units (17), two lubrication fittings (19) and remote control lever (12) as an assembly from vehicle. Remove two spacers (20) from vehicle.



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0406 00

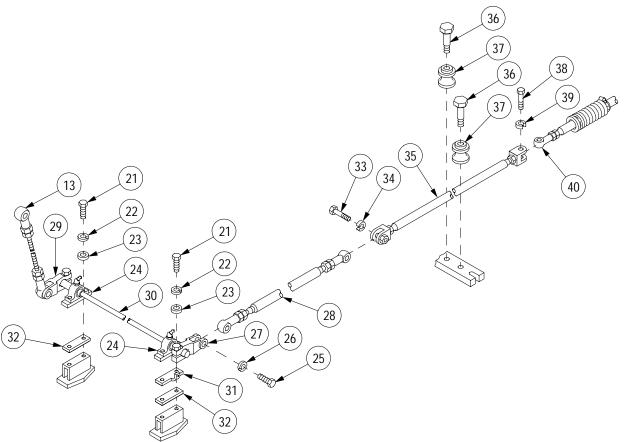
Removal-Continued

- 6. Remove four screws (21), four lockwashers (22) and four flat washers (23) from two bearing units (24). Discard lockwashers.
- 7. Remove screw (25) and lockwasher (26) from remote control lever (27) and tube assembly (28). Discard lockwasher.
- 8. Remove stud assembly (13), two remote control levers (27 and 29), two bearing units (24) and shift shaft (30) from vehicle as an assembly.

NOTE

Note position of angle bracket during removal to aid in installation.

- 9. Remove angle bracket (31) and two spacers (32) from two hull supports.
- 10. Remove screw (33), lockwasher (34) and tube assembly (28) from connecting link assembly (35). Discard lockwasher.
- 11. Remove six screws (36) and six rollers (37) securing connecting link assembly (35) to vehicle hull.
- 12. Remove screw (38) and lockwasher (39), disconnect connecting link assembly (35) from threaded rod assembly (40). Discard lockwasher.



14i014ma

0406 00

Disassembly

1. Remove screw (41), lockwasher (42) and stud assembly (13) from remote control lever (29). Discard lockwasher.

NOTE

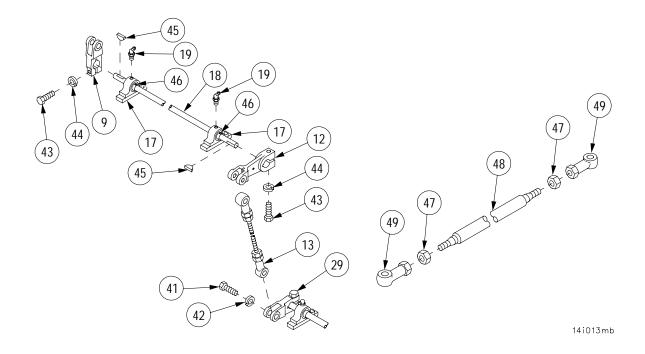
Each shift shaft with two bearing units and two remote control levers is removed from vehicle as an assembly. Each shift shaft assembly is disassembled and assembled in the same manner. This task dissembles and assembles only one shift shaft assembly.

- 2. Remove two screws (43), two lockwashers (44), two remote control levers (9 and 12) and two woodruff keys (45) from shift shaft (18). Discard lockwashers.
- 3. Remove two lubrication fittings (19) from two bearing units (17).
- 4. Loosen four set screws (46) and remove two bearing units (17) from shift shaft (18).

NOTE

All tubes, threaded rods and connecting link assemblies are disassembled in the same manner.

- 5. Loosen two nuts (47) on tube, threaded rod or connecting rod (48).
- 6. Remove two bearings or clevis (49) from tube, threaded rod or connecting link (48).
- 7. Remove two nuts (47) from tube, threaded rod or connecting link (48)
- 8. Inspect parts for damage and replace as required.



0406 00

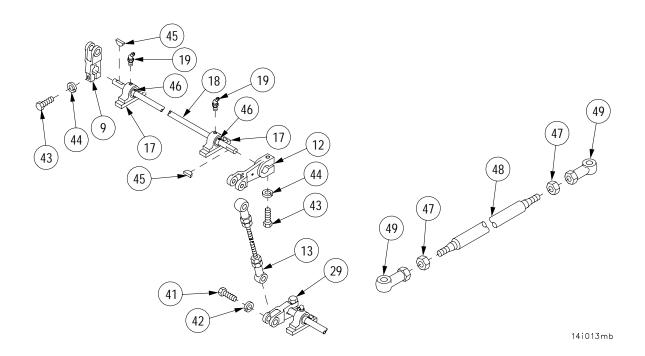
Assembly

NOTE

All tubes, threaded rods and connecting link assemblies are assembled in the same manner.

Do not tighten nuts on tubes, threaded rods or connecting link assemblies during assembly, nuts will be tightened during adjustment.

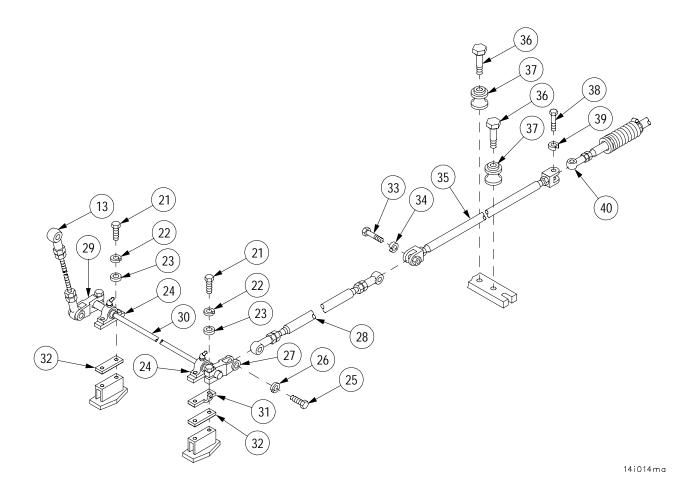
- 1. Install two nuts (47) on tube, threaded rod or connecting link (48).
- 2. Install two bearings or clevis (49) on tube, threaded rod or connecting link (48).
- 3. Install two bearing units (17) on shift shaft (18), tighten four set screws (46).
- 4. Install two lubrication fittings (19) on two bearing units (17).
- 5. Install two woodruff keys (45) and two remote control levers (9 and 12) on shift shaft (18) with two screws (43) and two new lockwashers (44).
- 6. Install stud assembly (13) on remote control lever (29) with screw (41) and new lockwasher (42).



0406 00

Installation

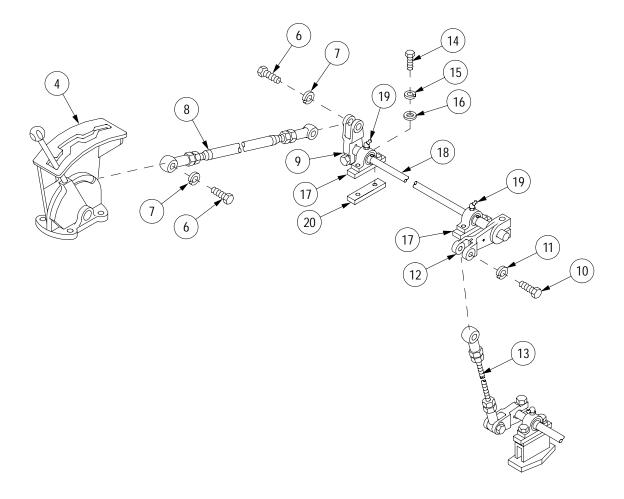
- 1. Connect connecting link assembly (35) to threaded rod assembly (40) with screw (38) and new lockwasher (39).
- 2. Install connecting link assembly (35) on vehicle hull with six rollers (37) and six screws (36).
- 3. Connect tube assembly (28) to connecting link assembly (35) with screw (33) and new lockwasher (34).
- 4. Position angle bracket (31) and two spacers (32) on two hull supports.
- 5. Install remote control lever (27) on tube assembly (28) with screw (25) and new lockwasher (26).
- 6. Install shift shaft (30), two bearing units (24), two remote control levers (27 and 29) and stud assembly (13) in vehicle as an assembly with four screws (21), four new lockwashers (22) and four flat washers (23).



0406 00

Installation-Continued

- 7. Install two spacers (20), two remote control levers (9 and 12), two lubrication fittings (19), shift shaft (18) and two bearing units (17) as an assembly in vehicle with four screws (14), four new lockwashers (15) and four flat washers (16).
- 8. Connect stud assembly (13) to remote control lever (12) with screw (10) and new lockwasher (11).
- 9. Install tube assembly (8) to remote control lever (9) and shift control assembly (4) with two screws (6) and two new lockwashers (7).

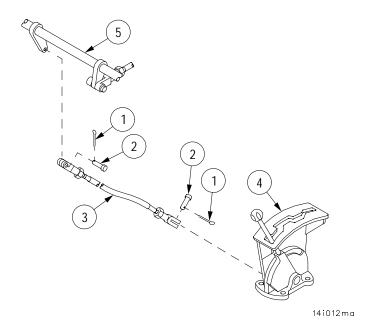


14i013ma

0406 00

Installation-Continued

- 10. Connect threaded rod assembly (3) to locking bar (5) and shift control assembly (4) with two straight headed pins (2) and two new cotter pins (1).
- 11. Adjust shifting control linkage (WP 0406 00).
- 12. Lubricate shifting control linkage (WP 0187 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install left side air cleaner assembly (WP 0208 00)
Install vehicular tool box rack, oddment tray and bracket (WP 0480 00)

Install subfloor plates #19 and #24 (WP 0454 00)

SHIFTING CONTROL LINKAGE (ENGINE COMPARTMENT) REPAIR

0407 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Retaining ring pliers set (item 15, WP 0717 00)

Materials/Parts

Lockwashers (10) (item 2, WP 0718 00)
Lockwasher (item 27, WP 0718 00)
Lockwasher (item 9, WP 0718 00)
Lockwasher (item 12, WP 0718 00)
Retaining rings (2) (item 44, WP 0718 00)
Adhesive (item 15, WP 0716 00)
Welding electrodes (AR) (item 9, WP 0716 00)
Dry-cleaning solvent (item 1, WP 0716 00)

Equipment Conditions

Vehicle parked on level ground with tracks blocked and parking brake set (TM 9-2350-292-10)
Subfloor plates #19 and #24 removed (WP 0454 00)
Battery trays removed (WP 0288 00)
Left side air cleaner assembly removed (WP 0208 00)
Engine deck assembly removed (WP 0417 00)
Powerpack removed (WP 0188 00)
Lubrication tubes disconnected and fittings removed from bell crank (WP 0409 00)

References

TM 9-2350-292-10

NOTE

This task replaces the portion of the steering control linkage found in the engine compartment Perform only those steps necessary to replace the defective parts.

Removal of the left side floor plates, left side air cleaner assembly and battery trays are required only for the replacement of the thru bulkhead linkage.

Removal of the battery trays are required only for replacement of the near bulkhead linkage.

Removal of powerpack is required for replacement of bell crank on mounting bracket near battery compartment.

Removal of powerpack is required only for replacement of bell crank and linkage on mounting bracket near transmission.

All levers, brackets and bell cranks are provided with a 1/8-in. alignment hole to aid in the proper alignment during Installation Levers, brackets or bell cranks not being removed must be pinned before disconnecting components.

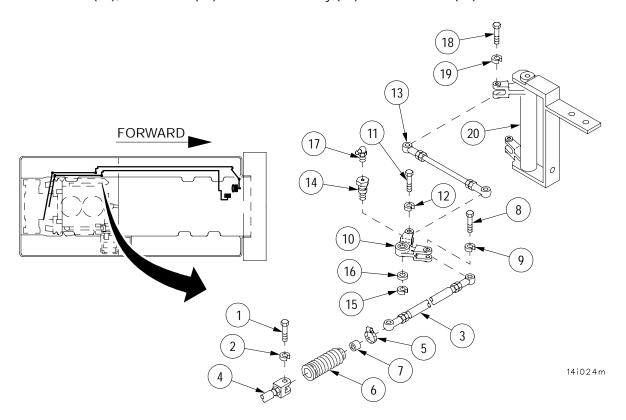
0407 00

Removal



Vehicle can move when shifting linkage is disconnecte-Park vehicle on level ground and block vehicle tracks. Failure to comply may result in personnel death or injury or damage to the equipment.

- 1. Remove screw (1) and lockwasher (2), disconnect threaded rod assembly (3) from connecting link assembly (4). Discard lockwasher.
- 2. Loosen clamp (5) securing bellows (6) and bushing (7) to threaded rod assembly (3).
- 3. Remove screw (8), lockwasher (9) and threaded rod assembly (3) from bell crank (10). Discard lockwasher.
- 4. Remove bellows (6) from bulkhead and bushing (7) and clamp (5) from threaded rod assembly (3).
- 5. Remove screw (11) and lockwasher (12), disconnect stud assembly (13) from bell crank (10). Discard lockwasher.
- 6. Remove bolt (14), bell crank (10), lockwasher (15) and flat washer (16) from vehicle hull. Discard lockwasher.
- 7. Remove lubrication fitting (17) from bolt (14).
- 8. Remove screw (18), lockwasher (19) and stud assembly (13) from bell crank (20). Discard lockwasher.



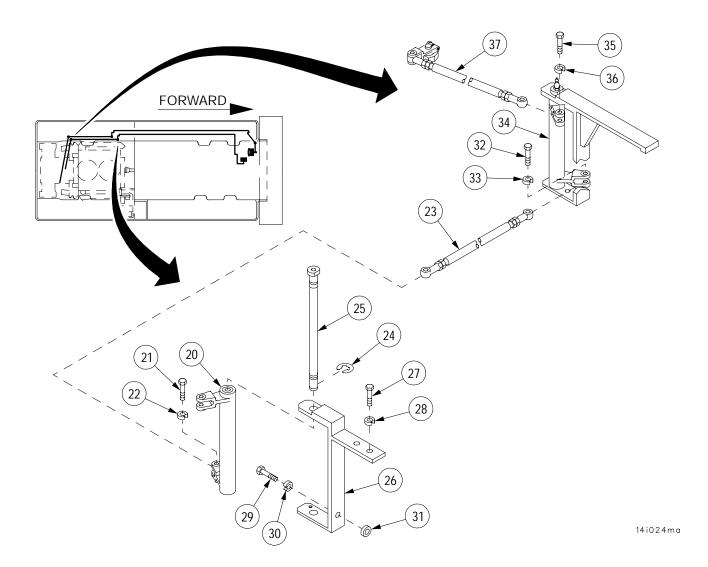
0407 00

Removal-Continued

9. Remove screw (21) and lockwasher (22), disconnect tube assembly (23) from bell crank (20). Discard lockwasher.



- 10. Remove retaining ring (24) from pin (25). Discard retaining ring.
- 11. Remove pin (25) and bell crank (20) from mounting bracket (26).
- 12. Remove two screws (27) and two lockwashers (28) from mounting bracket (26). Discard lockwashers.
- 13. Remove screw (29), lockwasher (30), flat washer (31) and mounting bracket (26). Discard lockwasher.
- 14. Remove screw (32) and lockwasher (33), disconnect tube assembly (23) from bell crank (34). Discard lockwasher.
- 15. Remove screw (35) and lockwasher (36), disconnect threaded rod assembly (37) from bell crank (34). Discard lockwasher.



0407 00

Removal-Continued

16. Remove lubrication fitting (38) from pin (39).



- 17. Remove retaining ring (40) from pin (39). Discard retaining ring.
- 18. Remove pin (39) and bell crank (34) from mounting bracket (41).
- 19. Remove lubrication fitting (42) from pin (39).
- 20. Remove screw (43) and lockwasher (44), disconnect threaded rod assembly (37) from remote control lever (45). Discard lockwasher.
- 21. Remove screw (46), lockwasher (47) and remote control lever (45) from transmission. Discard lockwasher.



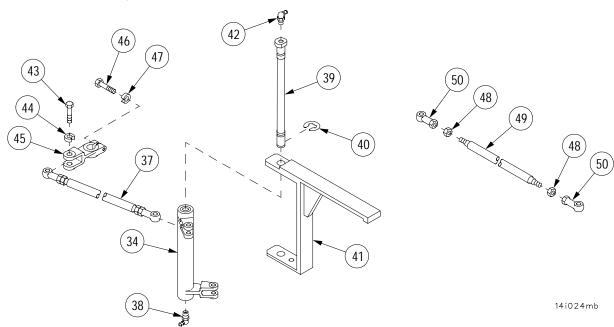
22. Clean all parts with dry-cleaning solvent.

Disassembly

NOTE

All tubes, threaded rods, studs or connecting link assemblies are disassembled in the same manner.

- 1. Loosen two nuts (48) on tube, threaded rod, stud or connecting link (49).
- 2. Remove two bearings or clevis (50) from tube, threaded rod, stud or connecting link (49).
- 3. Remove two nuts (48) from tube, threaded rod, stud or connecting link (49).
- 4. Inspect parts for damage and replace as required.



0407 00

Assembly

NOTE

All tubes, threaded rods, studs or connecting link assemblies are assembled in the same manner.

Do not tighten nuts on tubes, threaded rods, studs, or connecting link assemblies during Assembly Nuts will be tightened during adjustment.

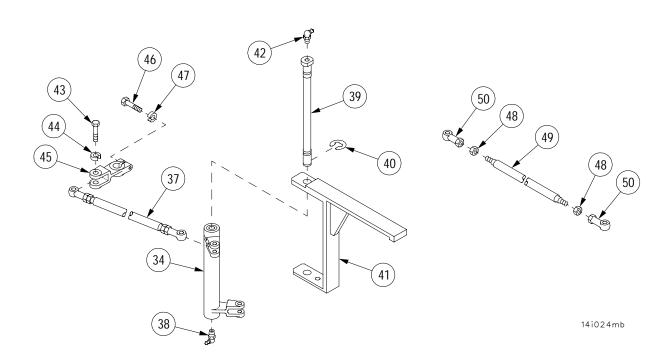
- 1. Install two nuts (48) on tube, threaded rod, stud or connecting link (49).
- 2. Install two bearings or clevis (50) on tube, threaded rod, stud or connecting link (49).

Installation

- 1. Install remote control lever (45) on transmission with screw (46) and new lockwasher (47).
- 2. Connect threaded rod assembly (37) to remote control lever (45) with screw (43) and new lockwasher (44).
- 3. Install lubrication fitting (42) in pin (39).
- 4. Install bell crank (34) in mounting bracket (41) with pin (39).



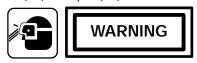
- 5. Install new retaining ring (40) on pin (39).
- 6. Install lubrication fitting (38) in pin (39).



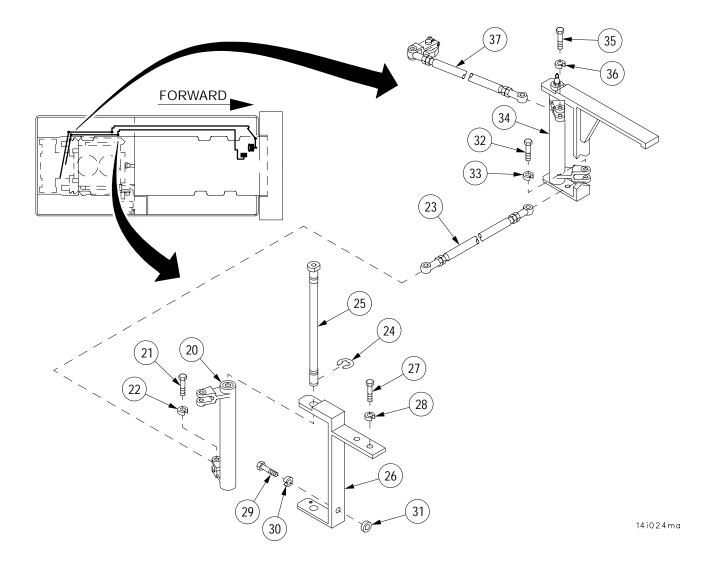
0407 00

Installation-Continued

- 7. Connect threaded rod assembly (37) to bell crank (34) with screw (35) and new lockwasher (36).
- 8. Connect tube assembly (23) to bell crank (34) with screw (32) and new lockwasher (33).
- 9. Install mounting bracket (26) with screw (29), new lockwasher (30) and flat washer (31).
- 10. Install two screws (27) and two new lockwashers (28) in mounting bracket (26).
- 11. Install bell crank (20) in mounting bracket (26) with pin (25).



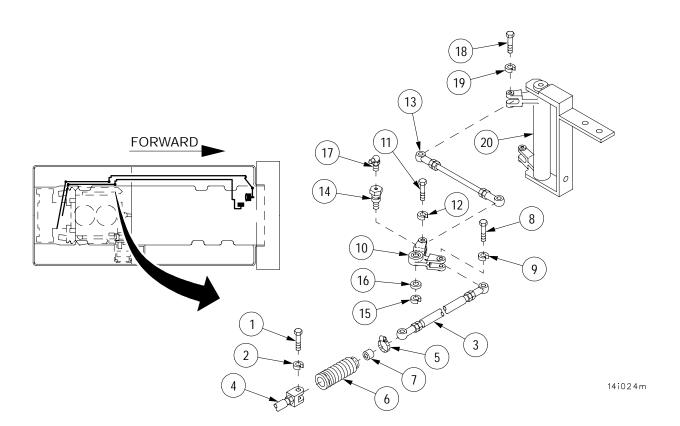
- 12. Install new retaining ring (24) on pin (25).
- 13. Connect tube assembly (23) to bell crank (20) with screw (21) and new lockwasher (22).



0407 00

Installation-Continued

- 14. Connect stud assembly (13) to bell crank (20) with screw (18) and new lockwasher (19).
- 15. Install bell crank (10) to vehicle hull with bolt (14), new lockwasher (15) and flat washer (16).
- 16. Install lubrication fitting (17) in bolt (14).
- 17. Connect stud assembly (13) to bell crank (10) with screw (11) and new lockwasher (12).
- 18. Install bushing (7), bellows (6) and clamp (5) on threaded rod assembly (3).
- 19. Apply adhesive to bulkhead-end of bellows (6) and push end of bellows (6) into bulkhead.
- 20. Connect threaded rod assembly (3) to bell crank (10) with screw (8) and new lockwasher (9).
- 21. Connect threaded rod assembly (3) to connecting link assembly (4) with screw (1) and new lockwasher (2).
- 22. Measure 4.5 inches (114.3 mm) back from bulkhead and cement bushing (7) to threaded rod assembly (3).
- 23. Secure bellows (6) to threaded rod assembly (3) with clamp (5).



0407 00

Installation-Continued

- 24. Adjust shifting control linkage (WP 0405 00).
- 25. Lubricate shiting control linkage (WP 0187 00).

NOTE

FOLLOW-ON MAINTENANCE:

Install lubrication tubes and fittings to bell crank, if removed (WP 0409 00)
Install powerpack, if removed (WP 0188 00)
Install engine deck assembly, if removed (WP 0417 00)
Install left side air cleaner assembly, if removed (WP 0208 00)
Install battery trays, if removed (WP 0288 00)
Install subfloor plates #19 and #24, if removed (WP 0454 00)

SHIFTING CONTROL LINKAGES ADJUSTMENT

0408 00

THIS WORK PACKAGE COVERS:

Adjustment

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Cotter pin (item 19, WP 0718 00) Lockwashers (6) (item 2, WP 0718 00) Welding electrodes (AR) (item 9, WP 0716 00)

Equipment Conditions

Storage rack assembly and rocket launcher bracket removed (WP 0463 00)

Vehicular tool box rack, oddment tray assembly and bracket removed (WP 0480 00)

Left side air cleaner assembly removed (WP 0208 00) Left side air cleaner intake hoses and tubes removed (WP 0212 00)

Subfloor plates #19 and #24 removed (WP 0454 00) Engine deck assembly removed (WP 0417 00)

Personnel Required

Two

References

TM 9-2350-292-10

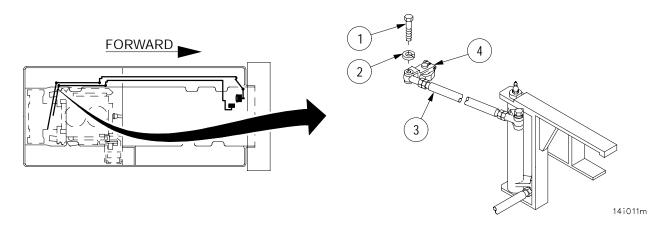
Adjustment

NOTE

All adjustments to shifting linkage must finish with the shift remote control lever on transmission in neutral position (pointer on the transmission remote control lever pointing to center mark) and shift control assembly in neutral.

All levers, bell cranks and brackets are provided with a 1/8-in. alignment hole to aid in proper alignment during installation and adjustment. All levers, bell cranks and brackets must be pinned before being disconnected.

1. Remove screw (1) and lockwasher (2), disconnect threaded rod assembly (3) from transmission remote control lever (4). Discard lockwasher.



SHIFTING CONTROL LINKAGES ADJUSTMENT - CONTINUED

0408 00

Adjustment-Continued

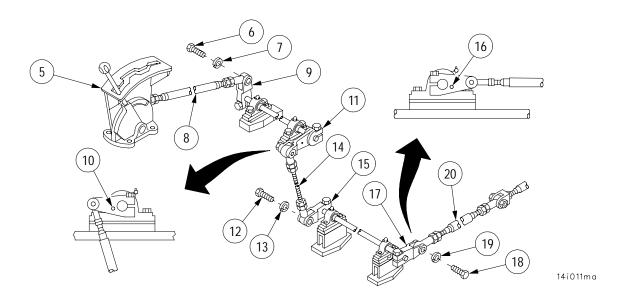
- 2. Position shift control assembly (5) in neutral position (TM 9-2350-292-10).
- 3. Remove screw (6) and lockwasher (7), disconnect tube assembly (8) from remote control lever (9). Discard lockwasher.
- 4. Install welding electrode (10) in remote control lever (11).

NOTE

All rod, tube, and stud assemblies are adjusted in the same manner: loosen two nuts and turn bearing on each end one direction to increase the length or the other direction to decrease the length.

Both ends of the rod or tube assembly must be adjusted equally.

- 5. Adjust tube assembly (8) until tube assembly (8) can be connected to remote control lever (9).
- 6. Connect tube assembly (8) to remote control lever (9) with screw (6) and new lockwasher (7).
- 7. Remove screw (12) and lockwasher (13), disconnect stud assembly (14) from remote control lever (15). Discard lockwasher.
- 8. Insert welding electrode (16) in remote control lever (17), adjust stud assembly (14) until stud assembly (14) can be connected to remote control lever (15).
- 9. Connect stud assembly (14) to remote control lever (15) with screw (12) and new lockwasher (13).
- 10. Remove screw (18) and lockwasher (19), disconnect tube assembly (20) at remote control lever (17). Discard lockwasher.

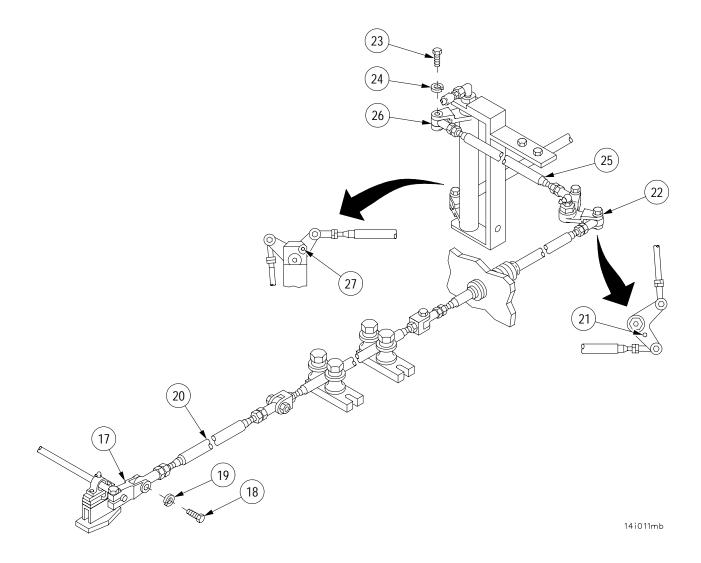


SHIFTING CONTROL LINKAGES ADJUSTMENT - CONTINUED

0408 00

Adjustment-Continued

- 11. Insert welding electrode (21) in bell crank (22), adjust linkage between bell crank (22) and remote control lever (17) until tube assembly (20) can be connected to remote control lever (17).
- 12. Connect tube assembly (20) to remote control lever (17) with screw (18) and new lockwasher (19).
- 13. Remove screw (23) and lockwasher (24), disconnect connecting link assembly (25) from bell crank (26). Discard lockwasher.
- 14. Install welding electrode (27) in bell crank (26), adjust connecting link assembly (25) until connecting link assembly (25) can be connected to bell crank (26).
- 15. Connect connecting link assembly (25) to bell crank (26) with screw (23) and new lockwasher (24).



SHIFTING CONTROL LINKAGES ADJUSTMENT - CONTINUED

0408 00

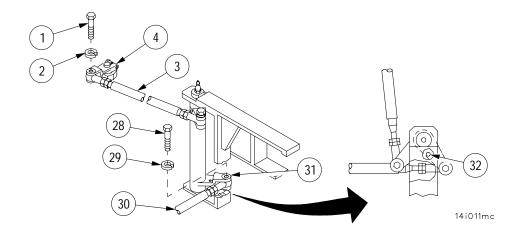
Adjustment-Continued

- 16. Remove screw (28) and lockwasher (29), disconnect connecting link assembly (30) from bell crank (31). Discard lockwasher.
- 17. Insert welding electrode (32) in bell crank (31), adjust connecting link assembly (30) until connecting link assembly (30) can be connected to bell crank (31).
- 18. Connect connecting link assembly (30) to bell crank (31) with screw (28) and new lockwasher (29).
- 19. Adjust threaded rod assembly (3) until threaded rod assembly (3) aligns with remote control lever (4).

NOTE

Remote control lever at transmission must be in the neutral position (center mark on transmission) and shift control assembly must be in neutral, before completing next step.

- 20. Connect threaded rod assembly (3) to remote control lever assembly (4) with screw (1) and new lockwasher (2).
- 21. Adjust steering control lock and neutral safety switch (WP 0358 00 or WP 0359 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install engine deck assembly (WP 0417 00)
Install subfloor plates #19 and #24 (WP 0454 00)
Install left side air cleaner intake hoses and tubes (WP 0212 00)
Install left side air cleaner assembly (WP 0208 00)

Install left side air cleaner assembly (WP 0208 00)
Install vehicular tool box rack, oddment tray assembly and bracket (WP 0480 00)
Install storage rack assembly and rocket launcher

Install storage rack assembly and rocket launcher bracket (WP 0463 00)

STEERING AND SHIFTING LINKAGE LUBRICATION ADAPTER FITTING, HOSES AND HARDWARE REPLACEMENT

0409 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 10, WP 0718 00) Lockwasher (item 356, WP 0718 00)

Equipment Conditions

Powerpack removed (WP 0188 00)
For maintenance of lubrication hoses and bell crank fittings
Engine deck grille removed (WP 0415 00)
For maintenance of adapter fitting

NOTE

The adapter fitting, lubrication fittings and four adapters on adapter fitting may be replaced by opening the engine grille next to battery box.

There are four lubrication hoses, two for the steering linkage and two for the shifting linkage. All four lubrication hoses and fittings are removed and installed in the same manner. This task removes and installs only one set of hoses.

Perform Removal steps 1 through 4 and 10 and Installation steps 6, 7, 8, 9 and 10 for maintenance of adapter fitting.

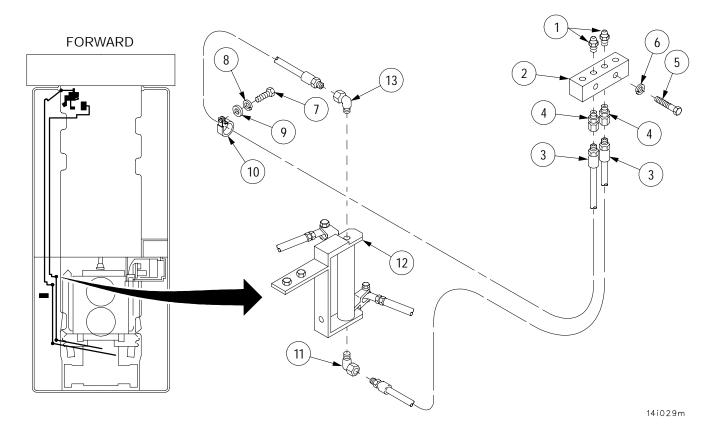
Perform Removal steps 2 and 5 through 10 and Installation steps 1 through 5, 8 and 10 for maintenance of lubrication hoses and fittings.

STEERING AND SHIFTING LINKAGE LUBRICATION ADAPTER FITTING, HOSES AND HARDWARE REPLACEMENT - CONTINUED

0409 00

Removal

- 1. Remove four lubrication fittings (1) from adapter fitting (2).
- 2. Disconnect four lubrication hoses (3) from four adapters (4).
- 3. Remove two screws (5), two lockwashers (6) and adapter fitting (2) with four adapters (4) from vehicle. Discard lockwashers.
- 4. Remove four adapters (4) from adapter fitting (2).
- 5. Remove screw (7), lockwasher (8), flat washer (9) and clamp (10) securing lubrication hose (3). Discard lockwasher.
- 6. Disconnect lubrication hose (3) from elbow (11) on bottom of bell crank (12), remove lubrication hose (3) from vehicle.
- 7. Remove elbow (11) from bottom of bell crank (12).
- 8. Disconnect lubrication hose (3) from elbow (13) on top of bell crank (12), remove lubrication hose (3) from vehicle.
- 9. Remove elbow (13) from top of bell crank (12).
- 10. Inspect parts for damage and replace as required.

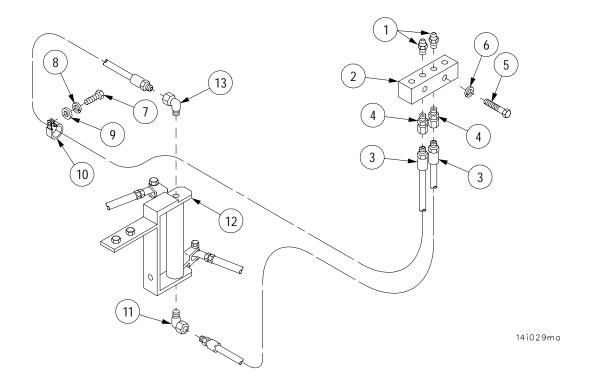


STEERING AND SHIFTING LINKAGE LUBRICATION ADAPTER FITTING, HOSES AND HARDWARE REPLACEMENT - CONTINUED

0409 00

Installation

- 1. Install elbow (13) in top of bell crank (12).
- 2. Connect lubrication hose (3) to elbow (13).
- Install elbow (11) in bottom of bell crank (12).
- 4. Connect lubrication hose (3) to elbow (11).
- 5. Secure lubrication hose (3) on vehicle hull with clamp (10), screw (7), new lockwasher (8) and flat washer (9).
- 6. Install four adapters (4) in adapter fitting (2).
- 7. Install adapter fitting (2) with four adapters (4) on vehicle with two screws (5) and two new lockwashers (6).
- 8. Connect four lubrication hoses (3) to four adapters (4).
- 9. Install four lubrication fittings (1) in adapter fitting (2).
- 10. Lubricate steering and shifting linkage (WP 0187 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install engine deck grille, if removed (WP 0415 00)
Install powerpack, if removed (WP 0188 00)

CHAPTER 14 TOWING ATTACHMENTS MAINTENANCE

TOWING PINTLE AND MOUNT ASSEMBLY REPAIR

0410 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Auto adjustable wrench (item 22, WP 0717 00) Electric drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00) Crowbar (item 52, WP 0717 00)

Materials/Parts

Lubricant (item 3, WP 0716 00)
Cotter pin (item 29, WP 0718 00)
Cotter pin (item 30, WP 0718 00)
Cotter pin (item 31, WP 0718 00)
Lockwashers (6) (item 32, WP 0718 00)
Dry-cleaning solvent (item 1, WP 0716 00)
Sealing compound (item 42, WP 0716 00)

Materials/Parts-Continued

Drive screw (item 33, WP 0718 00) Straight pin (item 34, WP 0718 00)

Equipment Conditions

Rear tow bar removed (TM 9-2350-292-10)

Personnel Required

Two

References

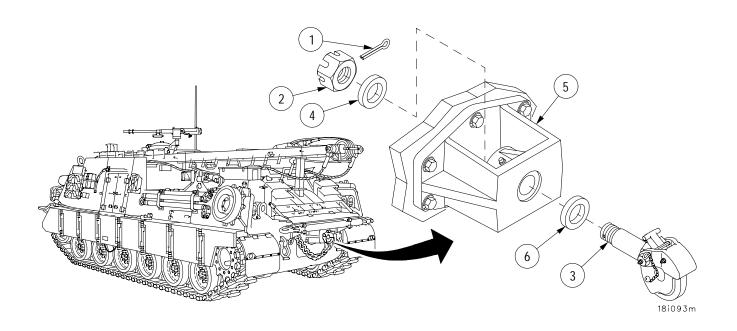
TM 9-2350-292-10

NOTE

To perform maintenance of the towing pintle lock with pintle hook attached to vehicle, perform Disassembly steps 1 through 6 and Assembly steps 1 through 7.

Removal

- 1. Remove cotter pin (1). Hold nut (2) with adjustable wrench while turning the pintle hook (3). Remove nut (2) and flat washer (4) from pintle hook (3). Discard cotter pin.
- 2. Remove pintle hook (3) from mount (5).
- 3. Remove flat washer (6) from pintle hook (3).



TOWING PINTLE AND MOUNT ASSEMBLY REPAIR - CONTINUED

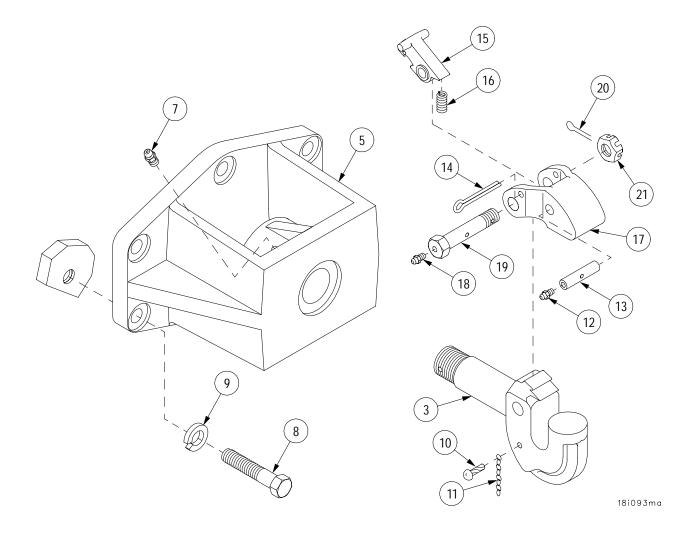
0410 00

Removal-Continued

- 4. Remove lubrication fitting (7) from mount (5).
- 5. Remove six screws (8), six lockwashers (9) and mount (5) from vehicle. Discard lockwashers.

Disassembly

- 1. Remove drive screw (10) and chain (11) from pintle hook (3). Discard screw.
- 2. Remove lubrication fitting (12) from straight pin (13).
- 3. Remove straight pin (13), cotter pin (14), latch (15) and helical spring (16) from pintle lock (17). Separate cotter pin (14) from chain (11). Discard straight pin and cotter pin.
- 4. Remove lubrication fitting (18) from bolt (19).
- 5. Remove cotter pin (20), nut (21), bolt (19) and pintle lock (17) from pintle hook (3). Discard cotter pin
- 6. Inspect parts for damage and replace as required.

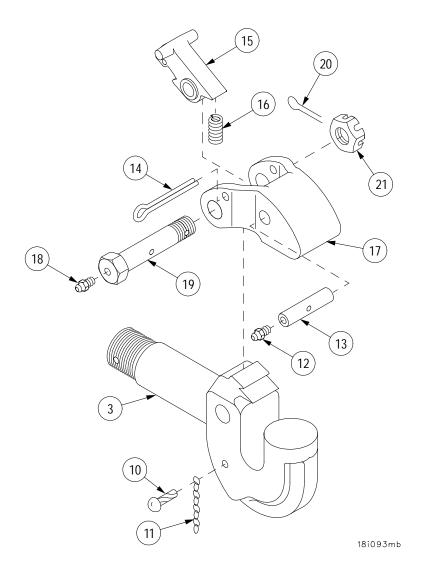


TOWING PINTLE AND MOUNT ASSEMBLY REPAIR - CONTINUED

0410 00

Assembly

- 1. Install pintle lock (17) on pintle hook (3) with bolt (19), nut (21) and new cotter pin (20).
- 2. Install lubrication fitting (18) in bolt (19).
- 3. Insert helical spring (16) in pintle lock (17).
- 4. Install latch (15) in pintle lock (17) with new straight pin (13). Stake straight pin in four places.
- 5. Install lubrication fitting (12) in straight pin (13).
- 6. Insert new cotter pin (14) through one end of chain (11). Insert cotter pin (14) through pintle lock (17).
- 7. Attach chain (11) to pintle hook (3) with new drive screw (10).



TOWING PINTLE AND MOUNT ASSEMBLY REPAIR - CONTINUED

0410 00

Installation

1. Install lubrication fitting (7) in mount (5).



2. Clean mounting holes of vehicle hull and mount (5), and screws (8) with dry-cleaning solvent.

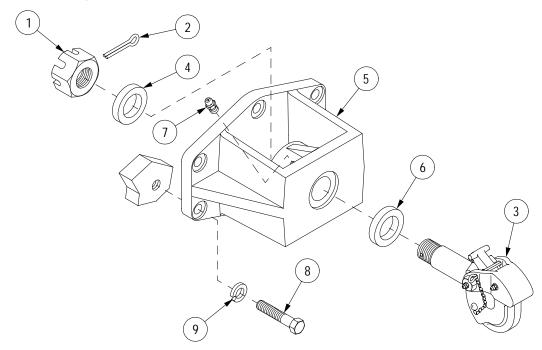


- 3. Apply sealing compound to threads and under heads of six screws (8).
- 4. Install mount (5) on vehicle with six screws (8) and six new lockwashers (9).
- 5. Coat shaft of pintle hook (3) with lubricant.
- 6. Install flat washer (6) on pintle hook (3).

NOTE

Assembled towing pintle must turn freely in pintle mount.

- 7. Install pintle hook (3) in mount (5) with flat washer (4), nut (2) and new cotter pin (1).
- 8. Lubricate towing pintle (WP 0187 00).



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NOTE

FOLLOW-ON MAINTENANCE:

Install rear tow bar (TM 9-2350-292-10)

END OF TASK

CHAPTER 15 SHOCK ABSORBERS MAINTENANCE

LOCKOUT BLOCK SPACERS AND BUMPER ASSEMBLIES REPLACEMENT

0411 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00)

Materials/Parts

Lockwashers (14) (item 12, WP 0718 00) Safety goggles (item 93, WP 0716 00) Sealing compound (item 42, WP 0716 00)

Equipment Conditions

Armor skirt panel #1 or #6 opened (TM 9-2350-292-10)

References

TM 9-2350-292-10



Bumper assembly is under 3000 lbs (1362 kg) preload. Do not remove cover or cover screws. Failure to comply could result in personnel injury or death.

NOTE

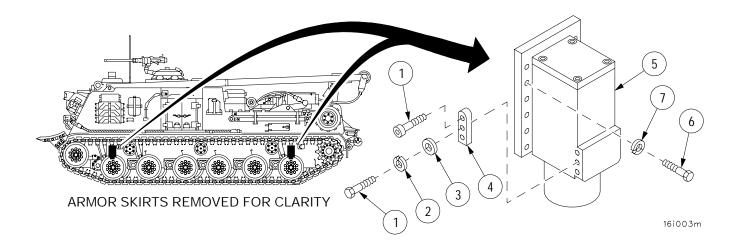
There are four bumper assemblies, two on the front of the vehicle and two on the rear of the vehicle. This task replaces only one bumper assembly.

Perform Removal steps 1, 2 and 3 and Installation steps 1 through 4 for maintenance of front bumper assemblies.

Perform Removal steps 2 and 3 and Installation steps 1 through 3 for maintenance of rear bumper assemblies.

Removal

- 1. Remove three screws (1), two lockwashers (2), two flat washers (3) and lockout block spacer (4) from bumper assembly (5). Discard lockwashers.
- 2. Remove 12 screws (6), 12 lockwashers (7) and bumper assembly (5) from vehicle. Discard lockwashers.
- 3. Inspect parts for damage and replace as required.



LOCKOUT BLOCK SPACERS AND BUMPER ASSEMBLIES REPLACEMENT - CONTINUED

0411 00

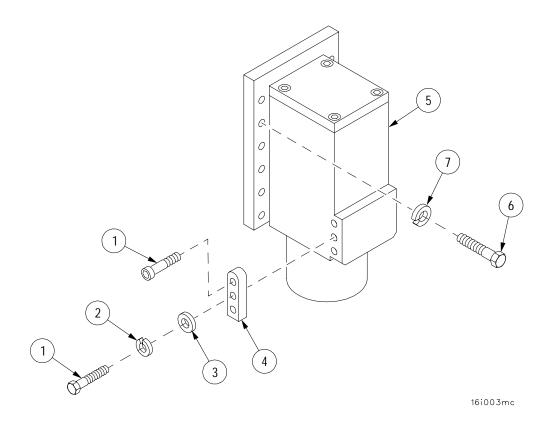
Installation



1. Clean mating surfaces of bumper assembly (5) and vehicle hull and screws (6) with dry-cleaning solvent.



- 2. Apply sealing compound on threads and under heads of 12 screws (6).
- 3. Install bumper assembly (5) on vehicle with 12 screws (6) and 12 new lockwashers (7). Torque 12 screws to 85–95 lb-ft (115–129 N•m).
- 4. Install three screws (1), two new lockwashers (2), two flat washers (3) and lockout block spacer (4) on bumper assembly (5).



NOTE

FOLLOW-ON MAINTENANCE:

Close armor skirt panel #1 or #6 (TM 9-2350-292-10).

END OF TASK

SHOCK ABSORBER AND MOUNTING BRACKETS REPAIR

0412 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 9, WP 0717 00) Shock absorber replacer (item 50, WP 0717 00) Socket wrench set (item 89, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 84, WP 0718 00) Lockwashers (4) (item 130, WP 0718 00) Cotter pins (2) (item 152, WP 0718 00) Dry-cleaning solvent (item 1, WP 0716 00) Lubricant (item 3, WP 0716 00) Sealing compound (item 42, WP 0716 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Left or right armor skirt panel opened (TM 9-2350-292-10)

References

TM 9-2350-292-10

Removal

NOTE

There are six shock absorbers, three on the left side and three on the right side. All six shock absorbers are repaired in the same manner. This task repairs only one shock absorber.

There are 12 shock absorber brackets, six upper and six lower. All 12 shock absorber brackets are replaced in the same manner. This task replaces only one upper and one lower shock absorber bracket.

SHOCK ABSORBER AND MOUNTING BRACKETS REPAIR - CONTINUED

0412 00

Removal-Continued

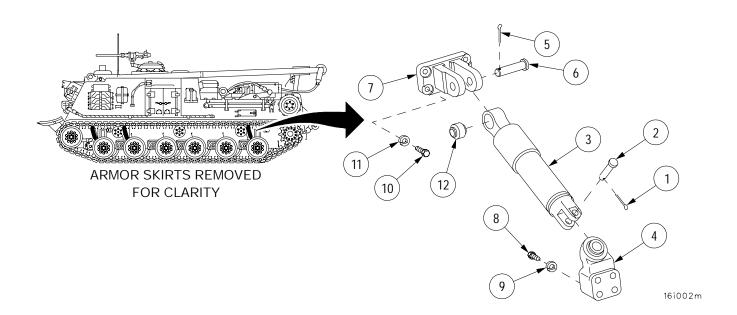
- 1. Remove cotter pin (1) and headed pin (2), separate bottom of shock absorber (3) from lower bracket (4). Discard cotter pin.
- 2. Remove cotter pin (5), headed pin (6) and shock absorber (3) from upper bracket (7). Discard cotter pin.
- 3. Remove four screws (8), four lockwashers (9) and lower bracket (4) from vehicle. Discard lockwashers.
- 4. Remove four screws (10), four lockwashers (11) and upper bracket (7) from vehicle. Discard lockwashers.

Disassembly

- 1. Remove three staked positions on each side of shock absorber (3) that retains bearing (12).
- 2. Remove bearing (12) from shock absorber (3).



- 3. Clean all components and mating surfaces of upper bracket and vehicle hull and screws (10) with dry-cleaning solvent.
- 4. Check shock absorber (3), brackets (4 and 7) and bearing (12) for damage and wear. Discard any worn or damage components.



SHOCK ABSORBER AND MOUNTING BRACKETS REPAIR - CONTINUED

0412 00

Assembly

- 1. Lubricate all bearing surfaces before installation.
- 2. Install bearing (12) in shock absorber (3).
- 3. Stake bearing (12) in three equally spaced places on both sides of shock absorber (3).

Installation

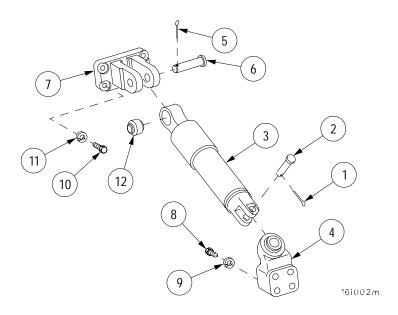


- 1. Apply sealing compound to threads and under heads of screws (10).
- 2. Install upper bracket (7) on vehicle with four screws (10) and four new lockwashers (11). Torque screws to 145-175 lb-ft (197-237 N•m).
- 3. Install lower bracket (4) on vehicle hull with four screws (8) and four new lockwashers (9). Torque screws to 300-340 lb-ft (407-461 N•m).

NOTE

Shock absorber bracket pins are to be installed from the road wheel side so that flats on head of bracket pins are secured in slot on clevis.

- 4. Install top of shock absorber (3) to upper bracket (7) with headed pin (6) and new cotter pin (5).
- 5. Install bottom of shock absorber (3) to lower bracket (4) with headed pin (2) and new cotter pin (1).



NOTE

FOLLOW-ON MAINTENANCE:

Close left or right armor skirt panel (TM 9-2350-292-10)

END OF TASK

CHAPTER 16 BODY, HOOD AND HULL MAINTENANCE

APU COVER ASSEMBLY REPLACEMENT

0413 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (600 lbs (272.4 kg) min cap)

Materials/Parts

Lockwashers (12) (item 12, WP 0718 00)

Equipment Conditions

APU muffler assembly removed (WP 0618 00) Engine deck grille removed and engine deck access door opened (next to APU cover) (TM 9-2350-292-10)

Personnel Required

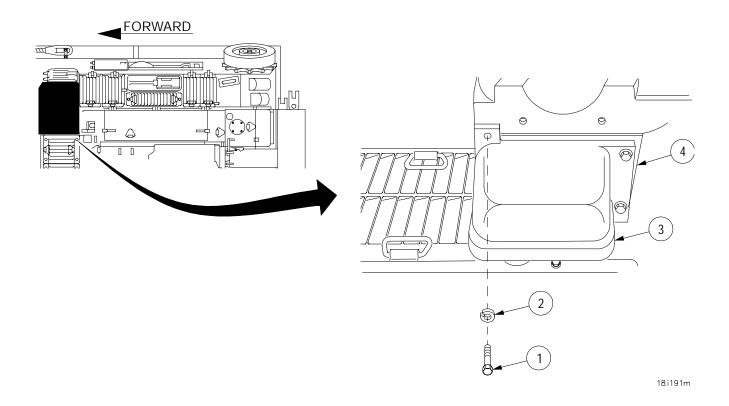
Three

References

TM 9-2350-292-10

Removal

1. Remove three screws (1), three lockwashers (2) and APU cooling air shield (3) from APU cover (4). Discard lockwashers.



0413 00

Removal-Continued

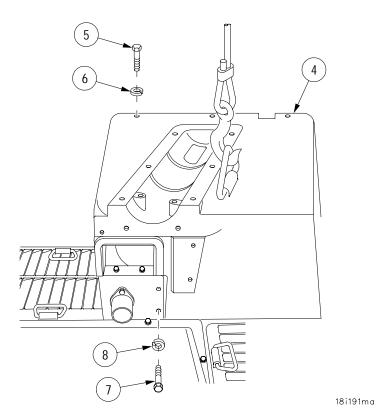
2. Attach endless sling and suitable lifting device to APU cover assembly (4).



- 3. Remove seven screws (5), seven lockwashers (6), two screws (7), two lockwashers (8) and APU cover assembly (4) from hull. Discard lockwashers.
- 4. Inspect parts for damage and replace as required.

Installation

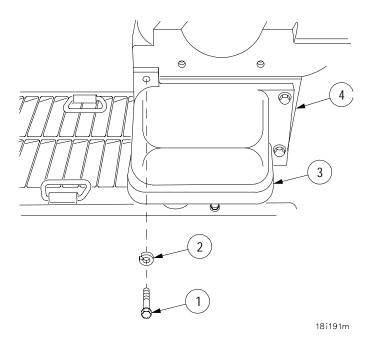
- 1. Attach endless sling and suitable lifting device to APU cover assembly (4).
- 2. Install APU cover assembly (4) on hull with two screws (7), two new lockwashers (8), seven screws (5) and seven new lockwashers (6).



0413 00

Installation-Continued

3. Install APU cooling air shield (3) on APU cover (4) with three screws (1) and three new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install engine deck grille and close engine deck access door (TM 9-2350-292-10)
Install APU muffler assembly (WP 0618 00)

AUXILIARY POWER UNIT AUXILIARY HOUSING REPLACEMENT

0414 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 2, WP 0718 00) Lockwashers (3) (item 12, WP 0718 00) Gaskets (2) (item 24, WP 0718 00)

Equipment Conditions

Auxiliary power unit engine air duct removed (WP 0620 00 or WP 0621 00)

References

TM 9-2350-292-10

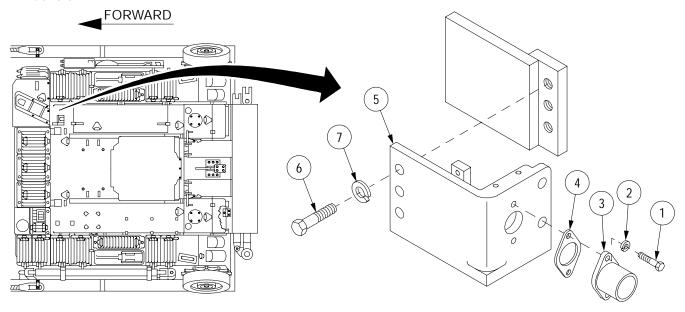
NOTE

Perform Removal steps 1 through 5 and Installation steps 1 through 4 for replacement of auxiliary housing.

Perform Removal steps 2 through 5 and Installation steps 1, 2 and 4 for replacement of exhaust hose.

Removal

- 1. Remove two screws (1), two lockwashers (2), exhaust tube (3) and gasket (4) from auxiliary housing (5).
- 2. Remove three screws (6) and three lockwashers (7) securing auxiliary housing (5) to vehicle hull. Discard lockwashers.



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AUXILIARY POWER UNIT AUXILIARY HOUSING REPLACEMENT - CONTINUED

0414 00

Removal-Continued

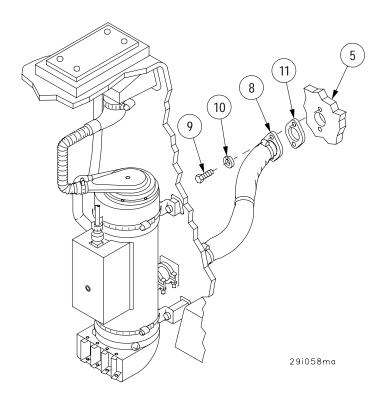
CAUTION

Personnel heater exhaust hose is connected to auxiliary housing. Hose disconnection cannot be accessed until housing is removed. Do not over extend exhaust hose while removing attaching hardware during housing removal. Failure to comply may cause equipment damage.

- 3. Remove auxiliary housing (5) until exhaust hose (8) attaching hardware can be accessed.
- 4. Remove two screws (9), two lockwashers (10) and gasket (11) securing exhaust hose (8) to auxiliary housing (5). Remove housing. Discard lockwashers and gasket.
- 5. Inspect parts for damage and replace as required.

Installation

1. Install new gasket (11) and exhaust hose (8) on auxiliary housing (5) with two screws (9) and two new lockwashers (10).

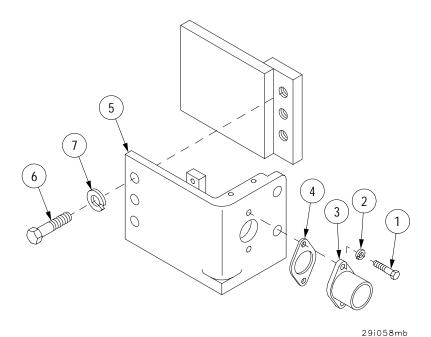


AUXILIARY POWER UNIT AUXILIARY HOUSING REPLACEMENT - CONTINUED

0414 00

Installation-Continued

- 2. Install auxiliary housing (5) on vehicle hull with three screws (6) and three new lockwashers (7).
- 3. Install new gasket (4) and exhaust tube (3) on auxiliary housing (5) with two screws (1) and two new lockwashers (2).
- 4. Operate personnel heater (TM 9-2350-292-10) and check for exhaust leaks. Make repairs as necessary.



NOTE

FOLLOW-ON MAINTENANCE:

Install auxiliary power unit engine air duct (WP 0620 00 or WP 0621 00)

ENGINE DECK GRILLES AND ENGINE DECK ACCESS DOORS REPLACEMENT

0415 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (1000 lbs (454 kg) min cap)

Materials/Parts

Lockwashers (6) (item 12, WP 0718 00) Cotter pin (item 206, WP 0718 00)

Equipment Conditions

Boom raised (TM 9-2350-292-10) For rear access door removal only

Personnel Required

Three

References

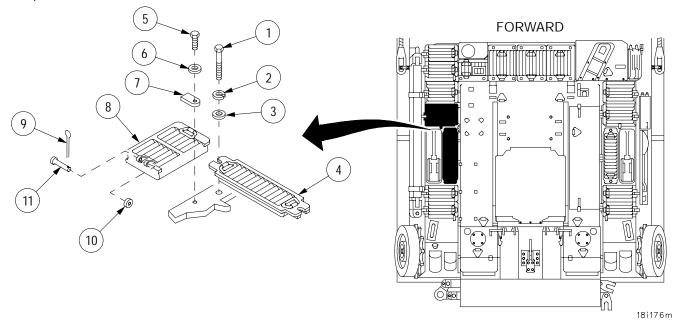
TM 9-2350-292-10

NOTE

There are four different types of engine deck grilles and access doors. This task replaces only one of each type.

Removal

- 1. Remove two screws (1), two lockwashers (2), two flat washers (3) and engine deck grille (4) from hull. Discard lockwashers.
- 2. Remove screw (5), flat washer (6) and lock (7) securing engine deck access door (8) to hull.
- 3. Remove cotter pin (9), flat washer (10), headed pin (11) and engine deck access door (8) from hull. Discard cotter pin.



ENGINE DECK GRILLES AND ENGINE DECK ACCESS DOORS REPLACEMENT - CONTINUED

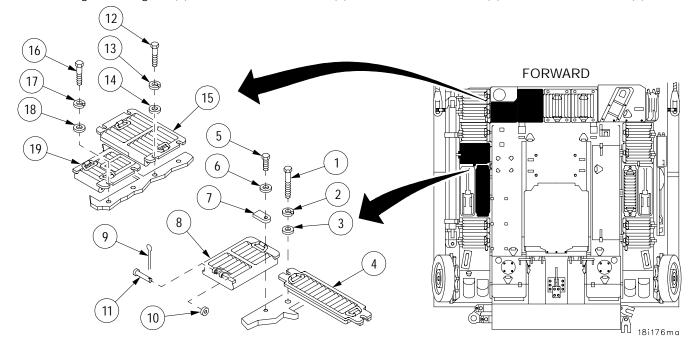
0415 00

Removal-Continued

- 4. Remove two screws (12), two lockwashers (13), two flat washers (14) and engine deck grille (15) from hull. Discard lockwashers.
- 5. Remove two screws (16), two lockwashers (17), two flat washers (18) and engine deck grille (19) from hull. Discard lockwashers.
- 6. Inspect parts for damage and replace as required.

Installation

- 1. Install engine deck grille (19) on hull with two screws (16), two new lockwashers (17) and two flat washers (18).
- 2. Install engine deck grille (15) on hull with two screws (12), two new lockwashers (13) and two flat washers (14).
- 3. Install engine deck access door (8) on hull with headed pin (11), flat washer (10) and new cotter pin (9).
- 4. Install lock (7) on hull with screw (5) and flat washer (6).
- 5. Install engine deck grille (4) on hull with two screws (1), two new lockwashers (2) and two flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Lower boom, if raised (TM 9-2350-292-10)

TRANSMISSION GUIDE BAR MENDING PLATE REPLACEMENT

0416 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 12, WP 0718 00)

Equipment Conditions

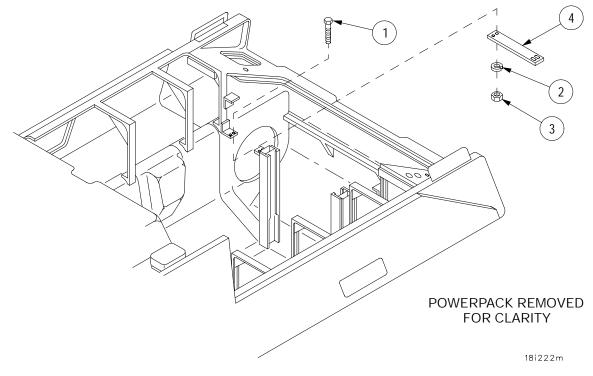
Engine deck assembly removed (WP 0417 00)

Removal

- 1. Remove eight screws (1), eight lockwashers (2), eight nuts (3) and two transmission guide bar mending plates (4) from vehicle. Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install two transmission guide bar mending plates (4) with eight screws (1), eight new lockwashers (2) and eight nuts (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install engine deck assembly (WP 0417 00)

ENGINE DECK ASSEMBLY REPLACEMENT

0417 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Hoisting beam (item 64, WP 0717 00) Suitable lifting device (5000 lbs (2270 kg) min cap)

Materials/Parts

Lockwashers (13) (item 12, WP 0718 00) Lockwashers (2) (item 2, WP 0718 00) Gasket (item 24, WP 0718 00)

Equipment Conditions

Raise boom to full forward position (TM 9-2350-292-10)

Personnel Required

Three

References

TM 9-2350-292-10

Removal

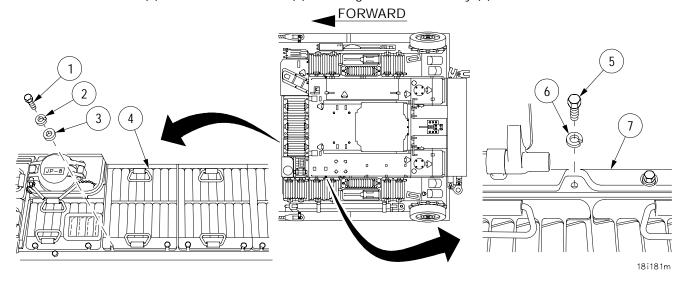


1. Remove eight screws (1), eight lockwashers (2), eight flat washers (3) and four grilles (4) from hull. Discard lockwashers.

NOTE

One screw is located on each side of engine deck assembly.

2. Remove two screws (5) and two lockwashers (6) from engine deck assembly (7). Discard lockwashers.

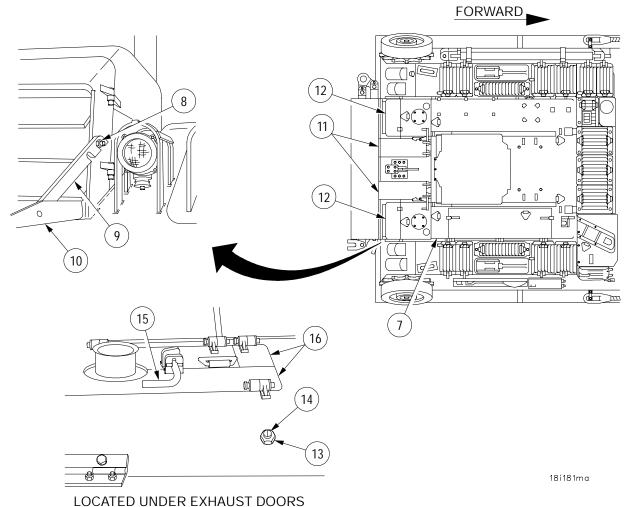


ENGINE DECK ASSEMBLY REPLACEMENT - CONTINUED

0417 00

Removal-Continued

- 3. Loosen two nuts (8) securing two deflector supports (9).
- 4. Lower deflector shield (10).
- 5. Open two center exhaust doors (11).
- 6. Open two exhaust deflector doors (12).
- 7. Loosen four nuts (13), turn four screws (14) 90° and release engine deck (7) from hull.
- 8. Release two handle assemblies (15), open four exhaust access doors (16).
- 9. Close two exhaust deflector doors (12).
- 10. Close two center exhaust doors (11).



ENGINE DECK ASSEMBLY REPLACEMENT - CONTINUED

0417 00

Removal-Continued

- 11. Remove three screws (17), three lockwashers (18) and APU cooling air shield (19) from APU cover (20). Discard lockwashers.
- 12. Remove two screws (21), two lockwashers (22), personnel heater exhaust pipe (23) and gasket (24) from auxiliary housing (25). Discard lockwashers and gasket.

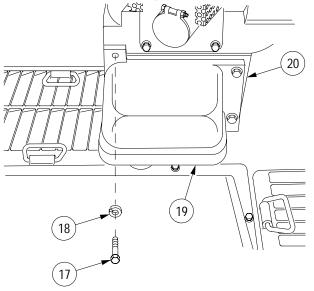


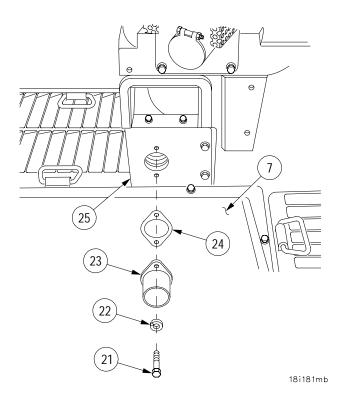
OVE box on left side of engine deck contains heavy items. Make sure all items have been removed from OVE box prior to lifting engine deck from vehicle. Failure to comply will create an unbalanced lift when removing engine deck and may cause injury to personnel.

13. Attach hoisting beam and suitable lifting device to engine deck assembly (7).



- 14. Remove engine deck assembly (7) from hull.
- 15. Inspect parts for damage and replace as required.





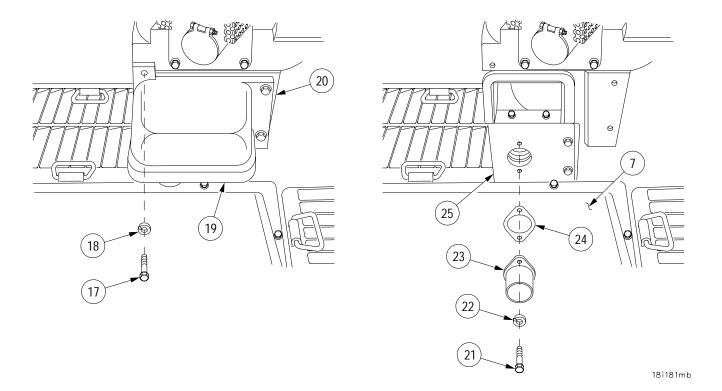
0417 00

Installation

1. Attach hoisting beam and suitable lifting device to engine deck assembly (7).



- 2. Install engine deck assembly (7) on hull.
- 3. Install personnel heater exhaust pipe (23) and new gasket (24), on auxiliary housing (25) with two screws (21) and two new lockwashers (22).
- 4. Install APU cooling air shield (19) on APU cover (20) with three screws (17) and three new lockwashers (18).

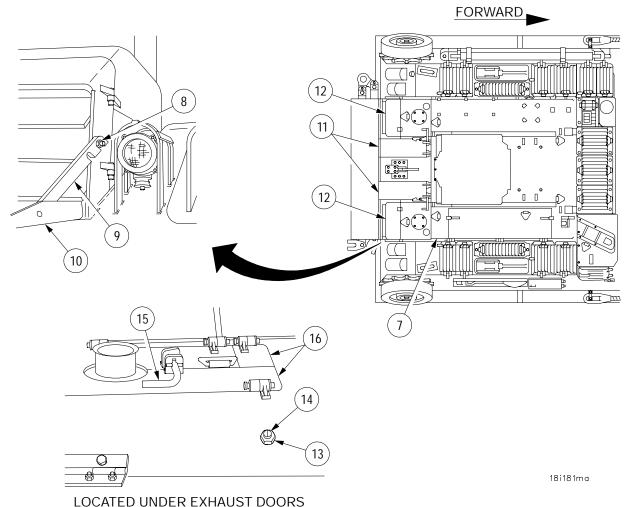


ENGINE DECK ASSEMBLY REPLACEMENT - CONTINUED

0417 00

Installation - Continued

- 5. Open two center exhaust doors (11).
- 6. Open two exhaust deflector doors (12).
- 7. Close four exhaust access doors (16), secure with handle assemblies (15).
- 8. Turn four screws (14) 90_ and tighten four nuts (13) to secure engine deck assembly (7) to hull.
- 9. Close two exhaust deflector doors (12).
- 10. Close two center exhaust doors (11).
- 11. Raise deflector shield (10).
- 12. Secure two deflector support (9) with two nuts (8).



ENGINE DECK ASSEMBLY REPLACEMENT - CONTINUED

0417 00

Installation - Continued

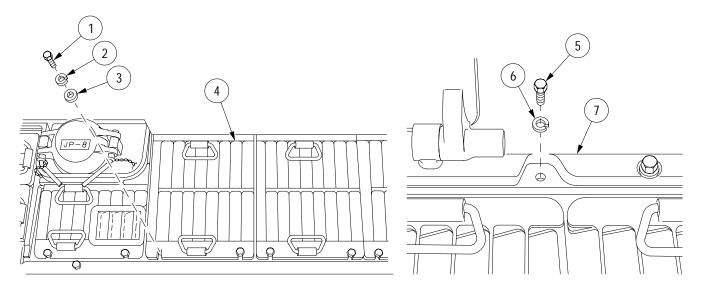
NOTE

One screw is located on each side of engine deck assembly.

13. Install two screws (5) and two new lockwashers (6) on engine deck assembly (7).



14. Install four grilles (4) on hull with eight screws (1), eight new lockwashers (2) and eight flat washers (3).



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STAYLINE TREE TRAY AND HOOK BLOCK RETAINER REPLACEMENT

0418 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (150 lbs (68.1 kg) min cap)

Materials/Parts

Cotter pins (2) (item 30, WP 0718 00) Lockwashers (3) (item 12, WP 0718 00)

Equipment Conditions

Boom raised to full forward position (TM 9-2350-292-10)

Personnel Required

Three

References

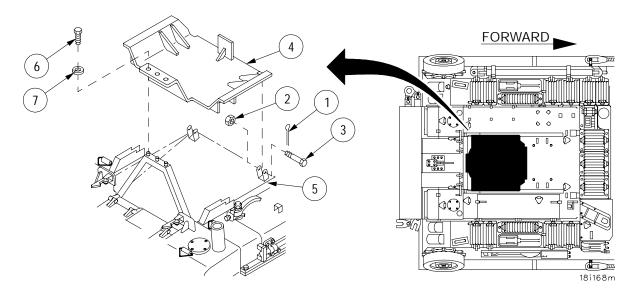
TM 9-2350-292-10

Removal

- 1. Remove two cotter pins (1), two nuts (2) and two screws (3) securing stayline tree tray (4) to engine deck assembly (5). Discard cotter pins.
- 2. Remove three screws (6) and three lockwashers (7) securing stayline tree tray (4) to engine deck assembly (5). Discard lockwashers.



- 3. Attach endless sling and suitable lifting device to stayline tree tray (4), remove stayline tree tray (4) from engine deck assembly (5).
- 4. Inspect parts for damage and replace as required.



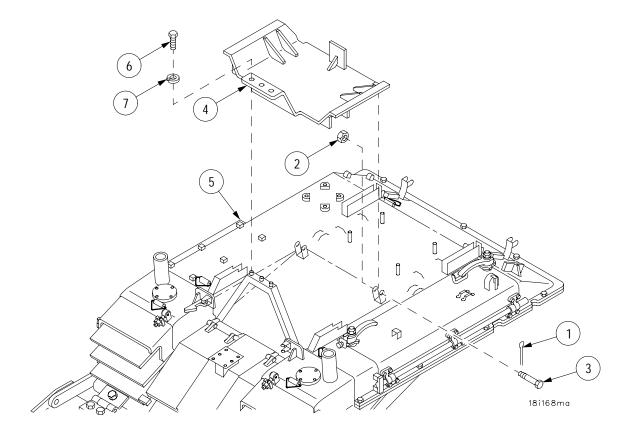
STAYLINE TREE TRAY AND HOOK BLOCK RETAINER REPLACEMENT - CONTINUED

0418 00

Installation



- 1. Attach endless sling and suitable lifting device to stayline tree tray (4), position stayline tree tray (4) on engine deck assembly (5).
- 2. Secure stayline tree tray (4) to engine deck assembly (5) with three screws (6) and three new lockwashers (7).
- 3. Secure stayline tree tray (4) to engine deck assembly (5) with two screws (3), two nuts (2) and two new cotter pins (1).



NOTE

FOLLOW-ON MAINTENANCE:

Lower boom (TM 9-2350-292-10)

END OF TASK

DEEP WATER FORDING EXHAUST PLATE REPLACEMENT

0419 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 12, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10)

References

TM 9-2350-292-10

NOTE

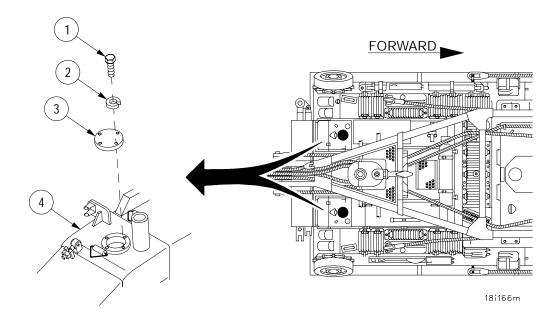
There are two deep water fording exhaust plates. Replacement for both plates are the same. This task replaces only one.

Removal

- 1. Remove four screws (1), four lockwashers (2) and exhaust plate (3) from engine deck assembly (4). Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install exhaust drain plate (3) on engine deck assembly (4) with four screws (1) and four new lockwashers (2).



EXHAUST DEFLECTOR ASSEMBLY REPAIR

0420 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Personnel Required

Two

Materials/Parts

Lockwashers (3) (item 12, WP 0718 00) Lockwashers (6) (item 52, WP 0718 00) Cotter pins (2) (item 168, WP 0718 00)



Removal

1. Remove three screws (1) and three lockwashers (2) securing three hinges (3) to engine deck assembly (4). Discard lockwashers.

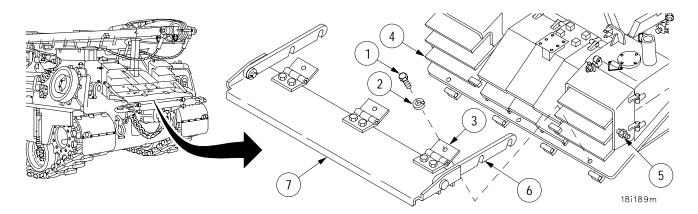
NOTE

Two nuts securing two exhaust deflector levers to engine deck assembly will not come off the engine deck, studs are staked at the ends.

2. Loosen two nuts (5) securing two exhaust deflector levers (6) to engine deck assembly (4).



3. Remove exhaust deflector assembly (7) from engine deck assembly (4).



EXHAUST DEFLECTOR ASSEMBLY REPAIR - CONTINUED

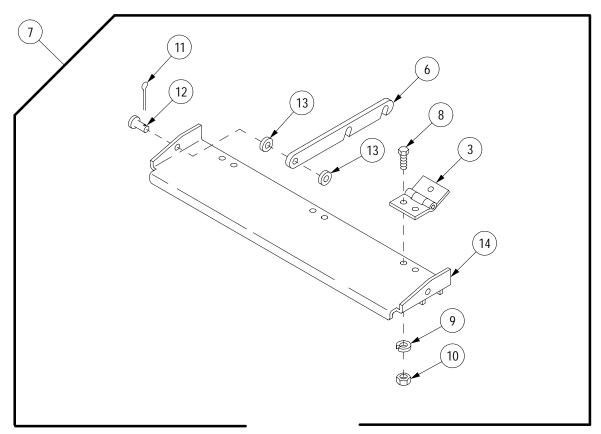
0420 00

Disassembly

- 1. Remove six screws (8), six lockwashers (9), six nuts (10) and three hinges (3) from exhaust deflector assembly (7). Discard lockwashers.
- 2. Remove two cotter pins (11), two pins (12), four flat washers (13) and two exhaust deflector levers (6) from exhaust deflector (14). Discard cotter pins.
- 3. Inspect parts for damage and replace as required.

Assembly

- 1. Install two exhaust deflector levers (6) on exhaust deflector (14) with two pins (12), four flat washers (13) and two new cotter pins (11).
- 2. Install three hinges (3) on exhaust deflector assembly (7) with six screws (8), six new lockwashers (9) and six nuts (10).



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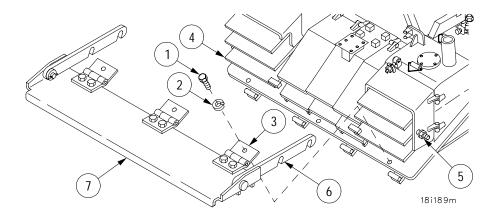
EXHAUST DEFLECTOR ASSEMBLY REPAIR - CONTINUED

0420 00

Installation



- 1. Position exhaust deflector assembly (7) on engine deck assembly (4).
- 2. Position two exhaust deflector levers (6) on engine deck studs, tighten two nuts (5).
- 3. Secure exhaust deflector assembly (7) to engine deck assembly (4) with three screws (1) and three new lockwashers (2).



ENGINE EXHAUST DEFLECTOR DOOR REPLACEMENT

0421 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (200 lbs (90.8 kg) min cap)

Materials/Parts

Lockwasher (item 52, WP 0718 00) Spring pin (item 201, WP 0718 00) Cotter pins (2) (item 17, WP 0718 00)

Personnel Required

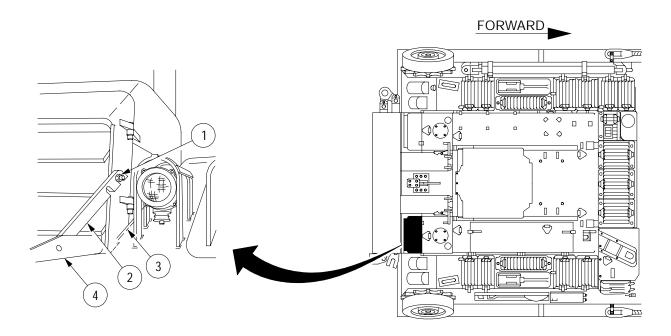
Three

NOTE

There are two engine exhaust deflector doors. Replacement of both exhaust deflector doors is the same. This task replaces only one.

Removal

- 1. Loosen two nuts (1) securing two levers (2) to engine deck assembly (3).
- 2. Lower exhaust deflector (4).



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ENGINE EXHAUST DEFELCTOR DOOR REPLACEMENT - CONTINUED

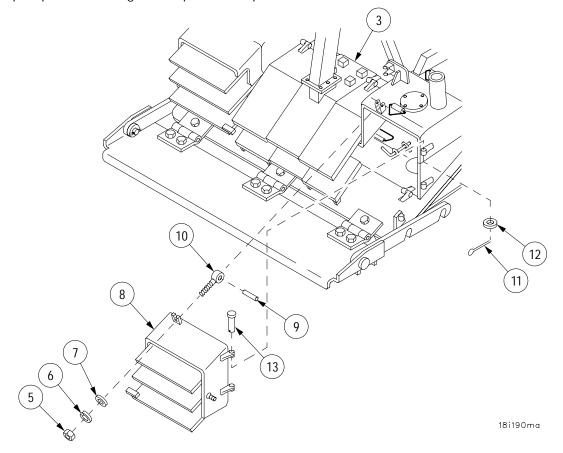
0421 00

Removal - Continued

- 3. Remove nut (5), lockwasher (6) and flat washer (7) securing exhaust deflector door (8) to engine deck assembly (3). Discard lockwasher.
- 4. Remove spring pin (9) and eye bolt (10) from engine deck assembly (3). Discard spring pin.



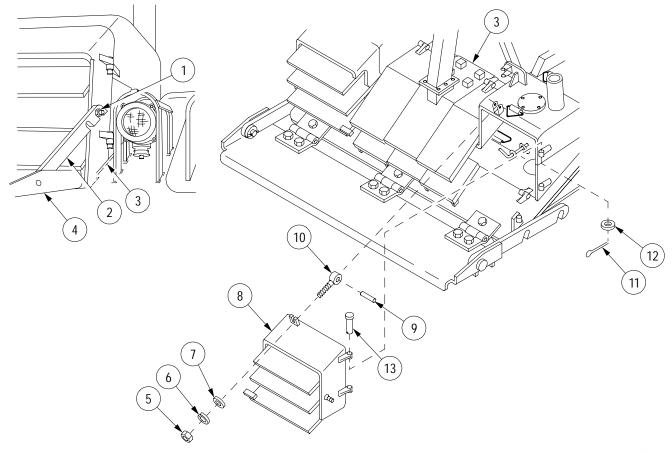
- 5. Attach endless sling and suitable lifting device to exhaust deflector door (8).
- 6. Remove two cotter pins (11), two flat washers (12), two headed pins (13) and exhaust deflector door (8) from engine deck assembly (3). Discard cotter pins.
- 7. Inspect parts for damage and replace as required.



Installation



- 1. Attach endless sling and suitable lifting device to exhaust deflector door (8).
- 2. Install exhaust deflector door (8) on engine deck assembly (3) with two headed pins (13), two flat washers (12), and two new cotter pins (11).
- 3. Install eye bolt (10) on engine deck assembly (3) with new spring pin (9).
- 4. Secure exhaust deflector door (8) to engine deck assembly (3) with flat washer (7), new lockwasher (6) and nut (5).
- 5. Raise exhaust deflector (4).
- 6. Secure two levers (2) to engine deck assembly (3) with two nuts (1).



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ENGINE DECK DOOR AND TORSION BAR REPAIR

0422 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00)

Suitable lifting device (200 lbs (90.8 kg) min cap)

Materials/Parts

Adhesive (item 18, WP 0716 00)

Solvent (item 91, WP 0716 00)

Lockwashers (8) (item 2, WP 0718 00)

Lockwashers (10) (item 139, WP 0718 00)

Spring washers (4) (item 195, WP 0718 00)

Rubber seal (item 189, WP 0718 00)

Rubber seal (item 190, WP 0718 00)

Rubber seal (item 191, WP 0718 00)

Rubber seal (item 192, WP 0718 00)

Rubber seal (item 193, WP 0718 00)

Rubber seal (item 194, WP 0718 00)

Equipment Conditions

Boom raised to full forward position (TM 9-2350-292-10)

Engine deck door opened (TM 9-2350-292-10)

Personnel Required

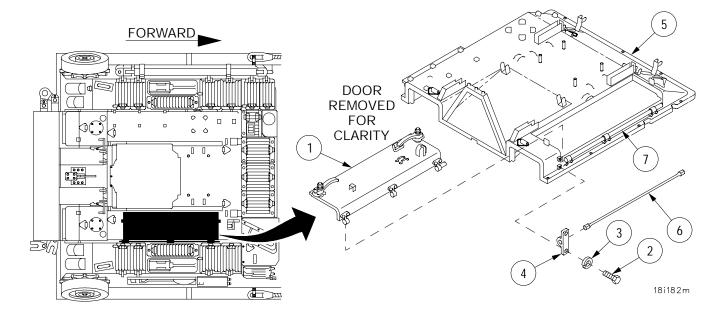
Three

References

TM 9-2350-292-10

Removal

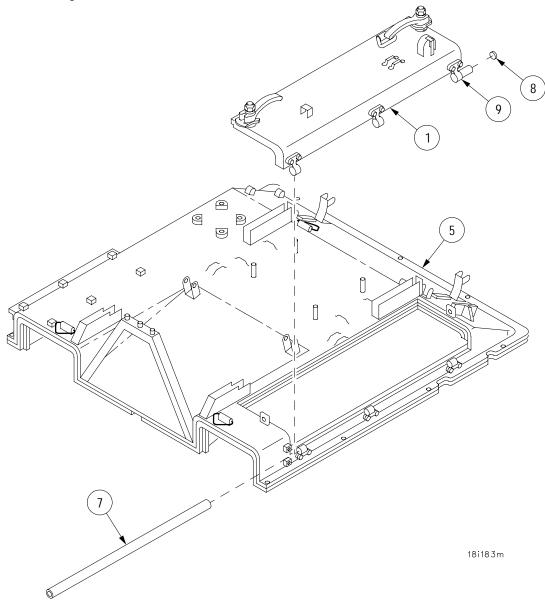
- 1. Attach endless sling and suitable lifting device to door assembly (1), open door to approximately 62° angle.
- 2. Remove two screws (2), two lockwashers (3) and support (4) from engine deck (5). Discard lockwashers.
- 3. Remove torsion bar (6) from tube (7).



Removal - Continued



- 4. Remove tube (7) and door assembly (1) from engine deck (5).
- 5. Remove plug (8) from hinge (9).



ENGINE DECK DOOR AND TORSION BAR REPAIR - CONTINUED

0422 00

Disassembly

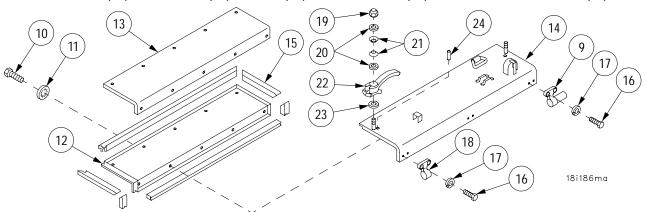
- Remove ten screws (10), ten lockwashers (11), retainer (12) and insulation (13) from door (14). Discard lockwashers.
- 2. Remove six rubber seals (15) from retainer (12). Discard seals.
- 3. Remove six screws (16), six lockwashers (17) and two hinges (18) and hinge (9) from door (14). Discard lockwashers.
- 4. Remove two nuts (19), four flat washers (20), four spring washers (21), two handles (22) and two flat washers (23) from door (14). Discard spring washers.
- 5. Remove two pins (24) from door (14).
- 6. Inspect parts for damage and replace as required.

Assembly

- 1. Install two pins (24) on door (14).
- 2. Install two handles (22) on door (14), with two flat washers (23), four new spring washers (21), four flat washers (20) and two nuts (19).
- 3. Install two hinges (18) and hinge (9) on door (14) with six screws (16) and six new lockwashers (17).



- 4. Clean seal mating surfaces with solvent.
- 5. Apply adhesive to six new rubber seals (15) and seal mating surface on retainer (12).
- 6. Install six new seals (15) on retainer (12).
- 7. Install insulation (13) and retainer (12) on door (14) with ten screws (10) and ten new lockwashers (11).



ENGINE DECK DOOR AND TORSION BAR REPAIR - CONTINUED

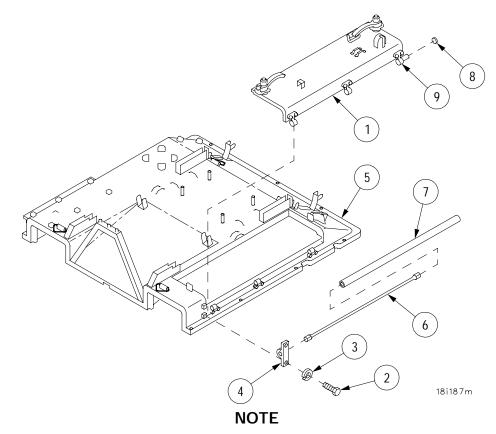
0422 00

Installation

1. Attach endless sling and suitable lifting device to door assembly (1).



- 2. Position door assembly (1) on engine deck (5).
- 3. Install torsion bar (6) in tube (7).
- 4. Secure door assembly (1) to engine deck (5) with tube (7), support (4), two screws (2) and two new lockwashers (3).
- 5. Install plug (8) on hinge (9).



FOLLOW-ON MAINTENANCE:

Close engine deck door (TM 9-2350-292-10) Lower boom (TM 9-2350-292-10)

ENGINE DECK COVER ASSEMBLY REPAIR

0423 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Hoisting beam (item 64, WP 0717 00)

Suitable lifting device (2000 lbs (908 kg) min cap)

Materials/Parts

Solvent (item 91, WP 0716 00)

Adhesive (item 35, WP 0716 00)

Fibrous glass felt (item 220, WP 0718 00)

Lockwashers (11) (item 12, WP 0718 00)

Lockwashers (33) (item 139, WP 0718 00)

Lockwashers (10) (item 13, WP 0718 00)

Lockwashers (6) (item 2, WP 0718 00)

Gasket (item 24, WP 0718 00)

Nonmetallic rubber seal (item 208, WP 0718 00)

Nonmetallic rubber seal (item 209, WP 0718 00)

Nonmetallic rubber seal (item 210, WP 0718 00)

Nonmetallic rubber seal (item 211, WP 0718 00)

Nonmetallic rubber seal (item 212, WP 0718 00)

Nonmetallic rubber seal (item 213, WP 0718 00)

Nonmetallic rubber seal (item 214, WP 0718 00)

Nonmetallic rubber seal (item 215, WP 0718 00)

Nonmetallic rubber seal (item 216, WP 0718 00)

Nonmetallic rubber seal (item 217, WP 0718 00)

Adhesive (item 18, WP 0716 00)

Materials/Parts

Rubber seal (item 218, WP 0718 00)

Rubber seal (item 219, WP 0718 00)

Rubber seal (item 245, WP 0718 00)

Rubber seals (2) (item 221, WP 0718 00)

Rubber seals (2) (item 246, WP 0718 00)

Equipment Conditions

Boom raised to full forward position

(TM 9-2350-292-10)

Engine deck grilles removed

(TM 9-2350-292-10)

Engine deck access doors opened

(TM 9-2350-292-10)

Stayline tree tray removed (WP 0418 00)

Engine deck door removed (WP 0422 00)

Oxygen bottle removed (TM 9-2350-292-10)

Tool box removed (WP 0475 00)

Engine deck assembly removed (WP 0417 00)

Personnel Required

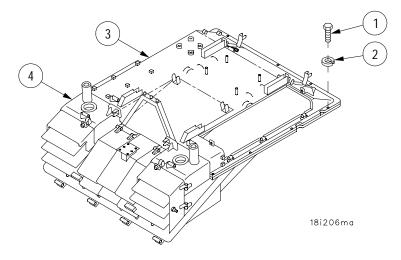
Three

References

TM 9-2350-292-10

Removal

1. Remove 11 screws (1) and 11 lockwashers (2) securing cover assembly (3) to engine deck base assembly (4). Discard lockwashers.

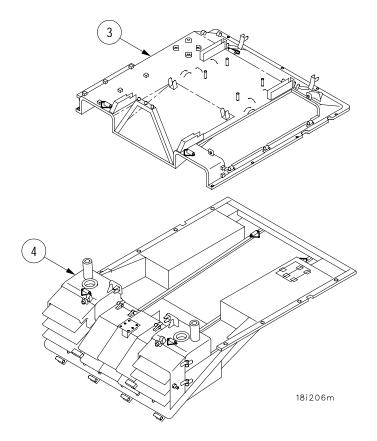


Removal-Continued

2. Attach hoisting beam and suitable lifting device to cover assembly (3).



3. Remove cover assembly (3) from engine deck base assembly (4).



Disassembly

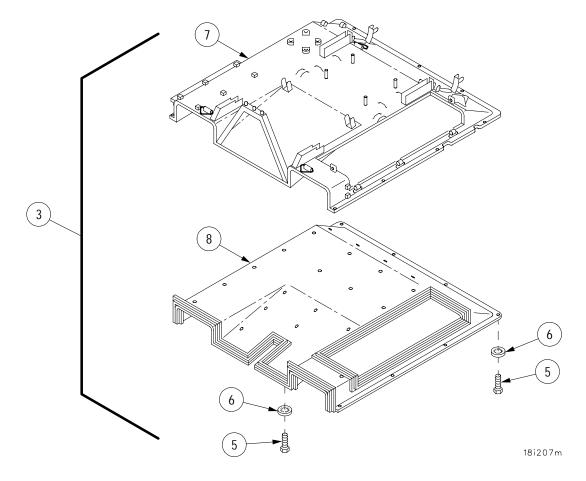
1. Attach hoisting beam and suitable lifting device to cover assembly (3).



Screw sizes are different. Note location of screw sizes to aid during installation.

When removing cover from retainer assembly, rubber seals may stay on either cover or retainer assembly.

2. Remove 43 screws (5), 43 lockwashers (6) and cover (7) from retainer assembly (8). Discard lockwashers.



Disassembly-Continued

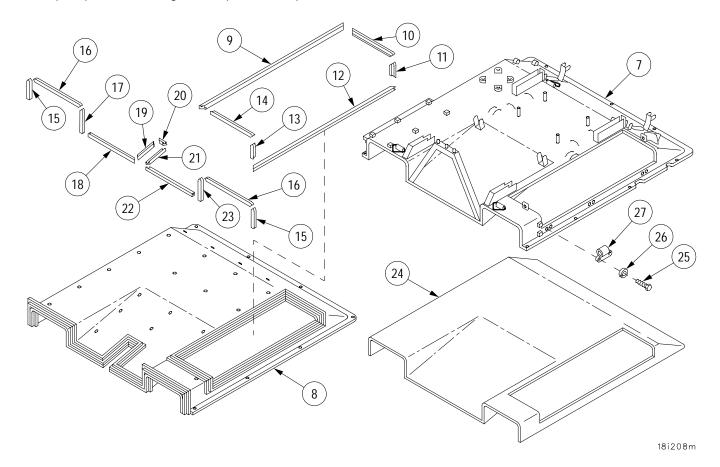
- 3. Remove rubber seals (9 through 14) from retainer assembly (8). Discard rubber seals.
- 4. Remove rubber seals (15 through 23) from retainer assembly (8). Discard rubber seals.



NOTE

Perform step 5 only if fibrous glass felt is damaged beyond repair.

- 5. Using solvent, remove fibrous glass felt (24) from cover (7). Discard fibrous glass felt.
- 6. Remove six screws (25), six lockwashers (26) and three hinges (27) from cover (7). Discard lockwashers.
- 7. Inspect parts for damage and replace as required.



ENGINE DECK COVER ASSEMBLY REPAIR - CONTINUED

0423 00

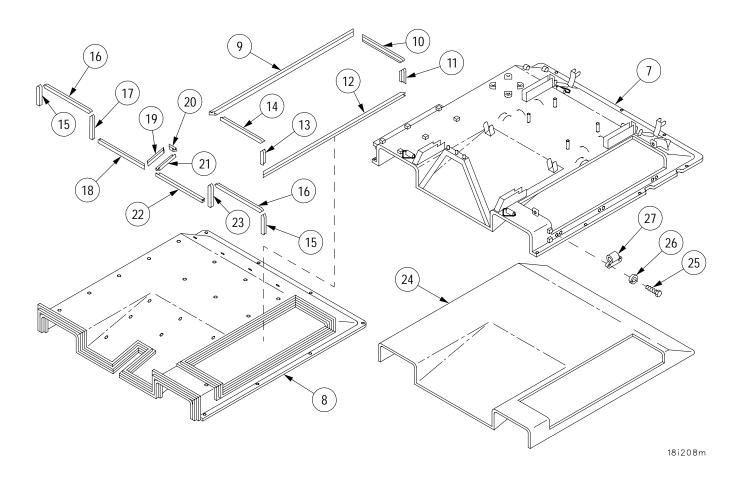
Assembly

1. Install three hinges (27) on cover (7) with six screws (25) and six new lockwashers (26).

NOTE

Perform steps 2 and 3 only if fibrous glass felt has been removed.

- 2. Apply adhesive to cover (7).
- 3. Install new fibrous glass felt (24) on cover (7).
- 4. Install new rubber seals (15 through 23) on retainer assembly (8).
- 5. Apply adhesive (item 18, WP 0716 00) and install new rubber seals (9 through 14) on retainer assembly (8).

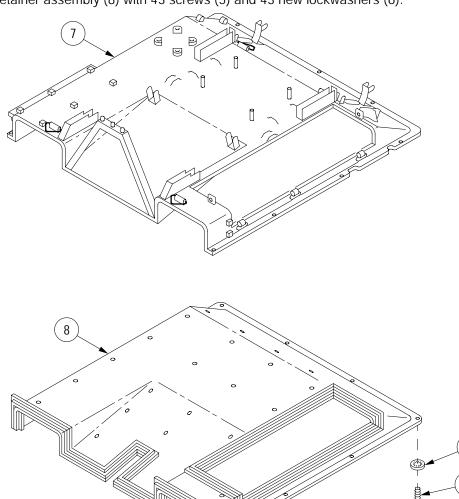


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Assembly-Continued



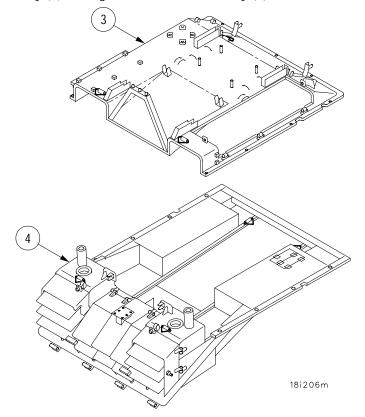
- 6. Attach hoisting beam and suitable lifting device to cover assembly (7).
- 7. Install cover (7) on retainer assembly (8) with 43 screws (5) and 43 new lockwashers (6).



Installation



- 1. Attach hoisting beam and suitable lifting device to cover assembly (3).
- 2. Position cover assembly (3) on engine deck base assembly (4).

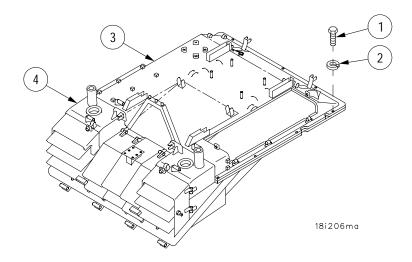


ENGINE DECK COVER ASSEMBLY REPAIR - CONTINUED

0423 00

Installation-Continued

3. Secure cover assembly (3) on engine deck base assembly (4) with 11 screws (1) and 11 new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install engine deck door (WP 0422 00)
Install stayline tree tray (WP 0418 00)
Install engine deck assembly (WP 0417 00)
Install oxygen bottle (TM 9-2350-292-10)
Install tool box (WP 0475 00)
Close engine deck access doors
(TM 9-2350-292-10)
Close engine deck grilles (TM 9-2350-292-10)
Lower boom (TM 9-2350-292-10)

END OF TASK

CENTER EXHAUST DOOR AND HOLD OPEN LATCH REPLACEMENT

0424 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable lifting device (200 lbs (90.8 kg) min cap) Endless sling (item 24, WP 0717 00)

Materials/Parts

Cotter pins (4) (item 17, WP 0718 00) Spring pin (item 201, WP 0718 00)

Personnel Required

Three

NOTE

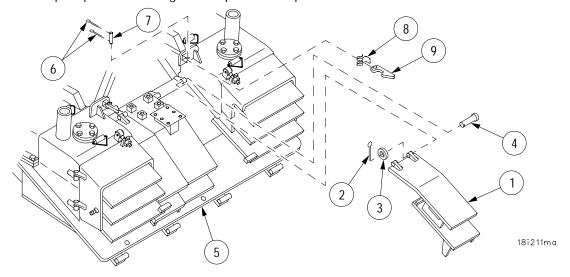
There are two center exhaust doors. Replacement of both doors are the same. This task replaces only one.

Perform Removal steps 3 and 4 and Installation step 1 for maintenance of hold open latch.

Removal



- 1. Attach endless sling and suitable lifting device to exhaust door (1).
- 2. Remove two cotter pins (2), two flat washers (3), two headed pins (4) and exhaust door (1) from engine deck assembly (5). Discard cotter pins.
- 3. Remove two cotter pins (6), headless pin (7), spring (8) and latch (9) from engine deck assembly (5). Discard cotter pins.
- 4. Inspect parts for damage and replace as required.



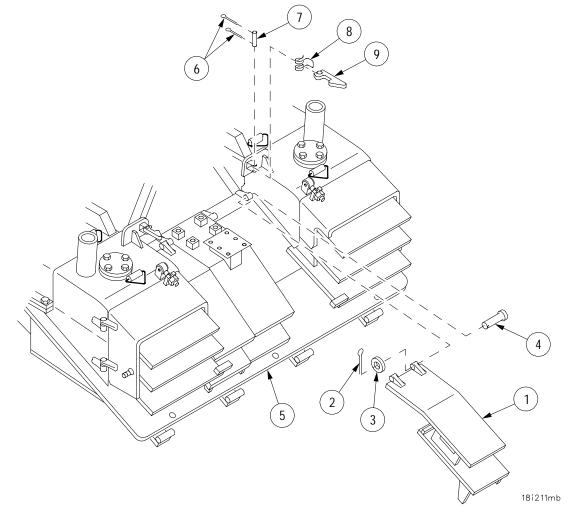
CENTER EXHAUST DOOR AND HOLD OPEN LATCH REPLACEMENT - CONTINUED

0424 00

Installation



- 1. Install latch (9) and spring (8) on engine deck assembly (5) with headless pin (7) and two new cotter pins (6).
- 2. Attach endless sling and suitable lifting device to exhaust door (1).
- 3. Install exhaust door (1) on engine deck assembly (5) with two headed pins (4), two flat washers (3) and two new cotter pins (2).



ENGINE DECK BASE ASSEMBLY REPAIR

0425 00

THIS WORK PACKAGE COVERS:

Disassembly, Assembly

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Hoisting beam (item 64, WP 0717 00)

Suitable lifting device (2500 lbs (1135 kg) min cap)

Materials/Parts

Dry-cleaning solvent (item 1, WP 0716 00)

Adhesive (item 35, WP 0716 00)

Fibrous glass felt (item 220, WP 0718 00)

Lockwashers (32) (item 139, WP 0718 00)

Lockwasher (item 78, WP 0718 00)

Rubber seals (2) (item 221, WP 0718 00)

Rubber seals (2) (item 224, WP 0718 00)

Rubber seals (2) (item 225, WP 0718 00)

Rubber seals (2) (item 226, WP 0718 00)

Rubber seals (2) (item 227, WP 0718 00)

Rubber seal (item 228, WP 0718 00)

Rubber seal (item 229, WP 0718 00)

Rubber seal (item 223, WP 0718 00)

Solvent (item 91, WP 0716 00)

Adhesive (item 18, WP 0716 00)

Materials/Parts-Continued

Rubber seal (item 222, WP 0718 00)

Equipment Conditions

Engine deck assembly removed and

blocked (WP 0417 00)

Engine deck cover assembly removed

(WP 0423 00)

Center exhaust doors removed (WP 0424 00)

Engine exhaust deflector doors removed

(WP 0421 00)

Engine exhaust deflector removed (WP 0420 00)

Hoist boom rest assembly removed

(WP 0427 00)

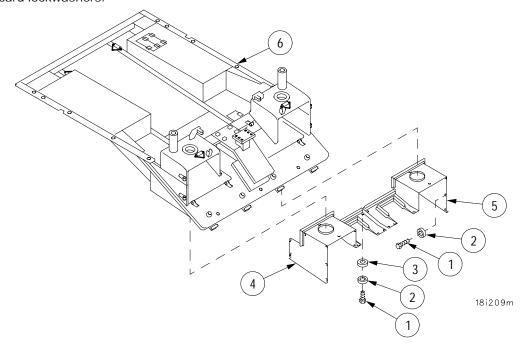
Exhaust access doors removed (WP 0426 00)

Personnel Required

Three

Disassembly

1. Remove 32 screws (1), 32 lockwashers (2), 24 flat washers (3) and two retainers (4 and 5) from base assembly (6). Discard lockwashers.



ENGINE DECK BASE ASSEMBLY REPAIR - CONTINUED

0425 00

Disassembly-Continued



NOTE

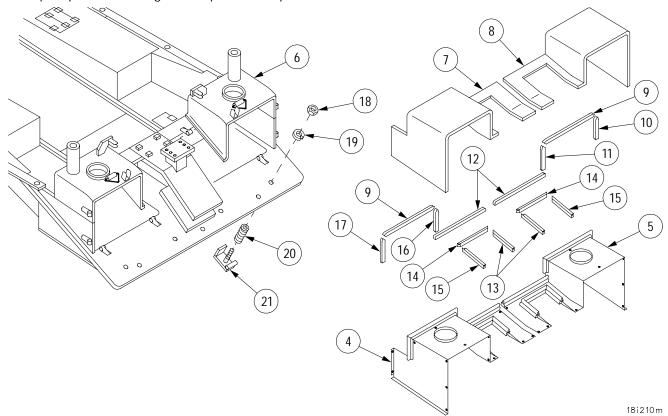
Perform step 2 only if fibrous glass felt is damaged beyond repair.

- 2. Using dry-cleaning solvent, remove fibrous glass felt (7 and 8) from two retainers (4 and 5). Discard fibrous glass felt.
- 3. Remove rubber seals (9 through 17) from retainers (4 and 5). Discard rubber seals.
- 4. Clean retainers (4 and 5) edges with solvent (item 91, WP 0716 00).

NOTE

There are four clamps on the engine deck. This task replaces only one.

- 5. Remove nut (18), lockwasher (19), spring (20) and clamp (21) from base assembly (6). Discard lockwasher.
- 6. Inspect parts for damage and replace as required.



ENGINE DECK BASE ASSEMBLY REPAIR - CONTINUED

0425 00

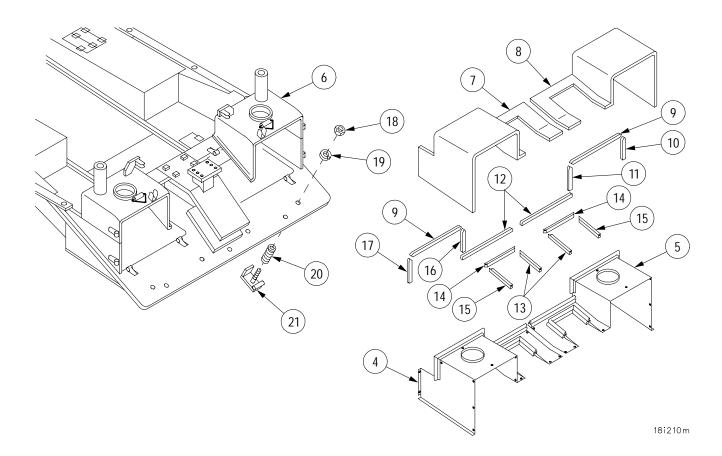
Assembly

- 1. Install spring (20), clamp (21), new lockwasher (19) and nut (18) on base assembly (6). Peen screw end of clamp to prevent nut from falling off due to vibration.
- 2. Apply adhesive (item 18, Appx C) to new rubber seals (9 through 17).
- 3. Install new rubber seals (9 through 17) on retainers (4 and 5).

NOTE

Perform steps 4 and 5 only if fibrous glass felt is being replaced.

- 4. Apply adhesive to retainers (4 and 5).
- 5. Install new fibrous glass felt (7 and 8) on retainers (4 and 5).

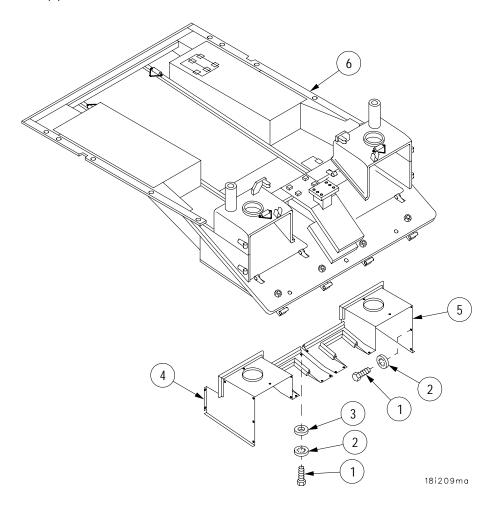


ENGINE DECK BASE ASSEMBLY REPAIR - CONTINUED

0425 00

Assembly-Continued

6. Install two retainers (4 and 5) on base assembly (6) with 32 screws (1), 32 lockwashers (2) and 24 flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install exhaust access doors (WP 0426 00)
Install hoist boom rest assembly (WP 0427 00)
Install engine exhaust deflector (WP 0420 00)
Install engine exhaust deflector doors (WP 0421 00)
Install center exhaust doors (WP 0424 00)
Install engine deck cover assembly (WP 0423 00)
Install engine deck assembly (WP 0417 00)

EXHAUST ACCESS DOOR AND DOOR HANDLE REPLACEMENT

0426 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (200 lbs (90.8 kg) min cap)

Materials/Parts

Spring pin (item 232, WP 0718 00) Cotter pins (2) (item 17, WP 0718 00)

Equipment Conditions

Exhaust deflector lowered (TM 9-2350-292-10) Exhaust deflector doors opened (TM 9-2350-292-10) Center exhaust doors opened (TM 9-2350-292-10)

Personnel Required

Three

References

TM 9-2350-292-10

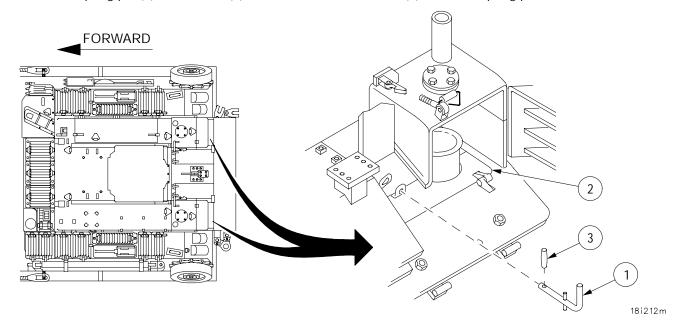
NOTE

There are four exhaust access doors. Replacement of all four doors is the same. This task replaces only one.

Perform Removal step 2 and Installation step 3 for maintenance of exhaust access door handle.

Removal

- 1. Rotate handle (1) on exhaust access door (2) to unlock position.
- 2. Remove spring pin (3) and handle (1) from exhaust access door (2). Discard spring pin.



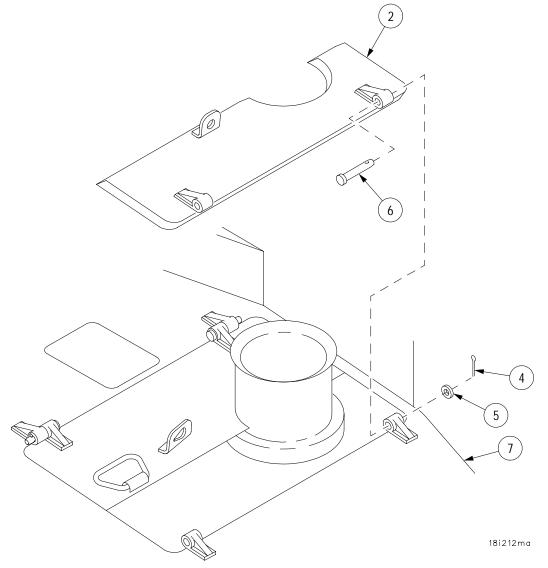
EXHAUST ACCESS DOOR AND DOOR HANDLE REPLACEMENT - CONTINUED

0426 00

Removal-Continued



- 3. Attach endless sling and suitable lifting device to exhaust access door (2).
- 4. Remove two cotter pins (4), two flat washers (5), two headed pins (6) and exhaust access door (2) from engine deck assembly (7).
- 5. Inspect parts for damage and replace as required.



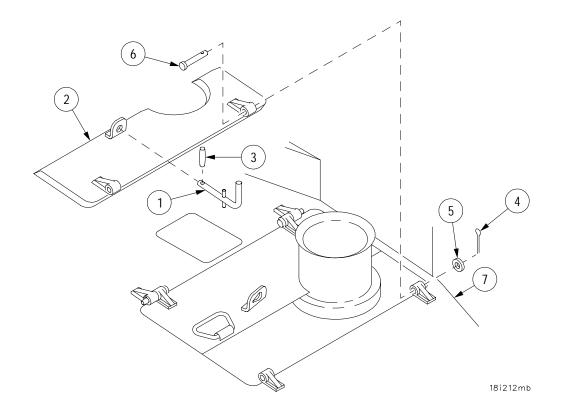
EXHAUST ACCESS DOOR AND DOOR HANDLE REPLACEMENT - CONTINUED

0426 00

Installation



- 1. Attach endless sling and suitable lifting device to exhaust access door (2).
- 2. Install exhaust access door (2) on engine deck assembly (7) with two headed pins (6), two flat washers (5) and two new cotter pins (4).
- 3. Install handle (1) on exhaust access door (2) with new spring pin (3).
- 4. Rotate handle (1) on exhaust access door (2) to lock position.



NOTE

FOLLOW-ON MAINTENANCE:

Close center exhaust doors (TM 9-2350-292-10) Close exhaust deflector doors (TM 9-2350-292-10) Raise exhaust deflector (TM 9-2350-292-10)

HOIST BOOM REST AND LATCH ASSEMBLY REPAIR

0427 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00)

Materials/Parts

Lockwashers (6) (item12, WP 0718 00) Cotter pin (item 67, WP 0718 00) Cotter pins (2) (item 17, WP 0718 00)

Equipment Conditions

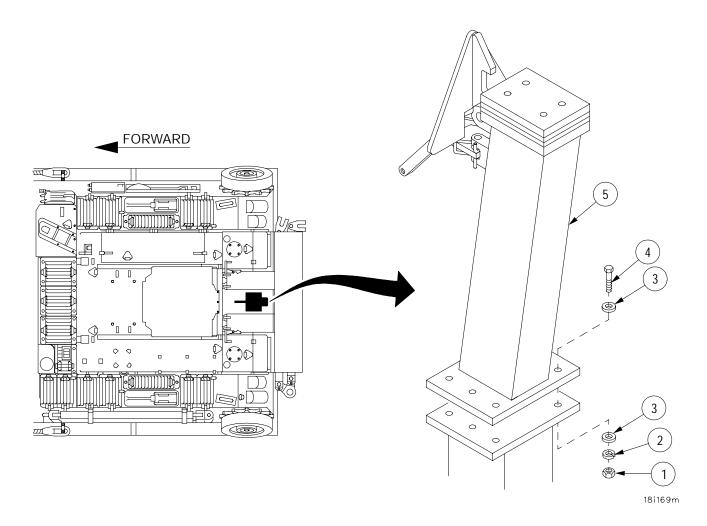
Hoisting boom raised to full forward position (TM 9-2350-292-10)

References

TM 9-2350-292-10

Removal

Remove six nuts (1), six lockwashers (2), 12 flat washers (3), six screws (4) and boom rest (5) from engine deck assembly. Discard lockwashers.



HOIST BOOM REST AND LATCH ASSEMBLY REPAIR - CONTINUED

0427 00

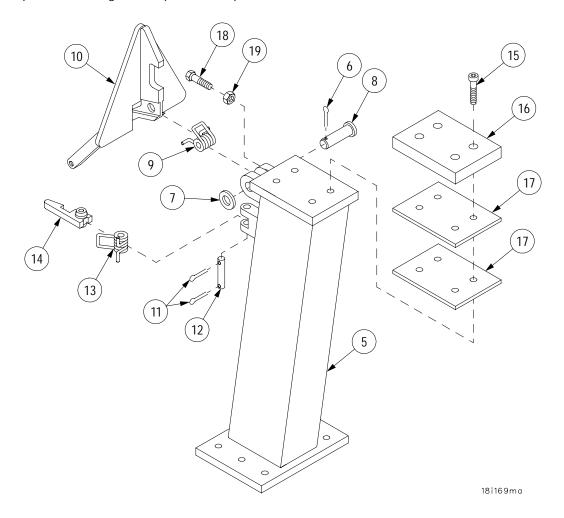
Disassembly

- 1. Remove cotter pin (6), flat washer (7), headed pin (8), spring (9) and latch (10) from boom rest (5). Discard cotter pin.
- 2. Remove two cotter pins (11), headless pin (12), spring (13) and latch (14) from boom rest (5). Discard cotter pins.

NOTE

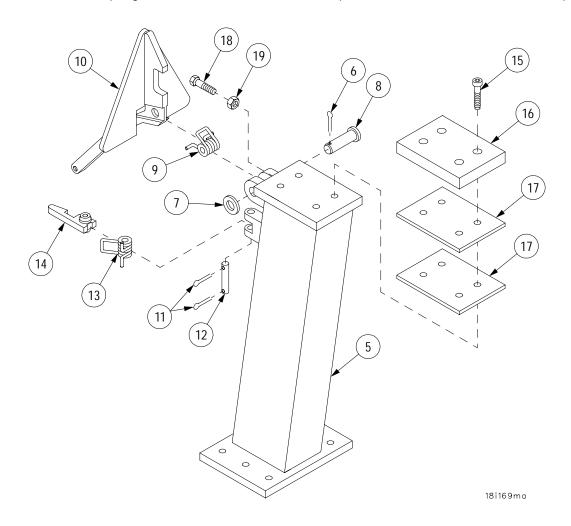
Note the quantity and position of shim(s) being removed to ensure shim(s) are installed in the same manner.

- 3. Remove four screws (15), plate (16) and shim(s) (17) from boom rest (5).
- 4. Remove screw (18) and nut (19) from boom rest (5).
- 5. Inspect parts for damage and replace as required.



Assembly

- 1. Install nut (19) and screw (18) on boom rest (5).
- 2. Install shim(s) (17) and plate (16) on boom rest (5) with four screws (15).
- 3. Install latch (14) and spring (13) on boom rest (5) with headless pin (12) and two new cotter pins (11).
- 4. Install latch (10) and spring (9) on boom rest (5) with headed pin (8), flat washer (7) and new cotter pin (6).

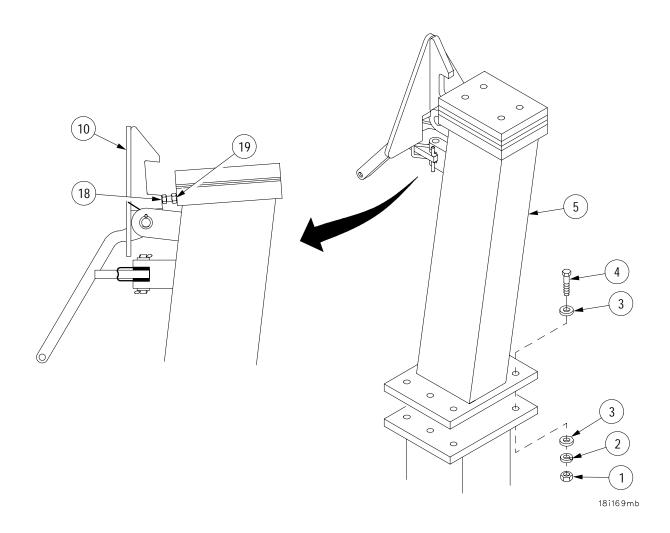


HOIST BOOM REST AND LATCH ASSEMBLY REPAIR - CONTINUED

0427 00

Installation

- 1. Install boom rest (5) on engine deck assembly with six screws (4), 12 flat washers (3), six new lockwashers (2) and six nuts (1). Torque six screws (4) and six nuts (1) to 70-75 lb-ft (94.9-102 N⁻m).
- 2. Place boom on boom rest (5) (TM 9-2350-292-10). Loosen nut (19), adjust screw (18) until latch (10) is fully engaged. Tighten nut (19).



HOIST WINCH CABLE ACCESS DOOR AND SEAL REPLACEMENT

0428 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Rubber based adhesive (item 15, WP 0716 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Lockwashers (2) (item 52, WP 0718 00)

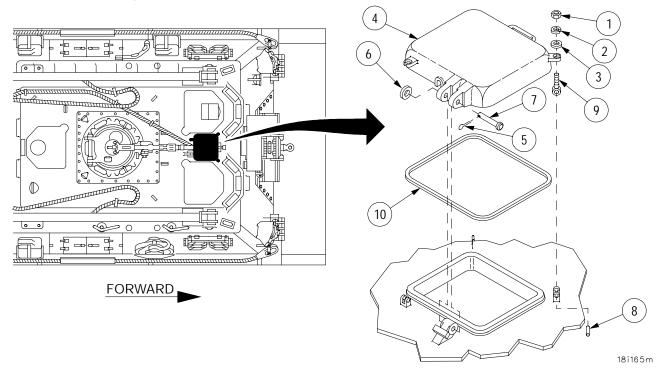
Cotter pin (item 67, WP 0718 00)

Spring pins (2) (item 108, WP 0718 00)

Nonmetallic seal (item 129, WP 0718 00)

Removal

- 1. Remove two nuts (1), two lockwashers (2) and two flat washers (3) securing access door (4) to hull. Discard lockwashers.
- 2. Remove cotter pin (5), flat washer (6), pin (7) and access door (4) from hull. Discard cotter pin.
- 3. Remove two spring pins (8) and two bolts (9) from hull. Discard spring pins.
- 4. Remove nonmetallic seal (10) from hull. Discard nonmetallic seal.
- 5. Inspect parts for damage and replace as required.



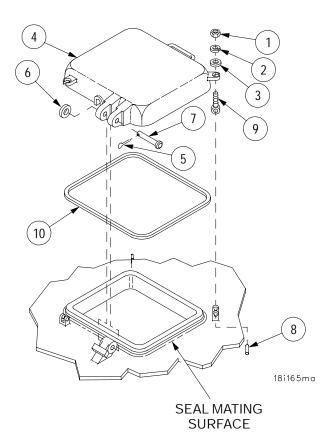
HOIST WINCH CABLE ACCESS DOOR AND SEAL REPLACEMENT - CONTINUED

0428 00

Installation



- 1. Clean seal mating surface on hull with dry-cleaning solvent.
- 2. Apply rubber based adhesive to new nonmetallic seal (10) and seal mating surface on hull.
- 3. Install nonmetallic seal (10) on hull.
- 4. Install two bolts (9) on hull with two new spring pins (8).
- 5. Install access door (4) on hull with pin (7), flat washer (6) and new cotter pin (5).
- 6. Secure access door (4) to hull with two flat washers (3), two new lockwashers (2) and two nuts (1).



LEFT STOWAGE DOOR ASSEMBLY REPAIR

0429 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (200 lbs (90.8 kg) min cap)

Materials/Parts

Cotter pins (3) (item 5, WP 0718 00) Spring washer (item 165, WP 0718 00) Self-locking nuts (2) (item 120, WP 0718 00) Seal (item 187, WP 0718 00) Rubber based adhesive (item 15, WP 0716 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Equipment Conditions

Spare towbar removed (TM 9-2350-292-10) Stowage door opened (TM 9-2350-292-10

Personnel Required

Three

References

TM 9-2350-292-10

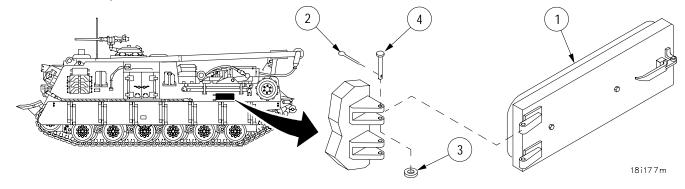
Removal

1. Attach endless sling and suitable lifting device to stowage door assembly (1).



Stabilize stowage door assembly as mounting hardware is removed.

2. Remove two cotter pins (2), two flat washers (3), two headed pins (4) and stowage door assembly (1) from hull. Discard cotter pins.



LEFT STOWAGE DOOR ASSEMBLY REPAIR - CONTINUED

0429 00

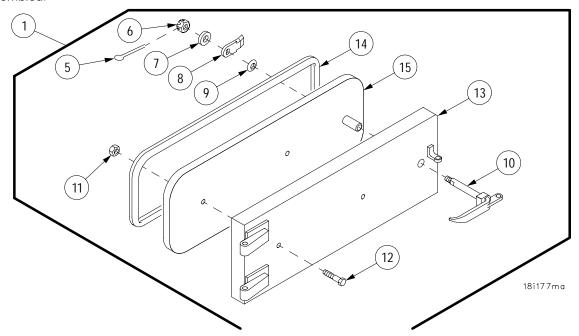
Disassembly

- 1. Remove cotter pin (5), nut (6), flat washer (7) if present, latch (8), spring washer (9) and handle (10) from stowage door assembly (1). Discard cotter pin and spring washer.
- 2. Remove two self-locking nuts (11) and two screws (12), separate armor plate (13) from stowage door assembly (1). Discard self-locking nuts.
- 3. Remove seal (14) from stowage door (15). Discard seal.
- 4. Inspect parts for damage and replace as required.

Assembly



- 1. Clean seal mating surface on stowage door (15) with dry-cleaning solvent.
- 2. Apply rubber based adhesive to new seal (14) and seal mating surface on stowage door (15).
- 3. Install new seal (14) on stowage door (15).
- 4. Install armor plate (13) on stowage door assembly (1) with two screws (12) and two new self-locking nuts (11).
- 5. Install handle (10) and latch (8) on stowage door assembly (1) with new spring washer (9), nut (6) and new cotter pin (5). Flat washer (7) is only required if cotter pin (5) does not engage the slots in nut (6) when handle parts are assembled.



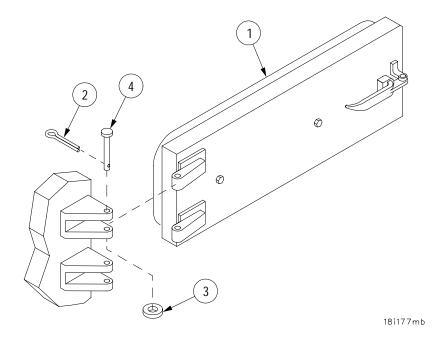
LEFT STOWAGE DOOR ASSEMBLY REPAIR - CONTINUED

0429 00

Installation



- 1. Using endless sling and suitable lifting device, position stowage door assembly (1) on hull.
- 2. Secure stowage door assembly (1) on hull with two headed pins (4), two flat washers (3) and two new cotter pins (2).



NOTE

FOLLOW-ON MAINTENANCE:

Close left stowage door (TM 9-2350-292-10) Install spare towbar (TM 9-2350-292-10)

PERSONNEL DOOR LOCKING PIN ASSEMBLY REPLACEMENT

0430 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

Personnel door assembly opened (TM 9-2350-292-10)

References

TM 9-2350-292-10

NOTE

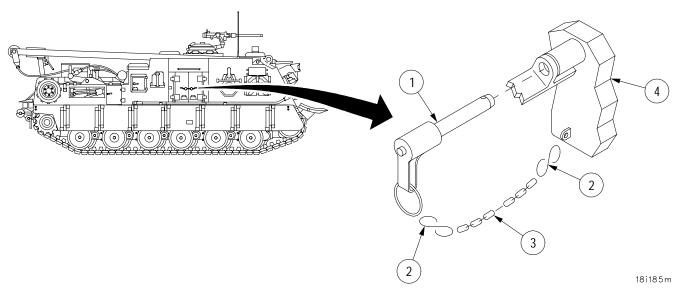
There are four personnel door locking pin assemblies. Replacement procedures are the same for all.

Removal

- 1. Remove locking pin assembly (1), two S-hooks (2) and chain assembly (3) from personnel door (4).
- 2. Inspect parts for damage and replace as required.

Installation

Install locking pin assembly (1) on personnel door (4) with two S-hooks (2) and chain assembly (3).



NOTE

FOLLOW-ON MAINTENANCE:

Close personnel door assembly (TM 9-2350-292-10)

LEFT PERSONNEL DOOR ASSEMBLY AND TORSION BAR REPAIR

0431 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (350 lbs (158.9 kg) min cap) Torque wrench (item 2, WP 0717 00)

Materials/Parts

Cotter pin (item 17, WP 0718 00)
Spring pin (item 185, WP 0718 00)
Spring pins (2) (item 186, WP 0718 00)
Seal (item 187, WP 0718 00)
Spring washers (2) (item 167, WP 0718 00)
Dry-cleaning solvent (item 1, WP 0716 00)
Rubber based adhesive (item 15, WP 0716 00)

Materials/Parts - Continued

Strip (item 151, WP 0718 00) Sealing compound (item 57, WP 0716 00) Lubricant (item 92, WP 0716 00)

Equipment Condition

Personnel door locking pin assembly removed (WP 0430 00)

Personnel Required

Three

References

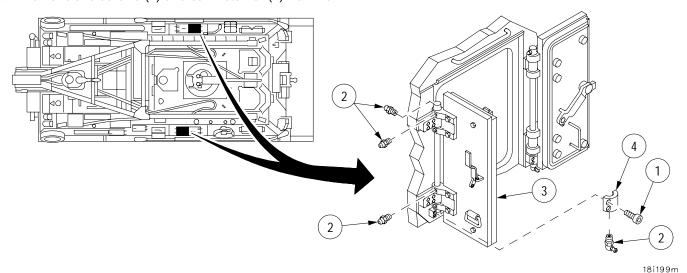
TM 9-2350-292-10

NOTE

There are two left personnel door assemblies, one on the left and other on the right side of vehicle. The procedures are the same for both doors.

Removal

- 1. Remove two screws (1) and six lubrication fittings (2).
- 2. Hold personnel door assembly (3) open at a 90° angle.
- 3. Attach endless sling and suitable lifting device to personnel door assembly (3).
- 4. Remove two screws (1) and cam retainer (4) from hull.



LEFT PERSONNEL DOOR ASSEMBLY AND TORSION BAR REPAIR - CONTINUED

0431 00

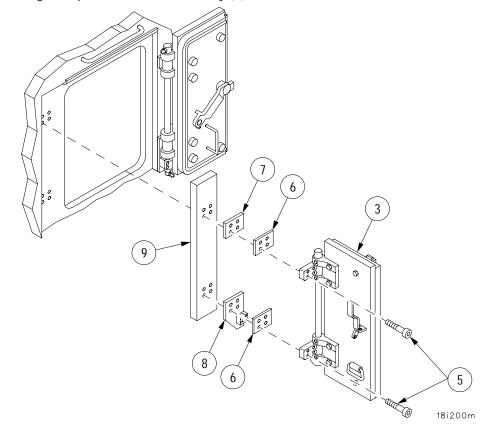
Removal-Continued



NOTE

Note the quantity and position of shim (s) being removed to ensure shim (s) are installed in the same position.

- 5. Remove eight screws (5), shim(s) (6), spacer (7), hinge leaf (8), personnel door assembly (3) and hinge block (9) from hull.
- 6. Remove endless sling from personnel door assembly (3).



LEFT PERSONNEL DOOR ASSEMBLY AND TORSION BAR REPAIR - CONTINUED

0431 00

Disassembly

CAUTION

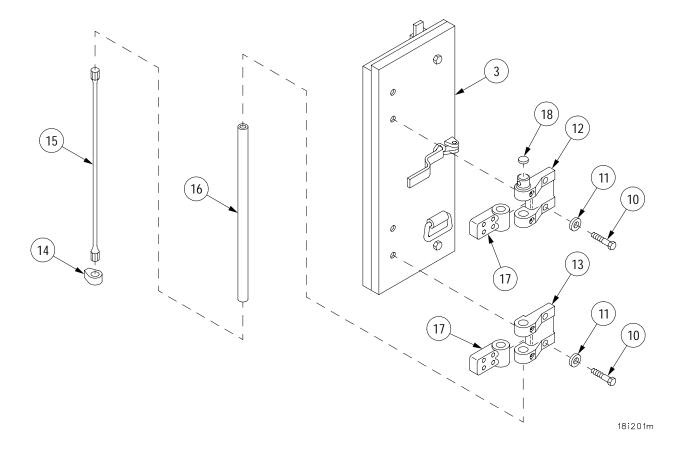
To prevent equipment damage, do not strike tube ends with hammer.

NOTE

Stabilize personnel door as torsion bar is removed.

Cam, torsion bar, tube and hinges should be removed from door as an assembly.

- 1. Remove four screws (10), four flat washers (11), two hinges (12 and 13), cam (14), torsion bar (15), tube (16) and two hinges (17) as an assembly from personnel door assembly (3).
- 2. Remove cam (14) and torsion bar (15) from tube (16).
- 3. Remove hinges (12, 13 and 17) from tube (16).
- 4. Remove torsion bar cap (18).



LEFT PERSONNEL DOOR ASSEMBLY AND TORSION BAR REPAIR - CONTINUED

0431 00

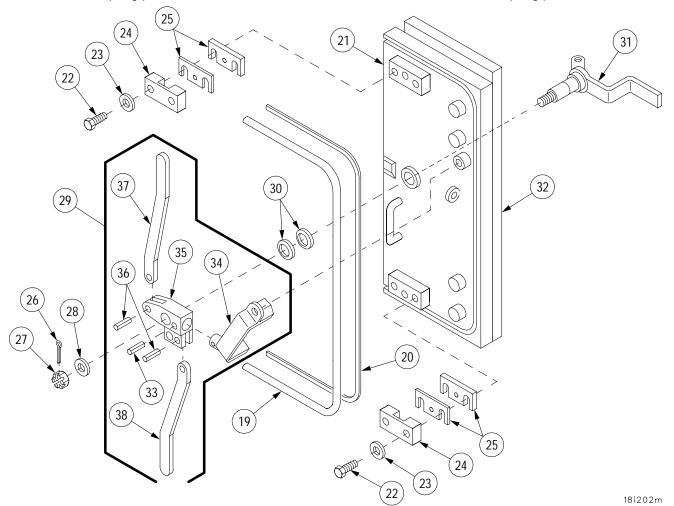
Disassembly-Continued

5. Remove seal (19), and strip (20), if present, from door (21). Discard seal and strip.

NOTE

Note the quantity and position of shim(s) being removed to ensure shim(s) are installed in the same position.

- 6. Remove four screws (22), four flat washers (23), two slides (24) and shim(s) (25) from door (21).
- 7. Remove cotter pin (26), nut (27), flat washer (28), locking assembly (29), two spring washers (30) and handle (31) from door (21) and armor plate (32). Discard cotter pin and spring washers.
- 8. Remove spring pin (33) and handle (34) from clevis (35). Discard spring pin.
- 9. Remove two spring pins (36) and two arms (37 and 38) from clevis (35). Discard spring pins.



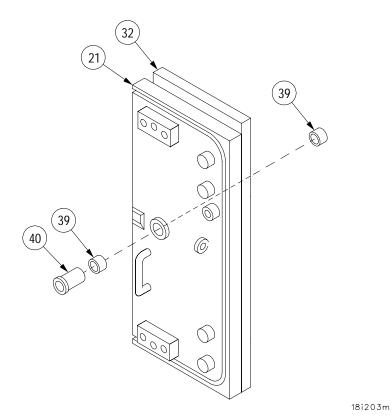
0431 00

Disassembly-Continued

- 10. Remove two bushings (39) and bearing (40) as an assembly from armor plate (32) and door (21).
- 11. Inspect parts for damage and replace as required.

Assembly

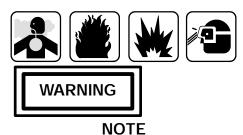
1. Install bearing (40) and two bushings (39) as an assembly on armor plate (32) and door (21).



0431 00

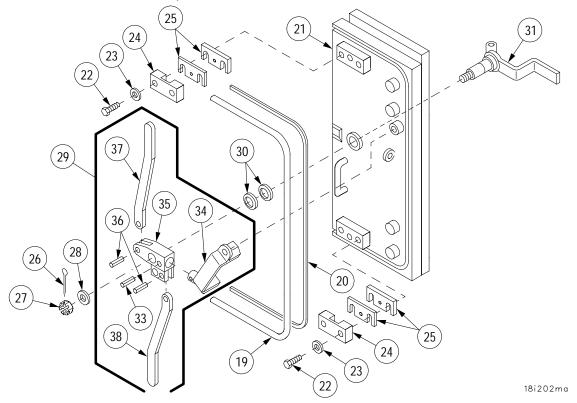
Assembly-Continued

- 2. Install two arms (37 and 38) on clevis (35) with two new spring pins (36).
- 3. Install handle (34) on clevis (35) with new spring pin (33).
- 4. Install handle (31), two new spring washers (30), locking assembly (29) with flat washer (28), nut (27) and new cotter pin (26) on door (21).
- 5. Apply lubricant to four screws (22).
- 6. Install shim(s) (25) and two slides (24) on door (21) with four screws (22) and four flat washers (23).
- 7. Torque four screws (22) to 95-105 lb-ft (129-142.4 NSm).



Strip is used behind seal as a shim. Strip is only installed for proper mating of seal/hull.

- 8. Clean door seal mating surfaces with dry-cleaning solvent.
- 9. Apply rubber based adhesive to new seal (19) and new strip (20), if removed, and mating surface of door (21).
- 10. Install new seal (19) and new strip (20) on door (21).



0431 00

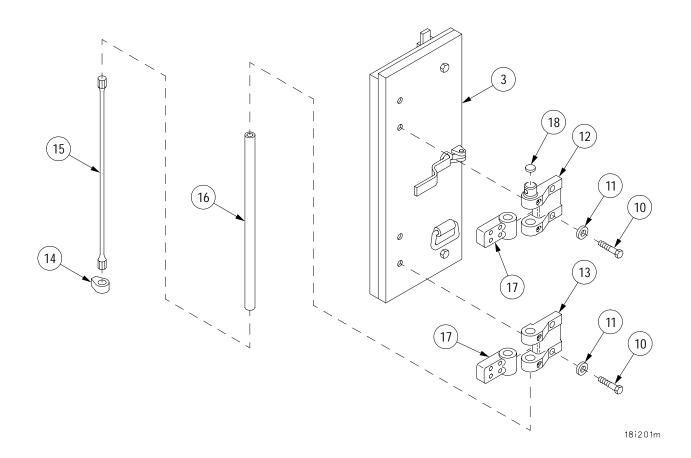
Assembly-Continued

- 11. Apply lubricant to four screws (10).
- 12. Assemble two hinges (17), tube (16), cam (14), two hinges (12 and 13) and install to door (3) with four screws (10) and four flat washers (11).
- 13. Torque four screws (10) to 95-105 lb-ft (129-142.4 NSm).
- 14. Remove paint from both ends of tube (16).
- 15. Apply lubricant to both ends of tube (16).

NOTE

Align torsion bar splines with splines in top hinge.

- 16. Install torsion bar (15) into tube (16).
- 17. Install torsion bar cap (18).



0431 00

Installation

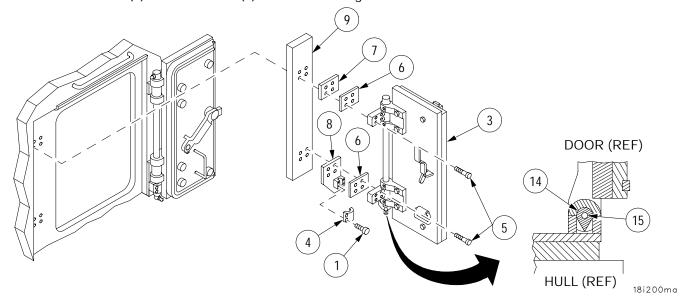


- 1. Attach endless sling and suitable lifting device to personnel door assembly (3).
- 2. Install personnel door assembly (3) on hull with hinge block (9), hinge leaf (8), spacer (7), shim(s) (6) and eight screws (5).
- 3. Open personnel door assembly (3) to 90° angle.

NOTE

Align cam with splines of torsion bar so that cam can be installed on torsion bar.

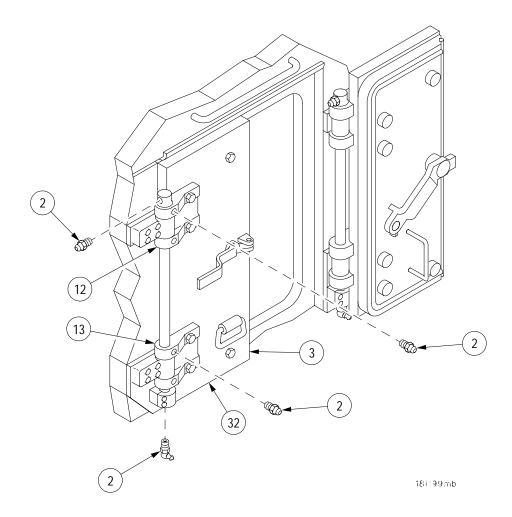
- 4. Install cam (14) on torsion bar (15) in center position.
- 5. Install cam retainer (4) on hull with two screws (1) at outer mounting holes.
- 6. Close personnel door assembly (3).
- 7. Install two screws (1) in cam retainer (4) at inner mounting holes.



0431 00

Installation-Continued

- 8. Install six lubrication fittings (2).
- 9. Lubricate personnel door assembly (3) (WP 0187 00 and TM 9-2350-292-10).
- 10. Close left personnel door assembly (3) (TM 9-2350-292-10). When latch is released, personnel door assembly (3) will spring open gently if it is installed properly.
- 11. Apply sealing compound to all gaps around armor plate (32) and hinges (12 and 13).



NOTE

FOLLOW-ON MAINTENANCE:

Install personnel door locking pin assembly (WP 0430 00)

RIGHT PERSONNEL DOOR ASSEMBLY AND TORSION BAR REPAIR

0432 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (350 lbs (158.9 kg) min cap) Torque wrench (item 2, WP 0717 00)

Materials/Parts

Cotter pin (item 17, WP 0718 00)
Seal (item 187, WP 0718 00)
Seal (item 188, WP 0718 00)
Dry-cleaning solvent (item 1, WP 0716 00)
Rubber based adhesive (item 15, WP 0716 00)
Spring washers (2) (item 167, WP 0718 00)
Strip (item 151, WP 0718 00)

Materials/Parts-Continued

Sealing compound (item 57, WP 0716 00) Lubricant (item 92, WP 0716 00)

Equipment Conditions

Personnel door locking pin assembly removed (WP 0430 00)

Personnel Required

Three

References

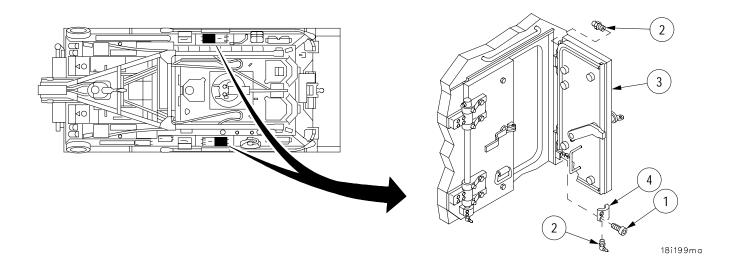
TM 9-2350-292-10

NOTE

There are two right personnel door assemblies, one each on the left and right sides of the vehicle. The procedures are the same for both doors.

Removal

- 1. Remove two screws (1) and six lubrication fittings (2).
- 2. Hold personnel door assembly (3) open at a 90° angle.
- 3. Attach endless sling and suitable lifting device to personnel door assembly (3).
- 4. Remove two screws (1) and cam retainer (4) from hull.



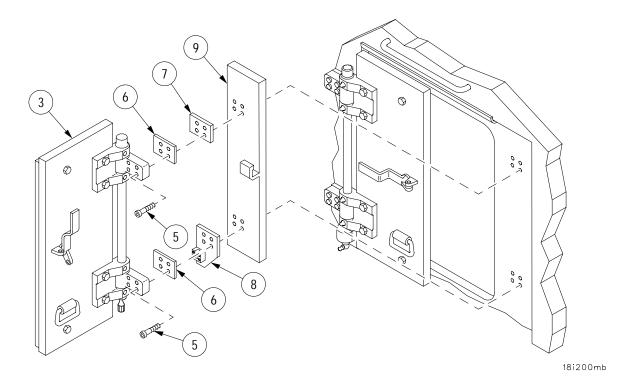
0432 00

Removal-Continued



Note the quantity and position of shim(s) being removed to ensure shim(s) are installed in the same position.

- 5. Remove eight screws (5), shim(s) (6), spacer (7), hinge leaf (8), personnel door assembly (3) and hinge block (9) from hull.
- 6. Remove endless sling from personnel door assembly (3).



0432 00

Disassembly

CAUTION

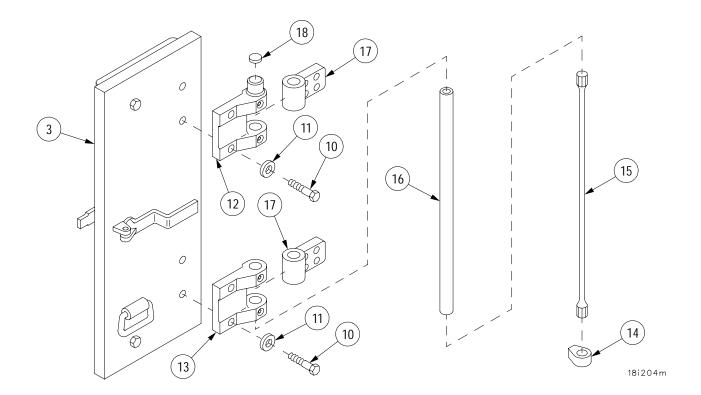
To prevent equipment damage, do not strike tube ends with hammer.

NOTE

Stabilize personnel door as torsion bar is removed.

Cam, torsion bar, tube and hinges should be removed from door as an assembly.

- 1. Remove four screws (10), four flat washers (11), two hinges (12 and 13), cam (14), torsion bar (15), tube (16) and two hinges (17) as an assembly from personnel door assembly (3).
- 2. Remove cam (14) and torsion bar (15) from tube (16).
- 3. Remove hinges (12, 13 and 17) from tube (16).
- 4. Remove torsion bar cap (18).



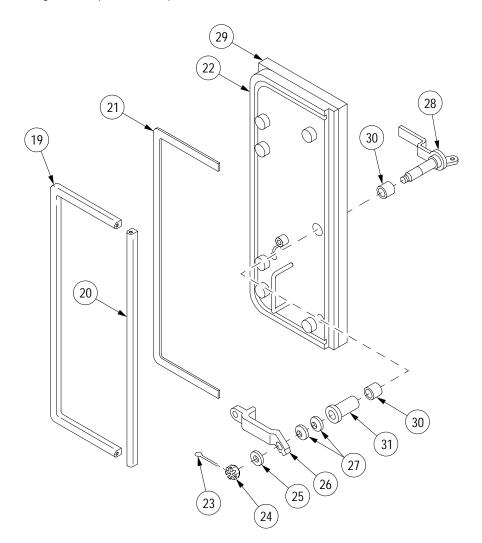
0432 00

Disassembly-Continued

- 5. Remove two seals (19 and 20) and strip (21) from door (22). Discard seals and strip.
- 6. Remove cotter pin (23), nut (24), flat washer (25), inner handle (26), two spring washers (27) and outer handle (28) from door (22) and armor plate (29). Discard cotter pin and spring washers.



- 7. Remove two bushings (30) and bearing (31) as an assembly from armor plate (29) and door (22).
- 8. Inspect parts for damage and replace as required.



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0432 00

Assembly

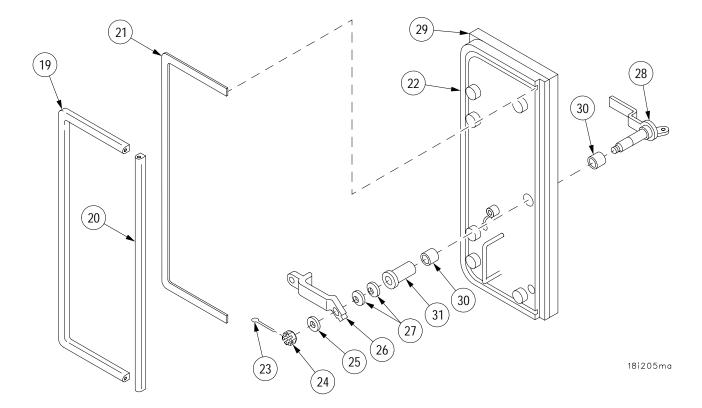
1. Install two bushings (30) and bearing (31) as an assembly on armor plate (29) and door (22).



2. Install outer handle (28), two new spring washers (27), inner handle (26) with flat washer (25), nut (24) and new cotter pin (23) on door (22) and armor plate (29).



- 3. Clean door seal mating surfaces with dry-cleaning solvent.
- 4. Apply rubber based adhesive to two new seals (19 and 20), new strip (21) and mating surface on door (22).
- 5. Install two new seals (19 and 20) and new strip (21) on door (22).



0432 00

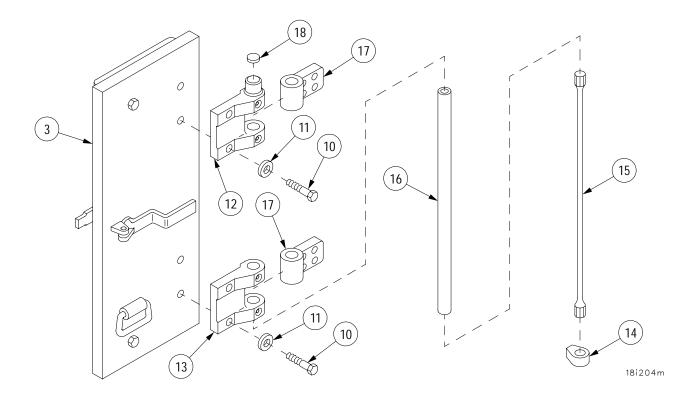
Assembly-Continued

- 6. Apply lubricant to four screws (10).
- 7. Assemble two hinges (17), tube (16), cam (14), two hinges (12 and 13) and install to door (3) with four washers (11) and four screws (10).
- 8. Torque four screws (10) to 95-105 lb-ft (129-142.4 NSm).
- 9. Remove paint from both ends of tube (16).
- 10. Apply lubricant to both ends ot tube (16).

NOTE

Align torsion bar splines with splines in top hinge.

- 11. Install torsion bar (15) into tube (16).
- 12. Install torsion bar cap (18).

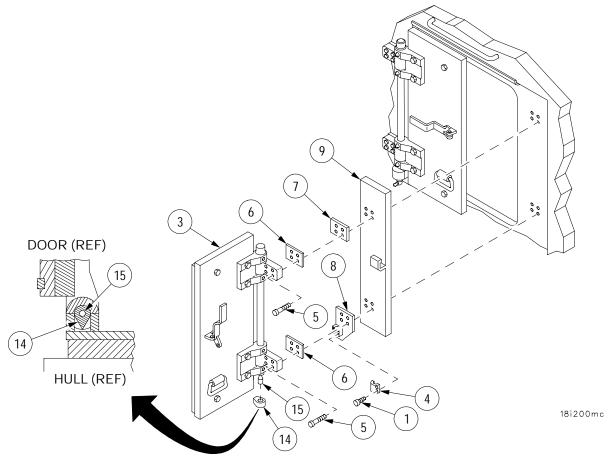


0432 00

Installation



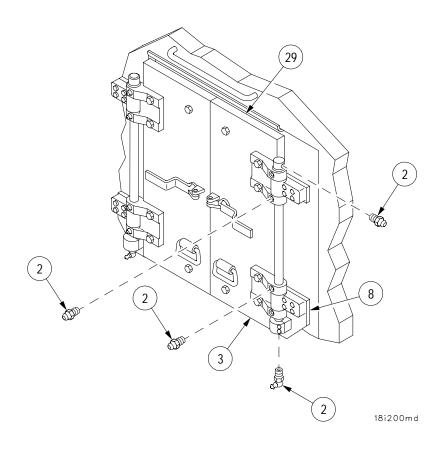
- 1. Attach endless sling and suitable lifting device to personnel door assembly (3).
- 2. Install personnel door assembly (3) on hull with hinge block (9), hinge leaf (8), spacer (7), shim(s) (6) and eight screws (5).
- 3. Open personnel door assembly (3) to 90° angle.
- 4. Install cam (14) on torsion bar (15) in neutral position.
- 5. Install cam retainer (4) on hull with two screws (1).



0432 00

Installation-Continued

- 6. Install six lubrication fittings (2).
- 7. Lubricate personnel door (3) (WP 0187 00 and TM 9-2350-292-10).
- 8. Close personnel door assembly (3) (TM 9-2350-292-10). When latch is released, personnel door assembly (3) will spring open gently if it is installed properly.
- 9. Apply sealant to all gaps around armor plate (29) and hinge block (8).



NOTE

FOLLOW-ON MAINTENANCE:

Install personnel door locking pin assembly (WP 0430 00)

HYDRAULIC COMPARTMENT REAR ACCESS COVER REPLACEMENT

0433 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 9, WP 0718 00)
Pressure sensitive tape (item 41, WP 0716 00)
Dry-cleaning solvent (item 1, WP 0716 00)
Sealing compound (item 42, WP 0716 00)

Equipment Conditions

Engine deck access door opened (TM 9-2350-292-10) Hydraulic compartment door opened (TM 9-2350-292-10)

References

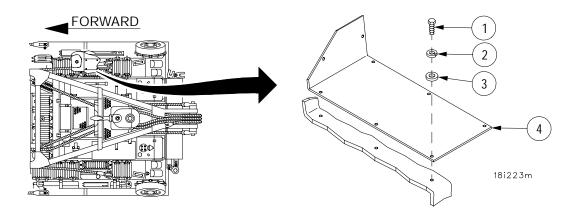
TM 9-2350-292-10

Removal

1. Remove eight screws (1), eight lockwashers (2), eight flat washers (3) and hydraulic compartment rear access cover plate (4). Discard lockwashers.



- 2. Clean old sealing compound and pressure sensitive tape from all items using dry-cleaning solvent.
- 3. Inspect parts for damage and replace as require



HYDRAULIC COMPARTMENT REAR ACCESS COVER REPLACEMENT - CONTINUED

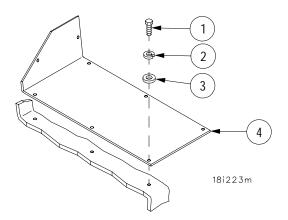
0433 00

Installation

CAUTION

Do not apply pressure sensitive tape when ambient temperature is below 45°F (7.2° C). Failure to comply may cause loss of screw torque and equipment damage.

- 1. Apply pressure sensitive tape or sealing compound to mating surfaces between hydraulic compartment rear access plate (4) and vehicle.
- 2. Apply sealing compound to threads and underside of head on eight screws (1).
- 3. Install hydraulic compartment rear access cover plate (4) with eight screws (1), eight new lockwashers (2) and eight new flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Close engine deck access door (TM 9-2350-292-10) Close hydraulic compartment door (TM 9-2350-292-10)

END OF TASK

HULL ENGINE COMPARTMENT ACCESS COVERS REPLACEMENT

0434 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (6) (item 52, WP 0718 00) Gasket (item 238, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10)

References

TM 9-2350-292-10

NOTE

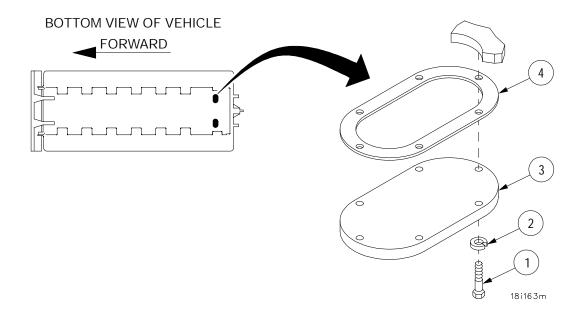
There are two hull engine compartment access covers. Replacement for both covers are the same. This task replaces only one.

Removal

- 1. Remove six screws (1), six lockwashers (2), hull access cover (3) and gasket (4) from hull. Discard lockwashers and gasket.
- 2. Inspect parts for damage and replace as required.

Installation

Install hull access cover (3) and new gasket (4) on hull with six screws (1) and six new lockwashers (2).



FUEL TANK FILLER ACCESS COVER REPLACEMENT

0435 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10)

References

TM 9-2350-292-10

Removal

1. Remove two lockpin handles (1) and access cover (2) from hull.

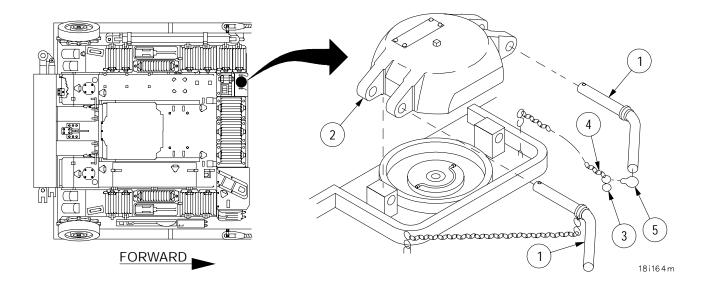
NOTE

There are two lockpin handles. Both lockpin handles are replaced the same way. This task replaces only one.

- 2. Remove two hooks (3) and chain (4) from lockpin handle (1) and hull.
- 3. Remove lockring (5) from lockpin handle (1).
- 4. Inspect parts for damage and replace as required.

Installation

- 1. Install lockring (5) on lockpin handle (1).
- 2. Install two hooks (3) and chain (4) on lockpin handle (1) and hull.
- 3. Install access cover (2) and two lockpin handles (1) on hull.



AIR CLEANER AIR INLET COVER REPLACEMENT

0436 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 12, WP 0718 00) Lockwashers (2) (item 9, WP 0718 00) Adhesive sealant (item 6, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Hoisting boom raised (TM 9-2350-292-10)

References

TM 9-2350-292-10

NOTE

There are two air cleaner air inlet covers. Replacement procedures are the same for both.

Removal

- 1. Remove two screws (1), two lockwashers (2), plate (3), two screws (4), two lockwashers (5), guide (6) and screen (7). Discard lockwashers.
- 2. Remove two screws (8), two lockwashers (9), two flat washers (10), hood (11), plate (12), cover (13) and screen (14) from hull. Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

Installation

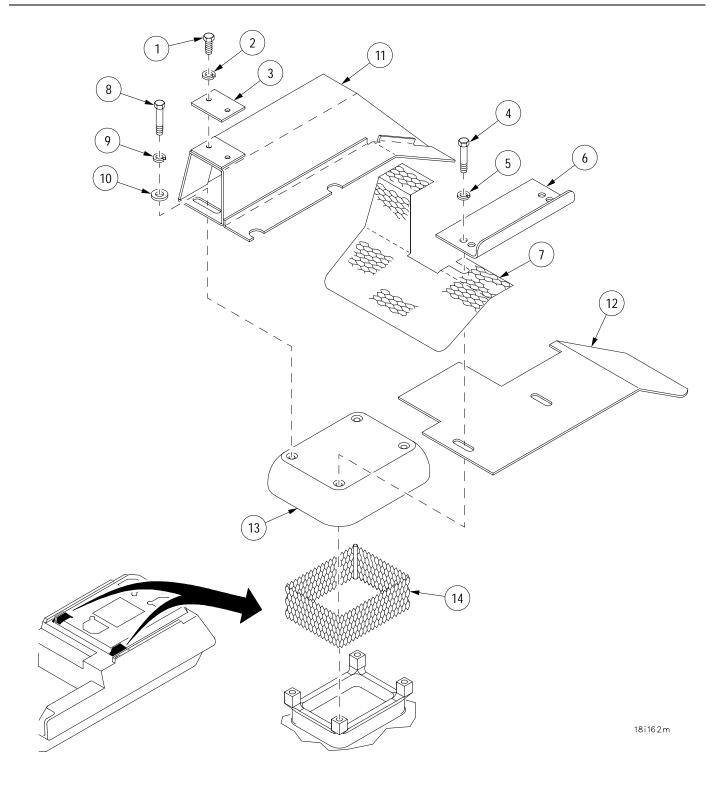
1. Install screen (14), cover (13), plate (12) and hood (11) on hull with two screws (8), two new lockwashers (9) and two flat washers (10).

NOTE

Screen may be trimmed around perimeter and mounting holes at assembly to accommodate vehicle variations. Remove burrs and sharp edges and bend in protruding ends.

Install guide in hole pattern that places guide closest to the hull. If the stayline cable does not fit between the guide and the hull, it is acceptable to use the other hole pattern.

- 2. Install screen (7) and guide (6) with two screws (4) and two new lockwashers (5).
- 3. Install plate (3) with two screws (1) and two new lockwashers (2).
- 4. Apply a bead of adhesive sealant (MIL-A-46106) between mating surfaces of hood (11) and appliqué armor, hood (11) and vehicle hull, hood (11) and plate (12), and between mating surfaces of plate (12) and vehicle hull.



NOTE

FOLLOW-ON MAINTENANCE:

Lower hoisting boom (TM 9-2350-292-10)

END OF TASK

FUEL DOOR ASSEMBLY REPAIR

0437 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (200 lbs (90.8 kg) min cap) Portable electric drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Cotter pins (3) (item 5, WP 0718 00)
Spring washer (item 165, WP 0718 00)
Self-locking nuts (4) (item 120, WP 0718 00)
Rubber strip (item 166, WP 0718 00)
Rubber based adhesive (item 15, WP 0716 00)
Dry-cleaning solvent (item 1, WP 0716 00)

Drive screws (6) (item 1, WP 0718 00)

Equipment Conditions

Fuel door opened (TM 9-2350-292-10)

Personnel Required

Three

References

TM 9-2350-292-10

Removal

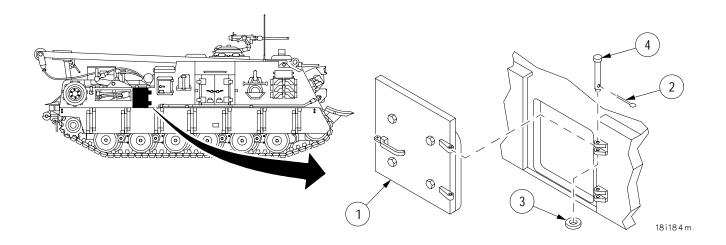
1. Attach endless sling and suitable lifting device to fuel door assembly (1).



NOTE

Stabilize fuel door as mounting hardware is removed.

2. Remove two cotter pins (2), two flat washers (3), two headed pins (4) and fuel door assembly (1) from hull. Discard cotter pins.



FUEL DOOR ASSEMBLY REPAIR - CONTINUED

0437 00

Disassembly

- 1. Remove cotter pin (5), nut (6), flat washer (7) if present, latch (8), spring washer (9) and handle (10) from fuel door assembly (1). Discard cotter pin and spring washer.
- 2. Remove six drive screws (11) and plate (12) from fuel door assembly (1).
- 3. Remove four self-locking nuts (13) and four screws (14), separate armor plate (15) from fuel door assembly (1). Discard self-locking nuts.
- 4. Remove rubber strip (16) from fuel door (17). Discard seal.
- 5. Inspect parts for damage and replace as required.

Assembly

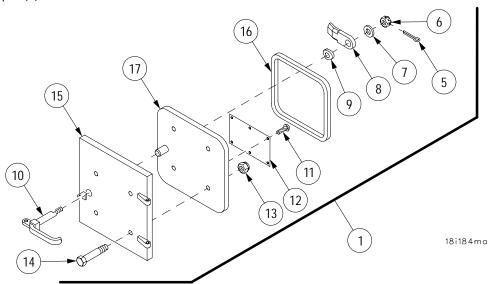


- 1. Clean rubber strip mating surface on fuel door (17) with dry-cleaning solvent.
- 2. Apply rubber strip adhesive to new rubber strip (16) and mating surface on fuel door (17).
- 3. Install new rubber strip (16) on fuel door (17).
- 4. Install armor plate (15) on fuel door assembly (1) with four screws (14) and four new self-locking nuts (13).
- 5. Install plate (12) on fuel door assembly (1) with six new drive screws (11).

NOTE

Flat washer may be used as a spacer to make cotter pin mate with slots in nut.

6. Install handle (10) and latch (8) on fuel door assembly (1) with new spring washer (9), flat washer (7), nut (6) and new cotter pin (5).

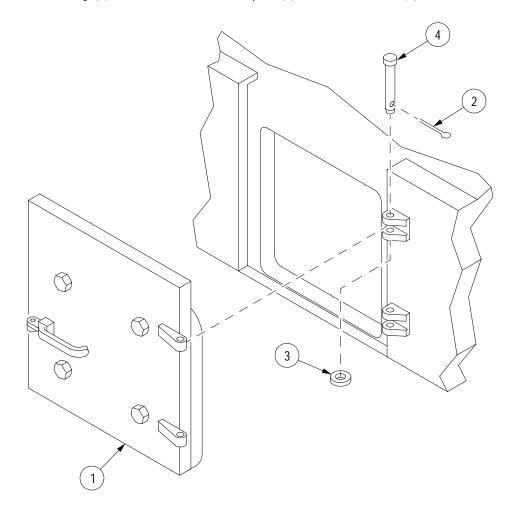


0437 00

Installation



- 1. Using endless sling and suitable lifting device, position fuel door assembly (1) on hull.
- 2. Secure fuel door assembly (1) to hull with two headed pins (4), two flat washers (3) and two new cotter pins (2).



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NOTE

FOLLOW-ON MAINTENANCE:

Close fuel door (TM 9-2350-292-10)

APU DOOR ASSEMBLY AND HOLD-OPEN LATCH REPAIR

0438 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (200 lbs (90.8 kg) min cap)

Materials/Parts

Cotter pins (2) (item 5, WP 0718 00) Cotter pin (item 19, WP 0718 00) Spring washers (2) (item 294, WP 0718 00) Cotter pins (2) (item 71, WP 0718 00) Lockwashers (4) (item 2, WP 0718 00)

Equipment Conditions

APU door opened (TM 9-2350-292-10)

For maintenance of APU door assembly only

Personnel Required

Three

References

TM 9-2350-292-10

NOTE

Perform Removal steps 1, 2 and Disassembly step 2 and Installation steps 6 and 7 for replacement of APU door assembly.

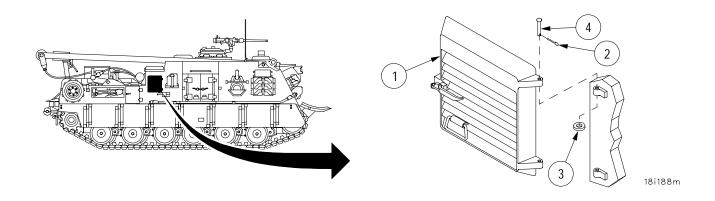
Perform Removal steps 3 through 6 and Disassembly step 2 and Installation steps 1 through 5 for maintenance of APU door assembly hold-open latch.

Removal

1. Attach endless sling and suitable lifting device to APU door assembly (1).



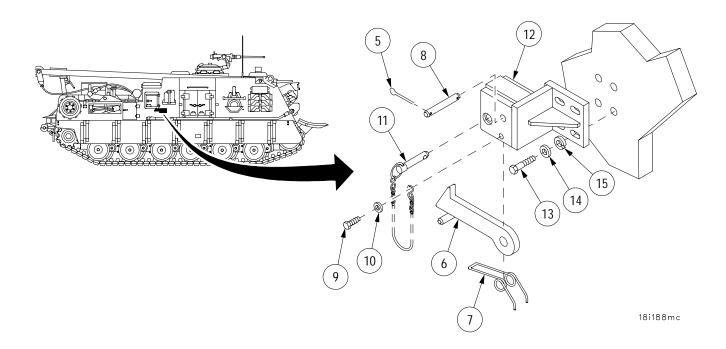
2. Remove two cotter pins (2), two flat washers (3), two headed pins (4) and APU door assembly (1) from hull. Discard cotter pins.



0438 00

Removal - Continued

- 3. Remove two cotter pins (5), latch assembly (6) and spring (7) from pin (8). Discard cotter pins.
- 4. Remove screw (9), flat washer (10) and pin assembly (11) from bracket (12).
- 5. Remove four screws (13), four flat washers (14) four lockwashers (15) and bracket (12) from hull. Discard lockwashers.
- 6. Remove pin (8) from bracket (12).



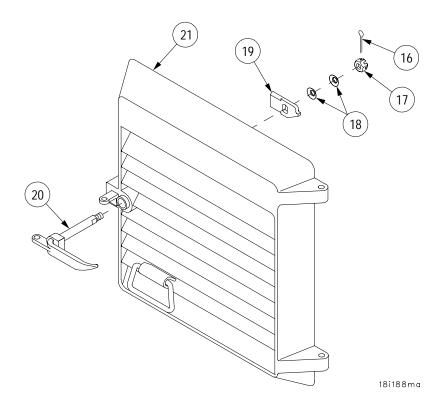
0438 00

Disassembly

- 1. Remove cotter pin (16), nut (17), two spring washers (18), latch (19) and handle (20) from door (21). Discard cotter pin and spring washers.
- 2. Inspect parts for damage and replace as required.

Assembly

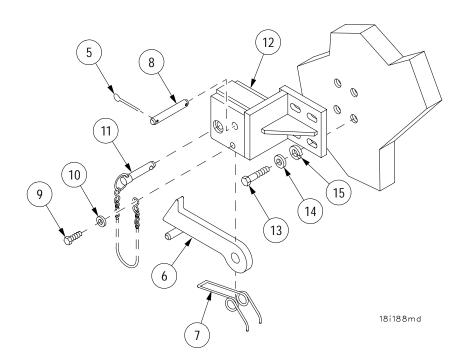
Install handle (20) and latch (19) on door (21) with two new spring washers (18), nut (17) and new cotter pin (16).



0438 00

Installation

- 1. Install pin (8) in bracket (12).
- 2. Install bracket (12) on hull with four screws (13), four new lockwashers (15) and four flat washers (14).
- 3. Install pin assembly (11) to bracket (12) with screw (9) and flat washer (10).
- 4. Install spring (7) and latch assembly (6) on pin (8).
- 5. Install two new cotter pins (5) in pin (8) to secure latch (6).



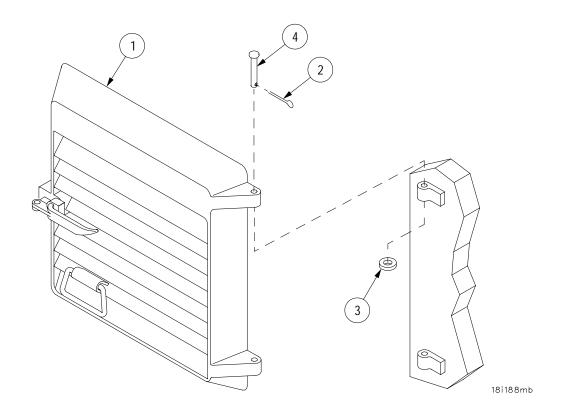
0438 00

Installation - Continued

6. Attach endless sling and suitable lifting device to APU door assembly (1).



7. Install APU door assembly (1) on hull with two headed pins (4), two flat washers (3) and two new cotter pins (2).



NOTE

FOLLOW-ON MAINTENANCE: Close APU door assembly if opened (TM 9-2350-292-10)

0439 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (200 lbs (90.8 kg) min cap)

Materials/Parts

Cotter pins (2) (item 5, WP 0718 00) Cotter pin (item 19, WP 0718 00) Spring washers (2) (item 294, WP 0718 00) Cotter pins (2) (item 71, WP 0718 00) Lockwashers (4) (item 2, WP 0718 00) Lockwashers (16) (item 9, WP 0718 00)

Equipment Conditions

APU door opened (TM 9-2350-292-10)
(For maintenance of APU door or fan assembly only)

Personnel Required

Three

References

TM 9-2350-292-10

WARNING

APU door is not balanced when being removeThe APU door fan must be removed prior to removal of APU door assembly. Failure to comply may result in injury or death to personnel.

NOTE

Perform Removal steps 1 through 5 and 12 and Installation steps 8 through 11 for maintenance of APU door fan assembly.

Perform Removal steps 6 through 8 and 12 and Installation steps 5 through 7 for maintenance of APU door assembly.

Perform Removal steps 9 through 12 and Installation steps 1 through 4 for maintenance of APU door assembly hold-open latch.

0439 00

Removal

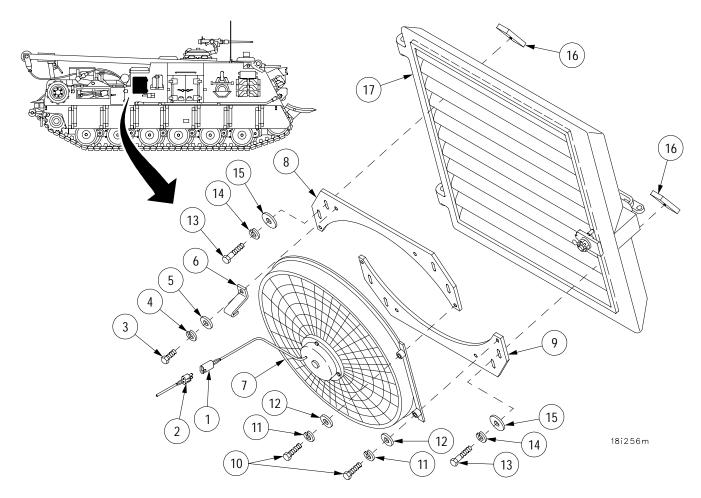
1. Disconnect APU door fan connector (1) from wiring harness 3W730 connector P3 (2).

NOTE

Identify and note the location of clips, mounting blocks and plates prior to removal to aid in the Installation The plates 8 and 9 should be identified to their top/bottom location on the APU door assembly.

During replacement of fan, do not remove mounting plates (8 and 9) unless damaged.

- 2. Remove four screws (3), four lockwashers (4), four flat washers (5) and four clips (6) from fan (7) and two mounting plates (8 and 9). Discard lockwashers.
- 3. Remove four screws (10), four lockwashers (11), four flat washers (12) and fan (7) from two plates (8 and 9). Discard lockwashers.
- 4. Remove eight screws (13), eight lockwashers (14), eight flat washers (15), eight mounting blocks (16) and two plates (8 and 9) from door (17). Discard lockwashers.
- 5. Inspect parts for damage and replace as required.



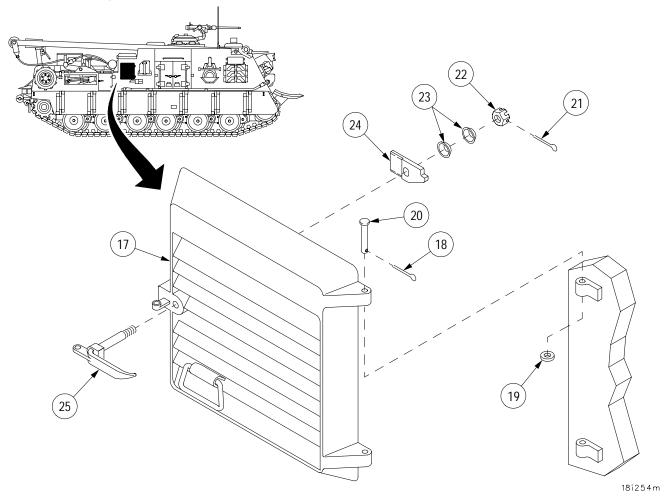
0439 00

Removal-Continued

6. Attach endless sling and suitable lifting device to APU door assembly (17).



- 7. Remove two cotter pins (18), two flat washers (19), two headed pins (20) and APU door assembly (17) from hull. Discard cotter pins.
- 8. Remove cotter pin (21), nut (22), two spring washers (23), latch (24) and handle (25) from door (17). Discard cotter pin and spring washers.



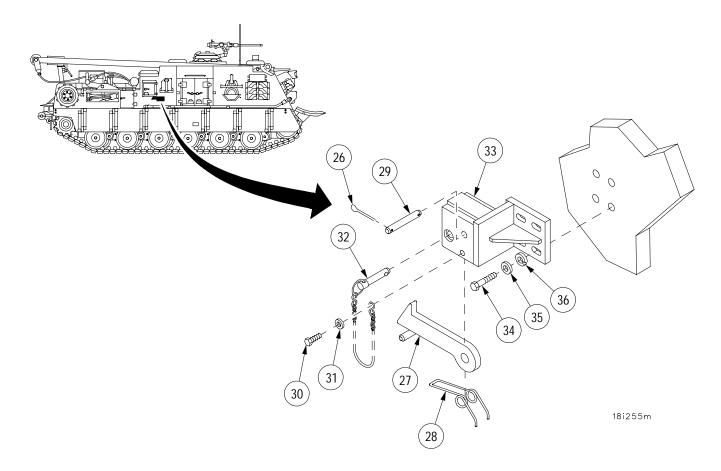
0439 00

Removal-Continued

- 9. Remove two cotter pins (26), latch assembly (27), spring (28) and pin (29). Discard cotter pins.
- 10. Remove screw (30), flat washer (31) and pin assembly (32) from bracket (33).
- 11. Remove four screws (34), four flat washers (35), four lockwashers (36) and bracket (33) from hull.
- 12. Inspect all parts for damage and replace as required.

Installation

- 1. Install bracket (33) on hull with four screws (34), four new lockwashers (36) and four flat washers (35).
- 2. Install pin assembly (32) to bracket (33) with screw (30) and flat washer (31).
- 3. Install pin (29), spring (28) and latch assembly (27) to bracket (33).
- 4. Install two new cotter pins (26) in pin (29) to secure latch assembly (27).



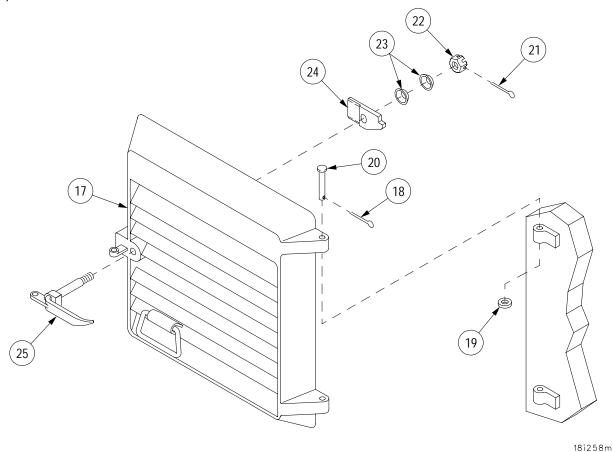
0439 00

Installation-Continued

- 5. Install handle (25) to APU door assembly (17) with latch (24), two new spring washers (23), nut (22) and new cotter pin (21).
- 6. Attach endless sling and suitable lifting device to APU door assembly (17).



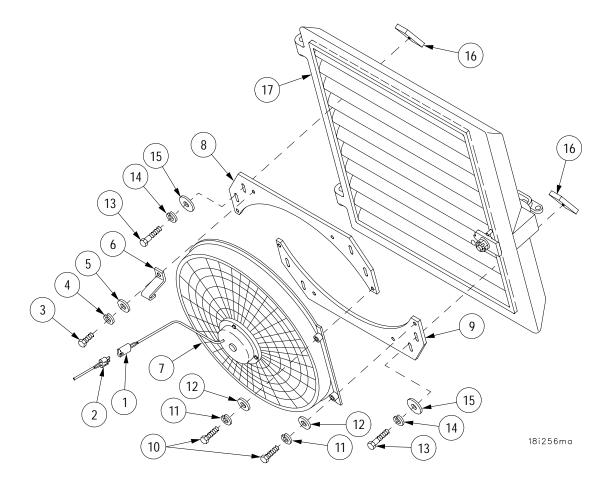
7. Install APU door assembly (17) on hull with two headed pins (20), two flat washers (19) and two new cotter pins (18).



0439 00

Installation-Continued

- 8. Install two mounting plates (8 and 9) if removed, with eight mounting blocks (16), eight flat washers (15), eight new lockwashers (14) and eight screws (13).
- 9. Install fan (7) on two mounting plates (8 and 9) with four flat washers (12), four new lockwashers (11) and four screws (10).
- 10. Install four clips (6) to fan (7) and two mounting plates (8 and 9) with four flat washers (5), four new lockwashers (4) and four screws (3).
- 11. Connect wiring harness 3W730 connector P3 (2) to APU door fan connector (1).



NOTE

FOLLOW-ON MAINTENANCE: Close APU door assembly if opened (TM 9-2350-292-10)

END OF TASK

ACETYLENE ACCESS PORT ARMOR REPLACEMENT

0440 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Personnel Required

Two

Materials/Parts

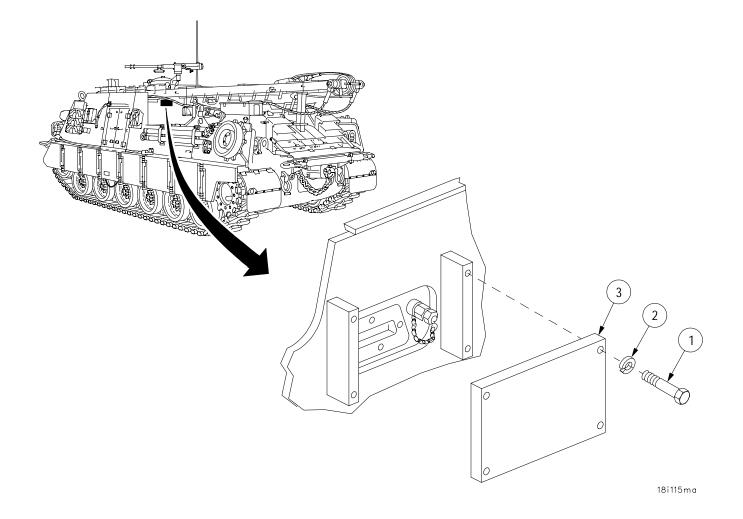
Lockwashers (4) (item 12, WP 0718 00)

Removal

- 1. Remove four screws (1), four lockwashers (2) and armor plate (3) from hull. Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install armor plate (3) on hull with four screws (1) and four new lockwashers (2).



ENGINE BULKHEAD ACCESS PLATE REPLACEMENT

0441 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

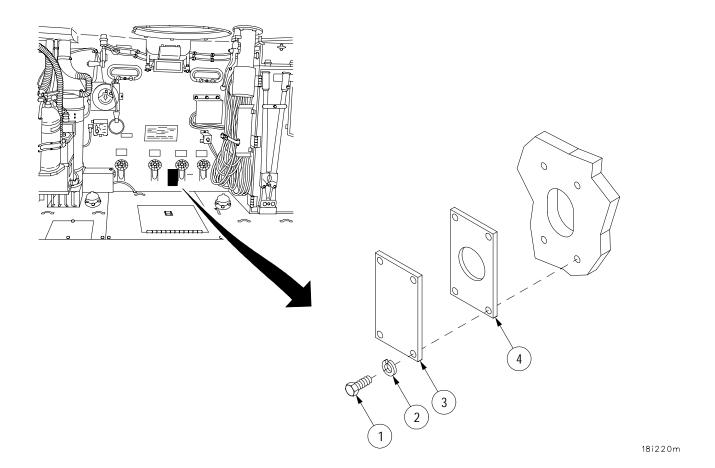
Lockwashers (4) (item 9, WP 0718 00) Gasket (item 332, WP 0718 00)

Removal

- 1. Remove four screws (1), four lockwashers (2), cover (3) and gasket (4). Discard gasket and lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install cover (3) and new gasket (4) with four new lockwashers (2) and four screws (1).



ARMOR SKIRT PANEL HINGE, STANDOFF AND STOP REPLACEMENT

0442 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00)

Materials/Parts

Lockwashers (22) (item 12, WP 0718 00) Cotter pin (item 5, WP 0718 00) Lockwashers (8) (item 78, WP 0718 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

Armor skirt panels removed/opened (TM 9-2350-292-10)

For replacement of stops-opened For replacement of standoffs on panels

#1 and 8-removed

For replacement of standoffs on panels

#2 through 7-opened

For replacement of inside hinges on panels

#1 and 8-removed

For replacement of inside hinges on panels

#2 through 7-opened

For panel #1 and #8 hinges-removed

For both hinges on panels #2 through

#7-removed

For one hinge on panels #2 through

#7-opened

Personnel Required

Two

References

TM 9-2350-292-10



NOTE

Replacement and Installation of left and right side armor skirt panel hinges, standoffs, and stops are identical. Panels have been numbered 1 to 8 from front to rear in the illustration. Tag panels prior to removing from vehicle.

Note the quantity and location of shim(s) being removed to ensure shim(s) are installed in the same position.

Note location of hinges on skirt panels to aid in installation.

Note location of standoffs to aid in installation.

NOTE

Perform Removal steps 1, 3 and 7 and Installation steps 4, 7 and 8 for maintenance of panels #1 and #8 outside hinges and lifting eyes.

Perform Removal steps 2, 3 and 7 and Installation steps 4, 5 and 6 for maintenance of panels #2 through #7 outside hinges and lifting eyes.

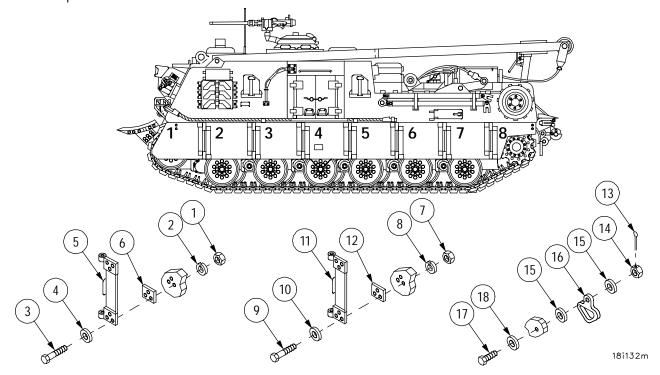
Perform Removal steps 4 and 7 and Installation step 3 for maintenance of inside hinges.

Perform Removal steps 5 and 7 and Installation step 2 for maintenance of standoffs.

Perform Removal steps 6 and 7 and Installation step 1 for maintenance of stops.

Removal

- 1. Remove six nuts (1), six lockwashers (2), six screws (3), six flat washers (4), outside hinge (5) and shims (6). Discard lockwashers.
- 2. Remove 12 nuts (7), 12 lockwashers (8), 12 screws (9), 12 flat washers (10), two hinges (11) and shims (12). Discard lockwashers.
- 3. Remove cotter pin (13), nut (14), two flat washers (15), lifting eye (16), screw (17) and flat washer (18). Discard cotter pin.



ARMOR SKIRT PANEL HINGE, STANDOFF AND STOP REPLACEMENT - CONTINUED

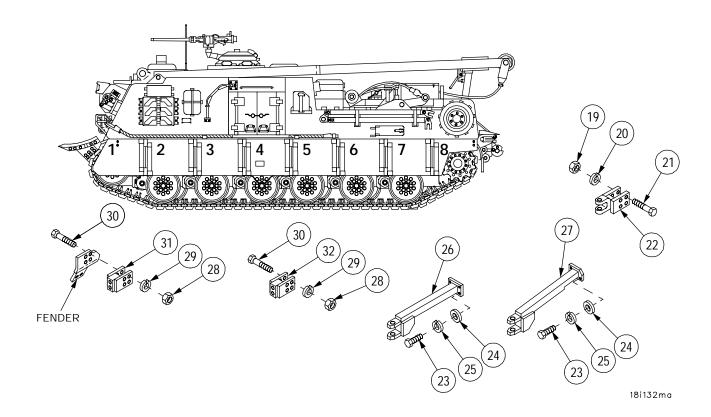
0442 00

Removal-Continued

- 4. Remove four nuts (19), four lockwashers (20), four screws (21) and inside hinge (22). Discard lockwashers.
- 5. Remove four screws (23), four flat washers (24), four lockwashers (25), and standoff (26 or 27). Discard lockwashers.
- 6. Remove four nuts (28), four lockwashers (29), four screws (30) and stop (31 or 32). Discard lockwashers.
- 7. Inspect parts for damage and replace as required.

Installation

- 1. Install stop (31 or 32) with four screws (30), four new lockwashers (29) and four nuts (28).
- 2. Install standoff (26 or 27) with four screws (23), four new lockwashers (25) and four flat washers (24).
- 3. Install inside hinge (22) with four screws (21), four new lockwashers (20) and four nuts (19).

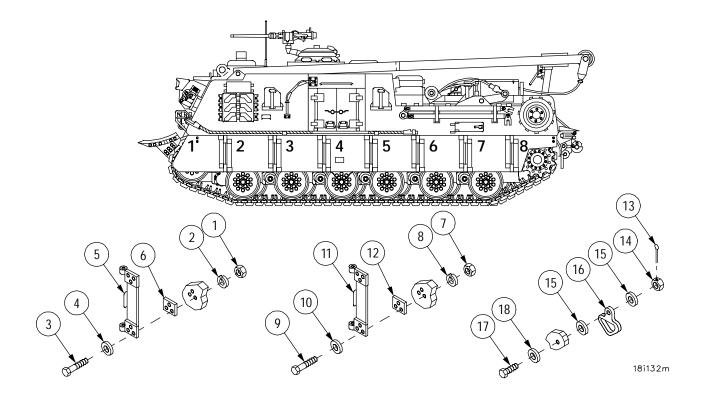


ARMOR SKIRT PANEL HINGE, STANDOFF AND STOP REPLACEMENT - CONTINUED

0442 00

Installation-Continued

- 4. Install lifting eye (16) with screw (17), flat washer (18), two flat washers (15), nut (14) and new cotter pin (13).
- 5. Install two outside hinges (11) with shims (12), 12 screws (9), 12 flat washers (10), 12 new lockwashers (8) and 12 nuts (7). Do not tighten screws.
- 6. Ensure that hinge pins turn freely, torque screws (9) to 95-110 lb-ft (129-149 NSm).
- 7. Install outside hinge (5) with shims (6), six screws (3), six flat washers (4), six new lockwashers (2) and six nuts (1). Do not tighten screws.
- 8. Ensure that hinge pins turn freely, torque screws (3) to 95-110 lb-ft (129-149 NSm).



NOTE

FOLLOW-ON MAINTENANCE:

Install or close armor skirt panels (TM 9-2350-292-10)

FENDER REPLACEMENT

0443 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (12) (item 2, WP 0718 00) Lockwashers (4) (item 78, WP 0718 00)

Lockwashers (6) (item 35, WP 0718 00)

Lockwashers (6) (item 9, WP 0718 00)

Equipment Conditions

Tow cable removed (TM 9-2350-292-10)
For side fender removal only
Rear skirt panel opened (TM 9-2350-292-10)
For rear fender removal only

Spade lowered (TM 9-2350-292-10)

For front fender removal only

References

TM 9-2350-292-10

NOTE

Removal and Installation procedures are the same for both left and right sides. Perform only the steps necessary to replace defective parts.

Perform Removal steps 1, 2 and 9 and Installation steps 7 and 8 for maintenance of front fender.

Perform Removal steps 3 and 9 and Installation step 6 for maintenance of side fenders above armor skirt panels.

Perform Removal steps 4 and 9 and Installation step 5 for maintenance of rear fender splash guard.

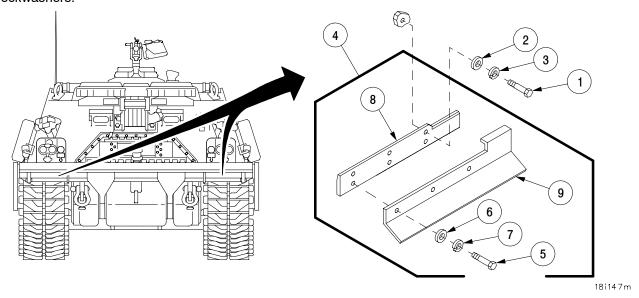
Perform Removal steps 5, 6 and 9 and Installation steps 3 and 4 for maintenance of reflector Assembly

Perform Removal steps 7 and 9 and Installation step 2 for maintenance of rear fender hinge.

Perform Removal steps 8 and 9 and Installation step 1 for maintenance of rear fender Assembly

Removal

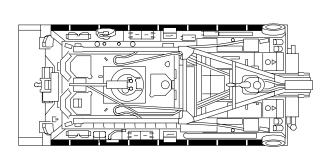
- 1. Remove three screws (1), three flat washers (2), three lockwashers (3) and front fender assembly (4). Discard lockwashers.
- 2. Remove three screws (5), three flat washers (6), three lockwashers (7), plate (8) and fender (9). Discard lockwashers.

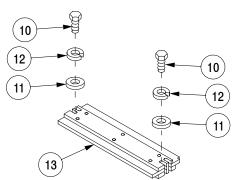


NOTE

There are eight side fenders on each side of vehicle. The procedures are the same for all except for the location and length of screws used to attach tow cable retainer clamps and fenders.

3. Remove four screws (10), four flat washers (11), four lockwashers (12) and side fender (13). Discard lockwashers.

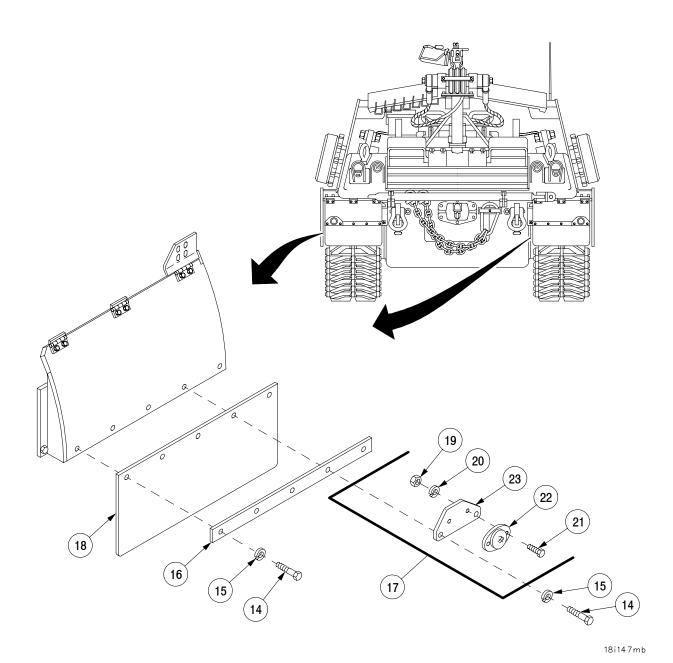




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Removal-Continued

- 4. Remove five screws (14), five lockwashers (15), strip (16), reflector assembly (17) and splash guard (18). Discard lockwashers.
- 5. Remove two screws (14), two lockwashers (15) and reflector assembly (17). Discard lockwashers.
- 6. Remove two nuts (19), two lockwashers (20), two screws (21), reflector (22) and plate (23). Discard lockwashers.



Removal-Continued

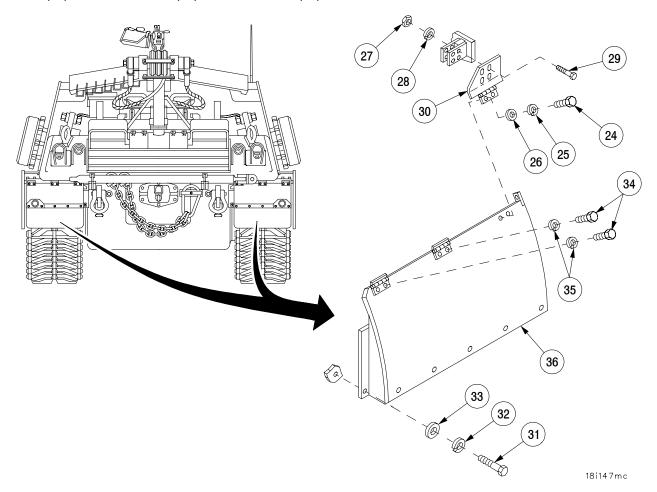
- 7. Remove two screws (24), two lockwashers (25), two flat washers (26), four nuts (27), four lockwashers (28), four screws (29) and rear fender hinge (30). Discard lockwashers.
- 8. Remove screw (31), lockwasher (32), flat washer (33), four screws (34), four lockwashers (35) and rear fender assembly (36). Discard lockwashers.
- 9. Inspect parts for damage and replace as required.

Installation

NOTE

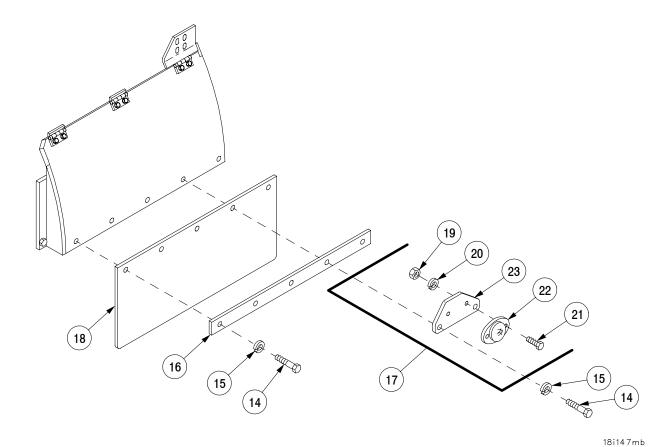
Holes in fender hinges are slotted to allow side to side and up and down adjustments to ensure proper fit.

- 1. Install rear fender assembly (36) with four screws (34), four new lockwashers (35), screw (31), new lockwasher (32) and flat washer (33).
- 2. Install rear fender hinge (30) with four screws (29), four new lockwashers (28), four nuts (27), two new lockwashers (25), two flat washers (26) and two screws (24).



Installation-Continued

- 3. Install plate (23) and reflector (22) with two screws (21), two new lockwashers (20) and two nuts (19).
- 4. Install reflector assembly (17) with two screws (14) and two new lockwashers (15).
- 5. Install splash guard (18), reflector assembly (17) and strip (16) with five screws (14) and five new lockwashers (15).

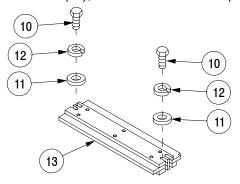


Installation-Continued

NOTE

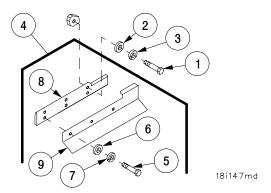
There are eight side fenders on each side of vehicle. The procedures are the same for all except for the location and length of screws used to attach tow cable retainer clamps and fenders.

6. Install side fender (13) with four screws (10), four new lockwashers (12) and four flat washers (11).



18i147ma

- 7. Install fender (9) and plate (8) with three new lockwashers (7), three flat washers (6) and three screws (5).
- 8. Install front fender assembly (4) with three new lockwashers (3), three flat washers (2) and three screws (1).



NOTE

FOLLOW-ON MAINTENANCE:

Raise spade, if lowered (TM 9-2350-292-10) Close rear skirt panel, if opened (TM 9-2350-292-10) Install tow cable, if removed (TM 9-2350-292-10)

COMMANDER'S CUPOLA REPAIR

0444 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Lifting sling (item 25, WP 0717 00)

Endless sling (item 23, WP 0717 00)

Suitable lifting device (1500 lbs (681 kg) min cap)

Torque wrench (item 2, WP 0717 00)

Materials/Parts

Lockwashers (30) (item 12, WP 0718 00)

Nonelectrical wire (item 49, WP 0718 00)

Lockwashers (8) (item 9, WP 0718 00)

Lockwashers (17) (item 2, WP 0718 00)

Spring pin (item 66, WP 0718 00)

Nonmetallic seal (item 26, WP 0718 00)

Adhesive (item 18, WP 0716 00)

Sealing compound (item 19, WP 0716 00)

Lubricant (item 3, WP 0716 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Pressure sensitive tape (item 41, WP 0716 00)

Sealing compound (item 42, WP 0716 00)

Safety goggles (item 93, WP 0716 00)

Solvent (item 91, WP 0716 00)

Equipment Conditions

Commander's cupola door open (TM 9-2350-292-10)
For Disassembly/Assembly only

Personnel Required

Three

References

TM 9-2350-292-10

NOTE

Cupola mounting plate is removed for clearance in removal and installation of hydraulic reservoir, hoist winch, or electromagnetic clutch and main hydraulic pump or other interior items. It is not necessary to remove the cupola from the mounting plate. Remove plate with cupola mounted as an assembly, using lifting eyes.

Perform Removal steps 1 and 2, Disassembly steps 14 and 15 and Installation steps 1 and 6 through 9 if cupola is being removed with mounting plate.

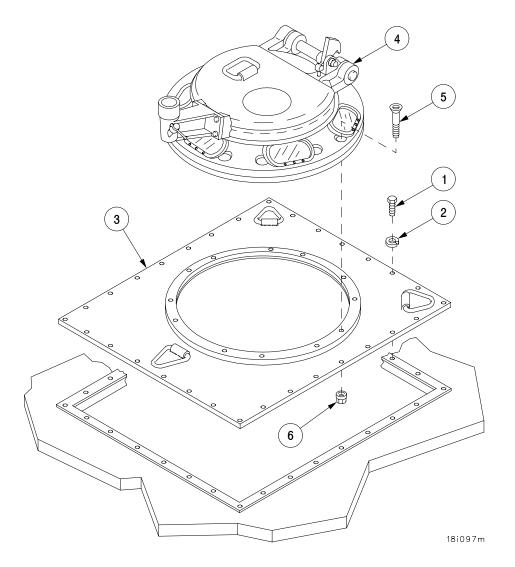
Perform Removal steps 3, 4 and Disassembly step 15 and Installation steps 1 through 5 if cupola is being removed for maintenance.

Removal

NOTE

Note different length of screws when removing to aid in Installation

- 1. Remove 30 screws (1) and 30 lockwashers (2) from mounting plate (3). Discard lockwashers.
- 2. Using lifting sling and suitable lifting device, remove mounting plate (3) with cupola assembly (4).
- 3. Remove 12 screws (5) and 12 nuts (6) securing cupola assembly (4) to mounting plate (3).
- 4. Using endless sling and suitable lifting device, remove cupola assembly (4) from mounting plate (3).



0444 00

Disassembly

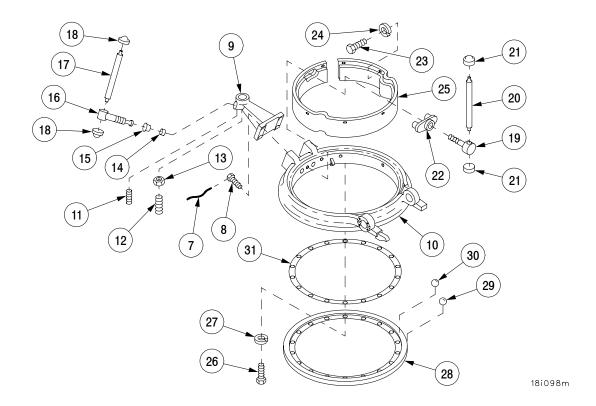


1. Remove nonelectrical wire (7), four screws (8) and support (9) from ring assembly (10). Discard nonelectrical wire.

NOTE

Before buttons can be removed in steps 2 and 3, peened surfaces must be removed from handle ends with file or grinder.

- 2. Remove setscrews (11 and 12), nut (13), block (14), reducer (15), screw (16), pin (17) and two buttons (18) from support (9).
- 3. Remove screw (19), pin (20) and two buttons (21) from shoe (22).
- 4. Remove eight screws (23), eight lockwashers (24) and pad (25) from ring assembly (10). Discard lockwashers.
- 5. Place ring assembly (10) top side facing down on flat surface.
- 6. Remove 17 screws (26), 17 lockwashers (27) and retainer (28) from ring assembly (10). Discard lockwashers.
- 7. Remove 90 bearings (29) and 90 bearings (30) from ring assembly (10).
- 8. Remove shim (31) from ring assembly (10).



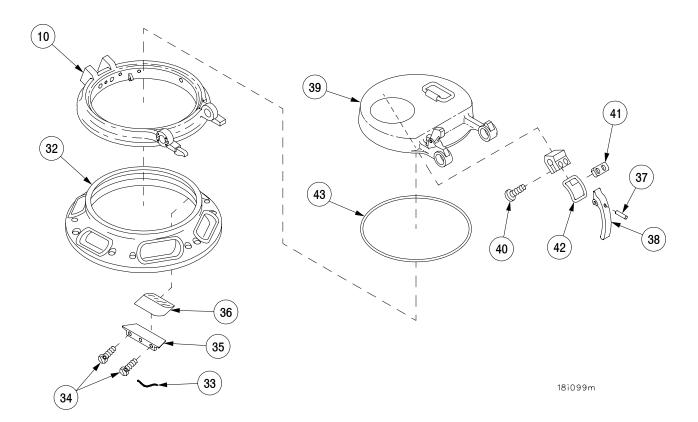
0444 00

Disassembly-Continued

- 9. Remove body assembly (32) from ring assembly (10).
- 10. Remove nonelectrical wire (33), 12 screws (34), six lock wedges (35) and six vision blocks (36) from body assembly (32). Discard nonelectrical wire.
- 11. Remove spring pin (37) and handle (38) from door (39). Discard spring pin.
- 12. Remove two screws (40), spacer (41) and latch (42) from door (39).
- 13. Remove nonmetallic seal (43) from ring assembly (10). Discard nonmetallic seal.



- 14. Remove old sealing compound, clean all nonmetallic seal mating surfaces and components with solvent (item 91, WP 0716 00).
- 15. Inspect parts for damage and replace as required.



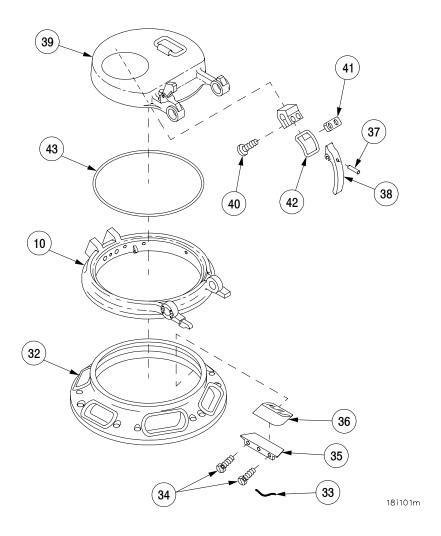
0444 00

Assembly

- 1. Apply adhesive (item 18, WP 0716 00) to new nonmetallic seal (43) and nonmetallic seal mating surface of ring assembly (10).
- 2. Install nonmetallic seal (43) on ring assembly (10).
- 3. Install latch (42), spacer (41) and two screws (40) on door (39).
- 4. Install handle (38) and new spring pin (37) on door (39).
- 5. Apply sealing compound (item 19, WP 0716 00) to six lock wedges (35) and mating surface of body assembly (32).
- 6. Install six vision blocks (36), six lock wedges (35) and 12 screws (34) on body assembly (32). Torque 12 screws to 84–120 lb-in (9–14 N•m).



- 7. Secure 12 screws (34) with new nonelectrical wire (33).
- 8. Lower body assembly (32) on ring assembly (10).



Assembly-Continued

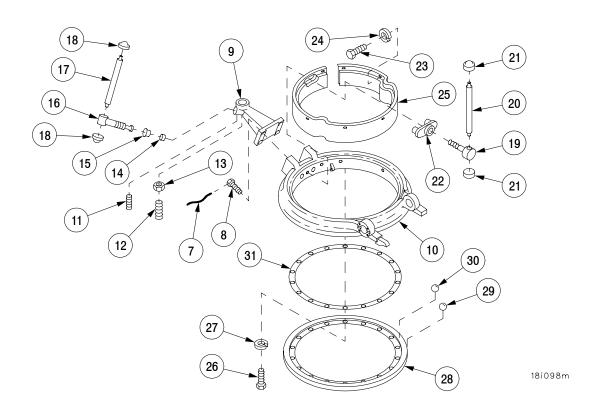
CAUTION

Bearings consist of two different types and must be alternated during Installation Failure to alternate bearings may result in damage to bearings and/or improper operation of gun mount.

- 9. Install shim (31) on ring assembly (10).
- 10. Lubricate 90 bearings (29) and 90 bearings (30) with lubricant.
- 11. Install 90 bearings (29), 90 bearings (30), retainer (28), 17 new lockwashers (27) and 17 screws (26).
- 12. Install pad (25) and secure with eight new lockwashers (24) and eight screws (23).
- 13. Install shoe (22), screw (19), pin (20) and two buttons (21).
- 14. Install block (14), reducer (15), screw (16), pin (17), two buttons (18), nut (13) and setscrews (11 and 12) on support (9).
- 15. Install support (9) on ring assembly (10) with four screws (8).



16. Secure four screws (8) with new nonelectrical wire (7).



0444 00

Installation

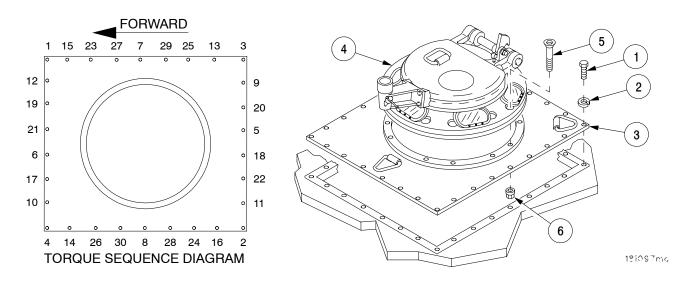


- 1. Clean all mating surfaces, mounting holes and 12 screws (5) and 30 screws (1) with dry-cleaning solvent, as applicable.
- 2. Apply sealing compound (item 42, WP 0716 00) to mating surface between cupola assembly (4) and mounting plate (3).
- 3. Using endless sling and suitable lifting device, install cupola assembly (4) on mounting plate (3).
- 4. Apply sealing compound (item 42, WP 0716 00) to threads and underside of head of 12 screws (5).
- 5. Install 12 screws (5) and 12 nuts (6) securing cupola assembly (4) to mounting plate (3).

CAUTION

Do not apply pressure sensitive tape when ambient temperature is below 45°F (7.2° C). Failure to comply may cause loss of screw torque and equipment damage.

- 6. Apply pressure sensitive tape or sealing compound (item 42, WP 0716 00) to mating surfaces of mounting plate (3) and vehicle hull.
- 7. Using lifting sling and suitable lifting device, install cupola assembly (4) with mounting plate (3).
- 8. Apply sealing compound (item 42, WP 0716 00) to threads and underside head of 30 screws (1).
- 9. Install 30 screws (1) and 30 new lockwashers (2) securing mounting plate (3). Torque 30 screws to 80–90 lb-ft (108–122 N•m). See Diagram for torque sequence.



NOTE

FOLLOW-ON MAINTENANCE:

Close commander's cupola door, if opened (TM 9-2350-292-10)

END OF TASK

COMMANDER'S CUPOLA DOOR ASSEMBLY REPAIR

0445 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless lifting sling (item 23, WP 0717 00) Retaining pliers set (item 15, WP 0717 00) Suitable lifting device (250 lbs (113.5 kg) min cap)

Materials/Parts

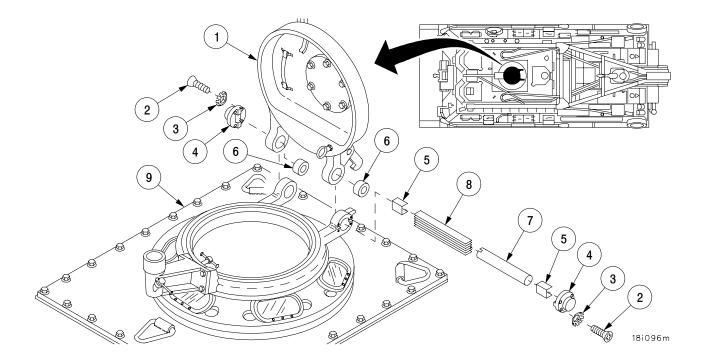
Lockwashers (8) (item 138, WP 0718 00) Retaining rings (2) (item 83, WP 0718 00) Lockwashers (6) (item 2, WP 0718 00) Gasket (item 59, WP 0718 00) Safety goggles (item 93, WP 0716 00)

Personnel Required

Three

Removal

- 1. Using endless sling and suitable lifting device, open cupola door (1) to vertical position to release preload on springs.
- 2. Remove eight screws (2), eight lockwashers (3) and two cap assemblies (4) from cupola door (1). Discard lockwashers.
- 3. Remove two adapters (5), two bearings (6), tube (7) and six springs (8) from ring assembly (9).
- 4. Remove cupola door (1) from ring assembly (9).

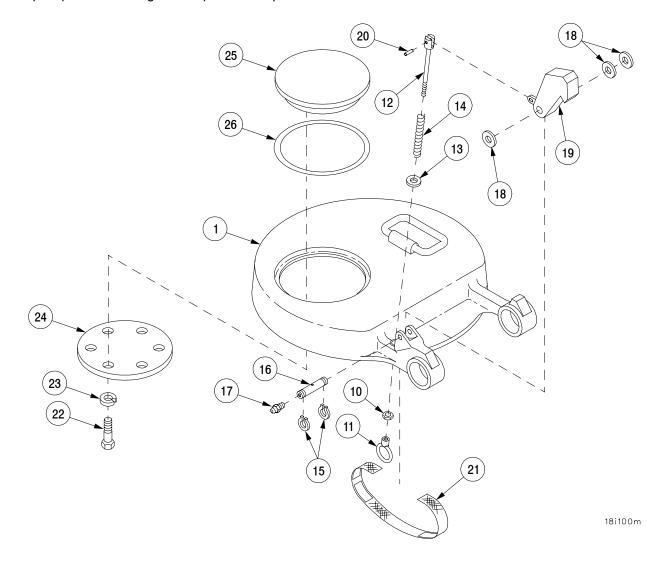


Disassembly

- 1. Loosen jamnut (10), remove eye (11) from trigger rod (12).
- 2. Remove jamnut (10), flat washer (13) and spring (14) from cupola door (1).



- 3. Remove two retaining rings (15), headless pin (16), lubrication fitting (17), three flat washers (18), trigger rod (12) and trigger (19) from cupola door (1). Discard retaining rings.
- 4. Remove pin (20) from trigger rod (12) and trigger (19).
- 5. Remove strap (21) from cupola door (1).
- 6. Remove six screws (22), six lockwashers (23), plate (24), plate (25) and gasket (26). Discard lockwashers and gasket.
- 7. Inspect parts for damage and replace as required.

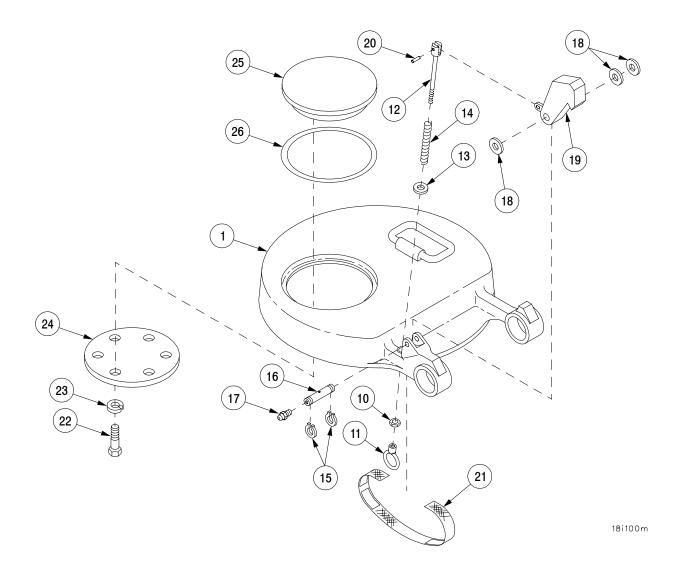


Assembly

- 1. Install new gasket (26), plate (25), plate (24) with six screws (22) and six new lockwashers (23).
- 2. Install trigger rod (12) on trigger (19) with pin (20). Stake pin.



- 3. Install assembled trigger rod (12) and trigger (19) with headless pin (16), three flat washers (18), two new retaining rings (15) and lubrication fitting (17) on cupola door (1).
- 4. Install spring (14), flat washer (13) and jamnut (10) on cupola door (1).
- 5. Install eye (11) on trigger rod (12) and secure with jamnut (10).
- 6. Install strap (21) on cupola door (1).

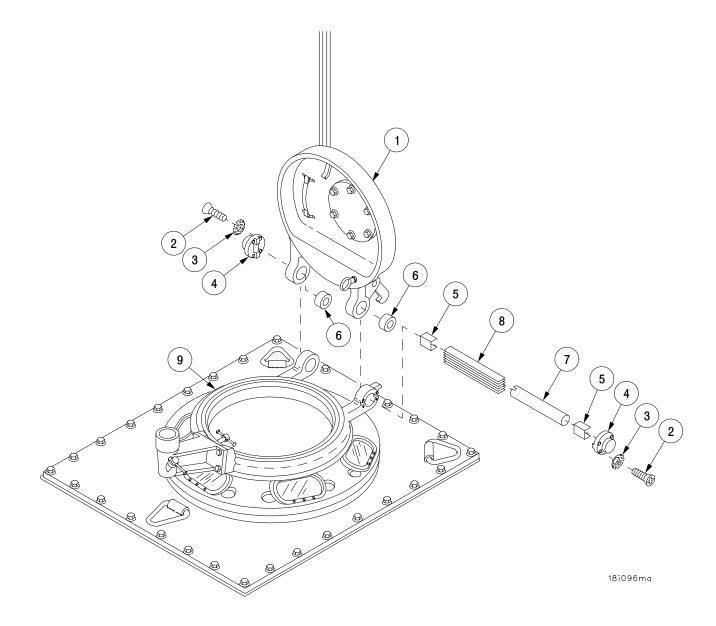


COMMANDER'S CUPOLA DOOR ASSEMBLY REPAIR - CONTINUED

0445 00

Installation

- 1. Position cupola door (1) on ring assembly (9) in vertical position using endless sling and suitable lifting device.
- 2. Install six springs (8), tube (7), two bearings (6) and two adapters (5) on ring assembly (9).
- 3. Install two cap assemblies (4) with eight screws (2) and eight new lockwashers (3) on cupola door (1).
- 4. Close cupola door (1).
- 5. Lubricate commander's cupola door assembly (WP 0187 00).



DRIVER'S PASSIVE NIGHT VIEWER MOUNT ASSEMBLY REPAIR

0446 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00)

Suitable lifting device (100 lbs (45.4 kg) min cap)

Materials/Parts

Self-locking screws (2) (item 161, WP 0718 00) Self-locking screws (4) (item 162, WP 0718 00) Self-locking screws (2) (item 163, WP 0718 00) Self-locking screws (3) (item 164, WP 0718 00)

Gasket (item 59, WP 0718 00)

Materials/Parts-Continued

Gasket (item 243, WP 0718 00) Rubber strip (item 244, WP 0718 00) Rubber based adhesive (item 15, WP 0716 00) Adhesive (item 17, WP 0716 00)

Equipment Conditions

Driver's cab top door opened (TM 9-2350-292-10)

Personnel

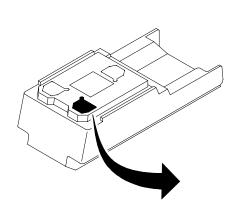
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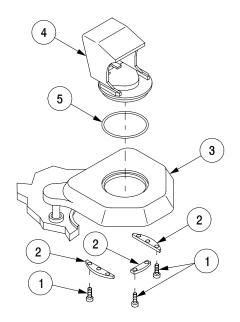
Removal

NOTE

Screw lengths and plate size are different. Note location to aid during Installation

- Remove six self-locking screws (1) and three plates (2) from driver's cab top door (3). Discard self-locking screws.
- 2. Attach endless sling and suitable lifting device to night viewer mount assembly (4).
- 3. Remove night viewer mount assembly (4) and gasket (5) from driver's cab top door (3). Discard gasket.





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DRIVER'S PASSIVE NIGHT VIEWER MOUNT ASSEMBLY REPAIR - CONTINUED

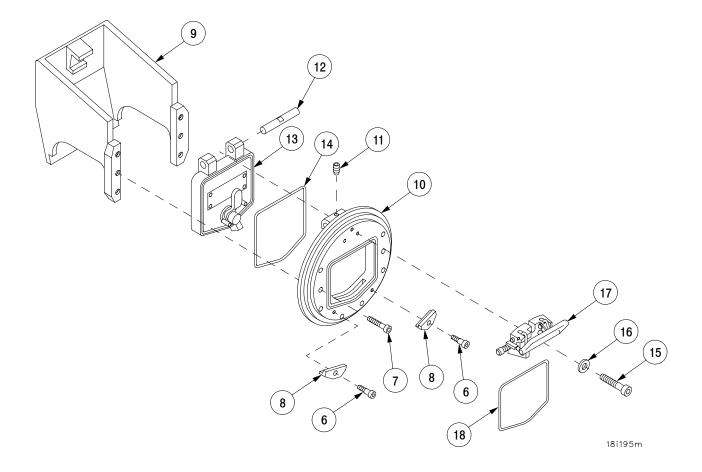
0446 00

Disassembly

NOTE

Block and screw sizes are different. Note location to aid during Installation

- Remove two screws (6), two self-locking screws (7), two blocks (8) and cover (9) from plate (10). Discard self-locking screws.
- 2. Remove setscrew (11), pin (12) and door assembly (13) from plate (10).
- 3. Remove gasket (14) from door assembly (13). Discard gasket.
- 4. Remove three self-locking screws (15), three flat washers (16) and handle assembly (17) from plate (10). Discard self-locking screws.
- 5. Remove rubber strip (18) from plate (10). Discard rubber strip.
- 6. Inspect parts for damage and replace as required.



DRIVER'S PASSIVE NIGHT VIEWER MOUNT ASSEMBLY REPAIR - CONTINUED

0446 00

Assembly

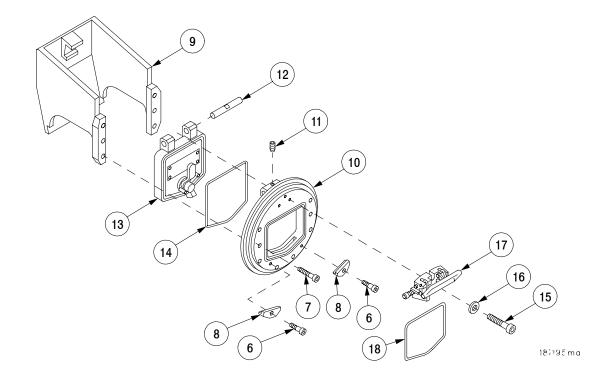


1. Clean gasket (14) and rubber strip (18) mating surfaces on door assembly (13) and plate (10) with dry-cleaning solvent.

NOTE

Cut new gasket to length prior to installing on plate.

- 2. Apply rubber based adhesive (item 15, WP 0716 00) to new rubber strip (18) and rubber strip mating surface on plate (10).
- 3. Install new rubber strip (18) on plate (10).
- 4. Install handle assembly (17) on plate (10) with three new self-locking screws (15) and three flat washers (16).
- 5. Install door assembly (13) on plate (10) with pin (12) and setscrew (11).
- 6. Apply rubber based adhesive (item 15, WP 0716 00) to new gasket (14) and gasket mating surface on door assembly (13).
- 7. Install new gasket (14) on door assembly (13).
- 8. Apply adhesive (item 17, WP 0716 00) to tapped holes on cover (9).
- 9. Install cover (9) on plate (10) with two screws (6), two new self-locking screws (7) and two blocks (8).

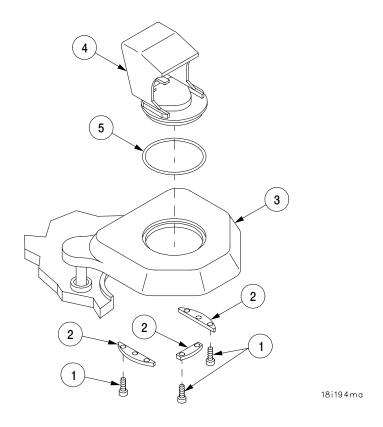


DRIVER'S PASSIVE NIGHT VIEWER MOUNT ASSEMBLY REPAIR - CONTINUED

0446 00

Installation

- 1. Attach endless sling and suitable lifting device to night viewer mount assembly (4).
- 2. Position night viewer mount assembly (4) with new gasket (5) on driver's cab top door (3).
- 3. Secure night viewer mount assembly (4) to driver's cab top door (3) with three plates (2) and six new self-locking screws (1).



NOTE

FOLLOW-ON MAINTENANCE:

Close cab top door (TM 9-2350-292-10)

DRIVER'S CAB TOP DOOR ASSEMBLY REPAIR

0447 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (250 lbs (113.5 kg) min cap) Retaining pliers set (item 15, WP 0717 00)

Materials/Parts

Self-locking nuts (2) (item 153, WP 0718 00)
Lockwashers (5) (item 2, WP 0718 00)
Rubber strip (item 154, WP 0718 00)
Self-locking nut (item 155, WP 0718 00)
Cotter pin (item 53, WP 0718 00)
Retaining rings (2) (item 156, WP 0718 00)
Adhesive (item 15, WP 0716 00)
Seal (item 242, WP 0718 00)
Dry-cleaning solvent (item 1, WP 0716 00)

Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10)
Driver's passive night viewer mount assembly removed (WP 0446 00)

Personnel

Three

References

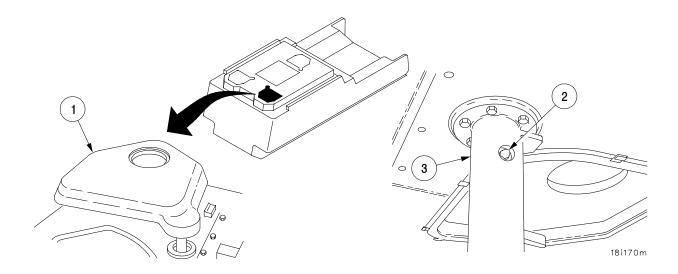
TM 9-2350-292-10

Removal

1. Raise cab top door (1) approximately two inches to align two self-locking nuts (2) with opening in shaft housing assembly (3).



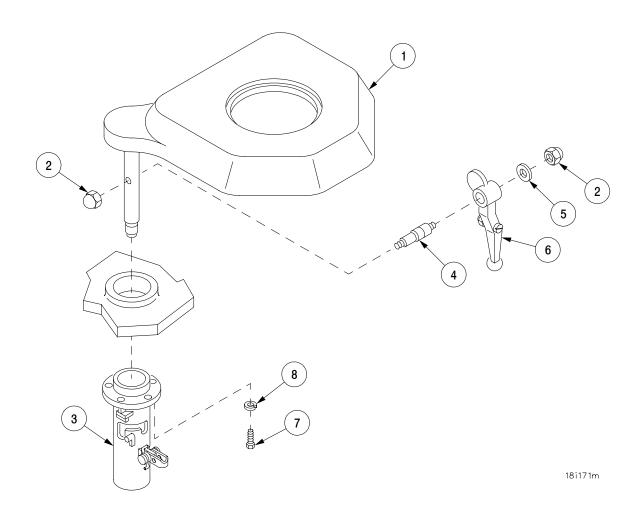
2. Attach endless sling and suitable lifting device to cab top door (1), remove slack from endless sling ensuring two self-locking nuts (2) are aligned with opening in shaft housing assembly (3).



0447 00

Removal-Continued

- 3. Remove two self-locking nuts (2), control pin (4), flat washer (5) and control arm (6) from shaft housing assembly (3). Discard self-locking nuts.
- 4. Using endless sling and suitable lifting device, remove cab top door (1) from shaft housing assembly (3).
- 5. Remove five screws (7), five lockwashers (8) and shaft housing assembly (3) from hull. Discard lockwashers.



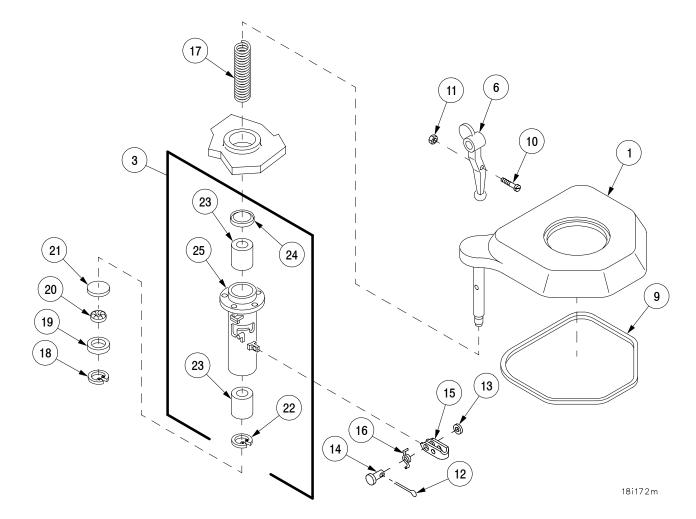
0447 00

Disassembly

- 1. Remove door rubber strip (9) from cab top door (1). Discard door seal.
- 2. Remove adjusting screw (10) and self-locking nut (11) from control arm (6). Discard self-locking nut.
- 3. Remove cotter pin (12), flat washer (13), pin (14), retaining latch (15) and spring (16). Discard cotter pin.
- 4. Remove spring (17) from shaft housing assembly (3).



- 5. Remove retaining ring (18), retainer (19), bearing (20) and disc (21). Discard retaining ring.
- 6. Remove retaining ring (22), two bushings (23) and seal (24) from shaft housing (25). Discard retaining ring and seal.
- 7. Inspect parts for damage and replace as required.



0447 00

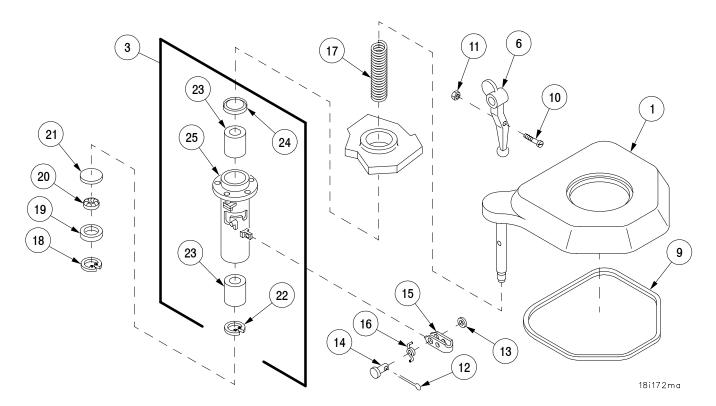
Assembly



- 1. Install new seal (24), two bushings (23) and new retaining ring (22) in shaft housing (25).
- 2. Install disc (21), bearing (20), retainer (19) and new retaining ring (18).
- 3. Install spring (17) in shaft housing assembly (3).
- 4. Install spring (16), retaining latch (15), pin (14), flat washer (13) and new cotter pin (12).
- 5. Install adjusting screw (10) and new self-locking nut (11) on control arm (6).



- 6. Clean door rubber strip mating surfaces with dry-cleaning solvent.
- 7. Apply adhesive to new door rubber strip (9) and rubber strip mating surface on cab top door (1).
- 8. Install new door rubber strip (9) on cab top door (1).



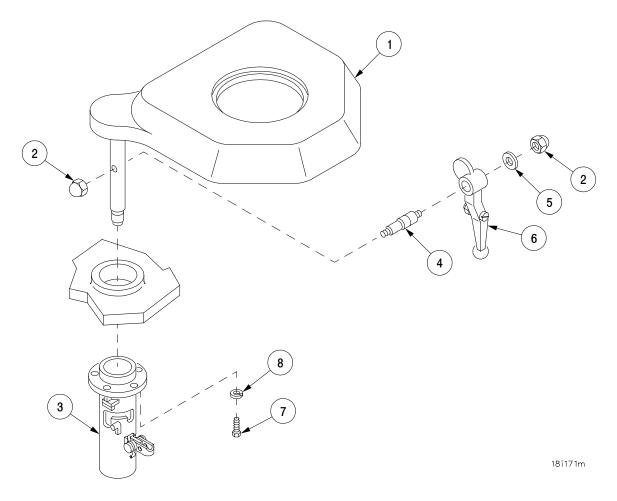
0447 00

Installation

1. Install shaft housing assembly (3) on hull with five screws (7) and five new lockwashers (8).



- 2. Using endless sling and suitable lifting device, position driver's cab top door (1) in shaft housing assembly (3) ensuring alignment holes on door (1) are aligned with opening in shaft housing assembly (3).
- 3. Install control arm (6) on shaft housing assembly (3) with control pin (4), flat washer (5) and two new self-locking nuts (2).



NOTE

FOLLOW-ON MAINTENANCE:

Close driver's cab top door (TM 9-2350-292-10) Install driver's passive night viewer mount assembly (WP 0446 00)

PERSONNEL AND MECHANIC'S CAB TOP DOOR ASSEMBLY REPAIR

0448 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (250 lbs (113.5 kg) min cap) Retaining pliers set (item 15, WP 0717 00)

Materials/Parts

Self-locking nuts (2) (item 153, WP 0718 00) Lockwashers (11) (item 2, WP 0718 00) Rubber strip (item 154, WP 0718 00) Self-locking nut (item 155, WP 0718 00) Cotter pin (item 53, WP 0718 00) Retaining rings (2) (item 156, WP 0718 00) Rubber based adhesive (item 15, WP 0716 00) Safety goggles (item 93, WP 0716 00)

Materials/Parts-Continued

Seal (item 242, WP 0718 00) Dry-cleaning solvent (item 1, WP 0716 00) Gasket (item 446, WP 0718 00) Cushioning pad (item 157, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10)

Personnel

Three

References

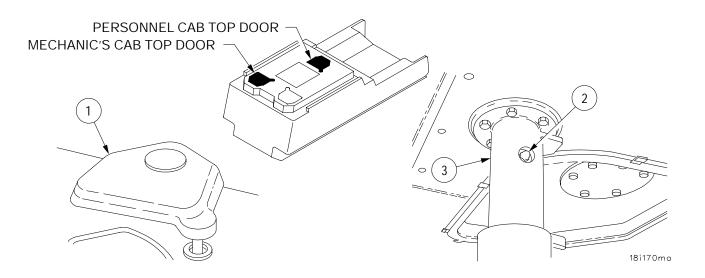
TM 9-2350-292-10

Removal

1. Raise cab top door (1) approximately two inches to align two self-locking nuts (2) with opening in shaft housing assembly (3).



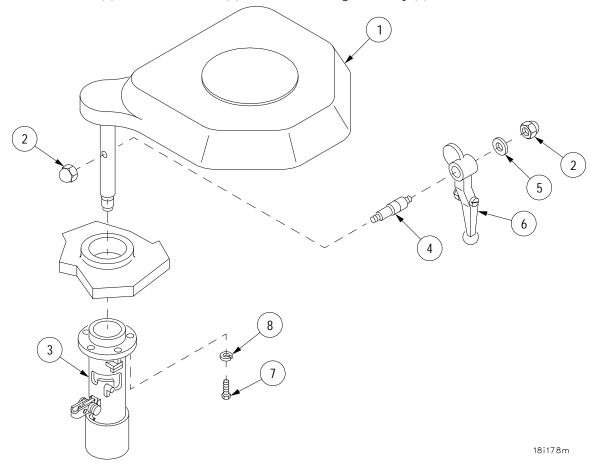
2. Attach sling and suitable lifting device to cab top door (1), remove slack from sling ensuring two self-locking nuts (2) are aligned with opening in shaft housing assembly (3).



0448 00

Removal-Continued

- 3. Remove two self-locking nuts (2), control pin (4), flat washer (5) and control arm (6) from shaft housing assembly (3). Discard self-locking nuts.
- 4. Using endless sling and suitable lifting device, remove cab top door (1) from shaft housing assembly (3).
- 5. Remove five screws (7), five lockwashers (8) and shaft housing assembly (3) from hull. Discard lockwashers.



0448 00

Disassembly

- 1. Remove door rubber strip (9) from cab top door (1). Discard door rubber strip.
- 2. Remove adjusting screw (10) and self-locking nut (11) from control arm (6). Discard self-locking nut.
- 3. Remove cotter pin (12), flat washer (13), pin (14), retaining latch (15) and spring (16). Discard cotter pin.
- 4. Remove spring (17) from shaft housing assembly (3).

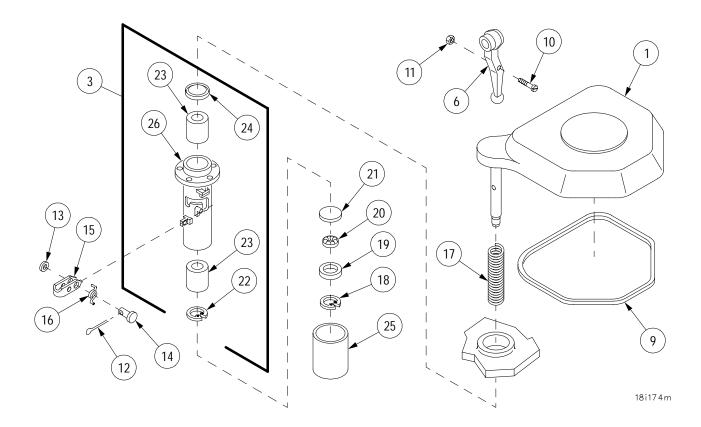


5. Remove retaining ring (18), retainer (19), bearing (20) and disc (21). Discard retaining ring.

NOTE

Cushioning pad is found only on the shaft housing of the personnel cab top door.

6. Remove retaining ring (22), two bushings (23), seal (24) and cushioning pad (25) from shaft housing (26). Discard retaining ring, seal and cushioning pad.



0448 00

Disassembly-Continued

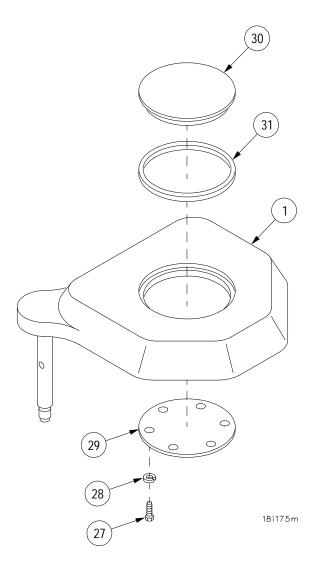
NOTE

Access cover, plate and gasket are only found on the personnel cab top door.

- 7. Remove six screws (27), six lockwashers (28), plate (29), access cover (30) and gasket (31) from cab top door (1). Discard lockwashers and gasket.
- 8. Inspect parts for damage and replace as required.

Assembly

1. Install access cover (30), new gasket (31) and plate (29) on cab top door (1) with six screws (27) and six new lockwashers (28).



0448 00

Assembly-Continued



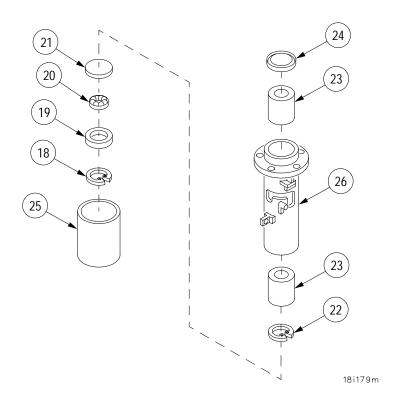
NOTE

Cushioning pad is found only on the shaft housing of the personnel cab top door.

- 2. Clean shaft housing (26) with dry-cleaning solvent.
- 3. Apply rubber based adhesive to new cushioning pad (25) and shaft housing (26).



- 4. Install new cushioning pad (25), new seal (24), two bushings (23) and new retaining ring (22) in shaft housing (26).
- 5. Install disc (21), bearing (20), retainer (19) and new retaining ring (18).



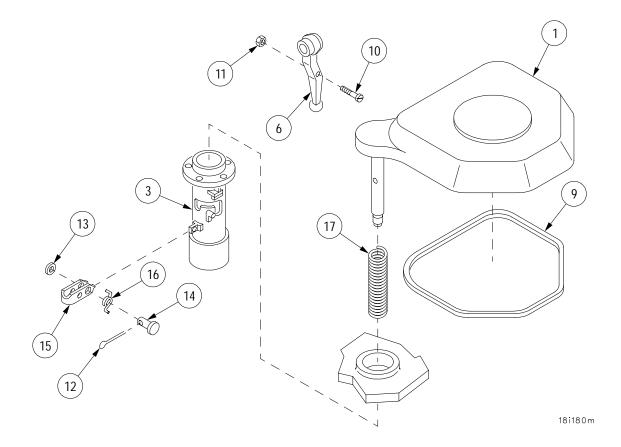
0448 00

Assembly-Continued

- 6. Install spring (17) in shaft housing assembly (3).
- 7. Install spring (16), retaining latch (15), pin (14), flat washer (13) and new cotter pin (12).
- 8. Install adjusting screw (10) and new self-locking nut (11) on control arm (6).



- 9. Clean door seal mating surfaces with dry-cleaning solvent.
- 10. Apply rubber based adhesive to new door seal (9) and seal mating surface on cab top door (1).
- 11. Install new door seal (9) on cab top door (1).



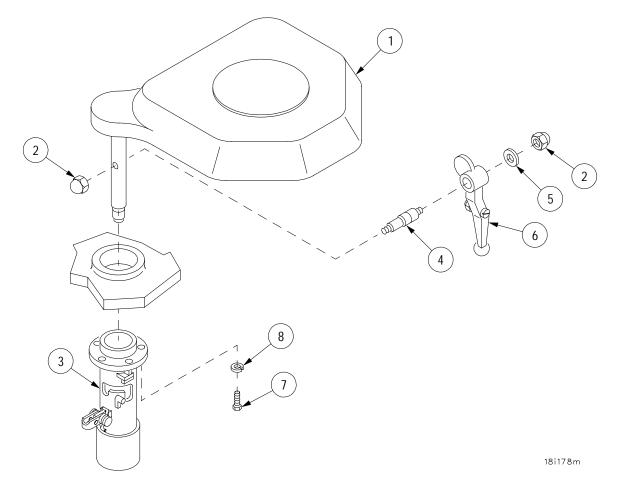
0448 00

Installation

1. Install shaft housing assembly (3) on hull with five screws (7) and five new lockwashers (8).



- 2. Using endless sling and suitable lifting device, position driver's cab top door (1) in shaft housing assembly (3) ensuring alignment holes on door (1) are aligned with opening in shaft housing assembly (3).
- 3. Install control arm (6) on shaft housing assembly (3) with control pin (4), flat washer (5) and two new self-locking nuts (2).



NOTE

FOLLOW-ON MAINTENANCE:

Close personnel or mechanic's cab top door (TM 9-2350-292-10)

DRIVER'S, PERSONNEL AND MECHANIC'S HATCH CUSHIONING PAD REPLACEMENT

0449 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools

Electrical disk sander (item 69, WP 0717 00) Abrasive wheel (item 70, WP 0717 00) Welding shop trailer mounted (item 71, WP 0717 00)

Equipment Conditions

Doors opened for ventilation (TM 9-2350-292-10)

References

TM 9-2350-292-10 TC 9-237

Removal

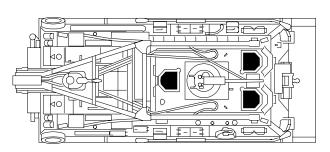


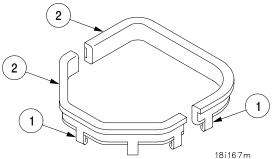
Unsafe welding practices can cause serious injury from fire, explosions, or harmful agents. Allow only authorized personnel to weld or cut metals. Follow safety precautions in TC 9-237. Protective clothing and goggles must be worn, adequate protective equipment used, a suitable fire extinguisher kept nearby and requirements of TC 9-237 strictly followed.

NOTE

There are six hatch cushioning pads. All hatch cushioning pads are replaced in the same manner. This task replaces only one hatch cushioning pad.

- 1. Cut tabs (1) on hatch cushioning pad (2), remove cushioning pad (2) from hull.
- 2. Grind welds and tabs (1) from hull to provide smooth surface and paint free metal for installation of new cushioning pad (2) in accordance with TC 9–237.



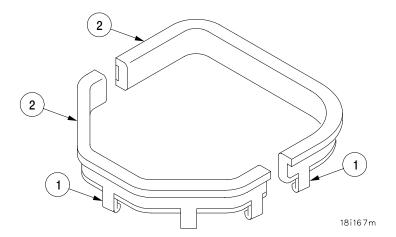


DRIVER'S, PERSONNEL AND MECHANIC'S HATCH CUSHIONING PAD REPLACEMENT

0449 00

Installation

- 1. Position and bend tabs (1) on cushioning pad (2) to conform to hull.
- 2. Install cushioning pad (2) by welding tabs (1) to hull in accordance with TC 9-237.



NOTE

FOLLOW-ON MAINTENANCE:

Close doors (TM 9-2350-292-10)

DIRECT VISION BLOCK REPLACEMENT

0450 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00) Wire twister pliers (item 67, WP 0717 00)

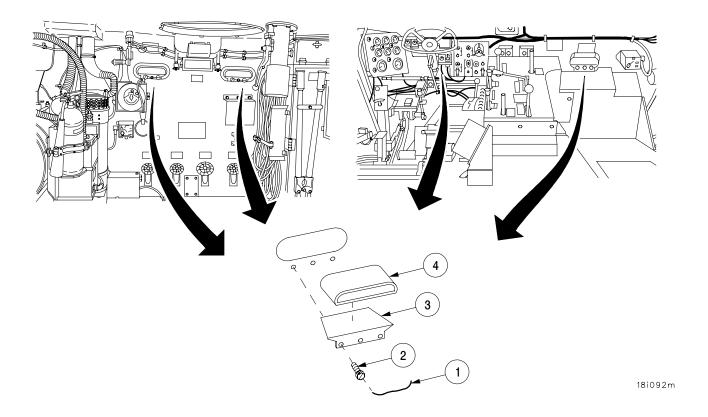
Materials/Parts

Sealing Compound (item 2, WP 0716 00) Nonelectrical wire (item 349, WP 0718 00) Safety goggles (item 93, WP 0716 00)

Removal



- 1. Remove nonelectrical wire (1). Discard nonelectrical wire.
- 2. Remove two screws (2).
- 3. Place one screw (2) in center hole of prism lock wedge (3) to be used as a jacking screw. Turn screw (2) clockwise until prism lock wedge (3) and direct vision block (4) can be removed from hull.
- 4. Remove screw (2) from prism lock wedge (3).
- 5. Inspect parts for damage and replace as required.



DIRECT VISION BLOCK REPLACEMENT - CONTINUED

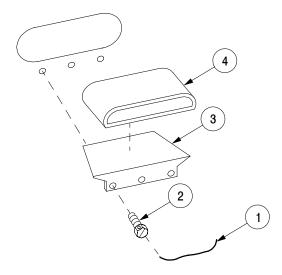
0450 00

Installation

- 1. Apply sealing compound between direct vision block (4) and hull opening.
- 2. Install direct vision block (4) and prism lock wedge (3) into hull opening.
- 3. Install two screws (2). Torque to 7-10 lb-ft (9.5-13.56 N•m).



4. Secure two screws (2) with new nonelectrical wire (1).



18i092ma

PERISCOPE MOUNTING HARDWARE REPLACEMENT

0451 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Stud inserter and remover (item 31, WP 0717 00)

Equipment Conditions

M17 periscope removed (TM 9-2350-292-10)

References

TM 9-2350-292-10

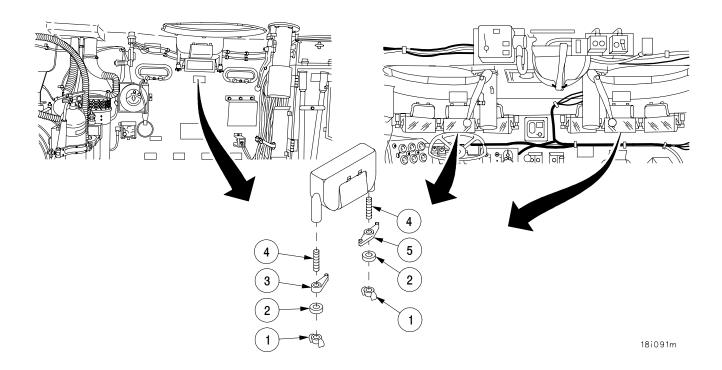
Removal

NOTE

Perform Removal steps 1, 3 and 4 and Installation steps 1, 2 and 4 for maintenance of single-sided retainers.

Perform Removal steps 2 through 4 and Installation steps 1, 3 and 4 for maintenance of double-sided retainers.

- 1. Remove nut (1), flat washer (2) and retainer (3) from stud (4).
- 2. Remove nut (1), flat washer (2) and retainer (5) from stud (4).
- 3. Remove stud (4) from hull.
- 4. Inspect parts for damage and replace as required.

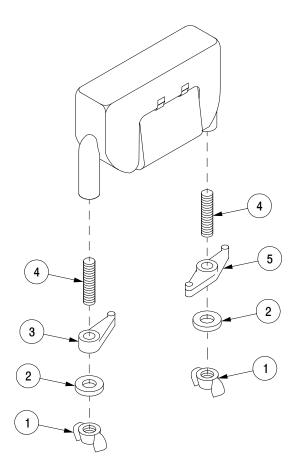


PERISCOPE MOUNTING HARDWARE REPLACEMENT

0451 00

Installation

- 1. Install stud (4) into hull.
- 2. Install retainer (3), flat washer (2) and nut (1) on stud (4).
- 3. Install retainer (5), flat washer (2) and nut (1) on stud (4).
- 4. Peen end of stud (4).



18i091ma

NOTE

FOLLOW-ON MAINTENANCE:

Install M17 periscope (TM 9-2350-292-10)

0452 00

THIS WORK PACKAGE COVERS:

Removal. Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (12) (item 52, WP 0718 00)

Lockwashers (14) (item 37, WP 0718 00)

Lockwashers (4) (item 9, WP 0718 00)

Cotter pins (4) (item 19, WP 0718 00)

Cotter pins (4) (item 53, WP 0718 00)

Cotter pins (2) (item 67, WP 0718 00)

Nonmetallic grommet (item 56, WP 0718 00)

Nonmetallic grommets (2) (item 55, WP 0718 00) Preformed packings (2) (item 54, WP 0718 00)

Sealing compound (item 42, WP 0716 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Equipment Conditions

Subfloor plates #13, #19 and #24 removed

(WP 0454 00)

For front and rear drain control assembly

Main winch and spade assembly removed

(WP 0497 00)

For front drain control assembly

Powerpack removed (WP 0188 00)

For rear drain control assembly

Storage rack assembly removed

(WP 0463 00)

For rear drain control assembly

Left air cleaner intake hoses and tube assemblies

removed (WP 0212 00)

For rear drain control assembly cable

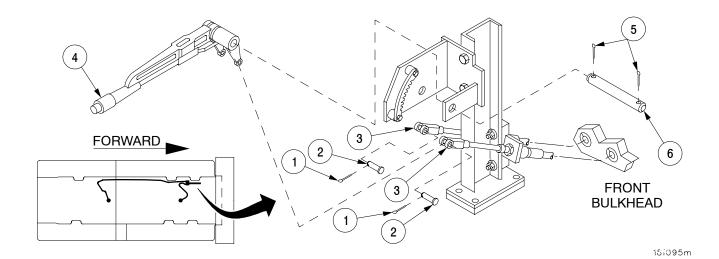
NOTE

There are two drain valves and control assemblies. This task replaces only the rear drain valve and control assembly. Differences between front and rear drain valve control assemblies are noted.

Perform only those steps required to complete repairs.

Removal

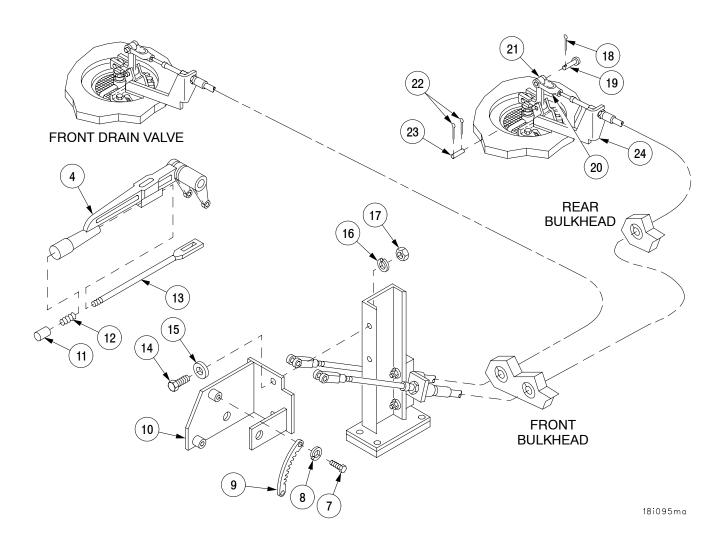
- Remove two cotter pins (1) and two straight headed pins (2) securing two cable clevises (3) to lever (4). Discard cotter pins.
- 2. Remove two cotter pins (5) and pin (6) from lever (4). Discard cotter pins.



0452 00

Removal-Continued

- 3. Remove two screws (7), two lockwashers (8), detent plate (9) and lever (4) from support (10). Discard lockwashers.
- 4. Remove push button (11), spring (12) and rod and pawl assembly (13) from lever (4).
- 5. Remove two screws (14), two flat washers (15), two lockwashers (16), two nuts (17) and support (10) from driver seat support. Discard lockwashers.
- 6. Remove cotter pin (18) and straight headed pin (19) securing cable clevis (20) to lever (21). Discard cotter pin.
- 7. Remove two cotter pins (22), pin (23) and lever (21) from bracket assembly (24). Discard cotter pins.



0452 00

Removal-Continued

- 8. Remove three screws (25), three lockwashers (26) and bracket assembly (24) from drain valve assembly (27). Discard lockwashers.
- 9. Loosen two cable nuts (28), remove bracket assembly (24) from control assembly (29).
- 10. Loosen clevis nut (30) at each end of control assembly (29).
- 11. Remove two cable clevises (3 and 20), two clevis nuts (30) and nut (31) from control assembly (29).
- 12. Remove control assembly (29) from cable spacer assembly (32).

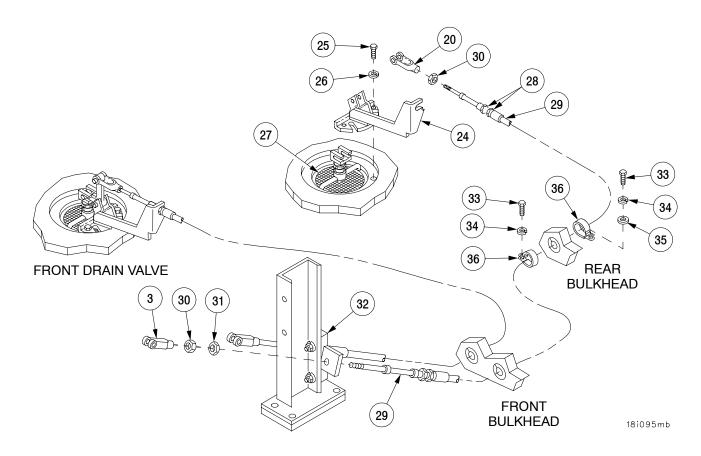
NOTE

Front control assembly is secured to vehicle hull with one clamp.

Rear control assembly is secured to vehicle hull with five clamps.

Note location and quantity of attaching hardware to aid in Installation

13. Remove screws (33), lockwashers (34), flat washers (35) and clamps (36). Discard lockwashers.



0452 00

Removal-Continued

NOTE

Front control assembly has one nonmetallic grommet.

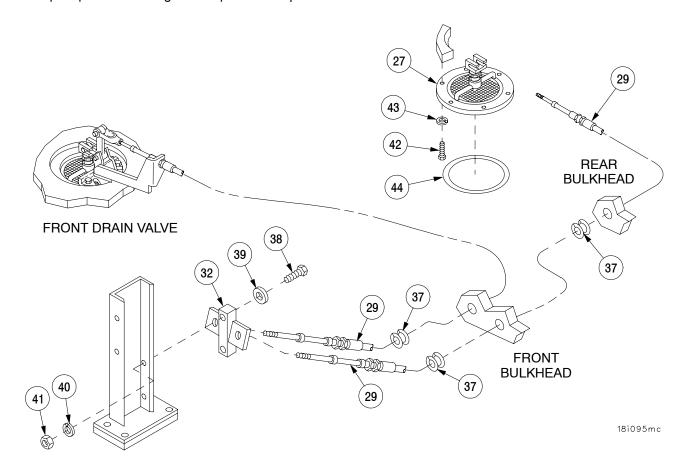
Rear control assembly has two nonmetallic grommets.

14. Remove control assembly (29) with nonmetallic grommet(s) (37) from bulkhead. Separate and discard nonmetallic grommet(s).

NOTE

When removing cable spacer assembly both front and rear control assemblies must be disconnected.

- 15. Remove two screws (38), two flat washers (39), two lockwashers (40), two nuts (41) and cable spacer assembly (32) from driver's seat support. Discard lockwashers.
- 16. Remove six screws (42), six lockwashers (43) and drain valve assembly (27) from vehicle hull. Discard lockwashers.
- 17. Remove preformed packing (44) from drain valve assembly (27). Discard preformed packing.
- 18. Inspect parts for damage and replace as required.



0452 00

Installation



- Clean mating surfaces of drain valve assembly (27) and vehicle hull and six screws (42) with dry-cleaning solvent.
- 2. Install new preformed packing (44) on drain valve assembly (27).



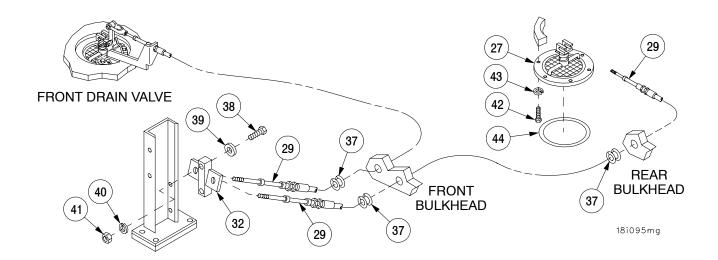
- 3. Apply sealing compound on mating surfaces of drain valve assembly (27) and vehicle hull and under heads and on threads of six screws (42).
- 4. Install drain valve assembly (27) on vehicle hull with six screws (42) and six new lockwashers (43).
- 5. Install cable spacer assembly (32) on bulkhead with two screws (38), two flat washers (39), two new lockwashers (40) and two nuts (41).
- 6. Install control assembly (29) through bulkhead.

NOTE

Front control assembly has one nonmetallic grommet.

Rear control assembly has two nonmetallic grommets.

7. Install new nonmetallic grommet(s) (37) on control assembly (29) and in bulkhead.



0452 00

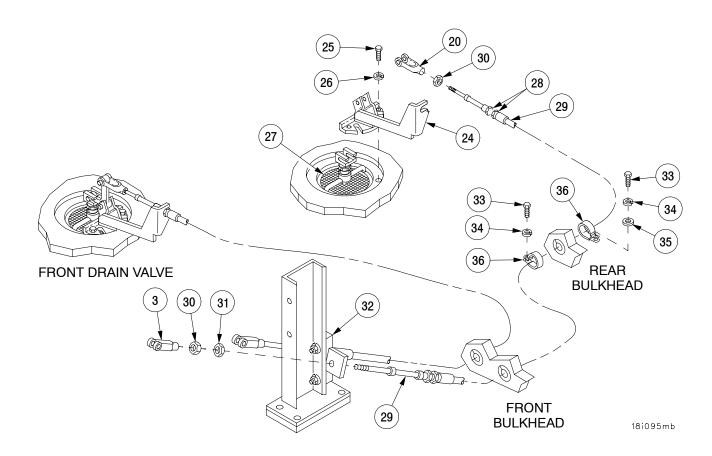
Installation-Continued

NOTE

Front control assembly is secured to vehicle hull with one clamp.

Rear control assembly is secured to vehicle hull with five clamps.

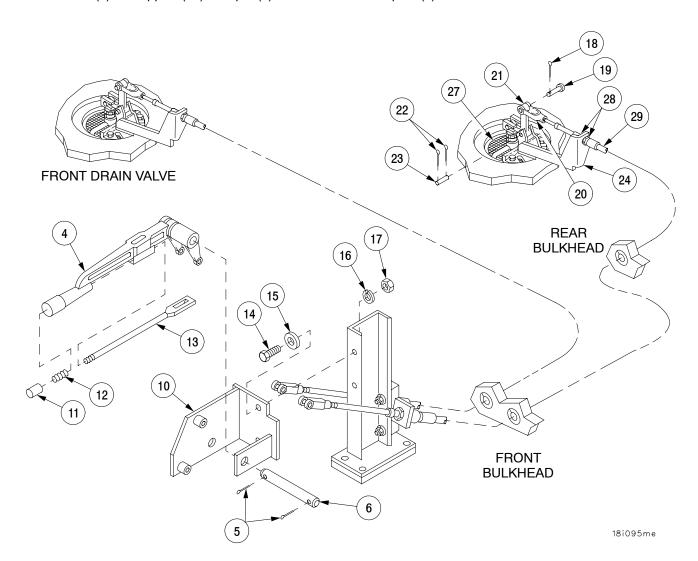
- 8. Secure control assembly (29) to vehicle hull with screws (33), new lockwashers (34), flat washers (35) and clamps (36).
- 9. Install control assembly (29) through cable spacer assembly (32) and secure with nut (31).
- 10. Install clevis nut (30) and two clevises (3 and 20) on each end of control assembly (29).
- 11. Secure control assembly (29) to bracket assembly (24) with two cable nuts (28).
- 12. Install bracket assembly (24) on drain valve assembly (27) with three screws (25) and three new lockwashers (26).



0452 00

Installation-Continued

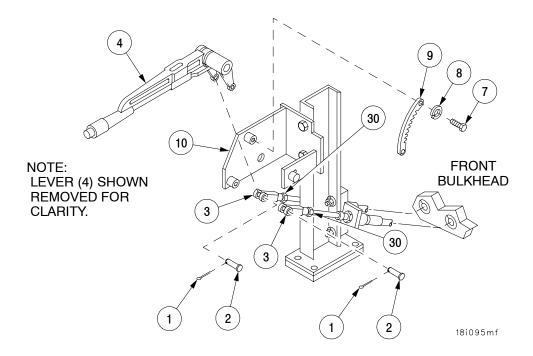
- 13. Install lever (21) on bracket assembly (24) with pin (23) and two new cotter pins (22).
- 14. Connect cable clevis (20) to lever (21) with straight headed pin (19) and new cotter pin (18).
- 15. Loosen two cable nuts (28) at bracket assembly (24) and adjust control assembly (29) until drain valve assembly (27) is fully closed.
- 16. Tighten two cable nuts (28) on bracket assembly (24).
- 17. Install support (10) on driver's seat support with two screws (14), two flat washers (15), two new lockwashers (16) and two nuts (17).
- 18. Install spring (12), rod and pawl assembly (13) and push button (11) in lever (4).
- 19. Install lever (4) on support (10) with pin (6) and two new cotter pins (5).



0452 00

Installation-Continued

- 20. Install detent plate (9) on support (10) with two screws (7) and two new lockwashers (8).
- 21. Move lever (4) to CLOSED position.
- 22. Loosen two clevis nuts (30) and adjust two clevises (3) until two pins (2) can be inserted into two clevises (3) and lever (4).
- 23. Tighten two clevis nuts (30).
- 24. Connect two clevises (3) to lever (4) with two straight headed pins (2) and two new cotter pins (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install left air cleaner intake hoses and tube assemblies, if removed (WP 0212 00)
Install storage rack assembly, if removed (WP 0463 00)
Install powerpack, if removed (WP 0188 00)
Install main winch and spade assembly, if removed (WP 0497 00)
Install subfloor plates #13, #19 and #24, (WP 0454 00)

DRAIN COVERS AND GASKET REPLACEMENT

0453 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (18) (item 52, WP 0718 00)

Gasket (item 238, WP 0718 00)

Gasket (item 326, WP 0718 00)

Gasket (item 327, WP 0718 00)

Sealing compound (item 42, WP 0716 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Equipment Conditions

Vehicle parked on level ground and tracks blocked (TM 9-2350-292-10)

References

TM 9-2350-292-10

Removal

NOTE

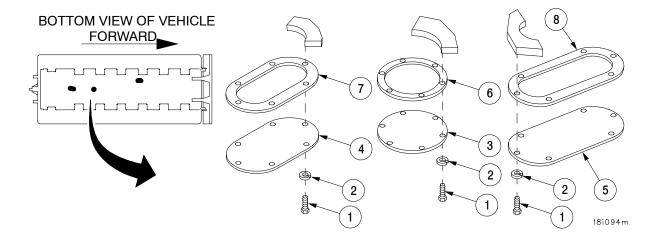
All drain covers are removed and installed in the same manner.

- 1. Remove six screws (1), six lockwashers (2), drain cover (3, 4 or 5) and gasket (6, 7 or 8) from vehicle hull. Discard lockwashers and gasket.
- 2. Inspect parts for damage and replace as required.

Installation



- 1. Clean threads and cap of six screws (1) with dry-cleaning solvent.
- 2. Apply sealing compound to threads and cap of six screws (1).
- 3. Install drain cover (3, 4 or 5) with new gasket (6, 7 or 8) on vehicle hull with six screws (1) and six new lockwashers (2).



SUBFLOOR REPLACEMENT

0454 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Adhesive (item 28, WP 0716 00)

Lockwashers (8) (item 12, WP 0718 00)

Nonmetallic seal (item 134, WP 0718 00)

Lockwashers (8) (item 78, WP 0718 00)

Lockwashers (21) (item 2, WP 0718 00)

Lockwashers (4) (item 135, WP 0718 00)

Nonmetallic grommet (item 136, WP 0718 00)

Lockwashers (2) (item 356, WP 0718 00)

Assembled-washer screws (3) (item 421, WP 0718 00)

Assembled-washer screws (90) (item 424, WP 0718 00)

Lockwashers (9) (item 11, WP 0718 00)

Assembled-washer screws (22) (item 444, WP 0718 00)

Assembled-washer screws (3) (item 445, WP 0718 00)

Equipment Conditions

Commander's seat removed (WP 0457 00)

For replacement of plate #21

Hoist winch wire rope shield removed

(WP 0495 00)

For replacement of plate #14

Brake bleed valve manifold and hoses

removed (WP 0361 00 or WP 0362 00)

For replacement of plate #14

Air cleaner assemblies removed (WP 0208 00)

For replacement of plates #24 or #32

Throttle pedal and linkage removed

(WP 0226 00)

Shift linkage removed (WP 0350 00)

Brake linkage removed (WP 0363 00 or WP 0364 00),

(WP 0365 00), (WP 0366 00 or WP 0367 00) and

(WP 0368 00)

Dimmer switch removed (WP 0260 00, WP 0261 00)

For replacement of plate #7

Basket supports removed (WP 0465 00)

For replacement of supports

Personnel required

Two

NOTE

The subfloor plates are bolted to plate supports attached to the hull inner structure. The plates have been numbered in the illustration and legend to aid in removal and installation of plates. Certain plates have hinged doors for quick access to the under floor compartments. Lift doors to open. Perform only those steps necessary to replace defective parts.

Perform Removal and Installation of plate #11 for access to main winch oil fill/drain plug, oil level check, hydraulic hose quick-disconnect, cable access plate, boom shutoff valve and the auxiliary winch relief valve.

Perform Removal and Installation of plate #13 for access to the hoist winch fill and level check.

Perform Removal and Installation of plate #15 for access to the hoist winch drain.

Perform Removal and Installation of plate #28 for access to the hydraulic oil tank fill and oil level indicator.

Perform Removal and Installation of plate #20 for access to the fuel level sending unit and fuel pump.

SUBFLOOR REPLACEMENT - CONTINUED

0454 00

Removal

NOTE

The procedures are the same for all the shields, plates, covers and supports used on the subfloor of the vehicle, except for the location, length and number of screws and assembled-washer screws used to attach plates, covers and supports.

- 1. Remove screws and assembled-washer screws, flat washers, lockwashers, gasket, grommet and shields, plates or covers from vehicle as shown in legend and illustration. Discard lockwashers, grommet, gasket, and assembled-washer screws.
- 2. Remove screws, flat washers, lockwashers, nuts and supports from vehicle as shown in legend and illustration. Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

Installation

NOTE

Apply adhesive to underside of hydraulic access cover #32. Allow adhesive to become tacky before installing gasket on cover #32.

- 1. Install supports in vehicle with screws, flat washers, new lockwashers and nuts on vehicle as shown in legend and illustration.
- 2. Install shields, plates, covers, grommet and gasket in vehicle with screws and new assembled-washer screws, flat washers and new lockwashers on vehicle as shown in legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

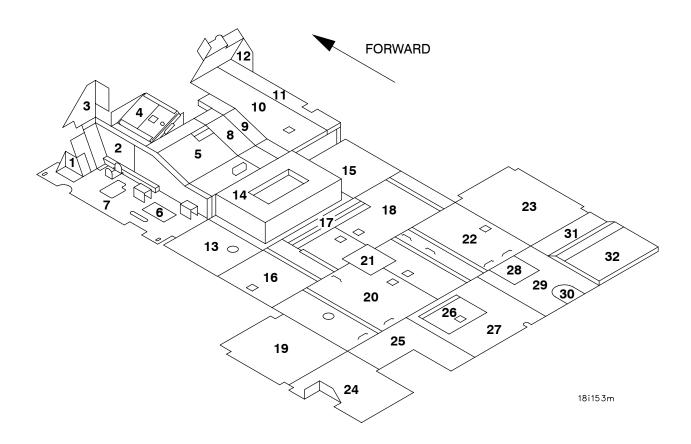
Install basket supports, if removed (WP 0465 00) Install dimmer switch, if removed (WP 0260 00, WP 0261 00) Install brake linkage, if removed (WP 0363 00 or WP 0364 00), (WP 0365 00), (WP 0366 00 or WP 0367 00) and (WP 0368 00) Install shift linkage, if removed (WP 0350 00) Install throttle pedal and linkage, if removed (WP 0226 00) Install air cleaner assemblies, if removed (WP 0208 00) Install brake bleed valve manifold and hoses (WP 0361 00, WP 0362 00) Install hoist winch wire rope shield, if removed (WP 0495 00) Install commander's seat, if removed (WP 0457 00)

Legend:

- 1. Shield
- 2. Shield
- 3. Shield
- Operator control manifold access plate
- 5. Operator control manifold access plate
- Spade cylinder inspection cover
- 7. Spade cylinder and steering linkage access plate
- 8. Main winch access plate
- 9. Main winch access plate
- Spade cylinder and main winch access plate
- 11. Main winch fill/drain oil level check, hydraulic hose disconnect, winch cable, boom shutoff valve, and auxiliary winch relief valve access plate

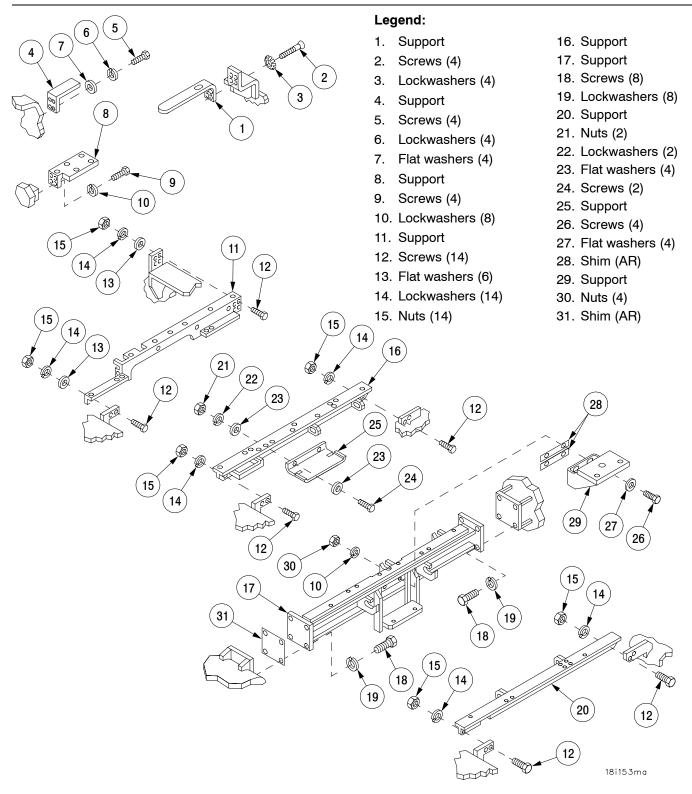
- 12. Boom cylinder access plate
- Hoist winch fill and level check access plate
- Hoist winch assembly access plate
- 15. Hoist winch drain access plate
- Brake pump and motor and power boost manifold access door
- 17. Hoist winch access plate
- Filter manifold, directional control valve, filters and brake accumulator and bilge pump access door
- 19. Fuel tank mount access plate
- 20. Fuel level sending unit and fuel pump access door
- 21. Commander's seat mounting plate

- 22. Main hydraulic manifold access door
- 23. Hydraulic lines access plate
- 24. Fuel tank mount access plate
- 25. Fuel tank mount access plate
- 26. Electromagnetic clutch fill and level check access door
- 27. Electromagnetic assembly access plate
- 28. Hydraulic oil tank fill and level check cover
- 29. Hydraulic oil tank access plate
- Hydraulic line disconnect auxiliary power unit access cover
- 31. Hydraulic lines access plate
- 32. Hydraulic lines disconnect through bulkhead access cover



SUBFLOOR REPLACEMENT - CONTINUED

0454 00



FLOOR PLATE ASSEMBLY 12477573 REPAIR

0455 00

THIS WORK PACKAGE COVERS:

Disassembly, Assembly

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 9, WP 0718 00) Dry-cleaning solvent (item 1, WP 0716 00)

Equipment Conditions

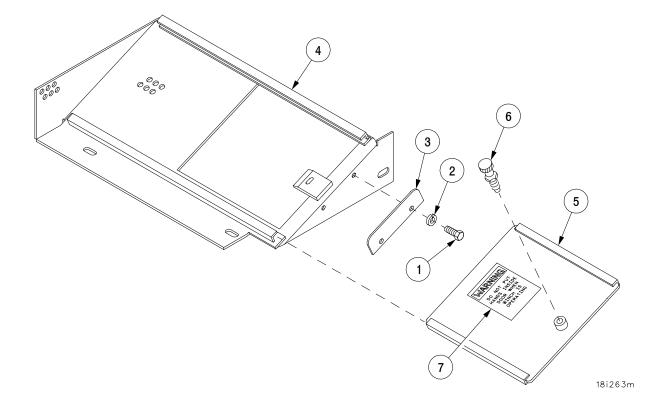
Floor plate #4 removed (WP 0454 00)

Personnel required

Two

Disassembly

- 1. Remove two screws (1), two lockwashers (2) and plate (3) from floor plate assembly (4). Discard lockwashers.
- 2. Remove door assembly (5) from floor plate assembly (4).
- 3. Remove plunger (6) from door assembly (5).
- 4. If decal (7) is damaged, mark position of decal (7) to facilitate replacement. Remove decal (7).

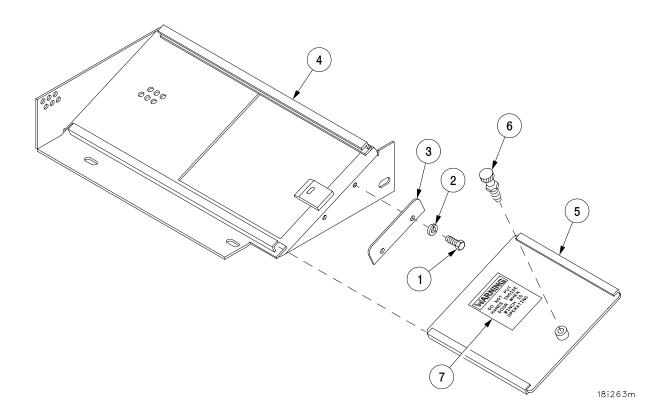


FLOOR PLATE ASSEMBLY 12477573 REPAIR - CONTINUED

0455 00

Assembly

- 1. Install plunger (6) on door assembly (5).
- 2. Slide door assembly (5) into guides on floor plate assembly (4).
- 3. Install plate (3), two new lockwashers (2) and two screws (1) to the floor plate assembly (4).
- 4. If decal was removed, clean area of decal (7) with dry-cleaning solvent. Ensure area is smooth, clean and dry.
- 5. Apply new decal (7) in the same position where the old decal (7) was removed.



NOTE

FOLLOW-ON MAINTENANCE:

Install floor plate #4 (WP 0454 00)

FLOOR PLATE ASSEMBLY 12477598 REPAIR

0456 00

THIS WORK PACKAGE COVERS:

Disassembly, Assembly

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

Floor plate #9 removed (WP 0454 00)

Personnel required

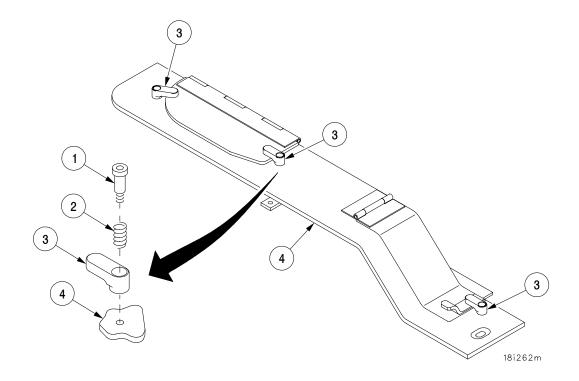
Two

Disassembly

Remove three screws (1), three springs (2) and three catches (3) from floor plate assembly (4).

Assembly

Install three catches (3), three springs (2) and three screws (1) into floor plate assembly (4).



NOTE

FOLLOW-ON MAINTENANCE:

Install floor plate #9 (WP 0454 00)

COMMANDER'S AND PERSONNEL SEAT REPAIR

0457 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 2, WP 0718 00)

Lockwashers (4) (item 196, WP 0718 00)

Lockwashers (4) (item 9, WP 0718 00)

Lockwashers (4) (item 37, WP 0718 00)

Cotter pins (10) (item 19, WP 0718 00)

Knurled straight pin (item 197, WP 0718 00)

Headless straight pin (item 198, WP 0718 00)

Equipment Conditions

Seat in fully raised position (TM 9-2350-292-10)
Flasher lamp case removed (WP 0479 00)
For commander's seat backrest replacement

lv

Personnel Required Two

References

TM 9-2350-292-10

NOTE

Perform Removal step 1 and Disassembly step 16 and Installation step 2 for complete maintenance of the commander's seat assembly.

Perform Removal step 2 and Disassembly step 16 and Installation step 3 for maintenance of personnel seats.

Perform Removal step 3 and Disassembly step 16 and Installation step 2 for maintenance of the commander's seat.

Perform Removal steps 3, 4 and Disassembly step 16 and Installation steps 1 and 2 for maintenance of the commander's sub-base assembly.

Perform Disassembly step 1 and 16 and Assembly step 17 for maintenance of backrest assembly.

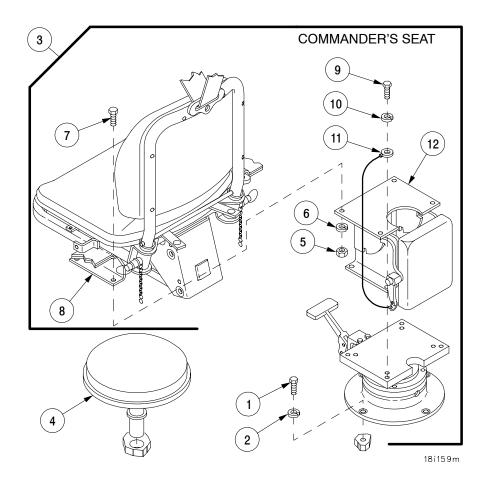
Perform Disassembly steps 2 through 16 and Assembly steps 2 through 16 for maintenance of seat assembly.

Removal



Place seat in fully raised position prior to maintenance to avoid personnel injury.

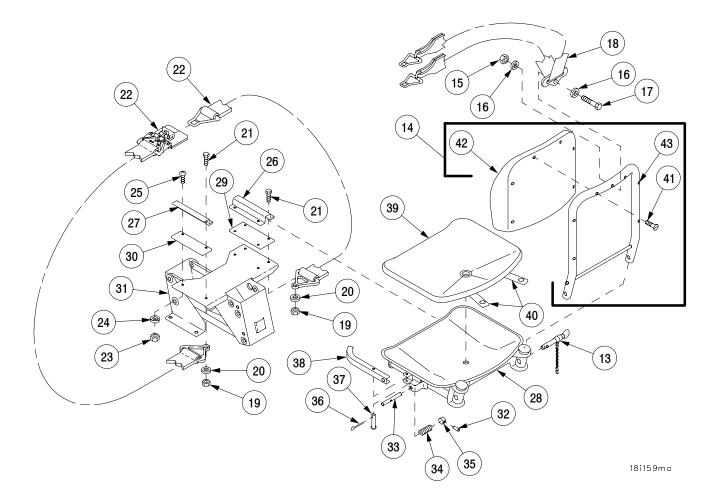
- 1. Remove four screws (1), four lockwashers (2) and seat assembly (3). Discard lockwashers.
- 2. Pull personnel seat (4) straight up.
- 3. Remove four nuts (5), four lockwashers (6), four screws (7) and seat (8). Discard lockwashers.
- 4. Remove four screws (9), four lockwashers (10), flat washer (11) (part of quick-release pin) and sub-base assembly (12). Discard lockwashers.



0457 00

Disassembly

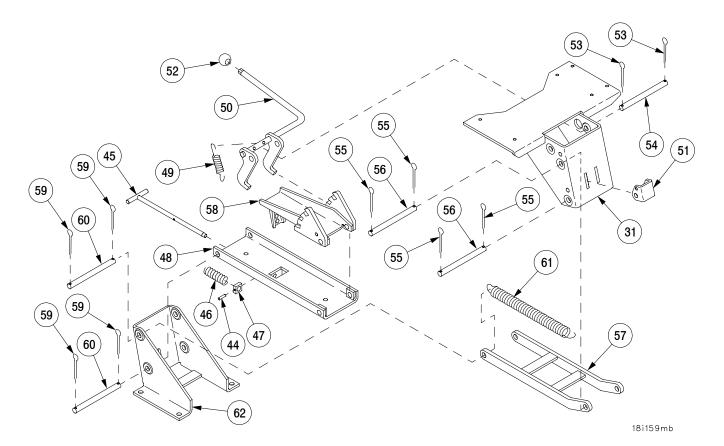
- 1. Remove two quick-release pins (13) and backrest assembly (14).
- 2. Remove nut (15), two flat washers (16), screw (17) and shoulder harness (18).
- 3. Remove two nuts (19), two flat washers (20), two screws (21) and seat belt (22).
- 4. Remove four nuts (23), four lockwashers (24), four screws (25), right track (26), left guide (27), seat body (28) and two plates (29 and 30) from carriage assembly (31). Discard lockwashers.
- 5. Remove headless straight pin (32), shaft (33), spring (34) and collar (35) from seat body (28). Discard headless straight pin.
- 6. Remove cotter pin (36), pin (37) and lever (38) from seat body (28). Discard cotter pin.
- 7. Remove seat cushion (39) from seat body (28) and two snaps (40).
- 8. Remove six screws (41) and backrest cushion (42) from support (43).



0457 00

Disassembly-Continued

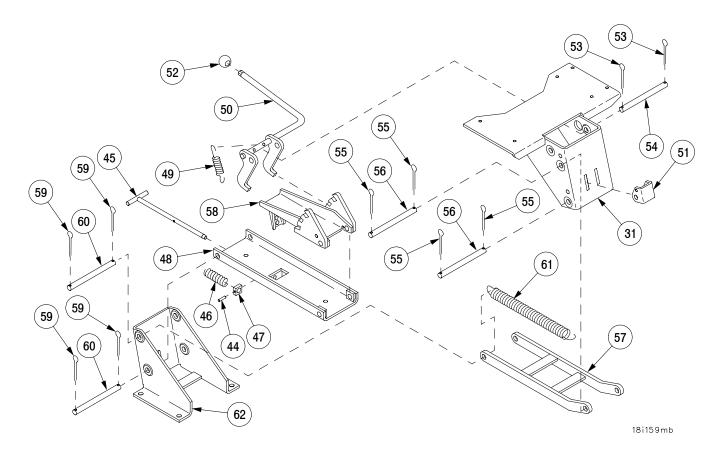
- 9. Remove knurled straight pin (44), pull handle (45) straight out, removing spring (46) and collar (47) from arm assembly (48). Discard knurled straight pin.
- 10. Remove two springs (49) from release arm (50) and retainer (51).
- 11. Remove knob (52) from release arm (50).
- 12. Remove two cotter pins (53), headless pin (54) and release arm (50) from carriage assembly (31). Discard cotter pins.
- 13. Remove four cotter pins (55), two headless pins (56), two arm assemblies (48 and 57) and sector assembly (58) from carriage assembly (31). Discard cotter pins.
- 14. Remove four cotter pins (59), two headless pins (60), two arm assemblies (48 and 57) and two spring ends (61) from base assembly (62). Discard cotter pins.
- 15. Remove two springs (61) from retainer (51), remove retainer (51) from carriage assembly (31).
- 16. Inspect parts for damage and replace as required.



0457 00

Assembly

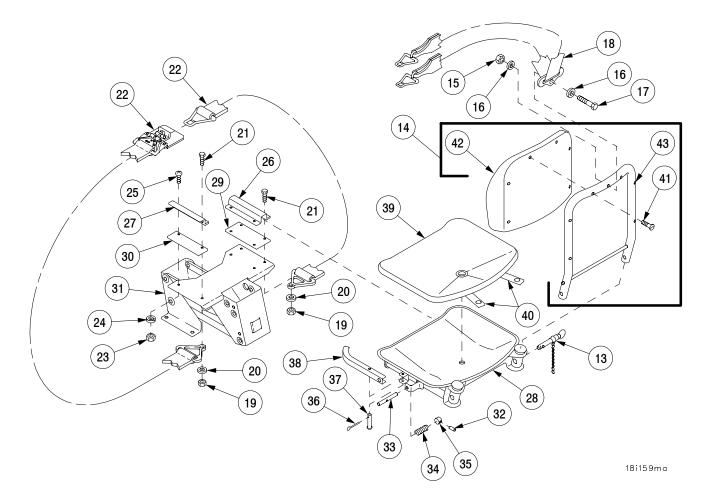
- 1. Install retainer (51) in carriage assembly (31).
- 2. Connect two springs (61) to retainer (51).
- 3. Position base assembly (62) in arm assembly (57). Install headless pin (60) through base assembly (62), arm assembly (57) and ends of springs (61), secure headless pin (60) with new cotter pins (59).
- 4. Align mounting holes of base assembly (62) and arm assembly (48). Install headless pin (60) and two new cotter pins (59).
- 5. Position sector assembly (58) in arm assembly (48). Install arm assembly (48) and sector assembly (58) in carriage assembly (31) with headless pin (56) and two new cotter pins (55).
- 6. Install arm assembly (57) in carriage assembly (31) with headless pin (56) and two new cotter pins (55).
- 7. Install release arm (50) in carriage assembly (31) with headless pin (54) and two new cotter pins (53). Connect two springs (49) to retainer (51) and release arm (50).
- 8. Install knob (52) on release arm (50).
- 9. Install collar (47) and spring (46) on arm assembly (48) and insert handle (45) and new knurled straight pin (44).



0457 00

Assembly-Continued

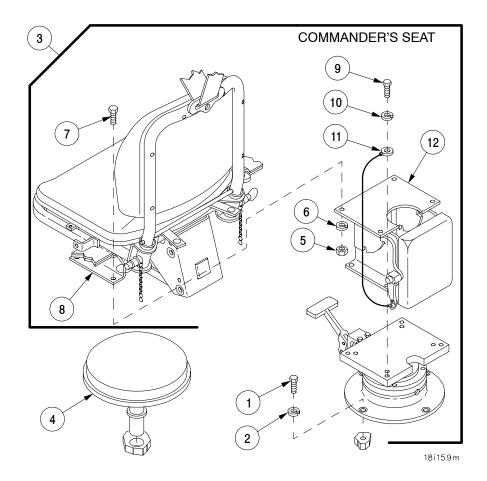
- 10. Install backrest cushion (42) on support (43) with six screws (41).
- 11. Install collar (35), spring (34), shaft (33) and new headless straight pin (32) on seat body (28).
- 12. Secure seat cushion (39) to seat body (28) with two snaps (40).
- 13. Install lever (38) on seat body (28) with pin (37) and new cotter pin (36).
- 14. Install seat body (28), left guide (27), right track (26) and two plates (29 and 30) on carriage assembly (31) with four screws (25), four new lockwashers (24) and four nuts (23).
- 15. Install seat belt (22) with two screws (21), two flat washers (20) and two nuts (19).
- 16. Install shoulder harness (18) with screw (17), two flat washers (16) and nut (15).
- 17. Install backrest assembly (14) with two quick-release pins (13).



0457 00

Installation

- 1. Install sub-base assembly (12) with flat washer (11) (part of quick-release pin), four screws (9) and four new lock-washers (10).
- 2. Install seat (8) with four screws (7), four new lockwashers (6) and four nuts (5).
- 3. Position personnel seat (4) over socket hole and push down.
- 4. Install seat assembly (3) with four screws (1) and four new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install flasher lamp case, if removed (WP 0479 00)

COMMANDER'S SUB-BASE ASSEMBLY REPAIR

0458 00

THIS WORK PACKAGE COVERS:

Disassembly, Assembly

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

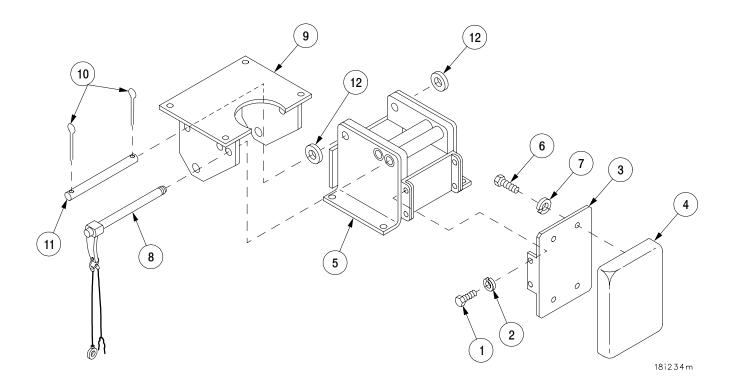
Commander's seat removed (WP 0457 00)

Materials/Parts

Lockwashers (8) (item 449, WP 0718 00) Cotter pins (2) (item 19, WP 0718 00)

Disassembly

- 1. Remove four screws (1), four lockwashers (2) and mounting plate (3) with seat cushion (4) from frame assembly (5). Discard lockwashers.
- 2. Remove four screws (6), four lockwashers (7) and seat cushion (4) from mounting plate (3). Discard lockwashers.
- 3. Remove quick-release pin (8) from frame assembly (5) and support assembly (9).
- 4. Remove two cotter pins (10), axle (11), two flat washers (12) and support assembly (9) from frame assembly (5). Discard cotter pins.
- 5. Inspect parts for damage and replace as required.

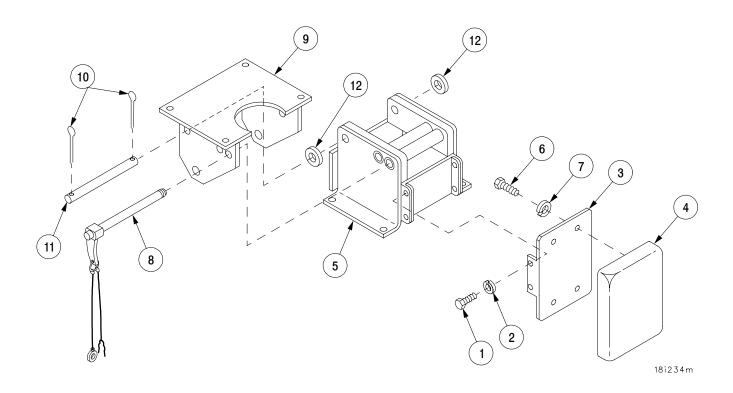


COMMANDER'S SUB-BASE ASSEMBLY REPAIR - CONTINUED

0458 00

Assembly

- 1. Install frame assembly (5) on suppport assembly (9) with two flat washers (12), axle (11) and two new cotter pins (10).
- 2. Install quick-release pin (8) into support assembly (9) and frame assembly (5).
- 3. Install seat cushion (4) on mounting plate (3) with four screws (6) and four new lockwashers (7).
- 4. Install mounting plate (3) and seat cushion (4) on frame assembly (5) with four screws (1) and four new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install commander's seat (WP 0457 00)

COMMANDER'S PEDESTAL REPAIR

0459 00

THIS WORK PACKAGE COVERS:

Disassembly, Assembly

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

Commander's seat removed (WP 0457 00)

Materials/Parts

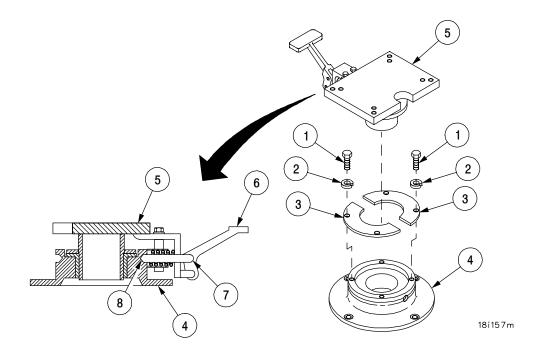
Lockwashers (4) (item 62, WP 0718 00) Cotter pins (2) (item 15, WP 0718 00) Lockwashers (2) (item 115, WP 0718 00)

NOTE

Rotate base so that clearance notch (in base) permits easy replacement of retainer screws.

Disassembly

- 1. Remove four screws (1), four lockwashers (2) and two retainers (3) from pedestal (4). Discard lockwashers.
- 2. Rotate base (5) and depress pedal (6) until lockpin (7) is free of groove (8) while lifting base (5) off pedestal (4).



COMMANDER'S PEDESTAL REPAIR - CONTINUED

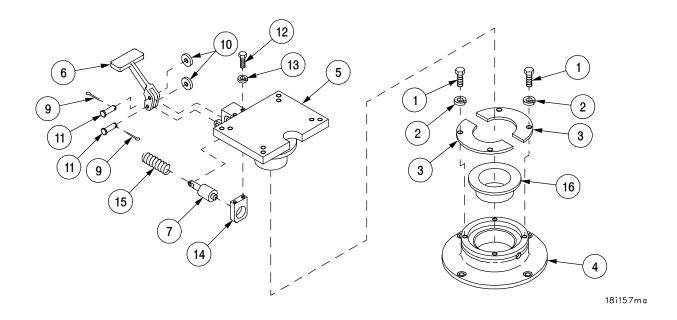
0459 00

Disassembly-Continued

- 3. Remove two cotter pins (9), two flat washers (10), two clevis pins (11) and pedal (6) from base (5). Discard cotter pins.
- 4. Remove two screws (12), two lockwashers (13), guide (14), spring (15) and lockpin (7) from base (5). Discard lockwashers.
- 5. Remove bearing (16) from base (5).
- 6. Inspect parts for damage and replace as required.

Assembly

- 1. Install spring (15) and lockpin (7) in guide (14). Install guide (14) with lockpin (7) and spring (15) on base (5) with two screws (12) and two new lockwashers (13).
- 2. Install pedal (6) on base (5) with two clevis pins (11), two flat washers (10) and two new cotter pins (9).
- 3. Install bearing (16) on base (5), then install base (5) in pedestal (4). Rotate base (5) until two retainers (3) can be easily installed with mounting holes aligned. Secure two retainers (3) to pedestal (4) with four screws (1) and four new lockwashers (2).
- 4. Make sure base (5) rotates freely on pedestal (4) and lockpin (7) engages locking slots of pedestal (4) when pedal (6) is depressed and released.



NOTE

FOLLOW-ON MAINTENANCE:

Install commander's seat (WP 0457 00)

END OF TASK

PERSONNEL SEAT ASSEMBLY REPAIR

0460 00

THIS WORK PACKAGE COVERS:

Disassembly, Assembly

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

Personnel seat removed (WP 0457 00)

Materials/Parts

Lockwashers (2) (item 199, WP 0718 00)

NOTE

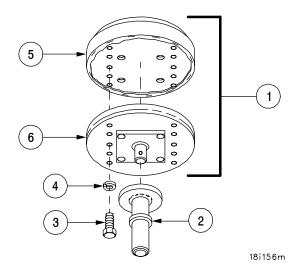
There are two personnel seats. The procedures are the same for both seats.

Disassembly

- 1. Remove seat assembly (1) from pedestal (2).
- 2. Remove two screws (3), two lockwashers (4) and cushion (5) from body assembly (6). Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

Assembly

- 1. Install cushion (5) on body assembly (6) with two screws (3) and two new lockwashers (4).
- 2. Install seat assembly (1) on pedestal (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install personnel seat (WP 0457 00)

DRIVER'S AND MECHANIC'S SEAT REPAIR

0461 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Self-locking nut (item 175, WP 0718 00)
Lockwashers (2) (item 12, WP 0718 00)
Lockwashers (8) (item 9, WP 0718 00)
Lockwashers (11) (item 10, WP 0718 00)
Lockwasher (item 27, WP 0718 00)
Lockwashers (3) (item 37, WP 0718 00)
Split washers (2) (item 176, WP 0718 00)

Lockwashers (9) (item 2, WP 0718 00)

Retaining rings (4) (item 179, WP 0718 00) Permanent depression washers (4) (item 177, WP 0718 00)

Headless grooved pin (item 182, WP 0718 00) Lockwashers (4) (item 18, WP 0718 00) Safety goggles (item 93, WP 0716 00)

Headless grooved pin (item 232, WP 0718 00)

Materials/Parts - Continued

Plain encased seals (4) (item 181, WP 0718 00) X-Washers (3) (item 178, WP 0718 00) Headless grooved pins (3) (item 180, WP 0718 00) Cotter pins (3) (item 15, WP 0718 00)

Equipment Conditions

Subfloor plate removed (WP 0454 00)
For mechanic's seat lower support
Hull drain valve brackets removed (WP 0452 00)
For driver's seat lower support
Seat in stowed position (TM 9-2350-292-10)

Personnel Required

Two

References

TM 9-2350-292-10

NOTE

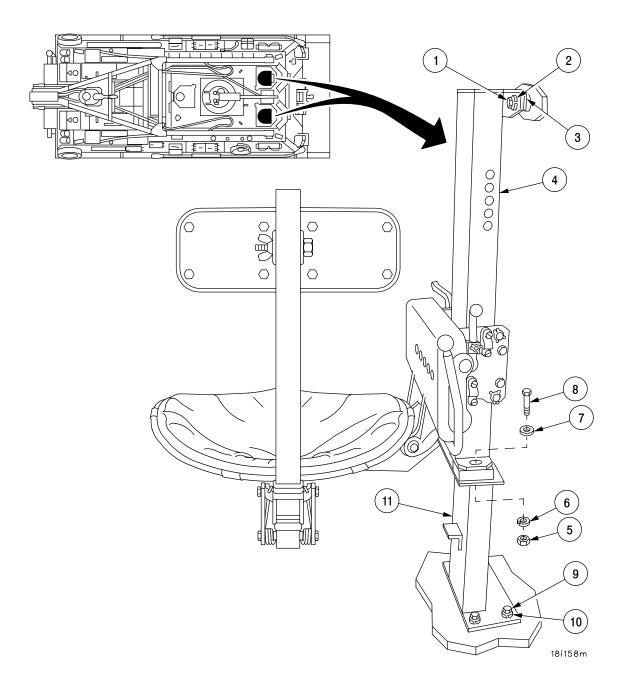
The procedures for the driver's and mechanic's seat are the same, except that only the driver's seat has a stop and self-locking nut.

Perform Removal steps 2 and 3 and Installation steps 1 and 2 if the lower seat support is being removed for maintenance.

0461 00

Removal

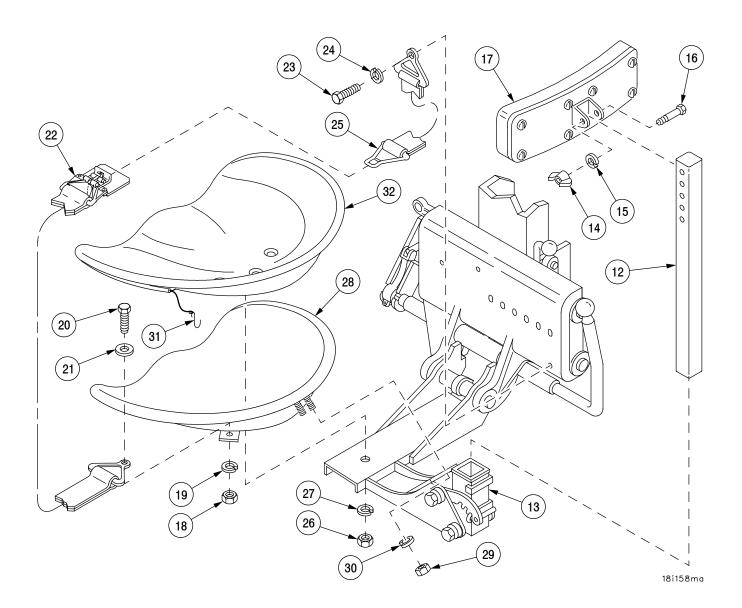
- 1. Remove two screws (1), two lockwashers (2) and two shims (3) from seat assembly (4). Discard lockwashers.
- 2. Remove two nuts (5) (one is a self-locking nut for mounting stop on driver's side), two lockwashers (6), two flat washers (7), two screws (8) and seat assembly (7). Discard lockwashers.
- 3. Remove four screws (9), four lockwashers (10) and seat support (11). Discard lockwashers.



0461 00

Disassembly

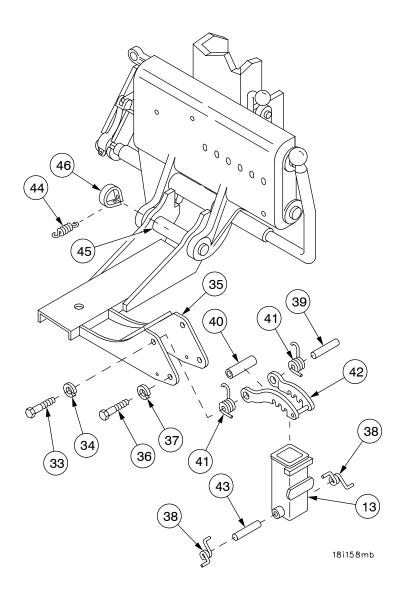
- 1. Remove support assembly (12) by pulling straight out of retainer (13).
- 2. Remove wing nut (14), lockwasher (15), screw (16) and backrest (17). Discard lockwasher.
- 3. Remove nut (18), lockwasher (19), screw (20), flat washer (21) and seat belt (22). Discard lockwasher.
- 4. Remove screw (23), lockwasher (24) and seat belt (25). Discard lockwasher.
- 5. Remove nut (26) and lockwasher (27) from seat (28). Discard lockwasher.
- 6. Remove two nuts (29), two lockwashers (30) and seat (28). Discard lockwashers.
- 7. Unhook two S-hooks (31) and remove seat cushion (32) from seat (28).



0461 00

Disassembly-Continued

- 8. Remove two screws (33) and two lockwashers (34) from support assembly (35), install drift pin in screw hole to prevent binding. Discard lockwashers.
- 9. Remove two screws (36), two lockwashers (37) from support assembly (35). Discard lockwashers.
- 10. Snap ends of two springs (38) out of holes in support assembly (35).
- 11. Remove drift pin, rod (39), spacer (40), two springs (41) and adjuster (42).
- 12. Remove rod (43) and two springs (38) from retainer (13).
- 13. Remove spring (44) from lever connector (45) and spring clip (46).
- 14. Remove spring clip (46) from support assembly (35).



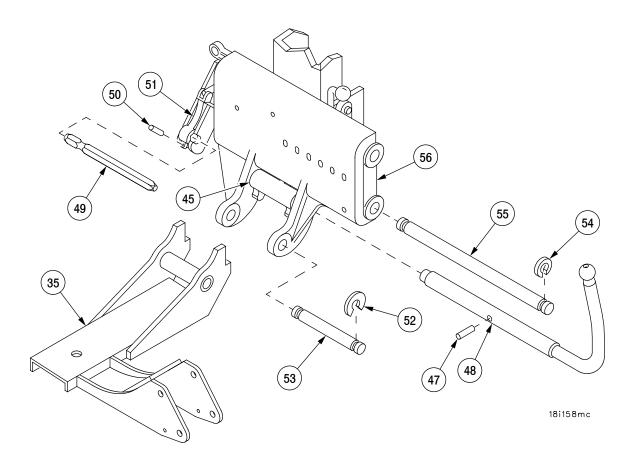
0461 00

Disassembly-Continued

- 15. Remove grooved headless pin (47) from lever (48). Discard grooved headless pin.
- 16. Support lever connector (45) and slide lever (48) off seat connector shaft (49).
- 17. Remove grooved headless pin (50) and seat connector shaft (49) from remote control lever (51). Discard grooved headless pin.



- 18. Remove two split washers (52) from pin (53). Discard split washers.
- 19. Support support assembly (35), remove pin (53) and support assembly (35).
- 20. Remove four retaining rings (54), two shafts (55) and housing (56). Discard retaining rings.



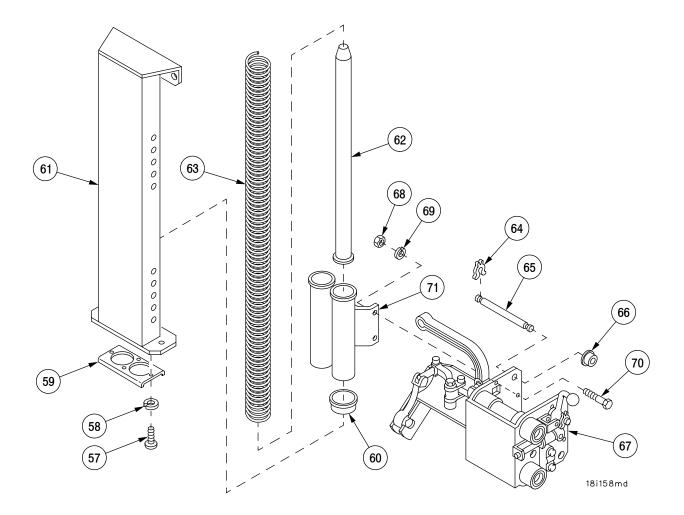
0461 00

Disassembly-Continued

CAUTION

Ensure seat is raised to maximum position to release spring tension to prevent injury to personnel.

- 21. Remove four screws (57), four lockwashers (58), retaining plate (59) and two retainers (60) from support (61). Discard lockwashers.
- 22. Pull two guides (62) from support (61) and remove two springs (63).
- 23. Remove four permanent depression washers (64), two pins (65) and four roller assemblies (66) from adjusting assembly (67). Discard permanent depression washers.
- 24. Remove four nuts (68), four lockwashers (69), four screws (70) and retainer assembly (71) from support (61). Discard lockwashers.



0461 00

Disassembly-Continued

NOTE

Bearings are staked in adjusting assembly. Staked surfaces must be removed using grinder or file before bearings can be removed.

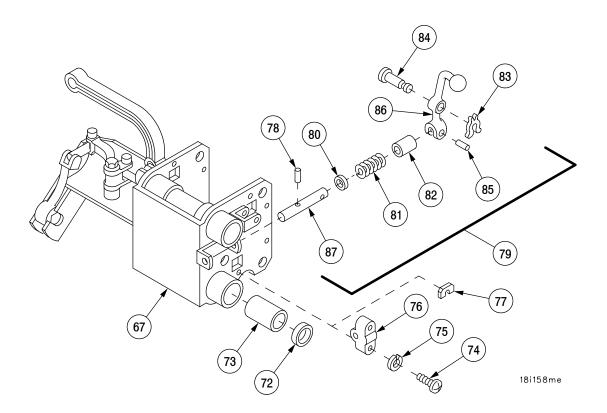
25. Remove four plain encased seals (72) and four bearings (73) from adjusting assembly (67). Discard plain encased seals.

NOTE

There are four side rollers mounted to adjuster assembly. The procedures are the same for all four side rollers.

Note the quantity and position of shim(s) being removed to ensure shim(s) are installed in the same position.

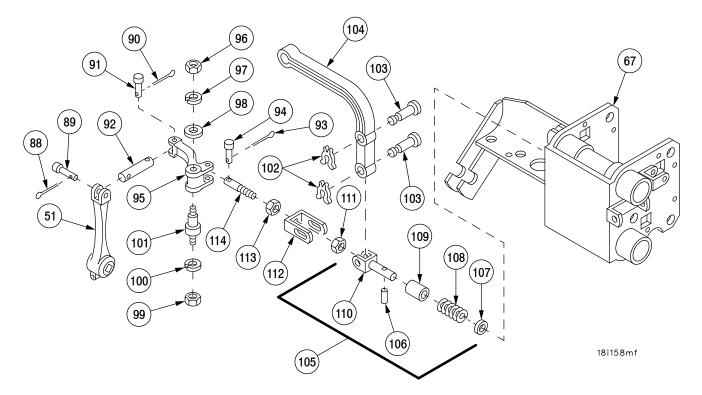
- 26. Remove two screws (74), two lockwashers (75), side roller (76) and shim(s) (77) from adjusting assembly (67). Discard lockwashers.
- 27. Remove headless grooved pin (78), lock-release lever assembly (79), flat washer (80), spring (81) and spacer (82) from adjusting assembly (63). Discard headless grooved pin.
- 28. Remove X-washer (83) and pin (84) from lock-release lever assembly (79). Discard X-washer.
- 29. Remove headless grooved pin (85) and lever (86) from shaft (87). Discard headless grooved pin.



0461 00

Disassembly-Continued

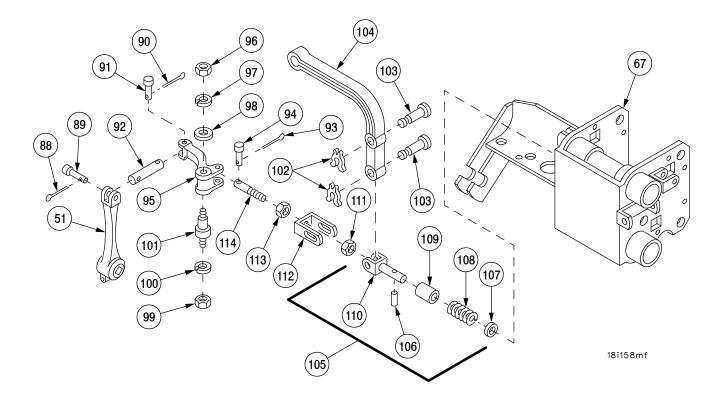
- 30. Remove cotter pin (88), pin (89) and remote control lever (51). Discard cotter pin.
- 31. Remove cotter pin (90), pin (91) and rod (92). Discard cotter pin.
- 32. Remove cotter pin (93) and pin (94) from bell crank (95). Discard cotter pin.
- 33. Remove nut (96), lockwasher (97), flat washer (98) and bell crank (95) from adjusting assembly (67). Discard lockwasher.
- 34. Remove nut (99), lockwasher (100) and shouldered stud (101) from adjusting assembly (67). Discard lockwasher.
- 35. Remove two X-washers (102), two pins (103), lever (104) and clevis assembly (105) from adjusting assembly (67). Discard X-washers.
- 36. Remove headless grooved pin (106), flat washer (107), spring (108) and spacer (109) from clevis end (110). Discard headless grooved pin.
- 37. Remove nut (111), clevis (112) and nut (113) from shaft (114).
- 38. Inspect parts for damage and replace as required.



0461 00

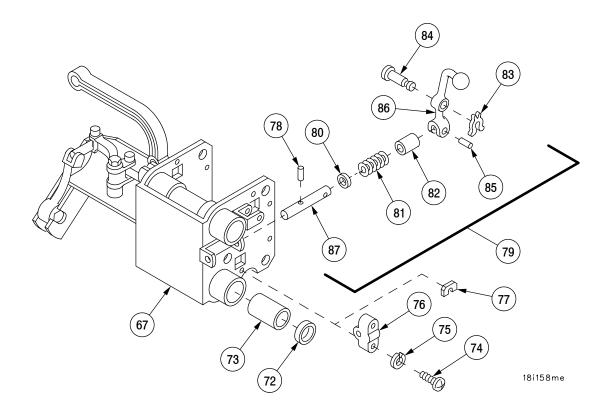
Assembly

- 1. Install nut (113), clevis (112) and nut (111) on shaft (114).
- Install spacer (109), spring (108), flat washer (107) and new headless grooved pin (106) on clevis end (110).
- 3. Install clevis assembly (105) and lever (104) with two pins (103) and two new X-washers (102) on adjusting assembly (67).
- 4. Install shouldered stud (101) with new lockwasher (100) and nut (99) on adjusting assembly (67).
- 5. Install bell crank (95) with flat washer (98), new lockwasher (97) and nut (96) on adjusting assembly (67).
- 6. Connect shaft (114) with pin (94) and new cotter pin (93).
- 7. Install rod (92) with pin (91) and new cotter pin (90).
- 8. Install remote control lever (51) with pin (89) and new cotter pin (88).



0461 00

- 9. Install lever (86) on shaft (87) with new headless grooved pin (85).
- 10. Install lock-release lever assembly (79) with pin (84) and new X-washer (83).
- 11. Install spacer (82), spring (81), flat washer (80), lock-release lever assembly (79) and new headless grooved pin (78) on adjusting assembly (67).
- 12. Install shim(s) (77) and side roller (76) with two screws (74) and two new lockwashers (75) on adjusting assembly (67).
- 13. Install four bearings (73) and four new plain encased seals (72) on adjusting assembly (67). Stake securely, three stakes equally spaced on both ends.



0461 00

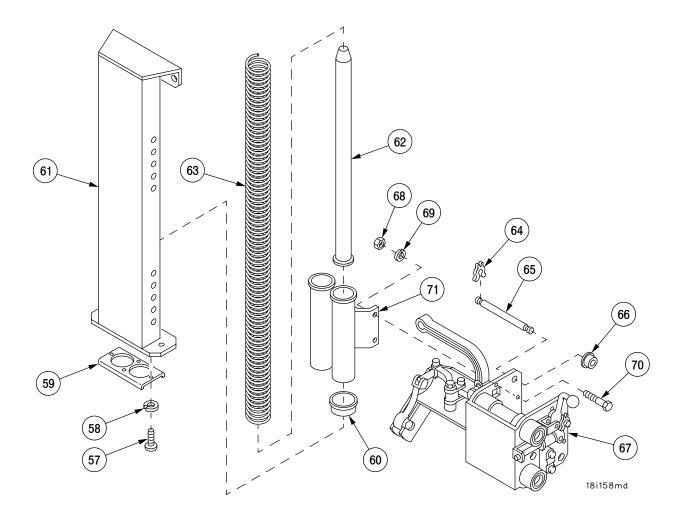
Assembly-Continued

- 14. Install retainer assembly (71) with four screws (70), four new lockwashers (69) and four nuts (68) on support (61).
- 15. Install four roller assemblies (66) and two pins (65) on adjusting assembly (67) with four new permanent depression washers (64).
- 16. Install two springs (63) in support (61), insert two guides (62).

CAUTION

Springs are compressed. Ensure seat is raised to maximum position to prevent injury to personnel.

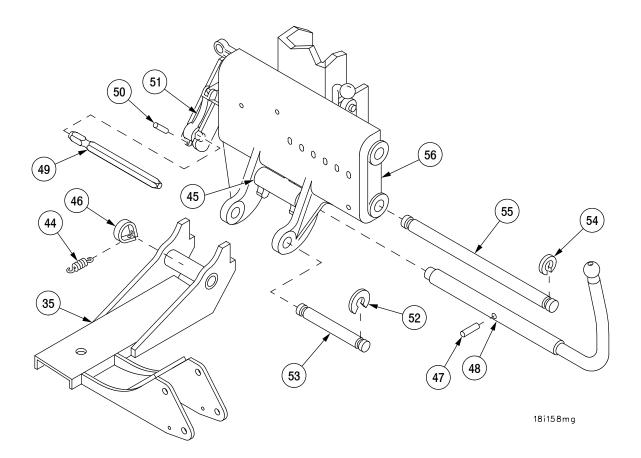
17. Position two retainers (60) and retaining plate (59) on springs (63), compress springs (63) and secure retaining plate (59) with four screws (57) and four new lockwashers (58).



0461 00

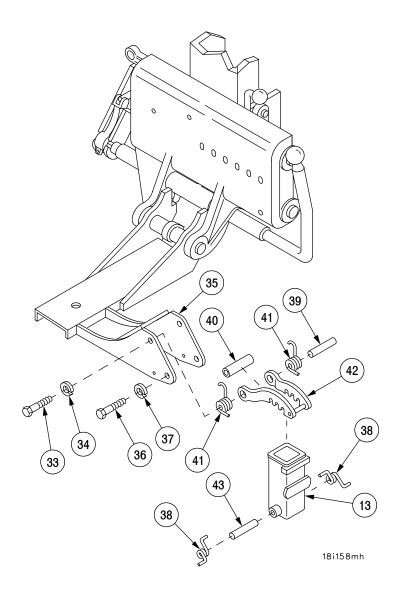


- 18. Install housing (56) with two shafts (55) and four new retaining rings (54).
- 19. Position support assembly (35) and install pin (53).
- 20. Install two new split washers (52) on pin (53).
- 21. Install seat connector shaft (49) in remote control lever (51) and install new pin (50).
- 22. Slide lever (48) through lever connector (45) on seat connector shaft (49), secure with new headless grooved pin (47).
- 23. Install spring clip (46) around support assembly (35).
- 24. Connect spring (44) to spring clip (46) and lever connector (45).



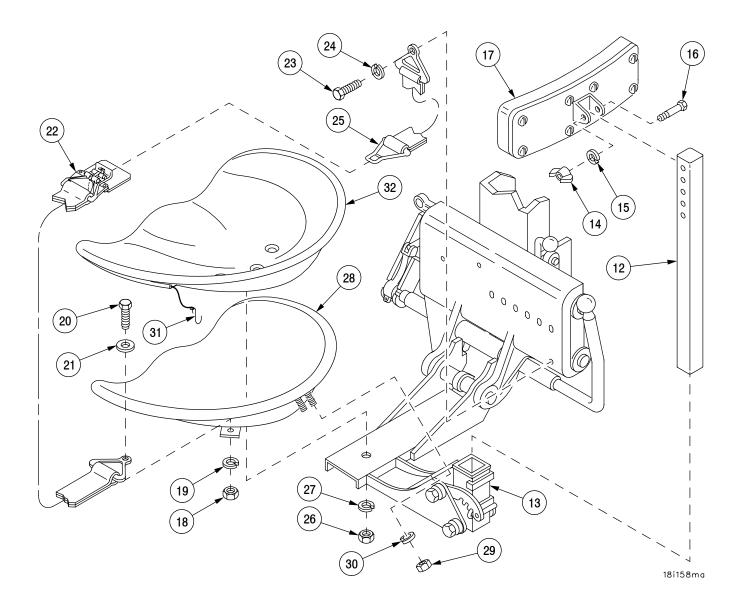
0461 00

- 25. Install rod (43) and two springs (38) in retainer (13).
- 26. Install adjuster (42) with two springs (41), spacer (40) and rod (39).
- 27. Snap ends of two springs (38) in holes in support assembly (35).
- 28. Install two screws (36) and two new lockwashers (37) in support assembly (35).
- 29. Install two screws (33) and two new lockwashers (34) in support assembly (35).



0461 00

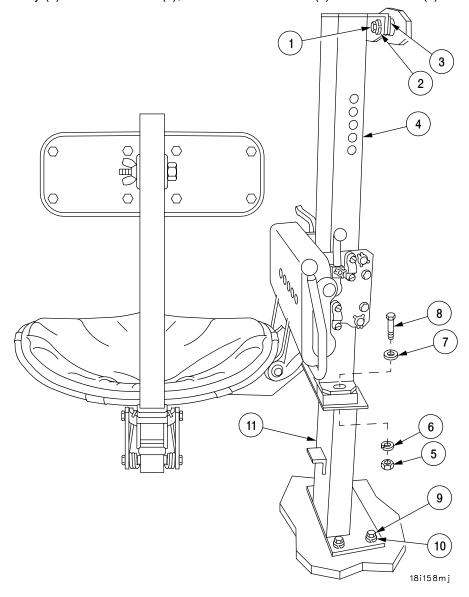
- 30. Install seat cushion (32) on seat (28) with two S-hooks (31).
- 31. Install seat (28) with two new lockwashers (30) and two nuts (29).
- 32. Secure seat (28) with new lockwasher (27) and nut (26).
- 33. Install seat belt (25) with screw (23) and new lockwasher (24).
- 34. Install seat belt (22) with screw (20), flat washer (21), new lockwasher (19) and nut (18).
- 35. Install backrest (17) with screw (16), new lockwasher (15) and wing nut (14).
- 36. Install support assembly (12) by pushing straight down into retainer (13).



0461 00

Installation

- 1. Install seat support (11) with four screws (9) and four new lockwashers (10).
- Install seat assembly (4) with two screws (8), two flat washers (7), two new lockwashers (6) and two nuts (5).
- 3. Secure seat assembly (4) with two screws (1), two new lockwashers (2) and two shims (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install hull drain valve brackets (WP 0452 00) Install subfloor plate (WP 0454 00)

DRIVER'S AND MECHANIC'S SEAT SHOULDER HARNESS REPLACEMENT

0462 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwasher (item 9, WP 0718 00)

NOTE

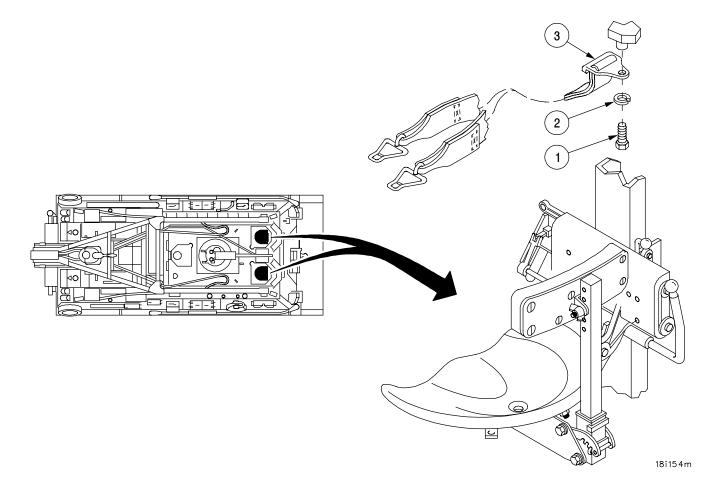
The procedures are the same for the driver's and mechanic's seat shoulder harness.

Removal

- 1. Remove screw (1), lockwasher (2) and shoulder harness (3). Discard lockwasher.
- 2. Inspect parts for damage and replace as required.

Installation

Install shoulder harness (3) with screw (1) and new lockwasher (2).



STORAGE RACK ASSEMBLY AND BRACKET REPLACEMENT

0463 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (12) (item 2, WP 0718 00)

Equipment Conditions

Webbing straps removed (WP 0470 00)

For storage rack only

Personnel Required

Two

NOTE

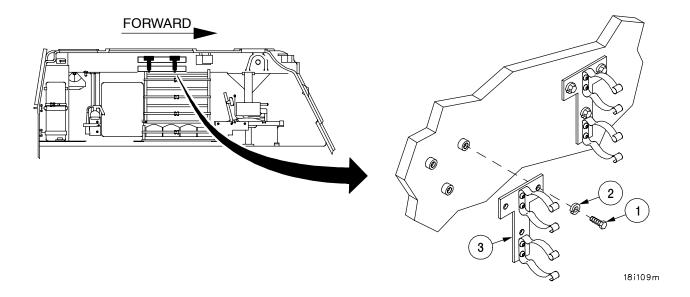
Perform Removal steps 1 and 4 and Installation step 3 for maintenance of bracket.

Perform Removal steps 2 through 4 and Installation steps 1 and 2 for maintenance of storage rack assembly.

There are two brackets. This task replaces only one bracket.

Removal

1. Remove three screws (1), three lockwashers (2) and bracket (3) from bulkhead. Discard lockwashers.



STORAGE RACK ASSEMBLY AND BRACKET REPLACEMENT - CONTINUED

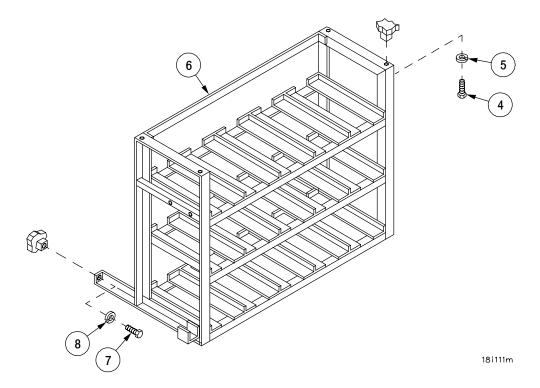
0463 00

Removal-Continued

- 2. Remove four screws (4) and four lockwashers (5) securing top of storage rack assembly (6) to bulkhead. Discard lockwasher.
- 3. Remove two screws (7), two lockwashers (8) and storage rack assembly (6) from bulkheaDiscard lockwashers.
- 4. Inspect parts for damage and replace as required.

Installation

- 1. Install storage rack assembly (6) on bulkhead with two screws (7) and two new lockwashers (8).
- 2. Secure top of storage rack assembly (6) to bulkhead with four screws (4) and four new lockwashers (5).

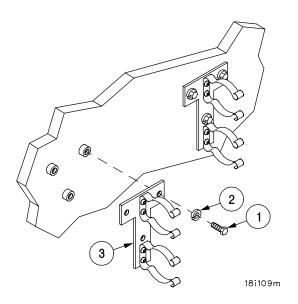


STORAGE RACK ASSEMBLY AND BRACKET REPLACEMENT - CONTINUED

0463 00

Installation-Continued

3. Install bracket (3) on vehicle hull with three screws (1) and three lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install webbing strap, if removed (WP 0470 00)

RETAINING STRAPS ASSEMBLY, ACETYLENE COMPARTMENT DOOR HARDWARE AND ASSOCIATED PARTS REPAIR

0464 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (16) (item 2, WP 0718 00)

Lockwashers (4) (item 62, WP 0718 00)

Rubber strips (2) item 117, WP 0718 00

Rubber strips (2) (item 118, WP 0718 00)

Cotter pins (2) (item 5, WP 0718 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Rubber based adhesive (item 15, WP 0716 00)

Equipment Conditions

Acetylene tank removed (TM 9-2350-292-10) Webbing straps removed (WP 0470 00)

References

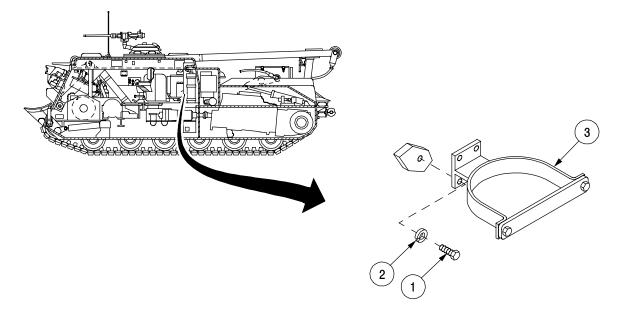
TM 9-2350-292-10

NOTE

There are two retaining strap assemblies. This task replaces and disassembles/assembles only one retaining strap assembly.

Removal

1. Remove four screws (1), four lockwashers (2) and retaining strap assembly (3) from bulkheaDiscard lockwashers.



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RETAINING STRAPS ASSEMBLY, ACETYLENE COMPARTMENT DOOR HARDWARE AND ASSOCIATED PARTS REPAIR - CONTINUED

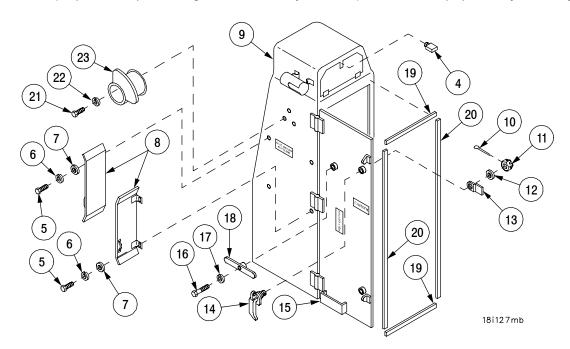
0464 00

Removal-Continued

- 2. Remove thumbscrew (4).
- 3. Remove four screws (5), four lockwashers (6), four flat washers (7) and two hose retainers (8) from side of acety-lene compartment (9). Discard lockwashers.
- 4. Remove two cotter pins (10), two nuts (11), two flat washers (12), two latches (13) and two handles (14) from acetylene compartment door (15). Discard cotter pin.
- 5. Remove screw (16), lockwasher (17) and bolt cutter clamp (18) from acetylene compartment door (15). Discard lockwasher.
- 6. Remove two rubber strips (19) and two rubber strips (20) from acetylene compartment door (15), if damage. Discard rubber strips.
- 7. Remove three screws (21), three lockwashers (22) and hose rack (23) from side of acetylene compartment (9). Discard lockwashers.



8. Clean rubber strips (19 and 20) mounting surface on acetylene compartment door (15) with dry-cleaning solvent.



RETAINING STRAPS ASSEMBLY, ACETYLENE COMPARTMENT DOOR HARDWARE AND ASSOCIATED PARTS REPAIR - CONTINUED

0464 00

Disassembly

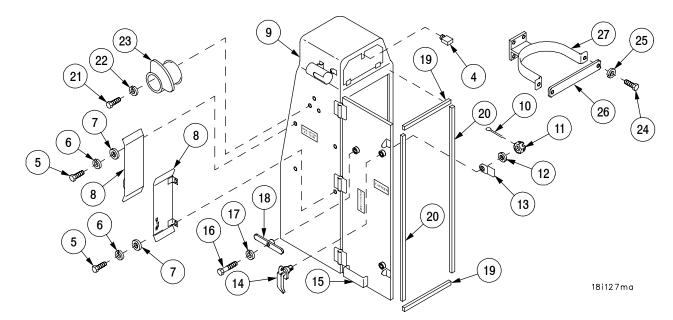
- 1. Remove two screws (24), two lockwashers (25) and plate (26) from bracket (27). Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Assembly

Install plate (26) on bracket (27) with two screws (24) and two new lockwashers (25). Do not tighten screws.

Installation

- 1. Install hose rack (23) on side of acetylene compartment (9) with three screws (21) and three new lockwashers (22).
- 2. Apply rubber based adhesive to two new rubber strips (19) and two new rubber strips (20), if removed.
- 3. Install two new rubber strips (19) and two new rubber strips (20) on acetylene compartment door (15), if removed.
- 4. Install bolt cutter clamp (18) on acetylene compartment door (15) with screw (16) and new lockwasher (17).
- 5. Install two handles (14) and two latches (13) on acetylene compartment door (15) with two flat washers (12), two nuts (11) and two new cotter pins (10).
- 6. Install two hose retainers (8) on side of acetylene compartment (9) with four screws (5), four new lockwashers (6) and four flat washers (7).
- 7. Install thumbscrew (4).

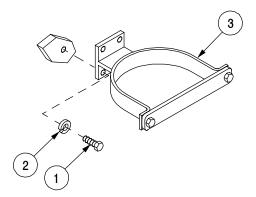


RETAINING STRAPS ASSEMBLY, ACETYLENE COMPARTMENT DOOR HARDWARE AND ASSOCIATED PARTS REPAIR - CONTINUED

0464 00

Installation-Continued

8. Install retaining strap assembly (3) on bulkhead with four screws (1) and four new lockwashers (2).



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NOTE

FOLLOW-ON MAINTENANCE:

Install webbing straps (WP 0470 00)
Install acetylene tank (TM 9-2350-292-10)

END OF TASK

INTERIOR STOWAGE BASKETS AND SUPPORTS REPLACEMENT

0465 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (6) (item 12, WP 0718 00)

Equipment Conditions

Subfloor plates #16, #17, #18, #20, #21 and #22 removed (WP 0454 00)
For stowage basket supports only

NOTE

Subfloor plates must be opened to access interior stowage baskets. No tools are required to open hinged subfloor plates.

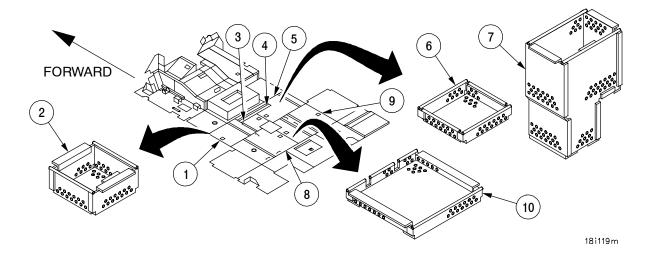
Stowage baskets must be removed prior to replacing interior stowage basket supports.

All interior stowage baskets are replaced in the same manner.

There are two sets of interior stowage basket supports. This task replaces only one of each set.

Removal

- Open floor plate (1), remove stowage basket (2).
- 2. Open floor plates (3, 4 and 5), remove stowage baskets (6 and 7).
- 3. Open floor plates (8 and 9), remove stowage basket (10).



INTERIOR STOWAGE BASKETS AND SUPPORTS REPLACEMENT - CONTINUED

0465 00

Removal-Continued

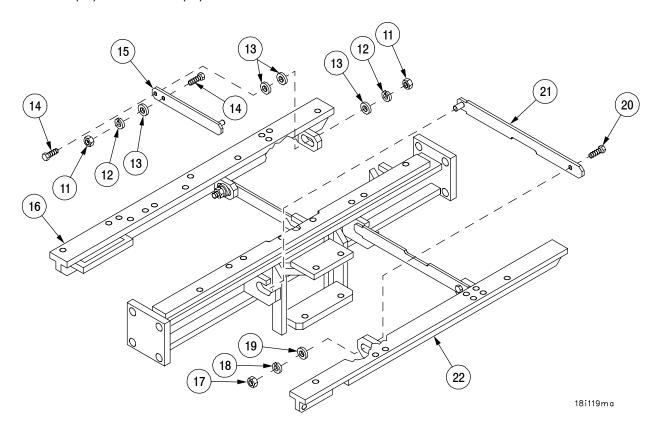
NOTE

Note quantity and position of flat washer(s) being removed to ensure flat washer(s) are installed in the same position.

- 4. Remove two nuts (11), two lockwashers (12), flat washers (13) and two screws (14) from interior basket support (15). Discard lockwashers.
- 5. Remove interior basket support (15) from floor support (16).
- 6. Remove nut (17), lockwasher (18), flat washer (19) and screw (20) from interior basket support (21). Discard lockwasher.
- 7. Remove interior basket support (21) from floor support (22).
- 8. Inspect parts for damage and replace as required.

Installation

- 1. Install interior stowage basket support (21) on floor support (22) with screw (20), flat washer (19), new lockwasher (18) and nut (17).
- 2. Install interior stowage basket support (15) on floor support (16) with two screws (14), flat washers (13), two new lockwashers (12) and two nuts (11).

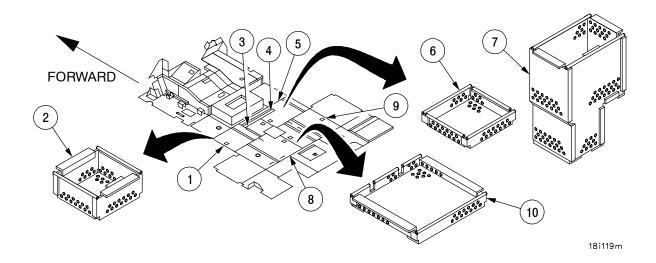


INTERIOR STOWAGE BASKETS AND SUPPORTS REPLACEMENT - CONTINUED

0465 00

Installation-Continued

- 3. Install interior stowage basket (10), close floor plates (8 and 9).
- 4. Install interior stowage baskets (6 and 7), close floor plates (3, 4 and 5).
- 5. Install interior stowage basket (2), close floor plate (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #16, #17, #18, #20, #21 and #22, if removed (WP 0454 00)

Equipment Conditions

Webbing strap removed (WP 0470 00)

LIQUID CONTAINER BRACKET ASSEMBLIES REPLACEMENT

0466 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Lockwashers (4) (item 2, WP 0718 00)

Materials/Parts

Removal

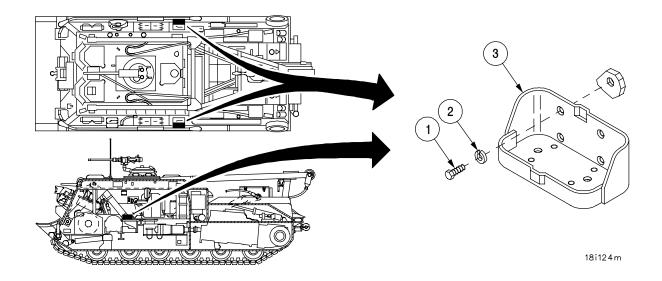
NOTE

There are four liquid container bracket assemblies. All liquid container bracket assemblies are replaced in the same manner. This task replaces only one bracket as-

- Remove four screws (1), four lockwashers (2) and bracket assembly (3) from vehicle hull. Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install bracket assembly (3) on vehicle hull with four screws (1) and four new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install webbing strap (WP 0470 00)

END OF TASK

HAND GRENADE BOXES REPLACEMENT

0467 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 2, WP 0718 00)

NOTE

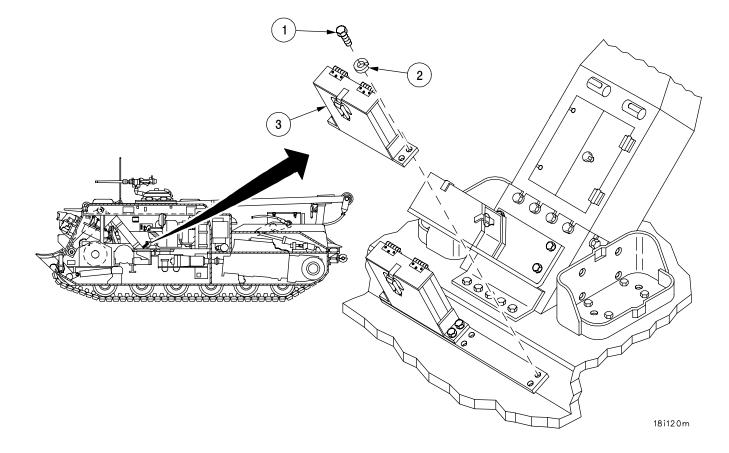
There are two hand grenade boxes. This task replaces only one.

Removal

- 1. Remove four screws (1), four lockwashers (2) and hand grenade box (3) from vehicle floor. Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install hand grenade box (3) on vehicle floor with four screws (1) and four new lockwashers (2).



PASSIVE NIGHT VIEWER STOWAGE BOX ASSEMBLY AND MOUNTING BRACKET REPLACEMENT

0468 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 2, WP 0718 00)

Equipment Conditions

Passive night viewer removed (TM 9-2350-292-10)

References

TM 9-2350-292-10

Removal

1. Remove four screws (1), four lockwashers (2) and passive night viewer stowage box assembly (3) from mounting bracket (4). Discard lockwashers.

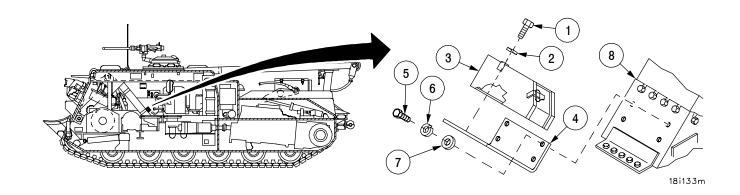
NOTE

Note position of flat washers being removed to ensure flat washers are installed in the same position.

- 2. Remove four screws (5), four lockwashers (6), four flat washers (7) and mounting bracket (4) from hoist winch cable chute (8). Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Install mounting bracket (4) on hoist winch cable chute (8) with four screws (5), four new lockwashers (6) and four flat washers (7).
- 2. Install passive night viewer stowage box assembly (3) on mounting bracket (4) with four screws (1) and four new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install passive night viewer (TM 9-2350-292-10)

END OF TASK

BINOCULARS WEBBING STRAPS REPLACEMENT

0469 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Hand riveter (item 66, WP 0717 00)

Materials/Parts

Rivets (2) (item 309, WP 0718 00) Flat washers (2) (item 310, WP 0718 00)

Equipment Conditions

Binoculars removed (TM 9-2350-292-10)

References

TM 9-2350-292-10

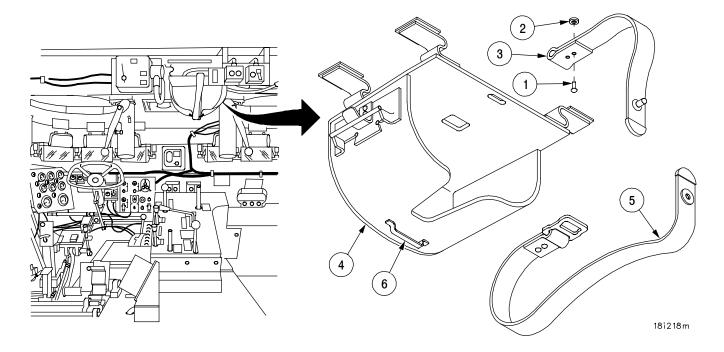
NOTE

Perform Removal step 1 and Installation step 2 for maintenance of fixed strap.

Perform Removal step 2 and Installation step 1 for maintenance of removable strap.

Removal

- 1. Remove two rivets (1), two flat washers (2) and fixed webbing strap (3) from binoculars bracket (4). Discard rivets and flat washers.
- 2. Unbuckle removable webbing strap (5), slide end of removable webbing strap (5) from retainer (6) on binoculars bracket (4).
- 3. Inspect parts for damage and replace as required.

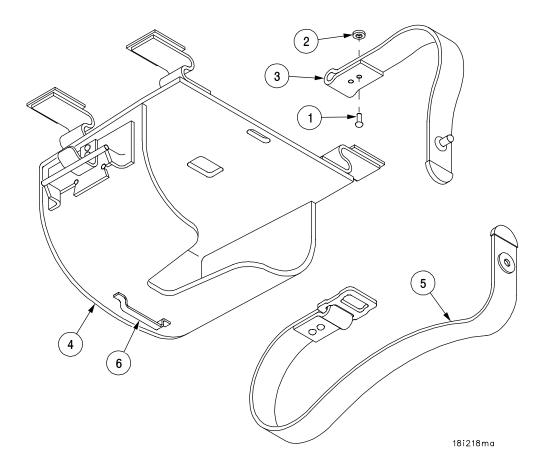


BINOCULARS WEBBING STRAPS REPLACEMENT - CONTINUED

0469 00

Installation

- 1. Thread removable webbing strap (5) though retainer (6) on binoculars bracket (4), tighten removable webbing strap (5).
- 2. Install fixed webbing strap (3) on binoculars bracket (4) with two new flat washers (2) and two new rivets (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install binoculars (TM 9-2350-292-10)

END OF TASK

STRAPS (INTERIOR) REPLACEMENT

0470 00

THIS WORK PACKAGE COVERS:

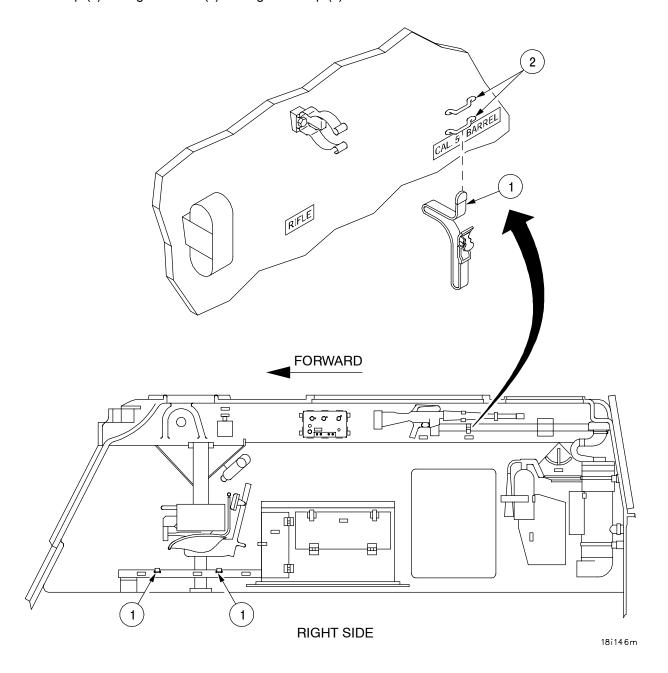
Removal, Installation

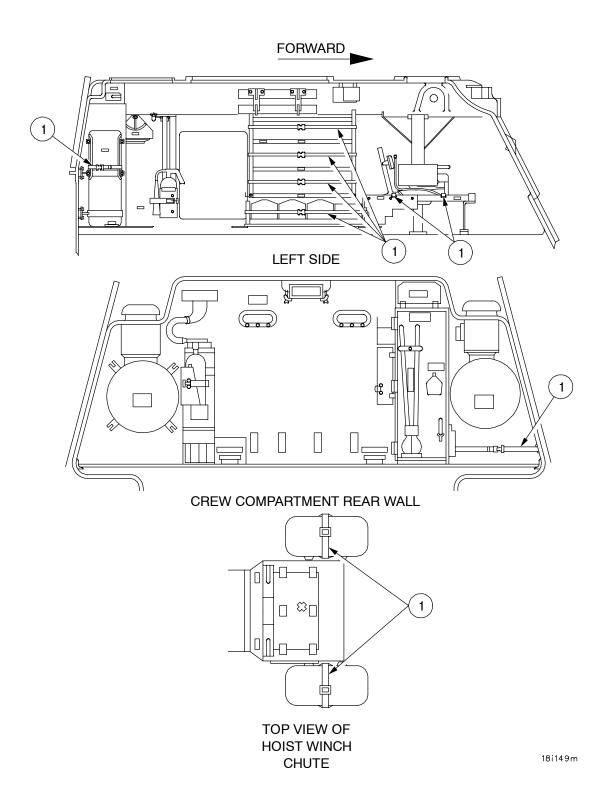
Removal

- 1. Unbuckle strap (1) and slide end of strap (1) from retainer (2).
- 2. Inspect parts for damage and replace as required.

Installation

Thread strap (1) through retainer (2) and tighten strap (1).





STRAPS (EXTERIOR) REPLACEMENT

0471 00

THIS WORK PACKAGE COVERS:

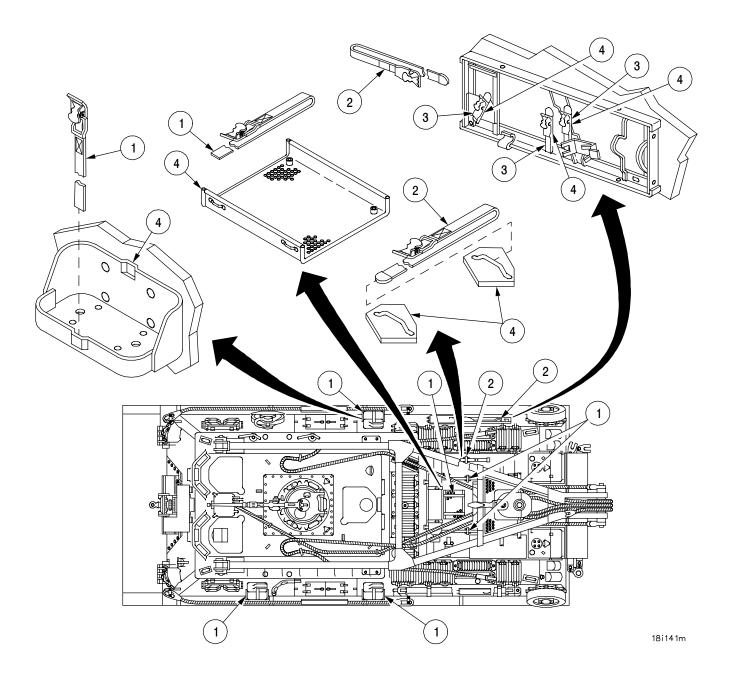
Removal, Installation

Removal

- 1. Unbuckle strap (1, 2 or 3) and slide end of strap (1, 2 or 3) from retainer (4).
- 2. Inspect parts for damage and replace as required.

Installation

Thread end of strap (1, 2 or 3) through retainer (4) and tighten strap (1, 2 or 3).



PORTABLE FIRE EXTINGUISHER BRACKETS AND RIGHT SIDE GAS PARTICULATE FILTER BRACKET SUPPORT REPLACEMENT

0472 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (10) (item 2, WP 0718 00)

Equipment Conditions

Portable fire extinguisher removed (TM 9-2350-292-10)
Right side gas particulate filter and frame removed (WP 0706 00)
For right bracket support only

References

TM 9-2350-292-10

NOTE

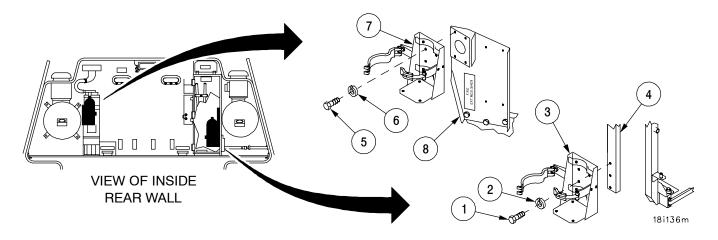
Perform Removal steps 1 and 4 and Installation step 3 for maintenance of left side fire extinguisher bracket.

Perform Removal steps 2 and 4 and Installation step 2 for maintenance of right side fire extinguisher bracket.

Perform Removal steps 2 through 4 and Installation steps 1 and 2 for maintenance of right side gas particulate filter bracket support.

Removal

- 1. Remove three screws (1), three lockwashers (2) and left side fire extinguisher bracket (3) from support assembly (4). Discard lockwashers.
- 2. Remove four screws (5), four lockwashers (6) and right side portable fire extinguisher bracket (7) from gas particulate filter bracket support (8). Discard lockwashers.



PORTABLE FIRE EXTINGUISHER BRACKETS AND RIGHT SIDE GAS PARTICULATE FILTER BRACKET SUPPORT REPLACEMENT - CONTINUED

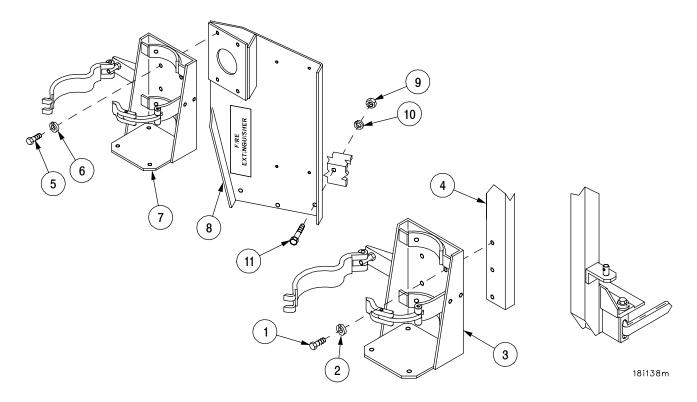
0472 00

Removal-Continued

- 3. Remove three nuts (9), three lockwashers (10), three screws (11) and gas particulate filter bracket support (8) from bulkhead. Discard lockwashers.
- 4. Inspect parts for damage and replace as required.

Installation

- 1. Install gas particulate filter bracket support (8) on bulkhead with three screws (11), three new lockwashers (10) and three nuts (9).
- 2. Install right side portable fire extinguisher bracket (7) on gas particulate filter bracket support (8) with four screws (5) and four new lockwashers (6).
- 3. Install left side portable fire extinguisher bracket (3) on support assembly (4) with three screws (1) and three new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install portable fire extinguisher (TM 9-2350-292-10) Install right side gas particulate filter and frame (WP 0706 00)

LEFT SIDE GAS PARTICULATE FILTER AND FIRE EXTINGUISHER BRACKET SUPPORT REPLACEMENT

0473 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Cotter pins (2) (item 126, WP 0718 00) Lockwashers (3) (item 2, WP 0718 00)

Equipment Conditions

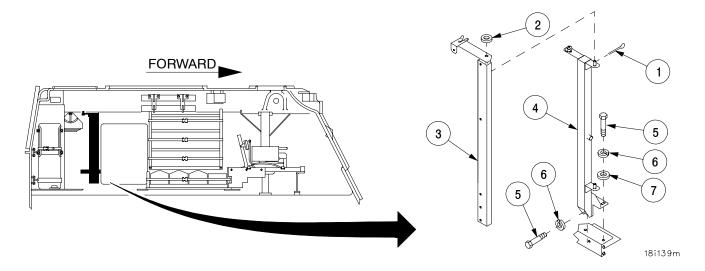
Portable fire extinguisher bracket removed (WP 0472 00)
Gas particulate filter and frame removed (WP 0706 00)

Removal

- 1. Remove two cotter pins (1), two flat washers (2) and mounting bracket (3) from mounting bracket (4). Discard cotter pins.
- 2. Remove three screws (5), three lockwashers (6), two flat washers (7) and mounting bracket (4) from vehicle hull. Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Install mounting bracket (4) on vehicle hull with three screws (5), three new lockwashers (6) and two flat washers (7).
- Install mounting bracket (3) on mounting bracket (4) with two flat washers (2) and two new cotter pins (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install gas particulate filter and frame (WP 0706 00) Install portable fire extinguisher bracket (WP 0472 00)

LIQUID CONTAINER BRACKET REPLACEMENT

0474 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

Webbing strap removed (WP 0471 00)

Materials/Parts

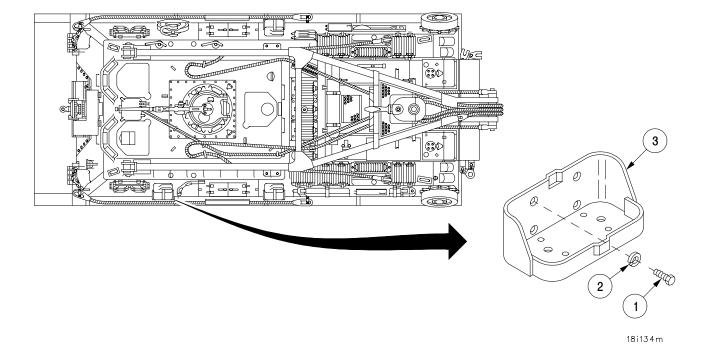
Lockwashers (4) (item 2, WP 0718 00)

Removal

- 1. Remove four screws (1), four lockwashers (2) and liquid container bracket (3) from vehicle. Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install liquid container bracket (3) on vehicle with four screws (1) and four new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install webbing strap (WP 0471 00)

TOOL BOX ASSEMBLY REPLACEMENT

0475 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (6) (item 2, WP 0718 00)

Personnel Required

Two

References

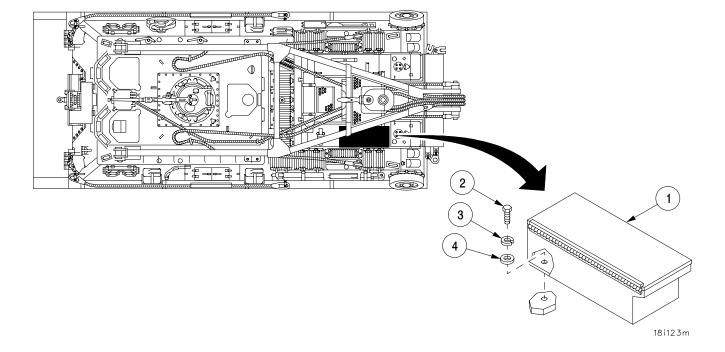
TM 9-2350-292-10

Removal

- 1. Open tool box assembly (1) (TM 9-2350-292-10).
- 2. Remove six screws (2), six lockwashers (3), six flat washers (4) and tool box assembly (1) from vehicle. Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Install tool box assembly (1) on vehicle with six screws (2), six new lockwashers (3) and six flat washers (4).
- 2. Close tool box assembly (1) (TM 9-2350-292-10).



SIDE TOW BAR BRACKET ASSEMBLY REPAIR

0476 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (10) (item 12, WP 0718 00) Cotter pins (2) (item 128, WP 0718 00) Cotter pins (2) (item 5, WP 0718 00)

Equipment Conditions

Tow bar removed (TM 9-2350-292-10)

References

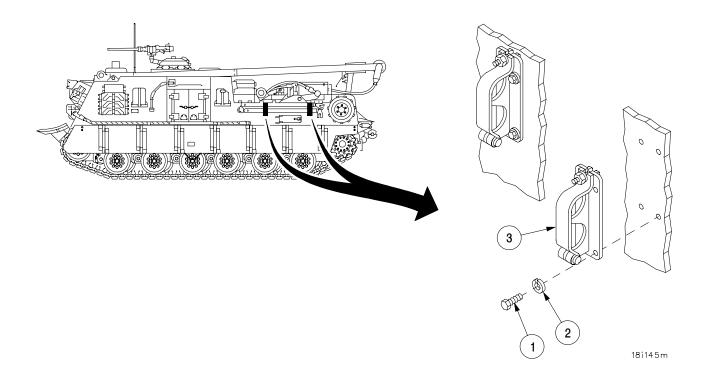
TM 9-2350-292-10

NOTE

There are two side tow bar bracket assemblies. This task replaces and disassembles/assembles only one side tow bar bracket assembly.

Removal

Remove four screws (1), four lockwashers (2) and side tow bar bracket assembly (3). Discard lockwashers.



SIDE TOW BAR BRACKET ASSEMBLY REPAIR - CONTINUED

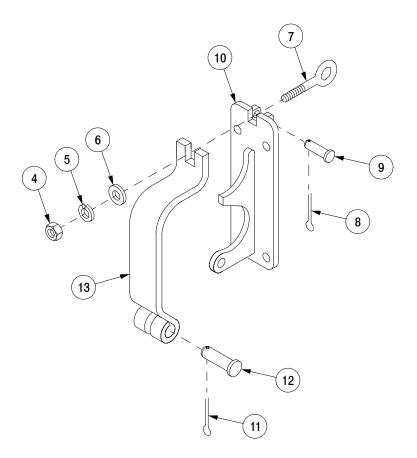
0476 00

Disassembly

- 1. Remove nut (4), lockwasher (5) and flat washer (6) from eyebolt (7). Discard lockwasher.
- 2. Remove cotter pin (8), straight headed pin (9) and eyebolt (7) from bracket (10). Discard cotter pin.
- 3. Remove cotter pin (11), straight headed pin (12) and clamp (13) from bracket (10). Discard cotter pin.
- 4. Inspect parts for damage and replace as required.

Assembly

- 1. Install clamp (13) on bracket (10) with straight headed pin (12) and new cotter pin (11).
- 2. Install eyebolt (7) on bracket (10) with straight headed pin (9) and new cotter pin (8).
- 3. Install flat washer (6), new lockwasher (5) and nut (4) on eyebolt (7).



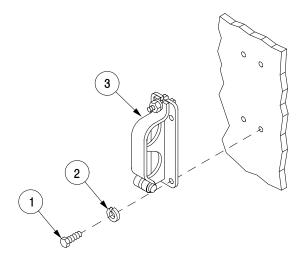
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SIDE TOW BAR BRACKET ASSEMBLY REPAIR - CONTINUED

0476 00

Installation

Install side tow bar bracket assembly (3) with four screws (1) and four new lockwashers (2).



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NOTE

FOLLOW-ON MAINTENANCE: Install tow bar (TM 9-2350-292-10)

TARPAULIN STOWAGE TRAY REPLACEMENT

0477 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 9, WP 0718 00)

Equipment Conditions

Tarpaulin removed (TM 9-2350-292-10) Webbing straps removed (WP 0471 00)

References

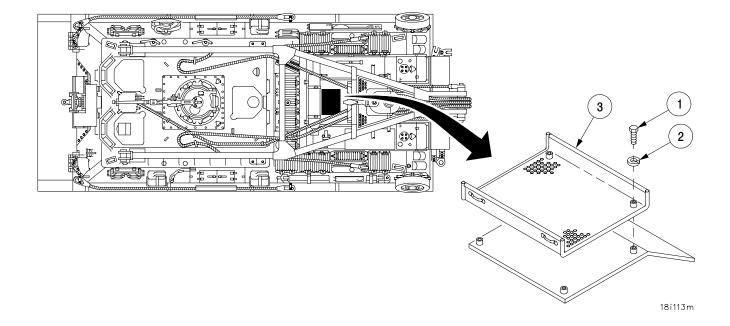
TM 9-2350-292-10

Removal

- 1. Remove four screws (1), four lockwashers (2) and tarpaulin stowage tray (3) from vehicle. Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install tarpaulin stowage tray (3) on vehicle with four screws (1) and four new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install webbing straps (WP 0471 00) Install tarpaulin (TM 9-2350-292-10)

AMMUNITION STOWAGE BOX ASSEMBLY, ODDMENT TRAY SHELF AND SUPPORT REPLACEMENT

0478 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (10) (item 2, WP 0718 00) Lockwashers (6) (item 137, WP 0718 00) Rubber based adhesive (item 15, WP 0716 00) Dry-cleaning solvent (item 1, WP 0716 00)

Equipment Conditions

Communication equipment removed (TM 11-5820-890-20)
Commander's seat removed (WP 0457 00)
Webbing straps removed (WP 0470 00)

Personnel Required

Two

References

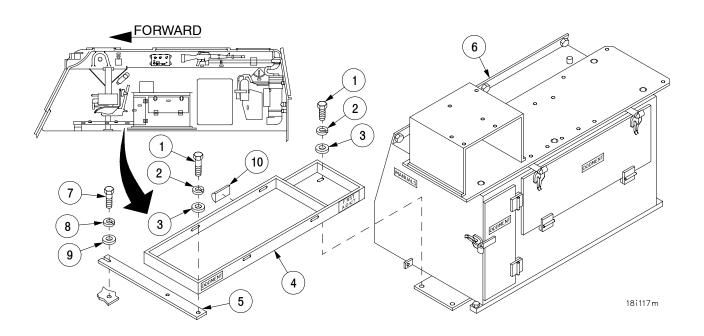
TM 11-5820-890-20

Removal

- 1. Remove four screws (1), four lockwashers (2), four flat washers (3) and oddment tray (4) from support (5) and box assembly (6). Discard lockwashers.
- 2. Remove screw (7), lockwasher (8), flat washer (9) and support (5) from vehicle hull. Discard lockwasher.
- 3. Remove three rubber pads (10) from oddment tray (4), if damaged.



4. Use dry-cleaning solvent to remove adhesive from oddment tray (4).



AMMUNITION STOWAGE BOX ASSEMBLY, ODDMENT TRAY SHELF AND SUPPORT REPLACEMENT - CONTINUED

0478 00

Removal-Continued

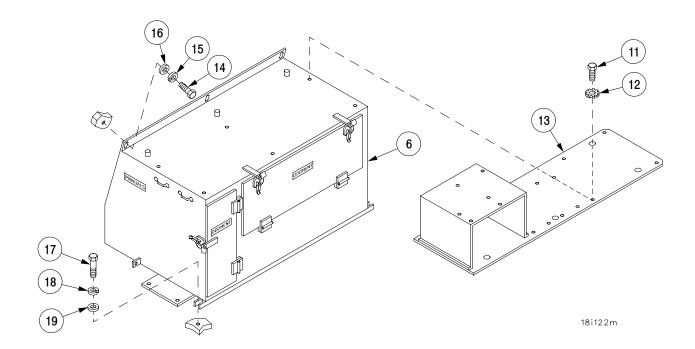
- 5. Remove six screws (11), six lockwashers (12) and shelf (13) from box assembly (6). Discard lockwashers.
- 6. Remove three screws (14), three lockwashers (15) and three flat washers (16) securing box assembly (6) to bulk-head. Discard lockwashers.
- 7. Remove two screws (17), two lockwashers (18), two flat washers (19) and box assembly (6) from vehicle floor. Discard lockwashers.
- 8. Inspect parts for damage and replace as required.

Installation

NOTE

To remove box assembly from, or insert into vehicle, turn box assembly on its face or back and slide box assembly through personnel door.

- 1. Install box assembly (6) on vehicle floor with two screws (17), two new lockwashers (18) and two flat washers (19).
- 2. Secure box assembly (6) to bulkhead with three screws (14), three new lockwashers (15) and three flat washers (16).
- 3. Install shelf (13) on box assembly (6) with six screws (11) and six new lockwashers (12).

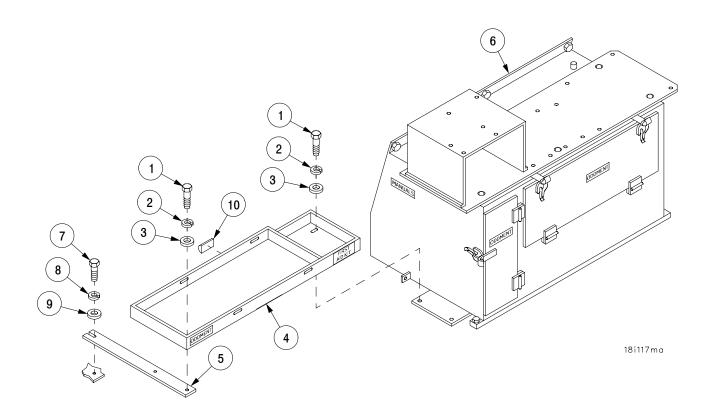


AMMUNITION STOWAGE BOX ASSEMBLY, ODDMENT TRAY SHELF AND SUPPORT REPLACEMENT - CONTINUED

0478 00

Installation-Continued

- 4. Apply rubber based adhesive to three rubber pads (10) if removeInstall on oddment tray (4).
- 5. Install support (5) on vehicle hull with screw (7), new lockwasher (8) and flat washer (9).
- 6. Install oddment tray (4) on support (5) and box assembly (6) with four screws (1), four new lockwashers (2) and four flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install webbing straps (WP 0470 00)
Install commander's seat (WP 0457 00)
Install communication equipment (TM 11-5820-890-20)

FLASHER LAMP CASE REPLACEMENT

0479 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 9, WP 0718 00)

Equipment Conditions

Commander's seat back removed (WP 0457 00) For removal of clamps only

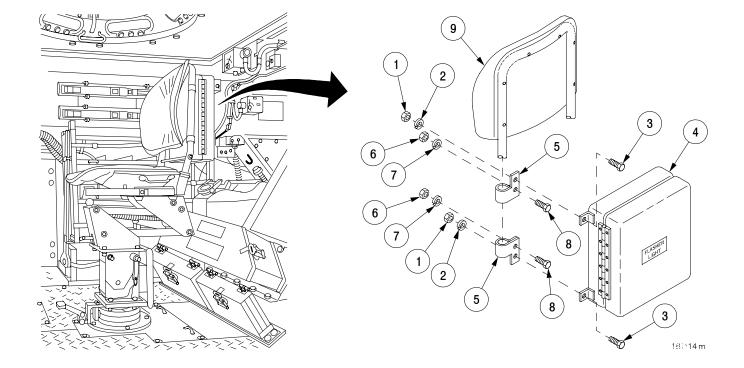
Removal

1. Remove four nuts (1), four lockwashers (2), four screws (3) and flasher lamp case (4) from four clamps (5). Discard lockwashers.

NOTE

Note position of clamps being removed to ensure clamps are returned to same position during installation.

- 2. Remove four nuts (6), four lockwashers (7), four screws (8) and four clamps (5) from seat (9). Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

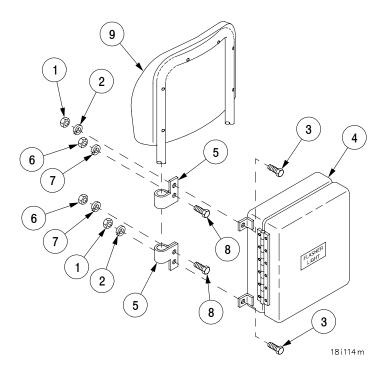


FLASHER LAMP CASE REPLACEMENT - CONTINUED

0479 00

Installation

- 1. Install four clamps (5) on seat (9) with four screws (8), four new lockwashers (7) and four nuts (6).
- 2. Install flasher lamp case (4) on four clamps (5) with four screws (3), four new lockwashers (2) and four nuts (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install commander's seat back, if removed (WP 0457 00)

VEHICULAR TOOL BOX RACK, ODDMENT TRAY ASSEMBLY AND BRACKET REPLACEMENT

0480 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Condition

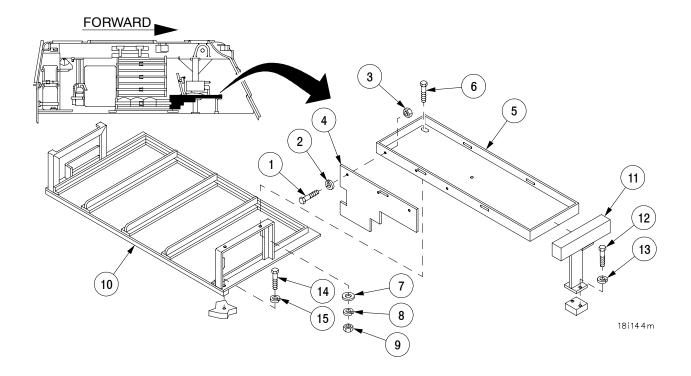
Webbing straps removed (WP 0470 00)

Materials/Parts

Lockwashers (6) (item 2, WP 0718 00) Lockwashers (3) (item 115, WP 0718 00)

Removal

- 1. Remove three screws (1), three lockwashers (2), three nuts (3) and plate (4) from tray (5). Discard lockwashers.
- 2. Remove two screws (6), two flat washers (7), two lockwashers (8) and two nuts (9) from tray (5) and tool box rack (10). Discard lockwashers.
- 3. Remove tray (5) from bracket (11) and tool box rack (10).
- 4. Remove two screws (12), two lockwashers (13) and bracket (11). Discard lockwashers.
- 5. Remove two screws (14), two lockwashers (15) and tool box rack (10) from vehicle hull. Discard lockwashers.
- 6. Inspect parts for damage and replace as required.

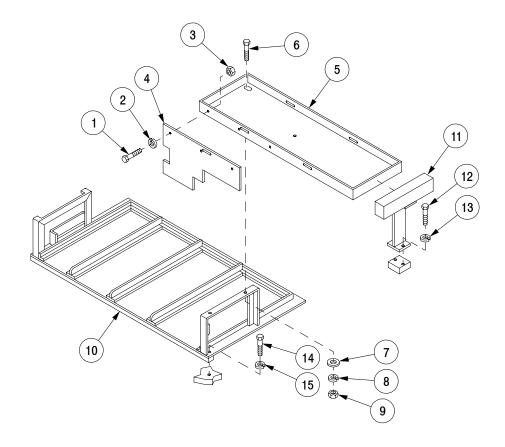


VEHICULAR TOOL BOX RACK, ODDMENT TRAY ASSEMBLY AND BRACKET REPLACEMENT - CONTINUED

0480 00

Installation

- 1. Install tool box rack (10) on vehicle hull with two screws (14) and two new lockwashers (15).
- 2. Install bracket (11) with two screws (12) and two new lockwashers (13).
- 3. Install tray (5) in bracket (11).
- 4. Secure tray (5) to tool box rack (10) with two screws (6), two flat washers (7), two new lockwashers (8) and two nuts (9).
- 5. Install plate (4) on tray (5) with three screws (1), three new lockwashers (2) and three nuts (3).



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NOTE

FOLLOW-ON MAINTENANCE:

Install webbing straps (WP 0470 00)

CEILING AND BULKHEAD RIFLE CLIPS REPLACEMENT

0481 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

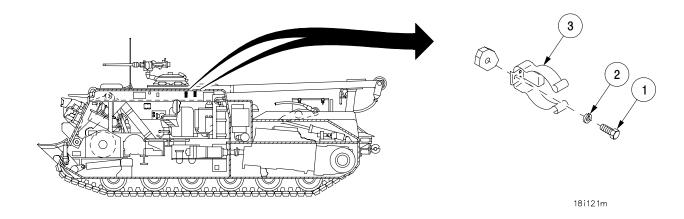
Lockwasher (item 9, WP 0718 00) Lockwasher (item 10, WP 0718 00)

Removal

- 1. Remove two screws (1), two lockwashers (2) and two rifle clips (3). Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install two rifle clips (3) with two screws (1) and two new lockwashers (2).



PIONEER TOOL SET BRACKET ASSEMBLY REPLACEMENT

0482 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 2, WP 0718 00)

Equipment Conditions

Pioneer tool set removed (TM 9-2350-292-10) Webbing straps removed (WP 0471 00)

References

TM 9-2350-292-10

Removal

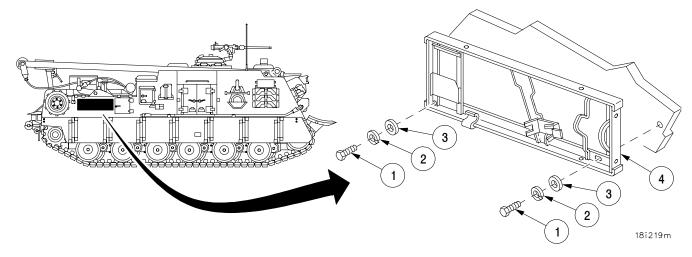
NOTE

Note position of flat washers being removeFlat washers must be returned to same position during installation.

- 1. Remove four screws (1), four lockwashers (2), four flat washers (3) and pioneer tool set bracket assembly (4) from vehicle. Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install pioneer tool set bracket assembly (4) on vehicle with four screws (1), four new lockwashers (2) and four flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install webbing straps (WP 0471 00) Install pioneer tool set (TM 9-2350-292-10)

VISE AND VISE ADAPTER REPLACEMENT

0483 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (7) (item 12, WP 0718 00)

NOTE

Vise adapter is only used when a vise with three mounting holes is provided with the vehicle.

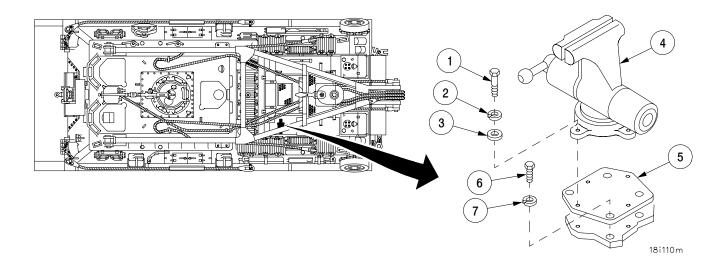
Four screws, four lockwashers and four flat washers are used with the four mounting hole vise.

Removal

- 1. Remove three screws (1), three lockwashers (2), three flat washers (3) and vise (4) from vise adapter (5). Discard lockwashers.
- 2. Remove four screws (6), four lockwashers (7) and vise adapter (5) from vehicle. Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Install vise adapter (5) on vehicle with four screws (6) and four new lockwashers (7).
- 2. Install vise (4) on vise adapter (5) with three screws (1), three new lockwashers (2) and three flat washers (3).



SPARE TRACKS STOWAGE CLAMPS REPLACEMENT

0484 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (12) (item 12, WP 0718 00)

NOTE

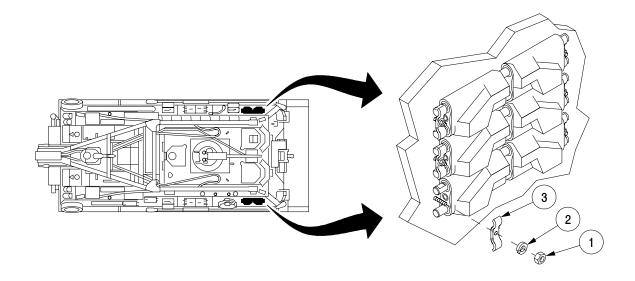
There are twelve spare track clamps. All spare track clamps are replaced in the same manner. This task replaces only one spare track clamp.

Removal

- 1. Remove nut (1), lockwasher (2) and spare track stowage clamp (3) from vehicle. Discard lockwasher.
- 2. Inspect parts for damage and replace as required.

Installation

Install spare track stowage clamp (3) on vehicle with new lockwasher (2) and nut (1).



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SPARE DRIVE SPROCKET, SPARE ROAD WHEEL, SPARE SUPPORT ROLLER AND MOUNTING BRACKET REPLACEMENT

0485 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Socket wrench set (item 89, WP 0717 00) Endless sling (item 23, WP 0717 00) Suitable lifting device (200 lbs (91 kg) min cap)

Materials/Parts

Lockwashers (6) (item 12, WP 0718 00) Self-locking nuts (6) (item 140, WP 0718 00)

Personnel Required

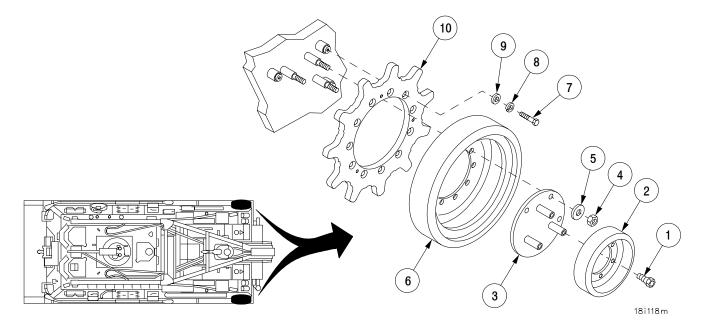
Two

NOTE

This task pertains to the left or right spare drive sprocket, spare road wheel, spare support roller and mounting bracket.

Removal

- 1. Remove three screws (1) and spare support roller (2) from mounting bracket (3).
- 2. Remove three self-locking nuts (4), three flat washers (5), mounting bracket (3) and spare road wheel (6) from vehicle. Discard self-locking nuts.
- 3. Remove three screws (7), three lockwashers (8), three flat washers (9) and spare drive sprocket (10) from vehicle. Discard lockwashers.
- 4. Inspect parts for damage and replace as required.

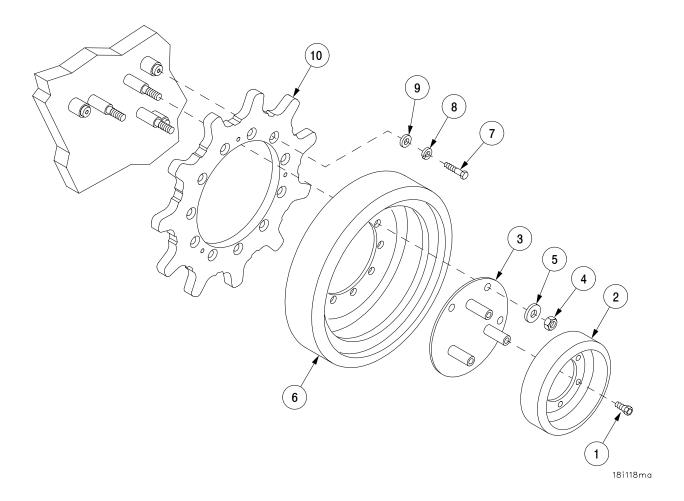


SPARE DRIVE SPROCKET, SPARE ROAD WHEEL, SPARE SUPPORT ROLLER AND MOUNTING BRACKET REPLACEMENT - CONTINUED

0485 00

Installation

- 1. Install spare drive sprocket (10) on vehicle with three screws (7), three new lockwashers (8) and three flat washers (9).
- 2. Install spare road wheel (6) and mounting bracket (3) on vehicle with three flat washers (5) and three new self-locking nuts (4).
- 3. Install spare support roller (2) on mounting bracket (3) with three screws (1).



REAR TOW BAR BRACKET ASSEMBLY REPAIR

0486 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Cotter pins (6) (item 71, WP 0718 00) Lockwashers (8) (item 12, WP 0718 00) Lockwashers (2) (item 116, WP 0718 00)

Equipment Conditions

Rear tow bar removed (TM 9-2350-292-10)

References

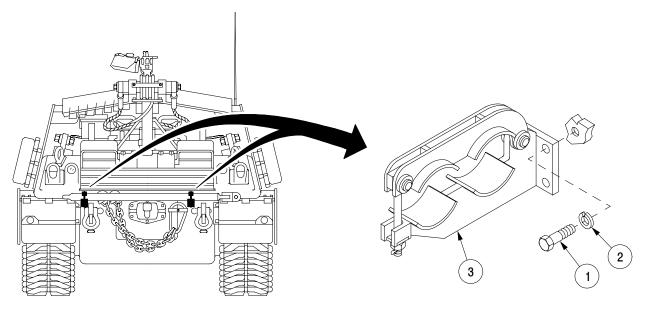
TM 9-2350-292-10

NOTE

There are two rear tow bar bracket assemblies. This task replaces and disassembles/assembles only one rear tow bar bracket assembly.

Removal

Remove four screws (1), four lockwashers (2) and rear tow bar bracket (3) from vehicle. Discard lockwashers.



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REAR TOW BAR BRACKET ASSEMBLY REPAIR - CONTINUED

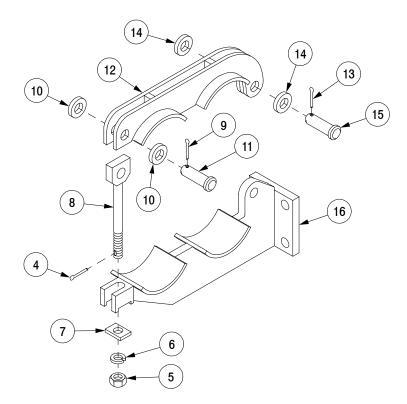
0486 00

Disassembly

- 1. Remove cotter pin (4), nut (5), lockwasher (6) and flat washer (7) from bolt (8). Discard cotter pin and lockwasher.
- 2. Remove cotter pin (9), two flat washers (10), headed pin (11) and bolt (8) from tow bar clamp (12). Discard cotter pin.
- 3. Remove cotter pin (13), two flat washers (14), headed pin (15) and tow bar clamp (12) from bracket (16). Discard cotter pin.
- 4. Inspect parts for damage and replace as required.

Assembly

- 1. Install tow bar clamp (12) on bracket (16) with headed pin (15), two flat washers (14) and new cotter pin (13).
- 2. Install bolt (8) on tow bar clamp (12) with headed pin (11), two flat washers (10) and new cotter pin (9).
- 3. Install flat washer (7), new lockwasher (6), nut (5) and new cotter pin (4) on bolt (8).



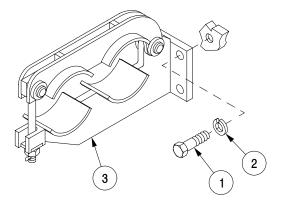
18i129m

REAR TOW BAR BRACKET ASSEMBLY REPAIR - CONTINUED

0486 00

Installation

Install rear tow bar bracket (3) on vehicle hull with four screws (1) and four new lockwashers (2).



18i125m

NOTE

FOLLOW-ON MAINTENANCE:

Install rear tow bar (TM 9-2350-292-10)

LIFTING CHAIN CLAMPS REPLACEMENT

0487 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (3) (item 12, WP 0718 00)

Equipment Conditions

Lifting chain removed (TM 9-2350-292-10)

References

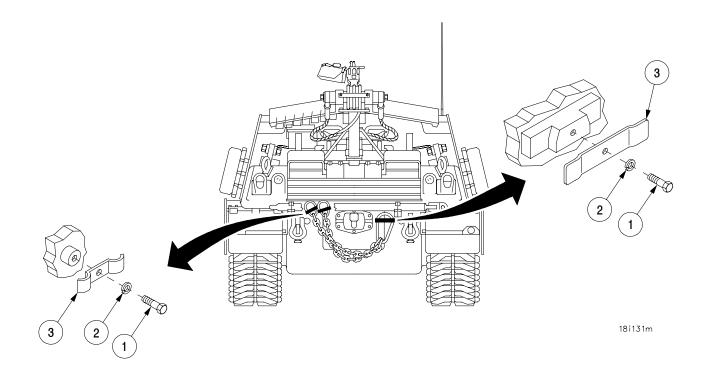
TM 9-2350-292-10

Removal

- 1. Remove three screws (1), three lockwashers (2) and three lifting chain clamps (3) from vehicle. Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install three lifting chain clamps (3) on vehicle with three screws (1) and three new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install lifting chain (TM 9-2350-292-10)

END OF TASK

OXYGEN TANK RETAINING STRAPS AND GUARD REPLACEMENT

0488 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 2, WP 0718 00) Cotter pins (2) (item 19, WP 0718 00) Cotter pins (4) (item 126, WP 0718 00)

Equipment Conditions

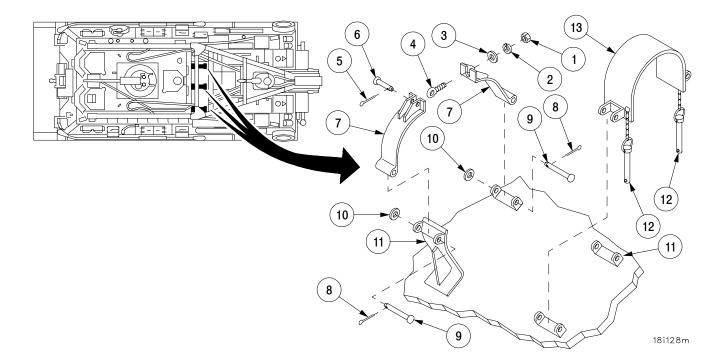
Oxygen tank removed (TM 9-2350-292-10)

References

TM 9-2350-292-10

Removal

- 1. Remove two nuts (1), two lockwashers (2) and two flat washers (3) from two eye bolts (4). Discard lockwashers.
- 2. Remove two cotter pins (5), two straight headed pins (6) and two eye bolts (4) from two retaining straps (7). Discard cotter pins.
- 3. Remove four cotter pins (8), four straight headed pins (9), four flat washers (10) and four retaining straps (7) from hull weldment (11). Discard cotter pins.
- 4. Remove two quick-release pins (12) and guard (13) from hull weldment (11).
- 5. Inspect parts for damage and replace as required.

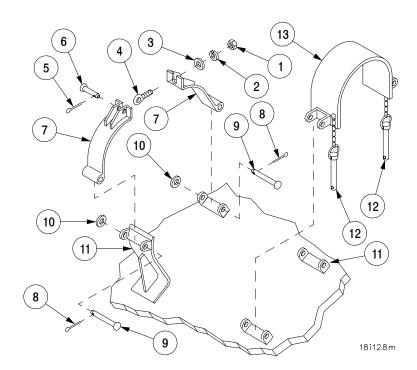


OXYGEN TANK RETAINING STRAPS AND GUARD REPLACEMENT - CONTINUED

0488 00

Installation

- 1. Install guard (13) on hull weldment (11) with two quick-release pins (12).
- 2. Install four retaining straps (7) on hull weldment (11) with four straight headed pins (9), four flat washers (10) and four new cotter pins (8).
- 3. Install two eye bolts (4) on two retaining straps (7) with two straight headed pins (6) and two new cotter pins (5).
- 4. Install two flat washers (3), two new lockwashers (2) and two nuts (1) on two eye bolts (4).



NOTE

FOLLOW-ON MAINTENANCE:

Install oxygen tank (TM 9-2350-292-10)

140-TON SNATCH BLOCK SUPPORT AND BASE PLATE ASSEMBLY REPAIR

0489 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (22) (item 2, WP 0718 00)

Equipment Conditions

140-ton snatch block removed (TM 9-2350-292-10)

References

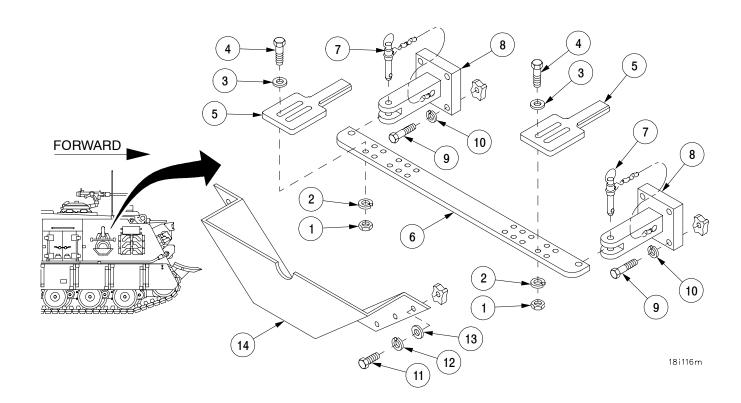
TM 9-2350-292-10

NOTE

Note position of retainers prior to removal to aid in proper positioning during installation.

Removal

- 1. Remove eight nuts (1), eight lockwashers (2), eight flat washers (3), eight screws (4) and two retainers (5) from bar (6). Discard lockwashers.
- 2. Remove two quick-release pins (7) and bar (6) from two base plate assemblies (8).
- 3. Remove eight screws (9), eight lockwashers (10) and two base plate assemblies (8) from vehicle. Discard lockwashers.
- 4. Remove six screws (11), six lockwashers (12), six flat washers (13) and bracket (14) from vehicle. Discard lockwashers.



140-TON SNATCH BLOCK SUPPORT AND BASE PLATE ASSEMBLY REPAIR - CONTINUED

0489 00

Disassembly

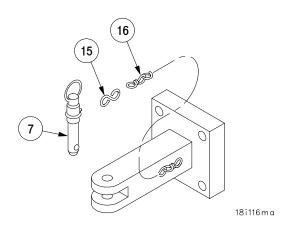
NOTE

There are two base plate assemblies This task disassembles and assembles only one base plate assembly.

- 1. Remove quick-release pin (7) from S-hook (15).
- 2. Disconnect S-hook (15) from chain (16).
- 3. Inspect parts for damage and replace as required.

Assembly

- 1. Connect S-hook (15) to chain (16).
- 2. Install S-hook (15) on quick-release pin (7).

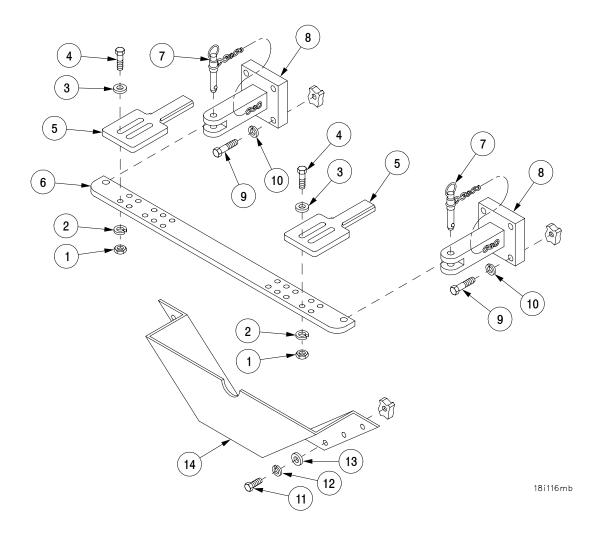


140-TON SNATCH BLOCK SUPPORT AND BASE PLATE ASSEMBLY REPAIR - CONTINUED

0489 00

Installation

- 1. Install bracket (14) on vehicle with six screws (11), six flat washers (13) and six new lockwashers (12).
- 2. Install two base plate assemblies (8) on vehicle with eight screws (9) and eight new lockwashers (10).
- 3. Install bar (6) in base plate assemblies (8) with two quick-release pins (7).
- 4. Install two retainers (5) on bar (6) with eight screws (4), eight flat washers (3), eight new lockwashers (2) and eight nuts (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install 140-ton snatch block (TM 9-2350-292-10)

END OF TASK

TOW CABLE RETAINERS, CLAMPS AND BRACKETS REPLACEMENT

0490 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 12, WP 0718 00) Lockwashers (12) (item 9, WP 0718 00)

Equipment Conditions

Tow cable removed (TM 9-2350-292-10)

References

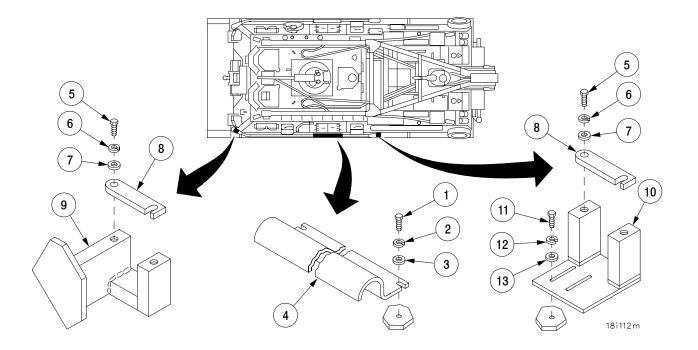
TM 9-2350-292-10

NOTE

This task pertains to the right or left side tow cable retainers, clamps and brackets.

Removal

- 1. Remove two screws (1), two lockwashers (2), two flat washers (3) and clamp (4) from vehicle. Discard lockwashers.
- 2. Remove four screws (5), four lockwashers (6), four flat washers (7) and two retainers (8) from hull weldment (9) and bracket (10). Discard lockwashers.
- Remove four screws (11), four lockwashers (12), four flat washers (13) and bracket (10) from vehicle. Discard lockwashers.
- 4. Inspect parts for damage and replace as required.

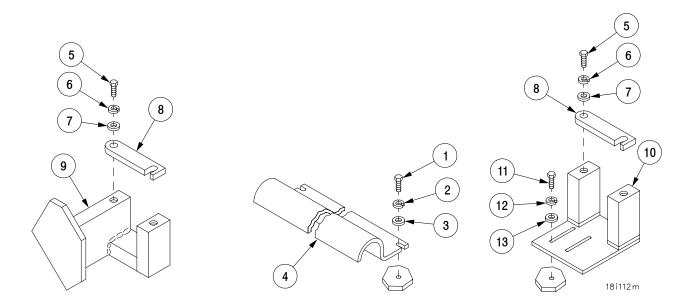


TOW CABLE RETAINERS, CLAMPS AND BRACKETS REPLACEMENT - CONTINUED

0490 00

Installation

- 1. Install bracket (10) on vehicle with four screws (11), four new lockwashers (12) and four flat washers (13).
- 2. Install two retainers (8) on bracket (10) and hull weldment (9) with four screws (5), four new lockwashers (6) and four flat washers (7).
- 3. Install clamp (4) on vehicle with two screws (1), two new lockwashers (2) and two flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install tow cable (TM 9-2350-292-10)

HEADLIGHT STOWAGE BASE ASSEMBLY REPLACEMENT

0491 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (6) (item 9, WP 0718 00)

NOTE

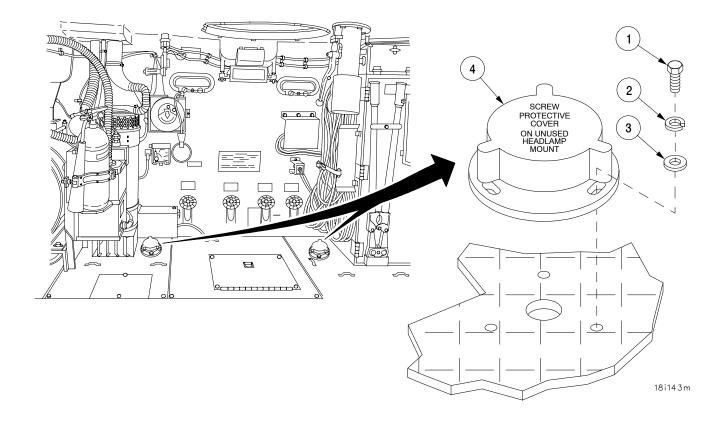
There are two headlight stowage base assemblies. This task replaces only one.

Removal

- 1. Remove three screws (1), three lockwashers (2), three flat washers (3) and headlight base assembly (4) from vehicle floor. Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install headlight base assembly (4) on vehicle floor with three screws (1), three new lockwashers (2) and three flat washers (3).



AUXILIARY BOOM, PAD AND BRACKET REPLACEMENT

0492 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwasher (item 435, WP 0718 00) Lockwashers (6) (item 12, WP 0718 00)

NOTE

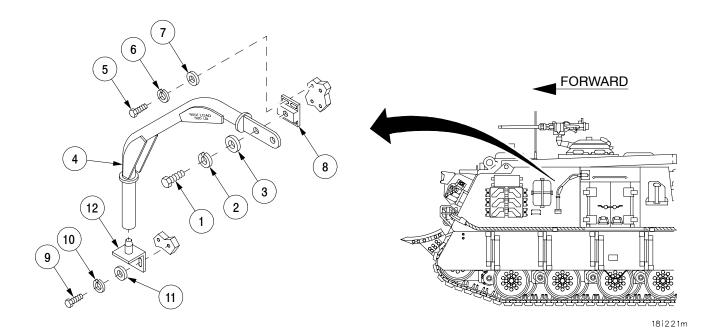
Perform Removal steps 1 and 4 and Installation step 3 for maintenance of auxiliary boom.

Perform Removal steps 1, 2 and 4 and Installation steps 2 and 3 for maintenance of auxiliary boom pad.

Perform Removal steps 1, 3 and 4 and Installation steps 1 and 3 for maintenance of auxiliary boom bracket.

Removal

- 1. Remove screw (1), lockwasher (2), flat washer (3) and auxiliary boom (4) from vehicle. Discard lockwasher.
- 2. Remove four screws (5), four lockwashers (6), four flat washers (7) and pad (8) from vehicle. Discard lockwashers.
- 3. Remove two screws (9), two lockwashers (10), two flat washers (11) and auxiliary boom bracket (12) from vehicle. Discard lockwashers.
- 4. Inspect parts for damage and replace as required.

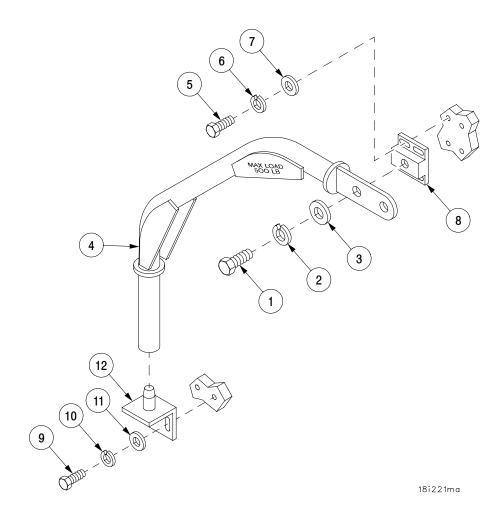


AUXILIARY BOOM, PAD AND BRACKET REPLACEMENT - CONTINUED

0492 00

Installation

- 1. Install auxiliary boom bracket (12) on vehicle with two screws (9), two new lockwashers (10) and two flat washers (11).
- 2. Install auxiliary boom pad (8) on vehicle with four screws (5), four new lockwashers (6) and four flat washers (7).
- 3. Install auxiliary boom (4) with screw (1), new lockwasher (2) and flat washer (3).



CHAPTER 17

WINCHES, SPADE AND HOIST BOOM MAINTENANCE

HOIST WINCH WIRE ROPE ASSEMBLY REPLACEMENT

0493 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Gloves (item 23, WP 0716 00)

Equipment Conditions

Hoist winch cable access cover opened (TM 9-2350-292-10)
Wire rope removed from boom and 35-ton hook block rigging (TM 9-2350-292-10)
Hoist winch wire rope payed out (TM 9-2350-292-10)

References

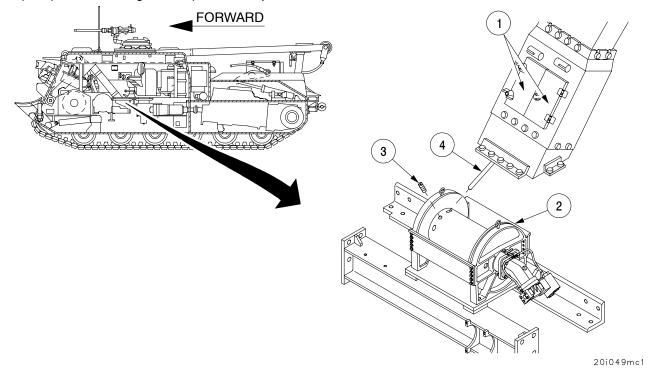
TM 9-2350-292-10



Gloves should be worn when working with wire rope to prevent cuts and abrasions.

Removal

- 1. Open wire rope access door (1) to gain access to hoist winch drum (2).
- 2. Loosen two screws (3) securing end of wire rope (4) in hoist winch drum (2).
- 3. Remove wire rope (4) from hoist winch drum (2) and vehicle.
- 4. Inspect parts for damage and replace as required.

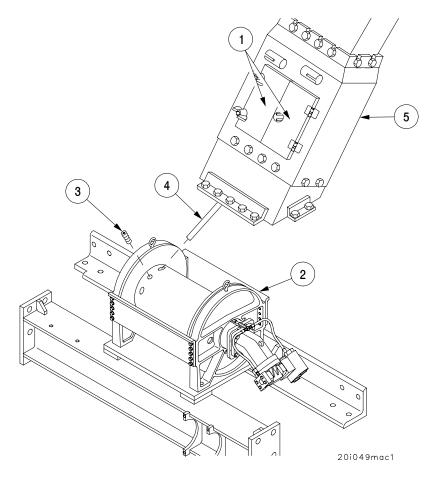


HOIST WINCH WIRE ROPE ASSEMBLY REPLACEMENT - CONTINUED

0493 00

Installation

- 1. Feed end of wire rope (4) through wire rope shield (5) to hoist winch drum (2).
- 2. Place end of wire rope (4) in hoist winch drum (2).
- 3. Tighten two screws (3) securing end of wire rope (4) in hoist winch drum (2). Close cable access doors (1).



NOTE

FOLLOW-ON MAINTENANCE:

Inhaul wire rope on hoist winch (TM 9-2350-292-10)
Install wire rope on boom and 35-ton hook block rigging (TM 9-2350-292-10)
Close hoist winch cable access cover (TM 9-2350-292-10)

HOIST WINCH WIRE ROPE ROLLER AND BEARING HOUSING ASSEMBLY REPAIR

0494 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 2, WP 0718 00)

Equipment Conditions

Hoist winch cable access cover opened (TM 9-2350-292-10)

Personnel Required

Two

References

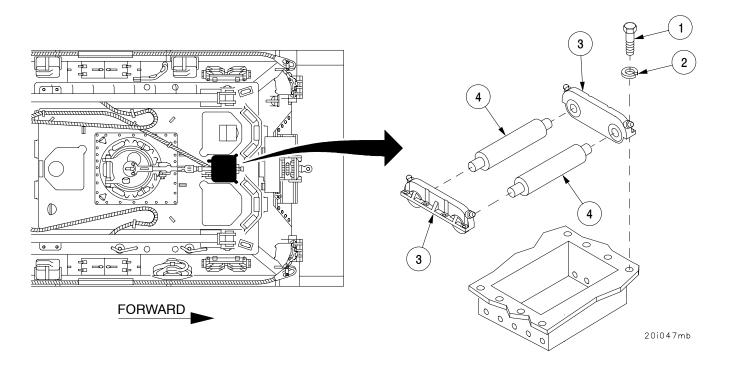
TM 9-2350-292-10



Gloves should be worn when working with or near cable to prevent cuts and abrasions.

Removal

Remove eight screws (1), eight lockwashers (2), two bearing assemblies (3) and two wire rope rollers (4) from vehicle. Discard lockwashers.



HOIST WINCH WIRE ROPE ROLLER AND BEARING HOUSING ASSEMBLY REPAIR- CONTINUED

0494 00

Disassembly

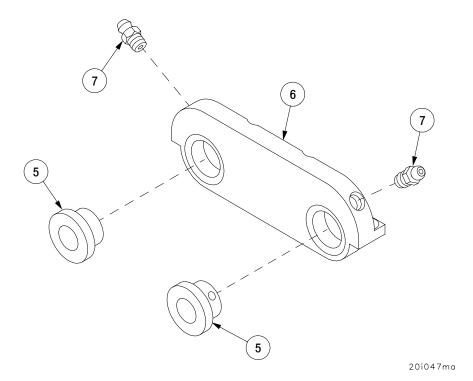
- 1. Remove two bearings (5) from housing (6).
- 2. Remove two lubrication fittings (7) from housing (6).
- 3. Inspect parts for damage and replace as required.

Assembly

NOTE

Ensure lubrication hole in the bearing is aligned with the lubrication fitting to allow proper lubrication.

- 1. Install two bearings (5) in housing (6).
- 2. Install two lubrication fittings (7) in housing (6).

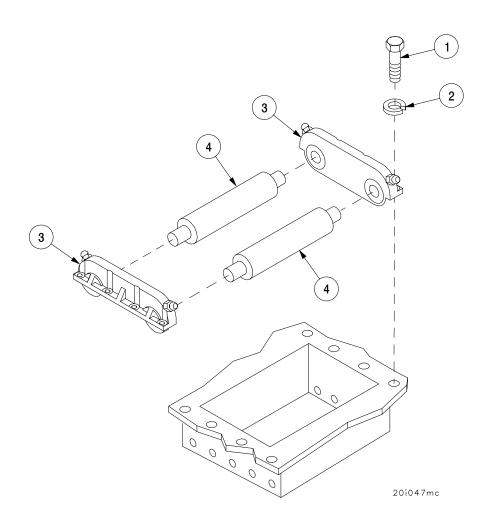


HOIST WINCH WIRE ROPE ROLLER AND BEARING HOUSING ASSEMBLY REPAIR- CONTINUED

0494 00

Installation

- 1. Install two wire rope rollers (4) and two bearing assemblies (3) in vehicle with eight screws (1) and eight new lockwashers (2).
- 2. Lubricate wire rope rollers (4) and two bearing assemblies (3) (WP 0187 00).



NOTE

FOLLOW-ON MAINTENANCE:

Close hoist winch cable access cover (TM 9-2350-292-10)

HOIST WINCH WIRE ROPE SHIELD REPLACEMENT

0495 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (35) (item 2, WP 0718 00)

Equipment Conditions

Commander's seat removed (WP 0457 00)
Hoist winch wire rope removed (WP 0493 00)
Dome light removed (WP 0283 00)
Liquid container brackets removed (WP 0474 00)

PTO/accessory panel removed (WP 0245 00) Passive night viewer stowage box assembly and mounting bracket removed (WP 0468 00)

Equipment Conditions-Continued

Hand grenade boxes removed (WP 0466 00)

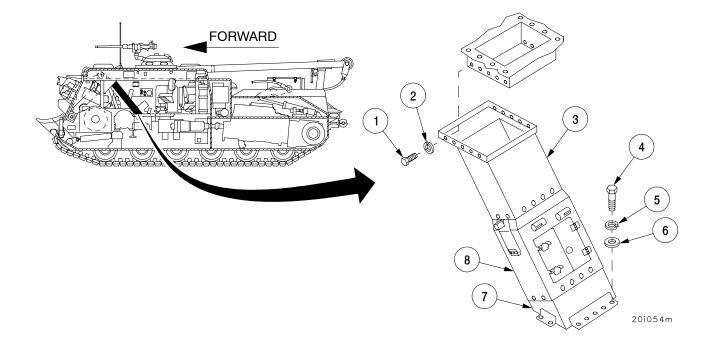
Wiring harness 4W136, 4W153 and lead assembly 4W140 removed from hoist winch wire rope shield (WP 0325 00, WP 0328 00 and WP 0326 00)
Ceiling and bulkhead rifle clips removed (WP 0481 00)

Personnel Required

Two

Removal

- 1. Remove 10 screws (1) and 10 lockwashers (2) securing top shield (3). Discard lockwashers.
- 2. Remove nine screws (4), nine lockwashers (5) and nine flat washers (6) securing bottom shield (7). Discard lockwashers.
- 3. Remove assembled shields (3, 7 and 8) to rear of crew compartment.



HOIST WINCH WIRE ROPE SHIELD REPLACEMENT - CONTINUED

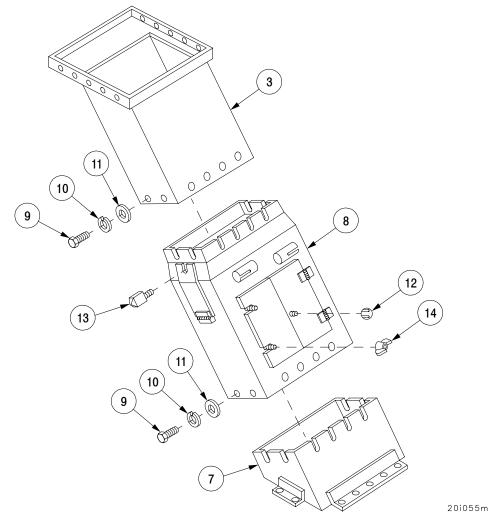
0495 00

Removal-Continued

- 4. Remove 16 screws (9), 16 lockwashers (10) and 16 flat washers (11) securing three shields (3, 7 and 8). Discard lockwashers.
- 5. Separate three shields (3, 7 and 8).
- 6. Remove knob (12), thumbscrew (13) and two wing nuts (14) from shield (8).
- 7. Inspect parts for damage and replace as required.

Installation

- 1. Install knob (12), thumbscrew (13) and two wing nuts (14) on shield (8).
- 2. Connect three shields (3, 7 and 8) and secure with 16 screws (9), 16 new lockwashers (10) and 16 flat washers (11).

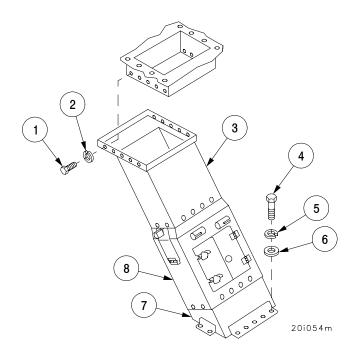


HOIST WINCH WIRE ROPE SHIELD REPLACEMENT - CONTINUED

0495 00

Installation-Continued

- 3. Position assembled shields (3, 7 and 8) and align with mounting holes.
- 4. Secure bottom shield (7) with nine screws (4), nine new lockwashers (5) and nine flat washers (6).
- 5. Secure top shield (3) with 10 screws (1) and 10 new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install commander's seat (WP 0457 00)
Install hoist winch wire rope (WP 0493 00)
Install dome light (WP 0283 00)
Install liquid container brackets (WP 0474 00)
Install PTO/accessory panel (WP 0245 00)
Install passive night viewer stowage box assembly and mounting bracket (WP 0468 00)
Install hand grenade boxes (WP 0466 00)
Install wiring harnesses 4W136, 4W153
and lead assembly 4W140 on hoist winch wire rope shield (WP 0325 00, WP 0328 00 and WP 0326 00)
Install ceiling and bulkhead rifle clips (WP 0481 00)

HOIST WINCH HOSE ASSEMBLIES, FITTINGS, ADAPTERS AND MANIFOLDS REPLACEMENT

0496 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

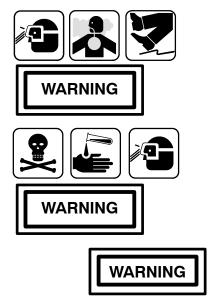
Materials/Parts

Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marker tags (AR) (item 49, WP 0716 00)
Sealing compound (item 16, WP 0716 00)
Lubricant (item 51, WP 0716 00)
Preformed packings (2) (item 455, WP 0718 00)
Preformed packing (item 456, WP 0718 00)
Dust protective plug (AR) (item 14, WP 0716 00)
Dust protective cap (AR) (item 44, WP 0716 00)
Preformed packings (2) (item 457, WP 0718 00)

Equipment Conditions

Subfloor plates #15, #18, #22 and #27 removed (WP 0454 00) Hydraulic system pressure discharged (WP 0545 00) Hoist winch hydraulic lines disconnected (WP 0579 00)

Removal



Hydraulic system pressure is rated at 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will avoid injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to avoid injury to personnel.

HOIST WINCH HOSE ASSEMBLIES, FITTINGS, ADAPTERS AND MANIFOLDS REPLACEMENT - CONTINUED

0496 00

Removal-Continued

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedure.

- 1. Remove hose assemblies, fittings, adapters and manifolds and preformed packings in accordance with the following legend and illustration. Discard preformed packings.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, fittings, adapters, manifolds and new preformed packings in accordance with the following legend and illustration.

NOTE

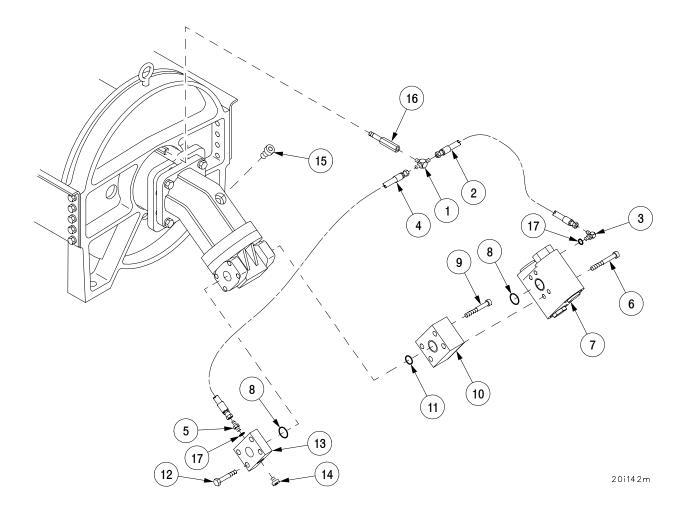
FOLLOW-ON MAINTENANCE: Connect hoist winch hydraulic lines (WP 0545 00) Install subfloor plates #15, #18, #22, and #27 (WP 0454 00)

HOIST WINCH HOSE ASSEMBLIES, FITTINGS, ADAPTERS AND MANIFOLDS REPLACEMENT - CONTINUED

0496 00

Legend:

- 1. Tee-male branch
- 2. Hose assembly
- 3. Elbow
- 4. Hose assembly
- 5. Adapter
- 6. Capscrews (4)
- 7. Brake valve assembly
- 8. Preformed packings (2)
- 9. Capscrews (4)
- 10. Manifold
- 11. Preformed packing
- 12. Capscrews (4) (shipping purposes only)
- 13. Manifold
- 14. 16496-4 plug
- 15. ORB-10 Flush plug (shipping purposes only)
- 16. Nipple
- 17. Preformed packings (2)



MAIN WINCH AND SPADE ASSEMBLY REPLACEMENT

0497 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Torque wrench (item 9, WP 0717 00)

Heavy-duty lifting chain (Item 72, WP 0717 00)

Suitable lifting device (12,000 lbs (5448 kg) min cap)

Materials/Parts

Dry-cleaning solvent (item 1, WP 0716 00)
Pressure sensitive tape (item 41, WP 0716 00)
Sealing compound (item 42, WP 0716 00)
Lubricant (item 3, WP 0716 00)
Lockwashers (6) (item 9, WP 0718 00)

Equipment Conditions

Subfloor plates #9, #10 and #12 removed (WP 0454 00)
Auxiliary winch removed (WP 0513 00)
Spade lowered (TM 9-2350-292-10)

Personnel Required

Three

References

TM 9-2350-292-10

Removal

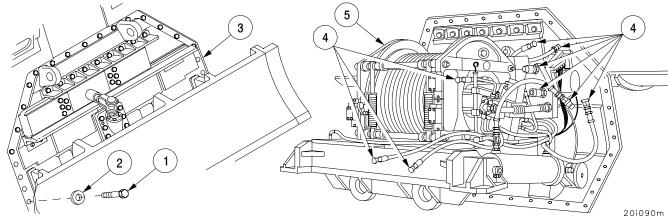
NOTE

The front hull cover screws behind the spade (in the locked position) require that the spade be lowered to allow screw removal and then raised to the lock position.

1. Remove eight screws (1) and eight flat washers (2) from front hull cover (3).



2. Raise spade to locked position (TM 9-2350-292-10), disconnect nine hydraulic quick-disconnect couplings (4) from main winch and spade assembly (5).



MAIN WINCH AND SPADE ASSEMBLY REPLACEMENT - CONTINUED

0497 00

Removal-Continued

3. Disconnect main winch cannon plug (6) from vehicle cannon plug (7).

NOTE

It may be necessary to remove the armor end plate (left or right of the level winder) for access to front hull cover mounting screws.

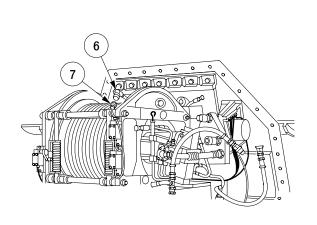
- 4. Remove level winder armor end plate (8) as required (WP 0511 00).
- 5. Connect lifting shackles of lifting chain to lifting points (9) on front hull cover (3).

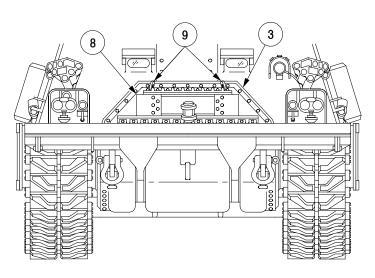


NOTE

Screws on each side of lifting points may have to be removed before taking up slack on lifting chain.

6. Take up slack on lifting chain using a suitable lifting device.





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Removal-Continued

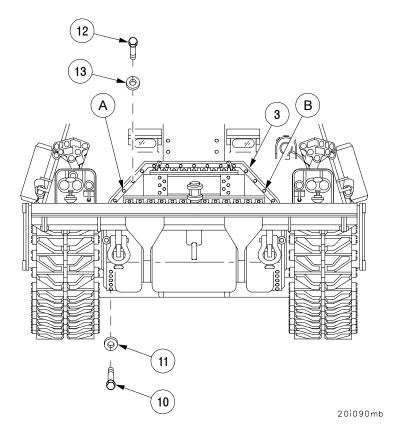


Verify spade lock is in place before removing lower mounting screws. Personnel could be injured or killed if spade should fall.

NOTE

Lengths of screws will vary. Note locations of screws during removal to aid during installation.

- 7. Remove 21 screws (10) and 21 flat washers (11) from lower portion of front hull cover (3).
- 8. Remove 15 screws (12) and 15 flat washers (13) (remove positions marked A and B last) from upper portion of front hull cover (3).



0497 00

Removal-Continued

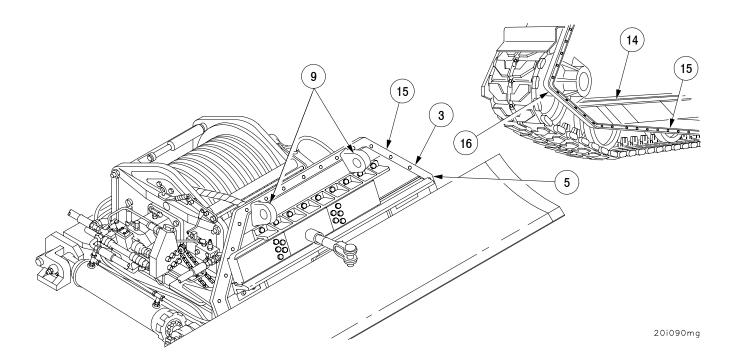
CAUTION

Main winch and spade assembly may damage components or be damaged during removal operations. Use care during removal of main winch and spade assembly. Failure to comply may result in equipment damage.

- 9. Remove main winch and spade assembly (5) outward along side rails (14).
- 10. Lower main winch and spade assembly (5) to wood blocks.
- 11. Disconnect lifting shackles of lifting chain from lifting points (9) of front hull cover (3).



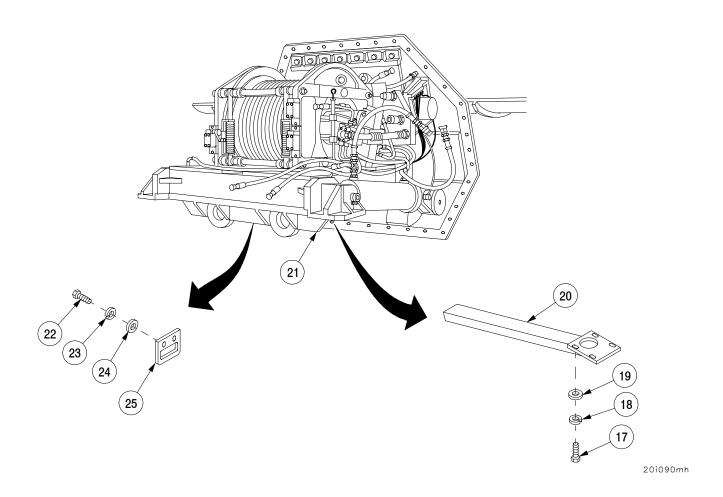
12. Remove old pressure sensitive tape from mating surfaces (15) of front hull cover (3) and vehicle (16) using drycleaning solvent.



0497 00

Removal-Continued

- 13. Remove four screws (17), four lockwashers (18), four flat washers (19) and drain tube weldment (20) from main winch frame (21). Discard lockwashers.
- 14. Remove two screws (22), two lockwashers (23), two flat washers (24) and bracket (25) from main winch frame (21). Discard lockwashers.
- 15. Inspect parts for damage and replace as required.

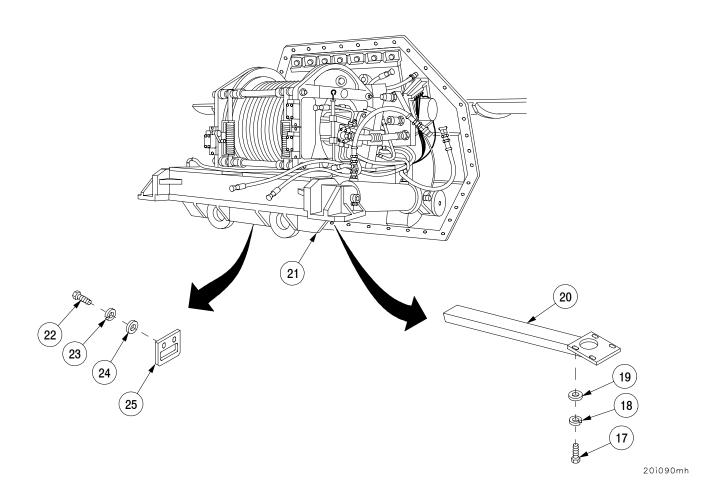


MAIN WINCH AND SPADE ASSEMBLY REPLACEMENT - CONTINUED

0497 00

Installation

- 1. Install bracket (25) on main winch frame (21) with two screws (22), two new lockwashers (23) and two flat washers (24).
- 2. Install drain tube weldment (20) through bracket (25).
- 3. Secure drain tube weldment (20) to main winch frame (21) with four screws (17), four new lockwashers (18) and four flat washers (19).



MAIN WINCH AND SPADE ASSEMBLY REPLACEMENT - CONTINUED

0497 00

Installation-Continued

NOTE

Do not disturb the setting of the winch mounting bracket alignment pins. They are set to match the main winch mounting frame.

- 4. Verify eight screws (26) on winch mounting bracket alignment pins (27) are tight.
- 5. Clean side rail (14) and lightly coat with lubricant.
- 6. Lubricate diamond screw in accordance with WP 0187 00.

CAUTION

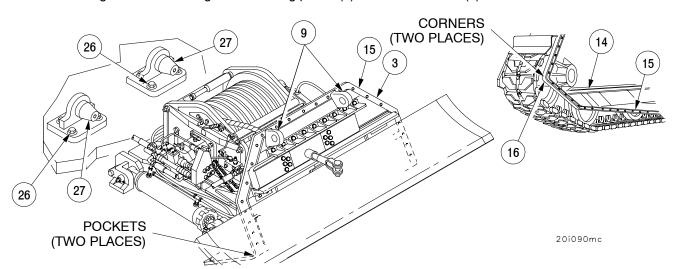
Additional layers of pressure sensitive tape or sealing compound may be required to provide a water-tight seal. Add layers as required. Make sure that pressure sensitive tape or sealing compound is applied heavily at recess pockets of hull front cover and protruding corners of hull mating surfaces. Failure to comply may cause equipment damage.

Do not apply pressure sensitive tape when ambient temperature is below 45°F (7.2° C). Failure to comply may cause loss of screw torque and equipment damage.

7. Apply pressure sensitive tape or sealing compound to mating surfaces (15) of vehicle (16) and front cover (3). Ensure mating surfaces (15) are free of old pressure sensitive tape or sealing compound and mounting holes are free of all old sealing compound.



8. Connect lifting shackles of lifting chain to lifting points (9) of hull front cover (3).



Installation-Continued

CAUTION

Main winch and spade assembly may damage components or be damaged during installation. Use care during installation of main winch and spade assembly. Failure to comply may result in equipment damage.

9. Using suitable lifting device, lift main winch and spade assembly (5) and slide it inward along side rails (14).

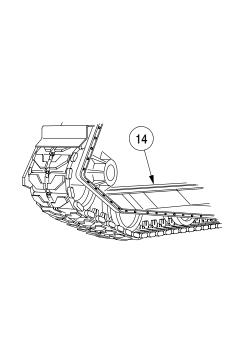
NOTE

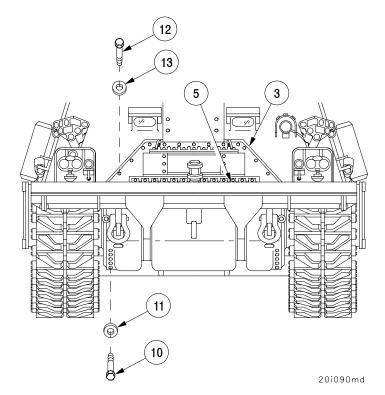
Ensure screws are free of sealing compound before applying new sealing compound to threads of screws.

Do not install screws behind spade at this time.

Ensure screws are installed in their proper location.

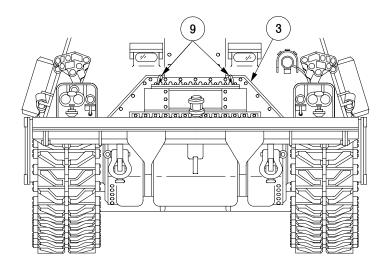
- 10. Apply sealing compound to threads and under heads of 15 screws (12), install 15 screws (12) and 15 flat washers (13) in upper portion of front hull cover (3).
- 11. Apply sealing compound to threads and under heads of 21 screws (10), install 21 screws (10) and 21 flat washers (11) in lower portion of front hull cover (3).

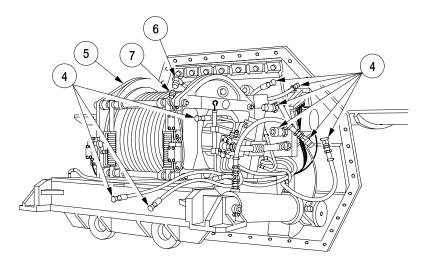




Installation-Continued

- 12. Disconnect lifting shackles of lifting chain from lifting points (9) on hull front cover (3).
- 13. Connect main winch cannon plug (6) to vehicle cannon plug (7).
- 14. Connect nine hydraulic quick-disconnect couplings (4) to main winch and spade assembly (5).





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MAIN WINCH AND SPADE ASSEMBLY REPLACEMENT - CONTINUED

0497 00

Installation-Continued

NOTE

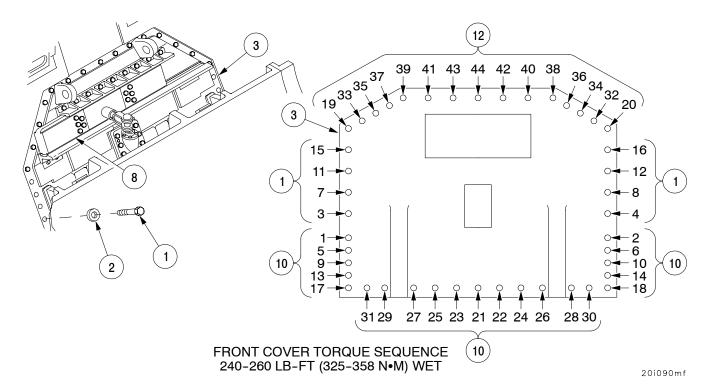
Lower spade to ground for access to mounting screws.

15. Apply sealing compound to threads and under heads of eight screws (1), install eight screws (1) and eight flat washers (2) in front hull cover (3).



Ensure spade assembly is in lock position when raised to prevent injury to personnel.

- 16. Torque 44 screws (1, 10 and 12) using indicated sequence to 240-260 lb-ft (325-353 N•m). Raise and lower spade assembly (TM 9-2350-292-10) to provide access to screws for torquing. Repeat sequence until all fasteners hold the required torque without further rotation.
- 17. Install level winder armor end plate (8), if removed (WP 0511 00).



NOTE

FOLLOW-ON MAINTENANCE:

Raise spade (TM 9-2350-292-10) Install auxiliary winch (WP 0513 00) Install floor plates #9, #10 and #12 (WP 0454 00)

MAIN WINCH GROUND HOP KIT

0498 00

THIS WORK PACKAGE COVERS:

Installation, Removal

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Main winch ground hop kit (item 26, WP 0717 00) Main winch ground hop kit (item 128, WP 0717 00) (Vehicles equipped with enhanced diagnostics)

Equipment Conditions

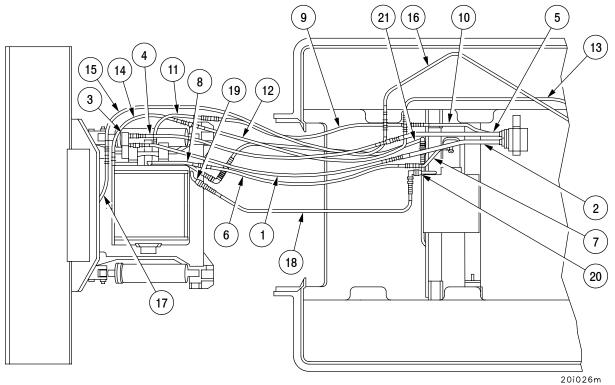
Main winch and spade removed (WP 0497 00)

NOTE

Perform Installation step 8 and Removal step 1 only if vehicle is equipped with enhanced diagnostics.

Installation

- 1. Connect hose 500 (1) to vehicle hose 49A (2) and main winch manifold (3).
- 2. Connect hose 501 (4) to vehicle hose 48A (5) and main winch manifold (3).
- 3. Connect hose 502 (6) to vehicle hose 28D (7) and main winch hose 27D (8).
- 4. Connect hose 503 (9) to vehicle hose 410 (10) and main winch hose 414 (11).
- 5. Connect hose 504 (12) to vehicle hose 411 (13) and main winch hose 413 (14).
- 6. Connect hose 505 (15) to vehicle hose 34 (16) and main winch hose 33 (17).
- 7. Connect wiring harness 5W906 (18) to main winch wiring harness 2W602 connector P1 (19) and vehicle wiring harness 2W601 connector J1 (20).
- 8. Connect wiring harness 5W908 (21) between wiring harness 2W505 P1 in nose piece and wiring harness 4W504 J1 under subfloor.

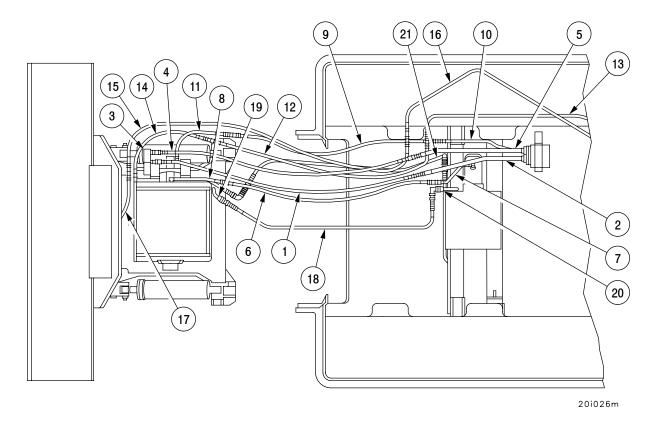


MAIN WINCH GROUND HOP KIT - CONTINUED

0498 00

Removal

- Disconnect wiring harness 5W908 (21) from wiring harness 4W504 J1 under subfloor and wiring harness 2W505 P1 in nose piece.
- 2. Disconnect wiring harness 5W906 (18) from vehicle wiring harness 2W601 connector J1 (20) and main winch wiring harness 2W602 connector P1 (19).
- 3. Disconnect hose 505 (15) from main winch hose 33 (17) and vehicle hose 34 (16).
- 4. Disconnect hose 504 (12) from main winch hose 413 (14) and vehicle hose 411 (13).
- 5. Disconnect hose 503 (9) from main winch hose 414 (11) and vehicle hose 410 (10).
- 6. Disconnect hose 502 (6) from main winch hose 27D (8) and vehicle hose 28D (7).
- 7. Disconnect hose 501 (4) from main winch manifold (3) and vehicle hose 48A (5).
- 8. Disconnect hose 500 (1) from main winch manifold (3) and vehicle hose 49A (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade (WP 0497 00)

MAIN WINCH WIRE ROPE ASSEMBLY REPLACEMENT

0499 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Slide puller (item 46, WP 0717 00) Torque wrench (item 9, WP 0717 00)

Materials/Parts

Nonelectrical wire (AR) (item 447, WP 0718 00 Gloves (AR) (item 23, WP 0716 00)

Equipment Conditions

Payout wire rope from main winch (TM 9-2350-292-10) Floor plate #10 and #12 removed (WP 0454 00)

Personnel Required

Three

References

TM 9-2350-292-10



Wire ropes can become frayed or contain broken wires. Wear heavy leather-palmed gloves when handling wire rope. Frayed or broken wires can injure personnel. Never let moving wire rope slide through hands, even when wearing gloves. A broken wire could cut through glove and cut hands.

CAUTION

Always keep tension on wire rope when paying main winch in or out. Slack in wire rope may damage equipment.

Do not move winch control handles when wire rope is off of winch drum. Movement of winch controls causes wire rope guide and winch drum to become unsynchronized.

If winch control handles have been moved with wire rope removed from winch drum, wire rope guide and winch drum must be synchronized prior to installing wire rope.

MAIN WINCH WIRE ROPE ASSEMBLY REPLACEMENT - CONTINUED

0499 00

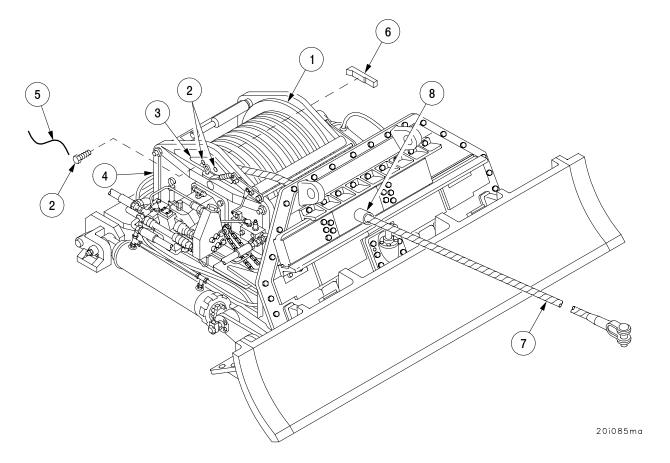
Removal

- 1. Align winch drum (1) with wedge clamping screws (2) accessible through side access hole (3) in main winch housing (4).
- 2. Remove tension from wire rope, disengage power take off unit and shutdown engine (TM 9-2350-292-10).
- 3. Remove nonelectrical wire (5) from two wedge clamping screws (2). Discard nonelectrical wire.
- 4. Remove two wedge clamping screws (2) from winch drum (1).
- 5. Align winch drum (1) as necessary to remove wedge (6) from winch drum (1) using brass drift and hammer or slide puller.
- 6. Manually pull wire rope (7) until wire rope (7) is even with trumpet (8).

NOTE

Wire rope must be pulled through trumpet from outside of vehicle

- 7. Remove wire rope (7) from winch drum (1).
- 8. Inspect parts for damage and replace as required.

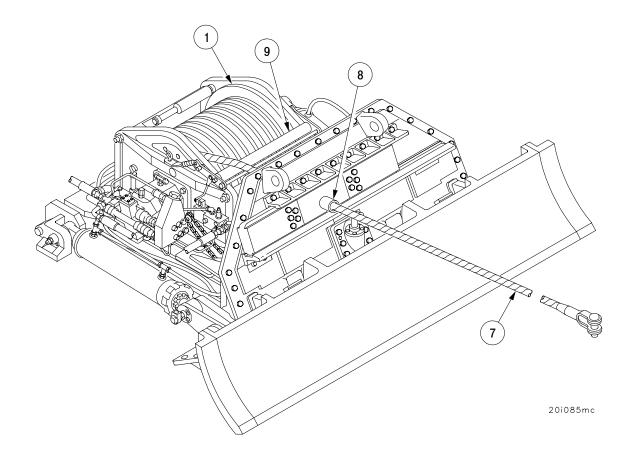


MAIN WINCH WIRE ROPE ASSEMBLY REPLACEMENT - CONTINUED

0499 00

Installation

- 1. Lay wire rope (7) out its entire length.
- 2. Insert tapered end of wire rope (7) through trumpet (8) of vehicle.
- 3. Insert wire rope (7) over roller assembly (9) and through wire rope hole in drum (1). Allow wire rope (7) to protrude approximately 7.0 7.5 inches (177.8 190.5 mm) from opposite end of drum (1).



Installation - Continued

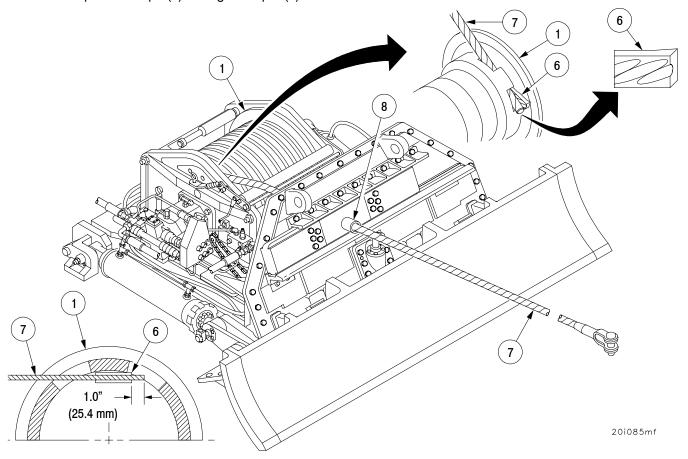
CAUTION

Failure to align spiral grooves on wedge with corresponding strands of wire rope could prevent proper seating of wedge in drum pocket. Improper seating may damage wedge screws and/or cause the wire rope to become loose.

NOTE

During alignment, the wire rope may need to be rotated by a crewmember stationed outside the vehicle.

- 4. Insert wedge (6) in hole of drum (1) next to wire rope (7) approximately 2.0 inches (50.8 mm), aligning the spiral grooves on wedge (6) with corresponding strands of wire rope (7). Leave approximately 1.0 inch (25.4mm) of wire rope (7) beyond end of wedge (6).
- 5. Guide wedge (6) and wire rope (7) into hole of drum (1) approximately 4.0 inches (101.6 mm) by having a crew member pull wire rope (7) through trumpet (8).



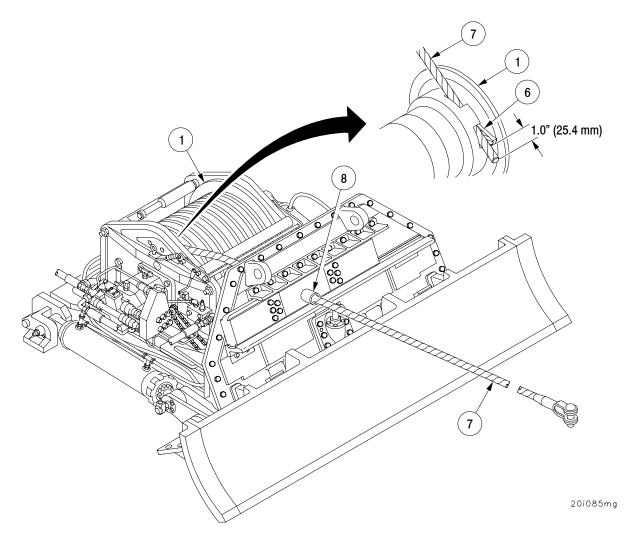
Installation - Continued

6. Seat wedge (6) and wire rope (7) in winch drum (1) by driving wedge (6) approximately 2.0 inches (50.8 mm) into hole of winch drum (1) using brass drift and hammer while wire rope (7) is being pulled through trumpet (8) by crew member.

CAUTION

Do not use excessive force when tapping wire rope into drum. Failure to comply may cause wire rope end to separate.

7. Tap end of wire rope (7) as necessary to maintain approximately 1.0 inch (25.4 mm) in distance between end of wedge (6) and end of wire rope (7).

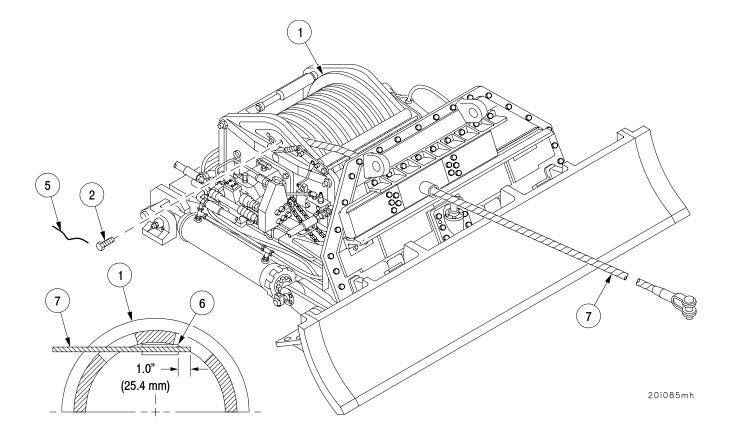


MAIN WINCH WIRE ROPE ASSEMBLY REPLACEMENT - CONTINUED

0499 00

Installation - Continued

- 8. Repeat steps 6 and 7 as necessary until 1/8 1/4 inch (3.2 6.4 mm) of wedge (6) and approximately 1.0 inch (25.4 mm) of wire rope (7) is left exposed.
- 9. Secure and tighten wedge (6) to drum (1) with two wedge clamping screws (2). Torque screws to 270 300 lb-ft (366.1 406.8 N•m).
- 10. Install new nonelectrical wire (5) through two wedge clamping screws (2).



MAIN WINCH WIRE ROPE ASSEMBLY REPLACEMENT - CONTINUED

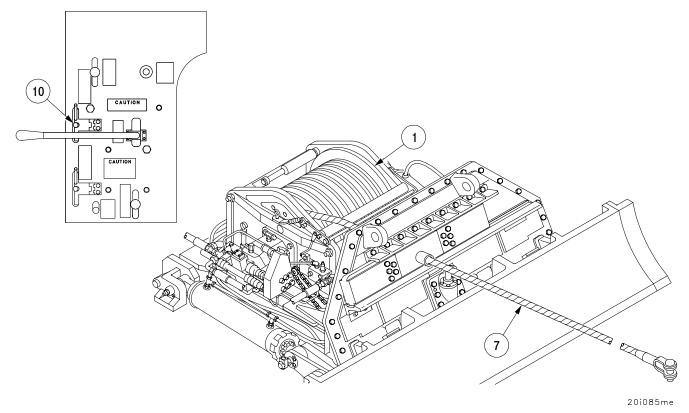
0499 00

Installation - Continued

NOTE

Observe smooth and tight spooling of wire rope on winch drum.

- 11. Start engine and engage power take-off (TM 9-2350-292-10).
- 12. Place winch lever (10) to INHAUL position (TM 9-2350-292-10) and wrap wire rope (7) on winch drum (1).



NOTE

FOLLOW-ON MAINTENANCE: Install floor plate #10 and #12 (WP 0454 00)

MAIN WINCH AND SPADE QUICK-DISCONNECT COUPLINGS AND ADAPTERS REPLACEMENT

0500 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Open-end wrench (item 75, WP 0717 00)

Open-end wrench (item 95, WP 0717 00)

Combination wrench (item 98, WP 0717 00)

Combination wrench (item 30, WP 0717 00)

Open-end wrenches (2) (item 105, WP 0717 00)

Open-end wrench (item 106, WP 0717 00)

Materials/Parts

Lubricant (item 31, WP 0716 00)

Sealing compound (item 16, WP 0716 00)

Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Subfloor plates #10 and #15 removed (WP 0454 00) Main winch and spade assembly removed, as required (WP 0497 00)



Do not attempt to loosen or tighten hydraulic fittings or lines when the system is pressurized. Ensure that boom and spade are in stowed positions before performing any maintenance on hydraulic system. A high pressure oil stream can cause severe injury to personnel.

NOTE

This procedure applies to any quick-disconnect coupling (male or female) and adapter on main winch and spade assembly.

Some quick-disconnect coupling adapters require preformed packings (refer to repair parts manual for replacement parts) and some do not.

MAIN WINCH AND SPADE QUICK-DISCONNECT COUPLINGS AND ADAPTERS REPLACEMENT - CONTINUED

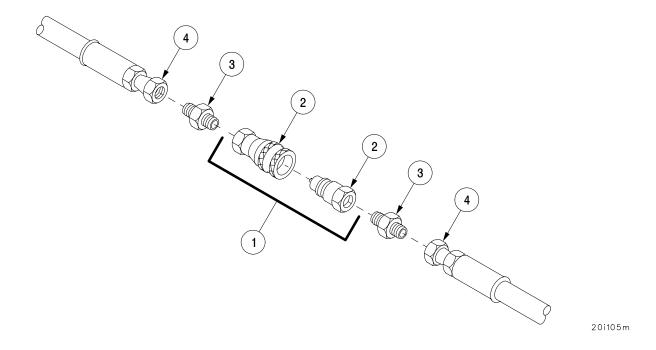
0500 00

Removal

- 1. Separate quick-disconnect coupling halves (1).
- 2. Remove quick-disconnect coupling (2) and adapter (3) from hose (4).
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Apply lubricant to all adapter threads and preformed packings prior to installation.
- 2. Apply sealing compound to all pipe threads prior to installation.
- 3. Install adapter (3) and quick-disconnect coupling (2) on hose (4).
- 4. Connect quick-disconnect coupling halves (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade assembly, if removed (WP 0497 00)

Install subfloor plates #10 and #15 (WP 0454 00)

PAYOUT AND LAYER LIMIT SWITCHES REPLACEMENT

0501 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

Main winch and spade assembly removed (WP 0497 00)

NOTE

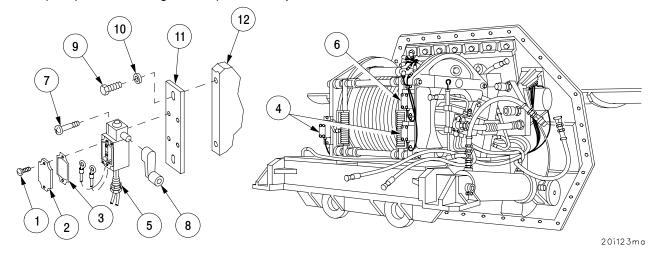
There are two layer limit switches and one payout limit switch. All three limit switches are replaced in the same manner. This task replaces only one limit switch.

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Remove two screws (1), cover plate (2) and gasket (3) from layer limit switch (4).
- 2. Disconnect connector (5) from bottom of layer limit switch (4).
- 3. Disconnect wiring harness 2W602 wire 361A or 361B and wire 10 from layer limit switches (4) or wire 375 and wire 10 from payout limit switch (6).
- 4. Remove two screws (7) and limit switch (4 or 6).
- 5. Loosen screw on lever (8), remove lever (8) from limit switch (4 or 6).
- 6. Remove two screws (9), two flat washers (10) and bracket (11) from main winch (12).
- 7. Inspect parts for damage and replace as required.

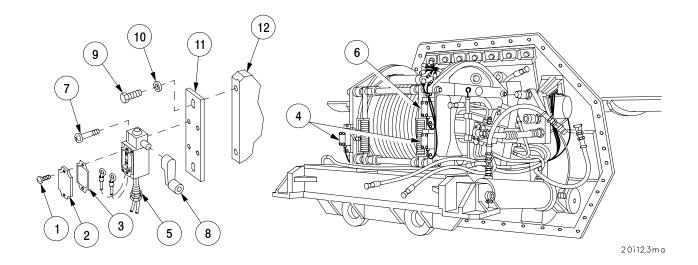


PAYOUT AND LAYER LIMIT SWITCHES REPLACEMENT - CONTINUED

0501 00

Installation

- 1. Install bracket (11) on main winch (12) with two screws (9) and two flat washers (10). Do not tighten screws (9).
- 2. Install lever (8) on limit switch (4 or 6). Do not tighten screw.
- 3. Install limit switch (4 or 6) with two screws (7).
- 4. Connect wiring harness 2W602 wire 361A or 361B and wire 10 to layer limit switches (4) or wire 375 and wire 10 to payout limit switch (6).
- 5. Install gasket (3) and cover plate (2) on layer limit switch (4) with two screws (1).
- 6. Connect connector (5) to bottom of layer limit switch (4).
- 7. Adjust layer limit switches (4) (WP 0503 00) and/or payout limit switches (6) (WP 0502 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade assembly (WP 0497 00)

PAYOUT LIMIT SWITCH ADJUSTMENT

0502 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 21, WP 0717 00)

Equipment Conditions

Main winch and spade assembly removed (WP 0497 00)

References

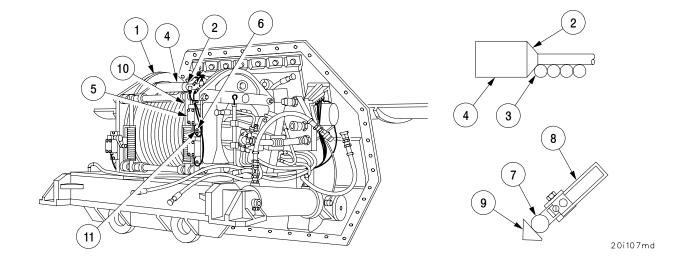
TM 9-2350-292-10

NOTE

This task must be performed with wire rope installed.

Adjustment

- 1. Install wire rope on drum using wire rope installation procedure (WP 0499 00).
- 2. Install main winch ground hop kit (WP 0498 00).
- 3. Operate main winch (TM 9-2350-292-10), stop winch drum (1) when upper roller end cap (2) makes contact with wire rope (3) during fourth or fifth wrap and upper spooling roller (4) begins to rise.
- 4. Adjust height of payout limit switch (5) by sliding it vertically on slots (6) in mounting bracket. Correct position is when nylon roller (7) on lever arm (8) is centered on lug (9) of spring guide bracket (10).
- 5. Torque payout limit switch bracket attachment screws (11) to 72 lb-in (8.14 N•m).

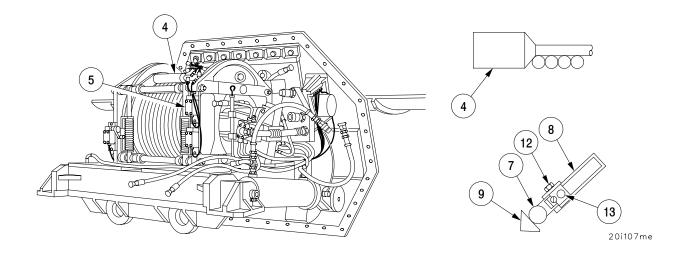


PAYOUT LIMIT SWITCH ADJUSTMENT - CONTINUED

0502 00

Adjustment-Continued

- 6. Loosen locknut (12) on payout limit switch lever arm (8), center roller (7) over spring guide bracket lug (9).
- 7. Tighten locknut (12).
- 8. Loosen screw (13) on payout limit switch lever arm (8).
- 9. Adjust payout limit switch lever arm (8) vertically until switch closes, an audible click will be heard, roller (7) makes even contact with spring guide bracket lug (9).
- 10. Tighten screw (13) on payout limit switch lever arm (8).
- 11. Inhaul cable until wire rope is under tube roller (4). Verify that payout limit switch (5) is open.
- 12. Remove main winch ground hop kit (WP 0498 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade assembly (WP 0497 00)

LAYER LIMIT SWITCHES ADJUSTMENT

0503 00

THIS WORK PACKAGE COVERS:

Adjustment

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)
Torque wrench 0-200 lb-in (item 21, WP 0717 00)
Nose piece stands (2) (item 35, WP 0717 00)
Utility chains (2) (item 59, WP 0717 00)
1/8-in. Go/No-Go gauge (item 68, WP 0717 00)
3/16-in. Go/No-Go gauge (item 79, WP 0717 00)
1/4-in. Go/No-Go gauge (item 102, WP 0717 00)
Shackles (item 118, WP 0717 00) (AR)

Equipment Conditions

Main winch and spade assembly removed (WP 0497 00)
Main winch ground hop kit installed (WP 0498 00)

Personnel Required

Three

Materials/Parts

Electrical tape (item 27, WP 0716 00)

WARNING

Make sure main winch and spade assembly is secured to prevent movement or toppling during payout and adjustment. Failure to comply may result in injury or death to personnel.

CAUTION

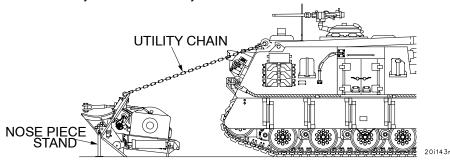
Chain length used to secure nose piece exceeds the length of the wiring harness and hoses found in Main Winch Ground Hop Kit. Adjust chain length short enough that Main Winch Ground Hop Kit wiring harness and hoses are not pulled loose when chains are drawn taut. Failure to comply will result in damage to equipment.

NOTE

This task must be performed with wire rope installed.

Adjustment

1. Secure winch using two utility chains, shackles (AR) and two nose piece stands. Make sure all slack in utility chains is removed and both utility chains are evenly drawn.



LAYER LIMIT SWITCHES ADJUSTMENT - CONTINUED

0503 00

Adjustment-Continued

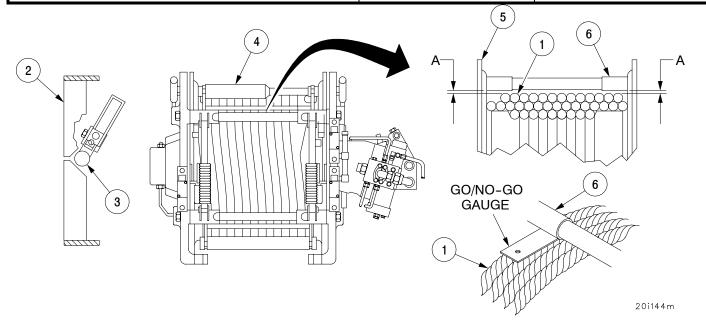
CAUTION

Clean grease and dirt from upper roller prior to performing limit switch task adjustment. Failure to comply will cause inaccurate measurements resulting in damage to equipment.

- 2. Keeping wire rope (1) under tension, pay out at least two wraps from the top layer while observing gap between upper spring guide bracket (2) and nylon roller (3). When gap is at its minimum distance, note location of wire rope (1) under the upper roller (4). This is the high spot on the drum.
- 3. Mark location of high spot found in step 2 with electrical tape on the winch drum flange (5).
- 4. Pay in wire rope (1) until high spot is directly under upper roller support tube (6).
- 5. Using go/no-go gauges, measure the clearance distance between the wire rope (1) and the upper roller support tube (6) at location A for both the right and left side.
- 6. Find the MEASURED CLEARANCE DISTANCE in the table below and write down the corresponding GAP SET-TING RANGE that matches the measured clearance distance for both the right and left side.

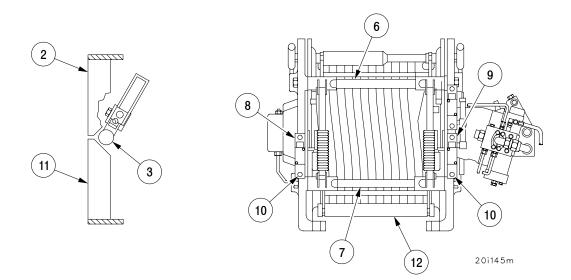
MEASURED CLEARANCE /GAP SETTING RANGE

MEASURED CLEARANCE DISTANCE	GAP SETTING RANGE	
1/8-in. or less	Do not adjust limit switch. Troubleshoot misspooling.	
	LOW	HIGH
1/8-in. go - 3/16-in. no-go	0.005	0.025
3/16-in. go - 1/4-in. no-go	0.036	0.056
1/4-in. or more	0.068	0.088



Adjustment-Continued

- 7. Rotate main winch until high spot is midway between upper roller support tube (6) and lower roller support tube (7).
- 8. Loosen left (8) and right (9) layer limit switch bracket attachment screws (10).
- 9. For both left (8) and right (9) layer limit switch, center nylon roller (3) in "V" formed between upper (2) and lower (11) spring guide brackets and tighten left (8) and right (9) layer limit switch bracket attachment screws (10) to 72 lb-in (8.14 N•m).
- 10. Rotate main winch until the high spot is under the lower roller (12).



NOTE

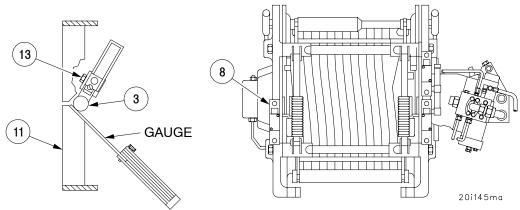
During the layer limit switches adjustment procedure the backside of the actuating arm opposite the nylon roller may contact the winch drum flange. If this occurs it is permissible to carefully bend the backside of the actuating arm to obtain clearance between the actuating arm and the winch drum flange.

- 11. Adjust left side layer limit switch (8) for bottom roller position.
 - a. Verify the left side layer limit switch (8) is not already in the active position by manually moving the nylon roller (3) until an audible click is heard.
 - b. If no click is heard then adjust left side layer limit switch (8) by loosening clamp nut (13) and rotating left layer limit switch (8) actuator arm.
 - c. Tighten clamp nut (13) and verify the left side layer limit switch (8) is not in the active position by manually moving the nylon roller (3) until an audible click is heard.

NOTE

More than one feeler gauge may be used together to obtain the required thickness.

- d. Using the gap setting range recorded for the left side layer limit switch (8) in step 6, select feeler gauge(s) that correspond to the LOW gap setting range.
- e. Insert feeler gauge(s) between lower spring guide (11) and nylon roller (3). Layer limit switch (8) should not click.
- f. Using the gap setting range recorded for the left side layer limit switch (8) in step 6, select feeler gauge(s) that correspond to the HIGH gap setting range.
- g. Insert feeler gauge(s) between lower spring guide (11) and nylon roller (3). Layer limit switch (8) should click.
- h. If layer limit switch (8) activates when it shouldn't or doesn't activate when it should, then loosen clamp nut (13) and rotate layer limit switch (8) activating arm to a new position.
- i. Tighten clamp nut (13) and repeat steps 11d through 11g. When the LOW range feeler gauge(s) do not activate layer limit switch (8) and the HIGH range feeler gauge(s) do activate layer limit switch (8) the adjustment is correct.

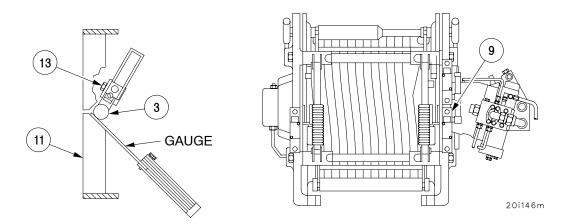


- 12. Adjust right side layer limit switch (9) for bottom roller position.
 - a. Verify the right side layer limit switch (9) is not already in the active position by manually moving the nylon roller (3) until an audible click is heard.
 - b. If no click is heard then adjust right side layer limit switch (9) by loosening clamp nut (13) and rotating right layer limit switch (9) actuator arm.
 - c. Tighten clamp nut (13) and verify the right side layer limit switch (9) is not in the active position by manually moving the nylon roller (3) until an audible click is heard.

NOTE

More than one feeler gauge may be used together to obtain the required thickness.

- d. Using the gap setting range recorded for the right side layer limit switch (9) in step 6, select feeler gauge(s) that correspond to the LOW gap setting range.
- e. Insert feeler gauge(s) between lower spring guide (11) and nylon roller (3). Layer limit switch (9) should not click.
- f. Using the gap setting range recorded for the right side layer limit switch (9) in step 6, select feeler gauge(s) that correspond to the HIGH gap setting range.
- g. Insert feeler gauge(s) between lower spring guide (11) and nylon roller (3). Layer limit switch (9) should click.
- h. If layer limit switch (9) activates when it shouldn't or doesn't activate when it should, then loosen clamp nut (13) and rotate layer limit switch (9) activating arm to a new position.
- i. Tighten clamp nut (13) and repeat steps 12d through 12g. When the LOW range feeler gauge(s) do not activate layer limit switch (9) and the HIGH range feeler gauge(s) do activate layer limit switch (9) the adjustment is correct.

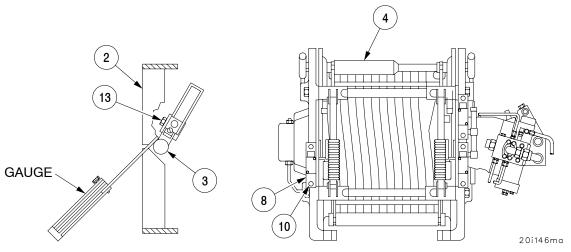


- 13. Rotate main winch until high spot is under the upper roller (4).
- 14. Adjust left side layer limit switch (8) for top roller position.
 - a. Verify the left side layer limit switch (8) is not already in the active position by manually moving the nylon roller (3) until an audible click is heard.
 - b. If no click is heard then adjust left side layer limit switch (8) by loosening clamp nut (13) and rotating left layer limit switch (8) actuator arm away from the upper spring guide bracket (2) ramp.
 - c. Tighten clamp nut (13) and verify the left side layer limit switch (8) is not in the active position by manually moving the nylon roller (3) until an audible click is heard.

NOTE

More than one feeler gauge may be used together to obtain the required thickness.

- d. Using the gap setting range recorded for the left side layer limit switch (8) in step 6, select feeler gauge(s) that correspond to the LOW gap setting range.
- e. Insert feeler gauge(s) between upper spring guide (2) and nylon roller (3). Layer limit switch (8) should not click.
- f. Using the gap setting range recorded for the left side layer limit switch (8) in step 6, select feeler gauge(s) that correspond to the HIGH gap setting range.
- g. Insert feeler gauge(s) between upper spring guide (2) and nylon roller (3). Layer limit switch (8) should click.
- h. If layer limit switch (8) does not activate when the HIGH range feeler gauge is inserted loosen screws (10) and adjust layer limit switch (8) upward.
- i. Tighten screws (10) and repeat steps 14d through 14g.
- j. If layer limit switch (9) activates when LOW range feeler gauge is inserted loosen clamp nut (13) and rotate layer limit switch (9) activating arm away from the upper spring guide bracket (2) ramp.
- k. Tighten clamp nut (13) and repeat steps 14d through 14k.
- I. When the LOW range feeler gauge(s) do not activate layer limit switch (8) and the HIGH range feeler gauge(s) do activate layer limit switch (8) the adjustment is correct.



LAYER LIMIT SWITCHES ADJUSTMENT - CONTINUED

0503 00

Adjustment-Continued

NOTE

The right side layer limit switch is not re-adjusted for position of the upper roller. The right side of the upper roller is sized to activate the payout limit switch. Leave the right side layer limit switch setting as it was set after step 12.

15. Payout main winch under tension at least three wraps. Pay in main winch without tension to comfirm that layer limit switches do not activate. If any switch activates, repeat steps 2 through 15.

NOTE

FOLLOW-ON MAINTENANCE:

Disconnect main winch ground hop kit (WP 0498 00) Install main winch and spade assembly (WP 0497 00)

END OF TASK

DIAMOND SCREW CENTERING ADJUSTMENT

0504 00

THIS WORK PACKAGE COVERS:

Adjustment

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

Main winch wire rope assembly removed (WP 0499 00) Level winder guard removed (WP 0507 00)

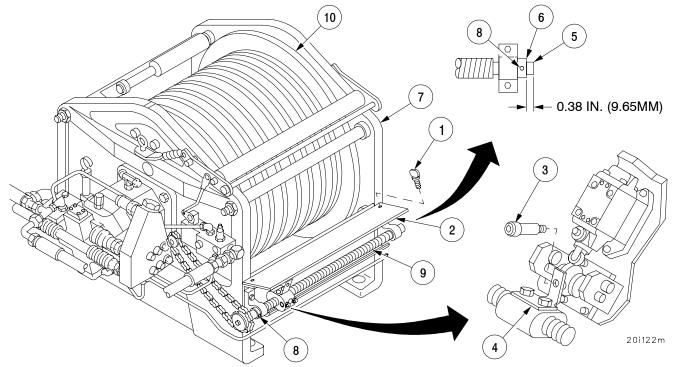
Adjustment

1. Remove two thumbscrews (1) from nutguard (2) cover and raise cover.

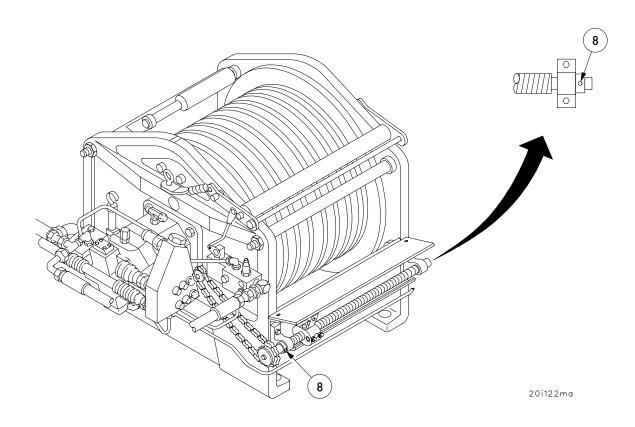
NOTE

If main winch was replaced, diamond screw shoulder screw may not have been installed.

- 2. Remove diamond screw shoulder screw (3) from bracket (4).
- 3. Measure distance between end of diamond screw shaft (5) and pillow block collar (6) on brake side of winch (7). Measurement should be 0.38 inches (9.65 mm), if not proceed to step 4.
- 4. Loosen two pillow block setscrews (8).
- 5. Center diamond screw (9) between drum flanges (10) by adjusting the diamond screw (9) to 0.38 inch (9.65 mm) measurement at brake end pillow block.



6. Tighten two pillow block setscrews (8).



NOTE

FOLLOW-ON MAINTENANCE:

Main winch drum and diamond screw synchronized (WP 0505 00).

MAIN WINCH DRUM AND DIAMOND SCREW SYNCHRONIZATION ADJUSTMENT

0505 00

THIS WORK PACKAGE COVERS:

Adjustment

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Main winch ground hop kit (item 26, WP 0717 00 or item 128, WP 0717 00) Combination square (item 74, WP 0717 00) Steel rule (item 73, WP 0717 00)

Materials/Parts

Sealing compound (item 78, WP 0716 00) Wiping rags (item 7, WP 0716 00)

Equipment Conditions

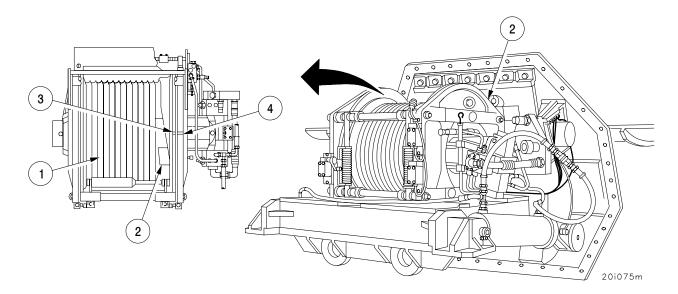
Main winch ground hop kit installed (WP 0498 00)
Diamond screw centered (WP 0504 00)

Personnel Required

Two

Adjustment

1. Rotate drum (1) until cable pocket (2) is in the horizontal (top) position and the timing marks on the drum flange (3) and motor end winch housing (4) are aligned.



MAIN WINCH DRUM AND DIAMOND SCREW SYNCHRONIZATION ADJUSTMENT - CONTINUED

0505 00

Adjustment-Continued

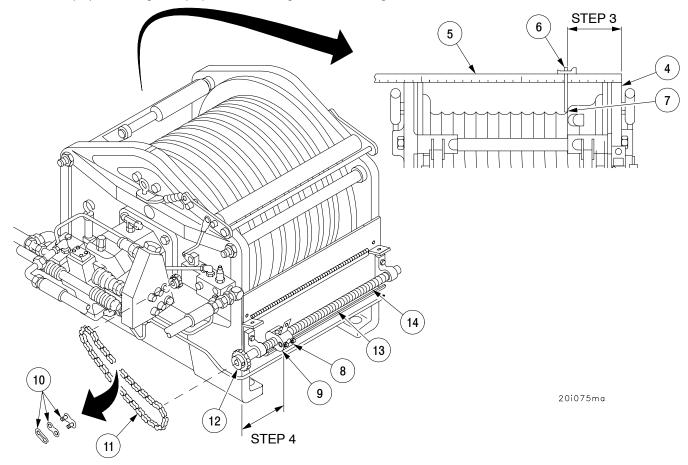
- 2. Using a steel rule (5) and combination square (6), measure at top of winch, the distance from outside of motor end winch housing (4) to offset in drum (7). Offset occurs at beginning of rope grooves.
- 3. Subtract 1.75 inches (44.45 mm) from distance determined in step 2.
- 4. Check that follower nut (8) is moving away from motor end of winch housing (4) and follower nut trailing edge (9) is located at distance determined in step 3 (measurement is taken from outside edge of motor end of winch housing).

NOTE

If measurement in step 4 is not correct, perform steps 5 through 7.

Place rag under roller chain so master link doesn't drop down under main winch where it cannot be retrieved.

- 5. Remove master link (10) in roller chain (11) and remove roller chain.
- 6. Rotate diamond screw sprocket (12) counterclockwise, when viewed from drive sprocket end (motor end), until trailing edge of follower nut (9) is at distance determined in step 3.
- 7. Check that follower nut (8) is riding in groove on the lower edge of nut guard (13) and space between diamond screw (14) and nut guard (13) is even throughout its full range of travel.



MAIN WINCH DRUM AND DIAMOND SCREW SYNCHRONIZATION ADJUSTMENT - CONTINUED

0505 00

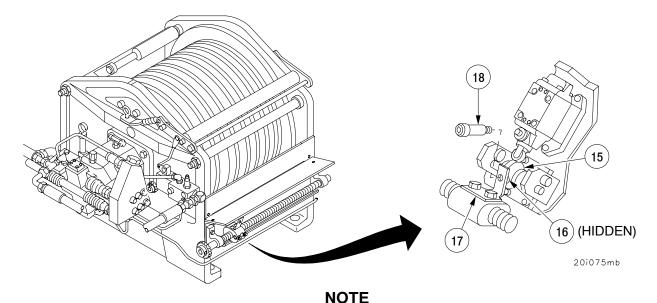
Adjustment-Continued

8. Start APU and move system selector control valve handle to AUX position (TM 9-2350-292-10).

NOTE

If level wind cylinder does not move apply light PAYIN pressure to main winch control lever until level wind cylinder moves.

- 9. Using a long screwdriver, move roller guide (15) left or right until roller guide shoulder bolt hole (16) lines up with bracket (17).
- 10. Shut down APU (TM 9-2350-292-10).
- 11. Apply sealing compound to threads of shoulder screw (18).
- 12. Secure bracket (17) to roller guide (15) with shoulder screw (18).



FOLLOW-ON MAINTENANCE:

Main winch and cable guide synchronized (WP 0506 00).

MAIN WINCH AND CABLE GUIDE SYNCHRONIZATION ADJUSTMENT

0506 00

THIS WORK PACKAGE COVERS:

Adjustment

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Main winch ground hop kit (item 26, WP 0717 00 or item 128, WP 0717 00) Combination square (item 74, WP 0717 00) Steel rule (item 73, WP 0717 00)

Materials/Parts

Black paint (item 60, WP 0716 00) Wiping rag (item 7, WP 0716 00)

Equipment Conditions

Diamond screw centered (WP 0504 00) Main winch drum and diamond screw synchronized (WP 0505 00).

Personnel Required

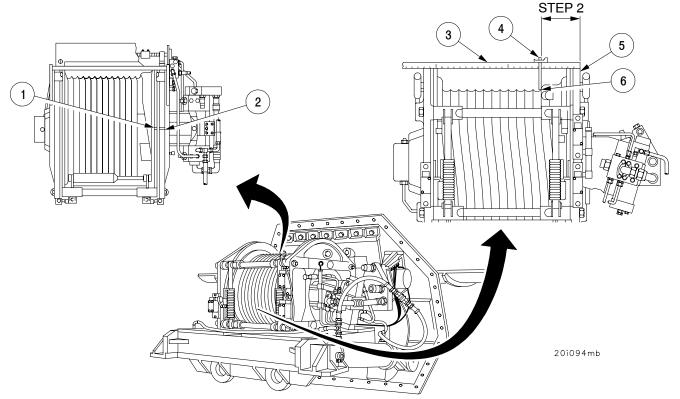
Two

Adjustment

NOTE

Cable guide must be moving toward center of winch when upper plate guide and cable guide timing marks are aligned.

- 1. Ensure timing marks on drum flange (1) and motor end winch housing (2) align.
- 2. Using a steel rule (3) and combination square (4), measure at top of winch, the distance from outside of motor end winch housing (5) to offset in drum (6). Offset occurs at beginning of rope grooves.
- 3. Subtract 0.25 inch (6.35 mm) from distance determined in step 2.

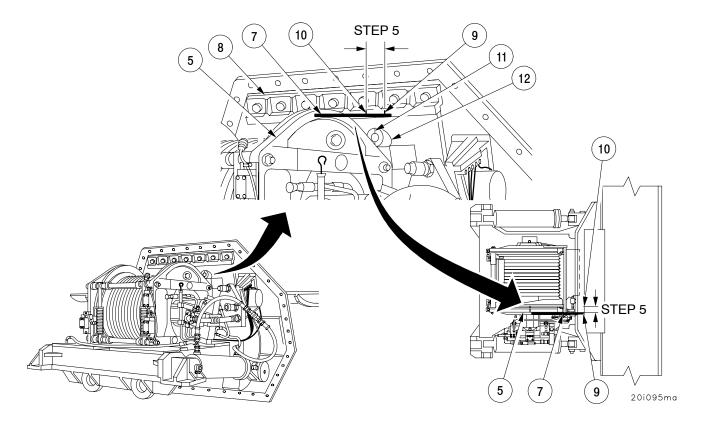


MAIN WINCH AND CABLE GUIDE SYNCHRONIZATION ADJUSTMENT - CONTINUED

0506 00

Adjustment-Continued

- 4. Place steel rule (7) flush against motor end housing (5) so that end touches upper plate guide (8), transfer a temporary mark (9) to upper plate guide at point of contact coinciding with outside edge of the (motor end) winch housing (5).
- 5. Starting at mark (9) on upper plate guide (8) measure across face of guide using distance determined in step 3. Scribe a timing mark (10).
- 6. Check alignment of upper plate guide timing mark (10) and cable guide timing mark (11) on cable guide (12). If marks are not precisely aligned, measure the amount of misalignment.
 - a. If misalignment is less than or equal to 0.125 inch (3.17 mm), alignment is within acceptable limits. Proceed to step 10.
 - b. If misalignment is greater than 0.125 inch (3.17 mm), proceed to step 7.
- 7. Rotate main winch drum until upper plate guide timing mark (10) and cable guide timing mark (11) are aligned.



MAIN WINCH AND CABLE GUIDE SYNCHRONIZATION ADJUSTMENT - CONTINUED

0506 00

Adjustment-Continued

8. Rotate drum (13) until cable pocket (14) is in horizontal (top) position and timing marks on drum flange (1) and motor end winch housing (2) align.

NOTE

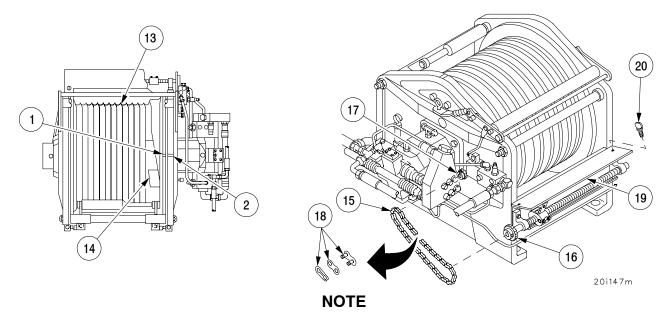
Place rag under roller chain so master link does not drop down under main winch where it cannot be retrieved.

9. Install roller chain (15) on sprockets (16 and 17). Rotate sprocket (16) the minimum amount possible to achieve chain (15) assembly. Maximum movement allowed is less than one tooth. Install master link (18).

NOTE

If main winch, upper plate guide or cable guide is removed, replaced or repaired repeat steps 1 through 6.

- 10. Remove main winch ground hop kit (WP 0498 00).
- 11. Close nutguard (19) cover and secure with two thumbscrews (20).



FOLLOW-ON MAINTENANCE:

Install level winder guard (WP 0507 00)
Install main winch wire rope assembly (WP 0499 00)

LEVEL WINDER GUARD REPLACEMENT

0507 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 9, WP 0718 00)

Equipment Conditions

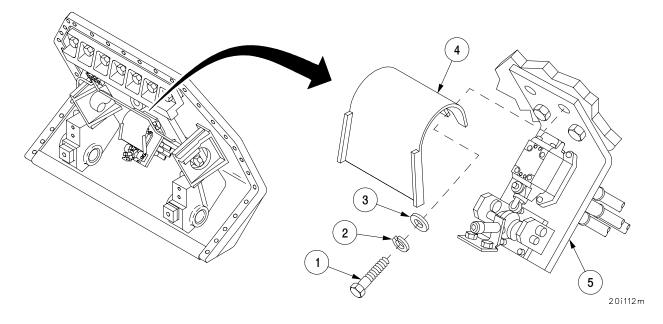
Main winch and spade assembly removed (WP 0497 00)

Removal

- 1. Remove two screws (1), two lockwashers (2), two flat washers (3) and guard (4) from mounting bracket (5). Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install guard (4) on mounting bracket (5) with two screws (1), two new lockwashers (2) and two flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade assembly (WP 0497 00)

ROLLER BRACKET ASSEMBLY REPAIR

0508 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

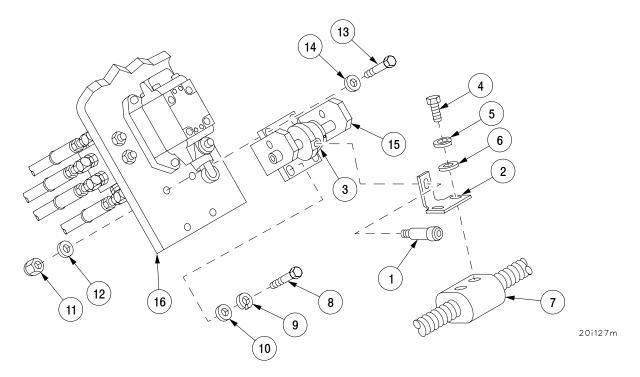
Limit switches removed (WP 0251 00)

Materials/Parts

Spring pin (item 318, WP 0718 00) Lockwashers (5) (item 9, WP 0718 00) Self-locking nut (item 155, WP 0718 00)

Removal

- 1. Remove screw (1) from plate (2) and roller guide (3).
- 2. Remove two screws (4), two lockwashers (5), two flat washers (6) and plate (2) from diamond screw (7). Discard lockwashers.
- 3. Remove three screws (8), three lockwashers (9) and three flat washers (10). Discard lockwashers.
- 4. Remove self-locking nut (11), flat washer (12), screw (13), flat washer (14) and roller bracket assembly (15) from mounting bracket (16). Discard self-locking nut.



ROLLER BRACKET ASSEMBLY REPAIR - CONTINUED

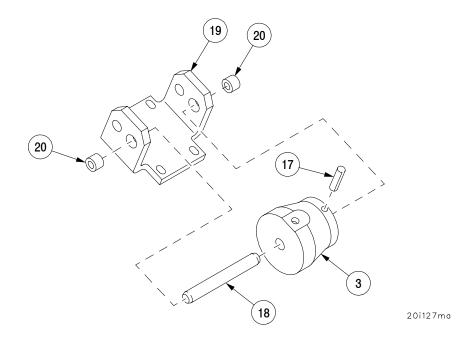
0508 00

Disassembly

- 1. Remove spring pin (17) from roller guide (3). Discard spring pin.
- 2. Remove shaft (18) from roller guide (3) and bracket (19).
- 3. Remove two bushings (20) from bracket (19).
- 4. Inspect parts for damage and replace as required.

Assembly

- 1. Install two bushings (20) in bracket (19).
- 2. Install shaft (18) and roller guide (3) on bracket (19).
- 3. Align spring pin hole in roller guide (3) with hole in shaft (18), install new spring pin (17).



ROLLER BRACKET ASSEMBLY REPAIR - CONTINUED

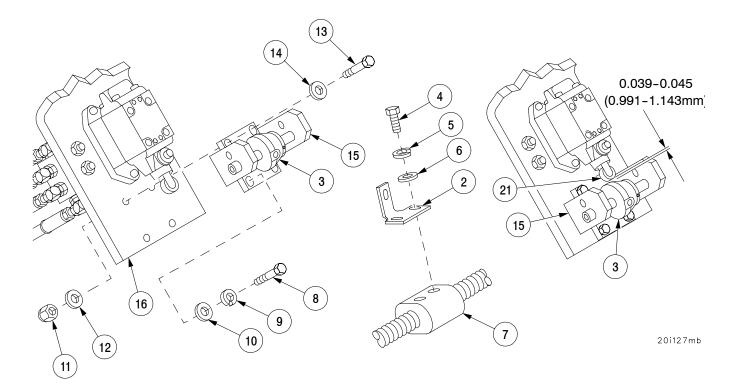
0508 00

Installation

NOTE

Do not tighten roller bracket assembly hardware until step 3 is completed.

- 1. Install roller bracket assembly (15) on mounting bracket (16) with screw (13), flat washer (14), flat washer (12) and new self-locking nut (11).
- 2. Install three screws (8), three new lockwashers (9) and three flat washers (10) in roller bracket assembly (15).
- 3. Adjust position of roller bracket assembly (15) so that there is 0.039–0.045 inch (0.991–1.143 mm) gap between the control valve plunger roller (21) and roller guide (3) when plunger is fully depressed. Tighten four screws (13 and 8) securing roller bracket assembly (15).
- 4. Install plate (2) on diamond screw (7) with two screws (4), two new lockwashers (5) and two flat washers (6).
- 5. Install level winder limit switches (WP 0251 00).



LEVEL WIND LIMIT SWITCHES ADJUSTMENT

0509 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00)

Materials/Parts

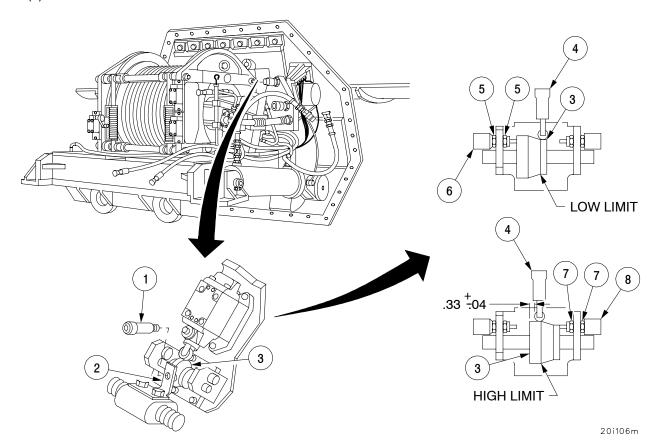
Sealing compound (item 78, WP 0716 00)

Equipment Conditions

Level winder guard removed (WP 0507 00) Roller bracket adjusted (WP 0508 00)

Adjustment

- 1. Remove screw (1) from plate (2) and roller guide (3).
- 2. Move roller guide (3) until control valve plunger roller (4) is positioned at low limit on roller guide (3).
- 3. Loosen two locknuts (5), adjust left limit switch (6) for minimal contact with roller guide (3). Tighten two locknuts (3).
- 4. Move roller guide (3) until control valve plunger roller (4) is positioned at high limit on roller guide (3) (.33 ±.04 inch (8.4 mm) from edge of roller guide (3) and valve roller plunger (4)).
- 5. Loosen two locknuts (7), adjust right limit switch (8) for minimal contact with roller guide (3). Tighten two locknuts (7).

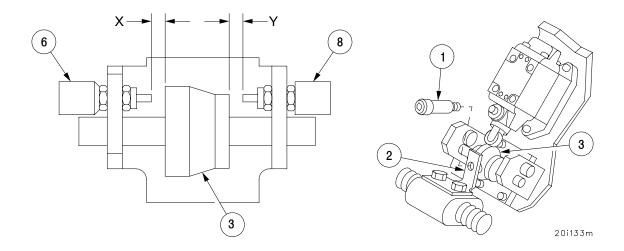


LEVEL WIND LIMIT SWITCHES ADJUSTMENT - CONTINUED

0509 00

Adjustment-Continued

- 6. Measure and record air gap "X" between roller guide (3) and left limit switch (6).
- 7. Measure and record the air gap "Y" between roller guide (3) and right limit switch (8).
- 8. The sum of air gaps "X" and "Y" between roller guide (3) and left limit switch (6) and right limit switch (8) should be between 0.78-0.94 inch (19.8-23.9 mm).
- 9. Apply sealing compound to threads of screw (1).
- 10. Install screw (1) to plate (2) and roller guide (3).
- 11. Torque screw (1) to 20-24 lb-ft (27-33 N•m)



NOTE

FOLLOW-ON MAINTENANCE:

Install level winder guard (WP 0507 00)

0510 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

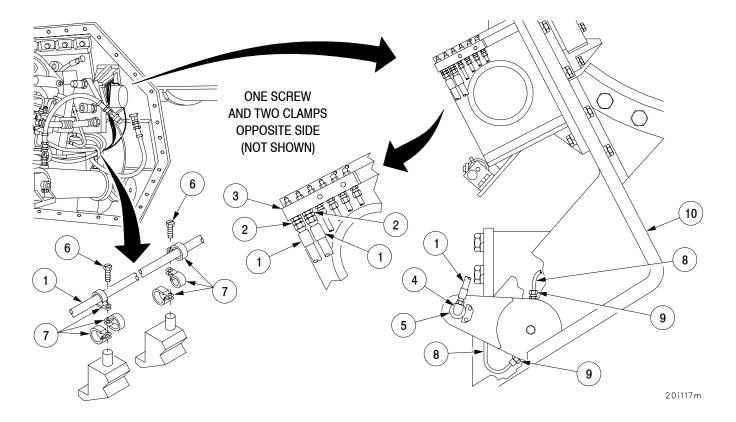
Lockwashers (2) (item 9, WP 0718 00)

Equipment Conditions

Main winch and spade assembly removed (WP 0497 00)

Removal

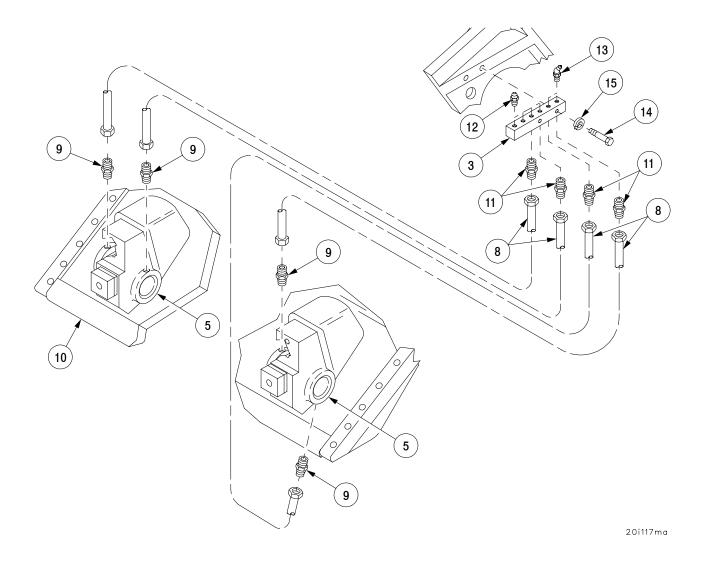
- 1. Disconnect two hoses (1) from pipe couplings (2) at adapter block (3).
- 2. Disconnect two hoses (1) from two fitting assemblies (4) at spade cylinder link pivot points (5).
- 3. Remove two screws (6), six clamps (7) and one hose (1).
- 4. Remove two pipe couplings (2) from adapter block (3).
- 5. Disconnect four tubes (8) from four straight adapters (9) at spade cylinder link pivot points (5) in hull cover plate assembly (10).



0510 00

Removal-Continued

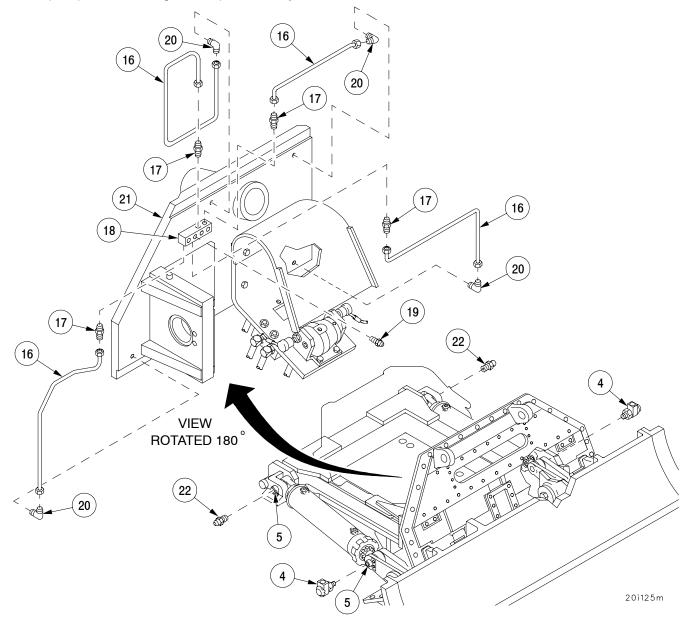
- 6. Remove four straight adapters (9) from spade cylinder link pivot points (5) in hull cover plate assembly (10).
- 7. Disconnect four tubes (8) from four straight adapters (11) at adapter block (3).
- 8. Remove four straight adapters (11) from adapter block (3).
- 9. Remove four lubrication fittings (12) from adapter block (3).
- 10. Remove two lubrication fittings (13) from adapter block (3).
- 11. Remove two screws (14), two lockwashers (15) and adapter block (3) from hull cover plate assembly (10). Discard lockwashers.



0510 00

Removal-Continued

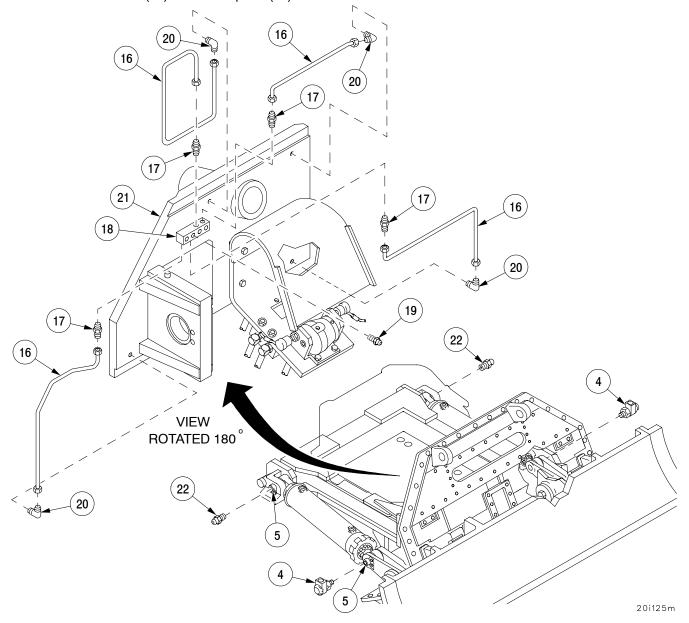
- 12. Disconnect four tubes (16) from four adapters (17).
- 13. Remove four adapters (17) from adapter block (18).
- 14. Remove four lubrication fittings (19) from adapter block (18).
- 15. Remove four tubes (16) from four elbows (20) at plate assembly (21).
- 16. Remove four elbows (20) from plate assembly (21).
- 17. Remove two lubrication fittings (22) and two fitting assemblies (4) from spade cylinder link pivot points (5).
- 18. Inspect parts for damage and replace as required.



0510 00

Installation

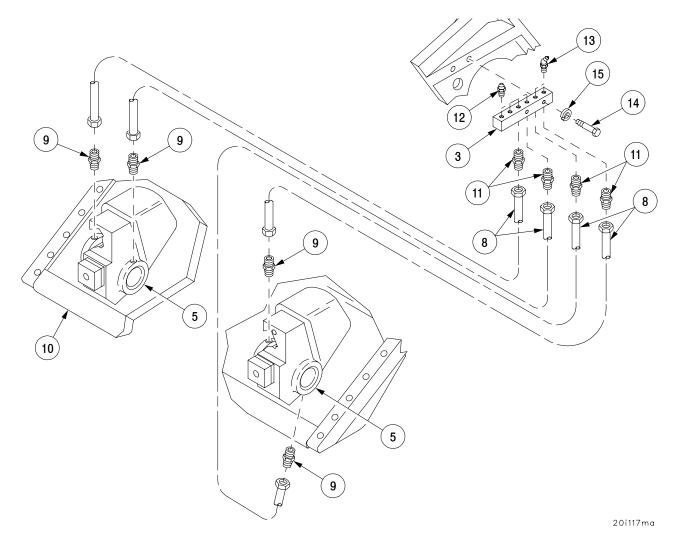
- 1. Install two lubrication fittings (22) and two fitting assemblies (4) at spade cylinder link pivot points (5).
- 2. Install four elbows (20) in plate assembly (21).
- 3. Install four tubes (16) on four elbows (20) at plate assembly (21).
- 4. Install four lubrication fittings (19) in adapter block (18).
- 5. Install four adapters (17) in adapter block (18).
- 6. Connect four tubes (16) to four adapters (17).



0510 00

Installation-Continued

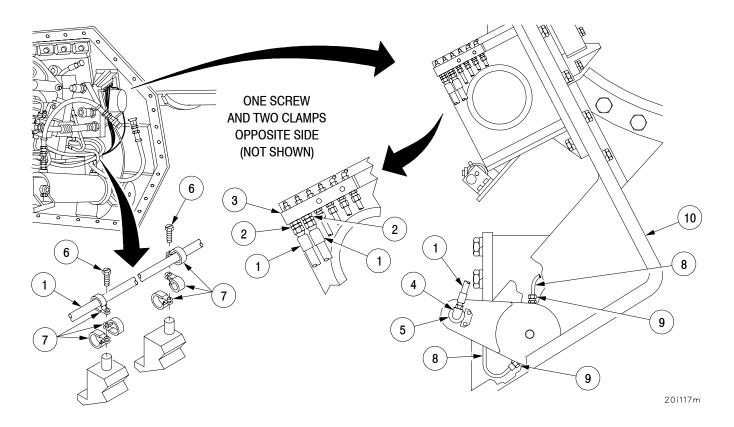
- 7. Install adapter block (3) on hull cover plate assembly (10) with two screws (14) and two new lockwashers (15).
- 8. Install two lubrication fittings (13) in adapter block (3).
- 9. Install four lubrication fittings (12) in adapter block (3).
- 10. Install four straight adapters (11) in adapter block (3).
- 11. Connect four tubes (8) to four straight adapters (11) on adapter block (3).
- 12. Install four straight adapters (9) on spade cylinder link pivot points (5) in hull cover plate assembly (10).



0510 00

Installation-Continued

- 13. Connect four tubes (8) to four straight adapters (9) at spade cylinder link pivot points (5) in hull cover plate assembly (10).
- 14. Install two pipe couplings (2) in adapter block (3).
- 15. Install one hose (1) and six clamps (7) with two screws (6).
- 16. Connect two hoses (1) to two fitting assemblies (4) at spade cylinder link pivot points (5).
- 17. Connect two hoses (1) to pipe couplings (2) at adapter block (3).
- 18. Lubricate spade assembly in accordance with WP 0187 00.



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade assembly (WP 0497 00)

0510 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

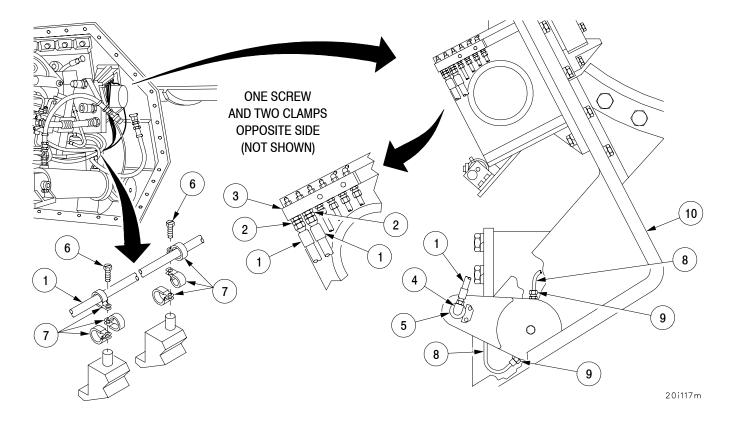
Lockwashers (2) (item 9, WP 0718 00)

Equipment Conditions

Main winch and spade assembly removed (WP 0497 00)

Removal

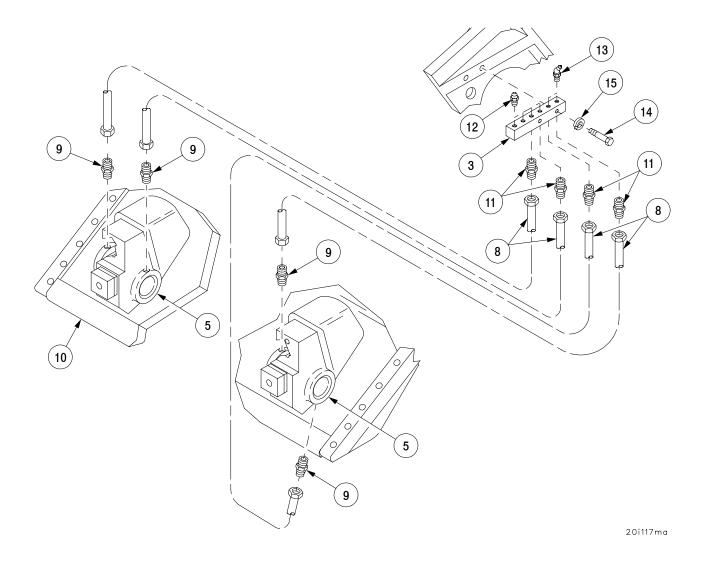
- 1. Disconnect two hoses (1) from pipe couplings (2) at adapter block (3).
- 2. Disconnect two hoses (1) from two fitting assemblies (4) at spade cylinder link pivot points (5).
- 3. Remove two screws (6), six clamps (7) and one hose (1).
- 4. Remove two pipe couplings (2) from adapter block (3).
- 5. Disconnect four tubes (8) from four straight adapters (9) at spade cylinder link pivot points (5) in hull cover plate assembly (10).



0510 00

Removal-Continued

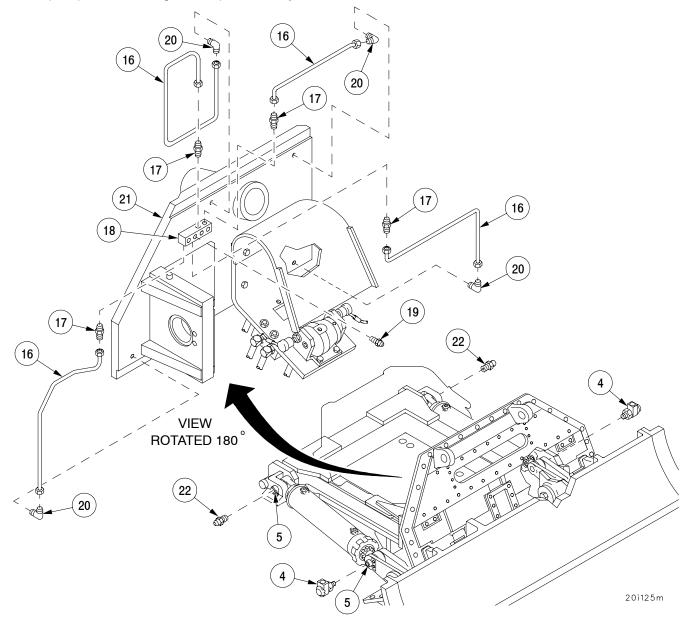
- 6. Remove four straight adapters (9) from spade cylinder link pivot points (5) in hull cover plate assembly (10).
- 7. Disconnect four tubes (8) from four straight adapters (11) at adapter block (3).
- 8. Remove four straight adapters (11) from adapter block (3).
- 9. Remove four lubrication fittings (12) from adapter block (3).
- 10. Remove two lubrication fittings (13) from adapter block (3).
- 11. Remove two screws (14), two lockwashers (15) and adapter block (3) from hull cover plate assembly (10). Discard lockwashers.



0510 00

Removal-Continued

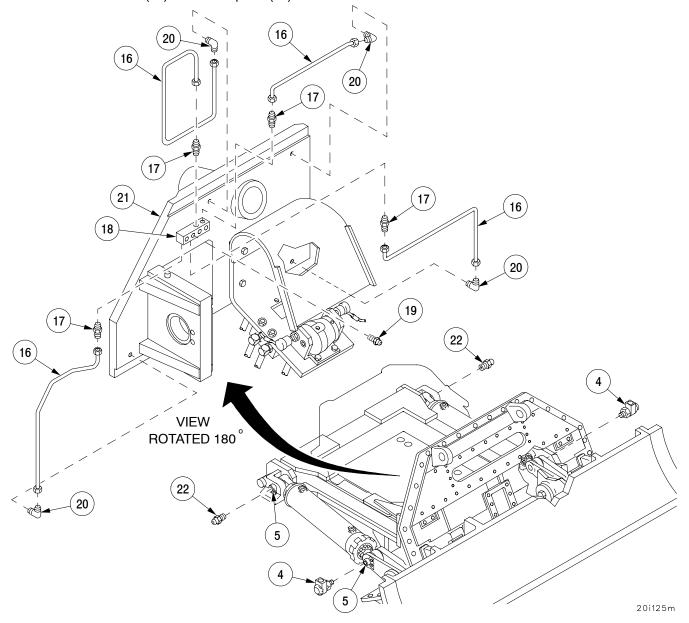
- 12. Disconnect four tubes (16) from four adapters (17).
- 13. Remove four adapters (17) from adapter block (18).
- 14. Remove four lubrication fittings (19) from adapter block (18).
- 15. Remove four tubes (16) from four elbows (20) at plate assembly (21).
- 16. Remove four elbows (20) from plate assembly (21).
- 17. Remove two lubrication fittings (22) and two fitting assemblies (4) from spade cylinder link pivot points (5).
- 18. Inspect parts for damage and replace as required.



0510 00

Installation

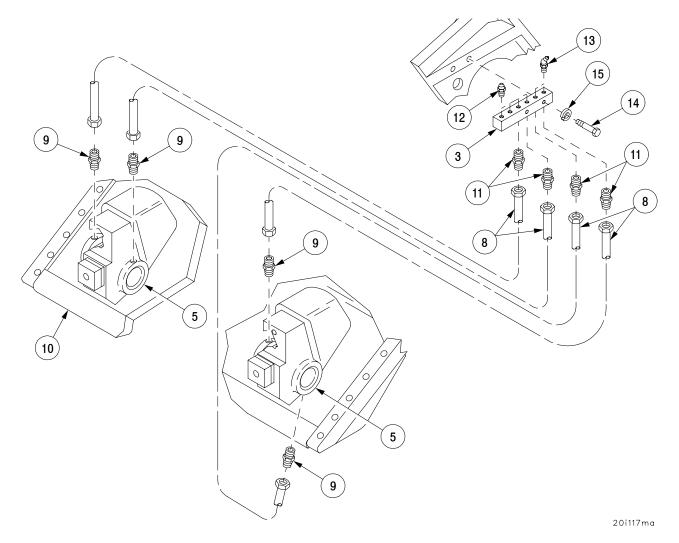
- 1. Install two lubrication fittings (22) and two fitting assemblies (4) at spade cylinder link pivot points (5).
- 2. Install four elbows (20) in plate assembly (21).
- 3. Install four tubes (16) on four elbows (20) at plate assembly (21).
- 4. Install four lubrication fittings (19) in adapter block (18).
- 5. Install four adapters (17) in adapter block (18).
- 6. Connect four tubes (16) to four adapters (17).



0510 00

Installation-Continued

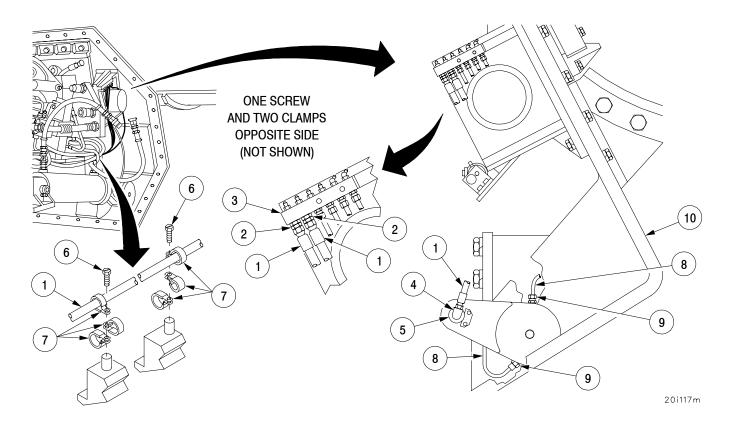
- 7. Install adapter block (3) on hull cover plate assembly (10) with two screws (14) and two new lockwashers (15).
- 8. Install two lubrication fittings (13) in adapter block (3).
- 9. Install four lubrication fittings (12) in adapter block (3).
- 10. Install four straight adapters (11) in adapter block (3).
- 11. Connect four tubes (8) to four straight adapters (11) on adapter block (3).
- 12. Install four straight adapters (9) on spade cylinder link pivot points (5) in hull cover plate assembly (10).



0510 00

Installation-Continued

- 13. Connect four tubes (8) to four straight adapters (9) at spade cylinder link pivot points (5) in hull cover plate assembly (10).
- 14. Install two pipe couplings (2) in adapter block (3).
- 15. Install one hose (1) and six clamps (7) with two screws (6).
- 16. Connect two hoses (1) to two fitting assemblies (4) at spade cylinder link pivot points (5).
- 17. Connect two hoses (1) to pipe couplings (2) at adapter block (3).
- 18. Lubricate spade assembly in accordance with WP 0187 00.



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade assembly (WP 0497 00)

MAIN WINCH CABLE ARMOR PLATES AND GUIDES REPLACEMENT

0511 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lubricant (item 3, WP 0716 00) Lockwashers (6) (item 138, WP 0718 00) Lockwashers (22) (item 27, WP 0718 00)

Lockwashers (10) (item 12, WP 0718 00)

Equipment Conditions

Main winch wire rope assembly removed (WP 0497 00)

For center plate and lower guide replacement

Personnel Required

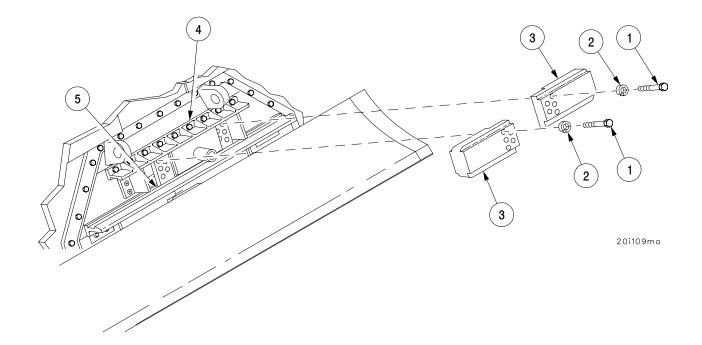
Two





Removal

- 1. Remove five screws (1) and five lockwashers (2) from each side end plate (3). Discard lockwashers.
- 2. Slide side end plates (3) from upper guide (4) and lower guide (5).



MAIN WINCH CABLE ARMOR PLATES AND GUIDES REPLACEMENT - CONTINUED

0511 00

Removal-Continued

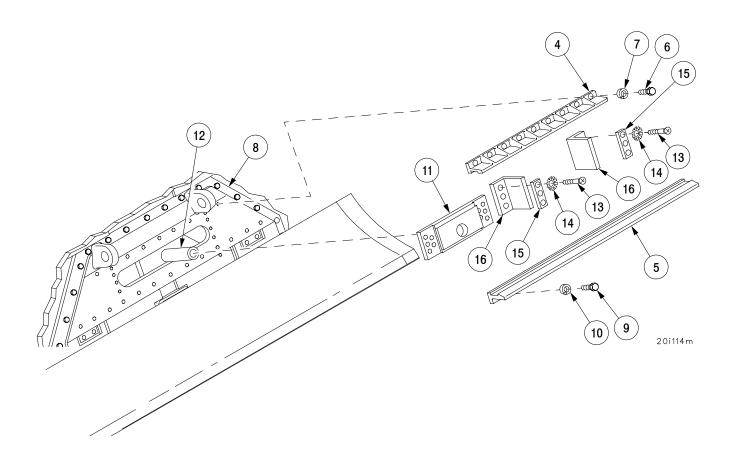
- 3. Remove nine screws (6), nine lockwashers (7) and upper guide (4) from front hull cover assembly (8). Discard lockwashers.
- 4. Remove 13 screws (9), 13 lockwashers (10) and lower guide (5) from front hull cover assembly (8). Discard lockwashers.
- 5. Lift center plate (11) from trumpet (12).
- 6. Remove three screws (13), three lockwashers (14), plate (15) and seal (16) from each side of front hull cover assembly (8). Discard lockwashers.
- 7. Inspect parts for damage and replace as required.

Installation

NOTE

Before lubricating guiderails, make sure guiderails are free of dirt and debris.

- 1. Apply lubricant to sliding surfaces of upper guide (4) and lower guide (5).
- Install seal (16) and plate (15) on each side of front hull cover assembly (8) with three screws (13) and three new lockwashers (14).
- 3. Lift center plate (11) until center plate (11) is positioned over cable trumpet (12).
- 4. Install lower guide (5) on front hull cover assembly (8) with 13 screws (9) and 13 new lockwashers (10).
- 5. Install upper guide (4) on front hull cover assembly (8) with nine screws (6) and nine new lockwashers (7).

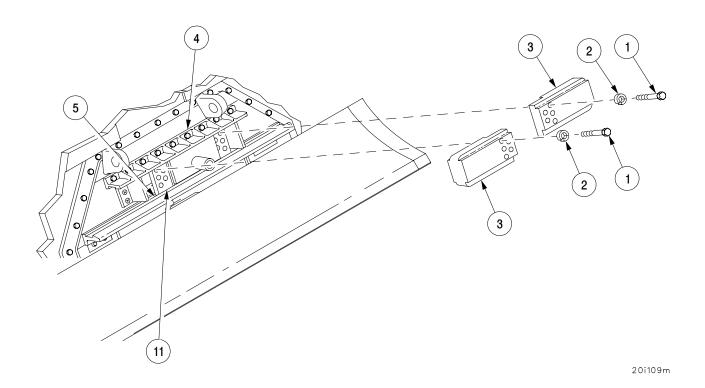


MAIN WINCH CABLE ARMOR PLATES AND GUIDES REPLACEMENT - CONTINUED

0511 00

Installation-Continued

6. Slide each side end plate (3) in upper guide (4) and lower guide (5) until holes in end plate (3) align with holes in center plate (11), secure with five screws (1) and five new lockwashers (2) in each side end plate (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch wire rope assembly, if removed (WP 0497 00)

SPADE UPPER AND LOWER STOPS REPLACEMENT

0512 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 12, WP 0718 00) Adhesive (item 29, WP 0716 00)

Equipment Conditions

Spade lowered for upper stops (TM 9-2350-292-10) Spade raised for lower stops (TM 9-2350-292-10)

References

TM 9-2350-292-10

NOTE

Perform Removal steps 1 and 3 and Installation steps 2 and 3 for maintenance of upper stops. This task replaces only one upper stop.

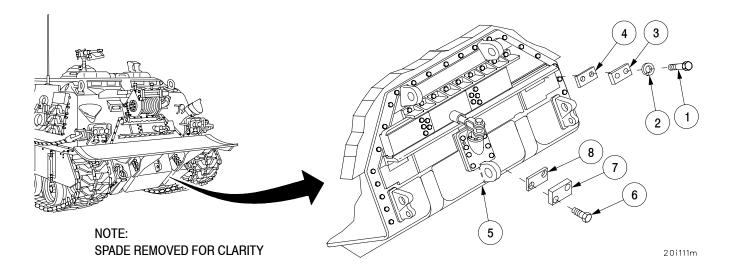
Perform Removal steps 2 and 3 and Installation step 1 for maintenance of lower stops. This task replaces only one lower stop.

Removal

NOTE

Note the quantity and position of shim(s) being removed to ensure shim(s) are installed in the same position.

- 1. Remove two screws (1), two lockwashers (2), upper stop (3) and shim(s) (4) from front hull cover assembly (5). Discard lockwashers.
- 2. Remove two screws (6), lower stop (7) and shim(s) (8) from front hull cover assembly (5).
- 3. Inspect parts for damage and replace as required.

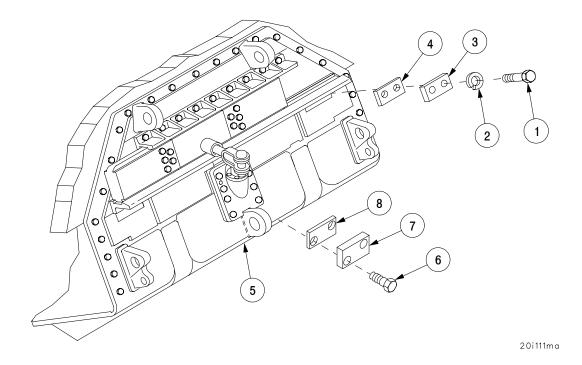


SPADE UPPER AND LOWER STOPS REPLACEMENT - CONTINUED

0512 00

Installation

- 1. Apply sealing compound to threads of screws (1 and 6).
- 2. Install lower stop (7) and shim(s) (8) on front hull cover assembly (5) with two screws (6).
- 3. Install upper stop (3) and shim(s) (4) on front hull cover assembly (5) with two new lockwashers (2) and two screws (1).
- 4. Raise and lock spade, if lowered (TM 9-2350-292-10).



AUXILIARY WINCH ASSEMBLY, PLATE AND COVER REPLACEMENT

0513 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 9, WP 0717 00)

Socket wrench socket (item 29, WP 0717 00)

Endless sling (item 23, WP 0717 00)

Suitable lifting device (650 lbs (295.1 kg) min cap)

Material/Parts

Lockwashers (4) (item 78, WP 0718 00)

Lockwashers (8) (item 35, WP 0718 00)

Lockwashers (4) (item 2, WP 0718 00)

Sealing compound (item 16, WP 0716 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Equipment Conditions

Flanges removed from hydraulic motor (WP 0516 00)

Personnel Required

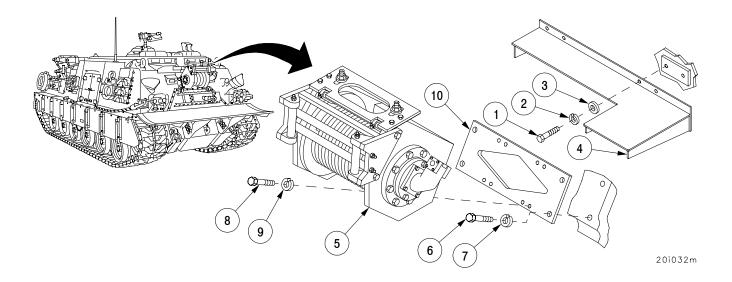
Two

Removal

- 1. Remove four screws (1), four lockwashers (2), four flat washers (3) and cover (4). Discard lockwashers.
- 2. Attach endless sling to auxiliary winch (5) and to suitable lifting device.
- 3. Take up slack on suitable lifting device to support the weight of auxiliary winch (5).



- 4. Remove four screws (6), four lockwashers (7) and auxiliary winch (5) from vehicle. Discard lockwashers.
- 5. Remove eight screws (8), eight lockwashers (9) and plate (10) from auxiliary winch (5). Discard lockwashers.
- 6. Inspect parts for damage and replace as required.



AUXILIARY WINCH ASSEMBLY, PLATE AND COVER REPLACEMENT - CONTINUED

0513 00

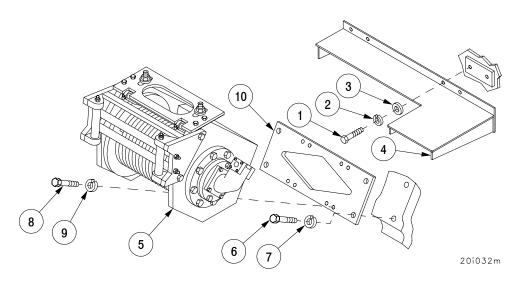
Installation



- 1. Clean eight screws (8) and four screws (6) with dry-cleaning solvent.
- 2. Apply sealing compound to eight screws (8) and four screws (6).
- 3. Install plate (10) on auxiliary winch (5) with eight screws (8) and eight new lockwashers (9). Torque eight screws (8) to 240-256 lb-ft (325-347 N•m).
- 4. Attach endless sling to auxiliary winch (5) and suitable lifting device.



- Lift auxiliary winch (5) to position on vehicle.
- 6. Secure auxiliary winch (5) and plate (10) to vehicle with four screws (6) and four new lockwashers (7). Torque four screws (6) to 420-448 lb-ft. (566-607 N•m).
- 7. Install cover (4) with four screws (1), four new lockwashers (2) and four flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install flanges in hydraulic motor (WP 0516 00)

AUXILIARY WINCH HOSES AND FITTINGS REPLACEMENT

0514 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Preformed packing (item 74, WP 0718 00)

Preformed packing (item 43, WP 0718 00)

Preformed packings (2) (item 431, WP 0718 00)

Preformed packings (6) (item 432, WP 0718 00)

Preformed packings (6) (item 433, WP 0718 00)

Equipment Conditions

Boom in stowed position (TM 9-2350-292-10)

Spade in stowed position

(TM 9-2350-292-10)

Auxiliary winch cover removed

(WP 0513 00)

References

TM 9-2350-292-10

Removal





The hydraulic system is rated 4450 psi. Do not torque or remove hydraulic lines or fittings when system is pressurized. Failure to comply could result in death or injury to personnel due to hydraulic fluid under high pressure being released.

NOTE

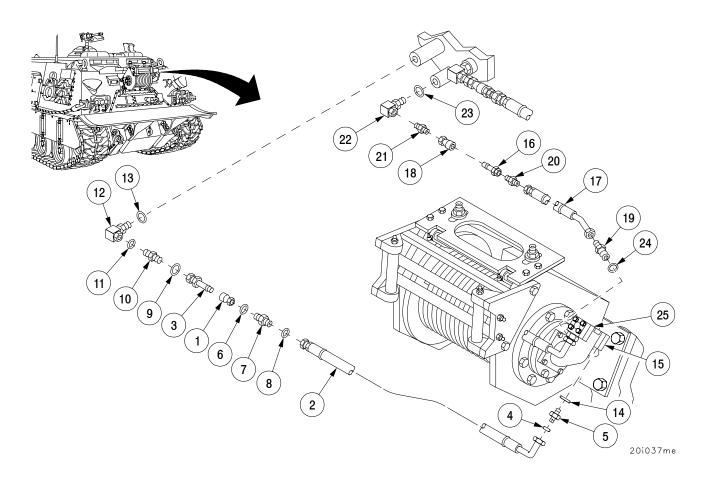
Cap all hydraulic lines, and plug all hydraulic ports to prevent contamination. Place a suitable container under connections to catch spillage.

- 1. Disconnect coupling half (1) and hydraulic hose assembly 39A (2) from coupling half (3).
- 2. Remove hydraulic hose assembly 39A (2) and preformed packing (4) from adapter (5). Discard preformed packing.
- 3. Remove coupling half (1) and preformed packing (6) from adapter (7). Discard preformed packing.

0514 00

Removal-Continued

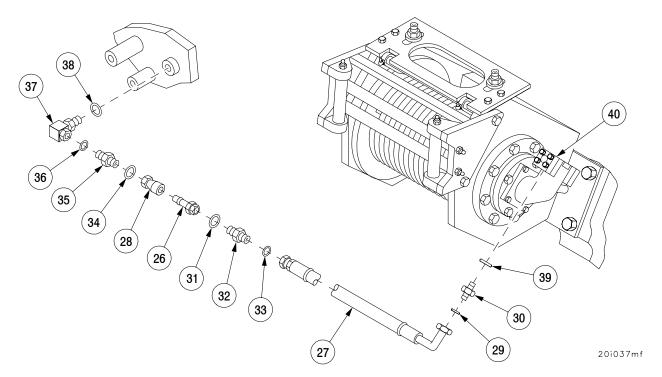
- Remove adapter (7) and preformed packing (8) from hydraulic hose assembly 39A (2). Discard preformed packing.
- 5. Remove coupling half (3) and preformed packing (9) from adapter (10). Discard preformed packing.
- 6. Remove adapter (10) and preformed packing (11) from swivel elbow (12). Discard preformed packing.
- 7. Remove swivel elbow (12) and preformed packing (13) from bulkhead. Discard preformed packing.
- 8. Remove adapter (5) and preformed packing (14) from flange (15). Discard preformed packing.
- 9. Disconnect coupling half (16) and hydraulic hose assembly 93 (17) from coupling half (18).
- 10. Remove hydraulic hose assembly 93 (17) from adapter (19).
- 11. Remove coupling half (16) from adapter (20).
- 12. Remove adapter (20) from hydraulic hose assembly 93 (17).
- 13. Remove coupling half (18) from adapter (21).
- 14. Remove adapter (21) from elbow adapter (22).
- 15. Remove elbow adapter (22) and preformed packing (23) from bulkhead. Discard preformed packing.
- 16. Remove adapter (19) and preformed packing (24) from hydraulic motor (25). Discard preformed packing.



0514 00

Removal-Continued

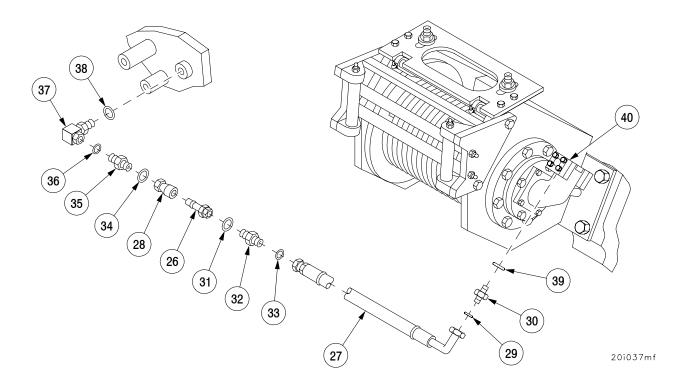
- 17. Disconnect coupling half (26) and hydraulic hose assembly 40A (27) from coupling half (28).
- 18. Remove hydraulic hose assembly 40A (27) and preformed packing (29) from adapter (30). Discard preformed packing.
- 19. Remove coupling half (26) and preformed packing (31) from adapter (32). Discard preformed packing.
- 20. Remove adapter (32) and preformed packing (33) from hydraulic hose assembly 40A (27). Discard preformed packing.
- 21. Remove coupling half (28) and preformed packing (34) from adapter (35). Discard preformed packing.
- 22. Remove adapter (35) and preformed packing (36) from swivel elbow (37). Discard preformed packing.
- 23. Remove swivel elbow (37) and preformed packing (38) from bulkhead. Discard preformed packing.
- 24. Remove adapter (30) and preformed packing (39) from flange (40). Discard preformed packing.
- 25. Inspect parts for damage and replace as required.



0514 00

Installation

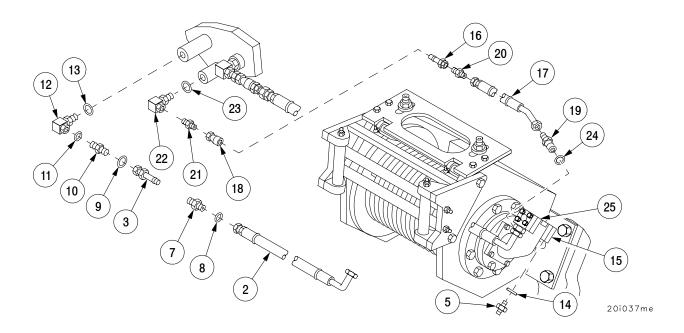
- 1. Install adapter (30) and new preformed packing (39) in flange (40).
- 2. Install swivel elbow adapter (37) and new preformed packing (38) in bulkhead.
- 3. Install adapter (35) and new preformed packing (36) on swivel elbow (37).
- 4. Install coupling half (28) and new preformed packing (34) on adapter (35).
- 5. Install adapter (32) and new preformed packing (33) on hydraulic hose assembly 40A (27).
- 6. Install coupling half (26) and new preformed packing (31) on adapter (32).
- 7. Connect hydraulic hose assembly 40A (27) and new preformed packing (29) to adapter (30).
- 8. Connect coupling half (26) and hydraulic hose assembly 40A (27) to coupling half (28).



0514 00

Installation-Continued

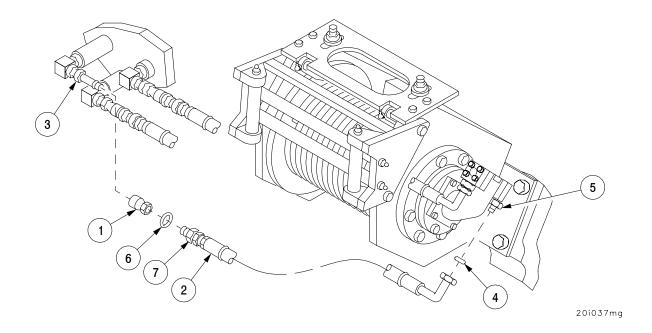
- 9. Install adapter (19) and new preformed packing (24) in hydraulic motor (25).
- 10. Install elbow adapter (22) and new preformed packing (23) in bulkhead.
- 11. Install adapter (21) in adapter elbow (22).
- 12. Install coupling half (18) on adapter (21).
- 13. Install adapter (20) on hydraulic hose assembly 93 (17).
- 14. Install coupling half (16) on adapter (20).
- 15. Connect hydraulic hose assembly 93 (17) to adapter (19).
- 16. Connect coupling half (16) and hydraulic hose assembly 93 (17) to coupling half (18).
- 17. Install adapter (5) and new preformed packing (14) in flange (15).
- 18. Install swivel elbow (12) and new preformed packing (13) in bulkhead.
- 19. Install adapter (10) and new preformed packing (11) on swivel elbow (12).
- 20. Install coupling half (3) and new preformed packing (9) on adapter (10).
- 21. Install adapter (7) and new preformed packing (8) on hydraulic hose assembly 39A (2).



0514 00

Installation-Continued

- 22. Install coupling half (1) and new preformed packing (6) on adapter (7).
- 23. Connect hydraulic hose assembly 39A (2) and new preformed packing (4) to adapter (5).
- 24. Connect coupling half (1) and hydraulic hose assembly 39A (2) to coupling half (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install auxiliary winch cover (WP 0513 00)

AUXILIARY WINCH WIRE ROPE ASSEMBLY REPLACEMENT

0515 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Gloves (AR) (item 23, WP 0716 00)

Equipment Conditions

Vehicle parked on level ground with brakes locked and tracks blocked (TM 9-2350-292-10)

Personnel Required

Two

References

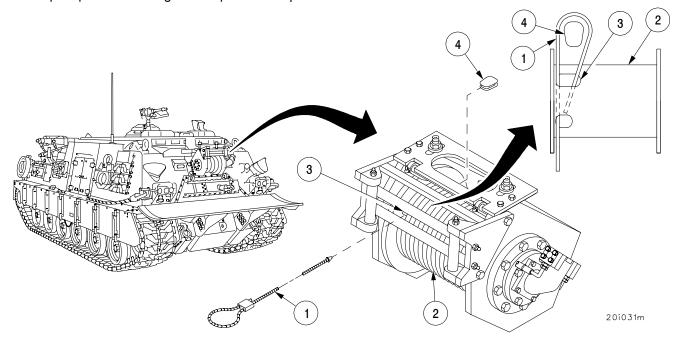
TM 9-2350-292-10

Removal



Wire rope can become frayed and have broken wires. Wear heavy leather work gloves when handling wire rope. Failure to comply could result in personnel injury from frayed or broken wires.

- 1. Pay out wire rope assembly (1) from auxiliary winch drum (2) (TM 9-2350-292-10).
- 2. Remove wire rope assembly (1) from slot (3) in auxiliary winch drum (2) by sliding wire rope assembly (1) back and removing retainer (4).
- 3. Inspect parts for damage and replace as required.



AUXILIARY WINCH WIRE ROPE ASSEMBLY REPLACEMENT - CONTINUED

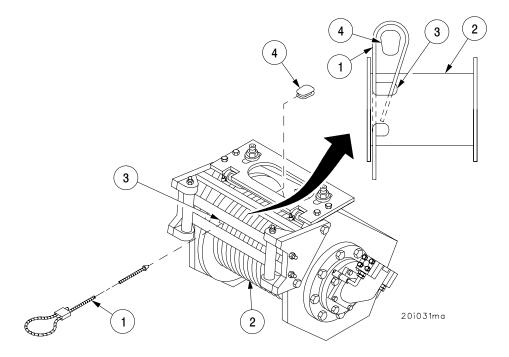
0515 00

Installation



Wire rope can become frayed and have broken wires. Wear heavy leather work gloves when handling wire rope. Failure to comply could result in personnel injury from frayed or broken wires.

- 1. Place welded end of wire rope assembly (1) around retainer (4).
- 2. Install wire rope assembly (1) and retainer (4) through slot (3) and in auxiliary winch drum (2).
- 3. Operate auxiliary winch (TM 9-2350-292-10). While auxiliary winch is operating, guide wire rope assembly (1) onto auxiliary winch drum (2).



AUXILIARY WINCH HYDRAULIC MOTOR AND FLANGE REPLACEMENT

0516 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Preformed packings (2) (item 76, WP 0718 00) Preformed packing (item 75, WP 0718 00) Lockwashers (8) (item 2, WP 0718 00) Lockwashers (4) (item 68, WP 0718 00)

Equipment Conditions

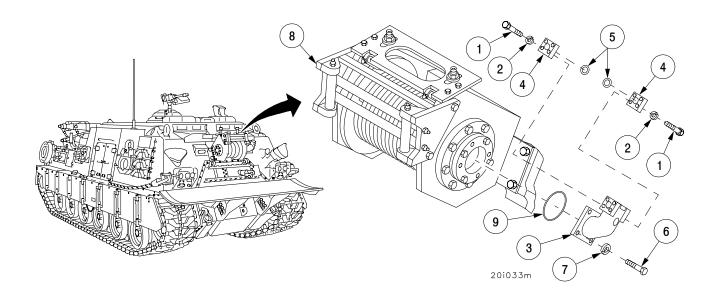
Auxiliary winch wire rope assembly removed (WP 0515 00)
Auxiliary winch gear oil drained (WP 0187 00)
Auxiliary winch hoses disconnected and fittings removed from hydraulic motor (WP 0514 00)

Removal

CAUTION

Plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

- 1. Remove eight screws (1) and eight lockwashers (2) from hydraulic motor assembly (3). Discard lockwashers.
- 2. Remove two flanges (4) and two preformed packings (5) from hydraulic motor assembly (3). Discard preformed packings.
- 3. Remove four screws (6) and four lockwashers (7) from hydraulic motor assembly (3) and auxiliary winch assembly (8). Discard lockwashers.
- 4. Remove hydraulic motor assembly (3) and preformed packing (9) from auxiliary winch assembly (8). Discard preformed packing.
- 5. Inspect parts for damage and replace as required.

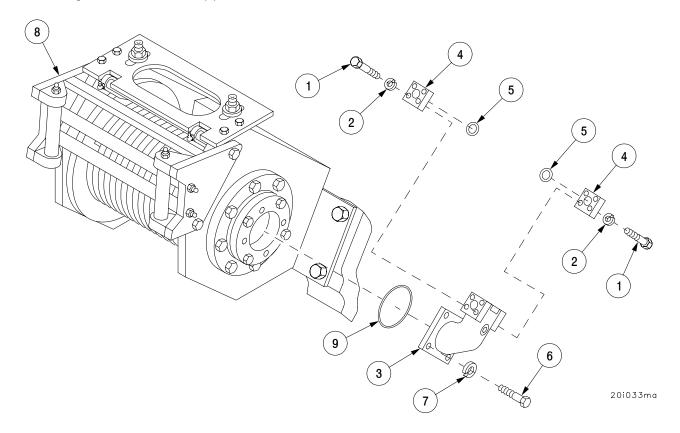


AUXILIARY WINCH HYDRAULIC MOTOR AND FLANGE REPLACEMENT - CONTINUED

0516 00

Installation

- 1. Install hydraulic motor assembly (3) and new preformed packing (9) on auxiliary winch assembly (8).
- 2. Install four screws (6) and four new lockwashers (7) to hydraulic motor assembly (3) and auxiliary winch assembly (8).
- 3. Install two new preformed packings (5) in two flanges (4).
- 4. Install two flanges (4) with two new preformed packings (5) on hydraulic motor assembly (3) with eight screws (1) and eight new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install fittings and connect hoses to hydraulic motor (WP 0514 00)
Refill auxiliary winch with gear oil (WP 0187 00)
Install auxiliary winch wire rope assembly (WP 0515 00)

AUXILIARY WINCH SPOOLING ROLLER ASSEMBLY REPAIR

0517 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Locknuts (2) (item 73, WP 0718 00)

Cotter pins (2) (item 71, WP 0718 00)

Spring pins (2) (item 72, WP 0718 00)

Lockwashers (4) (item 2, WP 0718 00)

Lockwashers (2) (item 68, WP 0718 00)

Lubricant (item 3, WP 0716 00)

Equipment Conditions

Auxiliary winch wire rope assembly removed (WP 0515 00)

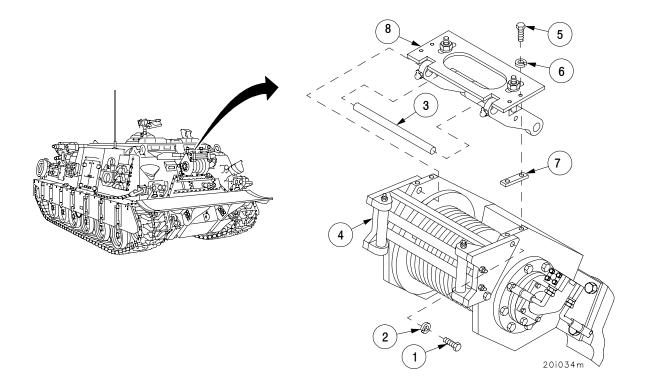
Removal

1. Remove two screws (1) and two lockwashers (2) securing auxiliary winch spacer bar (3) to auxiliary winch assembly (4). Discard lockwashers.

NOTE

Spacer may not be required for all auxiliary winches.

2. Remove four screws (5), four lockwashers (6), spacer (7) and spooling roller assembly (8) from auxiliary winch assembly (4). Discard lockwashers.



AUXILIARY WINCH SPOOLING ROLLER ASSEMBLY REPAIR - CONTINUED

0517 00

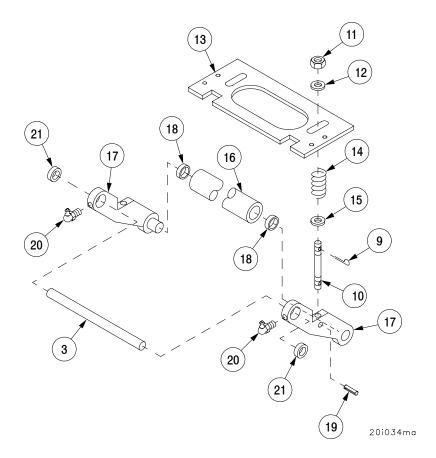
Disassembly

- 1. Remove two cotter pins (9) from two threaded rods (10). Discard cotter pins.
- 2. Remove two locknuts (11) and two flat washers (12) from two threaded rods (10). Discard locknuts.
- 3. Remove plate (13), two springs (14) and two flat washers (15) from two threaded rods (10).
- 4. Remove auxiliary winch spacer bar (3) and roller (16) from two arms (17).

CAUTION

Do not remove bearings unless bearing replacement is necessary. Bearings will be damaged during removal.

- 5. Remove two bearings (18) from roller (16).
- 6. Remove two spring pins (19) and two threaded rods (10) from two arms (17). Discard spring pins.
- 7. Remove two lubrication fittings (20) and two bushings (21) from two arms (17).
- 8. Inspect parts for damage and replace as required.

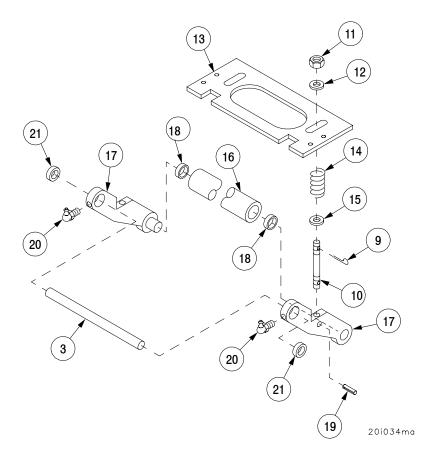


AUXILIARY WINCH SPOOLING ROLLER ASSEMBLY REPAIR - CONTINUED

0517 00

Assembly

- 1. Install two bushings (21) and two lubrication fittings (20) in two arms (17).
- 2. Install two threaded rods (10) in two arms (17) with two new spring pins (19).
- 3. Install two new bearings (18) in roller (16), if bearings were removed.
- 4. Install auxiliary winch spacer bar (3) and roller (16) on two arms (17).
- 5. Install two flat washers (15), two springs (14) and plate (13) on two threaded rods (10).
- 6. Install two new locknuts (11) and two flat washers (12) on two threaded rods (10). Thread locknuts (11) past holes in threaded rods (10).
- 7. Install two new cotter pins (9) in two threaded rods (10).

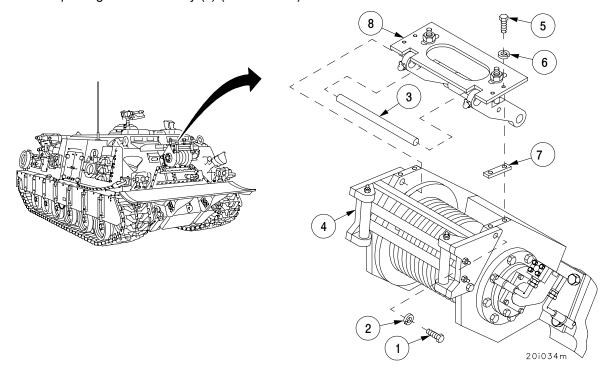


AUXILIARY WINCH SPOOLING ROLLER ASSEMBLY REPAIR - CONTINUED

0517 00

Installation

- 1. Install spooling roller assembly (8) and spacer (7), if removed, on auxiliary winch assembly (4) with four screws (5) and four new lockwashers (6).
- 2. Secure auxiliary winch spacer bar (3) to auxiliary winch assembly (4) with two screws (1) and two new lockwashers (2).
- 3. Lubricate spooling roller assembly (7) (WP 0187 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install auxiliary winch wire rope assembly (WP 0515 00)

AUXILIARY WINCH ROLLER BRACKET ASSEMBLY REPAIR

0518 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Retaining pliers set (item 15, WP 0717 00)

Materials/Parts

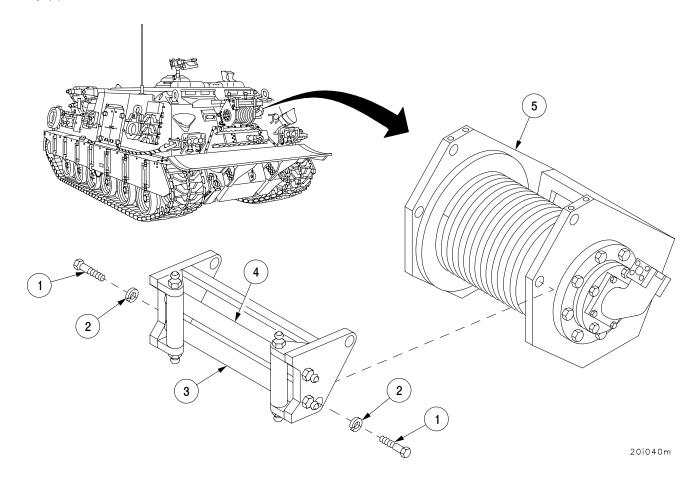
Retaining rings (8) (item 69, WP 0718 00) Lockwashers (4) (item 68, WP 0718 00)

Equipment Conditions

Spooling roller assembly removed (WP 0517 00)

Removal

Remove two screws (1), two lockwashers (2), roller bracket assembly (3) and spacer bar (4) from auxiliary winch assembly (5). Discard lockwashers.



AUXILIARY WINCH ROLLER BRACKET ASSEMBLY REPAIR - CONTINUED

0518 00

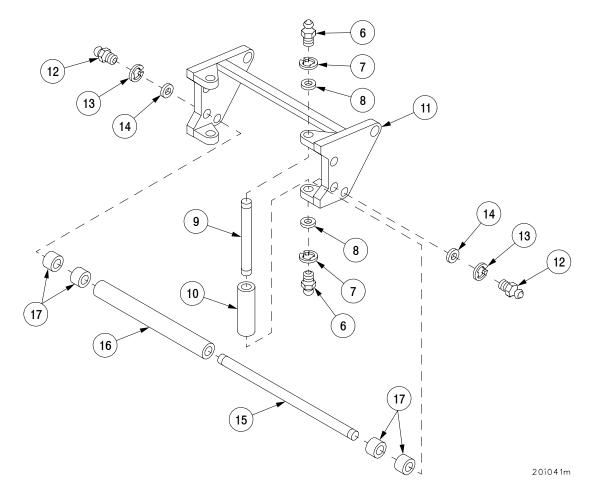
Disassembly



- 1. Remove four lubrication fittings (6), four retaining rings (7), four bearing washers (8), two vertical shafts (9) and two vertical rollers (10) from bracket (11). Discard retaining rings.
- 2. Remove four lubrication fittings (12), four retaining rings (13), four bearing washers (14), two horizontal shafts (15), two horizontal rollers (16) and four spacers (17) from bracket (11). Discard retaining rings.
- 3. Inspect parts for damage and replace as required.

Assembly

- 1. Install four spacers (17), two horizontal rollers (16) and two horizontal shafts (15) on bracket (11) with four washer bearings (14), four new retaining rings (13) and four lubrication fittings (12).
- 2. Install two vertical rollers (10) and two vertical shafts (9) on bracket (11) with four bearing washers (8), four new retaining rings (7) and four lubrication fittings (6).

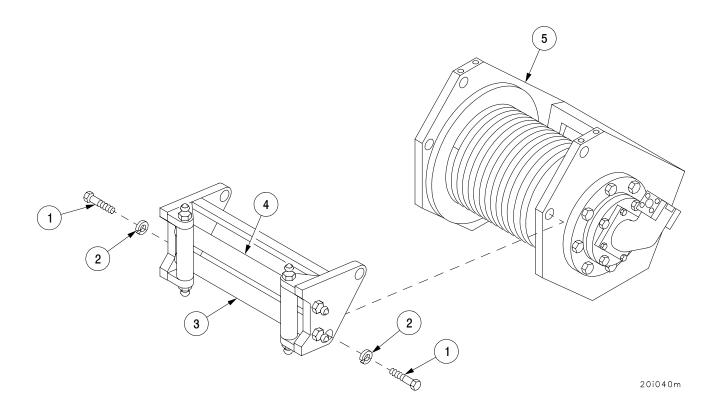


AUXILIARY WINCH ROLLER BRACKET ASSEMBLY REPAIR - CONTINUED

0518 00

Installation

- 1. Install roller bracket assembly (3) and spacer bar (4) on auxiliary winch assembly (5) with two screws (1) and two new lockwashers (2).
- 2. Lubricate roller bracket assembly (3) (WP 0187 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install spooling roller assembly (WP 0517 00)

0519 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 9, WP 0718 00) Cotter pins (2) (item 5, WP 0718 00)

Lockwashers (4) (item 10, WP 0718 00)

Lockwashers (17) (item 2, WP 0718 00)

Lockwashers (4) (item 12, WP 0718 00)

Hardwood lumber (item 5, WP 0716 00)

Adhesive (item 83, WP 0716 00)

Cleaning compound (item 91, WP 0716 00)

Equipment Conditions

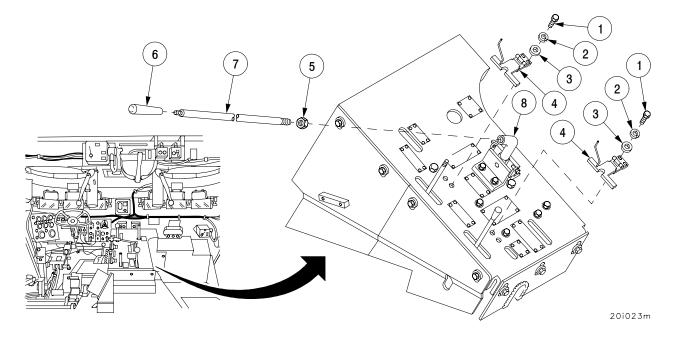
Hydraulic control panel removed (WP 0245 00) Main switch panel removed (WP 0422 00) Hydraulic control valves handles removed (WP 0560 00) Subfloor plates #4 and #12 removed (WP 0454 00)

NOTE

Disassemble equipment only to the extent necessary to effect repairs.

Removal

- 1. Remove four screws (1), four lockwashers (2), four flat washers (3) and two locks (4). Discard lockwashers.
- 2. Loosen nut (5), remove handle (6), rod (7) and nut (5) from connector (8).



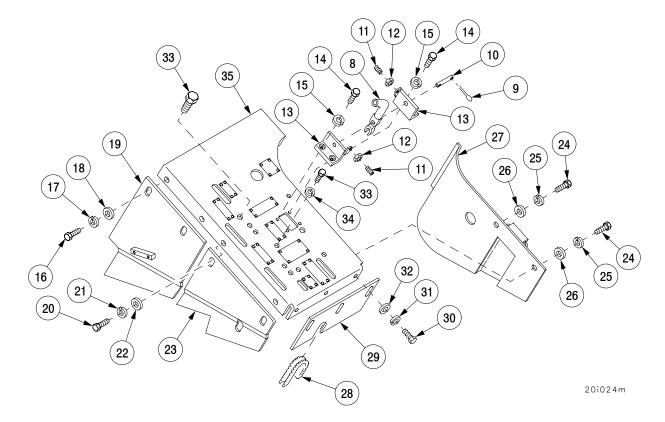
0519 00

Removal-Continued

NOTE

Note location of studs during disassembly to aid during assembly. Studs are different size.

- 3. Remove two cotter pins (9), pin (10) and connector (8). Discard cotter pins.
- 4. Remove two screws (11) and two nuts (12) from two brackets (13).
- 5. Remove four screws (14), four lockwashers (15) and two brackets (13). Discard lockwashers.
- 6. Remove two screws (16), two lockwashers (17), two flat washers (18) and plate (19). Discard lockwashers.
- 7. Remove two screws (20), two lockwashers (21), two flat washers (22) and plate (23). Discard lockwashers.
- 8. Remove two screws (24), two lockwashers (25), two flat washers (26) and plate (27). Discard lockwashers.
- 9. Remove grommet (28) from plate (29). Discard grommet.
- 10. Remove three screws (30), three lockwashers (31), three flat washers (32) and plate (29). Discard lockwashers.
- 11. Remove six screws (33), four lockwashers (34) and plate (35). Discard lockwashers.



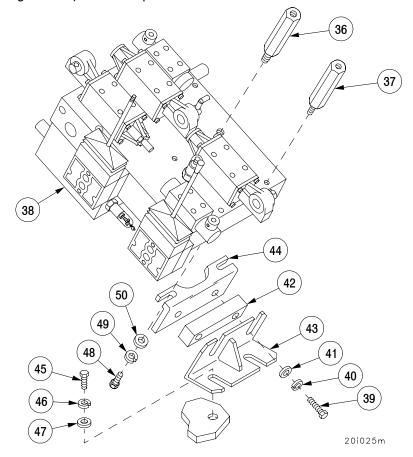
0519 00

Removal-Continued

12. Remove two studs (36) and four studs (37) from hydraulic control valve manifold (38).



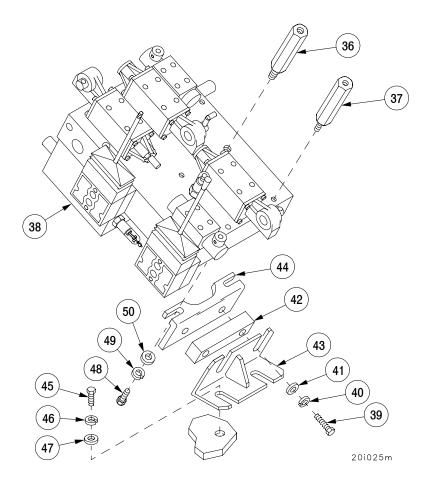
- 13. Use hardwood lumber to support the rear of the hydraulic control valve manifold (38).
- 14. Remove two screws (39), two lockwashers (40), two flat washers (41) and spacer (42), if installed, from two brackets (43 and 44). Discard lockwashers.
- 15. Remove two screws (45), two lockwashers (46), two flat washers (47) and bracket (43). Discard lockwashers.
- 16. Remove two screws (48), two lockwashers (49), two flat washers (50) and bracket (44). Discard lockwashers.
- 17. Inspect parts for damage and replace as required.



0519 00

Installation

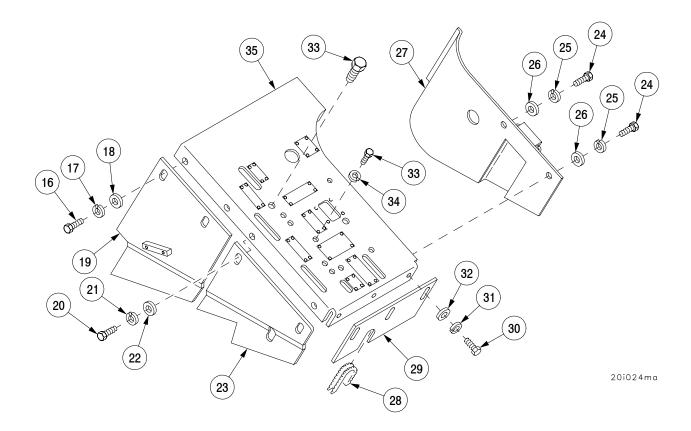
- 1. Install bracket (44) with two screws (48), two new lockwashers (49) and two flat washers (50).
- 2. Install bracket (43) with two screws (45), two new lockwashers (46) and two flat washers (47).
- 3. Install two screws (39), two new lockwashers (40), two flat washers (41) and spacer (42), if removed, on two brackets (43 and 44).
- 4. Remove hardwood lumber used to support the rear of the hydraulic control valve manifold (38).
- 5. Install two studs (36) and four studs (37) in hydraulic control valve manifold (38).



0519 00

Installation-Continued

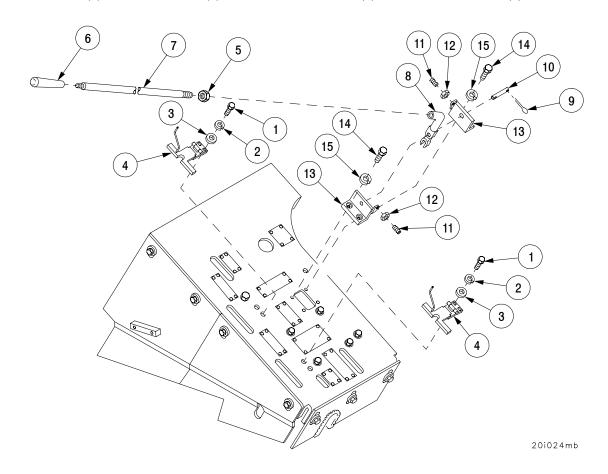
- 6. Install plate (35) with six screws (33) and four new lockwashers (34).
- 7. Clean plate (29) with cleaning compound.
- 8. Trim new grommet (28) to fit slot in plate (29).
- 9. Apply adhesive to plate (29).
- 10. Install grommet (28) in slot on plate (29).
- 11. Install plate (29) with three screws (30), three new lockwashers (31) and three flat washers (32).
- 12. Install plate (27) with two screws (24), two new lockwashers (25) and two flat washers (26).
- 13. Install plate (23) with two screws (20), two new lockwashers (21) and two flat washers (22).
- 14. Install plate (19) with two screws (16), two new lockwashers (17) and two flat washers (18).



0519 00

Installation-Continued

- 15. Install two brackets (13) with four screws (14) and four new lockwashers (15).
- 16. Install two screws (11) and two nuts (12) in two brackets (13).
- 17. Install connector (8) with pin (10) and two new cotter pins (9).
- 18. Install handle (6), rod (7) and nut (5) on connector (8).
- 19. Install two locks (4) with four screws (1), four new lockwashers (2) and four flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic control valve handles (WP 0560 00) Install main switch panel (WP 0422 00) Install hydraulic control panel (WP 0245 00) Install subfloor plates #4 and #12 (WP 0454 00)

HYDRAULIC CONTROL VALVE PANEL INSTRUCTION PLATE REPLACEMENT.

0520 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Portable electric drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

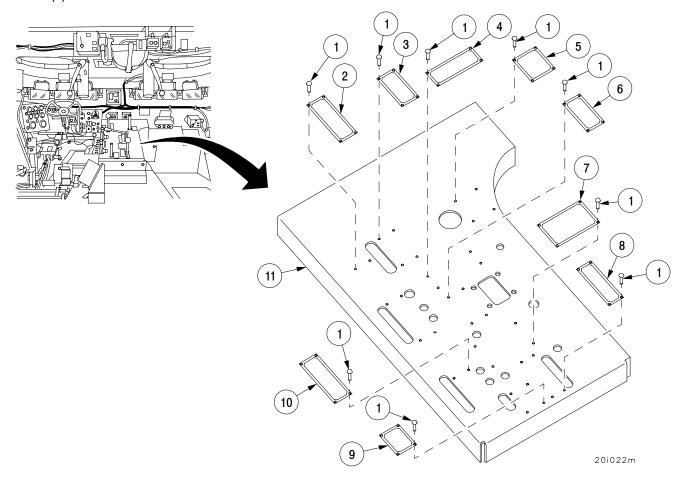
Drive screws (4) (item 1, WP 0718 00)

Removal

- 1. Remove four drive screws (1) and instruction plate (2, 3, 4, 5, 6, 7, 8, 9, or 10) from hydraulic control valve panel (11). Discard drive screws.
- 2. Inspect parts for damage and replace as required.

Installation

Position instruction plate (2, 3, 4, 5, 6, 7, 8, 9, or 10) on hydraulic control valve panel (11) and install four new drive screws (1).



SPADE LOCK ASSEMBLY REPLACEMENT

0521 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00) Dust protective plugs (2) (item 14, WP 0716 00) Lockwashers (8) (item 78, WP 0718 00)

Equipment Conditions

Spade lowered (TM 9-2350-292-10) Floor plate #10 removed (WP 0454 00) Hydraulic system depressurized (WP 0545 00)

Personnel Required

Two

References

TM 9-2350-292-10





Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform maintenance procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection must be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

CAUTION

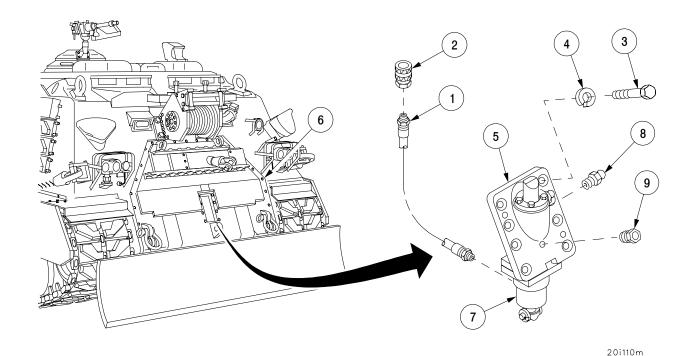
Hydraulic lines and ports must be capped to prevent contaminants from entering the hydraulic system and causing internal damage to hydraulic components.

SPADE LOCK ASSEMBLY REPLACEMENT - CONTINUED

0521 00

Removal

- 1. Disconnect spade lock hydraulic hose (1) quick-disconnect coupling (2).
- 2. Remove eight screws (3), eight lockwashers (4) and spade lock housing (5) from vehicle hull front cover assembly (6). Discard lockwashers.
- 3. Remove hydraulic hose (1) from hydraulic cylinder (7).
- 4. Remove quick-disconnect coupling (2) from hydraulic hose (1).
- 5. Remove lubrication fitting (8) from spade lock housing (5).
- 6. Remove safety valve (9) from spade lock housing (5).
- 7. Inspect parts for damage and replace as required.

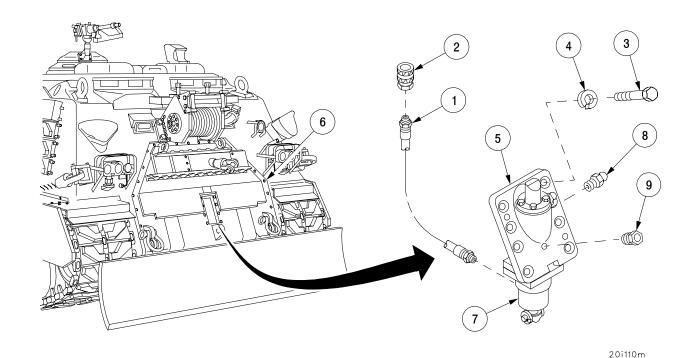


SPADE LOCK ASSEMBLY REPLACEMENT - CONTINUED

0521 00

Installation

- 1. Install safety valve (9) in spade lock housing (5).
- 2. Install lubrication fitting (8) in spade lock housing (5).
- 3. Apply sealing compound to threads of all hose ends prior to installation.
- 4. Install quick-disconnect coupling (2) on hydraulic hose (1).
- 5. Connect hydraulic hose (1) to hydraulic cylinder (7).
- 6. Install spade lock housing (5) to vehicle hull front cover assembly (6) with eight screws (3) and eight new lockwashers (4).
- 7. Connect spade lock hydraulic hose (1) quick-disconnect coupling (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install floor plate #10 (WP 0454 00) Lubricate spade lock (WP 0187 00) Raise spade (TM 9-2350-292-10)

SPADE ASSEMBLY REPAIR

0522 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Hydraulic impact wrench (item 108, WP 0717 00) Socket wrench socket (item 107, WP 0717 00) Socket wrench socket (item 109, WP 0717 00) Open-end wrench (item 105, WP 0717 00)

Materials/Parts

Lockwashers (12) (item 316, WP 0718 00) Lockwashers (2) (item 2, WP 0718 00) Self-locking nuts (5) (item 317, WP 0718 00) Hardwood lumber (item 5, WP 0716 00)

Equipment Conditions

Spade lowered to ground (TM 9-2350-292-10)

Personnel Required

Two

References

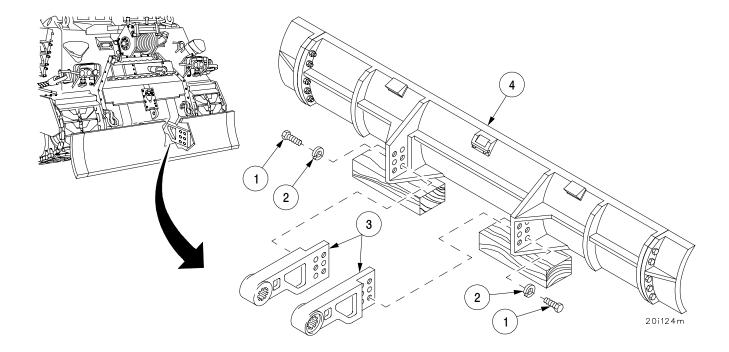
TM 9-2350-292-10

Removal



Position wooden blocks under spade to prevent spade from rolling backward. Failure to comply may result in injury to personnel.

Remove six screws (1) and six lockwashers (2) securing each spade arm (3) to spade assembly (4). Discard lockwashers.



SPADE ASSEMBLY REPAIR - CONTINUED

0522 00

Disassembly



NOTE

Maintenance procedures for left and right spade extensions are the same. This task replaces one extension.

1. Remove five screws (5), five self-locking nuts (6) and spade extension (7) from spade assembly (4). Discard self-locking nuts.

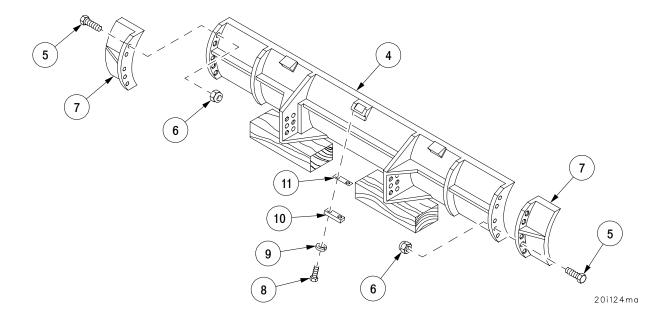
NOTE

Note the quantity and position of shim(s) being removed to ensure shim(s) are installed in the same position.

- 2. Remove two screws (8), two lockwashers (9), strike plate (10) and shim(s) (11) from spade assembly (4). Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

Assembly

- 1. Install strike plate (10) and shim(s) (11) with two screws (8) and two new lockwashers (9).
- 2. Install spade extension (7) on spade assembly (4) with five screws (5) and five new self-locking nuts (6).

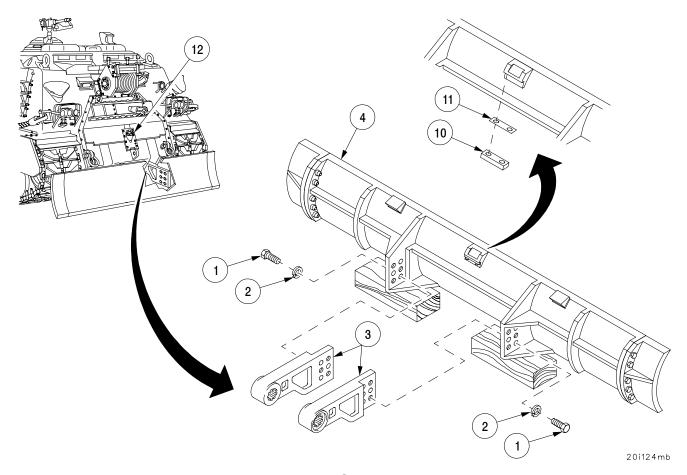


Installation



To prevent personnel injury or possible death, ensure vehicle brakes are locked and transmission is in park, before aligning spade arm.

- 1. Start vehicle (TM 9-2350-292-10) and align spade arm (3) mounting holes with mounting holes in spade assembly (4), secure each arm (3) with six screws (1) and six new lockwashers (2).
- 2. Check operation of spade locking mechanism (12) (TM 9-2350-292-10). There should be minimal play between strike plate (10) and spade locking mechanism (12). Adjust with shim(s) (11) accordingly.



NOTE

FOLLOW-ON MAINTENANCE:

Place spade assembly in raised/locked position (TM 9-2350-292-10)

TACKLE BLOCK TRAY REPLACEMENT

0523 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (11) (item 2, WP 0718 00)

Equipment Conditions

Tackle block removed (TM 9-2350-292-10)

References

TM 9-2350-292-10

NOTE

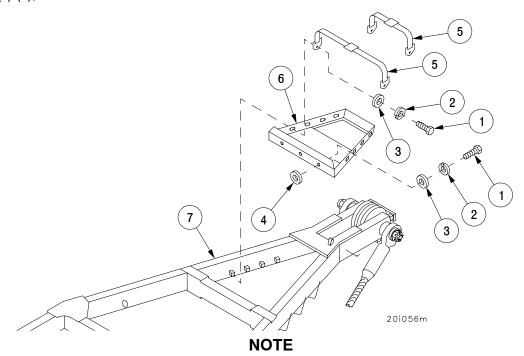
Note position of shim(s) prior to removal to aid in proper positioning during installation.

Removal

- 1. Remove 11 screws (1), 11 lockwashers (2), 11 flat washers (3), shim(s) (4), if installed, two strap assemblies (5) and tray (6) from boom (7). Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install tray (6) and two strap assemblies (5) on boom (7) with 11 screws (1), 11 new lockwashers (2), 11 flat washers (3) and shim(s) (4), if removed.



FOLLOW-ON MAINTENANCE:

Install tackle block (TM 9-2350-292-10)

HOIST BOOM PULLEYS REPLACEMENT

0524 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Socket wrench socket (item 101, WP 0717 00) Socket wrench set (item 89, WP 0717 00) Adjustable automotive wrench (item 92, WP 0717 00)

Materials/Parts

Cotter pin (item 124, WP 0718 00) Self-locking nut (item 125, WP 0718 00)

Equipment Conditions

Boom derigged (TM 9-2350-292-10)

References

TM 9-2350-292-10

Personnel Required

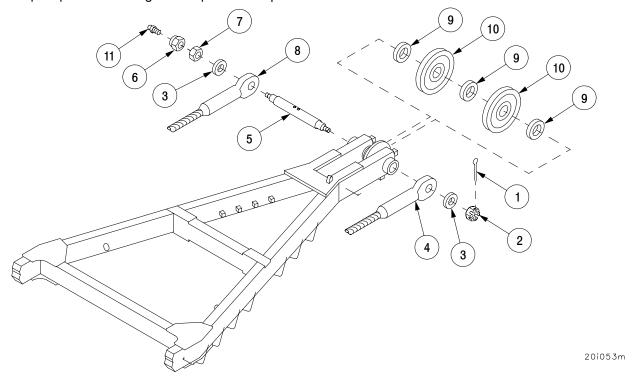
Two

Removal

1. Remove cotter pin (1), nut (2), flat washer (3) and stayline cable (4) from shaft (5). Discard cotter pin.



- 2. Remove self-locking nut (6), nut (7), flat washer (3) and stayline cable (8) from shaft (5). Discard self-locking nut.
- 3. Remove shaft (5), three spacers (9) and two pulleys (10) from boom.
- 4. Remove lubrication fitting (11) from shaft (5).
- 5. Inspect parts for damage and replace as required.



HOIST BOOM PULLEYS REPLACEMENT - CONTINUED

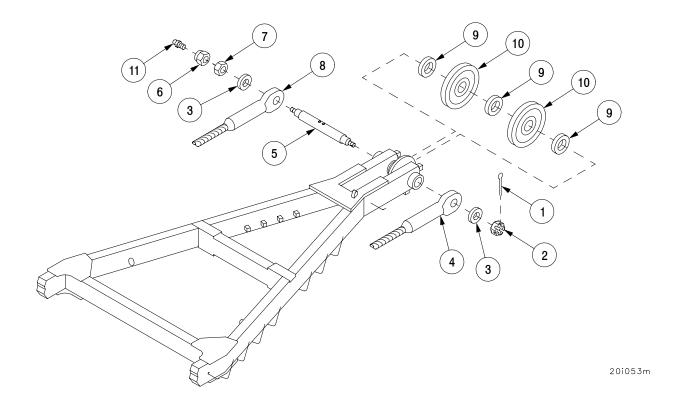
0524 00

Installation

1. Install lubrication fitting (11) in shaft (5).



- 2. Install two pulleys (10) on boom with three spacers (9) and shaft (5).
- 3. Install stayline cable (8) on shaft (5) with flat washer (3), nut (7) and new self-locking nut (6).
- 4. Install stayline cable (4) on shaft (5) with flat washer (3), nut (2) and new cotter pin (1).
- 5. Lubricate shaft (5) through lubrication fitting (11) (WP 0187 00).



NOTE

FOLLOW-ON MAINTENANCE:

Rig boom (TM 9-2350-292-10)

STAYLINE TREE CHAIN ASSEMBLY REPLACEMENT

0525 00

THIS WORK PACKAGE COVERS:

Removal, Installation

NOTE

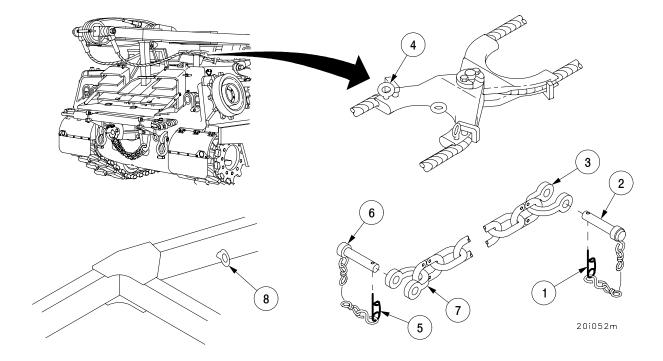
There are two stayline tree chain assemblies. Both chains are replaced in the same manner. This task replaces only one.

Removal

- 1. Remove retaining pin (1) and shackle pin (2) from shackle (3) and stayline tree (4).
- 2. Remove retaining pin (5) and shackle pin (6) from shackle (7) and boom (8).
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Install shackle (7) and shackle pin (6) on boom (8) with retaining pin (5).
- 2. Install shackle (3) and shackle pin (2) on stayline tree (4) with retaining pin (1).



HULL DRAIN HOSE AND BOOM FOOT BOOT DRAIN HOSES REPLACEMENT

0526 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (3) (item 9, WP 0718 00)

Equipment Conditions

Subfloor plates removed (WP 0454 00)

NOTE

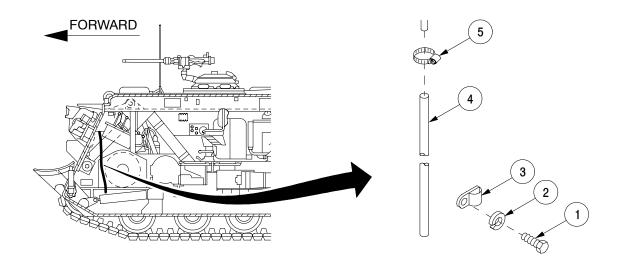
Perform Removal steps 1, 2 and 6 and Installation steps 4 and 5 for maintenance of hull drain hose.

Perform Removal steps 3 through 6 and Installation steps 1 through 3 for maintenance of boom foot boot drain hose.

There are two boom foot boot drain hoses. Both hoses are replaced the same way. This task replaces only one.

Removal

- 1. Remove screw (1), lockwasher (2), clip (3) and hose (4) from hull. Discard lockwasher.
- 2. Remove clamp (5) and hose (4) from hull.



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HULL DRAIN HOSE AND BOOM FOOT BOOT DRAIN HOSES REPLACEMENT - CONTINUED

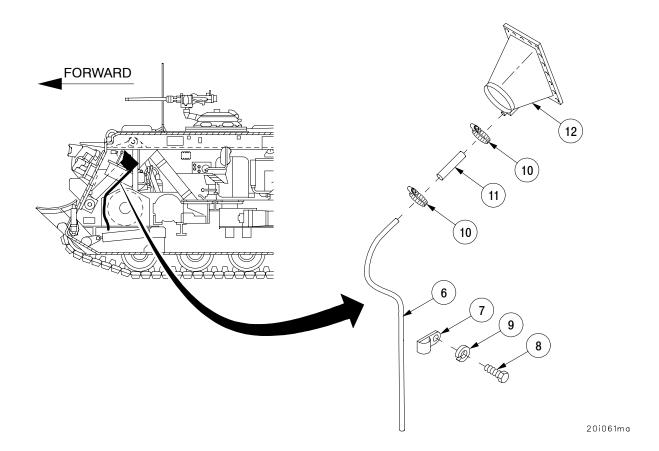
0526 00

Removal-Continued

- 3. Remove hose (6) from clip (7).
- 4. Remove screw (8), lockwasher (9), clip (7) and hose (6) from hull. Discard lockwasher.
- 5. Remove two clamps (10), pipe (11) and hose (6) from boot (12).
- 6. Inspect parts for damage and replace as required.

Installation

- 1. Install hose (6), pipe (11) and two clamps (10) on boot (12).
- 2. Install clip (7) on hull with screw (8) and new lockwasher (9).
- 3. Install hose (6) in clip (7).

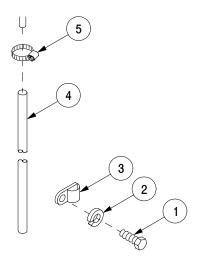


HULL DRAIN HOSE AND BOOM FOOT BOOT DRAIN HOSES REPLACEMENT - CONTINUED

0526 00

Installation-Continued

- 4. Install clamp (5) and hose (4) on hull.
- 5. Install hose (4) in clip (3) on hull with screw (1) and new lockwasher (2).



20i061m

NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates (WP 0454 00)

STAYLINE TREE WIRE ROPE ASSEMBLY REPLACEMENT

0527 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Socket wrench socket (item 101, WP 0717 00) Socket wrench adapter (item 103, WP 0717 00) Adjustable automotive wrench (item 92, WP 0717 00) Socket wrench set (item 89, WP 0717 00)

Materials/Parts

Cotter pin (item 124, WP 0718 00) Self-locking nut (item 125, WP 0718 00)

Equipment Conditions

Boom raised and blocked (TM 9-2350-292-10) Stayline tree removed (WP 0528 00)

References

TM 9-2350-292-10

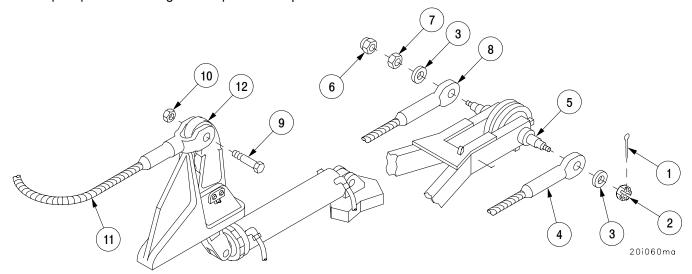
NOTE

Perform Removal steps 1, 2 and 4 and Installation steps 2 and 3 for maintenance of upper wire rope assembly.

Perform Removal steps 3 and 4 and Installation step 3 for maintenance of lower wire rope assembly.

Removal

- 1. Remove cotter pin (1), nut (2), flat washer (3) and stayline cable (4) from shaft (5). Discard cotter pin.
- 2. Remove self-locking nut (6), nut (7), flat washer (3) and stayline cable (8) from shaft (5). Discard self-locking nut.
- 3. Remove two screws (9) and two nuts (10) securing stayline cable (11) to boom levers (12).
- 4. Inspect parts for damage and replace as required.

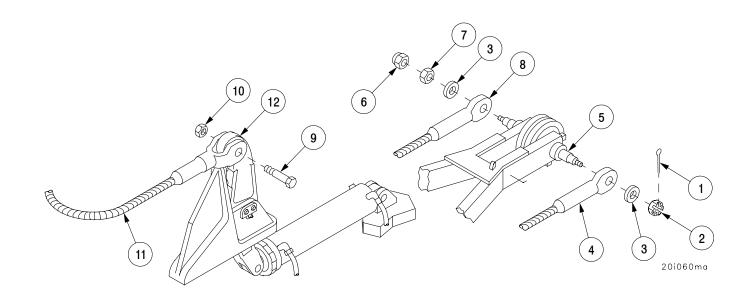


STAYLINE TREE WIRE ROPE ASSEMBLY REPLACEMENT - CONTINUED

0527 00

Installation

- 1. Install stayline cable (11) on two boom levers (12) with two screws (9) and two nuts (10).
- 2. Install stayline cable (8) on shaft (5) with flat washer (3), nut (7) and new self-locking nut (6).
- 3. Install stayline cable (4) on shaft (5) with flat washer (3), nut (2) and new cotter pin (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install stayline tree (WP 0528 00) Lower boom (TM 9-2350-292-10)

HOIST BOOM STAYLINE TREE REPLACEMENT

0528 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Slide puller (item 46, WP 0717 00) Endless sling (item 23, WP 0717 00) Suitable lifting device (250 lbs (113.5 kg) min cap)

Materials/Parts

Lockwashers (12) (item 2, WP 0718 00) Hardwood lumber (item 4, WP 0716 00) Antiseize compound (item 90, WP 0716 00)

Equipment Conditions

Boom raised and blocked (TM 9-2350-292-10) Stayline tree chain assembly removed (WP 0525 00)

Personnel Required

Two

References

TM 9-2350-292-10

Removal



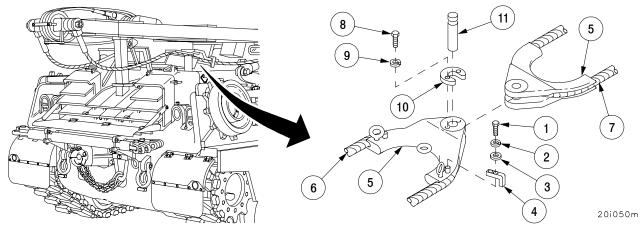
Failure to block up boom may result in death or injury to personnel.

- Block tree with hardwood blocks.
- 2. Remove four screws (1), four lockwashers (2), four flat washers (3) and two brackets (4) from each of two tree shoes (5). Discard lockwashers.
- 3. Remove two screws (8), two lockwashers (9), slotted washer (10), pin (11) and separate two tree shoes (5). Discard lockwashers.

NOTE

Endless sling and suitable lifting device may be required to replace tree shoes.

- 4. Remove cables (6 and 7) from two tree shoes (5).
- 5. Inspect parts for damage and replace as required.



HOIST BOOM STAYLINE TREE REPLACEMENT - CONTINUED

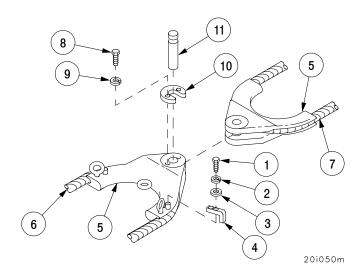
0528 00

Installation

NOTE

Endless sling and suitable lifting device may be required to replace tree shoes.

- 1. Install cables (6 and 7) on two tree shoes (5).
- 2. Apply antiseize compound to pin (11).
- 3. Secure two tree shoes (5) with pin (11), slotted washer (10), two new lockwashers (9) and two screws (8).
- 4. Install two brackets (4), four flat washers (3), four new lockwashers (2) and four screws (1) on each of two tree shoes (5).
- 5. Remove hardwood blocks from boom.



NOTE

FOLLOW-ON MAINTENANCE:

Install stayline tree chain assembly (WP 0525 00) Lower boom (TM 9-2350-292-10)

CHAPTER 18

BODY, CHASSIS OR HULL ACCESSORY ITEMS MAINTENANCE

PERSONNEL HEATER ASSEMBLY REPLACEMENT

0529 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 21, WP 0717 00) Suitable container (1.0 gal. (3.8 L) min cap)

Materials/Parts

Lockwashers (4) (item 2, WP 0718 00) Lockwashers (2) (item 18, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Battery power disconnected (WP 0256 00) Right side portable fire extinguisher bracket removed (WP 0472 00) Right side gas particulate filter and frame removed (WP 0706 00)

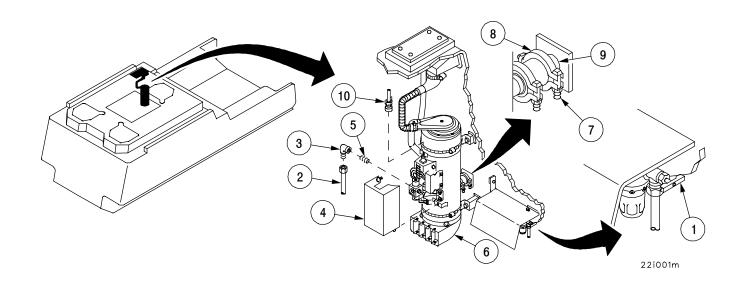
References

TM 9-2350-292-10



Removal

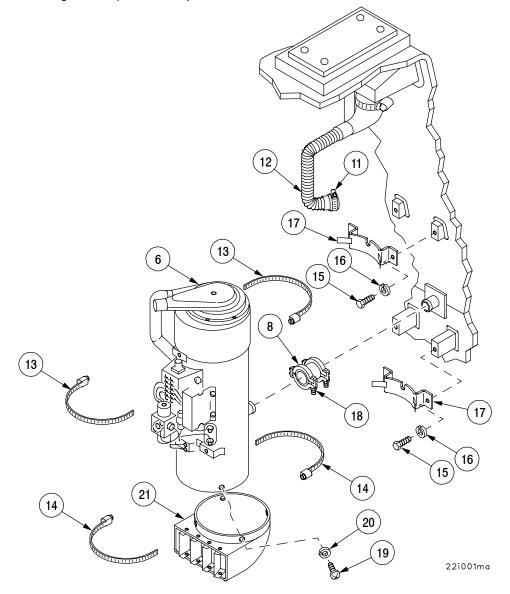
- 1. Close fuel shutoff cock (1).
- 2. Place suitable container under fuel tube (2) to catch spilled fuel.
- 3. Disconnect fuel tube (2) from elbow (3).
- 4. Remove cover (4), elbow (3) and nipple (5) from heater assembly (6).
- 5. Loosen screw (7) securing clamp (8) to exhaust pipe (9).
- 6. Disconnect electrical wiring harness 4W124 connector P2 (10) from heater assembly (6).



0529 00

Removal-Continued

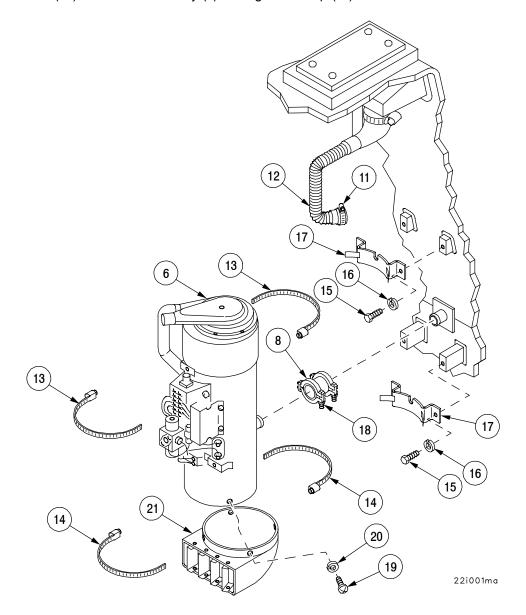
- 7. Loosen clamp (11) and remove air duct hose (12) from heater assembly (6).
- 8. Open two clamps (13) and two clamps (14), remove heater assembly (6) from hull.
- 9. Remove four screws (15), four lockwashers (16) and two saddles (17) with two clamps (13) and two clamps (14) from hull. Discard lockwashers.
- 10. Loosen screw (18) and remove clamp (8) from heater assembly (6).
- 11. Remove two screws (19), two lockwashers (20) and deflector (21) from heater assembly (6). Discard lockwashers.
- 12. Inspect parts for damage and replace as required.



0529 00

Installation

- 1. Install deflector (21) on heater assembly (6) with two screws (19) and two new lockwashers (20).
- 2. Install clamp (8) on heater assembly (6). Torque screw (18) to 90-95 lb-in. (10-11 N•m).
- 3. Install two saddles (17), two clamps (13) and two clamps (14) in hull with four screws (15) and four new lockwashers (16).
- 4. Position heater assembly (6) in hull, tighten two clamps (13) and two clamps (14).
- 5. Install air duct hose (12) on heater assembly (6) and tighten clamp (11).

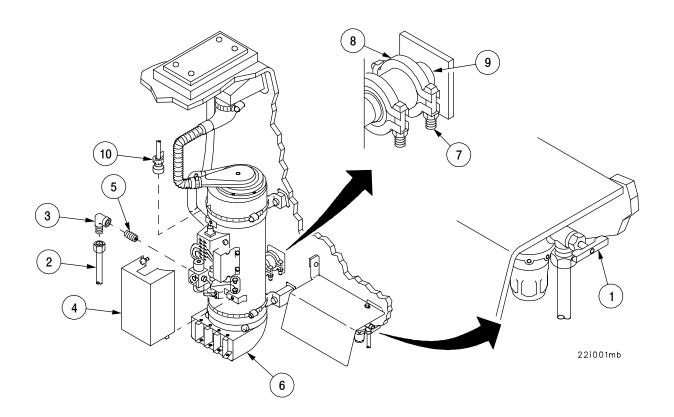


PERSONNEL HEATER ASSEMBLY REPLACEMENT - CONTINUED

0529 00

Installation-Continued

- 6. Connect electrical wiring harness 4W124 connector P2 (10) to heater assembly (6).
- 7. Torque screw (7) securing clamp (8) to exhaust pipe (9) to 90-95 lb-in. (10-11 N•m).
- 8. Install nipple (5), elbow (3) and cover (4) on heater assembly (6).
- 9. Connect fuel tube (2) to elbow (3).
- 10. Open fuel shutoff cock (1).



NOTE

FOLLOW-ON MAINTENANCE:

Connect battery power (WP 0256 00)
Operate personnel heater and check for proper operation (TM 9-2350-292-10)
Install right side gas particulate filter and frame (WP 0706 00)
Install right side fire extinguisher and bracket (WP 0472 00)

AIR DUCT HOSE AND PLENUM DRAIN HOSE REPLACEMENT

0530 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

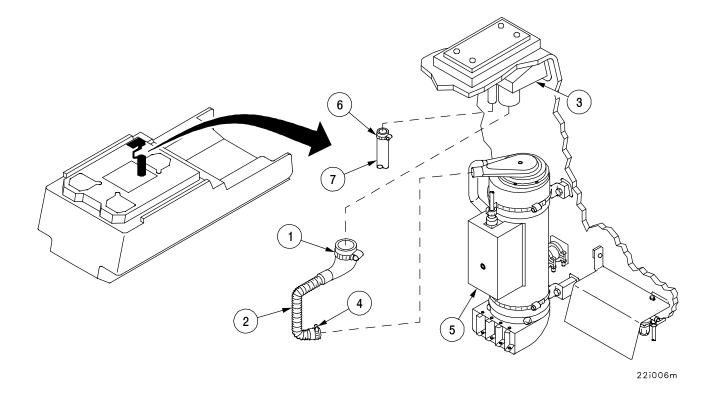
NOTE

Perform Removal steps 1, 2 and 4 and Installation steps 2 and 3 for maintenance of air duct hose.

Perform Removal steps 3 and 4 and Installation step 1 for maintenance of drain hose.

Removal

- 1. Loosen clamp (1) and remove air duct hose (2) from plenum (3).
- 2. Loosen clamp (4) and remove air duct hose (2) from heater assembly (5).
- 3. Loosen clamp (6) and remove drain hose (7) from plenum (3).
- 4. Inspect parts for damage and replace as required.

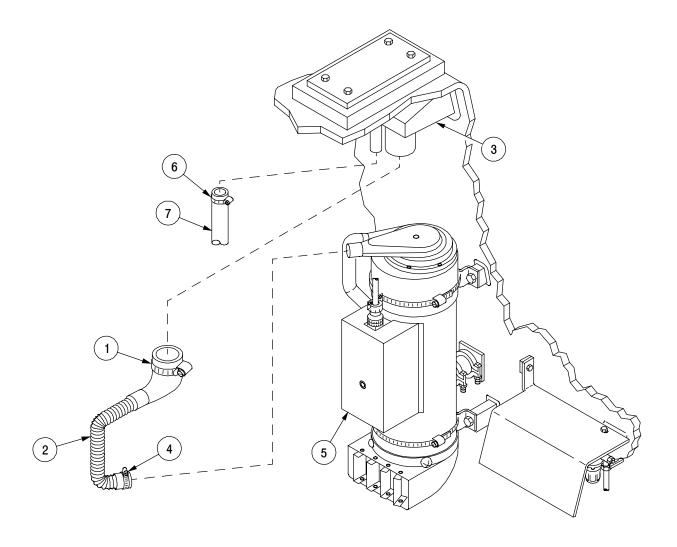


AIR DUCT HOSE AND PLENUM DRAIN HOSE REPLACEMENT - CONTINUED

0530 00

Installation

- 1. Install drain hose (7) on plenum (3) with clamp (6).
- 2. Install air duct hose (2) on heater assembly (5) with clamp (4).
- 3. Install air duct hose (2) on plenum (3) with clamp (1).



22i006ma

PERSONNEL HEATER AIR INLET COVER AND INLET SCREEN REPLACEMENT

0531 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

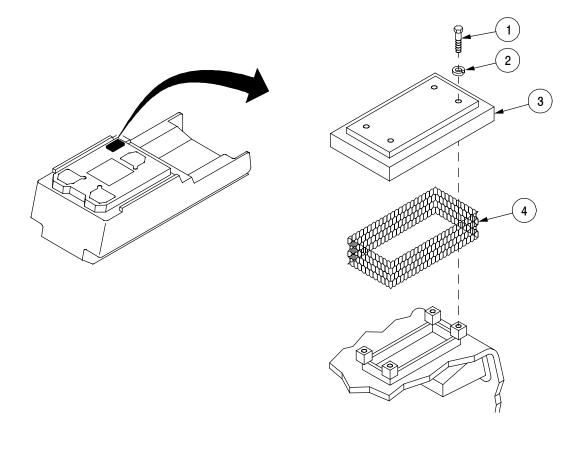
Lockwashers (4) (item 2, WP 0718 00)

Removal

- 1. Remove four screws (1), four lockwashers (2), air inlet cover (3) and air inlet screen (4) from hull. Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Install air inlet screen (4) and air inlet cover (3) on hull with four screws (1) and four new lockwashers (2).



22i003m

PERSONNEL HEATER EXHAUST HOSE/TUBE ASSEMBLY AND INSULATION BLANKET REPLACEMENT

0532 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (6) (item 2, WP 0718 00) Gasket (item 24, WP 0718 00) Gasket (item 25, WP 0718 00) Nonelectrical wire (item 101, WP 0716 00)

Equipment Conditions

Boom raised (TM 9-2350-292-10)
APU cooling air shield removed (WP 0413 00)
For exhaust tube only
APU auxiliary housing removed (WP 0414 00)
For exhaust hose or insulation blanket

References

TM 9-2350-292-10

NOTE

Perform Removal steps 1 and 4 and Installation steps 3 and 4 for maintenance of exhaust tube.

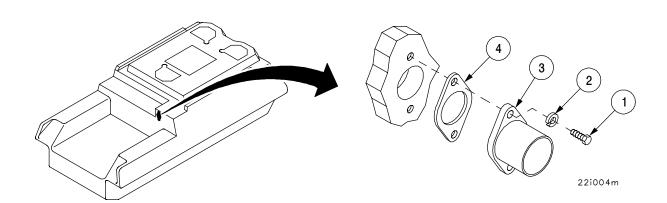
Perform Removal steps 2 and 4 and Installation step 2 for replacement of insulation blanket.

Perform Removal steps 2 through 4 and Installation steps 1, 2 and 4 for maintenance of exhaust hose.



Removal

1. Remove two screws (1), two lockwashers (2), exhaust tube (3) and gasket (4) from outer bulkhead. Discard lockwashers and gasket.



PERSONNEL HEATER EXHAUST HOSE/TUBE ASSEMBLY AND INSULATION BLANKET REPLACEMENT - CONTINUED

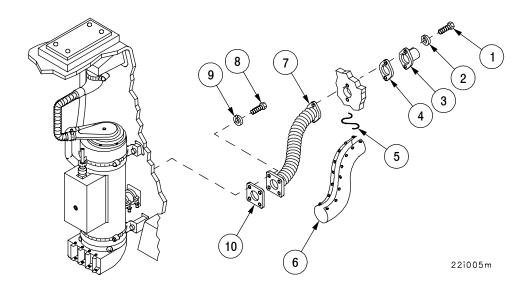
0532 00

Removal-Continued

- 2. Remove nonelectrical wire (5) and insulation blanket (6) from exhaust hose (7). Discard nonelectrical wire.
- 3. Remove four screws (8), four lockwashers (9), exhaust hose (7) and gasket (10) from inner bulkhead. Discard lockwashers and gasket.
- 4. Inspect parts for damage and replace as required.

Installation

- 1. Install new gasket (10) and exhaust hose (7) with four screws (8) and four new lockwashers (9) on inner bulkhead.
- 2. Install insulation blanket (6) on exhaust hose (7) and secure with new nonelectrical wire (5).
- 3. Install new gasket (4) and exhaust tube (3) with two screws (1) and two new lockwashers (2) on outer bulkhead.
- 4. Operate personnel heater (TM 9-2350-292-10) and check for exhaust leaks. Make repairs as necessary.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU auxiliary housing, if removed (WP 0414 00) Install APU cooling air shield, if removed (WP 0413 00) Lower boom (TM 9-2350-292-10)

PERSONNEL HEATER FUEL PUMP REPLACEMENT

0533 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable container (1.0 gal. (3.8 L) min cap)

Materials/Parts

Lockwashers (4) (item 9, WP 0718 00) Sealing compound (item 16, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10)
Battery power disconnected (WP 0256 00)

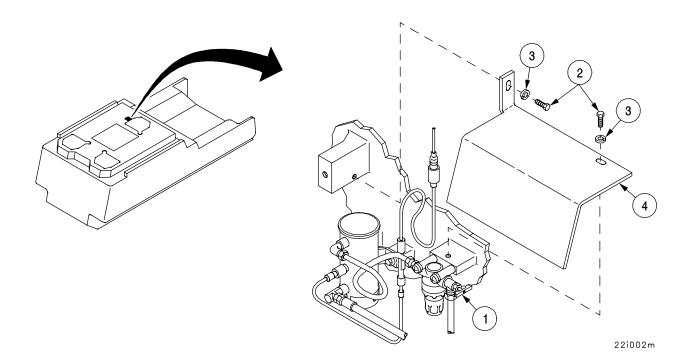
References

TM 9-2350-292-10



Removal

- 1. Close fuel shutoff cock (1).
- 2. Remove two screws (2), two lockwashers (3) and guard (4) from hull. Discard lockwashers.



PERSONNEL HEATER FUEL PUMP REPLACEMENT - CONTINUED

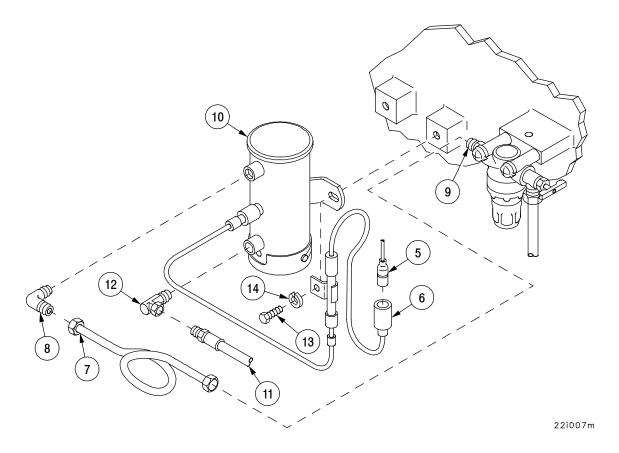
0533 00

Removal-Continued

- 3. Disconnect electrical wiring harness 4W124 lead 402 (5) from fuel pump electrical lead (6).
- 4. Place suitable container under fuel tube (7) to catch spilled fuel.
- 5. Disconnect fuel tube (7) from elbow (8) and adapter (9).
- 6. Remove elbow (8) from fuel pump (10).
- 7. Disconnect hose assembly (11) from elbow (12), remove elbow (12) from fuel pump (10).
- 8. Remove two screws (13), two lockwashers (14) and fuel pump (10) from hull. Discard lockwashers.
- 9. Inspect parts for damage and replace as required.

Installation

- Install fuel pump (10) in hull with two screws (13) and two new lockwashers (14).
- 2. Apply sealing compound to all pipe threads prior to installation.
- 3. Install elbow (12) on fuel pump (10), connect hose assembly (11) to elbow (12).
- 4. Install elbow (8) on fuel pump (10), connect fuel tube (7) to elbow (8) and adapter (9).
- 5. Connect electrical wiring harness 4W124 lead 402 (5) to fuel pump electrical lead (6).

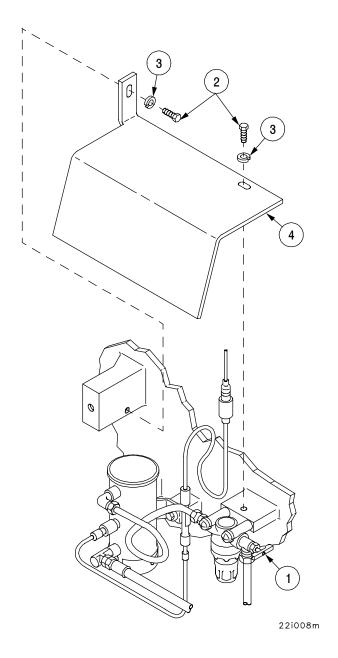


PERSONNEL HEATER FUEL PUMP REPLACEMENT - CONTINUED

0533 00

Installation-Continued

- 6. Open fuel shutoff cock (1).
- 7. Connect battery power (WP 0256 00).
- 8. Operate personnel heater (TM 9-2350-292-10) and check for leaks. Make repairs as necessary.
- 9. Install heater guard (4) in hull with two screws (2) and two new lockwashers (3).



PERSONNEL HEATER FUEL FILTER REPLACEMENT

0534 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable container (1.0 gal. (3.8 L) min cap)

Materials/Parts

Lockwashers (2) (item 9, WP 0718 00) Lockwashers (2) (item 18, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10)

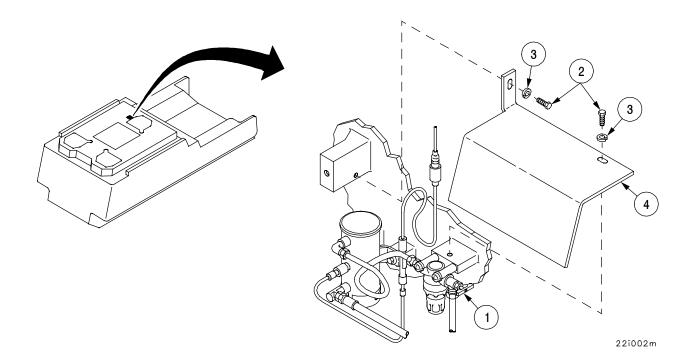
References

TM 9-2350-292-10



Removal

- 1. Close fuel shutoff cock (1).
- 2. Remove two screws (2), two lockwashers (3) and heater guard (4) from hull. Discard lockwashers.



PERSONNEL HEATER FUEL FILTER REPLACEMENT - CONTINUED

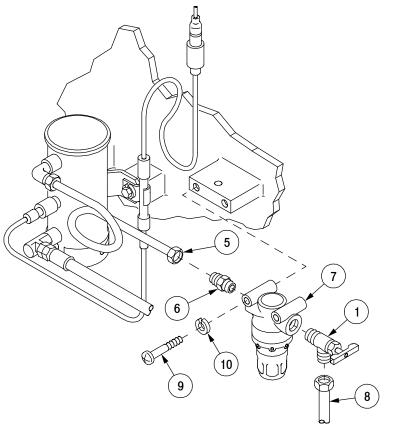
0534 00

Removal-Continued

- 3. Place suitable container under fuel tube (5) to catch spilled fuel.
- 4. Disconnect fuel tube (5) from adapter (6), remove adapter (6) from fuel filter (7).
- 5. Disconnect fuel tube (8) from fuel shutoff cock (1).
- 6. Remove fuel shutoff cock (1) from fuel filter (7).
- 7. Remove two screws (9), two lockwashers (10) and fuel filter (7) from hull.
- 8. Inspect parts for damage and replace as required.

Installation

- 1. Install fuel filter (7) in hull with two screws (9) and two new lockwashers (10).
- 2. Install fuel shutoff cock (1) on fuel filter (7).
- 3. Connect fuel tube (8) to fuel shutoff cock (1).
- 4. Install adapter (6) on fuel filter (7), connect fuel tube (5) to adapter (6).



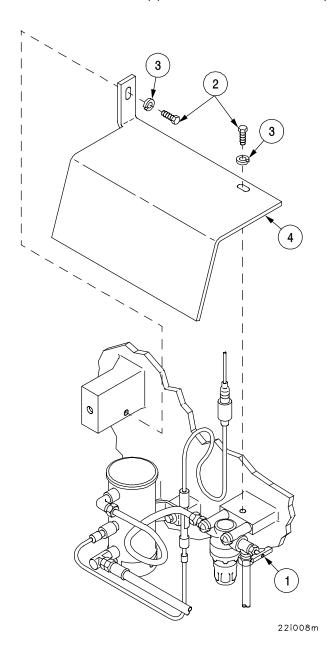
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PERSONNEL HEATER FUEL FILTER REPLACEMENT - CONTINUED

0534 00

Installation-Continued

- 5. Open fuel shutoff cock (1).
- 6. Operate personnel heater (TM 9-2350-292-10) and check for leaks. Make repairs as necessary.
- 7. Install heater guard (4) on hull with two screws (2) and two new lockwashers (3).



DECAL REPLACEMENT

0535 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Wire brush (item 32, WP 0717 00)

Materials/Parts

Dry-cleaning solvent (item 1, WP 0716 00)

Removal

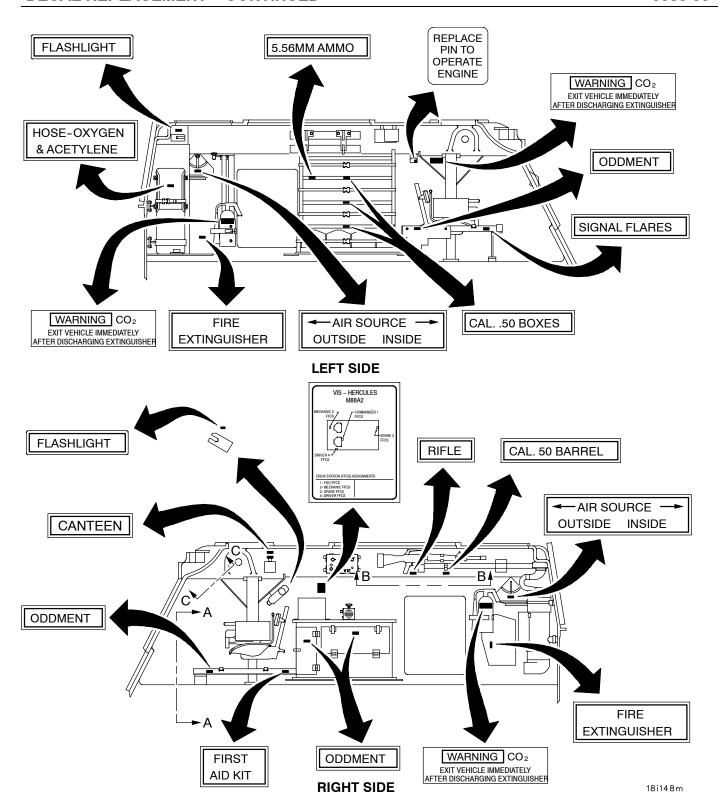
1. Remove decal from mounting surface using the following illustration as a guide. Discard decal.

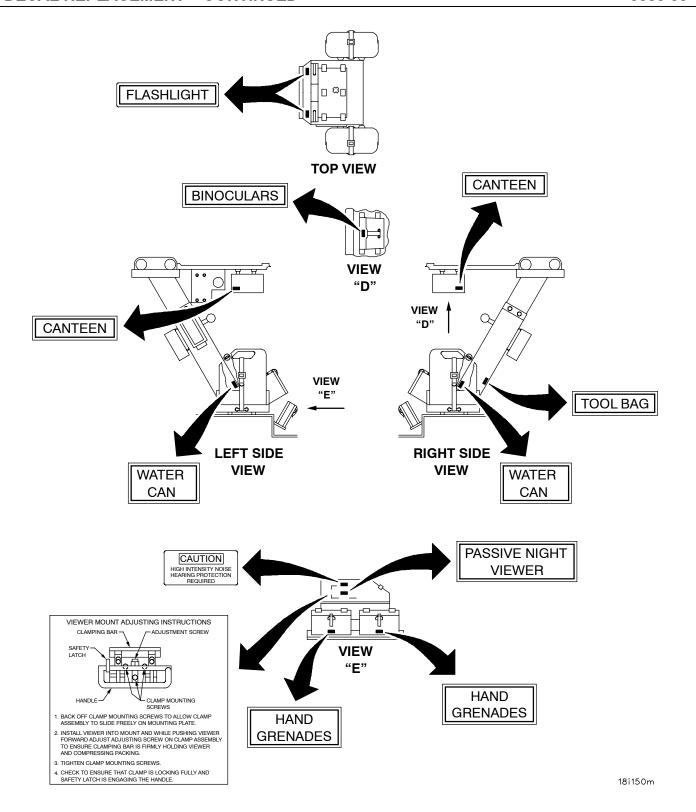


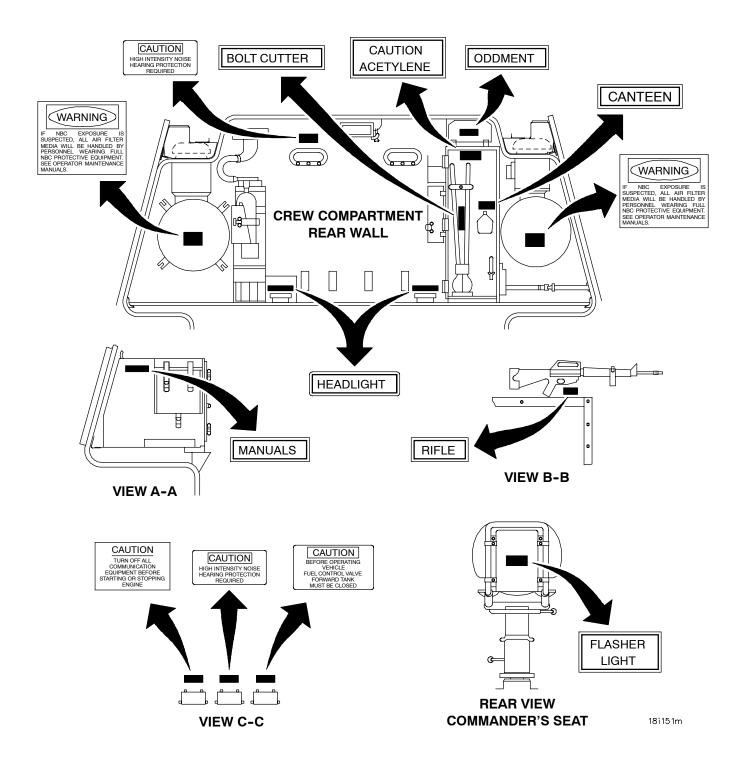
2. Clean mounting surface with dry-cleaning solvent and wire brush.

Installation

- 1. Remove paper backing from decal and position decal on clean mounting surface using the following legend as a guide.
- 2. Press decal firmly to remove air bubbles from under decal.







STENCIL LOCATIONS 0536 00

THIS WORK PACKAGE COVERS:

Stenciling Exterior Stowage Locations

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Wire brush (item 32, WP 0717 00) Stencil set (item 33, WP 0717 00)

Materials/Parts

Dry-cleaning solvent (item 1, WP 0716 00) Enamel (TM 43-0139)

References

TM 43-0139

Stenciling exterior stowage locations



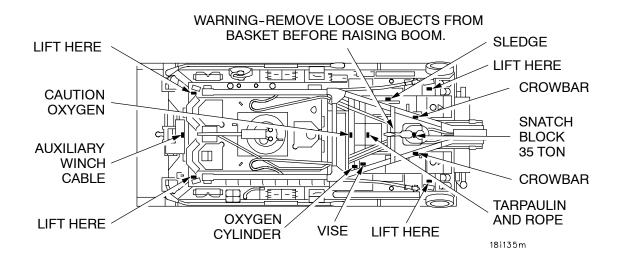
1. Clean surface to be stenciled with dry-cleaning solvent and wire brush.

NOTE

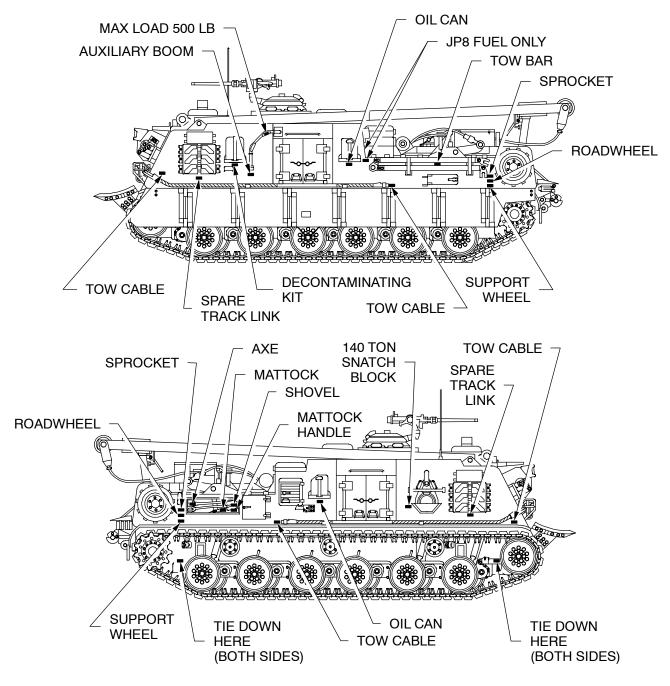
All letters must be 0.12 in. (3 mm) wide and 0.50 in. (12.7 mm) high.

All spacing between lines must be 0.25 in. (6.4 mm).

- 2. Position stencil on surface to be stenciled.
- 3. Apply paint to letters on stencil.



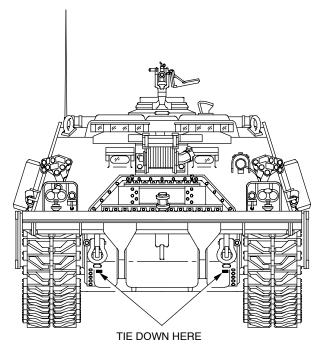
Stenciling exterior stowage locations-Continued

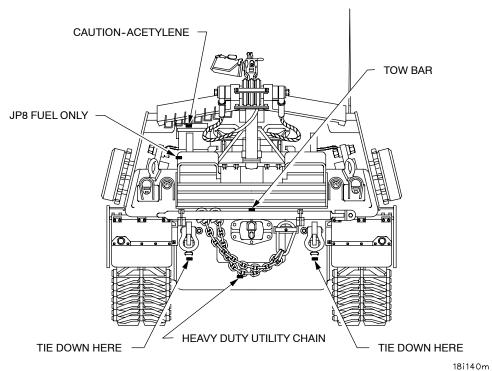


ARMOR SKIRTS REMOVED FOR CLARITY

18i137m

Stenciling exterior stowage locations-Continued





FUEL CONTROL VALVE DATA PLATE REPLACEMENT

0537 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Electric portable drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

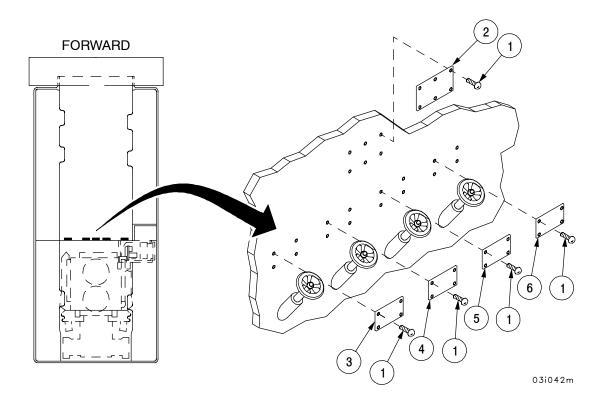
Drive screws (22) (item 1, WP 0718 00)

NOTE

The procedures are the same for all data plates. One data plate of the five covered in this procedure requires six drive screws to be replaced.

Removal

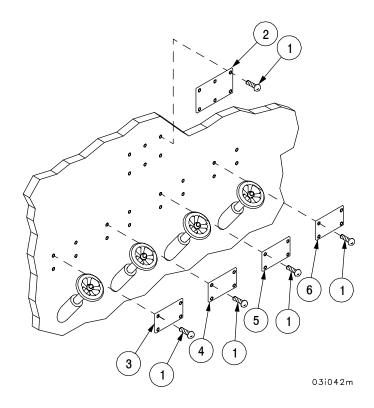
- 1. Remove heads from four or six drive screws (1). Discard drive screws.
- 2. Remove data plate (2, 3, 4, 5 or 6) from bulkhead.
- 3. Drill out four or six drive screw (1) shanks.
- 4. Inspect parts for damage and replace as required.



0537 00

Installation

Position data plate (2, 3, 4, 5 or 6) over mounting holes in bulkhead and install four or six new drive screws (1).



VEHICLE IDENTIFICATION, CARC PAINTED AND SHIPPING DATA PLATE

0538 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Electric portable drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

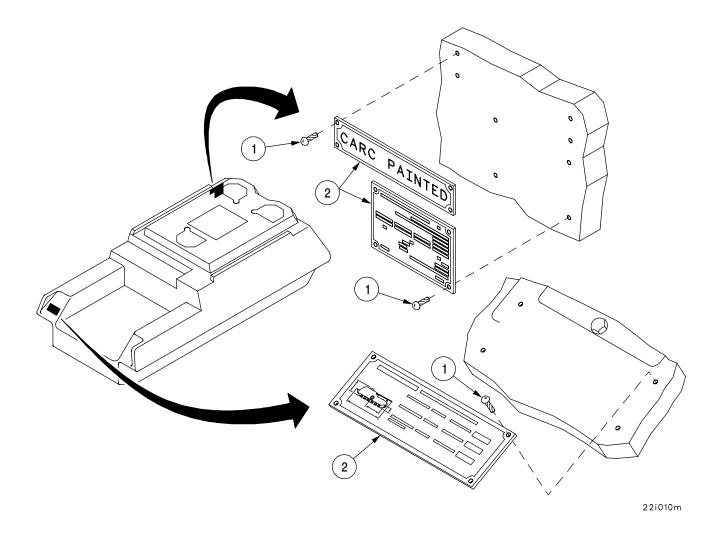
Drive screws (12) (item 70, WP 0718 00)

Removal

- 1. Remove four drive screws (1) and plate (2). Discard drive screws.
- 2. Inspect parts for damage and replace as required.

Installation

Install plate (2) with four new drive screws (1).



DEFUEL COMPARTMENT DATA PLATE REPLACEMENT

0539 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Electric portable drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Drive screws (16) (item 1, WP 0718 00)

Equipment Conditions

Defuel access door opened (TM 9-2350-292-10)

References

TM 9-2350-292-10

NOTE

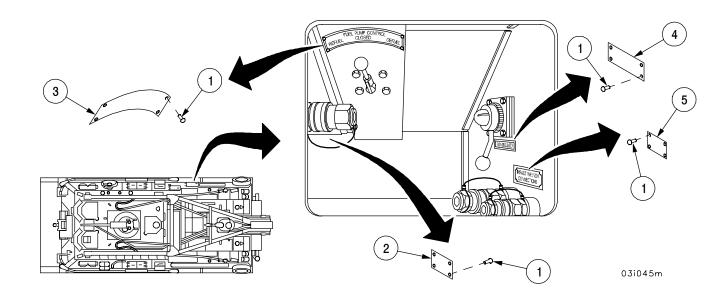
The defuel compartment contains four data plates. This procedure applies to all four data plates.

Removal

- 1. Remove heads from four drive screws (1). Discard drive screws.
- 2. Remove data plate (2, 3, 4 or 5) from compartment wall.
- 3. Drill out four drive screw (1) shanks.
- 4. Inspect parts for damage and replace as required.

Installation

Position data plate (2, 3, 4 or 5) over mounting holes in compartment wall and install four new drive screws (1).



NOTE

FOLLOW-ON MAINTENANCE:

Close defuel access door (TM 9-2350-292-10)

END OF TASK

SPADE RELEASE DATA PLATE REPLACEMENT

0540 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Electric portable drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

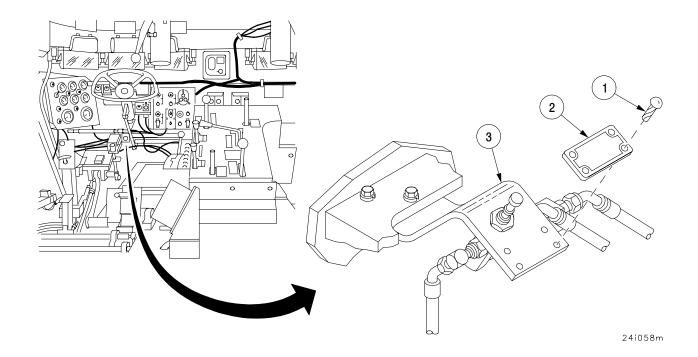
Drive screws (4) (item 1, WP 0718 00)

Removal

- 1. Remove heads from four drive screws (1). Discard drive screws.
- 2. Remove data plate (2) from bracket (3).
- 3. Drill out four drive screw (1) shanks.
- 4. Inspect parts for damage and replace as required.

Installation

Position data plate (2) over mounting holes in bracket (3), install four new drive screws (1).



FUEL TANK FILLER ACCESS COVER DATA PLATE REPLACEMENT

0541 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Electric portable drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Drive screws (6) (item 1, WP 0718 00)

Equipment Conditions

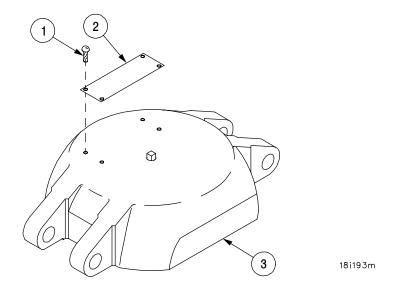
Fuel tank filler access cover removed (WP 0435 00)

Removal

- 1. Remove heads from four drive screws (1). Discard drive screws.
- 2. Remove data plate (2) from fuel tank filler access cover (3).
- Drill out four drive screw (1) shanks.
- 4. Inspect parts for damage and replace as required.

Installation

Position data plate (2) over mounting holes on fuel tank filler access cover (3) and install four new drive screws (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install fuel tank filler access cover (WP 0435 00)

FUEL DOOR DATA PLATE REPLACEMENT

0542 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Electric portable drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Drive screws (6) (item 1, WP 0718 00)

Equipment Condition

Fuel door opened (TM 9-2350-292-10)

References

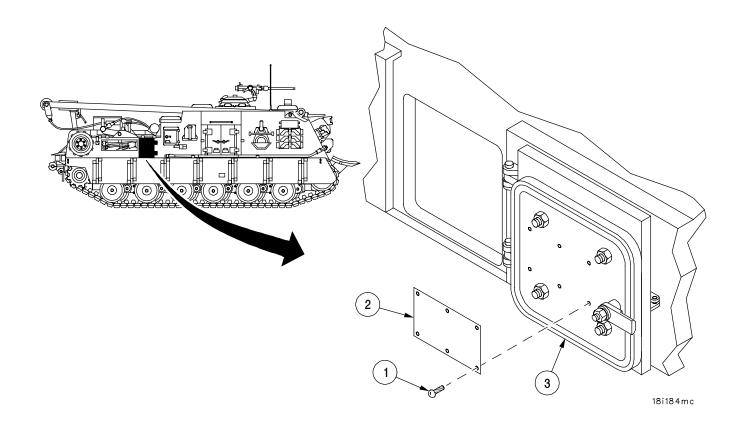
TM 9-2350-292-10

Removal

- 1. Remove heads from six drive screws (1). Discard drive screws.
- 2. Remove data plate (2) from fuel door assembly (3).
- 3. Drill out six drive screw (1) shanks.
- 4. Inspect parts for damage and replace as required.

Installation

Install data plate (2) on fuel door assembly (3) with six new drive screws (1).



NOTE

FOLLOW-ON MAINTENANCE:

Close fuel door (TM 9-2350-292-10)

END OF TASK

BATTERY CONNECTION DIAGRAM DATA PLATE REPLACEMENT

0543 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Electric portable drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Drive screws (3) (item 1, WP 0718 00)

Equipment Condition

Left side engine deck access doors opened (TM 9-2350-292-10)

References

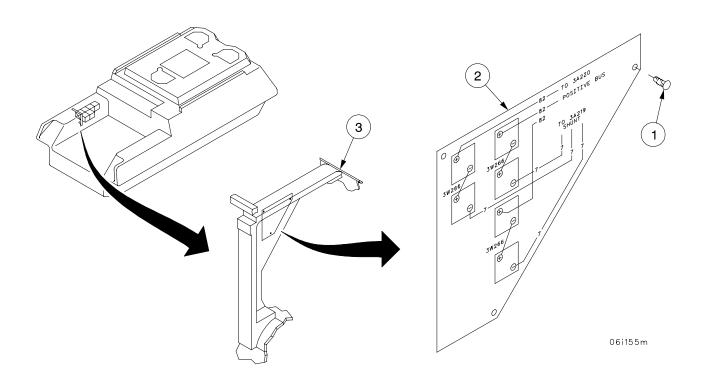
TM 9-2350-292-10

Removal

- 1. Remove heads from three drive screws (1). Discard drive screws.
- 2. Remove data plate (2) from hull weldment (3).
- 3. Drill out three drive screw (1) shanks.
- 4. Inspect parts for damage and replace as required.

Installation

Install data plate (2) on hull weldment (3) with three new drive screws (1).



NOTE

FOLLOW-ON MAINTENANCE:

Close left side engine deck access doors (TM 9-2350-292-10)

CHAPTER 19 HYDRAULIC SYSTEM MAINTENANCE

POWER TAKE-OFF (PTO) SHAFT REPLACEMENT

0544 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00) Wire-twister pliers (item 67, WP 0717 00)

Materials/Parts

Nonelectrical wire (item 40, WP 0716 00) Lockwashers (8) (item 10, WP 0718 00) Gasket (item 254, WP 0718 00)

Equipment Conditions

Engine deck grilles removed (TM 9-2350-292-10) Powerpack removed (WP 0188 00) Subfloor plate #25, #26, #27 and support #18 removed (WP 0454 00)

Personnel Required

Two

References

TM 9-2350-292-10

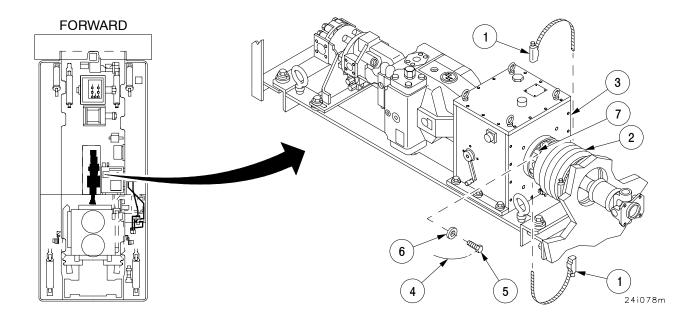
Removal

1. Loosen two clamps (1) and slide boot (2) away from PTO clutch assembly (3).

NOTE

If necessary to turn PTO shaft to access screws, set PTO clutch assembly manual engagement lever to DISENGAGED position and manually turn PTO shaft to desired position.

- 2. Cut nonelectrical wire (4) and remove from screws (5). Discard nonelectrical wire.
- 3. Remove four screws (5) and four flat washers (6) from flange (7) mounted to PTO clutch assembly (3).



POWER TAKE-OFF (PTO) SHAFT REPLACEMENT - CONTINUED

0544 00

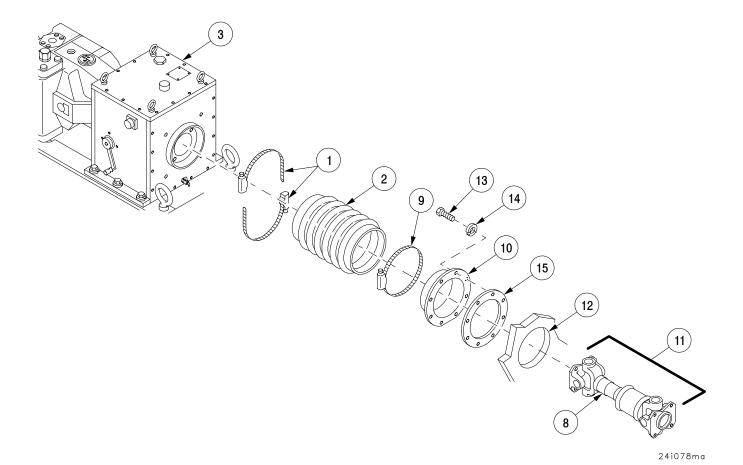
Removal-Continued

- 4. Slide slip yoke (8) away from PTO clutch assembly (3).
- 5. Loosen clamp (9) at adapter (10), slide boot (2) away from adapter (10). Remove two clamps (1), clamp (9) and boot (2) from PTO shaft assembly (11).
- 6. Carefully pass PTO shaft assembly (11) through bulkhead access opening (12) and remove from vehicle.

NOTE

Perform step 7 to remove adapter and gasket if either is worn or damaged.

- 7. Remove eight screws (13), eight lockwashers (14), adapter (10) and gasket (15). Discard lockwashers and gasket.
- 8. Inspect parts for damage and replace as required.



POWER TAKE-OFF (PTO) SHAFT REPLACEMENT - CONTINUED

0544 00

Installation

NOTE

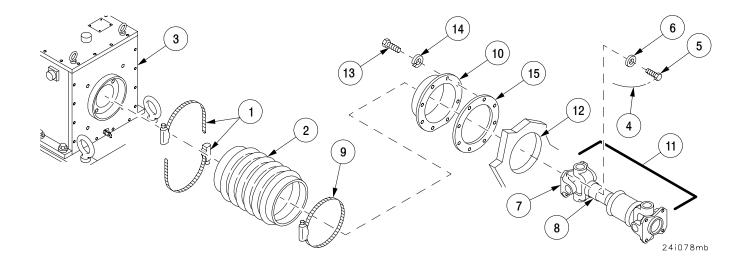
Perform step 1 only if adapter and gasket are being replaced.

- Install adapter (10) and new gasket (15) with eight screws (13) and eight new lockwashers (14).
- 2. Install PTO shaft assembly (11) through bulkhead access opening (12) with slip yoke (8) towards the engine.
- 3. Slide boot (2) over PTO shaft assembly (11) and secure boot (2) to adapter (10) with clamp (9).
- 4. Secure flange (7) to PTO clutch assembly (3) with four screws (5) and four flat washers (6). Torque screws (5) to 97-116 lb-ft (132-157 N•m).
- 5. Install new nonelectrical wire (4) through four screws (5) and secure using double-twist method.

CAUTION

To avoid shaft damage, make sure arrows on slip yokes are aligned.

6. Secure boot (2) to PTO clutch assembly (3) with two clamps (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install support (18) and subfloor plate #25, #26 and #27 (WP 0454 00)
Install powerpack (WP 0188 00)
Install engine deck grilles (TM 9-2350-292-10)

0545 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable lifting device (500 lbs (227 kg) min cap)

Endless sling (item 23, WP 0717 00)

Lifting sling (item 25, WP 0717 00)

Torque wrench (item 9, WP 0717 00)

Torque wrench (item 2, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 78, WP 0718 00) Lockwashers (8) (item 12, WP 0718 00) Shim(s) (item 295, WP 0718 00) Hardwood lumber (item 4, WP 0716 00) Safety goggles (item 93, WP 0716 00) Lubricant (item 3, WP 0716 00)

Sealant (item 102, WP 0716 00)

Equipment Conditions

Commander's cupola mounting plate removed (WP 0444 00)

Floor support removed (WP 0454 00)

Rear subfloor stowage basket support removed (WP 0465 00)

Hydraulic lines and fittings on main hydraulic pump removed (WP 0565 00)

PTO shaft disconnected (WP 0544 00)

Two fuel lines from fuel tank to bulkhead disconnected (WP 0217 00)

Wiring harness 2W601 wire 627 disconnected at PTO clutch assembly and wire 525 disconnected at PTO clutch assembly high temperature switch (WP 0291 00 or WP 0291 01)

Personnel Required

Three





To prevent personnel injury or death, do not attempt to loosen or tighten hydraulic fittings or lines when system is pressurized. Activate hydraulic controls several times with engine and auxiliary power unit OFF to relieve residual pressure in the hydraulic system.

CAUTION

To prevent equipment damage, lifting sling and lifting device must support full weight of main hydraulic pump assembly.

NOTE

Maintenance of PTO clutch assembly high temperature switch may be accomplished with PTO clutch assembly installed.

Perform Removal steps 7 through 9 and Installation steps 1 and 2 for maintenance of high temperature switch and adapter.

0545 00

NOTE

When replacing PTO clutch assembly, Removal step 6 and Installation step 3 are not required.

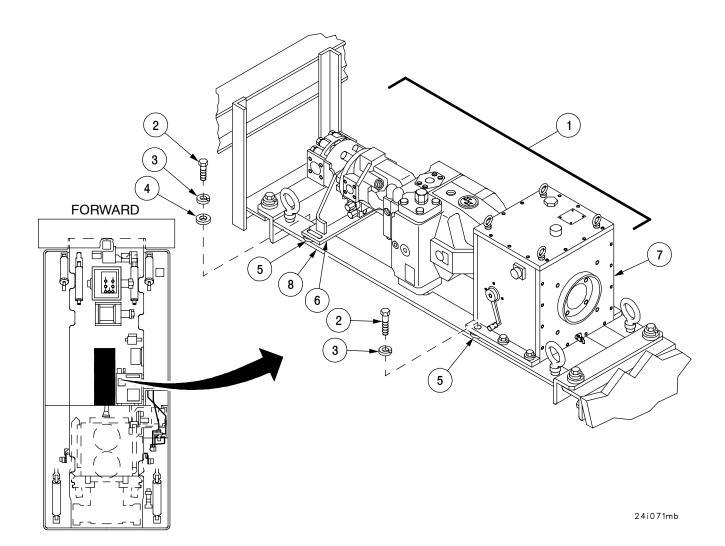
Removal

1. Through commander's cupola plate opening, position lifting slings to cradle main hydraulic pumps' assembly and PTO clutch (1), attach lifting slings to lifting device. Raise lifting device to remove slack from lifting slings.

NOTE

Note the quantity and position of shim(s) being removed to ensure shim(s) are installed in the same position.

2. Remove eight screws (2), eight lockwashers (3), two flat washers (4) and shims (5) from hydraulic pumps' assembly mount (6), PTO clutch assembly (7) and support plate (8). Discard lockwashers.



0545 00

Removal-Continued



CAUTION

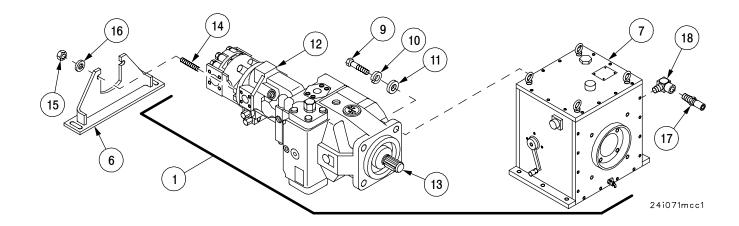
Place wooden blocks to ensure main hydraulic pumps' assembly is level when separated from PTO clutch assembly and hydraulic pumps' assembly mount is remove-Failure to comply could result in equipment damage.

- 3. Using suitable lifting device, remove main hydraulic pumps' assembly and PTO clutch (1) from vehicle. Place hydraulic pumps' assembly and PTO clutch (1) on wooden blocks. Remove lifting slings and lifting device.
- 4. Remove four screws (9), four lockwashers (10) and four flat washers (11). Discard lockwashers.
- 5. Separate main hydraulic pumps' assembly (12) from PTO clutch assembly (7) to disengage hydraulic pumps' assembly splined shaft (13).

NOTE

Two studs, two nuts and two flat washers securing mount to hydraulic pump assembly must be reinstalled in pump after mount has been removed from hydraulic pumps' assembly.

- 6. Remove two studs (14), two nuts (15) and two flat washers (16) and hydraulic pumps' assembly mount (6) from hydraulic pumps' assembly (12).
- 7. Remove high temperature switch (17) from adapter (18).
- 8. Remove adapter (18) from PTO clutch assembly (7).
- 9. Inspect parts for damage and replace as required.



0545 00

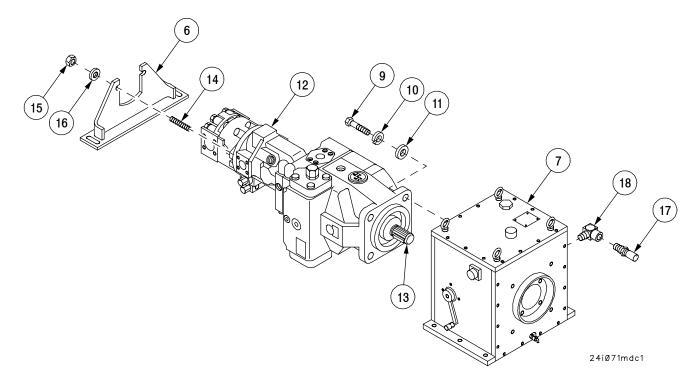
Installation

- 1. Apply sealant to threads of adapter (18) and install adapter in PTO clutch assembly (7).
- 2. Install high temperature switch (17) in adapter (18).
- 3. Apply lubricant to threads of two studs (14).
- 4. Install hydraulic pumps' assembly mount (6) on main hydraulic pumps' assembly (12) with two studs (14), two nuts (15) and two flat washers (16). Do not tighten studs (14).

CAUTION

To avoid equipment damage, make sure main hydraulic pump assembly is kept level and aligned to PTO clutch.

- 5. Hand tighten two studs (14) until studs bottom out, then back two studs (14) out 0.25 to 2.5 turns.
- 6. Torque two nuts (15) 28-32 lb-ft (38-43.4 N•m).
- 7. Align main hydraulic pumps' assembly splined shaft (13) to internal splines in PTO clutch assembly (7). Slide main hydraulic pumps' assembly splined shaft (13) into PTO clutch assembly (7) to engage main hydraulic pumps' assembly splined shaft (13) with internal splines of PTO clutch assembly (7).
- 8. Secure main hydraulic pumps' assembly (12) to PTO clutch assembly (7) with four screws (9), four new lockwashers (10) and four flat washers (11). Torque screws to 180-190 lb-ft (244-258 N•m).

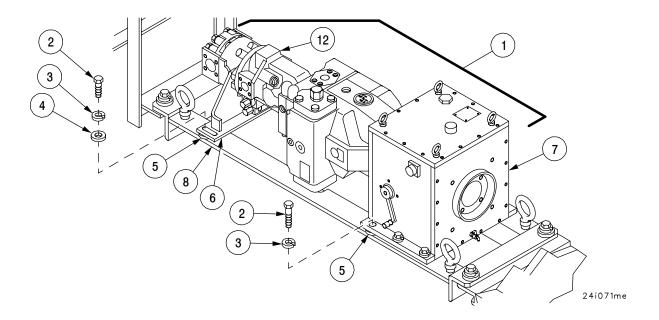


0545 00

Installation-Continued



- 9. Position lifting slings to cradle main hydraulic pumps' assembly and PTO clutch assembly (1), attach lifting slings to lifting device. Raise lifting device to remove slack from lifting slings.
- 10. Using suitable lifting device and lifting slings, install main hydraulic pumps' assembly and PTO clutch (1) in vehicle.
- 11. Align main hydraulic pumps' assembly mount (6) and PTO clutch assembly (7) to support plate (8), install eight screws (2), eight new lockwashers (3), two flat washers (4) and shim(s) (5). Shim as required to maintain alignment between the main hydraulic pumps' assembly (12) and PTO clutch (7).



NOTE

FOLLOW-ON MAINTENANCE:

Connect wiring harness 2W601 wire 627 to PTO clutch assembly and wire 525 to PTO clutch assembly high temperature switch (WP 0291 00 or WP 0291 01)
Connect fuel lines from bulkhead to fuel tank (WP 0217 00)
Connect PTO shaft to PTO clutch assembly (WP 0544 00
Install hydraulic lines and fittings on main hydraulic pumps (WP 0565 00)
Install rear subfloor stowage basket support (WP 0465 00)
Install floor support (WP 0454 00)
Install commander's cupola mounting plate (WP 0444 00)

FUEL TRANSFER PUMP MOTOR AND PUMP BASE REPLACEMENT

0546 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Mechanical puller (item 43, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 2, WP 0718 00) Gasket (item 80, WP 0718 00) Woodruff key (item 60, WP 0718 00)

Equipment Conditions

Hydraulic lines and fittings removed from fuel transfer pump motor (WP 0566 00) Fuel transfer pump removed (WP 0203 00)

Removal

NOTE

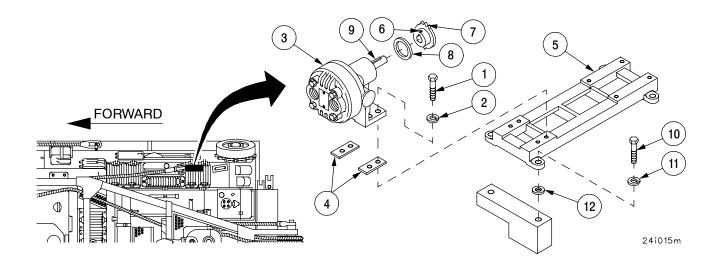
Note the quantity and position of spacer plate(s) being removed to ensure spacer plate(s) are installed in the same position.

- 1. Remove four screws (1), four lockwashers (2), hydraulic motor (3) and spacer plate(s) (4) from pump base (5). Discard lockwashers.
- 2. Loosen setscrew (6), remove sprocket (7), gasket (8) and woodruff key (9) from hydraulic motor (3). Discard gasket and woodruff key.

NOTE

Note the quantity and position of shim(s) being removed to ensure shim(s) are installed in the same position.

- 3. Remove four screws (10), four lockwashers (11), pump base (5) and shim(s) (12) from hull. Discard lockwashers.
- 4. Inspect parts for damage and replace as required.

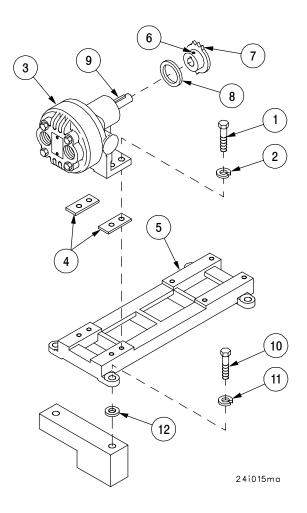


FUEL TRANSFER PUMP MOTOR AND PUMP BASE REPLACEMENT - CONTINUED

0546 00

Installation

- 1. Install pump base (5) on hull with shim(s) (12), four screws (10) and four new lockwashers (11).
- 2. Install new woodruff key (9), new gasket (8) and sprocket (7) on shaft of hydraulic motor assembly (3). Tighten setscrew (6).
- 3. Install hydraulic motor (3) on pump base (5) with spacer plate(s) (4), four screws (1) and four new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install fuel transfer pump (WP 0203 00)
Install hydraulic lines and fittings on fuel transfer pump motor (WP 0566 00)

AUXILIARY POWER UNIT HYDRAULIC PUMP REPAIR

0547 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Combination wrench (item 30, WP 0717 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00) Adhesive (item 81, WP 0716 00) Preformed packing (item 64, WP 0718 00) Preformed packing (item 74, WP 0718 00) Lockwashers (2) (item 18, WP 0718 00)

Materials/Parts-Continued

Lockwasher (item 12, WP 0718 00) Lockwashers (2) (item 2, WP 0718 00) Lockwashers (4) (item 139, WP 0718 00)

Equipment Conditions

APU removed from vehicle (WP 0586 00 or WP 0587 00)
APU chain case oil drained (WP 0187 00)

Personnel Required

Two

CAUTION

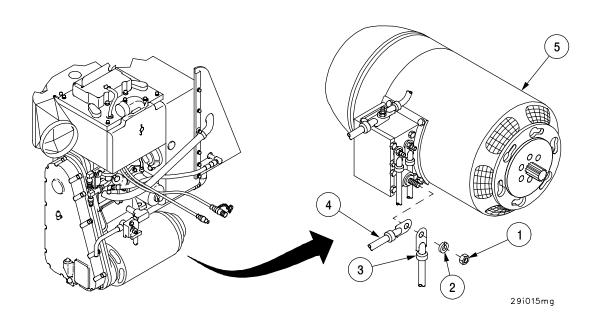
To prevent contamination, cap or plug all open hydraulic ports and fittings immediately after removing parts.

NOTE

Where applicable, remove adhesive to expose designated electrical terminals.

Removal

1. Remove nut (1), lockwasher (2), wiring harness 3W711 wire 62 (3) and lead assembly 3W706 (4) from terminal B of generator (5).



0547 00

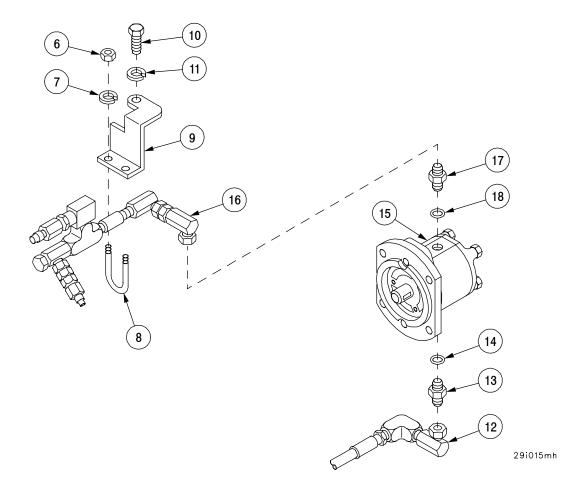
Removal-Continued

- 2. Remove two nuts (6), two lockwashers (7) and U-bolt (8) from bracket (9). Discard lockwashers.
- 3. Remove screw (10), lockwasher (11) and bracket (9) from APU assembly. Discard lockwasher.
- 4. Disconnect adapter (12) from adapter union (13).
- 5. Remove adapter union (13) and preformed packing (14) from pump (15). Discard preformed packing.

NOTE

Refer to disassembly procedures to further disassemble the removed fittings and hose on the input port side of the hydraulic pump.

- 6. Disconnect pipe elbow (16) from adapter (17).
- 7. Remove adapter (17) and preformed packing (18) from pump (15). Discard preformed packing.



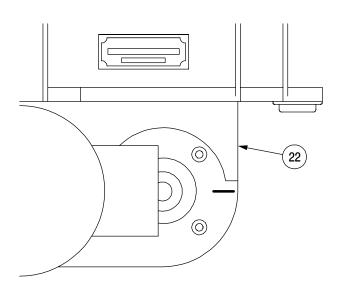
Removal-Continued

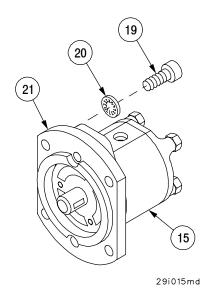
NOTE

Matchmark adapter plate and chain case before removal to ensure parts will match up during installation.

If adapter plate is "frozen" to chain case, gently tap around plate with hammer and wooden block to free adapter plate.

8. Remove four screws (19), four lockwashers (20) and hydraulic pump (15) with adapter plate (21) from chain case (22). Discard lockwashers.





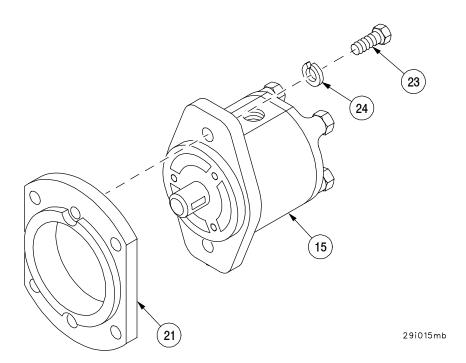
0547 00

Removal-Continued

NOTE

Refer to disassembly procedures to further disassemble the removed fittings on the output port side of the hydraulic pump.

9. Remove two screws (23), two lockwashers (24) and separate hydraulic pump (15) from adapter plate (21). Remove woodruff key (supplied with hydraulic pump) from pump shaft. Discard lockwashers.



Disassembly

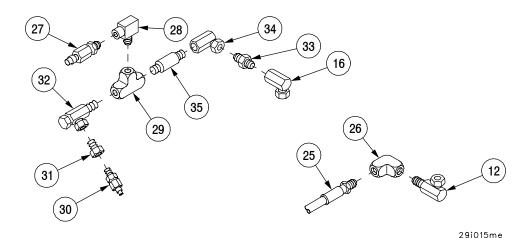
NOTE

Disassembly procedures can be performed in a suitable work area (workbench) away from the APU.

Perform steps 1, 2 and 11 to disassemble fittings, and hose on input side of hydraulic pump.

Perform steps 3 through 11 to disassemble fittings on output side of hydraulic pump.

- 1. Remove hose assembly (25) from elbow (26).
- 2. Remove adapter (12) from elbow (26).
- 3. Remove coupling half (27) from elbow (28).
- 4. Remove elbow (28) from pipe tee (29).
- 5. Remove coupling half (30) from adapter (31) and adapter (31) from valve (32).
- 6. Remove valve (32) from pipe tee (29).
- 7. Disconnect pipe elbow (16) from nipple (33).
- 8. Remove nipple (33) from pipe elbow (34).
- 9. Remove pipe elbow (34) from nipple (35).
- 10. Remove nipple (35) from pipe tee (29).
- 11. Inspect parts for damage and replace as required.



Assembly

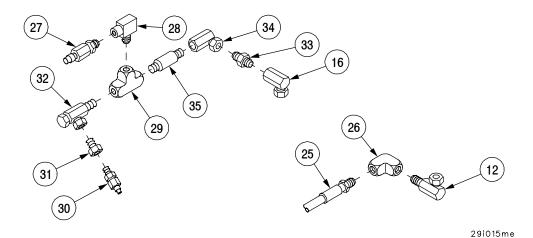
NOTE

Assembly procedures can be performed in a suitable work area (workbench) away from the APU.

Perform step 1 and 2 to assemble fittings and hose for installation on input side of hydraulic pump.

Perform steps 3 through 9 to assemble fittings for installation on output side of hydraulic pump.

- 1. Apply sealing compound to threads of hose assembly (25) and install hose assembly (25) in elbow (26).
- 2. Install adapter (12) on elbow (26).
- 3. Install nipple (35) and valve (32) in pipe tee (29).
- 4. Install coupling half (30) into adapter (31) and adapter (31) into valve (32).
- 5. Install coupling half (27) in elbow (28).
- 6. Connect elbow (28) to pipe tee (29).
- 7. Connect pipe elbow (34) to nipple (35).
- 8. Connect nipple (33) to pipe elbow (34).
- 9. Install pipe elbow (16) on nipple (33).



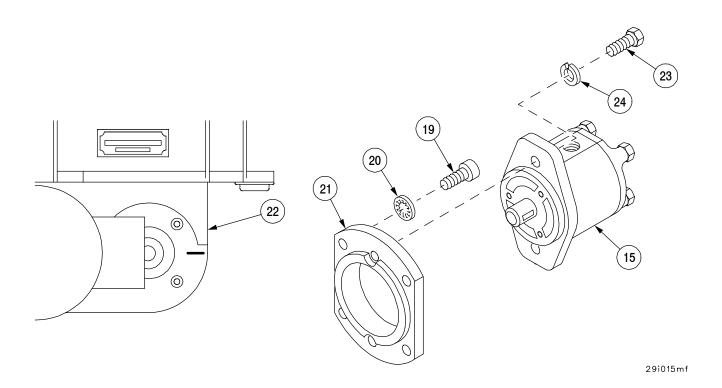
0547 00

Installation

NOTE

When adapter plate is installed in chain case, ensure matchmarks are aligned and hydraulic pump output port is to the top.

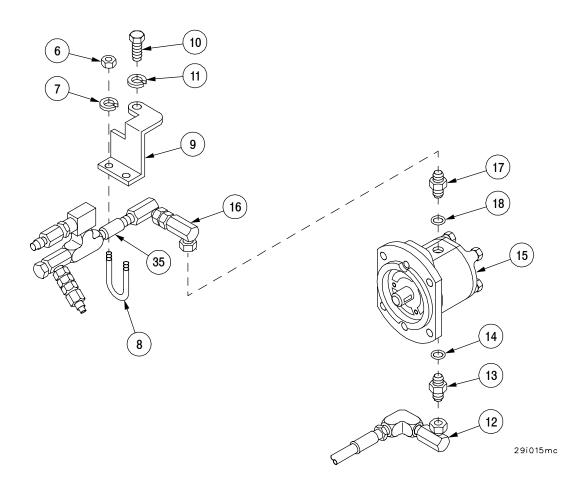
- 1. Install hydraulic pump (15) to adapter plate (21) with two screws (23) and two new lockwashers (24).
- 2. Install woodruff key (supplied with hydraulic pump) in shaft of hydraulic pump and align shaft with drive gear in chain case (22). Do not force hydraulic pump shaft into drive gear. Observe position of keyway in drive gear in chain case and turn pump shaft to align key with keyway.
- 3. Install adapter plate (21) with attached pump (15) in chain case (22) with four screws (19) and four new lockwashers (20). Ensure matchmarks are aligned between adapter plate (21) and chain case (22).



0547 00

Installation-Continued

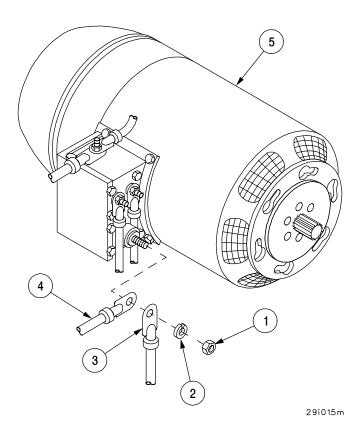
- 4. At the input port of the hydraulic pump (15), install new preformed packing (14) and adapter union (13).
- 5. Install adapter (12) with attached fittings and hose on adapter union (13).
- 6. At the output port of the hydraulic pump (15), install new preformed packing (18) and adapter (17).
- 7. Install pipe elbow (16) with attached fittings on adapter (17).
- 8. Install bracket (9) with screw (10) and new lockwasher (11).
- 9. Install U-bolt (8) over nipple (35) and secure to bracket (9) with two nuts (6) and two new lockwashers (7).



0547 00

Installation-Continued

- 10. Install lead assembly 3W706 (4) and wiring harness 3W711 wire 62 (3) on terminal B of generator (5) with new lockwasher (2) and nut (1).
- 11. Seal all exposed electrical terminals with adhesive.



NOTE

FOLLOW-ON MAINTENANCE:

Fill APU chaincase with oil (WP 0187 00)
Install APU in vehicle (WP 0586 00 or WP 0587 00)

AUXILIARY POWER UNIT HYDRAULIC PUMP REPAIR (HATZ)

0548 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Combination wrench (item 30, WP 0717 00)

Materials/Parts

Preformed packings (2) (item 475, WP 0718 00) Lockwashers (2) (item 18, WP 0718 00) Lockwashers (4) (item 2, WP 0718 00) Lockwasher (item 12, WP 0718 00) Self-locking nut (item 282, WP 0718 00) Adhesive (item 29, WP 0716 00)

Materials/Parts-Continued

Adhesive (item 81, WP 0716 00) Sealing compound (item 16, WP 0716 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00 or WP 0586 00)
APU chain case oil drained (WP 0187 00)
APU vaneaxial fan bracket removed (WP 0666 00)

Personnel Required

Two

CAUTION

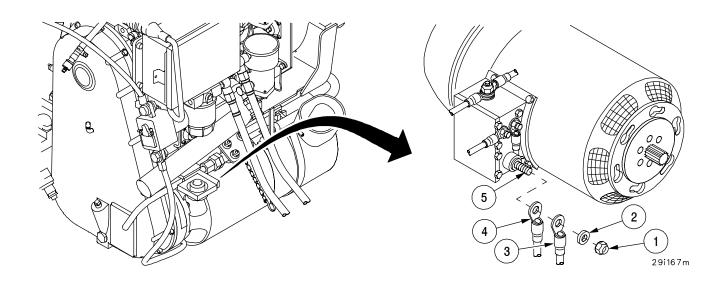
To prevent contamination, cap or plug all open hydraulic ports and fittings immediately after removing parts.

NOTE

Where applicable, remove adhesive to expose designated electrical terminals.

Removal

1. Remove self-locking nut (1), flat washer (2), wiring harness 3W711 wire 62 (3) and lead assembly 3W706 (4) from terminal B of generator (5). Discard self-locking nut.



0548 00

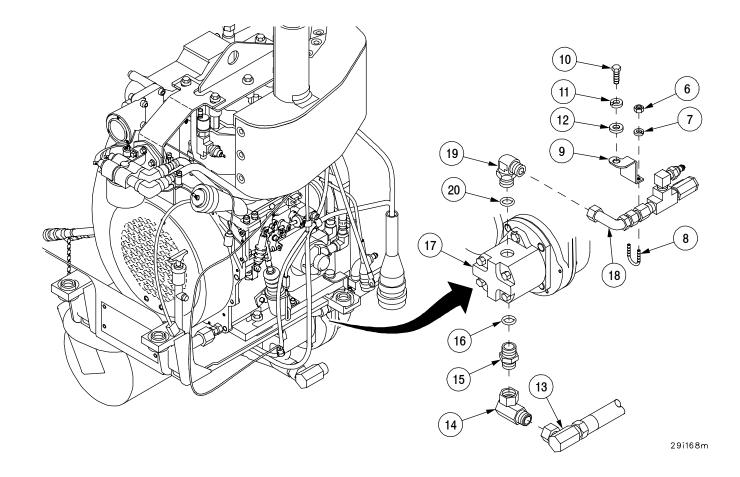
Removal-Continued

- 2. Remove two nuts (6), two lockwashers (7) and U-bolt (8) from bracket (9). Discard lockwashers.
- 3. Remove screw (10), lockwasher (11), flat washer (12) and bracket (9) from APU assembly. Discard lockwasher.
- 4. Disconnect tube elbow (13) from tube elbow (14).
- 5. Disconnect tube elbow (14) from adapter union (15).
- 6. Remove adapter union (15) and preformed packing (16) from pump (17). Discard preformed packing.

NOTE

Refer to disassembly procedures to further disassemble the removed fittings and hose on the input port side of the hydraulic pump.

- 7. Disconnect tube elbow (18) from adapter (19).
- 8. Remove adapter (19) and preformed packing (20) from pump (17). Discard preformed packing.



0548 00

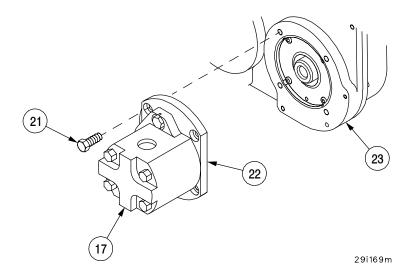
Removal-Continued

NOTE

Matchmark adapter plate and chaincase before removal to ensure parts will match up during installation.

If adapter plate is "frozen" to chaincase, gently tap around plate with hammer and wooden block to free adapter plate.

9. Remove four screws (21) and hydraulic pump (17) with adapter plate (22) from chaincase (23).



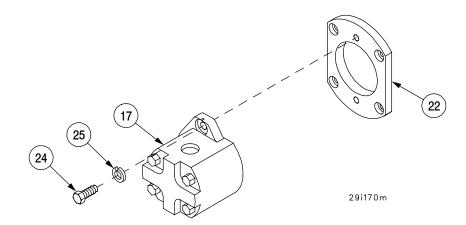
0548 00

Removal-Continued

NOTE

Refer to disassembly procedures to further disassemble the removed fittings on the output port side of the hydraulic pump.

10. Remove two screws (24), two lockwashers (25) and separate hydraulic pump (17) from adapter plate (22). Discard lockwashers.



0548 00

Disassembly

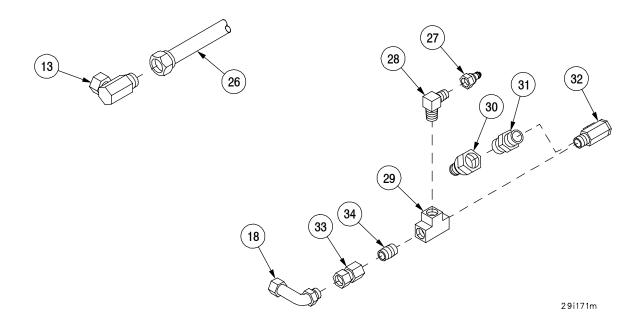
NOTE

Disassembly procedures can be performed in a suitable work area (workbench) away from the APU.

Perform steps 1 and 9 to disassemble fittings and hose on input side of hydraulic pump.

Perform steps 2 through 9 to disassemble fittings on output side of hydraulic pump.

- 1. Remove hose assembly (26) from tube elbow (13).
- 2. Remove coupling half (27) from elbow (28).
- 3. Remove elbow (28) from pipe tee (29).
- 4. Remove coupling half (30) from adapter (31) and adapter (31) from valve (32).
- 5. Remove valve (32) from pipe tee (29).
- 6. Disconnect tube elbow (18) from adapter (33).
- 7. Remove adapter (33) from pipe nipple (34).
- 8. Remove pipe nipple (34) from pipe tee (29).
- 9. Inspect parts for damage and replace as required.



0548 00

Assembly

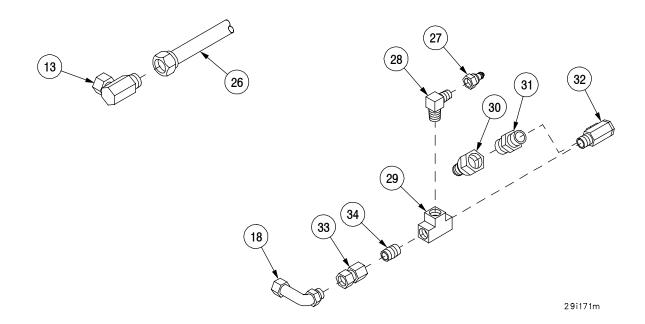
NOTE

Assembly procedures can be performed in a suitable work area (workbench) away from the APU.

Perform steps 1 and 2 to assemble fittings and hose for installation on input side of hydraulic pump.

Perform steps 3 through 8 to assemble fittings for installation on output side of hydraulic pump.

- 1. Apply sealing compound to threads of all fittings and hoses prior to assembly.
- 2. Install hose assembly (26) on tube elbow (13).
- 3. Install pipe nipple (34) and valve (32) in pipe tee (29).
- 4. Install coupling half (30) on adapter (31) and adapter (31) into valve (32).
- 5. Install coupling half (27) on elbow (28).
- 6. Install elbow (28) in pipe tee (29).
- 7. Install adapter (33) on pipe nipple (34).
- 8. Connect tube elbow (18) to adapter (33).



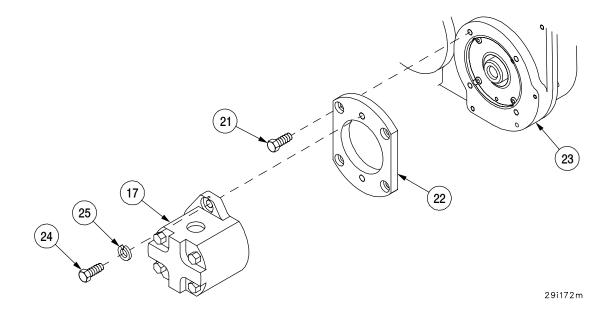
0548 00

Installation

NOTE

When adapter plate is installed in chain case, ensure matchmarks are aligned and hydraulic pump output (P) port is to the top.

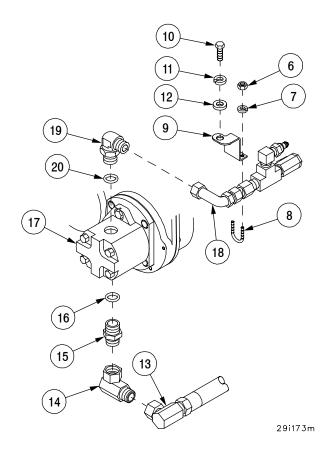
- 1. Squirt hydraulic fluid (item 51, WP 0716 00) into the input and output ports of hydraulic pump (17) to prelubricate.
- 2. Apply adhesive (item 29, WP 0716 00) to threads of all screws prior to installation.
- 3. Install hydraulic pump (17) to adapter plate (22) with two screws (24) and two new lockwashers (25).
- 4. Align splined shaft of hydraulic pump (17) with drive gear in chaincase (23). Do not force hydraulic pump splined shaft into drive gear.
- 5. Install adapter plate (22) and attached hydraulic pump (17) in chaincase (23) with four screws (21). Ensure matchmarks are aligned between adapter plate and chaincase.



0548 00

Installation-Continued

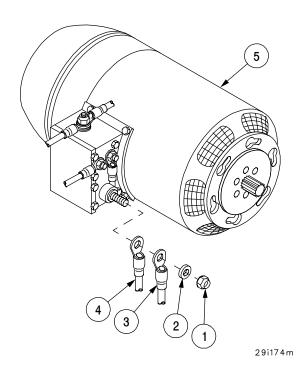
- 6. At the input port of the hydraulic pump (17), install new preformed packing (16) and adapter union (15).
- 7. Install tube elbow (14) on adapter union (15).
- 8. Install tube elbow (13) on tube elbow (14).
- 9. At the output port of the hydraulic pump (17) install new preformed packing (20) and elbow (19).
- 10. Install tube elbow (18) with attached fittings on elbow (19).
- 11. Install bracket (9) with screw (10) new lockwasher (11) and flat washer (12) on APU assembly.
- 12. Install U-bolt (8) and secure to bracket (9) with two nuts (6) and two new lockwashers (7).



0548 00

Installation-Continued

- 13. Install lead assembly 3W706 (4) and wiring harness 3W711 wire 62 (3) on terminal B of generator (5) with flat washer (2) and new self-locking nut (1).
- 14. Seal all exposed electrical terminals with adhesive (item 81, WP 0716 00).
- 15. Fill APU chaincase with oil (WP 0187 00).
- 16. Install APU vaneaxial fan bracket (WP 0666 00).
- 17. Install APU in vehicle (WP 0587 00).
- 18. Turn MASTER switch ON, fuel pump switch OFF, APU GEN switch OFF, and FUEL SHUTOFF switch ON (TM 9-2350-292-10).
- 19. Move the START switch to ON for 15 seconds to lubricate the new pump.
- 20. Start the APU (TM 9-2350-292-10).



MAIN WINCH SAFETY VALVES REPLACEMENT

0549 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 9, WP 0718 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Hydraulic lines and fittings removed from main winch safety valves (WP 0567 00) Subfloor plate #18 removed (WP 0454 00)

References

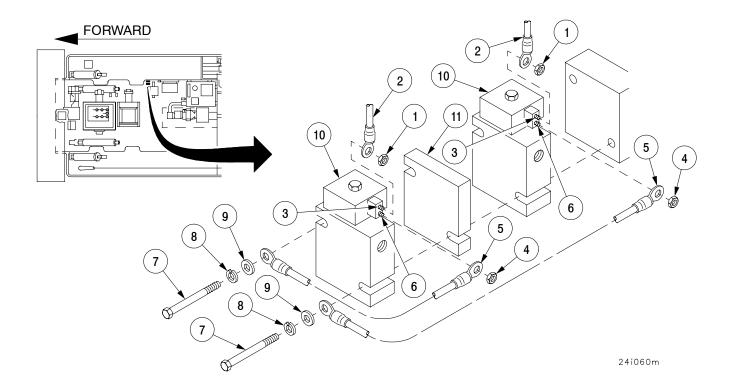
TM 9-2350-292-10

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Remove two locknuts (1) and two wiring harness 2W601 wires 359B (2) from two threaded rods (3). Retain hardware to aid in installation.
- 2. Remove two locknuts (4) and two ground leads (5) from threaded rods (6). Retain hardware to aid in installation.
- 3. Remove two screws (7), two lockwashers (8), two flat washers (9), two ground leads (5), two main winch safety valves (10) and spacer (11) from vehicle hull. Discard lockwashers.
- 4. Inspect parts for damage and replace as required.

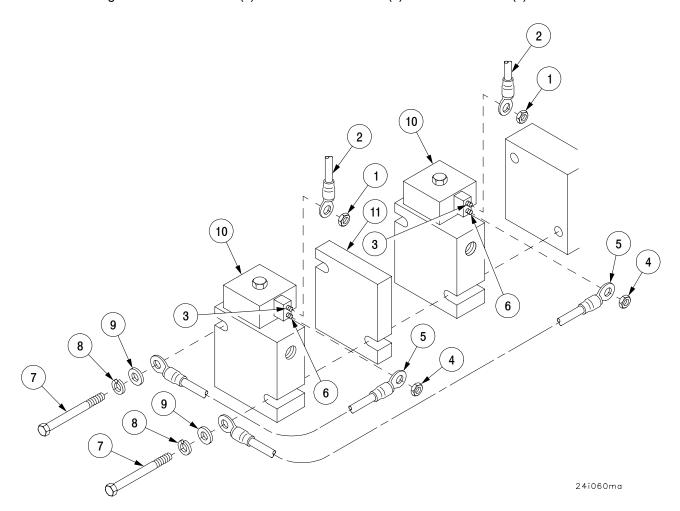


MAIN WINCH SAFETY VALVES REPLACEMENT - CONTINUED

0549 00

Installation

- 1. Install two main winch safety valves (10), spacer (11), and two ground leads (5) on vehicle hull with two screws (7), two new lockwashers (8) and two flat washers (9).
- 2. Install two ground leads (5) on two threaded rods (6) with two locknuts (4).
- 3. Install two wiring harness wires 359B (2) on two threaded rods (3) with two locknuts (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic lines and fittings on main winch safety valves (WP 0567 00)
Install subfloor plate #18 (WP 0454 00)

HYDRAULIC FILTER MANIFOLD ASSEMBLY REPAIR

0550 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Lifting sling (item 25, WP 0717 00) Suitable lifting device (150 lbs (68.1 kg) min cap)

Materials/Parts

Cleaning cloth (item 59, WP 0716 00)
Dry-cleaning solvent (item 1, WP 0716 00)
Lockwashers (8) (item 12, WP 0718 00)
Lubricant (item 51, WP 0716 00)
Preformed packing (item 262, WP 0718 00)

Equipment Conditions

Hydraulic filter manifold check valve and pressure sensing valve removed (WP 0551 00)
Hydraulic filter manifold adjustable relief valve removed (WP 0552 00)
Hydraulic filter manifold return circuit and charge circuit indicator switch removed (WP 0553 00)
Hydraulic oil filters removed (WP 0554 00)
Hydraulic filter manifold lines and fittings removed (WP 0568 00)

Personnel Required

Two

Removal



CAUTION

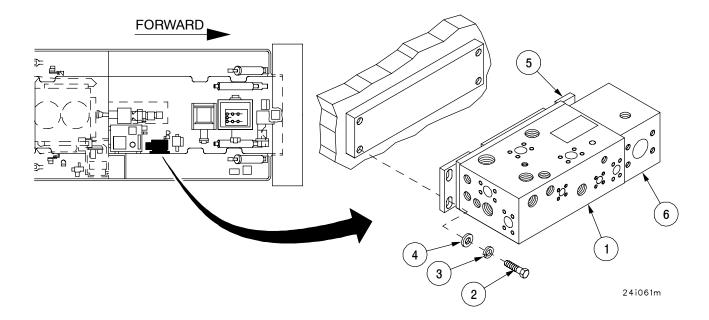
Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to the hydraulic system.

0550 00

Removal-Continued



- 1. Attach lifting sling with suitable lifting device to filter manifold assembly (1).
- 2. Remove four screws (2), four lockwashers (3), four flat washers (4), filter manifold assembly (1), plate (5) and block (6) from vehicle. Discard lockwashers.



HYDRAULIC FILTER MANIFOLD ASSEMBLY REPAIR - CONTINUED

0550 00

Disassembly

- 1. Remove four screws (7), four lockwashers (8), four flat washers (9) and plate (5) from filter manifold assembly (1). Discard lockwashers.
- 2. Remove four screws (10), block (6) and preformed packing (11) from filter manifold assembly (1). Discard preformed packing.
- 3. Inspect parts for damage and replace as required.

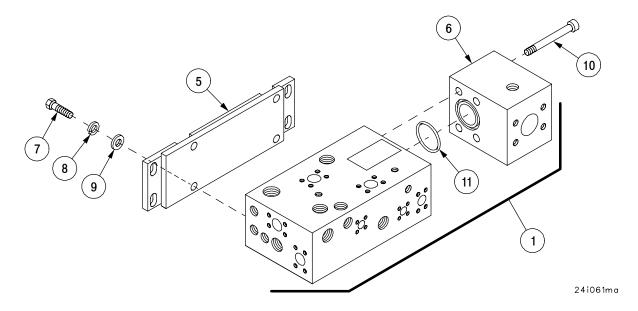
Assembly



1. Clean all parts with dry-cleaning solvent and clean cloth.



- 2. Apply a thin coat of lubricant to new preformed packing (11).
- 3. Install block (6) on filter manifold assembly (1) with new preformed packing (11) and four screws (10).
- Install plate (5) on filter manifold assembly (1) with four screws (7), four new lockwashers (8) and four flat washers (9).



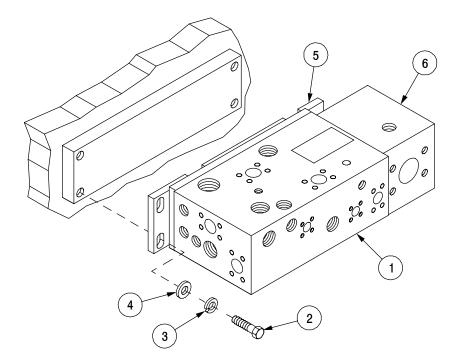
HYDRAULIC FILTER MANIFOLD ASSEMBLY REPAIR - CONTINUED

0550 00

Installation



- 1. Attach lifting sling and suitable lifting device to filter manifold assembly (1).
- 2. Install filter manifold assembly (1), plate (5) and block (6) in vehicle with four screws (2), four new lockwashers (3) and four flat washers (4).
- 3. Remove lifting sling and suitable lifting device.



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NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic filter manifold lines and fittings (WP 0568 00)

Install hydraulic oil filters (WP 0554 00)

Install hydraulic filter manifold return circuit and charge circuit indicator switch (WP 0553 00)

Install hydraulic filter manifold adjustable relief valve

(WP 0552 00)

Install hydraulic filter manifold check valve and pressure sensing valve (WP 0551 00)

HYDRAULIC FILTER MANIFOLD CHECK VALVE AND PRESSURE SENSING VALVE REPLACEMENT

0551 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Socket wrench socket (item 76, WP 0717 00) Socket set (item 89, WP 0717 00)

Materials/Parts

Lubricant (item 51, WP 0716 00)
Protective plug (item 56, WP 0716 00)
Preformed packings (2) (item 300, WP 0718 00)
Packing retainers (3) (item 302, WP 0718 00)
Preformed packing (item 304, WP 0718 00)
Preformed packings (2) (item 301, WP 0718 00)
Packing retainers (2) (item 303, WP 0718 00)
Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Subfloor plate #22 removed (WP 0454 00) Spade locked or lowered (TM 9-2350-292-10) Hydraulic system depressurized (WP 0545 00)

References

TM 9-2350-292-10



NOTE

Perform Removal steps 1 and 3 and Installation steps 1 and 2 for maintenance of filter manifold check valve.

Perform Removal steps 2 and 3 and Installation steps 1 and 3 for maintenance of filter manifold pressure sensing valve.

HYDRAULIC FILTER MANIFOLD CHECK VALVE AND PRESSURE SENSING VALVE REPLACEMENT - CONTINUED

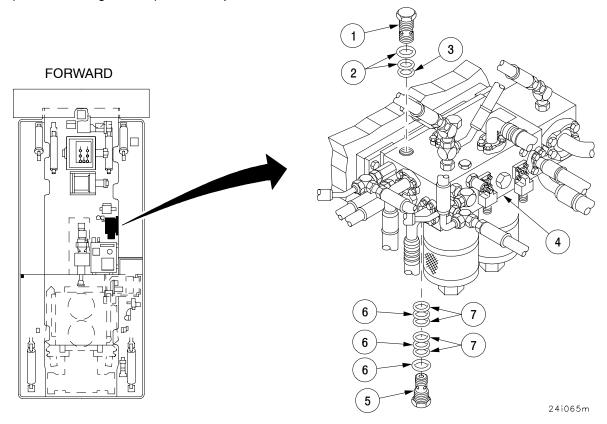
0551 00

Removal



Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to the hydraulic system.

- 1. Remove check valve (1) with two preformed packings (2) and packing retainer (3) from filter manifold (4). Discard preformed packings and packing retainer.
- 2. Remove pressure sensing valve (5) with three preformed packings (6) and four packing retainers (7) from filter manifold (4). Discard preformed packings and packing retainers.
- 3. Inspect parts for damage and replace as required.



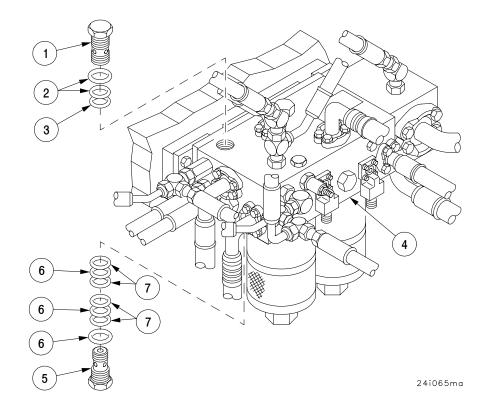
HYDRAULIC FILTER MANIFOLD CHECK VALVE AND PRESSURE SENSING VALVE REPLACEMENT - CONTINUED

0551 00

Installation



- 1. Apply a light coat of lubricant on five new preformed packings (2 and 6) and five new packing retainers (3 and 7).
- 2. Install check valve (1) with two new preformed packings (2) and new packing retainer (3) in filter manifold (4).
- 3. Install pressure sensing valve (5) with three new preformed packings (6) and four new packing retainers (7) in filter manifold (4).



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plate #22 (WP 0454 00 Start engine, pressurize hydraulic system (TM 9-2350-292-10) Lock spade (TM 9-2350-292-10)

HYDRAULIC FILTER MANIFOLD ADJUSTABLE RELIEF VALVE REPLACEMENT

0552 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Open-end wrench (item 77, WP 0717 00)

Materials/Parts

Protective plug (item 55, WP 0716 00) Lubricant (item 51, WP 0716 00) Preformed packing (item 204, WP 0718 00) Preformed packing (item 307, WP 0718 00) Packing retainer (item 308, WP 0718 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Subfloor plate #22 removed (WP 0454 00)
Spade in locked or lowered position
(TM 9-2350-292-10)
Hydraulic system depressurized (WP 0545 00)

References

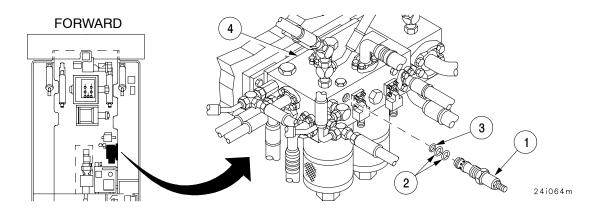
TM 9-2350-292-10

Removal



Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to the hydraulic system.

1. Remove adjustable relief valve (1) with two preformed packings (2) and packing retainer (3) from filter manifold (4). Discard preformed packings and packing retainer.



HYDRAULIC FILTER MANIFOLD ADJUSTABLE RELIEF VALVE REPLACEMENT - CONTINUED

0552 00

Removal - Continued

2. Inspect parts for damage and replace as required.

Installation

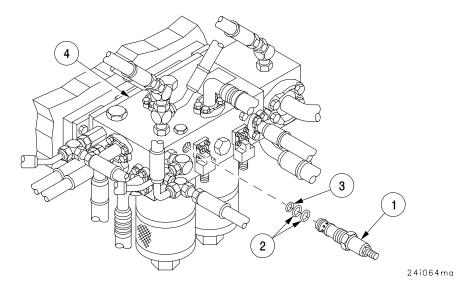


1. Apply a thin coat of lubricant on two new preformed packings (2) and new packing retainer (3).



Do not attempt to adjust relief valve. Valve is preset and should not be adjusteFailure to comply will result in equipment damage.

2. Install adjustable relief valve (1) with two new preformed packings (2) and new packing retainer (3) in filter manifold (4).



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plate #22 (WP 0454 00) Start engine, pressurize hydraulic system (TM 9-2350-292-10) Lock spade (TM 9-2350-292-10)

END OF TASK

HYDRAULIC FILTER MANIFOLD RETURN CIRCUIT OR CHARGE CIRCUIT INDICATOR SWITCH REPLACEMENT

0553 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 21, WP 0717 00)

Materials/Parts

Lubricant (item 51, WP 0716 00)
Nonelectrical wire (item 284, WP 0718 00)
Preformed packing (item 40, WP 0718 00)
Preformed packing (item 305, WP 0718 00)
Retainer packing (item 306, WP 0718 00)
Safety goggles (item 93, WP 0716 00)
Marker tags (item 49, WP 0716 00)
Sealing compound (item 78, WP 0716 00)

Equipment Conditions

Subfloor plate #22 removed (WP 0454 00)
Boom in full forward position (TM 9-2350-292-10)
Spade in locked or fully lowered position
(TM 9-2350-292-10)
Hydraulic system depressurized (WP 0054 00)
Vehicle MASTER switch OFF (TM 9-2350-292-10)
Battery power disconnected (WP 0256 00)

References

TM 9-2350-292-10

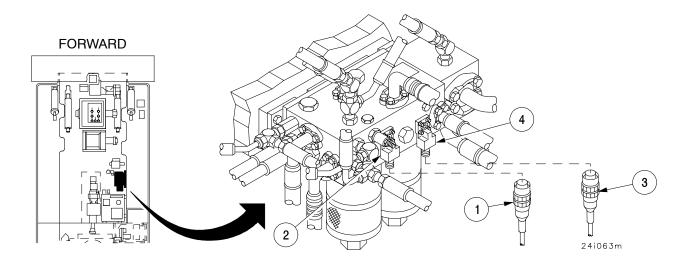


Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

1. Disconnect wiring harness 2W601 connector P3 (1) from return circuit indicator switch (2) or disconnect wiring harness 2W601 connector P4 (3) from charge circuit indicator switch (4).



HYDRAULIC FILTER MANIFOLD RETURN CIRCUIT OR CHARGE CIRCUIT INDICATOR SWITCH REPLACEMENT - CONTINUED

0553 00

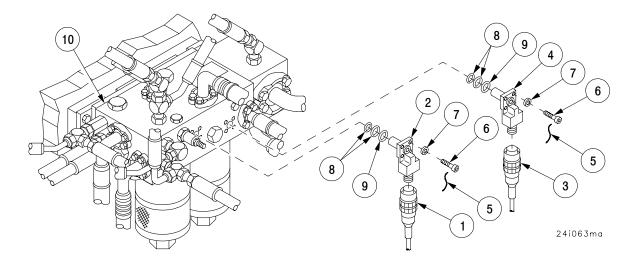
Removal-Continued



- 2. Remove nonelectrical wire (5), four screws (6), four flat washers (7), return circuit indicator switch (2) or charge circuit indicator switch (4), two preformed packings (8) and retainer packing (9) from filter manifold (10). Discard nonelectrical wire, preformed packings and retainer packing.
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Apply a thin coat of lubricant to two new preformed packings (8) and new retainer packing (9).
- 2. Apply sealing compound to threads of four screws (6).
- 3. Install return circuit indicator switch (2) or charge circuit indicator switch (4) with two new preformed packings (8) and new retainer packing (9) on filter manifold (10) with four screws (6) and four flat washers (7). Torque screws (6) to 17-19 lb-in. (1.9-2.1 N•m). Install new nonelectrical wire (5).
- 4. Connect wiring harness 2W601 connector P3 (1) to return circuit indicator switch (2) or connect wiring harness 2W601 connector P4 (3) to charge circuit indicator switch (4).



NOTE

FOLLOW-ON MAINTENANCE:

Connect battery power (WP 0256 00) Install subfloor plate #22 (WP 0454 00) Start engine, pressurize hydraulic system (TM 9-2350-292-10) Stow boom (TM 9-2350-292-10) Lock spade (TM 9-2350-292-10)

END OF TASK

HYDRAULIC OIL FILTERS REPLACEMENT

0554 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Pipe wrench (item 100, WP 0717 00)

Materials/Parts

Filter kits (2) (item 296, WP 0718 00) Lubricant (item 51, WP 0716 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Subfloor plates #28 and #22 removed (WP 0454 00) Hydraulic system depressurized (WP 0545 00)

Personnel Required

Two

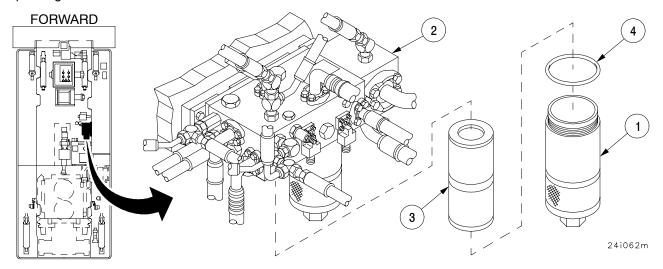
References

TM 9-2350-292-10

Removal



- 1. Remove return filter bowl (1) from filter manifold (2).
- 2. Remove return filter (3) and preformed packing (4) from filter manifold (2). Discard return filter and preformed packing.



HYDRAULIC OIL FILTERS REPLACEMENT - CONTINUED

0554 00

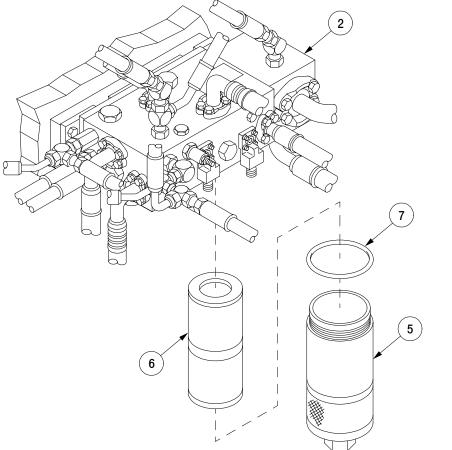
Removal-Continued

- 3. Remove charge filter bowl (5) from filter manifold (2).
- 4. Remove charge filter (6) and preformed packing (7) from filter manifold (2). Discard charge filter and preformed packing.
- 5. Inspect parts for damage and replace as required.

Installation



- Apply a thin coat of lubricant on new preformed packing (7).
- 2. Seat new charge filter (6) and new preformed packing (7) in filter manifold (2).
- 3. Install charge filter bowl (5) on filter manifold (2). Hand tighten filter bowl.



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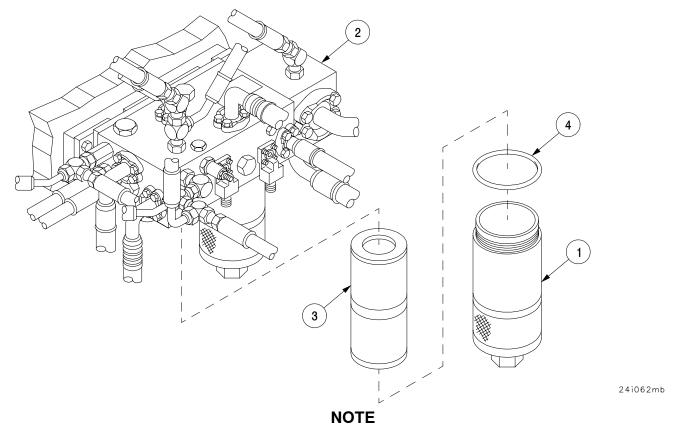
HYDRAULIC OIL FILTERS REPLACEMENT - CONTINUED

0554 00

Installation-Continued



- 4. Apply a thin coat of lubricant on new preformed packing (4).
- 5. Seat new return filter (3) and new preformed packing (4) in filter manifold (2).
- 6. Install return filter bowl (1) on filter manifold (2). Hand tighten filter bowl.
- 7. Check hydraulic reservoir fluid level (TM 9-2350-292-10).
- 8. Start engine, pressurize hydraulic system (TM 9-2350-292-10). Check for leaks, hand tighten filter bowls if necessary. Check hydraulic reservoir fluid level (TM 9-2350-292-10).



FOLLOW-ON MAINTENANCE:

Install subfloor plates #28 and #22 (WP 0454 00)

FLOW REGULATING VALVE AND FITTINGS REPLACEMENT

0555 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 10, WP 0718 00) Gasket (item 103, WP 0718 00) Sealing compound (item 16, WP 0716 00)

Equipment Conditions

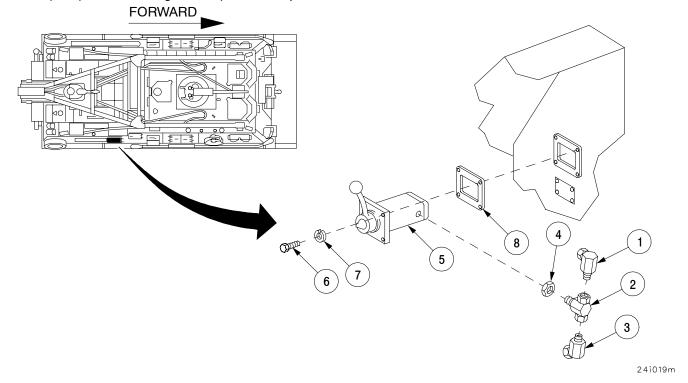
Right side engine deck grilles opened (TM 9-2350-292-10)
Defuel access door opened (TM 9-2350-292-10)
Hydraulic hoses removed from flow regulating valve fittings (WP 0571 00)

References

TM 9-2350-292-10

Removal

- 1. Remove adapter union (1) from pipe tee (2).
- Remove pipe elbow (3) from pipe tee (2).
- 3. Loosen pipe locknut (4), remove pipe tee (2) and pipe locknut (4) from flow regulating valve (5).
- 4. Remove four screws (6), four lockwashers (7), flow regulating valve (5) and gasket (8) from compartment wall. Discard lockwashers and gasket.
- 5. Inspect parts for damage and replace as required.

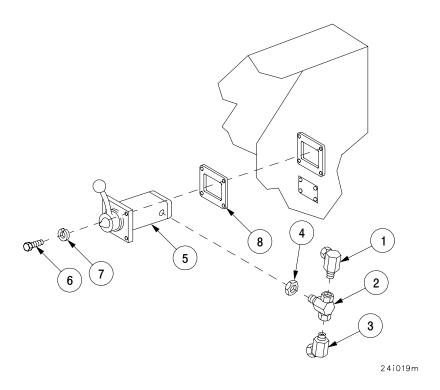


FLOW REGULATING VALVE AND FITTINGS REPLACEMENT - CONTINUED

0555 00

Installation

- 1. Install flow regulating valve (5) on compartment wall with new gasket (8), four screws (6) and four new lockwashers (7).
- 2. Apply sealing compound to all male pipe threads.
- 3. Install pipe tee (2) and pipe locknut (4) in flow regulating valve (5). Tighten pipe locknut (4).
- 4. Install pipe elbow (3) in pipe tee (2).
- 5. Install adapter union (1) in pipe tee (2).



NOTE

FOLLOW-ON MAINTENANCE:)

Install hydraulic hoses on flow regulating valve fittings (WP 0571 00)
Close right side engine deck grilles (TM 9-2350-292-10)
Close defuel access door (TM 9-2350-292-10)

MAIN/HOIST WINCH DIRECTIONAL CONTROL VALVE ASSEMBLY REPLACEMENT.

0556 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable lifting device (350 lbs (158.9 kg) min cap) Lifting slings (2) (item 25, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 12, WP 0718 00)

Equipment Conditions

Hydraulic hoses and fittings removed from control valve assembly (WP 0577 00)
Subfloor plates support removed (WP 0454 00)
Commander's cupola removed (WP 0444 00)
Main winch power reduction manifold removed (WP 0557 00) (for vehicle equipped with main winch power reduction manifold)

Personnel Required

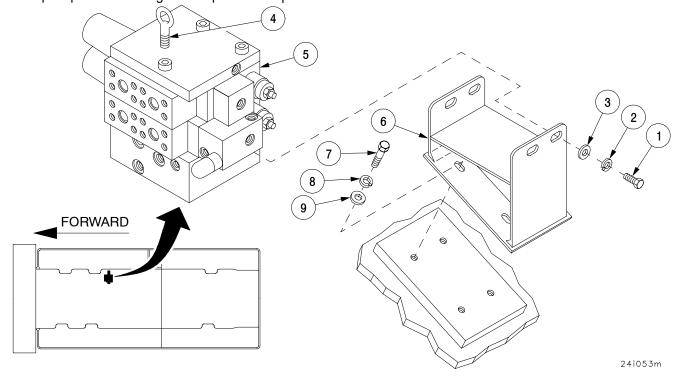
Two

References

TM 9-2350-292-10

Removal

- 1. Remove four screws (1), four lockwashers (2) and four flat washers (3). Discard lockwashers.
- 2. Attach lifting sling to lifting eye (4) and suitable lifting device, remove directional control valve (DCV) assembly (5) from bracket (6).
- 3. Remove four screws (7), four lockwashers (8), four flat washers (9) and bracket (6) from hull. Discard lockwashers.
- 4. Inspect parts for damage and replace as required.

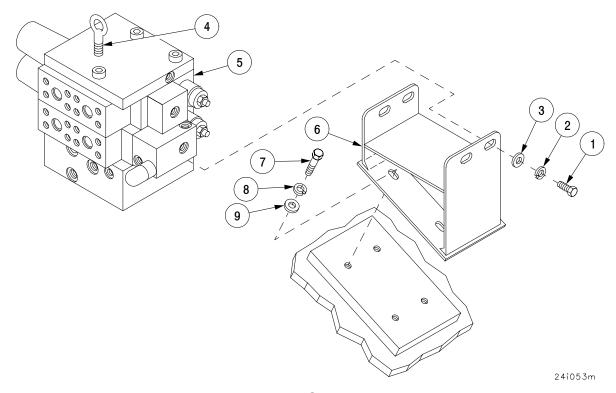


MAIN/HOIST WINCH DIRECTIONAL CONTROL VALVE ASSEMBLY REPLACEMENT - CONTINUED

0556 00

Installation

- 1. Install bracket (6) on hull with four screws (7), four new lockwashers (8) and four flat washers (9).
- 2. Attach lifting sling to lifting eye (4) and suitable lifting device.
- 3. Install directional control valve assembly (5) on bracket (6) with four screws (1), four new lockwashers (2) and four flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic hoses and fittings on control valve assembly (WP 0577 00)

Install main winch power reduction manifold and brackets (WP 0557 00), if removed

Start engine, operate main winch and hoist winch hydraulic controls several times to purge air from hoses and valve assembly (TM 9-2350-292-10)

Check hydraulic system for leaks, fill reservoir (TM 9-2350-292-10)

Install subfloor plates support (WP 0454 00)

Install commander's cupola (WP 0444 00)

MAIN WINCH POWER REDUCTION MANIFOLD ASSEMBLY AND BRACKETS REPLACEMENT

0557 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable lifting device (350 lbs (158.9 kg) min cap) Lifting slings (2) (item 25, WP 0717 00)

Materials/Parts

Lockwashers (3) (item 13, WP 0718 00) Lockwashers (4) (item 2, WP 0718 00) Lockwasher (item 35, WP 0718 00)

Equipment Conditions

Subfloor plates support removed (WP 0454 00) Hydraulic hoses and fittings removed from main winch power reduction manifold assembly (WP 0574 00) Wiring harness 2W612 disconnected from main winch power reduction manifold (WP 0292 01)

Personnel Required

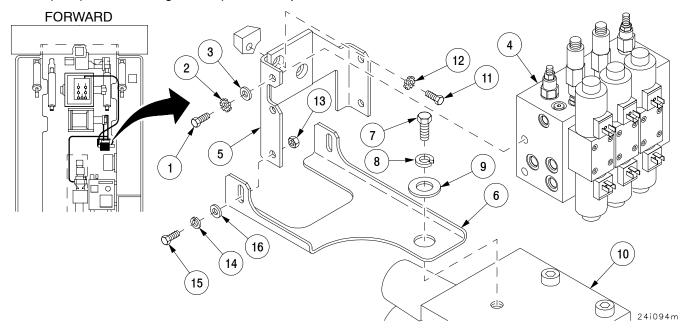
Two

References

TM 9-2350-292-10

Removal

- 1. Remove three screws (1), three lockwashers (2), three flat washers (3), and main winch power reduction manifold (4) from brackets (and 6). Discard lockwashers.
- 2. Remove screw (7), lockwasher (8), flat washer (9), and brackets (5 and 6) from directional control valve (DCV) assembly (10). Discard lockwasher.
- 3. Remove two screws (11), two lockwashers (12), and brackets (5 and 6) from hull. Discard lockwashers.
- 4. Remove two nuts (13), two lockwashers (14), two screws (15), two flat washers (16), and separate bracket (5) from bracket (6). Discard lockwashers.
- 5. Inspect parts for damage and replace as required.

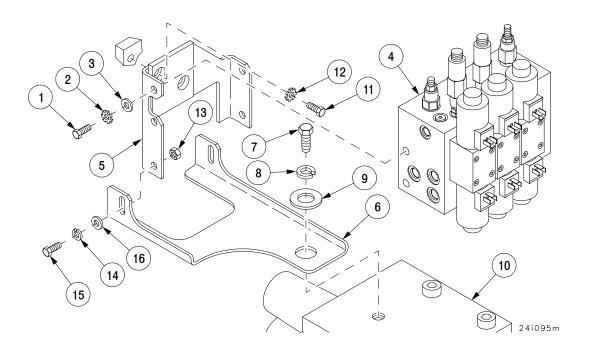


MAIN WINCH POWER REDUCTION MANIFOLD ASSEMBLY AND BRACKETS REPLACEMENT - CONTINUED

0557 00

Installation

- 1. Install bracket (6) on bracket (5) with two screws (15), two flat washers (16), two new lockwashers (14) and two nuts (13).
- 2. Install brackets (5 and 6) on hull with two screws (11) and two new lockwashers (12).
- 3. Install bracket (5) on directional control valve assembly (10) with screws (7), new lockwashers (8) and flat washers (9).
- 4. Install main winch power reduction manifold assembly (4) on brackets (5 and 6) with three screws (1), three new lockwashers (2), and three flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic hoses and fittings main winch power reduction manifold (WP 0574 00)

Connect wiring harness 2W612 to main winch power reduction manifold (WP 0292 01)

Start engine, operate main winch and hoist winch hydraulic controls several times to purge air from hoses and valve assembly (TM 9-2350-292-10)

Check hydraulic system for leaks, fill reservoir

(TM 9-2350-292-10)

Install subfloor plates support (WP 0454 00)

SPADE RELEASE VALVE AND BRACKET REPLACEMENT

0558 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 10, WP 0718 00)

Equipment Conditions

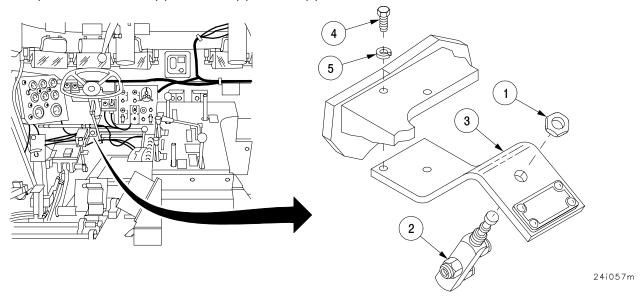
Vehicle MASTER power switch OFF (TM 9-2350-292-10) Hydraulic lines and fittings removed from spade release valve (WP 0575 00) Spade release data plate removed (WP 0540 00) For bracket replacement only

Removal

- Remove nut (1) and spade release valve (2) from bracket (3).
- 2. Remove two screws (4), two lockwashers (5) and bracket (3) from hull. Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Install bracket (3) on hull with two screws (4) and two new lockwashers (5).
- 2. Install spade release valve (2) in bracket (3) with nut (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install spade release data plate, if removed (WP 0540 00)
Install hydraulic lines and fittings on spade release valve (WP 0575 00)

BOOM SHUT-OFF VALVE ASSEMBLY REPAIR

0559 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Combination wrench (item 30, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 2, WP 0718 00)

Equipment Conditions

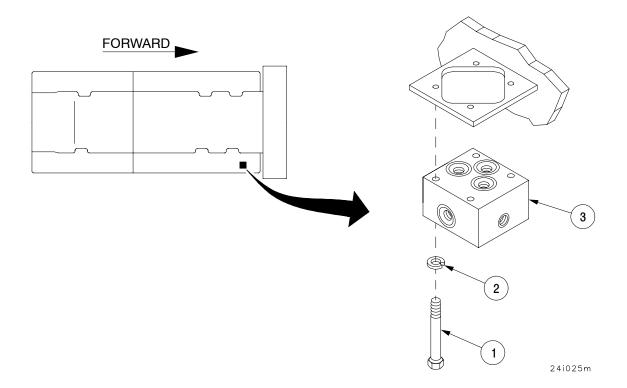
Hydraulic hoses and fittings removed from boom shut-off valve assembly (WP 0576 00) Mechanic's seat stowed (TM 9-2350-292-10) Subfloor plates #10, #11 and #12 removed (WP 0454 00)

References

TM 9-2350-292-10

Removal

Remove four screws (1), four lockwashers (2) and boom shut-off valve assembly (3) from hull. Discard lockwashers.



BOOM SHUT-OFF VALVE ASSEMBLY REPAIR - CONTINUED

0559 00

Disassembly

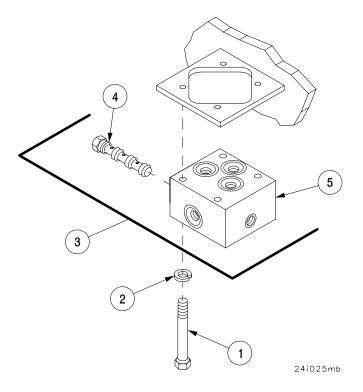
- 1. Remove boom valve cartridge (4) from manifold (5).
- 2. Inspect parts for damage and replace as required.

Assembly

Install boom valve cartridge (4) in manifold (5).

Installation

Install boom shut-off valve assembly (3) on hull with four screws (1) and four new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic hoses and fittings on boom shut-off valve assembly (WP 0576 00)
Start engine, operate main winch and hoist winch hydraulic controls several times to purge air from hoses and valve assembly (TM 9-2350-292-10)
Check hydraulic system for leaks and fill hydraulic reservoir (TM 9-2350-292-10)
Install subfloor plates #10, #11 and #12
(WP 0454 00)

CROSS PORT RELIEF/ANTICAVITATION MANIFOLD REPAIR

0560 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00) Socket wrench socket (item 99, WP 0717 00)

Materials/Parts

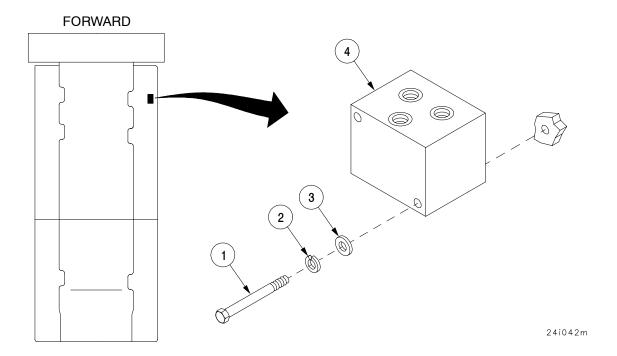
Lockwashers (2) (item 9, WP 0718 00)

Equipment Conditions

Cross port relief/anticavitation manifold hydraulic lines and fittings removed (WP 0576 00)

Removal

Remove two screws (1), two lockwashers (2), two flat washers (3) and cross port relief/anticavitation manifold (4). Discard lockwashers.



CROSS PORT RELIEF/ANTICAVITATION MANIFOLD REPAIR - CONTINUED

0560 00

Disassembly

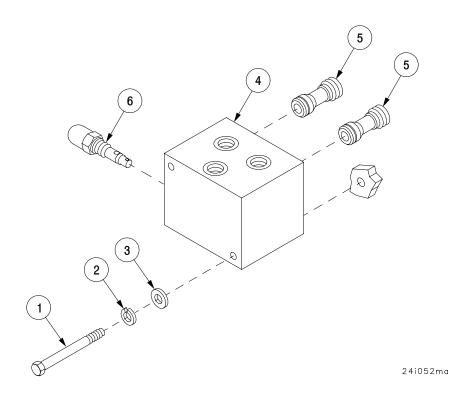
- 1. Remove two check valves (5) and relief valve (6) from cross port relief/anticavitation manifold (4).
- 2. Inspect parts for damage and replace as required.

Assembly

Install relief valve (6) and two check valves (5) into cross port relief/anticavitation manifold (4).

Installation

Install cross port relief/anticavitation manifold (4) with two screws (1), two new lockwashers (2) and two flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install cross port relief/anticavitation manifold hydraulic lines and fittings (WP 0576 00)

HYDRAULIC CONTROL VALVES HANDLE REPLACEMENT

0561 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Spring pins (2) (item 453, WP 0718 00) Tiedown strap (2) (item 454, WP 0718 00)

Equipment Conditions

Hydraulic control valve manifold shields and spade control valve rod and handle removed (WP 0519 00) For replacement of DCV system selector valve handle or DCV safety valve handle only

NOTE

This task replaces all hydraulic control valve handles on the hydraulic control valve manifold assembly. Replace only the valve handles that require replacement. Pilot control valve handles are not replaceable.

Removal

- 1. Remove knob (1) and handle (2) from boom DCV valve (3).
- Remove knob (4) and handle (5) from auxiliary winch DCV valve (6).
- 3. Remove electrical tiedown strap (7) from dust and moisture boot (8). Remove dust and moisture boot (8). Discard electrical tiedown strap.
- 4. Remove spring pin (9) and handle (10) from DCV selector valve (11). Separate handle (10) from cover (12), if damaged.
- 5. Remove electrical tiedown strap (13) from dust and moisture boot (14). Remove dust and moisture boot (14). Discard electrical tiedown strap.
- 6. Remove spring pin (15) and handle (16) from boom DCV safety valve (17). Discard spring pin. Separate handle (16) from cover (18), if damaged.
- 7. Remove knob (19) from main winch DCV valve (20).
- Inspect parts for damage and replace as required.

Installation

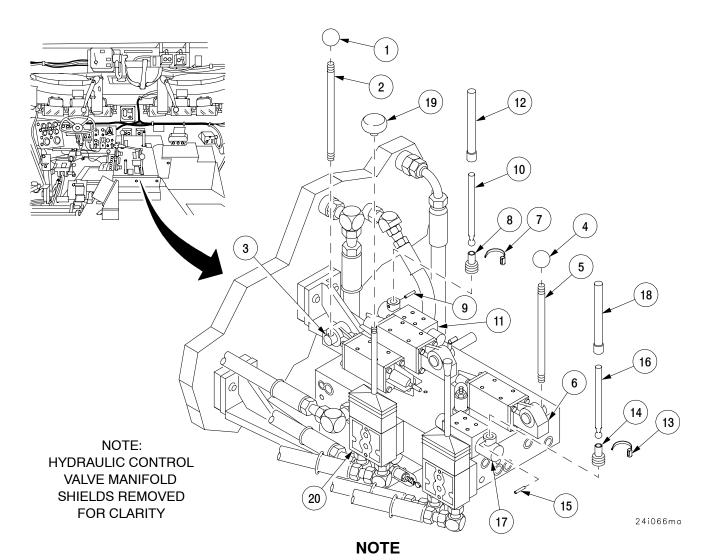
- 1. Install knob (19) on main winch DCV valve (20).
- 2. Install cover (18) on handle (16), if removed.
- 3. Install handle (16) on boom DCV safety valve (17) and secure with new spring pin (15).
- 4. Install dust and moisture boot (14) and secure with new electrical tiedown strap (13).
- Install cover (12) on handle (10), if removed.

HYDRAULIC CONTROL VALVES HANDLE REPLACEMENT - CONTINUED

0561 00

Installation - Continued

- 6. Install handle (10) on boom DCV selector valve (11) and secure with new spring pin (9).
- 7. Install dust and moisture boot (8) and secure with new electrical tiedown strap (7).
- 8. Install handle (5) and knob (4) on auxiliary winch DCV valve (6).
- 9. Install handle (2) and knob (1) on boom DCV valve (3).



FOLLOW-ON MAINTENANCE:

Install hydraulic control valve manifold shields and spade control valve rod and handle, if removed (WP 0519 00)

HYDRAULIC CONTROL VALVES REPLACEMENT

0562 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Preformed packings (15) (item 289, WP 0718 00)
Preformed packings (12) (item 290, WP 0718 00)
Preformed packings (8) (item 291, WP 0718 00)
Preformed packings (4) (item 292, WP 0718 00)
Spring pin (item 293, WP 0718 00)
Dry-cleaning solvent (item 1, WP 0716 00)
Lubricant (item 51, WP 0716 00)
Cleaning cloth (item 59, WP 0716 00)

Preformed packings (4) (item 413, WP 0718 00)

Equipment Conditions

Hydraulic control valve manifold shields and spade control valve rod and handle removed (WP 0519 00) Hydraulic control valve manifold assembly hydraulic lines and fittings removed (WP 0577 00)

References

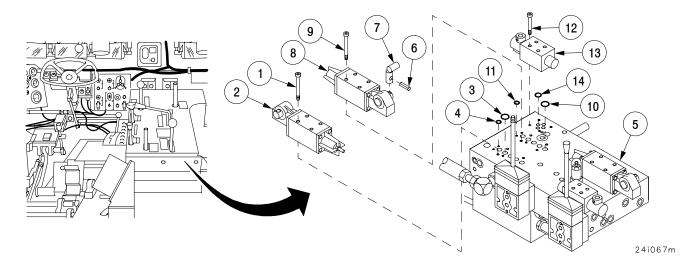
TM 9-2350-292-10

NOTE

This task replaces all hydraulic controls on the hydraulic control valve manifold assembly. Replace only valve assemblies that require replacement.

Removal

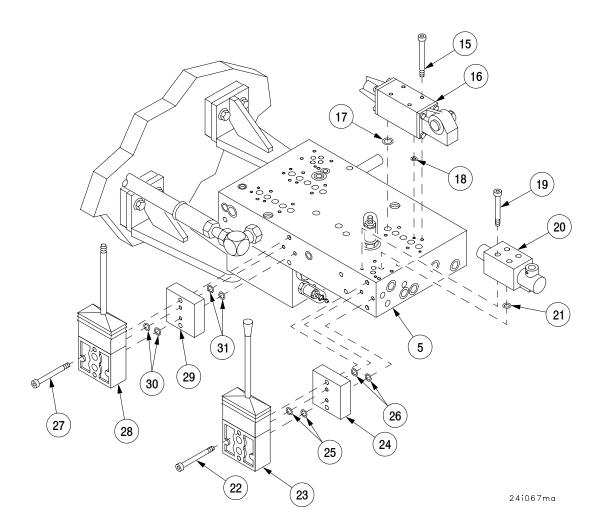
- 1. Remove four screws (1), boom DCV valve (2), five preformed packings (3) and four preformed packings (4) from manifold assembly (5). Discard preformed packings.
- 2. Remove spring pin (6) and lever (7) from spade DCV valve (8). Discard spring pin.
- 3. Remove four screws (9), spade DCV valve (8), five preformed packings (10) and four preformed packings (11) from manifold assembly (5). Discard preformed packings.
- 4. Remove four screws (12), DCV system selector valve (13) and four preformed packings (14) from manifold assembly (5). Discard preformed packings.



0562 00

Removal-Continued

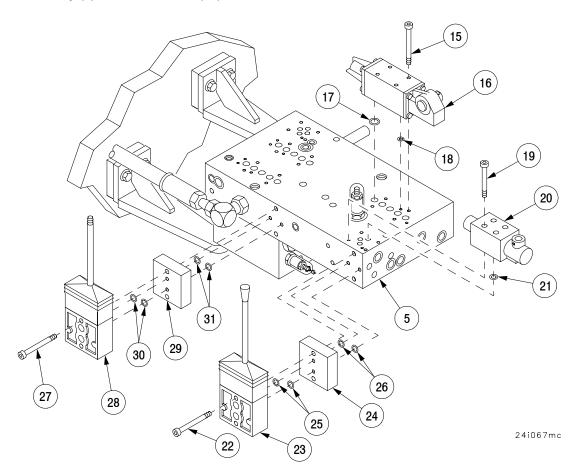
- 5. Remove four screws (15), auxiliary winch DCV valve (16), five preformed packings (17) and four preformed packings (18) from manifold assembly (5). Discard preformed packings.
- 6. Remove four screws (19), boom DCV safety valve (20) and four preformed packings (21) from manifold assembly (5). Discard preformed packings.
- 7. Remove two screws (22), pilot control valve (23), adapter (24), two preformed packings (25) and two preformed packings (26) from manifold assembly (5). Discard preformed packings.
- 8. Remove two screws (27), pilot control valve (28), adapter (29), two preformed packings (30) and two preformed packings (31) from manifold assembly (5). Discard preformed packings.
- 9. Inspect parts for damage and replace as required.



Installation



- 1. Clean all metal surfaces with cleaning cloth and dry-cleaning solvent prior to installation.
- 2. Apply a thin coating of lubricant to all new preformed packings.
- 3. Install pilot control valve (28), two new preformed packings (30), adapter (29) and two new preformed packings (31) on manifold assembly (5) with two screws (27).
- 4. Install pilot control valve (23), two new preformed packings (26), adapter (24) and two performed packings (25) on manifold assembly (5) with two screws (22).
- 5. Install boom DCV safety valve (20) and four new preformed packings (21) on manifold assembly (5) with four screws (19).
- 6. Install auxiliary winch DCV valve (16), four new preformed packings (18) and five new preformed packings (17) on manifold assembly (5) with four screws (15).

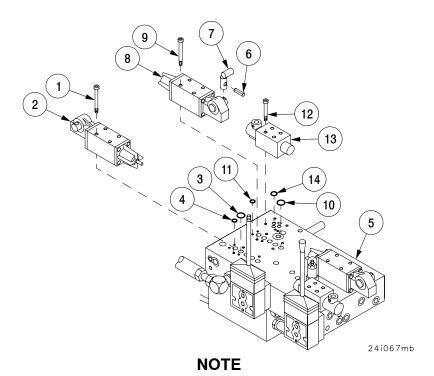


HYDRAULIC CONTROL VALVES REPLACEMENT - CONTINUED

0562 00

Installation-Continued

- 7. Install DCV system selector valve (13) and four new preformed packings (14) on manifold assembly (5) with four screws (12).
- 8. Install spade DCV valve (8), four new preformed packings (11) and five new preformed packings (10), on manifold assembly (5) with four screws (9).
- 9. Install lever (7) on spade DCV valve (8) with new spring pin (6).
- 10. Install boom DCV valve (2), four new preformed packings (4) and five new preformed packings (3) on manifold assembly (5) with four screws (1).
- 11. Install hydraulic control valve manifold assembly hydraulic lines and fittings (WP 0577 00).
- 12. Install hydraulic control valves handles (WP 0561 00) and spade control valve rod and handle (WP 0519 00).
- 13. Start engine, operate hydraulic controls and check for leaks (TM 9-2350-292-10).
- 14. Remove hydraulic control valves handles (WP 0561 00) and spade control valve rod and handle (WP 0519 00).



FOLLOW-ON MAINTENANCE:

Install hydraulic control valve manifold shields and spade control valve rod and handle (WP 0519 00)

Operate hydraulic components to ensure proper operation (TM 9-2350-292-10)

BOOM LIMIT VALVE ADJUSTMENT

0563 00

THIS WORK PACKAGE COVERS:

Adjustment

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

Boom in stowed position (TM 9-2350-292-10)

Engine deck grilles removed (WP 0417 00)

Personnel Required

Two

References

TM 9-2350-292-10

NOTE

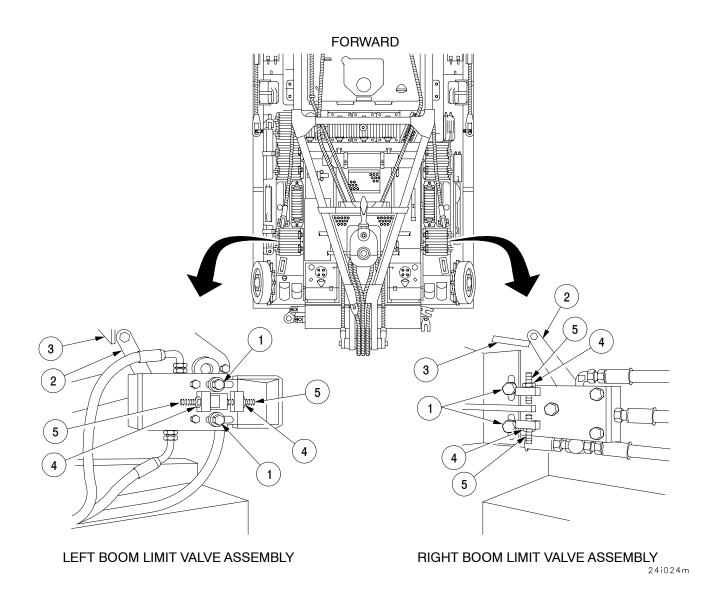
Left and right boom limit valves are adjusted in the same manner.

During adjustment, valve lever roller must ride squarely and freely on upper side of cam follower bracket.

Adjustment

- 1. Loosen two screws (1) to adjust valve lever roller (2) on cam follower bracket (3).
- 2. If necessary, loosen jamnuts (4) and adjust screws (5) to position lever roller (2).

Adjustment-Continued



NOTE

FOLLOW-ON MAINTENANCE:

Install engine deck grilles (WP 0417 00)

END OF TASK

APU PRESSURE SWITCH REPLACEMENT

0564 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 9, WP 0718 00) Marker tags (AR) (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Battery power disconnected (WP 0256 00) Hydraulic lines and fittings removed from APU pressure switch (WP 0581 00 or WP 0582 00)

References

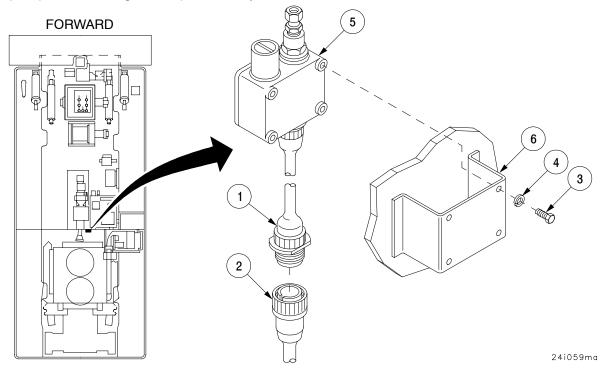
TM 9-2350-292-10

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Disconnect APU pressure switch 3A720 electrical connector J1 (1) from wiring harness 3W702 connector P3 (2).
- 2. Remove four screws (3), four lockwashers (4) and APU pressure switch (5) from mounting bracket (6). Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

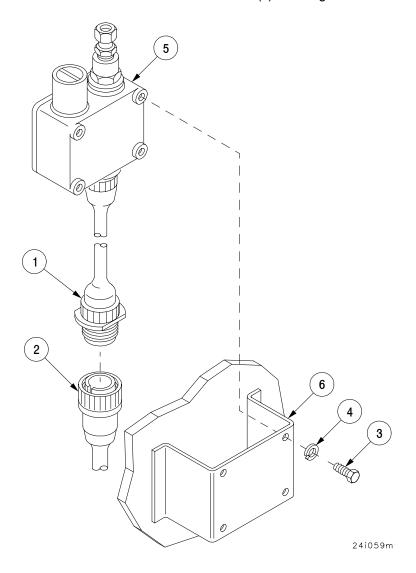


APU PRESSURE SWITCH REPLACEMENT - CONTINUED

0564 00

Installation

- 1. Install APU pressure switch (5) in mounting bracket (6) with four screws (3) and four new lockwashers (4).
- 2. Connect APU pressure switch 3A720 electrical connector J1 (1) to wiring harness 3W702 connector P3 (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic lines and fittings on APU pressure switch (WP 0581 00 or WP 0582 00) Connect battery power (WP 0256 00)

HYDRAULIC PUMP HYDRAULIC LINES AND FITTINGS REPLACEMENT

0565 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Open-end wrench (item 90, WP 0717 00)

Open-end wrench (item 77, WP 0717 00)

Open-end wrench (item 75, WP 0717 00)

Combination wrench (item 96, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 10, WP 0716 00)

Dust protective cap (AR) (item 44, WP 0716 00)

Dust protective cap (AR) (item 54, WP 0716 00)

Dust protective plug (AR) (item 14, WP 0716 00)

Dust protective plug (AR) (item 11, WP 0716 00)

Dust protective plug (AR) (item 56, WP 0716 00)

Dust protective plug (AR) (item 50, WP 0716 00)

Plastic bags (AR) (item 48, WP 0716 00)

Marker tags (AR) (item 49, WP 0716 00)

Sealing compound (item 16, WP 0716 00)

Lubricant (item 51, WP 0716 00)

Lockwashers (16) (item 261, WP 0718 00)

Safety goggles (item 93, WP 0716 00)

Wiping rags (item 7, WP 0716 00)

Materials/Parts-Continued

Lockwashers (8) (item 266, WP 0718 00)

Lockwashers (4) (item 264, WP 0718 00)

Preformed packing (item 64, WP 0718 00)

Preformed packings (3) (item 262, WP 0718 00)

Preformed packings (3) (item 267, WP 0718 00)

Preformed packing (item 204, WP 0718 00)

Preformed packing (item 41, WP 0718 00)

Preformed packing (item 43, WP 0718 00)

Preformed packing (item 265, WP 0718 00)

Preformed packing (item 268, WP 0718 00)

Preformed packings (2) (item 442, WP 0718 00)

Preformed packing (item 441, WP 0718 00)

Preformed packings (4) (item 437, WP 0718 00)

Preformed packing (item 440, WP 0718 00)

Equipment Conditions

Subfloor plates #20, #21 and #22 removed (WP 0454 00)

Hydraulic system depressurized (WP 0545 00)

Removal





HYDRAULIC PUMP HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0565 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove hose assemblies, lines and fittings in accordance with the following legend and illustration. Discard lockwashers and preformed packings.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings, new lockwashers and new preformed packings in accordance with the following legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #20, #21 and #22 (WP 0454 00)

HYDRAULIC PUMP HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

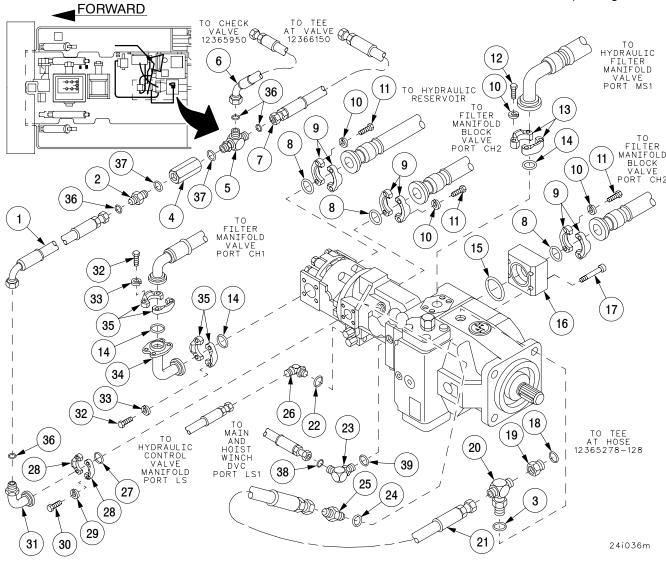
0565 00

Legend:

- 1. Hose assembly
- 2. Adapter
- 3. Preformed packing
- 4. Check valve
- 5. Tee
- 6. Hose assembly
- 7. Hose assembly
- 8. Preformed packings (3)
- 9. Flanges (3)
- 10. Lockwashers (16)
- 11. Screws (12)
- 12. Screws (4)

- 13. Flange
- 14. Preformed packings (3)
- 15. Preformed packing
- 16. Adapter
- 17. Screws (4)
- 18. Preformed packing
- 19. Adapter
- 20. Tee
- 21. Hose adapter
- 22. Preformed packing
- 23. Elbow
- 24. Preformed packing
- 25. Adapter

- 26. Elbow
- 27. Preformed packing
- 28. Flange
- 29. Lockwashers (4)
- 30. Screws (4)
- 31. Elbow
- 32. Screws (8)
- 33. Lockwashers (8)
- 34. Adapter
- 35. Flanges (2)
- 36. Preformed packings (4)
- 37. Preformed packings (2)
- 38. Preformed packing
- 39. Preformed packing



END OF TASK

FUEL TRANSFER PUMP MOTOR AND STAYLINE CYLINDER HYDRAULIC LINES AND FITTINGS REPLACEMENT

0566 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Open-end wrench (item 75, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 44, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective cap (AR) (item 10, WP 0716 00)
Dust protective plug (AR) (item 11, WP 0716 00)
Dust protective plug (AR) (item 14, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marker tags (AR) (item 49, WP 0716 00)
Sealing compound (item 16, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)

Equipment Conditions

Engine deck grille doors opened (TM 9-2350-292-10)
Engine deck grilles removed (TM 9-2350-292-10)
Engine deck assembly removed (WP 0417 00)
Hydraulic system depressurized (WP 0545 00)
Stayline cylinder access covers removed (WP 0276 00)
APU assembly removed (WP 0586 00 or WP 0587 00)
Subfloor plate #32 removed (WP 0454 00)
Hose clamps removed (WP 0583 00)
for maintenance of hoses #5, #7, #9
and #10

References

TM 9-2350-292-10

Removal





FUEL TRANSFER PUMP MOTOR AND STAYLINE CYLINDER HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0566 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove hose assemblies, lines and fittings in accordance with the following legend and illustration.
- 2. Inspect parts for damage and replace as required.

Installation

- Apply sealing compound to all male pipe threads before installation of the component.
- Install hose assemblies, lines and fittings in accordance with the following legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

Install hose clamps, if removed (WP 0583 00)
Install subfloor plate #32 (WP 0454 00)
Install APU assembly (WP 0586 00 or WP 0587 00)
Install stayline cylinder access covers (WP 0276 00)
Install engine deck assembly (WP 0417 00)
Install engine deck grilles (TM 9-2350-292-10)
Close engine deck grille doors
(TM 9-2350-292-10)

FUEL TRANSFER PUMP MOTOR AND STAYLINE CYLINDER HYDRAULIC **LINES AND FITTINGS REPLACEMENT - CONTINUED**

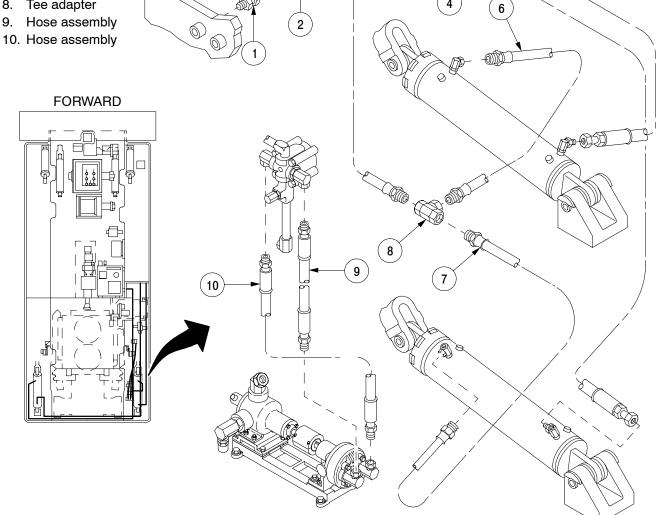
0566 00

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Legend:

- 1. Pipe coupling
- 2. Hose assembly
- 3. Adapters (2)
- 4. Hose assembly
- 5. Hose assembly
- 6. Hose assembly
- 7. Hose assembly
- 8. Tee adapter



MAIN WINCH SAFETY VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT.

0567 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 44, WP 0716 00)
Dust protective plug (AR) (item 14, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marker tags (AR) (item 49, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)

Equipment Conditions

Sealing compound (item 16, WP 0716 00) Lubricant (item 51, WP 0716 00) Preformed packings (6) (item 263, WP 0718 00)

Equipment Conditions

Subfloor plates #15 and #18 removed (WP 0454 00) Hydraulic system depressurized (WP 0545 00)

Removal





Hydraulic system pressure is 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

MAIN WINCH SAFETY VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0567 00

Removal-Continued

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- Remove hose assemblies, lines and fittings in accordance with the following legend and illustration. Discard preformed packings.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings and new preformed packings in accordance with the following legend and illustration.

NOTE

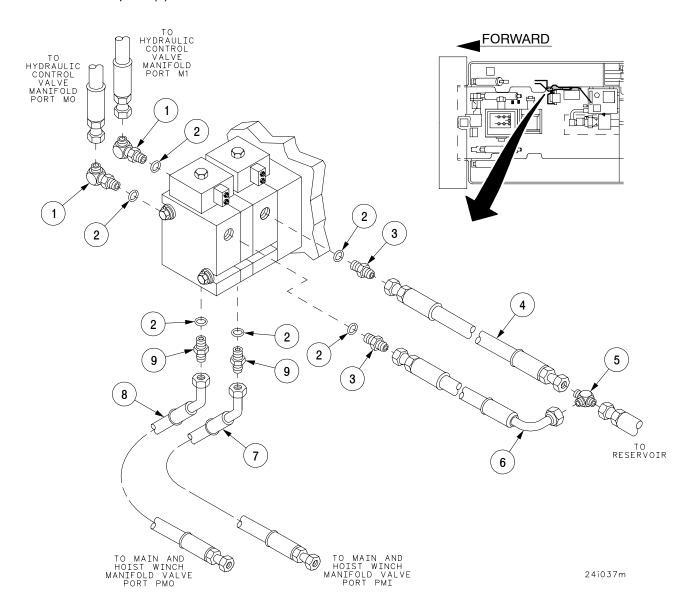
FOLLOW-ON MAINTENANCE: Install subfloor plates #15 and #18 (WP 0454 00)

MAIN WINCH SAFETY VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0567 00

Legend:

- 1. Elbow (2)
- 2. Preformed packings (6)
- 3. Adapters (2)
- 4. Hose assembly
- 5. Tee
- 6. Hose assembly
- 7. Hose assembly
- 8. Hose assembly
- 9. Adapters (2)



HYDRAULIC FILTER MANIFOLD HYDRAULIC LINES AND FITTINGS REPLACEMENT

0568 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Combination wrench (item 30, WP 0717 00) Open-end wrench (item 97, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 10, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Dust protective cap (AR) (item 53, WP 0716 00)
Dust protective cap (AR) (item 54, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective plug (AR) (item 11, WP 0716 00)
Dust protective plug (AR) (item 55, WP 0716 00)
Dust protective plug (AR) (item 56, WP 0716 00)
Dust protective plug (AR) (item 50, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marker tags (AR) (item 49, WP 0716 00)
Wiping rags (item 7, WP 0716 00)
Safety goggles (item 93, WP 0716 00)

Materials/Parts-Continued

Sealing compound (item 16, WP 0716 00)
Lubricant (item 51, WP 0716 00)
Lockwashers (12) (item 261, WP 0718 00)
Lockwashers (8) (item 264, WP 0718 00)
Lockwashers (8) (item 266, WP 0718 00)
Preformed packings (7) (item 64, WP 0718 00)
Preformed packings (2) (item 265, WP 0718 00)
Preformed packings (2) (item 43, WP 0718 00)
Preformed packing (item 41, WP 0718 00)
Preformed packing (item 263, WP 0718 00)
Preformed packings (4) (item 74, WP 0718 00)
Preformed packings (4) (item 267, WP 0718 00)

Equipment Conditions

Subfloor plates #15, #18, #22, #23, #31 and #32 removed (WP 0454 00) Hydraulic system depressurized (WP 0545 00)

Removal





HYDRAULIC FILTER MANIFOLD HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0568 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove hose assemblies, lines and fittings in accordance with the following legend and illustration. Discard lockwashers and preformed packings.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings, new lockwashers and new preformed packings in accordance with the following legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #15, #18, #22, #23, #31 and #32 (WP 0454 00)

HYDRAULIC FILTER MANIFOLD HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

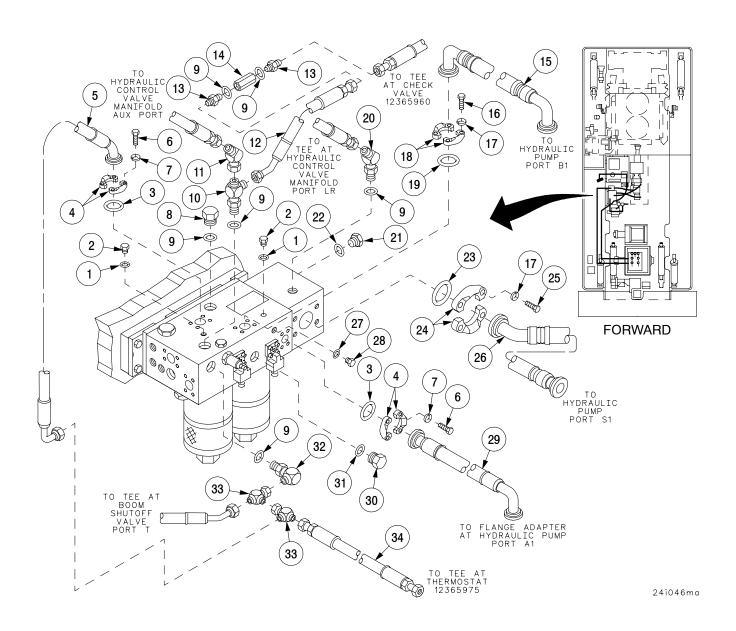
0568 00

Legend:

- 1. Preformed packings (2)
- 2. Plug adapters (2)
- 3. Preformed packings (2)
- 4. Flanges (2)
- 5. Hose assembly
- 6. Screws (8)
- 7. Lockwashers (8)
- 8. Plug adapter
- 9. Preformed packings (6)
- 10. Tee
- 11. Adapter
- 12. Hose assembly

- 13. Adapters (2)
- 14. Check valve
- 15. Hose assembly
- 16. Screws (4)
- 17. Lockwashers (8)
- 18. Flange
- 19. Preformed packing
- 20. Adapter
- 21. Plug adapter
- 22. Preformed packing
- 23. Preformed packing

- 24. Flange
- 25. Screws (4)
- 26. Hose assembly
- 27. Performed packing
- 28. Plug adapter
- 29. Hose assembly
- 30. Plug adapter
- 31. Preformed packing
- 32. Adapter
- 33. Tube tees (2)
- 34. Hose assembly



HYDRAULIC FILTER MANIFOLD HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

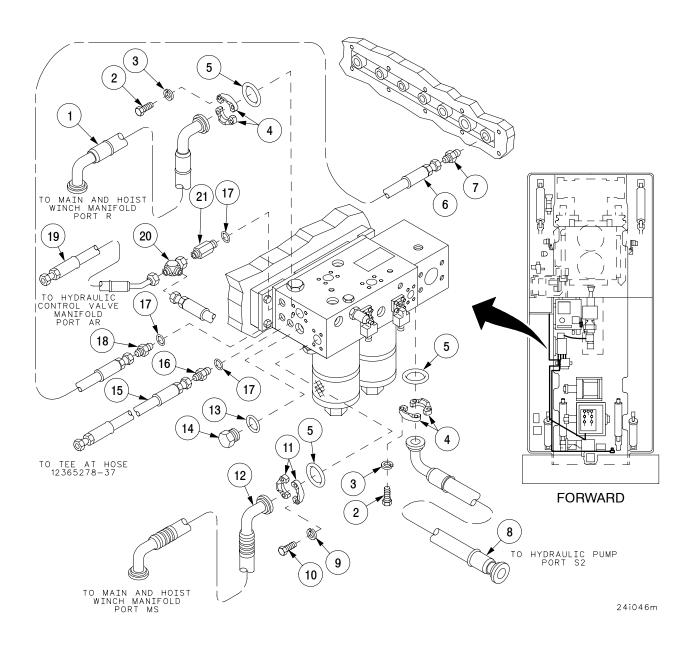
0568 00

Legend:

- 1. Hose assembly
- 2. Screws (8)
- 3. Lockwashers (8)
- 4. Flanges (2)
- 5. Preformed packings (3)
- 6. Hose assembly
- 7. Straight adapter

- 8. Hose assembly
- 9. Lockwashers (4)
- 10. Screws (4)
- 11. Flange
- 12. Hose assembly
- 13. Preformed packing
- 14. Plug adapter

- 15. Hose assembly
- 16. Straight adapter
- 17. Preformed packings (3)
- 18. Straight adapter
- 19. Hose assembly
- 20. Tube tee
- 21. Straight adapter



MANUAL CONTROL VALVE AND FITTINGS REPLACEMENT

0569 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Pipe wrench (item 44, WP 0717 00) Open-end wrench (item 75, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 2, WP 0718 00) Gasket (item 102, WP 0718 00) Sealing compound (item 16, WP 0716 00)

Equipment Conditions

Defuel access door opened (TM 9-2350-292-10) Right engine access grille door opened (TM 9-2350-292-10) Hydraulic lines and fittings removed from manual control valve (WP 0566 00)

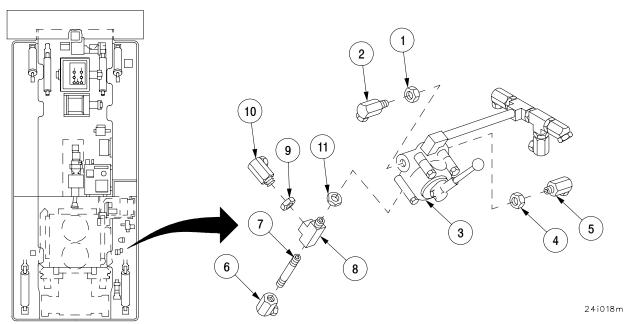
References

TM 9-2350-292-10

Removal

- 1. Loosen pipe locknut (1), remove pipe elbow (2) and pipe locknut (1) from manual control valve (3).
- 2. Loosen pipe locknut (4), remove pipe elbow (5) and pipe locknut (4) from manual control valve (3).
- 3. Remove pipe elbow (6) from pipe nipple (7).
- 4. Remove pipe nipple (7) from pipe tee (8).
- 5. Loosen pipe locknut (9), remove pipe elbow (10) and pipe locknut (9) from pipe tee (8).
- 6. Loosen pipe locknut (11), remove pipe tee (8) and pipe locknut (11) from manual control valve (3).

FORWARD

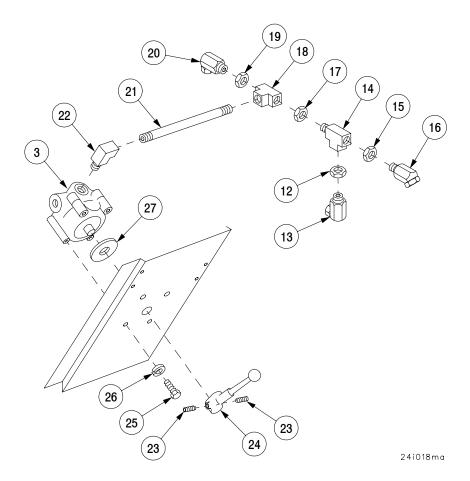


MANUAL CONTROL VALVE AND FITTINGS REPLACEMENT - CONTINUED

0569 00

Removal-Continued

- 7. Loosen pipe locknut (12), remove pipe elbow (13) and pipe locknut (12) from pipe tee (14).
- 3. Loosen pipe locknut (15), remove pipe elbow (16) and pipe locknut (15) from pipe tee (14).
- 9. Loosen pipe locknut (17), remove pipe tee (14) and pipe locknut (17) from pipe tee (18).
- 10. Loosen pipe locknut (19), remove pipe elbow (20) and pipe locknut (19) from pipe tee (18).
- 11. Remove pipe tee (18) from metallic pipe (21).
- 12. Remove metallic pipe (21) from pipe elbow (22).
- 13. Remove pipe elbow (22) from manual control valve (3).
- 14. Loosen two set screws (23) and remove handle (24) from manual control valve (3) shaft.
- 15. Remove four screws (25), four lockwashers (26), manual control valve (3) and gasket (27) from compartment wall. Discard lockwashers and gasket.
- 16. Inspect parts for damage and replace as required.

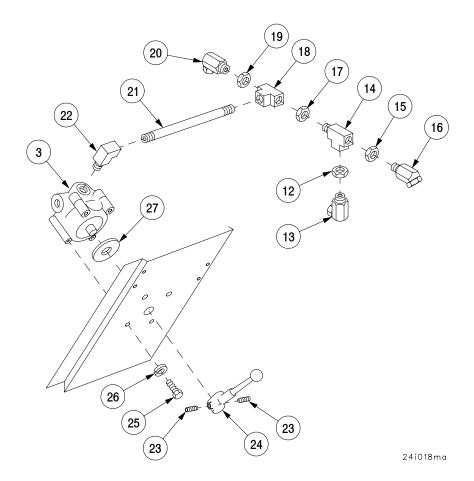


MANUAL CONTROL VALVE AND FITTINGS REPLACEMENT - CONTINUED

0569 00

Installation

- 1. Install manual control valve (3) and new gasket (27) on compartment wall with four screws (25) and four new lockwashers (26).
- 2. Install handle (24) on manual control valve (3) shaft and tighten two set screws (23).
- 3. Apply sealing compound to all male pipe threads.
- 4. Install pipe elbow (22) in manual control valve (3).
- 5. Install metallic pipe (21) in pipe elbow (22).
- 6. Install pipe tee (18) in metallic pipe (21).
- 7. Install pipe elbow (20) and pipe locknut (19) in pipe tee (18). Tighten pipe locknut (19).
- 8. Install pipe tee (14) and pipe locknut (17) in pipe tee (18). Tighten pipe locknut (17).
- 9. Install pipe elbow (16) and pipe locknut (15) in pipe tee (14). Tighten pipe locknut (15).
- 10. Install pipe elbow (13) and pipe locknut (12) in pipe tee (14). Tighten pipe locknut (12).

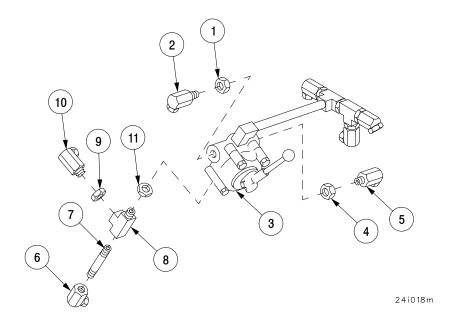


MANUAL CONTROL VALVE AND FITTINGS REPLACEMENT - CONTINUED

0569 00

Installation-Continued

- 11. Install pipe tee (8) and pipe locknut (11) in manual control valve (3). Tighten pipe locknut (11).
- 12. Install pipe elbow (10) and pipe locknut (9) in pipe tee (8). Tighten pipe locknut (9).
- 13. Install pipe nipple (7) in pipe tee (8).
- 14. Install pipe elbow (6) on pipe nipple (7).
- 15. Install pipe elbow (5) and pipe locknut (4) in manual control valve (3). Tighten pipe locknut (4).
- 16. Install pipe elbow (2) and pipe locknut (1) in manual control valve (3). Tighten pipe locknut (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic lines and fittings on manual control valve (WP 0566 00)
Close right engine access grille door (TM 9-2350-292-10)
Close defuel access door (TM 9-2350-292-10)

DEFUEL COMPARTMENT HYDRAULIC QUICK-DISCONNECT COUPLING AND ELBOW REPLACEMENT.

0570 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Automotive adjustable wrench (item 22, WP 0717 00)

Materials/Parts

Sealing compound (item 16, WP 0718 00)

Equipment Conditions

Right side engine deck access doors opened (TM 9-2350-292-10)

Equipment Conditions-Continued

Defuel access door opened (TM 9-2350-292-10) Hydraulic hoses removed form quick-disconnect coupling fittings (WP 0555 00) Right engine air intake tube under APU removed

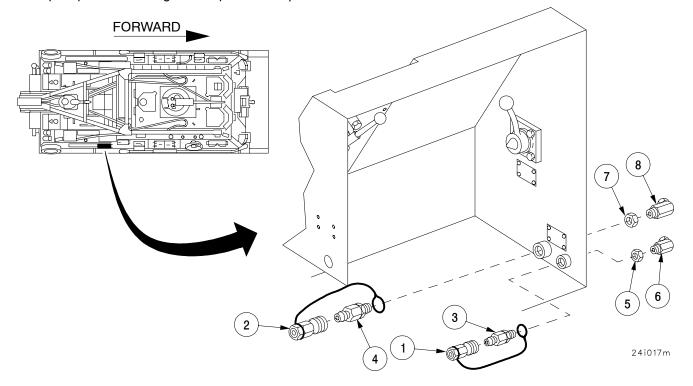
References

(WP 0212 00)

TM 9-2350-292-10

Removal

- 1. Disconnect two quick-disconnect caps (1 and 2) from two quick-disconnect coupling halves (3 and 4).
- 2. Remove two quick-disconnect coupling halves (3 and 4) and two quick-disconnect caps (1 and 2) from compartment wall.
- 3. Loosen pipe locknut (5), remove pipe elbow (6) and pipe locknut (5) from compartment wall.
- 4. Loosen pipe locknut (7), remove pipe elbow (8) and pipe locknut (7) from compartment wall.
- 5. Inspect parts for damage and replace as required.

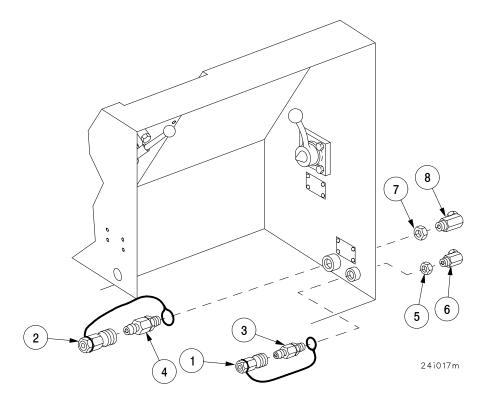


DEFUEL COMPARTMENT HYDRAULIC QUICK-DISCONNECT COUPLING AND ELBOW REPLACEMENT - CONTINUED

0570 00

Installation

- 1. Apply sealing compound to all male pipe threads.
- 2. Install pipe elbow (8) and pipe locknut (7) in compartment wall. Tighten pipe locknut (7).
- 3. Install pipe elbow (6) and pipe locknut (5) in compartment wall. Tighten pipe locknut (5).
- 4. Install two quick-disconnect coupling halves (3 and 4) and two quick-disconnect caps (1 and 2) in compartment wall.
- 5. Connect two quick-disconnect caps (1 and 2) on two quick-disconnect coupling halves (3 and 4).



NOTE

FOLLOW-ON MAINTENANCE:

Install right engine air intake tube under APU (WP 0212 00)
Install hydraulic hoses on quick-disconnect coupling fittings (WP 0555 00)
Close defuel access door (TM 9-2350-292-10)
Close right side engine deck access doors (TM 9-2350-292-10)

FLOW REGULATING VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT

0571 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 45, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marker tags (AR) (item 49, WP 0716 00)
Sealing compound (item 16, WP 0716 00)
Safety goggles (item 93, WP 0716 00)

Wiping rags (item 7, WP 0716 00)

Equipment Conditions

Engine deck grille doors opened (TM 9-2350-292-10)
Engine deck assembly removed (WP 0417 00)
Hydraulic system depressurized (WP 0545 00)
APU assembly removed (WP 0586 00 or WP 0587 00)
Subfloor plate #32 removed (WP 0454 00)

References

TM 9-2350-292-10

Removal



Hydraulic system pressure is rated at 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

FLOW REGULATING VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0571 00

Removal-Continued

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove hose assemblies, lines and fittings in accordance with the following legend and illustration.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- Install hose assemblies, lines and fittings in accordance with the following legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

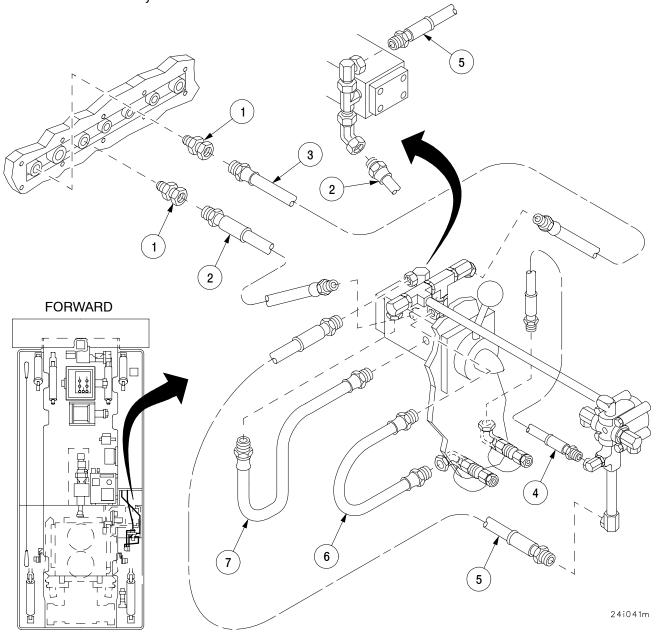
Install subfloor plate #32 (WP 0454 00) Install APU assembly (WP 0586 00 or WP 0587 00) Install engine deck assembly (WP 0417 00) Close engine deck grille doors (TM 9-2350-292-10)

FLOW REGULATING VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0571 00

Legend:

- 1. Pipe couplings (2)
- 2. Hose assembly
- 3. Hose assembly
- 4. Hose assembly
- 5. Hose assembly
- 6. Hose assembly
- 7. Hose assembly



MAIN AND HOIST WINCH DIRECTIONAL CONTROL VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT (OLD CONFIGURATION).

0572 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Combination wrenches (2) (item 98, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 44, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective cap (AR) (item 53, WP 0716 00)
Dust protective plug (AR) (item 56, WP 0716 00)
Dust protective plug (AR) (item 14, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Dust protective plug (AR) (item 55, WP 0716 00)
Dust protective plug (AR) (item 50, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marker tags (AR) (item 49, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)

Materials/Parts-Continued

Sealing compound (item 16, WP 0716 00)
Lubricant (item 51, WP 0716 00)
Lockwashers (16) (item 266, WP 0718 00)
Lockwashers (4) (item 261, WP 0718 00)
Preformed packings (2) (item 263, WP 0718 00)
Preformed packings (4) (item 265, WP 0718 00)
Preformed packings (2) (item 267, WP 0718 00)
Preformed packings (5) (item 43, WP 0718 00)
Preformed packings (2) (item 277, WP 0718 00)
Preformed packings (3) (item 440, WP 0718 00)
Preformed packings (3) (item 441, WP 0718 00)

Equipment Conditions

Subfloor plates #10, #11, #12, #15, #18 and #22 removed (WP 0454 00)
Hydraulic system depressurized (WP 0545 00)

Removal





MAIN AND HOIST WINCH DIRECTIONAL CONTROL VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT (OLD CONFIGURATION) - CONTINUED

0572 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove hose assemblies, lines and fittings in accordance with the following legend and illustration. Discard lockwashers and preformed packings.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings, new lockwashers and new preformed packings in accordance with the following legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #10, #11, #12, #15, #18 and #22 (WP 0454 00)

MAIN AND HOIST WINCH DIRECTIONAL CONTROL VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT (OLD CONFIGURATION) - CONTINUED

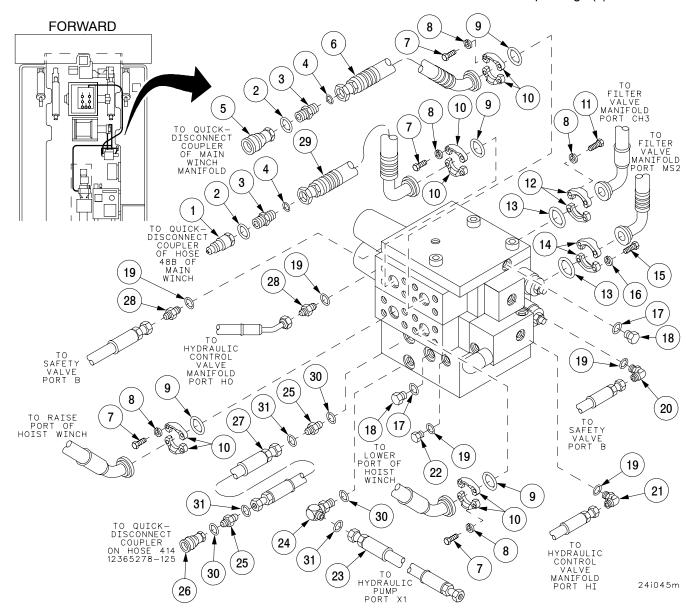
0572 00

Legend:

- Quick-disconnect coupling half
- 2. Preformed packings (2)
- 3. Straight adapters (2)
- 4. Preformed packings (2)
- 5. Quick-disconnect coupling half
- 6. Hose assembly
- 7. Screws (16)
- 8. Lockwashers (20)
- 9. Preformed packings (4)

- 10. Flanges (4)
- 11. Screws (4)
- 12. Flange
- 13. Preformed packings (2)
- 14. Flange
- 15. Screws (4)
- 16. Lockwashers (4)
- 17. Preformed packings (2)
- 18. Plug adapters (2)
- 19. Preformed packings (5)
- 20. Tube elbow

- 21. Tube elbow
- 22. Plug adapter
- 23. Hose assembly
- 24. Tube elbow
- 25. Straight adapters (2)
- 26. Quick-disconnect coupling half
- 27. Hose assembly
- 28. Straight adapters (2)
- 29. Hose assembly
- 30. Preformed packings (3)
- 31. Preformed packings (3)



END OF TASK

MAIN AND HOIST WINCH DIRECTIONAL CONTROL VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT (NEW CONFIGURATION).

0573 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Combination wrenches (2) (item 98, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 44, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective cap (AR) (item 53, WP 0716 00)
Dust protective plug (AR) (item 56, WP 0716 00)
Dust protective plug (AR) (item 14, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Dust protective plug (AR) (item 55, WP 0716 00)
Dust protective plug (AR) (item 50, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marker tags (AR) (item 49, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)

Materials/Parts-Continued

Sealing compound (item 16, WP 0716 00)
Lubricant (item 51, WP 0716 00)
Lockwashers (16) (item 266, WP 0718 00)
Lockwashers (4) (item 261, WP 0718 00)
Preformed packings (2) (item 263, WP 0718 00)
Preformed packings (4) (item 265, WP 0718 00)
Preformed packings (2) (item 267, WP 0718 00)
Preformed packings (5) (item 43, WP 0718 00)
Preformed packings (2) (item 277, WP 0718 00)
Preformed packings (item 278, WP 0718 00)
Preformed packings (2) (item 440, WP 0718 00)
Preformed packings (2) (item 441, WP 0718 00)

Equipment Conditions

Subfloor plates #10, #11, #12, #15, #18 and #22 removed (WP 0454 00)
Hydraulic system depressurized (WP 0545 00)

Removal





MAIN AND HOIST WINCH DIRECTIONAL CONTROL VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT (NEW CONFIGURATION) - CONTINUED

0573 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove hose assemblies, lines and fittings in accordance with the following legend and illustration. Discard lockwashers and preformed packings.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings, new lockwashers and new preformed packings in accordance with the following legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #10, #11, #12, #15, #18 and #22 (WP 0454 00)

MAIN AND HOIST WINCH DIRECTIONAL CONTROL VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT (NEW CONFIGURATION) - CONTINUED

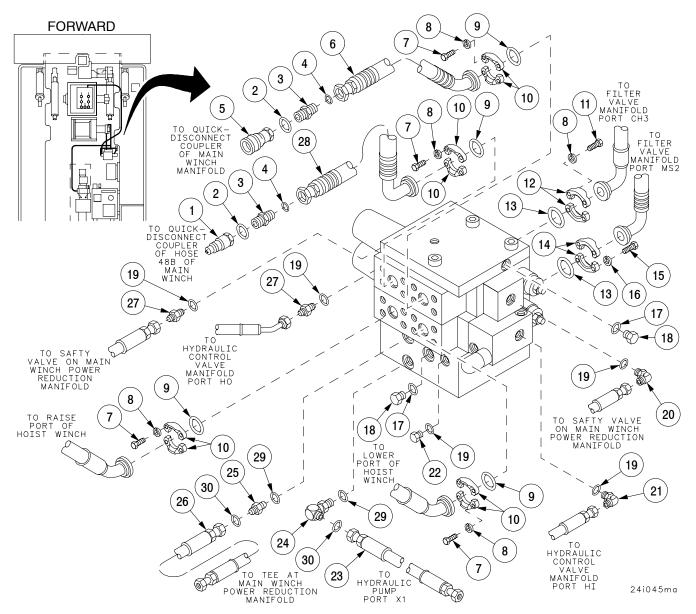
0573 00

Legend:

- 1. Quick-disconnect coupling half
- 2. Preformed packings (2)
- 3. Straight adapters (2)
- 4. Preformed packings (2)
- 5. Quick-disconnect coupling half
- 6. Hose assembly
- 7. Screws (16)
- 8. Lockwashers (20)
- 9. Preformed packings (4)

- 10. Flanges (4)
- 11. Screws (4)
- 12. Flange
- 13. Preformed packings (2)
- 14. Flange
- 15. Screws (4)
- 16. Lockwashers (4)
- 17. Preformed packings (2)
- 18. Plug adapters (2)
- 19. Preformed packings (5)
- 20. Tube elbow

- 21. Tube elbow
- 22. Plug adapter
- 23. Hose assembly
- 24. Tube elbow
- 25. Straight adapters (2)
- 26. Hose assembly
- 27. Straight adapters (2)
- 28. Hose assembly
- 29. Preformed packings (2)
- 30. Preformed packings (2)



END OF TASK

MAIN WINCH POWER REDUCTION MANIFOLD HYDRAULIC LINES AND FITTINGS REPLACEMENT.

0574 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Combination wrenches (2) (item 98, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 44, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective cap (AR) (item 53, WP 0716 00)
Dust protective plug (AR) (item 56, WP 0716 00)
Dust protective plug (AR) (item 14, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Dust protective plug (AR) (item 55, WP 0716 00)
Dust protective plug (AR) (item 50, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marker tags (AR) (item 49, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)

Materials/Parts-Continued

Sealing compound (item 16, WP 0716 00) Lubricant (item 51, WP 0716 00)

Preformed packings (2) (item 263, WP 0718 00) Preformed packings (4) (item 64, WP 0718 00) Preformed packings (2) (item 267, WP 0718 00) Preformed packings (5) (item 43, WP 0718 00)

Equipment Conditions

Subfloor plates #10, #11, #12, #15, #18 and #22 removed (WP 0454 00)
Hydraulic system depressurized (WP 0545 00)

Wiring harness 2W612 disconnect from main winch power reduction manifold (WP 0292 00)

Removal





MAIN WINCH POWER REDUCTION MANIFOLD HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0574 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- Remove hose assemblies, lines and fittings in accordance with the following legend and illustration. Discard preformed packings.
- 2. Inspect parts for damage and replace as required.

Installation

- Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings, new lockwashers and new preformed packings in accordance with the following legend and illustration.

MAIN WINCH POWER REDUCTION MANIFOLD HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0574 00

Installation - Continued

NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #10, #11, #12, #15, #18 and #22 (WP 0454 00) Connect wiring harness 2W612 to main winch power reduction manifold (WP 0292 00)

MAIN WINCH POWER REDUCTION MANIFOLD HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

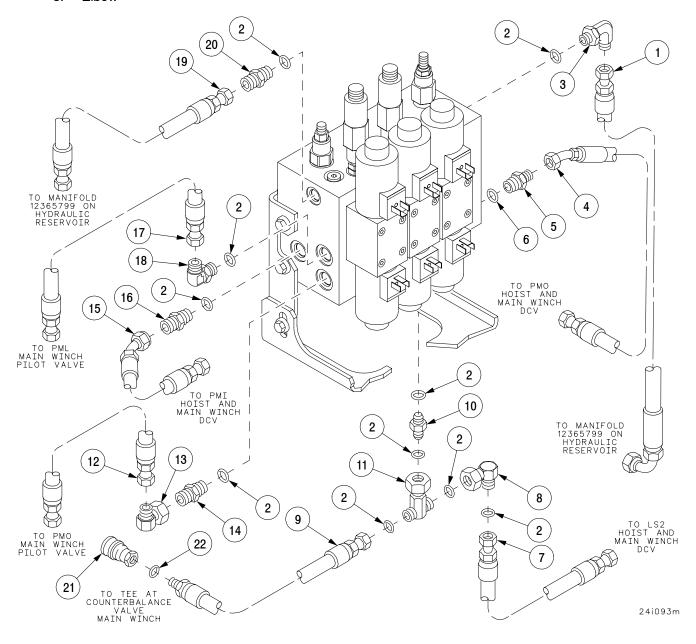
0574 00

Legend:

- 1. Hose assembly
- 2. Preformed packing
- 3. Elbow
- 4. Hose assembly
- 5. Straight adapter
- 6. Preformed packing
- 7. Hose assembly
- 8. Elbow

- 9. Hose assembly
- 10. Adapter
- 11. Tee
- 12. Hose assembly
- 13. Swivel adapter
- 14. Straight adapter
- 15. Hose assembly

- 16. Straight adapter
- 17. Hose assembly
- 18. Elbow
- 19. Hose assembly
- 20. Adapter
- 21. Quick disconnect
- 22. Preformed packing



END OF TASK

SPADE RELEASE HYDRAULIC LINES AND FITTINGS REPLACEMENT

0575 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 44, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective plug (AR) (item 14, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marking tags (AR) (item 49, WP 0716 00)
Sealing compound (item 16, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)

Equipment Conditions

Spade lowered to rest on ground (TM 9-2350-292-10)
Subfloor plates #3, #4, #10, #11 and #12 removed (WP 0454 00)
Hydraulic system depressurized (WP 0545 00)
Hydraulic hose retainer and retainer cover removed (WP 0584 00)
For maintenance of hose assembly #1

References

TM 9-2350-292-10

Removal







Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

SPADE RELEASE HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0575 00

Removal-Continued

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove hose assemblies, lines and fittings in accordance with the following legend and illustration.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- Install hose assemblies, lines and fittings in accordance with the following legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

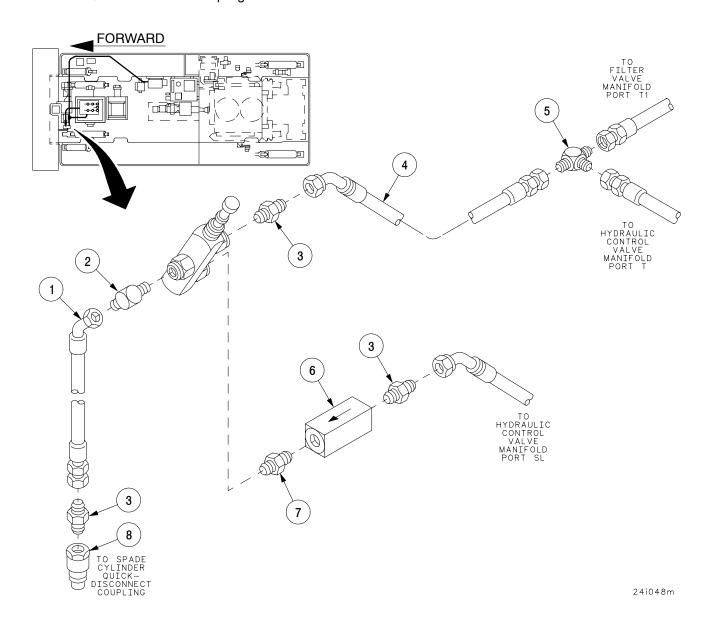
Install subfloor plates #3, #4, #10, #11 and #12 (WP 0454 00) Install hydraulic hose retainer and retainer cover, if removed (WP 0584 00) Raise and lock spade (TM 9-2350-292-10)

SPADE RELEASE HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0575 00

Legend:

- 1. Hose assembly
- 2. Elbow
- 3. Adapters (3)
- 4. Hose assembly
- 5. Tube tee
- 6. Check valve
- 7. Pipe nipple
- 8. Quick-disconnect coupling half



BOOM SHUTOFF AND CROSS PORT RELIEF/ANTICAVITATION MANIFOLD HYDRAULIC LINES AND FITTINGS REPLACEMENT.

0576 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Open-end wrench (item 90, WP 0717 00) Open-end wrench (item 75, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 10, WP 0716 00)
Dust protective cap (AR) (item 44, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Dust protective cap (AR) (item 54, WP 0716 00)
Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective plug (AR) (item 14, WP 0716 00)
Dust protective plug (AR) (item 11, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)

Materials/Parts-Continued

Marker tags (AR) (item 49, WP 0716 00)
Sealing compound (item 16, WP 0716 00)
Lubricant (item 51, WP 0716 00)
Preformed packings (5) (item 74, WP 0718 00)
Preformed packings (4) (item 64, WP 0718 00)
Preformed packing (item 263, WP 0718 00)
Preformed packings (3) (item 437, WP 0718 00)
Preformed packings (3) (item 438, WP 0718 00)

Plastic bags (AR) (item 48, WP 0716 00)

Equipment Conditions

Main winch and spade assembly removed (WP 0497 00) Hydraulic system depressurized (WP 0545 00)

Removal





BOOM SHUTOFF AND CROSS PORT RELIEF/ANTICAVITATION MANIFOLD HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0576 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove hose assemblies, lines and fittings in accordance with the following legend and illustration. Discard preformed packings.
- 2. Inspect parts for damage and replace as required.

Installation

- Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings and new preformed packings in accordance with the following legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

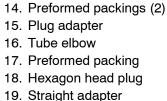
Install main winch and spade assembly (WP 0497 00)

BOOM SHUTOFF AND CROSS PORT RELIEF/ANTICAVITATION MANIFOLD HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

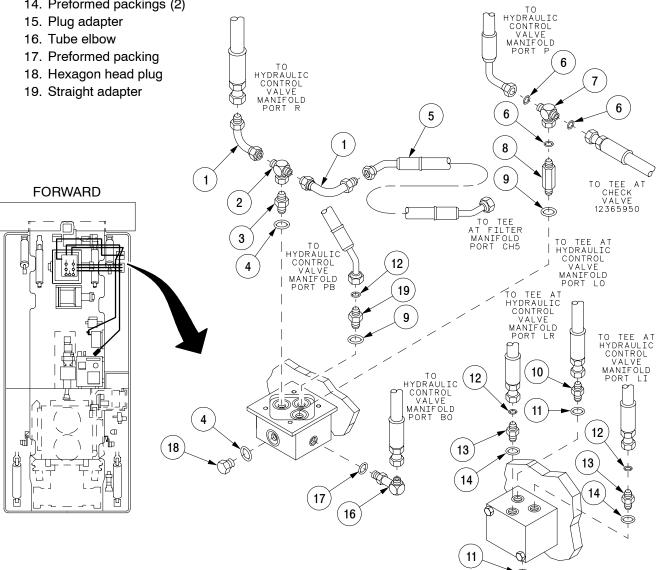
0576 00

Legend:

- Tube elbows (2) 1.
- 2. Tube tee
- Straight adapter
- 4. Preformed packings (2)
- 5. Hose assembly
- 6. Preformed packings (3)
- 7. Tube tee
- 8. Straight adapter
- 9. Preformed packings (2)
- 10. Straight adapter
- 11. Preformed packings (2)
- 12. Preformed packings (3)
- 13. Straight adapters (2)



END OF TASK



15

24i044m

HYDRAULIC CONTROL VALVE MANIFOLD ASSEMBLY HYDRAULIC LINES AND FITTINGS REPLACEMENT.

0577 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) (item 1, WP)

Combination wrench (item 30, WP 0717 00)

Open-end wrench (item 75, WP 0717 00)

Open-end wrench (item 77, WP 0717 00)

Open-end wrench (item 97, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 10, WP 0716 00)
Dust protective cap (AR) (item 44, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective plug (AR) (item 14, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)

Dust protective plug (AR) (item 11, WP 0716 00) Plastic bags (AR) (item 48, WP 0716 00)

Marker tags (AR) (item 49, WP 0716 00)

Safety goggles (item 93, WP 0716 00)

Wiping rags (item 7, WP 0716 00)

Materials/Parts-Continued

Sealing compound (item 16, WP 0716 00)

Lubricant (item 51, WP 0716 00)

Preformed packings (7) (item 74, WP 0718 00)

Preformed packings (6) (item 64, WP 0718 00)

Preformed packings (4) (item 43, WP 0718 00)

Preformed packings (3) (item 263, WP 0718 00)

Preformed packing (item 41, WP 0718 00)

Equipment Conditions

Subfloor plates #3, #4, #10, #11, #23, #31 and #32 removed (WP 0454 00)

Hydraulic control valve manifold shields removed (WP 0571 00)

Hydraulic system depressurized

(WP 0545 00)

Oddment tray removed (WP 0480 00)

Oddment box removed (WP 0478 00)

Hydraulic hose retainers and retainer covers removed (WP 0584 00)

Removal





HYDRAULIC CONTROL VALVE MANIFOLD ASSEMBLY HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0577 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- Remove hose assemblies, lines and fittings in accordance with the following legend and illustration. Discard preformed packings.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings and new preformed packings in accordance with the following legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic hose retainers and retainer covers (WP 0584 00)
Install oddment box (WP 0478 00)
Install oddment tray (WP 0480 00)
Install hydraulic control valve manifold shields (WP 0571 00)
Install subfloor plates #3, #4, #10, #11, #23, #31 and #32

(WP 0454 00)

HYDRAULIC CONTROL VALVE MANIFOLD ASSEMBLY HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

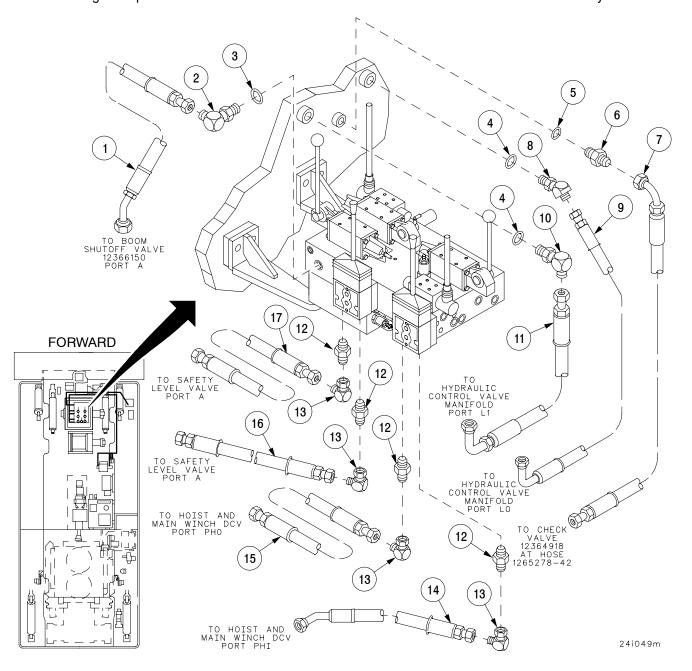
0577 00

Legend:

- 1. Hose assembly
- 2. Adapter
- 3. Preformed packing
- 4. Preformed packings (2)
- 5. Preformed packing
- 6. Straight adapter

- 7. Hose assembly
- 8. Tube elbow
- 9. Hose assembly
- 10. Tube elbow
- 11. Hose assembly

- 12. Straight adapters (4)
- 13. Tube elbow (4)
- 14. Hose assembly
- 15. Hose assembly
- 16. Hose assembly
- 17. Hose assembly



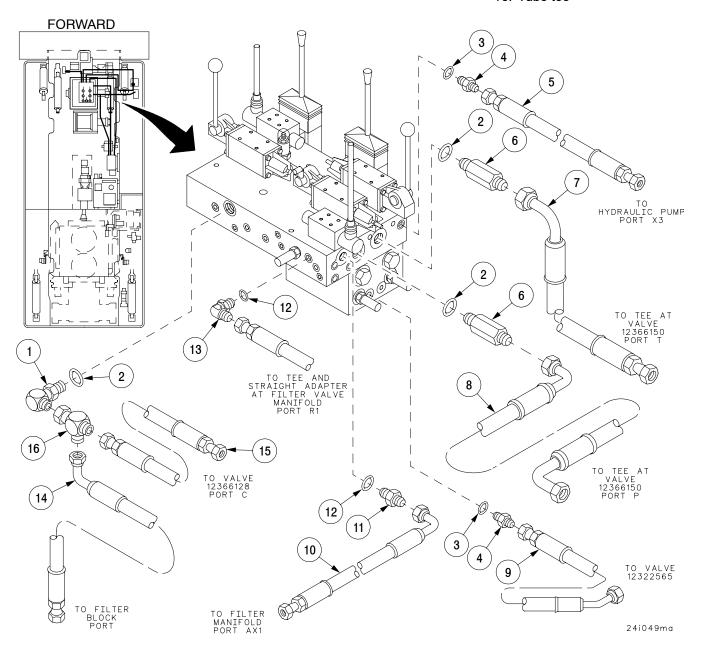
HYDRAULIC CONTROL VALVE MANIFOLD ASSEMBLY HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0577 00

- 1. Adapter
- 2. Preformed packings (3)
- 3. Preformed packings (2)
- 4. Straight adapters (2)
- 5. Hose assembly

- 6. Straight adapters (2)
- 7. Hose assembly
- 8. Hose assembly
- 9. Hose assembly
- 10. Hose assembly

- 11. Straight adapters
- 12. Preformed packings (2)
- 13. Elbow, 90°
- 14. Hose assembly
- 15. Hose assembly
- 16. Tube tee



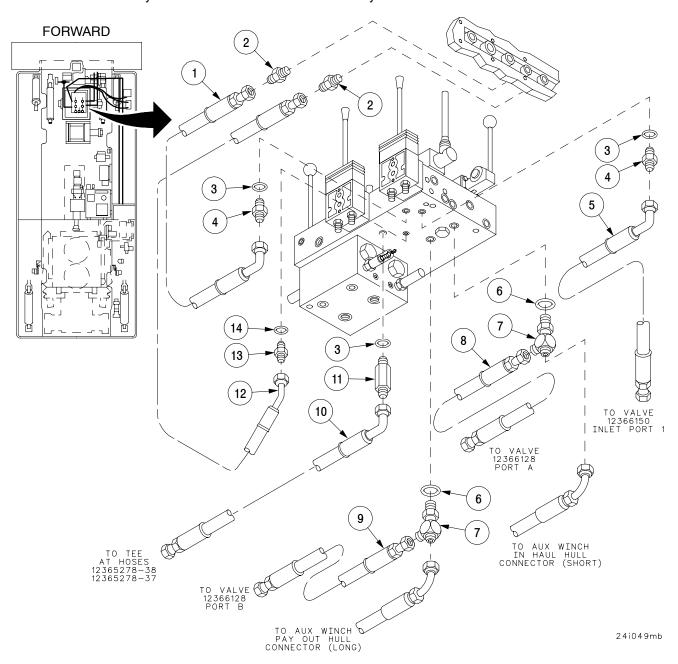
HYDRAULIC CONTROL VALVE MANIFOLD ASSEMBLY HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0577 00

- 1. Hose assembly
- 2. Straight adapters (2)
- 3. Preformed packings (3)
- 4. Straight adapters (2)
- 5. Hose assembly

- 6. Preformed packings (2)
- 7. Tees (2)
- 8. Hose assembly
- 9. Hose assembly
- 10. Hose assembly

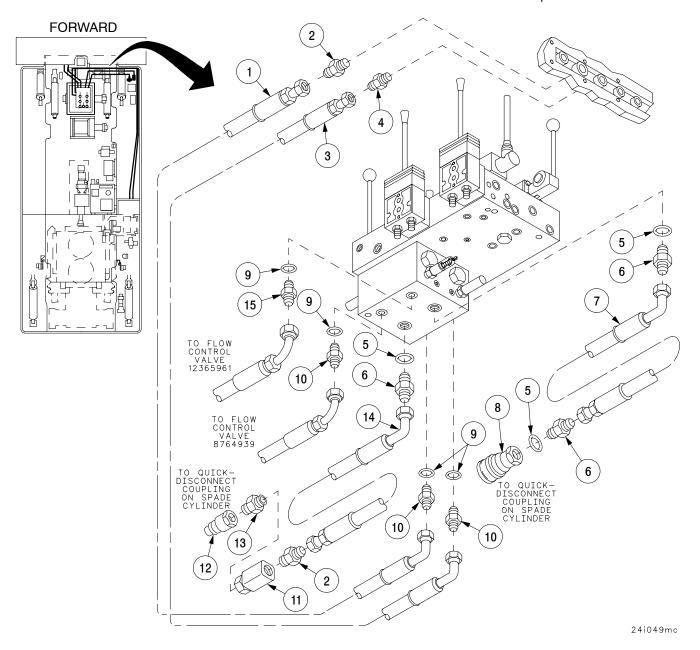
- 11. Adapter
- 12. Hose assembly
- 13. Straight adapter
- 14. Preformed packing



HYDRAULIC CONTROL VALVE MANIFOLD ASSEMBLY HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0577 00

- 1. Hose assembly
- 2. Straight adapters (2)
- 3. Hose assembly
- 4. Straight adapter
- 5. Preformed packings (3)
- 6. Straight adapters (3)
- 7. Hose assembly
- 8. Quick-disconnect coupling half
- 9. Preformed packings (4)
- 10. Straight adapters (3)
- 11. Valve
- 12. Quick-disconnect coupling half
- 13. Pipe nipple
- 14. Hose assembly
- 15. Adapter



BOOM LIMIT VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT.

0578 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 44, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective plug (AR) (item 14, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)

Materials/Parts-Continued

Plastic bags (AR) (item 48, WP 0716 00) Marker tags (AR) (item 49, WP 0716 00) Sealing compound (item 16, WP 0716 00)

Equipment Conditions

Hydraulic system depressurized (WP 0545 00)
APU removed (WP 0586 00 or WP 0587 00)
Subfloor plate #32 removed (WP 0454 00)
Hydraulic hose retainer and retainer covers removed (WP 0584 00)

Removal







Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

BOOM LIMIT VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT-CONTINUED

0578 00

Removal-Continued

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove hose assemblies, lines and fittings in accordance with the following legend and illustration.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- 2. Install hose assemblies, lines and fittings in accordance with the following legend and illustration.

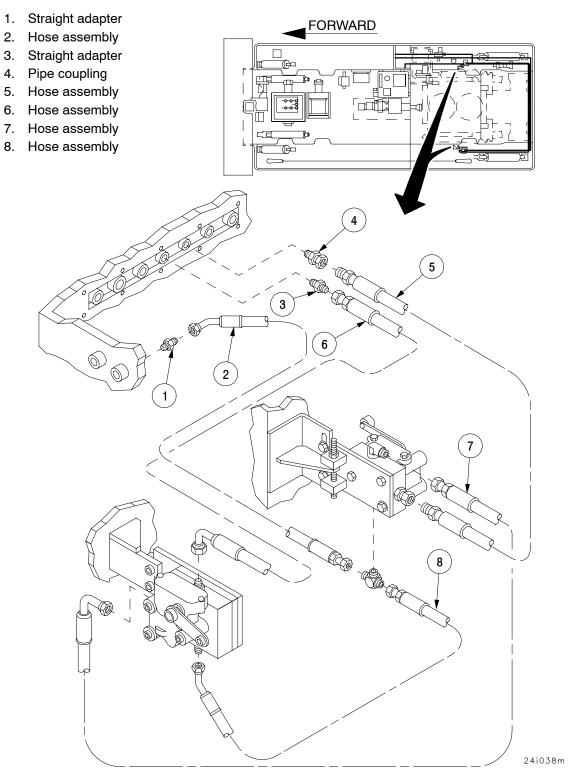
NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic hose retainers and retainer covers (WP 0584 00)
Install subfloor plate #32 (WP 0454 00)
Install APU (WP 0586 00 or WP 0587 00)

BOOM LIMIT VALVE HYDRAULIC LINES AND FITTINGS REPLACEMENT-CONTINUED

0578 00



HOIST WINCH HYDRAULIC LINES AND FITTINGS REPLACEMENT.

0579 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Open-end wrench (item 90, WP 0717 00) Combination wrench (item 98, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 10, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective cap (AR) (item 53, WP 0716 00)
Dust protective cap (AR) (item 54, WP 0716 00)
Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Dust protective plug (AR) (item 11, WP 0716 00)
Dust protective plug (AR) (item 55, WP 0716 00)
Dust protective plug (AR) (item 56, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)

Materials/Parts-Continued

Marker tags (AR) (item 49, WP 0716 00)
Sealing compound (item 16, WP 0716 00)
Lubricant (item 51, WP 0716 00)
Lockwashers (4) (item 12, WP 0718 00)
Lockwashers (2) (item 9, WP 0718 00)
Preformed packings (2) (item 74, WP 0718 00)
Preformed packing (item 41, WP 0718 00)
Preformed packing (item 204, WP 0718 00)
Preformed packing (item 267, WP 0718 00)
Preformed packing (item 439, WP 0718 00)

Plastic bags (AR) (item 48, WP 0716 00)

Equipment Conditions

Subfloor plates #15, #18, #22 and #27 removed (WP 0454 00)
Hydraulic system pressure discharged (WP 0545 00)
For maintenance of oil drain hose:
Subfloor plates # 15 removed (WP 0454 00)
Forward drain valve opened (TM 9-2350-292-10)

References

TM 9-2350-292-10

Removal





HOIST WINCH HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0579 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will avoid injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to avoid injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedure.

- 1. Remove hose assemblies, lines and fittings in accordance with the following legend and illustration. Discard lockwashers and preformed packings.
- 2. Inspect parts for damage and replace as required.

Installation

- Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings, new lockwashers and new preformed packings in accordance with the following legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE: Close forward drain valve, if opened (TM 9-2350-292-10) Install subfloor plates #15, #18, #22 and #27 (WP 0454 00)

HOIST WINCH HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

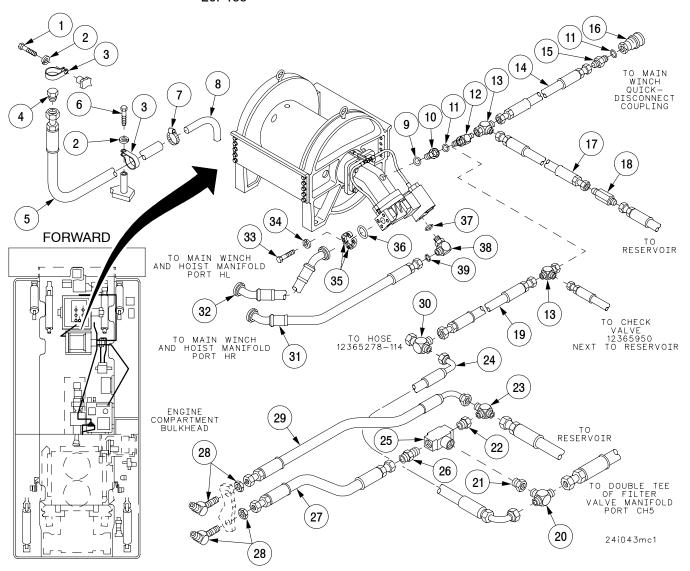
0579 00

- 1. Screw
- 2. Lockwashers (2)
- 3. Clamps (2)
- 4. Plug
- 5. Hose assembly
- 6. Screw
- 7. Hose Clamp
- 8. Tube
- 9. Preformed packing
- 10. Boss reducer

- 11. Preformed packings (2)
- 12. Tee adapter
- 13. Tube tee (2)
- 14. Hose assembly
- 15. Straight adapter
- 16. Quick-disconnect coupling half
- 17. Hose assembly
- 18. Valve
- 19. Hose assembly
- 20. Tee

- 21. Pipe bushing
- 22. Pipe bushing
- 23. Tee
- 24. Hose assembly
- 25. Thermostat
- 26. Adapter
- 27. Hose assembly
- 28. Adapters (2)
- 29. Hose assembly
- 30. Tube tee

- 31. Hose assembly
- 32. Hose assembly
- 33. Screws (4)
- 34. Lockwashers (4)
- 35. Flanges
- 36. Preformed packing
- 37. Preformed packing
- 38. Tube elbow
- 39. Preformed packing



HOIST BOOM ACTUATING CYLINDER HYDRAULIC LINES AND FITTINGS REPLACEMENT

0580 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 10, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Dust protective plug (AR) (item 11, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marker tags (AR) (item 49, WP 0716 00)
Sealing compound (item 16, WP 0716 00)
Wiping rags (item 7, WP 0716 00)
Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Subfloor plates #3, #10, #11, #12, #19 and #24 removed (WP 0454 00)
Hydraulic system pressure depressurized (WP 0545 00)
Hydraulic hose retainers and retaining covers removed (WP 0584 00)
Fire extinguishers removed (WP 0698 00)
Oddment box removed (WP 0478 00)
Winch illumination light removed (WP 0232 00)

Removal





HOIST BOOM ACTUATING CYLINDER HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0580 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove hose assemblies, lines and fittings in accordance with the following legend and illustration.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- Install hose assemblies, lines and fittings in accordance with the following legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

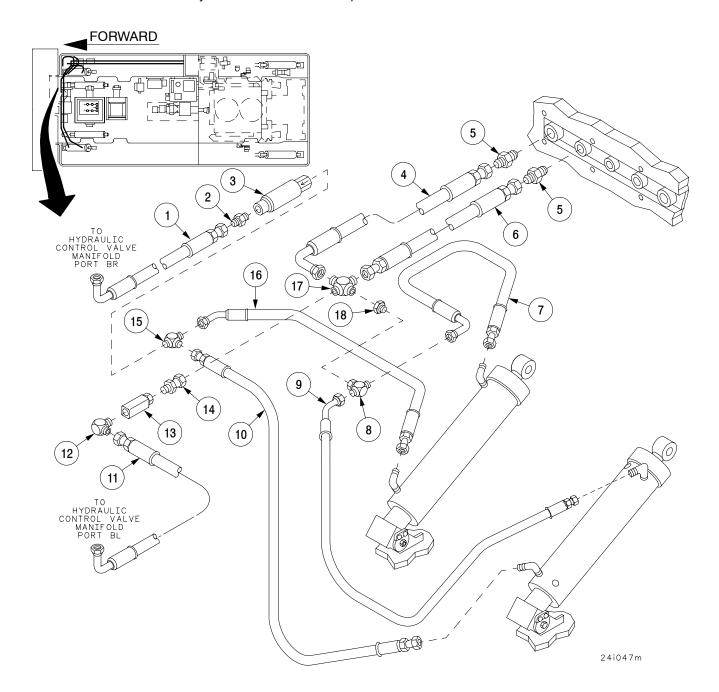
Install winch illumination light (para WP 0282 00)
Install oddment box (WP 0478 00)
Install fire extinguishers (WP 0698 00)
Install hydraulic hose retainers and retaining covers (WP 0584 00)
Install subfloor plates #3, #10, #11, #12, #19 and #24 (WP 0454 00)

HOIST BOOM ACTUATING CYLINDER HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0580 00

LEGEND:

1.	Hose assembly	7.	Hose assembly	13.	Valve
2.	Straight adapter	8.	Adapter	14.	Straight adapter
3.	Valve regulator	9.	Hose assembly	15.	Pipe tee
4.	Hose assembly	10.	Hose assembly	16.	Hose assembly
5.	Straight adapters (2)	11.	Hose assembly	17.	Tube cross
6.	Hose assembly	12.	Pipe elbow	18.	Tube reducer



APU AND APU PRESSURE SWITCH HYDRAULIC LINES AND FITTINGS REPLACEMENT

0581 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Open-end wrench (item 95, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 10, WP 0716 00)
Dust protective cap (AR) (item 44, WP 0716 00)
Dust protective plug (AR) (item 14, WP 0716 00)
Dust protective plug (AR) (item 11, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marker tags (AR) (item 49, WP 0716 00)
Safety glasses (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)

Materials/Parts-Continued

Sealing compound (item 16, WP 0716 00) Lubricant (item 51, WP 0716 00) Lockwasher (item 18, WP 0718 00) Preformed packing (item 43, WP 0718 00) Preformed packing (item 64, WP 0718 00)

Equipment Conditions

Engine deck assembly removed (WP 0417 00) Hydraulic system depressurized (WP 0545 00) APU removed (WP 0586 00 or WP 0587 00)

Removal



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

APU AND APU PRESSURE SWITCH HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0581 00

Removal-Continued

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove clamps and attaching hardware securing hose assemblies, lines and fittings to vehicle as shown in legend and illustration. Discard lockwashers.
- Remove hose assemblies, lines and fittings in accordance with the following legend and illustration. Discard preformed packings.
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings and new preformed packings in accordance with the following legend and illustration.
- 4. Secure hose assemblies, lines and fittings to vehicle with clamps, attaching hardware and new lockwashers as shown in legend and illustration.

NOTE

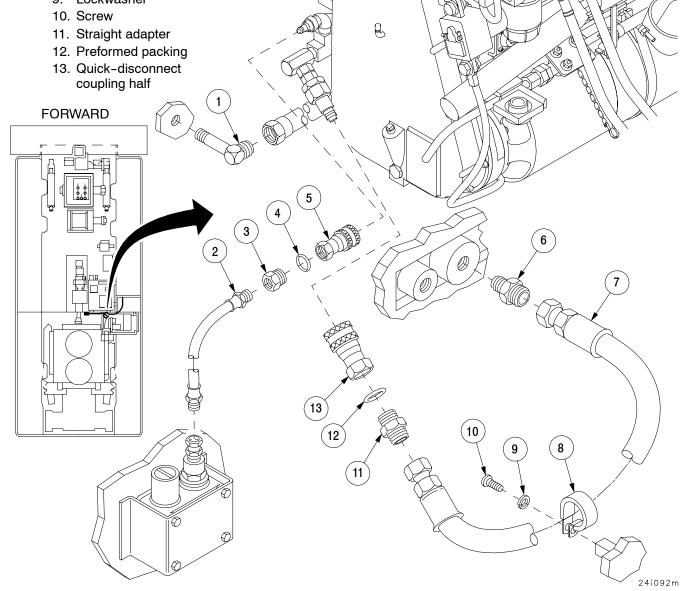
FOLLOW-ON MAINTENANCE:

Install APU (WP 0586 00 or WP 0587 00)
Install engine deck assembly (WP 0417 00)

APU AND APU PRESSURE SWITCH HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0581 00

- 1. Adapter
- 2. Hose assembly
- 3. Adapter
- 4. Preformed packing
- 5. Quick-disconnect coupling half
- 6. Straight adapter
- 7. Hose assembly
- 8. Loop clamp
- 9. Lockwasher



APU AND APU PRESSURE SWITCH HYDRAULIC LINES AND FITTINGS REPLACEMENT (HATZ)

0582 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Open-end wrench (item 95, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 10, WP 0716 00)
Dust protective cap (AR) (item 44, WP 0716 00)
Dust protective plug (AR) (item 14, WP 0716 00)
Dust protective plug (AR) (item 11, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marker tags (AR) (item 49, WP 0716 00)
Safety glasses (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)

Materials/Parts-Continued

Sealing compound (item 16, WP 0716 00) Lubricant (item 51, WP 0716 00) Lockwasher (item 18, WP 0718 00) Preformed packing (item 43, WP 0718 00) Preformed packing (item 64, WP 0718 00)

Equipment Conditions

Engine deck assembly removed (WP 0417 00) Hydraulic system depressurized (WP 0545 00) APU removed (WP 0586 00 or WP 0587 00)

Removal



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

APU AND APU PRESSURE SWITCH HYDRAULIC LINES AND FITTINGS REPLACEMENT (HATZ) - CONTINUED

0582 00

Removal-Continued

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove clamps and attaching hardware securing hose assemblies, lines and fittings to vehicle as shown in legend and illustration. Discard lockwashers.
- Remove hose assemblies, lines and fittings in accordance with the following legend and illustration. Discard preformed packings.
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings and new preformed packings in accordance with the following legend and illustration.
- 4. Secure hose assemblies, lines and fittings to vehicle with clamps, attaching hardware and new lockwashers as shown in legend and illustration.

NOTE

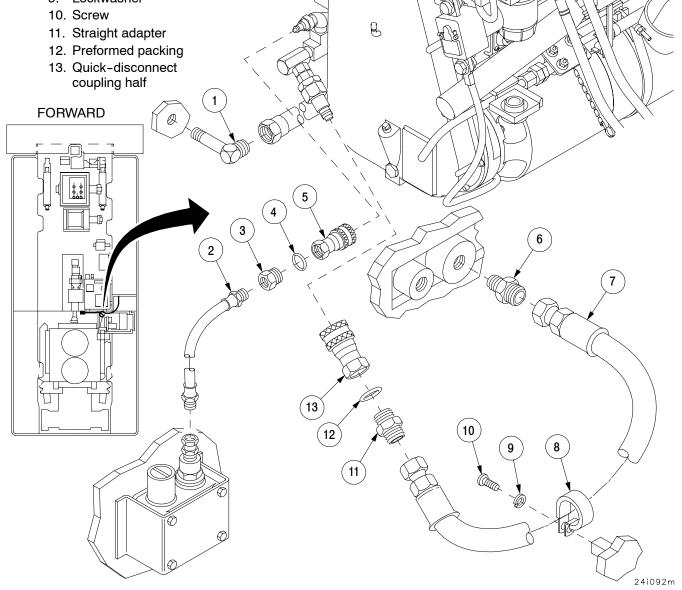
FOLLOW-ON MAINTENANCE:

Install APU (WP 0586 00 or WP 0587 00) Install engine deck assembly (WP 0417 00)

APU AND APU PRESSURE SWITCH HYDRAULIC LINES AND FITTINGS REPLACEMENT (HATZ) - CONTINUED

0582 00

- 1. Adapter
- 2. Hose assembly
- 3. Adapter
- 4. Preformed packing
- 5. Quick-disconnect coupling half
- 6. Straight adapter
- 7. Hose assembly
- 8. Loop clamp
- 9. Lockwasher



HYDRAULIC RESERVOIR HYDRAULIC LINES AND FITTINGS REPLACEMENT

0583 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Combination wrench (item 30, WP 0717 00)

Open-end wrench (item 75, WP 0717 00)

Open-end wrench (item 77, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 10, WP 0716 00) Dust protective cap (AR) (item 44, WP 0716 00)

Dust protective cap (AR) (item 45, WP 0716 00)

Dust protective cap (AR) (item 46, WP 0716 00)

Dust protective cap (AR) (item 53, WP 0716 00) Dust protective cap (AR) (item 54, WP 0716 00)

Dust protective plug (AR) (item 12, WP 0716 00)

Dust protective plug (AR) (item 14, WP 0716 00)

Dust protective plug (AR) (item 47, WP 0716 00)

Dust protective plug (AR) (item 11, WP 0716 00)

Dust protective plug (AR) (item 55, WP 0716 00)

Dust protective plug (AR) (item 56, WP 0716 00)

Plastic bags (AR) (item 48, WP 0716 00)

Marker tags (AR) (item 49, WP 0716 00)

Sealing compound (item 16, WP 0716 00)

Lubricant (item 51, WP 0716 00)

Lockwashers (2) (item 9, WP 0718 00)

Safety goggles (item 93, WP 0716 00)

Materials/Parts-Continued

Lockwashers (4) (item 261, WP 0718 00)

Preformed packings (5) (item 64, WP 0718 00)

Preformed packings (2) (item 74, WP 0718 00)

Preformed packings (2) (item 43, WP 0718 00)

Preformed packing (item 262, WP 0718 00)

Preformed packing (item 263, WP 0718 00)

Equipment Conditions

Subfloor plates #15, #18, #22, #23, #27, #29, #31 and #32 removed (WP 0454 00)

Hydraulic system depressurized (WP 0545 00)

Hydraulic reservoir drained (WP 0187 00)

For replacing lines below oil level

Rocket ammunition stowage box and oddment tray

shelf removed (WP 0480 00)

For maintenance of hose assemblies #1, #4

and #35

Hydraulic hose retainers and retainer covers removed

(WP 0584 00)

For maintenance of hose assemblies #1, #4

and #35

Main winch and spade assembly removed

(WP 0498 00)

For maintenance of hose assembly #24

Removal





HYDRAULIC RESERVOIR HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0583 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove clamps, clips and attaching hardware securing hose assemblies, lines and fittings to vehicle as shown in legend and illustration. Discard lockwashers.
- 2. Remove hose assemblies, lines, fittings and filler cap in accordance with the following legend and illustration. Discard lockwashers and preformed packings.
- 3. Inspect parts for damage and replace as required.

HYDRAULIC RESERVOIR HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

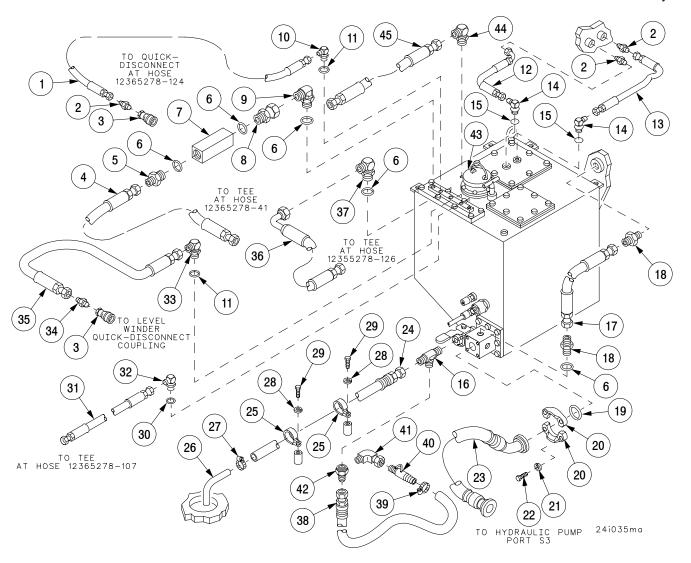
0583 00

- 1. Hose assembly
- 2. Straight adapters (3)
- 3. Quick-disconnect coupling halfs (2)
- 4. Hose assembly
- 5. Adapter
- 6. Preformed packings (5)
- 7. Check valve
- 8. Straight adapter
- 9. Adapter
- 10. Tube elbow

- 11. Preformed packings (2)
- 12. Hose assembly
- 13. Hose assembly
- 14. Tube elbows (2)
- 15. Preformed packings (2)
- 16. Tee
- 17. Hose assembly
- 18. Straight adapter (2)
- 19. Preformed packing
- 20. Flange
- 21. Lockwashers (4)

- 22. Screws (4)
- 23. Hose assembly
- 24. Hose assembly
- 25. Clips (2)
- 26. Tube
- 27. Hose clamp
- 28. Lockwashers (2)
- 29. Screws (2)
- 30. Preformed packing
- 31. Hose assembly
- 32. Tube elbow

- 33. Tube elbow
- 34. Straight adapter
- 35. Hose assembly
- 36. Hose assembly
- 37. Adapter
- 38. Hose assembly
- 39. Clamp
- 40. Ball valve
- 41. Adapter 90°
- 42. Swivel adapter
- 43. Filler cap
- 44. Tube elbow
- 45. Hose assembly



HYDRAULIC RESERVOIR HYDRAULIC LINES AND FITTINGS REPLACEMENT - CONTINUED

0583 00

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings, new lockwashers, new preformed packings and filler cap in accordance with the following legend and illustration.
- 4. Secure hose assemblies, lines and fittings to vehicle with clamps, clips, attaching hardware and new lockwashers as shown in legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade assembly, if removed (WP 0498 00)

Install hydraulic hose retainers and retaining covers, if removed (WP 0584 00)

Install rocket ammunition stowage box and oddment tray shelf, if removed (WP 0480 00)

Fill hydraulic reservoir, if drained (WP 0187 00)

Install subfloor plates #15, #18, #22, #23, #27, #29, #31 and #32 (WP 0454 00)

HYDRAULIC RESERVOIR HYDRAULIC LINES AND FITTINGS REPLACEMENT

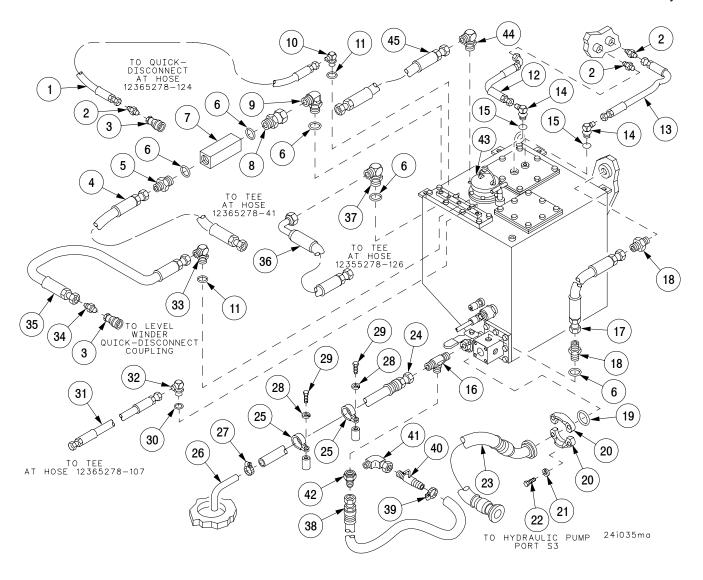
0583 00

- 1. Hose assembly
- 2. Straight adapters (3)
- 3. Quick-disconnect coupling halfs (2)
- 4. Hose assembly
- 5. Adapter
- 6. Preformed packings (5)
- 7. Check valve
- 8. Straight adapter
- 9. Adapter
- 10. Tube elbow

- 11. Preformed packings (2)
- 12. Hose assembly
- 13. Hose assembly
- 14. Tube elbows (2)
- 15. Preformed packings (2)
- 16. Tee
- 17. Hose assembly
- 18. Straight adapter (2)
- 19. Preformed packing
- 20. Flange
- 21. Lockwashers (4)

- 22. Screws (4)
- 23. Hose assembly
- 24. Hose assembly
- 25. Clips (2)
- 26. Tube
- 27. Hose clamp
- 28. Lockwashers (2)
- 29. Screws (2)
- 30. Preformed packing
- 31. Hose assembly
- 32. Tube elbow

- 33. Tube elbow
- 34. Straight adapter
- 35. Hose assembly
- 36. Hose assembly
- 37. Adapter
- 38. Hose assembly
- 39. Clamp
- 40. Ball valve
- 41. Adapter 90°
- 42. Swivel adapter
- 43. Filler cap
- 44. Tube elbow
- 45. Hose assembly



0583 01

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Combination wrench (item 30, WP 0717 00)

Open-end wrench (item 75, WP 0717 00)

Open-end wrench (item 77, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 10, WP 0716 00)

Dust protective cap (AR) (item 44, WP 0716 00)

Dust protective cap (AR) (item 45, WP 0716 00)

Dust protective cap (AR) (item 46, WP 0716 00) Dust protective cap (AR) (item 53, WP 0716 00)

Dust protective cap (AR) (item 54, WP 0716 00)

Dust protective plug (AR) (item 12, WP 0716 00)

Dust protective plug (AR) (item 14, WP 0716 00)

Dust protective plug (AR) (item 47, WP 0716 00)

Dust protective plug (AR) (item 11, WP 0716 00)

Dust protective plug (AR) (item 55, WP 0716 00)

Dust protective plug (AR) (item 56, WP 0716 00)

Plastic bags (AR) (item 48, WP 0716 00)

Marker tags (AR) (item 49, WP 0716 00)

Sealing compound (item 16, WP 0716 00)

Lubricant (item 51, WP 0716 00)

Lockwashers (2) (item 9, WP 0718 00)

Safety goggles (item 93, WP 0716 00)

Materials/Parts-Continued

Lockwashers (4) (item 261, WP 0718 00)

Preformed packings (5) (item 64, WP 0718 00)

Preformed packings (2) (item 74, WP 0718 00)

Preformed packings (2) (item 43, WP 0718 00)

Preformed packing (item 262, WP 0718 00)

Preformed packing (item 263, WP 0718 00)

Equipment Conditions

Subfloor plates #15, #18, #22, #23, #27, #29, #31 and #32 removed (WP 0454 00)

Hydraulic system depressurized (WP 0545 00)

Hydraulic reservoir drained (WP 0187 00)

For replacing lines below oil level

Rocket ammunition stowage box and oddment tray shelf removed (WP 0480 00)

shelf removed (WP 0480 00)

For maintenance of hose assemblies #1, #4 and #35 Hydraulic hose retainers and retainer covers removed (0584 00)

For maintenance of hose assemblies #1, #4 and #35 Main winch and spade assembly removed (WP 0498 00)

For maintenance of hose assembly #24

Removal





0583 01

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will prevent injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to prevent injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure to comply may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid-soaked rags in accordance with standard operating procedure.

- 1. Remove clamps, clips and attaching hardware securing hose assemblies, lines and fittings to vehicle as shown in legend and illustration. Discard lockwashers.
- 2. Remove hose assemblies, lines, fittings and filler cap in accordance with the following legend and illustration. Discard lockwashers and preformed packings.
- 3. Inspect parts for damage and replace as required.

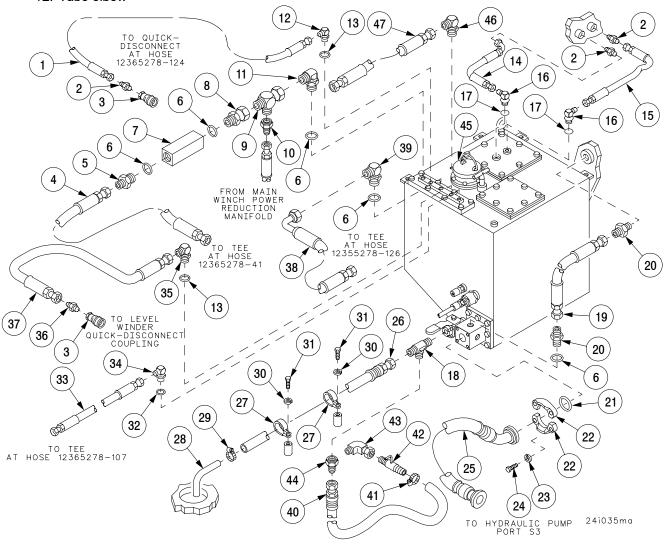
0583 01

- 1. Hose assembly
- 2. Straight adapters (3)
- 3. Quick-disconnect coupling halfs (2)
- 4. Hose assembly
- 5. Adapter
- 6. Preformed packings (5)
- 7. Check valve
- 8. Straight adapter
- 9. Tee
- 10. Straight Adapter
- 11. Adapter
- 12. Tube elbow

- 13. Preformed packings (2)
- 14. Hose assembly
- 15. Hose assembly
- 16. Tube elbows (2)
- 17. Preformed packings (2)
- 18. Tee
- 19. Hose assembly
- 20. Straight adapter
- 21. Preformed packing
- 22. Flange
- 23. Lockwashers (4)
- 24. Screws (4)

- 25. Hose assembly
- 26. Hose assembly
- 27. Clips (2)
- 28. Tube
- 29. Hose clamp
- 30. Lockwashers (2)
- 31. Screws (2)
- 32. Preformed packing
- 33. Hose assembly
- 34. Tube elbow
- 35. Tube elbow
- 36. Straight adapter

- 37. Hose assembly
- 38. Hose assembly
- 39. Adapter
- 40. Hose assembly
- 41. Clamp
- 42. Ball valve
- 43. Adapter 90°
- 44. Swivel adapter
- 45. Filler cap
- 46. Tube elbow
- 47. Hose assembly



0583 01

Installation

- 1. Apply sealing compound to all male pipe threads before installation of the component.
- 2. Apply a thin even coat of clean lubricant to all new preformed packings prior to installation.
- 3. Install hose assemblies, lines, fittings, new lockwashers, new preformed packings and filler cap in accordance with the following legend and illustration.
- 4. Secure hose assemblies, lines and fittings to vehicle with clamps, clips, attaching hardware and new lockwashers as shown in legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade assembly, if removed (WP 0498 00)

Install hydraulic hose retainers and retaining covers, if removed (WP 0584 00)

Install rocket ammunition stowage box and oddment tray shelf, if removed (WP 0480 00)

Fill hydraulic reservoir, if drained (WP 0187 00)

Install subfloor plates #15, #18, #22, #23, #27, #29, #31 and #32 (WP 0454 00)

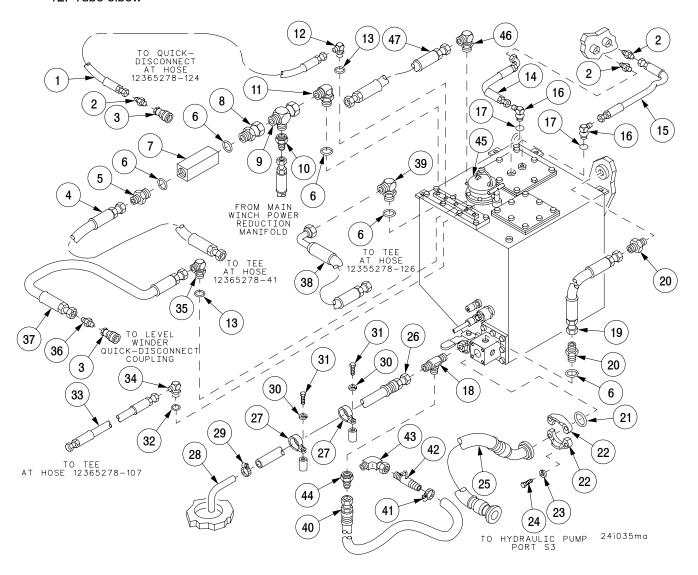
0583 01

- 1. Hose assembly
- 2. Straight adapters (3)
- 3. Quick-disconnect coupling halfs (2)
- 4. Hose assembly
- 5. Adapter
- 6. Preformed packings (5)
- 7. Check valve
- 8. Straight adapter
- 9. Tee
- 10. Straight Adapter
- 11. Adapter
- 12. Tube elbow

- 13. Preformed packings (2)
- 14. Hose assembly
- 15. Hose assembly
- 16. Tube elbows (2)
- 17. Preformed packings (2)
- 18. Tee
- 19. Hose assembly
- 20. Straight adapter
- 21. Preformed packing
- 22. Flange
- 23. Lockwashers (4)
- 24. Screws (4)

- 25. Hose assembly
- 26. Hose assembly
- 27. Clips (2)
- 28. Tube
- 29. Hose clamp
- 30. Lockwashers (2)
- 31. Screws (2)
- 32. Preformed packing
- 33. Hose assembly
- 34. Tube elbow
- 35. Tube elbow
- 36. Straight adapter

- 37. Hose assembly
- 38. Hose assembly
- 39. Adapter
- 40. Hose assembly
- 41. Clamp
- 42. Ball valve
- 43. Adapter 90°
- 44. Swivel adapter
- 45. Filler cap
- 46. Tube elbow
- 47. Hose assembly



HYDRAULIC HOSE RETAINER AND RETAINING COVERS REPLACEMENT

0584 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (12) (item 9, WP 0718 00)

Equipment Conditions

Engine deck assembly removed (WP 0417 00)

For maintenance of retainer covers #4, #5, #6 and #7

Air intake tube loosened (WP 0212 00)

For maintenance of retainer cover #4

Left engine deck grille door removed (WP 0415 00)

For maintenance of retainer cover #7

Main winch and spade assembly removed

(WP 0498 00)

For maintenance of retainer #9 and retainer cover #15

NOTE

There are five types of hose retainers, four of these retainers only the covers can be removeOne retainer and cover is removable.

Perform Removal steps 1 and 3 and Installation step 2 for maintenance of retainer covers.

Perform Removal steps 2 and 3 and Installation step 1 for maintenance of retainer and cover.

Removal

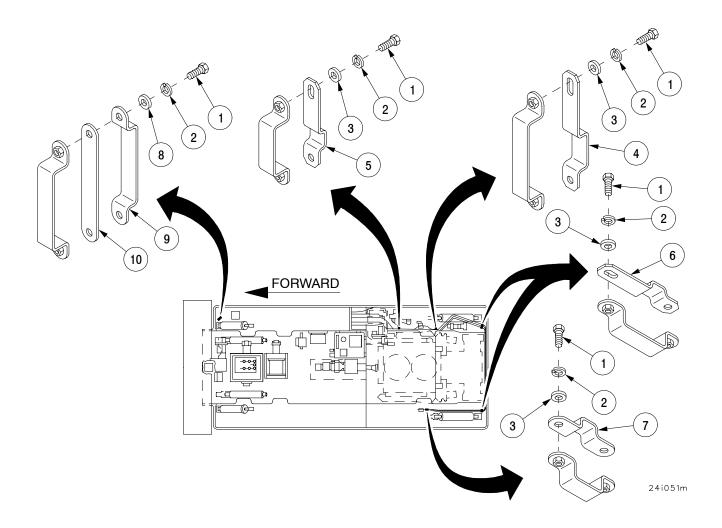
- Remove two screws (1), two lockwashers (2), two flatwashers (3) and retainer cover (4, 5, 6 or 7) from vehicle.
 Discard lockwashers.
- 2. Remove two screws (1), two lockwashers (2), two flat washers (8), retainer (9) and cover (10) from vehicle. Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

HYDRAULIC HOSE RETAINER AND RETAINING COVERS REPLACEMENT - CONTINUED

0584 00

Installation

- 1. Install cover (10) and retainer (9) with two screws (1), two new lockwashers (2) and two flat washers (8).
- 2. Install retainer cover (4, 5, 6 or 7) with two screws (1), two new lockwashers (2) and two flatwashers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade assembly, if removed (WP 0498 00)
Install left engine grille door, if removed (WP 0415 00)
Tighten air intake tube, if loosened (WP 0212 00)
Install engine deck assembly, if removed (WP 0417 00)

END OF TASK

HYDRAULIC CONNECTION PANEL REPLACEMENT

0585 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (10) (item 9, WP 0718 00) Gasket (item 288, WP 0718 00)

Equipment Conditions

Hydraulic lines and fittings removed from hydraulic connection panel (WP 0568 00, WP 0566 00, WP 0571 00, WP 0577 00, WP 0578 00, WP 0580 00 and WP 0581 00)
Subfloor plates #23, #31 and #32 removed

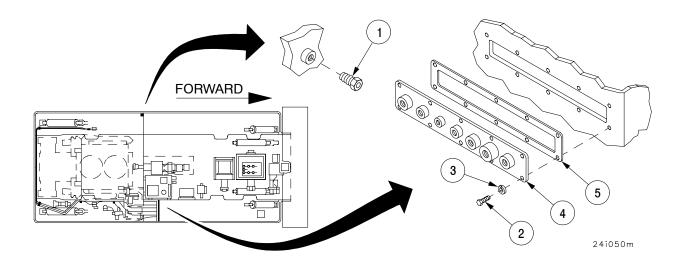
Subfloor plates #23, #31 and #32 removed (WP 0454 00)

Removal

- 1. Remove adapter (1) from hull.
- 2. Remove 10 screws (2), 10 lockwashers (3), connector panel (4) and gasket (5) from hull. Discard lockwashers and gasket.
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Install new gasket (5) and connector panel (4) on hull with 10 screws (2) and 10 new lockwashers (3).
- 2. Install adapter (1) in hull.



NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic lines and fittings on hydraulic connector panel (WP 0568 00, WP 0566 00, WP 0571 00, WP 0577 00, WP 0578 00, WP 0580 00 and WP 0581 00)

Install subfloor plates #23, #31 and #32 (WP 0454 00)

CHAPTER 20

AUXILIARY GENERATOR AND ENGINE AND CONTROLS (APU) MAINTENANCE

AUXILIARY POWER UNIT ASSEMBLY REPLACEMENT

0586 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 23, WP 0717 00) Suitable lifting device (750 lbs min lifting cap. (340.5 kg))

APU test stand (item 17, WP 0717 00)

Materials/Parts

Lockwasher (item 38, WP 0718 00) Lockwasher (item 58, WP 0718 00) Lockwashers (2) (item 10, WP 0718 00) Lockwashers (4) (item 202, WP 0718 00)

Equipment Conditions

Boom raised (TM 9-2350-292-10)
Battery power disconnected (WP 0256 00)
APU access door open (TM 9-2350-292-10)
Engine deck access door opened
(TM 9-2350-292-10)
Personnel heater exhaust hose removed
(WP 0532 00)

Personnel Required

Three

References

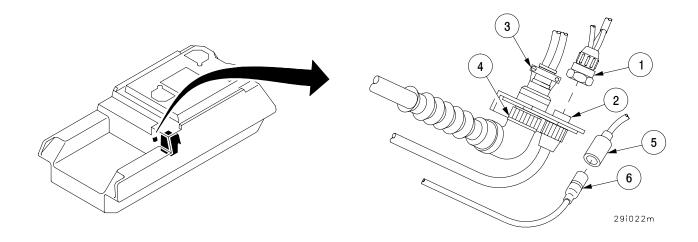
TM 9-2350-292-10

Removal

NOTE

Perform the following steps to disconnect vehicle electrical wiring from APU assembly.

- 1. Disconnect APU wiring harness 3W704 connector P1 (1) from vehicle wiring harness connector (2).
- Disconnect APU wiring harness 3W711 connector P1 (3) from vehicle wiring harness connector (4).
- 3. Disconnect GND wire (5) of APU wiring harness at single wire junction (6) of vehicle wiring harness.

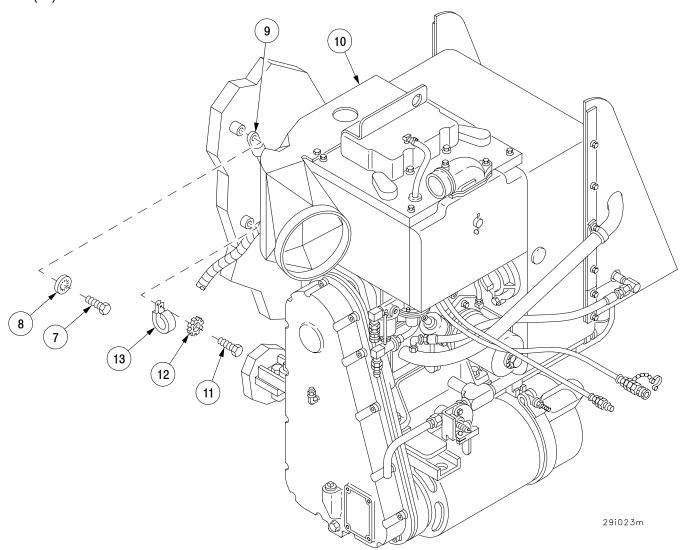


AUXILIARY POWER UNIT ASSEMBLY REPLACEMENT - CONTINUED

0586 00

Removal-Continued

- 4. Remove screw (7), lockwasher (8) and APU GND lead (9) attached to bulkhead behind APU engine air duct (10). Discard lockwasher.
- 5. Remove the screw (11), lockwasher (12) and cable clamp (13) attached to bulkhead behind APU engine air duct (10). Discard lockwasher.



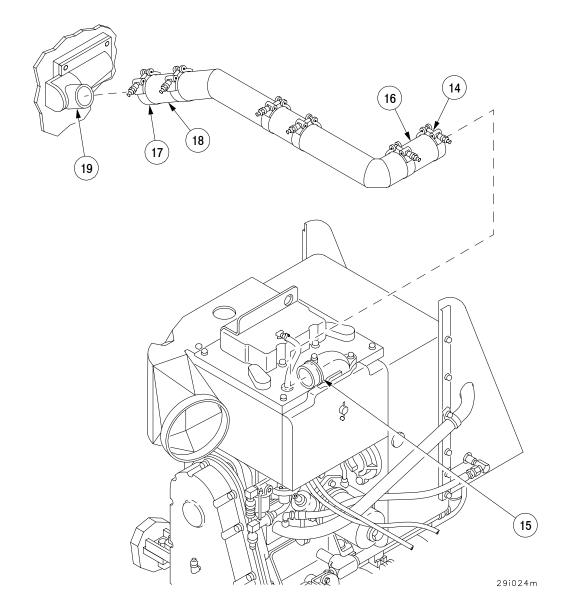
0586 00

Removal-Continued

NOTE

Perform the following steps to disconnect APU engine air cleaner ducting from APU assembly.

- 6. Loosen clamp (14) at air cleaner adapter (15). Slide clamp (14) back over hose (16) and remove hose (16) from air cleaner adapter (15).
- 7. Loosen clamp (17). Slide clamp (17) back over hose (18). Remove hose (18) from elbow (19). Remove engine air cleaner ducting from APU assembly.



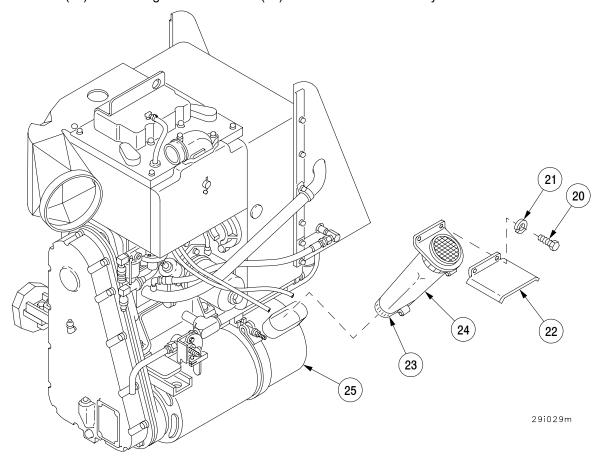
0586 00

Removal-Continued

NOTE

Perform the following steps to disconnect generator air ducting hose from APU assembly.

- 8. Remove two screws (20), two lockwashers (21) and cover (22). Discard lockwashers.
- 9. Loosen clamp (23). Slide clamp back over air duct hose (24) and remove air duct hose (24) from generator air duct (25). Remove generator air duct (24) hose from APU assembly.



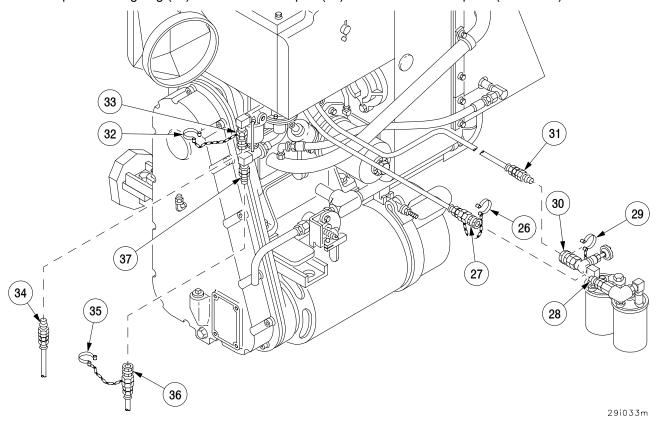
Removal-Continued

NOTE

Perform the following steps to disconnect fuel lines from APU assembly.



- 10. Unclip connecting ring (26) from fuel line coupler (27) and disconnect couplers (27 and 28).
- 11. Unclip connecting ring (29) from fuel line coupler (30) and disconnect couplers (30 and 31).
- 12. Unclip connecting ring (32) from fuel line coupler (33) and disconnect couplers (33 and 34).
- 13. Unclip connecting ring (35) from fuel line coupler (36) and disconnect couplers (36 and 37).

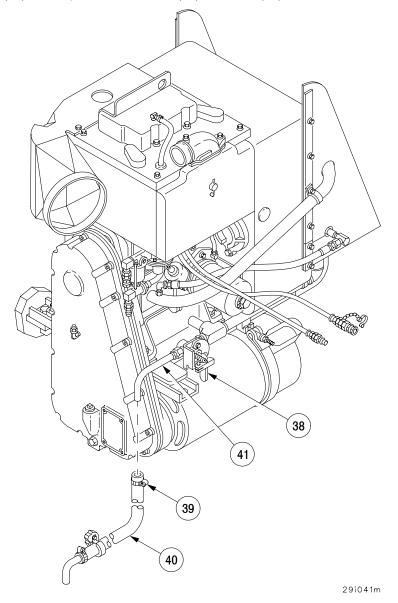


Removal-Continued

NOTE

Perform the following steps to disconnect oil drain line from APU assembly.

- 14. Ensure drain valve (38) is set to CLOSED position.
- 15. Loosen hose clamp (39) and separate drain hose (40) and tube (41). Move drain hose (40) out of the way.



Removal-Continued

NOTE

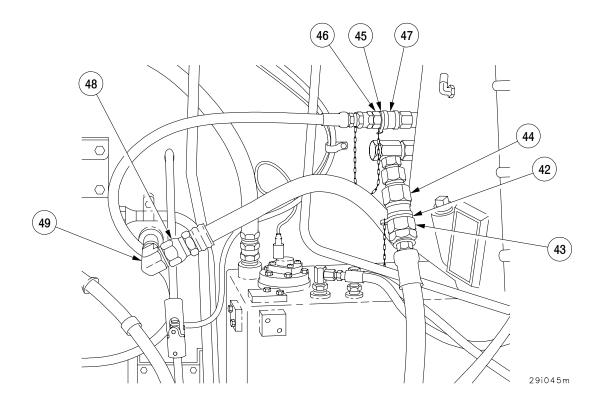
Perform the following steps to disconnect hydraulic lines from APU assembly.



CAUTION

To prevent contamination, cap or plug all open hydraulic ports and fittings immediately after removing parts.

- 16. Remove locking clip (42) on coupling (43). Disconnect couplings (43 and 44).
- 17. Remove locking clip (45) on coupling (46). Disconnect couplings (46 and 47).
- 18. Disconnect coupling (48) from elbow (49).



0586 00

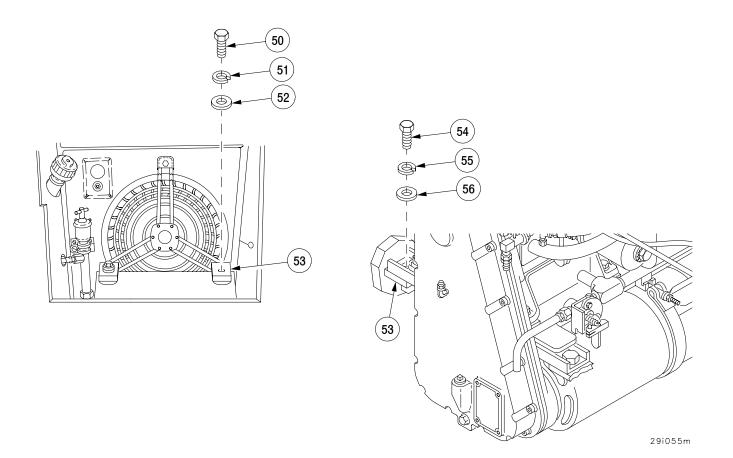
Removal-Continued



NOTE

Perform the following steps to remove APU assembly from vehicle.

- 19. Remove two screws (50), two lockwashers (51) and two flat washers (52) from support assembly (53) at exhaust fan end of the APU assembly. Discard lockwashers.
- 20. Remove two screws (54), two lockwashers (55) and two flat washers (56) from support assembly (53) at chaincase end of APU assembly. Discard lockwashers.



Removal-Continued

CAUTION

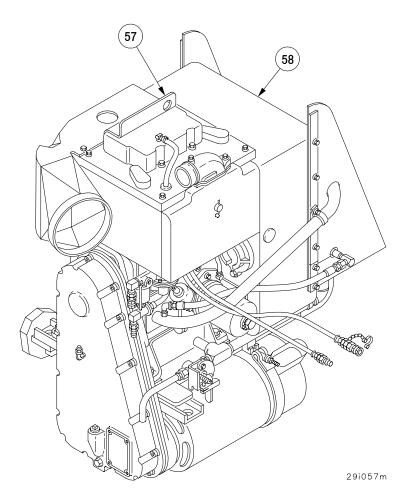
To avoid damage to APU assembly, ensure attaching parts clear vehicle structural components when lifting APU assembly out of vehicle.

21. Attach endless sling to lifting eye (57) and carefully lift APU assembly (58) from vehicle using endless sling and suitable lifting device.

CAUTION

To avoid damage to APU assembly, do not rest APU assembly on generator or hydraulic pump. Use a suitable holding device.

- 22. Lower APU assembly (58) onto test stand or other suitable holding device.
- 23. Inspect parts for damage and replace as required.



0586 00

Installation



NOTE

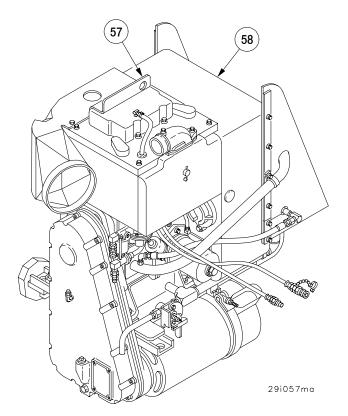
Perform the following steps to initially position and secure APU assembly in vehicle.

1. Attach endless sling to lifting eye (57) and lift APU assembly (58) off of test stand using endless sling and suitable lifting device.

CAUTION

To avoid damage to APU assembly, ensure attaching parts clear vehicle structural components when installing APU assembly into vehicle.

2. Carefully lower APU assembly (58) in vehicle. Position APU assembly (58) with exhaust fan towards APU access door opening.



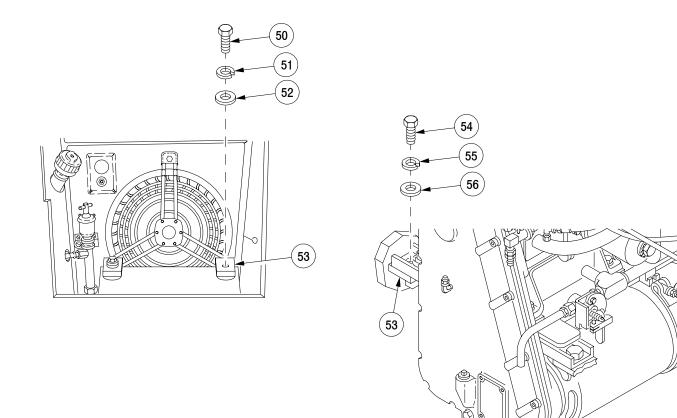
29i055m

Installation-Continued

CAUTION

To avoid damage to APU assembly, do not remove lifting device until APU assembly is securely fastened in vehicle. Maintain tension on APU assembly to permit positioning during initial installation alignment.

- 3. Align mounting holes in support assembly (53) to mounting holes in vehicle.
- 4. Install two screws (54), two new lockwashers (55) and two flat washers (56) in support assembly (53) at chain-case end of APU assembly.
- 5. Install two screws (50), two new lockwashers (51) and two flat washers (52) in support assembly (53) at exhaust fan end of APU assembly.



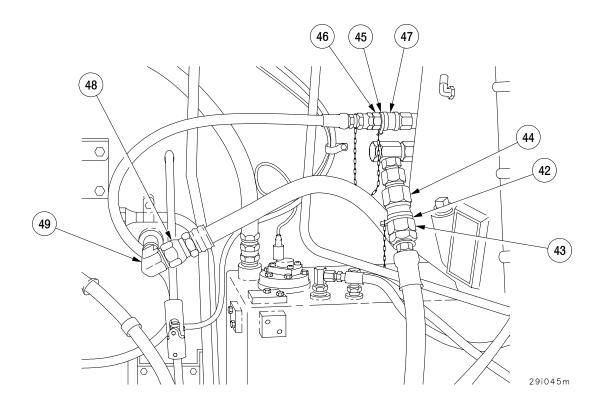
Installation-Continued

NOTE

Perform the following steps to connect vehicle hydraulic lines to APU assembly.



- 6. Connect coupling (48) to elbow (49).
- 7. Connect couplings (46 and 47) and install locking clip (45) on coupling (46).
- 8. Connect couplings (43 and 44) and install locking clip (42) on coupling (43).

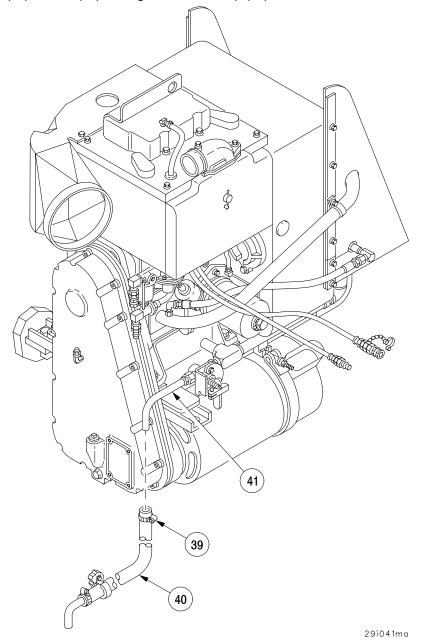


Installation-Continued

NOTE

Perform the following step to connect oil drain line to APU assembly.

9. Attach drain hose (40) to tube (41) and tighten hose clamp (39).



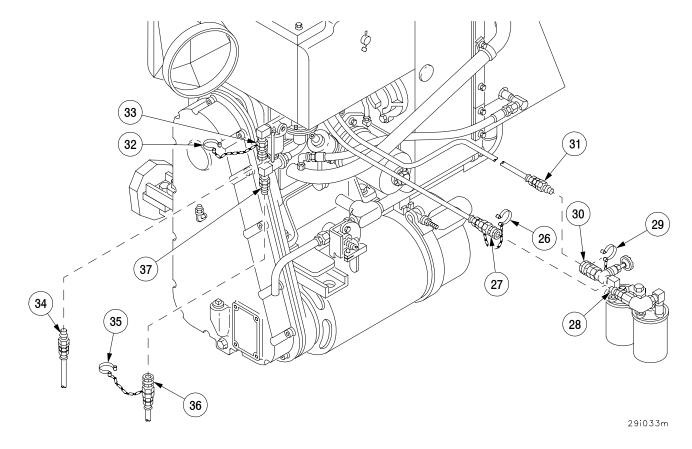
Installation-Continued

NOTE

Perform the following steps to connect vehicle fuel lines to APU assembly.



- 10. Connect couplers (36 and 37) and clip connecting ring (35) to coupler (36).
- 11. Connect couplers (33 and 34) and clip connecting ring (32) to coupler (33).
- 12. Connect couplers (30 and 31) and clip connecting ring (29) to coupler (30).
- 13. Connect couplers (27 and 28) and clip connecting ring (26) to coupler (27).

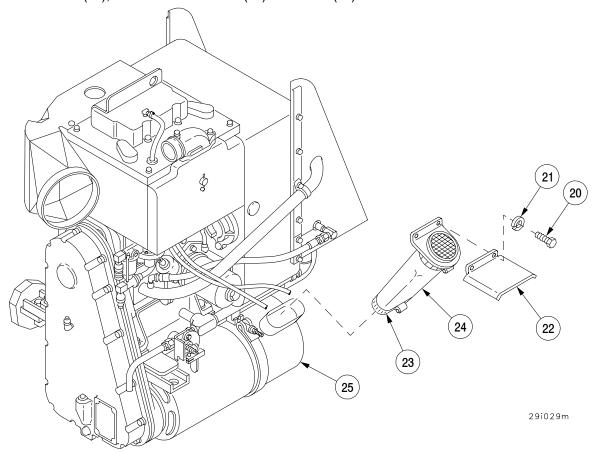


Installation-Continued

NOTE

Perform the following steps to connect generator air duct hose on APU assembly.

- 14. Install air duct hose (24) over generator air duct (25). Position clamp (23) to hold air duct hose (24) to generator air duct (25). Tighten clamp (23).
- 15. Install two screws (20), two new lockwashers (21) and cover (22).

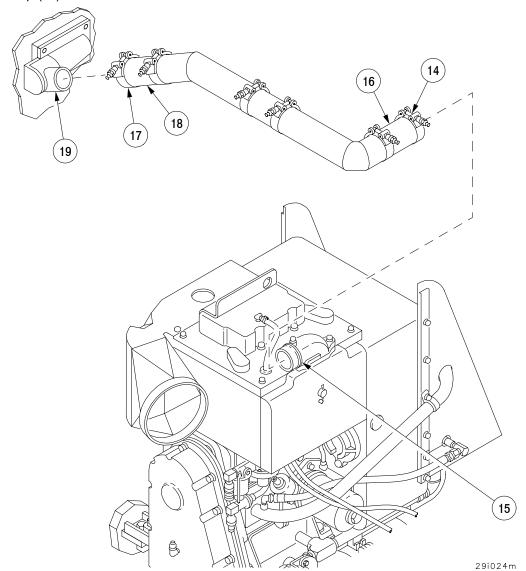


Installation-Continued

NOTE

Perform the following steps to connect APU engine air cleaner duct on APU assembly.

- 16. Install hose (18) over elbow (19). Slide clamp (17) over hose (18) and elbow (19). Tighten bolt on clamp (17).
- 17. Install hose (16) over air cleaner adapter (15). Slide clamp (14) over hose (16) and air cleaner adapter (15). Tighten clamp (14).

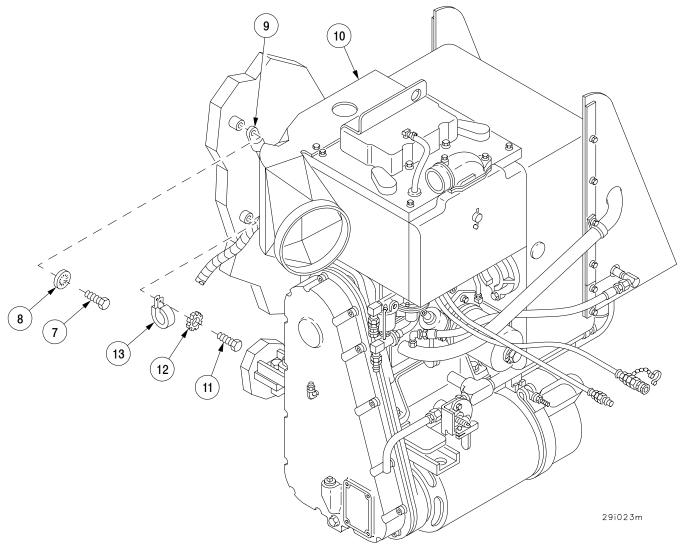


Installation-Continued

NOTE

Perform the following steps to connect vehicle electrical wiring to APU assembly.

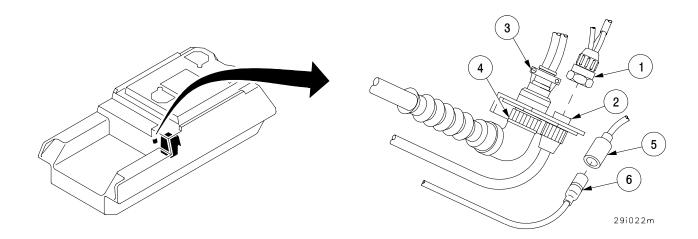
- 18. Install screw (11), new lockwasher (12) and cable clamp (13) to bulkhead behind APU engine air duct (10). Wire circuit numbers 62 and 66 from wiring harness 3W711 and 493, 420 and 420A from wiring harness 3W704 are routed through cable clamp (13).
- 19. Install screw (7), new lockwasher (8) and APU GND lead (9) to bulkhead behind APU engine air duct (10).



0586 00

Installation-Continued

- 20. Connect GND wire (5) of APU wiring harness to single wire junction (6) of vehicle wiring harness.
- 21. Connect APU wiring harness 3W711 connector P1 (3) to vehicle wiring harness connector (4).
- 22. Connect APU wiring harness 3W704 connector P1 (1) to vehicle wiring harness connector (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install personnel heater exhaust hose (WP 0532 00)
Close APU access door (TM 9-2350-292-10)
Close engine deck access door (TM 9-2350-292-10)
Connect battery power (WP 0256 00)
Lower boom (TM 9-2350-292-10)

AUXILIARY POWER UNIT ASSEMBLY REPLACEMENT (HATZ)

0587 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 23, WP 0717 00) Suitable lifting device (750 lbs min lifting cap. (340.5 kg)) APU Test Stand (item 17, WP 0717 00)

Materials/Parts

Lockwasher (item 38, WP 0718 00) Lockwasher (item 58, WP 0718 00) Lockwashers (2) (item 10, WP 0718 00) Lockwashers (4) (item 202, WP 0718 00)

Equipment Conditions

Boom raised (TM 9-2350-292-10)
Battery power disconnected (WP 0256 00)
APU access door open (TM 9-2350-292-10)
Engine deck access door opened
(TM 9-2350-292-10)
Personnel heater exhaust hose removed
(WP 0532 00)

Personnel Required

Three

References

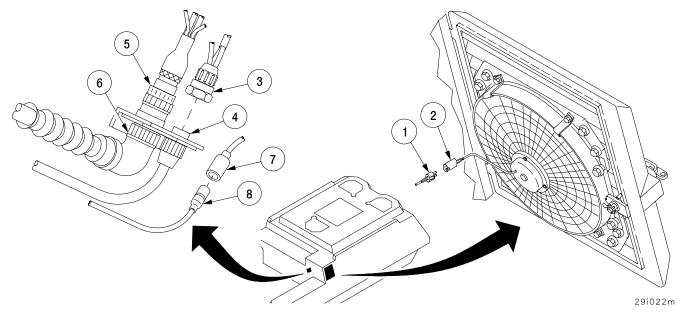
TM 9-2350-292-10

Removal

NOTE

Perform the following steps to disconnect vehicle electrical wiring from APU assembly.

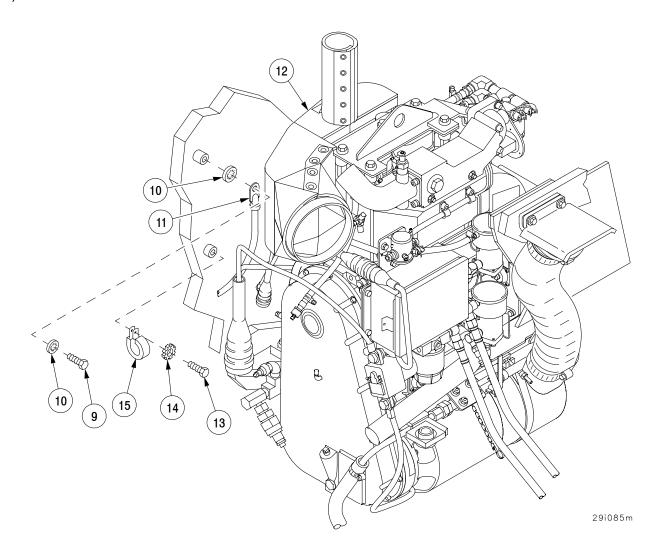
- 1. Disconnect APU wiring harness 3W730 P3 (1) from door fan connector (2).
- 2. Disconnect APU wiring harness 3W704 connector P1 (3) from vehicle wiring harness connector (4).
- 3. Disconnect APU wiring harness 3W711 connector P1 (5) from vehicle wiring harness connector (6).
- 4. Disconnect GND wire (7) of APU wiring harness at single wire junction (8) of vehicle wiring harness.



0587 00

Removal-Continued

- 5. Remove screw (9), two lockwashers (10) and APU GND lead (11) attached to bulkhead behind APU engine air duct (12). Discard lockwashers.
- 6. Remove the screw (13), lockwasher (14) and cable clamp (15) attached to bulkhead behind APU engine air duct (12). Discard lockwasher.



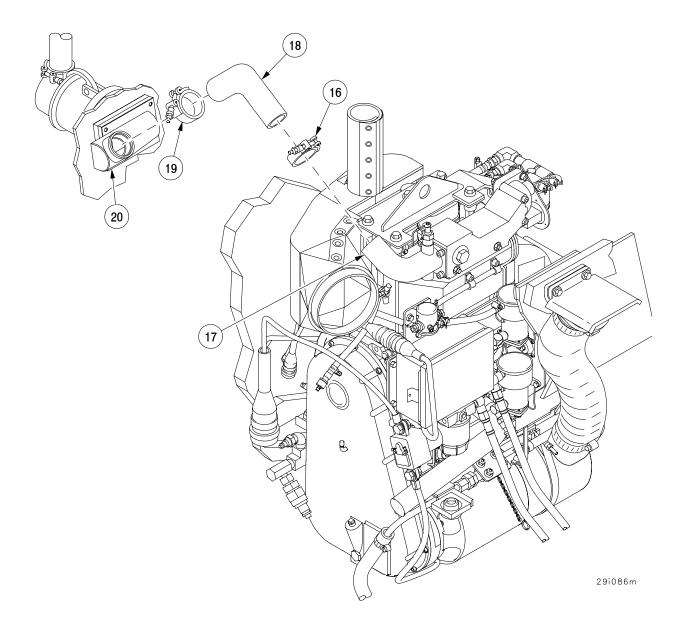
0587 00

Removal-Continued

NOTE

Perform the following steps to disconnect APU intake air hose from APU assembly.

- 7. Loosen clamp (16) at air cleaner adapter (17). Slide clamp (16) back over hose (18) and remove hose (18) from air cleaner adapter (17).
- 8. Loosen clamp (19). Slide clamp (19) back over hose (18). Remove hose (18) from elbow (20).



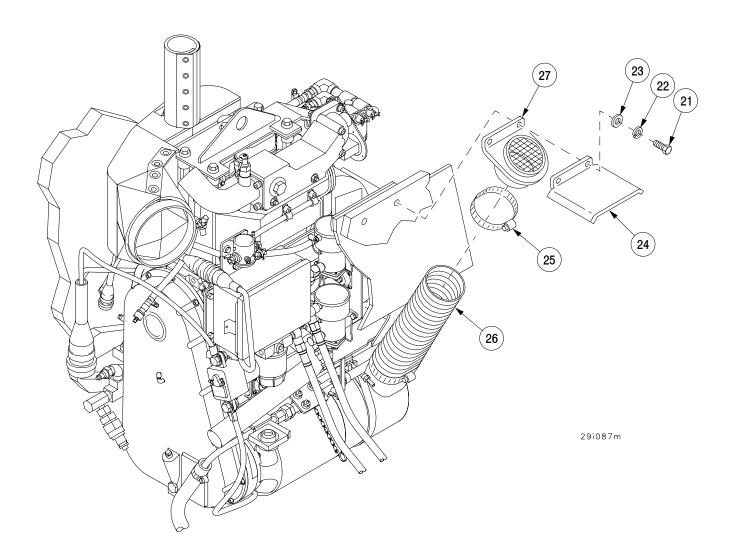
0587 00

Removal-Continued

NOTE

Perform the following steps to disconnect generator air duct hose from APU assembly.

- 9. Remove two screws (21), two lockwashers (22), two flat washers (23) and cover (24). Discard lockwashers.
- 10. Loosen clamp (25). Slide clamp (25) back over air duct hose (26) and remove metal grille (27) and clamp (25).



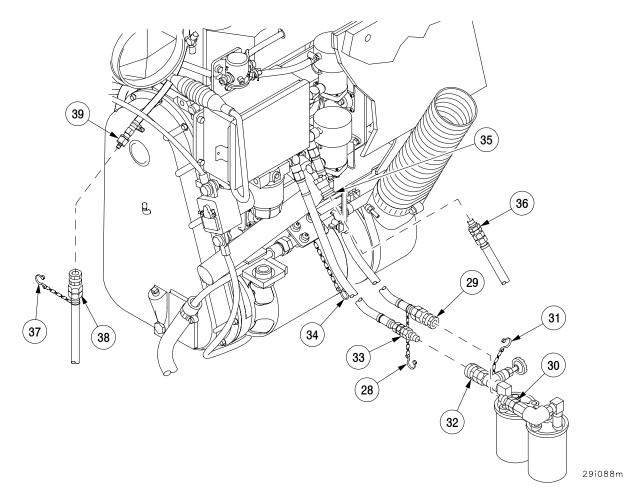
Removal-Continued

NOTE

Perform the following steps to disconnect fuel lines from APU assembly.



- 11. Unclip connecting ring (28) from fuel line coupler (29) and disconnect couplers (29 and 30).
- 12. Unclip connecting ring (31) from fuel line coupler (32) and disconnect couplers (32 and 33).
- 13. Unclip connecting ring (34) from fuel line coupler (35) and disconnect couplers (35 and 36).
- 14. Unclip connecting ring (37) from fuel line coupler (38) and disconnect couplers (38 and 39).



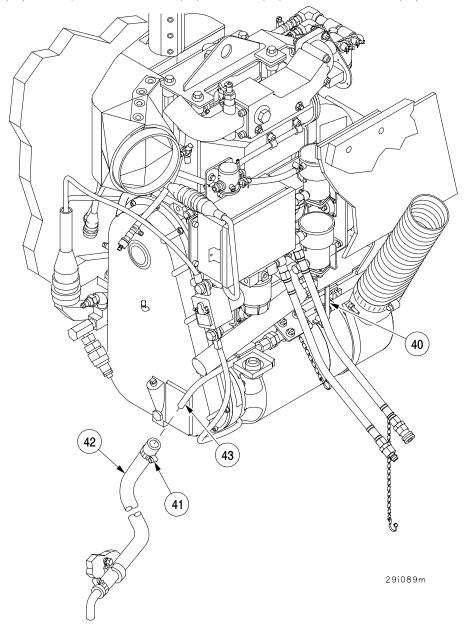
0587 00

Removal-Continued

NOTE

Perform the following steps to disconnect oil drain line from APU assembly.

- 15. Ensure drain valve (40) is set to CLOSED position.
- 16. Loosen hose clamp (41) and separate drain hose (42) and tube (43). Move drain hose (42) out of the way.



Removal-Continued

NOTE

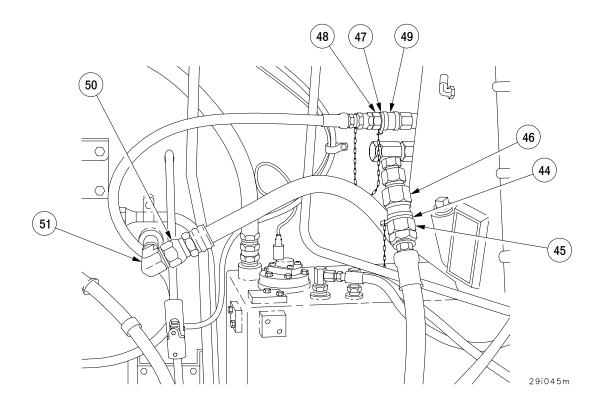
Perform the following steps to disconnect hydraulic lines from APU assembly.



CAUTION

To prevent contamination, cap or plug all open hydraulic ports and fittings immediately after removing parts.

- 17. Remove locking clip (44) on coupling (45). Disconnect couplings (45 and 46).
- 18. Remove locking clip (47) on coupling (48). Disconnect couplings (48 and 49).
- 19. Disconnect coupling (50) from elbow (51).



0587 00

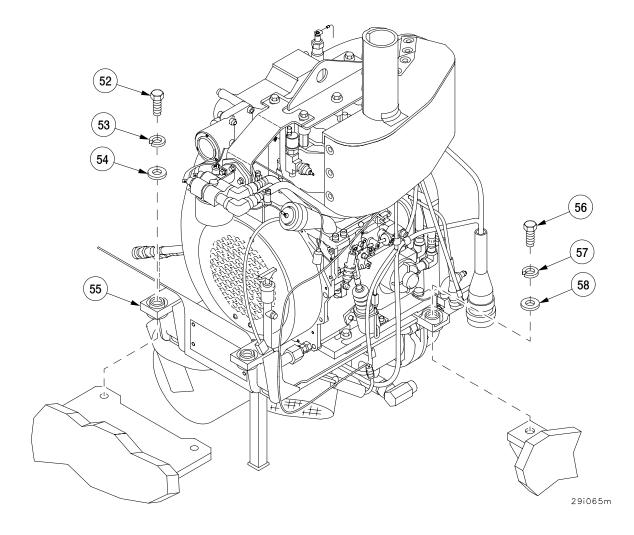
Removal-Continued



ana ta ramaya ADII aaa

Perform the following steps to remove APU assembly from vehicle.

- 20. Remove two screws (52), two lockwashers (53) and two flat washers (54) from support assembly (55) at exhaust fan end of the APU assembly. Discard lockwashers.
- 21. Remove two screws (56), two lockwashers (57) and two flat washers (58) from support assembly (55) at chain-case end of APU assembly. Discard lockwashers.



Removal-Continued

CAUTION

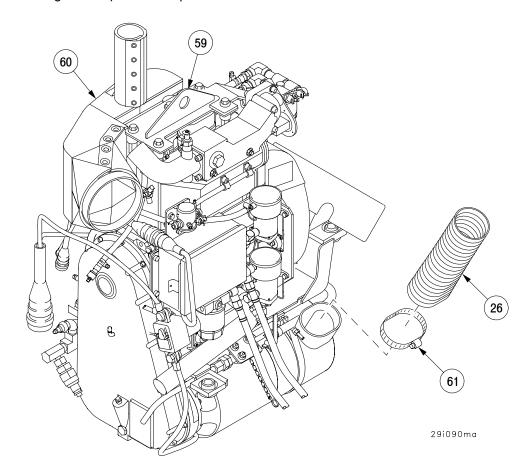
To avoid damage to APU assembly, ensure attaching parts clear vehicle structural components when lifting APU assembly out of vehicle.

22. Attach endless sling to lifting eye (59) and carefully lift APU assembly (60) from vehicle using endless sling and suitable lifting device.

CAUTION

To avoid damage to APU assembly, do not rest APU assembly on generator or hydraulic pump. Use a suitable holding device.

- 23. Lower APU assembly (60) onto test stand or other suitable holding device.
- 24. Loosen clamp (61) and remove hose (26) and clamp (61).
- 25. Inspect parts for damage and replace as required.



0587 00

Installation



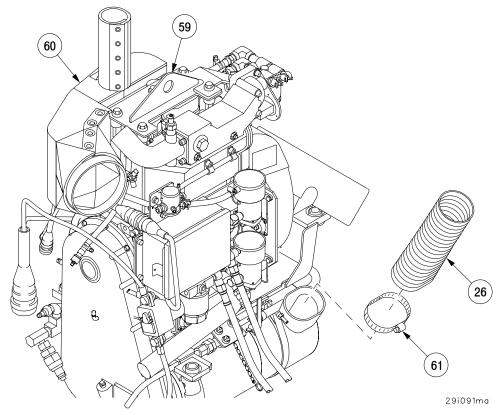
Perform the following steps to initially position and secure APU assembly in vehicle.

- 1. Install hose (26) and secure with clamp (61).
- 2. Attach endless sling to lifting eye (59) and lift APU assembly (60) off of test stand using endless sling and suitable lifting device.

CAUTION

To avoid damage to APU assembly, ensure attaching parts clear vehicle structural components when installing APU assembly into vehicle.

3. Carefully lower APU assembly (60) in vehicle. Position APU assembly (60) with exhaust fan toward APU access door opening.

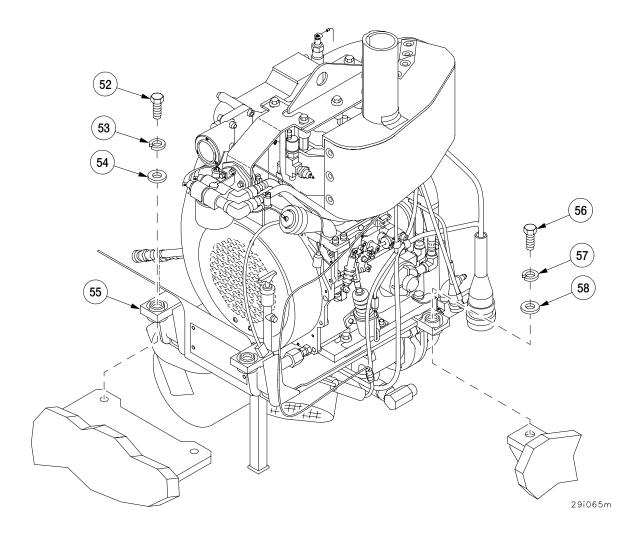


Installation-Continued

CAUTION

To avoid damage to APU assembly, do not remove lifting device until APU assembly is securely fastened in vehicle. Maintain tension on APU assembly to permit positioning during initial installation alignment.

- 4. Align mounting holes in support assembly (55) to mounting holes in vehicle.
- 5. Install two screws (56), two new lockwashers (57) and two flat washers (58) in support assembly (55) at chain-case end of APU assembly.
- 6. Install two screws (52), two new lockwashers (53) and two flat washers (54) in support assembly (55) at exhaust fan end of APU assembly.



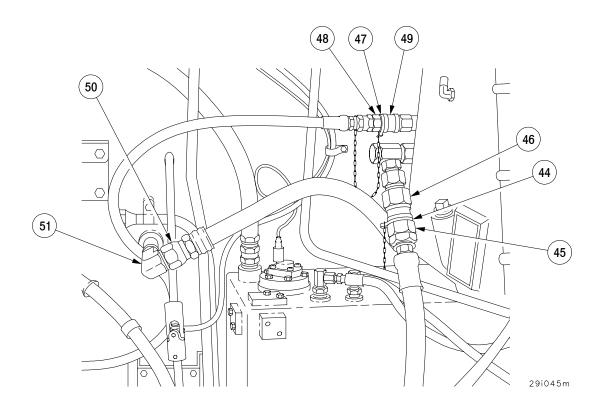
Installation-Continued

NOTE

Perform the following steps to connect vehicle hydraulic lines to APU assembly.



- 7. Connect coupling (50) to elbow (51).
- 8. Connect couplings (48 and 49) and install locking clip (47) on coupling (48).
- 9. Connect couplings (45 and 46) and install locking clip (44) on coupling (45).



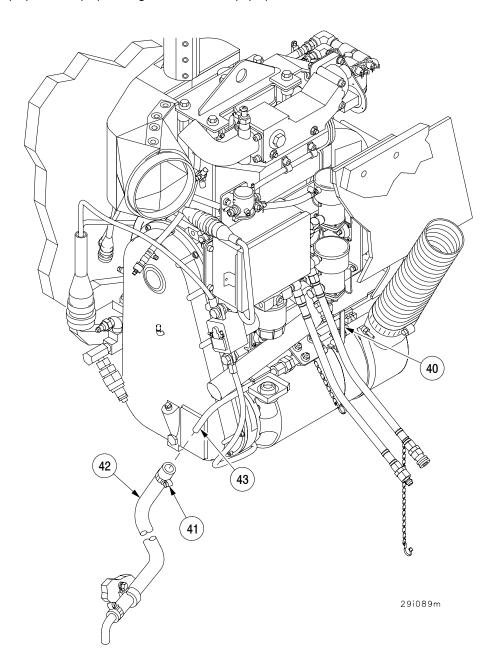
0587 00

Installation-Continued

NOTE

Perform the following step to connect oil drain line to APU assembly.

10. Attach drain hose (42) to tube (43) and tighten hose clamp (41).



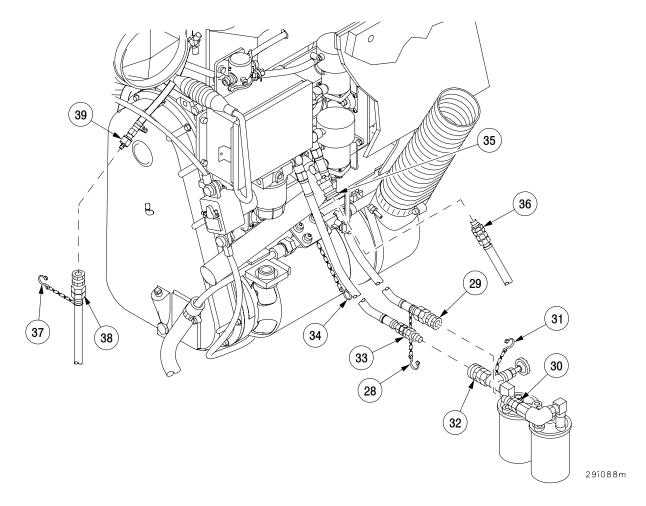
Installation-Continued

NOTE

Perform the following steps to connect vehicle fuel lines to APU assembly.



- 11. Connect couplers (38 and 39) and clip connecting ring (37) to coupler (38).
- 12. Connect couplers (35 and 36) and clip connecting ring (34) to coupler (35).
- 13. Connect couplers (32 and 33) and clip connecting ring (31) to coupler (32).
- 14. Connect couplers (29 and 30) and clip connecting ring (28) to coupler (29).



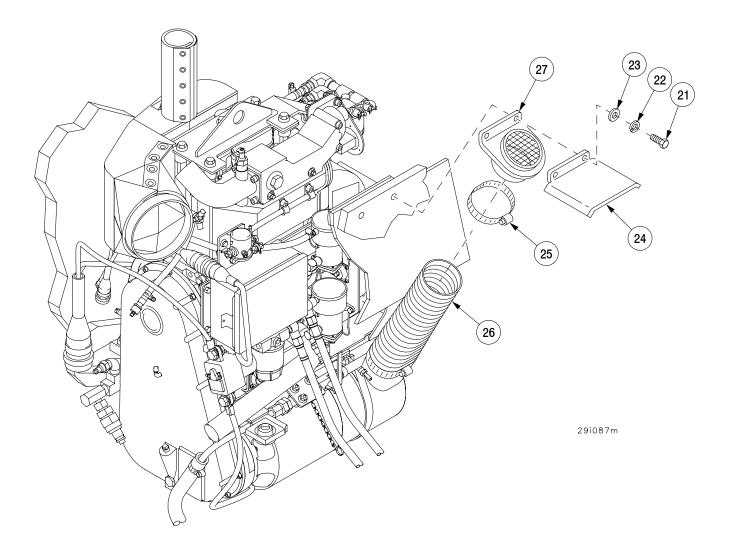
0587 00

Installation-Continued

NOTE

Perform the following steps to connect generator air duct hose on APU assembly.

- 15. Install clamp (25) over air duct hose (26). Install metal grille (27) into air duct hose (26). Position clamp (25) to hold metal grille (27) and tighten clamp (25).
- 16. Install two screws (21), two new lockwashers (22), two flat washers (23) and cover (24).



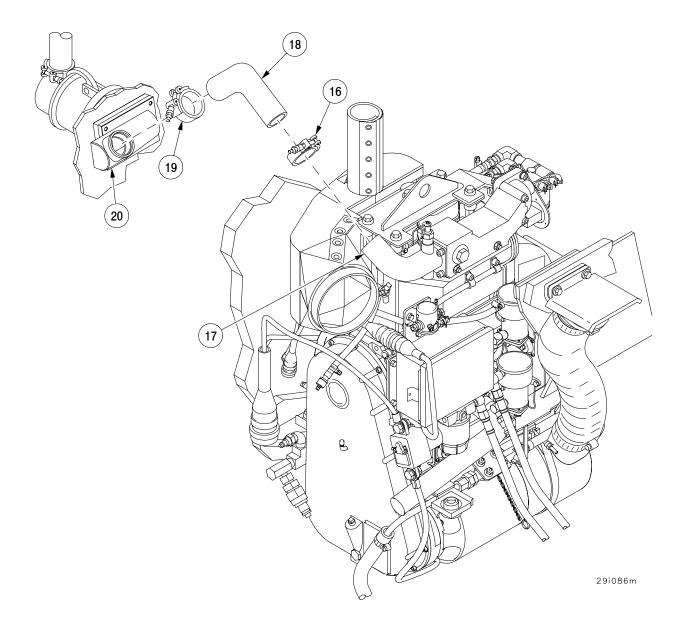
0587 00

Installation-Continued

NOTE

Perform the following steps to connect APU intake air hose on APU assembly.

- 17. Slide clamp (19) over hose (18). Install hose (18) on elbow (20).
- 18. Slide clamp (16) over hose (18). Install hose (18) on air cleaner adapter (17). Tighten two clamps (16 and 19).



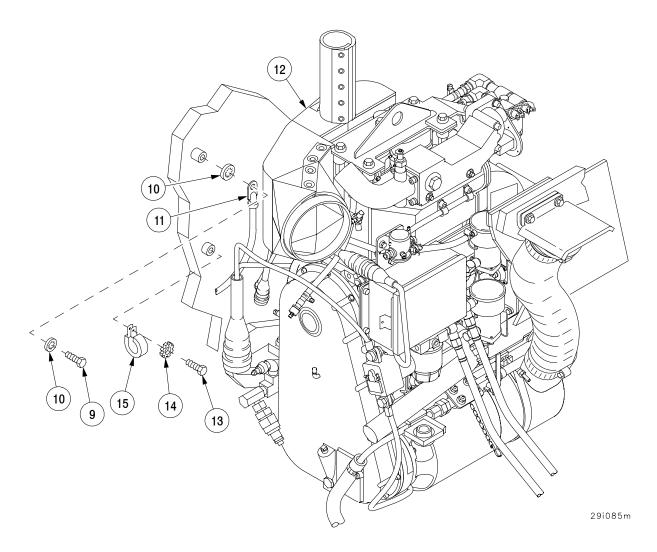
0587 00

Installation-Continued

NOTE

Perform the following steps to connect vehicle electrical wiring to APU assembly.

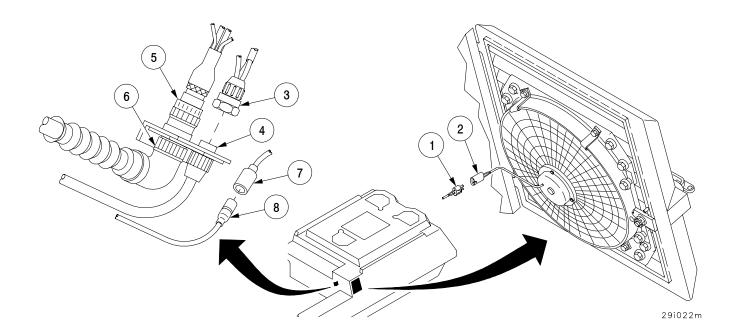
- 19. Install screw (13), new lockwasher (14) and cable clamp (15) to bulkhead behind APU engine air duct (12). Wire circuit numbers 62 and 66 from wiring harness 3W711 and 493, 420 and 420A from wiring harness 3W704 are routed through cable clamp (15).
- 20. Install screw (9), two new lockwashers (10) and APU GND lead (11) to bulkhead behind APU engine air duct (12).



0587 00

Installation-Continued

- 21. Connect GND wire (7) of APU wiring harness to single wire junction (8) of vehicle wiring harness.
- 22. Connect APU wiring harness 3W711 connector P1 (5) to vehicle wiring harness connector (6).
- 23. Connect APU wiring harness 3W704 connector P1 (3) to vehicle wiring harness connector (4).
- 24. Connect APU wiring harness 3W730 connector P3 (1) to door fan connector (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install personnel heater exhaust hose (WP 0532 00)
Close APU access door (TM 9-2350-292-10)
Close engine deck access door (TM 9-2350-292-10)
Connect battery power (WP 0256 00)
Lower boom (TM 9-2350-292-10)

AUXILIARY POWER UNIT (APU) GROUND HOP KIT

0588 00

THIS WORK PACKAGE COVERS:

Installation, Removal

INITIAL SETUP:

Tools and Special Tools

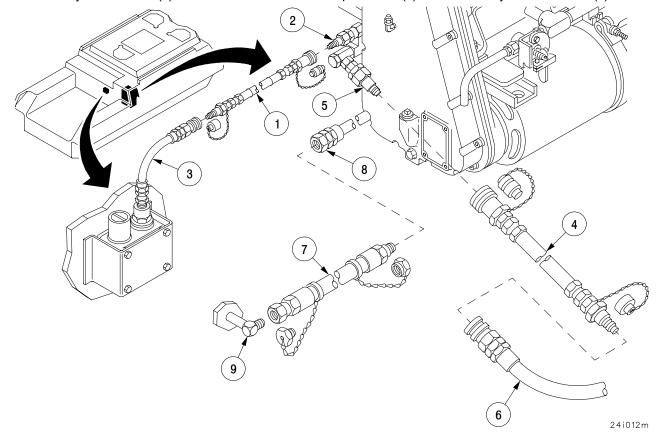
General mechanic's tool kit (item 1, WP 0717 00) APU ground hop kit (item 16, WP 0717 00) APU test stand (item 17, WP 0717 00) (fabricated)

Equipment Conditions

APU removed from vehicle (WP 0586 00) APU placed on APU test stand

Installation

- 1. Connect hydraulic hose (1) 12366135–7 to APU pressure switch connection (2) and vehicle hydraulic line 25 (3).
- 2. Connect hydraulic hose (4) 12366135-8 to APU pressure line connection (5) and vehicle hydraulic line 86A (6).
- 3. Connect hydraulic hose (7) 12366156 to APU suction port hose (8) and vehicle hydraulic line 2A (9).

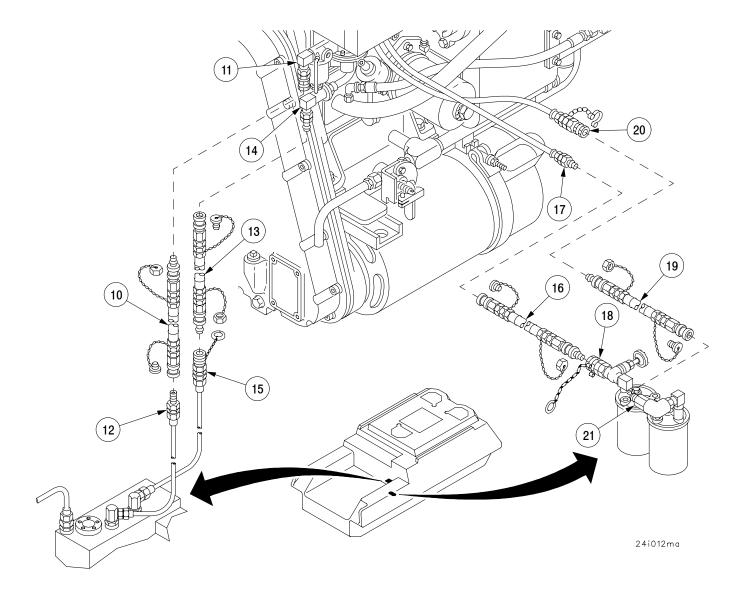


AUXILIARY POWER UNIT (APU) GROUND HOP KIT - CONTINUED

0588 00

Installation-Continued

- 4. Connect fuel hose (10) 11671580–1 to APU primary pump connection (11) and fuel hose assembly (12) 10867357.
- 5. Connect fuel hose (13) 11671580-2 to APU fuel return connection (14) and fuel hose assembly (15) 11671065-15.
- 6. Connect fuel hose (16) 11671580-1 to APU fuel supply hose (17) and fuel filter outlet connection (18).
- 7. Connect fuel hose (19) 11671580-2 to APU fuel supply hose (20) and fuel filter inlet connection (21).



AUXILIARY POWER UNIT (APU) GROUND HOP KIT - CONTINUED

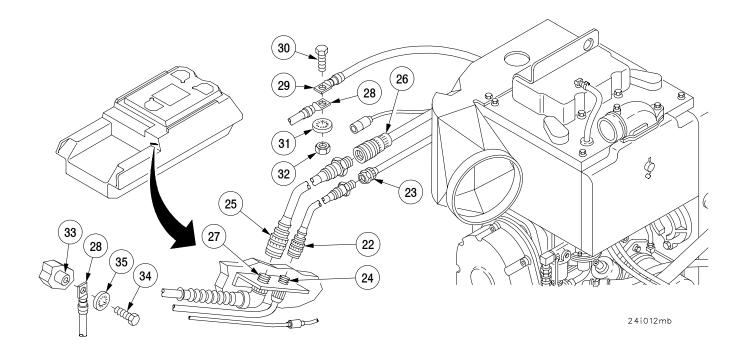
0588 00

Installation-Continued

- 8. Connect wiring harness 5W901 (22) to wiring harness 3W704 connector P1 (23) and wiring harness 3W702 connector J2 (24).
- 9. Connect wiring harness 5W907 (25) to wiring harness 3W711 connector P1 (26) (except ground (GND)) and wiring harness 3W702 connector J1 (27) (except (GND)).
- 10. Connect lead assembly 5W900 (28) to lead assembly 3W728 (29) with screw (30), lockwasher (31), and nut (32).
- 11. Connect lead assembly 5W900 (28) to bulkhead ground lug (33) with screw (34) and lockwasher (35).

Removal

- Remove screw (34), lockwasher (35) and lead assembly 5W900 (28) from bulkhead ground lug (33).
- 2. Remove screw (30), lockwasher (31), nut (32) and lead assembly 5W900 (28) from lead assembly 3W728 (29).
- 3. Disconnect wiring harness 5W907 (25) from wiring harness 3W711 connector P1 (26) (except ground (GND)) and wiring harness 3W702 connector J1 (27) (except (GND)).
- 4. Disconnect wiring harness 5W901 (22) from wiring harness 3W704 connector P1 (23) and wiring harness 3W702 connector J2 (24).

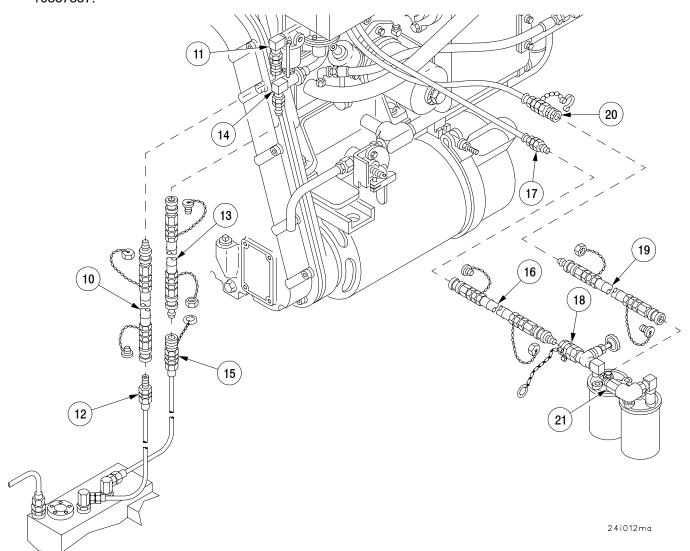


AUXILIARY POWER UNIT (APU) GROUND HOP KIT - CONTINUED

0588 00

Removal-Continued

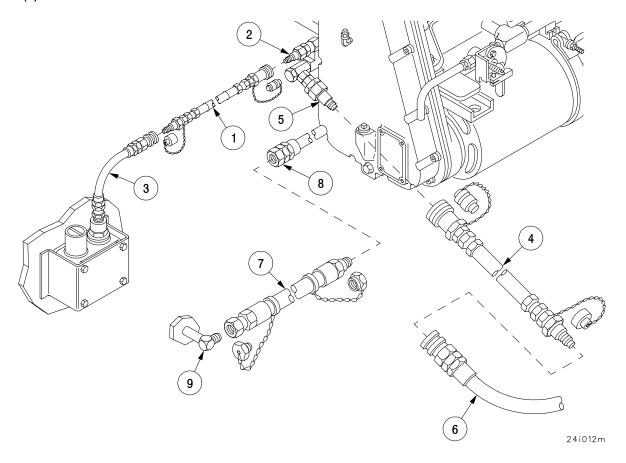
- 5. Disconnect fuel hose (19) 11671580-2 from APU fuel supply hose (20) and fuel filter inlet connection (21).
- 6. Disconnect fuel hose (16) 11671580-1 from APU fuel supply hose (17) and fuel filter outlet connection (18).
- 7. Disconnect fuel hose (13) 11671580-2 from APU fuel return connection (14) and fuel hose assembly (15) 11671065-15.
- 8. Disconnect fuel hose (10) 11671580-1 from APU primary pump connection (11) and fuel hose assembly (12) 10867357.



0588 00

Removal-Continued

- 9. Disconnect hydraulic hose (7) 12366156 from APU suction port hose (8) and vehicle hydraulic line 2A (9).
- 10. Disconnect hydraulic hose (4) 12366135–8 from APU pressure line connection (5) and vehicle hydraulic line 86A (6).
- 11. Disconnect hydraulic hose (1) 12366135–7 from APU pressure switch connection (2) and vehicle hydraulic line 25 (3).



NOTE

FOLLOW-ON MAINTENANCE: Install APU in vehicle (WP 0586 00)

AUXILIARY POWER UNIT (APU) GROUND HOP KIT (HATZ)

0589 00

THIS WORK PACKAGE COVERS:

Installation, Removal

INITIAL SETUP:

Tools and Special Tools

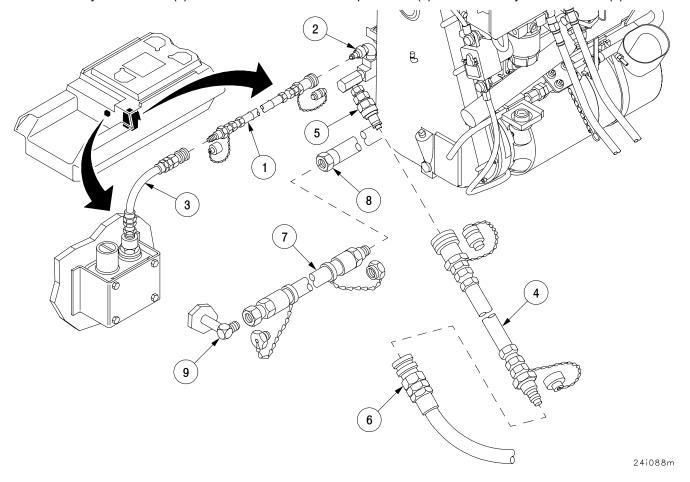
General mechanic's tool kit (item 1, WP 0717 00) APU ground hop kit (item 16, WP 0717 00) APU test stand (item 17, WP 0717 00) (fabricated)

Equipment Conditions

APU removed from vehicle (WP 0587 00) APU placed on APU test stand

Installation

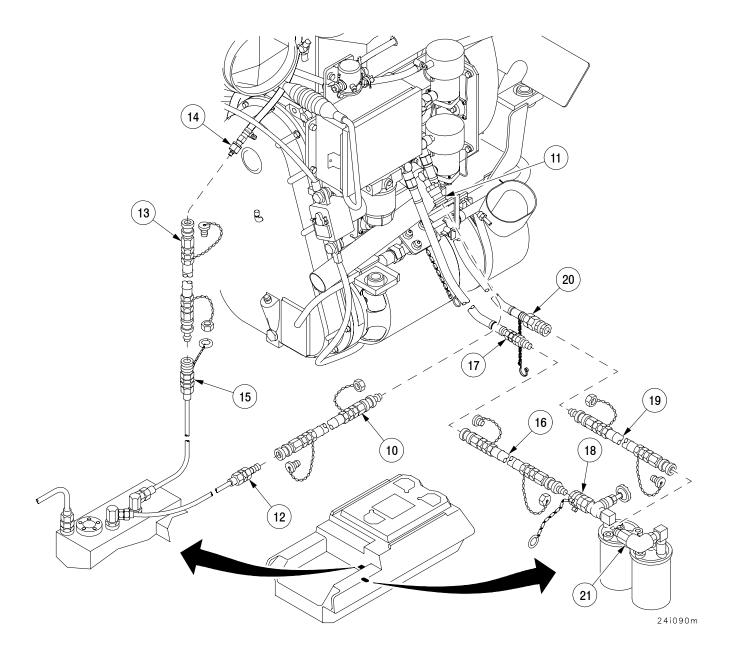
- 1. Connect hydraulic hose (1) 12366135–7 to APU pressure switch connection (2) and vehicle hydraulic line 25 (3).
- 2. Connect hydraulic hose (4) 12366135-8 to APU pressure line connection (5) and vehicle hydraulic line 86A (6).
- 3. Connect hydraulic hose (7) 12366156 to APU suction port hose (8) and vehicle hydraulic line 2A (9).



0589 00

Installation-Continued

- 4. Connect fuel hose (10) 11671580–1 to APU primary pump connection (11) and fuel hose assembly (12) 10867357.
- 5. Connect fuel hose (13) 11671580-2 to APU fuel return connection (14) and fuel hose assembly (15) 11671065-15.
- 6. Connect fuel hose (16) 11671580-1 to APU fuel filter return hose (17) and fuel filter outlet connection (18).
- 7. Connect fuel hose (19) 11671580-2 to APU fuel filter supply hose (20) and fuel filter inlet connection (21).



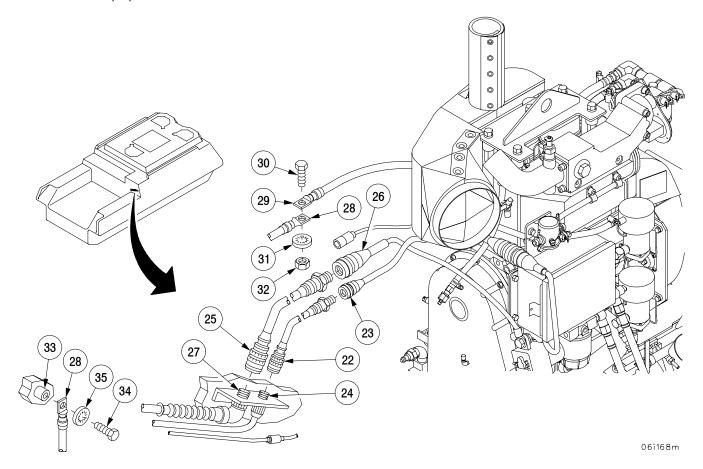
0589 00

Installation-Continued

- 8. Connect wiring harness 5W901 (22) to wiring harness 3W704 connector P1 (23) and wiring harness 3W702 connector J2 (24).
- 9. Connect wiring harness 5W907 (25) to wiring harness 3W711 connector P1 (26) (except ground (GND)) and wiring harness 3W702 connector J1 (27) (except (GND)).
- 10. Connect lead assembly 5W900 (28) to lead assembly 3W728 (29) with screw (30), lockwasher (31), and nut (32).
- 11. Connect lead assembly 5W900 (28) to bulkhead ground lug (33) with screw (34) and lockwasher (35).

Removal

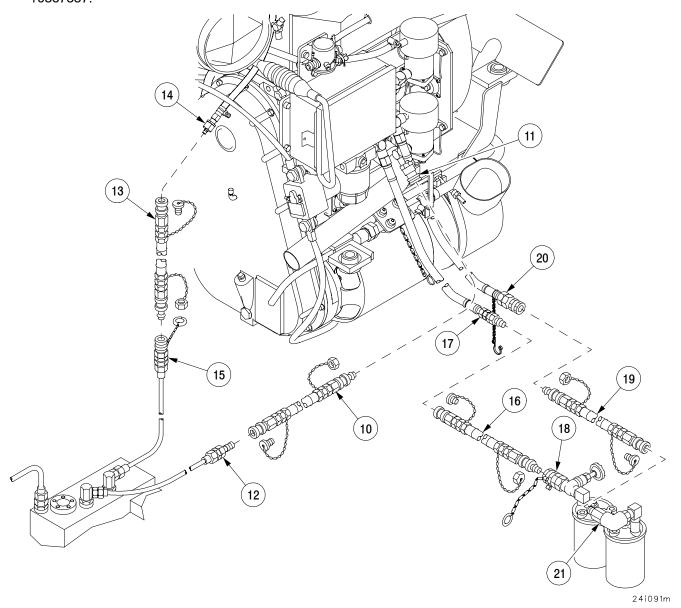
- Remove screw (34), lockwasher (35) and lead assembly 5W900 (28) from bulkhead ground lug (33).
- 2. Remove screw (30), lockwasher (31), nut (32) and lead assembly 5W900 (28) from lead assembly 3W728 (29).
- 3. Disconnect wiring harness 5W907 (25) from wiring harness 3W711 connector P1 (26) (except ground (GND)) and wiring harness 3W702 connector J1 (27) (except (GND)).
- 4. Disconnect wiring harness 5W901 (22) from wiring harness 3W704 connector P1 (23) and wiring harness 3W702 connector J2 (24).



0589 00

Removal-Continued

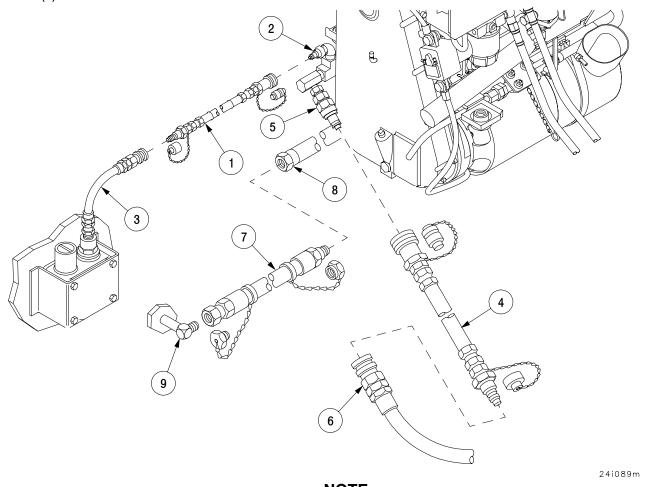
- 5. Disconnect fuel hose (19) 11671580-2 from APU fuel filter supply hose (20) and fuel filter inlet connection (21).
- 6. Disconnect fuel hose (16) 11671580-1 from APU fuel filter return hose (17) and fuel filter outlet connection (18).
- 7. Disconnect fuel hose (13) 11671580-2 from APU fuel return connection (14) and fuel hose assembly (15) 11671065-15.
- 8. Disconnect fuel hose (10) 11671580-1 from APU primary pump connection (11) and fuel hose assembly (12) 10867357.



0589 00

Removal-Continued

- 9. Disconnect hydraulic hose (7) 12366156 from APU suction port hose (8) and vehicle hydraulic line 2A (9).
- 10. Disconnect hydraulic hose (4) 12366135–8 from APU pressure line connection (5) and vehicle hydraulic line 86A (6).
- 11. Disconnect hydraulic hose (1) 12366135–7 from APU pressure switch connection (2) and vehicle hydraulic line 25 (3).



NOTE

FOLLOW-ON MAINTENANCE: Install APU in vehicle (WP 0587 00)

AUXILIARY POWER UNIT ENGINE SUPPORT REPLACEMENT

0590 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Suitable lifting device (750 lbs (340.5 kg) min cap)

Materials/Parts

Cotter pin (item 119, WP 0718 00) Lockwashers (4) (item 12, WP 0718 00) Lockwasher (item 132, WP 0718 00)

Equipment Conditions

APU removed from vehicle (WP 0586 00 or WP 0587 00)

Personnel Required

Two

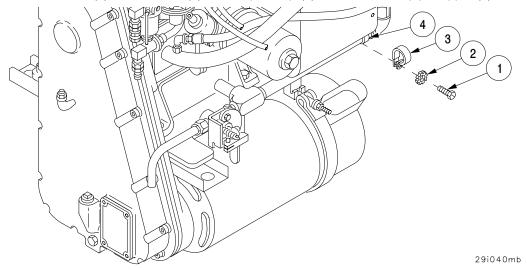
Removal



CAUTION

A suitable holding and lifting device is required to support the APU assembly while performing the following procedures. Failure to comply may result in equipment damage.

1. Remove screw (1), lockwasher (2) and loop clamp (3) at oil drain line pipe nipple (4). Discard lockwasher.



0590 00

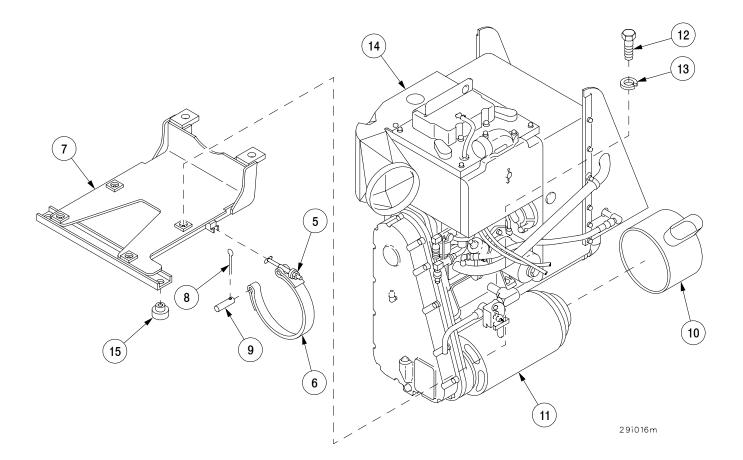
AUXILIARY POWER UNIT ENGINE SUPPORT REPLACEMENT - CONTINUED

Removal-Continued

- 2. Loosen nut (5) on strap assembly (6) and lift end of strap assembly (6) out of notch on engine support (7).
- 3. Remove cotter pin (8), headless pin (9) and strap assembly (6) from underside of engine support (7). Discard cotter pin.
- 4. Remove generator adapter (10) from generator (11).
- 5. Remove four screws (12) and four lockwashers (13), separate engine support (7) from APU assembly (14). Discard lockwashers.
- 6. Inspect four mounting assemblies (15), replace if worn or damaged.
- 7. Inspect parts for damage and replace as required.

Installation

- 1. Install new mounting assemblies (15), as required.
- 2. Install engine support (7) on APU assembly (14) with four screws (12) and four new lockwashers (13).

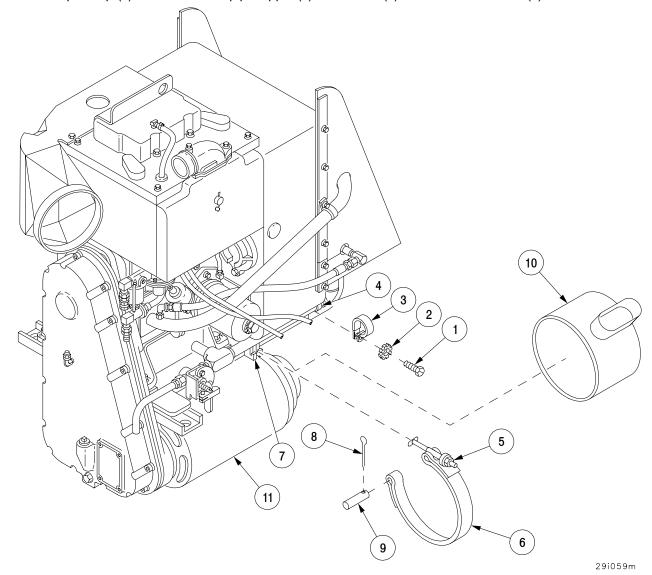


AUXILIARY POWER UNIT ENGINE SUPPORT REPLACEMENT - CONTINUED

0590 00

Installation-Continued

- 3. Install generator adapter (10) on generator (11).
- Install strap assembly (6), headless pin (9) and new cotter pin (8) on underside of engine support (7).
- 5. Place end of strap assembly (6) in notch on engine support (7), tighten nut (5) on strap assembly (6) to secure generator adapter (10).
- 6. Install loop clamp (3) on oil drain line pipe nipple (4) with screw (1) and new lockwasher (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU in vehicle (WP 0586 00 or WP 0587 00)

0591 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Endless sling (item 24, WP 0717 00) Electric drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Suitable lifting device (750 lbs (340.5 kg) min cap)

Materials/Parts

Lockwashers (4) (item 12, WP 0718 00)
Drive screws (4) (item 1, WP 0718 00)
Lockwashers (4) (item 9, WP 0718 00)
Dry-cleaning solvent (item 1, WP 0716 00)
Lacquer (item 38, WP 0716 00)
Varnish (item 39, WP 0716 00)
Adhesive (item 29, WP 0716 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00)
APU generator removed (WP 0635 00)
(For engine support and data plate replacement)
APU crankcase oil drain lines removed (WP 0603 00)
(For engine support and data plate replacement)

Personnel Required

Two



A suitable holding and lifting device is required to support the APU assembly while performing the following procedures. Failure to comply may result in equipment damage.

NOTE

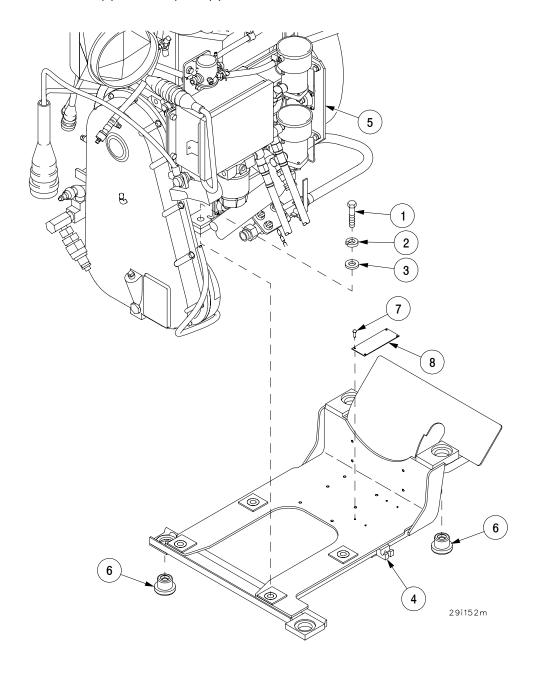
Perform Removal steps 1 through 3 and step 6 and Installation steps 5 through 7 for maintenance of engine support and data plate.

Perform Removal steps 4 through 6 and Installation steps 1 through 4 for maintenance of decal and door fan air scoop.

0591 00

Removal

- 1. Remove four screws (1) and four lockwashers (2), four flat washers (3), separate engine support (4) from APU assembly (5). Discard lockwashers.
- 2. Inspect four mounting assemblies (6), replace as required.
- 3. Remove four drive screws (7) and data plate (8). Discard drive screws.



0591 00

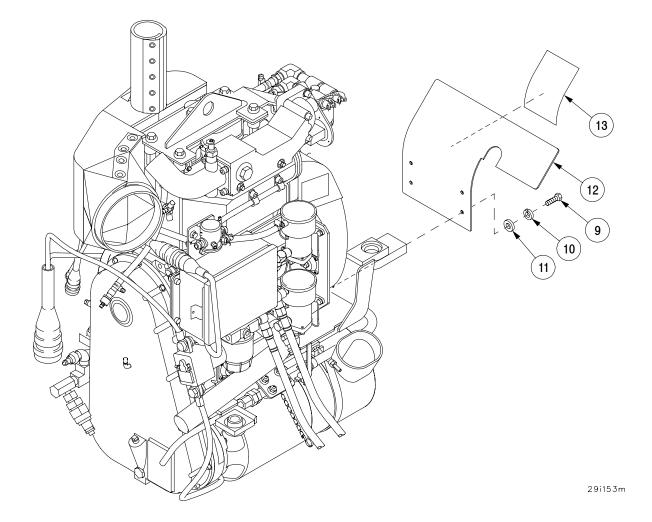
Removal-Continued

4. Remove four screws (9), four lockwashers (10), four flat washers (11) and door fan air scoop (12).

NOTE

Replace decal only if instructions become difficult or impossible to read because of extensive wear or damage.

- 5. Remove existing decal (13) from door fan air scoop (12) by prying or peeling decal from existing location. If necessary, use a putty knife or scraping tool to aid the removal process.
- 6. Inspect parts for damage and replace as required.

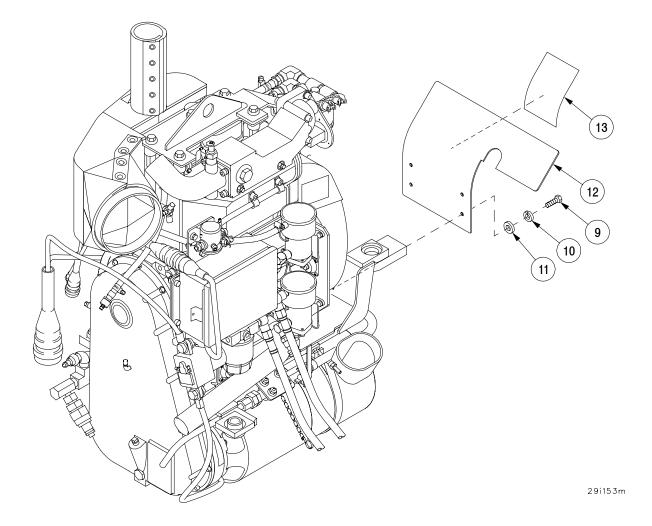


0591 00

Installation



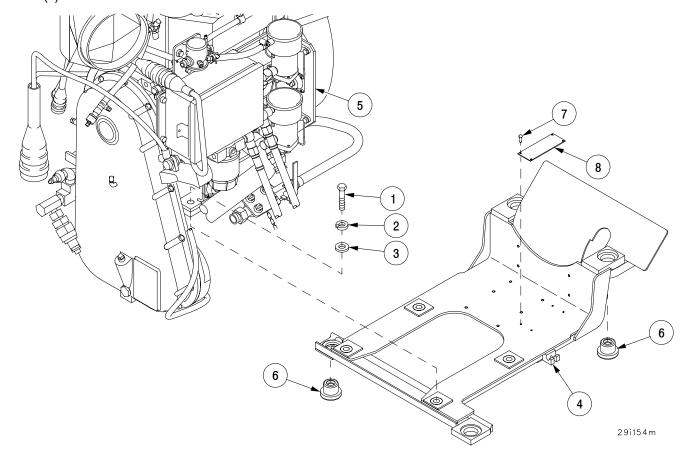
- 1. Thoroughly clean decal area with dry-cleaning solvent.
- 2. Apply decal (13) in the same position on the door fan air scoop (12). Apply protective coating of lacquer or varnish.
- 3. Apply adhesive to four screws (9) prior to installation.
- 4. Install door fan air scoop (12) with four screws (9), four new lockwashers (10) and four flat washers (11).



0591 00

Installation-Continued

- 5. Install data plate (8) with four new drive screws (7).
- 6. Install new mounting assemblies (6), as required.
- 7. Install engine support (4) on APU assembly (5) with four screws (1) four new lockwashers (2) and four flat washers (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install crankcase oil drain lines (WP 0603 00), if removed Install APU generator (WP 0635 00), if removed Install APU assembly (WP 0587 00)

AUXILIARY POWER UNIT WIRING HARNESS CABLE CLAMPS REPLACEMENT

0592 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 287, WP 0718 00)

Equipment Conditions

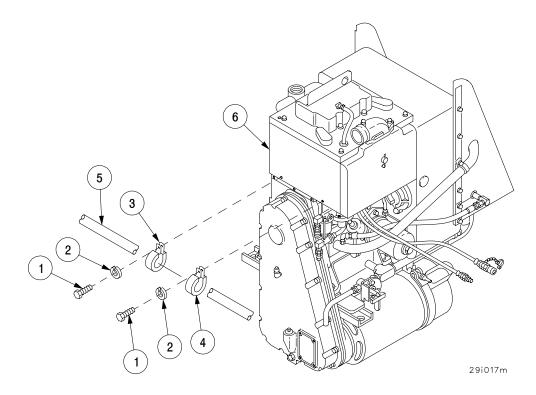
APU engine duct removed (WP 0622 00 or WP 0623 00)

Removal

- 1. Remove two screws (1), two lockwashers (2) and cable clamps (3 and 4) securing two wiring harnesses (5) to APU assembly (6). Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

Secure two wiring harnesses (5) to APU assembly (6) with cable clamps (3 and 4), two screws (1) and two new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU engine duct (WP 0622 00 or WP 0623 00)

AUXILIARY POWER UNIT ENGINE IDENTIFICATION PLATE AND DECAL REPLACEMENT

0593 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Electric drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Drive screws (4) (item 1, WP 0718 00) Dry-cleaning solvents (item 1, WP 0716 00) Lacquer (item 38, WP 0716 00) Varnish (item 39, WP 0716 00)

Equipment Conditions

APU cover removed (WP 0413 00)

NOTE

Perform Removal steps 1 and 3 and Installation steps 2 and 3 for replacement of decal.

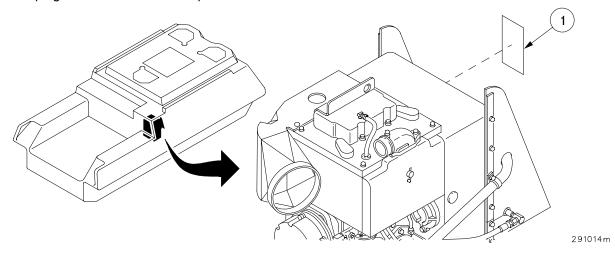
Perform Removal steps 2 and 3 and Installation step 1 for replacement of identification plate.

Removal

NOTE

Replace decal only if instructions become difficult or impossible to read because of extensive wear or damage.

1. Remove existing decal (1) by prying or peeling decal from existing location. If necessary, use a putty knife or scraping tool to aid the removal process.



AUXILIARY POWER UNIT ENGINE IDENTIFICATION PLATE AND DECAL REPLACEMENT - CONTINUED

0593 00

Removal - Continued

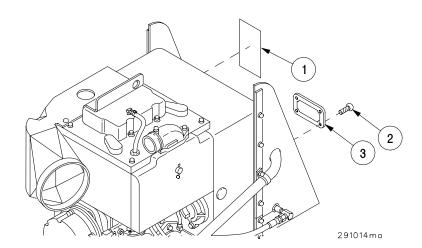
- 2. Remove four drive screws (2) and identification plate (3). Discard drive screws.
- 3. Inspect parts for damage and replace as required.

Installation

1. Install identification plate (3) with four new drive screws (2).



- 2. Thoroughly clean area with dry-cleaning solvent.
- 3. Apply decal (1) in the same position, ensure decal (1) completely covers manufacturers' stenciled starting and servicing data. Apply protective coating of lacquer or varnish.



NOTE

FOLLOW-ON MAINTENANCE: Install APU cover (WP 0413 00)

END OF TASK

Equipment Conditions

APU cover removed (WP 0413 00)

AUXILIARY POWER UNIT ENGINE IDENTIFICATION DECAL REPLACEMENT (HATZ)

0594 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dry-cleaning solvent (item 1, WP 0716 00) Lacquer (item 38, WP 0716 00)

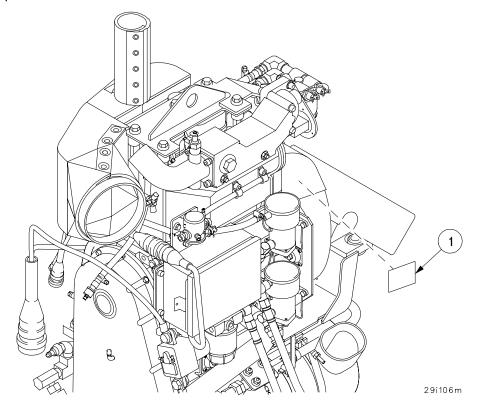
Varnish (item 39, WP 0716 00)

Removal

NOTE

Replace decal only if instructions become difficult or impossible to read because of extensive wear or damage.

Remove existing decal (1) by prying or peeling decal from existing location. If necessary, use a putty knife or scraping tool to aid the removal process.



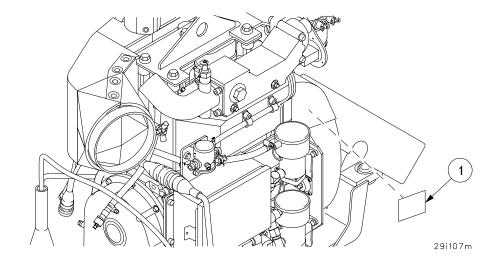
AUXILIARY POWER UNIT ENGINE IDENTIFICATION DECAL REPLACEMENT (HATZ) - CONTINUED

0594 00

Installation



- 1. Thoroughly clean area with dry-cleaning solvent.
- 2. Apply decal (1) in the same position, ensure decal (1) completely covers manufacturers' stenciled starting and servicing data. Apply protective coating of lacquer or varnish.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU cover (WP 0413 00)

AUXILIARY POWER UNIT THROTTLE ADJUSTMENT LINKAGE REPLACEMENT (HATZ)

0595 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Adjustment

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)
Torque wrench (item 2, WP 0717 00)
Retaining pliers set (item 15, WP 0717 00)
Torque wrench (item 21, WP 0717 00)
Screwdriver attachment, hex (item 125, WP 0717 00)
Screwdriver attachment, hex (item 126, WP 0717 00)

Materials/Parts

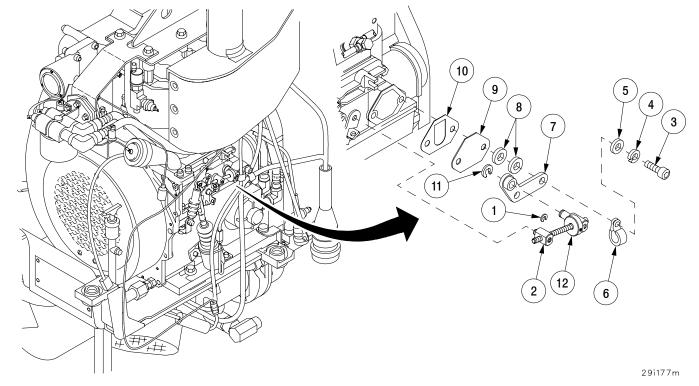
Retaining ring (item 476, WP 0718 00)
Retaining ring (item 477, WP 0718 00)
Lockwashers (2) (item 465, WP 0718 00)
Gasket (item 478, WP 0718 00)
Adhesive (item 25, WP 0716 00)
Adhesive (item 29, WP 0716 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00)

Removal

- 1. Remove retaining ring (1) from adjustment block (2). Discard retaining ring.
- 2. Remove two screws (3), two lockwashers (4), two flat washers (5), two clamps (6), stationary bracket (7), four flat washers (8), cover plate (9) and gasket (10). Discard lockwashers and gasket.
- 3. Remove retaining ring (11) from throttle adjustment assembly (12). Discard retaining ring.



AUXILIARY POWER UNIT THROTTLE ADJUSTMENT LINKAGE REPLACEMENT (HATZ) - CONTINUED

0595 00

Removal-Continued

- 4. Remove set screw (13) from adjustment block (2) and unscrew adjustment block (2) from adjustment screw (14).
- 5. Remove set screw (15) and stationary block (16) from adjustment screw (14).

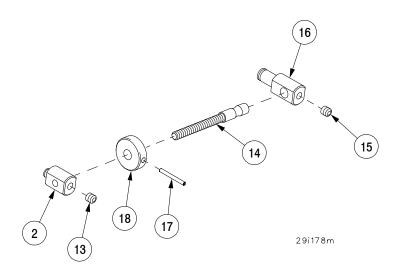
NOTE

Remove the attaching hardware in step 6 only if the parts are damaged.

- 6. Remove spring pin (17) and knurled knob (18) from adjustment screw (14). Discard spring pin.
- 7. Inspect all parts for damage and replace as required.

Installation

- 1. Install knurled knob (18) on adjustment screw (14) and insert new spring pin (17), if removed.
- 2. Install stationary block (16) on adjustment screw (14).
- 3. Install adjustment block (2) on adjustment screw (14).



AUXILIARY POWER UNIT THROTTLE ADJUSTMENT LINKAGE REPLACEMENT (HATZ) - CONTINUED

0595 00

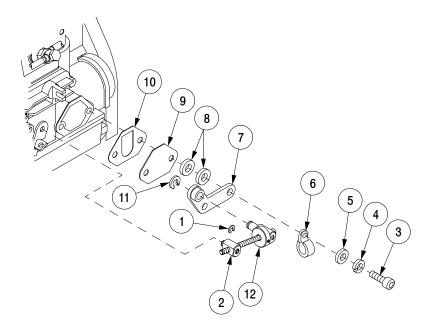
Installation-Continued

- 4. Install throttle adjustment assembly (12) on stationary bracket (7) with new retaining ring (11).
- 5. Install new gasket (10) to cover plate (9) using adhesive (item 25, WP 0716 00).

NOTE

Apply adhesive (item 29, WP 0716 00) to thread of screws before installation.

- 6. Install stationary bracket (7), cover plate (9) and new gasket (10) with four flat washers (8), two clamps (6), two flat washers (5), two new lockwashers (4) and two screws (3). Torque screws to 20–22 lb-ft (27–29 N•m).
- 7. Install adjustment block (2) to throttle lever using new retaining ring (1).



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AUXILIARY POWER UNIT THROTTLE ADJUSTMENT LINKAGE REPLACEMENT (HATZ) - CONTINUED

0595 00

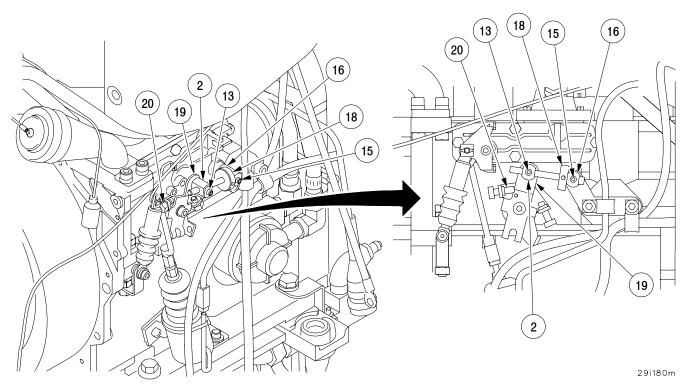
Adjustment

1. Rotate knurled knob (18) to move the throttle lever (19) until it makes contact with the speed control screw (20).

NOTE

Apply adhesive (item 29, WP 0716 00) to thread of set screws before installation.

- 2. Install set screw (13) in adjustment block (2). Torque set screw to 96-120 lb-in (10-13 N•m).
- 3. Install set screw (15) in stationary block (16). Torque set screw to 96-120 lb-in (10-13 N•m).



NOTE

FOLLOW-ON MAINTENANCE Install APU in vehicle (WP 0587 00)

AUXILIARY POWER UNIT OIL FILTER REPLACEMENT

0596 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Oil filter removal tool (item 87, WP 0717 00)

Equipment Conditions

APU engine oil drained (WP 0187 00)

Materials/Parts

Lubricant (item 43, WP 0716 00) Wiping rags (item 7, WP 0716 00)

Removal

- 1. Remove oil filter (1) from oil filter adapter (2). Dispose of used oil filter.
- 2. Clean base of oil filter adapter with a clean wiping rag.
- 3. Inspect parts for damage and replace as required.

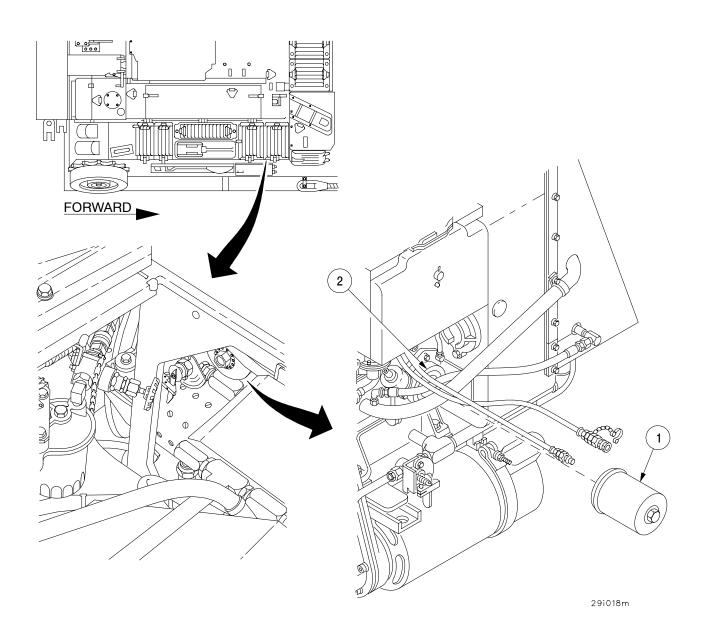
Installation

- 1. Coat gasket of new filter (1) with lubricant.
- 2. Install filter (1) on oil filter adapter (2) until gasket contacts base of adapter (2).

NOTE

Do not over tighten oil filter.

3. Tighten oil filter (1) one-half turn.



NOTE

FOLLOW-ON MAINTENANCE: Fill APU engine with oil (WP 0187 00)

END OF TASK

0597 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Oil filter removal tool (item 87, WP 0717 00) Torque wrench (item 2, WP 0717 00)

Materials/Parts

Lubricant (item 43, WP 0716 00) Wiping rag (item 7, WP 0716 00) Spring lockwashers (2) (item 465, WP 0718 00)

Materials/Parts-Continued

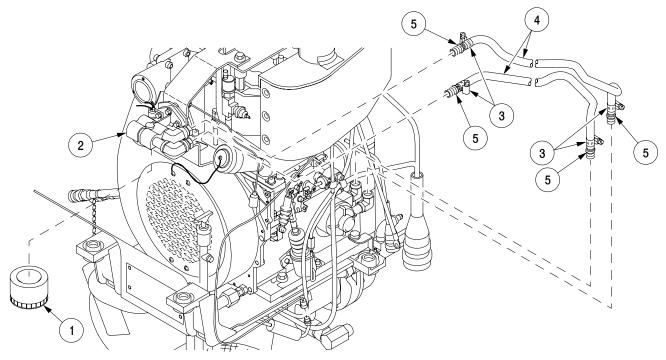
Lockwashers (6) (item 9, WP 0718 00) Adhesive (item 29, WP 0716 00) Sealing compound (item 16, WP 0716 00)

Equipment Conditions

APU engine oil drained (WP 0187 00)
APU removed from vehicle (WP 0587 00)
Thermostatic switches removed (WP 0660 00)

Removal

- 1. Remove oil filter (1) from mounting plate (2). Dispose of used oil filter.
- 2. Loosen four clamps (3) and remove hoses (4) with four barbed hose fittings (5).

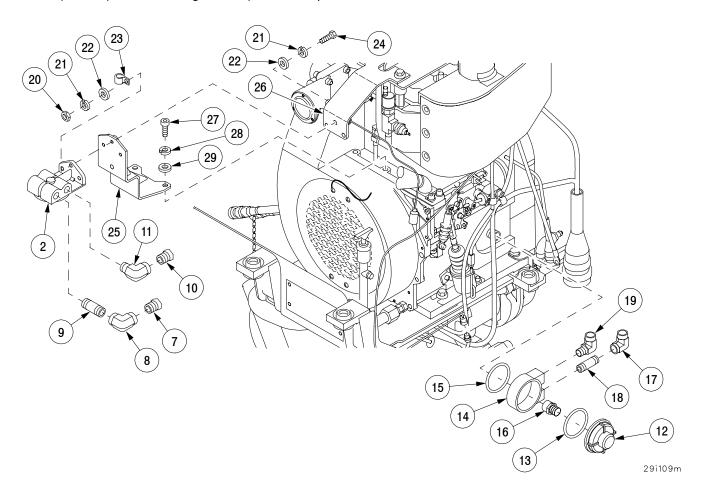


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0597 00

Removal-Continued

- 3. Remove reducer (7), elbow (8) and pipe nipple (9) from mounting plate (2).
- 4. Remove reducer (10) and elbow (11) from mounting plate (2).
- 5. Remove oil adapter cap (12), preformed packing (13), oil adapter body (14), preformed packing (15) and oil adapter bushing (16) from APU. Retain preformed packings for installation.
- 6. Remove elbow (17) and pipe nipple (18) from oil adapter body (14).
- 7. Remove elbow (19) from oil adapter body (14).
- 8. Remove three nuts (20), six lockwashers (21), six flat washers (22), clamp (23), three screws (24) and mounting plate (2) from bracket (25) and bracket (26). Discard lockwashers.
- 9. Remove two screws (27), two spring lockwashers (28), two flat washers (29) and bracket (25) from APU. Discard spring lockwashers.
- 10. Inspect all parts for damage and replace as required.



0597 00

Disassembly

Remove four barbed hose fittings (5) and four clamps (3) from two hoses (4).

Assembly

Install four clamps (3) and four barbed hose fittings (5) in two hoses (4). Do not tighten clamps at this time.

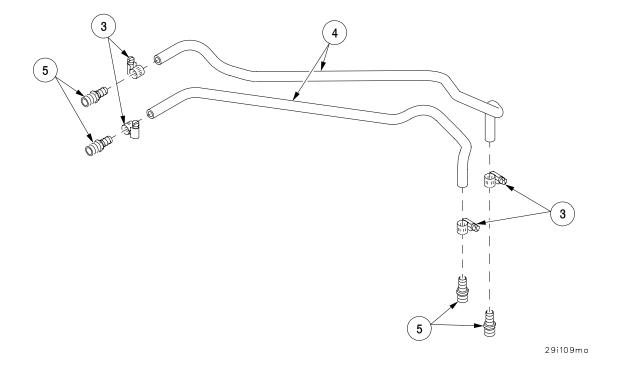
Installation

NOTE

Apply adhesive to all screw threads before installation.

Apply sealing compound to all pipe threads before installation.

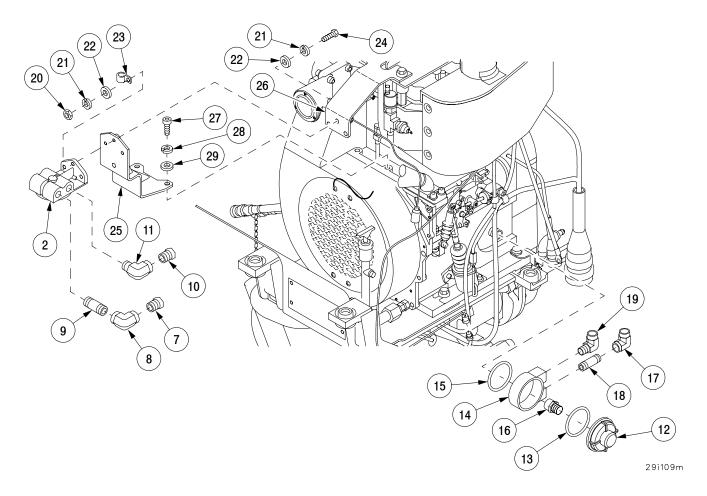
Apply a light coat of lubricant to all preformed packings and o-rings before installation.



0597 00

Installation-Continued

- 1. Install bracket (25) on APU with two screws (27), two new spring lockwashers (28) and two flat washers (29).
- 2. Install mounting plate (2) on bracket (25) and bracket (26) with three screws (24), six new lockwashers (21), six flat washers (22), clamp (23), and three nuts (20).
- 3. Install elbow (19) on oil adapter body (14).
- 4. Install elbow (17) and pipe nipple (18) on oil adapter body (14).
- 5. Install oil adapter bushing (16), preformed packing (15), oil adapter body (14), preformed packing (13) and oil adapter cap (12) on APU. Turn oil adapter cap one half turn by hand after preformed packing (15) contacts APU.
- 6. Install elbow (11) and reducer (10) on mounting plate (2).
- 7. Install pipe nipple (9), elbow (8) and reducer (7) on mounting plate (2).



0597 00

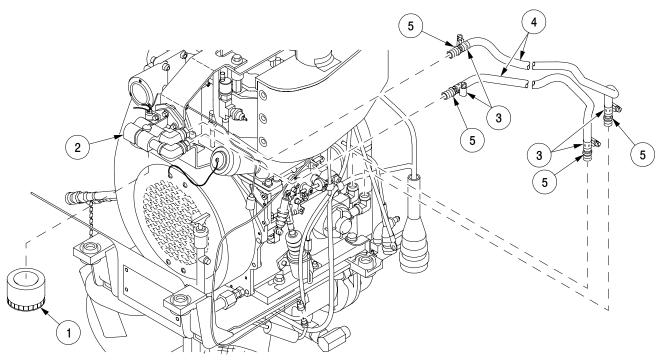
Installation-Continued

8. Install two hoses (4) with four barbed hose fittings (5) then position four hose clamps (3) and tighten clamps (3).

NOTE

Do not over tighten oil filter.

9. Install oil filter (1) on mounting plate (2).



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NOTE

FOLLOW-ON MAINTENANCE:

Install thermostatic switches (WP 0660 00) Fill APU engine with oil (WP 0187 00) Install APU in vehicle (WP 0587 00)

AUXILIARY POWER UNIT SABER GAUGE AND OIL FILLER CAP REPLACEMENT

0598 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Gasket (item 141, WP 0718 00)

Equipment Conditions

APU access door open (TM 9-2350-292-10)

References

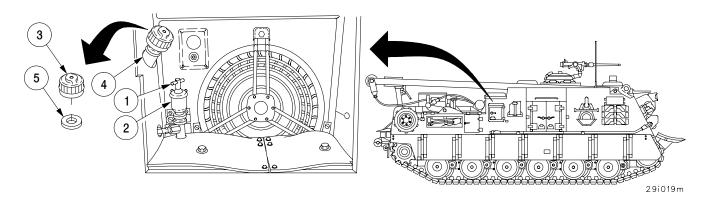
TM 9-235 0-292-10

Removal

- 1. Remove saber gauge (1) from holder tube (2).
- 2. Remove oil filler cap (3) from oil filler tube (4).
- 3. Remove gasket (5) from oil filler cap (3). Discard gasket.
- 4. Inspect parts for damage and replace as required.

Installation

- Install new gasket (5) in oil filler cap (3).
- 2. Install oil filler cap (3) on oil filler tube (4).
- 3. Insert saber gauge (1) in holder tube (2).



NOTE

FOLLOW-ON MAINTENANCE:

Close APU access door (TM 9-2350-292-10)

AUXILIARY POWER UNIT SABER GAUGE REPLACEMENT (HATZ)

0599 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

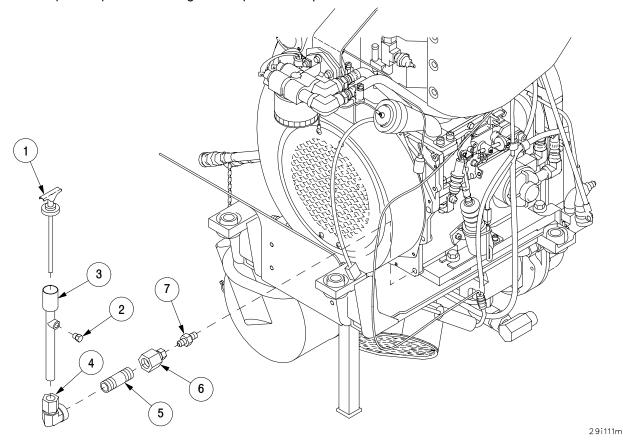
APU removed from vehicle (WP 0587 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00)

Removal

- 1. Remove saber gauge (1) and plug (2) from holder tube (3).
- 2. Remove holder tube (3) from elbow (4).
- 3. Remove elbow (4), pipe nipple (5), connector (6) and adapter (7) from APU.
- 4. Inspect all parts for damage and replace as required.



AUXILIARY POWER UNIT SABER GAUGE REPLACEMENT (HATZ) - CONTINUED

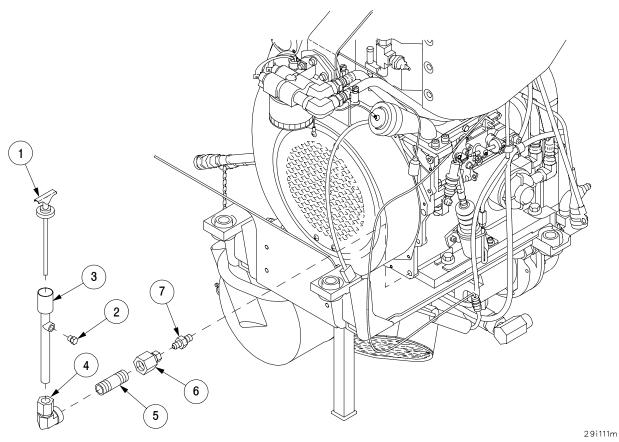
0599 00

Installation

NOTE

Apply sealing compound to all pipe threads before installation.

- 1. Install adapter (7), connector (6), pipe nipple (5) and elbow (4) in APU.
- 2. Install holder tube (3) in elbow (4).
- 3. Insert saber gauge (1) and plug (2) in holder tube (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU in vehicle (WP 0587 00)

AUXILIARY POWER UNIT CHAINCASE INSTRUCTION PLATE, BREATHER ASSEMBLY, OIL FILL PLUG AND OIL DRAIN PLUG REPLACEMENT

0600 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable container (1.0 gal. (3.8 L) min cap) Portable electric drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00) Gasket (item 142, WP 0716 00) Drive screws (4) (item 1, WP 0716 00)

Equipment Conditions

APU cover removed (WP 0413 00) APU ducting removed (WP 0620 00)

Personnel Required

Two

WARNING

Auxiliary power unit (APU) engine is hot after operation. Use caution when reaching into the APU compartment. Skin contact with hot surface could cause severe burns.

Hot oil can cause severe burns. APU engine oil is hot after operation. Use caution when draining oil. Injury may occur to personnel if hot oil gets on clothing or skin.

NOTE

Perform Removal steps 1 and 5 and Installation step 4 for replacement of chaincase oil fill plug.

Perform Removal steps 2 and 5 and Installation step 3 for replacement of chaincase oil drain plug.

Perform Removal steps 3 and 5 and Installation step 2 for replacement of chaincase instruction plate.

Perform Removal steps 4 and 5 and Installation step 1 for replacement of chaincase breather assembly.

AUXILIARY POWER UNIT CHAINCASE INSTRUCTION PLATE, BREATHER ASSEMBLY, OIL FILL PLUG AND OIL DRAIN PLUG REPLACEMENT - CONTINUED

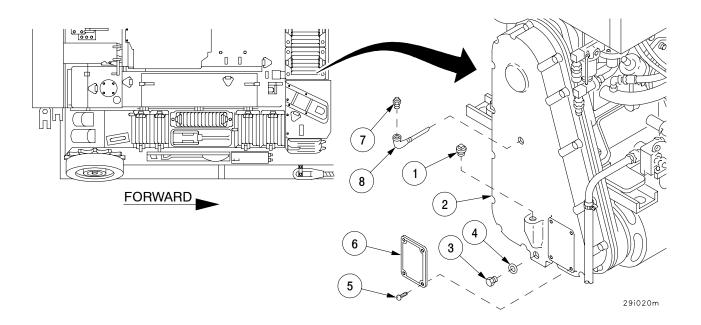
0600 00

Removal

- 1. Remove oil fill plug (1) from chaincase (2).
- 2. Remove oil drain plug (3) and gasket (4) from chaincase (2) and allow oil to drain. Discard gasket.
- 3. Remove four drive screws (5) and instruction plate (6) from chaincase (2). Discard drive screws.
- 4. Remove breather assembly (7) and elbow assembly (8) from chaincase (2).
- 5. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to threads of elbow assembly (8), install elbow assembly (8) and breather assembly (7) in chaincase (2).
- 2. Install instruction plate (6) on chaincase (2) with four new drive screws (5).
- 3. Install oil drain plug (3) and new gasket (4) in chaincase (2). Fill chaincase with lubricant (WP 0187 00).
- 4. Install oil fill plug (1) in chaincase (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU ducting (WP 0620 00) Install APU cover (WP 0413 00)

AUXILIARY POWER UNIT CHAINCASE INSTRUCTION PLATE, BREATHER ASSEMBLY, OIL FILL PLUG AND OIL DRAIN PLUG REPLACEMENT (HATZ).

0601 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable container (1.0 gal. (3.8 L) min cap) Portable electric drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00) Gasket (item 142, WP 0718 00) Drive screws (4) (item 1, WP 0718 00)

Equipment Conditions

APU cover removed (WP 0413 00) APU ducting removed (WP 0621 00)

Personnel Required

Two

WARNING

Auxiliary power unit (APU) engine is hot after operation. Use caution when reaching into the APU compartment. Skin contact with hot surface could cause severe burns.

Hot oil can cause severe burns. APU engine oil is hot after operation. Use caution when draining oil. Injury may occur to personnel if hot oil gets on clothing or skin.

NOTE

Perform Removal steps 1 and 5 and Installation step 4 for replacement of chaincase oil fill plug.

Perform Removal steps 2 and 5 and Installation step 3 for replacement of chaincase oil drain plug.

Perform Removal steps 3 and 5 and Installation step 2 for replacement of chaincase instruction plate.

Perform Removal steps 4 and 5 and Installation step 1 for replacement of chaincase breather assembly.

AUXILIARY POWER UNIT CHAINCASE INSTRUCTION PLATE, BREATHER ASSEMBLY, OIL FILL PLUG AND OIL DRAIN PLUG REPLACEMENT (HATZ) - CONTINUED

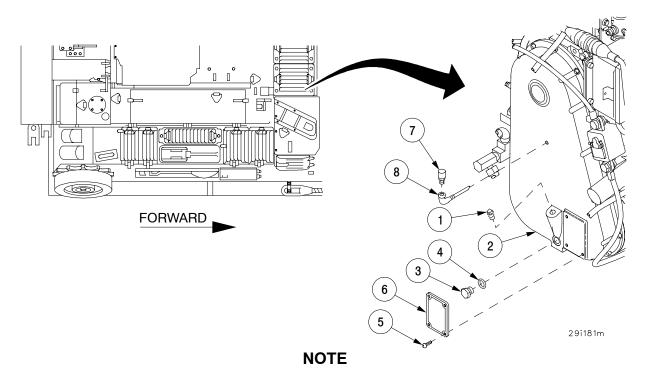
0601 00

Removal

- 1. Remove oil fill plug (1) from chaincase (2).
- 2. Remove oil drain plug (3) and gasket (4) from chaincase (2) and allow oil to drain. Discard gasket.
- 3. Remove four drive screws (5) and instruction plate (6) from chaincase (2). Discard drive screws.
- 4. Remove breather assembly (7) and elbow assembly (8) from chaincase (2).
- 5. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to threads of elbow assembly (8), install elbow assembly (8) and breather assembly (7) in chaincase (2).
- 2. Install instruction plate (6) on chaincase (2) with four new drive screws (5).
- 3. Install oil drain plug (3) and new gasket (4) in chaincase (2). Fill chaincase with lubricant (WP 0187 00).
- 4. Install oil fill plug (1) in chaincase (2).



FOLLOW-ON MAINTENANCE:

Install APU ducting (WP 0621 00) Install APU cover (WP 0413 00)

AUXILIARY POWER UNIT CRANKCASE OIL FILL LINES REPLACEMENT

0602 00

THIS WORK PACKAGE COVERS:

Removal, Cleaning, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 10, WP 0718 00) Lockwasher (item 110, WP 0718 00)

Gasket (item 143, WP 0718 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Sealing compound (item 16, WP 0716 00)

Adhesive (item 25, WP 0716 00)

Equipment Conditions

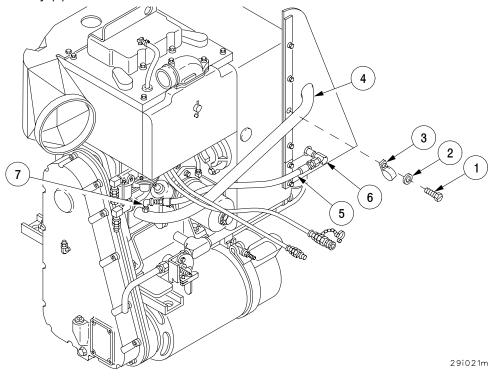
APU removed from vehicle (WP 0586 00) APU crankcase oil drained (WP 0187 00)

Personnel Required

Two

Removal

- 1. Remove screw (1), lockwasher (2) and clamp (3) holding oil filler tube assembly (4). Discard lockwasher.
- 2. Disconnect hose assembly (5) from elbow (6). Disconnect other end of hose assembly (5) from elbow (7) at oil filler tube assembly (4).



AUXILIARY POWER UNIT CRANKCASE OIL FILL LINES REPLACEMENT CONTINUED

0602 00

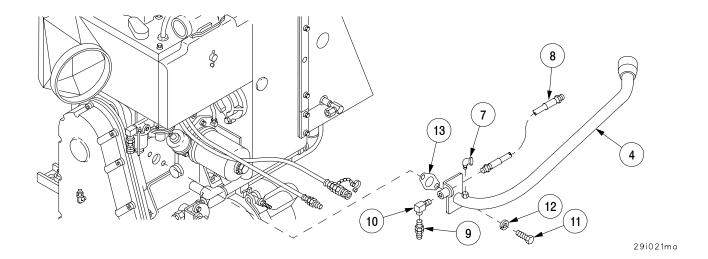
Removal-Continued

- 3. Disconnect hose assembly (8) from fuel injection pump (not shown). Disconnect other end of hose assembly (8) from oil filler tube assembly (4). Remove and inspect hose assembly (8), replace if damaged or unserviceable.
- 4. Remove coupler (9) from elbow (10).
- 5. Remove elbow (10) from oil filler tube assembly (4).
- 6. Remove two screws (11), two lockwashers (12) and oil filler tube assembly (4). Discard lockwashers.
- 7. Remove elbow (7) from oil filler tube assembly (4).
- 8. Remove gasket (13) from oil filler tube assembly (4) or mating surface on APU assembly, whichever is applicable. Discard gasket.
- 9. Inspect parts for damage and replace as required.

Cleaning



- 1. Clean gasket mating surfaces on oil filter tube assembly (4) and APU assembly with dry-cleaning solvent.
- 2. Ensure all gasket material is removed from mounting surfaces.

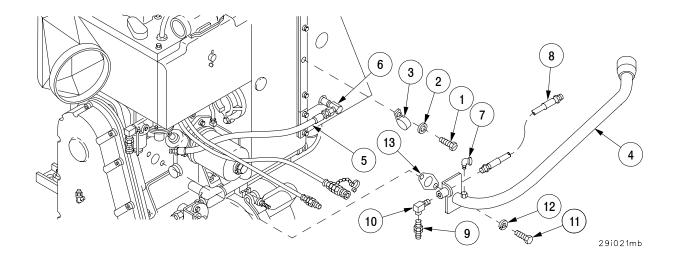


AUXILIARY POWER UNIT CRANKCASE OIL FILL LINES REPLACEMENT CONTINUED

0602 00

Installation

- 1. Apply sealing compound to all pipe threads prior to installation.
- 2. Install elbow (7) on oil filler tube assembly (4).
- 3. Apply adhesive to each side of new gasket (13). Install oil filler tube assembly (4) on APU assembly with gasket (13), two screws (11) and two new lockwashers (12).
- 4. Connect hose assembly (8) to oil filler tube assembly (4).
- 5. Connect other end of hose assembly (8) to fuel injection pump (not shown).
- 6. Install elbow (10) on oil filler tube assembly (4).
- 7. Install coupler (9) on elbow (10).
- 8. Connect hose assembly (5) to elbow (7). Connect other end of hose assembly (5) to elbow (6).
- 9. Install screw (1), new lockwasher (2) and clamp (3) to hold oil filler tube assembly (4).



NOTE

FOLLOW-ON MAINTENANCE:

Fill APU crankcase with oil (WP 0187 00) Install APU in vehicle (WP 0586 00)

AUXILIARY POWER UNIT CRANKCASE OIL FILL LINES REPLACEMENT (HATZ)

0603 00

THIS WORK PACKAGE COVERS:

Removal, Cleaning, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 467, WP 0718 00) Gasket (item 468, WP 0718 00)

Materials/Parts - Continued

Dry-cleaning solvent (item 1, WP 0716 00) Adhesive (item 29, WP 0716 00) Adhesive (item 25, WP 0716 00)

Equipment Conditions

APU cover removed (WP 0413 00)
APU crankcase oil drained (WP 0187 00)

Removal

- 1. Remove screw (1) and lockwasher (2) holding oil filler cap assembly (3) from APU.
- 2. Remove two nuts (4), two screws (5), two screws (6), four lockwashers (7), four flat washers (8), oil filler assembly (9) and gasket (10) from APU. Discard gasket and lockwashers.
- 3. Inspect all parts for damage and replace as required.

Cleaning



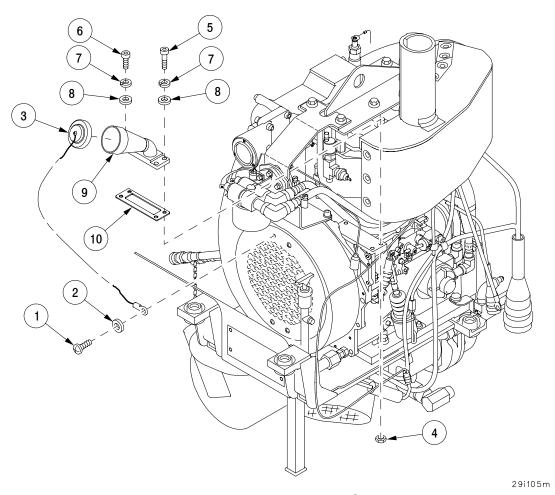
- 1. Clean gasket mating surfaces on oil filler assembly (9) and APU assembly with dry-cleaning solvent.
- Ensure all gasket material is removed from mounting surface.

AUXILIARY POWER UNIT CRANKCASE OIL FILL LINES REPLACEMENT (HATZ) - CONTINUED

0603 00

Installation

- 1. Apply adhesive (item 25, Appx C) to each side of new gasket (10).
- 2. Apply adhesive (item 29, Appx C) to threads of screws (5 and 6).
- 3. Install oil filler assembly (9) on APU assembly with gasket (10), two screws (6), two screws (5), four flat washers (8), four new lockwashers (7) and two nuts (4). Torque screws 20–22 lb-ft (27–29.8 N•m).
- 4. Secure oil filler cap assembly (3) to APU with screw (1) and flat washer (2).



NOTE

FOLLOW-ON MAINTENANCE:

Fill APU crankcase with oil (WP 0187 00) Install APU cover (WP 0413 00)

AUXILIARY POWER UNIT CRANKCASE OIL DRAIN LINES REPAIR

0604 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Spring pin (item 158, WP 0718 00) Grooved pin (item 159, WP 0718 00) Lockwashers (2) (item 110, WP 0718 00) Lockwashers (3) (item 132, WP 0718 00) Sealing compound (item16, WP 0716 00)

Equipment Conditions

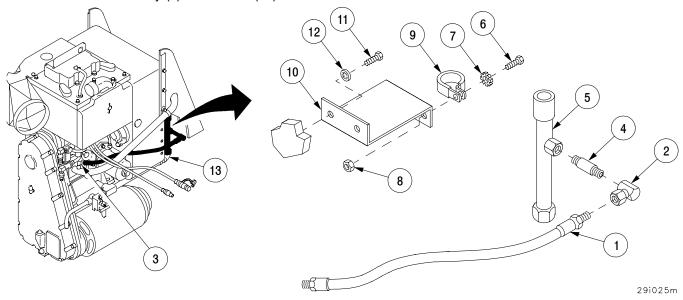
APU engine support removed (WP 0591 00) APU crankcase oil drained (WP 0187 00) APU saber gauge removed (WP 0598 00)

Personnel Required

Two

Removal

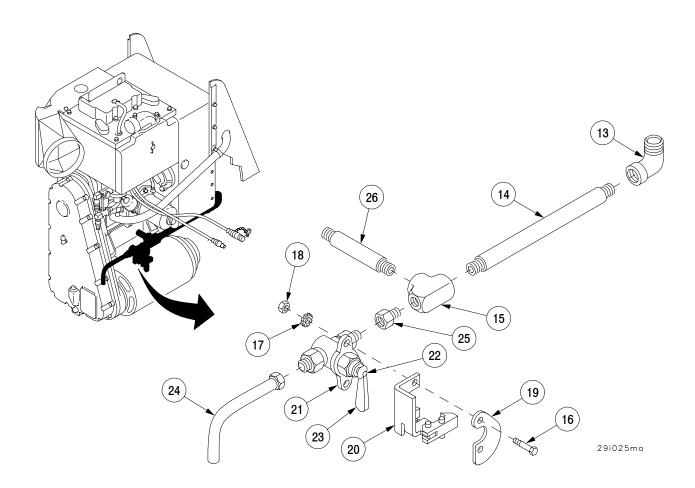
- 1. Disconnect hose assembly (1) at pipe elbow (2). Disconnect other end of hose assembly (1) from elbow at oil filler tube assembly (3).
- 2. Remove pipe elbow (2) from pipe nipple (4).
- 3. Remove pipe nipple (4) from tube assembly (5).
- 4. Remove screw (6), lockwasher (7), nut (8) and loop clamp (9) from bracket (10). Discard lockwasher.
- 5. Remove two screws (11), two lockwashers (12) and bracket (10). Discard lockwashers.
- 6. Remove tube assembly (5) from elbow (13).



0604 00

Removal-Continued

- 7. Remove pipe elbow (13) from pipe nipple (14).
- 8. Remove pipe nipple (14) from pipe tee (15).
- 9. Remove two screws (16), two lockwashers (17), two nuts (18), oil drain instruction plate (19) and lock-release lever (20) from drain valve (21). Discard lockwashers.
- 10. Remove screw (22) and handle (23) from drain valve (21).
- 11. Remove tube (24) from drain valve (21).
- 12. Remove drain valve (21) from pipe bushing (25).
- 13. Remove pipe bushing (25) from pipe tee (15).
- 14. Remove pipe tee (15) from pipe nipple (26).
- 15. Remove pipe nipple (26) from APU assembly.



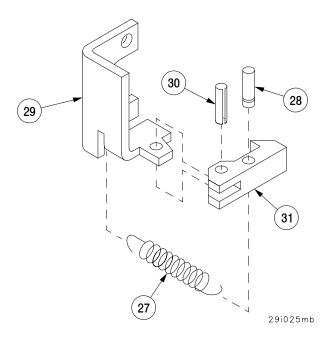
0604 00

Disassembly

- 1. Disconnect and remove spring (27) from grooved pin (28) and bracket (29).
- 2. Punch out spring pin (30) and grooved pin (28) from pawl (31). Discard pins.
- 3. Separate and remove pawl (31) and bracket (29).
- 4. Inspect parts for damage and replace as required.

Assembly

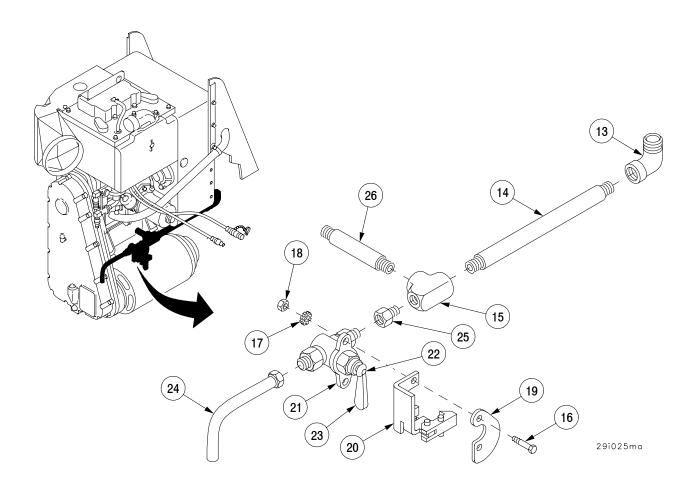
- 1. Install new grooved pin (28) in pawl (31). Ensure groove extends below pawl (31) in order to attach spring (27).
- 2. Attach pawl (31) to bracket (29) with a new spring pin (30).
- 3. Attach spring (27) to grooved pin (28) and hole in bracket (29).



0604 00

Installation

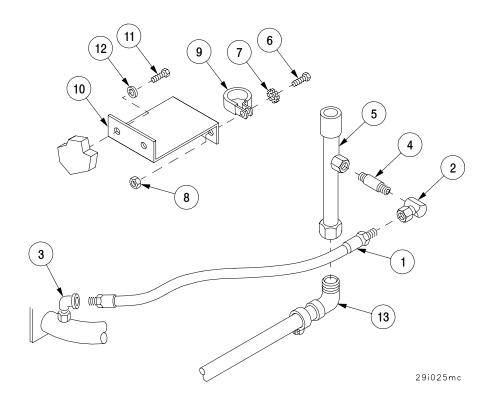
- 1. Apply sealing compound to all pipe threads prior to installation.
- 2. Install pipe nipple (26) in APU assembly.
- 3. Install pipe tee (15) on pipe nipple (26).
- 4. Install pipe bushing (25) in pipe tee (15).
- 5. Install drain valve (21) in outlet end of pipe bushing (25).
- 6. Install screw (22) and handle (23) on drain valve (21).
- 7. Install tube (24) in outlet end of drain valve (21).
- 8. Install lock-release lever (20) and oil drain instruction plate (19) to drain valve (21) with two screws (16), two new lockwashers (17) and two nuts (18).
- 9. Attach pipe elbow (13) to end of pipe nipple (14).
- 10. Install other end of pipe nipple (14) to inlet end of pipe tee (15).



0604 00

Installation-Continued

- 11. Install bracket (10) with two new lockwashers (12) and two screws (11).
- 12. Install tube assembly (5) in pipe elbow (13).
- 13. Install loop clamp (9) on bracket (10) with screw (6), new lockwasher (7) and nut (8).
- 14. Attach pipe nipple (4) to tube assembly (5).
- 15. Install pipe elbow (2) on pipe nipple (4).
- 16. Connect one end of hose assembly (1) to elbow at oil filler tube assembly (3).
- 17. Connect other end of hose assembly (1) to pipe elbow (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU saber gauge (WP 0598 00) Fill APU crankcase with oil (WP 0187 00) Install APU engine support (WP 0591 00)

AUXILIARY POWER UNIT CRANKCASE OIL DRAIN LINES REPAIR (HATZ)

0605 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 18, WP 0718 00) Sealing compound (item 16, WP 0716 00)

Equipment Conditions

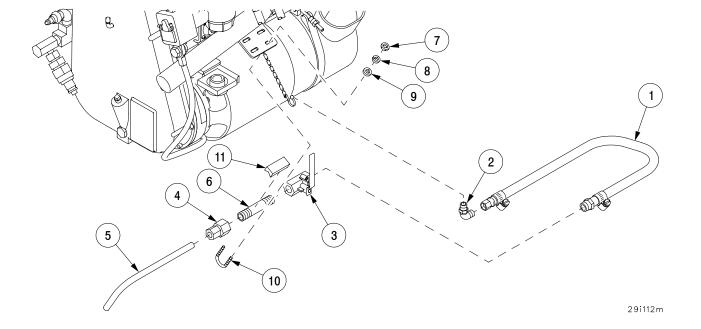
APU crankcase oil drained (WP 0187 00) APU removed from vehicle (WP 0587 00)

NOTE

Remove only those parts required to perform the repair.

Removal

- 1. Remove one end of hose (1) from elbow (2) and other end of hose (1) from drain valve (3).
- 2. Remove elbow (2) from APU.
- 3. Loosen adapter (4) and remove tube (5) then remove adapter (4) from pipe nipple (6).
- 4. Remove four nuts (7), four lockwashers (8), four flat washers (9), two U-bolts (10), spacer (11), drain valve (3) and nipple (6) from APU. Discard lockwashers.
- 5. Remove pipe nipple (6) from drain valve (3).



0605 00

Disassembly

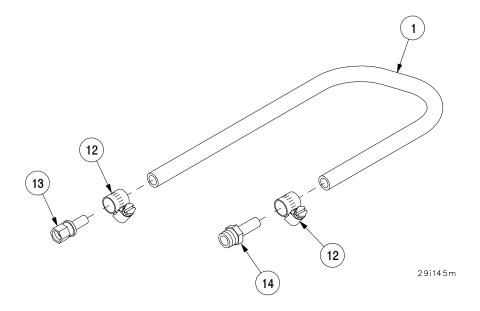
NOTE

Perform disassembly of hose only when repair is required.

- 1. Loosen two clamps (12). Remove adapter (13), adapter (14) and two clamps (12) from hose (1).
- 2. Inspect all parts for damage and replace as required.

Assembly

Place two clamps (12) on hose (1) then install two adapters (13 and 14). Position two clamps (12) and tighten.



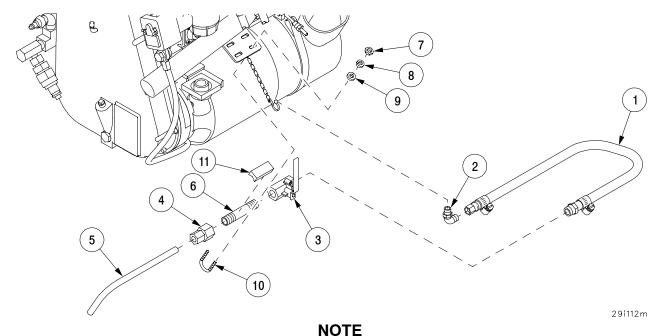
0605 00

Installation

NOTE

Apply sealing compound to all pipe threads before installation.

- 1. Install pipe nipple (6) in drain valve (3).
- 2. Install spacer (11) and drain valve (3) with pipe nipple (6) on APU with two U-bolts (10), four flat washers (9), four new lockwashers (8) and four nuts (7).
- 3. Install adapter (4) and tube (5) on pipe nipple (6) then tighten adapter (4).
- 4. Install elbow (2) in APU.
- 5. Install one end of hose (1) on drain valve (3) and other end of hose (1) on elbow (2).



....

FOLLOW-ON MAINTENANCE:

Fill APU crankcase with oil (WP 0187 00) Install APU in vehicle (WP 0587 00)

AUXILIARY POWER UNIT CRANKCASE OIL DRAIN HOSE REPLACEMENT

0606 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Powerpack

Materials/Parts

Lockwashers (4) (item 58, WP 0718 00)

Equipment Conditions

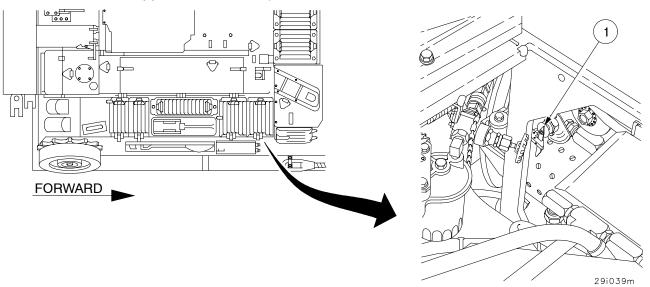
Powerpack removed (WP 0188 00)

NOTE

Replacement of crankcase oil drain hose requires removal of attaching parts that are accessible only if the main engine is removed from the vehicle. If it is not desirable to remove the main engine at this time, a temporary drain line can be installed from drain valve outlet tube to hull drain at front of engine compartment.

Removal

1. Ensure drain valve (1) is set to CLOSED position.



AUXILIARY POWER UNIT CRANKCASE OIL DRAIN HOSE REPLACEMENT - CONTINUED

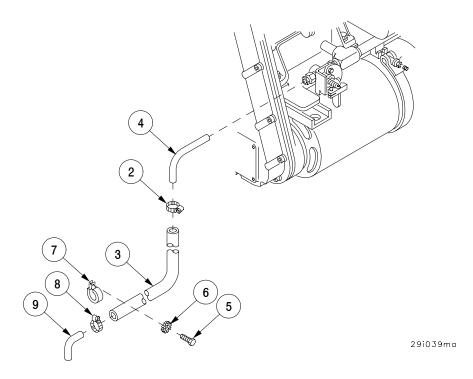
0606 00

Removal-Continued

- 2. Loosen hose clamp (2), separate drain hose (3) and tube (4). Remove clamp (2).
- 3. Remove four screws (5), four lockwashers (6) and four clamps (7) securing the drain hose (3) to hull. Note location of clamps to aid in installation. Discard lockwashers.
- 4. Loosen hose clamp (8), remove drain hose (3) and tube (9). Remove clamp (8).
- 5. Inspect parts for damage and replace as required.

Installation

- 1. Install hose clamp (2) on drain hose (3) and attach drain hose (3) to tube (4). Tighten hose clamp (2).
- 2. Install hose clamp (8) on drain hose (3) and attach tube (9) to drain hose (3). Tighten hose clamp (8).
- 3. Secure drain hose (3) to hull with four clamps (7), four screws (5) and four new lockwashers (6).



NOTE

FOLLOW-ON MAINTENANCE:

Install powerpack (WP 0188 00)

AUXILIARY POWER UNIT CRANKCASE OIL DRAIN HOSE REPLACEMENT (HATZ)

0607 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 58, WP 0718 00)

Equipment Conditions

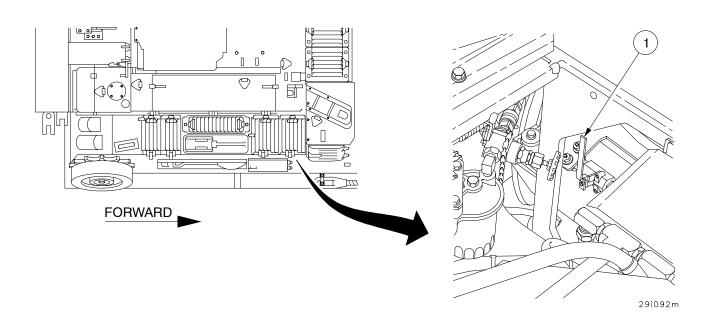
Powerpack removed (WP 0188 00)

NOTE

Replacement of crankcase oil drain hose requires removal of attaching parts that are accessible only if the main engine is removed from the vehicle. If it is not desirable to remove the main engine at this time, a temporary drain line can be installed from drain valve outlet tube to hull drain at front of engine compartment.

Removal

1. Ensure drain valve (1) is set to CLOSED position.



AUXILIARY POWER UNIT CRANKCASE OIL DRAIN HOSE REPLACEMENT(HATZ) - CONTINUED

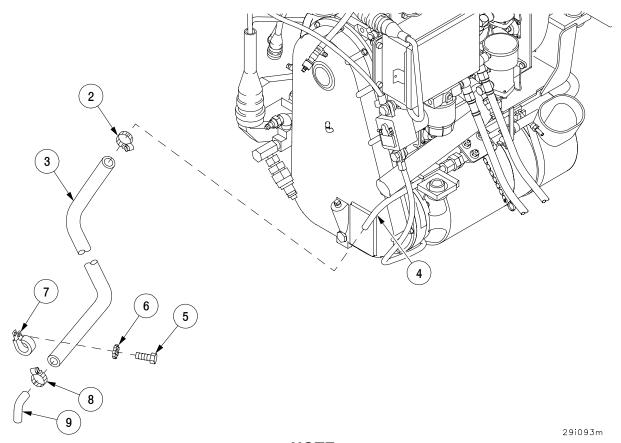
0607 00

Removal-Continued

- 2. Loosen hose clamp (2), separate drain hose (3) from tube (4). Remove clamp (2).
- 3. Remove four screws (5), four lockwashers (6) and four clamps (7) securing the drain hose (3) to hull. Note location of clamps to aid in installation. Discard lockwashers.
- 4. Loosen hose clamp (8), remove drain hose (3) and tube (9). Remove clamp (8).
- 5. Inspect parts for damage and replace as required.

Installation

- 1. Install hose clamp (2) on drain hose (3) and attach drain hose (3) to tube (4). Tighten hose clamp (2).
- 2. Install hose clamp (8) on drain hose (3) and attach tube (9) to drain hose (3). Tighten hose clamp (8).
- 3. Secure drain hose (3) to hull with four clamps (7), four screws (5) and four new lockwashers (6).



NOTE

FOLLOW-ON MAINTENANCE:

Install powerpack (WP 0188 00)

AUXILIARY POWER UNIT INTAKE AIR CLEANER ASSEMBLY REPLACEMENT

0608 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dry-cleaning solvent (item 1, WP 0716 00) Lockwashers (4) (item 37, WP 0718 00) Gasket (item 65, WP 0718 00) Filter element (item 443, WP 0718 00) Wiping rags (item 7, WP 0716 00)

NOTE

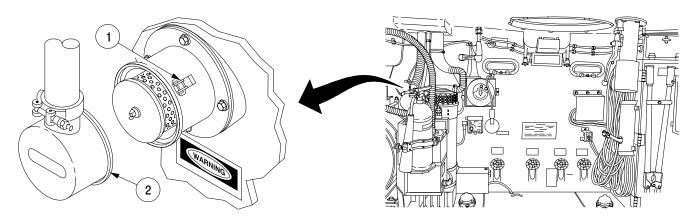
Perform Removal steps 1, 2 and 6 and Installation steps 2 through 4 for replacement of engine air cleaner filter element.

Perform Removal steps 1 through 4 and 6 and Installation steps 1 through 6 for maintenance of housing assembly.

Perform Removal steps 5 and 6 and Installation steps 7 and 8 for replacement of warning label decal.

Removal

1. Release two latches (1), remove housing assembly cover (2).



29i027m

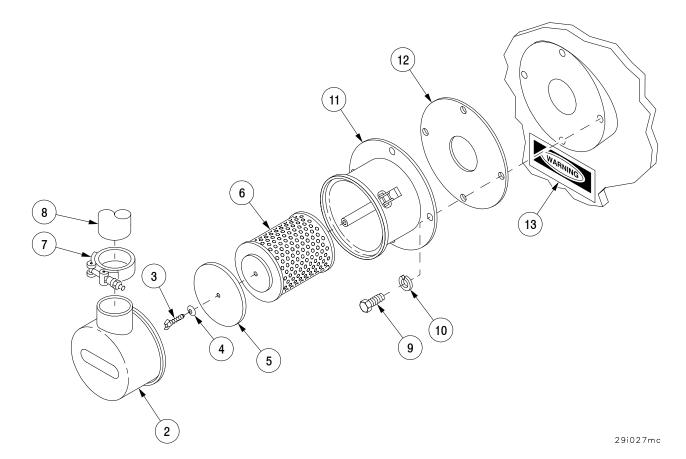
AUXILIARY POWER UNIT INTAKE AIR CLEANER ASSEMBLY REPLACEMENT - CONTINUED

0608 00

Removal-Continued



- 2. Remove screw (3), washer (4), plate (5) and filter element (6). Discard filter element.
- 3. Loosen hose clamp (7), remove clamp (7) and hose (8) from housing assembly cover (2).
- 4. Remove four screws (9), four lockwashers (10), housing base (11) and gasket (12). Discard lockwashers and gasket.
- 5. If decal is damaged, mark position of decal (13) to facilitate decal (13) replacement. Remove decal (13).
- 6. Inspect parts for damage and replace as required.



AUXILIARY POWER UNIT INTAKE AIR CLEANER ASSEMBLY REPLACEMENT - CONTINUED

0608 00

Installation.

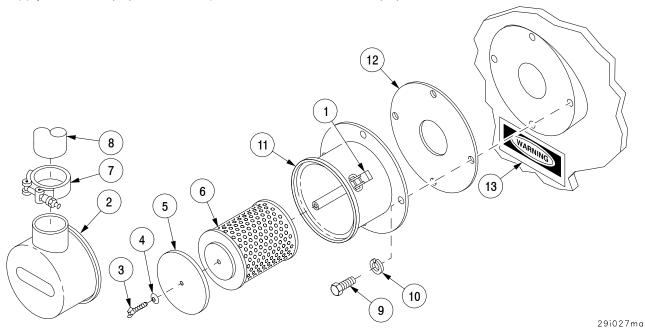
NOTE

Position housing assembly base to permit access to both latches.

- 1. Install housing assembly base (11) and new gasket (12) with four screws (9) and four new lockwashers (10).
- 2. Clean inside of housing assembly cover (2) and housing assembly base (11) with clean wiping rag.
- 3. Install new filter element (6) in housing assembly base (11) with screw (3), washer (4) and plate (5). Hand tighten screw (3) until snug.
- 4. Position housing assembly cover (2) on housing assembly base (11) and secure with two latches (1).
- 5. Slide hose (8) over housing assembly cover (2).
- 6. Position clamp (7) over hose (8), tighten hose clamp (7).



- 7. If decal was removed, clean area of decal (13) with dry-cleaning solvent. Ensure area is smooth, clean and dry.
- 8. Apply new decal (13) in the same position where the old decal (13) was removed.



AUXILIARY POWER UNIT FUEL FILTERS REPLACEMENT

0609 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable container

Equipment Conditions

Engine deck access door open (TM 9-2350-292-10) APU emergency fuel shut off valve closed (TM 9-2350-292-10)

References

TM 9-2350-292-10



CAUTION

The primary and secondary fuel filters are different. When replacing filters, ensure designated filter is installed in the proper location.

NOTE

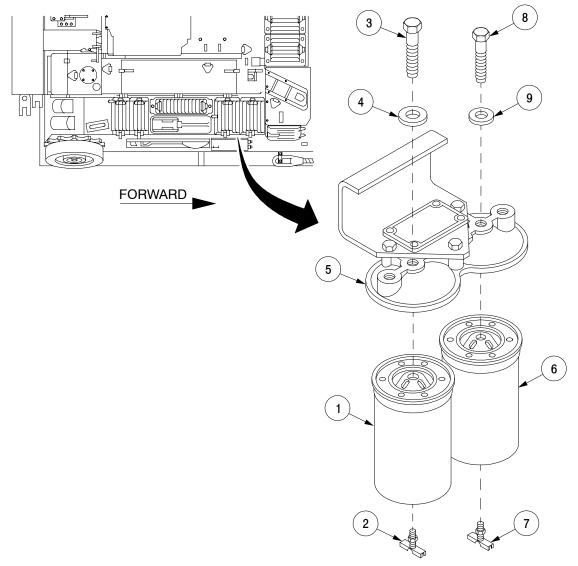
Perform Removal steps 1, 2 and 5 and Installation steps 4 through 7 for replacement of primary fuel filter.

Perform Removal steps 3 through 5 and Installation steps 1 through 3 and 7 for replacement of secondary fuel filter.

0609 00

Removal

- 1. At bottom of primary fuel filter (1), open drain cock (2) and drain fuel from filter (1). Use suitable size container, as filter can hold approximately one quart of fuel. Dispose of collected fuel.
- 2. Remove screw (3), flat washer (4) and filter (1) from filter adapter (5). Remove drain cock (2) from filter (1). Discard filter.
- 3. At bottom of secondary fuel filter (6), open drain cock (7) and drain fuel from filter (6). Use suitable size container, as filter can hold approximately one quart of fuel. Dispose of collected fuel.
- 4. Remove screw (8), flat washer (9) and filter (6). Remove drain cock (7) from filter (6). Discard filter.
- 5. Inspect parts for damage and replace as required.



29i028m

0609 00

Installation

- 1. At bottom of new secondary fuel filter (6) remove plug and install drain cock (7). Close drain cock (7).
- 2. Clean underneath of filter adapter (5) with clean fuel and wiping rag.
- 3. Apply a thin film of fuel around sealing gasket of filter (6). Fill filter (6) with fuel, install filter (6) on filter adapter (5) with flat washer (9) and screw (8).

NOTE

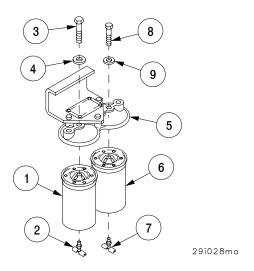
If only secondary fuel filter is being replaced, proceed to step 7; otherwise, continue with step 4.

- 4. At bottom of new primary fuel filter (1) remove plug and install drain cock (2). Close drain cock (2).
- 5. Clean underneath of filter adapter (5) with clean fuel and wiping rag.
- 6. Apply a thin film of fuel around sealing gasket of filter (1). Fill filter (1) with fuel, install filter (1) on filter adapter (5) with flat washer (4) and screw (3).

NOTE

The following step is performed with APU emergency fuel shutoff valve open (TM 9-2350-292-10).

7. Bleed APU fuel system (WP 0614 00).



NOTE

FOLLOW-ON MAINTENANCE:

Close engine deck access door (TM 9-2350-292-10)

AUXILIARY POWER UNIT FUEL FILTER ASSEMBLY REPLACEMENT

0610 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable container

Materials/Parts

Sealing compound (item 16, WP 0716 00) Lockwashers (3) (item 127, WP 0718 00) Lockwashers (3) (item 132, WP 0718 00)

Equipment Conditions

Boom raised (TM 9-2350-292-10) Engine deck access door open(TM 9-2350-292-10)

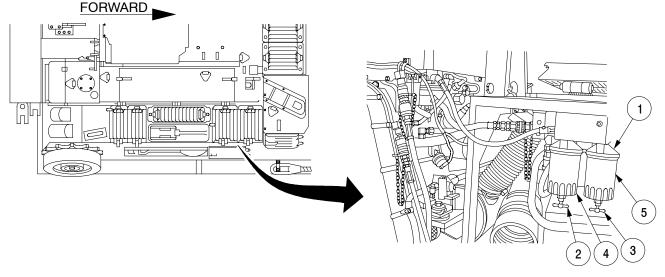
References

TM 9-2350-292-10



Removal

At bottom of fuel filter assembly (1), open two drain cocks (2 and 3) one at a time and drain fuel from filters (4 and 5). Place suitable size container under rear hull drain, as each filter can hold approximately one quart of fuel.
 Dispose of collected fuel.

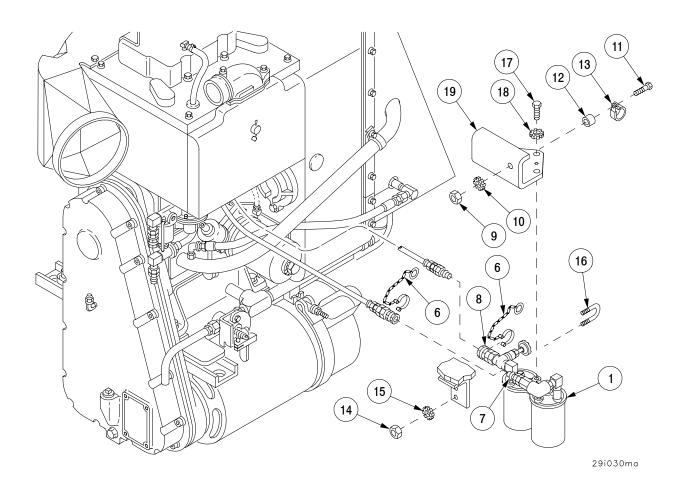


29i030m

0610 00

Removal-Continued

- 2. Unclip connecting rings (6) from fuel line quick-disconnect and disconnect coupling halves (7 and 8).
- 3. Remove nut (9), lockwasher (10), screw (11), spacer (12) and clamp (13). Discard lockwasher.
- 4. Remove two nuts (14), two lockwashers (15) and U-bolt (16). Also, remove connecting ring (6) if attached. Discard lockwashers.
- 5. Remove three screws (17), three lockwashers (18) and fuel filter assembly (1) with attached fittings from bracket (19). Discard lockwashers.



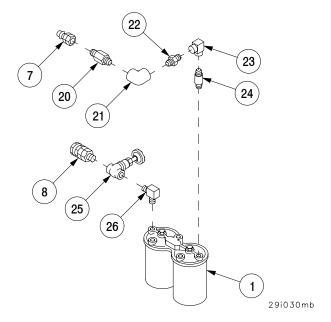
0610 00

Removal-Continued

NOTE

The following procedures are accomplished with fuel filter assembly and attached fittings removed from vehicle. Perform only those procedures necessary to replace defective parts.

- 6. Remove fuel line quick-disconnect coupling half (7) from pipe nipple (20).
- 7. Remove pipe nipple (20) from pipe elbow (21).
- 8. Remove pipe elbow (21) from small pipe nipple (22).
- 9. Remove small pipe nipple (22) from pipe elbow (23).
- 10. Remove pipe elbow (23) from pipe nipple (24).
- 11. Remove pipe nipple (24) from fuel filter assembly (1).
- 12. Remove fuel line quick-disconnect coupling half (8) from gate valve (25).
- 13. Remove gate valve (25) from pipe elbow (26).
- 14. Remove pipe elbow (26) from fuel filter assembly (1).
- 15. Inspect parts for damage and replace as required.



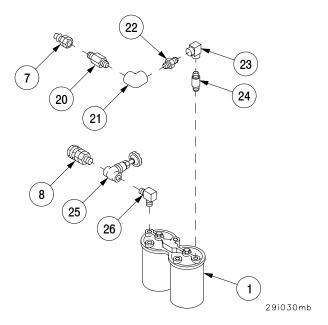
0610 00

Installation

NOTE

Perform the following procedures prior to installation of fuel filter assembly into vehicle.

- 1. Apply sealing compound to all pipe threads prior to assembly.
- 2. Install pipe elbow (26) on fuel filter assembly (1).
- Install gate valve (25) on pipe elbow (26). Tighten gate valve so that handle faces front and slightly below the horizontal plane (10 degrees). Insure valve is open.
- 4. Install fuel line quick-disconnect coupling half (8) on gate valve (25).
- 5. Install pipe nipple (24) on fuel filter assembly (1).
- 6. Install pipe elbow (23) on pipe nipple (24).
- 7. Install small pipe nipple (22) on pipe elbow (23).
- 8. Install pipe elbow (21) on small pipe nipple (22).
- 9. Install pipe nipple (20) on pipe elbow (21).
- 10. Install fuel line quick-disconnect coupling half (7) on pipe nipple (20).



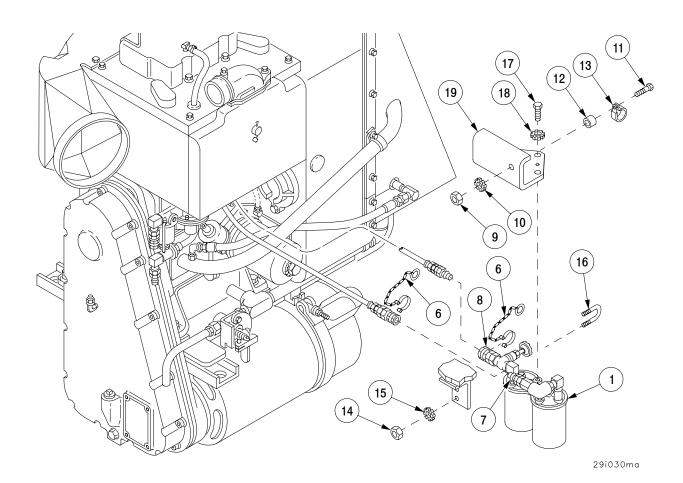
0610 00

Installation-Continued

NOTE

The next step installs the fuel filter assembly and attached fittings into the vehicle.

- 11. Install fuel filter assembly (1) on bracket (19) with three screws (17) and three new lockwashers (18).
- 12. Install U-bolt (16) with two new lockwashers (15) and two nuts (14). If connecting ring (6) has previously been attached to the U-bolt and removed, reattach connecting ring under one of the lockwashers and nut.
- 13. Install clamp (13) and spacer (12) with screw (11), new lockwasher (10) and nut (9).
- 14. Connect fuel line quick-disconnect coupling halves (7 and 8) and install connecting rings (6).



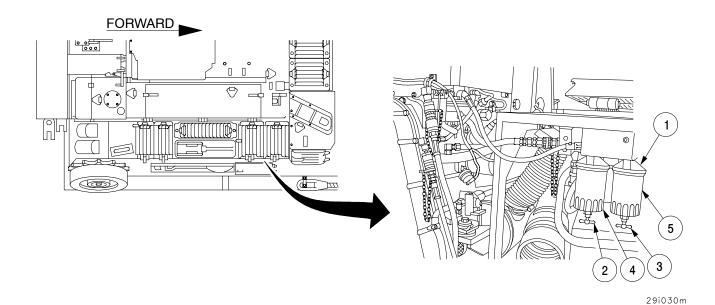
0610 00

Installation-Continued

NOTE

If plugs are installed instead of drain cocks, replace plugs with drain cocks (WP 0600 00).

- 15. Check bottom of fuel filter assembly (1). Ensure drain cocks (2 and 3) on fuel filters (4 and 5) are closed.
- 16. Bleed APU fuel system (WP 0614 00).



NOTE

FOLLOW-ON MAINTENANCE:

Close engine deck access door (TM 9-2350-292-10) Lower boom (TM 9-2350-292-10)

0611 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable container

Materials/Parts

Sealing compound (item 16, WP 0716 00) Lockwashers (3) (item 127, WP 0718 00) Lockwashers (3) (item 132, WP 0718 00)

Equipment Conditions

Boom raised (TM 9-2350-292-10) Engine deck access door open(TM 9-2350-292-10)

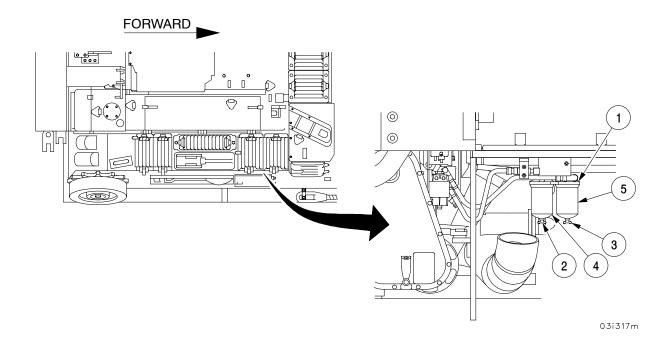
References

TM 9-2350-292-10



Removal

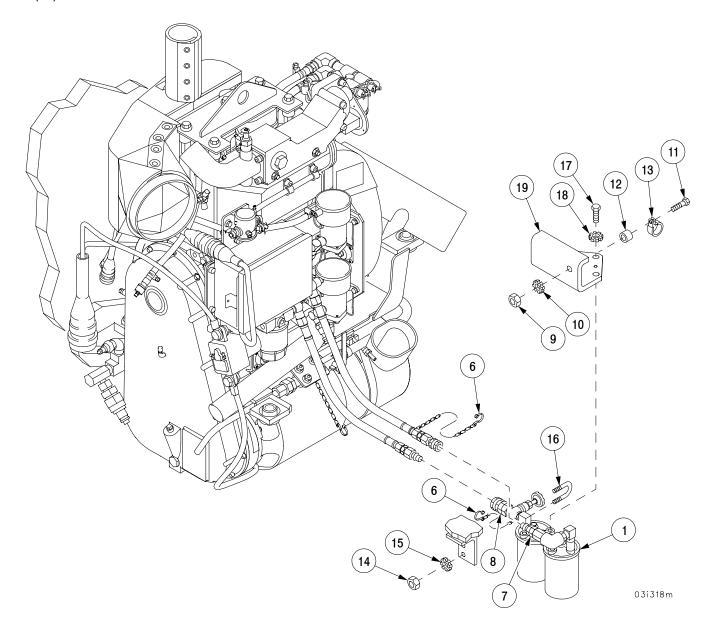
1. Place suitable size container under rear hull drain, as each filter can hold approximately one quart of fuel. At bottom of fuel filter assembly (1), open two drain cocks (2 and 3) one at a time and drain fuel from filters (4 and 5). Dispose of collected fuel.



0611 00

Removal-Continued

- 2. Unclip connecting rings (6) from fuel line quick-disconnect and disconnect coupling halves (7 and 8).
- 3. Remove nut (9), lockwasher (10), screw (11), spacer (12) and clamp (13). Discard lockwasher.
- 4. Remove two nuts (14), two lockwashers (15) and U-bolt (16). Also, remove connecting ring (6) if attached. Discard lockwashers.
- 5. Remove three screws (17), three lockwashers (18) and fuel filter assembly (1) with attached fittings from bracket (19). Discard lockwashers.



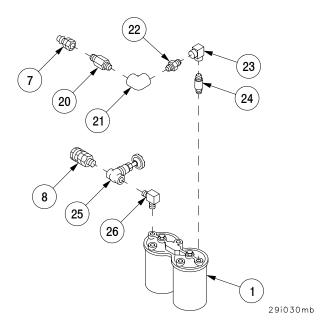
0611 00

Removal-Continued

NOTE

The following procedures are accomplished with fuel filter assembly and attached fittings removed from vehicle. Perform only those procedures necessary to replace defective parts.

- 6. Remove fuel line quick-disconnect coupling half (7) from pipe nipple (20).
- 7. Remove pipe nipple (20) from pipe elbow (21).
- 8. Remove pipe elbow (21) from small pipe nipple (22).
- 9. Remove small pipe nipple (22) from pipe elbow (23).
- 10. Remove pipe elbow (23) from pipe nipple (24)
- 11. Remove pipe nipple (24) from fuel filter assembly (1).
- 12. Remove fuel line quick-disconnect coupling half (8) from gate valve (25).
- 13. Remove gate valve (25) from pipe elbow (26).
- 14. Remove pipe elbow (26) from fuel filter assembly (1).
- 15. Inspect parts for damage and replace as required.



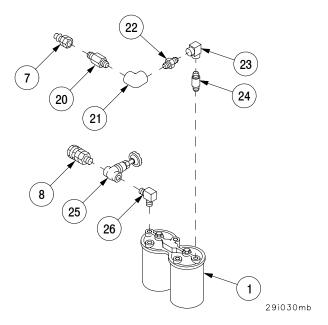
0611 00

Installation

NOTE

Perform the following procedures prior to installation of fuel filter assembly into vehicle.

- 1. Apply sealing compound to all pipe threads prior to assembly.
- 2. Install pipe elbow (26) on fuel filter assembly (1).
- 3. Install gate valve (25) on pipe elbow (26). Tighten gate valve so that handle faces front and slightly below the horizontal plane (10 degrees). Ensure valve is open.
- 4. Install fuel line quick-disconnect coupling half (8) on gate valve (25).
- 5. Install pipe nipple (24) on fuel filter assembly (1).
- 6. Install pipe elbow (23) on pipe nipple (24).
- 7. Install small pipe nipple (22) on pipe elbow (23).
- 8. Install pipe elbow (21) on small pipe nipple (22).
- 9. Install pipe nipple (20) on pipe elbow (21).
- 10. Install fuel line quick-disconnect coupling half (7) on pipe nipple (20).



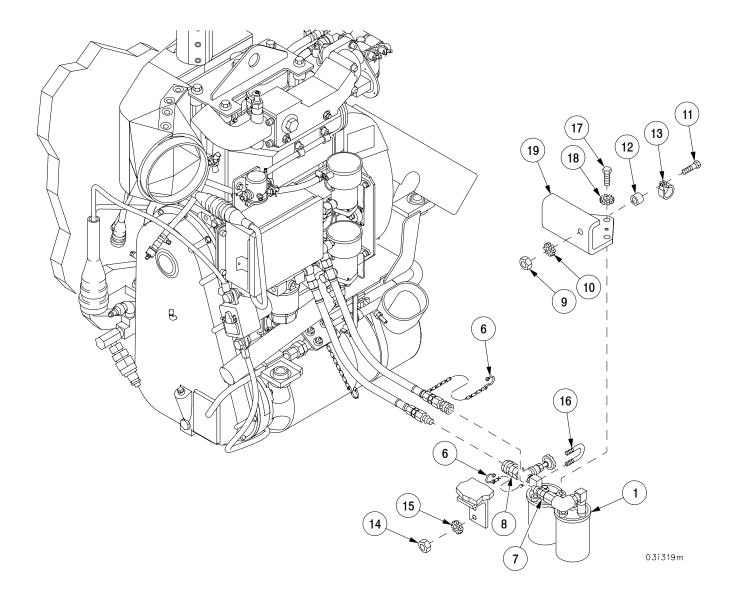
0611 00

Installation-Continued

NOTE

The next step installs the fuel filter assembly and attached fittings into the vehicle.

- 11. Install fuel filter assembly (1) on bracket (19) with three screws (17) and three new lockwashers (18).
- 12. Install U-bolt (16) with two new lockwashers (15) and two nuts (14). If connecting ring (6) has previously been attached to the U-bolt and removed, reattach connecting ring under one of the lockwashers and nut.
- 13. Install clamp (13) and spacer (12) with screw (11), new lockwasher (10) and nut (9).
- 14. Connect fuel line quick-disconnect coupling halves (7 and 8) and install connecting rings (6).



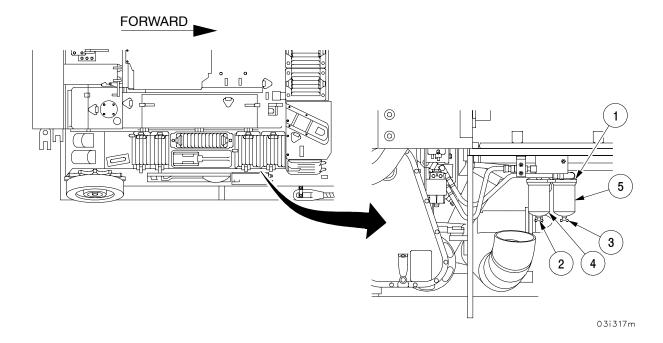
0611 00

Installation-Continued

NOTE

If plugs are installed instead of drain cocks, replace plugs with drain cocks (WP 0600 00).

15. Check bottom of fuel filter assembly (1). Ensure drain cocks (2 and 3) on fuel filters (4 and 5) are closed.



NOTE

FOLLOW-ON MAINTENANCE:

Close engine deck access door (TM 9-2350-292-10) Lower boom (TM 9-2350-292-10)

AUXILIARY POWER UNIT FUEL FILTER IDENTIFICATION PLATE REPLACEMENT

0612 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Portable electric drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Drive screws (4) (item 1, WP 0718 00)

Equipment Conditions

Engine deck access door open (TM 9-2350-292-10)

References

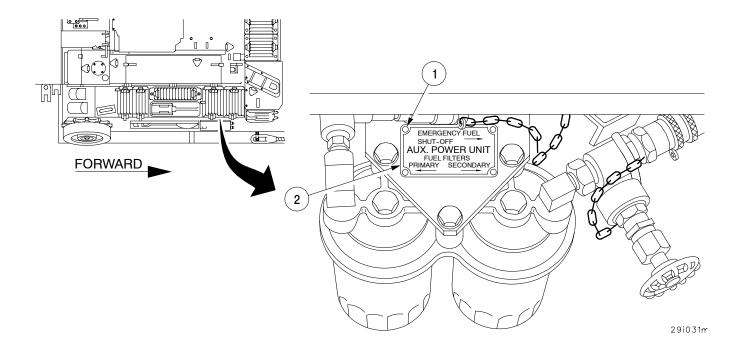
TM 9-2350-292-10

Removal

- 1. Remove four drive screws (1) and instruction plate (2). Discard drive screws.
- 2. Inspect parts for damage and replace as required.

Installation

Install instruction plate (2) with four new drive screws (1).



NOTE

FOLLOW-ON MAINTENANCE:

Close engine deck access door (TM 9-2350-292-10)

AUXILIARY POWER UNIT ENGINE FUEL LINES AND FITTINGS REPLACEMENT

0613 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable container

Equipment Conditions

APU cover removed (WP 0413 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00)

NOTE

Perform Removal steps 1 through 5 and 15 and Installation steps 1 and 11 through 15 for replacement of fuel line and fittings on the output side of the fuel transfer pump.

Perform Removal steps 1, 6 through 8 and 15 and Installation steps 1, 8 through 10 and 15 for replacement of fuel line fittings on the input side of fuel injection pump.

Perform Removal steps 1, 9 through 11 and 15 and Installation steps 1, 5 through 7 and 15 for replacement of fuel line fittings on the input side of the fuel transfer pump.

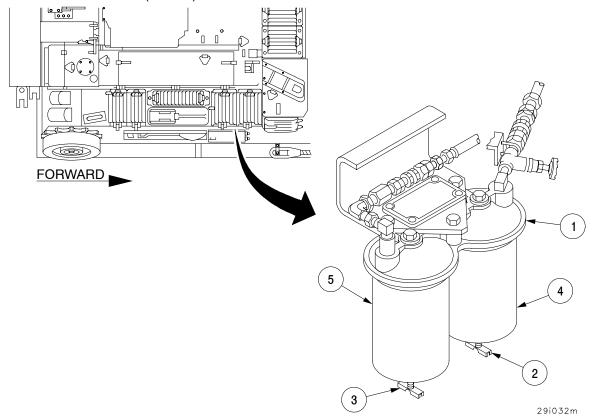
Perform Removal steps 1 and 12 through 15 and Installation steps 1 through 4 and 15 for replacement of fittings from fuel drain lines out of the fuel injection pump.

Procedures to remove fuel line fittings between fuel line couplers (quick-disconnects) and fuel filter assembly are provided as part of the Auxiliary Power Unit Fuel Filter Assembly Replacement procedures (WP 0610 00).



Removal

1. At bottom of fuel filter assembly (1), open the two drain cocks (2 and 3) one at a time and drain fuel from filters (4 and 5). Use suitable size container, as each filter can hold approximately one quart of fuel. Dispose of collected fuel. Close two drain cocks (2 and 3).

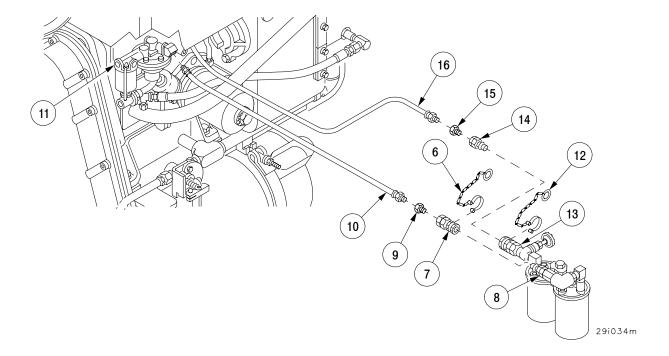


AUXILIARY POWER UNIT ENGINE FUEL LINES AND FITTINGS REPLACEMENT - CONTINUED

0613 00

Removal-Continued

- 2. Unclip connecting ring (6) from fuel line quick-disconnect coupling half (7) and disconnect quick-disconnect coupling halves (7 and 8).
- 3. Remove quick-disconnect coupling half (7) from pipe bushing (9). If connecting ring (6) is also attached to pipe bushing (9), remove connecting ring (6); otherwise, proceed to next step.
- 4. Remove pipe bushing (9) from hose assembly (10).
- 5. Remove hose assembly (10) from fuel transfer pump (11).
- 6. Unclip connecting ring (12) from fuel line quick-disconnect coupling half (13) and disconnect quick-disconnect coupling halves (13 and 14).
- 7. Remove quick-disconnect coupling half (14) from connector (15).
- 8. Remove connector (15) from hose (16).



AUXILIARY POWER UNIT ENGINE FUEL LINES AND FITTINGS REPLACEMENT - CONTINUED

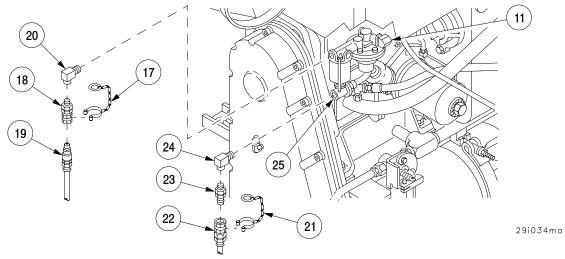
0613 00

Removal-Continued

- 9. Unclip connecting ring (17) from fuel line quick-disconnect coupling half (18) and disconnect quick-disconnect coupling halves (18 and 19).
- 10. Remove quick-disconnect coupling half (18) and connecting ring (17) from pipe elbow (20).
- 11. Remove pipe elbow (20) from fuel transfer pump (11).
- 12. Unclip connecting ring (21) from fuel line quick-disconnect coupling half (22) and disconnect quick-disconnect coupling halves (22 and 23).
- 13. Remove quick-disconnect coupling half (23) from pipe elbow (24).
- 14. Remove pipe elbow (24) from oil filler tube assembly bracket (25).
- 15. Inspect parts for damage and replace as required.

Installation

- 1. Apply sealing compound to all pipe threads prior to installation.
- 2. Install elbow (24) on oil filler tube assembly bracket (25).
- 3. Install quick-disconnect coupling half (23) on pipe elbow (24).
- 4. Connect quick-disconnect coupling halves (22 and 23) and clip connecting ring (21) to fuel line quick-disconnect coupling half (22).
- 5. Install pipe elbow (20) on fuel transfer pump (11).
- Install quick-disconnect coupling half (18) and connecting ring (17) on pipe elbow (20).
- Connect quick-disconnect coupling halves (18 and 19) and clip connecting ring (17) to quick-disconnect coupling half (18).

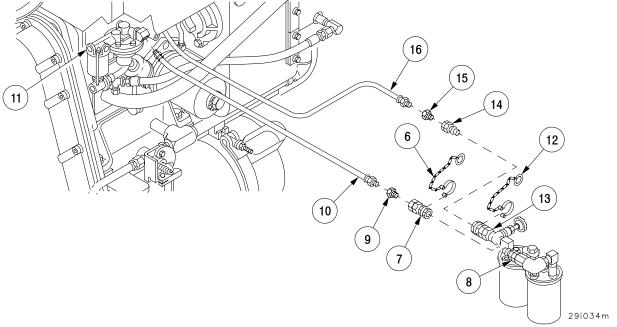


AUXILIARY POWER UNIT ENGINE FUEL LINES AND FITTINGS REPLACEMENT - CONTINUED

0613 00

Installation-Continued

- 8. Install connector (15) on hose (16).
- 9. Install quick-disconnect coupling half (14) on connector (15).
- 10. Connect quick-disconnect coupling halves (13 and 14) and clip connecting ring (12) to quick-disconnect coupling half (13).
- 11. Install hose assembly (10) on fuel transfer pump (11).
- 12. Install pipe bushing (9) on hose assembly (10).
- 13. If connecting ring (6) has been previously removed from pipe bushing (9), reinstall connecting ring (6) on pipe bushing (9). Install quick-disconnect coupling half (7) on pipe bushing (9).
- 14. Connect quick-disconnect coupling halves (7 and 8) and clip connecting ring (6) on quick-disconnect coupling half (7).
- 15. Bleed APU fuel system (WP 0614 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU cover (WP 0413 00)

AUXILIARY POWER UNIT FUEL SYSTEM SERVICE

0614 00

THIS WORK PACKAGE COVERS:

Service

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Suitable container

Equipment Conditions

APU cover removed (WP 0413 00)

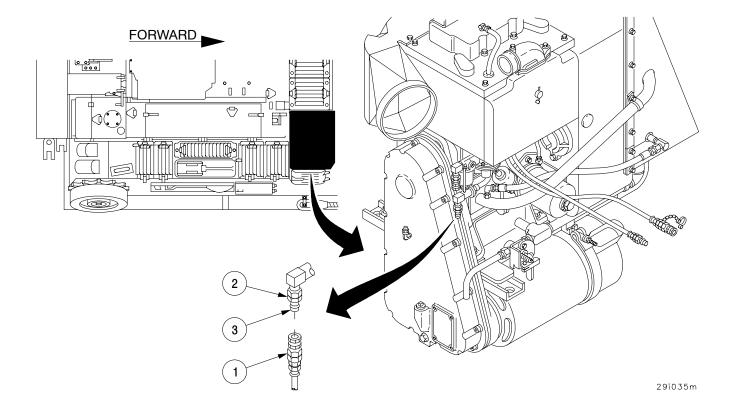
NOTE

Perform steps 1 through 6 to bleed the APU fuel system.

Perform steps 7 and 8 to drain APU fuel system primary and secondary fuel filters.

Service

- 1. Disconnect vehicle fuel return line (1) at APU quick-disconnect coupling half (2).
- 2. Place a suitable container under APU quick-disconnect coupling half (2) to catch excess fuel.
- 3. Press on valve (3) in APU quick-disconnect coupling half (2) to allow fuel to flow.



0614 00

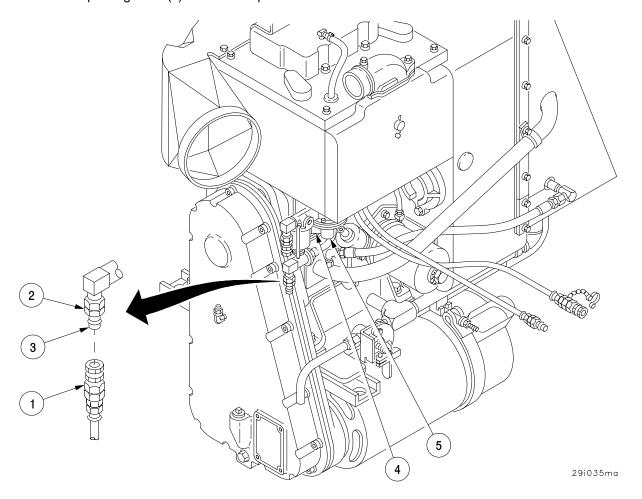
Service-Continued

NOTE

If no fuel flows when fuel transfer pump priming lever is moved, APU engine camshaft pump lobe is in up position. Turn APU engine one revolution to allow hand priming.

Fuel lines retain fuel when disconnected. Do not stop priming until fuel has moved completely through system and all air is purged.

- 4. Operate priming lever (4) on fuel transfer pump (5). Watch for air bubbles in fuel flowing out of APU quick-disconnect coupling half (2).
- 5. When flow is free of bubbles, release valve (3) in APU quick-disconnect coupling half (2), reconnect vehicle fuel return line (1) at APU quick-disconnect coupling half (2).
- 6. Return priming lever (4) to full down position.

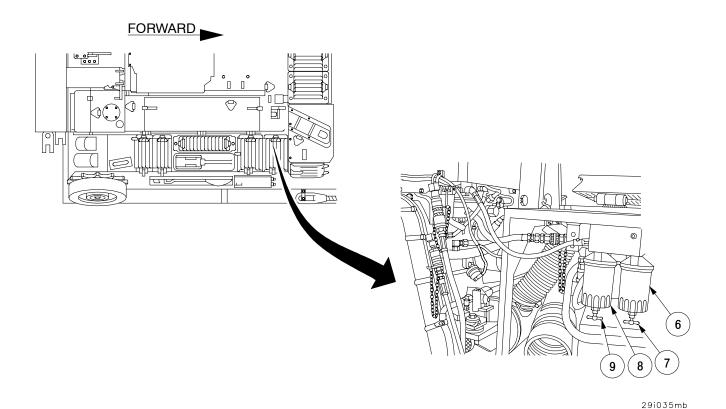


AUXILIARY POWER UNIT FUEL SYSTEM SERVICE - CONTINUED

0614 00

Service-Continued

- 7. Place a container under primary fuel filter (6). Open drain cock (7) and drain filter (6) until clean fuel flows from filter (6). Close drain cock (7). Dispose of drainage.
- 8. Place a container under secondary fuel filter (8). Open drain cock (9) and drain filter (8) until clean fuel flows from filter (8). Close drain cock (9). Dispose of drainage.



NOTE

FOLLOW-ON MAINTENANCE: Install APU cover (WP 0413 00)

END OF TASK

Equipment Conditions

APU assembly removed (WP 0587 00)

AUXILIARY POWER UNIT UPPER AND LOWER FUEL PUMPS REPLACEMENT (HATZ)

0615 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00)

Adhesive (item 81, WP 0716 00) Adhesive (item 29, WP 0716 00)

Lockwashers (2) (item 58, WP 0718 00)

NOTE

Perform Removal steps 1 through 5 and step 11 and Installation steps 8 through 15 for maintenance of lower fuel pump.

Perform Removal steps 6 through 11 and Installation steps 1 through 7 and step 15 for maintenance of upper fuel pump.

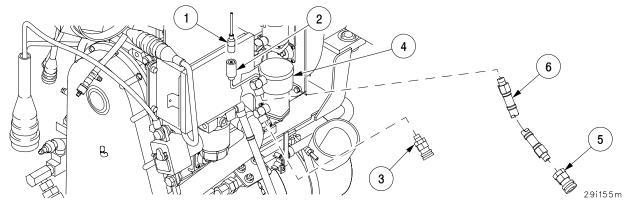
Removal

1. Disconnect wiring harness 3W730 wire 76A (1) from lower fuel pump connector (2).

CAUTION

Do not attempt to remove elbows (10, 11 and 24) from fuel pump unless fuel pump is removed from its mount. Damage to fuel pump may result.

- 2. Remove fuel supply quick-disconnect coupling half (3) with connecting ring from lower fuel pump (4).
- 3. Remove fuel return quick-disconnect coupling half (5) with connecting ring and hose (6) from lower fuel pump (4).

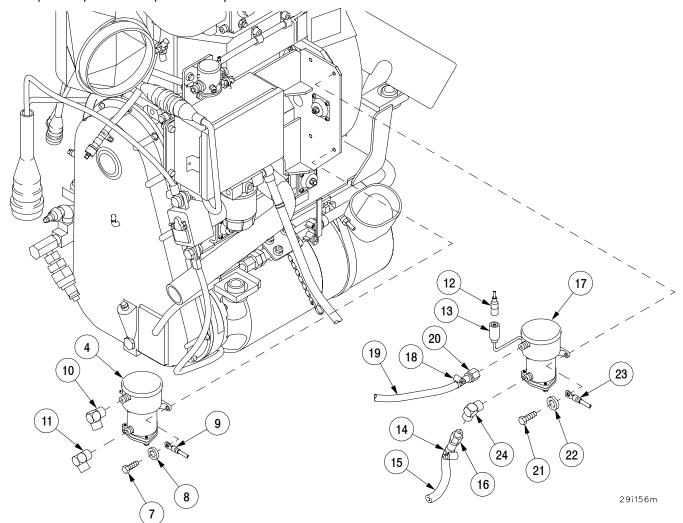


AUXILIARY POWER UNIT UPPER AND LOWER FUEL PUMPS REPLACEMENT (HATZ) - CONTINUED

0615 00

Removal-Continued

- 4. Remove two screws (7), two lockwashers (8), wiring harness 3W730 wire GND (9) and lower fuel pump (4). Discard lockwashers.
- 5. Remove elbows (10 and 11) from lower fuel pump (4).
- 6. Disconnect wiring harness 3W730 wire 76B (12) from upper fuel pump connector (13).
- 7. Loosen hose clamp (14) and remove hose (15) with fitting (16) from upper fuel pump (17).
- 8. Loosen hose clamp (18) and remove hose (19) with fitting (20) from upper fuel pump (17).
- 9. Remove two screws (21), two lockwashers (22), wiring harness 3W730 wire GND (23) and upper fuel pump (17). Discard lockwashers.
- 10. Remove elbow (24) from upper fuel pump (17).
- 11. Inspect all parts and replace as required.

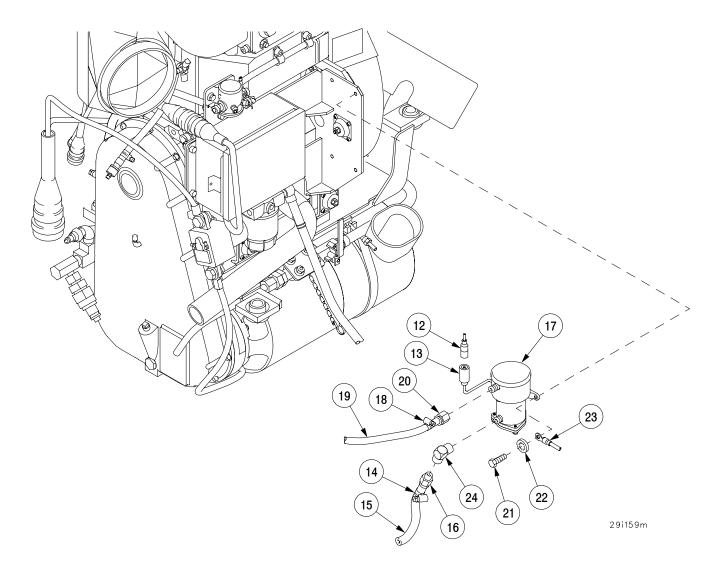


AUXILIARY POWER UNIT UPPER AND LOWER FUEL PUMPS REPLACEMENT (HATZ) - CONTINUED

0615 00

Installation

- 1. Apply sealing compound to threads of elbow (24) and install on upper fuel pump (17).
- 2. Apply adhesive (item 29, WP 0716 00) to threads of two screws (21) prior to installation.
- 3. Install upper fuel pump (17) and wiring harness 3W730 wire GND (23) with two screws (21) and two new lockwashers (22).
- 4. Apply sealing compound to threads of fitting (20) and fitting (16).
- 5. Install fitting (20) with attached hose (19) and tighten hose clamp (18) on upper fuel pump (17).
- 6. Install fitting (16) with attached hose (15) and tighten clamp (14) on upper fuel pump (17).
- 7. Connect wiring harness 3W730 wire 76B (12) to upper fuel pump connector (13).

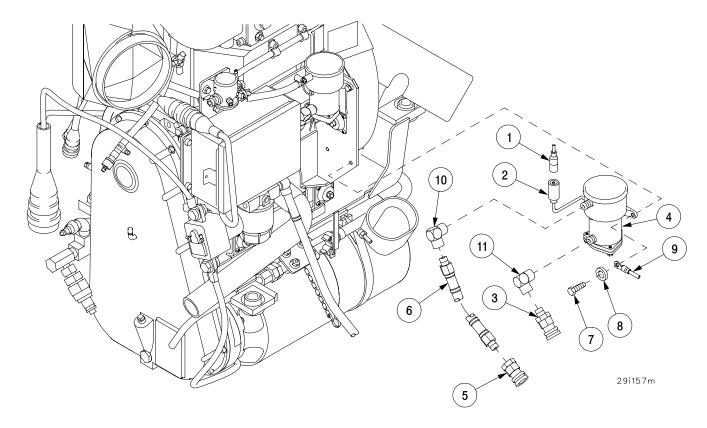


AUXILIARY POWER UNIT UPPER AND LOWER FUEL PUMPS REPLACEMENT (HATZ) - CONTINUED

0615 00

Installation-Continued

- 8. Apply sealing compound to threads of elbows (10 and 11) and install on lower fuel pump (4).
- 9. Install lower fuel pump (4) and wiring harness 3W730 wire GND (9) with two screws (7) and two new lockwashers (8).
- 10. Apply sealing compound to threads of hose (6) and fuel return quick-disconnect coupling half (5).
- 11. Install hose (6) and fuel return quick-disconnect coupling half (5) with connecting ring on lower fuel pump (4).
- 12. Apply sealing compound to threads of fuel supply quick-disconnect coupling half (3).
- 13. Install fuel supply quick-disconnect coupling half (3) with connecting ring on lower fuel pump (4).
- 14. Connect wiring harness 3W730 wire 76A (1) to lower fuel pump connector (2).
- 15. Apply adhesive (item 81, WP 0716 00) to any exposed terminals.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU assembly (WP 0587 00)

Equipment Conditions

APU assembly removed (WP 0587 00)

AUXILIARY POWER UNIT FUEL/WATER SEPARATOR REPLACEMENT (HATZ)

0616 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

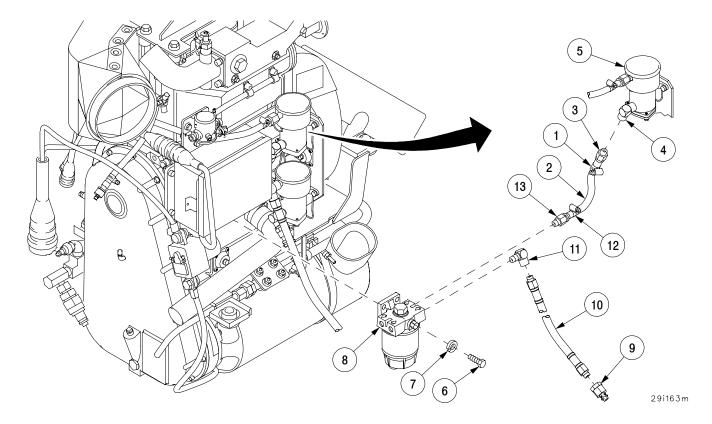
General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00) Adhesive (item 29, WP 0716 00) Lockwashers (2) (item 9, WP 0718 00)

Removal

- 1. Loosen clamp (1) and remove hose (2) with fitting (3) from elbow (4) of upper fuel pump (5).
- 2. Remove two screws (6), two lockwashers (7) and fuel/water separator (8). Discard lockwashers.
- 3. Remove quick-disconnect coupling half (9), hose (10) and elbow (11) from inlet side #3 of fuel/water separator (8).
- 4. Loosen clamp (12) and remove hose (2) with fitting (13) from fuel/water separator (8).
- 5. Inspect all parts and replace as required.

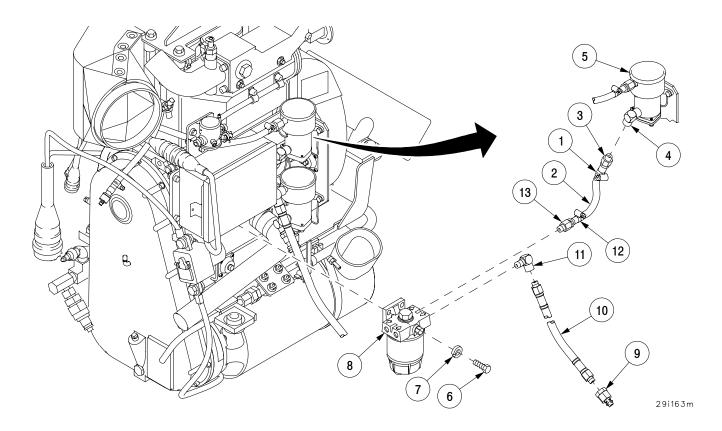


AUXILIARY POWER UNIT FUEL/WATER SEPARATOR REPLACEMENT (HATZ) - CONTINUED

0616 00

Installation

- 1. Apply sealing compound to threads of fittings (3 and 13).
- 2. Install fitting (13) with hose (2) and clamp (12) to fuel/water separator (8).
- 3. Apply sealing compound to threads of elbow (11), hose (10) and quick-disconnect coupling half (9).
- 4. Install elbow (11) in inlet side #3 of fuel/water separator (8).
- 5. Install hose (10) on elbow (11) and install quick-disconnect coupling half (9) on hose (10).
- 6. Apply adhesive (item 29, WP 0716 00) to two screws (6).
- 7. Install fuel/water separator (8) with two screws (6) and two new lockwashers (7).
- 8. Install fitting (3) with hose (2) to upper fuel pump (5) and tighten clamp (1).



NOTE

FOLLOW-ON MAINTENANCE: Install APU assembly (WP 0587 00)

0617 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00) Adhesive (item 29, WP 0716 00) Lockwasher (item 85, WP 0718 00) Gaskets (3) (item 470, WP 0718 00)

Equipment Conditions

APU assembly removed (WP 0587 00)

References

TM 9-2815-250-24&P

Removal



NOTE

Perform only those procedures necessary to replace the defective parts.

CAUTION

To avoid damage to fuel pumps, use extreme caution when removing any fitting connected to elbows or fittings directly connected to fuel pump.

Do not remove elbow from upper or lower fuel pump unless fuel pump has been removed from APU. Failure to comply may result in damage to fuel pump.

0617 00

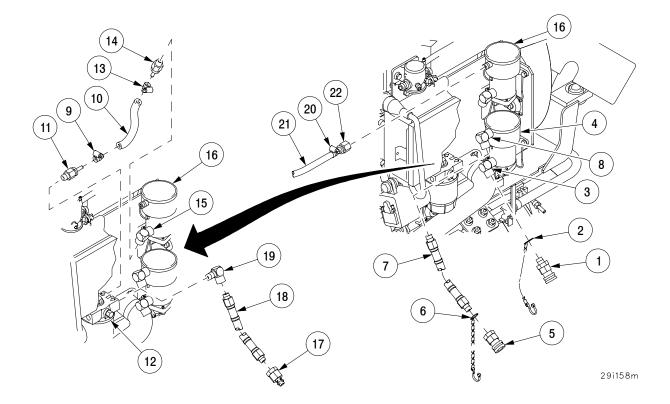
Removal-Continued

- 1. Remove fuel supply quick-disconnect coupling half (1) and connecting ring (2) from elbow (3) on lower fuel pump (4).
- 2. Remove fuel return quick-disconnect coupling half (5), connecting ring (6) and hose (7) from elbow (8) on lower fuel pump (4).
- 3. Loosen hose clamp (9) and remove hose (10) with fitting (11) from outlet side #4 of fuel/water separator (12).
- 4. Remove hose clamp (13) and remove hose (10) and fitting (14) from elbow (15) on upper fuel pump (16).

NOTE

Hose fittings are barbed. Perform step 5 only if replacing hose or barbed fittings.

- 5. Separate barbed fittings (11 and 14) from hose (10). Remove hose clamps (9 and 13).
- Remove quick-disconnect coupling half (17), hose (18) and elbow (19) from input side #3 of fuel/water separator (12).
- 7. Loosen hose clamp (20) and remove hose (21) with barbed fitting (22) from upper fuel pump (16).



0617 00

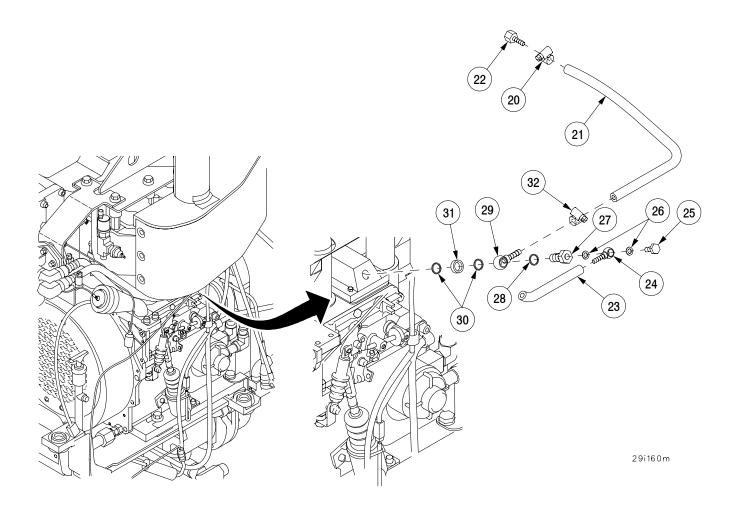
Removal-Continued

- 8. Remove hose (23) from fitting (24) (TM 9-2815-250-24&P).
- 9. Remove fluid passage bolt (25), two flat washers (26), fitting (24), straight tube adapter (27), gasket (28), banjo fitting (29) with hose (21), two gaskets (30) and spacer (31). Discard gaskets.

NOTE

Hose fittings are barbed. Perform step 10 only if replacing hose or barbed fittings.

10. Separate barbed fitting (22) and banjo fitting (29) from hose (21). Remove clamps (20 and 32).



0617 00

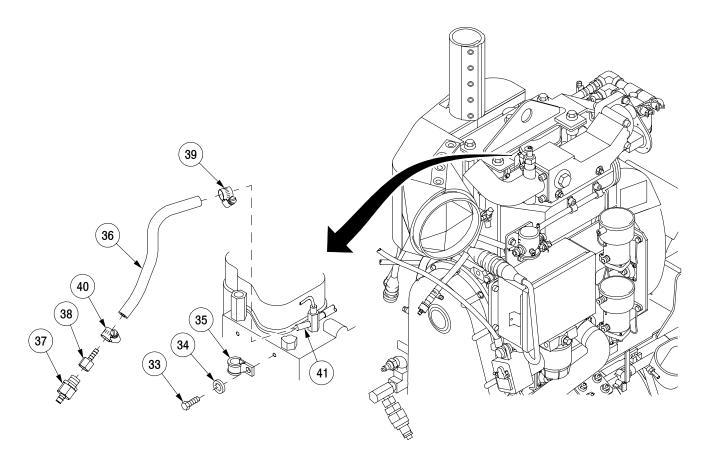
Removal-Continued

- 11. Remove screw (33), lockwasher (34) and loop clamp (35) securing hose (36). Discard lockwasher.
- 12. Remove quick-disconnect coupling half (37) from barbed fitting (38).
- 13. Loosen hose clamp (39) and remove hose (36) with barbed fitting (38) and hose clamp (40) from hose nipple (41).

NOTE

Hose fittings are barbed. Perform step 14 only if replacing hose or barbed fittings.

- 14. Loosen hose clamp (40) and separate barbed fitting (38) from hose (36).
- 15. Inspect parts and replace as required.

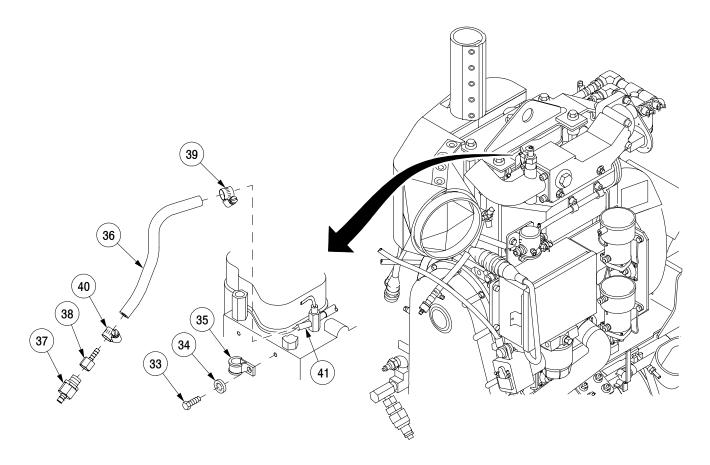


29i161m

0617 00

Installation

- 1. Apply adhesive to all fasteners prior to installation.
- 2. Apply sealing compound to all threaded fittings prior to installation.
- 3. Install barbed fitting (38) in hose (36) and secure with hose clamp (40), if removed.
- 4. Install hose (36) on hose nipple (41) and secure with hose clamp (39).
- 5. Install quick-disconnect coupling half (37) in barbed fitting (38).
- 6. Install loop clamp (35) on hose (36) and secure with screw (33) and new lockwasher (34).

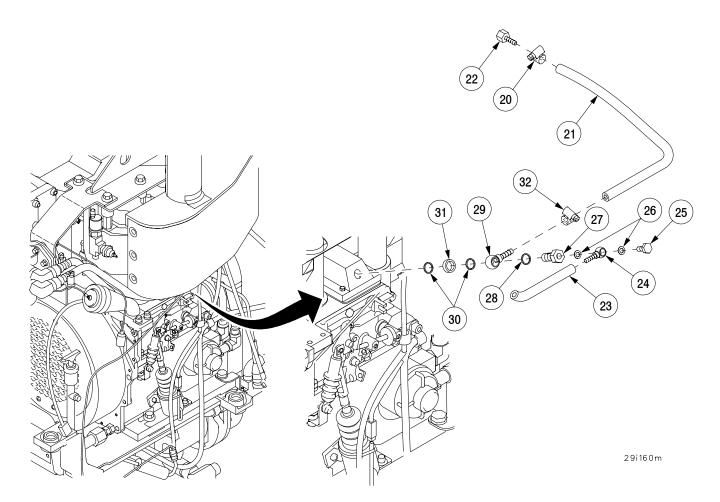


29i161m

0617 00

Installation-Continued

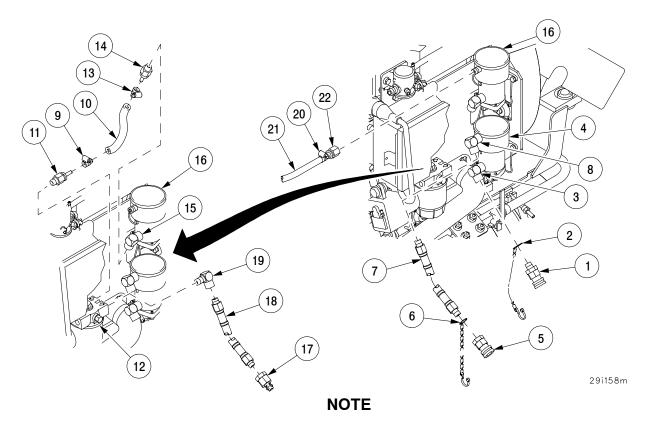
- 7. Install two clamps (20 and 32), banjo fitting (29) and barbed fitting (22) on hose (21), if removed. Secure hose (21) to banjo fitting (29) with clamp (32).
- 8. Install new gasket (28), banjo fitting (29) with hose (21), two new gaskets (30) and spacer (31) on straight tube adapter (27). Install straight tube adapter (27) on APU.
- 9. Install two flat washers (26) and fitting (24) on fluid passage bolt (25). Install fluid passage bolt (25) in straight tube adapter (27).
- 10. Install hose (23) on fitting (24) (TM 9-2815-250-24&P).



0617 00

Installation-Continued

- 11. Install hose (21) with fitting (22) on upper fuel pump (16) and secure clamp (20).
- 12. Install elbow (19) on input side #3 of fuel/water separator (12). Install hose (18) on elbow (19) and quick-disconnect coupling half (17) on hose (18).
- 13. Install but do not tighten hose clamps (9 and 13). Install barbed fittings (11 and 14) in hose (10), if removed.
- 14. Install fitting (14) with hose (10) on elbow (15) of upper fuel pump (16).
- 15. Install fitting (11) with hose (10) in outlet side #4 of fuel/water separator (12). Secure hose clamps (9 and 13).
- 16. Install hose (7), connecting ring (6) and fuel return quick-disconnect coupling half (5) on elbow (8) of lower fuel pump (4).
- 17. Install connecting ring (2) and fuel supply quick-disconnect coupling half (1) on elbow (3) of lower fuel pump (4).



FOLLOW-ON MAINTENANCE: Install APU assembly (WP 0587 00)

0618 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00) Lockwashers (4) (item 9, WP 0718 00) Lockwashers (9) (item 2, WP 0718 00) Lockwashers (2) (item 58, WP 0718 00) Gasket (item 57, WP 0718 00) (2 required for HATZ APU) Equipment Conditions

Boom raised (TM 9-2350-292-10)

Personnel Required

Two

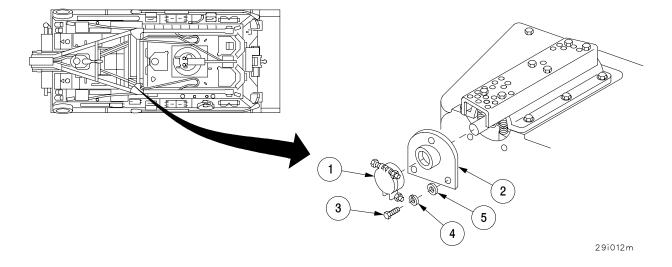
References

TM 9-2350-292-10



Removal

- 1. Loosen valve assembly (1) clamp and slide valve assembly (1) off exhaust tube assembly (2).
- 2. Remove three screws (3), three lockwashers (4), three flat washers (5) and exhaust tube assembly (2). Discard lockwashers.



0618 00

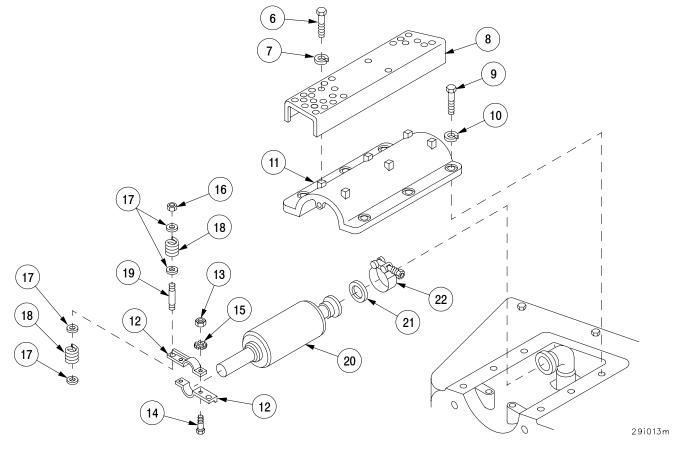
Removal-Continued

- 3. Remove four screws (6), four lockwashers (7) and muffler heat shield (8). Discard lockwashers.
- 4. Remove six screws (9), six lockwashers (10) and muffler cover (11). Discard lockwashers.
- 5. Loosen top and bottom clamps (12) by removing two nuts (13), two screws (14) and two lockwashers (15). Discard lockwashers.
- 6. Remove two nuts (16), eight flat washers (17), four springs (18) and top and bottom clamps (12) from two studs (19).

NOTE

Do not remove studs unless damaged or loosened during removal of clamps.

- 7. Remove two studs (19), if damaged.
- 8. Remove muffler (20) and gasket (21) by loosening clamp (22). If necessary, break muffler loose from attached parts. When muffler is free, remove clamp (22) and gasket (21). Discard gasket.



0618 00

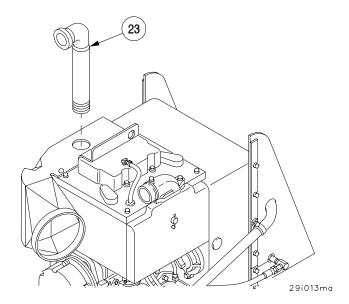
Removal-Continued

NOTE

If elbow on ONAN APU is being replaced, remove APU cover (WP 0413 00) and perform steps 9 and 12; otherwise, removal procedure is completed.

If elbow and stub assembly on HATZ APU are being replaced, remove APU cover (WP 0413 00), remove thermal cover (WP 0623 00) and proceed to step 10; otherwise, removal procedure is completed.

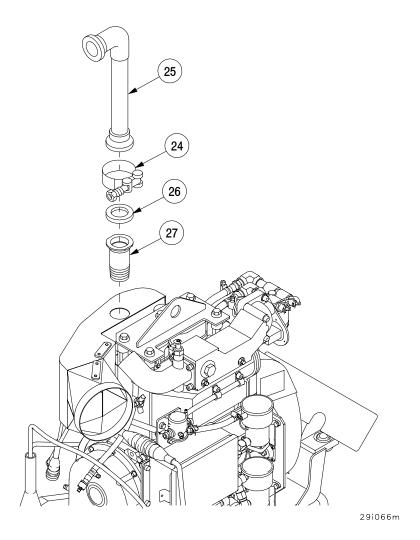
9. Remove elbow (23) from APU engine exhaust manifold.



0618 00

Removal-Continued

- 10. Loosen clamp (24), then remove elbow (25), gasket (26) and clamp (24) from stub assembly (27). Discard gasket.
- 11. Remove stub assembly (27) from APU engine exhaust manifold.
- 12. Inspect parts for damage and replace as required.



0618 00

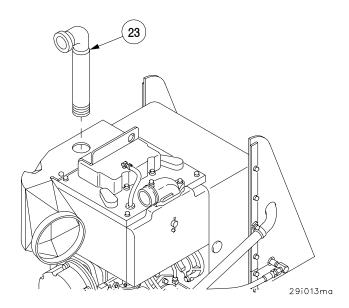
Installation

NOTE

For ONAN APU, if elbow is being installed and APU cover has not been removed, remove APU cover (WP 0413 00) and proceed to step 1. If elbow is already installed and APU cover has not been removed, it is not necessary to remove APU cover to complete installation procedures. In this case, proceed to step 7.

For HATZ APU, if elbow and stub assembly are being installed and APU cover has not been removed, remove APU cover (WP 0413 00) and proceed to step 4. If elbow and stub assembly are already installed and APU cover has not been removed, it is not necessary to remove APU cover to complete installation procedures. In this case, proceed to step 7.

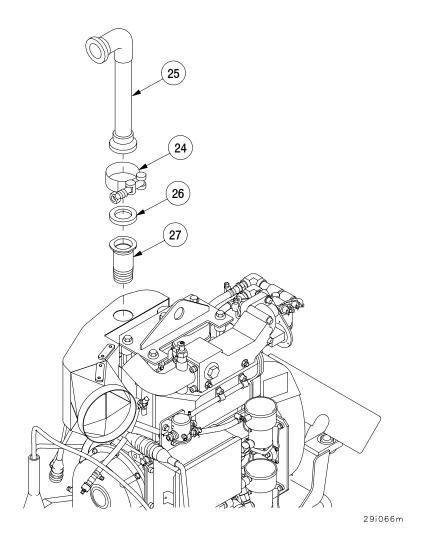
- 1. Apply sealing compound to threads of elbow (23).
- 2. Install elbow (23) in APU engine exhaust manifold.
- 3. Install APU cover (WP 0413 00).



0618 00

Installation-Continued

- 4. Apply sealing compound to threads of stub assembly (27), then install stub assembly (27) in APU engine exhaust manifold.
- 5. Install clamp (24), new gasket (26) and elbow (25) on stub assembly (27). Tighten clamp (24).
- 6. Install thermal cover (WP 0623 00).



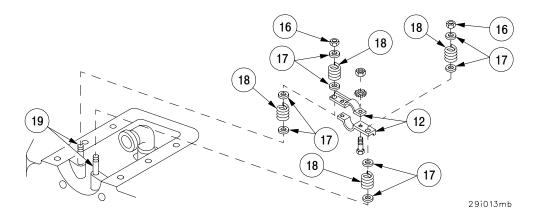
0618 00

Installation-Continued

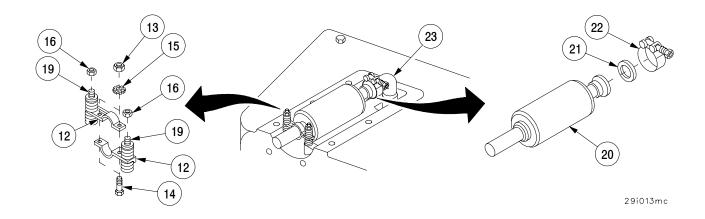
NOTE

If studs were removed or are being replaced, proceed to the next step; otherwise, proceed to step 8.

- 7. Install two studs (19) in APU cover.
- 8. Loosely install top and bottom clamps (12) on two studs (19) with four springs (18), eight flat washers (17) and two nuts (16).



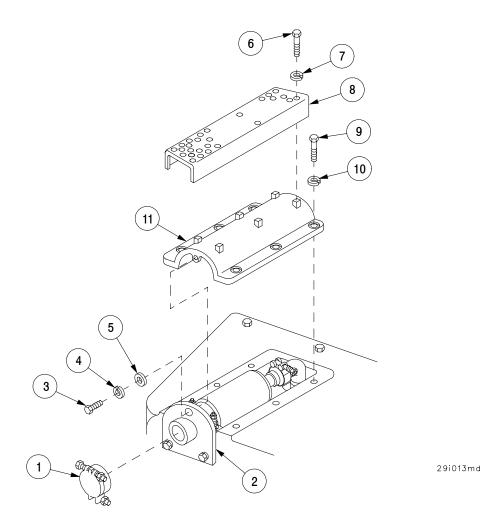
- 9. Install muffler (20) by sliding tail pipe end of muffler (20) through clamps (12). Slide clamp (22) over other end of muffler (20), assemble new gasket (21) to muffler (20) and fit against elbow (23). Slide clamp (22) in place and tighten.
- 10. Fasten top and bottom clamps (12) on muffler (20) with two screws (14), two new lockwashers (15) and two nuts (13). Tighten screws (14) and nuts (13).
- 11. Tighten nuts (16) secure securing top and bottom clamps (12) to studs (19). Do not over tighten nuts (16).



0618 00

Installation-Continued

- 12. Install muffler cover (11) with six screws (9) and six new lockwashers (10).
- 13. Install muffler heat shield (8) with four screws (6) and four new lockwashers (7).
- 14. Install exhaust tube assembly (2) on APU cover with three flat washers (5), three new lockwashers (4) and three screws (3).
- 15. Install valve assembly (1) over exhaust tube assembly (2) and tighten valve assembly (1) clamp.



NOTE

FOLLOW-ON MAINTENANCE:

Lower boom (TM 9-2350-292-10)

AUXILIARY POWER UNIT EXHAUST MANIFOLD REPLACEMENT (HATZ)

0619 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Self-locking nuts (4) (item 473, WP 0718 00) Gaskets (2) (item 474, WP 0718 00)

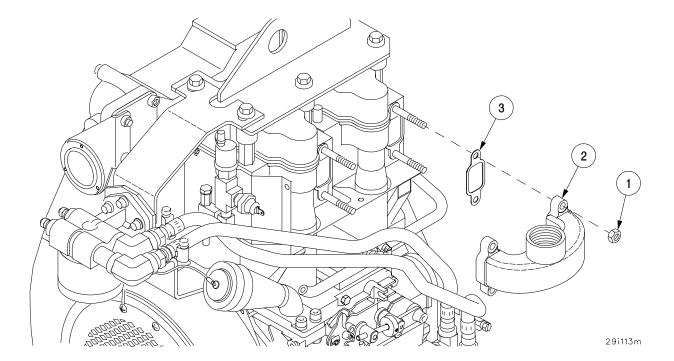
Equipment Conditions

APU exhaust pipe and stub removed (WP 0618 00)
APU air duct removed (WP 0625 00)



Removal

- 1. Remove four self-locking nuts (1), exhaust manifold (2) and two gaskets (3) from APU. Discard self-locking nuts and gaskets.
- 2. Inspect all parts for damage and replace as required.

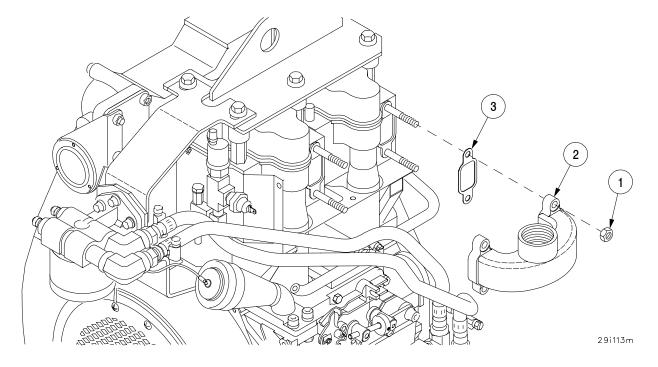


AUXILIARY POWER UNIT EXHAUST MANIFOLD REPLACEMENT (HATZ) - CONTINUED

0619 00

Installation

Install exhaust manifold (2) and two new gaskets (3) on APU with four new self-locking nuts (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU air duct (WP 0625 00) Install APU exhaust pipe and stub (WP 0618 00)

AUXILIARY POWER UNIT DUCTING REPLACEMENT

0620 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 10, WP 0718 00) Lockwashers (4) (item 9, WP 0718 00) Gasket (item 100, WP 0718 00)

Material/Parts-Continued

Lockwashers (3) (item 11, WP 0718 00) Lockwashers (5) (item 12, WP 0718 00) Lockwashers (4) (item 2, WP 0718 00)

Personnel Required

Two

References

TM 9-2350-292-10

NOTE

Perform Removal steps 1 and 20 and Installation steps 18 and 19 for replacement of engine air cleaner hose.

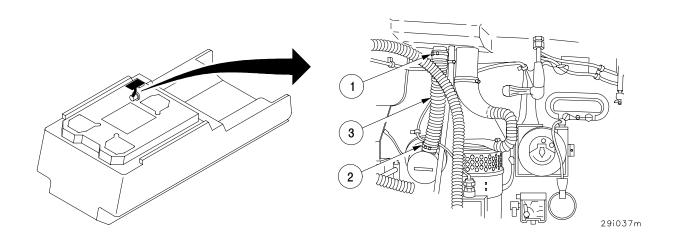
Perform Removal steps 2 through 9 and 20 and Installation steps 11 through 17 for replacement of engine air duct.

Perform Removal steps 10 through 16 and 20 and Installation steps 4 through 10 for replacement of engine air cleaner duct.

Perform Removal steps 17 through 20 and Installation steps 1 through 3 for replacement of generator air duct.

Removal

1. Loosen clamps (1 and 2) and slide both clamps (1 and 2) back over air cleaner hose (3). Remove hose (3) from fittings at both ends. Remove both clamps (1 and 2) from hose (3).

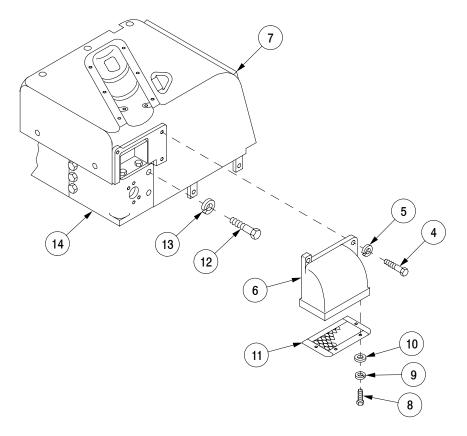


Removal-Continued

NOTE

The following steps are performed with the boom raised (TM 9-2350-292-10).

- 2. Remove three screws (4), three lockwashers (5) and cooling air shield (6) from APU cover (7). Discard lockwashers.
- 3. Remove four screws (8), four lockwashers (9), four flat washers (10) and screen (11) from cooling air shield (6). Discard lockwashers.
- 4. Remove two screws (12) and two lockwashers (13) securing auxiliary housing (14) to APU cover (7). Discard lockwashers.



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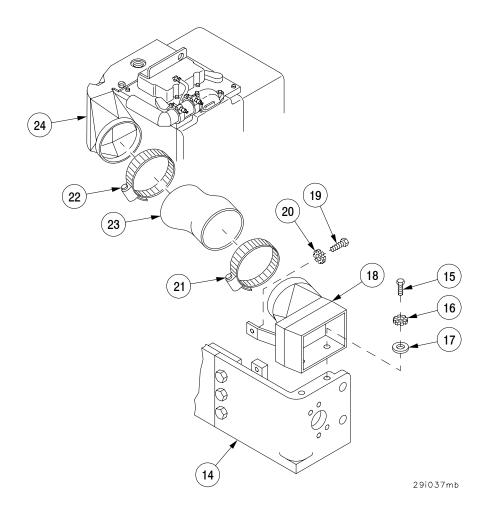
0620 00

Removal-Continued

NOTE

The following steps are performed with APU cover removed (WP 0413 00).

- 5. Remove two screws (15), two lockwashers (16) and two flat washers (17) securing duct (18) to auxiliary housing (14). Discard lockwashers.
- 6. Remove screw (19) and lockwasher (20), separate duct (18) from auxiliary housing (14). Discard lockwasher.
- 7. Loosen bolts on clamps (21 and 22). Slide clamps (21 and 22) back over air duct hose (23).
- 8. Remove air duct hose (23) and clamp (21) from duct (18). Remove clamp (21) from hose (23).
- 9. Remove air duct hose (23) and clamp (22) from duct (24). Remove clamp (22) from hose (23).

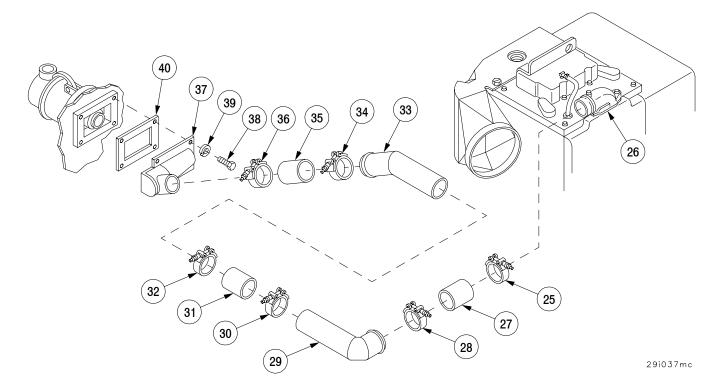


AUXILIARY POWER UNIT DUCTING REPLACEMENT - CONTINUED

0620 00

Removal-Continued

- 10. Loosen clamp (25) at air cleaner adapter (26). Slide clamp (25) back over hose (27) and remove hose (27) from air cleaner adapter (26).
- 11. At other end of hose (27), loosen clamp (28) and slide clamp (28) back over hose (27). Remove hose (27) from tube (29). Remove both clamps (25 and 28) from hose (27).
- 12. At other end of tube (29), loosen clamp (30) and slide clamp (30) back over hose (31). Remove tube (29).
- 13. At other end of hose (31), loosen clamp (32) and slide clamp (32) back over hose (31). Remove hose (31) from tube (33). Remove both clamps (30 and 32) from hose (31).
- 14. At other end of tube (30), loosen clamp (34). Slide clamp (34) back over hose (35). Remove hose (35) from elbow (37). Remove both clamps (34 and 36) from hose (35).
- 15. At other end of hose (35), loosen clamp (36). Slide clamp (36) back over hose (35). Remove hose (35) from elbow (37). Remove both clamps (34 and 36) from hose (35).
- 16. Remove four screws (38), four lockwashers (39), elbow (37) and gasket (40). Discard gasket and lockwashers.



0620 00

Removal-Continued

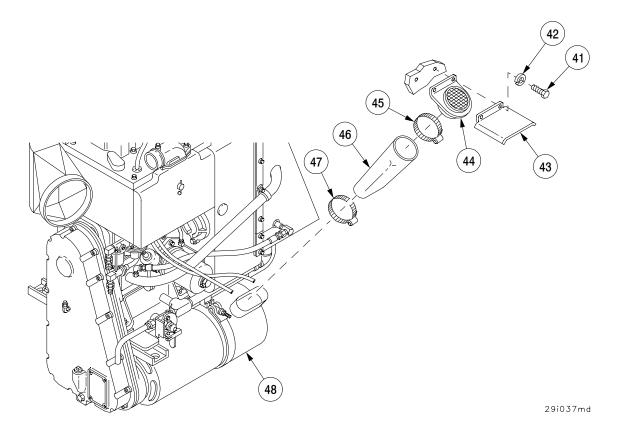
NOTE

The following steps are performed with engine deck access door adjacent to the APU open (TM 9-2350-292-10).

- 17. Remove two screws (32), two lockwashers (33), two flat washers (34) and cover (35). Discard lockwashers.
- 18. Remove grille (35) by loosening clamp (37). Slide clamp (37) back over hose (38).
- 19. Loosen clamp (39) at other end of hose (38). Slide clamp (39) back over hose (38). Remove hose (38). Remove clamps (37 and 39) from hose (38).
- 20. Inspect parts for damage and replace as required.

Installation

- 1. Install hose (38) on duct (40). Slide clamp (39) over hose (38) and position clamp (39) to hold hose (38) on duct (40). Tighten clamp (39).
- 2. Slide the second clamp (37) over the hose (38). Install hose (38) on grille (36) and position clamp (37) to hold hose (38) on grille (36). Tighten clamp (37).
- 3. Install cover (35) and grille (36) with two screws (32), two new lockwashers (33) and two lockwashers (34).



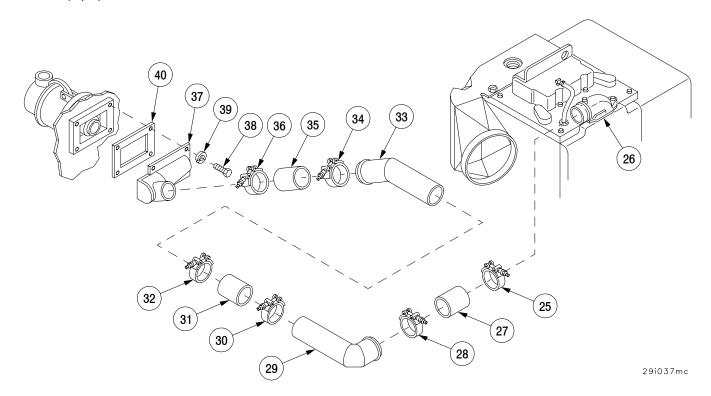
0620 00

Installation-Continued

NOTE

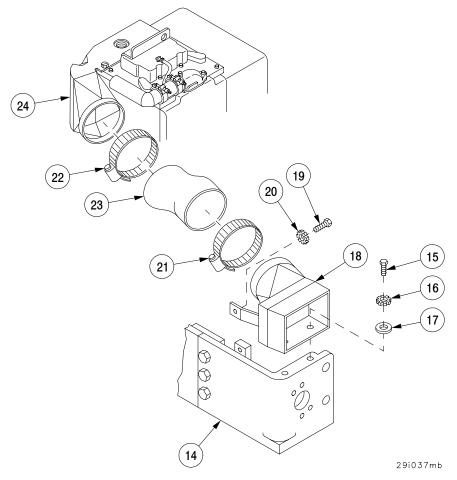
The remaining steps are performed with engine deck access door adjacent to the APU closed (TM 9-2350-292-10).

- 4. Install elbow (37) and new gasket (40) with four screws (38) and four new lockwashers (39).
- 5. Slide clamps (34 and 36) over hose (35) and install hose (35) on elbow (37). Position clamp (36) to hold hose (35) on elbow (37) and tighten clamp (36).
- 6. Install tube (33) in the other end of hose (35). Position clamp (34) to hold hose (35) on tube (33) and tighten clamp (34).
- 7. Slide clamps (30 and 32) over hose (31) and install hose (31) on tube (33). Position clamp (32) to hold hose (31) on tube (33) and tighten clamp (32).
- 8. Install tube (29) in the other end of hose (31). Position clamp (30) to hold hose (31) on tube (29) and tighten clamp (30).
- 9. Slide clamps (25 and 28) over hose (27) and install hose (27) on tube (29). Position clamp (28) to hold hose (27) on tube (29) and tighten clamp (28).
- 10. Install hose (27) over air cleaner adapter (26). Position clamp (25) to hold hose (27) on adapter (26) and tighten clamp (25).



0620 00

- 11. Slide clamps (21 and 22) over air duct hose (23). Install air duct hose (23) over duct (24) and position clamp (22) to hold air duct hose (23) to duct (24). Tighten clamp (22).
- 12. Attach the other end of the air duct hose (23) to duct (18). Position clamp (21) to hold air duct hose (23) to duct (18) and tighten clamp (21).
- 13. Fasten duct (18) to auxiliary housing (14) with screw (19) and new lockwasher (20).
- 14. Attach bottom of duct (18) to auxiliary housing (14) with two screws (15), two new lockwashers (16) and two flat washers (17).



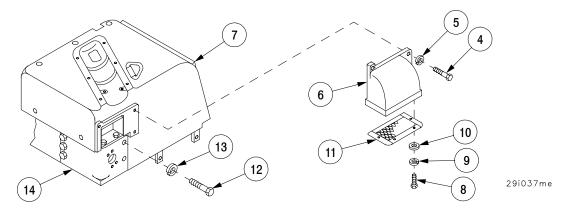
0620 00

Installation-Continued

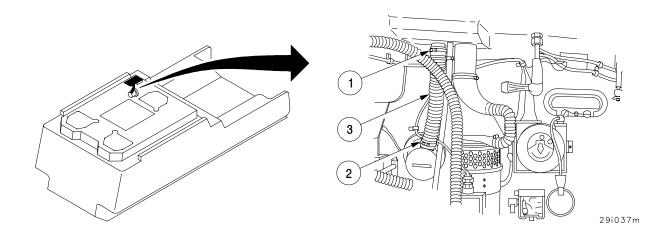
NOTE

The remaining steps are performed with the APU cover installed (WP 0413 00).

- 15. Secure auxiliary housing (14) to APU cover (7) with two screws (12) and two new lockwashers (13).
- 16. Install screen (11) to cooling air shield (6) with four screws (8), four new lockwashers (9) and four flat washers (10).
- 17. Install cooling air shield (6) to APU cover (7) with three screws (4) and three new lockwashers (5).



- 18. Slide clamps (1 and 2) over air cleaner hose (3). Install hose (3) on APU engine air cleaner and position clamp (2) to hold hose (3) on APU engine air cleaner. Tighten clamp (2).
- 19. Install other end of hose (3) on air intake adapter. Position clamp (1) to hold hose (3) on air intake adapter and tighten clamp (1).



AUXILIARY POWER UNIT DUCTING REPLACEMENT (HATZ).

0621 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 10, WP 0718 00) Lockwashers (4) (item 9, WP 0718 00) Gasket (item 100, WP 0718 00)

Materials/Parts-Continued

Lockwasher (item 11, WP 0718 00) Lockwashers (5) (item 12, WP 0718 00) Lockwashers (6) (item 2, WP 0718 00)

Personnel Required

Two

References

TM 9-2350-292-10

NOTE

Perform Removal steps 1 and 15 and Installation steps 14 and 15 for replacement of engine air cleaner hose.

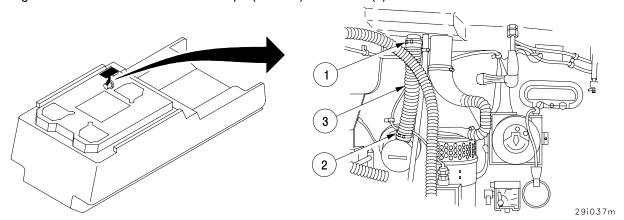
Perform Removal steps 2 through 9 and 15 and Installation steps 7 through 13 for replacement of engine air duct.

Perform Removal steps 10, 11 and 15 and Installation steps 4 through 6 for replacement of engine air cleaner duct.

Perform Removal steps 12 through 15 and Installation steps 1 through 3 for replacement of generator air duct.

Removal

1. Loosen clamps (1 and 2) and slide both clamps (1 and 2) back over air cleaner hose (3). Remove hose (3) from fittings at both ends. Remove both clamps (1 and 2) from hose (3).



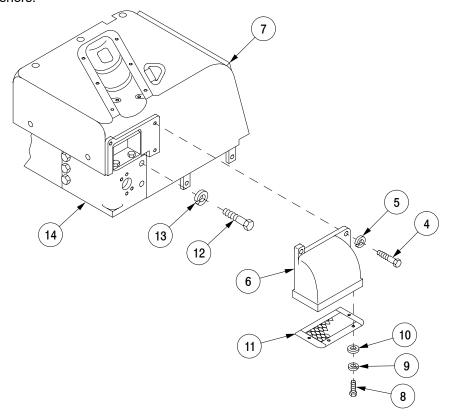
0621 00

Removal-Continued

NOTE

The following steps are performed with the boom raised (TM 9-2350-292-10).

- 2. Remove three screws (4), three lockwashers (5) and cooling air shield (6) from APU cover (7). Discard lockwashers.
- 3. Remove four screws (8), four lockwashers (9), four flat washers (10) and screen (11) from cooling air shield (6). Discard lockwashers.
- 4. Remove two screws (12) and two lockwashers (13) securing auxiliary housing (14) to APU cover (7). Discard lockwashers.



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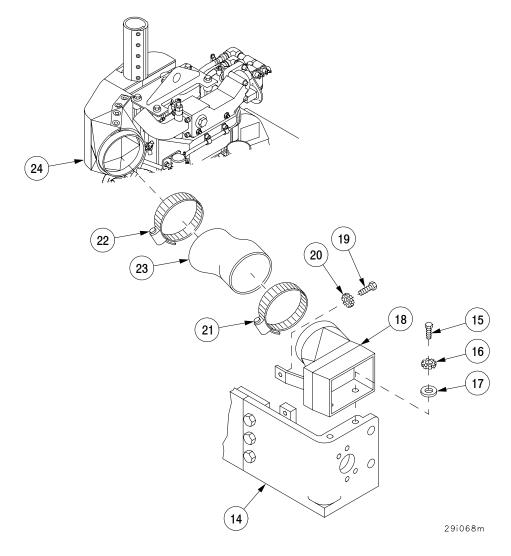
0621 00

Removal-Continued

NOTE

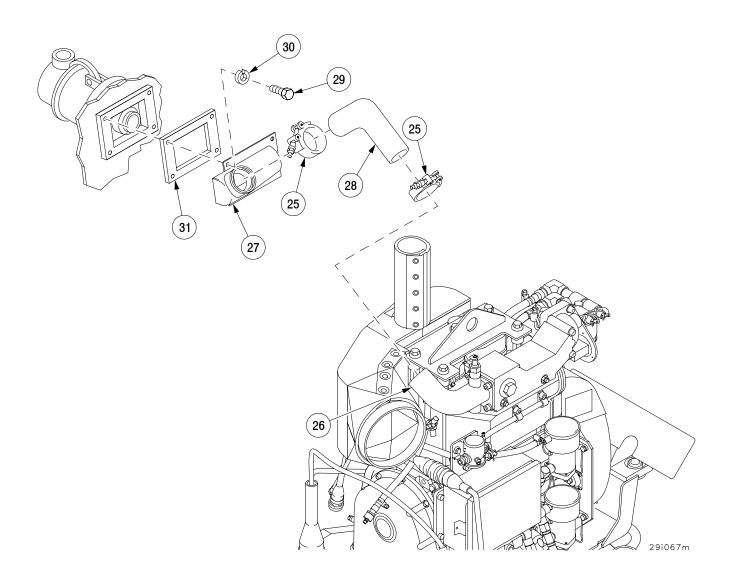
The following steps are performed with APU cover removed (WP 0413 00).

- 5. Remove two screws (15), two lockwashers (16) and two flat washers (17) securing duct (18) to auxiliary housing (14). Discard lockwashers.
- 6. Remove screw (19) and lockwasher (20), separate duct (18) from auxiliary housing (14). Discard lockwasher.
- 7. Loosen bolts on clamps (21 and 22). Slide clamps (21 and 22) back over air duct hose (23).
- 8. Remove air duct hose (23) and clamp (21) from duct (18). Remove clamp (21) from hose (23).
- 9. Remove air duct hose (23) and clamp (22) from duct (24). Remove clamp (22) from hose (23).



0621 00

- 10. Loosen two clamps (25) at air cleaner adapter (26) and elbow (27). Slide clamps (25) back over hose (28) and remove hose (28) from air cleaner adapter (26) and elbow (27). Remove both clamps (25) from hose (28).
- 11. Remove four screws (29), four lockwashers (30), elbow (27) and gasket (31). Discard gasket and lockwashers.



0621 00

Removal-Continued

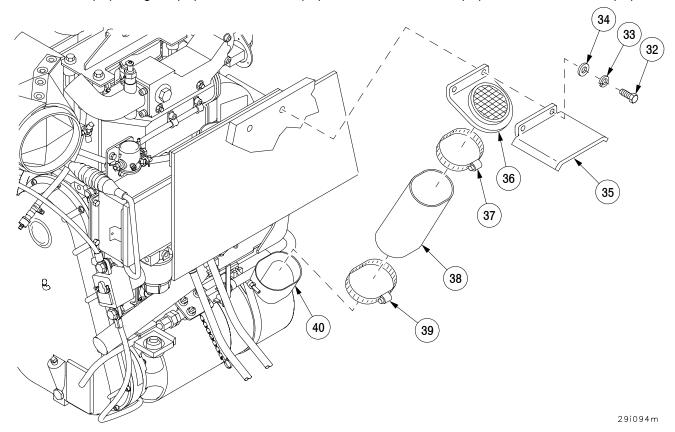
NOTE

The following steps are performed with engine deck access door adjacent to the APU open (TM 9-2350-292-10).

- 12. Remove two screws (32), two lockwashers (33), two flat washers (34) and cover (35). Discard lockwashers.
- 13. Remove grille (36) by loosening clamp (37). Slide clamp (37) back over hose (38).
- 14. Loosen clamp (39) at other end of hose (38). Slide clamp (39) back over hose (38). Remove hose (38). Remove clamps (37 and 39) from hose (38).
- 15. Inspect parts for damage and replace as required.

Installation

- 1. Install hose (38) on duct (40). Slide clamp (39) over hose (38) and position clamp (39) to hold hose (38) on duct (40). Tighten clamp (39).
- 2. Slide the second clamp (37) over the hose (38). Install hose (38) on grille (36) and position clamp (37) to hold hose (38) on grille (36). Tighten clamp (37).
- 3. Install cover (35) and grille (36) with two screws (32), two new lockwashers (33) and two flat washers (34).



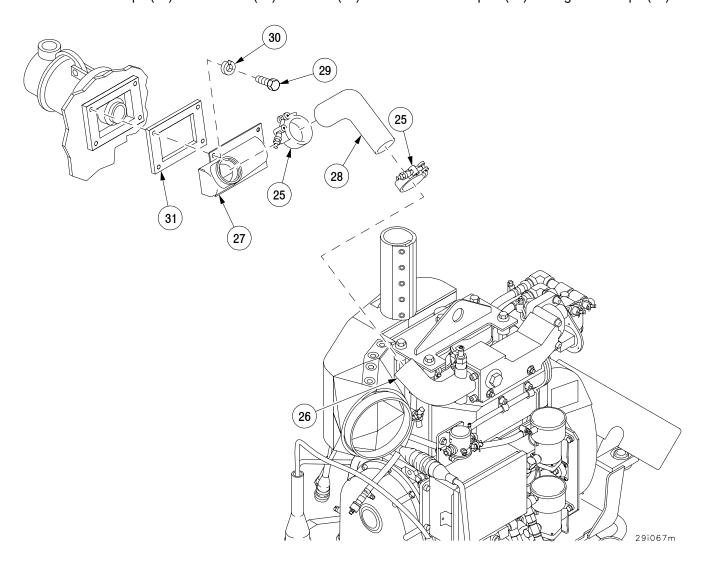
0621 00

Installation-Continued

NOTE

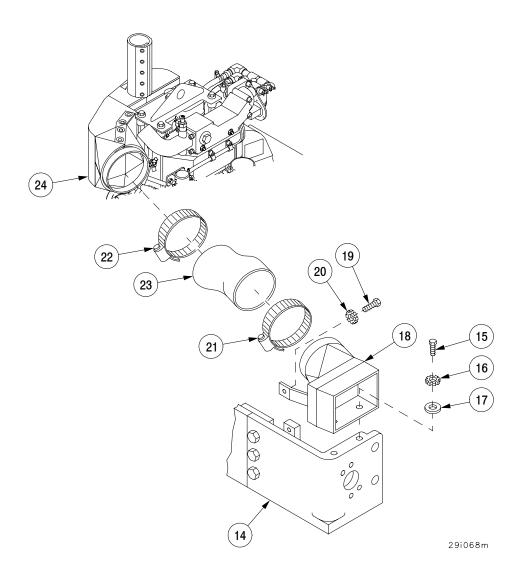
The remaining steps are performed with engine deck access door adjacent to the APU closed (TM 9-2350-292-10).

- 4. Install elbow (27) and new gasket (31) with four screws (29) and four new lockwashers (30).
- 5. Slide two clamps (25) over hose (28) and install hose (28) on elbow (27) and on air cleaner adapter (26).
- 6. Position two clamps (25) to hold hose (28) on elbow (27) and air cleaner adapter (26) and tighten clamps (25).



0621 00

- 7. Slide clamps (21 and 22) over air duct hose (23). Install air duct hose (23) over duct (24) and position clamp (22) to hold air duct hose (23) to duct (24). Tighten clamp (22).
- 8. Attach the other end of the air duct hose (23) to duct (18). Position clamp (21) to hold air duct hose (23) to duct (18) and tighten clamp (21).
- 9. Fasten duct (18) to auxiliary housing (14) with screw (19) and new lockwasher (20).
- 10. Attach bottom of duct (18) to auxiliary housing (14) with two screws (15), two new lockwashers (16) and two flat washers (17).



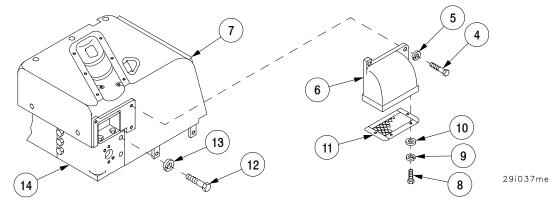
0621 00

Installation-Continued

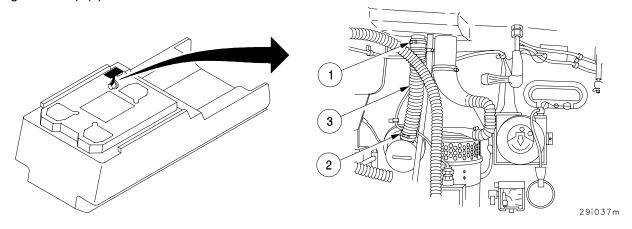
NOTE

The remaining steps are performed with the APU cover installed (WP 0413 00).

- 11. Secure auxiliary housing (14) to APU cover (7) with two screws (12) and two new lockwashers (13).
- 12. Install screen (11) to cooling air shield (6) with four screws (8), four new lockwashers (9) and four flat washers (10).
- 13. Install cooling air shield (6) to APU cover (7) with three screws (4) and three new lockwashers (5).



- 14. Slide clamps (1 and 2) over air cleaner hose (3). Install hose (3) on APU engine air cleaner and position clamp (2) to hold hose (3) on APU engine air cleaner. Tighten clamp (2).
- 15. Install other end of hose (3) on air intake adapter. Position clamp (1) to hold hose (3) on air intake adapter and tighten clamp (1).



AUXILIARY POWER UNIT ENGINE DUCT REPLACEMENT

0622 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Sealing compound (item 16, WP 0716 00)

Equipment Conditions

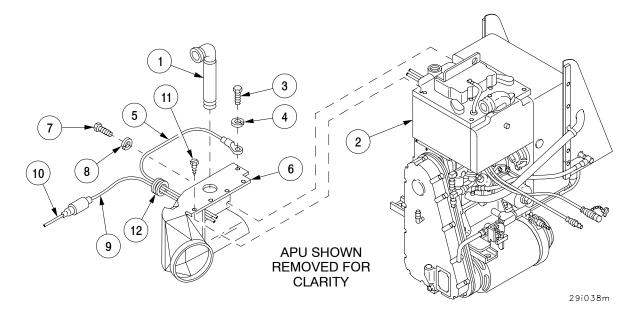
APU cover removed (WP 0413 00) APU ducting removed (WP 0620 00)

Removal

NOTE

Perform step 1 if exhaust elbow has not been previously removed; otherwise, proceed to step 2.

- 1. Remove exhaust elbow (1) from exhaust manifold of APU engine (2).
- 2. Remove screw (3), washer (4) and wire (5) from top side of duct (6). Retain hardware for installation.
- 3. Remove screw (7) and washer (8) on back side of duct (6). Retain hardware for installation.
- 4. Disconnect wire (9) from lead connector (10).
- 5. Remove four screws (11) and slide duct (6) off APU engine (2).
- 6. Remove grommet (12) from duct (6). Thread disconnected wires (5 and 9) through grommet (12) and duct (6).
- 7. Inspect parts for damage and replace as required.

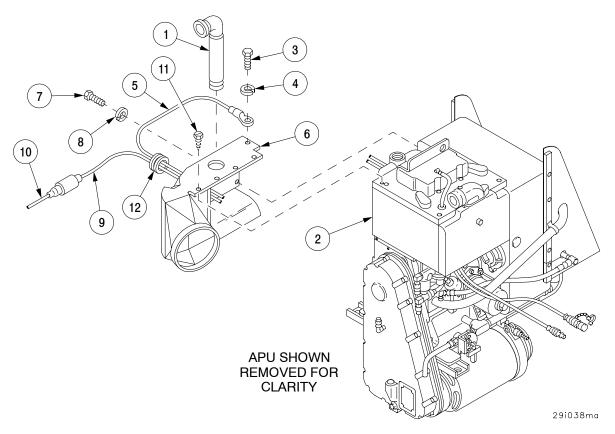


AUXILIARY POWER UNIT ENGINE DUCT REPLACEMENT - CONTINUED

0622 00

Installation

- 1. Thread wires (5 and 9) through duct (6) and grommet (12). Attach duct (6) to APU engine (2) with four screws (11). Install grommet (12) in duct (6).
- 2. Secure duct (6) to back side of APU engine (2) with screw (7) and washer (8).
- 3. Connect wire (5) to top side of duct (6) with screw (3) and washer (4).
- 4. Connect wire (9) to lead connector (10).
- 5. Apply sealing compound to threads of exhaust elbow (1).
- 6. Install exhaust elbow (1) in exhaust manifold of APU engine (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU ducting (WP 0620 00) Install APU cover (WP 0413 00)

AUXILIARY POWER UNIT ENGINE DUCT REPLACEMENT (HATZ)

0623 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

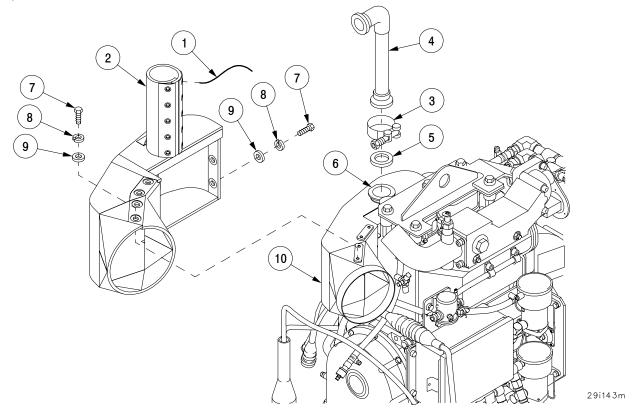
APU removed from vehicle (WP 0587 00)

Materials/Parts

Sealant (item 16, WP 0716 00) Lockwashers (7) (item 9, WP 0718 00) Non-electrical wire (item 101, WP 0716 00) Gasket (item 57, WP 0718 00)

Removal

- 1. Remove lacing wire (1) from thermal cover (2). Discard lacing wiring.
- 2. Loosen clamp (3), remove elbow (4), gasket (5) and clamp (3) from stub assembly (6). Discard gasket.
- 3. Remove seven screws (7), seven lockwashers (8), seven flat washers (9) and thermal cover (2) from heat duct (10). Discard lockwashers.



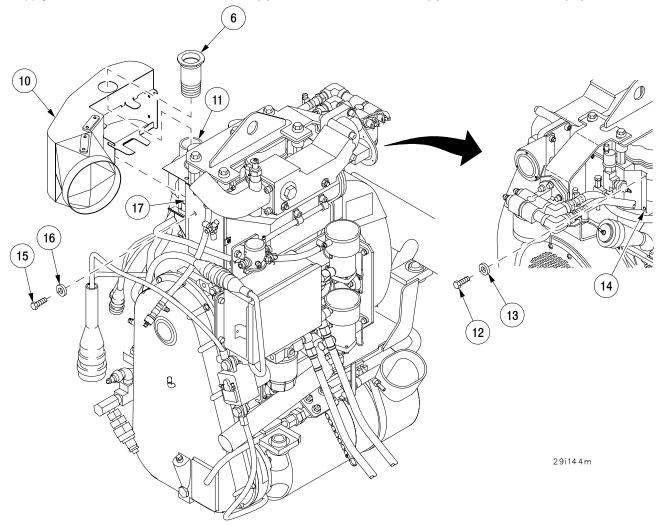
0623 00

Removal-Continued

- 4. Remove exhaust stub (6) from exhaust manifold (11).
- 5. Remove screw (12) and flat washer (13) from side heat shield (14) (fan side of APU).
- 6. Remove two screws (15) and two flat washers (16) from side heat shield (17) (chaincase side of APU).
- 7. Remove heat duct (10) from APU.
- 8. Inspect all parts for damage and replace as required.

Installation

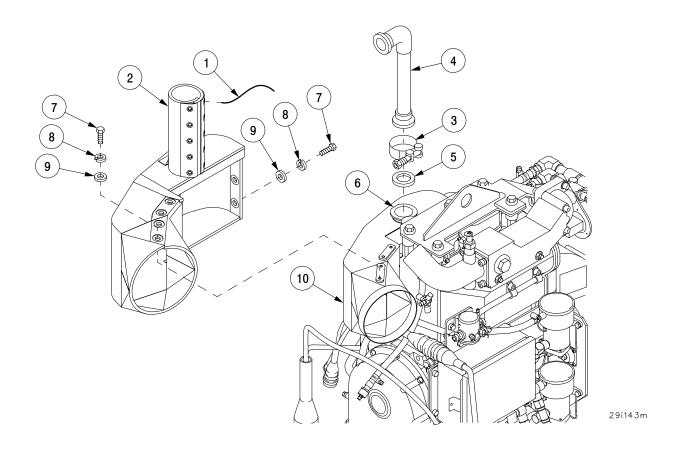
- 1. Install heat duct (10) on APU.
- 2. Install two screws (15) and two flat washers (16) in side heat shield (17) (chaincase side of APU).
- 3. Install screw (12) and flat washer (13) in side heat shield (14) (fan side of APU).
- 4. Apply sealant to threads of exhaust stub (6), then install exhaust stub (6) in exhaust manifold (11).



0623 00

Installation-Continued

- 5. Install thermal cover (2) on heat duct (10) with seven screws (7), seven new lockwashers (8) and seven flat washers (9).
- 6. Install new gasket (5), clamp (3) and elbow (4) to stub assembly (6).
- 7. Install new lacing wire (1) in thermal cover (2) after exhaust elbow is installed (WP 0618 00).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU in vehicle (WP 0413 00)

AUXILIARY POWER UNIT ENGINE SHROUDS REPLACEMENT

0624 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) APU test stand (fabricated) (item 17, WP 0717 00)

Materials/Parts

Lockwashers (20) (item 110, WP 0718 00)

Equipment Conditions

APU access door open (TM 9-2350-292-10)

Personnel Required

Two

References

TM 9-2350-292-10

NOTE

Perform Removal steps 1 and 6 and Installation step 5 for replacement of top panel shroud.

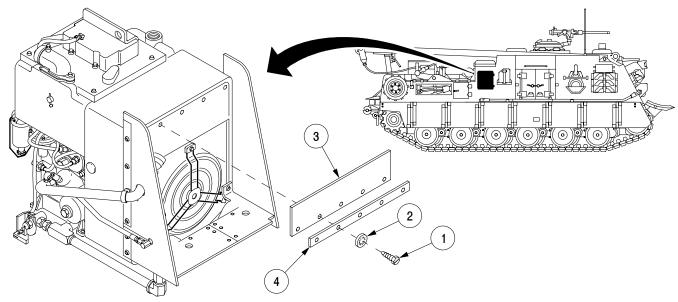
Perform Removal steps 2 and 6 and Installation step 4 for replacement of bottom panel shroud.

Perform Removal steps 3, 4 and 6 and Installation steps 2 and 3 for replacement of left side (towards the rear of vehicle) panel shroud.

Perform Removal steps 5 and 6 and Installation step 1 for replacement of right side (towards the front of vehicle) panel shroud.

Removal

1. Remove five screws (1), five lockwashers (2), top panel (3) and retainer (4). Discard lockwashers.



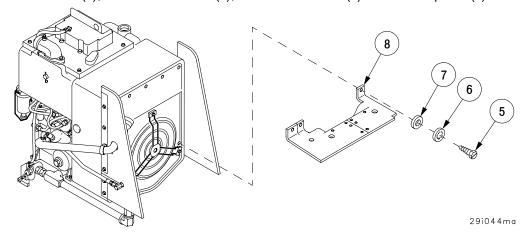
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AUXILIARY POWER UNIT ENGINE SHROUDS REPLACEMENT - CONTINUED

0624 00

Removal-Continued

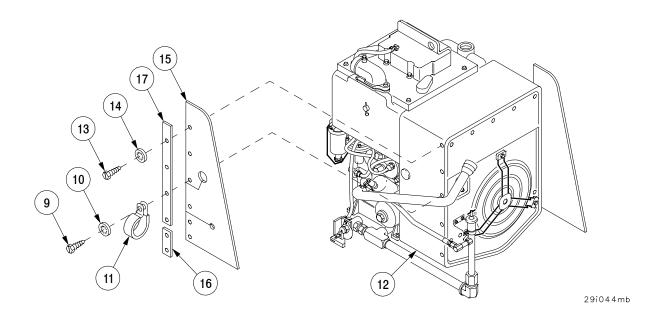
2. Remove three screws (5), three lockwashers (6), three flat washers (7) and bottom panel (8). Discard lockwashers.



NOTE

The following steps are performed with APU cover removed (WP 0413 00) and engine deck access door opened (adjacent to the APU) (TM 9-2350-292-10).

- 3. Remove screw (9), lockwasher (10) and clamp (11) on left hand side (the side towards rear of vehicle) of APU engine assembly (12). Remove clamp (11) from oil filler tube. Discard lockwasher.
- 4. Remove remaining five screws (13), five lockwashers (14), left side panel (15) and retaining strips (16 and 17). Discard lockwashers.



AUXILIARY POWER UNIT ENGINE SHROUDS REPLACEMENT - CONTINUED

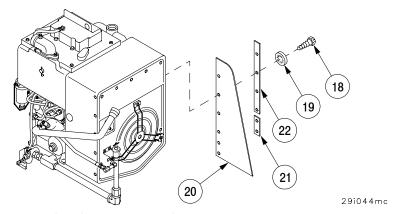
0624 00

Removal-Continued

NOTE

The following steps are performed with APU engine assembly removed from vehicle (WP 0586 00) and mounted on APU test stand.

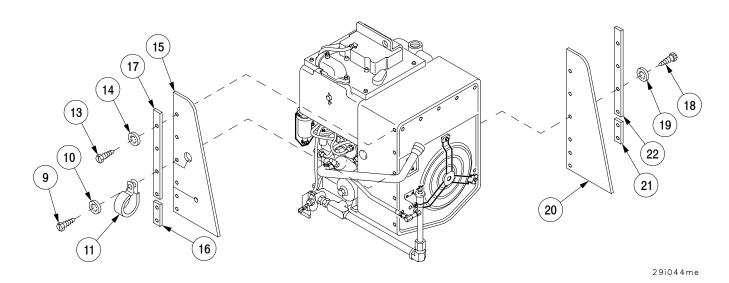
5. Remove six screws (18), six lockwashers (19), right side panel (20) and retaining strips (21 and 22). Discard lockwashers.



6. Inspect parts for damage and replace as required.

Installation

- 1. Install right side panel (20) and retaining strips (21 and 22) with six screws (18) and six new lockwashers (19).
- 2. Install left side panel (15) and retaining strips (16 and 17) with five screws (13) and five new lockwashers (14).
- 3. Install clamp (11) over oil filler tube and assemble to retaining strip (17) and panel (15) with screw (9) and new lockwasher (10).

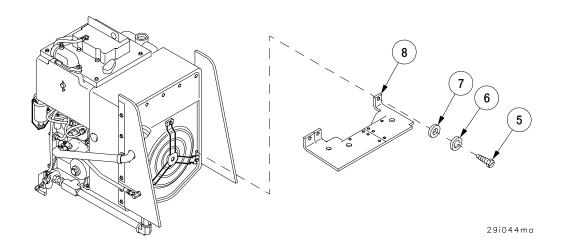


AUXILIARY POWER UNIT ENGINE SHROUDS REPLACEMENT - CONTINUED

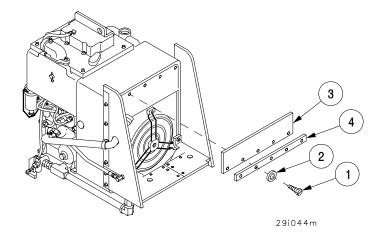
0624 00

Installation-Continued

4. Install bottom panel (8) with three screws (5), three new lockwashers (6) and three flat washers (7).



5. Install top panel (3) and retainer (4) with five screws (1) and five new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

If APU engine assembly has been removed from the vehicle, reinstall APU engine in the vehicle (WP 0586 00) If APU cover has been removed, reinstall APU cover (WP 0413 00)

If engine deck access door adjacent to APU has been opened, close and secure engine deck access door (TM 9-2350-292-10)
Close and secure APU access door

(TM 9-2350-292-10)

END OF TASK

AUXILIARY POWER UNIT ENGINE HEAT SHIELDS REPLACEMENT (HATZ)

0625 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) APU test stand (fabricated) (item 17, WP 0717 00)

Materials/Parts

Lockwashers (5) (item 127, WP 0718 00)

Lockwashers (5) (item 466, WP 0718 00)

Lockwasher (item 85, WP 0718 00)

Lockwashers (2) (item 465, WP 0718 00)

Lockwashers (2) (item 469, WP 0718 00)

Lockwashers (6) (item 9, WP 0718 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00)

Reference

TM 9-2815-250-24&P

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove sealant to expose designated electrical terminals.

APU engine duct must be removed (WP 0621 00) except for replacement of cooling air duct.

Perform Removal steps 1 through 4 and 20 and Installation steps 16 through 19 for replacement of side heat shield (chaincase end).

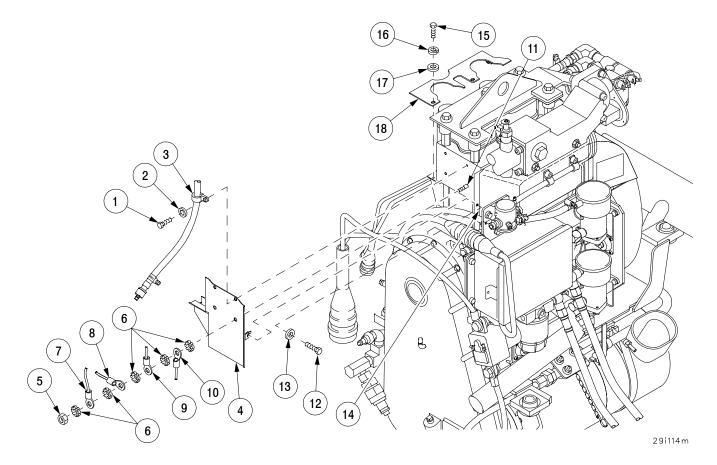
Perform Removal steps 5 and 20 and Installation step 15 for replacement of top heat shield.

Perform Removal steps 6 through 17 and 20 and Installation steps 3 through 14 for replacement of side heat shield (fan end).

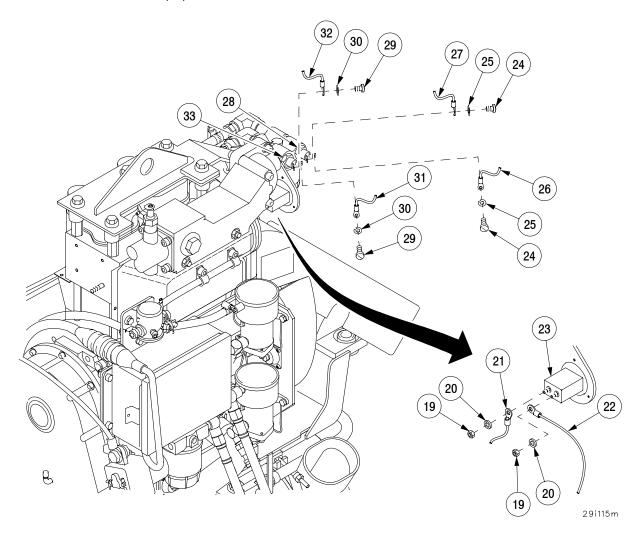
Perform Removal steps 18 through 20 and Installation steps 1 and 2 for replacement of cooling air duct.

Removal

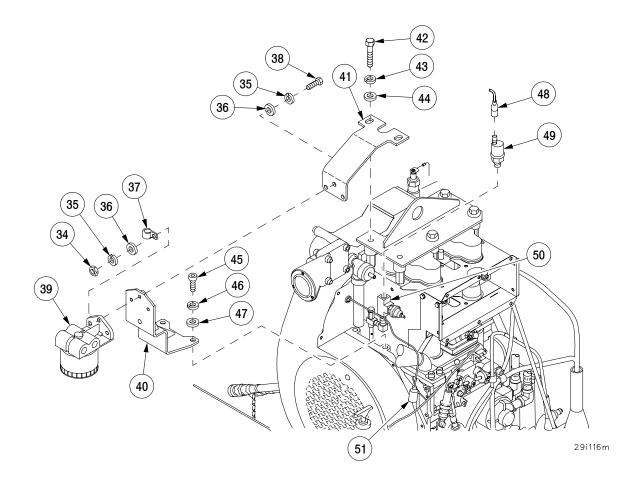
- 1. Remove screw (1), lockwasher (2) and clamp with fuel return line (3) from side heat shield (4). Discard lockwasher.
- 2. Remove nut (5), five lockwashers (6), lead assembly 3W727 (7), lead assembly 3W728 (8), wiring harness 3W730 GND lead (9) and lead assembly 3W733 (10) from stud E3 (11). Discard lockwashers.
- 3. Remove screw (12) and flat washer (13) from duct (14).
- 4. Remove side heat shield (4) from APU.
- 5. Remove two screws (15), two lockwashers (16), two flat washers (17) and top heat shield (18) from APU. Discard lockwashers.



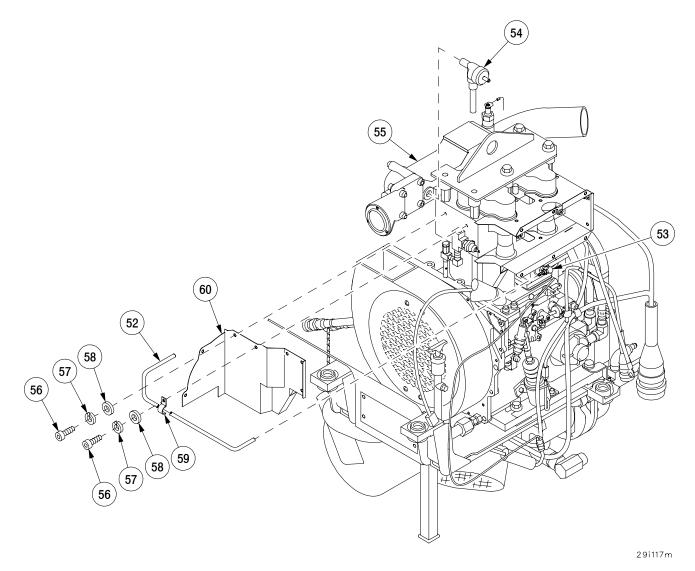
- 6. Remove two nuts (19), two lockwashers (20) and wiring harness 3W730 leads 658 and GND (21 and 22) from hourmeter (23). Retain all attaching hardware for installation.
- 7. Remove two screws (24), two lockwashers (25) and wiring harness 3W711 leads 233B (26) and GND E9 (27) from thermostatic switch S2 (28). Retain lockwashers for installation.
- 8. Remove two screws (29), two lockwashers (30) and wiring harness 3W711 leads 233A (31) and GND E11 (32) from thermostatic switch S1 (33). Retain lockwashers for installation.



- 9. Remove three nuts (34), six lockwashers (35), six flat washers (36), clamp (37), three screws (38) and remote oil filter assembly (39) from bracket (40) and oil filter support bracket (41). Discard lockwashers.
- 10. Remove two screws (42), two lockwashers (43), two flat washers (44) and oil filter support bracket (41). Discard lockwashers.
- 11. Remove two screws (45), two lockwashers (46), two flat washers (47) and bracket (40) from APU. Discard lockwashers.
- 12. Disconnect wiring harness 3W704 lead 420 (48) from oil pressure transmitter (49).
- 13. Remove oil pressure transmitter (49) from tee (50).
- 14. Remove lead assembly 3W705 (51) (WP 0645 00).



- 15. Disconnect fuel hose (52) from injection pump (53) (TM 9-2815-250-24&P).
- 16. Pull valve vent (54) out of air intake manifold (55) to gain access to screw.
- 17. Remove two screws (56), two lockwashers (57), two flat washers (58), clamp (59) and side heat shield (60) (fan end) from APU. Discard lockwashers.

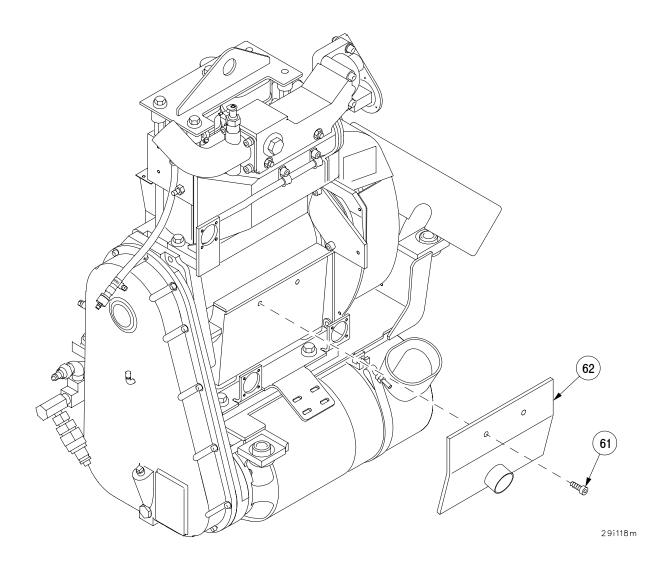


Removal-Continued

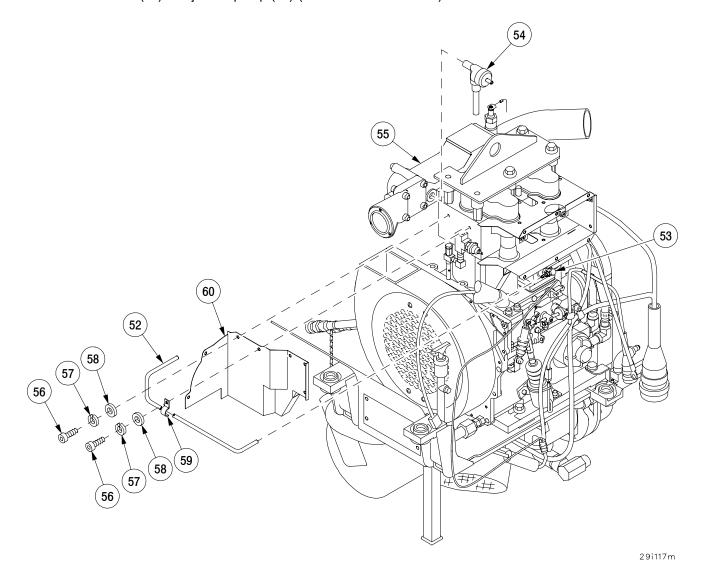
- 18. Remove fuel pump and relay box mounting bracket (WP 0627 00).
- 19. Remove two screws (61) and cooling airduct (62).
- 20. Inspect all parts for damage and replace as required.

Installation

- Install cooling airduct (62) with two screws (61).
- Install fuel pump and relay box mounting bracket (WP 0627 00).

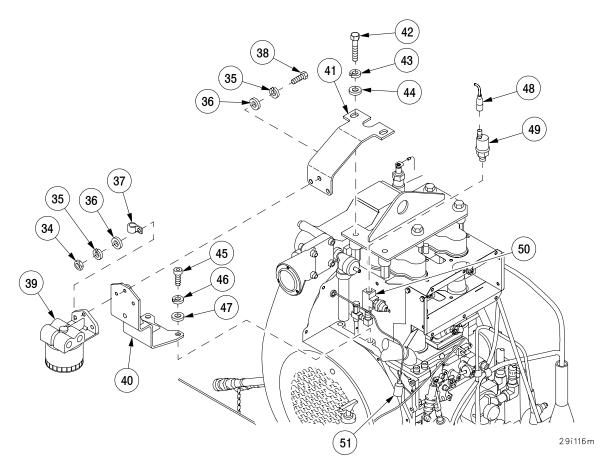


- 3. Install side heat shield (60) (fan end) on APU with two screws (56), two new lockwashers (57), two flat washers (58) and clamp (59).
- 4. Insert valve vent (54) into air intake manifold (55).
- 5. Connect fuel hose (52) to injection pump (53) (TM 9-2815-250-24&P).

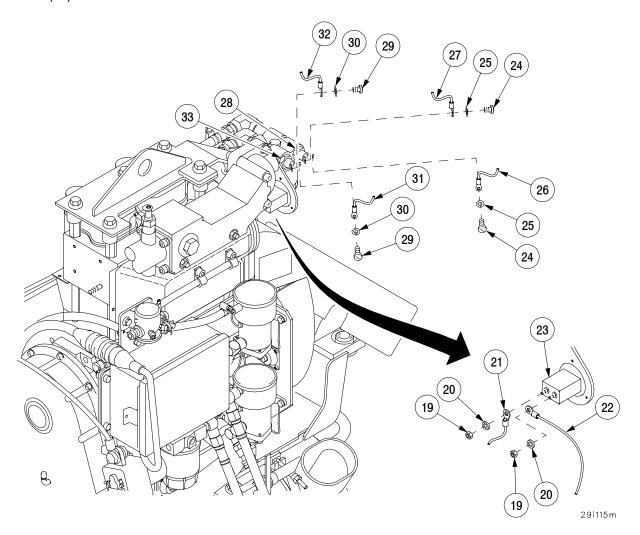


0625 00

- Install lead assembly 3W705 (51) (WP 0645 00).
- 7. Install oil pressure transmitter (49) on tee (50).
- 8. Connect wiring harness 3W704 lead 420 (48) to oil pressure transmitter (49).
- 9. Install bracket (40) on APU with two screws (45), two new lockwashers (46) and two flat washers (47).
- 10. Install oil filter support bracket (41) to APU with two screws (42), two new lockwashers (43) and two flat washers (44).
- 11. Install remote oil filter assembly (39) on bracket (40) and oil filter support bracket (41) with three screws (38), three nuts (34), six new lockwashers (35), six flat washers (36) and clamp (37).

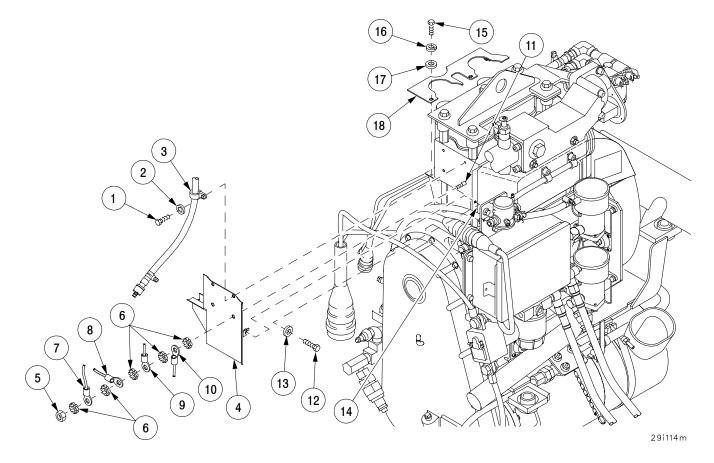


- 12. Install wiring harness 3W711 leads 233A (31) and GND E11 (32) on thermostatic switch S1 (33) with two screws (29) and two lockwashers (30).
- 13. Install wiring harness 3W711 leads 233B (26) and GND E9 (27) on thermostatic switch S2 (28) with two screws (24) and two lockwashers (25).
- 14. Install wiring harness 3W730 leads 658 and GND (21 and 22) on hourmeter (23) with two nuts (19) and two lockwashers (20).



Installation-Continued

- 15. Install top heat shield (18) on APU with two screws (15), two new lockwashers (16) and two flat washers (17).
- 16. Position side heat shield (4) on APU.
- 17. Install screw (12) and flat washer (13) in duct (14).
- 18. Install lead assembly 3W727 (7), lead assembly 3W728 (8), wiring harness 3W730 GND lead (9) and lead assembly 3W733 (10) on stud E3 (11) with nut (5) and five new lockwashers (6).
- 19. Install clamp with fuel return line (3) on side heat shield (4) with screw (1) and new lockwasher (2).



NOTE

FOLLOW-ON MAINTENANCE: Install APU (WP 0587 00)

AUXILIARY POWER UNIT ENGINE LIFTING BRACKET AND OIL FILTER SUPPORT BRACKET REPLACEMENT (HATZ)

0626 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00)

Materials/Parts

Adhesive (item 29, WP 0716 00) Lockwashers (5) (item 465, WP 0718 00)

Equipment Conditions

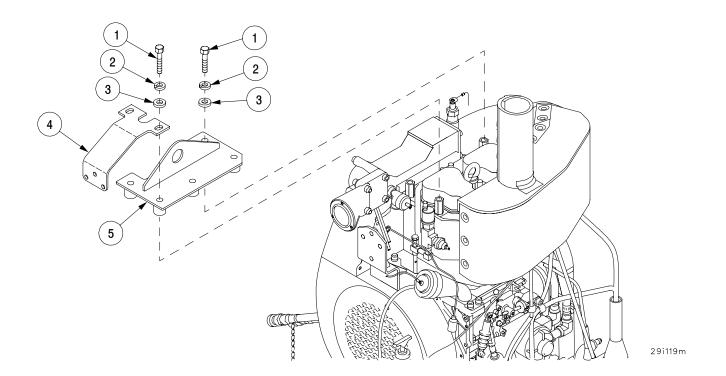
APU cover removed (WP 0413 00) Screws in oil filter assembly removed (WP 0597 00)

Removal

NOTE

Note location of screws during removal to aid during installation.

- 1. Remove five screws (1), five lockwashers (2), five flat washers (3), oil filter support bracket (4) and APU lifting bracket (5) from APU.
- 2. Inspect all parts for damage and replace as required.

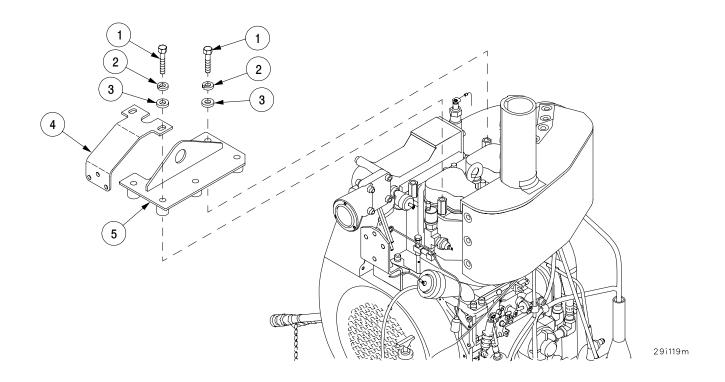


AUXILIARY POWER UNIT ENGINE LIFTING BRACKET AND OIL FILTER SUPPORT BRACKET REPLACEMENT (HATZ) - CONTINUED

0626 00

Installation

- 1. Apply adhesive to threads of screws (1).
- 2. Install APU lifting bracket (5) and oil filter support bracket (4) on APU with five flat washers (3), five new lockwashers (2) and five screws (1). Torque screws (1) 40-42 lb-ft (54-57 N•m).



NOTE

FOLLOW-ON MAINTENANCE:

Install oil filter assembly (WP 0597 00) Install APU cover (WP 0413 00)

AUXILIARY POWER UNIT FUEL PUMP AND RELAY BOX MOUNTING BRACKET, OIL DRAIN LINES BRACKET AND WIRING HARNESS BRACKET REPLACEMENT (HATZ)

0627 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Adhesive (item 29, WP 0716 00) Lockwashers (7) (item 9, WP 0718 00) Self-locking nuts (16) (item 471, WP 0718 00) Lockwasher (item 2, WP 0718 00) Lockwashers (2) (item 465, WP 0718 00)

Lockwashers (2) (item 12, WP 0718 00)

Equipment Conditions

APU upper and lower fuel pumps removed (WP 0615 00)

APU fuel/water separator removed (WP 0616 00)

APU starter relay removed (WP 0641 00)

APU preheat solenoid removed (WP 0664 00)

APU relay box assembly removed (WP 0662 00)

APU crankcase oil drain lines removed

(WP 0605 00)

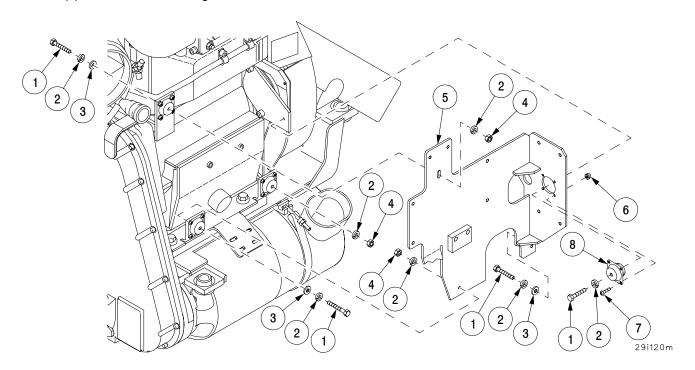
APU hot air pipe removed (WP 0628 00)

Removal

NOTE

Note arrangement and location of screws prior to removal to aid in installation.

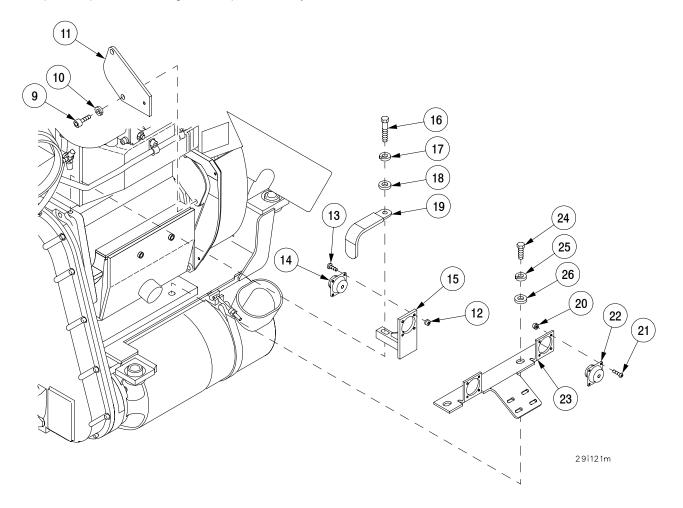
- 1. Remove four screws (1), seven lockwashers (2), three flat washers (3), three nuts (4) and fuel pump and relay box mounting bracket (5) from APU. Discard lockwashers.
- 2. Remove four self-locking nuts (6), four screws (7) and resilient mount (8) from fuel pump and relay box mounting bracket (5). Discard self-locking nuts.



AUXILIARY POWER UNIT FUEL PUMP AND RELAY BOX MOUNTING BRACKET, OIL DRAIN LINES BRACKET AND WIRING HARNESS BRACKET REPLACEMENT (HATZ) – CONTINUED

0627 00

- 3. Remove two screws (9), two lockwashers (10) and isolator mounting bracket (11) from APU. Discard lockwashers.
- 4. Remove four self-locking nuts (12), four screws (13) and resilient mount (14) from brace (15). Discard self-locking nuts.
- 5. Remove screw (16), lockwasher (17), flat washer (18), brace (15) and wiring harness bracket (19) from APU. Discard lockwasher.
- 6. Remove eight self-locking nuts (20), eight screws (21) and two resilient mounts (22) from bracket (23). Discard self-locking nuts.
- 7. Remove two screws (24), two lockwashers (25), two flat washers (26) and bracket (23) from APU. Discard lockwashers.
- 8. Inspect all parts for damage and replace as required.



AUXILIARY POWER UNIT FUEL PUMP AND RELAY BOX MOUNTING BRACKET, OIL DRAIN LINES BRACKET AND WIRING HARNESS BRACKET REPLACEMENT (HATZ) – CONTINUED

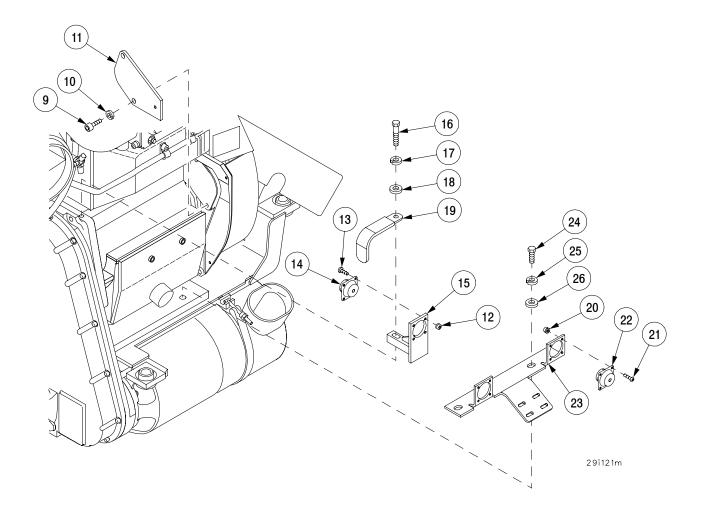
0627 00

Installation

NOTE

Apply adhesive to threads of all fasteners before installation.

- 1. Install bracket (23) on APU with two screws (24), two new lockwashers (25) and two flat washers (26).
- 2. Install two resilient mounts (22) on bracket (23) with eight screws (21) and eight new self-locking nuts (20).
- 3. Install brace (15) and wiring harness bracket (19) on APU with screw (16), new lockwasher (17) and flat washer (18).
- 4. Install resilient mount (14) on brace (15) with four new self-locking nuts (12) and four screws (13).
- 5. Install isolator mounting bracket (11) on APU with two screws (9) and two new lockwashers (10).

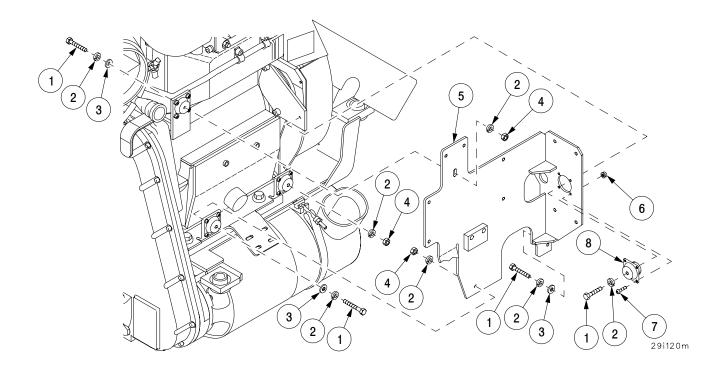


AUXILIARY POWER UNIT FUEL PUMP AND RELAY BOX MOUNTING BRACKET, OIL DRAIN LINES BRACKET AND WIRING HARNESS BRACKET REPLACEMENT (HATZ) – CONTINUED

0627 00

Installation-Continued

- 6. Install resilient mount (8) on fuel pump and relay box mounting bracket (5) with four screws (7) and four new self-locking nuts (6).
- 7. Install fuel pump and relay box mounting bracket (5) on APU with four screws (1), seven new lockwashers (2), three flat washers (3) and three nuts (4).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU hot air pipe (WP 0628 00)

Install APU crankcase oil drain lines (WP 0605 00)

Install APU relay box assembly (WP 0662 00)

Install APU preheat solenoid (WP 0664 00)

Install APU starter relay (WP 0641 00)

Install APU fuel/water separator (WP 0616 00)

Install APU upper and lower fuel pumps (WP 0615 00)

AUXILIARY POWER UNIT HOT AIR PIPE REPLACEMENT (HATZ)

0628 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

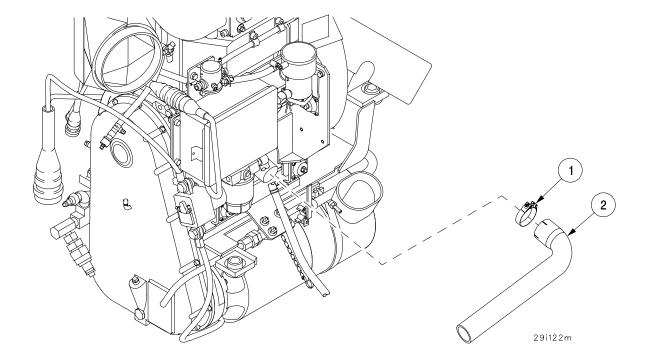
APU lower fuel pump removed (WP 0616 00)

Removal

- 1. Loosen clamp (1) and remove hot air pipe (2) and clamp (1) from APU. Remove clamp (1) from hot air pipe (2).
- 2. Inspect parts for damage and replace as required.

Installation

Install clamp (1) on hot air pipe (2), then install hot air pipe (2) on APU. Tighten clamp (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU lower fuel pump (WP 0616 00)

AUXILIARY POWER UNIT AIR INTAKE ADAPTER AND GLOW PLUG REPLACEMENT (HATZ)

0629 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00)

Materials/Parts

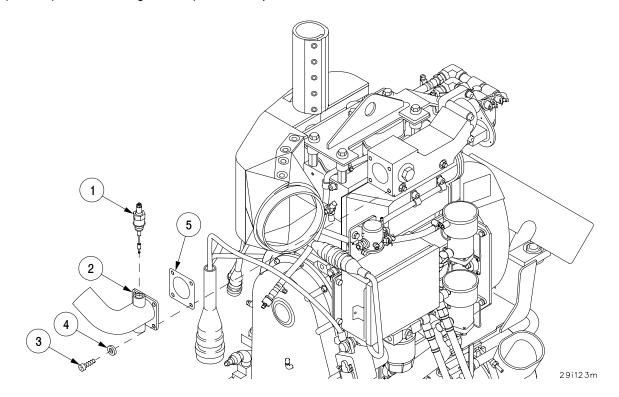
Adhesive (item 29, WP 0716 00) Lockwashers (4) (item 467, WP 0718 00) Gasket (item 479, WP 0718 00)

Equipment Conditions

APU air intake hose removed (WP 0621 00) APU lead assembly 3W732 removed (WP 0658 00)

Removal

- 1. Remove glow plug (1) from air intake adapter (2).
- 2. Remove four screws (3), four lockwashers (4), gasket (5) and air intake adapter (2) from APU. Discard lockwashers and gasket.
- 3. Inspect all parts for damage and replace as required.



AUXILIARY POWER UNIT AIR INTAKE ADAPTER AND GLOW PLUG REPLACEMENT (HATZ) – CONTINUED

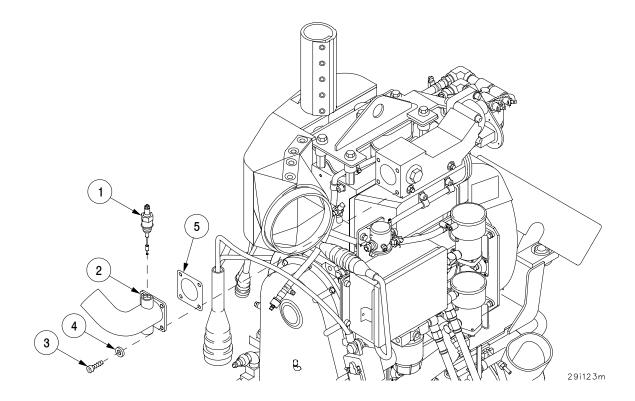
0629 00

Installation

NOTE

Apply adhesive to threads of screws before installation.

- 1. Install new gasket (5) and air intake adapter (2) on APU with four screws (3) and four new lockwashers (4).
- 2. Install glow plug (1) in air intake adapter (2). Torque glow plug (1) to 32-38 lb-ft (43.4-51.5 N•m).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU lead assembly 3W732 (WP 0658 00) Install APU air intake hose (WP 0621 00)

AUXILIARY POWER UNIT FAN SCREEN REPLACEMENT (HATZ)

0630 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

APU air scoop removed (WP 0621 00)

Materials/Parts

Adhesive (item 29, WP 0716 00)

Removal

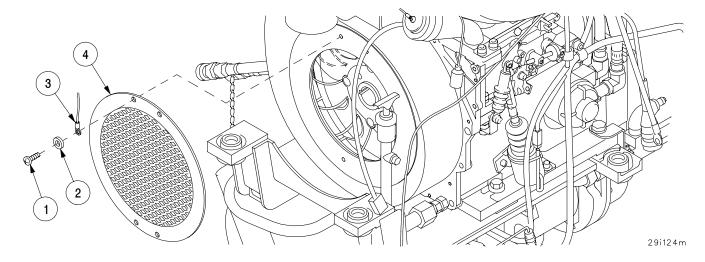
- 1. Remove four screws (1), four flat washers (2), oil filler cap retaining strap (3) and screen (4) from APU.
- 2. Inspect all parts for damage and replace as required.

Installation

NOTE

Apply adhesive to threads of all fasteners before installation.

Install oil filler cap retaining strap (3) and screen (4) on APU with four screws (1) and four flat washers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU air scoop (WP 0621 00)

AUXILIARY POWER UNIT OIL PRESSURE TRANSMITTER REPLACEMENT

0631 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Antiseizing tape (item 22, WP 0716 00)

Equipment Conditions

Battery power disconnected (WP 0256 00) APU cover removed (WP 0413 00) APU engine oil filter removed (WP 0596 00)

NOTE

Perform Removal steps 1, 2 and 4 and Installation steps 4 through 7 for replacement of oil pressure transmitter.

Perform Removal steps 1 through 4 and Installation steps 1 through 7 for replacement of reducer.

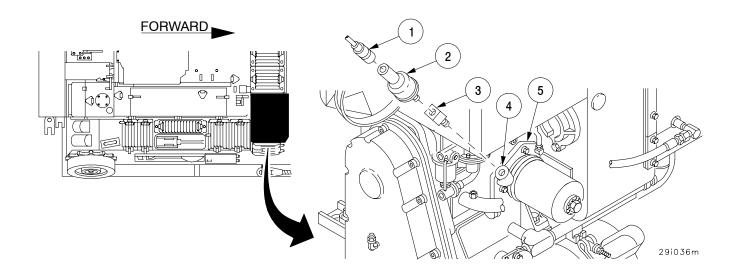
Removal

- 1. Disconnect wiring harness 3W704 electrical lead 420 (1) from oil pressure transmitter (2).
- 2. Remove transmitter (2) from reducer (3).

NOTE

Perform the following step only if reducer is damaged or becomes loose during removal of transmitter.

- 3. Remove reducer (3) from adapter plug (4) on oil filter adapter assembly (5).
- 4. Inspect parts for damage and replace as required.

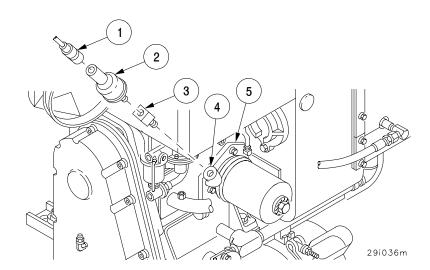


AUXILIARY POWER UNIT OIL PRESSURE TRANSMITTER REPLACEMENT - CONTINUED

0631 00

Installation

- 1. Apply single layer of antiseizing tape to reducer (3) threads.
- 2. Install reducer (3) in adapter plug (4) on oil filter adapter assembly (5).
- 3. Tighten reducer (3) securely.
- 4. Apply single layer of antiseizing tape to oil pressure transmitter (2) threads.
- 5. Install transmitter (2) on reducer (3).
- 6. Tighten transmitter (2) securely.
- 7. Connect wiring harness 3W704 electrical lead 420 (1) to oil pressure transmitter (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU engine oil filter (WP 0596 00) Install APU cover (WP 0413 00) Connect battery power (WP 0256 00)

AUXILIARY POWER UNIT OIL PRESSURE TRANSMITTER AND LOW OIL PRESSURE SWITCH REPLACEMENT (HATZ)

0632 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Adhesive (item 81, WP 0716 00) Sealing compound (item 16, WP 0716 00)

Equipment Conditions

Battery power disconnected (WP 0256 00) APU cover removed (WP 0413 00) APU engine oil filter removed (WP 0597 00)

NOTE

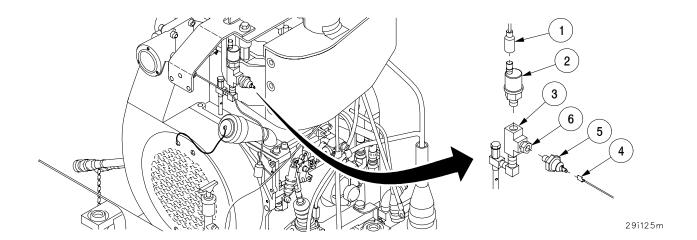
Perform Removal steps 1, 2 and 7 and Installation steps 5 and 6 for replacement of oil pressure transmitter.

Perform Removal steps 3, 4 and 7 and Installation steps 3, 4 and 7 for replacement of low oil pressure switch.

Perform Removal steps 5 through 7 and Installation steps 1 and 2 for replacement of fittings.

Removal

- 1. Disconnect wiring harness 3W704 electrical lead 420 (1) from oil pressure transmitter (2).
- 2. Remove oil pressure transmitter (2) from tee (3).
- 3. Disconnect wiring harness 3W704 electrical lead 420A (4) from low oil pressure switch (5).
- 4. Remove low oil pressure switch (5) from adapter (6).



AUXILIARY POWER UNIT OIL PRESSURE TRANSMITTER AND LOW OIL PRESSURE SWITCH REPLACEMENT (HATZ) - CONTINUED

0632 00

Removal-Continued

NOTE

Perform the following steps only if fittings are damaged or become loose during removal of transmitter or switch.

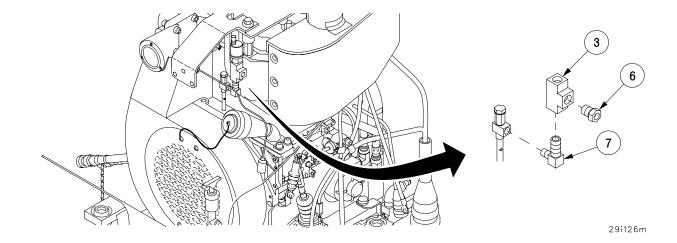
- 5. Remove adapter (6) from tee (3).
- 6. Remove tee (3) and elbow (7) from APU.
- 7. Inspect parts for damage and replace as required.

Installation

NOTE

Apply sealing compound to pipe threads before installation.

- 1. Install tee (3) and elbow (7) on APU.
- 2. Install adapter (6) in tee (3).

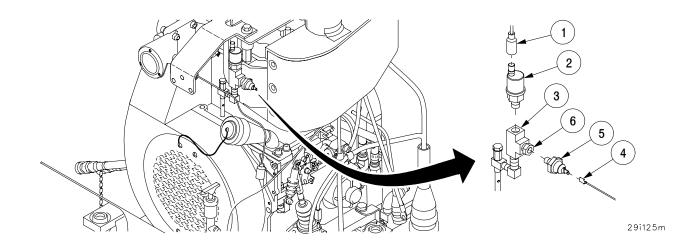


AUXILIARY POWER UNIT OIL PRESSURE TRANSMITTER AND LOW OIL PRESSURE SWITCH REPLACEMENT (HATZ) - CONTINUED

0632 00

Installation-Continued

- 3. Install low oil pressure switch (5) in adapter (6).
- 4. Connect wiring harness 3W704 electrical lead 420A (4) to low oil pressure switch (5).
- 5. Install oil pressure transmitter (2) in tee (3).
- 6. Connect wiring harness 3W704 electrical lead 420 (1) to oil pressure transmitter (2).
- 7. Apply adhesive to exposed electrical connection on low oil pressure switch (5).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU engine oil filter (WP 0597 00) Install APU cover (WP 0413 00) Connect battery power (WP 0256 00)

AUXILIARY POWER UNIT HIGH AIR TEMPERATURE SWITCH REPLACEMENT (HATZ)

0633 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

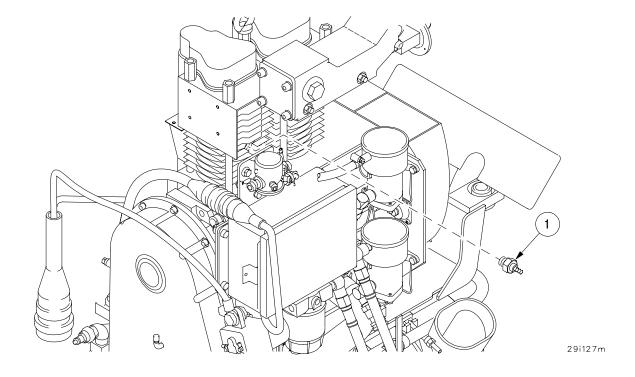
APU removed from vehicle (WP 0587 00) Lead assembly 3W705 removed (WP 0645 00)

Removal

- 1. Remove high air temperature switch (1) from APU cylinder head.
- 2. Inspect parts for damage and replace as required.

Installation

Install high air temperature switch (1) in APU cylinder head.



NOTE

FOLLOW-ON MAINTENANCE:

Install lead assembly 3W705 (WP 0645 00) Install APU in vehicle (WP 0587 00)

AUXILIARY POWER UNIT GENERATOR REPLACEMENT

0634 00

THIS WORK PACKAGE COVERS:

Removal, Inspection, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Adhesive (item 81, WP 0716 00) Lockwashers (3) (item 38, WP 0718 00) Self-locking nuts (6) (item 120, WP 0718 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

APU engine support removed (WP 0590 00) APU hydraulic pump removed (WP 0547 00)

Personnel Required

Two

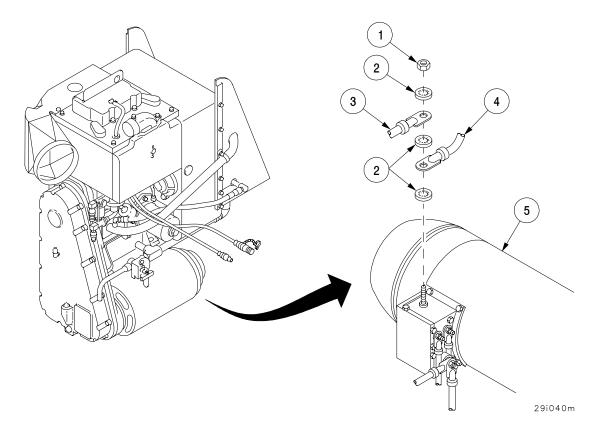
Removal

NOTE

Tag all electrical components and electrical leads prior to removal to aid in installation.

Remove adhesive from applicable electrical wire terminal connections.

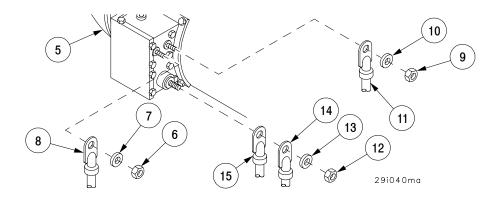
1. Remove nut (1), three lockwashers (2) and two ground wires (3 and 4) from terminal E of generator (5). Discard lockwashers.



0634 00

Removal-Continued

- 2. Remove self-locking nut (6), flat washer (7) and wire (8) from terminal D of generator (5). Discard self-locking nut.
- 3. Remove self-locking nut (9), flat washer (10) and wire (11) from terminal A of generator (5). Discard self-locking nut
- 4. Remove self-locking nut (12), flat washer (13) and wires (14 and 15) from terminal B of generator (5). Discard self-locking nut.





To avoid personnel injury or death, use extreme caution and observe safety precautions when working underneath the APU.

CAUTION

To avoid APU damage with support assembly removed, a suitable holding device is necessary to ensure APU weight does not rest on either generator or hydraulic pump. APU must be raised high enough to permit access to underside.

Generator weighs approximately 94 pounds. To prevent damage to shaft and seals, generator must be supported at all times when performing the following procedures.

Removal-Continued

- 5. Remove tube (16) from drain valve (17).
- 6. Loosen six self-locking nuts (18) on mounting flange of generator (5) (self-locking nuts are accessible through vent openings in generator case).
- 7. When all self-locking nuts (18) are loose, pull generator away from chaincase (19) to release flat washers (20) from holes in mounting flange of generator (5).

NOTE

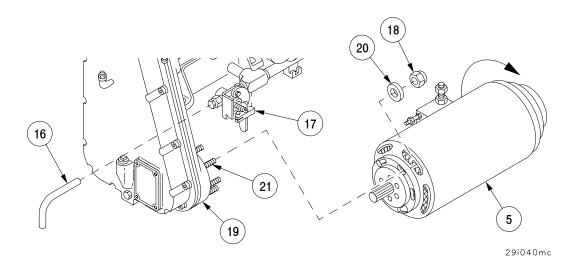
Flat washers must be clear of holes in mounting flange of generator to permit generator to be turned in the following step.

8. Turn generator (5) clockwise (as viewed from generator shaft end) about 1.50 in. (3.81 cm) in order for six self-locking nuts (18) and six flat washers (20) to clear generator case.



The generator weighs approximately 94 lbs (43 kg). To avoid injury to personnel, use at least two persons to lift and carry generator.

- 9. Pull generator (5) out of and away from drive gear in chaincase (19). Refer repair of generator to support maintenance.
- 10. Remove six self-locking nuts (18) and six flat washers (20) from each of six studs (21). Discard self-locking nuts.



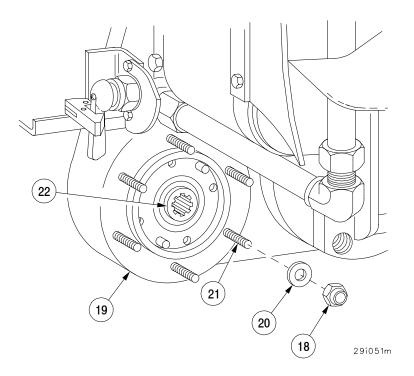
0634 00

Inspection

- 1. Inspect generator mounting studs (21) for stripped, bent or broken studs. Replace any stud (WP 0636 00) that is unserviceable.
- 2. Inspect gear hub (22) in chain case (19) for damage. Notify support maintenance, if unserviceable.

Installation

1. Loosely install six flat washers (20) and six new self-locking nuts (18) on six generator mounting studs (21).



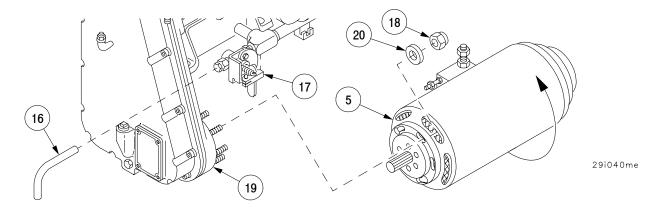
CAUTION

To avoid damage to generator shaft or chain case gear hub, do not force shaft into gear hub.

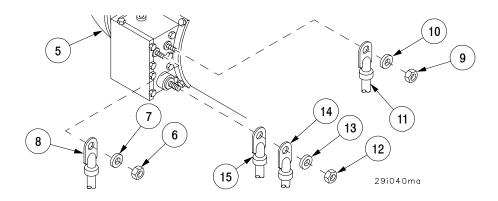
Generator weighs approximately 94 lbs (43 kg). To prevent damage to shaft and seals, generator must be supported at all times when performing the following procedures.

Installation-Continued

- 2. Position generator (5) with terminal box between nine and ten o'clock position (when viewed from generator shaft end). Slide generator shaft into gear hub of chaincase (19). If shaft does not fit easily into gear hub, check shaft position and adjust as necessary.
- 3. Align large holes in mounting flange of generator (5) to permit self-locking nuts (18) and flat washers (20) to pass through mounting flange. Do not let six flat washers (20) get stuck between chaincase (19) and generator mounting flange.
- 4. When six flat washers (20) and six self-locking nuts (18) have cleared mounting flange, turn generator (5) counterclockwise (as viewed from the generator shaft end) as far as mounting flange slotted holes will allow. Gain access through the generator case vent holes and tighten six self-locking nuts (18).
- 5. Install tube (16) to drain valve (17).



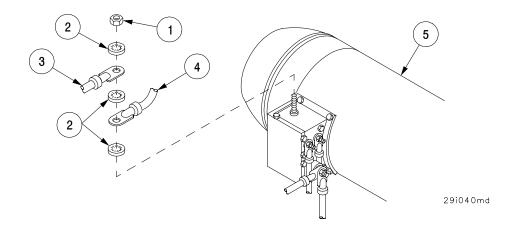
- 6. Install two wires (14 and 15), with flat washer (13, supplied with generator) and new self-locking nut (12, supplied with generator) on terminal B of generator (5).
- 7. Install wire (11), flat washer (10, supplied with generator) and new self-locking nut (9, supplied with generator) on terminal A of generator (5).
- 8. Install wire (8), flat washer (7, supplied with generator) and new self-locking nut (6, supplied with generator) on terminal D of generator (5).



0634 00

Installation-Continued

- 9. Install two wires (3 and 4), three new lockwashers (2) and nut (1, supplied with generator) on terminal E of generator (5).
- 10. After generator leads are installed, apply adhesive to all exposed electrical terminals.
- 11. Connect APU ground hop kit (WP 0588 00) and start APU (TM 9-2350-292-10). After APU is started check APU generator gauge to make sure generator is operating properly.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU hydraulic pump (WP 0547 00) Install APU engine support (WP 0590 00)

AUXILIARY POWER UNIT GENERATOR REPLACEMENT (HATZ)

0635 00

THIS WORK PACKAGE COVERS:

Removal, Inspection, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Adhesive (item 81, WP 0716 00) Lockwashers (3) (item 38, WP 0718 00) Self-locking nuts (6) (item 120, WP 0718 00) Marker tags (item 49, WP 0716 00) Cotter pin (item 119, WP 0718 00)

Materials/Parts (Continued)

Self-locking nuts (2) (item 282, WP 0718 00) Self-locking nuts (2) (item 461, WP 0718 00) (Not required if installing new generator)

Equipment Conditions

APU hydraulic pump removed (WP 0548 00)

Personnel Required

Two

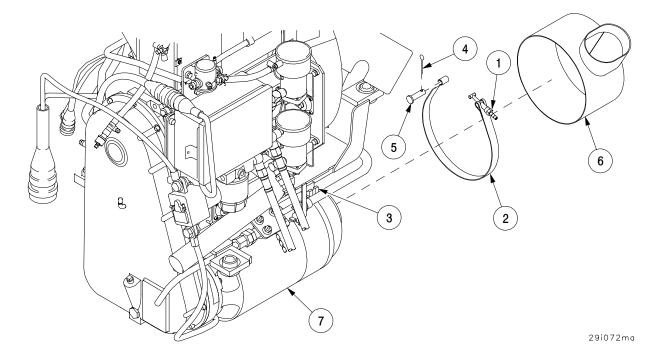
Removal

NOTE

Tag all electrical components and electrical leads prior to removal to aid in installation.

Remove adhesive from applicable electrical wire terminal connections.

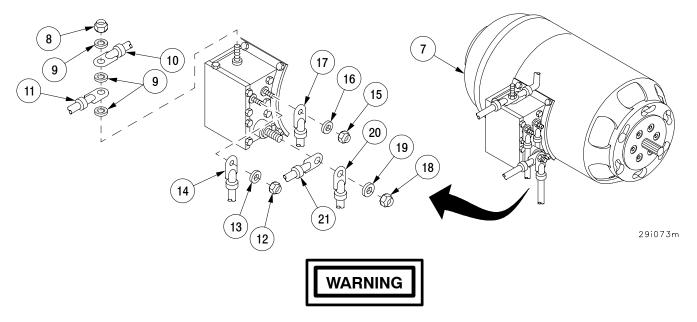
- 1. Loosen nut (1) on strap assembly (2) and lift end of strap assembly (2) out of notch on engine support (3).
- 2. Remove cotter pin (4), headed pin (5) and strap assembly (2) from underside of engine support (3). Discard cotter pin.
- 3. Remove generator adapter (6) from generator (7).



0635 00

Removal-Continued

- 4. Remove self-locking nut (8), three lockwashers (9) and two ground wires (10 and 11) from terminal E of generator (7). Discard lockwasher and self-locking nut.
- 5. Remove self-locking nut (12), flat washer (13) and wire (14) from terminal D of generator (7). Discard self-locking nut.
- 6. Remove self-locking nut (15), flat washer (16) and wire (17) from terminal A of generator (7). Discard self-locking
- 7. Remove self-locking nut (18), flat washer (19) and wires (20 and 21) from terminal B of generator (7). Discard self-locking nut.



To avoid personnel injury or death, use extreme caution and observe safety precautions when working underneath the APU.

CAUTION

To avoid APU damage a suitable holding device is necessary to ensure APU weight does not rest on either generator or hydraulic pump. APU must be raised high enough to permit access to underside.

Generator weighs approximately 94 lbs (43 kg). To prevent damage to shaft and seals, generator must be supported at all times when performing the following procedures.

0635 00

Removal-Continued

- 8. Remove tube (22) from drain valve (23).
- 9. Loosen six self-locking nuts (24) on mounting flange of generator (7) (self-locking nuts are accessible through vent openings in generator case).
- 10. When all self-locking nuts (24) are loose, pull generator (7) away from chaincase (25) to release flat washers (26) from holes in mounting flange of generator (7).

NOTE

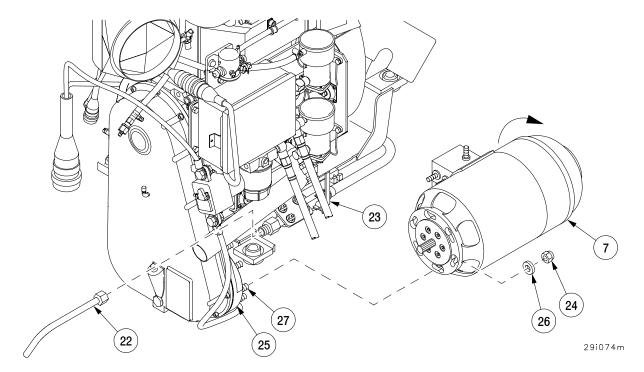
Flat washers must be clear of holes in mounting flange of generator to permit generator to be turned in the following step.

11. Turn generator (7) clockwise (as viewed from generator shaft end) about 1.50 in. (3.81 cm) in order for six self-locking nuts (24) and six flat washers (26) to clear generator case.



The generator weighs approximately 94 lbs (43 kg). To avoid injury to personnel, use at least two persons to lift and carry generator.

- 12. Pull generator (7) out of and away from drive gear in chaincase (25). Refer repair of generator to support maintenance.
- 13. Remove six self-locking nuts (24) and six flat washers (26) from each of six studs (27). Discard self-locking nuts.



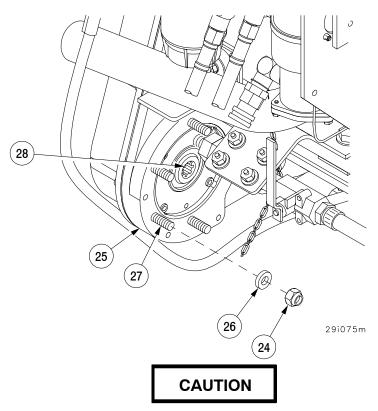
0635 00

Inspection

- 1. Inspect generator mounting studs (27) for stripped, bent or broken studs. Replace any stud (WP 0637 00) that is unserviceable.
- 2. Inspect gear hub (28) in chaincase (25) for damage. Notify support maintenance, if unserviceable.

Installation

1. Loosely install six flat washers (26) and six new self-locking nuts (24) on six generator mounting studs (27).



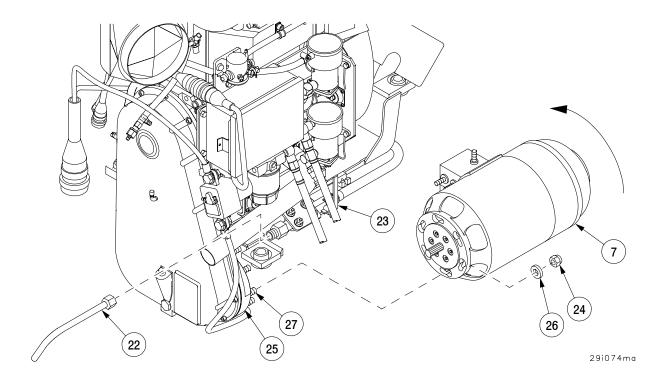
To avoid damage to generator shaft or chaincase gear hub, do not force shaft into gear hub.

Generator weighs approximately 94 lbs (43 kg). To prevent damage to shaft and seals, generator must be supported at all times when performing the following procedures.

0635 00

Installation-Continued

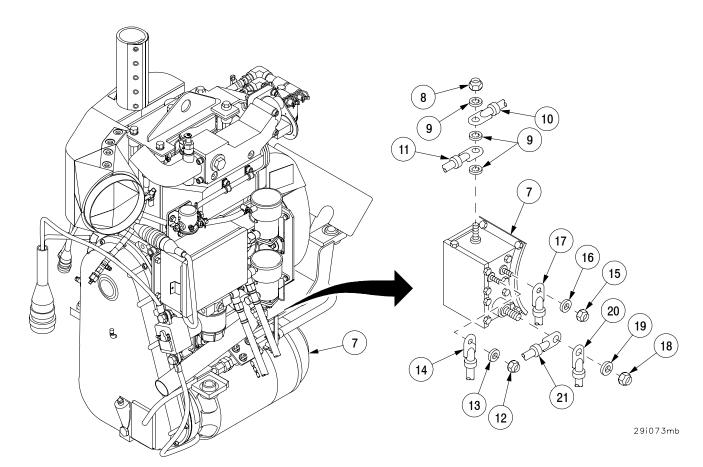
- 2. Position generator (7) with terminal box between nine and ten o'clock position (when viewed from generator shaft end). Slide generator shaft into gear hub of chaincase (25). If shaft does not fit easily into gear hub, check shaft position and adjust as necessary.
- 3. Align large holes in mounting flange of generator (7) to permit self-locking nuts (24) and flat washers (26) to pass through mounting flange. Do not let six flat washers (26) get stuck between chaincase (25) and generator mounting flange.
- 4. When six flat washers (26) and six self-locking nuts (24) have cleared mounting flange, turn generator (7) counterclockwise (as viewed from the generator shaft end) as far as mounting flange slotted holes will allow. Gain access through the generator case vent holes and tighten six self-locking nuts (24).
- 5. Install tube (22) to drain valve (23).



0635 00

Installation-Continued

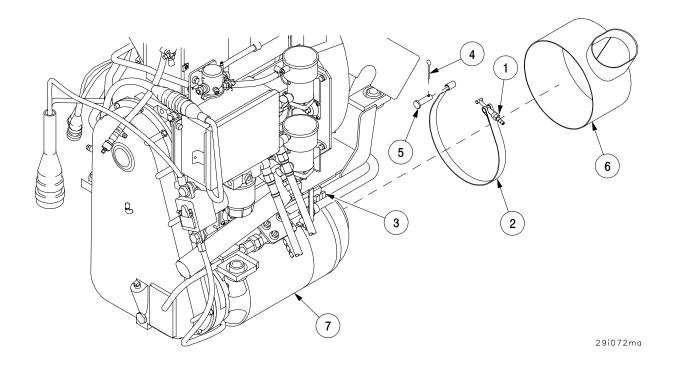
- 6. Install two wires (20 and 21), with flat washer (19, supplied with generator) and new self-locking nut (18, supplied with generator) on terminal B of generator (7).
- 7. Install wire (17), flat washer (16, supplied with generator) and new self-locking nut (15, supplied with generator) on terminal A of generator (7).
- 8. Install wire (14), flat washer (13, supplied with generator) and new self-locking nut (12, supplied with generator) on terminal D of generator (7).
- 9. Install two wires (10 and 11), three new lockwashers (9) and self-locking nut (8, supplied with generator) on terminal E of generator (7).
- 10. After generator leads are installed, apply adhesive to all exposed electrical terminals.



0635 00

Installation-Continued

- 11. Install generator adapter (6) on generator (7).
- 12. Install strap assembly (2) to underside of the engine support (3) with headed pin (5) and new cotter pin (4).
- 13. Install strap assembly (2) into the notch on the engine support (3) and tighten nut (1).
- 14. Connect APU ground hop kit (WP 0589 00) and start APU (TM 9-2350-292-10). After APU is started, check APU generator gauge to ensure generator is operating properly.



NOTE

FOLLOW-ON MAINTENANCE: Install APU hydraulic pump (WP 0548 00)

AUXILIARY POWER UNIT GENERATOR MOUNTING STUDS REPLACEMENT

0636 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Stud inserter and remover (item 31, WP 0717 00) Portable electric drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Adhesive (item 25, WP 0716 00)

Equipment Conditions

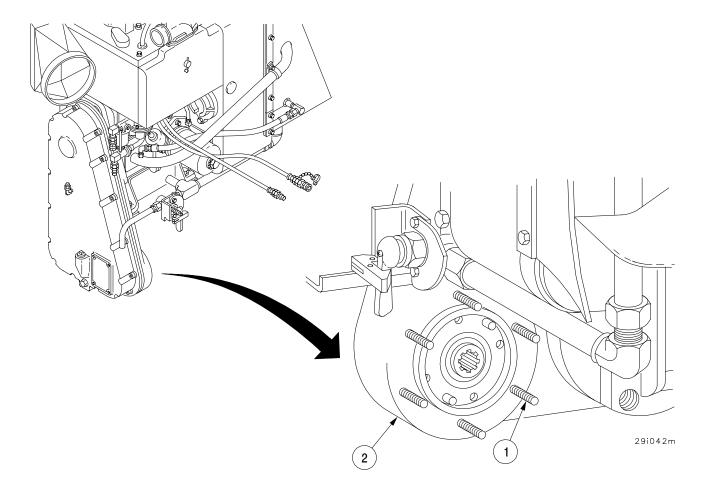
APU generator removed (WP 0624 00)

Removal

NOTE

If length of stud is insufficient to permit use of stud inserter and removal tool, proceed to step 2.

1. Remove damaged stud (1) from chaincase (2) using stud inserter and remover tool.



AUXILIARY POWER UNIT GENERATOR MOUNTING STUDS REPLACEMENT - CONTINUED

0636 00

Removal-Continued

CAUTION

To avoid damage to chaincase, do not drill more than 0.75 in. (1.91 cm) into stuBefore drilling, mark stud with center punch to ensure drill bit is centered on stud.

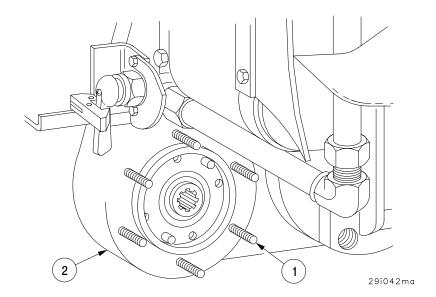
NOTE

Perform the following steps only if stud cannot be removed using procedures of step 1.

- 2. Using portable electric drill and twist drill set, drill pilot hole 0.75 in. (1.91 cm) deep in center of stud (1).
- 3. Tap screw remover into pilot hole and remove stud (1).
- 4. Inspect parts for damage and replace as required.

Installation

- 1. Apply adhesive to threads of stud (1).
- 2. Using stud inserter and remover, install stud (1) in chaincase (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU generator (WP 0634 00)

AUXILIARY POWER UNIT GENERATOR MOUNTING STUDS REPLACEMENT (HATZ)

0637 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Stud inserter and remover (item 31, WP 0717 00) Portable electric drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Adhesive (item 25, WP 0716 00)

Equipment Conditions

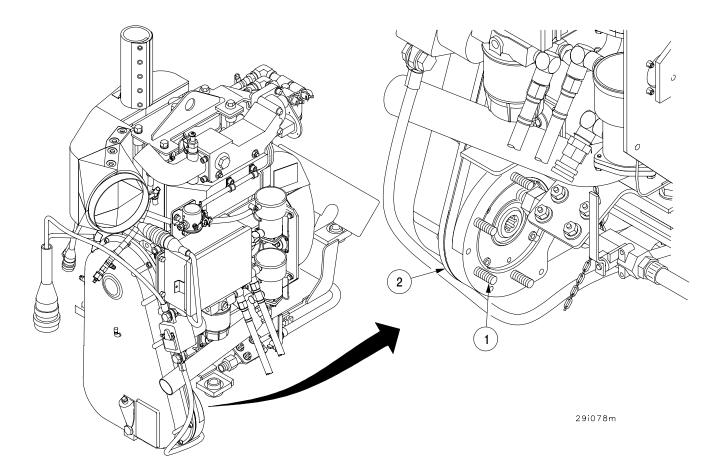
APU generator removed (WP 0635 00)

Removal

NOTE

If length of stud is insufficient to permit use of stud inserter and removal tool, proceed to step 2.

1. Remove damaged stud (1) from chaincase (2) using stud inserter and remover tool.



AUXILIARY POWER UNIT GENERATOR MOUNTING STUDS REPLACEMENT (HATZ)- CONTINUED

0637 00

Removal-Continued

CAUTION

To avoid damage to chaincase, do not drill more than 0.75 in. (1.91 cm) into stuBefore drilling, mark stud with center punch to ensure drill bit is centered on stud.

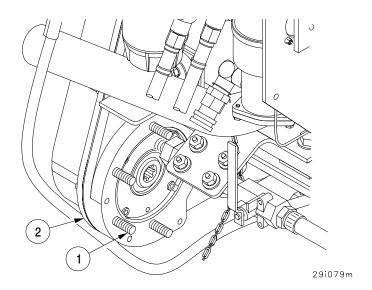
NOTE

Perform the following steps only if stud cannot be removed using procedures of step 1.

- 2. Using portable electric drill and twist drill set, drill pilot hole 0.75 in. (1.91 cm) deep in center of stud (1).
- 3. Tap screw remover into pilot hole and remove stud (1).
- 4. Inspect parts for damage and replace as required.

Installation

- 1. Apply adhesive to threads of stud (1).
- 2. Using stud inserter and remover, install stud (1) in chaincase (2).



NOTE

FOLLOW-ON MAINTENANCE: Install APU generator (WP 0635 00)

AUXILIARY POWER UNIT DIODE AND MOUNTING PLATE REPLACEMENT

0638 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 139, WP 0718 00) Adhesive (item 81, WP 0716 00) Marker tags (item 49, WP 0716 00)

Materials/Parts-Continued

Lockwasher (item 85, WP 0718 00) Lockwasher (item 86, WP 0718 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00)

Removal

1. Loosen captive screw (1) and remove panel (2).

NOTE

Where applicable, remove adhesive to expose designated electrical terminals.

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 2. Remove screw (3), lockwasher (4) and nut (5) at cathode (terminal end) of diode (6) and wire (7). Discard lockwasher.
- 3. Remove nut (8) and lockwasher (9) at anode (stud end) of diode (6). Remove diode (6).

NOTE

Perform the following step only if necessary to replace plate (link) connected to diode anode (stud end).

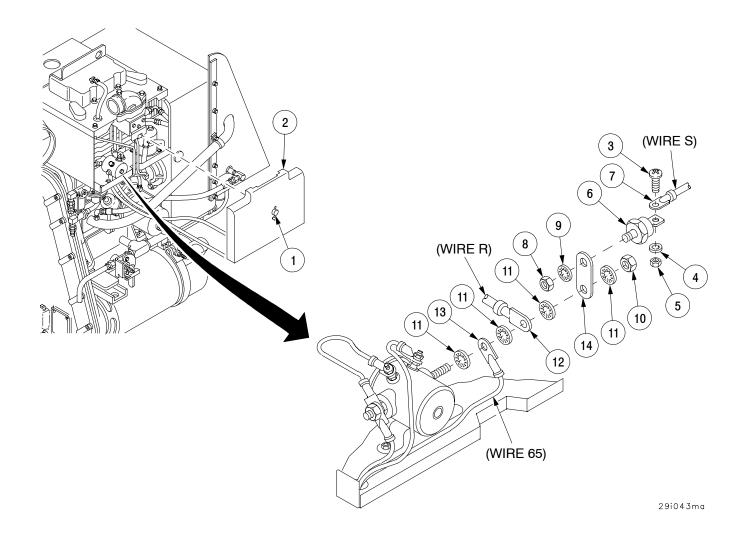
- 4. Remove nut (10), four lockwashers (11), two wires (12 and 13) and plate (link) (14). Discard lockwashers.
- 5. Inspect parts for damage and replace as required.

AUXILIARY POWER UNIT DIODE AND MOUNTING PLATE REPLACEMENT - CONTINUED

0638 00

Installation

- 1. Install two wires (12 and 13), plate (link) (14), four new lockwashers (11) and nut (10) on relay terminal.
- 2. Install anode (stud end) of diode (6) on plate (link) (14) with new lockwasher (9) and nut (8).
- 3. Connect wire (7) to cathode (terminal end) of diode (6) with screw (3), new lockwasher (4) and nut (5).
- 4. Apply adhesive to all exposed electrical terminals.
- 5. Install panel (2) and tighten captive screw (1).



NOTE

FOLLOW-ON MAINTENANCE: Install APU in vehicle (WP 0587 00)

END OF TASK

AUXILIARY POWER UNIT DIODE AND MOUNTING PLATE REPLACEMENT (HATZ)

0639 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 286, WP 0718 00) Adhesive (item 81, WP 0716 00)

Materials/Parts-Continued

Lockwasher (item 85, WP 0718 00) Lockwasher (item 86, WP 0718 00) Marking tags (item 49, WP 0716 00)

Equipment Conditions

Battery power disconnected (WP 0256 00) APU cover removed (WP 0413 00)

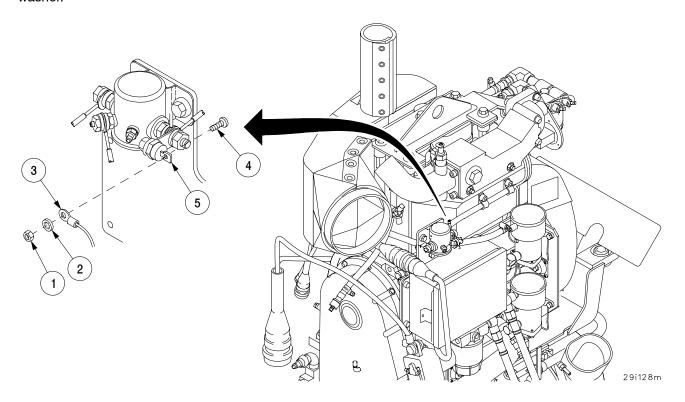
Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove sealant to expose designated electrical terminals.

1. Remove nut (1), lockwasher (2), wire (3) and screw (4) from cathode (terminal end) of diode (5). Discard lockwasher.



AUXILIARY POWER UNIT DIODE AND MOUNTING PLATE REPLACEMENT (HATZ) - CONTINUED

0639 00

Removal-Continued

2. Remove nut (6) and lockwasher (7) from anode (stud end) of diode (5). Remove diode (5) from plate (link) (8). Discard lockwasher.

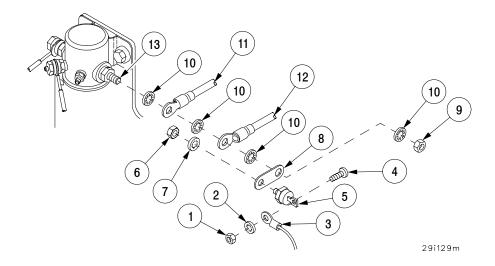
NOTE

Perform the following steps only if necessary to replace plate (link) connected to diode anode (stud end).

- 3. Remove nut (9), four lockwashers (10), two wires (11 and 12) and plate (link) (8) from relay terminal (13). Discard lockwashers.
- 4. Inspect all parts for damage and replace as required.

Installation

- 1. Install two wires (11 and 12), plate (link) (8), four new lockwashers (10) and nut (9) on relay terminal (13).
- 2. Install anode (stud end) of diode (5) in plate (link) (8) with new lockwasher (7) and nut (6).
- 3. Connect wire (3) to cathode (terminal end) of diode (5) with screw (4), new lockwasher (2) and nut (1).
- 4. Apply adhesive to all exposed electrical terminals.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU cover (WP 0413 00) Connect battery power (WP 0256 00)

AUXILIARY POWER UNIT RELAY AND MOUNTING BRACKET REPLACEMENT

0640 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 11, WP 0718 00)

Lockwashers (2) (item 58, WP 0718 00)

Lockwashers (2) (item 12, WP 0718 00)

Springwashers (2) (item 61, WP 0718 00)

Lockwashers (4) (item 414, WP 0718 00)

Marker tags (item 49, WP 0716 00)

Equipment Conditions

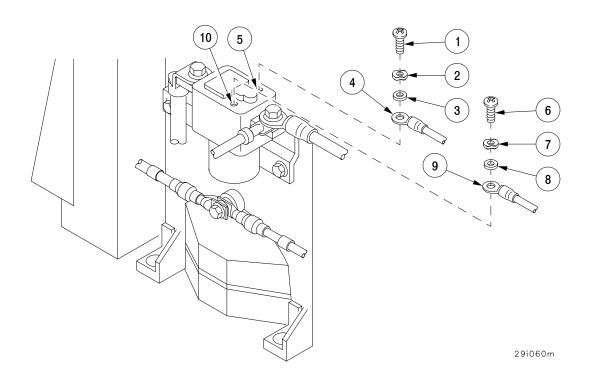
APU removed from vehicle (WP 0586 00)

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Remove screw (1), springwasher (2), flat washer (3) and wiring harness 3W711 wire 65 (4) from relay terminal X1 (5). Discard springwasher.
- 2. Remove screw (6), springwasher (7), flat washer (8) and lead assembly 3W727 (9) from relay terminal X2 (10). Discard springwasher.



AUXILIARY POWER UNIT RELAY AND MOUNTING BRACKET REPLACEMENT - CONTINUED

0640 00

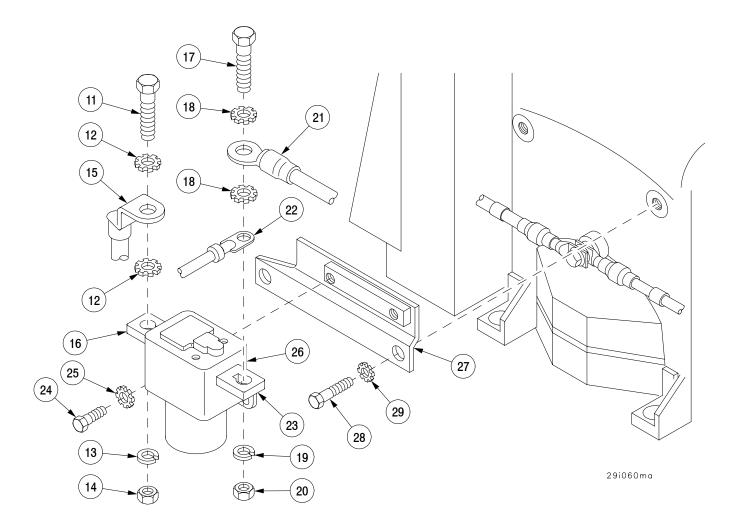
Removal-Continued

- 3. Remove screw (11), two lockwashers (12), lockwasher (13), nut (14) and lead assembly 3W706 (15) from relay terminal A1 (16). Discard lockwashers.
- 4. Remove screw (17), two lockwashers (18), lockwasher (19), nut (20), wiring harness 3W711 wire 66 (21) and wire N (22) from relay terminal A2 (23). Discard lockwashers.
- 5. Remove two screws (24), two lockwashers (25) and relay (26) from mounting bracket (27).

NOTE

Perform the following step only if necessary to replace the relay mounting bracket.

- 6. Remove two screws (28), two lockwashers (29) and mounting bracket (27) from the APU assembly. Discard lockwashers.
- 7. Inspect parts for damage and replace as required.



AUXILIARY POWER UNIT RELAY AND MOUNTING BRACKET REPLACEMENT - CONTINUED

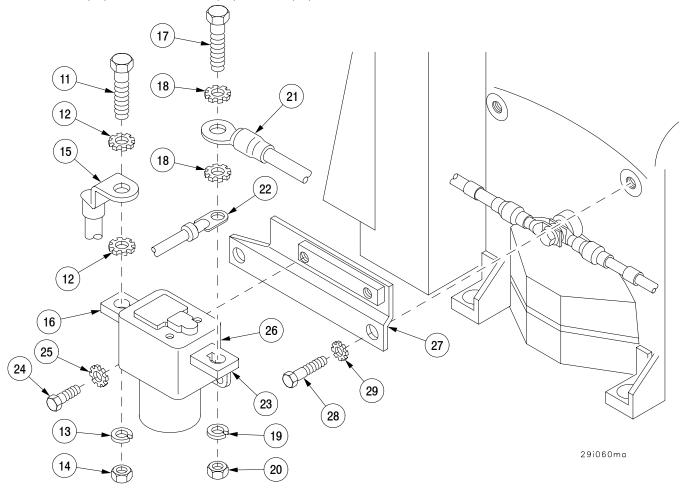
0640 00

Installation

NOTE

Perform step 1 only if relay mounting bracket has been removed; otherwise, proceed to step 2.

- 1. Install mounting bracket (27) on APU assembly with two screws (28) and two new lockwashers (29).
- 2. Install relay (26) on mounting bracket (27) with two screws (24) and two new lockwashers (25).
- 3. Install lead assembly 3W706 (15) on relay terminal A1 (16) with screw (11), two new lockwashers (12), new lockwasher (13) and nut (14).
- 4. Install wiring harness 3W711 wire 66 (21) and wire N (22) on relay terminal A2 (23) with screw (17), two new lockwashers (18), new lockwasher (19) and nut (20).

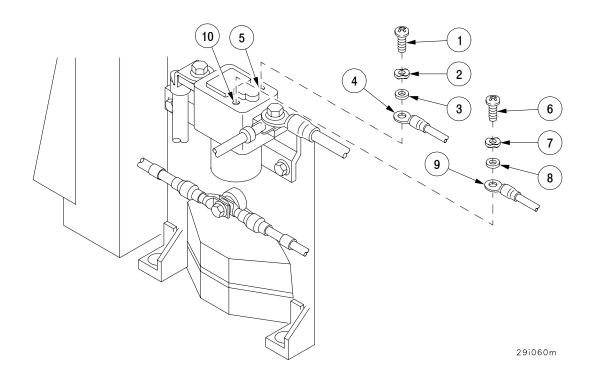


AUXILIARY POWER UNIT RELAY AND MOUNTING BRACKET REPLACEMENT - CONTINUED

0640 00

Installation-Continued

- 5. Install lead assembly 3W727 (9) on relay terminal X2 (10) with screw (6), new springwasher (7) and flat washer (8).
- 6. Install wiring harness 3W711 wire 65 (4) on relay terminal X1 (5) with screw (1), new springwasher (2) and flat washer (3).



NOTE

FOLLOW-ON MAINTENANCE: Install APU into vehicle (WP 0586 00)

END OF TASK

AUXILIARY POWER UNIT RELAY AND MOUNTING BRACKET REPLACEMENT (HATZ)

0641 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Electrical heat gun (item 34, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 351, WP 0718 00) Lockwashers (2) (item 12, WP 0718 00) Springwashers (2) (item 61, WP 0718 00) Lockwashers (4) (item 414, WP 0718 00)

Materials/Parts - Continued

Marker tags (item 49, WP 0716 00) Adhesive (item 81, WP 0716 00) Insulation sleeving (item 483, WP 0718 00) Adhesive (item 29, WP 0716 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00)

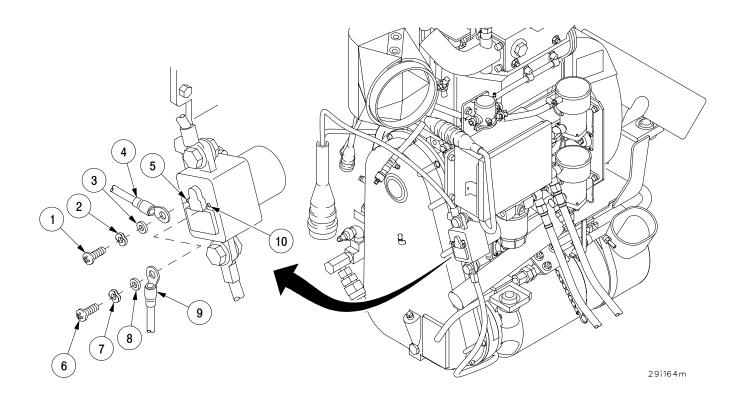
Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Remove sealant and insulation sleeving to expose designated electrical terminals.

- 1. Remove screw (1), springwasher (2), flat washer (3) and wiring harness 3W711 wire 65 (4) from relay terminal X1 (5). Discard springwasher.
- 2. Remove screw (6), springwasher (7), flat washer (8) and lead assembly 3W727 (9) from relay terminal X2 (10). Discard springwasher.

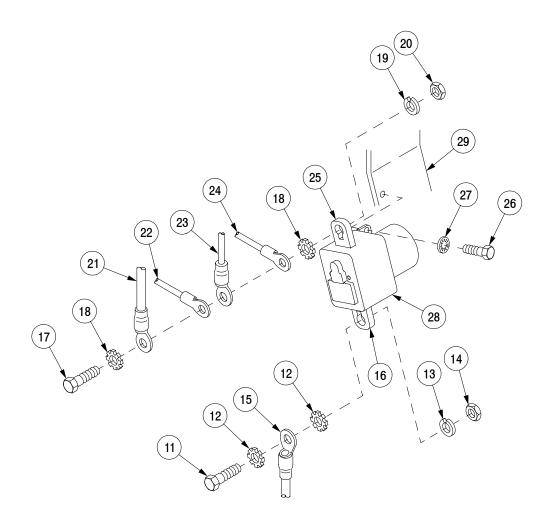


AUXILIARY POWER UNIT RELAY AND MOUNTING BRACKET REPLACEMENT (HATZ) - CONTINUED

0641 00

Removal-Continued

- 3. Remove screw (11), two lockwashers (12), lockwasher (13), nut (14) and lead assembly 3W706 (15) from relay terminal A1 (16). Discard lockwashers.
- 4. Remove screw (17), two lockwashers (18), lockwasher (19), nut (20), wiring harness 3W711 wire 66 (21) and wire N (22) and wiring harness 3W730 wires 134 (23) and 135A (24) from relay terminal A2 (25). Discard lockwashers.
- 5. Remove two screws (26), two lockwashers (27) and relay (28) from mounting bracket (29).
- 6. Inspect parts for damage and replace as required.



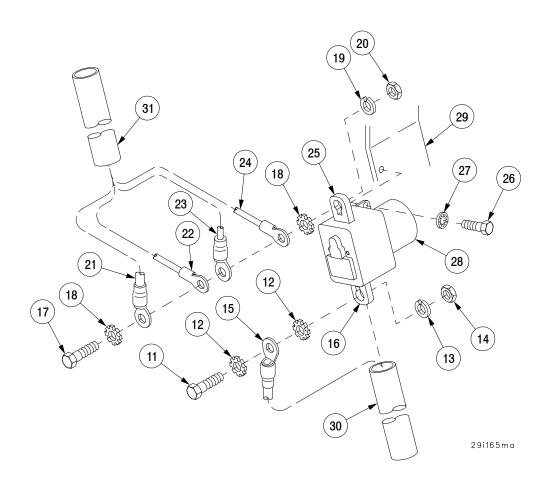
29i165m

AUXILIARY POWER UNIT RELAY AND MOUNTING BRACKET REPLACEMENT (HATZ) - CONTINUED

0641 00

Installation

- 1. Apply adhesive (item 29, WP 0716 00) to two screws (26).
- 2. Install relay (28) on mounting bracket (29) with two screws (26) and two new lockwashers (27).
- 3. Place a four-inch piece of insulation sleeving (30) over lead assembly 3W706 (15) then install lead assembly on relay terminal A1 (16) with screw (11), two new lockwashers (12), new lockwasher (13) and nut (14).
- 4. Place a four-inch piece of insulation sleeving (31) over wiring harness 3W711 wire 66 (21), wire N (22) and wiring harness 3W730 wires 134 (23) and wire 135A (24), then install wires on relay terminal A2 (25) with screw (17), two new lockwashers (18), new lockwasher (19) and nut (20).
- 5. Apply adhesive (item 81, WP 0716 00) to relay terminals A1 and A2 (16 and 25) and attaching hardware.
- 6. Slide insulation sleeving over relay terminals A1 and A2 (16 and 25) and attaching hardware. Shrink insulation sleeving using electrical heat gun.

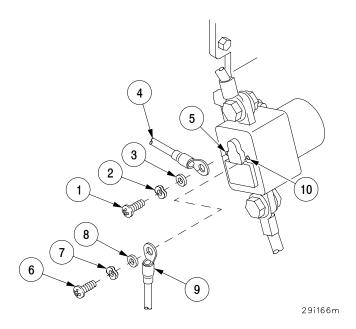


AUXILIARY POWER UNIT RELAY AND MOUNTING BRACKET REPLACEMENT (HATZ) - CONTINUED

0641 00

Installation-Continued

- 7. Install lead assembly 3W727 (9) on relay terminal X2 (10) with screw (6), new springwasher (7) and flat washer (8).
- 8. Install wiring harness 3W711 wire 65 (4) on relay terminal X1 (5) with screw (1), new springwasher (2) and flat washer (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU into vehicle (WP 0587 00)

AUXILIARY POWER UNIT WIRING HARNESS 3W704 REPLACEMENT

0642 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Adhesive (item 81, WP 0716 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

APU wiring harness cable clamps removed (WP 0592 00)

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

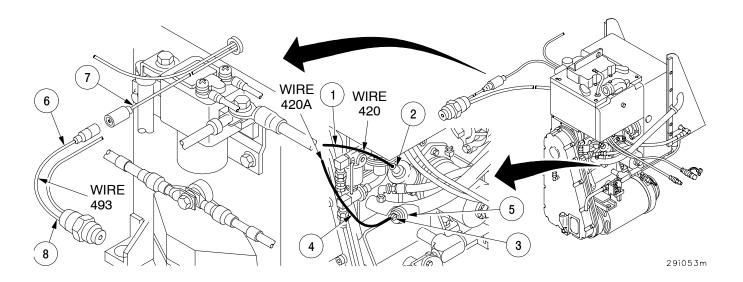
Where applicable, remove adhesive to expose designated electrical terminals.

- 1. Disconnect wiring harness 3W704 wire 420 (1) from oil pressure sending unit (2).
- 2. Remove screw (3) to disconnect wiring harness 3W704 wire 420A (4) from low oil pressure switch (5).

NOTE

If wire 493 has previously been disconnected, proceed to step 4; otherwise, proceed to step 3.

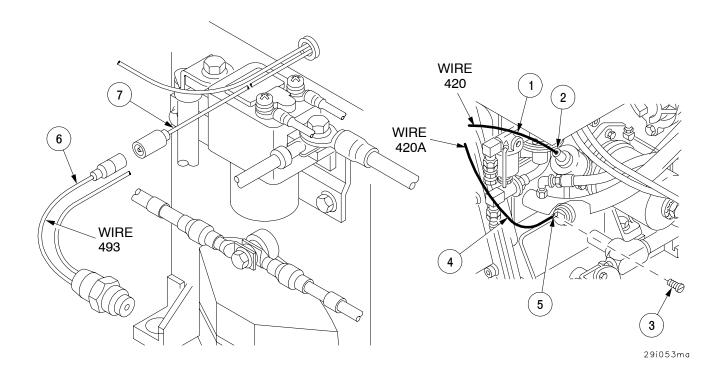
- 3. Disconnect wiring harness 3W704 wire 493 (6) at wire junction of lead assembly 3W705 (7) for high air temperature switch.
- 4. Remove wiring harness 3W704 (8) from APU assembly.



0642 00

Installation

- 1. Connect wiring harness 3W704 wire 493 (6) at wire junction of lead 3W705 (7) for high air temperature switch.
- 2. Connect wiring harness 3W704 wire 420A (4) to low oil pressure switch (5) terminal with screw (3).
- 3. Connect wiring harness 3W704 wire 420 (1) to oil pressure sending unit (2) terminal.
- 4. Apply adhesive to all exposed electrical terminals.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU wiring harness cable clamps (WP 0592 00)

AUXILIARY POWER UNIT WIRING HARNESS 3W704 REPLACEMENT (HATZ)

0643 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Adhesive (item 102, WP 0716 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

Battery power disconnected (WP 0256 00) APU cover removed (WP 0413 00)

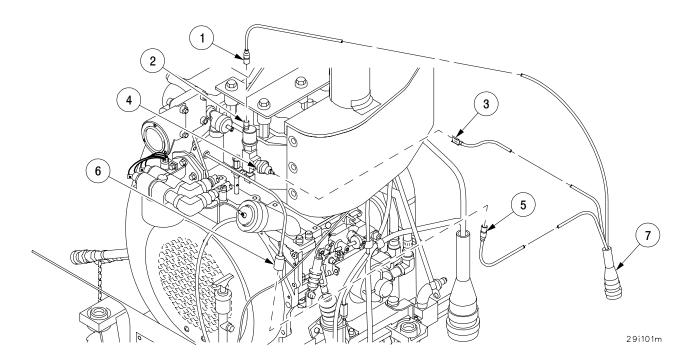
Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove adhesive to expose designated electrical terminals.

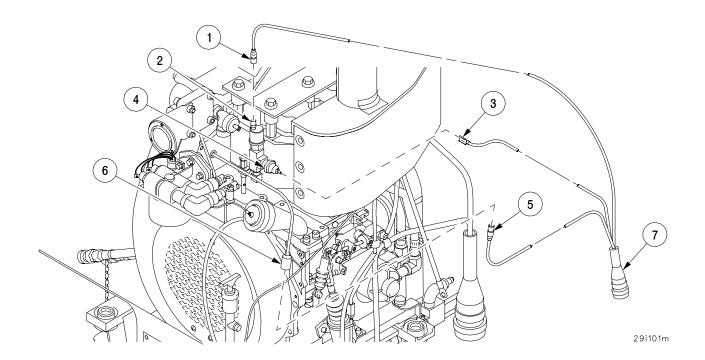
- 1. Disconnect wiring harness 3W704 wire 420 (1) from oil pressure sending unit (2).
- 2. Disconnect wiring harness 3W704 wire 420A (3) from low oil pressure switch (4).
- 3. Disconnect wiring harness 3W704 wire 493 (5) at wire junction of lead assembly 3W705 (6) for high air temperature switch.
- 4. Remove wiring harness 3W704 (7) from APU assembly.
- 5. Inspect all parts for damage and replace as required.



0643 00

Installation

- 1. Position wiring harness 3W704 (7) on APU assembly.
- 2. Connect wiring harness 3W704 wire 493 (5) at wire junction of lead assembly 3W705 (6) for high air temperature switch.
- 3. Connect wiring harness 3W704 wire 420A (3) to low oil pressure switch (4) terminal.
- 4. Connect wiring harness 3W704 wire 420 (1) to oil pressure sending unit (2) terminal.
- 5. Apply adhesive to all exposed electrical terminals.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU cover (WP 0413 00) Connect battery power (WP 0256 00)

END OF TASK

AUXILIARY POWER UNIT LEAD ASSEMBLY 3W705 REPLACEMENT

0644 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

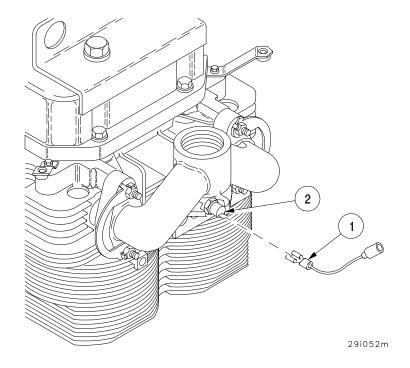
APU engine duct removed (WP 0622 00)

Removal

- 1. Disconnect lead assembly 3W705 (1) at terminal of high air temperature switch (2).
- 2. Inspect parts for damage and replace as required.

Installation

Connect lead assembly 3W705 (1) to terminal of high air temperature switch (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU engine duct (WP 0622 00)

AUXILIARY POWER UNIT LEAD ASSEMBLY 3W705 REPLACEMENT (HATZ)

0645 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Adhesive (item 102, WP 0716 00) Lockwasher (item 463, WP 0718 00) Grommet (item 464, WP 0718 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00) Airflow deflectors removed (TM 9-2815-250-24&P)

References

TM 9-2815-250-24&P

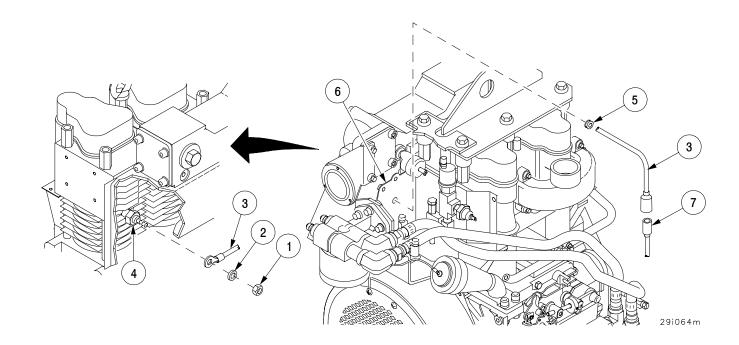
Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove adhesive to expose designated electrical terminals.

- 1. Remove nut (1), lockwasher (2) and wiring harness 3W705 (3) from thermostatic switch (4). Discard lockwasher.
- 2. Remove grommet (5) from air duct bracket (6). Pull wiring harness 3W705 (3) through air duct bracket (6) and grommet (5). Discard grommet.
- 3. Disconnect wiring harness 3W705 (3) from wiring harness 3W704 lead 493 (7).
- 4. Inspect all parts for damage and replace as required.

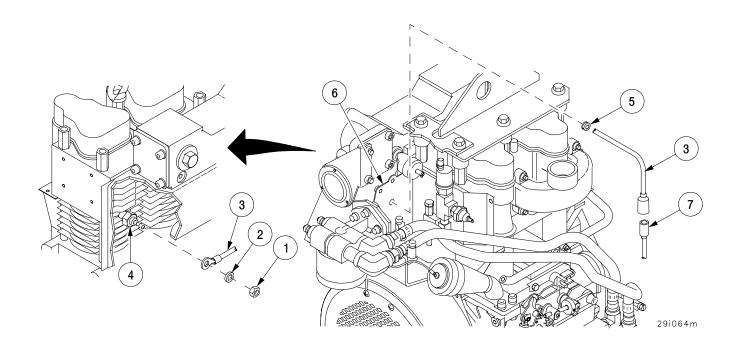


AUXILIARY POWER UNIT LEAD ASSEMBLY 3W705 REPLACEMENT (HATZ) - CONTINUED

0645 00

Installation

- 1. Connect wiring harness 3W705 (3) to wiring harness 3W704 lead 493 (7).
- 2. Pull wiring harness 3W705 (3) through new grommet (5) and insert grommet (5) into air duct bracket (6).
- 3. Attach wiring harness 3W705 (3) to thermostatic switch (4), using new lockwasher (2) and nut (1).
- 4. Apply adhesive to all exposed electrical terminals.



NOTE

FOLLOW-ON MAINTENANCE:

Install airflow deflectors (TM 9-2815-250-24&P) Install APU in vehicle (WP 0587 00)

AUXILIARY POWER UNIT LEAD ASSEMBLY 3W706 REPLACEMENT

0646 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Adhesive (item 102, WP 0716 00)
Self-locking nut (item 282, WP 0718 00)
Lockwashers (2) (item 11, WP 0718 00)
Lockwasher (item 2, WP 0718 00)
Marker tags (item 49, WP 0716 00)

Insulation sleeving (item 483, WP 0718 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00)

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

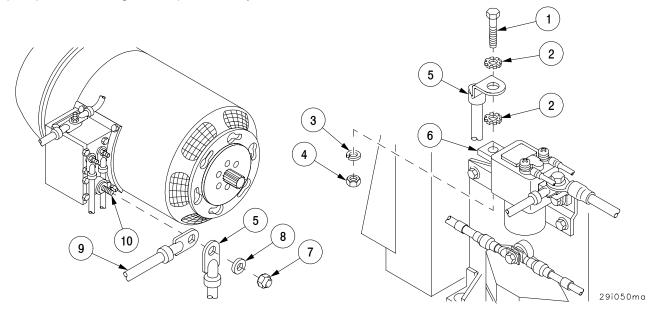
Where applicable, remove adhesive to expose designated electrical terminals.

1. Remove screw (1), two lockwashers (2), lockwasher (3), nut (4) and lead assembly 3W706 (5) from relay terminal A1 (6). Discard lockwashers.

NOTE

Additional leads may be removed from terminal to access lead assembly.

- 2. Remove self-locking nut (7), flat washer (8), lead assembly 3W706 (5) and wiring harness 3W711 wire 62 (9) from generator terminal B+ (10). Discard self-locking nut.
- 3. Inspect parts for damage and replace as required.

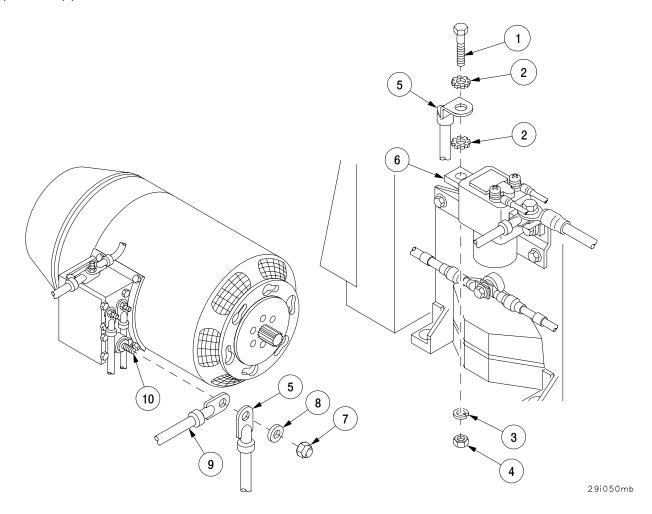


AUXILIARY POWER UNIT LEAD ASSEMBLY 3W706 REPLACEMENT - CONTINUED

0646 00

Installation

- 1. Connect wiring harness 3W711 wire 62 (9) and lead assembly 3W706 (5) to generator terminal B+ (10) with new self-locking nut (7) and flat washer (8).
- 2. After generator leads are installed, apply adhesive to exposed terminal.
- 3. Install lead assembly 3W706 (5) to relay terminal A1 (6) with screw (1), two new lockwashers (2), new lockwasher (3) and nut (4).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU into vehicle (WP 0587 00)

AUXILIARY POWER UNIT LEAD ASSEMBLY 3W706 REPLACEMENT (HATZ)

0647 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Electrical heat gun (item 34, WP 0717 00)

Materials/Parts

Adhesive (item 102, WP 0716 00)
Self-locking nut (item 282, WP 0718 00)
Lockwashers (2) (item 414, WP 0718 00)
Lockwasher (item 12, WP 0718 00)
Marker tags (item 49, WP 0716 00)
Insulation sleeving (item 483, WP 0718 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00)

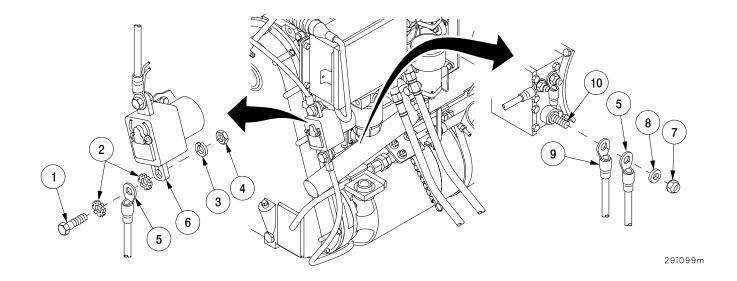
Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove adhesive and insulation sleeving to expose designated electrical terminals.

- 1. Remove screw (1), two lockwashers (2), lockwasher (3), nut (4) and lead assembly 3W706 (5) from relay terminal A1 (6). Discard lockwashers.
- 2. Remove self-locking nut (7), flat washer (8), lead assembly 3W706 (5) and wiring harness 3W711 wire 62 (9) from generator terminal B+ (10). Discard self-locking nut.
- 3. Inspect parts for damage and replace as required.

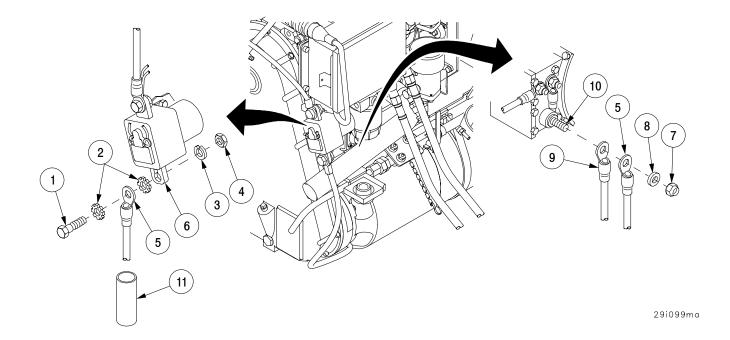


AUXILIARY POWER UNIT LEAD ASSEMBLY 3W706 REPLACEMENT (HATZ) - CONTINUED

0647 00

Installation

- 1. Connect wiring harness 3W711 wire 62 (9) and lead assembly 3W706 (5) to generator terminal B+ (10) with new self-locking nut (7) and flat washer (8).
- 2. Place a four-inch piece of insulation sleeving (11) over lead assembly 3W706 (5), then install lead assembly 3W706 (5) to relay terminal A1 (6) with screw (1), two new lockwashers (2), new lockwasher (3) and nut (4).
- 3. Apply adhesive to all exposed electrical terminals.
- 4. Slide insulation sleeving (11) over relay terminal A1 and attaching hardware. Shrink insulation sleeving using electrical heat gun.



NOTE

FOLLOW-ON MAINTENANCE: Install APU into vehicle (WP 0587 00)

AUXILIARY POWER UNIT WIRING HARNESS 3W711 REPLACEMENT

0648 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (3) (item 38, WP 0718 00) Lockwasher (item 86, WP 0718 00) Lockwasher (item 285, WP 0718 00) Lockwashers (4) (item 286, WP 0718 00) Springwasher (item 61, WP 0718 00)

Marker tags (item 49, WP 0716 00)

Removal

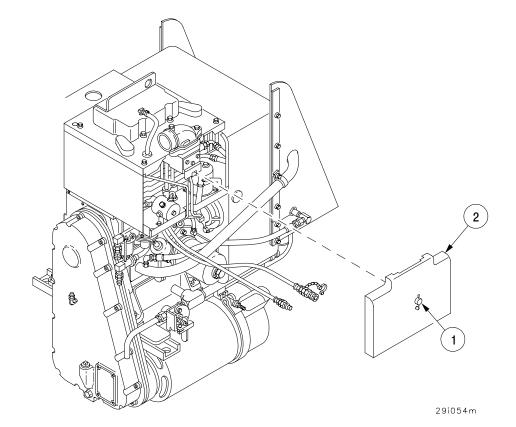
1. Loosen captive screw (1) and remove panel (2).

Materials/Parts-Continued

Lockwashers (2) (item 11, WP 0718 00) Lockwasher (item 2, WP 0718 00) Self-locking nuts (2) (item 282, WP 0718 00) Self-locking nuts (2) (item 283, WP 0718 00) Adhesive (item 102, WP 0716 00)

Equipment Conditions

APU wiring harness cable clamps removed (WP 0592 00)



0648 00

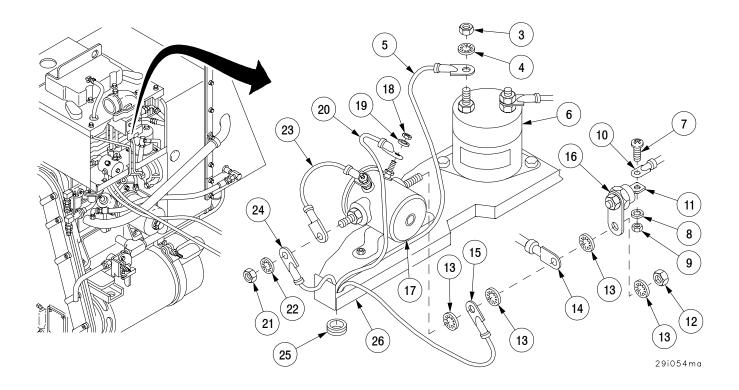
Removal-Continued

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove adhesive to expose designated electrical terminals.

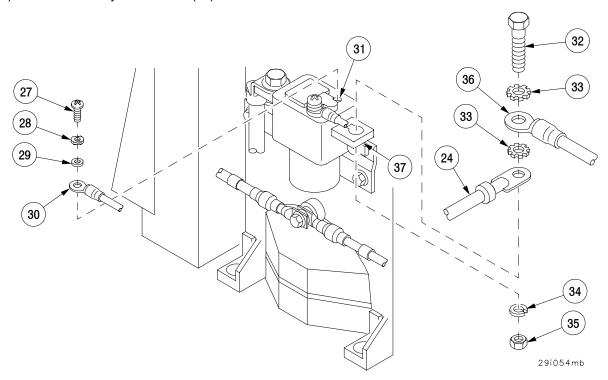
- 2. Remove nut (3), lockwasher (4) and wiring harness 3W711 wire 421 (5) from terminal of fuel shutoff solenoid (6). Discard lockwasher.
- 3. Remove screw (7), lockwasher (8), nut (9) and wiring harness 3W711 wire S (10) at cathode (terminal end) of diode (11). Discard lockwasher.
- 4. Remove nut (12), four lockwashers (13), wire R (14), wiring harness 3W711 wire 65 (15) and plate (link) (16) at terminal of preheat relay (17). Discard lockwashers.
- 5. Remove nut (18), lockwasher (19) and wiring harness 3W711 wire 487 (20) at terminal of preheat relay (17).
- 6. Remove nut (21), lockwasher (22), lead assembly 11671380-1 wire P (23) and wiring harness 3W711 wire N (24) from terminal of preheat relay (17).
- 7. Thread wiring harness 3W711 wires 421 (5), S (10), 65 (15), 487 (20) and N (24) through grommet (25). Remove grommet (25) from cylinder shroud panel (26).



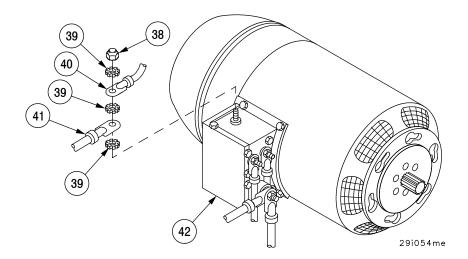
0648 00

Removal-Continued

- 8. Remove screw (27), springwasher (28), flat washer (29) and wiring harness 3W711 wire 65 (30) from starter relay terminal X1 (31). Discard springwasher.
- 9. Remove screw (32), two lockwashers (33), lockwasher (34), nut (35), wiring harness 3W711 wire 66 (36) and wire N (24) from starter relay terminal A2 (37). Discard lockwashers.



10. Remove self-locking nut (38), three lockwashers (39), lead assembly 3W728 (40) and wiring harness 3W711 wire GND (41) from terminal E of generator (42). Discard self-locking nut and lockwashers.



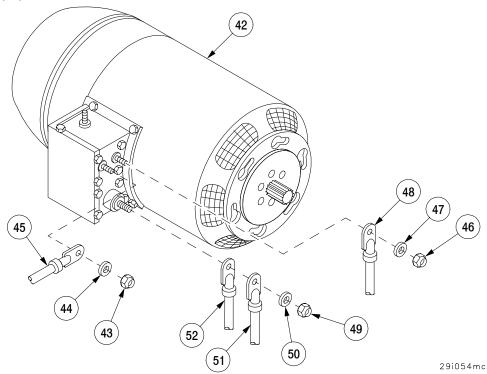
0648 00

Removal-Continued

- 11. Remove self-locking nut (43), flat washer (44) and wiring harness 3W711 wire 478A (45) from terminal D of generator (42). Discard self-locking nut.
- 12. Remove self-locking nut (46), flat washer (47) and wiring harness 3W711 wire 61 (48) from terminal A of generator (42). Discard self-locking nut.
- 13. Remove self-locking nut (49), flat washer (50) and wiring harness 3W711 wire 62 (51) and lead assembly 3W706 (52) from terminal B of generator (42). Discard self-locking nut.
- 14. All wires for wiring harness are disconnected; remove harness from APU assembly.
- 15. Inspect parts for damage and replace as required.

Installation

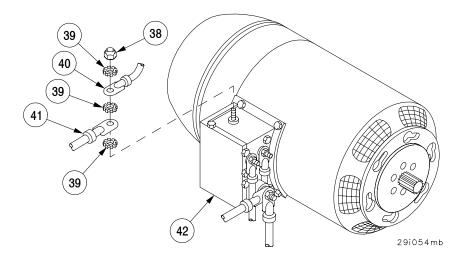
- 1. Install lead assembly 3W706 (52) and wiring harness 3W711 wire 62 (51) on terminal B of generator (42) with flat washer (50) and new self-locking nut (49).
- 2. Install wiring harness 3W711 wire 61 (48) on terminal A of generator (42) with flat washer (47) and new self-locking nut (46).
- 3. Install wiring harness 3W711 wire 478A (45) on terminal D of generator (42) with flat washer (44) and new self-locking nut (43).



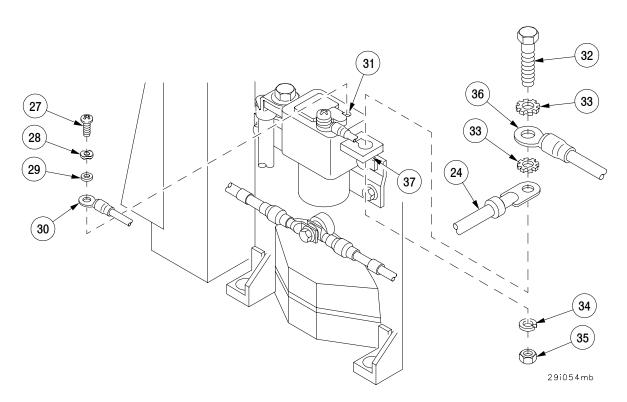
0648 00

Installation-Continued

4. Install wiring harness 3W711 wire GND (41) and lead assembly 3W728 (40) to terminal E of generator (42) with three new lockwashers (39) and new self-locking nut (38).



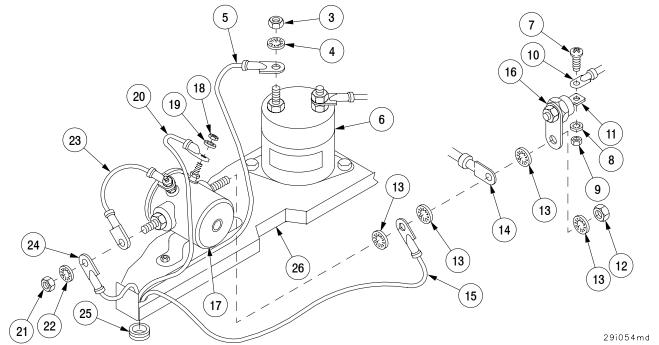
- 5. Install wiring harness 3W711 wire 66 (36) and wire N (24) on starter relay terminal A2 (37) with screw (32), two new lockwashers (33), new lockwasher (34) and nut (35).
- 6. Install wiring harness 3W711 wire 65 (30) on starter relay terminal X1 (31) with screw (27), new springwasher (28) and flat washer (29).



0648 00

Installation-Continued

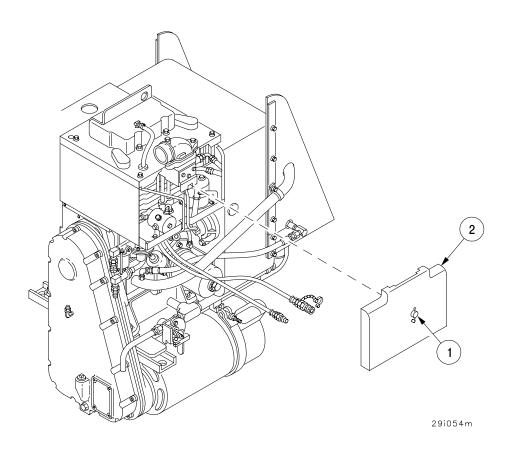
- 7. Install grommet (25) in cylinder shroud panel (26). Thread wiring harness 3W711 wires 421 (5), S (10), 65 (15), 487 (20) and N (24) through grommet (25).
- 8. Install wiring harness 3W711 wire N (24) and lead assembly 11671380-1 wire P (23) to terminal of preheat relay (17) with lockwasher (22) and nut (21).
- 9. Install wiring harness 3W711 wire 487 (20) to terminal of preheat relay (17) with lockwasher (19) and nut (18).
- 10. Install wiring harness 3W711 wire 65 (15), wire R (14) and plate (link) (16) to terminal of preheat relay with four new lockwashers (13) and nut (12).
- 11. Install wiring harness 3W711 wire S (10) to cathode (terminal end) of diode (11) with nut (9), new lockwasher (8) and screw (7).
- 12. Install wiring harness 3W711 wire 421 (5) to terminal of fuel shutoff solenoid (6) with new lockwasher (4) and nut (3).
- 13. Apply adhesive to all exposed terminals.



0648 00

Installation-Continued

14. Install panel (2) and tighten captive screw (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU wiring harness cable clamps (WP 0592 00)

AUXILIARY POWER UNIT WIRING HARNESS 3W711 REPLACEMENT (HATZ)

0649 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (3) (item 38, WP 0718 00)

Lockwasher (item 12, WP 0718 00)

Lockwashers (2) (item 110, WP 0718 00)

Lockwashers (6) (item 286, WP 0718 00)

Lockwashers (2) (item 414, WP 0718 00)

Materials/Parts-Continued

Springwasher (item 61, WP 0718 00)

Self-locking nuts (2) (item 461, WP 0718 00)

Self-locking nuts (2) (item 282, WP 0718 00)

Adhesive (item 102, WP 0716 00)

Marker tags (item 49, WP 0716 00)

Insulation sleeving (item 483, WP 0718 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00)

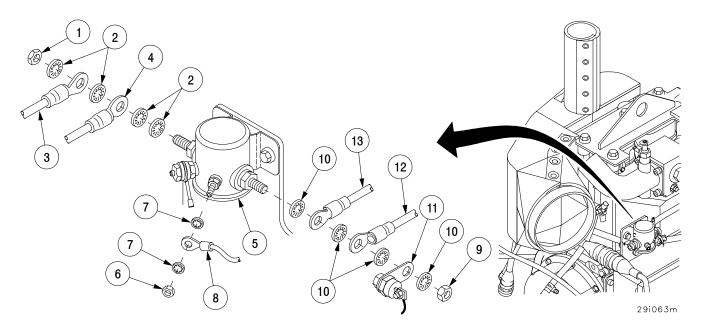
Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove sealant and insulation sleeving to expose designated electrical terminals.

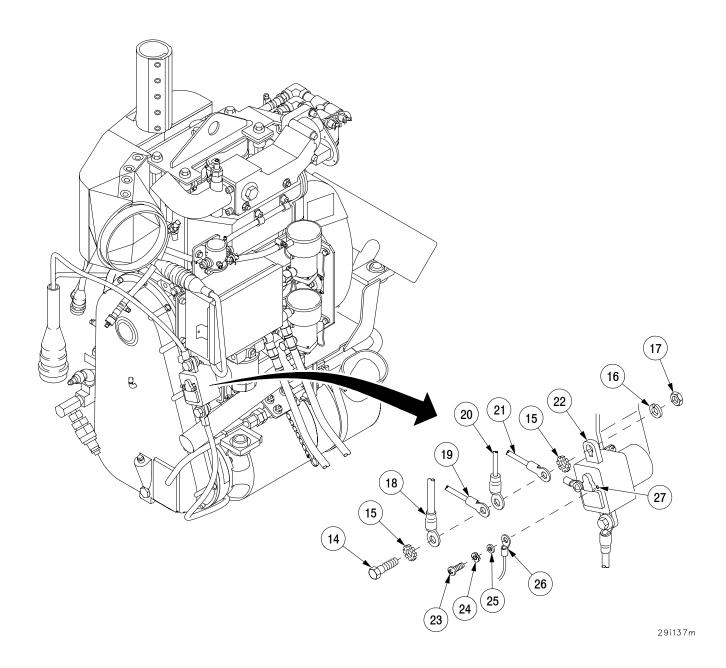
- 1. Remove nut (1), four lockwashers (2), lead P (3) and wiring harness 3W711 wire N (4) from terminal of preheat solenoid (5). Discard lockwashers.
- 2. Remove nut (6), two lockwashers (7) and wiring harness 3W711 wire 487 (8) from terminal of preheat solenoid (5). Discard lockwashers.
- 3. Remove nut (9), four lockwashers (10), diode assembly (11), wiring harness 3W711 wire 85 (12) and wire R (13) at terminal of preheat solenoid (5). Discard lockwashers.



0649 00

Removal-Continued

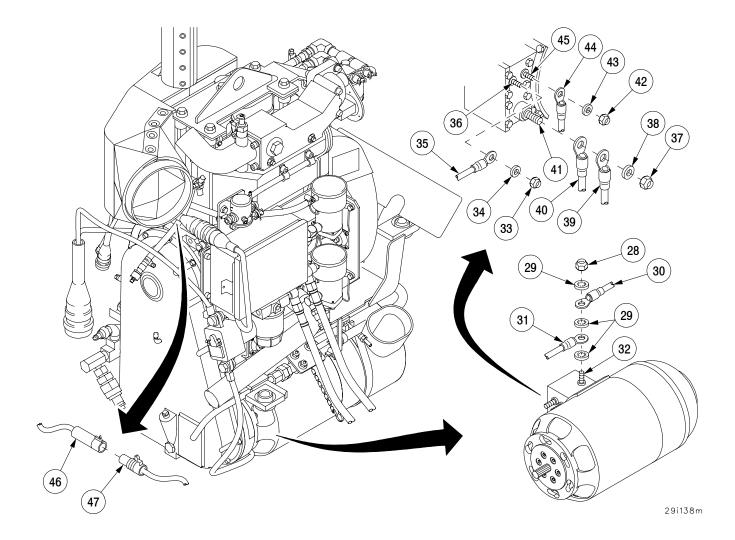
- 4. Remove screw (14), two lockwashers (15), lockwasher (16), nut (17), wiring harness 3W711 wire 66 (18), wire N (19), wiring harness 3W730 wire 134 (20) and wire 135A (21) from starter relay terminal (22). Discard lockwashers.
- 5. Remove screw (23), springwasher (24), flat washer (25) and wiring harness 3W711 wire 65 (26) from starter relay terminal (27).



0649 00

Removal-Continued

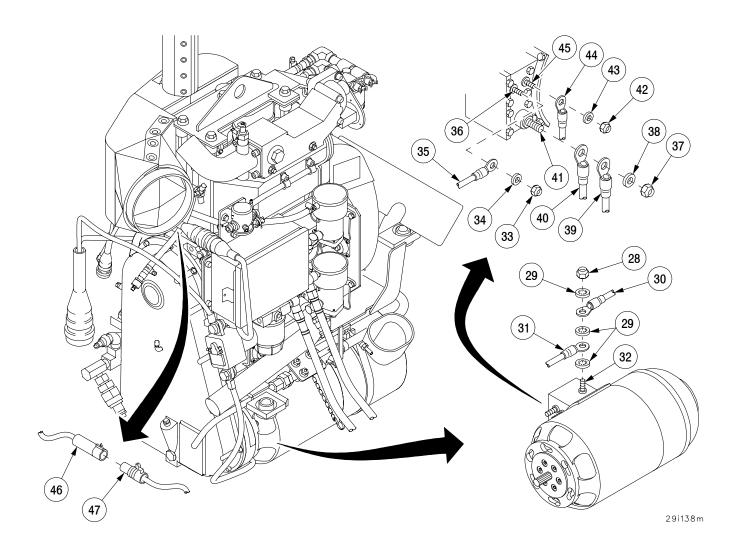
- 6. Remove self-locking nut (28), three lockwashers (29), wiring harness 3W711 wire GND (30) and wiring harness 3W733 wire GND (31) from generator terminal (32). Discard self-locking nut and lockwashers.
- 7. Remove self-locking nut (33), flat washer (34) and wiring harness 3W711 wire 478A (35) from generator terminal (36). Discard self-locking nut.
- 8. Remove self-locking nut (37), flat washer (38), wiring harness 3W711 wire 62 (39) and wiring harness 3W706 wire 66A (40) from generator terminal (41). Discard self-locking nut.
- 9. Remove self-locking nut (42), flat washer (43) and wiring harness 3W711 wire 61 (44) from generator terminal (45). Discard self-locking nut.
- 10. Disconnect wiring harness 3W730 wire 421 (46) from wiring harness 3W711 wire 421 (47).



0649 00

Installation

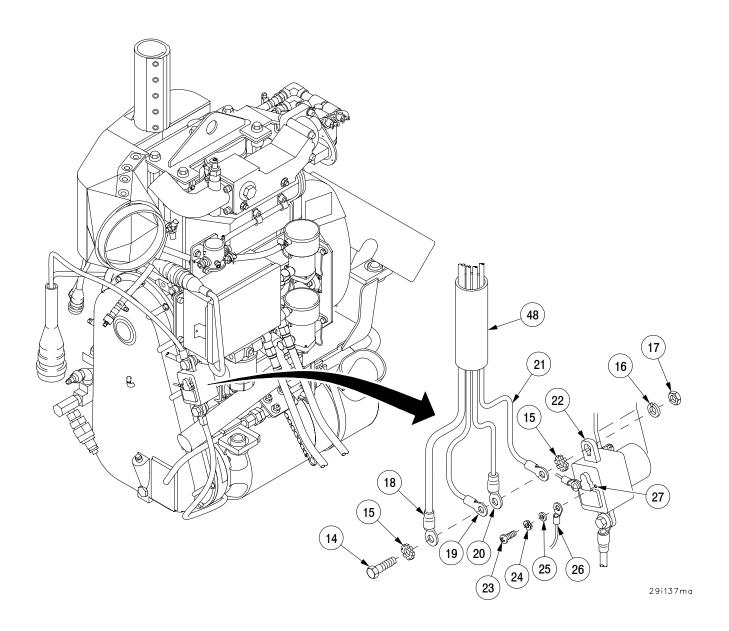
- 1. Connect wiring harness 3W711 wire 421 (47) to wiring harness 3W730 wire 421 (46).
- 2. Install wiring harness 3W711 wire 61 (44) on generator terminal (45) with flat washer (43) and new self-locking nut (42).
- 3. Install lead assembly 3W706 wire 66A (40) and wiring harness 3W711 wire 62 (39) on generator terminal (41) with flat washer (38) and new self-locking nut (37).
- 4. Install wiring harness 3W711 wire 478A (35) on generator terminal (36) with flat washer (34) and new self-locking nut (33).
- 5. Install wiring harness 3W733 wire GND (31) and lead assembly 3W711 wire GND (30) to generator terminal (32) with three new lockwashers (29) and new self-locking nut (28).



0649 00

Installation-Continued

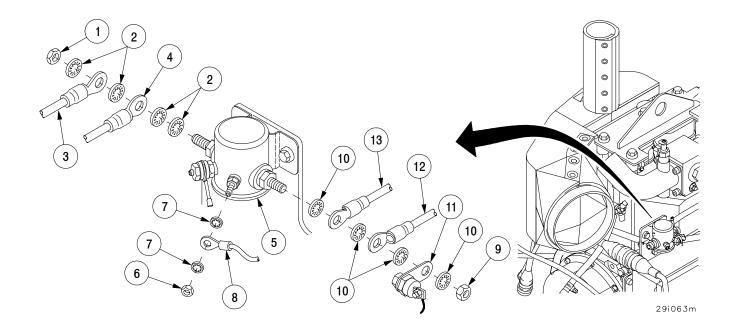
- 6. Install wiring harness 3W711 wire 65 (26) on starter relay terminal (27) with screw (23), new springwasher (24) and flat washer (25).
- 7. Place a four-inch piece of insulation sleeving (48) over wiring harness 3W730 wire 135A (21) and wire 134 (20), wire N (19) and wiring harness 3W711 wire 66 (18), then install lead assemblies on starter relay terminal (22) with screw (14), two new lockwashers (15), new lockwasher (16) and nut (17).
- 8. Apply adhesive to starter relay terminal (22) and attaching hardware.
- 9. Slide insulation sleeving (48) over starter relay terminal (22) and attaching hardware. Shrink insulation sleeving (48) with electrical heat gun.



0649 00

Installation-Continued

- 10. Install wire R (13), wiring harness 3W711 wire 85 (12) and diode assembly (11) to terminal of preheat solenoid (5) with four new lockwashers (10) and nut (9).
- 11. Install wiring harness 3W711 wire 487 (8) to terminal of preheat solenoid (5) with two new lockwashers (7) and nut (6).
- 12. Install wiring harness 3W711 wire N (4) and lead P (3) to terminal of preheat solenoid (5) with two new lockwashers (2) and nut (1). Apply adhesive to all exposed terminals.



NOTE

FOLLOW-ON MAINTENANCE: Install APU in vehicle (WP 0587 00)

AUXILIARY POWER UNIT LEAD ASSEMBLY 3W727 REPLACEMENT

0650 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Equipment Conditions

APU removed from vehicle (WP 0586 00)

Materials/Parts

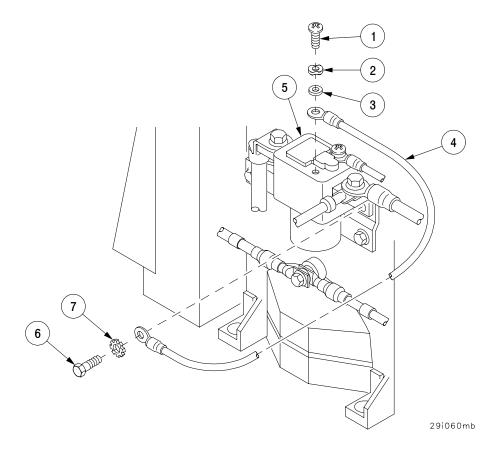
Springwasher (item 61, WP 0718 00) Lockwasher (item 127, WP 0718 00) Marker tags (item 49, WP 0716 00)

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Remove screw (1), springwasher (2), flat washer (3) and lead assembly 3W727 GND (4) from relay (5). Discard springwasher.
- 2. Remove screw (6), lockwasher (7) and lead assembly 3W727 GND (4) from relay (5). Discard lockwasher.
- 3. Inspect parts for damage and replace as required.

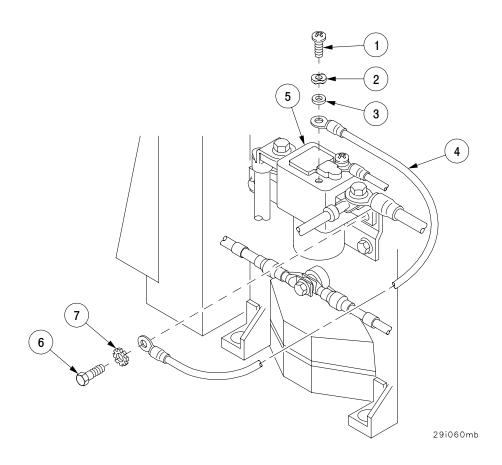


AUXILIARY POWER UNIT LEAD ASSEMBLY 3W727 REPLACEMENT - CONTINUED

0650 00

Installation

- 1. Install lead assembly 3W727 GND (4) on relay (5) with screw (6) and new lockwasher (7).
- 2. Install lead assembly 3W727 GND (4) on relay (5) with screw (1), new springwasher (2) and flat washer (3).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU in vehicle (WP 0586 00)

AUXILIARY POWER UNIT LEAD ASSEMBLY 3W727 REPLACEMENT (HATZ)

0651 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Springwasher (item 61, WP 0718 00) Lockwashers (5) (item 127, WP 0718 00) Marker tags (item 49, WP 0716 00) Adhesive (item 25, WP 0716 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00)

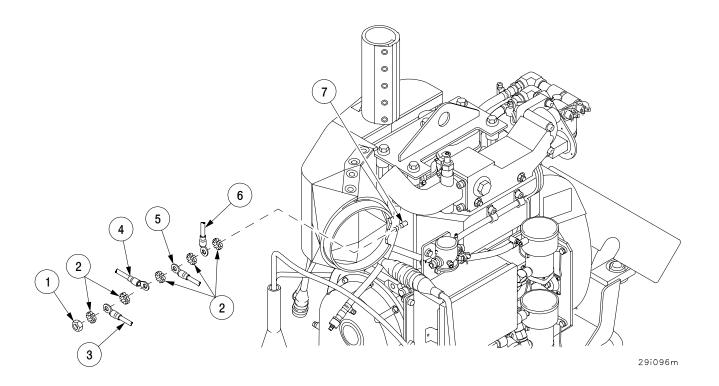
Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove sealant to expose designated electrical terminals.

1. Remove nut (1), five lockwashers (2), lead assembly 3W727 (3), lead assembly 3W728 (4), wiring harness 3W730 GND lead (5) and lead assembly 3W733 (6) from stud E3 (7) of APU. Discard lockwashers.



AUXILIARY POWER UNIT LEAD ASSEMBLY 3W727 REPLACEMENT (HATZ) - CONTINUED

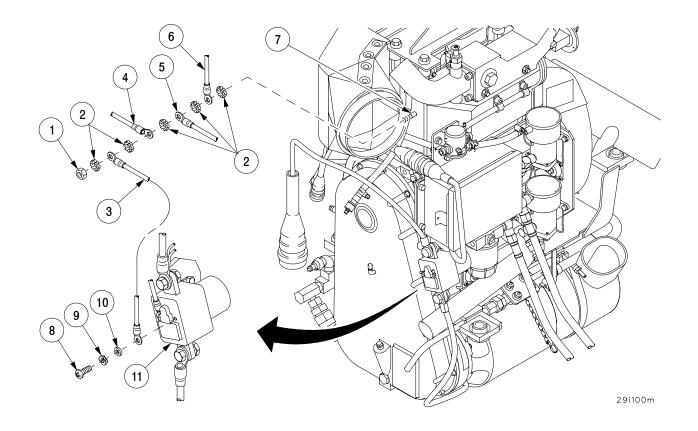
0651 00

Removal - Continued

- 2. Remove screw (8), springwasher (9), flat washer (10) and lead assembly 3W727 (3) from relay (11). Discard springwasher.
- 3. Inspect all parts for damage and replace as required.

Installation

- 1. Install lead assembly 3W727 (3) on relay (11) with screw (8), new springwasher (9) and flat washer (10).
- 2. Install lead assembly 3W733 (6), wiring harness 3W730 GND lead (5), lead assembly 3W728 (4) and lead assembly 3W727 (3) on stud E3 (7) of APU with nut (1) and five new lockwashers (2).
- 3. Apply sealant to exposed electrical terminals on stud E3 (7) and relay (11).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU in vehicle (WP 0587 00)

AUXILIARY POWER UNIT LEAD ASSEMBLY 3W728 REPLACEMENT

0652 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Adhesive (item 102, WP 0716 00)

Lockwashers (3) (item 38, WP 0718 00)

Lockwashers (3) (item 11, WP 0718 00)

Marker tags (item 49, WP 0716 00)

Equipment Conditions

APU removed from vehicle (WP 0586 00)

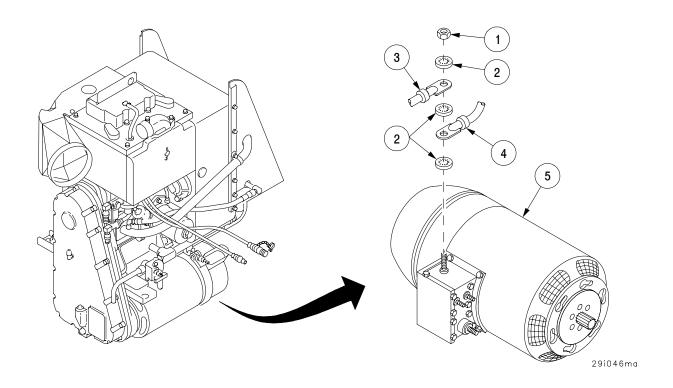
Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove adhesive to expose designated electrical terminals.

1. Remove nut (1), three lockwashers (2), lead assembly 3W728 (3) and wire (4) from terminal E of generator (5). Discard lockwashers.



AUXILIARY POWER UNIT LEAD ASSEMBLY 3W728 REPLACEMENT - CONTINUED

0652 00

Removal-Continued

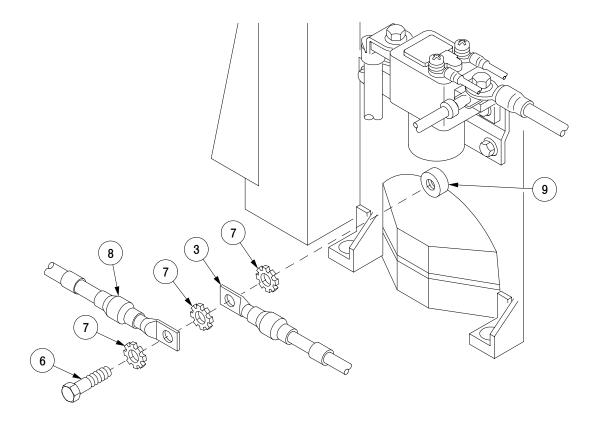
NOTE

Note routing of leads to aid in installation of new leads.

- 2. Remove screw (6), three lockwashers (7) and two lead assemblies 3W728 (3 and 8) from APU assembly chassis (9). Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

Installation

1. Install two lead assemblies 3W728 (3 and 8) at APU assembly chassis (9) with screw (6) and three new lockwashers (7).



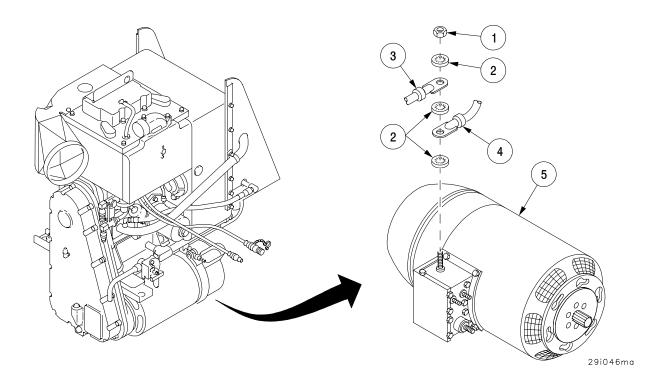
29i046m

AUXILIARY POWER UNIT LEAD ASSEMBLY 3W728 REPLACEMENT - CONTINUED

0652 00

Installation-Continued

- 2. Route lead assembly 3W728 (3) to generator (5). Install lead assembly 3W728 (3) and wire (4) (tagged for terminal E) with three new lockwashers (2) and nut (1, supplied with generator).
- 3. After generator leads are installed, apply adhesive to all exposed terminals.



NOTE

FOLLOW-ON MAINTENANCE: Install APU in vehicle (WP 0586 00)

AUXILIARY POWER UNIT LEAD ASSEMBLY 3W728 REPLACEMENT (HATZ)

0653 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Adhesive (item 102, WP 0716 00) Lockwashers (5) (item 127, WP 0718 00) Marker tags (item 49, WP 0716 00) Lockwashers (2) (item 38, WP 0718 00)

Equipment Conditions

Battery power disconnected (WP 0256 00) APU cover removed (WP 0413 00)

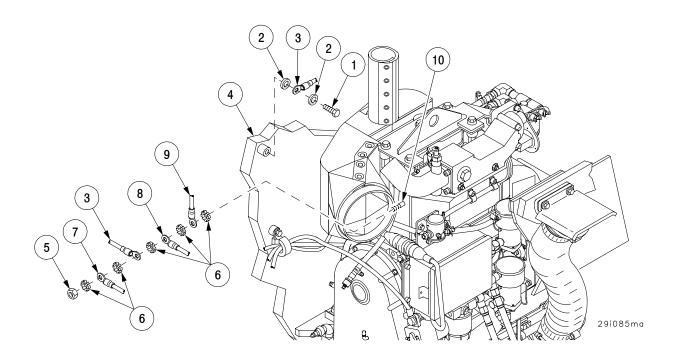
Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove adhesive to expose designated electrical terminals.

- 1. Remove screw (1), two lockwashers (2) and lead assembly 3W728 (3) from vehicle bulkhead (4). Discard lockwashers.
- 2. Remove nut (5), five lockwashers (6), lead assembly 3W727 (7), lead assembly 3W728 (3), wiring harness 3W730 GND lead (8) and lead assembly 3W733 (9) from stud E3 (10) of APU. Discard lockwashers.
- 3. Inspect all parts for damage and replace as required.

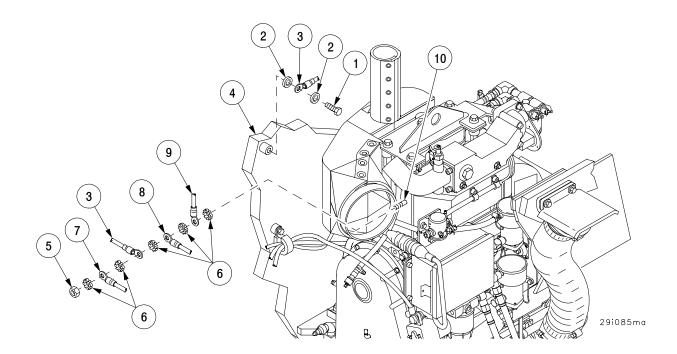


AUXILIARY POWER UNIT LEAD ASSEMBLY 3W728 REPLACEMENT (HATZ) - CONTINUED

0653 00

Installation

- 1. Install lead assembly 3W733 (9), wiring harness 3W730 GND lead (8), lead assembly 3W728 (3) and lead assembly 3W727 (7) on stud E3 (10) of APU with nut (5) and five new lockwashers (6).
- 2. Install lead assembly 3W728 (3) to vehicle bulkhead (4) with screw (1) and two new lockwashers (2).
- 3. Apply sealant to exposed electrical terminals on stud E3 (10).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU cover (WP 0413 00) Connect battery power (WP 0256 00)

WIRING HARNESS 3W730 REPLACEMENT (HATZ)

0654 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 2, WP 0717 00) Screwdriver attachment, hex (item 126, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 9, WP 0718 00) Lockwasher (item 465, WP 0718 00) Lockwashers (2) (item 466, WP 0718 00) Lockwashers (5) (item 127, WP 0718 00) Tiedown strap (item 462, WP 0718 00)

Materials/Parts - Continued

Marking tags (item 49, WP 0716 00) Adhesive (item 102, WP 0716 00) Adhesive (item 29, WP 0716 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00) Upper and lower fuel pumps removed (WP 0615 00)

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove sealant to expose designated electrical terminals.

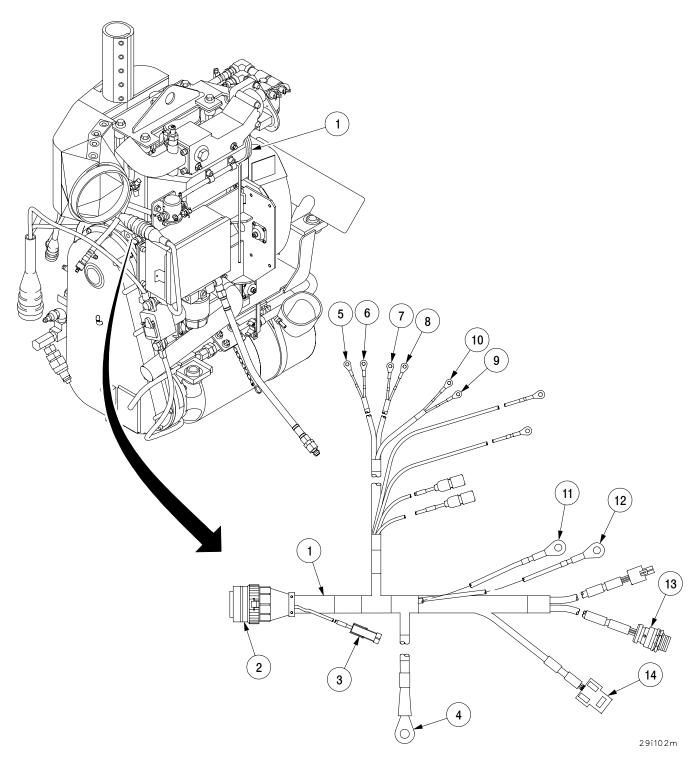
The following legend identifies attachment points for each connection.

1. Remove wiring harness (1) and attaching hardware at the following attachment points:

Item No	3W730 Connector/Lead/Wire	From Connector/Lead/Wire Component	Location
2	P1	Relay box connector J1	Right side of APU
3	Lead 421	Wiring harness 3W711 lead 421	Above chaincase
4	GND lead	Stud E3	Above chaincase
5	GND lead	Door fan temperature switch	Above remote oil filter
6	Lead 233A	Door fan temperature switch	Above remote oil filter
7	GND lead	Sump fan temperature switch	Above remote oil filter
8	Lead 233B	Sump fan temperature switch	Above remote oil filter
9	GND lead	Hourmeter	Fan end of APU
10	Lead 658	Hourmeter	Fan end of APU
11	Lead 135A	Starter relay terminal A2	Right side of APU
12	Lead 134	Starter relay terminal A2	Right side of APU
13	J1	Sump fan	Lower left side of APU
14	P2	Fuel shutoff solenoid	Lower left side of APU

0654 00

Removal-Continued



WIRING HARNESS 3W730 REPLACEMENT (HATZ) - CONTINUED

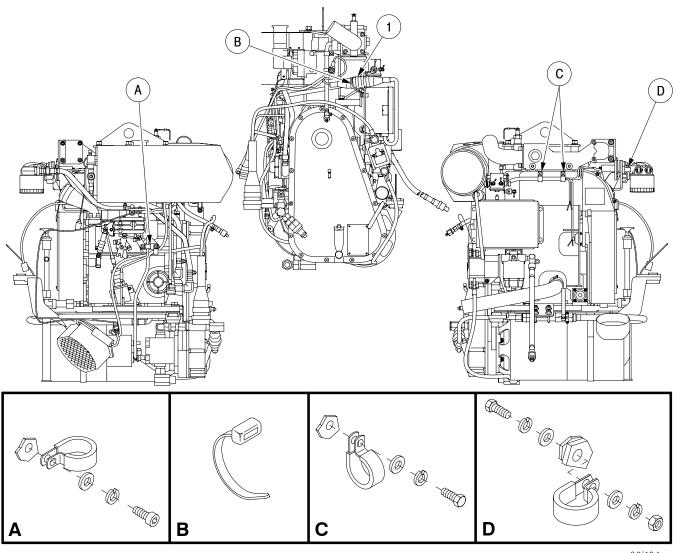
0654 00

Removal-Continued

- 2. Remove straps, clamps, attaching hardware and lockwashers (A through D), securing wiring harness (1) to APU, as shown in illustration. Discard lockwashers.
- 3. Remove wiring harness (1) from APU.
- 4. Inspect all parts for damage and replace as required.

Installation

1. Install wiring harness (1) on APU, with straps, clamps, attaching hardware and new lockwashers (A through D), as shown in illustration. Apply adhesive (item 29, WP 0716 00) to screws (A) and torque 20–22 lb-ft (27–29 N•m).



29i104m

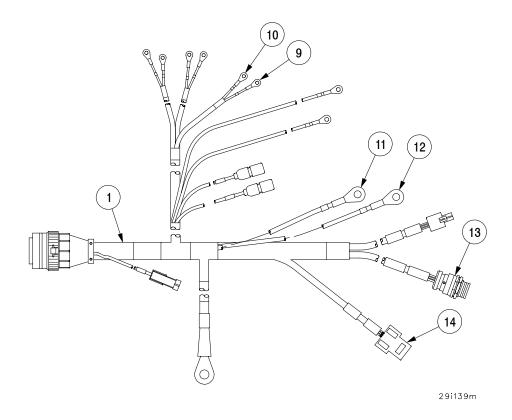
Installation-Continued

NOTE

The following legend identifies attachment points for each connection.

2. Install wiring harness (1) with attaching hardware at the following attachment points:

Item No	3W730 Connector/Lead/Wire	To Connector/Lead/Wire Component	Location
14	P2	Fuel shutoff solenoid	Lower left side of APU
13	J1	Sump fan	Lower left side of APU
12	Lead 134	Starter relay terminal A2	Right side of APU
11	Lead 135A	Starter relay terminal A2	Right side of APU
10	Lead 658	Hourmeter	Fan end of APU
9	GND lead	Hourmeter	Fan end of APU



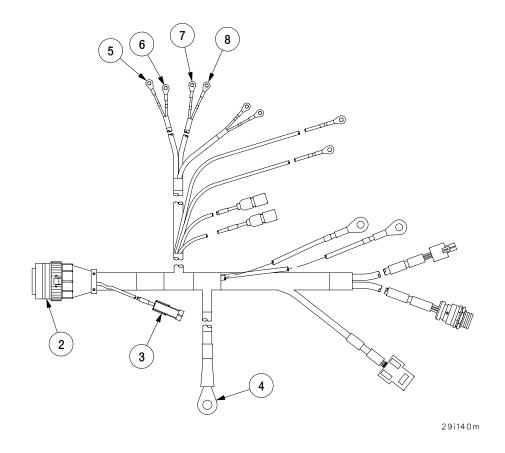
WIRING HARNESS 3W730 REPLACEMENT (HATZ) - CONTINUED

0654 00

Installation-Continued

Item No	3W730 Connector/Lead/Wire	To Connector/Lead/Wire Component	Location
8	Lead 233B	Sump fan temperature switch	Above remote oil filter
7	GND lead	Sump fan temperature switch	Above remote oil filter
6	Lead 233A	Door fan temperature switch	Above remote oil filter
5	GND lead	Door fan temperature switch	Above remote oil filter
4	GND lead	Stud E3	Above chaincase
3	Lead 421	Wiring harness 3W711 lead 421	Above chaincase
2	P1	Relay box connector J1	Right side of APU

3. Apply adhesive (item 102, WP 0716 00) to all exposed electrical terminals.



NOTE

FOLLOW-ON MAINTENANCE:

Install upper and lower fuel pumps (WP 0615 00) Install APU in vehicle (WP 0587 00)

Equipment Conditions

APU removed from vehicle (WP 0586 00)

AUXILIARY POWER UNIT LEAD ASSEMBLY 11671380-1 REPLACEMENT

0655 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Marker tags (item 49, WP 0716 00)

Removal

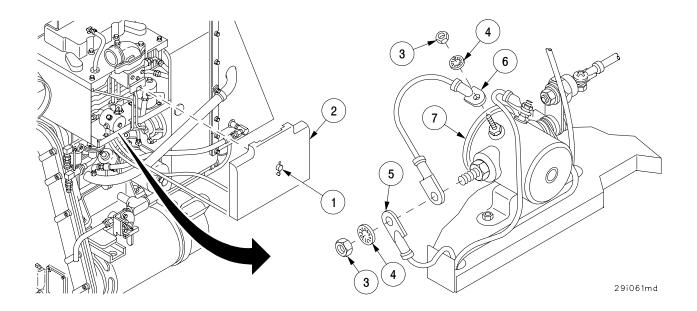
NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Loosen captive screw (1) and remove panel (2).
- 2. Remove two nuts (3), two lockwashers (4), wiring harness 3W711 lead N (5) and lead assembly 11671380-1 wire P (6) from preheat solenoid (7). Retain attaching hardware for installation.
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Install wiring harness 3W711 lead N (5) and lead assembly 11671380-1 wire P (6) on preheat solenoid (7) with two lockwashers (4) and two nuts (3).
- 2. Install panel (2) and tighten captive screw (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU in vehicle (WP 0586 00)

AUXILIARY POWER UNIT LEAD ASSEMBLY 11671380-1 REPLACEMENT (HATZ)

0656 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Marker tags (item 49, WP 0716 00) Adhesive (item 102, WP 0716 00) Lockwashers (6) (item 286, WP 0718 00)

Equipment Conditions

Battery power disconnected (WP 0256 00) APU cover removed (WP 0413 00)

Removal

NOTE

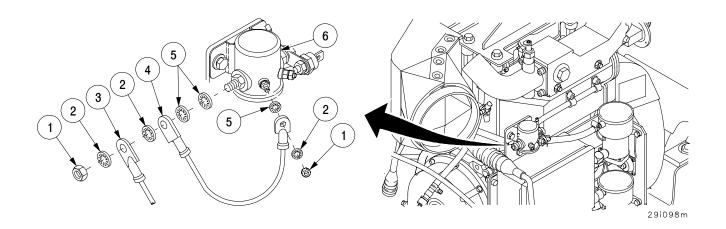
Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove sealant to expose designated electrical terminals.

- 1. Remove two nuts (1), three lockwashers (2), wiring harness 3W711 lead N (3), lead assembly 11671380-1 wire P (4) and three lockwashers (5) from preheat solenoid (6). Discard lockwashers.
- 2. Inspect parts for damage and replace as required.

Installation

- 1. Install wiring harness 3W711 lead N (3) and lead assembly 11671380-1 wire P (4) on preheat solenoid (6) with six new lockwashers (5 and 2) and two nuts (1).
- 2. Apply sealant to all exposed terminals.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU cover (WP 0413 00) Connect battery power (WP 0256 00)

AUXILIARY POWER UNIT LEAD ASSEMBLY 11671380-2 REPLACEMENT

0657 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 286, WP 0718 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

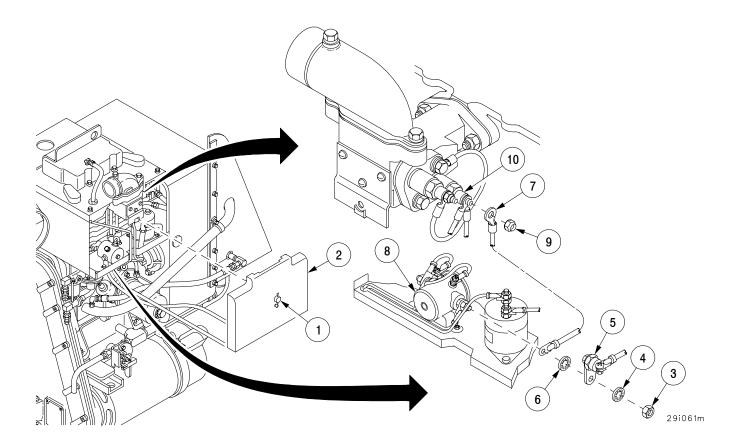
APU removed from vehicle (WP 0586 00)

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Loosen captive screw (1) and remove panel (2).
- 2. Remove nut (3), lockwasher (4), diode assembly (5), lockwasher (6) and lead assembly 11671380-2 wire R (7) from preheat solenoid (8). Discard lockwashers.
- 3. Remove nut (9) and lead assembly 11671380-2 wire R (7) from glow plug (10).
- 4. Inspect parts for damage and replace as required.

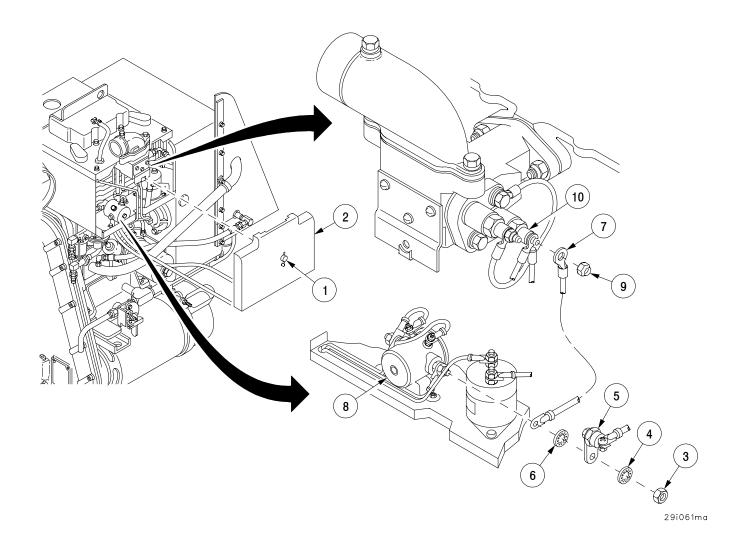


AUXILIARY POWER UNIT LEAD ASSEMBLY 11671380-2 REPLACEMENT - CONTINUED

0657 00

Installation

- 1. Install lead assembly 11671380-2 wire R (7) on glow plug (10) with nut (9).
- 2. Install lead assembly 11671380-2 wire R (7) and diode assembly (5) on preheat solenoid (8) with two new lockwashers (6 and 4) and nut (3).
- 3. Install panel (2) and tighten captive screw (1).



NOTE

FOLLOW-ON MAINTENANCE: Install APU in vehicle (WP 0586 00)

END OF TASK

AUXILIARY POWER UNIT LEAD ASSEMBLY 3W732 REPLACEMENT (HATZ)

0658 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 286, WP 0718 00) Adhesive (item 102, WP 0716 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

Battery power disconnected (WP 0256 00) APU cover removed (WP 0413 00)

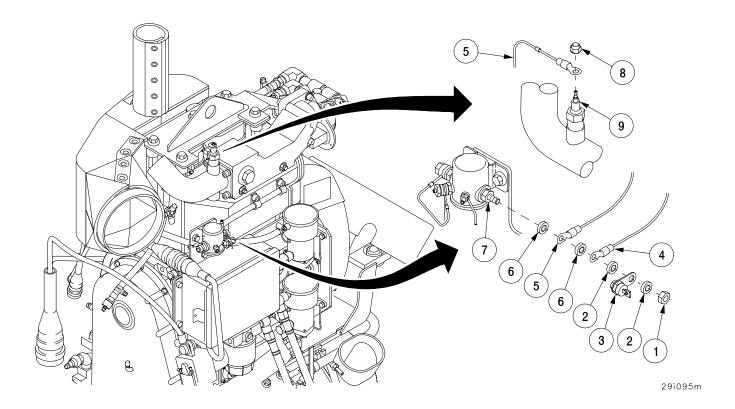
Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove sealant to expose designated electrical terminals.

- 1. Remove nut (1), two lockwashers (2), diode assembly (3), wiring harness 3W711 lead 65 (4), lead assembly 3W732 (5) and two lockwashers (6) from preheat solenoid (7). Discard lockwashers.
- 2. Remove nut (8) and lead assembly 3W732 (5) from glow plug (9).
- 3. Inspect parts for damage and replace as required.

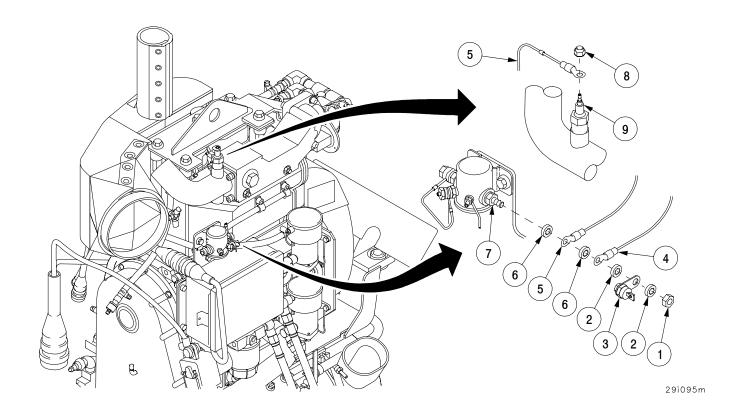


AUXILIARY POWER UNIT LEAD ASSEMBLY 3W732 REPLACEMENT (HATZ) - CONTINUED

0658 00

Installation

- 1. Install lead assembly 3W732 (5) on glow plug (9) with nut (8).
- 2. Install lead assembly 3W732 (5), wiring harness 3W711 lead 65 (4) and diode assembly (3) on preheat solenoid (7) with four new lockwashers (6 and 2) and nut (1).
- 3. Apply adhesive to exposed terminals.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU cover (WP 0413 00) Connect battery power (WP 0256 00)

AUXILIARY POWER UNIT LEAD ASSEMBLY 3W733 REPLACEMENT (HATZ)

0659 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (5) (item 127, WP 0718 00) Adhesive (item 81, WP 0716 00)

Materials/Parts - Continued

Marker tags (item 49, WP 0716 00) Lockwashers (3) (item 38, WP 0718 00) Self-locking nut (item 282, WP 0718 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00)

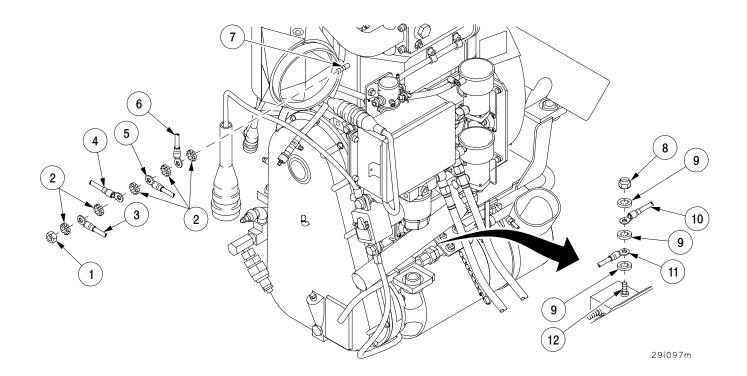
Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove sealant to expose designated electrical terminals.

- 1. Remove nut (1), five lockwashers (2), wiring harness 3W730 (3), wiring harness 3W728 (4), wiring harness 3W727 (5) and wiring harness 3W733 (6) from grounding stud E3 (7). Discard lockwashers.
- 2. Remove self-locking nut (8), three lockwashers (9), wiring harness 3W711 (10) and wiring harness 3W733 (11) from generator terminal (12). Discard self-locking nuts and lockwashers.
- 3. Inspect parts for damage and replace as required.

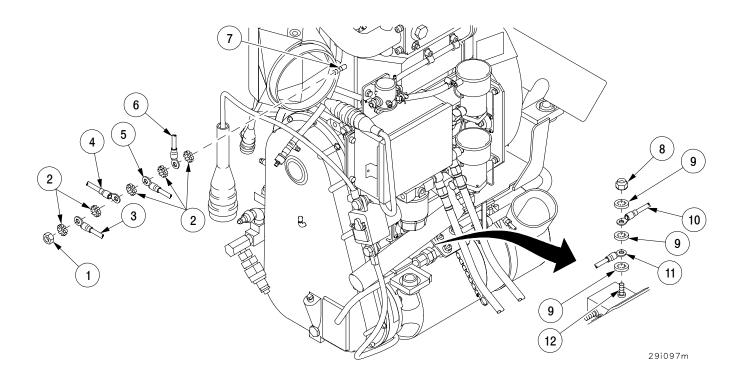


AUXILIARY POWER UNIT LEAD ASSEMBLY 3W733 REPLACEMENT (HATZ) - CONTINUED

0659 00

Installation

- 1. Install wiring harness 3W733 (11) and wiring harness 3W711 (10) on generator terminal (12) with three new lockwashers (9) and new self-locking nut (8).
- 2. Install lead assembly 3W733 (6), wiring harness 3W727 (5), wiring harness 3W728 (4) and wiring harness 3W730 (3) on grounding stud E3 (7) with five new lockwashers (2) and nut (1).
- 3. Apply adhesive to all exposed electrical terminals.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU in vehicle (WP 0587 00)

AUXILIARY POWER UNIT THERMOSTATIC SWITCH REPLACEMENT (HATZ)

0660 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Adhesive (item 81, WP 0716 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

Battery power disconnected (WP 0256 00) APU cover removed (WP 0413 00)

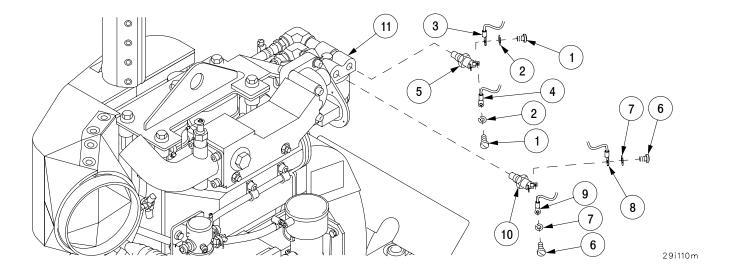
Removal

NOTE

Tag all electrical connections, electrical leads and thermostatic switches prior to removal to aid in installation.

Where applicable, remove sealant to expose designated electrical terminals.

- 1. Remove two screws (1), two lockwashers (2) and wiring harness 3W711 leads 233B (3) and GND E9 (4) from thermostatic switch S2 (5). Retain lockwashers for installation.
- 2. Remove two screws (6), two lockwashers (7) and wiring harness 3W711 leads 233A (8) and GND E11 (9) from thermostatic switch S1 (10). Retain lockwashers for installation.
- 3. Remove two thermostatic switches (5 and 10) from oil filter assembly (11).
- 4. Inspect parts for damage and replace as required.

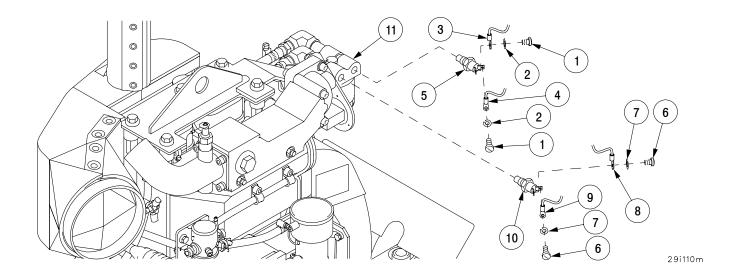


AUXILIARY POWER UNIT THERMOSTATIC SWITCH REPLACEMENT (HATZ) - CONTINUED

0660 00

Installation

- 1. Install two thermostatic switches (5 and 10) in oil filter assembly (11).
- 2. Install wiring harness 3W711 leads 233A (8) and GND E11 (9) on thermostatic switch S1 (10) with two screws (6) and two lockwashers (7).
- 3. Install wiring harness 3W711 leads 233B (3) and GND E9 (4) on thermostatic switch S2 (5) with two screws (1) and two lockwashers (2).
- 4. Apply adhesive to all exposed electrical terminals.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU cover (WP 0413 00) Connect battery power (WP 0256 00)

Equipment Conditions

AUXILIARY POWER UNIT LEAD ASSEMBLY 336-0706 REPLACEMENT

0661 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) APU removed from vehicle (WP 0586 00)

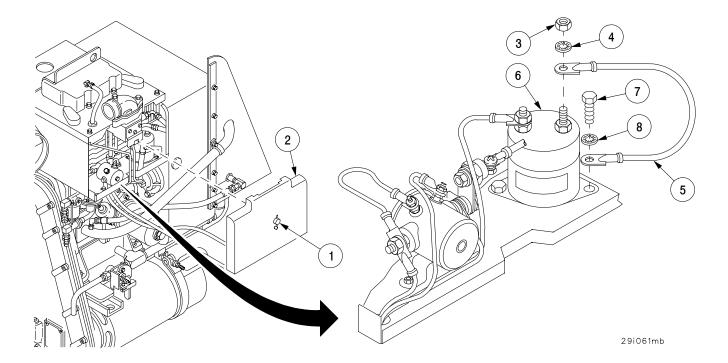
Materials/Parts

Lockwasher (item 285, WP 0718 00) Lockwasher (item 9, WP 0718 00) Marker tags (item 49, WP 0716 00)

Removal NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Loosen captive screw (1) and remove panel (2).
- 2. Remove nut (3), lockwasher (4) and lead assembly 336-0706 (5) from fuel shutoff solenoid (6). Discard lockwasher.
- 3. Remove screw (7), lockwasher (8) and lead assembly 336-0706 (5) from from fuel shutoff solenoid (6). Discard lockwasher.
- 4. Inspect parts for damage and replace as required.

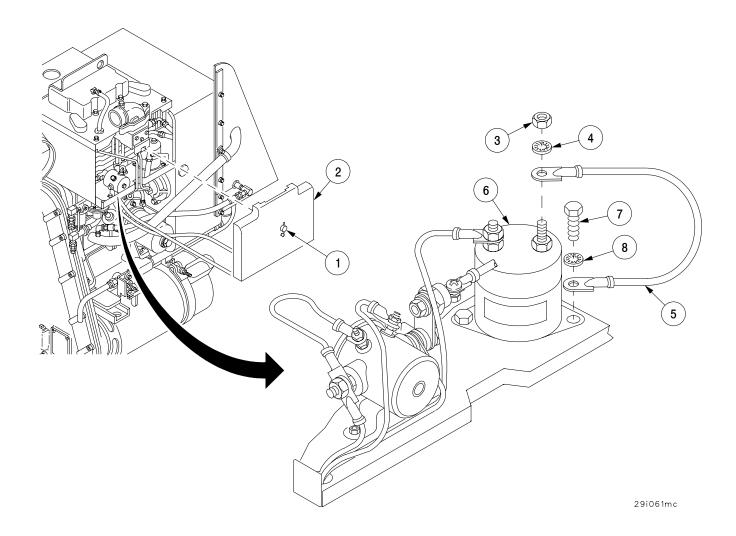


AUXILIARY POWER UNIT LEAD ASSEMBLY 336-0706 REPLACEMENT - CONTINUED

0661 00

Installation

- 1. Install lead assembly 336-0706 (5) on fuel shutoff solenoid (6) with screw (7) and new lockwasher (8).
- 2. Install lead assembly 336-0706 (5) on fuel shutoff solenoid (6) with nut (3) and new lockwasher (4).
- 3. Install panel (2) and tighten captive screw (1).



NOTE

FOLLOW-ON MAINTENANCE: Install APU in vehicle (WP 0586 00)

END OF TASK

AUXILIARY POWER UNIT RELAY BOX ASSEMBLY REPLACEMENT (HATZ)

0662 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 9, WP 0718 00) Tiestrap (item 462, WP 0718 00) Adhesive (item 29, WP 0716 00)

Equipment Conditions

Battery power disconnected (WP 0256 00) APU cover removed (WP 0413 00)

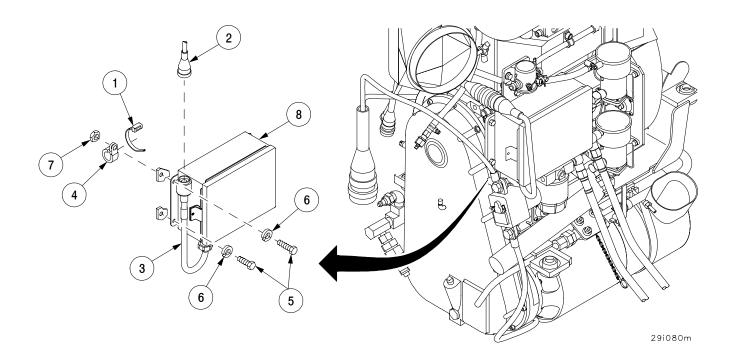
Removal

- 1. Cut tiestrap (1) securing wiring harness 3W730 connector P1 (2) and APU relay box wiring harness (3) to loop clamp (4). Discard tiestrap.
- 2. Disconnect wiring harness 3W730 connector P1 (2) from APU relay box wiring harness (3).

NOTE

Longer screw is used to secure loop clamp. Note location of clamp and longer screw to aid in installation.

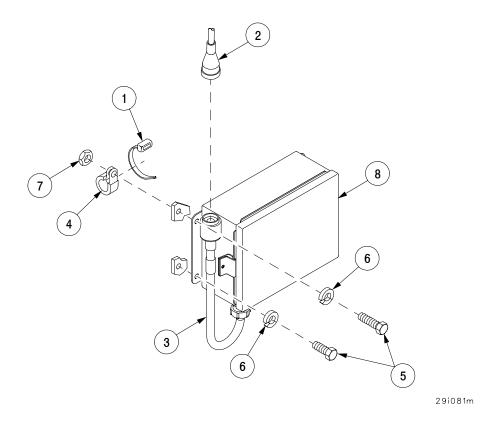
3. Remove four screws (5), four lockwashers (6), nut (7), loop clamp (4) and relay box assembly (8). Discard lockwashers.



AUXILIARY POWER UNIT RELAY BOX ASSEMBLY REPLACEMENT (HATZ) - 0662 00 CONTINUED

Installation

- 1. Apply adhesive to four screws (5).
- 2. Install relay box assembly (8) with four screws (5), four new lockwashers (6), loop clamp (4) and nut (7).
- 3. Connect APU relay box wiring harness (3) to wiring harness 3W730 connector P1 (2).
- 4. Secure wiring harness 3W730 connector P1 (2) and APU relay box wiring harness (3) to loop clamp (4) with new tiestrap (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install APU cover (WP 0413 00) Connect battery power (WP 0256 00)

AUXILIARY POWER UNIT HOURMETER AND BRACKET REPLACEMENT (HATZ)

0663 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Spring lockwashers (2) (item 482, WP 0718 00) Lockwashers (3) (item 90, WP 0718 00)

Materials/Parts-Continued

Marking tags (item 49, WP 0716 00) Adhesive (item 102, WP 0716 00)

Equipment Conditions

Battery power disconnected (WP 0256 00) APU cover removed (WP 0413 00)

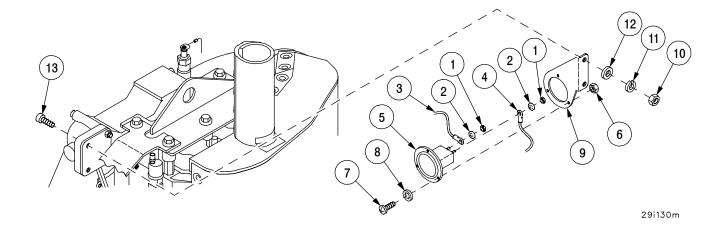
Removal

NOTE

Where applicable, remove sealant to expose designated electrical terminals.

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Remove two nuts (1), two lockwashers (2) and wiring harness 3W730 wire 658 and GND lead (3 and 4) from hourmeter (5). Retain attaching hardware for installation.
- 2. Remove three nuts (6), three screws (7), three lockwashers (8) and hourmeter (5) from bracket (9). Discard lockwashers.
- 3. Remove two nuts (10), two spring lockwashers (11), two flat washers (12), two screws (13) and bracket (9) from APU. Discard spring lockwashers.
- 4. Inspect all parts for damage and replace as required.

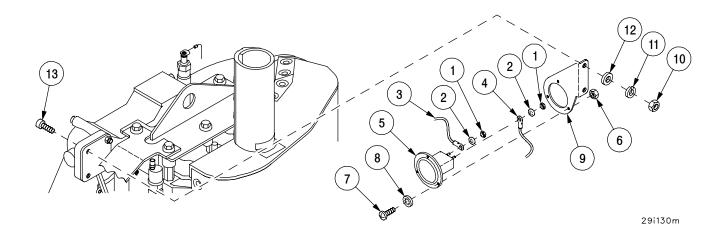


AUXILIARY POWER UNIT HOURMETER AND BRACKET REPLACEMENT (HATZ) - CONTINUED

0663 00

Installation

- 1. Install bracket (9) on APU with two screws (13), two new spring lockwashers (11), two flat washers (12) and two nuts (10). Torque screws 20–22 lb-ft (27–29.8 N•m).
- 2. Install hourmeter (5) on bracket (9) with three screws (7), three new lockwashers (8) and three nuts (6).
- 3. Install wiring harness 3W730 wire 658 and GND lead (3 and 4) on hourmeter (5) with two nuts (1) and two lockwashers (2).
- 4. Apply adhesive to exposed electric terminals on hourmeter.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU cover (WP 0413 00) Connect battery power (WP 0256 00)

AUXILIARY POWER UNIT PREHEAT SOLENOID REPLACEMENT (HATZ)

0664 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 286, WP 0718 00) Lockwashers (8) (item 110, WP 0718 00)

Materials/Parts-Continued

Lockwashers (2) (item 9, WP 0718 00) Adhesive (item 102, WP 0716 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

Battery power disconnected (WP 0256 00) APU cover removed (WP 0413 00)

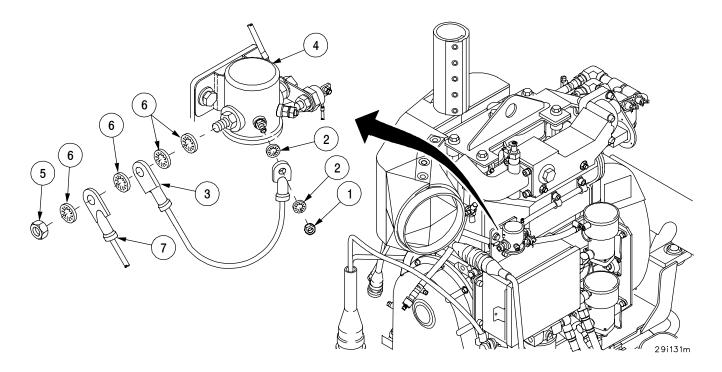
Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Where applicable, remove sealant to expose designated electrical terminals.

- 1. Remove nut (1), two lockwashers (2) and lead assembly 11671380-1 (3) from preheat solenoid (4). Discard lockwashers.
- 2. Remove nut (5), four lockwashers (6), wiring harness 3W711 lead N (7) and lead assembly 11671380-1 (3) from preheat solenoid (4). Discard lockwashers.



AUXILIARY POWER UNIT PREHEAT SOLENOID REPLACEMENT (HATZ) - CONTINUED

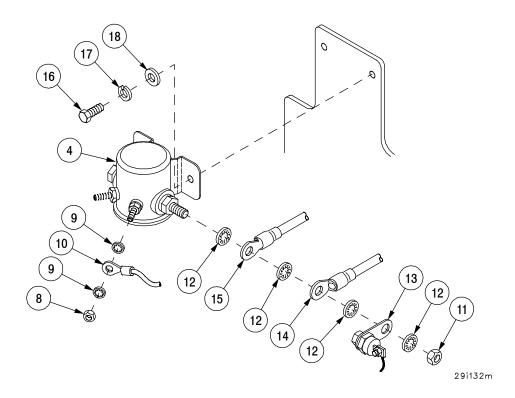
0664 00

Removal-Continued

- 3. Remove nut (8), two lockwashers (9) and wiring harness 3W711 lead 487 (10) from preheat solenoid (4). Discard lockwashers.
- 4. Remove nut (11), four lockwashers (12), diode assembly (13), wiring harness 3W711 lead 65 (14) and lead assembly 3W732 (15) from preheat solenoid (4). Discard lockwashers.
- 5. Remove two screws (16), two lockwashers (17), two flat washers (18) and preheat solenoid (4) from APU.
- 6. Inspect parts for damage and replace as required.

Installation

- 1. Install preheat solenoid (4) on APU with two flat washers (18), two new lockwashers (17) and two screws (16).
- 2. Install diode assembly (13), wiring harness 3W711 lead 65 (14) and lead assembly 3W732 (15) on preheat solenoid (4) with four new lockwashers (12) and nut (11).
- 3. Install wiring harness 3W711 lead 487 (10) on preheat solenoid (4) with two new lockwashers (9) and nut (8).

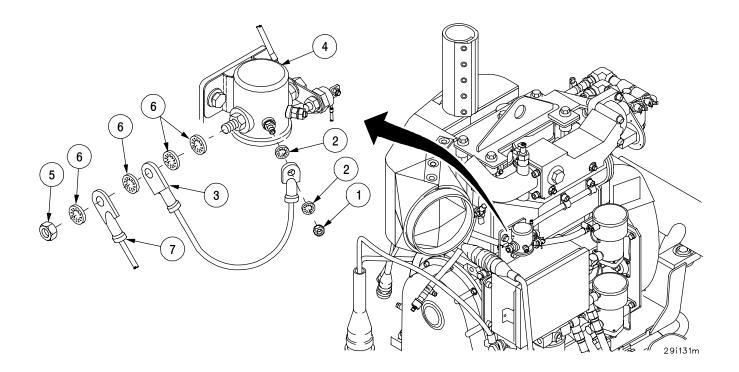


AUXILIARY POWER UNIT PREHEAT SOLENOID REPLACEMENT (HATZ) - CONTINUED

0664 00

Installation-Continued

- 4. Install wiring harness 3W711 lead N (7) and lead assembly 11671380-1 (3) on preheat solenoid (4) with four new lockwashers (6) and nut (5).
- 5. Install lead assembly 11671380-1 (3) on preheat solenoid (4) with two new lockwashers (2) and nut (1).
- 6. Apply adhesive to all exposed electrical terminals.



NOTE

FOLLOW-ON MAINTENANCE:

Install APU cover (WP 0413 00) Connect battery power (WP 0256 00)

AUXILIARY POWER UNIT SHUT-DOWN SOLENOID, BRACKET AND FUEL STOP ABSORBER REPLACEMENT (HATZ)

0665 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

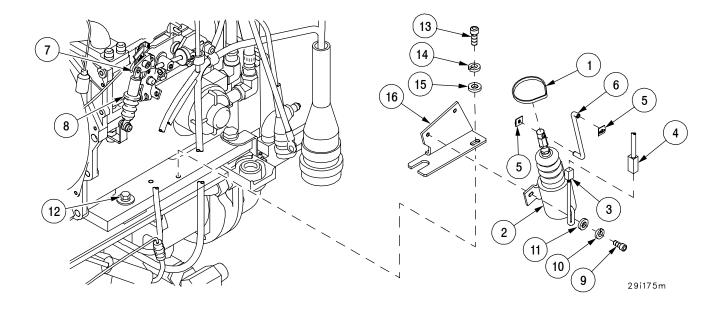
Lockwashers (2) (item 9, WP 0718 00) Lockwasher (item 466, WP 0718 00) Electrical tiedown strap (item 472, WP 0718 00) Circlips (2) (item 481, WP 0718 00)

Equipment Conditions

APU removed from vehicle (WP 0587 00)

Removal

- 1. Remove electrical tiedown strap (1) from shut-down solenoid (2).
- 2. Disconnect shut-down solenoid connector (3) from wiring harness 3W730 connector P2 (4).
- 3. Remove two circlips (5) and link pin (6) from governor lever (7), fuel stop absorber (8) and shut-down solenoid (2). Discard circlips.
- 4. Remove two screws (9), two lockwashers (10), two flat washers (11) and shut-down solenoid (2) from APU. Discard lockwashers.
- 5. Loosen screw (12) and remove screw (13), lockwasher (14), flat washer (15) and shut-down solenoid bracket (16). Discard lockwasher.



AUXILIARY POWER UNIT SHUT-DOWN SOLENOID, BRACKET AND FUEL STOP ABSORBER REPLACEMENT (HATZ) - CONTINUED

0665 00

Removal-Continued

- 6. Remove screw (17) and fuel stop absorber (8) from dampener bracket (18).
- 7. Remove nut (19), lockwasher (20) and dampener bracket (18). Discard lockwasher.

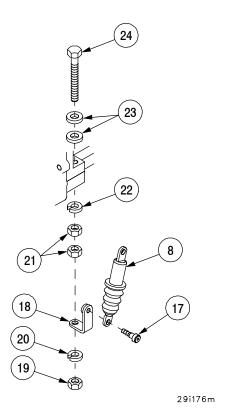
NOTE

Remove the attaching hardware in step 8 only if parts are damaged.

- 8. Remove two nuts (21), lockwasher (22), two flat washers (23) and screw (24) from APU. Discard lockwasher.
- 9. Inspect parts for damage and replace as required.

Installation

- 1. Install screw (24), two flat washers (23), new lockwasher (22) and two nuts (21), if removed.
- 2. Install dampener bracket (18) with nut (19) and new lockwasher (20).
- 3. Install fuel stop absorber (8) with screw (17).

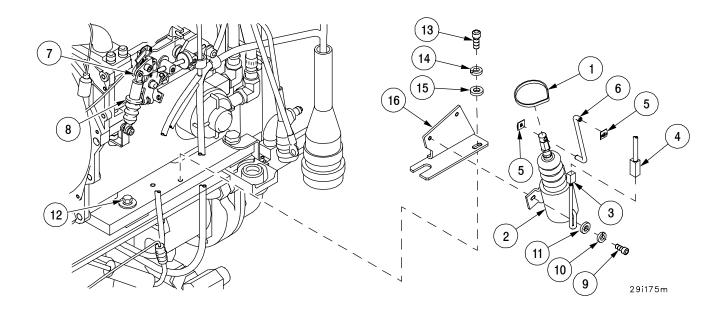


AUXILIARY POWER UNIT SHUT-DOWN SOLENOID, BRACKET AND FUEL STOP ABSORBER REPLACEMENT (HATZ) - CONTINUED

0665 00

Installation-Continued

- 4. Slide shut-down solenoid bracket (16) under screw (12), then install screw (13), flat washer (15) and new lockwasher (14). Tighten screw (12).
- 5. Install shut-down solenoid (2) on shut-down solenoid bracket (16) with two flat washers (11), two new lockwashers (10) and two screws (9).
- 6. Install link pin (6) to shut-down solenoid (2), fuel stop absorber (8) and governor lever (7) with two new circlips (5).
- 7. Connect wiring harness 3W730 connector P2 (4) to shut-down solenoid connector (3).
- 8. Secure shut-down solenoid connector (3) to shut-down solenoid (2) with new electrical tiedown strap (1).



NOTE

FOLLOW-ON MAINTENANCE: Install APU in vehicle (WP 0587 00)

END OF TASK

CHAPTER 21 SPECIAL PURPOSE KITS MAINTENANCE

AUXILIARY POWER UNIT VANEAXIAL FAN, SCREENS AND BRACKET REPLACEMENT (HATZ)

0666 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 112, WP 0718 00) Lockwashers (6) (item 9, WP 0718 00) Adhesive (item 29, WP 0716 00)

Equipment Conditions

APU assembly removed (WP 0587 00)

References

TM 9-23350-292-10

NOTE

Perform Removal steps 2 and 5 and Installation steps 1 and 4 for maintenance of bottom screen.

Perform Removal steps 1 through 3 and 5 and Installation steps 1 and 3 through 5 for maintenance of vaneaxial fan.

Perform Removal steps 1, 3 and 5 and Installation steps 1 and 3 for maintenance of upper screen.

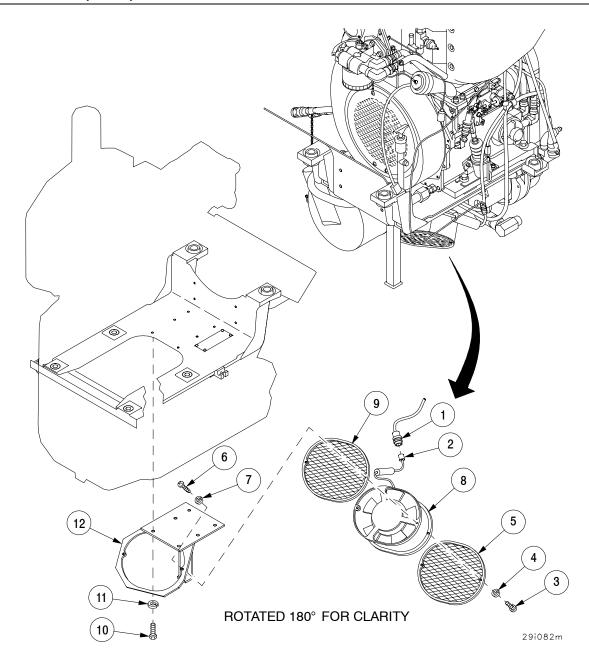
Perform Removal steps 1 and 3 through 5 and Installation steps 1 through 3 and 5 for maintenance of vaneaxial fan bracket.

Removal

- 1. Disconnect wiring harness 3W730 connector J1 (1) from vaneaxial fan connector (2).
- 2. Remove two screws (3), two lockwashers (4) and bottom screen (5). Discard lockwashers.
- 3. Remove two screws (6), two lockwashers (7), vaneaxial fan (8) and upper screen (9). Discard lockwashers.
- 4. Remove six screws (10), six lockwashers (11) and vaneaxial fan bracket (12). Discard lockwashers.
- 5. Inspect all parts for damage and replace as required.

Installation

- 1. Apply adhesive to threads of screws (3), (6) and (10) prior to installation.
- Install vaneaxial fan bracket (12) with six screws (10) and six new lockwashers (11).
- 3. Install upper screen (9) and vaneaxial fan (8) with two screws (6) and two new lockwashers (7).
- 4. Install bottom screen (5) with two screws (3) and two new lockwashers (4).
- 5. Connect wiring harness 3W730 connector J1 (1) to vaneaxial fan connector (2).



NOTE

FOLLOW-ON MAINTENANCE: Install APU assembly (WP 0587 00)

DEEP WATER FORDING KIT

0667 00

THIS WORK PACKAGE COVERS

Pre-Installation, Installation, Removal, Service, Installation of Subfloor Plates, Engine Deck Grilles and Engine Deck Doors

INITIAL SETUP

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (10) (item 2, WP 0718 00)

Lockwashers (32) (item 12, WP 0718 00)

Lockwashers (12) (item 9, WP 0718 00)

Dry-cleaning solvent (item 1, WP 0716 00)

Plastic bags (AR) (item 48, WP 0716 00)

Adhesive (item 6, WP 0716 00)

References

TM 9-2350-292-10

TM 9-2350-292-24P

TM 9-1005-213-10

FM 23-65

Pre-Installation

1. General

This section provides instructions for the M88A2 Heavy Recovery Vehicle and its component parts to determine whether all assemblies, subassemblies and accessories are properly assembled, secured, correctly adjusted and lubricated.

NOTE

Do not reinstall engine deck grilles and doors removed during the pre-installation procedures. Access to engine and transmission compartments is necessary during subsequent kit installation.

CAUTION

When engine deck is removed, the engine cooling fans must be suitably protected to avoid the entrance of foreign material into the fans, clutches, associated parts, or any openings.

2. Inspection Procedure

a. Perform Preventive Maintenance Checks and Services (TM 9-2350-292-10 and WP 0187 00).

NOTE

Replace any of the items listed that do not provide a watertight fit.

DEEP WATER FORDING KIT - CONTINUED

0667 00

Pre-Installation-Continued

- b. Crew compartment area:
 - Inspect drain valves WP 0452 00) for proper operation and fit. Repair or replace as necessary. Close drain valves.
 - (2) Inspect .50-caliber machine gun cover (TM 9-1005-213-10). Replace torn or damaged cover.
 - (3) Inspect service brake cable assembly boot (WP 0369 00), steering control linkage bellows (WP 0404 00), shifting control linkage bellows (WP 0407 00) and accelerator linkage boot (WP 0226 00) for wear or damage. Replace boots or bellows that do not provide a watertight fit from the sponson side or the engine compartment side of the bulkhead, whichever is applicable.
 - (4) Inspect boom foot boots for proper seal. If replacement is necessary, notify direct support maintenance.
 - (5) Inspect personnel door seals (WP 0431 00 and WP 0432 00) for watertight fit. Replace defective seals.
 - (6) Inspect installation of crew member's periscopes and vision blocks (WP 0444 00 and WP 0450 00) for watertight fit. Repair or replace as required.
- c. Engine compartment area:
 - (1) Inspect the following items to ensure a watertight fit: main engine oil filler cap and oil level gauge (TM 9-2350-292-10); transmission filler cap and oil level gauge (TM 9-2350-292-10); and Auxiliary Power Unit (APU) oil filler cap (WP 0602 00 or WP 0603 00) and saber gauge (WP 0598 00 or WP 0599 00). Replace any item that does not provide a watertight fit.
 - (2) Inspect main engine air induction hoses (WP 0212 00) and APU air induction hose (WP 0620 00 or WP 0621 00). Replace any item found defective.
- 3. Vehicle Performance

NOTE

The recovery vehicle must be in perfect operating condition. The procedures described herein are included as precautionary measures. Make all necessary engine and transmission tests as directed in TM 9-2350-292-10 and TM 9-2350-292-20 to ensure satisfactory vehicle operation

a. Engine operation: Operate engine (TM 9-2350-292-10) and report any malfunction or deficiency to authorized maintenance activity or major unit commander for necessary repairs or replacements.

DEEP WATER FORDING KIT - CONTINUED

0667 00

Pre-Installation-Continued

b. Main engine cooling fan clutch:

Check the release torque of the main engine cooling fans. The fan clutch should release with a slight drag; if not, notify authorized maintenance personnel.

- c. Condition of batteries:
 - Check the batteries (TM 9-2350-292-10) to see that they are fully charged and properly filled with electrolyte.
 - (2) Ensure battery caps are tight. Battery vents must be open.

4. Cleaning

Clean and dry vehicle thoroughly using rags provided in the kit for this purpose. Pay particular attention to surfaces that are to be covered with non-hygroscopic tape or sealer. These surfaces must be thoroughly clean and dry; otherwise, the non-hygroscopic tape or sealer will not stick properly.

Lubrication

Lubricate vehicle in accordance with Lubrication Instructions (TM 9-2350-292-10 and WP 0187 00).

6. Left Fuel Tank

Inspect fuel filler cap assembly (WP 0214 00) for proper seal. Repair or replace, as required.

Installation



To prevent damage to vehicle, ensure pre-installation procedures are completed before installing the deep water fording kit.

NOTE

Refer to TM 9-2350-292-24P for complete listing of Deep Water Fording Kit Parts.

Unless otherwise specified, stow items removed for installation of Deep Water Fording Kit in vehicle's stowage boxes.

Sealer tape (12367083) is an acceptable substitute for fording sealer (11672186) and may be used any place fording sealer (11672186) is required.

Below 45°F (7.2°C), apply fording sealer (11672186) with adhesive (MMM-A-1617) to ensure proper adhesion. This will make compound difficult to remove.

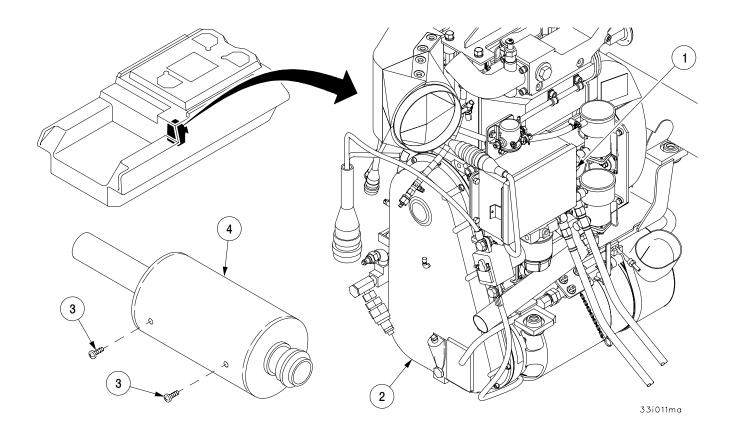
Installation-Continued

CAUTION

Personnel heater and APU are not operational during fording. Air inlets and exhaust are plugged and must be unplugged following fording to avoid damage to the equipment.

AUXILIARY POWER UNIT (APU)

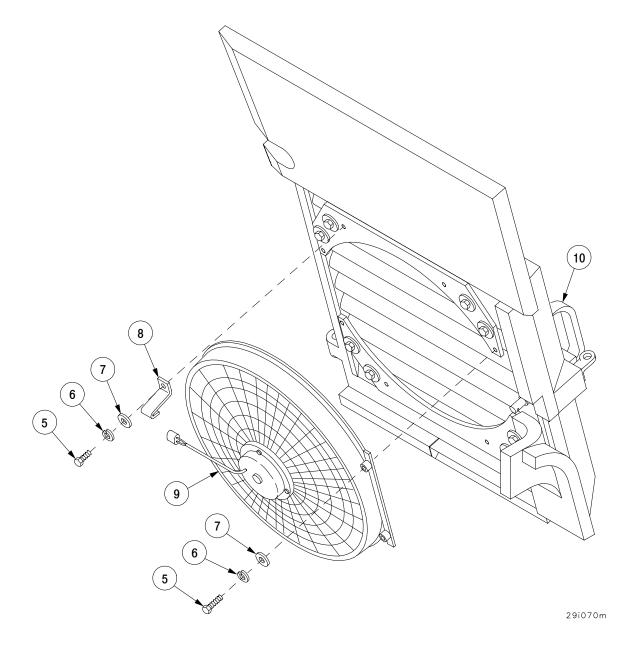
- 1. Remove APU muffler and exhaust system. Perform Removal steps 1, 2, 4 through 6 and 8 in WP 0618 00.
- 2. Remove APU cover assembly (WP 0413 00).
- 3. Open electrical box cover (1) on APU (2).
- 4. Apply adhesive sealant (MIL-A-46146 11EWN) around edge of cover (1) opening.
- 5. Close and secure electrical box cover (1).
- 6. Apply adhesive (MIL-A-46146 11EWN) to any exposed terminals.
- 7. Install two screws (3) in holes in bottom of muffler (4). Apply adhesive sealant (MIL-A-46106 11EBN) to heads of two screws (3).



Installation-Continued

AUXILIARY POWER UNIT (APU) (CONTINUED)

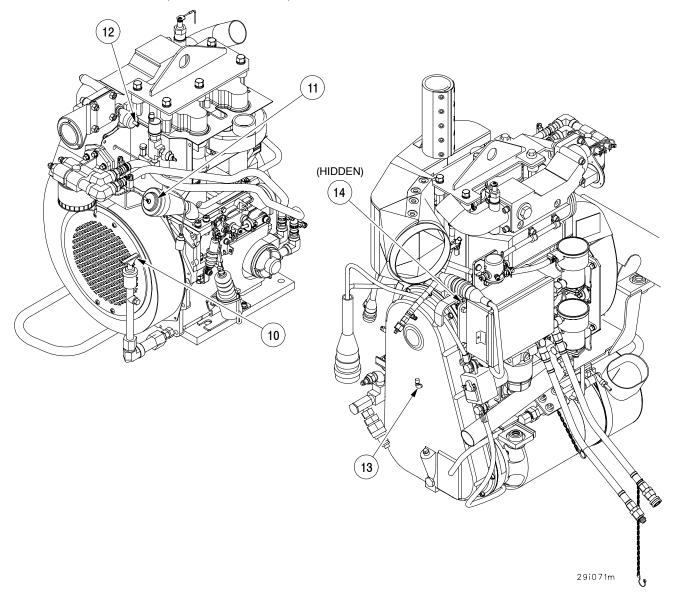
- 8. Open APU access door (TM 9-2350-292-10).
- 9. Disconnect fan electrical wiring from APU wiring harness 3W730 connector P1 (WP 0439 00).
- 10. Tape APU wiring harness 3W730 connector P1 with waterproof tape (12477548-7). Apply adhesive sealant (MIL-A-46106 11EBN) to waterproof tape (12477548-7).
- 11. Remove eight screws (5), eight lockwashers (6), eight flat washers (7), four clips (8) and fan (9) from APU door (10). Discard lockwashers (6). Place fan in waterproof bag and stow as appropriate. Stow eight screws (5), eight flat washers (7) and four clips (8).



Installation-Continued

AUXILIARY POWER UNIT (APU) (CONTINUED)

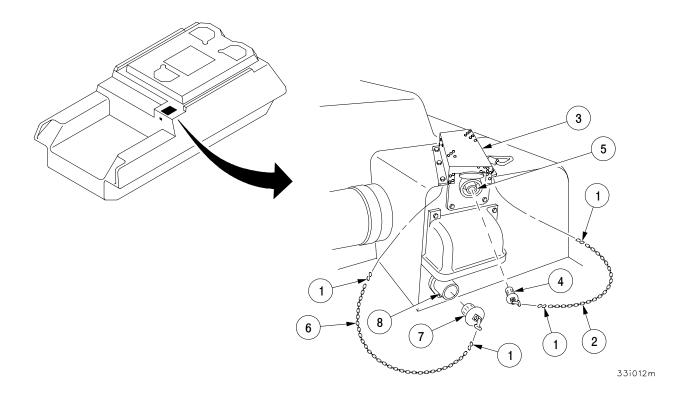
- 12. Apply sealer tape (12367083) around oil dipstick (10), oil filler cap (11) including rivet and crankcase breather (12) and chaincase breather (13). Apply adhesive around dipstick (14).
- 13. Reinstall APU cover assembly (WP 0413 00) and muffler and exhaust system. Perform Installation steps 5 through 9 and 11 and 12 in WP 0618 00.
- 14. Close APU access door (TM 9-2350-292-10).



Installation-Continued

APU AND PERSONNEL HEATER EXHAUST SEALS

- 1. Attach two S-hooks (1) on each end of chain (2). Install one S-hook (1) attached to end of chain (2) to grating on muffler cover (3).
- 2. Attach other S-hook (1) on end of chain (2) to seal (4); install seal (4) in APU muffler exhaust outlet tube (5). If necessary, seal (4) can be adjusted by rotating lever (clockwise to increase compression and counter-clockwise to decrease tension). Bend locking tab on seal (4) to adjust for fit on exhaust outlet tube (5).
- 3. Attach two S-hooks (1) on each end of chain (6). Install one S-hook (1) attached to end of chain (6) to grating on muffler cover (3).
- 4. Attach other S-hook (1) on end of chain (6) to seal (7); install seal (7) in personnel heater exhaust outlet tube (8). If necessary, seal (7) can be adjusted by rotating lever (clockwise to increase compression and counter-clockwise to decrease tension).

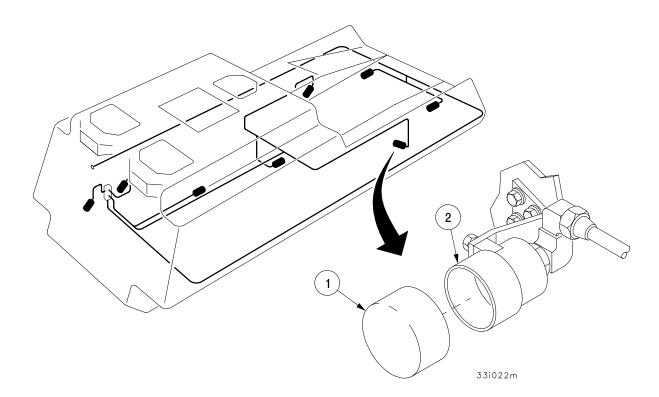


FIRE EXTINGUISHER NOZZLES



Do not apply adhesive sealant to fire extinguisher nozzle caps. Caps are designed to blow off if fire extinguisher system is discharged. Sealing the nozzle caps could result in injury or death to personnel from malfunctioning of the fire extinguishing system.

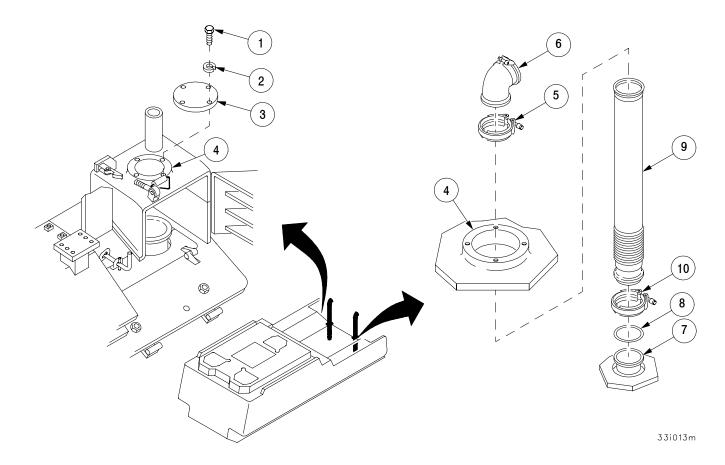
- 1. Open engine deck exhaust grille doors and engine deck side grille doors (TM 9-2350-292-10) to gain access to fire extinguisher nozzles in engine compartment and remove engine compartment drain valve (WP 0452 00).
- 2. Remove subfloor plates #10, #11, #15 and #22 (WP 0454 00) to gain access to fire extinguisher nozzles under the subfloor.
- 3. Install rubber caps (1) in each of five fire extinguisher nozzles (2) in engine compartment and three fire extinguisher nozzles (2) under subfloor.
- 4. Install subfloor plates #10, #11, #15 and #22 (WP 0454 00).



Installation-Continued

MAIN ENGINE EXHAUST OUTLET PIPES

- 1. Remove eight screws (1), eight lockwashers (2) and two exhaust plates (3) from top rear of engine deck (4). Stow exhaust plates, retain screws and discard lockwashers.
- 2. Remove and retain two clamps (5) and two exhaust elbows (6) from two engine exhaust outlets (7).
- 3. Install one preformed packing (8) on each of two flexible exhaust pipes (9).
- 4. Install two flexible exhaust pipes (9) on two engine exhaust outlets (7). Apply adhesive sealant (12477551) to joint between pipe flanges and secure with two clamps (10).

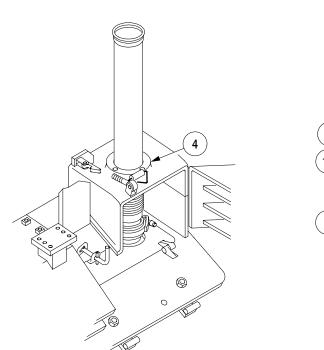


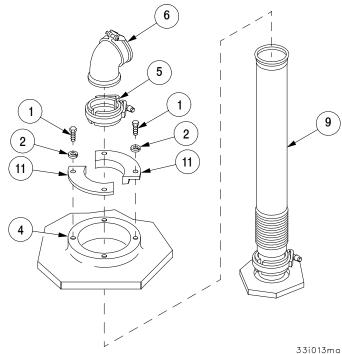
Main Engine Exhaust Outlet Pipes (Continued)

- 5. Install two clamps (11) around each flexible exhaust pipe (9), secure to top rear engine deck (4) with eight screws (1) and eight new lockwashers (2).
- 6. Install two exhaust elbows (6) on two flexible exhaust pipes (9). Apply bead of adhesive sealant (12477551) to joint to prevent entry of water. Secure two flexible exhaust pipes (9) and two elbows (6) with two clamps (5).
- 7. Start and operate main engine (TM 9-2350-292-10).



8. While the exhaust system is hot, tighten all exhaust joint clamps.





DEEP WATER FORDING KIT - CONTINUED

Installation-Continued

MAIN ENGINE AIR INLETS

NOTE

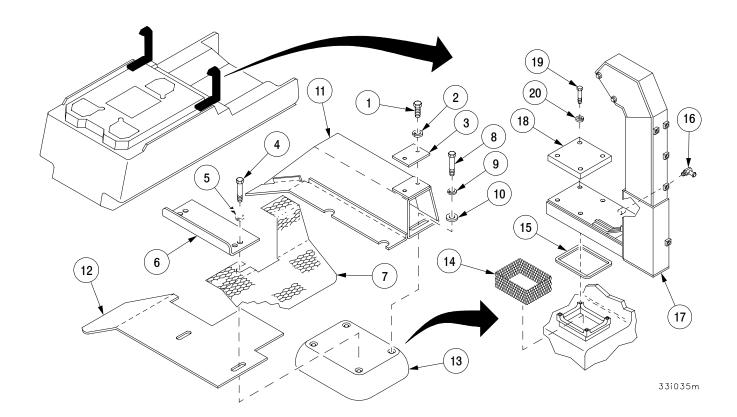
There are two air cleaner air inlet covers. Installation procedures are the same for both.

- 1. Remove and stow two screws (1), two lockwashers (2), plate (3), two screws (4), two lockwashers (5), guide (6) and screen (7). Discard lockwashers.
- 2. Remove and stow two screws (8), two lockwashers (9), two flat washers (10), hood (11), plate (12) and cover (13) and screen (14) from hull. Stow screen (14), air inlet cover (13), hood (11) and plate (12). Discard lockwashers.
- 3. Remove protective covering from top of seal (15). Place seal over opening in hull with adhesive side facing up.
- Install elbow (16) in left air inlet pipe (17).

CAUTION

Make sure air inlet pipes tilt slightly to outside of vehicle to ensure boom clears pipe during raising and lowering operations. Failure to comply will result in damage to equipment.

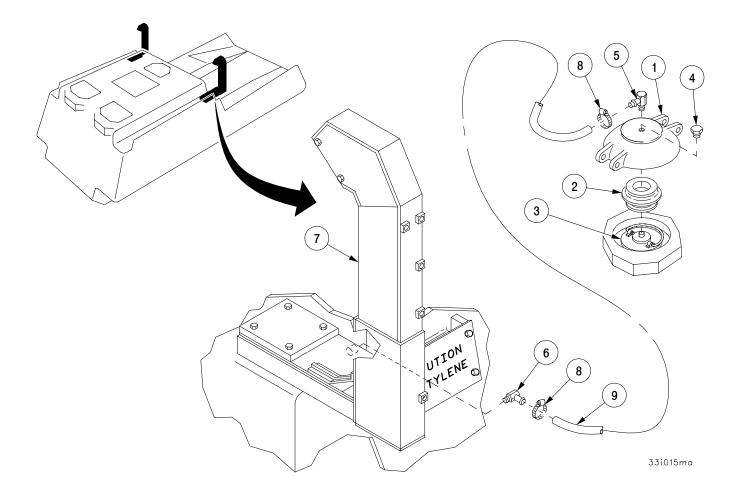
- 5. Install air inlet pipe (17) and plate (18) over inlet seal (15) with four screws (19) and four new lockwashers (20).
- 6. Apply adhesive (MIL-A-46106 11EBN) around base of air inlet pipe (17) and heads of four screws (19) using brush.



Installation-Continued

FUEL TANK AND ACETYLENE BOTTLE VENT HOSES

- 1. Open fuel tank fill cover (1). Apply adhesive (MMM-A-1617) with brush (A-A-289) to bottom of seal (2) and bond to top of fuel tank fill cap (3).
- 2. Remove plug (4) from top of fuel tank fill cover (1) and install elbow (5). Stow plug (4).
- 3. Install one hose clamp (8) on each end of vent hose (9). Connect vent hose (9) to elbows (5 and 6) and tighten two hose clamps (8).
- 4. Apply a continuous 1/4 in. thick bead of adhesive sealant (MIL-46106 11EBN) to top surface of seal (2). Install cover (1) over seal (2).



Installation-Continued

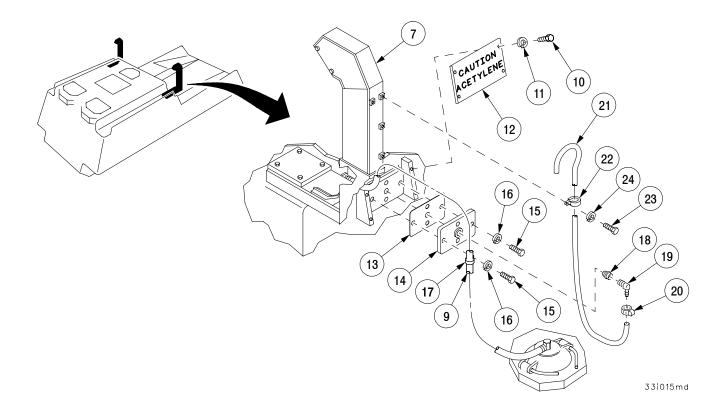
FUEL TANK AND ACETYLENE BOTTLE VENT HOSES (CONTINUED)

5. Remove four screws (10), four lockwashers (11) and armor plate (12) from left rear hull. Discard lockwashers.

NOTE

The fourth screw and lockwasher will be installed with clip.

- 6. Install gasket (13) and cover (14) over acetylene bottle vent, secure with three of four screws (15) and three of four new lockwashers (16).
- 7. Install clip (17) over fuel tank vent hose (9). Position clip (17), secure to cover (14) with fourth screw (15) and new lockwasher (16).
- 8. Install bushing (18) in threaded hole of cover (14), install elbow (19) in bushing (18).
- 9. Install hose clamp (20) over vent hose (21), connect vent hose (21) to elbow (19). Tighten hose clamp (20).
- 10. Install five clamps (22) over vent hose (21). Position five clamps (22) on left main engine air inlet pipe (7); secure with five screws (23) and five new lockwashers (24).
- 11. Reinstall armor plate (12) with four screws (10) and four new lockwashers (11).



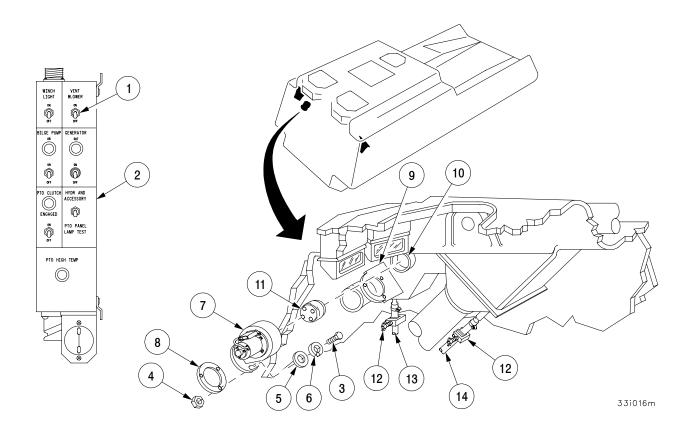
VENTILATION BLOWER SEAL AND BOOM FOOT DRAIN SHUTOFF CLAMPS

1. Tape VENT BLOWER switch (1) on the Accessories Panel (2) in the OFF position.

NOTE

Note the quantity and position of shim(s) being removed to ensure shim(s) are installed in the same position.

- 2. Remove three screws (3), three nuts (4), three flat washers (5), three lockwashers (6), ventilation blower assembly (7) and shims (8) from elbow mount (9) and inlet port (10). Retain screws, nuts, flat washers, ventilation blower assembly and shims. Discard lockwashers.
- 3. Apply caulking compound (11672186) to seal (11). Install seal (11) in inlet port (10). Tighten four screws in seal (11) until a watertight fit is obtained.
- 4. Position shims (8) and ventilation blower assembly (7) on elbow mount (9) and at inlet port (10), secure with three screws (3), three new lockwashers (6), three flat washers (5) and three nuts (4).
- 5. Install one shutoff clamp (12) each on ventilation blower drain hose (13) and right and left boom cylinder boot drain hoses (14). Tighten shutoff clamps (12) to close drain hoses (13 and 14).



Installation-Continued

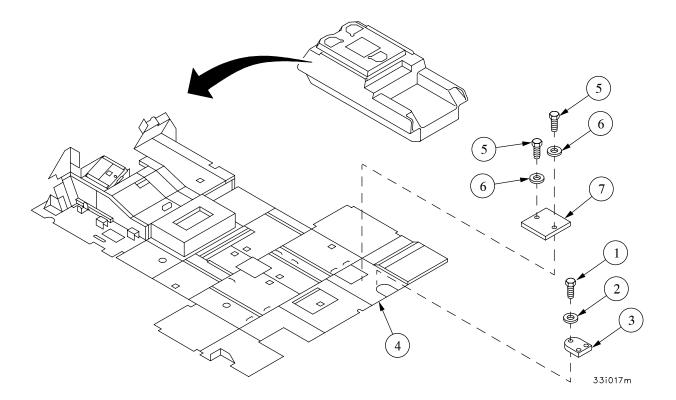
BILGE PUMP

NOTE

Removal and opening of subfloor plates (as required) and stowage baskets removal will be necessary for the installation of the bilge pump hoses.

Route hoses and tubes from bilge pump assembly toward opening in subfloor (4).

- 1. Remove subfloor plates #18 and #27 (WP 0454 00).
- 2. Remove and stow three screws (1), three flat washers (2) and access cover (3) from subfloor plate (4).
- 3. Remove and retain two screws (5), two flat washers (6) and plate (7) from subfloor plate (4).

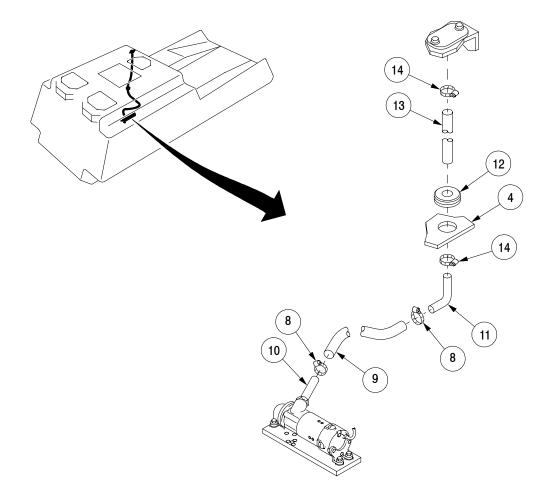


BILGE PUMP (CONTINUED)

NOTE

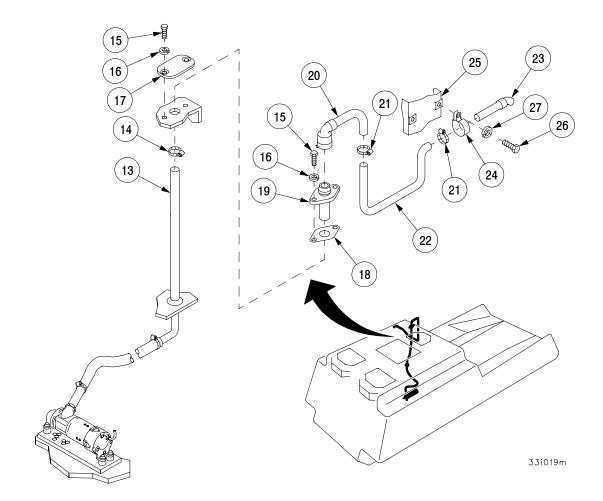
All of the following items are kit-furnished unless otherwise noted.

- 4. Install two hose clamps (8) on each end of hose (9). Connect one end of hose (9) to tube (10) and other end to bent tube (11). Tighten two hose clamps (8).
- 5. Install grommet (12) in opening of subfloor plate (4). Route hose (13) through grommet (12). Install one hose clamp (14) on each end of hose (13). Connect one end of hose (13) to bent tube (11), tighten hose clamp (14).



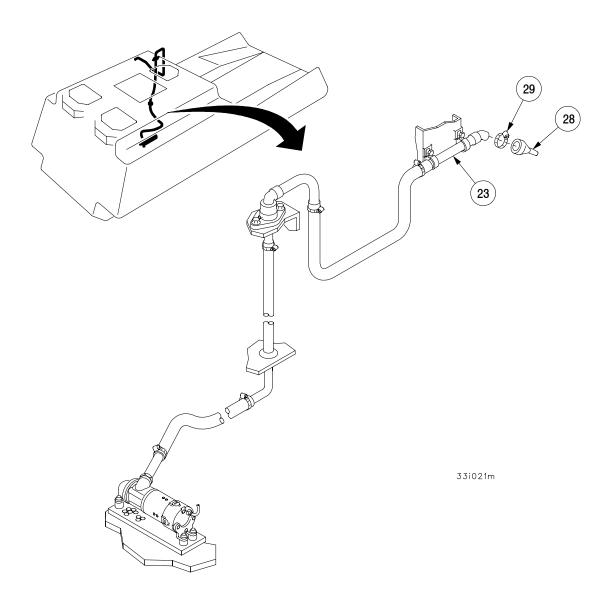
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- 6. Remove two screws (15), two lockwashers (16) and cover (17) from top exterior of hull. Stow cover, retain screws and discard lockwashers.
- 7. Install gasket (18) on adapter (19). Install adapter (19) with gasket (18) in top exterior of hull; secure with two screws (15) and two new lockwashers (16).
- 8. Install other end of hose (13) to adapter (19) and tighten hose clamp (14).
- 9. Connect adapter (20) to adapter (19). Install one hose clamp (21) on each end of hose (22). Connect one end of hose (22) to adapter (20) and other end to tube assembly (23). Tighten two hose clamps (21).
- 10. Install two clips (24) on tube assembly (23). Position tube assembly (23) and secure to rear of main engine air inlet (25) with two screws (26) and two new lockwashers (27).

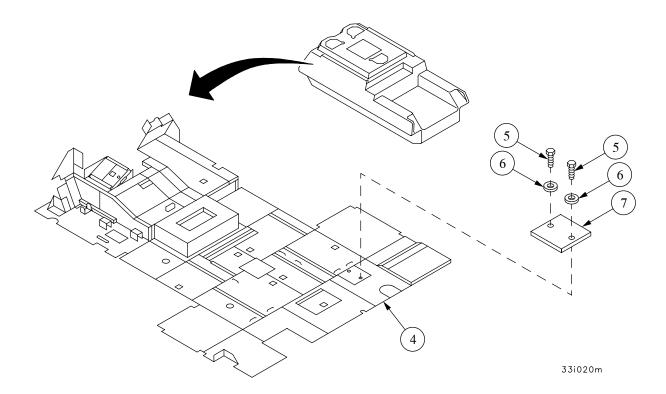


Installation-Continued

- 11. Ensure all connections are correctly installed and tight.
- 12. Connect boot (28) to tube assembly (23) with hose clamp (29).



- 13. Install plate (7) on subfloor plate (4); secure with two screws (5) and two flat washers (6).
- 14. Install subfloor plates #18 and #27 (WP 0454 00).



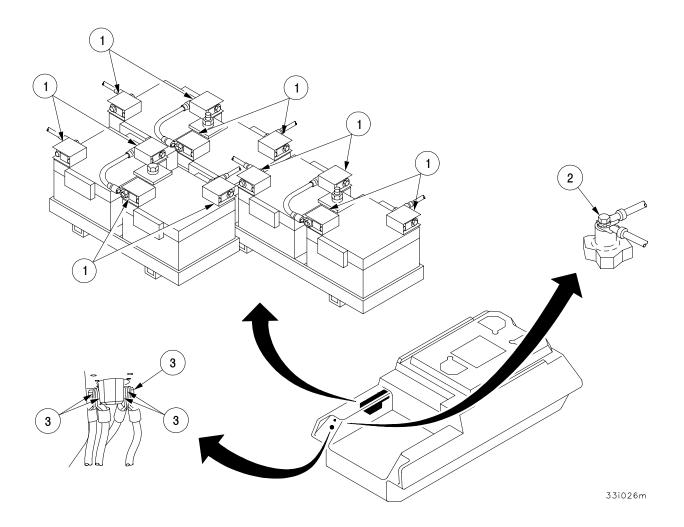
ELECTRICAL CONNECTIONS IN ENGINE COMPARTMENT

- 1. If not already opened or removed, open left side engine deck access doors and remove left side engine deck grilles (TM 9-2350-292-10) to gain access to electrical connections in engine compartment.
- 2. Remove voltage regulator cover (WP 0239 00) to gain access to NATO slave connections.
- 3. In the following procedures, clean and dry all electrical and ground connections prior to application of sealant.



Do not seal battery cap vents. Buildup of battery gas may cause batteries to rupture, spilling acid which may cause personnel injury.

- 4. Apply adhesive sealant (MIL-A-46146 11EWN) to all positive and negative battery terminals and ground connections (1), to main engine ground connection (2) and to NATO slave connections (3).
- 5. Install voltage regulator cover (WP 0239 00).

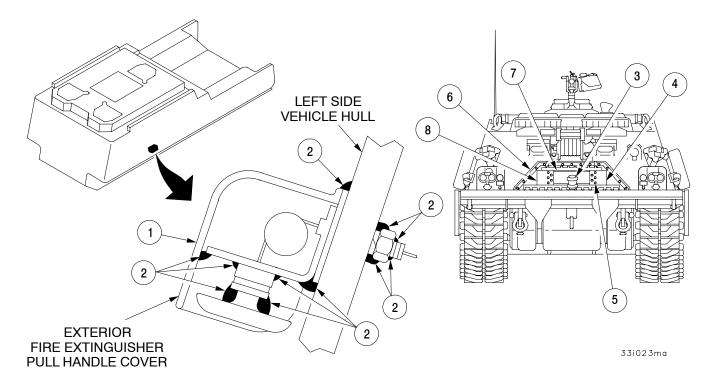


Installation-Continued

APPLICATION OF CAULKING COMPOUND

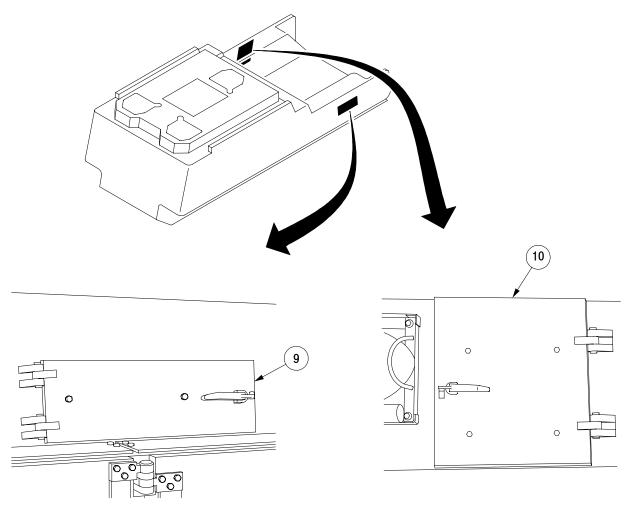


- 1. Clean area around exterior and interior of fire extinguisher pull handle cover (1) and areas requiring caulking compound with dry-cleaning solvent.
- 2. Apply sealer tape (12367083) all around areas (2) as indicated.
- 3. Operate main winch (TM 9-2350-292-10). Pull main winch cable (3) in until a light pressure is applied between the clevis and the opening. Seal the exposed area around the cable, ballistic cover and extension seams cable with caulking compound (11672186).
- 4. Remove left (driver's side) armor plate (4) (WP 0511 00). Stow armor plate and screws. Discard lockwashers.
- 5. Install five screws (5) in left armor plate (4) holes. Seal screw (5) heads with caulking compound (11672186).
- 6. Seal opening and around hull front cover (6) and all around cover plate (7) and (slide rail) guides and screwheads with caulking compound (11672186). Be certain all gaps are sealed, particularly the corners and slide rails.
- 7. Seal ends of cover plate (8) with caulking compound (11672186).



APPLICATION OF CAULKING COMPOUND (CONTINUED)

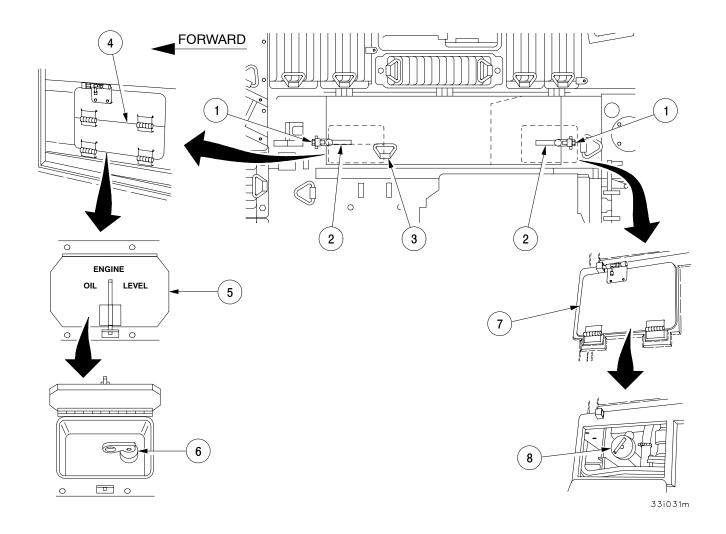
- 8. Seal personnel doors with sealer tape (12367083). Make sure corners where personnel doors meet are sealed.
- 9. Check drain plugs in the exterior stowage compartments to ensure watertight fit. Seal stowage compartment doors (9 and 10) with sealer tape (12367083).
- 10. Use caulking compound (11672186) to seal around all mounting surfaces of deep water fording kit components, such as the right and left main engine air inlets, APU and personnel heater exhaust plugs, acetylene vents and fuel filler cover.
- 11. Use sealer tape (12367083) to seal openings inside and outside of hull where wires for headlights, signal lights, horn and flasher lights are routed through the hull.



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APPLICATION OF NON-HYGROSCOPIC TAPE (MAIN ENGINE CRANKCASE)

- 1. Loosen two locking screws (1), turn latch handles (2) and lift engine deck door (3).
- 2. Open engine oil check access door (4) and ENGINE OIL LEVEL door (5).
- 3. Tape engine oil gauge rod (6) with waterproof tape (12477548-7). Apply adhesive sealant (MIL-A-46106 11EBN) to tape.
- 4. Open engine oil fill access door (7).
- 5. Tape engine oil fill cap (8) with waterproof tape (12477548-7). Apply adhesive sealant (MIL-A-46106 11EBN) to tape.
- 6. Close engine oil fill access door (7) and ENGINE OIL LEVEL door (5) and engine oil check access door (4).
- 7. Close engine deck door (3), turn two latch handles (2) and secure with two locking screws (1).



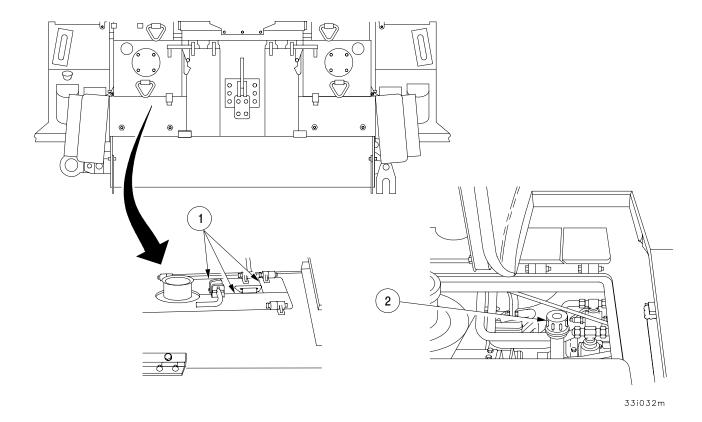
DEEP WATER FORDING KIT - CONTINUED

0667 00

Installation-Continued

APPLICATION OF NON-HYGROSCOPIC TAPE (TRANSMISSION)

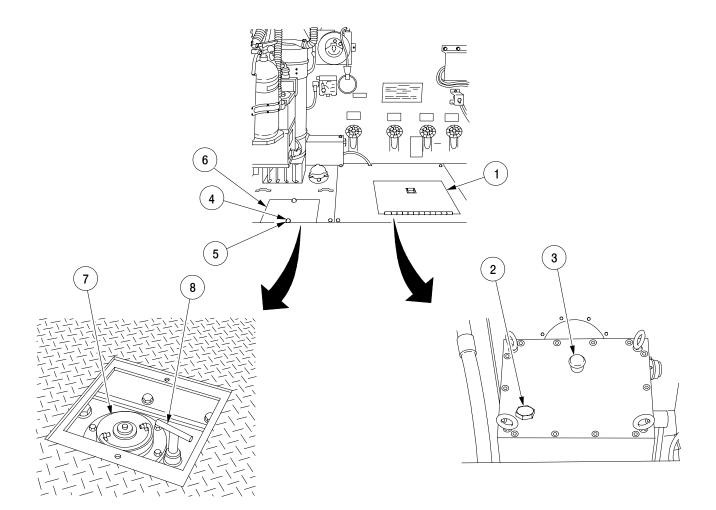
- 1. Open transmission oil filler access doors (1).
- 2. Tape fill cap/gauge rod (2) with waterproof tape (12477548-7). Apply adhesive sealant (MIL-A-46106 11EBN) to tape.
- 3. Close transmission oil filler access doors (1).



Installation-Continued

APPLICATION OF NON-HYGROSCOPIC TAPE (ELECTROMAGNETIC CLUTCH AND HYDRAULIC RESERVOIR)

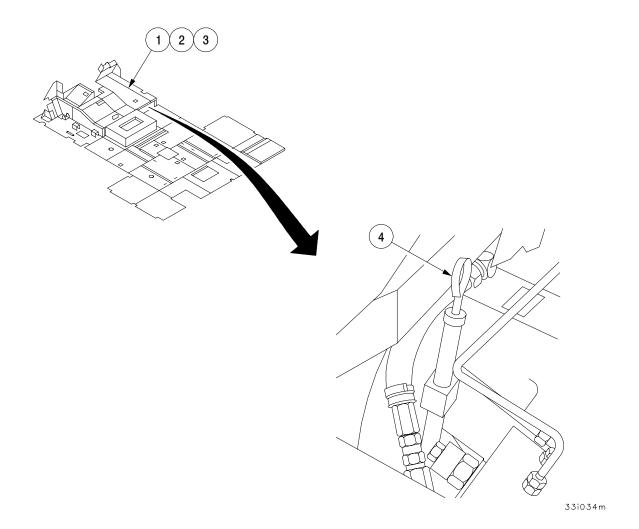
- 1. Open subfloor access door (1).
- 2. Tape bayonet gauge (2) and vent (3) with waterproof tape (12477548-7). Apply adhesive sealant (MIL-A-46106 11EBN) to tape.
- 3. Close subfloor access door (1).
- 4. Remove two screws (4), two flat washers (5) and open hydraulic reservoir access plate (6).
- 5. Tape fill cap (7) and bayonet gauge (8) with waterproof tape (12477548-7). Apply adhesive sealant (MIL-A-46106 11EBN) to tape.
- 6. Close hydraulic reservoir access plate (6) and secure with two screws (4) and two flat washers (5).



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APPLICATION OF NON-HYGROSCOPIC TAPE (MAIN WINCH)

- 1. Remove three screws (1), three flat washers (2) and subfloor access plate #10 (3).
- 2. Tape fill tube/bayonet gauge (4) with waterproof tape (12477548-7). Apply adhesive sealant (MIL-A-46106 11EBN) to tape.
- 3. Install subfloor access plate #10 (3) with three screws (1) and three flat washers (2).



DEEP WATER FORDING KIT - CONTINUED

0667 00

Installation-Continued

ARMAMENT PROTECTION

Cover the .50-caliber machine gun with its protective cover (TM 9-2350-292-10).

SEALING INSPECTION

1. When time and facilities permit, the engine compartment should be flooded with water. At this time, a thorough inspection should be made at the bulkhead power takeoff drive shaft cover to discover any leaks. The engine should be operated to detect any malfunctions as a result of water leakage.

NOTE

To prevent buildup of sand in engine compartment during fording operation, removal of access covers under engine compartment is necessary.

- Remove and stow two access covers, gaskets and mounting hardware from hull under engine compartment (WP 0434 00).
- 3. Pour a bucket of water around base of each engine air inlet. Look through air selector valve for evidence of leaks. If leaks are found, reseal engine air inlet.

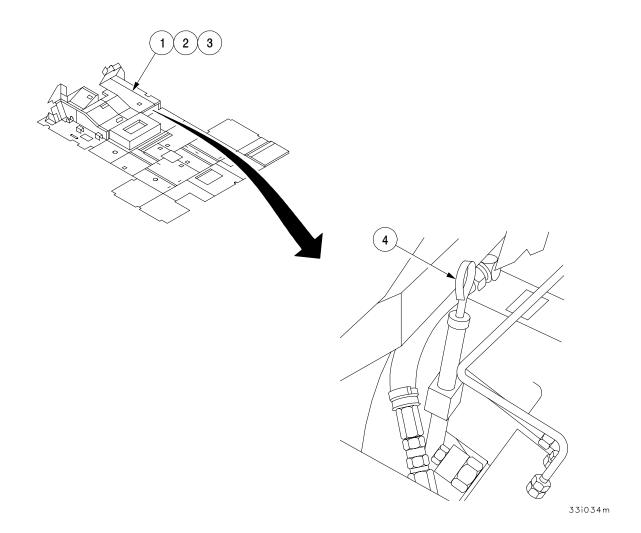
INSTALLATION OF SUBFLOOR PLATES, ENGINE DECK GRILLES AND ENGINE DECK DOORS

- 1. Install any subfloor plates (WP 0454 00) previously removed and not reinstalled.
- 2. Install any engine deck grilles (TM 9-2350-292-10) previously removed and not reinstalled.
- Install or close any engine deck doors (TM 9-2350-292-10) previously removed or opened and not reinstalled or closed.

Removal

REMOVAL OF NON-HYGROSCOPIC TAPE (MAIN WINCH)

- 1. Remove three screws (1), three flat washers (2) and subfloor access plate #10 (3).
- 2. Remove tape and adhesive from fill tube/bayonet gauge (4).
- 3. Install subfloor access plate #10 (3) with three screws (1) and three flat washers (2).



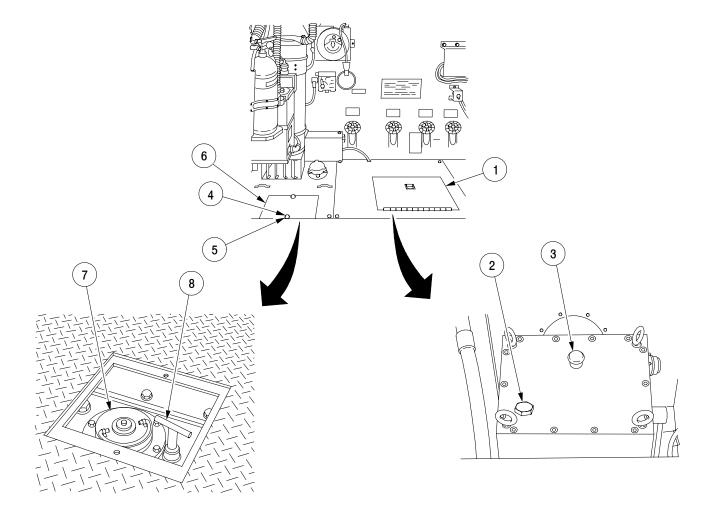
DEEP WATER FORDING KIT - CONTINUED

0667 00

Removal-Continued

REMOVAL OF NON-HYGROSCOPIC TAPE (ELECTROMAGNETIC CLUTCH AND HYDRAULIC RESERVOIR)

- 1. Open subfloor access door (1).
- 2. Remove tape and adhesive from bayonet gauge (2) and vent (3).
- 3. Close subfloor access door (1).
- 4. Remove two screws (4), two flat washers (5) and open hydraulic reservoir access plate (6).
- 5. Remove tape and adhesive from fill cap (7) and bayonet gauge (8).
- 6. Close hydraulic reservoir access plate (6) and secure with two screws (4) and two flat washers (5).



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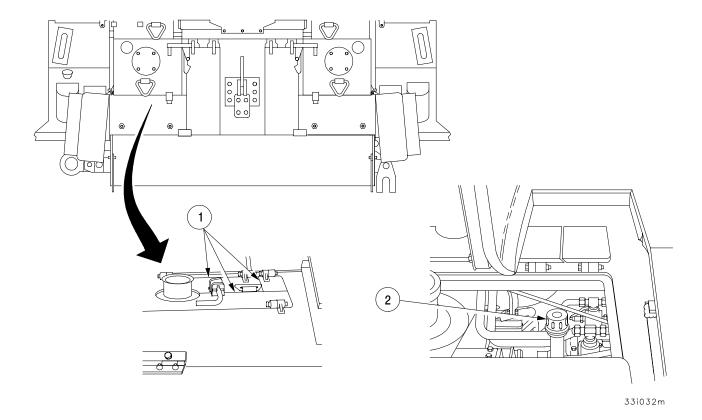
DEEP WATER FORDING KIT - CONTINUED

0667 00

Removal-Continued

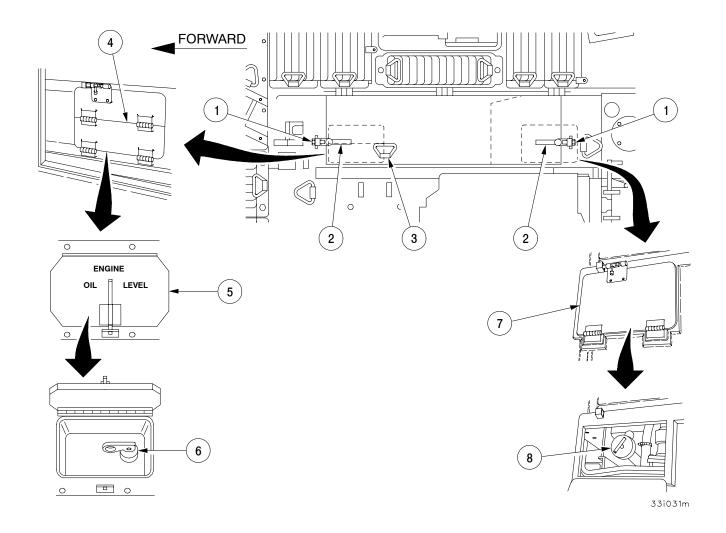
REMOVAL OF NON-HYGROSCOPIC TAPE (TRANSMISSION)

- 1. Open engine deck exhaust grille doors (TM 9-2350-292-10).
- 2. Open transmission oil filler access doors (1).
- 3. Remove tape and adhesive from fill cap/gauge rod (2).
- 4. Close transmission oil filler access doors (1).



REMOVAL OF NON-HYGROSCOPIC TAPE (MAIN ENGINE CRANKCASE)

- 1. Loosen two locking screws (1), turn latch handles (2) and lift engine deck door (3).
- 2. Open engine oil check access door (4) and ENGINE OIL LEVEL door (5).
- 3. Remove tape and adhesive from engine oil gauge rod (6).
- 4. Open engine oil fill access door (7).
- 5. Remove tape and adhesive from engine oil fill cap (8).
- 6. Close engine oil fill access door (7) and ENGINE OIL LEVEL door (5) and engine oil check access door (4).
- 7. Close engine deck door (3), turn two latch handles (2) and secure with two locking screws (1).

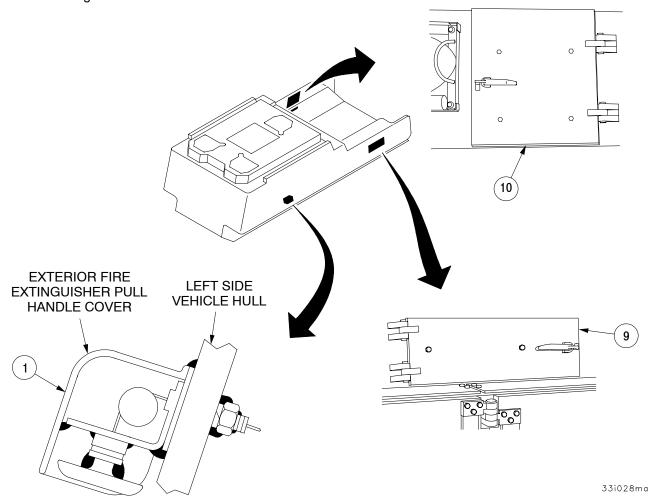


Removal-Continued

CAULKING COMPOUND



- 1. Remove caulking compound or sealer tape from all mounting surfaces of deep water fording kit components and personnel doors, (if sealer tape was used to seal doors) with dry-cleaning solvent.
- 2. Remove sealer tape from stowage compartment doors (9 and 10), remove sealer tape from exterior and interior of fire extinguisher pull handle cover (1) and where wires for headlights, signal lights, horn and flasher lights are routed through the hull.



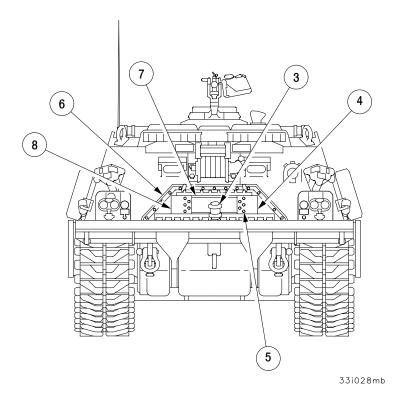
CAULKING COMPOUND

3. Remove caulking compound from exposed area around main winch cable (3), hull front cover (6), cover plate (7), cover plate (8), (slide rail) guides and screw heads. Remove five screws (5) from left (driver's side) armor plate (4) holes.

CAUTION

Make sure armor plate is installed before performing any winching functions. Failure to comply may result in equipment damage.

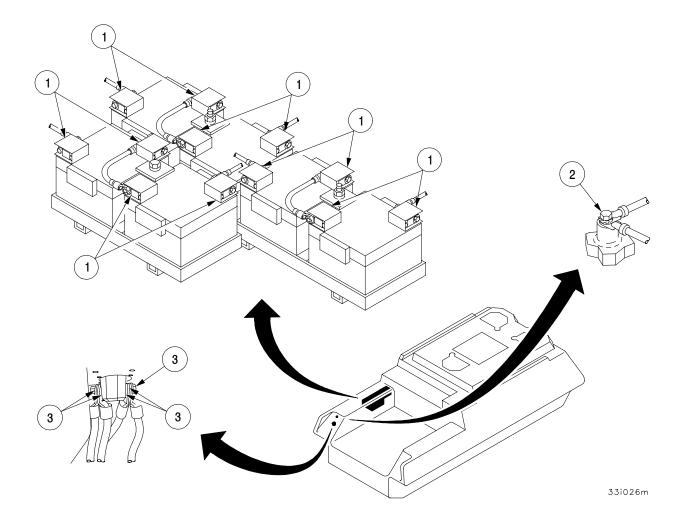
4. Install left armor plate (4) (WP 0511 00).



Removal-Continued

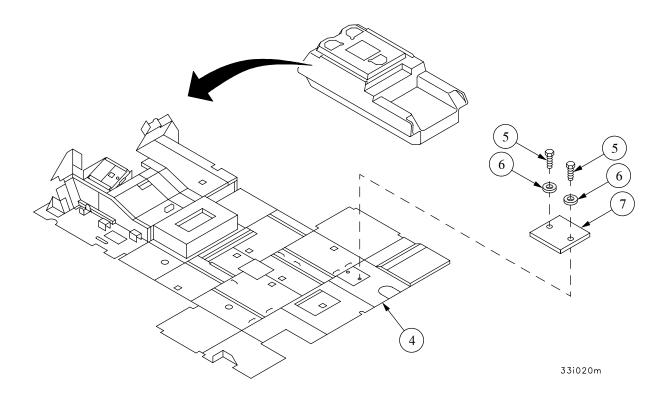
ELECTRICAL CONNECTIONS IN ENGINE COMPARTMENT

- 1. Open left side engine deck access doors and left side engine deck grilles (TM 9-2350-292-10).
- 2. Remove voltage regulator cover (WP 0239 00) to gain access to NATO slave connections.
- 3. Clean adhesive sealant from all positive and negative battery terminals and ground connections (1), main engine ground connection (2) and NATO slave connections (3).
- 4. Install voltage regulator cover (WP 0239 00).



BILGE PUMP

- 1. Remove subfloor plates #18 and #27 (WP 0454 00).
- 2. Remove and retain two screws (5), two flat washers (6) and plate (7) from subfloor plate (4).



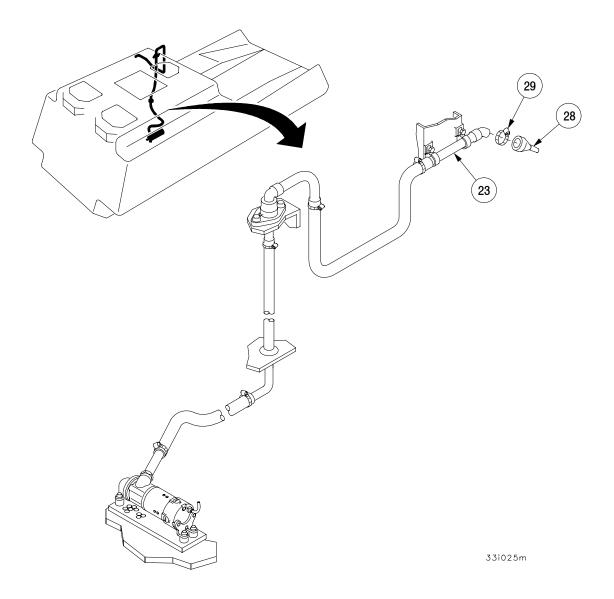
Removal-Continued

BILGE PUMP (CONTINUED)

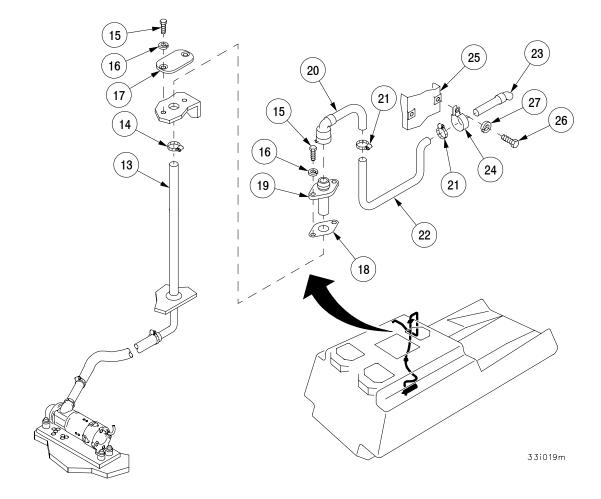
NOTE

All deep water fording kit components removed from vehicle will be stowed for reuse unless otherwise noted.

3. Loosen and remove clamp (29) and boot (28) from tube assembly (23).

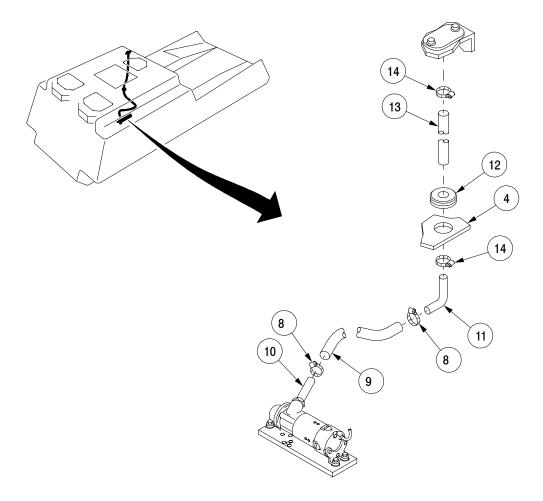


- 4. Remove two screws (26), two lockwashers (27), two clips (24) and tube assembly (23) from rear of main engine air inlet (25). Remove two clips (24) from tube assembly (23). Discard lockwashers.
- 5. Loosen two hose clamps (21), remove tube assembly (23) from hose (22) and hose (22) from adapter (20). Remove two hose clamps (21) from hose (22).
- 6. Remove adapter (20) from adapter (19).
- 7. Loosen hose clamp (14) and remove hose (13) from adapter (19).
- 8. Remove two screws (15), two lockwashers (16) and adapter (19) with gasket (18) from top exterior of hull. Discard lockwashers and gasket.
- 9. Install cover (17) on top exterior of hull, secure with two screws (15) and two new lockwashers (16).



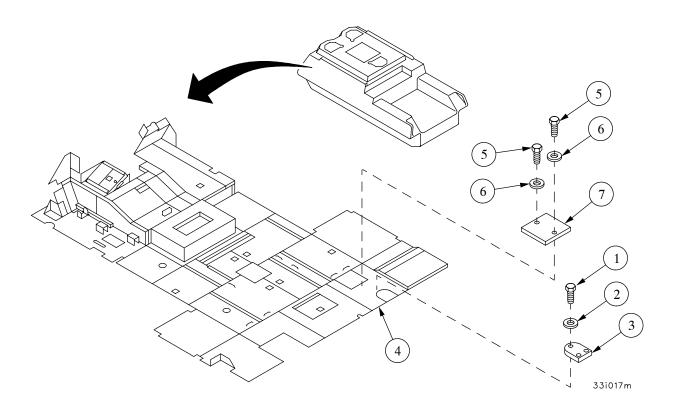
BILGE PUMP (CONTINUED)

- 10. Loosen hose clamp (14), remove hose (13) from bent tube (11). Remove two hose clamps (14) from hose (13). Pull hose (13) from grommet (12). Remove grommet (12) from subfloor plate (4).
- 11. Loosen two hose clamps (8), remove bent tube (11) from hose (9) and hose (9) from tube (10). Remove two hose clamps (8) from hose (9).



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- 12. Install access cover (3) on subfloor plate (4); secure with three screws (1) and three flat washers (2).
- 13. Install plate (7) on subfloor plate (4); secure with two screws (5) and two flat washers (6).
- 14. Install subfloor plates #18 and #27 (WP 0454 00).



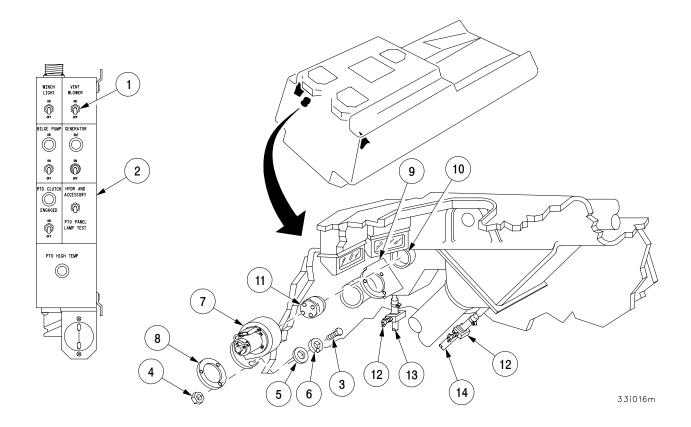
VENTILATION BLOWER SEAL AND BOOM FOOT DRAIN SHUTOFF CLAMPS.

1. Loosen and remove shutoff clamps (12) from ventilation blower drain hose (13) and right and left boom cylinder boot drain hoses (14).

NOTE

Note the quantity and position of shim(s) being removed to ensure shim(s) are installed in the same position.

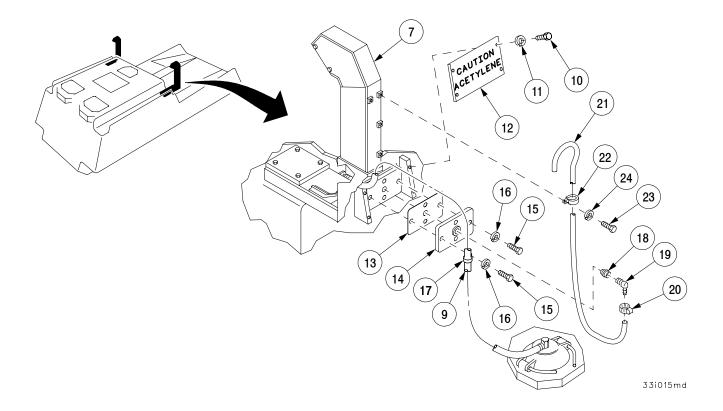
- 2. Remove three screws (3), three nuts (4), three flat washers (5), three lockwashers (6), ventilation blower assembly (7) and shims (8) from elbow mount (9) and inlet port (10). Retain screws, nuts, ventilation blower assembly and shims. Discard lockwashers.
- 3. Loosen screws and remove seal (11) from inlet port (10). Remove caulking compound from seal and inlet port.
- 4. Position shims (8) and ventilation blower assembly (7) on elbow mount (9) and at inlet port (10), secure with three screws (3), three new lockwashers (6), three flat washers (5) and three nuts (4).
- 5. Remove tape from VENT BLOWER switch (1) on the Accessories Panel (2).



Removal-Continued

FUEL TANK AND ACETYLENE BOTTLE VENT HOSES

- 1. Remove five screws (23), five lockwashers (24) and five clamps (22) from left main engine air inlet pipe (7). Remove clamps (22) from vent hose (21). Discard lockwashers.
- 2. Remove four screws (10), four lockwashers (11) and armor plate (12). Discard lockwashers.
- 3. Loosen hose clamp (20) and remove vent hose (21) from elbow (19). Remove hose clamp (20) from vent hose (21).
- 4. Remove elbow (19) from bushing (18); bushing (18) from cover (14).
- 5. Remove four screws (15), four lockwashers (16), clip (17), cover (14) and gasket (13) from acetylene bottle vent. Discard gasket and lockwashers.
- 6. Position armor plate (12) on left rear hull, secure with four screws (10) and four new lockwashers (11).

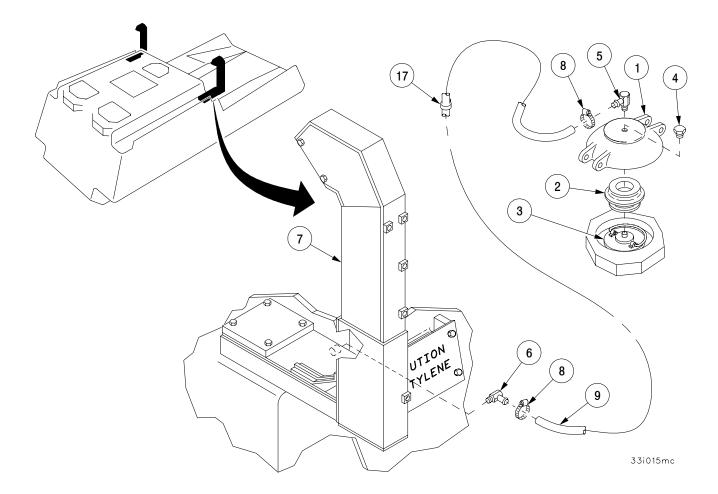


0667 00

Removal-Continued

FUEL TANK AND ACETYLENE BOTTLE VENT HOSE (CONTINUED)

- 7. Loosen two hose clamps (8) and remove hose (9) from elbows (5 and 6). Remove two hose clamps (8) and clip (17) from hose (9).
- 8. Remove elbow (5) from top of fuel tank fill cover (1). Install plug (4) in top of fuel tank fill cover (1).
- 9. Remove caulking compound from fuel tank fill cover (1) and mating surface. Open cover (1) and remove seal (2) from fuel tank fill cap (3). Close fuel tank fill cover (1).
- 10. Remove adhesive sealant from inside fuel tank fill cover (1) and adhesive from fuel tank fill cap (3).



Removal-Continued

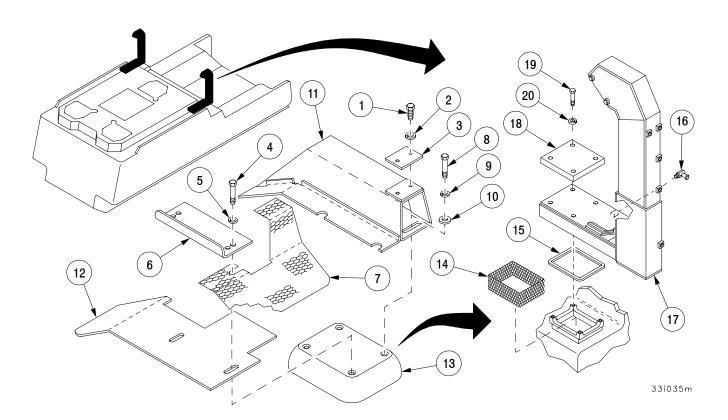
MAIN ENGINE AIR INLETS

NOTE

There are two air cleaner air inlet covers. Removal procedures are the same for both.

Install guide in hole pattern that places guide closest to hull. If stayline cable does not fit between the guide and the hull, it is acceptable to use the other hole pattern.

- 1. Remove four screws (19), four lockwashers (20), plate (18) and air inlet pipe (17). Remove elbow (16) from left air inlet pipe. Discard lockwashers.
- 2. Remove and discard inlet seal (15) from air inlet pipe (17). Clean adhesive from air inlet pipe (17).
- 3. Install air inlet screen (14) on top of hull.
- 4. Position air inlet cover (13) over air inlet screen (14) on top of hull.
- 5. Position plate (12) and hood (11) on top of air inlet cover (13).
- 6. Secure hood (11) and plate (12) to top of air inlet cover with two screws (8), two new lockwashers (9) and two flat washers (10).
- 7. Install screen (7), and plate (3) with two screws (1) and two new lockwashers (2).
- 8. Install guide (6) with two screws (4) and two new lockwashers (5).
- 9. Apply a bead of adhesive sealant (MIL-A-46106) between mating surfaces of hood (11) and appliqué armor, hood (11) and vehicle hull, hood (11) and plate (12), and between mating surfaces of plate (12) and vehicle hull.

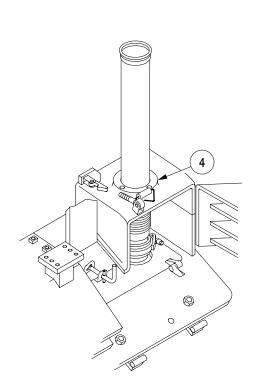


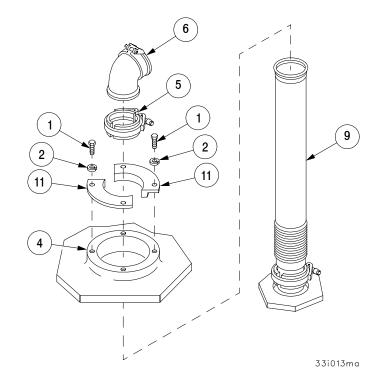
0667 00

Removal-Continued

MAIN ENGINE EXHAUST OUTLET PIPES

- 1. Remove two clamps (5) and two elbows (6) from two flexible exhaust pipes (9).
- 2. Remove eight screws (1), eight lockwashers (2) and four clamps (11) from two flexible exhaust pipes (9) and top rear engine deck (4). Discard lockwashers.



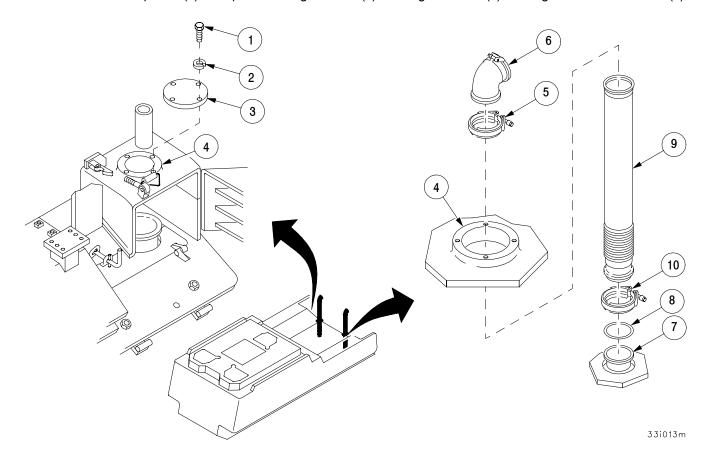


0667 00

Removal-Continued

MAIN ENGINE EXHAUST OUTLET PIPES-CONTINUED

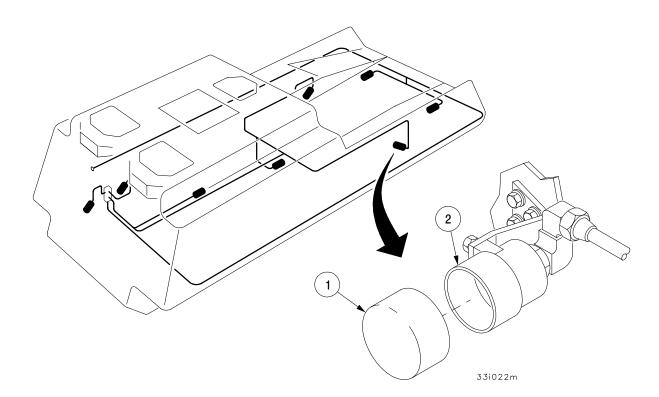
- 3. Remove two clamps (10), two flexible exhaust pipes (9) and two preformed packings (8) from two engine exhaust outlets (7). Discard preformed packings.
- 4. Install one elbow (6) on each of two exhaust outlets (7), secure with two clamps (5).
- 5. Install two exhaust plates (3) on top rear of engine deck (4) with eight screws (1) and eight new lockwashers (2).



Removal-Continued

FIRE EXTINGUISHER NOZZLES

- 1. Open engine deck side grille doors (TM 9-2350-292-10) and remove engine compartment drain valve (WP 0452 00) to gain access to fire extinguisher nozzles in engine compartment.
- 2. Remove and stow rubber caps (1) from five fire extinguisher nozzles (2) in engine compartment.
- 3. Remove subfloor plates #10, #11, #15 and #22 (WP 0454 00).
- 4. Remove and stow rubber caps (1) from three fire extinguisher nozzles (2) under the subfloor.
- 5. Install subfloor plates #10, #11, #15 and #22 (WP 0454 00).



0667 00

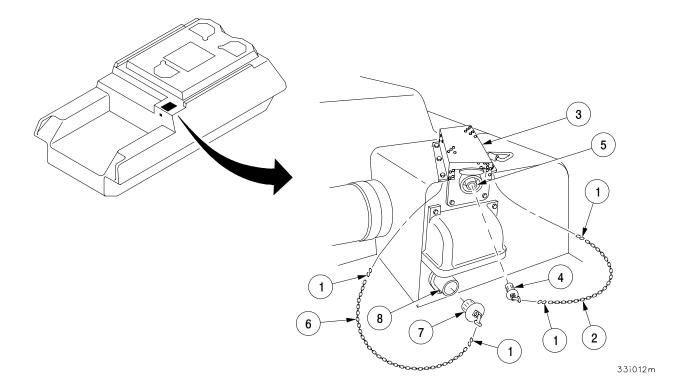
Removal-Continued

APU AND PERSONNEL HEATER EXHAUST SEALS

NOTE

Do not remove S-hooks from chains.

- 1. Remove seal (7) from personnel heater exhaust outlet tube (8) and seal (4) from APU muffler exhaust outlet tube (5).
- 2. Remove two S-hooks (1) attached to chains (2 and 6) from grating of APU muffler cover (3).

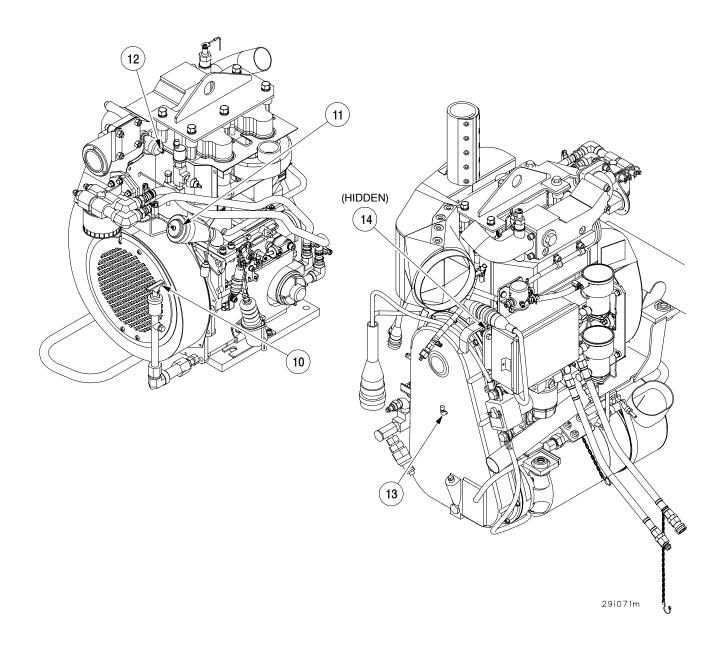


0667 00

Removal-Continued

AUXILIARY POWER UNIT (APU)

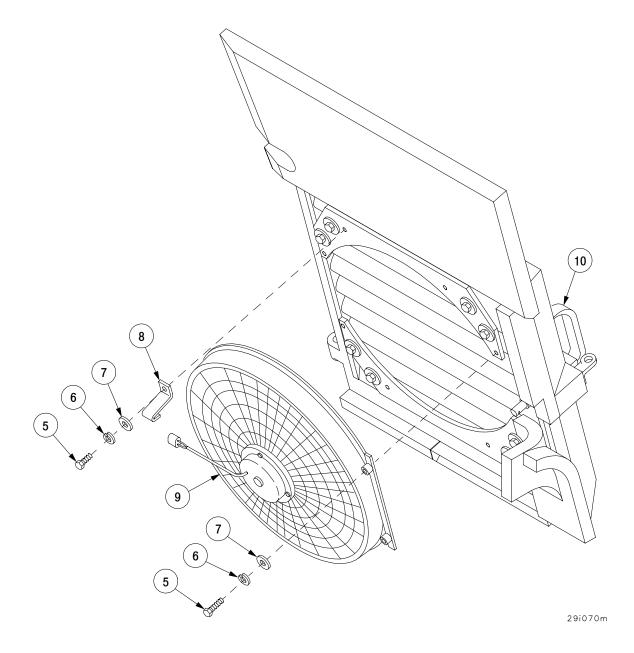
- 1. Open APU access door (TM 9-2350-292-10).
- 2. Remove APU muffler and exhaust system. Perform Removal steps 1, 2, 4 through 6 and 8 in WP 0618 00.
- 3. Remove APU cover assembly (WP 0413 00).
- 4. Remove sealer tape (12367083) around oil dipstick (10), oil filler cap (11) including rivet and crankcase breather (12) and chaincase breather (13). Do not remove adhesive from dipstick (14).



Removal-Continued

AUXILIARY POWER UNIT (APU) (CONTINUED)

- 5. Install fan (9) on APU access door (10) with eight screws (5), eight new lockwashers (6), eight flat washers (7) and four clips (8).
- 6. Remove tape and sealant from APU wiring harness 3W230 connector P1.
- 7. Connect APU wiring harness 3W730 connector P1 (WP 0439 00) to fan electrical wiring.
- 8. Close APU access door (TM 9-2350-292-10).



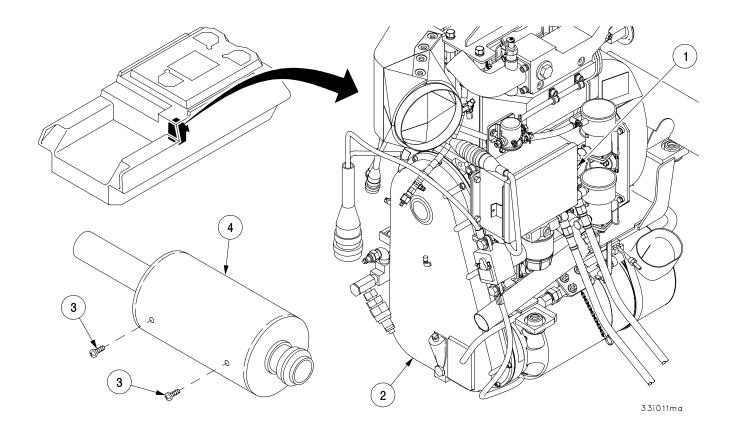
DEEP WATER FORDING KIT - CONTINUED

0667 00

Removal-Continued

AUXILIARY POWER UNIT (APU) (CONTINUED)

- 9. Remove two screws (3) and adhesive from APU muffler (4).
- 10. Open electrical box cover (1) on APU (2).
- 11. Remove adhesive from edge of cover (1) opening.
- 12. Close and secure electrical box cover (1).
- 13. Install APU cover assembly (WP 0413 00) and muffler and exhaust system. Perform Installation steps 5 through 9 and 11 and 12 in WP 0618 00.



DEEP WATER FORDING KIT - CONTINUED

0667 00

SERVICE AFTER DEEP WATER FORDING

NOTE

The following procedures should be performed as soon as possible after fording or when tactical situation permits.

- 1. Inspect For Water Entry
 - a. Engine and transmission:

Check the lubricant in the engine and transmission for evidence of water.

If there is evidence that water has entered these units, drain, flush and refill, including replacing the filters, with the correct lubricants. (TM 9-2350-292-10 and WP 0187 00).

b. Air cleaner intake assemblies:

Check the air cleaner intake assemblies for evidence of water.

If water is found, clean and service air cleaner assemblies (TM 9-2350-292-10).

c. Batteries:

Check the quantity of electrolyte and the specific gravity reading of the batteries (TM 9-2350-292-10). Service batteries, as necessary, if water has entered them.

2. Service Armament

Refer to TM 9-1005-213-10 and FM 23-65 for maintenance and lubrication services for the caliber .50 machine gun.

3. Lubrication

Lubricate vehicle in accordance with Lubrication Instructions (TM 9-2350-292-10 and WP 0187 00).

- 4. Perform Preventive Maintenance Checks and Services (TM 9-2350-292-10 or WP 0187 00).
- 5. Wash and Clean

NOTE

While washing vehicle, do not permit water to enter the engine exhaust and air intake pipes.

- a. If vehicle was forded in salt water, wash vehicle thoroughly in clean water.
- b. Clean out the hull and clean exposed surfaces of unpainted metal and touch up with paint as required.

NOTE

Emphasis should be placed upon the need for regular inspection, particularly of switches, relays and similar equipment, to guard against possible after effects of submersion, such as corrosion and fusion of contact points.

6. Install two access covers, gaskets and mounting hardware on hull under engine compartment (WP 0434 00).

INSTALLATION OF SUBFLOOR PLATES, ENGINE DECK GRILLES AND ENGINE DECK DOORS.

- 1. Install any subfloor plates (WP 0454 00) previously removed and not reinstalled.
- 2. Install any engine deck grilles (TM 9-2350-292-10) previously removed and not reinstalled.
- Install or close any engine deck doors (TM 9-2350-292-10) previously removed or opened and not reinstalled or closed.

END OF TASK

BILGE PUMP BRACKET AND INLET FLANGE REPLACEMENT

0668 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (3) (item 174, WP 0718 00) Lockwashers (4) (item 417, WP 0718 00)

Equipment Conditions

Bilge pump assembly removed from deep water fording kit (WP 0667 00)

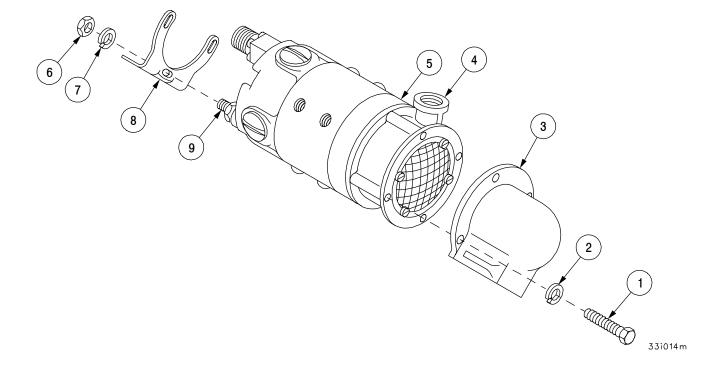
Removal

1. Remove four screws (1), four lockwashers (2), inlet flange (3) and impeller housing (4) from front end bell (5). Discard lockwashers. After inlet flange (3) is removed, reinstall impeller housing (4) to front end bell (5) with four screws (1) and four new lockwashers (2).

NOTE

Do not remove three studs and three nuts securing rear end bell to stator housing for maintenance of bracket.

- 2. Remove three nuts (6), three lockwashers (7) and bracket (8) from three studs (9). Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

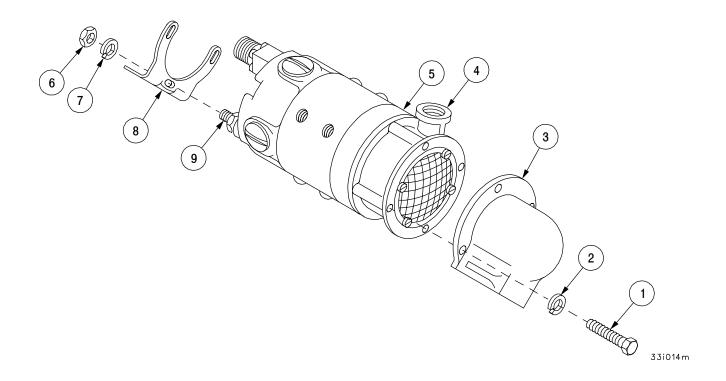


BILGE PUMP BRACKET AND INLET FLANGE REPLACEMENT - CONTINUED

0668 00

Installation

- 1. Install bracket (8) on three studs (9) with three new lockwashers (7) and three nuts (6).
- 2. Remove four screws (1), four lockwashers (2) and impeller housing (4). Discard lockwashers.
- 3. Install impeller housing (4) and inlet flange (3) to front end bell (5) with four screws (1) and four new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Return bilge pump assembly to deep water fording kit (WP 0667 00)

EXHAUST SMOKE GENERATING SYSTEM FUEL TUBE ASSEMBLIES REPLACEMENT

0669 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Assembled-washer screws (4) (item 421, WP 0718 00)

Equipment Conditions

Engine deck assembly removed (WP 0417 00)

References

TM 9-2350-292-10

Removal

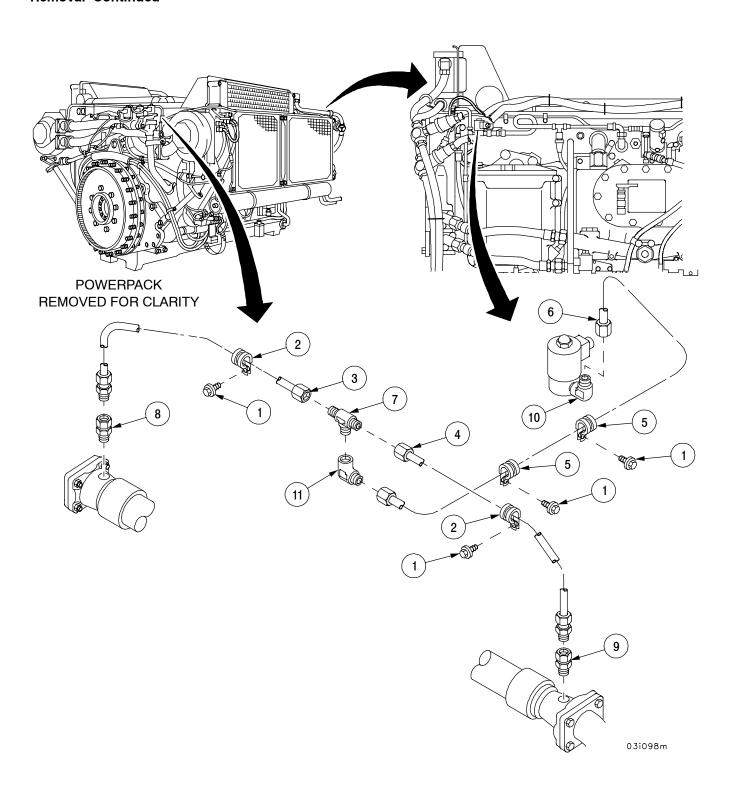


- Remove two assembled-washer screws (1) and two clamps (2) from two tube assemblies (3 and 4). Discard assembled-washer screws.
- 2. Remove two assembled-washer screws (1) and two clamps (5) from tube assembly (6). Discard assembled-washer screws.
- 3. Remove tube assembly (3) from tee (7) and right exhaust manifold nozzle (8).
- 4. Remove right exhaust manifold nozzle (8) from right exhaust manifold.
- 5. Remove tube assembly (4) from tee (7) and left exhaust manifold nozzle (9).
- 6. Remove left exhaust manifold nozzle (9) from left exhaust manifold.
- 7. Remove tube assembly (6) from solenoid valve assembly elbow (10) and elbow (11).
- 8. Remove elbow (11) from tee (7).
- Inspect parts for damage and replace as required.

EXHAUST SMOKE GENERATING SYSTEM FUEL TUBE ASSEMBLIES REPLACEMENT - CONTINUED

0669 00

Removal-Continued



EXHAUST SMOKE GENERATING SYSTEM FUEL TUBE ASSEMBLIES REPLACEMENT - CONTINUED

0669 00

Installation

- Install elbow (11) on tee (7).
- 2. Install tube assembly (6) on solenoid valve assembly elbow (10) and elbow (11).
- 3. Install left exhaust manifold nozzle (9) in left exhaust manifold.
- 4. Install tube assembly (4) on tee (7) and left exhaust manifold nozzle (9).
- 5. Install right exhaust manifold nozzle (8) in right exhaust manifold.
- 6. Install tube assembly (3) on tee (7) and right exhaust manifold nozzle (8).
- 7. Secure tube assembly (6) with two new assembled-washer screws (1) and two clamps (5).
- 8. Secure two tube assemblies (3 and 4) with two new assembled-washer screws (1) and two clamps (2).

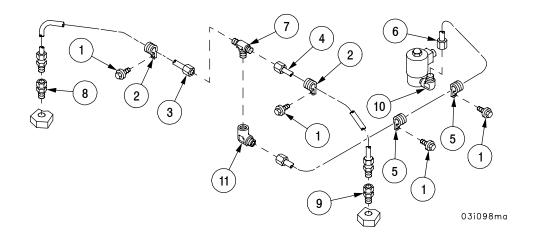


Move vehicle out of building before attempting to check system for operation/leaks. Extinguish all open flames in the immediate area. Refer to TM 9-2350-292-10 for operating system. Failure to comply may result in personnel injury.

NOTE

After performing maintenance or operation of the exhaust smoke generating system, make sure the fuel shutoff valve is in the closed position.

9. Check exhaust smoke generating system for leaks and proper operation (TM 9-2350-292-10).



NOTE

FOLLOW-ON MAINTENANCE:

Install engine deck assembly (WP 0417 00)

END OF TASK

EXHAUST SMOKE GENERATING SYSTEM FUEL SHUTOFF VALVE, SOLENOID VALVE AND RELATED PARTS REPLACEMENT

0670 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Torque wrench (item 21, WP 0717 00) Wire twister pliers (item 67, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 18, WP 0718 00) Assembled-washer screws (2) (item 418, WP 0718 00) Nonelectrical wire (item 349, WP 0718 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Engine deck assembly removed (WP 0417 00)

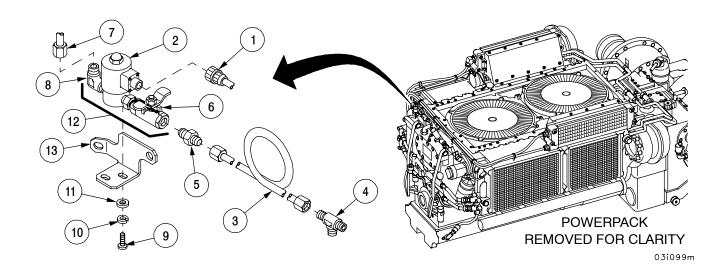
References

TM 9-2350-292-10

Removal



- 1. Disconnect wiring harness 3W202 connector (1) from receptacle on solenoid valve (2).
- 2. Remove fuel tube assembly (3) from tee (4) and adapter (5).
- 3. Remove adapter (5) from fuel shutoff valve (6).
- 4. Remove fuel tube assembly (7) from elbow (8).
- 5. Remove two screws (9), two lockwashers (10), two flat washers (11) and solenoid valve assembly (12) from bracket (13). Discard lockwashers.



EXHAUST SMOKE GENERATING SYSTEM FUEL SHUTOFF VALVE, SOLENOID VALVE AND RELATED PARTS REPLACEMENT - CONTINUED

0670 00

Removal-Continued

- 6. Remove two assembled-washer screws (14) and bracket (13) from engine. Discard assembled-washer screws.
- 7. Remove elbow (8) from solenoid valve (2).
- 8. Remove fuel shutoff valve (6) from adapter (15).
- 9. Remove adapter (15) from solenoid valve (2).



- 10. Remove nonelectrical wire (16) from fuel shutoff valve (6). Discard nonelectrical wire.
- 11. Inspect parts for damage and replace as required.

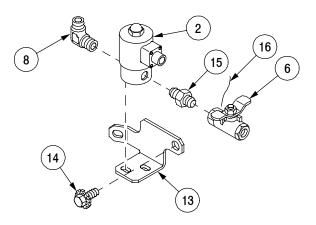
Installation

NOTE

If new solenoid valve is used, remove protective covers and felt filtering disks (if present) from inlet and outlet ports.

Check position of electrical connector by holding solenoid valve with inlet port to right side. Electrical connector must be positioned directly above inlet port. To reposition, place solenoid valve in soft-jawed vise, loosen acorn nut at top of solenoid valve, reposition electrical connector and torque acorn nut to 50 in-lb (5.7 N•m).

- 1. Install adapter (15) in solenoid valve (2).
- 2. Install fuel shutoff valve (6) on adapter (15).
- 3. Install elbow (8) in solenoid valve (2).
- 4. Install bracket (13) on engine with two new assembled-washer screws (14).



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EXHAUST SMOKE GENERATING SYSTEM FUEL SHUTOFF VALVE, SOLENOID VALVE AND RELATED PARTS REPLACEMENT - CONTINUED

0670 00

Installation-Continued

- 5. Install solenoid valve assembly (12) on bracket (13) with two screws (9), two new lockwashers (10) and two flat washers (11).
- 6. Install fuel tube assembly (7) on elbow (8).
- 7. Install adapter (5) in fuel shutoff valve (6).
- 8. Install fuel tube assembly (3) on tee (4) and adapter (5).
- 9. Connect wiring harness 3W202 connector (1) to receptacle on solenoid valve (2).



Move vehicle out of building before attempting to check system for operation/leaks. Extinguish all open flames in the immediate area. Refer to TM 9-2350-292-10 for operating system. Failure to comply may result in personnel injury.

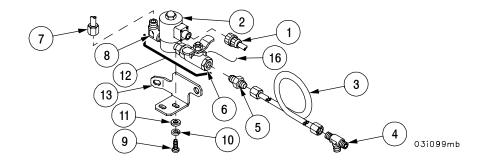
NOTE

After performing maintenance or operation of the exhaust smoke generating system, make sure the fuel shutoff valve is in the closed position and safety wired to prevent counter-clockwise rotation of valve handle.

10. Check exhaust smoke generating system for leaks and proper operation (TM 9-2350-292-10).



11. Secure fuel shutoff valve (6) in the closed position with new nonelectrical wire (16).



NOTE

FOLLOW-ON MAINTENANCE:

Install engine deck assembly (WP 0417 00)

0671 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Portable electric drill (item 11, WP 0717 00) Twist drill set (item 12, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 85, WP 0718 00) Gasket (item 91, WP 0718 00) Lockwashers (4) (item 90, WP 0718 00) Gasket (item 92, WP 0718 00) Drive screws (4) (item 1, WP 0718 00)

Materials/Parts-Continued

Lockwashers (4) (item 13, WP 0718 00) Lockwasher (item 93, WP 0718 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Battery power disconnected (WP 0256 00)

References

TM 9-2350-292-10

NOTE

Perform Removal steps 1, 2 and 9 and Installation steps 4 and 5 for replacement of arming switch box assembly.

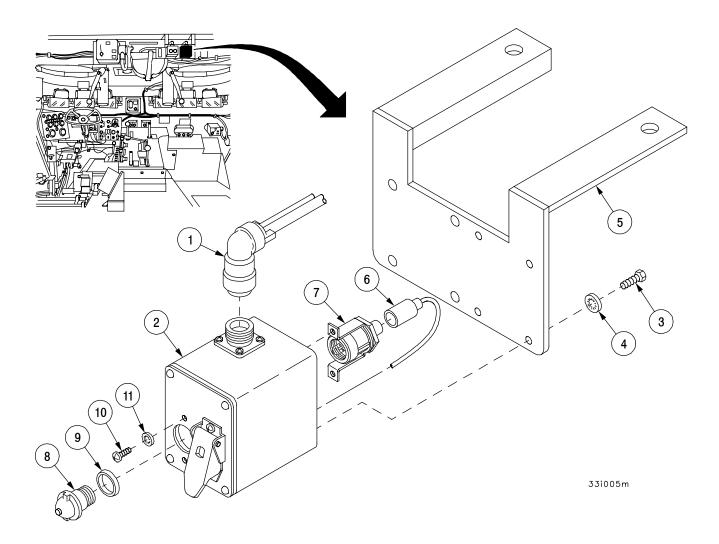
Perform Removal steps 1 through 5 and 9 and Installation steps 1 through 5 for replacement of lamp assembly.

Tag all electrical connectors and electrical leads prior to removal to aid in installation.

0671 00

Removal

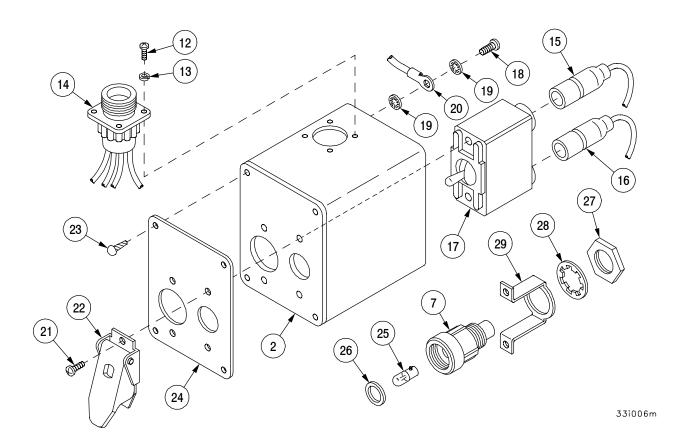
- 1. Disconnect wiring harness 4W108 connector P2 (1) from switch box assembly (2).
- 2. Remove four screws (3), four lockwashers (4) and switch box assembly (2) from bracket (5). Discard lockwashers.
- 3. Disconnect wire 4W150 LMP (6) from lamp assembly (7).
- 4. Remove lens (8) and gasket (9) from lamp assembly (7). Discard gasket.
- 5. Remove two screws (10), two lockwashers (11) and lamp assembly (7) from switch box assembly (2). Discard lockwashers.



0671 00

Disassembly

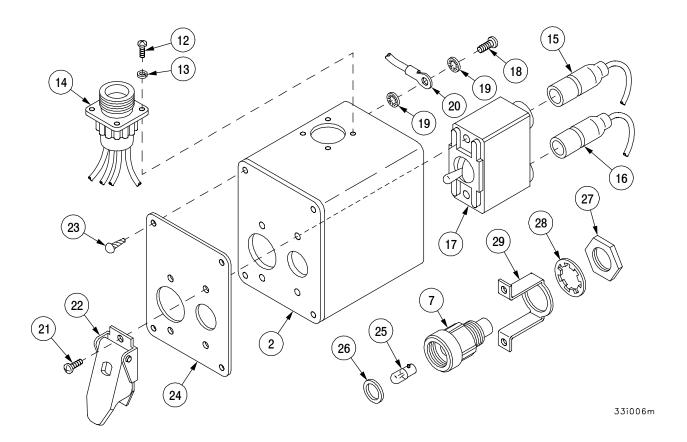
- 1. Remove four screws (12) and four lockwashers (13) from wiring harness 4W150 connector J1 (14). Discard lockwashers.
- 2. Disconnect two wires 4W150 SW (15 and 16) from toggle switch (17).
- 3. Remove screw (18), two lockwashers (19) and wire 4W150 GND (20). Discard lockwashers.
- 4. Remove wiring harness 4W150 (14) from switch box assembly (2).
- 5. Remove two screws (21), guard (22) and toggle switch (17) from switch box assembly (2).
- 6. Remove four drive screws (23) and instruction plate (24) from switch box assembly (2). Discard drive screws.
- 7. Remove lamp (25) and gasket (26) from lamp assembly (7). Discard gasket.
- 8. Remove bondnut (27), lockwasher (28) and retaining strap (29) from lamp assembly (7). Discard lockwasher.
- 9. Inspect parts for damage and replace as required.



0671 00

Assembly

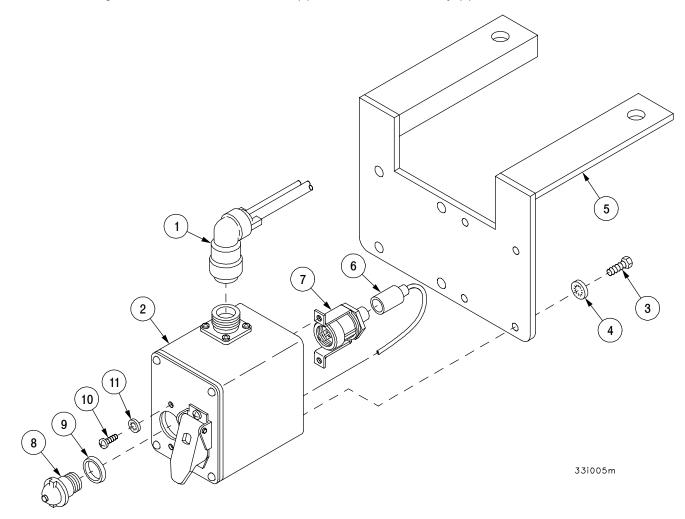
- 1. Install retaining strap (29), new lockwasher (28) and bondnut (27) on lamp assembly (7).
- 2. Install new gasket (26) and lamp (25) in lamp assembly (7).
- 3. Install instruction plate (24) on switch box assembly (2) with four new drive screws (23).
- 4. Install toggle switch (17) and guard (22) in switch box assembly (2) with two screws (21).
- 5. Install wiring harness 4W150 connector J1 (14) in switch box assembly (2) with four screws (12) and four new lockwashers (13).
- 6. Install wire 4W150 GND (20) with screw (18) and two new lockwashers (19).
- 7. Connect two wires 4W150 SW (15 and 16) to toggle switch (17).



0671 00

Installation

- 1. Install lamp assembly (7) in switch box assembly (2) with two screws (10) and two new lockwashers (11).
- 2. Install new gasket (9) and lamp lens (8) on lamp assembly (7).
- 3. Connect wire 4W150 LMP (6) to lamp assembly (7).
- 4. Install switch box assembly (2) on bracket (5) with four screws (3) and four new lockwashers (4).
- 5. Connect wiring harness 4W108 connector P2 (1) to switch box assembly (2).



NOTE

FOLLOW-ON MAINTENANCE: Connect battery power (WP 0256 00)

END OF TASK

SMOKE GRENADE LAUNCHER BRACKET REPLACEMENT

0672 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 85, WP 0718 00) Lockwashers (2) (item 86, WP 0718 00)

Equipment Conditions

Smoke grenade arming switch box removed (WP 0671 00)
Exhaust smoke switch and switch plate removed (WP 0259 00)
Smoke grenade firing switch box removed (TM 9-1040-267-20&P)

References

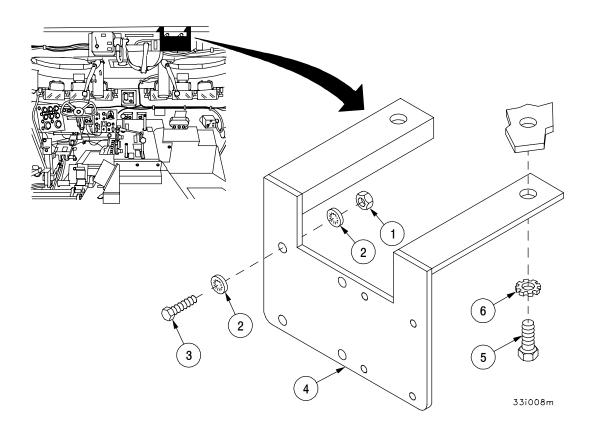
TM 9-1040-267-20&P

Removal

- 1. Remove four nuts (1), eight lockwashers (2) and four screws (3) from bracket (4). Discard lockwashers.
- Remove two screws (5), two lockwashers (6) and bracket (4). Discard lockwashers.
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Install bracket (4) with two screws (5) and two new lockwashers (6).
- 2. Install four screws (3), eight new lockwashers (2) and four nuts (1) on bracket (4).



NOTE

FOLLOW-ON MAINTENANCE:

Install smoke grenade switch box (TM 9-1040-267-20&P) Install exhaust smoke switch and switch plate (WP 0259 00) Install smoke grenade arming switch box (WP 0671 00)

SMOKE GRENADE LAUNCHER WIRING HARNESS ASSEMBLY 1W112 REPLACEMENT

0673 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Tie-down strap (item 77, WP 0718 00) Terminal lugs (2) (item 82, WP 0718 00) Marker tags (AR) (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Battery power disconnected (WP 0256 00)

References

TM 9-2350-292-10

NOTE

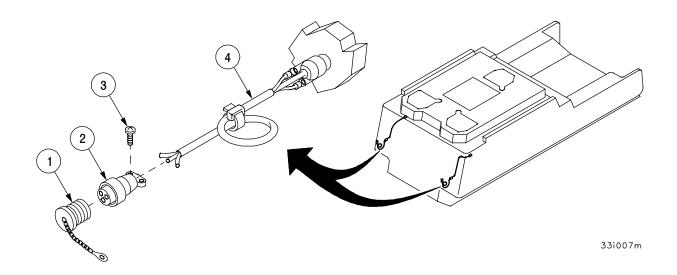
This task applies to right 1W112-1 and left 1W112-2 wiring harness assembly. Only 1W112 will be referenced in procedures.

This task removes only one wiring harness assembly.

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Removal

- 1. Remove electrical cover (1) from wiring harness assembly 1W112 connector (2).
- 2. Remove two screws (3) from wiring harness assembly 1W112 connector (2). Separate connector (2) from wiring harness assembly 1W112 (4) (WP 0290 00).

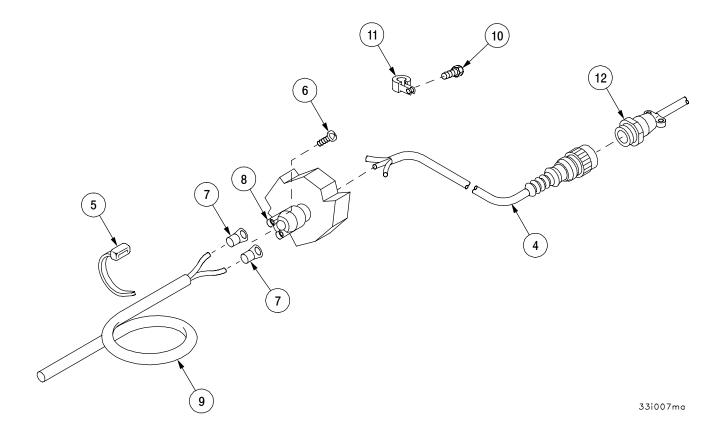


SMOKE GRENADE LAUNCHER WIRING HARNESS ASSEMBLY 1W112 REPLACEMENT - CONTINUED

0673 00

Removal-Continued

- 3. Cut tie-down strap (5) from wiring harness assembly 1W112 (4). Discard tie-down strap.
- 4. Remove two screws (6) and two terminal lugs (7) from cable clamp (8).
- 5. Slide braided wire (9) from wiring harness assembly 1W112 (4), remove two terminal lugs (7). Discard terminal lugs.
- 6. Loosen cable clamp (8).
- 7. Remove screw (10) and clamp (11) from wiring harness assembly 1W112 (4).
- 8. Pull wiring harness assembly 1W112 (4) through cable clamp (8) and bulkhead into vehicle.
- 9. Disconnect wiring harness assembly 1W112 (4) from wiring harness 4W108 (12).
- 10. Inspect parts for damage and replace as required.

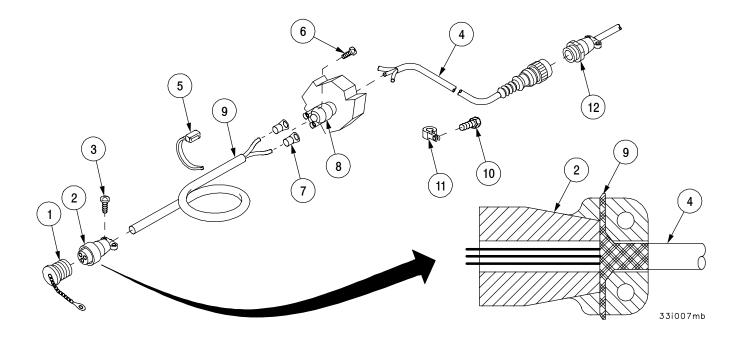


SMOKE GRENADE LAUNCHER WIRING HARNESS ASSEMBLY 1W112 REPLACEMENT - CONTINUED

0673 00

Installation

- 1. Connect wiring harness assembly 1W112 (4) to wiring harness 4W108 (12).
- 2. Install wiring harness assembly 1W112 (4) through bulkhead and cable clamp (8).
- 3. Secure wiring harness assembly 1W112 (4) with clamp (11) and screw (10).
- 4. Tighten cable clamp (8).
- 5. Crimp two new terminal lugs (7) to wiring harness assembly 1W112 (4) and slide braided wire (9) over wiring harness assembly 1W112 (4).
- 6. Install two terminal lugs (7) on cable clamp (8) with two screws (6).
- 7. Install connector (2) on wiring harness assembly 1W112 (4) (WP 0290 00).
- 8. Secure braided wire (9) on connector (2) with two screws (3).
- 9. Secure wiring harness assembly 1W112 (4) with new tie-down (5).
- 10. Install electrical cover (1) on wiring harness assembly 1W112 connector (2).



NOTE

FOLLOW-ON MAINTENANCE:

Connect battery power (WP 0256 00)

SMOKE GRENADE LAUNCHER WIRING HARNESS 4W108 REPLACEMENT

0674 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Tie-down strap (item 77, WP 0718 00)
Tie-down straps (4) (item 87, WP 0718 00)
Lockwasher (1) (item 86, WP 0718 00)
Lockwashers (12) (item 58, WP 0718 00)
Marker tags (AR) (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Battery power disconnected (WP 0256 00)

References

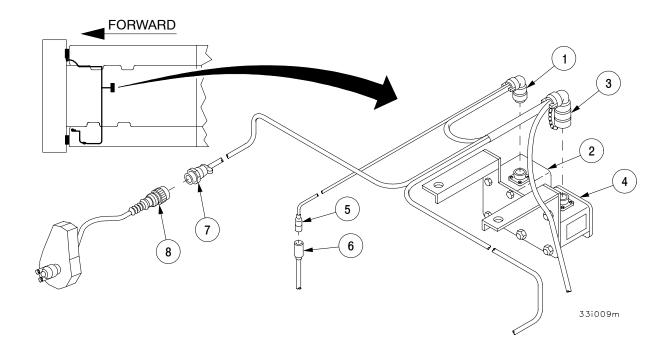
TM 9-2350-292-10

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

Removal

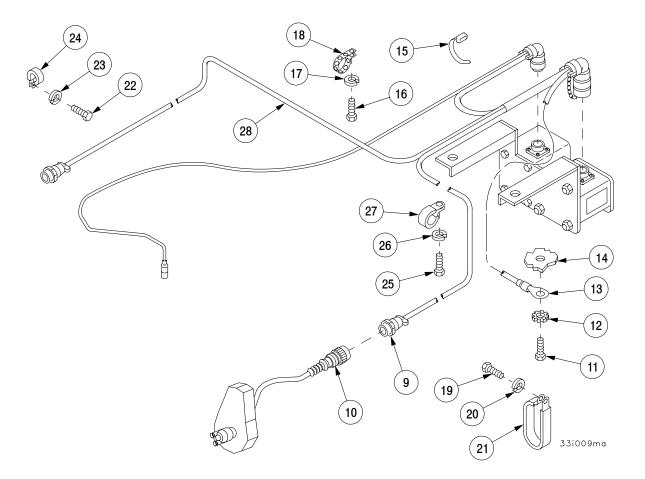
- 1. Disconnect wiring harness 4W108 connector P2 (1) from arming switch box (2).
- 2. Disconnect wiring harness 4W108 connector P1 (3) from firing switch box (4).
- 3. Disconnect wiring harness 4W108 wire 10 (5) from wiring harness 4W153 wire 10 (6).
- 4. Disconnect wiring harness 4W108 connector J1 (7) from wiring harness 1W112-1 connector P1 (8) on right side of vehicle.



SMOKE GRENADE LAUNCHER WIRING HARNESS 4W108 REPLACEMENT - 0674 00 CONTINUED

Removal-Continued

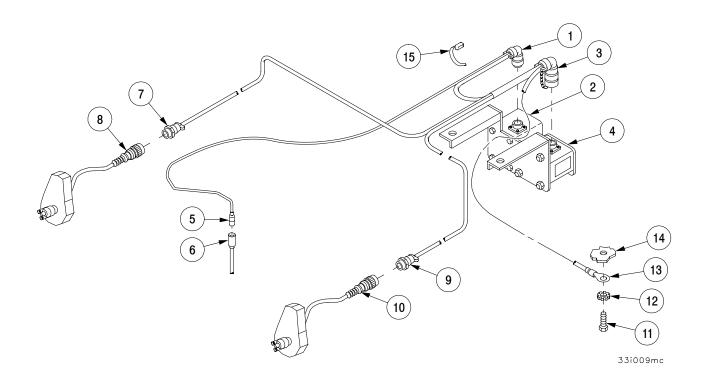
- 5. Disconnect wiring harness 4W108 connector J2 (9) from wiring harness 1W112-2 connector P1 (10) on left side of vehicle.
- 6. Remove screw (11), lockwasher (12) and wiring harness 4W108 wire GND (13) from ground connection (14). Discard lockwasher.
- 7. Remove tie-down strap (15). Discard tie-down strap.
- 8. Remove four screws (16), four lockwashers (17) and four tie-down straps (18). Discard lockwashers and tie-down straps.
- 9. Remove four screws (19), four lockwashers (20) and four clamps (21). Discard lockwashers.
- 10. Remove two screws (22), two lockwashers (23) and two clamps (24). Discard lockwashers.
- 11. Remove two screws (25), two lockwashers (26), two clamps (27) and wiring harness 4W108 (28) from vehicle. Discard lockwashers.
- 12. Inspect parts for damage and replace as required.



SMOKE GRENADE LAUNCHER WIRING HARNESS 4W108 REPLACEMENT - 0674 00 CONTINUED

Installation

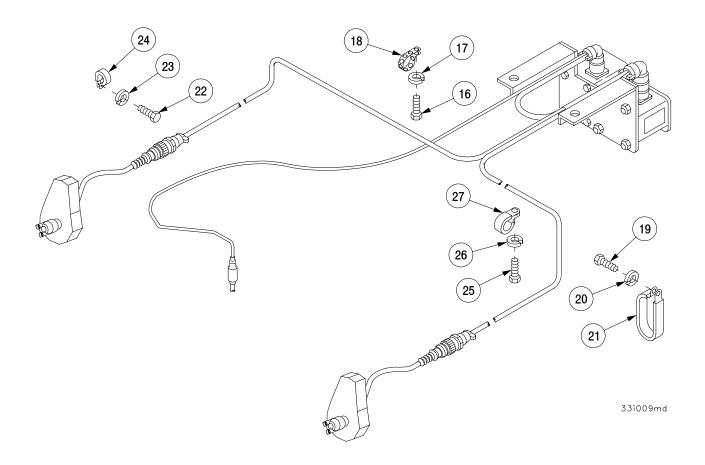
- 1. Install wiring harness 4W108 wire GND (13) on ground connection (14) with screw (11) and new lockwasher (12).
- 2. Connect wiring harness 4W108 connector J2 (9) to wiring harness 1W112-2 connector P1 (10) on left side of the vehicle.
- 3. Connect wiring harness 4W108 connector J1 (7) to wiring harness 1W112-1 connector P1 (8) on right side of the vehicle.
- 4. Connect wiring harness 4W108 wire 10 (5) to wiring harness 4W153 wire 10 (6).
- 5. Connect wiring harness 4W108 connector P1 (3) to firing switch box (4).
- 6. Connect wiring harness 4W108 connector P2 (1) to arming switch box (2).
- 7. Install new tie-down strap (15).



SMOKE GRENADE LAUNCHER WIRING HARNESS 4W108 REPLACEMENT - 0674 00 CONTINUED

Installation-Continued

- 8. Install four new tie-down straps (18) with four screws (16) and four new lockwashers (17).
- 9. Install four clamps (21) with four screws (19) and four new lockwashers (20).
- 10. Install two clamps (24) with two screws (22) and two new lockwashers (23).
- 11. Install two clamps (27) with two screws (25) and two new lockwashers (26).



NOTE

FOLLOW-ON MAINTENANCE: Connect battery power (WP 0256 00)

REMOTE TERMINAL UNIT REPLACEMENT

0675 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 9, WP 0718 00) Lockwashers (2) (item 58, WP 0718 00) Marking tags (AR) (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10)

References

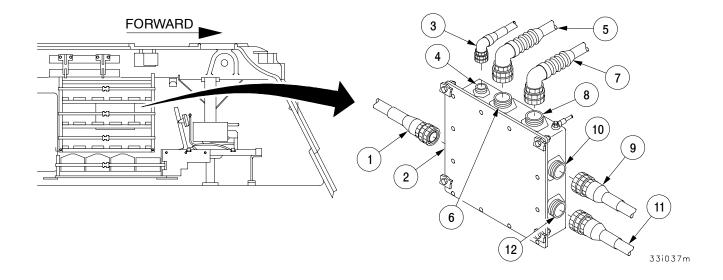
TM 9-2350-292-10

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Remove wiring harness 4W508 connector P1 (1) from remote terminal unit connector J6 (2).
- 2. Remove wiring harness 4W507 connector P1 (3) from remote terminal unit connector J4 (4).
- 3. Remove wiring harness 4W506 connector P1 (5) from remote terminal unit connector J5 (6).
- 4. Remove wiring harness 4W504 connector P1 (7) from remote terminal unit connector J2 (8).
- 5. Remove wiring harness 4W503 connector P1 (9) from remote terminal unit connector J3 (10).
- 6. Remove wiring harness 4W502 connector P1 (11) from remote terminal unit connector J1 (12).



REMOTE TERMINAL UNIT REPLACEMENT - CONTINUED

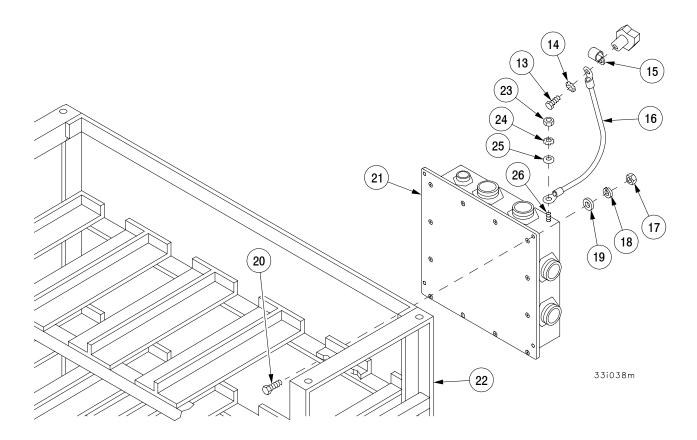
0675 00

Removal-Continued

- 7. Remove screw (13), lockwasher (14), clamp (15) and ground jumper (16) from hull. Discard lockwasher.
- 8. Remove four nuts (17), four lockwashers (18), four flat washers (19), four screws (20) and remote terminal unit (21) from ammunition storage rack (22). Discard lockwashers.
- 9. Remove nut (23), lockwasher (24), flat washer (25) and ground jumper (16) from remote terminal unit grounding stud (26). Discard lockwashers.
- 10. Inspect all parts for damage and replace as required.

Installation

- 1. Install ground jumper (16) on remote terminal unit grounding stud (26) with flat washer (25), new lockwasher (24) and nut (23).
- 2. Install remote terminal unit (21) on ammunition storage rack (22) with four screws (20), four flat washers (19), four new lockwashers (18) and four nuts (17).
- 3. Install ground jumper (16), clamp (15), and new lockwasher (14) to hull with screw (13).

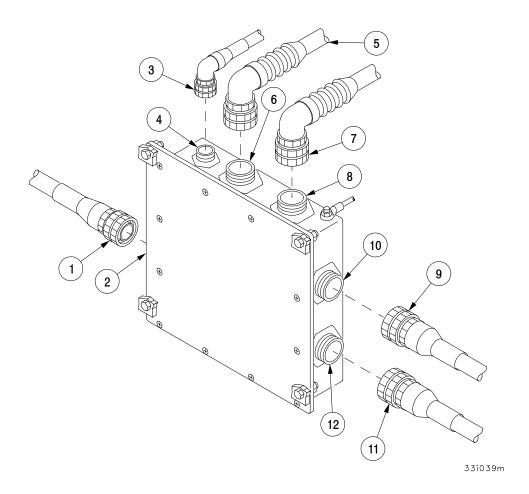


REMOTE TERMINAL UNIT REPLACEMENT - CONTINUED

0675 00

Installation-Continued

- Install wiring harness 4W502 connector P1 (11) on remote terminal unit connector J1 (12).
- 5. Install wiring harness 4W503 connector P1 (9) on remote terminal unit connector J3 (10).
- 6. Install wiring harness 4W504 connector P1 (7) on remote terminal unit connector J2 (8).
- 7. Install wiring harness 4W506 connector P1 (5) on remote terminal unit connector J5 (6).
- 8. Install wiring harness 4W507 connector P1 (3) on remote terminal unit connector J4 (4).
- 9. Install wiring harness 4W508 connector P1 (1) on remote terminal unit connector J6 (2).



NOTE

FOLLOW-ON MAINTENANCE:

Calibrate transducers (WP 0692 00)

WIRING HARNESS 2W505 REPLACEMENT

0676 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (6) (item 9, WP 0718 00) Marking tags (AR) (item 49, WP 0716 00)

Equipment Conditions

Main winch and spade assembly removed (WP 0497 00)

Removal

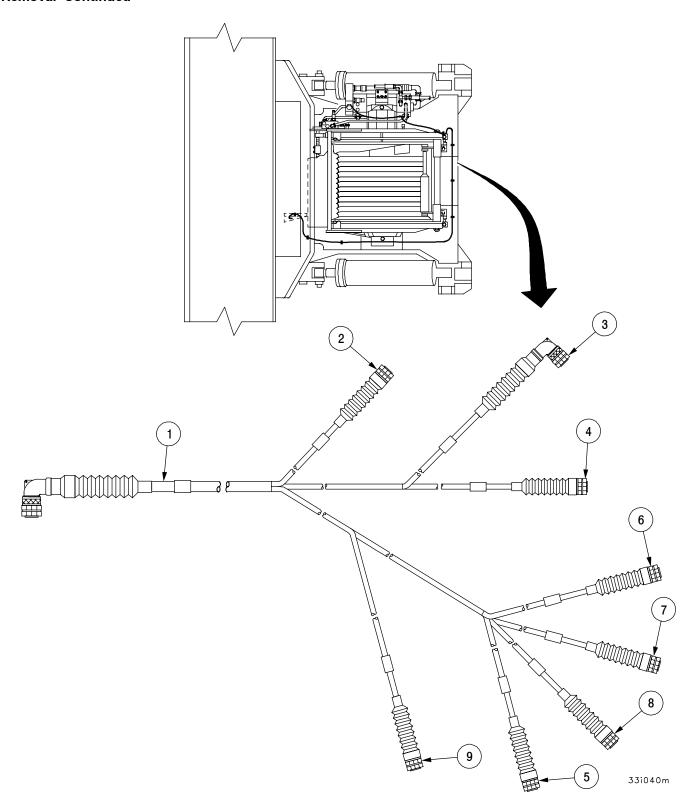
NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

The following legend identifies attachment points for each connection.

1. Remove wiring harness (1) and attaching hardware, at the following attachment points:

Item No	2W505 Connector/Lead/Wire	From Connector/Lead/Wire Component	Location
2	Connector P2	Main Winch Assembly Tranducer 2MT535	Main Winch
3	Connector P3	Main Winch Assembly Tranducer 2MT536	Main Winch
4	Connector P4	Main Winch Assembly Tranducer 2MT537	Main Winch
5	Connector P5	Dual Pilot Check Valve Transducer 2MT538	Main Winch
6	Connector P6	Dual Pilot Check Valve Transducer 2MT539	Main Winch
7	Connector P7	Level Wind Hydraulic Cylinder Transducer 2MT540	Main Winch
8	Connector P8	Level Wind Hydraulic Cylinder Transducer 2MT541	Main Winch
9	Connector P9	Spade Lock Cylinder Transducer 2MT546	Main Winch



WIRING HARNESS 2W505 REPLACEMENT - CONTINUED

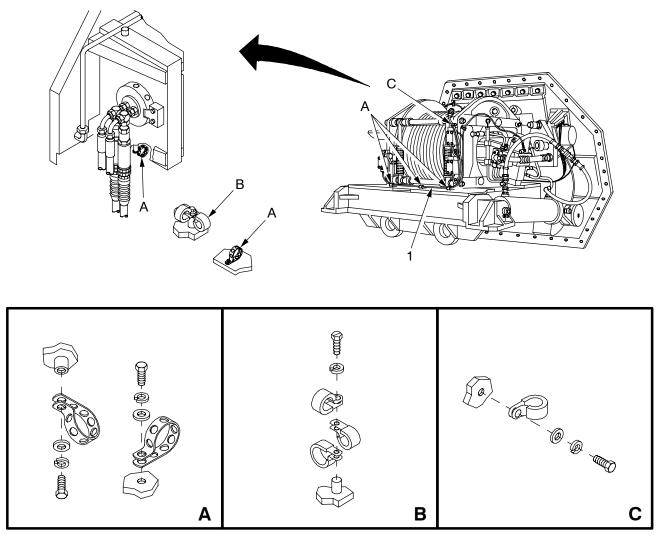
0676 00

Removal-Continued

- 2. Remove straps, clamps, attaching hardware and lockwashers (A through C), securing wiring harness (1) to vehicle, as shown in illustration. Discard lockwashers.
- 3. Remove wiring harness (1).
- 4. Inspect parts for damage and replace as required.

Installation

1. Install wiring harness (1) in vehicle, with straps, clamps, attaching hardware and new lockwashers (A through C), as shown in illustration.



33i041m

WIRING HARNESS 2W505 REPLACEMENT - CONTINUED

0676 00

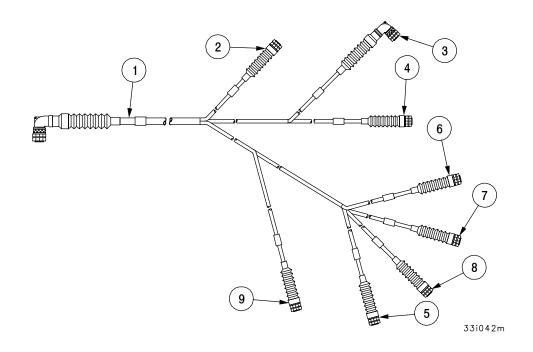
Installation-Continued

NOTE

The following legend identifies attachment points for each connection.

2. Install wiring harness (1) with attaching hardware, at the following attachment points:

Item No	2W505 Connector/Lead/Wire	To Connector/Lead/Wire Component	Location
9	Connector P9	Spade Lock Cylinder Transducer 2MT546	Main Winch
8	Connector P8	Level Wind Hydraulic Cylinder Transducer 2MT541	Main Winch
7	Connector P7	Level Wind Hydraulic Cylinder Transducer 2MT540	Main Winch
6	Connector P6	Dual Pilot Check Valve Transducer 2MT539	Main Winch
5	Connector P5	Dual Pilot Check Valve Transducer 2MT538	Main Winch
4	Connector P4	Main Winch Assembly Transducer 2MT537	Main Winch
3	Connector P3	Main Winch Assembly Transducer 2MT536	Main Winch
2	Connector P2	Main Winch Assembly Transducer 2MT535	Main Winch



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade assembly (WP 0497 00)

WIRING HARNESS 3W501 REPLACEMENT

0677 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (10) (item 58, WP 0718 00) Marking tags (AR) (item 49, WP 0716 00) Lockwashers (4) (item 487, WP 0718 00) Gasket (item 488, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Remote terminal unit POWER switch OFF (TM 9-2350-292-10)

Equipment Conditions - Continued

Subfloor plate #29, #31 and #32 removed (WP 0454 00)

Front engine deck grilles removed

(TM 9-2350-292-10)

Engine deck side grilles remove (TM 9-2350-292-10)

Engine deck access doors opened

(TM 9-2350-292-10)

APU assembly removed (WP 0586 00 (ONAN) or WP 0587 00 (HATZ))

References

TM 9-2350-292-10

Removal

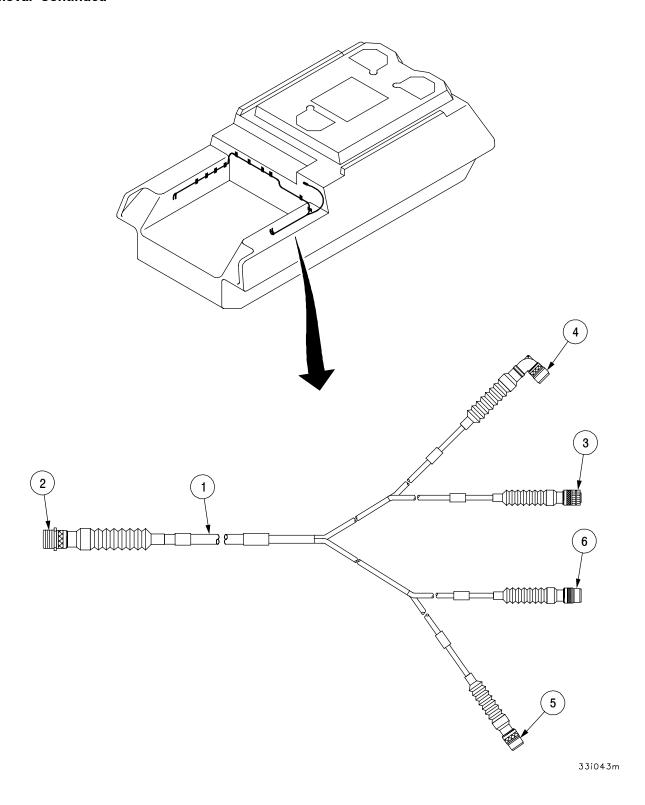
NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

The following legend identifies attachment points for each connection.

1. Remove wiring harness (1) and attaching hardware, at the following attachment points:

Item No	3W501 Connector/Lead/Wire	From Connector/Lead/Wire Component	Location
2	Connector J1	Wiring Harness 4W502 Connector P2	Crew Compartment (Rear)
3	Connector P1	Left Boom Limit Valve Transducer 3MT513	Engine Compartment (Left Side)
4	Connector P4	Left Boom Limit Valve Switch 3S512	Engine Compartment (Left Side)
5	Connector P2	Right Boom Limit Valve Switch 3S510	Engine Compartment (Right Side)
6	Connector P3	Right Boom Limit Valve Switch 3S511	Engine Compartment (Right Side)



WIRING HARNESS 3W501 REPLACEMENT - CONTINUED

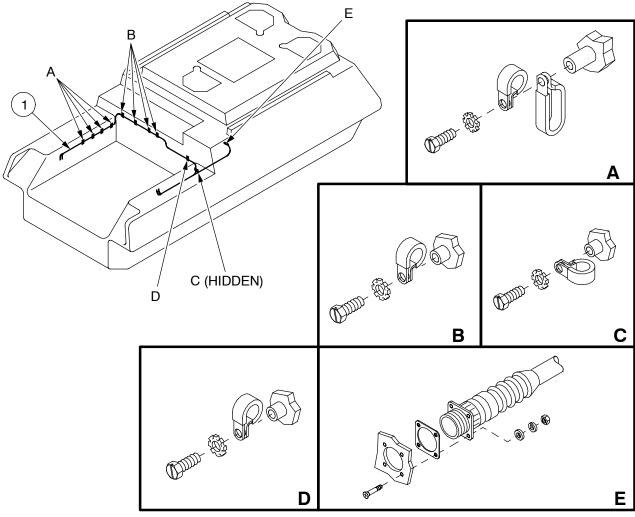
0677 00

Removal-Continued

- 2. Remove straps, clamps, attaching hardware and lockwashers (A through E), securing wiring harness (1) to vehicle, as shown in illustration. Discard lockwashers.
- 3. Remove wiring harness (1).
- 4. Inspect parts for damage and replace as required.

Installation

1. Install wiring harness (1) in vehicle, with straps, clamps, attaching hardware and new lockwashers (A through E), as shown in illustration.



33i044m

WIRING HARNESS 3W501 REPLACEMENT - CONTINUED

0677 00

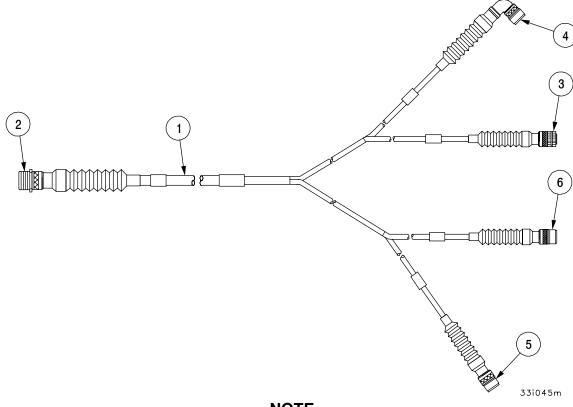
Installation-Continued

NOTE

The following legend identifies attachment points for each connection.

2. Install wiring harness (1) with attaching hardware, at the following attachment points:

Item No	3W501 Connector/Lead/Wire	To Connector/Lead/Wire Component	Location
6	Connector P3	Right Boom Limit Valve Switch 3S511	Engine Compartment (Right Side)
5	Connector P2	Right Boom Limit Valve Switch 3S510	Engine Compartment (Right Side)
4	Connector P4	Left Boom Limit Valve Switch 3S512	Engine Compartment (Left Side)
3	Connector P1	Left Boom Limit Valve Transducer 3MT513	Engine Compartment (Left Side)
2	Connector J1	Wiring Harness 4W502 Connector P2	Crew Compartment (Rear)



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plate #29, #31 and #32 (WP 0454 00) Install APU assembly (WP 0586 00 or WP 0587 00) Install front engine deck grilles (TM 9-2350-292-10) Install engine deck side grilles (TM 9-2350-292-10) Close engine deck access doors (TM 9-2350-292-10)

END OF TASK

WIRING HARNESS 4W502 REPLACEMENT

0678 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 58, WP 0718 00)

Lockwashers (4) (item 9, WP 0718 00)

Lockwashers (2) (item 12, WP 0718 00)

Marking tags (AR) (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10)
Remote terminal unit POWER switch OFF

(TM 9-2350-292-10)

Subfloor plates #19, #25, #27 and #29 removed

(WP 0454 00)

References TM 9-2350-292-10

Removal

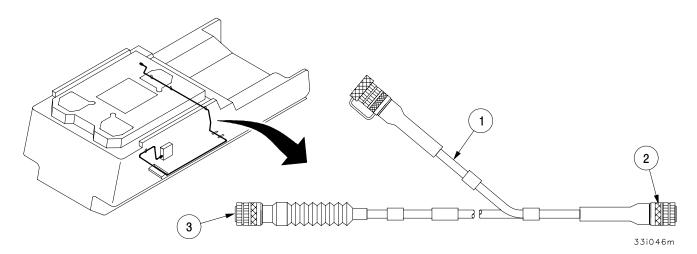
NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

The following legend identifies attachment points for each connection.

1. Remove wiring harness (1) and attaching hardware, at the following attachment points:

	Item No	4W502 Connector/Lead/Wire	From Connector/Lead/Wire Component	Location
Ĭ	2	Connector P1	Remote Terminal Unit Connector J1	Crew Compartment (Left Side, Behind Ammunition Rack)
Î	3	Connector P2	Wiring Harness 3W501 Connector J1	Crew Compartment (Rear)



WIRING HARNESS 4W502 REPLACEMENT - CONTINUED

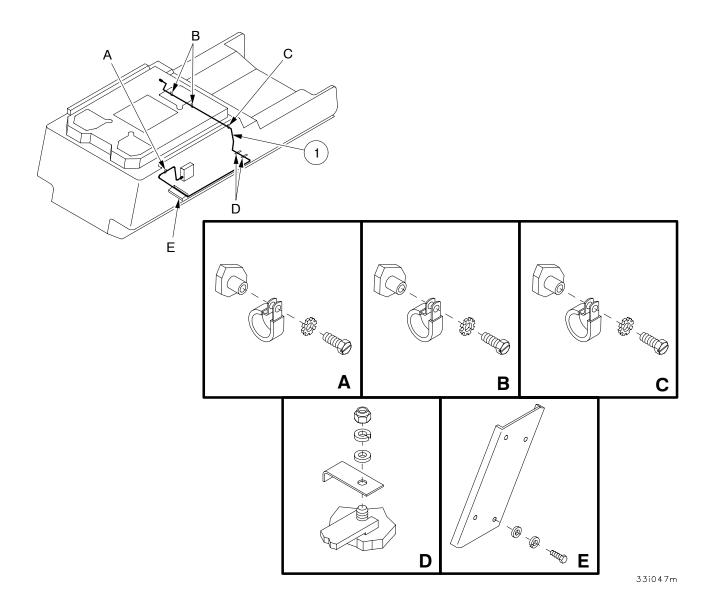
0678 00

Removal-Continued

- 2. Remove straps, clamps, attaching hardware and lockwashers (A through E), securing wiring harness (1) to vehicle, as shown in illustration. Discard lockwashers.
- 3. Remove wiring harness (1).
- 4. Inspect parts for damage and replace as required.

Installation

1. Install wiring harness (1) in vehicle, with straps, clamps, attaching hardware and new lockwashers (A through E), as shown in illustration.



WIRING HARNESS 4W502 REPLACEMENT - CONTINUED

0678 00

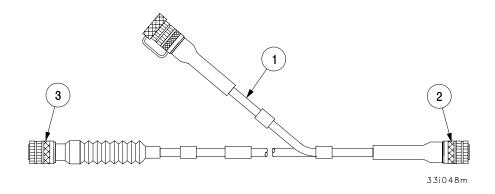
Installation-Continued

NOTE

The following legend identifies attachment points for each connection.

2. Install wiring harness (1) with attaching hardware, at the following attachment points:

Item No	4W502 Connector/Lead/Wire	To Connector/Lead/Wire Component	Location
3	Connector P2	Wiring Harness 3W501 Connector J1	Crew Compartment (Rear)
2	Connector P1	Remote Terminal Unit Connector J1	Crew Compartment (Left Side, Behind Ammunition Rack)



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #19, #25, #27 and #29 (WP 0454 00)

WIRING HARNESS 4W503 REPLACEMENT

0679 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 9, WP 0717 00) Lockwashers (4) (item 58, WP 0717 00) Lockwashers (2) (item 12, WP 0717 00)

Marking tags (AR) (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Remote terminal unit POWER switch OFF (TM 9-2350-292-10) Subfloor plates #15, #18, #19, #20 and #22 removed (WP 0454 00)

References

TM 9-2350-292-10

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

The following legend identifies attachment points for each connection.

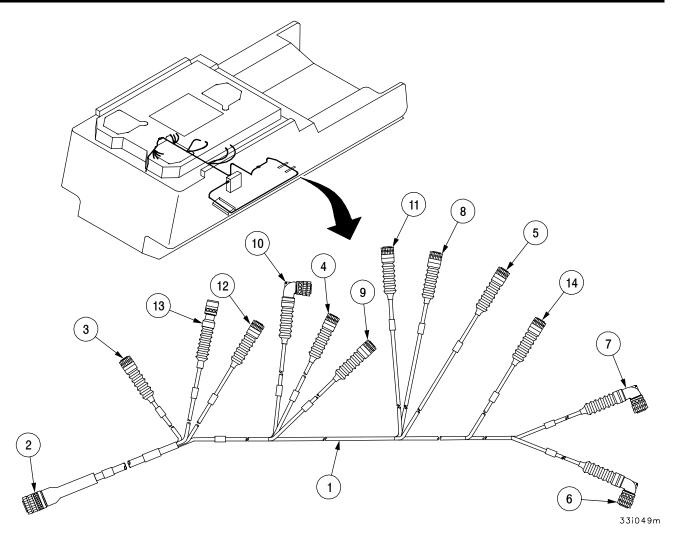
1. Remove wiring harness (1) and attaching hardware, at the following attachment points:

Item No	4W503 Connector/Lead/Wire	From Connector/Lead/Wire Component	Location
2	Connector P1	Remote Terminal Unit Connector J3	Crew Compartment (Left Side, Behind Ammunition Rack)
3	Connector P2	Thermostatic Valve Transducer 4MT524	Crew Compartment (Beneath Subfloor)
4	Connector P3	Thermostatic Valve Transducer 4MT525	Crew Compartment (Beneath Subfloor)
5	Connector P4	Main and Hoist Winch Directional Control Valve Transducer 4MT529	Crew Compartment (Beneath Subfloor)
6	Connector P5	Main and Hoist Winch Directional Control Valve Transducer 4MT530	Crew Compartment (Beneath Subfloor)
7	Connector P6	Main and Hoist Winch Directional Control Valve Transducer 4MT531	Crew Compartment (Beneath Subfloor)
8	Connector P7	Main and Hoist Winch Directional Control Valve Transducer 4MT532	Crew Compartment (Beneath Subfloor)
9	Connector P8	Filter Valve Manifold Transducer 4MT533	Crew Compartment (Beneath Subfloor)

WIRING HARNESS 4W503 REPLACEMENT - CONTINUED

0679 00

Item No	4W503 Connector/Lead/Wire	From Connector/Lead/Wire Component	Location
10	Connector P9	Filter Valve Manifold Transducer 4MT534	Crew Compartment (Beneath Subfloor)
11	Connector P13	Filter Valve Manifold Transducer 4MT547	Crew Compartment (Beneath Subfloor)
12	Connector P10	Hydraulic Pump Transducer 4MT528	Crew Compartment (Beneath Subfloor)
13	Connector P11	Hydraulic Pump Switch 4S527	Crew Compartment (Beneath Subfloor)
14	Connector P12	Hoist Winch Transducer 4MT544	Crew Compartment (Beneath Subfloor)



WIRING HARNESS 4W503 REPLACEMENT - CONTINUED

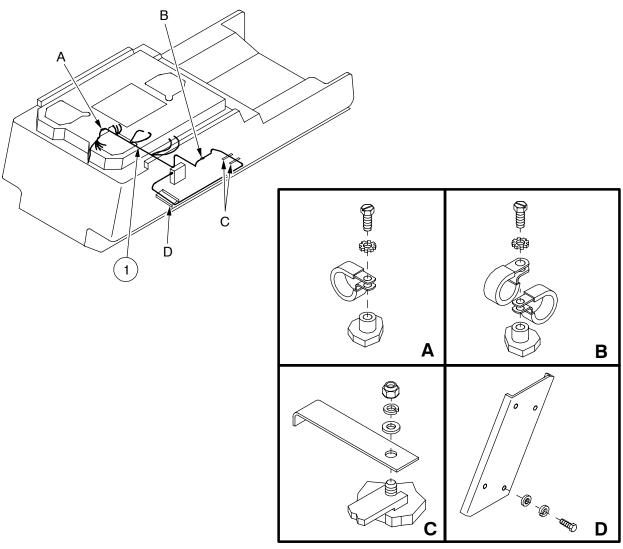
0679 00

Removal-Continued

- 2. Remove straps, clamps, attaching hardware and lockwashers (A through D), securing wiring harness (1) to vehicle, as shown in illustration. Discard lockwashers.
- 3. Remove wiring harness (1).
- 4. Inspect parts for damage and replace as required.

Installation

1. Install wiring harness (1) in vehicle, with straps, clamps, attaching hardware and new lockwashers (A through D), as shown in illustration.



WIRING HARNESS 4W503 REPLACEMENT - CONTINUED

0679 00

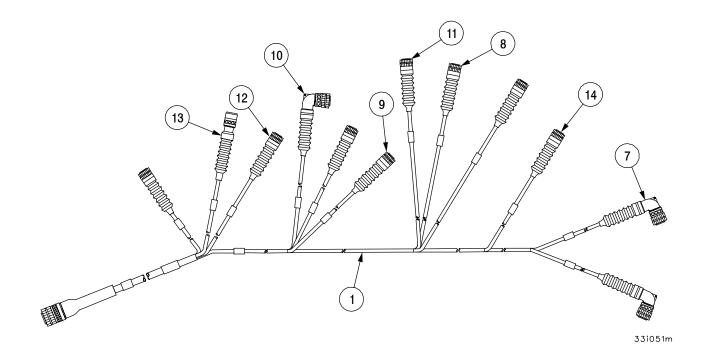
Installation-Continued

NOTE

The following legend identifies attachment points for each connection.

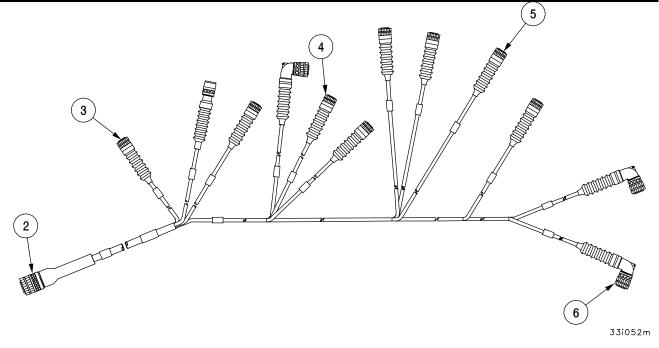
2. Install wiring harness (1) with attaching hardware, at the following attachment points:

Item No	4W503 Connector/Lead/Wire	To Connector/Lead/Wire Component	Location
14	Connector P12	Hoist Winch Transducer 4MT544	Crew Compartment (Beneath Subfloor)
13	Connector P11	Hydraulic Pump Switch 4S527	Crew Compartment (Beneath Subfloor)
12	Connector P10	Hydraulic Pump Transducer 4MT528	Crew Compartment (Beneath Subfloor)
11	Connector P13	Filter Valve Manifold Transducer 4MT547	Crew Compartment (Beneath Subfloor)
10	Connector P9	Filter Valve Manifold Transducer 4MT534	Crew Compartment (Beneath Subfloor)
9	Connector P8	Filter Valve Manifold Transducer 4MT533	Crew Compartment (Beneath Subfloor)
8	Connector P7	Main and Hoist Winch Directional Control Valve Transducer 4MT532	Crew Compartment (Beneath Subfloor)
7	Connector P6	Main and Hoist Winch Directional Control Valve Transducer 4MT531	Crew Compartment (Beneath Subfloor)



Installation-Continued

Item No	4W503 Connector/Lead/Wire	To Connector/Lead/Wire Component	Location
6	Connector P5	Main and Hoist Winch Directional Control Valve Transducer 4MT530	Crew Compartment (Beneath Subfloor)
5	Connector P4	Main and Hoist Winch Directional Control Valve Transducer 4MT529	Crew Compartment (Beneath Subfloor)
4	Connector P3	Thermostatic Valve Transducer 4MT525	Crew Compartment (Beneath Subfloor)
3	Connector P2	Thermostatic Valve Transducer 4MT524	Crew Compartment (Beneath Subfloor)
2	Connector P1	Remote Terminal Unit Connector J3	Crew Compartment (Left Side, Behind Ammunition Rack)



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #15, #18, #19, #20 and #22 (WP 0454 00

END OF TASK

WIRING HARNESS 4W504 REPLACEMENT

0680 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (11) (item 58, WP 0717 00) Lockwashers (2) (item 271, WP 0717 00) Marking tags (AR) (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Remote terminal unit POWER switch OFF (TM 9-2350-292-10) Subfloor plate #13 removed (WP 0454 00) Main winch and spade assembly removed (WP 0497 00)

References

TM 9-2350-292-10

Removal

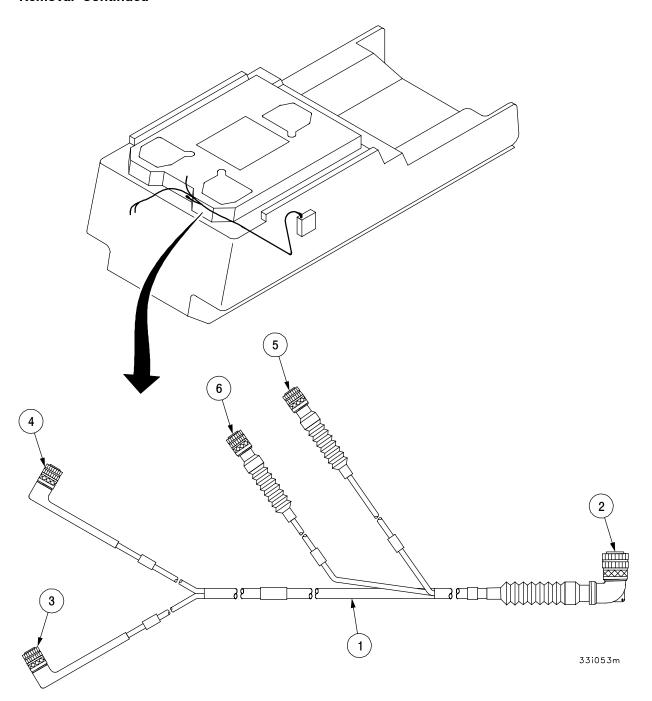
NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

The following legend identifies attachment points for each connection.

1. Remove wiring harness (1) and attaching hardware, at the following attachment points:

Item No	4W504 Connector/Lead/Wire	From Connector/Lead/Wire Component	Location
2	Connector P1	Remote Terminal Unit Connector J2	Crew Compartment (Left Side, Behind Ammunition Rack)
3	Connector P2	Boom Shutoff Valve Transducer 4MT543	Beneath Subfloor
4	Connector P3	Boom Shutoff Valve Transducer 4MT542	Beneath Subfloor
5	Connector P4	Hoist Winch Transducer 4MT545	Beneath Subfloor
6	Connector J1	Wiring Harness 2W505 Connector P1	Beneath Subfloor



WIRING HARNESS 4W504 REPLACEMENT - CONTINUED

0680 00

Removal-Continued

- 2. Remove straps, clamps, attaching hardware and lockwashers (A through C), securing wiring harness (1) to vehicle, as shown in illustration. Discard lockwashers.
- 3. Remove wiring harness (1).

NOTE

If bracket in view B is to be removed, remove wiring harness 2W602 connector P1 from bracket first (WP 0292 00)

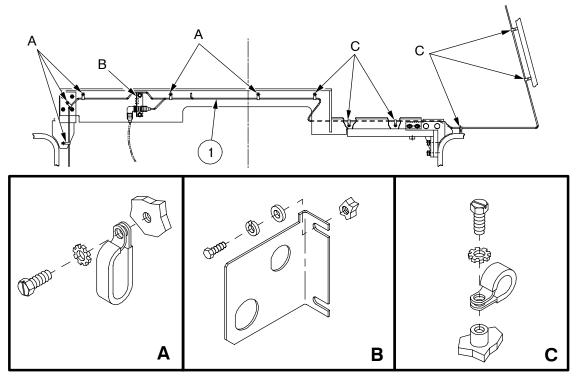
4. Inspect parts for damage and replace as required.

Installation

NOTE

If bracket in view B was removed, install wiring harness 2W602 connector P1 after bracket is installed (WP 0292 00)

1. Install wiring harness (1) in vehicle, with straps, clamps, attaching hardware and new lockwashers (A through C), as shown in illustration.



33i054m

WIRING HARNESS 4W504 REPLACEMENT - CONTINUED

0680 00

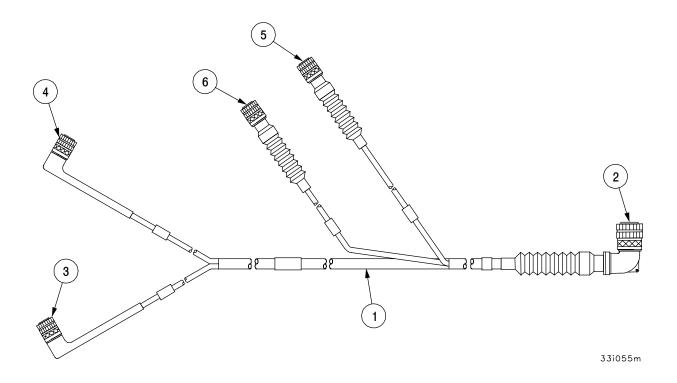
Installation-Continued

NOTE

The following legend identifies attachment points for each connection.

2. Install wiring harness (1) with attaching hardware, at the following attachment points:

Item No	4W504 Connector/Lead/Wire	To Connector/Lead/Wire Component	Location
6	Connector J1	Wiring Harness 2W505 Connector P1	Beneath Subfloor
5	Connector P4	Hoist Winch Transducer 4MT545	Beneath Subfloor
4	Connector P3	Boom Shutoff Valve Transducer 4MT542	Beneath Subfloor
3	Connector P2	Boom Shutoff Valve Transducer 4MT543	Beneath Subfloor
2	Connector P1	Remote Terminal Unit Connector J2	Crew Compartment (Left Side, Behind Ammunition Rack)



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plate #13 (WP 0454 00)
Install main winch and spade assembly (WP 0497 00)

END OF TASK

WIRING HARNESS 4W506 REPLACEMENT

0681 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (10) (item 58, WP 0718 00) Marking tags (AR) (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10)

Equipment Conditions - Continued

Remote terminal unit POWER switch OFF (TM 9-2350-292-10)
Hydraulic control valve manifold assembly shields removed (WP 0519 00)

Subfloor plate #12 removed (WP 0454 00) Main winch and spade assembly removed (WP 0497 00)

References

TM 9-2350-292-10

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

The following legend identifies attachment points for each connection.

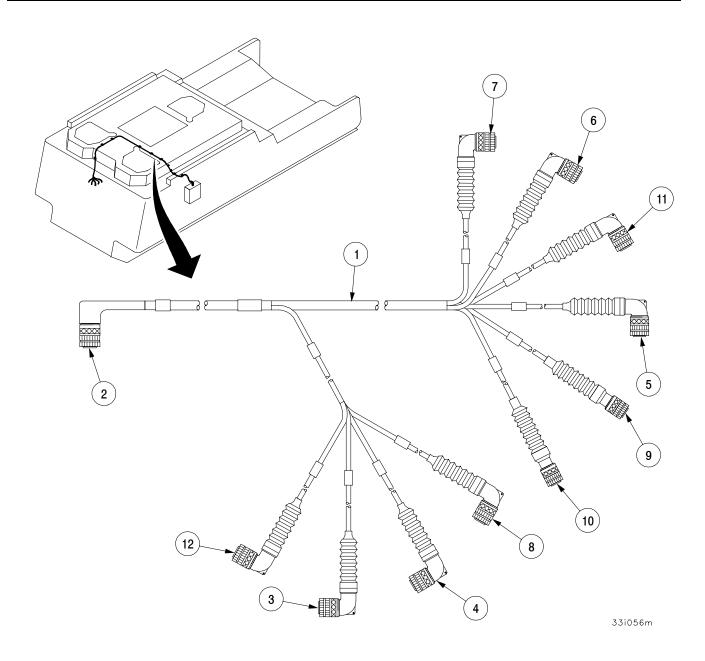
1. Remove wiring harness (1) and attaching hardware, at the following attachment points:

Item No	4W506 Connector/Lead/Wire	From Connector/Lead/Wire Component	Location
2	Connector P1	Remote Terminal Unit Connector J5	Crew Compartment (Left Side, Behind Ammunition Rack)
3	Connector P2	Operator Control Valve Manifold Transducer 4MT523	Operator Control Valve Manifold
4	Connector P3	Operator Control Valve Manifold Transducer 4MT522	Operator Control Valve Manifold
5	Connector P4	Operator Control Valve Manifold Transducer 4MT519	Operator Control Valve Manifold
6	Connector P5	Operator Control Valve Manifold Transducer 4MT518	Operator Control Valve Manifold
7	Connector P6	Operator Control Valve Manifold Transducer 4MT517	Operator Control Valve Manifold
8	Connector P7	Operator Control Valve Manifold Transducer 4MT521	Operator Control Valve Manifold
9	Connector P8	Operator Control Valve Manifold Transducer 4MT516	Operator Control Valve Manifold
10	Connector P9	Operator Control Valve Manifold Transducer 4MT515	Operator Control Valve Manifold

WIRING HARNESS 4W506 REPLACEMENT - CONTINUED

0681 00

Item No	4W506 Connector/Lead/Wire	From Connector/Lead/Wire Component	Location
11	Connector P10	Operator Control Valve Manifold Transducer 4MT514	Operator Control Valve Manifold
12	Connector P11	Operator Control Valve Manifold Switch 4S520	Operator Control Valve Manifold



WIRING HARNESS 4W506 REPLACEMENT - CONTINUED

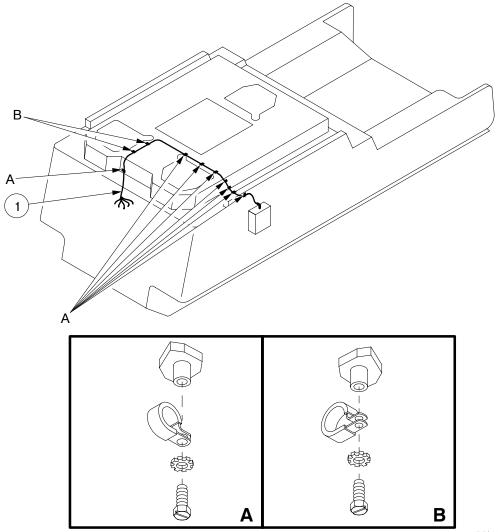
0681 00

Removal-Continued

- 2. Remove straps, clamps, attaching hardware and lockwashers (A and B), securing wiring harness (1) to vehicle, as shown in illustration. Discard lockwashers.
- 3. Remove wiring harness (1).
- 4. Inspect parts for damage and replace as required.

Installation

1. Install wiring harness (1) in vehicle, with straps, clamps, attaching hardware and new lockwashers (A and B), as shown in illustration.



33i057m

0681 00

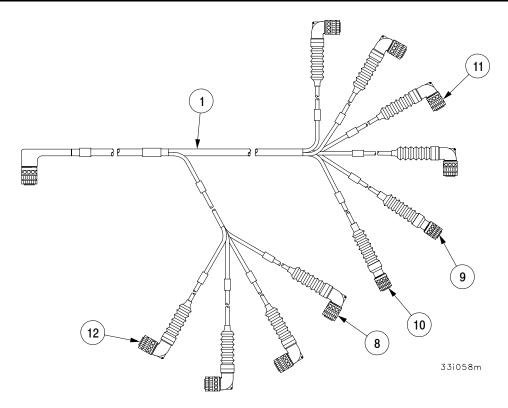
Installation-Continued

NOTE

The following legend identifies attachment points for each connection.

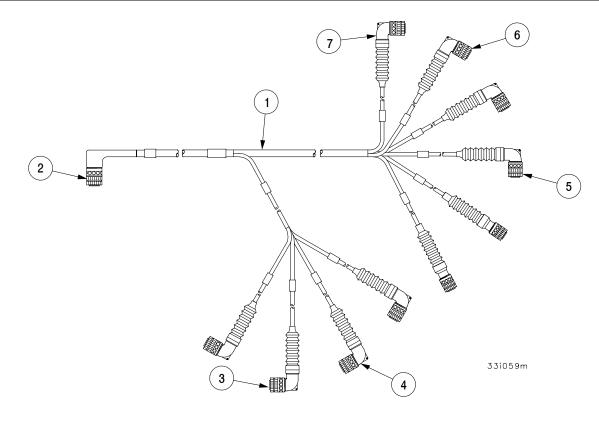
2. Install wiring harness (1) with attaching hardware, at the following attachment points:

Item No	4W503 Connector/Lead/Wire	To Connector/Lead/Wire Component	Location
12	Connector P11	Operator Control Valve Manifold Switch 4S520	Operator Control Valve Manifold
11	Connector P10	Operator Control Valve Manifold Transducer 4MT514	Operator Control Valve Manifold
10	Connector P9	Operator Control Valve Manifold Transducer 4MT515	Operator Control Valve Manifold
9	Connector P8	Operator Control Valve Manifold Transducer 4MT516	Operator Control Valve Manifold
8	Connector P7	Operator Control Valve Manifold Transducer 4MT521	Operator Control Valve Manifold



Installation-Continued

Item No	4W503 Connector/Lead/Wire	To Connector/Lead/Wire Component	Location
7	Connector P6	Operator Control Valve Manifold Transducer 4MT517	Operator Control Valve Manifold
6	Connector P5	Operator Control Valve Manifold Transducer 4MT518	Operator Control Valve Manifold
5	Connector P4	Operator Control Valve Manifold Transducer 4MT519	Operator Control Valve Manifold
4	Connector P3	Operator Control Valve Manifold Transducer 4MT522	Operator Control Valve Manifold
3	Connector P2	Operator Control Valve Manifold Transducer 4MT523	Operator Control Valve Manifold
2	Connector P1	Remote Terminal Unit Connector J5	Crew Compartment (Left Side, Behind Ammunition Rack)



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade assembly (WP 0497 00) Install hydraulic control valve manifold assembly shields (WP 0519 00

Install subfloor plate #12 (WP 0454 00)

WIRING HARNESS 4W507 REPLACEMENT

0682 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (15) (item 58, WP 0718 00) Lockwasher (item 2, WP 0718 00)

Materials/Parts-Continued

Lockwashers (2) (item 489, WP 0718 00) Marking tags (AR) (item 49, WP 0716 00)

Equipment Conditions

Battery power disconnected (WP 0256 00) Brake relay cover removed (WP 0263 00)

Removal

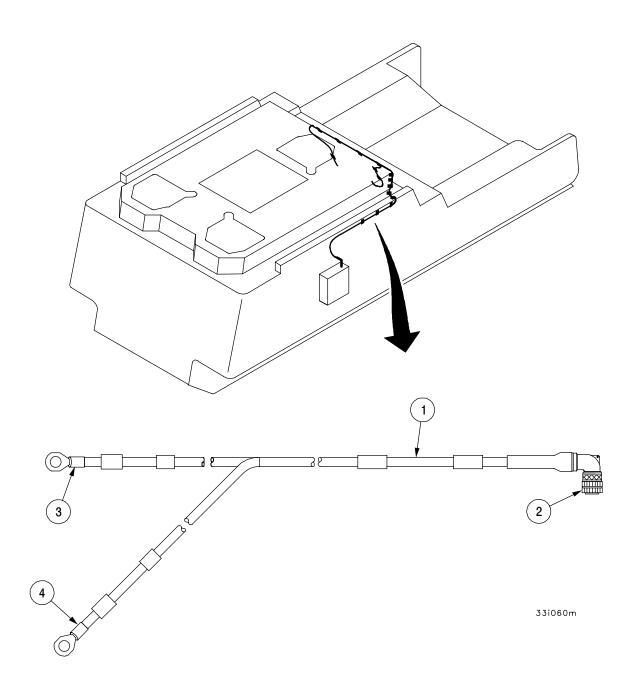
NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

The following legend identifies attachment points for each connection.

1. Remove wiring harness (1) and attaching hardware, at the following attachment points:

Item No	4W507 Connector/Lead/Wire	From Connector/Lead/Wire Component	Location
2	Connector P1	Remote Terminal Unit Connector J4	Crew Compartment (Left Side, Behind Ammunition Rack)
3	Connector E1	80 Amp Circuit Breaker 4A187	Crew Compartment (Rear Bulkhead)
4	Connector E2	Hull Grounding Pad	Crew Compartment (Rear Bulkhead, Below Troublelight)



WIRING HARNESS 4W507 REPLACEMENT - CONTINUED

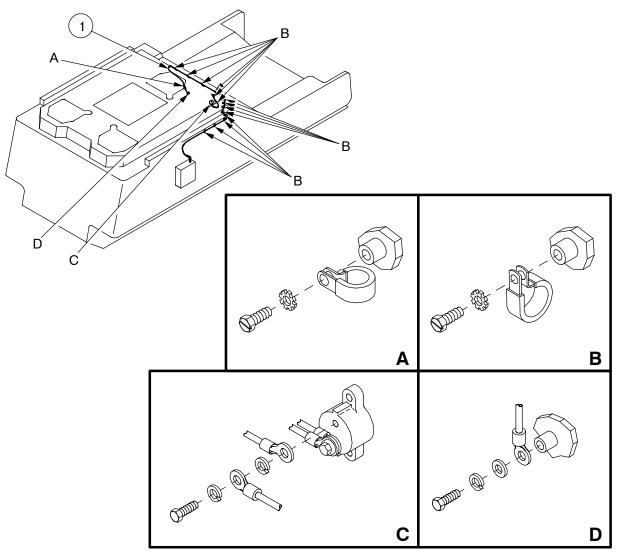
0682 00

Removal-Continued

- 2. Remove straps, clamps, attaching hardware and lockwashers (A through D), securing wiring harness (1) to vehicle, as shown in illustration. Discard lockwashers.
- 3. Remove wiring harness (1).
- 4. Inspect parts for damage and replace as required.

Installation

1. Install wiring harness (1) in vehicle, with straps, clamps, attaching hardware and new lockwashers (A through D), as shown in illustration.



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WIRING HARNESS 4W507 REPLACEMENT - CONTINUED

0682 00

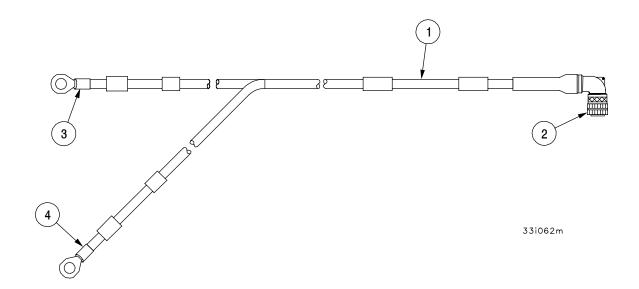
Installation-Continued

NOTE

The following legend identifies attachment points for each connection.

2. Install wiring harness (1) with attaching hardware, at the following attachment points:

Item No	4W507 Connector/Lead/Wire	To Connector/Lead/Wire Component	Location
4	Connector E2	Hull Grounding Pad	Crew Compartment (Rear Bulkhead, Below Troublelight)
3	Connector E1	80 Amp Circuit Breaker 4A187	Crew Compartment (Rear Bulkhead)
2	Connector P1	Remote Terminal Unit Connector J4	Crew Compartment (Left Side, Behind Ammunition Rack)



NOTE

FOLLOW-ON MAINTENANCE:

Install brake relay cover (WP 0263 00) Connect battery power (WP 0256 00)

WIRING HARNESS 4W508 REPLACEMENT

0683 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Marking tags (AR) (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Remote terminal unit POWER switch OFF (TM 9-2350-292-10)

References

TM 9-2350-292-10

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

The following legend identifies attachment points for each connection.

1. Remove wiring harness (1) at the following attachment points:

Item No	4W508 Connector/Lead/Wire	From Connector/Lead/Wire Component	Location
2	Connector P1	Remote Terminal Unit Connector J6	Crew Compartment (Left Side, Behind Ammunition Rack)
3	Connector P2	SPORT power connector	SPORT Computer
4	Connector P3	SPORT 1553 Bus Card Wiring Harness Lead A	SPORT Computer

WIRING HARNESS 4W508 REPLACEMENT - CONTINUED

0683 00

Removal-Continued

- 2. Remove wiring harness (1).
- 3. Inspect parts for damage and replace as required

Installation

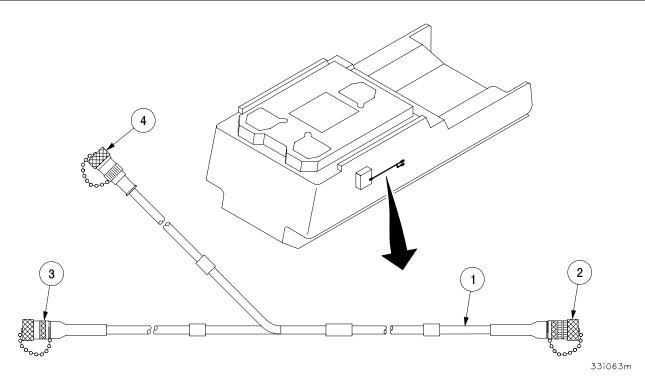
1. Install wiring harness (1) in vehicle as shown in illustration.

NOTE

The following legend identifies attachment points for each connection.

2. Install wiring harness (1) with attaching hardware, at the following attachment points:

		То	
Item No	4W508 Connector/Lead/Wire	Connector/Lead/Wire Component	Location
4	Connector P3	SPORT 1553 Bus Card Wiring Harness Lead A	SPORT Computer
3	Connector P2	SPORT power connector	SPORT Computer
2	Connector P1	Remote Terminal Unit Connector J6	Crew Compartment (Left Side, Behind Ammunition Rack)



0684 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marking tags (AR) (item 49, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)
Lubricant (item 51, WP 0716 00)

Materials/Parts-Continued

Preformed packings (14) (item 20, WP 0718 00) Preformed packings (2) (item 21, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10)
Hydraulic system depressurized (WP 0545 00)
Hydraulic control valve manifold side shields removed (WP 0519 00)
Main winch and spade assembly removed (WP 0497 00) for access to transducers 4MT514,
4MT519 and 4MT522

References

TM 9-2350-292-10

NOTE

This task replaces one switch and all transducers on the hydraulic control valve manifold assembly. Replace only those components that require replacement.

To replace transducer 4MT514 perform removal steps 1 through 5 and 46 and installation steps 41 through 45.

To replace transducer 4MT515 perform removal steps 6 through 9 and 46 and installation steps 37 through 40.

To replace transducer 4MT516 perform removal steps 10 through 14 and 46 and installation steps 32 through 36.

To replace transducer 4MT517 perform removal steps 15 through 19 and 46 and installation steps 27 through 31.

To replace transducer 4MT518 perform removal steps 20 through 24 and 46 and installation steps 22 through 26.

To replace transducer 4MT519 perform removal steps 25 through 28 and 46 and installation steps 18 through 21.

To replace switch 4S520 perform removal steps 29 through 32 and 46 and installation steps 14 through 17.

To replace transducer 4MT521 perform removal steps 33 through 37 and 46 and installation steps 9 through 13.

0684 00

NOTE

To replace transducer 4MT522 perform removal steps 38 through 41 and 46 and installation steps 5 through 8.

To replace transducer 4MT523 perform removal steps 42 through 46 and installation steps 1 through 4.

Removal



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will avoid injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to avoid injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

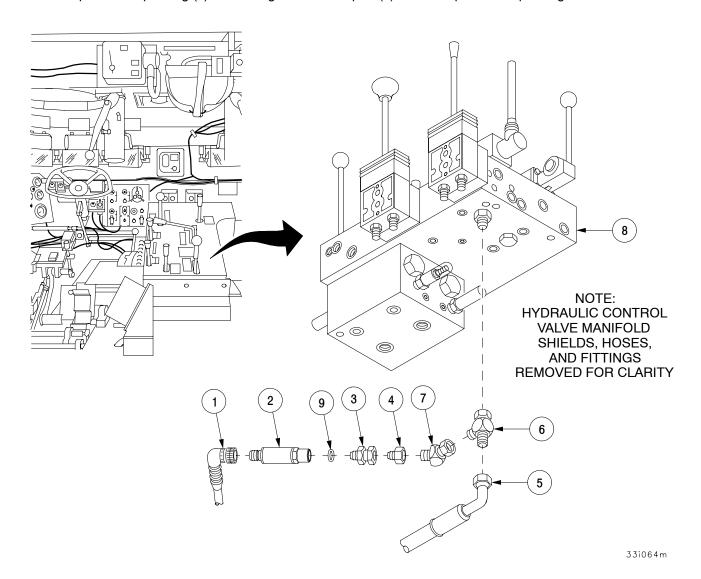
NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedure.

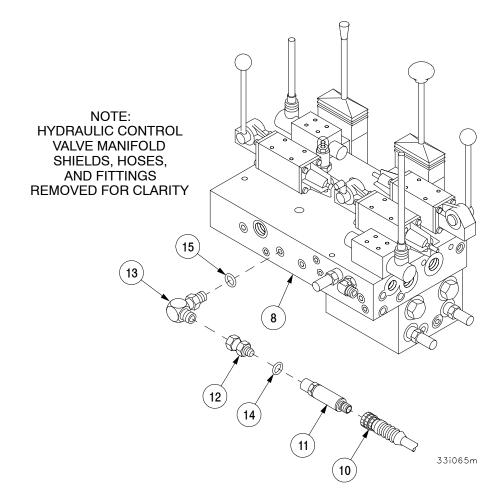
0684 00

- 1. Remove wiring harness 4W506 connector P10 (1) from transducer 4MT514 (2).
- 2. Remove transducer 4MT514 (2) with straight swivel adapter (3) from reducer (4) then remove straight swivel adapter (3) from transducer 4MT514 (2).
- 3. Remove hose (5) from tee (6).
- 4. Remove reducer (4), 45° elbow (7) and tee (6) from hydraulic control valve manifold assembly (8).
- 5. Remove preformed packing (9) from straight swivel adapter (3). Discard preformed packing.



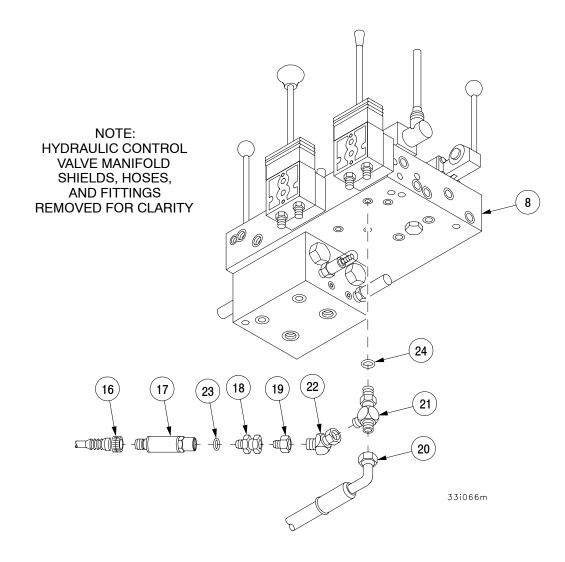
0684 00

- 6. Remove wiring harness 4W506 connector P9 (10) from transducer 4MT515 (11).
- 7. Remove transducer 4MT515 (11) with straight swivel adapter (12) from elbow (13).
- 8. Remove straight swivel adapter (12) from transducer 4MT515 (11) and elbow (13) from hydraulic control valve manifold assembly (8)
- 9. Remove preformed packings (14 and 15) from straight swivel adapter (12) and elbow (13). Discard preformed packings.



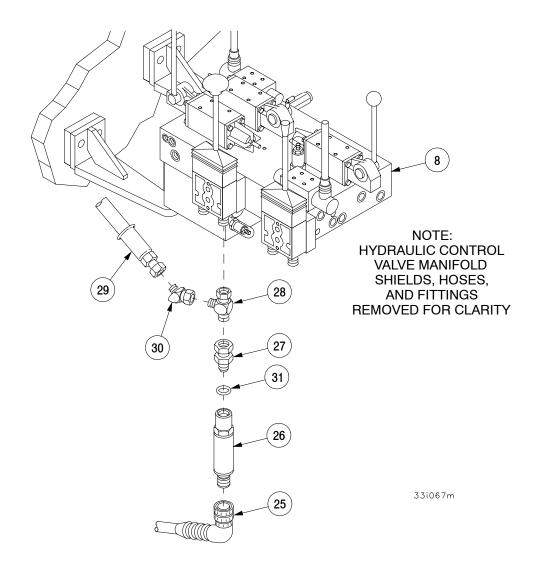
0684 00

- 10. Remove wiring harness 4W506 connector P8 (16) from transducer 4MT516 (17).
- 11. Remove transducer 4MT516 (17) with straight swivel adapter (18) from reducer (19) the remove straight swivel adapter (18) from transducer 4MT516 (17).
- 12. Remove hose (20) from tee (21).
- 13. Remove reducer (19), 45° elbow (22) and tee (21) from hydraulic control valve manifold assembly (8).
- 14. Remove preformed packings (23 and 24) from straight swivel adapter (18) and tee (21). Discard preformed packings.



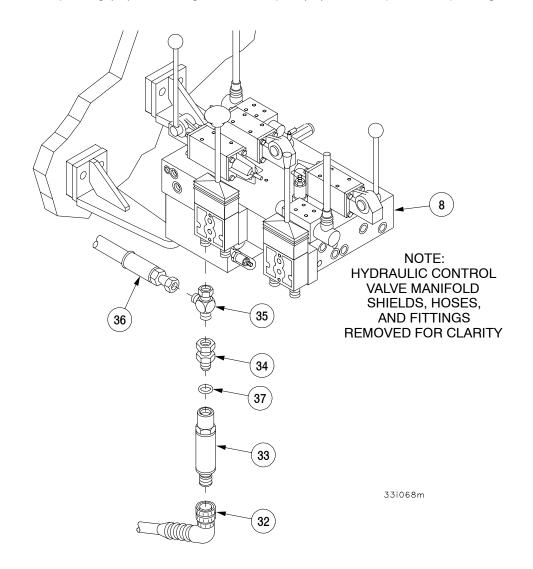
0684 00

- 15. Remove wiring harness 4W506 connector P6 (25) from transducer 4MT517 (26).
- 16. Remove transducer 4MT517 (26) with straight swivel adapter (27) from tee (28) then remove straight swivel adapter (27) from transducer 4MT517 (26).
- 17. Remove hose (29) from 45° elbow (30).
- 18. Remove 45° elbow (30) and tee (28) from hydraulic control valve manifold assembly (8).
- 19. Remove preformed packing (31) from straight swivel adapter (27). Discard preformed packing.



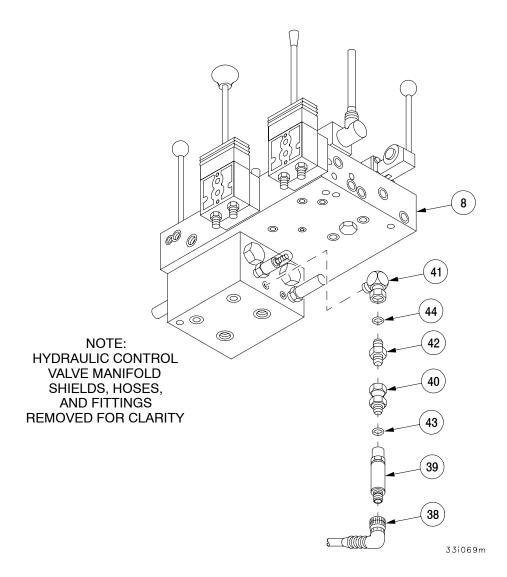
0684 00

- 20. Remove wiring harness 4W506 connector P5 (32) from transducer 4MT518 (33).
- 21. Remove transducer 4MT518 (33) with straight swivel adapter (34) from tee (35) then remove straight swivel adapter (34) from transducer 4MT518 (33).
- 22. Remove hose (36) from tee (35).
- 23. Remove tee (35) from hydraulic control valve manifold assembly (8).
- 24. Remove preformed packing (37) from straight swivel adapter (34). Discard preformed packing.



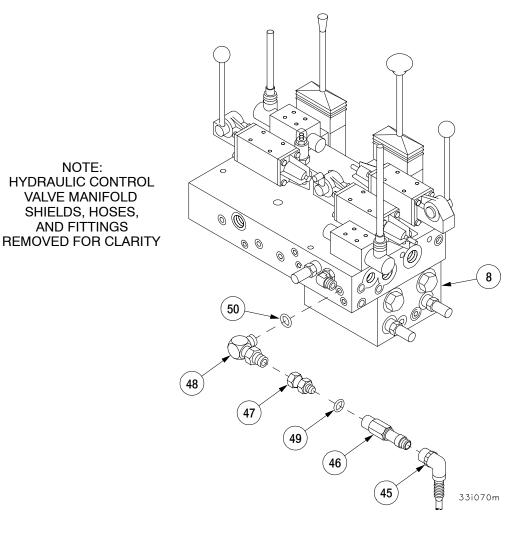
0684 00

- 25. Remove wiring harness 4W506 connector P4 (38) from transducer 4MT519 (39).
- 26. Remove transducer 4MT519 (39) with straight swivel adapter (40) from elbow (41) then remove straight swivel adapter (40) from transducer 4MT519 (39).
- 27. Remove elbow (41) and adapter (42) from hydraulic control valve manifold assembly (8).
- 28. Remove preformed packings (43 and 44) from straight swivel adapter (40) and adapter (42). Discard preformed packings.



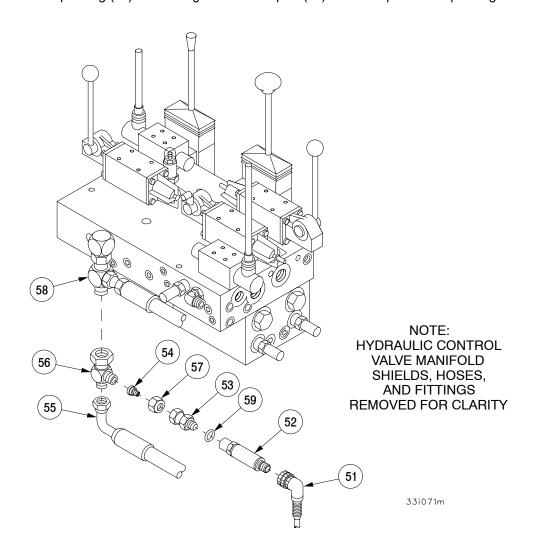
0684 00

- 29. Remove wiring harness 4W506 connector P11 (45) from switch 4S520 (46).
- 30. Remove switch 4S520 (46) with straight swivel adapter (47) from elbow (48) the remove straight swivel adapter (47) from switch 4S520 (46).
- 31. Remove elbow (48) from hydraulic control valve manifold assembly (8).
- 32. Remove preformed packings (49 and 50) from straight swivel adapter (47) and elbow (48). Discard preformed packings.



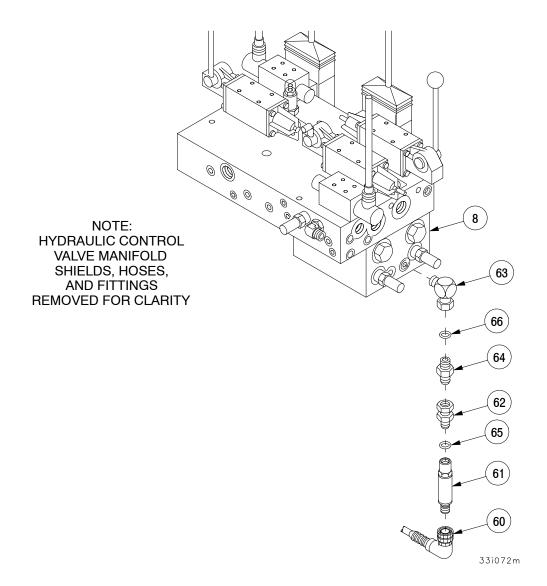
0684 00

- 33. Remove wiring harness 4W506 connector P7 (51) from transducer 4MT521 (52).
- 34. Remove transducer 4MT521 (52) with straight swivel adapter (53) from reducer (54) the remove straight swivel adapter (53) from transducer 4MT521 (52).
- 35. Remove hose (55) from tee (56).
- 36. Remove reducer (54), nut (57) and tee (56) from tee (58).
- 37. Remove preformed packing (59) from straight swivel adapter (53). Discard preformed packing.



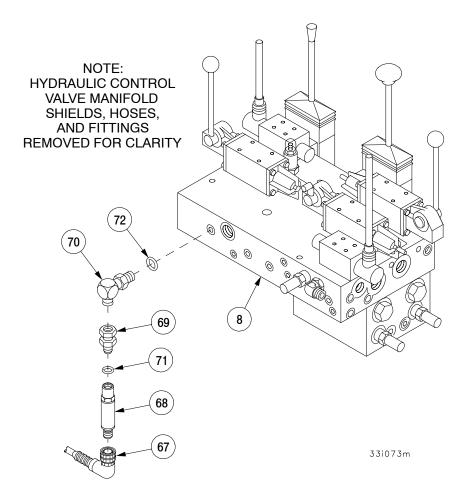
0684 00

- 38. Remove wiring harness 4W506 connector P3 (60) from transducer 4MT522 (61).
- 39. Remove transducer 4MT522 (61) with straight swivel adapter (62) from elbow (63) then remove straight swivel adapter (62) from transducer 4MT522 (61).
- 40. Remove elbow (63) and adapter (64) from hydraulic control valve manifold assembly (8).
- 41. Remove preformed packings (65 and 66) from straight swivel adapter (62) and adapter (64). Discard preformed packings.



0684 00

- 42. Remove wiring harness 4W506 connector P2 (67) from transducer 4MT523 (68).
- 43. Remove transducer 4MT523 (68) with straight swivel adapter (69) from elbow (70) the remove straight swivel adapter (69) from transducer 4MT523 (68).
- 44. Remove elbow (70) from hydraulic control valve manifold assembly (8).
- 45. Remove preformed packings (71 and 72) from straight swivel adapter (69) and elbow (70). Discard preformed packing.
- 46. Inspect all parts for damage and replace as required.



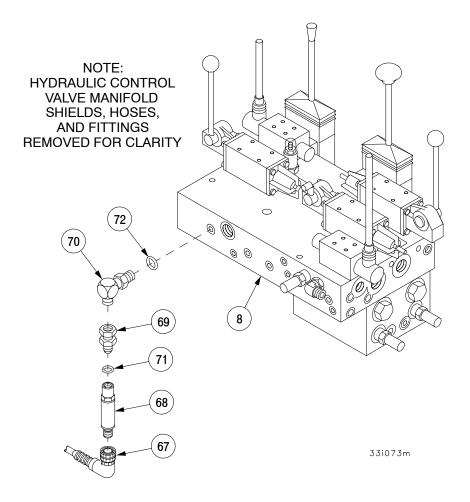
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Installation

NOTE

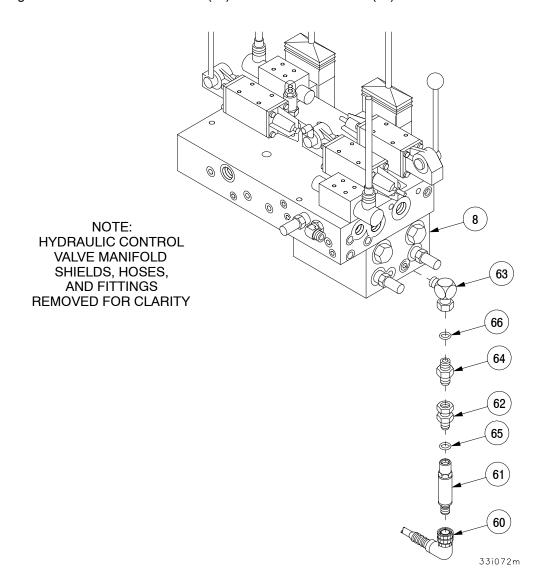
Apply a thin even coat of clean lubricant to all preformed packings prior to installation.

- 1. Install new preformed packings (71 and 72) on straight swivel adapter (69) and elbow (70).
- 2. Install elbow (70) in hydraulic control valve manifold assembly (8) port P TEST.
- 3. Install straight swivel adapter (69) on transducer 4MT523 (68) then install transducer 4MT523 (68) with straight swivel adapter (69) on elbow (70).
- 4. Install wiring harness 4W506 connector P2 (67) on transducer 4MT523 (68).



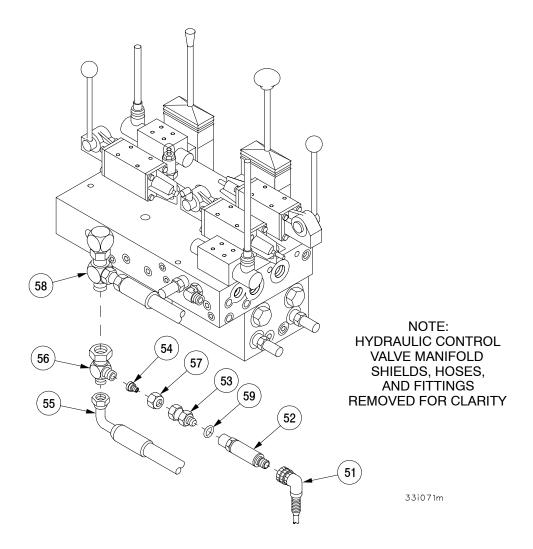
0684 00

- 5. Install new preformed packings (65 and 66) on straight swivel adapter (62) and adapter (64).
- 6. Install elbow (63) and adapter (64) in hydraulic control valve manifold assembly (8) port BR.
- 7. Install straight swivel adapter (62) on transducer 4MT522 (61) then install transducer 4MT522 (61) with straight swivel adapter (62) on elbow (63).
- 8. Install wiring harness 4W506 connector P3 (60) on transducer 4MT522 (61).



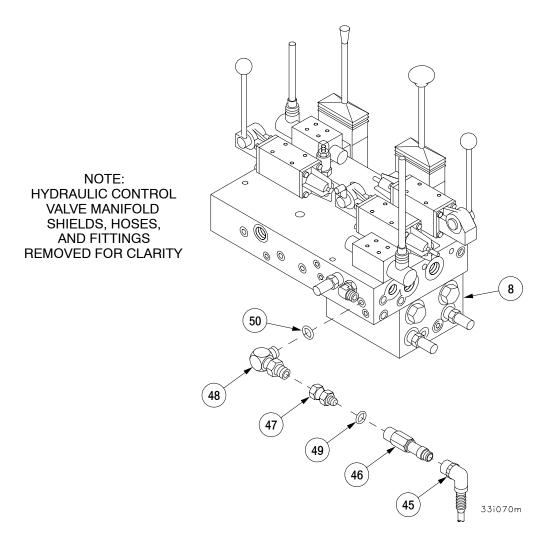
0684 00

- 9. Install new preformed packing (59) on straight swivel adapter (53).
- 10. Install tee (56), nut (57) and reducer (54) on tee (58).
- 11. Install hose (55) on tee (56).
- 12. Install straight swivel adapter (53) on transducer 4MT521 (52) then install transducer 4MT521 (52) with straight swivel adapter (53) on reducer (54).
- 13. Install wiring harness 4W506 connector P7 (51) on transducer 4MT521 (52).



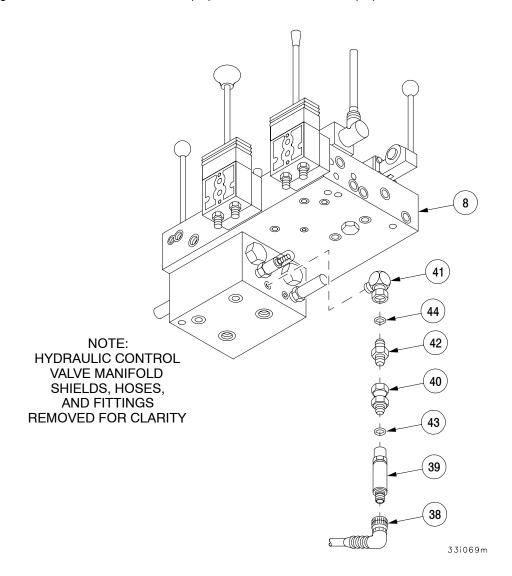
0684 00

- 14. Install new preformed packings (49 and 50) on straight swivel adapter (47) and elbow (48).
- 15. Install elbow (48) on hydraulic control valve manifold assembly (8) port APU TEST.
- 16. Install straight swivel adapter (47) on switch 4S520 (46) then install switch 4S520 (46) with straight swivel adapter (47) on elbow (48).
- 17. Install wiring harness 4W506 connector P11 (45) on switch 4S520 (46).



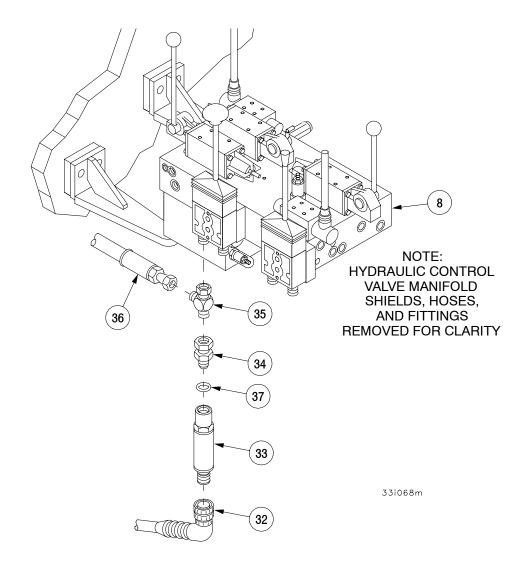
0684 00

- 18. Install new preformed packings (43 and 44) on straight swivel adapter (40) and adapter (42).
- 19. Install elbow (41) and adapter (42) on hydraulic control valve manifold assembly (8) port BL TEST.
- 20. Install straight swivel adapter (40) on transducer 4MT519 (39) then install transducer 4MT519 (39) with straight swivel adapter (40) on elbow (41).
- 21. Install wiring harness 4W506 connector P4 (38) on transducer 4MT519 (39).



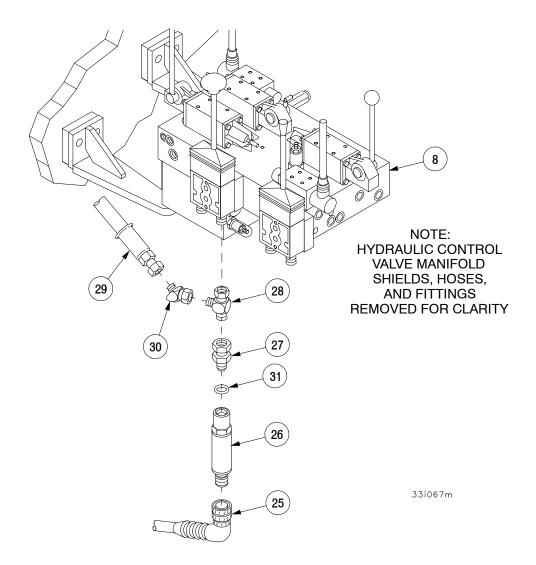
0684 00

- 22. Install new preformed packing (37) on straight swivel adapter (34).
- 23. Install tee (35) on hydraulic control valve manifold assembly (8) port PMO.
- 24. Install hose (36) on tee (35).
- 25. Install straight swivel adapter (34) on transducer 4MT518 (33) then install transducer 4MT518 (33) with straight swivel adapter (34) on tee (35).
- 26. Install wiring harness 4W506 connector P5 (32) on transducer 4MT518 (33).



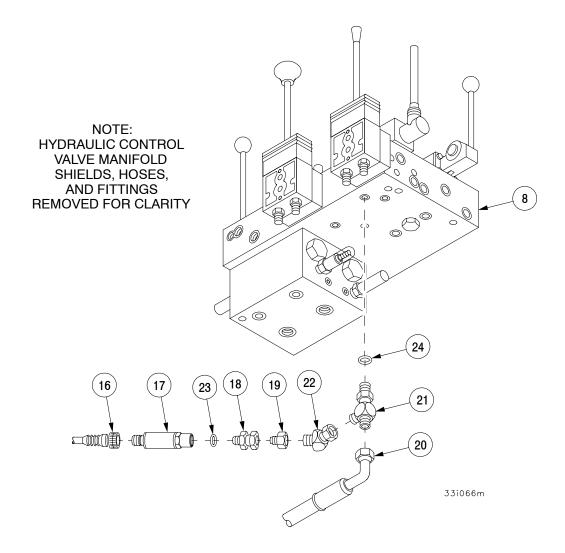
0684 00

- 27. Install new preformed packing (31) on straight swivel adapter (27).
- 28. Install tee (28),and 45° elbow (30) on hydraulic control valve manifold assembly (8) port PMI.
- 29. Install hose (29) on 45° elbow (30).
- 30. Install straight swivel adapter (27) on transducer 4MT517 (26) then install transducer 4MT517 (26) with straight swivel adapter (27) on tee (28).
- 31. Install wiring harness 4W506 connector P6 (25) on transducer 4MT517 (26).



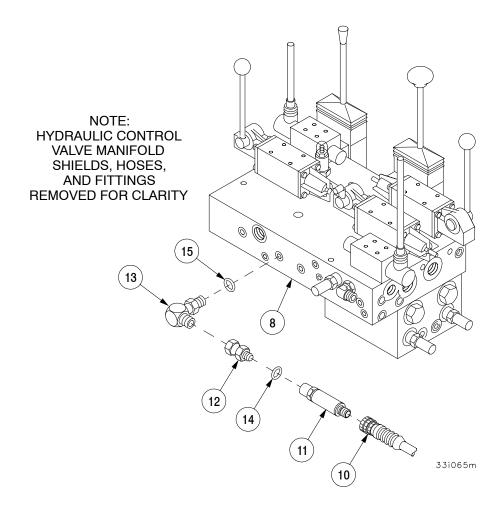
0684 00

- 32. Install new preformed packings (23 and 24) on straight swivel adapter (18) and tee (21).
- 33. Install tee (21), 45° elbow (22) and reducer (19) in hydraulic control valve manifold assembly (8) port BSI.
- 34. Install hose (20) on tee (21).
- 35. Install straight swivel adapter (18) on transducer 4MT516 (17) then install transducer 4MT516 (17) with straight swivel adapter (18) on reducer (19).
- 36. Install wiring harness 4W506 connector P8 (16) on transducer 4MT516 (17).



0684 00

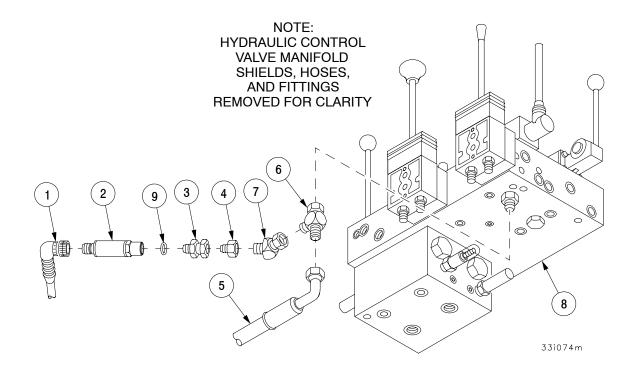
- 37. Install new preformed packings (14 and 15) on straight swivel adapter (12) and elbow (13).
- 38. Install elbow (13) in hydraulic control valve manifold assembly (8) port PR TEST.
- 39. Install straight swivel adapter (12) on transducer 4MT515 (11) then install transducer 4MT515 (11) with straight swivel adapter (12) on elbow (13).
- 40. Install wiring harness 4W506 connector P9 (10) on transducer 4MT515 (11).



0684 00

Installation-Continued

- 41. Install new preformed packing (9) on straight swivel adapter (3).
- 42. Install tee (6), 45° elbow (7) and reducer (4) in hydraulic control valve manifold assembly (8) port BSO.
- 43. Install hose (5) on tee (6).
- 44. Install straight swivel adapter (3) on transducer 4MT514 (2) then install transducer 4MT514 (2) with straight swivel adapter (3) on reducer (4).
- 45. Install wiring harness 4W506 connector P10 (1) on transducer 4MT514 (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install hydraulic control valve manifold side shields (WP 0519 00)

Main winch and space assembly Installed, if removed (WP 0497 00)

Calibrate new transducers (WP 0692 00)

0685 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marking tags (AR) (item 49, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)
Lubricant (item 51, WP 0716 00)

Materials/Parts-Continued

Preformed packings (13) (item 20, WP 0718 00) Preformed packings (2) (item 21, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Remote terminal unit POWER switch OFF (TM 9-2350-292-10) Hydraulic system depressurized (WP 0545 00) Main winch and spade assembly removed (WP 0497 00)

References

TM 9-2350-292-10

NOTE

This task replaces all the transducers located on the main winch and spade assembly. Replace only those transducers that require replacement.

To replace transducer 2MT536 perform removal steps 1 through 4 and 41 and installation steps 37 through 40.

To replace transducer 2MT535 perform removal steps 5 through 9 and 41 and installation steps 32 through 36.

To replace transducer 2MT537 perform removal steps 10 through 15 and 41 and installation steps 27 through 31.

To replace transducer 4MT538 perform removal steps 16 through 20 and 41 and installation steps 21 through 25.

To replace transducer 4MT539 perform removal steps 21 through 25 and 41 and installation steps 16 through 20.

To replace transducer 4MT540 perform removal steps 26 through 30 and 41 and installation steps 11 through 15.

To replace transducer 4MT541 perform removal steps 31 through 35 and 41 and installation steps 6 through 10.

To replace transducer 4MT546 perform removal steps 36 through 41 and installation steps 1 through 5.

0685 00

Removal



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will avoid injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to avoid injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

0685 00

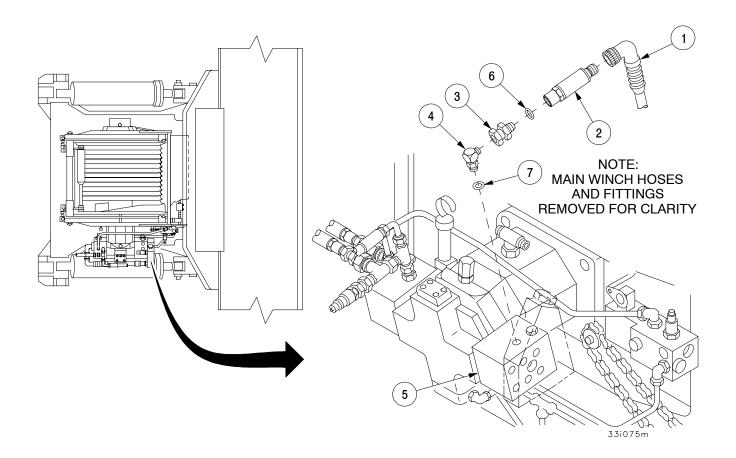
Removal-Continued

NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedure.

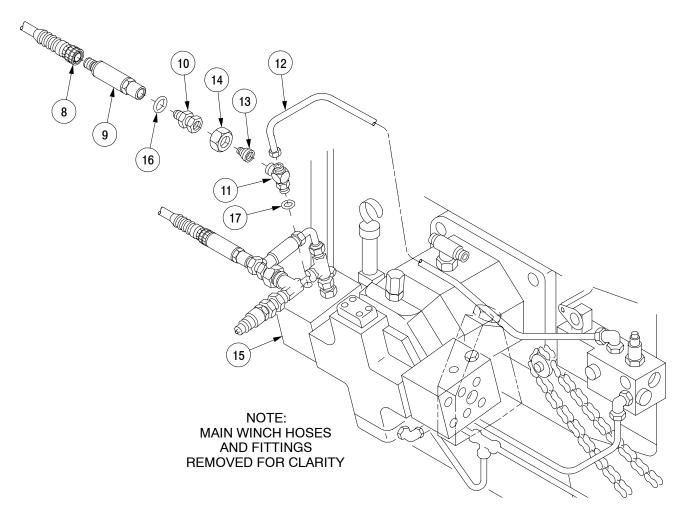
- 1. Remove wiring harness 2W505 connector P3 (1) from transducer 2MT536 (2).
- 2. Remove transducer 2MT536 (2) with straight swivel adapter (3) from elbow (4) then remove straight swivel adapter (3) from transducer 2MT536 (2).
- 3. Remove elbow (4) from main winch motor relief valve (5).
- 4. Remove preformed packings (6 and 7) from straight swivel adapter (3) and elbow (4). Discard preformed packings.



0685 00

Removal-Continued

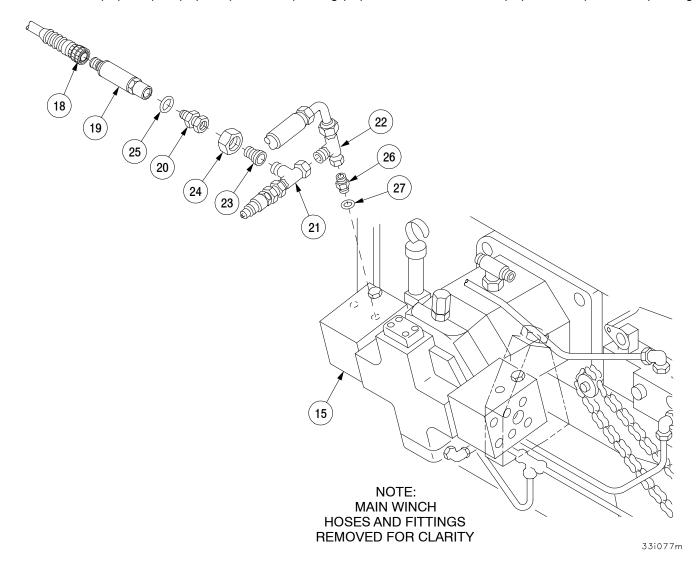
- 5. Remove wiring harness 2W505 connector P2 (8) from transducer 2MT535 (9).
- 6. Remove transducer 2MT535 (9) with straight swivel adapter (10) from tee (11) then remove straight swivel adapter (10) from transducer 2MT535 (9).
- 7. Remove hose (12) from tee (11).
- 8. Remove reducer (13), nut (14) and tee (11) from main winch motor (15).
- 9. Remove preformed packings (16 and 17) from straight swivel adapter (10) and tee (11). Discard preformed packings.



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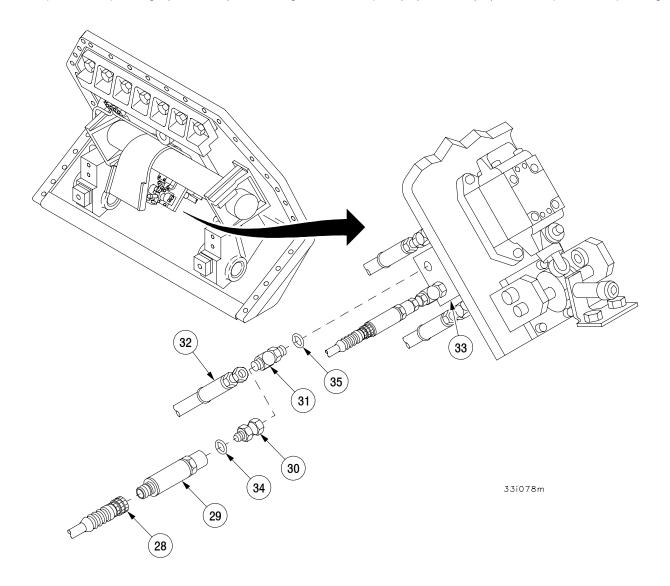
0685 00

- 10. Remove wiring harness 2W505 connector P4 (18) from transducer 2MT537 (19).
- 11. Remove transducer 2MT537 (19) with straight swivel adapter (20) from tee (21) then remove straight swivel adapter (20) from transducer 2MT537 (19).
- 12. Remove tee (21) from tee (22)
- 13. Remove reducer (23), nut (24) from tee (21).
- 14. Remove preformed packing (25) from straight swivel adapter (20). Discard preformed packing.
- 15. Remove tee (22), adapter (26) and preformed packing (27) from main winch motor (15). Discard preformed packing.



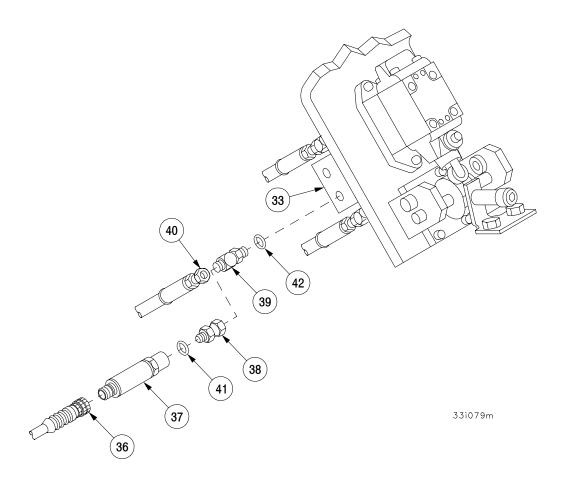
0685 00

- 16. Remove wiring harness 2W505 connector P5 (28) from transducer 2MT538 (29).
- 17. Remove transducer 2MT538 (29) with straight swivel adapter (30) from tee (31) then remove straight swivel adapter (30) from transducer 2MT538 (29).
- 18. Remove hose (32) from tee (31)
- 19. Remove tee (31) from level winder dual check valve (33).
- 20. Remove preformed packings (34 and 35) from straight swivel adapter (30) and tee (31). Discard preformed packing.



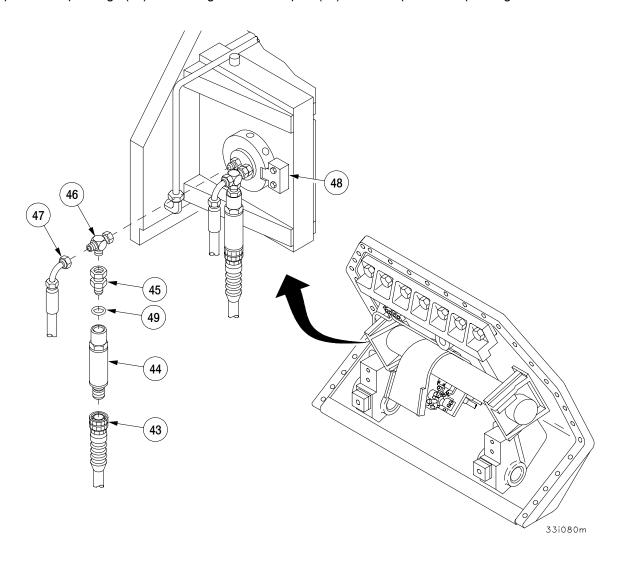
0685 00

- 21. Remove wiring harness 2W505 connector P6 (36) from transducer 2MT539 (37).
- 22. Remove transducer 2MT539 (37) with straight swivel adapter (38) from tee (39) then remove straight swivel adapter (38) from transducer 2MT539 (37).
- 23. Remove hose (40) from tee (39)
- 24. Remove tee (39) from level winder dual check valve (33).
- 25. Remove preformed packings (41 and 42) from straight swivel adapter (38) and tee (39). Discard preformed packing.



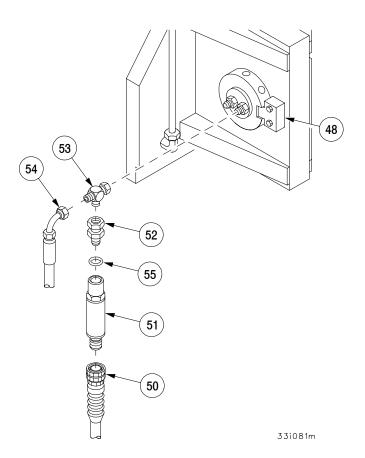
0685 00

- 26. Remove wiring harness 2W505 connector P7 (43) from transducer 2MT540 (44).
- 27. Remove transducer 2MT540 (44) with straight swivel adapter (45) from tee (46) then remove straight swivel adapter (45) from transducer 2MT540 (44).
- 28. Remove hose (47) from tee (46)
- 29. Remove tee (46) from level winder hydraulic cylinder (48).
- 30. Remove preformed packings (49) from straight swivel adapter (45). Discard preformed packing.



0685 00

- 31. Remove wiring harness 2W505 connector P8 (50) from transducer 2MT541 (51).
- 32. Remove transducer 2MT541 (51) with straight swivel adapter (52) from tee (53) then remove straight swivel adapter (52) from transducer 2MT541 (51).
- 33. Remove hose (54) from tee (53).
- 34. Remove tee (53) from level winder hydraulic cylinder (48).
- 35. Remove preformed packings (55) from straight swivel adapter (52). Discard preformed packings.



0685 00

Removal-Continued

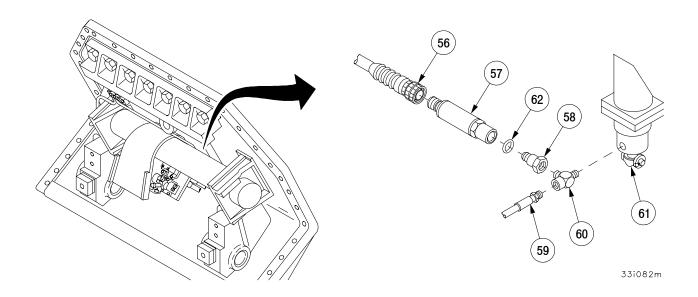
- 36. Remove wiring harness 2W505 connector P9 (56) from transducer 2MT546 (57).
- 37. Remove transducer 2MT546 (57) from adapter (58).
- 38. Remove hose (59) from tee (60)
- 39. Remove adapter (58) and tee (60) from spade lock cylinder (61).
- 40. Remove preformed packing (62) from adapter (58). Discard preformed packing.
- 41. Inspect all parts for damage and replace as required.

Installation

NOTE

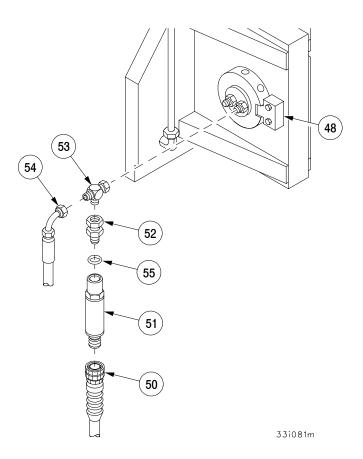
Apply a thin even coat of clean lubricant to all preformed packings prior to installation.

- 1. Install new preformed packing (62) on adapter (58).
- 2. Install tee (60) and adapter (58) on spade lock cylinder (61).
- 3. Install hose (59) on tee (60).
- 4. Install transducer 2MT546 (57) on adapter (58).
- 5. Install wiring harness 2W505 connector P9 (56) on transducer 2MT546 (57).



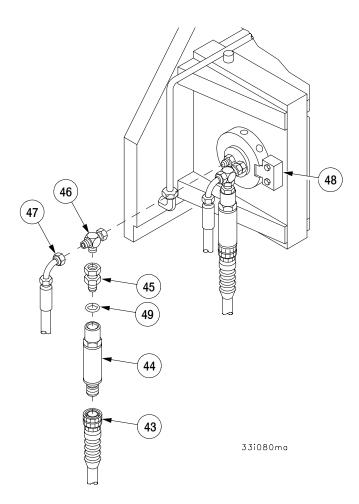
0685 00

- 6. Install new preformed packings (55) on straight swivel adapter (52).
- 7. Install tee (53) on level winder hydraulic cylinder (48).
- 8. Install hose (54) on tee (53).
- 9. Install straight swivel adapter (52) on transducer 2MT541 (51) then install transducer 2MT541 (51) with straight swivel adapter (52) on tee (53).
- 10. Install wiring harness 2W505 connector P8 (50) on transducer 2MT541 (51).



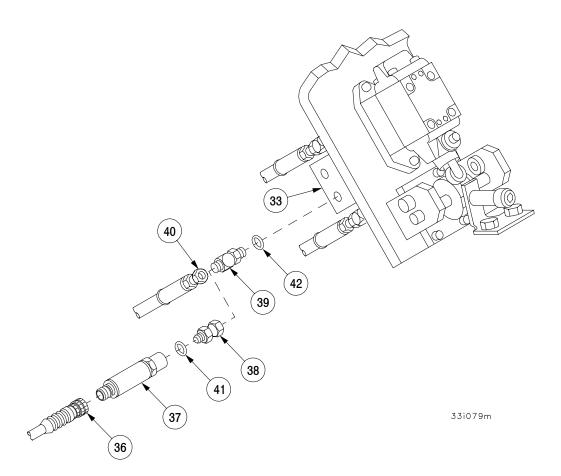
0685 00

- 11. Install new preformed packings (49) on straight swivel adapter (45).
- 12. Install tee (46) on level winder hydraulic cylinder (48).
- 13. Install hose (47) on tee (46).
- 14. Install straight swivel adapter (45) on transducer 2MT540 (44) then install transducer 2MT540 (44) with straight swivel adapter (45) on tee (46).
- 15. Install wiring harness 2W505 connector P7 (43) on transducer 2MT540 (44).



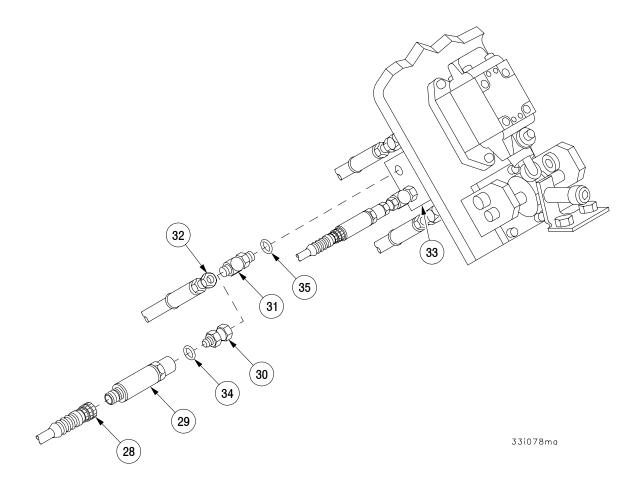
0685 00

- 16. Install new preformed packings (41 and 42) on straight swivel adapter (38) and tee (39).
- 17. Install tee (39) on level wind dual check valve (33).
- 18. Install hose (40) on tee (39).
- 19. Install straight swivel adapter (38) on transducer 2MT539 (37) then install transducer 2MT539 (37) with straight swivel adapter (38) on tee (39).
- 20. Install wiring harness 2W505 connector P6 (36) on transducer 2MT539 (37).



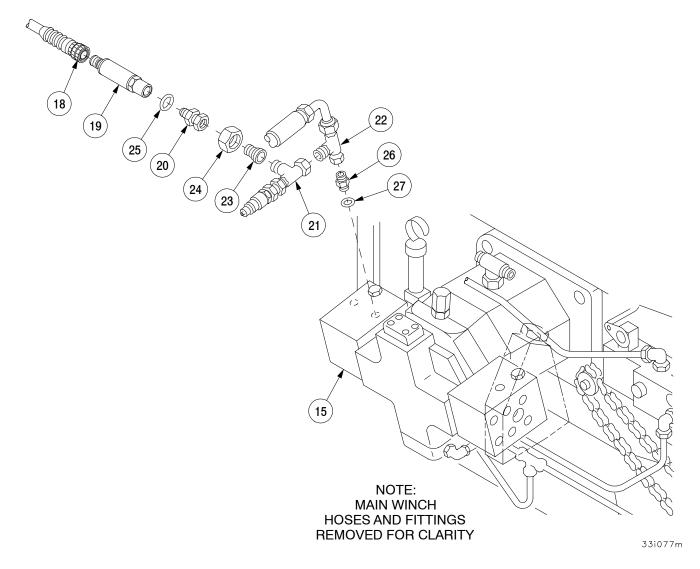
0685 00

- 21. Install new preformed packings (34 and 35) on straight swivel adapter (30) and tee (31).
- 22. Install tee (31) on level wind dual check valve (33).
- 23. Install hose (32) on tee (31).
- 24. Install straight swivel adapter (30) on transducer 2MT538 (29) then install transducer 2MT538 (29) with straight swivel adapter (30) on tee (31).
- 25. Install wiring harness 2W505 connector P5 (28) on transducer 2MT538 (29).



0685 00

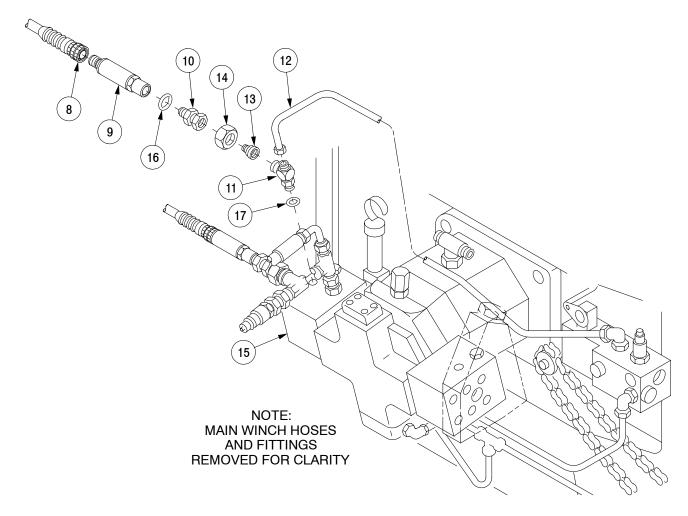
- 26. Install new preformed packing (27), adapter (26) on tee (22).
- 27. Install new preformed packing (25) on straight swivel adapter (20).
- 28. Install tee (21), nut (24) and reducer (23) on tee (22).
- 29. Install tee (22) on main winch motor (15).
- 30. Install straight swivel adapter (20) on transducer 2MT537 (19) then install transducer 2MT537 (19) with straight swivel adapter (20) on tee (21).
- 31. Install wiring harness 2W505 connector P4 (18) on transducer 2MT537 (19).



0685 00

Installation-Continued

- 32. Install new preformed packings (16 and 17) on straight swivel adapter (10) and tee (11).
- 33. Install tee (11), nut (14) and reducer (13) on main winch motor (15).
- 34. Install hose (12) on tee (11).
- 35. Install straight swivel adapter (10) on transducer 2MT535 (9) then install transducer 2MT535 (9) with straight swivel adapter (10) on tee (11).
- 36. Install wiring harness 2W505 connector P5 (8) on transducer 2MT535 (9).

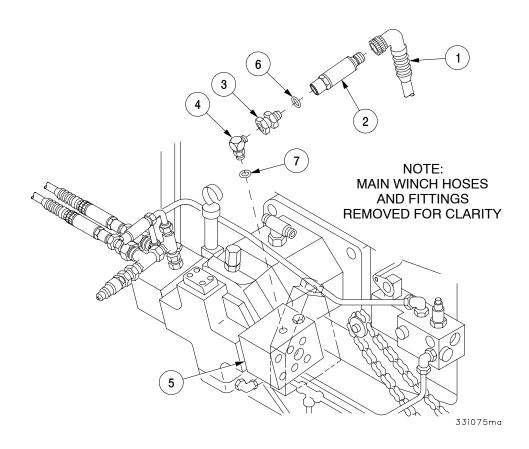


33i076m

0685 00

Installation-Continued

- 37. Install new preformed packings (6 and 7) on straight swivel adapter (3) and elbow (4).
- 38. Install elbow (4) on main winch motor relief valve (5).
- 39. Install straight swivel adapter (3) on transducer 2MT536 (2) then install transducer 2MT536 (2) with straight swivel adapter (3) on elbow (4).
- 40. Install wiring harness 2W505 connector P5 (1) on transducer 2MT536 (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade assembly (WP 0497 00) Calibrate new transducers (WP 0692 00)

BOOM SHUT OFF VALVE TRANSDUCERS AND RELATED PARTS REPLACEMENT

0686 00

THIS WORK PACKAGE COVERS:

Lubricant (item 51, WP 0716 00)

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Plastic bags (item 48, WP 0716 00)
Marking tags (item 49, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)

Materials/Parts-Continued

Preformed packings (2) (item 20, WP 0718 00) Preformed packing (item 21, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Hydraulic system depressurized (WP 0545 00) Mechanic's seat stowed (TM 9-2350-292-10) Floor plates # 10, #11 and #12 removed (WP 0454 00)

References

TM 9-2350-292-10

NOTE

This task replaces all the transducers located on the boom shut off valve. Replace only those transducers that require replacement.

To replace transducer 4MT542 perform removal steps 1 through 5 and 11 and installation steps 6 through 10.

To replace transducer 4MT543 perform removal steps 6 through 11 and installation steps 1 through 5.

Removal



BOOM SHUT OFF VALVE TRANSDUCERS AND RELATED PARTS REPLACEMENT - CONTINUED

0686 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will avoid injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to avoid injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

NOTE

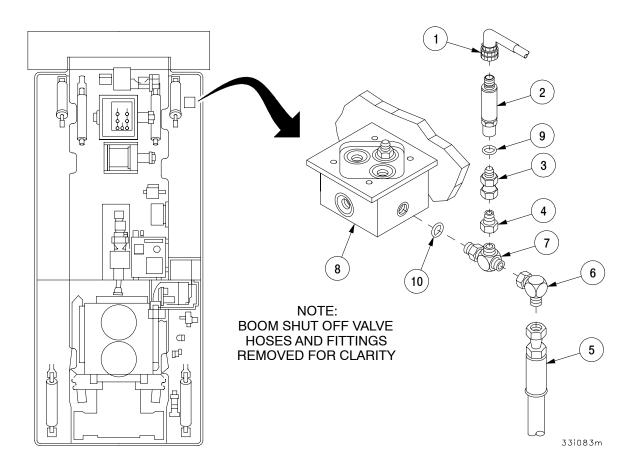
All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedure.

BOOM SHUT OFF VALVE TRANSDUCERS AND RELATED PARTS REPLACEMENT - CONTINUED

0686 00

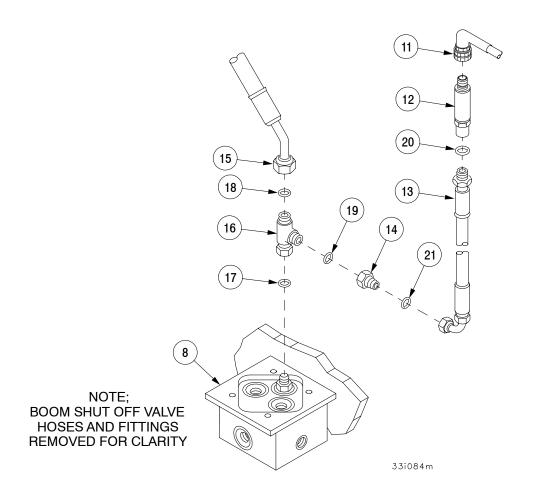
- 1. Remove wiring harness 4W504 connector P3 (1) from transducer 4MT542 (2).
- 2. Remove transducer 4MT542 (2) with straight swivel adapter (3) from reducer (4) then remove straight swivel adapter (3) from transducer 4MT542 (2).
- 3. Remove hose (5) from elbow (6).
- 4. Remove reducer (4), elbow (6) and tee (7) from boom shut off valve (8).
- 5. Remove preformed packings (9 and 10) from straight swivel adapter (3) and tee (7). Discard preformed packings.



BOOM SHUT OFF VALVE TRANSDUCERS AND RELATED PARTS REPLACEMENT - CONTINUED

0686 00

- 6. Remove wiring harness 4W504 connector P2 (11) from transducer 4MT543 (12).
- 7. Remove transducer 4MT543 (12) with hose (13) from adapter (14) then remove hose (13) from transducer 4MT543 (12).
- 8. Remove hose (15) from tee (16).
- 9. Remove tee (16) and adapter (14) from boom shut off valve (8).
- 10. Remove three preformed packings (17, 18 and 19) from tee (16), preformed packing (20) from hose (13) and preformed packing (21) from adapter (14). Discard preformed packing.
- 11. Inspect all parts for damage and replace as required.



BOOM SHUT OFF VALVE TRANSDUCERS AND RELATED PARTS REPLACEMENT - CONTINUED

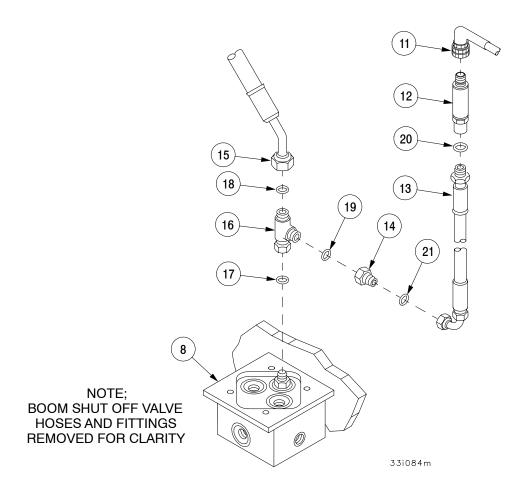
0686 00

Installation

NOTE

Apply a thin even coat of clean lubricant to all preformed packings prior to installation.

- 1. Install new preformed packing (21) on adapter (14), new preformed packing (20) on hose (13) and three new preformed packings (17, 18 and 19) on tee (16).
- 2. Install tee (16) in boom shutoff valve (8).
- 3. Install adapter (14) on tee (16).
- 4. Install hose (15) on tee (16).
- 5. Install transducer 4MT543 (12) on hose (13) then install hose (13) on adapter (14).
- 6. Install wiring harness 4W504 connector P2 (11) on transducer 4MT543 (12).

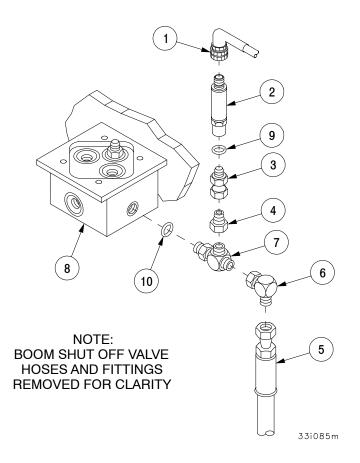


BOOM SHUT OFF VALVE TRANSDUCERS AND RELATED PARTS REPLACEMENT - CONTINUED

0686 00

Installation

- 7. Install new preformed packings (9 and 10) on tee (7) and straight swivel adapter (3).
- 8. Install tee (7), elbow (6) and reducer (4) on boom shutoff valve (8).
- 9. Install hose (5) on elbow (6).
- 10. Install straight swivel adapter (3) on transducer 4MT542 (2) then install transducer 4MT542 (2) with straight swivel adapter (3) on tee (7).
- 11. Install wiring harness 4W504 connector P3 (1) on transducer 4MT543 (2).



NOTE

FOLLOW-ON MAINTENANCE:

Calibrate new transducers (WP 0692 00)
Start engine, raise and lower boom to purge air from hoses and valve assembly (TM 9-2350-292-10)
Check hydraulic system for leaks and fill hydraulic reservoir (TM 9-2350-292-10)
Install floor plates # 10, #11 and #12 (WP 0454 00)

END OF TASK

HOIST WINCH TRANSDUCERS AND RELATED PARTS REPLACEMENT

0687 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marking tags (AR) (item 49, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)
Lubricant (item 51, WP 0716 00)
Preformed packings (4) (item 20, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Hydraulic system depressurized (WP 0545 00) Floor plate #15 removed (WP 0454 00)

References

TM 9-2350-292-10

NOTE

This task replaces all the transducers located on the hoist winch. Replace only those transducers that require replacement.

To replace transducer 4MT544 perform removal steps 1 through 4 and 9 and installation steps 5 through 8.

To replace transducer 4MT545 perform removal steps 5 through 9 and installation steps 1 through 4.

Removal









WARNING

0687 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will avoid injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to avoid injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

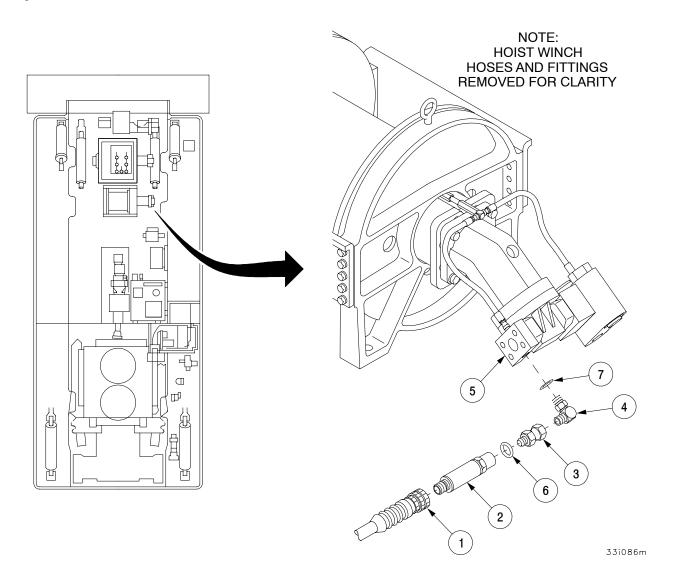
NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedure.

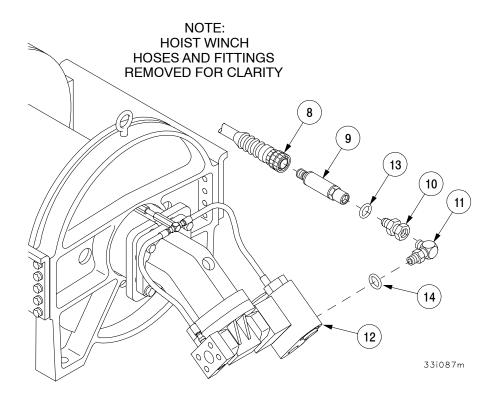
0687 00

- 1. Remove wiring harness 4W503 connector P12 (1) from transducer 4MT544 (2).
- 2. Remove transducer 4MT544 (2) with straight swivel adapter (3) from elbow (4) then remove straight swivel adapter (3) from transducer 4MT544 (2).
- 3. Remove elbow (4) from hoist winch motor test port (5).
- 4. Remove preformed packings (6 and 7) from straight swivel adapter (3) and elbow (4). Discard preformed packings.



0687 00

- 5. Remove wiring harness 4W504 connector P4 (8) from transducer 4MT545 (9).
- 6. Remove transducer 4MT545 (9) with straight swivel adapter (10) from elbow (11) then remove straight swivel adapter (10) from transducer 4MT545 (9).
- 7. Remove elbow (11) from counterbalance drain port (12).
- 8. Remove preformed packings (13 and 14) from straight swivel adapter (10) and elbow (11). Discard preformed packings.
- 9. Inspect all parts for damage and replace as required.



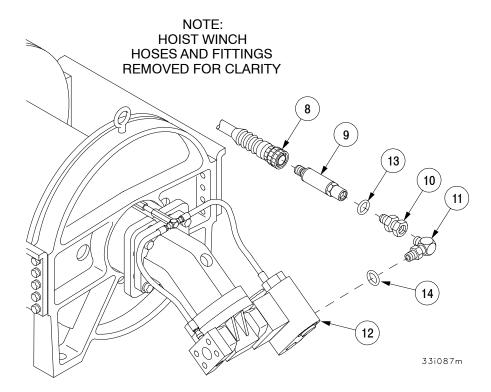
0687 00

Installation

NOTE

Apply a thin even coat of clean lubricant to all preformed packings prior to installation.

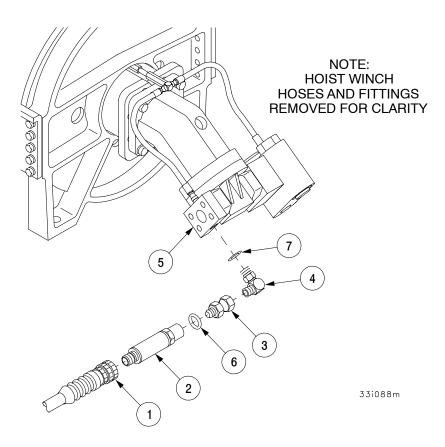
- 1. Install new preformed packings (13 and 14) on straight swivel adapter (10) and elbow (11).
- 2. Install elbow (11) in counterbalance drain port (12).
- 3. Install straight swivel adapter (10) on transducer 4MT545 (9) then install transducer 4MT545 (9) with straight swivel adapter (10) on elbow (11).
- 4. Install wiring harness 4W504 connector P4 (8) on transducer 4MT545 (9).



0687 00

Installation-Continued

- 5. Install new preformed packings (6 and 7) on straight swivel adapter (3) and elbow (4).
- 6. Install elbow (4) in hoist winch motor test port (5).
- 7. Install straight swivel adapter (3) on transducer 4MT544 (2) then install transducer 4MT544 (2) with straight swivel adapter (3) on elbow (4).
- 8. Install wiring harness 4W503 connector P12 (1) on transducer 4MT544 (2).



NOTE

FOLLOW-ON MAINTENANCE:

Calibrate new transducers (WP 0692 00)
Start engine, operate hoist winch hydraulic controls several times to purge air from hoses (TM 9-2350-292-10)
Check hydraulic system for leaks and fill hydraulic reservoir (TM 9-2350-292-10)
Install floor plate #15 (WP 0454 00)

0688 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marking tags (AR) (item 49, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)
Lubricant (item 51, WP 0716 00)
Preformed packings (4) (item 20, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Hydraulic system depressurized (WP 0545 00) Floor plate #18 removed (WP 0454 00)

References

TM 9-2350-292-10

NOTE

This task replaces all the transducers located on the main and hoist winch directional control valve. Replace only those transducers that require replacement.

To replace transducer 4MT529 perform removal steps 1 through 5 and 17 and installation steps 12 through 16.

To replace transducer 4MT530 perform removal steps 6 through 10 and 17 and installation steps 7 through 11.

To replace transducer 4MT531 perform removal steps 14 through 17 and installation steps 1 through 3.

To replace transducer 4MT532 perform removal steps 11 through 13 and 17 and installation steps 11 through 13.

Removal



0688 00

Removal - Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will avoid injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to avoid injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

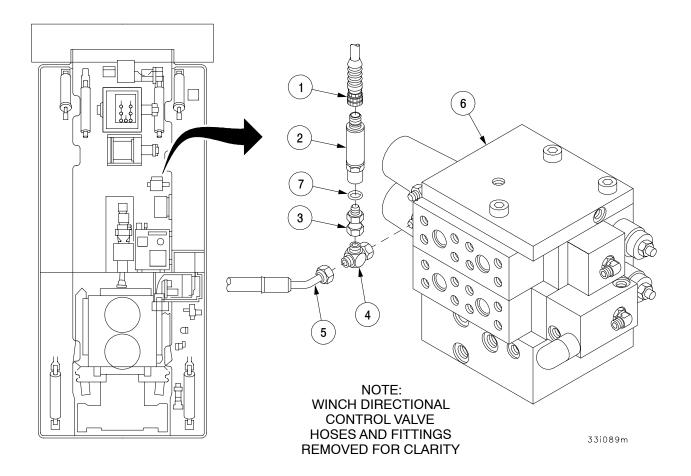
NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedure.

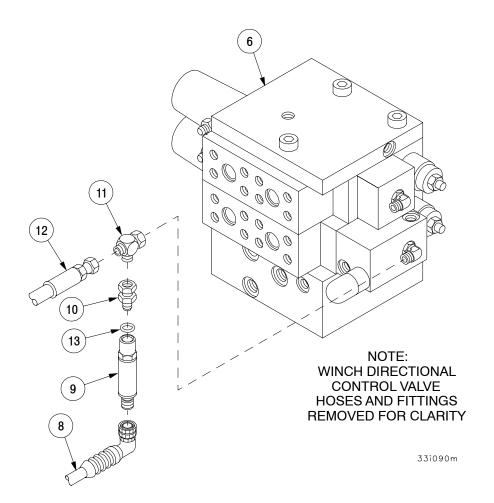
0688 00

- 1. Remove wiring harness 4W503 connector P4 (1) from transducer 4MT529 (2).
- 2. Remove transducer 4MT529 (2) with straight swivel adapter (3) from tee (4) then remove straight swivel adapter (3) from transducer 4MT529 (2).
- 3. Remove hose (5) from tee (4).
- 4. Remove tee (4) from main and hoist winch directional control valve (6).
- 5. Remove preformed packing (7) from straight swivel adapter (3). Discard preformed packing.



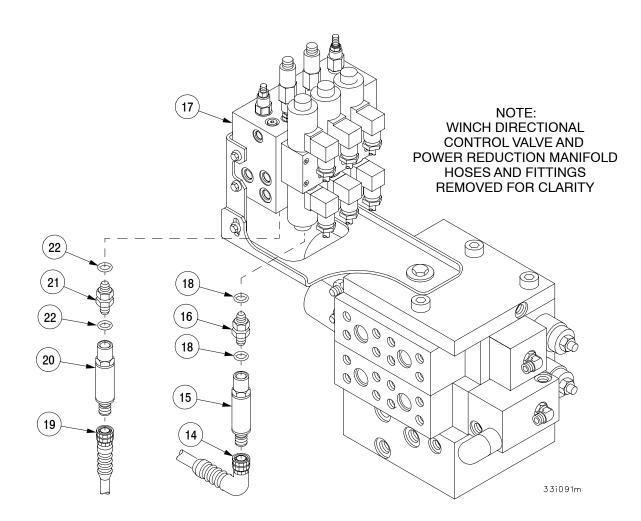
0688 00

- 6. Remove wiring harness 4W503 connector P5 (8) from transducer 4MT530 (9).
- 7. Remove transducer 4MT530 (9) with straight swivel adapter (10) from tee (11) then remove straight swivel adapter (10) from transducer 4MT530 (9).
- 8. Remove hose (12) from tee (11).
- 9. Remove tee (11) from main and hoist winch directional control valve (6).
- 10. Remove preformed packing (13) from straight swivel adapter (10). Discard preformed packing.



0688 00

- 11. Remove wiring harness 4W503 connector P6 (14) from transducer 4MT532 (15).
- 12. Remove transducer 4MT532 (15) with union (16) from main winch power reduction manifold (17) then remove union (16) from transducer 4MT532 (15).
- 13. Remove preformed packings (18) from union (16). Discard preformed packings.
- 14. Remove wiring harness 4W503 connector P7 (19) from transducer 4MT531 (20).
- 15. Remove transducer 4MT531 (20) with union (21) from main winch power reduction manifold (17) then remove union (21) from transducer 4MT531 (20).
- 16. Remove preformed packings (22) from union (21). Discard preformed packings.
- 17. Inspect all parts for damage and replace as required.



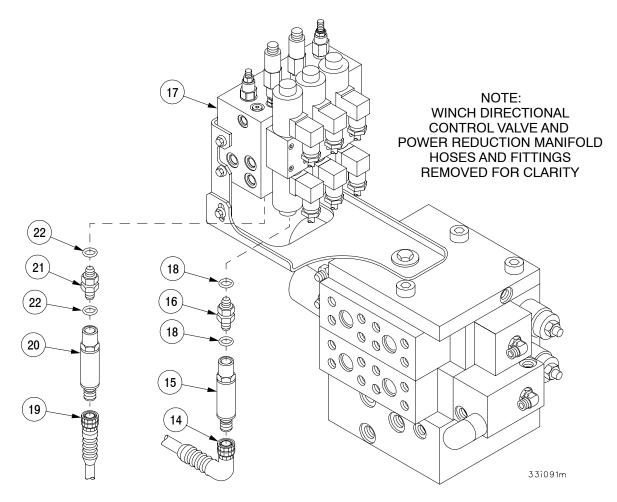
0688 00

Installation

NOTE

Apply a thin even coat of clean lubricant to all preformed packings prior to installation.

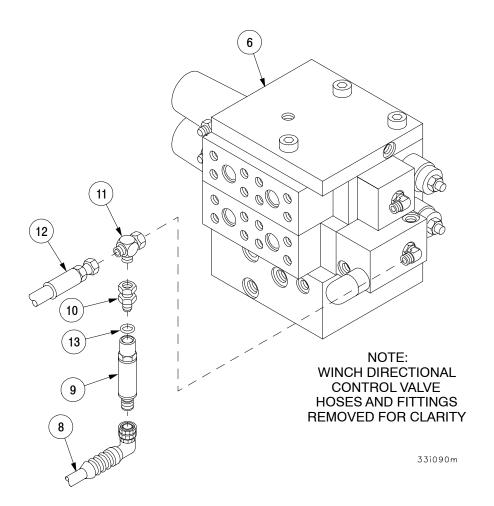
- 1. Install new preformed packings (22) on union (21).
- 2. Install union (21) on transducer 4MT531 (20) then install transducer 4MT531 (20) with union (21) on main winch power reduction manifold (17).
- 3. Install wiring harness 4W503 connector P7 (19) on transducer 4MT531 (20).
- 4. Install new preformed packings (18) on union (16).
- 5. Install union (16) on transducer 4MT532 (15) then install transducer 4MT532 (15) with union (16) on main winch power reduction manifold (17).
- 6. Install wiring harness 4W503 connector P6 (14) on transducer 4MT532 (15).



0688 00

Installation-Continued

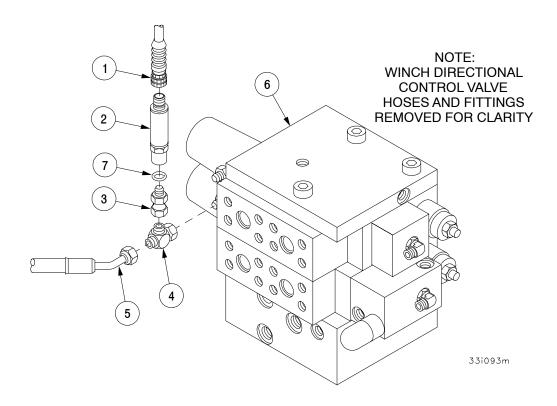
- 7. Install new preformed packing (13) on straight swivel adapter (10).
- 8. Install tee (11) in main and hoist winch directional control valve (6).
- 9. Install hose (12) on tee (11).
- 10. Install straight swivel adapter (10) on transducer 4MT530 (9) then install transducer 4MT530 (9) with straight swivel adapter (10) on tee (11).
- 11. Install wiring harness 4W503 connector P5 (8) on transducer 4MT530 (9).



0688 00

Installation-Continued

- 12. Install new preformed packing (7) on straight swivel adapter (3).
- 13. Install tee (4) in main and hoist winch directional control valve (6).
- 14. Install hose (5) on tee (4).
- 15. Install straight swivel adapter (3) on transducer 4MT529 (2) then install transducer 4MT529 (2) with straight swivel adapter (3) on tee (4).
- 16. Install wiring harness 4W503 connector P4 (1) on transducer 4MT529 (2).



NOTE

FOLLOW-ON MAINTENANCE:

Calibrate new transducers (WP 0692 00)
Start engine, operate main and hoist winch hydraulic controls several times to purge air from hoses (TM 9-2350-292-10)
Check hydraulic system for leaks and fill hydraulic reservoir (TM 9-2350-292-10)
Install floor plate #18 (WP 0454 00)

END OF TASK

0689 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective cap (AR) (item 10, WP 0716 00)
Dust protective plug (AR) (item 11, WP 0716 00)
Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marking tags (AR) (item 49, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)
Lubricant (item 51, WP 0716 00)

Materials/Parts-Continued

Preformed packings (4) (item 20, WP 0718 00) Preformed packings (4) (item 21, WP 0718 00) Preformed packings (4) (item 41, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Hydraulic system depressurized (WP 0545 00) Floor plate #18 and #22 removed (WP 0454 00)

References

TM 9-2350-292-10

NOTE

This task replaces all the transducers located on the filter valve manifold. Replace only those transducers that require replacement.

To replace transducer 4MT533 perform removal steps 1 through 4 and 14 and installation steps 9 through 13.

To replace transducer 4MT534 perform removal steps 5 through 8 and 14 and installation steps 5 through 8.

To replace transducer 4MT547 perform removal steps 11 through 14 and installation steps 1 through 4.

Removal



0689 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will avoid injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to avoid injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

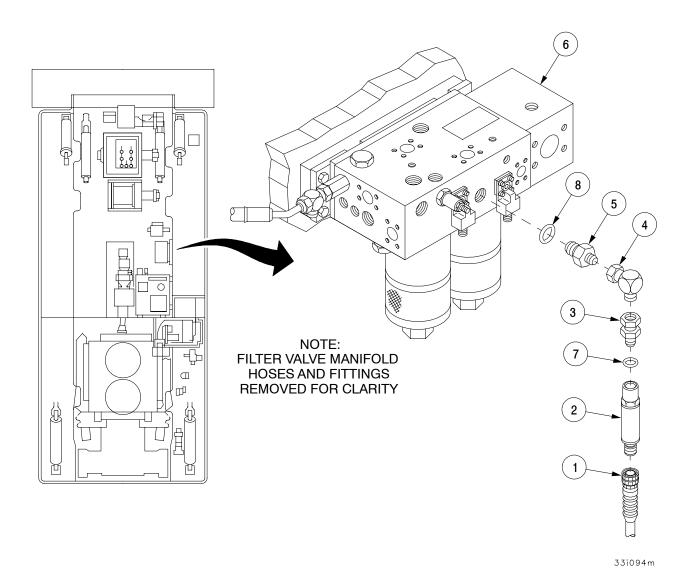
NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedure.

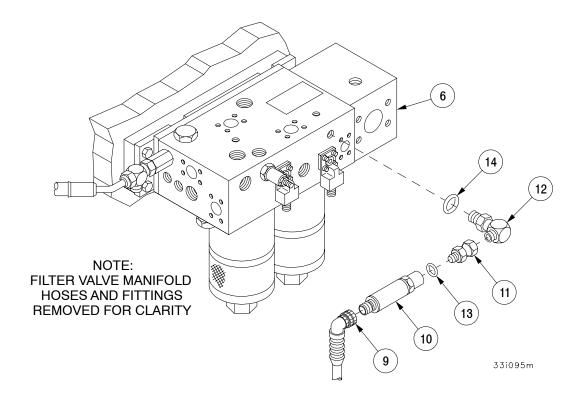
0689 00

- 1. Remove wiring harness 4W503 connector P8 (1) from transducer 4MT533 (2).
- 2. Remove transducer 4MT533 (2) with straight swivel adapter (3) from elbow (4) then remove straight swivel adapter (3) from transducer 4MT533 (2).
- 3. Remove elbow (4) and adapter (5) from hydraulic filter manifold (6).
- 4. Remove preformed packings (7 and 8) from straight swivel adapter (3) and adapter (5). Discard preformed packings.



0689 00

- 5. Remove wiring harness 4W503 connector P9 (9) from transducer 4MT534 (10).
- 6. Remove transducer 4MT534 (10) with straight swivel adapter (11) from elbow (12) then remove straight swivel adapter (11) from transducer 4MT534 (10).
- 7. Remove elbow (12) from hydraulic filter manifold (6).
- 8. Remove preformed packings (13 and14) from straight swivel adapter (11) and elbow (12). Discard preformed packings.



0689 00

Removal-Continued

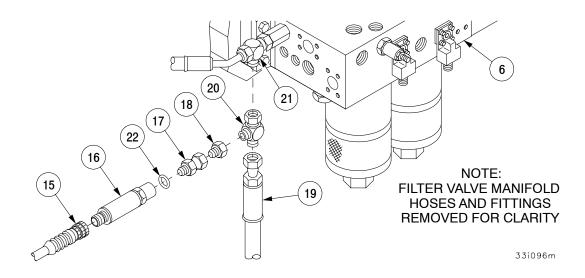
- 9. Remove wiring harness 4W503 connector P13 (15) from transducer 4MT547 (16).
- 10. Remove transducer 4MT547 (16) with straight swivel adapter (17) from reducer (18) then remove straight swivel adapter (17) from transducer 4MT547 (16).
- 11. Remove hose (19) from tee (20).
- 12. Remove reducer (18) and tee (20) from tee (21).
- 13. Remove preformed packing (22) from straight swivel adapter (17). Discard preformed packing.
- 14. Inspect all parts for damage and replace as required.

Installation

NOTE

Apply a thin even coat of clean lubricant to all preformed packings prior to installation.

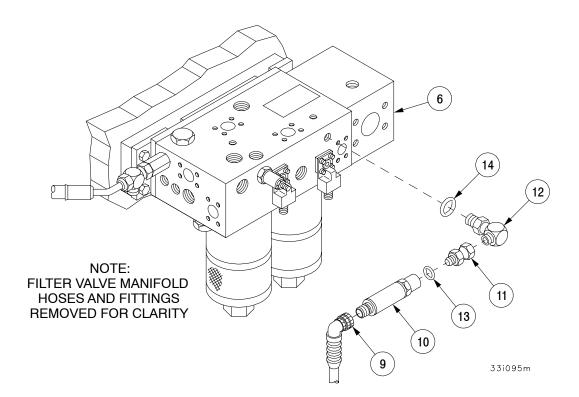
- 1. Install new preformed packing (22) on straight swivel adapter (17).
- 2. Install reducer (18) and tee (20) on tee (21) in hydraulic filter manifold (6) port PMO.
- 3. Install hose (19) on tee (20).
- 4. Install straight swivel adapter (17) on transducer 4MT547 (16) then install transducer 4MT547 (16) with straight swivel adapter (17) on reducer (18).
- Install wiring harness 4W503 connector P13 (15) on transducer 4MT547 (16).



0689 00

Installation-Continued

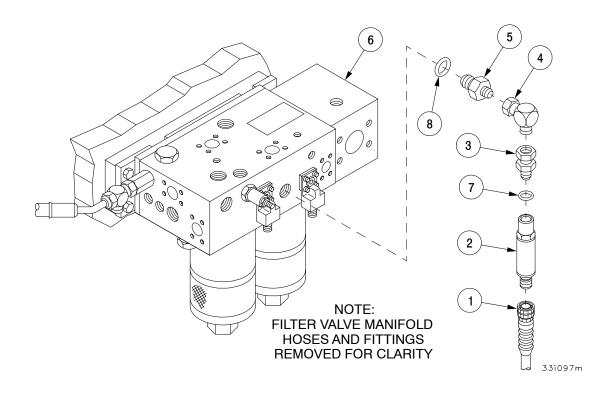
- 6. Install new preformed packings (13 and 14) on straight swivel adapter (11) and elbow (12).
- 7. Install elbow (12) in hydraulic filter valve manifold (6) port CH4.
- 8. Install straight swivel adapter (11) on transducer 4MT534 (10) then install transducer 4MT534 (10) with straight swivel adapter (11) on elbow (12).
- 9. Install wiring harness 4W503 connector P9 (9) on transducer 4MT534 (10).



0689 00

Installation-Continued

- 10. Install new preformed packings (7 and 8) on straight swivel adapter (3) and adapter (5).
- 11. Install elbow (4) and adapter (5) in hydraulic filter valve manifold (6) port MS.
- 12. Install straight swivel adapter (3) on transducer 4MT533 (2) then install transducer 4MT533 (2) with straight swivel adapter (3) on elbow (4).
- 13. Install wiring harness 4W503 connector P8 (1) on transducer 4MT533 (2).



NOTE

FOLLOW-ON MAINTENANCE:

Calibrate new transducers (WP 0692 00)
Start engine, operate main and hoist winch hydraulic controls several times to purge air from hoses (TM 9-2350-292-10)
Check hydraulic system for leaks and fill hydraulic reservoir (TM 9-2350-292-10)
Install floor plate #18 and #22 (WP 0454 00)

0690 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marking tags (AR) (item 49, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)
Lubricant (item 51, WP 0716 00)
Preformed packings (6) (item 20, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Hydraulic system depressurized (WP 0545 00) Floor plate #20 and #22 removed (WP 0454 00)

References

TM 9-2350-292-10

NOTE

This task replaces one switch and all transducers located on the main hydraulic pumps. Replace only those components that require replacement.

To replace transducer 4MT524 perform removal steps 1 through 5 and 21 and installation steps 16 through 20.

To replace transducer 4MT525 perform removal steps 6 through 10 and 21 and installation steps 11 through 15.

To replace switch 4S527 perform removal steps 11 through 15 and 21 and installation steps 6 through 10.

To replace transducer 4MT528 perform removal steps 16 through 21 and installation steps 1 through 5.

Removal



0690 00

Removal-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will avoid injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to avoid injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

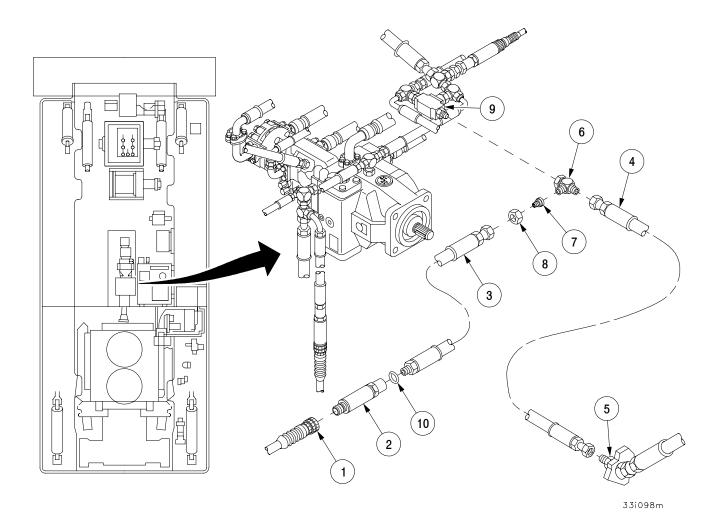
NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedure.

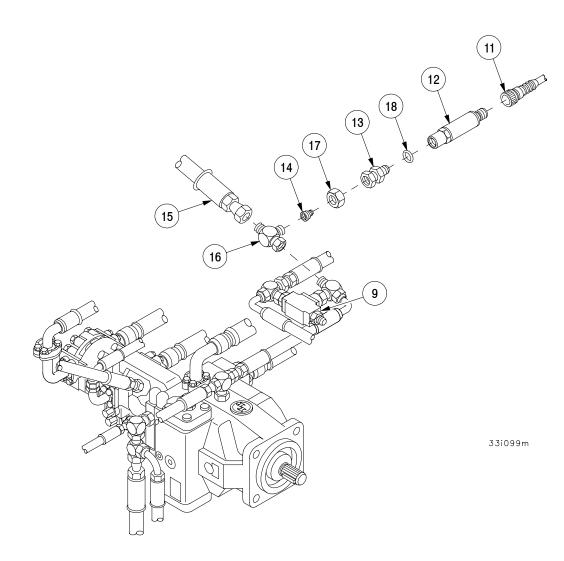
0690 00

- 1. Remove wiring harness 4W503 connector P2 (1) from transducer 4MT524 (2).
- 2. Remove transducer 4MT524 (2) from hose (3).
- 3. Disconnect one end of hose (4) from bulkhead connector (5) and other end from tee (6).
- 4. Remove hose (3), reducer (7), nut (8) and tee (6) from thermostatic valve (9).
- 5. Remove preformed packing (10) from hose (3). Discard preformed packing.



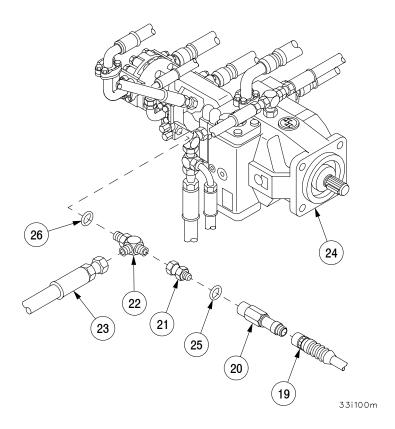
0690 00

- 6. Remove wiring harness 4W503 connector P3 (11) from transducer 4MT525 (12).
- 7. Remove transducer 4MT525 (12) with straight swivel adapter (13) from reducer (14) then remove straight swivel adapter (13) from transducer 4MT525 (12).
- 8. Remove hose (15) from tee (16).
- 9. Remove reducer (14), nut (17) and tee (16) from thermostatic valve (9).
- 10. Remove preformed packing (18) from straight swivel adapter (13). Discard preformed packing.



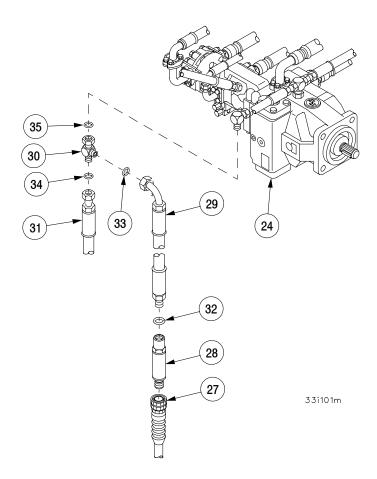
0690 00

- 11. Remove wiring harness 4W503 connector P11 (19) from switch 4S527 (20).
- 12. Remove switch 4S527 (20) with straight swivel adapter (21) from tee (22) then remove straight swivel adapter (21) from switch 4S527 (20).
- 13. Remove hose (23) from tee (22).
- 14. Remove tee (22) from hydraulic pump (24).
- 15. Remove preformed packings (25 and 26) from straight swivel adapter (21) and tee (22). Discard preformed packings.



0690 00

- 16. Remove wiring harness 4W503 connector P10 (27) from transducer 4MT528 (28).
- 17. Remove transducer 4MT528 (28) with hose (29) from tee (30) then remove transducer 4MT528 (28) from hose (29).
- 18. Remove hose (31) from tee (30).
- 19. Remove tee (30) from hydraulic pump (24).
- 20. Remove one preformed packing (32) from hose (29) and three preformed packings (33, 34 and 35) from tee (30). Discard preformed packing.
- 21. Inspect all parts for damage and replace as required.



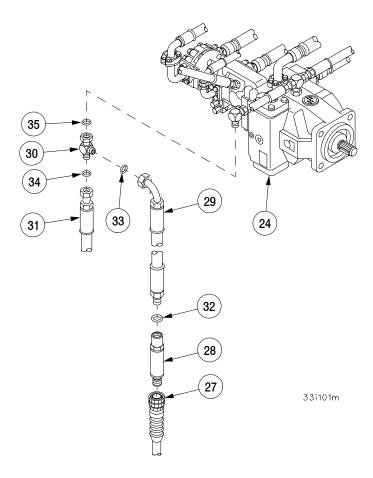
0690 00

Installation

NOTE

Apply a thin even coat of clean lubricant to all preformed packings prior to installation.

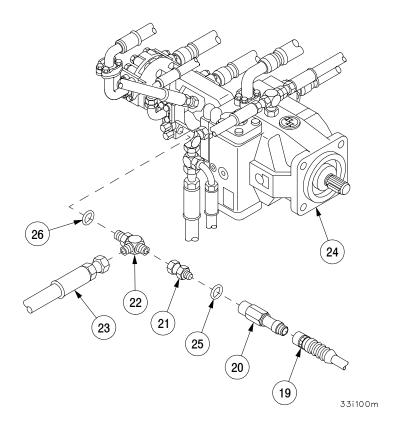
- 1. Install three new preformed packings (33, 34 and 35) on hose (29) and preformed packing (32) on tee (30).
- 2. Install tee (30) in hydraulic pump (24) port X1.
- 3. Install hose (31) on tee (30).
- 4. Install hose (29) on transducer 4MT528 (28) then install transducer 4MT528 (28) with hose (29) on tee (30).
- 5. Install wiring harness 4W503 connector P10 (27) on transducer 4MT528 (28).



0690 00

Installation-Continued

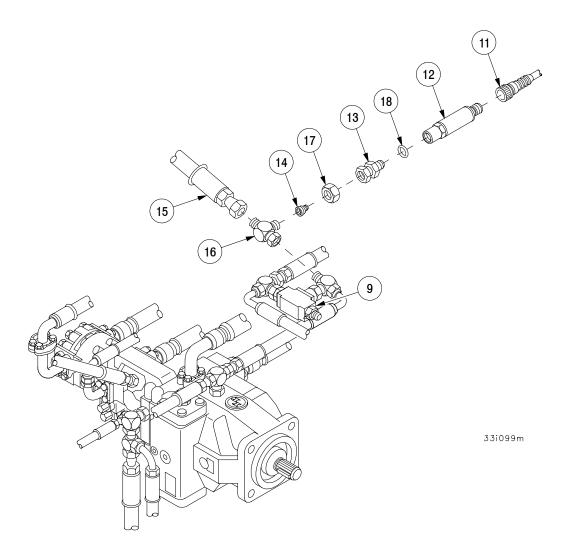
- 6. Install new preformed packings (25 and 26) on straight swivel adapter (21) and tee (22).
- 7. Install tee (22) in hydraulic pump (24) port X3.
- 8. Install hose (23) on tee (22).
- 9. Install straight swivel adapter (21) on switch 4S527 (20) then install switch 4S527 (20) with straight swivel adapter (21) on tee (22).
- 10. Install wiring harness 4W503 connector P11 (19) on switch 4S527 (20).



0690 00

Installation-Continued

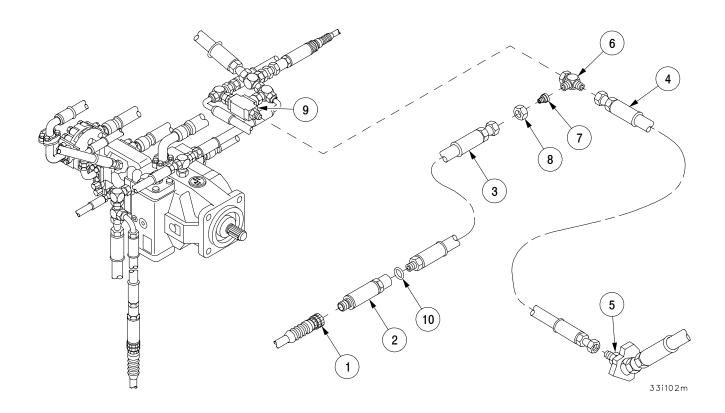
- 11. Install new preformed packing (18) on straight swivel adapter (13).
- 12. Install reducer (14), nut (17) and tee (16) in thermostic valve (9) port A.
- 13. Install hose (15) on tee (16).
- 14. Install straight swivel adapter (13) on transducer 4MT525 (12) then install transducer 4MT525 (12) with straight swivel adapter (13) on reducer (14).
- 15. Install wiring harness 4W503 connector P3 (11) on transducer 4MT525 (12).



0690 00

Installation-Continued

- 16. Install new preformed packing (10) on hose (3).
- 17. Install hose (3), reducer (7), nut (8) and tee (6) in thermostic valve (9) port C.
- 18. Connect one end of hose (4) to tee (6) and other end to bulkhead connector (5).
- 19. Install transducer 4MT524 (2) on hose (3).
- 20. Install wiring harness 4W503 connector P2 (1) on transducer 4MT524 (2).



NOTE

FOLLOW-ON MAINTENANCE:

Calibrate new transducers (WP 0692 00)
Start engine, operate main and hoist winch hydraulic controls several times to purge air from hoses (TM 9-2350-292-10)
Check hydraulic system for leaks and fill hydraulic reservoir (TM 9-2350-292-10)
Install floor plate #20 and #22 (WP 0454 00)

LEFT AND RIGHT SIDE BOOM LIMIT VALVE TRANSDUCER, SWITCHES AND ASSOCIATED PARTS REPLACEMENT

0691 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Dust protective plug (AR) (item 12, WP 0716 00)
Dust protective cap (AR) (item 45, WP 0716 00)
Dust protective cap (AR) (item 46, WP 0716 00)
Dust protective plug (AR) (item 47, WP 0716 00)
Plastic bags (AR) (item 48, WP 0716 00)
Marking tags (AR) (item 49, WP 0716 00)
Safety goggles (item 93, WP 0716 00)
Wiping rags (item 7, WP 0716 00)
Lubricant (item 51, WP 0716 00)
Preformed packings (4) (item 20, WP 0718 00)

Materials/Parts - Continued

Lubricant (item 51, WP 0716 00)
Preformed packings (4) (item 20, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Hydraulic system depressurized (WP 0545 00) Engine deck grilles removed (TM 9-2350-292-10)

References

TM 9-2350-292-10

NOTE

This task replaces all the switches and one transducer located on the left and right side boom limit valves. Replace only those components that require replacement.

To replace switch 3S510 perform removal steps 1 through 5 and 21 and installation steps 16 through 20.

To replace switch 3S511 perform removal steps 6 through 10 and 21 and installation steps 11 through 15.

To replace switch 3S512 perform removal steps 11 through 15 and 21 and installation steps 6 through 10.

To replace transducer 3MT513 perform removal steps 16 through 21 and installation steps 1 through 5.

Removal



LEFT AND RIGHT SIDE BOOM LIMIT VALVE TRANSDUCER, SWITCHES AND ASSOCIATED PARTS REPLACEMENT - CONTINUED

0691 00

Removal-Continued



WARNING

Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will avoid injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to avoid injury to personnel.

CAUTION

Cap all hydraulic lines and plug all hydraulic ports to prevent contamination. Failure may result in damage to hydraulic system.

All serviceable components must be placed in plastic bags to prevent contamination of hydraulic system during installation.

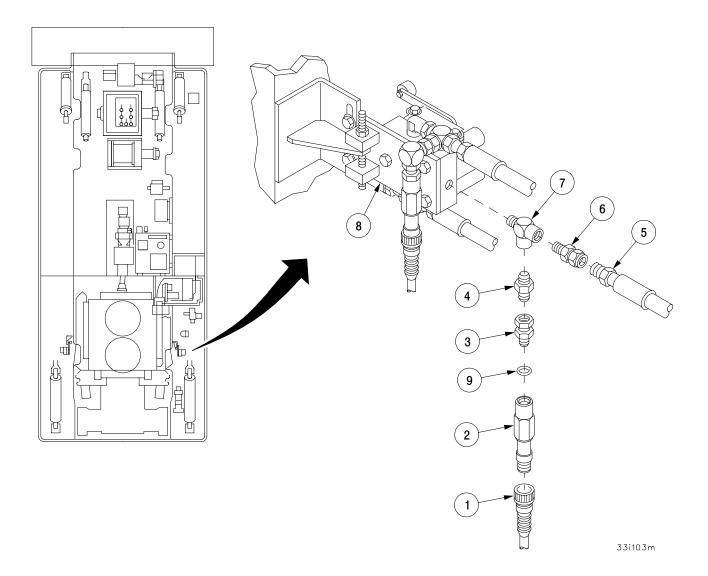
NOTE

All hydraulic lines and components must be tagged before removal for identification during installation.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedure.

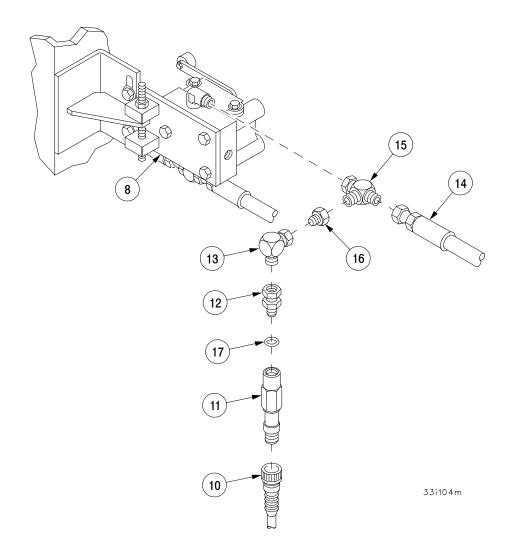
0691 00

- 1. Remove wiring harness 3W501 connector P2 (1) from switch 3S510 (2).
- 2. Remove switch 3S510 (2) with straight swivel adapter (3) from straight adapter (4) then remove straight swivel adapter (3) from switch 3S510 (2).
- 3. Remove hose (5) from straight swivel adapter (6).
- 4. Remove straight swivel adapter (6), straight adapter (4), tee (7) from right side boom limit valve (8).
- 5. Remove preformed packing (9) from straight swivel adapter (3). Discard preformed packing.



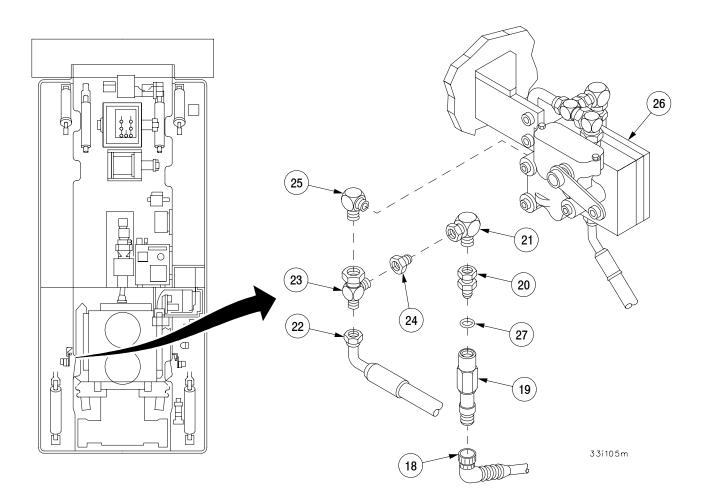
0691 00

- 6. Remove wiring harness 3W501 connector P3 (10) from switch 3S511 (11).
- 7. Remove switch 3S511 (11) with straight swivel adapter (12) from elbow (13) then remove straight swivel adapter (12) from switch 3S511 (11).
- 8. Remove hose (14) from tee (15).
- 9. Remove elbow (13), reducer (16) and tee (15) from right side boom limit valve (8).
- 10. Remove preformed packing (17) from straight swivel adapter (12). Discard preformed packing.



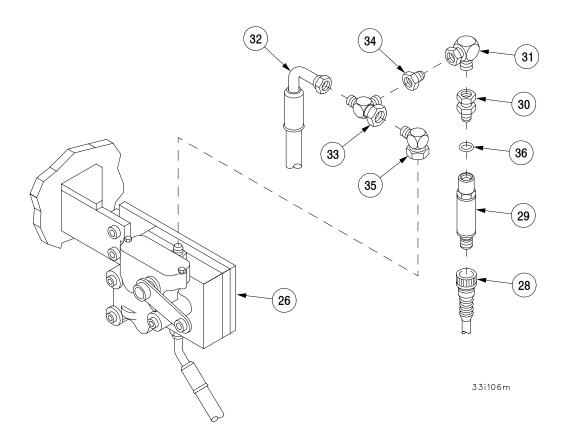
0691 00

- 11. Remove wiring harness 3W501 connector P4 (18) from switch 3S512 (19).
- 12. Remove switch 3S512 (19) with straight swivel adapter (20) from elbow (21) then remove straight swivel adapter (20) from switch 3S512 (19).
- 13. Remove hose (22) from tee (23).
- 14. Remove elbow (21), reducer (24), tee (23), and elbow (25) from left side boom limit valve (26).
- 15. Remove preformed packing (27) from straight swivel adapter (20). Discard preformed packing.



0691 00

- 16. Remove wiring harness 3W501 connector P1 (28) from transducer 3MT513 (29).
- 17. Remove transducer 3MT513 (29) with straight swivel adapter (30) from elbow (31) then remove straight swivel adapter (30) transducer 3MT513 (29).
- 18. Remove hose (32) from tee (33).
- 19. Remove elbow (31), reducer (34), tee (33) and elbow (35) from left side boom limit valve (26).
- 20. Remove preformed packing (36) from straight swivel adapter (30). Discard preformed packing.
- 21. Inspect all parts for damage and replace as required.



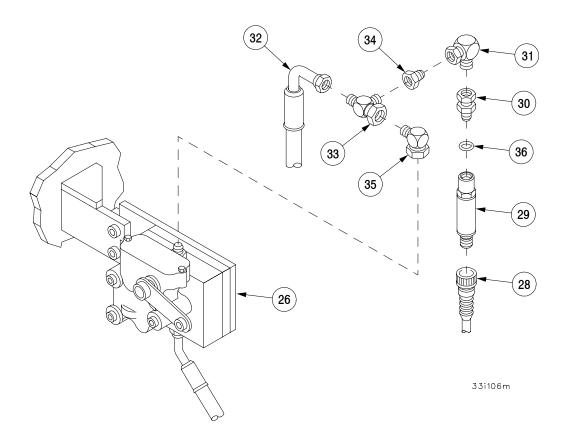
0691 00

Installation

NOTE

Apply a thin even coat of clean lubricant to all preformed packings prior to installation.

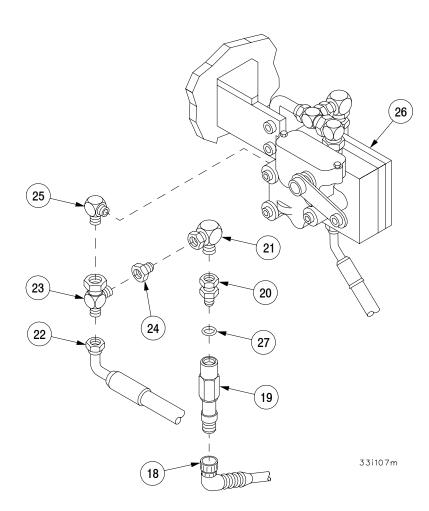
- 1. Install preformed packing (36) on straight swivel adapter (30).
- 2. Install elbow (35), tee (33), reducer (34) and elbow (31) on left side boom limit valve (26).
- 3. Install hose (32) on tee (33).
- 4. Install straight swivel adapter (30) on transducer 3MT513 (29) then install transducer 3MT513 (29) with straight swivel adapter (30) on elbow (31).
- 5. Install wiring harness 3W501 connector P1 (28) on transducer 3MT513 (29).



0691 00

Installation-Continued

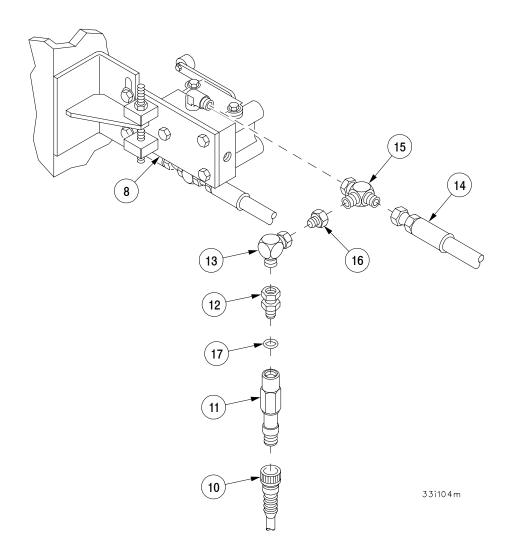
- 6. Install preformed packing (27) on straight swivel adapter (20).
- 7. Install elbow (25), tee (23), reducer (24) and elbow (21) on left side boom limit valve (26).
- 8. Install hose (22) on tee (23).
- 9. Install straight swivel adapter (20) on switch 3S512 (19) then install switch 3S512 (19) with straight swivel adapter (20) on elbow (21).
- 10. Install wiring harness 3W501 connector P4 (18) on switch 3S512 (19).



0691 00

Installation-Continued

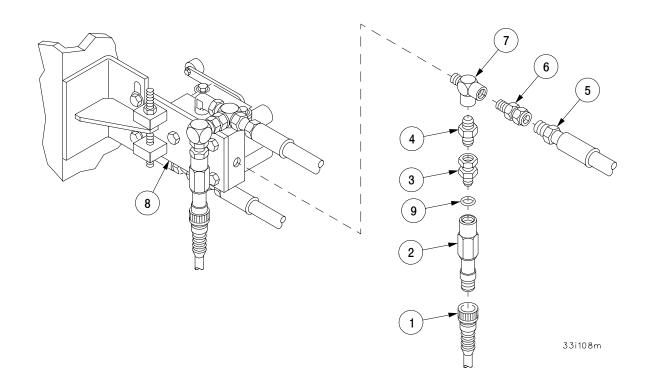
- 11. Install preformed packing (17) on straight swivel adapter (12).
- 12. Install tee (15), reducer (16) and elbow (13) on right side boom limit valve (8).
- 13. Install hose (14) on tee (15).
- 14. Install straight swivel adapter (12) on switch 3S511 (11) then install switch 3S511 (11) with straight swivel adapter (12) on elbow (13).
- 15. Install wiring harness 3W501 connector P3 (10) on switch 3S511 (11).



0691 00

Installation-Continued

- 16. Install preformed packing (9) on straight swivel adapter (3).
- 17. Install tee (7), straight swivel adapter (6), and straight adapter (4) on right side boom limit valve (8).
- 18. Install hose (5) on straight swivel adapter (6).
- 19. Install straight swivel adapter (3) on switch 3S510 (2) then install switch 3S510 (2) with straight swivel adapter (3) on straight adapter (4).
- 20. Install wiring harness 3W501 connector P2 (1) on switch 3S510 (2).



NOTE

FOLLOW-ON MAINTENANCE:

Calibrate new transducers (WP 0692 00)
Start engine, raise and lower boom several times to purge air from hoses (TM 9-2350-292-10)
Check hydraulic system for leaks and fill hydraulic reservoir (TM 9-2350-292-10)
Install engine deck grilles (TM 9-2350-292-10)

TRANSDUCER CALIBRATION

0692 00

THIS WORK PACKAGE COVERS:

Depressurization, Calibration

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Safety goggles (item 93, WP 0716 00) Wiping rags (item 7, 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Hydraulic system depressurized (WP 0545 00)

References

TM 9-2350-292-10

NOTE

This task explains how to calibrate all transducers.

All transducers must be calibrated semi-annually.

Individual transducer must be calibrated when replaced.

Depressurization















WARNING

Depressurization-Continued



Hydraulic system pressure is rated 4450 psi. Do not torque hydraulic fittings or perform removal procedures when hydraulic system is pressurized. Discharging system pressure before performing any maintenance procedures will avoid injury to personnel.

Eye protection will be worn when performing maintenance procedures on all hydraulic components to avoid injury to personnel.

NOTE

To ensure proper calibration the hydraulic system must be completely depressurized. Perform step 2 to alleviate residual hydraulic pressure in pressure locked hydraulic lines prior to calibrating transducers in the following table.

Place rags under hydraulic connections to catch any hydraulic fluid that spills during maintenance. Dispose of fluid soaked rags in accordance with standard operating procedure.

- 1. Activate hydraulic controls several times with engine and auxiliary power unit OFF to relieve system pressure in hydraulic system.
- Before calibrating any transducer in the following table relieve residual hydraulic pressure for corresponding transducers by removing wiring harness connected to transducer then loosening transducer to allow pressure to escape. Tighten transducer and reconnect wiring harness.

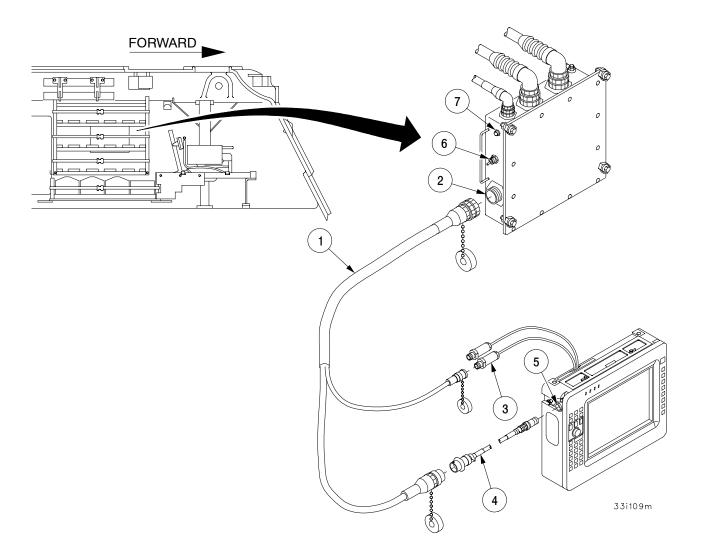
Transducer Location	Sensor Designation	Refer to Paragraph
Operator's Control Valve Manifold Port P Test	4MT523	WP 0684 00
Operator's Control Valve Manifold Port BL	4MT519	WP 0684 00
Operator's Control Valve Manifold Port PR Test	4MT515	WP 0684 00
Main Winch Level Winder Cylinder Port EXT	4MT541	WP 0685 00
Main Winch Level Winder Cylinder Port RET	4MT540	WP 0685 00
Filter Valve Manifold Port CH4	4MT534	WP 0689 00
Filter Valve Manifold Port MS	4MT533	WP 0689 00
Boom Shutoff Valve Port A	4MT543	WP 0686 00

TRANSDUCER CALIBRATION - CONTINUED

0692 00

Calibration

- 1. Connect wiring harness 4W508 (1) connector P1 to remote terminal (RT) unit connector J6 (2).
- 2. Connect wiring harness 4W508 (1) connector P3 to SPORT 1553 data bus wire branch A (3).
- 3. Connect one end of SPORT power cable (4) (part number 54418/711967) to wiring harness 4W508 (1) connector P2 and other end to SPORT power connector (5).
- 4. Turn vehicle MASTER switch ON (TM 9-2350-292-10).
- 5. Turn RT unit circuit breaker switch (6) ON. Power light (7) will indicate RT unit is powered up.
- 6. Turn on SPORT.



TRANSDUCER CALIBRATION - CONTINUED

0692 00

Calibration-Continued

- 7. Using the mouse, click on the START button in the taskbar.
- 8. Select Programs, then EDS, then EDS again.

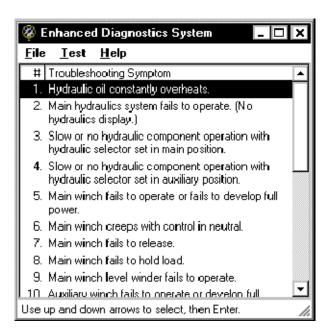
NOTE

If the RT unit has been replaced it will fail selftest when the Enhanced Diagnostics System program is started. The selftest results screen should only indicated the following fault.

"The non-volatile calibration data stored in the RT failed an internal consistency check after being read"

If any other faults are indicated troubleshoot the Enhanced Diagnostics System (WP 0060 00) before continuing with transducer calibration.

9. The Enhanced Diagnostics System (EDS) program will open and display the troubleshooting symptoms screen shown below.



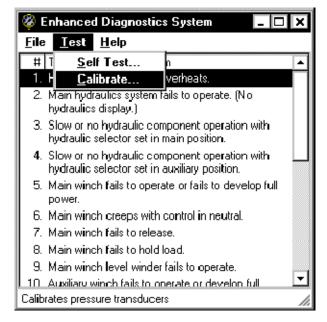
0692 00

Calibration-Continued

NOTE

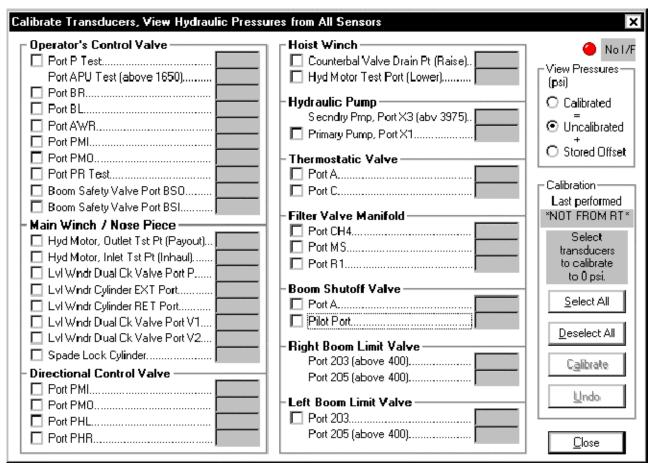
If the RT unit has been replaced an alert screen will be displayed after performing the next step stating that calibration data cannot be read from the RT unit. Click the OK button and continue with the task.

10. Select <u>Test from the EDS menu then select Calibrate from the drop down menu.</u>



Calibration-Continued

11. The Calibrate Transducers screen will be displayed.

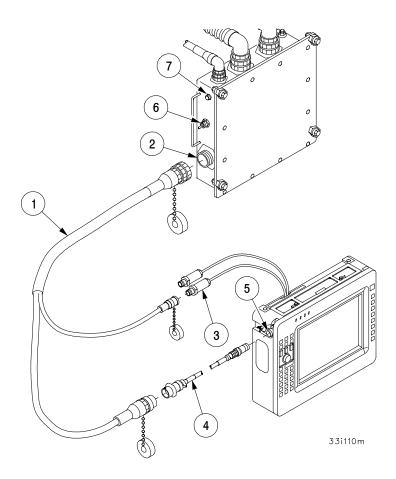


- 12. The Calibrate Transducer Screen allows the user to calibrate one, several or all the transducers at one time. Select the transducer(s) to be calibrated by clicking on the check box in front of it. If all the transducers are to be calibrated use the Select All button to select all the transducers.
- 13. Click the Calibrate button to perform the calibration. The Calibration factors are stored instantaneously in the RT unit. The Last performed date should now indicate today's date.
- 14. Click the Close button to return the Enhanced Diagnostic System Troubleshooting Symptom screen.
- 15. If the EDS is not needed for troubleshooting close the Enhanced Diagnostic System Program.
- 16. Shut down the SPORT.

0692 00

Calibration-Continued

- 17. Turn RT unit circuit breaker switch (6) OFF. Power light (7) will indicate RT unit is powered off.
- 18. Turn vehicle MASTER switch OFF.
- 19. Disconnect one end of SPORT power cable (4) (part number 54418/711967) from wiring harness 4W508 (1) connector P2 and other end from SPORT power connector (5).
- 20. Disconnect wiring harness 4W508 (1) connector P3 from SPORT 1553 data bus wire branch A (3).
- 21. Disconnect wiring harness 4W508 (1) connector P1 from remote terminal (RT) unit connector J6 (2).



NOTE

FOLLOW-ON MAINTENANCE:

Start engine, operate all hydraulic components several times to purge air from hoses (TM 9-2350-292-10) Check hydraulic system for leaks and fill hydraulic reservoir (TM 9-2350-292-10)

CHAPTER 22

WELDING, METALIZING, METAL HEATING AND PLATING EQUIPMENT MAINTENANCE

ACETYLENE HOSE ADAPTER AND RELATED PARTS REPLACEMENT

0693 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 12, WP 0718 00)

Equipment Conditions

Acetylene tank removed (TM 9-2350-292-10)

Personnel Required

Two

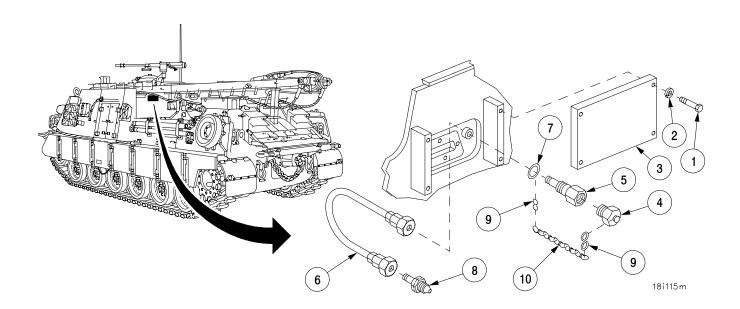
References

TM 9-2350-292-10

Removal



- 1. Remove four screws (1), four lockwashers (2) and armor plate (3). Discard lockwashers.
- 2. Remove plug (4) from adapter (5).
- 3. Remove flexible hose assembly (6) from adapter (5).
- 4. Remove adapter (5) and ring (7) from bulkhead.
- 5. Remove connector (8) from flexible hose assembly (6).
- 6. Remove two s-hooks (9) and chain (10) from plug (4) and ring (7).
- 7. Remove two s-hooks (9) from chain (10).
- 8. Inspect parts for damage and replace as required.



ACETYLENE HOSE ADAPTER AND RELATED PARTS REPLACEMENT - CONTINUED

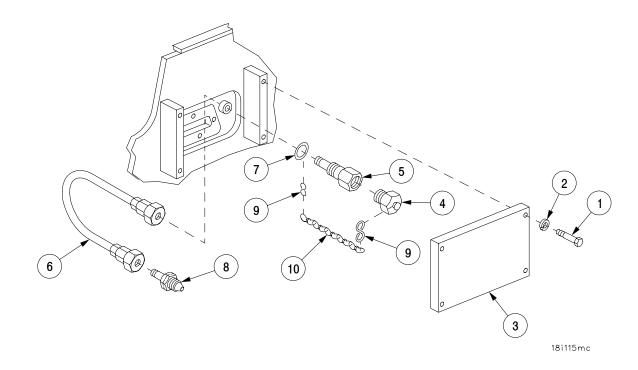
0693 00

Installation

- 1. Install two s-hooks (9) on chain (10).
- 2. Connect chain (10) and two s-hooks (9) to plug (4) and ring (7).
- 3. Connect flexible hose assembly (6) to connector (8).
- 4. Install adapter (5) with ring (7) through bulkhead.
- 5. Install flexible hose assembly (6) on adapter (5).
- 6. Install plug (4) on adapter (5).



7. Install armor plate (3) with four screws (1) and four new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install acetylene tank (TM 9-2350-292-10)

CHAPTER 23 GAUGES (NONELECTRICAL)

MECHANICAL SPEEDOMETER, SHAFT ASSEMBLY, GEAR ASSEMBLY, HOUSING AND RELATED PARTS REPLACEMENT

0694 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 14, WP 0718 00) Lockwashers (5) (item 13, WP 0718 00)

Materials/Parts (continued)

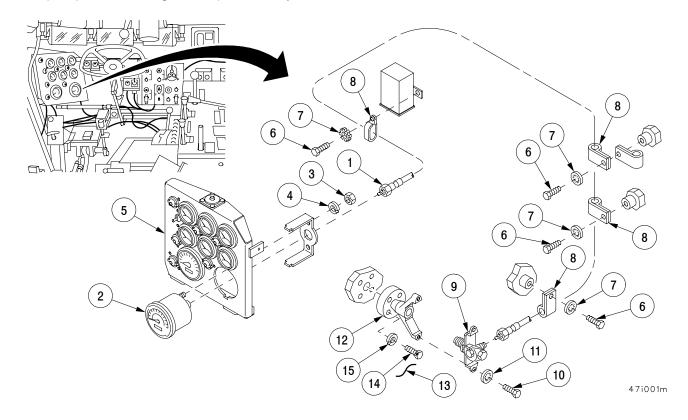
Nonelectrical wire (item 349, WP 0718 00) Lockwasher (item 58, WP 0718 00)

Equipment Conditions

Gauge panel removed (WP 0243 00) Main winch and spade removed (WP 0497 00)

Removal

- 1. Disconnect shaft assembly (1) from mechanical speedometer (2).
- 2. Remove two nuts (3), two lockwashers (4) and mechanical speedometer (2) from gauge panel (5). Retain attaching hardware for installation.
- 3. Remove four screws (6), four lockwashers (7) and four clamps (8) securing shaft assembly (1) to vehicle hull. Discard lockwashers.
- 4. Disconnect shaft assembly (1) from gear assembly (9).
- 5. Remove two screws (10), two lockwashers (11) and gear assembly (9) from housing (12). Discard lockwashers.
- 6. Remove nonelectrical wire (13), four screws (14), four lockwashers (15) and housing (12) from vehicle hull. Discard nonelectrical wire and lockwashers.
- 7. Inspect parts for damage and replace as required.

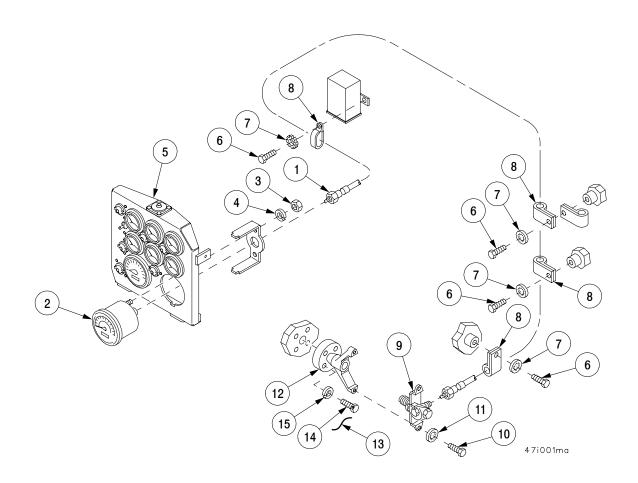


MECHANICAL SPEEDOMETER, SHAFT ASSEMBLY, GEAR ASSEMBLY, HOUSING AND RELATED PARTS REPLACEMENT - CONTINUED

0694 00

Installation

- 1. Install housing (12) on vehicle hull with four screws (14) and four new lockwashers (15). Secure four screws (14) with new nonelectrical wire (13).
- Install gear assembly (9) on housing (12) with two screws (10) and two new lockwashers (11).
- 3. Connect shaft assembly (1) to gear assembly (9).
- 4. Secure shaft assembly (1) to vehicle hull with four clamps (8), four screws (6) and four new lockwashers (7).
- 5. Install mechanical speedometer (2) in gauge panel (5) with two lockwashers (4) and two nuts (3).
- 6. Connect shaft assembly (1) to mechanical speedometer (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install main winch and spade (WP 0497 00) Install gauge panel (WP 0243 00)

MECHANICAL TACHOMETER, SHAFT ASSEMBLY, PULSE TACHOMETER, ANGLE ADAPTER, DRIVE ADAPTER AND RELATED PARTS REPLACEMENT

0695 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (3) (item 13, WP 0718 00) Preformed packing (item 249, WP 0718 00) Lockwashers (4) (item 9, WP 0718 00)

Equipment Conditions

Engine deck grilles and engine deck access doors removed (TM 9-2350-292-10)
Gauge panel removed from bracket (WP 0243 00)
For replacement of tachometer
Vehicular tool box rack, oddment tray assembly and bracket removed (WP 0480 00)
Subfloor plates #19, #24 and #25 removed

Personnel Required

(WP 0454 00)

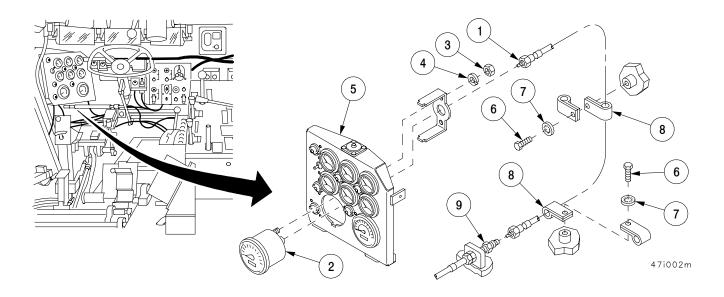
Two

Reference

TM 9-2350-292-10

Removal

- 1. Disconnect shaft assembly (1) from tachometer (2).
- 2. Remove two nuts (3), two lockwashers (4) and tachometer (2) from gauge panel (5). Retain attaching hardware for installation.
- 3. Remove two screws (6), two lockwashers (7) and two clamps (8) securing shaft assembly (1) to vehicle hull. Discard lockwashers.
- 4. Disconnect shaft assembly (1) from coupling adapter (9).



MECHANICAL TACHOMETER, SHAFT ASSEMBLY, PULSE TACHOMETER, ANGLE ADAPTER, DRIVE ADAPTER AND RELATED PARTS REPLACEMENT - CONTINUED

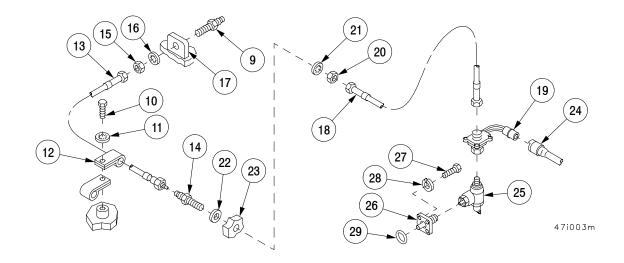
0695 00

Removal-Continued

- Remove screw (10), lockwasher (11) and clamp (12) securing shaft assembly (13) to vehicle hull. Discard lockwasher.
- Disconnect shaft assembly (13) from coupling adapter (9) and coupling adapter (14).
- 7. Remove nut (15), lockwasher (16) and coupling adapter (9) from plate (17). Retain attaching hardware for installation.
- 8. Disconnect shaft assembly (18) from coupling adapter (14) and pulse tachometer (19).
- 9. Remove nut (20), lockwasher (21), rubber gasket (22) and coupling adapter (14) from plate (23). Retain attaching hardware and rubber gasket for installation.
- 10. Disconnect wiring harness 3W202 leads (24) from pulse tachometer (19) leads, remove pulse tachometer (19) from angle adapter (25).
- 11. Remove angle adapter (25) from drive adapter (26).
- 12. Remove four screws (27), four lockwashers (28), drive adapter (26) and preformed packing (29) from powerpack. Discard lockwashers and preformed packing.
- 13. Inspect parts for damage and replace as required.

Installation

- 1. Install drive adapter (26) and new preformed packing (29) on powerpack with four screws (27) and four new lockwashers (28).
- 2. Install angle adapter (25) in drive adapter (26).
- 3. Install pulse tachometer (19) on angle adapter (25) and connect wiring harness 3W202 leads (24) to pulse tachometer (19) leads.
- Install coupling adapter (14), rubber gasket (22), lockwasher (21) and nut (20) on plate (23).

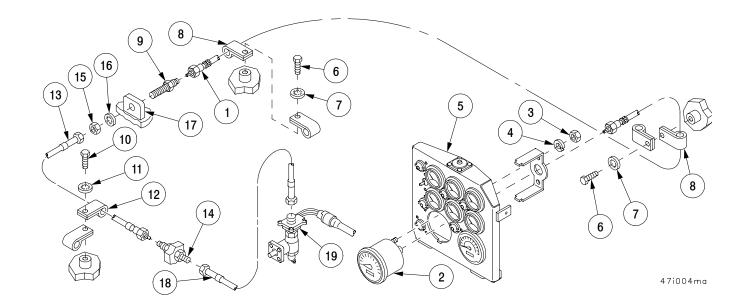


MECHANICAL TACHOMETER, SHAFT ASSEMBLY, PULSE TACHOMETER, ANGLE ADAPTER, DRIVE ADAPTER AND RELATED PARTS REPLACEMENT - CONTINUED

0695 00

Installation-Continued

- 5. Connect shaft assembly (18) to coupling adapter (14) and pulse tachometer (19).
- 6. Install coupling adapter (9) on plate (17) with lockwasher (16) and nut (15).
- 7. Connect shaft assembly (13) to coupling adapter (9) and coupling adapter (14).
- 8. Secure shaft assembly (13) to vehicle hull with clamp (12), screw (10) and new lockwasher (11).
- 9. Connect shaft assembly (1) to coupling adapter (9).
- 10. Secure shaft assembly (1) to vehicle hull with two clamps (8), two screws (6) and two new lockwashers (7).
- 11. Install tachometer (2) in gauge panel (5) with two lockwashers (4) and two nuts (3).
- 12. Connect shaft assembly (1) to tachometer (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #19, #24 and #25 (WP 0454 00)
Install vehicular tool box rack, oddment tray assembly and bracket (WP 0480 00)
Install gauge panel on bracket, if removed (WP 0243 00)
Install engine deck grilles and engine deck access doors (TM 9-2350-292-10)

ENGINE FUEL PUMP ADAPTER PLATE REPLACEMENT

0696 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Preformed packing (item 360, WP 0718 00) Lockwashers (4) (item 10, WP 0718 00)

Equipment Conditions

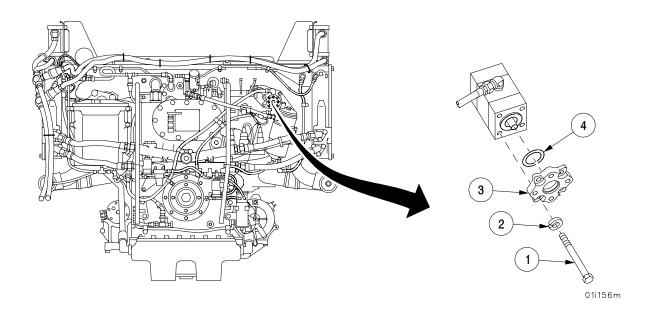
Powerpack removed (WP 0188 00) Mechanical tachometer drive adapter removed (WP 0695 00)

Removal

- 1. Remove four screws (1), four lockwashers (2), adapter plate (3) and preformed packing (4). Discard lockwashers and preformed packing.
- 2. Inspect parts for damage and replace as required.

Installation

Install adapter plate (3) and new preformed packing (4) with four screws (1) and four new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install mechanical tachometer drive adapter (WP 0695 00) Install powerpack (WP 0188 00)

CHAPTER 24

FIRE FIGHTING EQUIPMENT COMPONENTS MAINTENANCE

FIXED FIRE FIGHTING EQUIPMENT - REAR HALF REPLACEMENT

0697 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (15) (item 9, WP 0718 00) Lockwashers (14) (item 2, WP 0718 00) Preformed packings (3) (item 64, WP 0718 00) Marker tags (item 49, WP 0716 00) Safety goggles (item 93, WP 0716 00) Surface cleaner (item 97, WP 0716 00) Primer coating (item 98, WP 0716 00)

Equipment Conditions

Powerpack removed (WP 0185 00)
Batteries removed (WP 0288 00)
For maintenance of tube assemblies #5 and #13
APU removed (WP 0586 00 or WP 0587 00)
For maintenance of tube assembly #29







NOTE

Perform only those steps necessary to replace the defective parts. Use legend reference guide.

Tag all hoses, tubes, brackets and fittings prior to removal to aid in installation.

Removal

- 1. Remove clamps and attaching hardware securing hoses, tubes, valves, bracket and nozzles to vehicle as shown in legend and illustration. Discard lockwashers.
- 2. Remove hoses, tubes, valves, bracket, nozzles, preformed packings and fittings in accordance with the following legend and illustration. Discard preformed packings.
- 3. Inspect parts for damage and replace as required.

Installation

NOTE

Perform step 1 for maintenance of item 32 only.

- 1. Clean threads of specified components with surface cleaner, apply primer to threads and install fittings while primer is wet.
- 2. Install hoses, tubes, valves, bracket, nozzles, new preformed packings and fittings in accordance with the following legend and illustration.
- 3. Install clamps with attaching hardware and new lockwashers securing hoses, tubes, valves, bracket and nozzles to vehicle as shown in legend and illustration.

FIXED FIRE FIGHTING EQUIPMENT - REAR HALF REPLACEMENT - CONTINUED

0697 00

Legend:

- 1. Tube nipples (5)
- 2. Loop clamps (15)
- 3. Lockwashers (15)
- 4. Screws (15)
- 5. Tube assembly
- 6. Metal hose assembly
- 7. Pipe reducer
- 8. Quick-disconnect coupling half
- 9. Quick-disconnect coupling half
- 10. Connecting ring
- 11. Pipe bushing
- 12. Pipe to tube elbows (7)
- 13. Metal tube assembly

- 14. Metal tube assembly
- 15. Metal tube assembly
- 16. Tube tees (2)
- 17. Metal tube assembly
- 18. Metal tube assembly
- 19. Metal tube assembly
- 20. Pipe to tube tee
- 21. Metal tube assembly
- 22. Tube elbow
- 23. Fire hose nozzles (5)
- 24. Lockwashers (14)
- 25. Screws (10)
- 26. Metal tube assembly

- 27. Pipe elbow
- 28. Metal tube assemblies (2)
- 29. Metal tube assembly
- 30. Metal tube assemblies (2)
- 31. Metal tube assembly
- 32. Valve assembly (see step 1 Installation)
- 33. Tube nipple
- 34. Preformed packings (3)
- 35. Check valves (2)
- 36. Tube tee
- 37. Double angle bracket
- 38. Screws (4)
- 39. Check valve

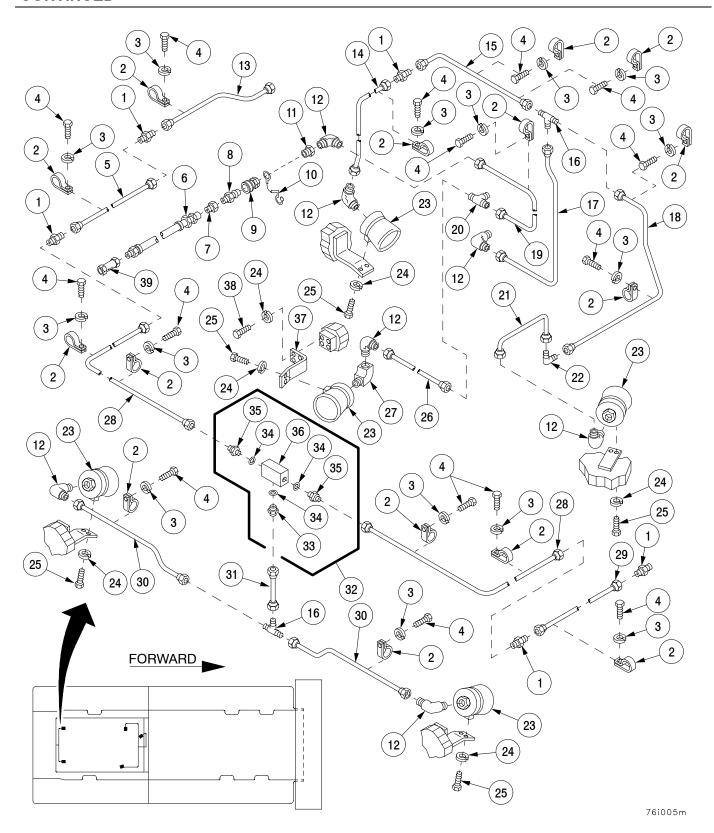
NOTE

FOLLOW-ON MAINTENANCE:

Install powerpack (WP 0188 00)
Install APU, if removed (WP 0586 00 or WP 0587 00)
Install batteries, if removed (WP 0288 00)

FIXED FIRE FIGHTING EQUIPMENT - REAR HALF REPLACEMENT - CONTINUED

0697 00



FIXED FIRE FIGHTING EQUIPMENT - FRONT HALF REPLACEMENT

0698 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Combination wrench (item 30, WP 0717 00) Adjustable wrench (item 22, WP 0717 00)

Materials/Parts

Lockwashers (6) (item 9, WP 0718 00) Gaskets (2) (item 63, WP 0718 00) Preformed packings (6) (item 64, WP 0718 00) Marker tags (item 49, WP 0716 00) Safety goggles (item 93, WP 0716 00) Surface cleaner (item 97, WP 0716 00) Primer coating (item 98, WP 0716 00)

Equipment Conditions

Subfloor plates #19 and #24 removed (WP 0454 00) For maintenance of tube #7

Vehicular tool box rack, oddment tray assembly and bracket removed (WP 0480 00)

For maintenance of tubes #7, #28, #29 and hose assembly #8

Left air cleaner removed (WP 0208 00)

For maintenance of tube #7

Driver's side fire extinguisher bracket removed (WP 0704 00)

For maintenance of tubes #7 and #10

Equipment Conditions - Continued

Main winch and spade assembly removed (WP 0497 00)

For maintenance of tubes #12, #13, #17, #24, #26, #27, #28, #29, valve #18 and check valve #30

Oddment tray shelf removed (WP 0478 00) For maintenance of tubes #12, #13, #15 and #16

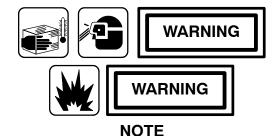
Rocket ammunition stowage box removed (WP 0478 00)

For maintenance of tubes #15 and #16 Subfloor plates #23, #31 and #32 removed (WP 0454 00)

For maintenance of tubes #15 and #16 Right air cleaner removed (WP 0208 00) For maintenance of tubes #15, #16 and #23 Subfloor plates #31 and #32 removed (WP 0454 00)

For maintenance of tube #23 Subfloor plates #7 and #13 removed (WP 0454 00)

For maintenance of tubes #28 and #29



Perform only those steps necessary to replace the defec-

Tag all hoses, tubes, brackets and fittings prior to removal to aid in installation.

tive parts. Use legend reference guide.

FIXED FIRE FIGHTING EQUIPMENT - FRONT HALF REPLACEMENT - CONTINUED

0698 00

Removal

- Remove clamps and attaching hardware securing hoses, tubes and valves to vehicle as shown in legend and illustration. Discard lockwashers.
- 2. Remove hoses, tubes, valves, gaskets, preformed packings and fittings in accordance with the following legend and illustration. Discard gaskets and preformed packings.
- 3. Inspect parts for damage and replace as required.

Installation

NOTE

Perform step 1 for maintenance of item 18 only.

- 1. Clean threads of specified components with surface cleaner, apply primer to threads and install fittings while primer is wet.
- 2. Install hoses, tubes, valves, new gaskets, new preformed packings and fittings in accordance with the following legend and illustration.
- 3. Install clamps with attaching hardware and new lockwashers securing hoses, tubes and valves to vehicle as shown in legend and illustration.

FIXED FIRE FIGHTING EQUIPMENT - FRONT HALF REPLACEMENT - CONTINUED

0698 00

Legend:

- 1. Tube coupling (6)
- 2. Gaskets (2)
- 3. Nuts (6)
- 4. Loop clamps (4)
- 5. Lockwashers (6)
- 6. Screws (4)
- 7. Metal tube assembly
- 8. Tube elbows (8)
- 9. Tube nipples (2)
- 10. Metal tube assembly

- 11. Metal hose assemblies (8)
- 12. Tube assembly
- 13. Tube assembly
- 14. Tube elbows (8)
- 15. Metal tube assembly
- 16. Metal tube assembly
- 17. Tube assembly
- 18. Valves assemblies (2) (see step 1 Installation)
- 19. Preformed packings (6)
- 20. Elbow

- 21. Screws (2)
- 22. Retaining straps (2)
- 23. Metal tube assembly
- 24. Tube assembly
- 25. Tube to boss elbow
- 26. Tube assembly
- 27. Tube assembly
- 28. Tube assembly
- 29. Tube assembly
- 30. Check valves (4)

NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #7 and #13,

if removed (WP 0454 00)

Install subfloor plates #31 and #32,

if removed (WP 0454 00)

Install right air cleaner, if removed (WP 0208 00)

Install subfloor plates #23, #31 and #32,

if removed (WP 0454 00)

Install rocket ammunition stowage box,

if removed (WP 0478 00)

Install oddment tray shelf, if removed (WP 0478 00)

Install main winch and spade assembly, if removed (WP 0497 00)

(VVP 0497 00)

Install driver's side fire extinguisher bracket, if removed (WP 0704 00)

Install left air cleaner, if removed (WP 0208 00)

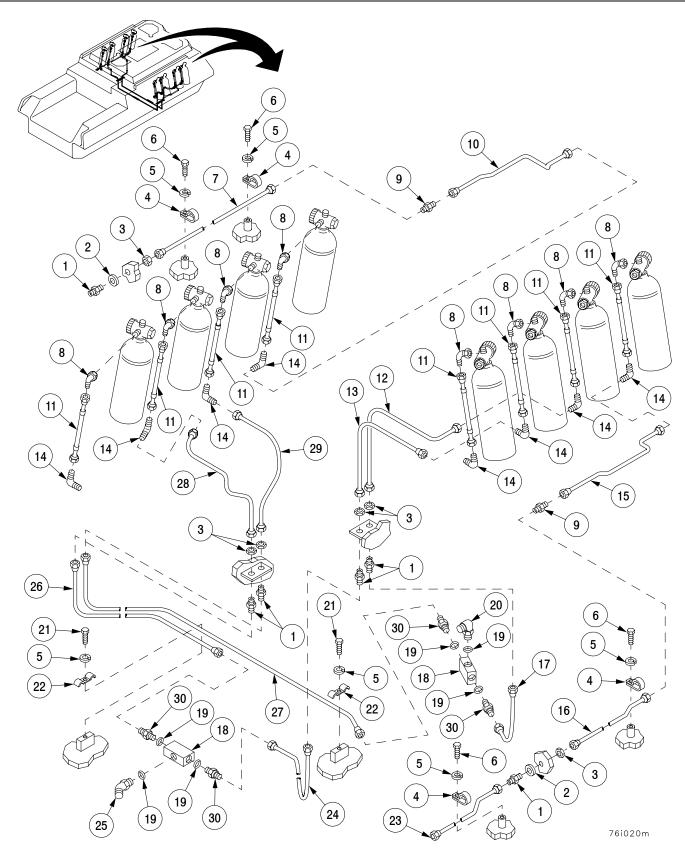
Install vehicular tool box rack, oddment

tray assembly and bracket, if removed (WP 0480 00)

Install subfloor plates #19 and #24,

if removed (WP 0454 00)

0698 00



END OF TASK

FIXED FIRE EXTINGUISHER ACTUATOR CABLE ASSEMBLY REPAIR

0699 00

THIS WORK PACKAGE COVERS:

Disassembly, Assembly

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Combination wrench (item 30, WP 0717 00)

Materials/Parts

Anti-pilferage seals (3) (item 94, WP 0718 00) Lockwashers (2) (item 95, WP 0718 00) Lockwashers (2) (item 9, WP 0718 00) Antiseizing tape (item 21, WP 0716 00) Graphite (item 20, WP 0716 00) Safety goggles (item 93, WP 0716 00) Marker tags (item 49, WP 0716 00)

Personnel Required

Two

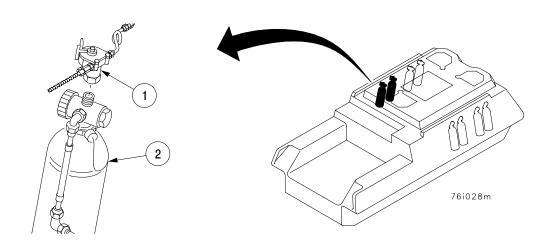


NOTE

There are two control valves. Both control valves are disconnected in the same manner.

Disassembly

1. Remove control valve (1) from cylinder assembly (2).



FIXED FIRE EXTINGUISHER ACTUATOR CABLE ASSEMBLY REPAIR - CONTINUED

0699 00

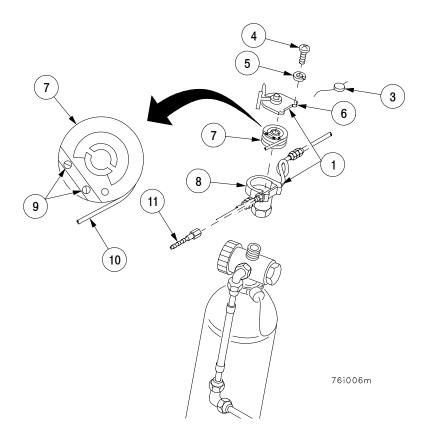
Disassembly-Continued

2. Remove anti-pilferage seal (3) from control valve (1). Discard anti-pilferage seal.



To prevent accidental discharge of CO², first disconnect the cylinder assembly connected to pull cable. Failure to comply may result in injury or death to personnel.

- 3. Remove three screws (4), three lockwashers (5) and cover plate (6) from control valve (1). Discard lockwashers.
- 4. Remove cable reel (7) from valve body (8). Loosen two set screws (9), remove cable assembly (10) from reel (7).
- 5. Disconnect conduit (11) from valve body (8).



FIXED FIRE EXTINGUISHER ACTUATOR CABLE ASSEMBLY REPAIR - CONTINUED

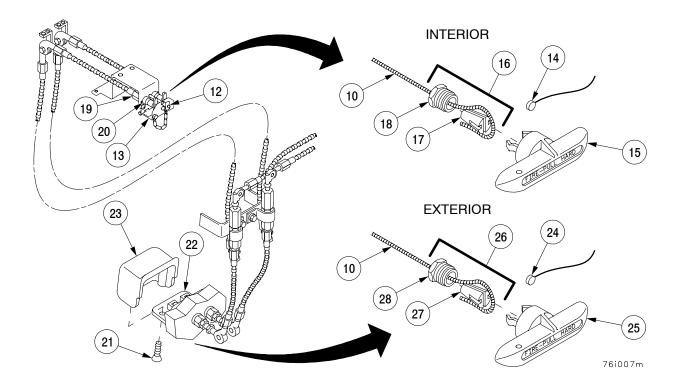
0699 00

Disassembly-Continued

NOTE

There are two sets of remote control pull handles (interior and exterior). Both sets of control handles are removed in the same manner.

- 6. Remove quick-release pin (12) and lower interior control pull handles cover (13).
- 7. Remove anti-pilferage seal (14) from interior cable handle (15). Discard anti-pilferage seal.
- 8. Pull interior cable handle (15). Hold cable fastener assembly (16), remove cable handle (15).
- 9. Remove plug (17) from socket (18), remove cable assembly (10) from plug (17).
- 10. Disconnect conduit (19) from adapter (20).
- 11. Remove three screws (21) from pulley release mechanism (22), lift off exterior control pull handles cover (23).
- 12. Remove anti-pilferage seal (24) from exterior cable handle (25). Discard anti-pilferage seal.
- 13. Pull exterior cable handle (25). Hold cable fastener assembly (26), remove cable handle (25).
- 14. Remove plug (27) from socket (28), remove cable assembly (10) from plug (27).



0699 00

Disassembly-Continued

NOTE

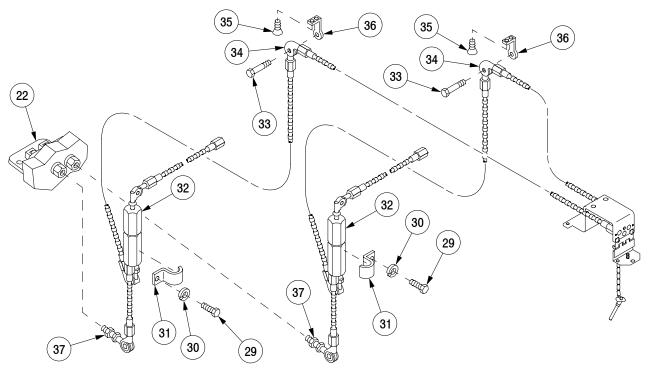
There are two dual pull mechanisms. Both dual pull mechanisms are removed in the same manner.

15. Remove screw (29), lockwasher (30) and clip (31) from dual pull mechanism (32). Discard lockwasher.

NOTE

There are two adjustable pulleys. Both adjustable pulleys are removed in the same manner.

- 16. Remove screw (33) from adjustable pulley (34).
- 17. Remove two screws (35) and adjustable pulley bracket (36), if required for replacement.
- 18. Remove adapter (37) from pulley release mechanism (22).



76i008m

0699 00

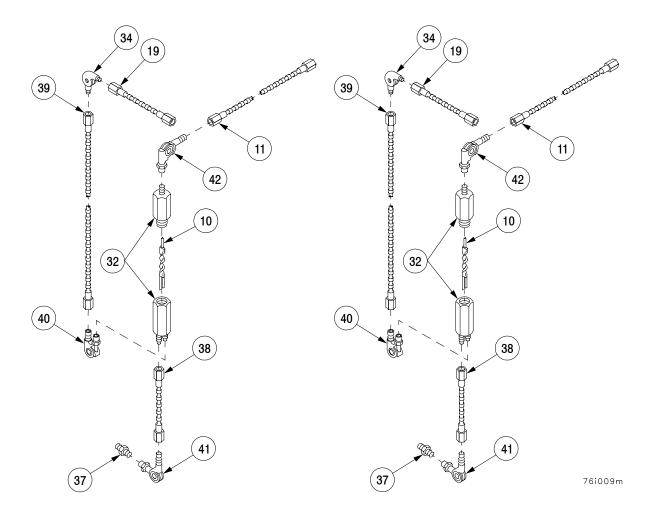
Disassembly-Continued

19. Remove dual pull mechanism (32) from vehicle with four conduits (11, 19, 38 and 39) and four pulleys (34, 40, 41 and 42).

NOTE

Tag conduits and pulleys to aid in assembly.

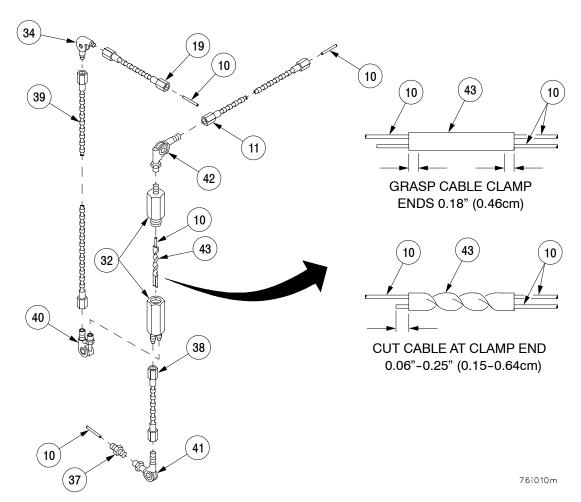
- 20. Remove four conduits (11, 19, 38 and 39) and four pulleys (34, 40, 41 and 42) from dual pull mechanism (32).
- 21. Separate two halves of dual pull mechanism (32), remove cable assembly (10).
- 22. Remove adapter (37) from pulley (41).
- 23. Inspect parts for damage and replace as required.



0699 00

Assembly

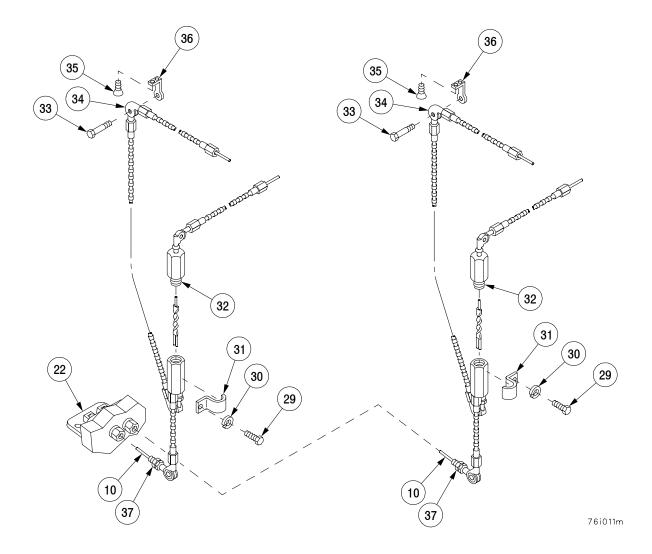
- 1. Lubricate cable assembly (10) with graphite.
- 2. Connect adapter (37) onto pulley (41).
- 3. Thread and connect cable assembly (10) through pulleys (34, 40, 41 and 42), four conduits (11, 19, 38 and 39) and dual pull mechanism (32).
- 4. Insert three cable assembly ends (10) in cable clamp (43).
- 5. Squeeze cable clamp (43) tightly along its entire length.
- 6. Grasp both ends of cable clamp (43) at each end approximately 0.18 in. (0.46 cm).
- 7. Rotate the ends of cable clamp (43) in opposite directions simultaneously until cable clamp has been twisted to one and one-half turns.
- 8. Cut short ends of cable (10) to within 0.06-0.25 in. (0.15-0.64 cm) of cable clamp (43).



0699 00

Assembly-Continued

- 9. Apply antiseizing tape to threads of dual pull mechanism (32). Assemble dual pull mechanism (32).
- 10. Install adapter (37) on pulley release mechanism (22).
- 11. Install adjustable pulley bracket (36) with two screws (35), if removed.
- 12. Install adjustable pulley (34) with screw (33).
- 13. Install dual pull mechanism (32) with clip (31), screw (29) and new lockwasher (30).
- 14. Thread cable assembly (10) through adapter (37) and pulley release mechanism (22).



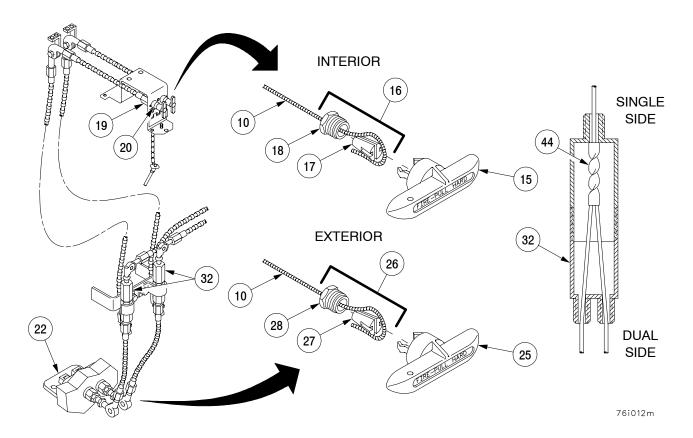
0699 00

Assembly-Continued

NOTE

Splice is positioned inside dual pull mechanism by pulling on ends of cable assembly.

- 15. Position splice (44) against dual side of dual pull mechanism (32). Thread cable assembly (10) through socket (28) and install plug (27), leaving two inches (5.08 cm) of free cable between pulley release mechanism (22) and cable fastener assembly (26).
- 16. Hold cable fastener assembly (26), install exterior cable handle (25).
- 17. Thread cable assembly (10) through adapter (20), connect conduit (19).
- 18. Thread cable assembly (10) through socket (18) and install plug (17), leaving two inches (5.08 cm) of free cable between adapter (20) and cable fastener assembly (16).
- 19. Hold cable fastener assembly (16), install interior cable handle (15).
- 20. Position splice (44) against single side of dual pull mechanism (32).
- 21. Verify cable handles (15 and 25) are in correct position.



0699 00

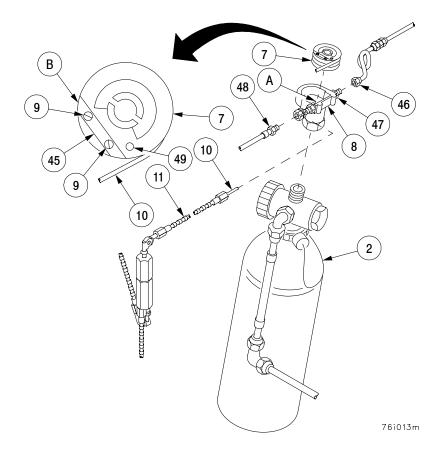
Assembly-Continued

- 22. Thread cable assembly (10) through valve body (8), connect conduit (11).
- 23. Insert end of cable assembly (10) into slot (45) in cable reel (7). Adjust cable length for five inches (12.7 cm) of free cable between point A where cable assembly (10) enters cavity of control valve body (8) and point B where cable enters slot (45) in cable reel (7). Secure cable assembly (10) with two set screws (9).

NOTE

Control valve must be removed from cylinder assembly to check for correct actuator cable assembly installation.

- 24. Disconnect tube assembly (46) from adapter (47).
- 25. Disconnect hose assembly (48) from valve body (8).
- 26. Position cable reel (7) in valve body (8). Cam side must be down. Top of actuator pin (49) must contact cam surface. Align set arrow on reel with set line on body.



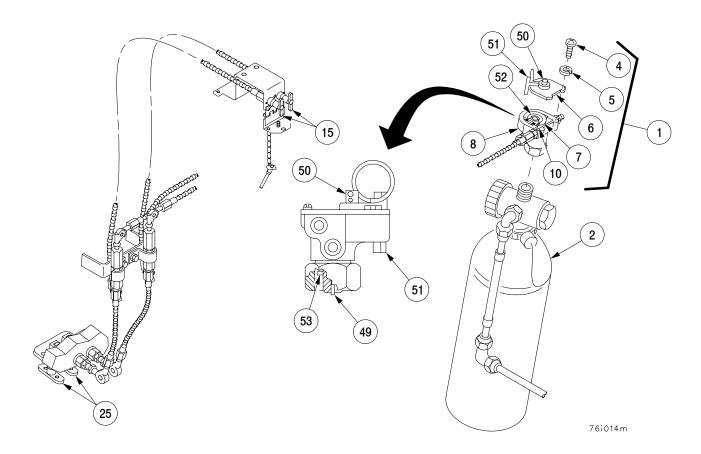
0699 00

Assembly-Continued



To avoid discharge of CO^{2,} make sure control valve is clear of cylinder assembly before installing cover plate. Failure to comply may result in injury or death to personnel

- 27. Position cover plate (6) on valve body (8) so that shaft (50) of manual discharge lever (51) goes through hub of cable reel (7). Pin through shaft (50) must engage slot (52) in hub of cable reel (7).
- 28. Install cover plate (6) with three screws (4) and three new lockwashers (5).
- 29. Hold control valve assembly (1) clear of cylinder assembly (2), but close to final mounted position. Pull and hold interior cable handle (15). Measure length of actuator pin (49) that protrudes below control valve mounting flange (53). Protrusion must be 0.5–0.6 in. (13–15 mm). If not, readjust cable assembly (10) at cable reel (7) and repeat steps 18 through 24, as required.
- 30. Repeat step 29, using exterior release cable handle (25).



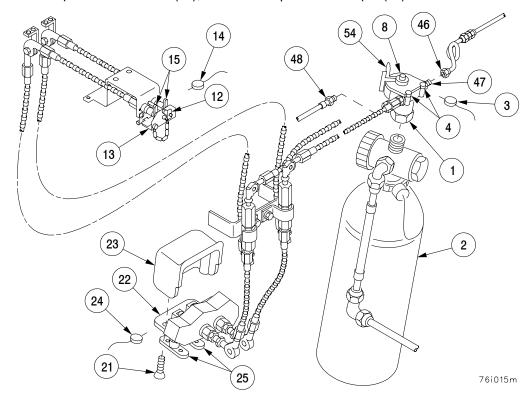
0699 00

Assembly-Continued



To avoid discharge of CO², make sure control valve assembly has been reset to the SET position and that both cable handles are returned to off position (seated) before installing control valve. Failure to comply may result in injury or death to personnel.

- 31. Connect hose assembly (48) to valve body (8).
- 32. Connect tube assembly (46) to adapter (47).
- 33. Install new anti-pilferage seal (3) through holes in two cover plate mounting screws (4) and lockpin finger loop (54). DO NOT run seal wire through manual discharge center shaft hole.
- 34. Install control valve (1) on cylinder assembly (2).
- 35. Install two new anti-pilferage seals (24 and 14) on each of two cable handles (25 and 15).
- 36. Position exterior control pull handles cover (23) on pulley release mechanism (22), secure with three screws (21).
- 37. Raise interior control pull handles cover (13), secure with quick-release pin (12).



FIXED FIRE EXTINGUISHER VALVE ASSEMBLY AND RELATED PARTS REPLACEMENT

0700 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Combination wrench (item 30, WP 0717 00)

Materials/Parts

Lockwashers (6) (item 9, WP 0718 00) Lockwashers (10) (item 2, WP 0718 00) Preformed packings (2) (item 64, WP 0718 00) Marker tags (item 49, WP 0716 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Subfloor plates #10, #11 and #15 removed (WP 0454 00)

For maintenance of tube #7

Main winch and spade assembly removed (WP 0497 00)

For maintenance of tubes #7, #22, #23, #25, #27 and hose #16

Equipment Conditions

Subfloor plates #10, #11, #15 and #22 removed (WP 0454 00)

For maintenance of nozzles

Subfloor plate #15 removed (WP 0454 00)

For maintenance of tube #11 and valve #8

Subfloor plate #13 removed (WP 0454 00)

For maintenance of tube #1

Oddment tray assembly removed (WP 0480 00)

For maintenance of tube #1

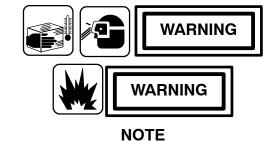
Oddment tray shelf removed (WP 0478 00)

For maintenance of tube #11

Hydraulic pump assembly removed

(WP 0545 00)

For maintenance of tubes #22 and #23



Perform only those steps necessary to replace the defective parts. Use legend reference guide.

Tag all hoses, tubes, brackets and fittings prior to removal to aid in installation.

FIXED FIRE EXTINGUISHER VALVE ASSEMBLY AND RELATED PARTS REPLACEMENT - CONTINUED

0700 00

Removal

- 1. Remove clamps and attaching hardware securing hoses, tubes, valves, bracket and nozzles to vehicle as shown in legend and illustration. Discard lockwashers.
- 2. Remove hoses, tubes, valves, brackets, nozzles, preformed packings and fittings in accordance with the following legend and illustration. Discard preformed packings.
- 3. Inspect parts for damage and replace as required.

Installation

- 1. Install hoses, tubes, valves, bracket, nozzles, new preformed packings and fittings in accordance with the following legend and illustration.
- 2. Install clamps with attaching hardware and new lockwashers securing hoses, tubes, valves, bracket and nozzles to vehicle as shown in legend and illustration.

NOTE

FOLLOW-ON MAINTENANCE:

Install subfloor plates #10, #11, #15 and #22, if removed (WP 0454 00)
Install subfloor plate #15, if removed (WP 0454 00)
Install subfloor plate #13, if removed (WP 0454 00)
Install oddment tray, if removed (WP 0480 00)
Install oddment tray shelf, if removed (WP 0478 00)
Install hydraulic pump assembly, if removed (WP 0545 00)
Install subfloor plates #10, #11 and #15, if removed (WP 0454 00)
Install main winch and spade assembly, if removed (WP 0497 00)

FIXED FIRE EXTINGUISHER VALVE ASSEMBLY AND RELATED PARTS REPLACEMENT - CONTINUED

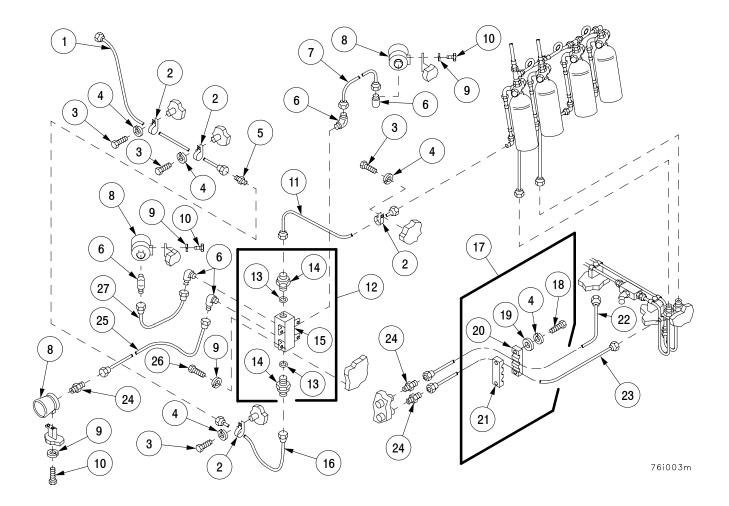
0700 00

Legend:

- 1. Tube assembly
- 2. Loop clamps (4)
- 3. Screws (4)
- 4. Lockwashers (6)
- 5. Tube nipple
- 6. Pipe elbows (5)
- 7. Tube assembly
- 8. Fire hose nozzles (3)
- 9. Lockwashers (10)

- 10. Screws (6)
- 11. Tube assembly
- 12. Valve assembly
- 13. Preformed packings (2)
- 14. Check valves (2)
- 15. Manifold
- 16. Hose assembly
- 17. Clamp assembly
- 18. Screws (2)

- 19. Flat washers (2)
- 20. Block
- 21. Block
- 22. Tube assembly
- 23. Tube assembly
- 24. Straight adapters (3)
- 25. Tube assembly
- 26. Screws (4)
- 27. Tube assembly



FIXED FIRE EXTINGUISHER MANUAL INTERLOCK SYSTEM COMPONENTS REPLACEMENT

0701 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Hand riveter (item 66, WP 0717 00)

Materials/Parts

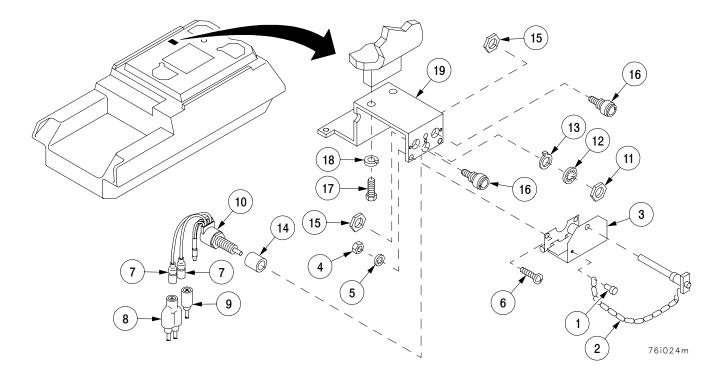
Lockwashers (2) (item 2, WP 0718 00) Lockwashers (2) (item 110, WP 0718 00) Rivet (item 113, WP 0718 00)

Equipment Conditions

Actuator cable assembly removed (WP 0699 00)
Personnel heater control box removed (WP 0248 00)

Removal

- 1. Remove rivet (1) and quick-release pin chain (2) from shield (3). Discard rivet.
- 2. Remove two nuts (4), two lockwashers (5), two screws (6) and shield (3). Discard lockwashers.
- 3. Disconnect two 54A circuit leads (7) from wiring harnesses 4W127 (8) and 4W101 (9) at interlock switch assembly (10).
- 4. Remove nut (11), lockwasher (12), key washer (13), bushing (14) and interlock switch assembly (10).
- 5. Remove two nuts (15) and two adapters (16).
- 6. Remove two screws (17), two lockwashers (18) and bracket (19). Discard lockwashers.
- 7. Inspect parts for damage and replace as required.

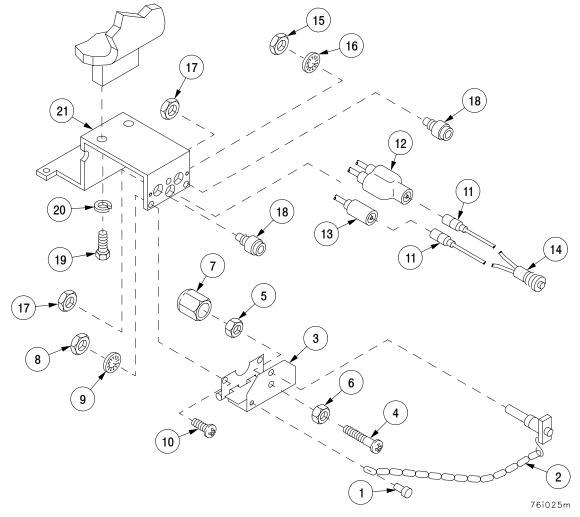


FIXED FIRE EXTINGUISHER MANUAL INTERLOCK SYSTEM COMPONENTS REPLACEMENT - CONTINUED

0701 00

Installation

- 1. Install bracket (19) with two screws (17) and two new lockwashers (18).
- 2. Install two adapters (16) with two nuts (15).
- 3. Install interlock switch assembly (10), bushing (14) and key washer (13) with lockwasher (12) and nut (11) (keywasher, lockwasher and nut are part of switch assembly).
- 4. Connect two 54A circuit leads (7) to wiring harnesses 4W101 (9) and 4W127 (8) at interlock switch assembly (10).
- 5. Install shield (3) with two screws (6), two new lockwashers (5) and two nuts (4).
- 6. Install quick-release pin chain (2) on shield (3) with new rivet (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install personnel heater control box (WP 0248 00) Install actuator cable assembly (WP 0699 00)

FIXED FIRE EXTINGUISHER PULLEY RELEASE MECHANISM REPLACEMENT

0702 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (2) (item 78, WP 0718 00) Gasket (item 114, WP 0718 00)

Equipment Conditions

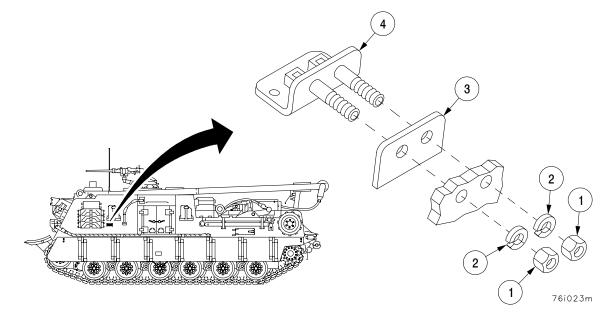
Actuator cable assembly removed (WP 0699 00)

Removal

- 1. Remove two nuts (1), two lockwashers (2), gasket (3) and pulley release mechanism (4). Discard lockwashers and gasket.
- 2. Inspect parts for damage and replace as required.

Installation

Install pulley release mechanism (4) with new gasket (3), two new lockwashers (2) and two nuts (1).



NOTE

FOLLOW-ON MAINTENANCE:

Install actuator cable assembly (WP 0699 00)

FIXED FIRE EXTINGUISHER CYLINDER AND LINES REPLACEMENT

0703 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Adjustable wrench (item 22, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 58, WP 0718 00) Lockwashers (4) (item 9, WP 0718 00) Marker tags (item 49, WP 0716 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

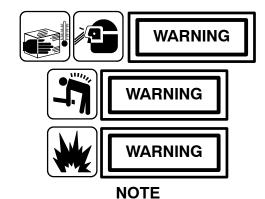
Control valves removed (WP 0699 00)
Actuator cable assembly disconnected (WP 0699 00)

Equipment Conditions - Continued

Driver's seat removed (WP 0461 00)
For left side cylinders and lines
Oddment tray removed (WP 0480 00)
For left side cylinders and lines
Mechanic's seat removed (WP 0461 00)
For right side cylinders and lines

Personnel Required

Two

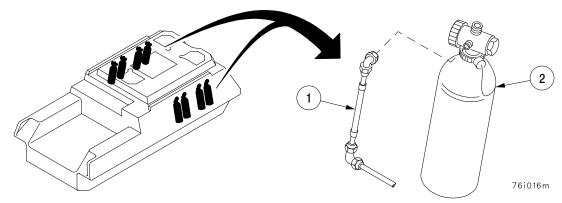


Tag all hoses, lines and fittings prior to removal to aid in installation.

Perform only those steps necessary to replace the defective parts.

Removal

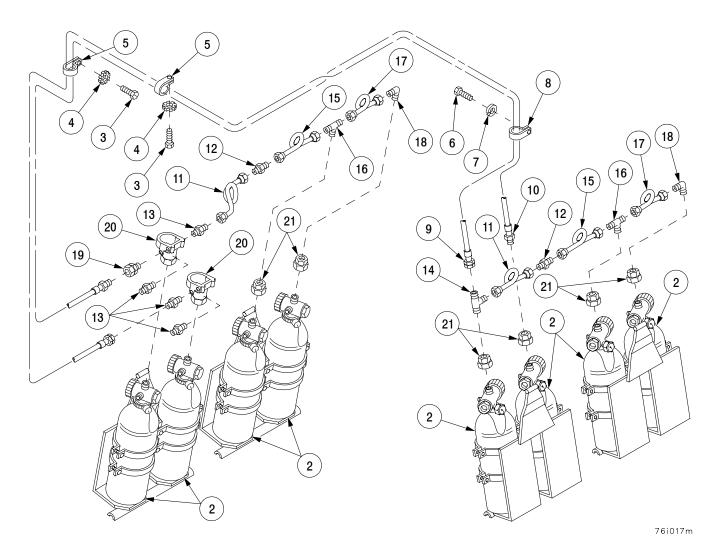
1. Disconnect eight discharge hoses (1) from eight cylinders (2).



0703 00

Removal-Continued

- 2. Remove eight screws (3), eight lockwashers (4) and eight clamps (5). Discard lockwashers.
- 3. Remove four screws (6), four lockwashers (7), four clamps (8), disconnect two hoses (9 and 10) from four cylinders (2). Discard lockwashers.
- 4. Disconnect two interconnecting tubes (11) from two unions (12), adapter (13) and tee (14).
- 5. Disconnect two interconnecting tubes (15) from two unions (12) and two tees (16).
- 6. Disconnect two interconnecting tubes (17) from two tees (16) and two elbows (18).
- 7. Remove four adapters (13) and coupling (19) from two control valves (20).
- 8. Remove tee (14), two tees (16) and two elbows (18) from five heads (21).
- 9. Remove six heads (21) from six cylinders (2).



0703 00

Removal-Continued



To prevent accidental discharge of CO², remove diffuser cap and piston cap from stowage plugs and install on the cylinder assembly that is being removed. Failure to comply may result in injury or death to personnel.

- 10. Install diffuser cap (22) on cylinder discharge port (23).
- 11. Install cap assembly (24) on cylinder safety disc (25).

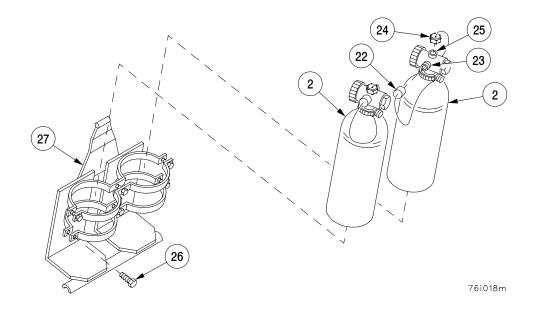
NOTE

Cylinders are mounted in four brackets in groups of two. To remove one cylinder, the adjacent cylinder must also be disconnected. If removing the rear two cylinders, the front two cylinders must be removed first.

- 12. Loosen six screws (26) on mounting bracket (27), remove two cylinders (2).
- 13. Inspect parts for damage and replace as required.

Installation

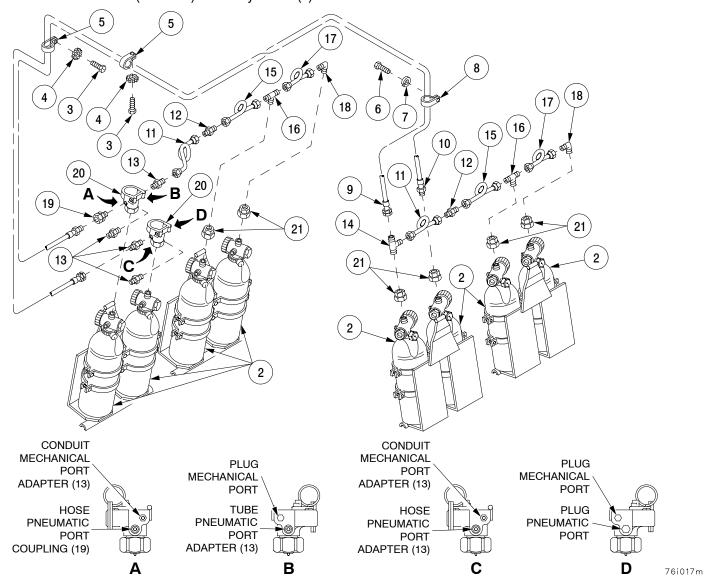
- 1. Position two cylinders (2) on mounting bracket (27).
- 2. Remove cap assembly (24) from cylinder safety disc (25), stow cap assembly (24) on plug.
- 3. Remove diffuser cap (22) from cylinder discharge port (23), stow cap assembly (24) on plug.



0703 00

Installation-Continued

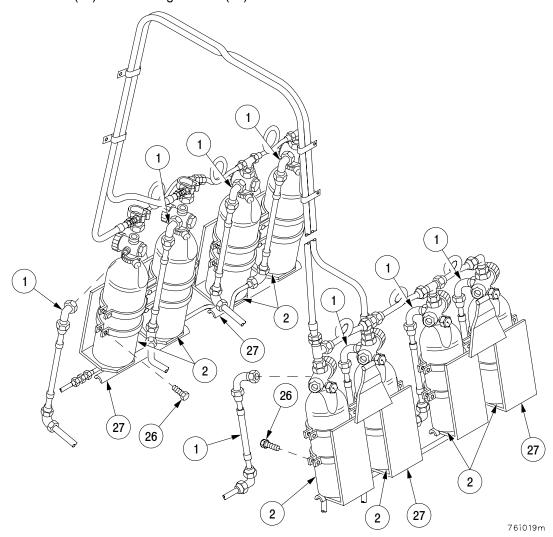
- 4. Install six heads (21) on six cylinders (2).
- 5. Install two elbows (18), two tees (16) and tee (14) on five heads (21).
- 6. Install coupling (19) and four adapters (13) on two control valves (20).
- 7. Connect two interconnecting tubes (17) to two elbows (18) and two tees (16).
- 8. Connect two interconnecting tubes (15) to two unions (12) and two tees (16).
- 9. Connect two interconnecting tubes (11) to tee (14), adapter (13) and two unions (12).
- 10. Install two hoses (9 and 10) with four clamps (8), four screws (6) and four new lockwashers (7).
- 11. Cross two hoses (9 and 10), install eight clamps (5) with eight screws (3) and eight new lockwashers (4). Connect two hoses (9 and 10) to four cylinders (2).



0703 00

Installation-Continued

- 12. Connect eight discharge hoses (1) to eight cylinders (2).
- 13. Tighten six screws (26) on mounting bracket (27).



NOTE

FOLLOW-ON MAINTENANCE:

Install mechanic's or driver's seats, if removed (WP 0461 00)
Install oddment tray, if removed (WP 0480 00)
Connect actuator cable assembly (WP 0699 00)
Install control valves (WP 0699 00)

FIXED FIRE EXTINGUISHER CYLINDER MOUNTING BRACKETS AND SUPPORTS REPLACEMENT

0704 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (16) (item 2, WP 0718 00) Lockwashers (2) (item 35, WP 0718 00)

Equipment Conditions

Fire extinguisher cylinders removed (WP 0703 00)

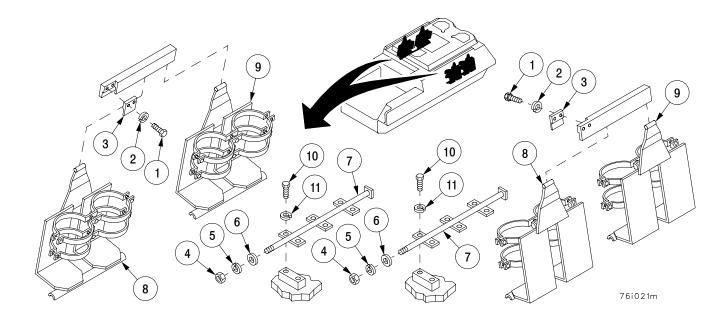
NOTE

There are four cylinder mounting brackets, two on the left side and two on the right side. The procedures are the same for left or right side.

There are two cylinder mounting bracket supports, one on the left side and on the right side. The procedures are the same for left or right side.

Removal

- 1. Remove two screws (1), two lockwashers (2) and retainer (3). Discard lockwashers.
- 2. Remove nut (4), lockwasher (5) and flat washer (6) from support (7). Discard lockwasher.
- 3. Slide brackets (8 and 9) from support (7).
- 4. Remove six screws (10), six lockwashers (11) and support (7). Discard lockwashers.
- 5. Inspect parts for damage and replace as required.

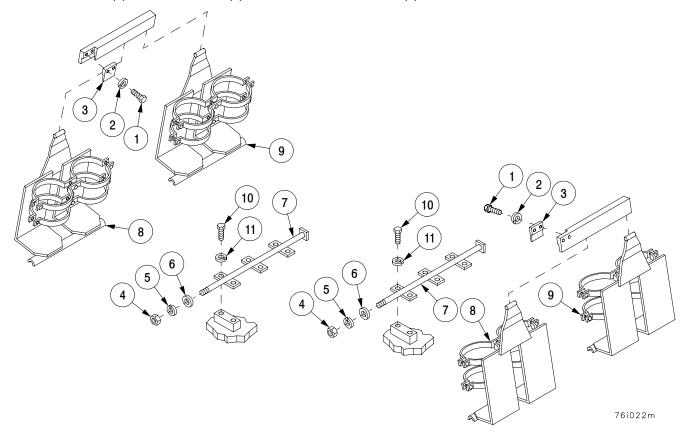


FIXED FIRE EXTINGUISHER CYLINDER MOUNTING BRACKETS AND SUPPORTSREPLACEMENT - CONTINUED

0704 00

Installation

- 1. Install support (7) with six screws (10) and six new lockwashers (11).
- 2. Slide brackets (8 and 9) on support (7).
- 3. Secure brackets (8 and 9) on support (7) with flat washer (6), new lockwasher (5) and nut (4).
- 4. Install retainer (3) with two screws (1) and two new lockwashers (2).



NOTE

FOLLOW-ON MAINTENANCE:

Install fire extinguisher cylinder (WP 0703 00)

FIXED FIRE EXTINGUISHER CYLINDER CAP RETAINING ASSEMBLIES REPAIR

0705 00

THIS WORK PACKAGE COVERS:

Disassembly, Assembly

INITIAL SETUP:

Tools and Special Tools

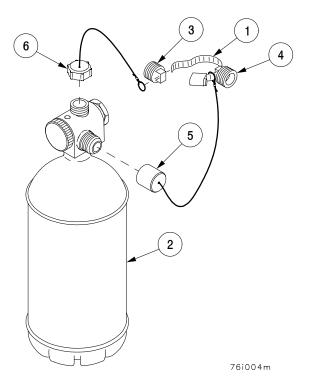
General mechanic's tool kit (item 1, WP 0717 00)

Disassembly

- 1. Remove clamp (1) from cylinder (2).
- 2. Remove two plugs (3 and 4) from clamp (1).
- 3. Remove two caps (5 and 6) from clamp (1).
- 4. Inspect parts for damage and replace as required.

Assembly

- 1. Install two caps (5 and 6) on clamp (1).
- 2. Install two plugs (3 and 4) on clamp (1).
- 3. Install clamp (1) on cylinder (2).



CHAPTER 25

CHEMICAL, BIOLOGICAL AND RADIOLOGICAL (CBR) EQUIPMENT MAINTENANCE

0706 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00) Retaining pliers set (item 15, WP 0017 00)

Materials/Parts

Lockwashers (24) (item 58, WP 0718 00) Lockwashers (4) (item 346, WP 0718 00)) Retaining rings (3) (item 347, WP 0718 00) Hose clamps (3) (item 357, WP 0718 00) Hose clamps (3) (item 430, WP 0718 00) Lockwashers (2) (item 351, WP 0718 00) Safety goggles (item 93, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Battery power disconnected (WP 0256 00)

References

TM 9-2350-292-10



NOTE

Perform Removal steps 1 through 14 and 28 and Installation steps 13 through 25 for maintenance of right side GPFU, hose assemblies and associated hardware.

Perform Removal steps 15 through 28 and Installation steps 1 through 12 for maintenance of left side GPFU, hose assemblies and associated hardware.

0706 00

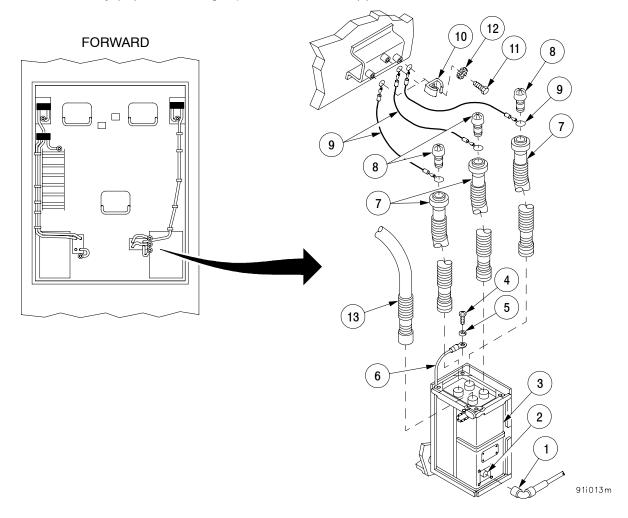
Removal

- 1. Disconnect wiring harness 4W307 connector P2 (1) from connector J1 (2) at M2A2 gas particulate filter unit (3).
- Remove screw (4), lockwasher (5) and lead assembly 4W303 (6) from M2A2 gas particulate filter unit (3). Discard lockwasher.
- 3. Remove three hoses (7), three orifice connectors (8) and three wire rope assemblies (9) from manifold of M2A2 gas particulate filter unit (3) and three clamps (10).
- 4. Remove three wire rope assemblies (9) and three orifice connectors (8) from three hoses (7).

NOTE

Do not remove wire rope assemblies from hose orifice connectors unless wire rope assemblies or orifice connectors are damaged.

- 5. Remove three wire rope assemblies (9) from three orifice connectors (8), if damaged.
- 6. Remove three screws (11), three lockwashers (12), three clamps (10) and three wire rope assemblies (9) from bracket on vehicle wall. Discard lockwashers.
- 7. Remove hose assembly (13) from M2A2 gas particulate filter unit (3).



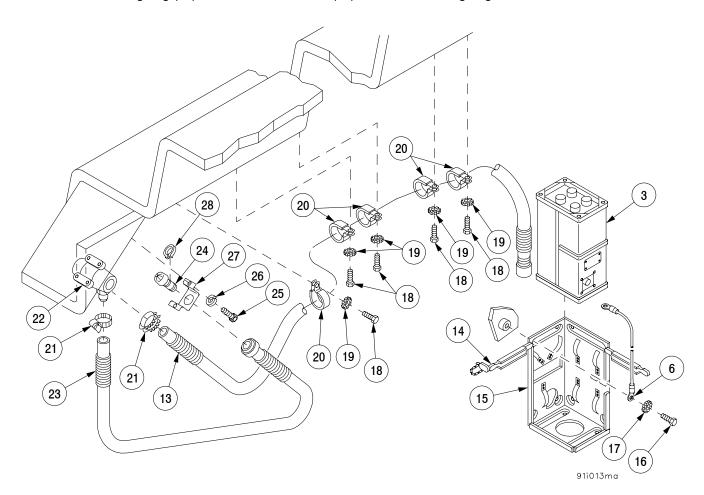
0706 00

Removal-Continued

- 8. Open catch (14) on frame assembly (15), remove M2A2 gas particulate filter unit (3) from frame assembly (15).
- 9. Remove four screws (16), four lockwashers (17), lead assembly 4W303 (6) and frame assembly (15) from vehicle. Discard lockwashers.
- 10. Remove five screws (18), five lockwashers (19) and five clamps (20) securing hose assembly (13) to right side of vehicle. Discard lockwashers.
- 11. Remove hose clamp (21) and hose assembly (13) from M3 air heater (22), remove hose assembly (13) from vehicle. Discard hose clamp.
- 12. Remove hose clamp (21) and hose assembly (23) from M3 air heater (22), disconnect other end of hose assembly (23) from orifice connector (24). Discard hose clamp.
- 13. Remove two screws (25), two lockwashers (26), bracket (27) and orifice connector (24) with retaining ring (28). Discard lockwashers.



14. Remove retaining ring (28) from orifice connector (24). Discard retaining ring.



0706 00

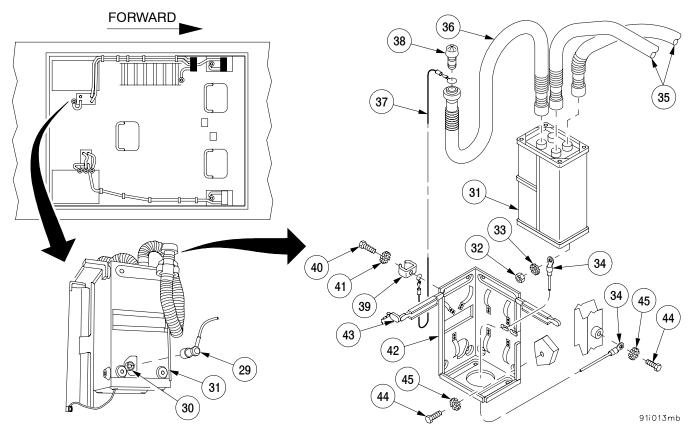
Removal-Continued

- 15. Disconnect wiring harness 4W306 connector P2 (29) from connector J1 (30) at M2A2 gas particulate filter unit (31).
- 16. Remove nut (32), lockwasher (33) and lead assembly 4W303 (34) from M2A2 gas particulate filter unit (31). Discard lockwasher.
- 17. Disconnect two hose assemblies (35) and hose assembly (36) from manifold of M2A2 gas particulate filter unit (31).

NOTE

Do not remove wire rope assemblies from orifice connectors, unless replacement of wire rope assemblies, or orifice connectors is necessary.

- 18. Remove wire rope assembly (37) from orifice connector (38) if replacement of components is necessary.
- 19. Remove hose assembly (36) from clamp (39), remove screw (40), lockwasher (41), clamp (39) and wire rope assembly (37) from frame assembly (42). Discard lockwasher.
- 20. Open catch (43) on frame assembly (42), remove M2A2 gas particulate filter unit (31) from frame assembly (42).
- 21. Remove five screws (44), five lockwashers (45), lead assembly 4W303 (34) and frame assembly (42) from vehicle. Discard lockwashers.



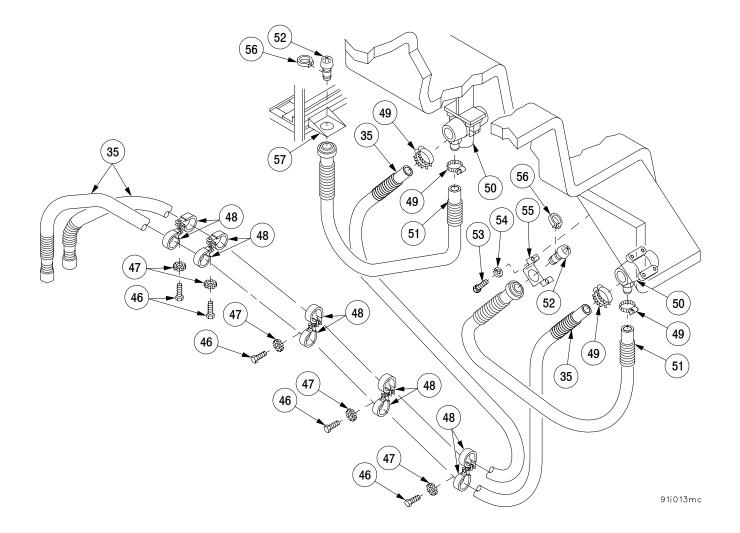
0706 00

Removal-Continued

- 22. Remove five screws (46), five lockwashers (47) and 10 clamps (48) securing two hose assemblies (35) to left side of vehicle. Discard lockwashers.
- 23. Remove two hose clamps (49) and two hose assemblies (35) from two M3 air heaters (50), remove two hose assemblies (35) from vehicle. Discard hose clamps.
- 24. Remove two hose clamps (49) and two hose assemblies (51) from two M3 air heaters (50) and two orifice connectors (52). Discard hose clamps.



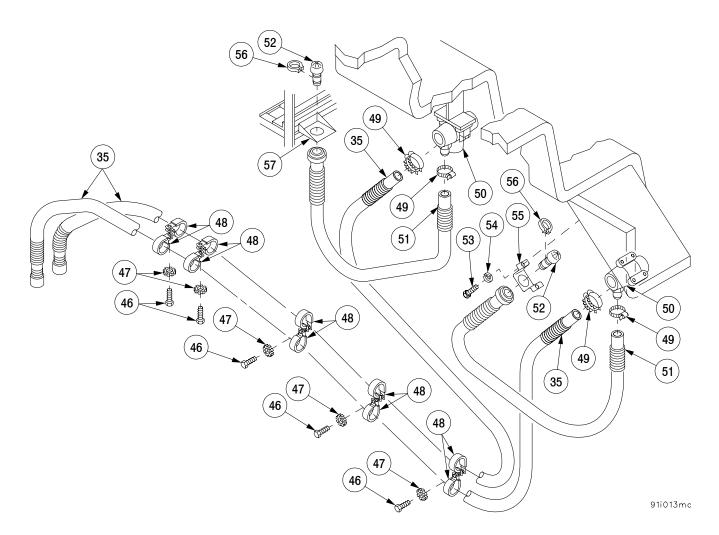
- 25. Remove two screws (53), two lockwashers (54), bracket (55) and orifice connector (52) with retaining ring (56) from vehicle. Discard lockwashers.
- 26. Remove retaining ring (56) from orifice connector (52). Discard retaining ring.
- 27. Remove orifice connector (52) with retaining ring (56) from bracket (57). Discard retaining ring.
- 28. Inspect parts for damage and replace as required.



0706 00

Installation

- 1. Install new retaining ring (56) on orifice connector (52) at bracket (57).
- 2. Install new retaining ring (56), orifice connector (52) and bracket (55) on vehicle with two screws (53) and two new lockwashers (54).
- 3. Connect two hose assemblies (51) to two M3 air heaters (50) and two orifice connectors (52) with two new hose clamps (49).
- 4. Connect two hose assemblies (35) to two M3 air heaters (50) with two new hose clamps (49).
- 5. Install two hose assemblies (35) to vehicle wall with 10 clamps (48), five screws (46) and five new lockwashers (47).



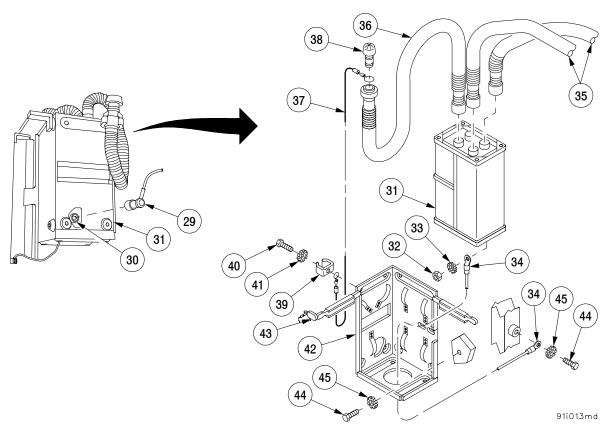
0706 00

Installation-Continued

NOTE

Make sure screws are tightened sufficiently to cause external tooth lockwasher to cut through paint to make an electrical contact. Removal of paint and primer at interface mounting surface is acceptable to achieve proper component ground.

- 6. Install frame assembly (42) and one end of lead assembly 4W303 (34) in vehicle with five screws (44) and five new lockwashers (45).
- 7. Install M2A2 gas particulate filter unit (31) in frame assembly (42) and close catch (43).
- 8. Install clamp (39) and wire rope assembly (37) on frame assembly (42) with screw (40) and new lockwasher (41).
- 9. Install wire rope assembly (37) on orifice connector (38), if removed.
- 10. Connect loose ends of two hose assemblies (35) and one end of hose assembly (36) to manifold on M2A2 gas particulate unit (31). Secure loose end of hose assembly (36) with orifice connector (38) and wire rope assembly (37) in clamp (39).
- 11. Install lead assembly 4W303 (34) on M2A2 gas particulate filter unit (31) with nut (32) and new lockwasher (33).
- 12. Connect wiring harness 4W306 connector P2 (29) to connector J1 (30) on M2A2 gas particulate filter unit (31).



0706 00

Installation-Continued

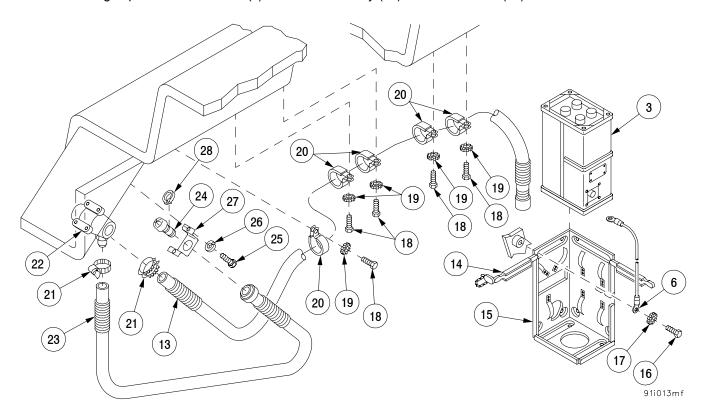


- 13. Install new retaining ring (28) on orifice connector (24) at bracket (27).
- 14. Install orifice connector (24) with new retaining ring (28) and bracket (27) on vehicle with two screws (25) and two new lockwashers (26).
- 15. Connect hose assembly (23) to M3 air heater (22) with new hose clamp (21), connect other end of hose assembly (23) to orifice connector (24).
- 16. Connect hose assembly (13) to M3 air heater (22) with new hose clamp (21).
- 17. Secure hose (13) to vehicle right side wall with five clamps (20), five screws (18) and five new lockwashers (19).

NOTE

Make sure screws are tightened sufficiently to cause external tooth lockwasher to cut through paint to make an electrical contact. Removal of paint and primer at interface mounting surface is acceptable to achieve proper component ground.

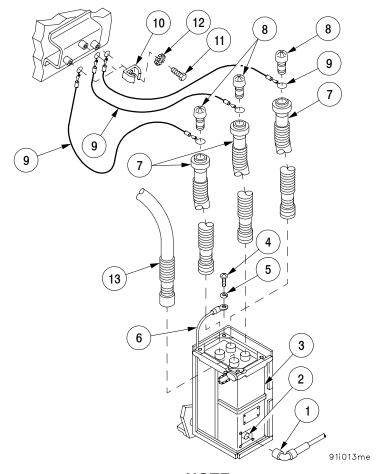
- 18. Install frame assembly (15) and one end of lead assembly 4W303 (6) in vehicle with four screws (16) and four new lockwashers (17).
- 19. Install M2A2 gas particulate filter unit (3) in frame assembly (15) and close catch (14).



0706 00

Installation-Continued

- 20. Connect loose end of hose assembly (13) on gas particulate filter unit (3).
- 21. Install three wire rope assemblies (9) on three orifice connectors (8), if removed.
- 22. Install three clamps (10) and three wire rope assemblies (9) on bracket on vehicle wall with three screws (11) and three new lockwashers (12).
- 23. Connect one end of three hoses (7) to M2A2 gas particulate filter unit (3) and secure the other ends of three hoses (7) with three wire rope assemblies (9) and three orifice connectors (8) in three clamps (10).
- 24. Install lead assembly 4W303 (6) on M2A2 gas particulate filter unit (3) with screw (4) and new lockwasher (5).
- 25. Connect wiring harness 4W307 connector P2 (1) to connector J1 (2) at M2A2 gas particulate filter unit (3).



NOTE

FOLLOW-ON MAINTENANCE:

Connect battery power (WP 0256 00) Check operation gas particulate filter unit (TM 9-2350-292-10)

AIR PURIFIER CONTROL UNIT ENCLOSURE ASSEMBLY AND BRACKET REPAIR

0707 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (12) (item 58, WP 0718 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Battery power disconnected (WP 0256 00)

References

TM 9-2350-292-10

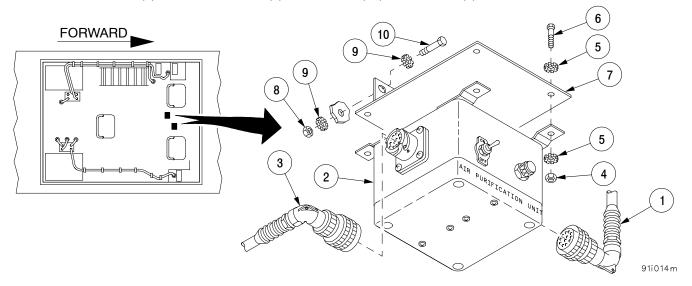
NOTE

There are two air purifier control unit enclosure assemblies. Both air purifier control unit enclosure assemblies are repaired in the same manner except as noted.

The Driver's air purifier control unit enclosure assembly does not have a removable bracket and is secured to vehicle with four screws and four lockwashers. This procedure applies to mechanic's side unit.

Removal

- 1. Disconnect wiring harness 4W307 connector P1 (1) from J2 on air purifier control unit enclosure assembly (2).
- 2. Disconnect wiring harness 4W305 connector P2 wire 422 (3) from J1 on air purifier control unit enclosure assembly (2).
- 3. Remove four nuts (4), eight lockwashers (5), four screws (6) and air purifier control unit enclosure assembly (2) from bracket (7). Discard lockwashers.
- Remove two nuts (8), four lockwashers (9), two screws (10) and bracket (7). Discard lockwashers.



AIR PURIFIER CONTROL UNIT ENCLOSURE ASSEMBLY AND BRACKET REPAIR - CONTINUED

0707 00

Disassembly

NOTE

The air purifier control unit enclosure assembly does not need to be removed to perform the Disassembly/Assembly.

- 1. Remove lens (11) and lamp (12) from air purifier control unit enclosure assembly (2).
- 2. Inspect parts for damage and replace as required.

Assembly

Install lamp (12) and lens (11) on air purifier control unit enclosure assembly (2).

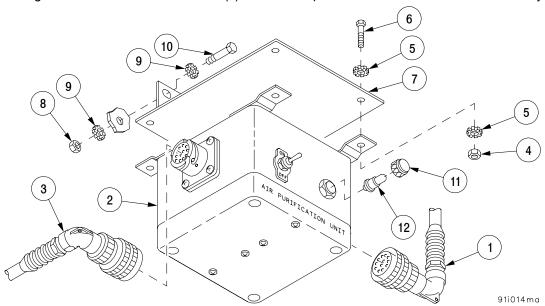
Installation

NOTE

Make sure screws are tightened sufficiently to cause external tooth lockwasher to cut through paint to make electrical contact. Removal of paint and primer at interface mounting surface is acceptable to achieve proper component ground.

Use one external tooth lockwasher next to screw head and one external tooth lockwasher next to nut.

- 1. Install bracket (7) with two screws (10), four new lockwashers (9) and two nuts (8).
- 2. Install air purifier control unit enclosure assembly (2) on bracket (7) with four screws (6), eight new lockwashers (5) and four nuts (4).
- 3. Connect wiring harness 4W305 P2 connector wire 422 (3) to J1 on air purifier control unit enclosure assembly (2).
- 4. Connect wiring harness 4W307 connector P1 (1) to J2 on air purifier control unit enclosure assembly (2).



NOTE

FOLLOW-ON MAINTENANCE: Connect battery power (WP 0256 00)

M3 AIR HEATER REPAIR

0708 00

THIS WORK PACKAGE COVERS:

Removal, Disassembly, Assembly, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (4) (item 58, WP 0718 00)) Hose clamp (item 357, WP 0718 00) Hose clamp (item 430, WP 0718 00)) Antiseize compound (item 90, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Battery power disconnected (WP 0256 00)

References

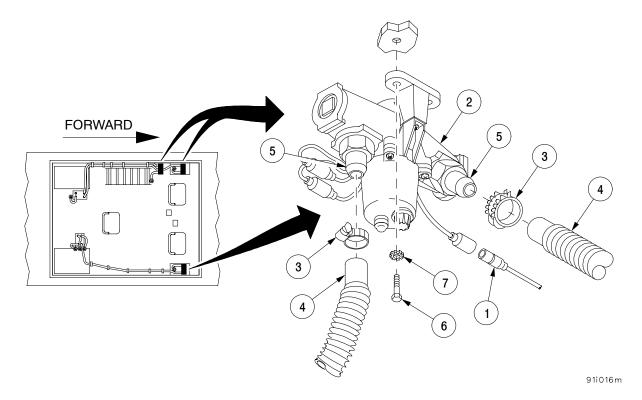
TM 9-2350-292-10

NOTE

There are three M3 air heaters located in the crew compartment. All M3 air heaters are repaired in the same manner. This task repairs driver's side M3 air heater.

Removal

- 1. Disconnect wiring harness 4W306 connector P3 (1) from wire 419 at M3 air heater (2).
- 2. Remove two hose clamps (3) and disconnect two hoses (4) from two adapters (5) on M3 air heater (2). Discard hose clamps.
- 3. Remove four screws (6), four lockwashers (7) and M3 air heater (2) from vehicle. Discard lockwashers.



M3 AIR HEATER REPAIR - CONTINUED

0708 00

Disassembly

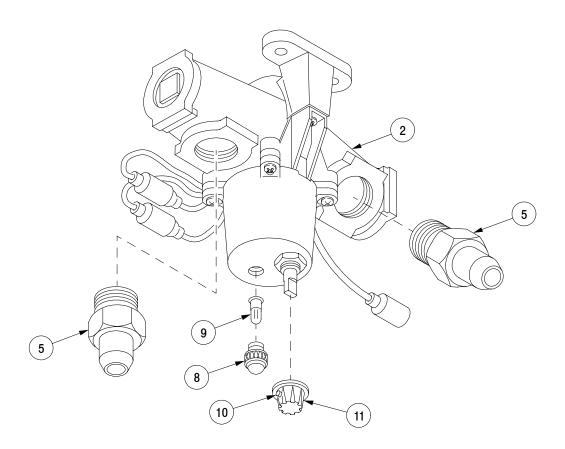
NOTE

Note position of adapters during disassembly to aid in proper positioning during assembly.

- 1. Remove two adapters (5) from M3 air heater (2).
- 2. Remove lens (8) and lamp (9) from M3 air heater (2).
- 3. Loosen set screw (10), remove knob (11) from M3 air heater (2).
- 4. Inspect parts for damage and replace as required.

Assembly

- 1. Install knob (11) on M3 air heater (2), tighten set screw (10).
- 2. Install lamp (9) and lens (8) on M3 air heater (2).
- 3. Apply antiseize compound to threads of adapters (5).
- 4. Install two adapters (5) in M3 air heater (2).



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M3 AIR HEATER REPAIR - CONTINUED

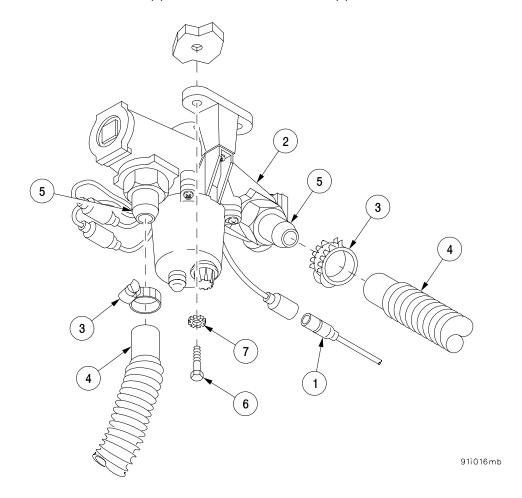
0708 00

Installation

NOTE

Make sure screws are tightened sufficiently to cause external tooth lockwasher to cut through paint to make electrical contact. Removal of paint and primer at interface mounting surface is acceptable to achieve proper component ground.

- 1. Install M3 air heater (2) on vehicle with four screws (6) and four new lockwashers (7).
- 2. Connect two hoses (4) to two adapters (5) on M3 air heater (2) with two new hose clamps (3).
- 3. Connect wiring harness 4W306 connector P3 (1) to wire 419 at M3 air heater (2).



NOTE

FOLLOW-ON MAINTENANCE: Connect battery power (WP 0256 00)

WIRING HARNESS 4W305 REPLACEMENT

0709 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (17) (item 58, WP 0718 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Battery power disconnected (WP 0256 00)

References

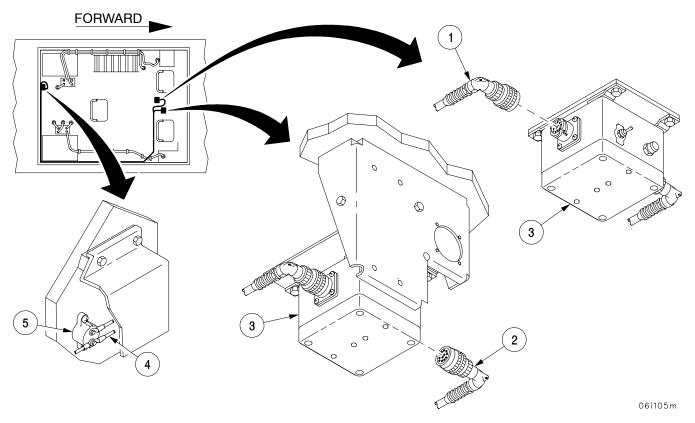
TM 9-2350-292-10

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Disconnect wiring harness 4W305 connector P1 (1) and wiring harness 4W305 connector P2 (2) from their respective control units (3).
- 2. Remove wiring harness 4W305 terminals T1/T2 (4) from circuit breaker (5). Retain attaching hardware to aid in installation.



WIRING HARNESS 4W305 REPLACEMENT - CONTINUED

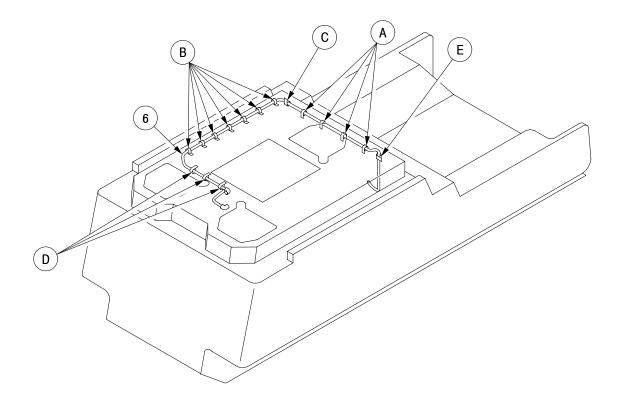
0709 00

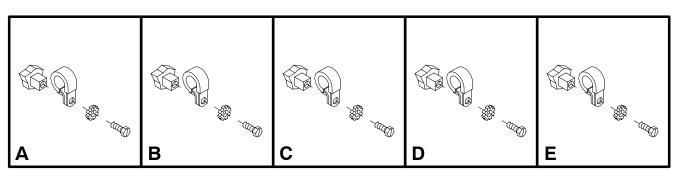
Removal-Continued

- 3. Loosen attaching hardware (A through E) securing wiring harness bundle to vehicle, as shown in illustration and remove wiring harness 4W305 (6) from wiring harness bundle. Discard lockwashers.
- 4. Remove wiring harness 4W305 (6) from vehicle.
- 5. Inspect parts for damage and replace as required.

Installation

1. Place wiring harness 4W305 (6) in wiring harness bundle and secure to vehicle using attaching hardware (A through E) and new lockwashers as shown in illustration.





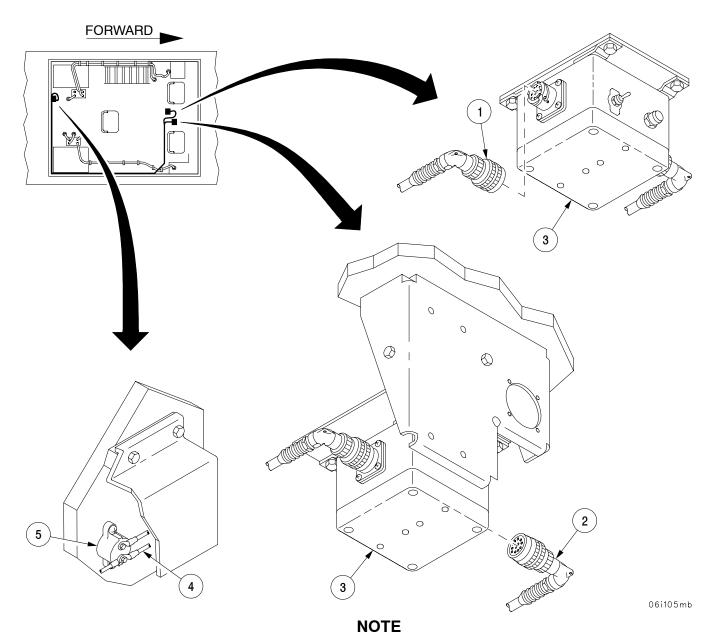
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WIRING HARNESS 4W305 REPLACEMENT - CONTINUED

0709 00

Installation-Continued

- 2. Connect wiring harness 4W305 connector P2 (2) and wiring harness 4W305 connector P1 (1) to their respective control units (3).
- 3. Connect wiring harness 4W305 terminals T1/T2 (4) to circuit breaker (5) using existing hardware.



FOLLOW-ON MAINTENANCE:

Connect battery power (WP 0256 00)

WIRING HARNESS 4W306 REPLACEMENT

0710 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (8) (item 58, WP 0718 00)

Electrical tie down strap (AR) (item 205, WP 0718 00)

Marker tags (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Battery power disconnected (WP 0256 00)

References

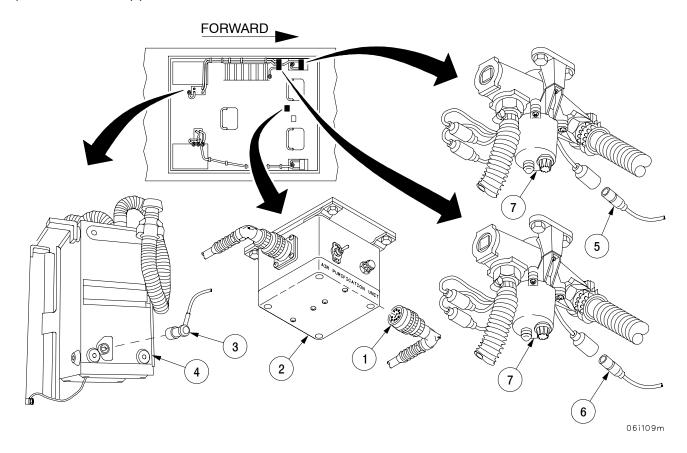
TM 9-2350-292-10

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Disconnect wiring harness 4W306 connector P1 (1) from control unit (2).
- 2. Disconnect wiring harness 4W306 connector P2 (3) from air purifier (4).
- 3. Disconnect wiring harness 4W306 connector P3 (5) and wiring harness 4W306 connector P4 (6) from their respective air heaters (7).



WIRING HARNESS 4W306 REPLACEMENT - CONTINUED

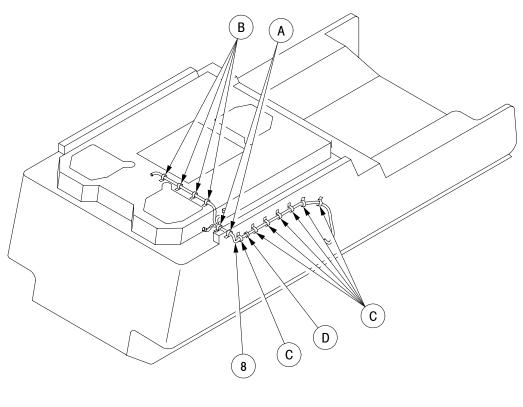
0710 00

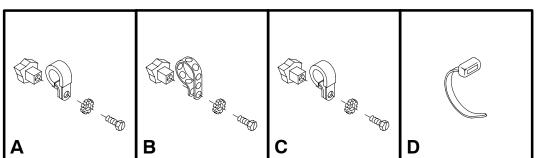
Removal-Continued

- 4. Loosen attaching hardware (A through D) securing wiring harness bundle to vehicle, as shown in illustration and remove wiring harness 4W306 (8) from wiring harness bundle. Discard lockwashers.
- 5. Remove wiring harness 4W306 (8) from vehicle.
- 6. Inspect parts for damage and replace as required.

Installation

1. Place wiring harness 4W306 (8) in wiring harness bundle and secure to vehicle using attaching hardware (A through D) and new lockwashers as shown in illustration.





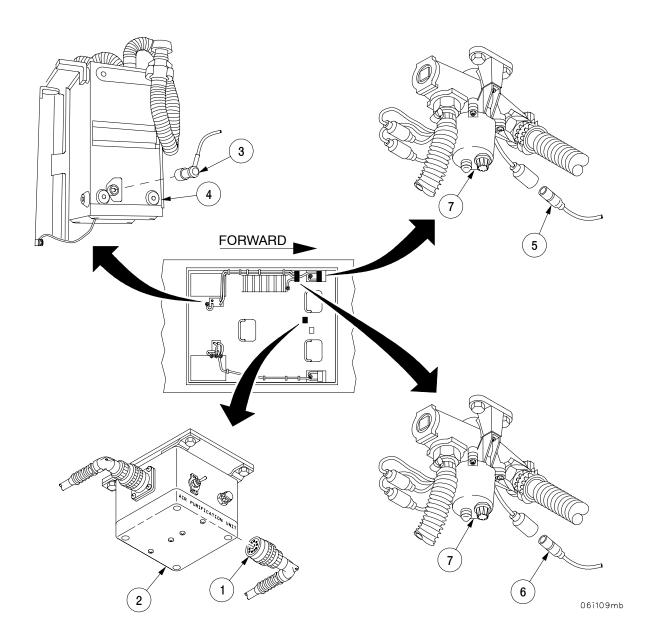
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WIRING HARNESS 4W306 REPLACEMENT - CONTINUED

0710 00

Installation-Continued

- 2. Connect wiring harness 4W306 connector P3 (5) and wiring harness 4W306 connector P4 (6) to their respective air heaters (7).
- 3. Connect wiring harness 4W306 connector P2 (3) to air purifier (4).
- 4. Connect wiring harness 4W306 connector P1 (1) to control unit (2).



NOTE

FOLLOW-ON MAINTENANCE:

Connect battery power (WP 0256 00)

END OF TASK

WIRING HARNESS 4W307 REPLACEMENT

0711 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Tools and Special Tools

General mechanic's tool kit (item 1, WP 0717 00)

Materials/Parts

Lockwashers (19) (item 58, WP 0718 00) Marker tags (item 49, WP 0716 00)

Equipment Conditions

Vehicle MASTER switch OFF (TM 9-2350-292-10) Battery power disconnected (WP 0256 00)

References

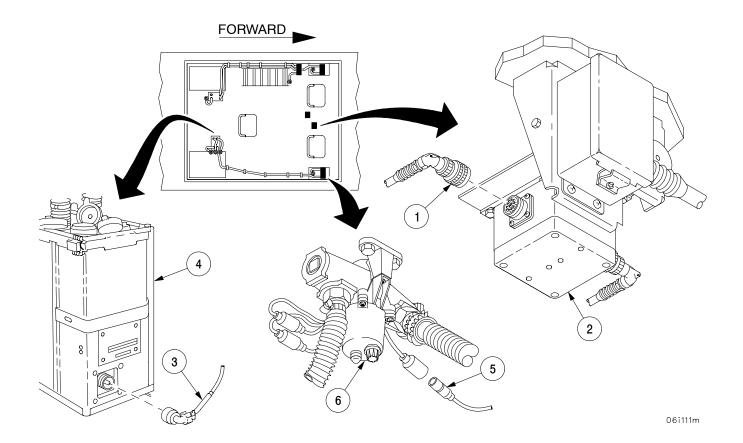
TM 9-2350-292-10

Removal

NOTE

Tag all electrical connections and electrical leads prior to removal to aid in installation.

- 1. Disconnect wiring harness 4W307 connector P1 (1) from control unit (2).
- 2. Disconnect wiring harness 4W307 connector P2 (3) from air purifier (4).
- 3. Disconnect wiring harness 4W307 wire 418 (5) from air heater (6).



WIRING HARNESS 4W307 REPLACEMENT - CONTINUED

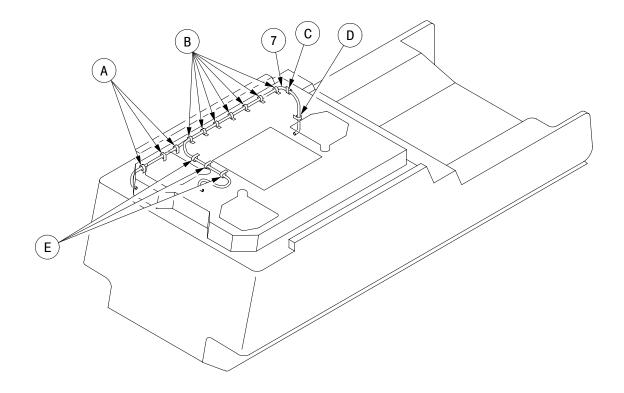
0711 00

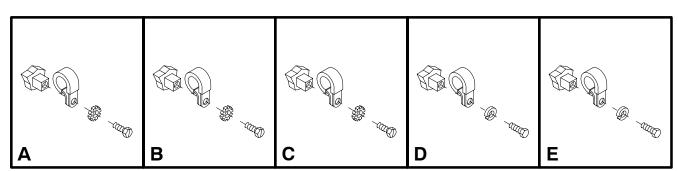
Removal-Continued

- 4. Loosen attaching hardware (A through E) securing wiring harness bundle to vehicle, as shown in illustration and remove wiring harness 4W307 (7) from wiring harness bundle. Discard lockwashers.
- 5. Remove wiring harness 4W307 (7) from vehicle.
- 6. Inspect parts for damage and replace as required.

Installation

1. Place wiring harness 4W307 (7) in wiring harness bundle and secure to vehicle using attaching hardware (A through E) and new lockwashers as shown in illustration.





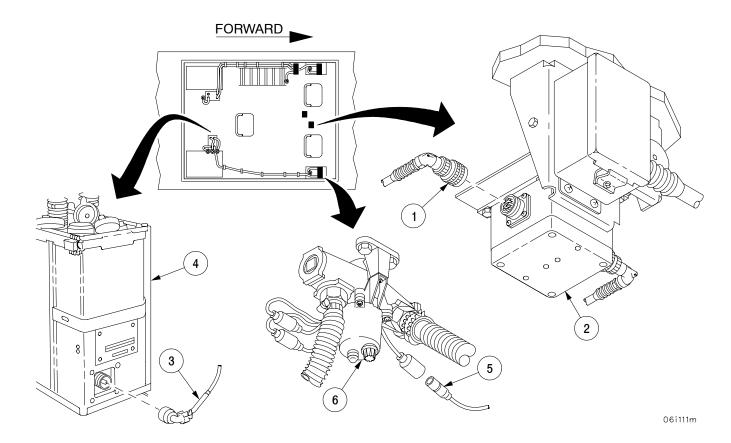
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WIRING HARNESS 4W307 REPLACEMENT - CONTINUED

0711 00

Installation-Continued

- 2. Connect wiring harness 4W307 wire 418 (5) to air heater (6).
- 3. Connect wiring harness 4W307 connector P2 (3) to air purifier (4).
- 4. Connect wiring harness 4W307 connector P1 (1) to control unit (2).



NOTE

FOLLOW-ON MAINTENANCE:

Connect battery power (WP 0256 00)

END OF TASK

CHAPTER 26 PREPARATION FOR STORAGE OR SHIPMENT

PREPARATION FOR STORAGE OR SHIPMENT

0712 00

THIS WORK PACKAGE COVERS:

General, Definition of Administrative Storage, Care of Equipment in Administrative storage, Receipt for Storage, Rotation, Removal from Administrative Storage, Servicing Equipment in Administrative Storage, Preparation for Storage and Shipment, and Shipment.

INITIAL SETUP:

References

AR750-1

AR220-1

TM 9-2350-292-Series Manuals

DA PAM 738-750

AR 190-13

AR 190-51

TM 43-0139

DD FORM 1397

DD FORM 2404

ATPD-2229

SF FORM 364

DD FORM 314

MTMCTEA PAM 55-19

MTMCTEA Reference 92-55-20 MTMCTEA Reference 92-55-22

0712 00

GENERAL

The requirements specified herein are necessary for maintaining M88A2 HRV in administrative storage and to achieve the maximum readiness condition.

DEFINITION OF ADMINISTRATIVE STORAGE

Equipment placement in administrative storage can be for short periods of time when:

Unit lacks operating funds, personnel, other resources, or normal usage of its organic materiel.

Materiel exceeding the owning unit's capacity for operation or maintenance must be retained by that unit for contingency or other cogent reasons.

Installation or unit commanders may authorize the administrative storage of their materiel within guidance furnished by MACOM commanders and AR 750-1. Recovery vehicles should be ready for use within time factors determined by the directing authority.

Throughout storage, appropriate maintenance records will be kept.

ADMINISTRATIVE STORAGE

Except as indicated in Maintenance Services and Inspections, and Corrections of Shortcomings and Deficiencies, equipment placed in administrative storage should be capable of mission readiness within a 24-hour period or as otherwise prescribed by the approving authority. Before equipment is placed in administrative storage, current maintenance services, shortcomings and deficiencies should be corrected and all modification work orders (MWOs) should be applied.

Report equipment in administrative storage in Materiel Readiness and Unit Readiness reports as prescribed for all reportable equipment. Refer to AR 220-1.

Perform inspections, maintenance services and lubrications in accordance with TM 9-2350-292 series manuals.

Records and reports to be maintained for equipment in administrative storage are those prescribed by DA PAM 738-750, for equipment use.

Ten percent variance is acceptable on time running hours, or mileage used to determine maintenance actions required.

SECURITY

Instructions contained herein do not modify security procedures and requirements for classified or pilferable items. Refer to AR 190–13 and AR 190–51.

SITE STORAGE

- (1) Select the best available site for administrative storage. Separate stored equipment from equipment in use. Conspicuously mark the area "Administrative Storage."
- (2) Covered storage space is preferred. When insufficient covered space is available for all recovery vehicles to be stored, select an open site.
- (3) Open sites should be improved hardstand, if available. Unimproved sites should be firm, well-drained and kept free of excessive vegetation.

STORAGE PLAN

- (1) Store equipment to provide maximum protection from the elements and to provide access for inspection, maintenance and exercising. Anticipate removal or deployment problems and take suitable precautions.
- (2) Take into account environmental conditions, such as extreme heat or cold; high humidity; blowing sand, dust, or loose debris; soft ground; mud; heavy snow; earthquakes or combinations thereof and take adequate precautions.
 - (3) Establish a fire plan and proved for adequate fire fighting equipment and personnel.

0712 00

MAINTENANCE SERVICES AND INSPECTIONS

Prior to storage, perform the next scheduled major preventive maintenance service (monthly, or semiannually).

AUXILIARY EQUIPMENT AND BASIC ISSUE ITEMS

Process auxiliary and basic issue items simultaneously with the recovery vehicle to which they are assigned. If possible store auxiliary and basic issue items with the recovery vehicle. If stored apart from the vehicle, mark auxiliary and basic issue items with tags indicating the recovery vehicle, its registration or serial number and location, and store in protective enclosures. In addition, place a tag or list indicating the location of the removed items in a conspicuous place on the recovery vehicle.

CORRECTIONS OF SHORTCOMING AND DEFICIENCIES

Correct all shortcomings and deficiencies prior to storage or obtain a deferment from the approving authority.

LUBRICATION

Lubricate equipment in accordance with the applicable TM 9-2350-292 series manual. Coat any exposed portion of hydraulic cylinder shafts with lubricant for protection.

GENERAL CLEANING, PAINTING AND PRESERVATION

(1) Clean the equipment of dirt, grease and other contaminants in accordance with this manual.

CAUTION

Do not direct water or steam under pressure against air cleaners, air duct outlets, exhaust outlets, unsealed electrical systems or any exterior opening, or component damage may occur.

NOTE

Touch-up painting will be in accordance with TM 43-0139.

- (2) Remove rust and damaged paint by scraping, wire brushing, sanding or buffing.
- (3) After cleaning and drying, immediately coat unpainted metal surfaces with lubricant as appropriate.

NOTE

Air circulation under draped covers reduces deterioration from moisture and heat.

Place a piece of barrier material between desiccant bags and metal surfaces.

(4) Sunlight, heat, moisture (humidity) and dirt tend to accelerate deterioration. Install all covers (including vehicle protection closures) authorized for the equipment. Close and secure all openings except those required for venting and draining. Seal openings to prevent the entry of rain, snow, or dust. Insert desiccant when complete seal is required. Place equipment and provide blocking or framing to allow for ventilation and water drainage. Support cover away from recovery vehicle surfaces that may rust, rot or mildew.

0712 00

CARE OF EQUIPMENT IN ADMINISTRATIVE STORAGE MAINTENANCE SERVICES

After equipment has been placed in administrative storage, suspend all regularly scheduled preventive maintenance services and inspect and exercise as specified herein. Do not reduce Prescribed Load List.

INSPECTION

- (1) Vehicle to be prepared for administrative storage must be given an administrative technical inspection and processed as prescribed on DD Form 1397. The results of the inspection and classification will be entered on DA Form 2404.
- (2) If vehicle is not shipped or issued upon expiration of the administrative storage period, process as applicable in accordance with ATPD-2229 Preparation For Storage And Shipment Of Recovery Vehicle, Full-Tracked, Heavy, M88A2
- (3) If vehicle to be shipped will reach its destination within the administrative storage period, it need not be reprocessed when removed from storage, unless necessary because of anticipated in-transit weather conditions.
- (4) Inspection will usually be visual and must consist of at least a walk-around examination of all equipment to observe any deficiencies that may have occurred. Inspect equipment in open storage weekly and that in covered storage monthly. Immediately after any severe storm or environmental change, inspect all equipment. The following are examples of things to look for during visual inspection:

Leaks: coolant, fuel, oil, or hydraulic fluid.

Condition of preservatives, seals and wraps. Seals may develop leaks during storage, during exercise, or shortly thereafter. If leaking continues, refer to the repair procedures in this manual or notify support maintenance.

Corrosion or other deterioration.

Missing or damaged parts.

Water in compartments.

Any other readily recognizable shortcomings or deficiencies.

RECEIPT FOR STORAGE

When received for storage and already processed for domestic shipment by the manufacturer as indicated on DD Form 1397, the vehicle will not be reprocessed unless inspection performed on receipt of material reveals corrosion, deterioration, etc.

Upon receipt from manufacturing facilities, if the processing data on the tag indicates that preservation has been rendered ineffective by operation or by freight shipping damage, completely process the vehicle in accordance with ATPD-2229. Preparation For Storage And Shipment Of Recovery Vehicle, Full-Tracked, Heavy, M88A2.

Prepare SF Form 364 for all shipments received in a damaged or otherwise unsatisfactory condition due to deficiencies in preservation, packaging, marking, handling, loading and for apparently excessive preservation.

ROTATION

To assure utilization of all assigned materiel, rotate items in accordance with any rotational plan that will keep equipment in operational condition and reduce maintenance effort.

REMOVAL FROM ADMINISTRATIVE STORAGE

Remove preservative materials. Perform the next scheduled preventive maintenance service and prepare equipment for service as outlined in TM 9-2350-292-10 and in accordance with instructions on DD Form 1397.

0712 00

SERVICING EQUIPMENT IN ADMINISTRATIVE STORAGE

Resume the maintenance service scheduled in effect at the commencement of storage as per DD Form 314. Refer to DA PAM 738-750.

PREPARATION FOR STORAGE AND SHIPMENT

For preparation for storage and shipment, refer to ATPD-2229, Preparation For Storage And Shipment Of Recovery Vehicle, Full-Tracked, Heavy, M88A2.

SHIPMENT

Standardized transportability procedures have been developed by the Military Traffic Management Command Transportation Engineering Agency for each mode of transportation. The following pamphlets should be referenced when providing transportation guidance for the Recovery Vehicle, Full-Tracked, Heavy, M88A2.

- a. Tiedown Handbook For Rail Movements MTMCTEA PAM 55-19
- b. Tiedown Handbook For Truck Movements MTMCTEA Reference 92-55-20

CHAPTER 27 SUPPORTING INFORMATION

REFERENCE LIST 0713 00

THIS WORK PACKAGE COVERS:

Scope, and lists of all Field Manuals, Forms, Technical Manuals, Technical Bulletins, Regulations, Military Specifications and Miscellaneous Publications referenced in this manual.

SCOPE

The following publications are applicable at Unit Maintenance level to material covered in this technical manual. Appropriate indexes should be consulted frequently for latest applicable changes, revisions and additions.

FORMS

Preventive Maintenance Schedule and Record
Processing and Deprocessing Record for Shipment, Storage And Issue of Vehicles And Spare Engines
Quality Deficiency Reports
Recommended Change to Publications
Recommended Change to Equipment Technical Manuals
Report of Deficiency (ROD)
US Army Accident Investigation Report
Equipment Inspection and Maintenance Worksheet
FIELD MANUALS
First Aid for Soldiers FM 21-11
NBC Protection FM 3-4
NBC Decontamination
Explosives And Demolitions
Browning Machine Gun, Caliber .50; HB, M2 FM 23-65
Operation And Maintenance of Ordnance Materiel In Cold Weather (0 to minus 65 F) FM 9-207
TECHNICAL BULLETINS
Warranty Technical Bulletin: Recovery Vehicle, Heavy, Full-Tracked: M88A2 TB 9-2350-292-15
Solder and Soldering
Color Marking and Camouflage Painting of Military Vehicles, Construction Equipment and
Material Handling Equipment
The Army Oil Analysis Program
TECHNICAL MANUALS
Operator's Manual for Machine Guns, Caliber .50; Browning, M2, Heavy Barrel Flexible, W/E (NSN 1005-00-322-9715) (EIC: 4AG) M48 Turret Type (1005-00-957-3893) (EIC: 4BB) Soft Mount (1005-LL-H11-5877) (Navy) Fixed Type Right Hand Feed (1005-00-122-9339) (Navy) Fixed Type Left Hand Feed (1005-00-122-9368) (Navy) Mounts, Machine Gun, Caliber .50, M3 Tripod W/E (1005-00-322-9716) (EIC: 4EA) M63 Antiaircraft W/E (1005-00-673-3246) (EIC:4EC) (TM 02498A-10/1; TO 11W2-6-3-161; SW361-AB-MMO-010)

Tool List) for Simplified Test Equipment for Internal Combustion Engine Reprogrammable

REFERENCE LIST - CONTINUED	0713 00
TECHNICAL MANUALS - CONTINUED	
Operator's Manual: Recovery Vehicle, Heavy, Full-Tracked: M88A2	TM 9-2350-292-10
Operator's, Organizational, Direct Support and General Support Maintenance Manual for Lead-Acid Storage Batteries	TM 9-6140-200-14
Organizational, Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools) for Heaters, Vehicular Compartment: Stewart-Warner 10560M (NSN 2540-01-071-0651), 10560M24B1 (2540-01-169-5159), 10560C24 (2540-01-083-0691), and 10560G (75400-01-262-6013); Hupp MF60A-24V (2540-00-930-8938), MF510B (2540-01-071-0652), MF510C, MF60B-24V (2540-01-172-3834); Espar V7S (2540-01-114-7688)	TM 9-2540-205-24&P
Procedures for Destruction of Equipment to Prevent Enemy Use	TM 750-244-6
Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Recovery Vehicle, Heavy, Full-Tracked: M88A2	. TM 9-2350-292-24P
Painting Instructions for Field Use	TM 43-0139
Unit Maintenance Manual for Ground ICOM Radio Sets	TM 11-5820-890-20-1
Technical Manual (Including Repair Parts and Special Tools List) for Launcher, Grenade, Smoke: Screening, RP, M239 (NSN 1055-01-015-0874)	TM 9-1055-642-20&P
Unit, Direct Support and General Support Maintenance Manual Standards for Inspection and Classification of Tracks, Track Components and Solid-Rubber Tires (FSC 2530)	TM 9-2350-200-24
Engine Assembly, Diesel HATZ 2 G 40, Unit, D/S and G/S Maintenance Manual (Including Repair Parts and STL) (FAASV)	TM9-2815-250-24&P
Wrench, Impact, Hydraulic Model 1W-12-140T Operator's and Unit Maintenance Manual (Including Repair Parts and STL)	TM 9-5130-338-12&P
Launcher, Grenade, Smoke: Screening, RP, M243, M257, M259	TM 9-1040-267-20&P
Operator and Organizational Maintenance Manual for Test Set, Electronic Systems, AN/PSM-95	. TM 9-6625-2301-12
REGULATIONS	
The Army Physical Security Program	AR 190-13
Security of Unclassified Army Property (Sensitive and Nonsensitive)	AR 190-51
Unit Status Reporting	AR 220-1
Accident Reporting and Records	AR 385-40
Reporting of Product Quality Deficiencies Across Component Lines	AR 702-7
Army Materiel Maintenance Policies	AR 750-1
MILITARY SPECIFICATIONS	

Preparation for Storage and Shipment of Recovery Vehicle, Full-Tracked, Heavy, M88A2. ATP-D2229

REFERENCE LIST - CONTINUED 0713 00

MISCELLANEOUS PUBLICATIONS Expendable Items (Except Medical, Class V, Repair Parts and Heraldic Items) CTA 50-970 The Army Maintenance Management System (TAMMS), as contained in the Maintenance Sets, Kits and Outfits Components List, Shop Equipment, Automotive Maintenance and Sets, Kits, Outfits and Components List, Tool Kit Welder's (NSN 5180-00-754-0661) SC 5180-90-N39 Sets, Kits, Outfits and Tools Welding Shop Trailer Mounted (NSN 3431-01-090-1231) SC 3431-95-A04 Sets, Kits and Outfits Components List for Tool Set, Vehicle Full-Tracked: Organization Maintenance No. 2, Less Power (NSN 4940-00-754-0743) and MAP only Sets, Kits and Outfits Components List, Shop Equipment, Automotive Maintenance and Repair: Organization Maintenance, Common No. 2 Less Power (4910-00-754-0650) SC 4910-95-A72 Sets, Kits and Outfits Components List, Shop Equipment, Automotive Maintenance and Repair: Organization Maintenance, Common No. 1 Less Power (4910-00-754-0654) SC 4910-95-A74 Sets, Kits and Outfits Components List, Shop Equipment, Automotive Maintenance and Sets, Kits, and Outfits for Components List, Shop Equipment, Fuel and Electrical

 Map (4940-00-919-0083)
 (24X Microfiche)
 SC 4940-95-CL-B20

 Tiedown Handbook For Rail Movements
 MTMCTEA PAM 55-19

Systems Engine: Field Maintenance, Basic, Less Power (NSN 4940-00-754-0714) (T30414) and Shop Equipment, Fuel and Electrical System Engine Field Maintenance,

INTRODUCTION FOR MAINTENANCE ALLOCATION CHART (MAC)

0714 00

THIS WORK PACKAGE COVERS:

The Army Maintenance System (MAC), Maintenance Functions, Explanation Of Columns in the MAC, Table 1, Explanation of Columns in Tools and Test Equipment requirements, Table 2, and Table 3, Remarks column.

THE ARMY MAINTENANCE SYSTEM MAC

- a. This work package provides a general explanation of all maintenance and repair functions authorized at various maintenance levels under the standard Army Maintenance System concept.
- b. The Maintenance Allocation Chart (MAC) in Table 1 (WP 0715 00) designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Unit - includes two subcolumns, C (operator/crew) and O (unit) maintenance.

Direct Support - Includes an F subcolumn.

General Support - Includes an H subcolumn.

Depot - includes a D subcolumn.

- c. Table 2 (WP 0715 00) lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from Table 1 (WP 0715 00).
- d. Table 3 (WP 0715 00) contains supplemental instructions and explanatory notes for a particular maintenance function.

MAINTENANCE FUNCTIONS

Maintenance functions are limited to and defined as follows:

- a. **Inspect.** To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).
- b. **Test.** To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.
- c. **Service.** Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.
- d. **Adjust.** To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.
 - e. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.
- f. **Calibrate.** To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.
- g. **Remove/Install.** To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, of fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.
- h. **Replace.** To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the 3rd position of the SMR code.

INTRODUCTION FOR MAINTENANCE ALLOCATION CHART - CONTINUED

0714 00

MAINTENANCE FUNCTIONS - CONTINUED

- i. **Repair.** The application of maintenance services¹ including fault location/troubleshooting², removal/installation, and disassembly/assembly³ procedures, and maintenance actions⁴ to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.
- j. **Overhaul.** That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/ operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like-new condition.
- k. **Rebuild.** Consists of those services/actions necessary for the restoration of unserviceable equipment to a like-new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

EXPLANATION OF COLUMNS IN THE MAC, TABLE 1 (WP 0715 00)

- a. **Column 1, Group Number.** Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with next higher assembly.
- b. **Column 2, Component/Assembly.** Column 2 contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.
- c. **Column 3, Maintenance Function.** Column 3 lists the functions to be performed on the item listed in Column 2. (For detailed explanation of these functions, see Maintenance Functions.)

¹Services - Inspect, test, service, adjust, align, calibrate, and/or replace.

²Fault location/troubleshooting - The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or unit under test (UUT).

³Disassembly/assembly - The step-by step breakdown (taking apart) of a spare/functional group coded item to the level of its least component that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

⁴Actions - Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

d. **Column 4, Maintenance Level.** Column 4 specifies each level of maintenance authorized to perform each function listed in Column 3, by indicating work time required (expressed as man-hours in whole hours or decimals) in the appropriate subcolumn. This work-time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work-time figures are to be shown for each level. The work-time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows:

С	 Operator or crew maintenance
0	 Unit maintenance
F	 Direct support maintenance
L	 Specialized Repair Activity (SRA) ⁵
Н	 General support maintenance
D	 Depot maintenance

INTRODUCTION FOR MAINTENANCE ALLOCATION CHART - CONTINUED 0714 00 EXPLANATION OF COLUMNS IN THE MAC, TABLE 1 (WP 0715 00) - CONTINUED

- e. Column 5, Tools and Test Equipment Reference Code. Column 5 specifies, by code, those common tools sets (not individual tools), common TMDE, and special tools, special TMDE, and special support equipment required to perform the designated function. Codes are keyed to tools and test equipment in Table 2.
- f. **Column 6, Remarks.** When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks contained in Table 3.

EXPLANATION OF COLUMNS IN THE TOOL AND TEST EQUIPMENT REQUIREMENTS, TABLE 2 (WP 0715 00)

- a. **Column 1, Reference Code.** The tool and test equipment reference code correlates with a code used in the MAC, Table 1, Column 5.
 - b. Column 2, Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.
 - c. Column 3, Nomenclature. Name or identification of the tool or test equipment.
 - d. Column 4, National Stock Number. The National Stock Number of the tool or test equipment.
 - e. Column 5, Tool Number. The manufacturer's part number, model number, or type number.

⁵This maintenance level is not included in Table 1, column (4) of the Maintenance Allocation Chart. Functions to this level of maintenance are identified by a work-time figure in the "H" column of Table 1, column (4), and an associated reference code is used in the Remarks column (6). This code is keyed to Table 3, Remarks, and the SRA complete repair application is explained there.

EXPLANATION OF COLUMNS IN REMARKS, TABLE 3 (WP 0715 00)

- a. Column 1, Remarks Code. The code recorded in column 6, Table 1.
- b. **Column 2, Remarks.** This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Table 1.

MAINTENANCE ALLOCATION CHART

0715 00

Table 1 MAINTENANCE ALLOCATION CHART FOR M88A2 HRV

(1)	(2)	(3)			(4			(5)	(6)
			-			ICE LE	т		
GROUP	COMPONENT/	MAINT		VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
	Powerpack	Inspect	0.1						
		Inspect	Ī	0.5		Ì			
		Test		1.2				46,176	
ļ		Service Service	0.2	0.8		<u> </u>		46	
		Replace		3.0				46,77,177,27	
		Repair		4.0				46,56,1,13	
01	ENGINE								
0100	ENGINE	Inspect	Ī		1.0	İ		46,20,1	AA
		Test			3.0			46,1,172,	AA
ļ		Adjust	Ī		1.0	<u> </u>		119,173,174 46,163,49,	AA
		Aujust			1.0			50,1,51,80	
0100 0001	Engine with Container	Rem/Ins			2.0			46,27,112,	AA
								56,1,80	
	Crankcase Adapter	Replace				0.7		46,1	AA
	Assembly	Repair				0.3		46,1	AA
ļ	Transmission Adapter Assembly	Replace Repair	Ī		0.9 0.2	<u> </u>		1 1	AA AA
0100 0002	Resilient Mount	Replace		0.5	0.2			1	
		Repair		0.5				1	
0100 0003	Mounting Bracket	Replace		6.9				46	
		Repair		7.1				46	
0101	CRANKCASE, BLOCK, CYLINDER HEAD								
0101 0002	Engine Block	Inspect				0.5		1,6,46	AA
	Oil Seal Housing	Repair Replace				0.5 0.3		1,6,46 46,1	AA AA
	Assembly	Repair	<u> </u> 			0.3		46,1,115,	AA
	7 Goombiy	riopan				0.0		110	
0101 0005	Cylinder Head Assy	Inspect			0.2				AA
		Inspect				0.5			AA
		Replace			0.5			1,46	AA
		Replace				0.8		163,46,23, 104	AA
		Repair				1.3		1,46,6,54,	AA
] [] [101,100,55, 81,82,90,85,	
								86,87,88,53,	
								54, 118	
								, , , , ,	
			1]					

(1)	(2)	(3)			(4)		(5)	(6)
(-)	(-)	(-)		MAINTENÀNCE LEVEL				(-)	(-/
GROUP	COMPONENT/	MAINT	UI	VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
0102	ENGINE								
	CRANKSHAFT								1
0102 0006	Engine Crankshaft and Damper	Inspect				1.0		1,46,6	AA
		Replace				3.5		46,63,95,62, 40,1,6	AA
	<u>.</u>	Repair	Ī	Ī	İ	0.3		1,95,6,63	AA
0103	FLYWHEEL ASSEMBLY								
0103 0007	Flywheel Adapter	Inspect			0.2				AA
	Assembly	Replace			0.5			1,163	AA
		Repair			8.0		<u> </u>	1	AA
0104	PISTON, CONNECTING RODS								
0104 0008	Connecting Rod Assy	Inspect				1.5		46,1,6,63,117	AA
		Replace				0.5		89,58,92,166	AA
		Repair				0.5		46	AA
	Lubrication Nozzle Assy	Adjust				0.5		46,168,105,	AA
		Danlass	l i			0.5		1,76	
		Replace				0.5 0.1		46,1 46	AA AA
0105	VALVES, CAMSHAFTS	Repair				0.1		40	AA
0103	AND TIMING SYSTEM VALVES AND								
	ASSOCIATED PARTS								
0105 0009	Rocker Arm Assembly	Inspect			8.0			1,46	AA
		Replace			0.5			1,46	AA
		Repair			2.2			1,46,6,63	AA
0105 0010	Camshaft, Left	Inspect			<u> </u>	0.7			AA
		Replace				1.3		46,1	AA
		Repair				0.6		46,1	AA
0105 0011	Camshaft, Right	Inspect				0.8			AA
ļ		Replace	<u> </u>	<u>.</u>		1.3	<u> </u>	46,1	AA
		Repair				0.9		46,1	AA
	Adapter Assembly	Inspect				0.1			AA
		Replace]	l I		0.2	[46,1	AA
0106	ENCINE	Repair				0.2		46,1	AA
0106	ENGINE LUBRICATION SYSTEM								
0106 0007	Oil Filler Tube Assy	Replace	<u> </u>	0.3]]	46	
	5 1 mor 1 abo 7 toby	Repair		0.5				46	AA
0106 0011	Oil Cooler Support	Replace		1.5				46,18	
	Frame, Left	Repair		0.6				46	

(1)	(2)	(3)			(4))		(5)	(6)
	. ,				ENAN	ICE LE			
GROUP	COMPONENT/	MAINT	U	VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
0106 0012	Oil Cooler Support	Replace		1.2				46,18	
	Frame, Right	Repair		0.3				46	
	Crank Shaft Damper	Inspect				0.2		6	AA
	Housing Assembly	Replace				1.0		1	AA
		Repair				1.0		6,165,40	AA
0106 0013	Transmission Oil	Inspect		0.2					
	Cooler	Replace		0.3				46,35	
		Repair					****		
	Engine Oil Cooler	Replace		0.3				46,35	
		Repair					****		
0106 0016	Oil Pan Assembly	Inspect				0.1		46,1	AA
		Replace				1.2		46,1,56	AA
		Repair				0.4		46,56,91,1	AA
0106 0019	Engine Oil Pump	Inspect				1.4			AA
	Assembly	Replace		Ī	Ī	0.6	ĺ	46,1,170	AA
		Repair				2.7		46,92,170	AA
0108	MANIFOLDS								
0108 0027	Intake Manifold Tube,	Inspect			0.1	İ	İ	İ	AA
	Left	Replace			0.5			46	AA
		Repair			0.3			46,1	AA
	Intake Manifold Tube,	Inspect			0.1				AA
İ	Right	Replace			0.5	İ	İ	46	AA
	=	Repair			0.3			46,1	AA
0108 0028	Aftercooler Assembly	Inspect			0.6			1	AA
İ	Í	Replace			1.1	İ	İ	46,1	AA
		Repair			2.2			46,1	AA
0109	ACCESSORY DRIVING MECHANISMS							,	
01090029	Generator Drive	Inspect			0.8			46,1	AA
		Test			0.3			46	AA
		Replace			8.0			46,60,61,1	AA
		Repair			0.5			40,48,163,91	AA
	Starter Drive	Inspect			0.5			46,1	AA
		Replace			1.0			46	AA
		Repair			8.0			46,1,163,48	AA
0109 0030	Accy Drive Housing	Inspect			ļ	0.8	[46,1,94,163	AA
	Assembly	Replace				1.2		46,1	AA
		Repair				1.3		46,1,94,163	AA

(1)	(2)	(3)		MAINT	(4) ENAN) ICE LE	VEL	(5)	(6)
GROUP	COMPONENT/	MAINT		VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
0109 0031	Accy Camshaft Drive	Inspect				0.3		46,1,49,50,	AA
	Gearshaft Assembly							51	AA
		Replace				0.2		46,6,1	AA
	A a a v. Duin va I la vaina u	Repair	<u> </u>			0.6	Ī	46,1,94,163	AA
	Accy Drive Housing Base Assembly	Replace Repair				0.3 0.2		46,1,163 46,1,94,163	AA AA
0109 0033	Automatic Fuel	Inspect				0.4		46, 1,94, 103	AA
0100 0000	Injection Advance	Test				0.5		46,57	AA
	Control	Adjust				0.2		46,97	AA
		Replace				0.6		46,1	AA
		Repair				1.0		46,1,97,91	AA
03	FUEL SYSTEM								
0301	FUEL INJECTION							40.4.400	
0301 0034	Nozzle and Holder	Inspect Test			0.2	ļ		46,1,102 99,19	AA AA
	Assembly	Replace			0.3			1,46	AA
		Repair			0.3			1,55,96	AA
0302	FUEL PUMPS	l topa			0.0			1,00,00	, , ,
0302 0015	Electric Fuel Pump and	Test		1.0		İ		46,1	
	Mount	Replace		4.0				46,1,42	
		Repair		0.5				46,1,13	
	Electric Fuel Pump	Replace	ļ	ļ	0.5	ļ		46	
0000 0016	Fire Transfer Dimen	Repair			0.5			46,16	
0302 0016	Fuel Transfer Pump Assembly	Inspect Replace		0.1 0.8				46,1	
	Assembly	Test	<u> </u>	0.0			<u> </u>	46	<u>.</u>
0302 0019	Plate Assembly	Replace		0.1				46	
	,	Repair		0.3				46	
	Fuel Pump Assembly	Replace		0.2			1.0	46	
0000 0005	Florible Cheft Counting	Repair						46	
0302 0035	Flexible Shaft Coupling	Inspect Replace			0.2 0.5			46 1,6	AA
		Repair			0.3			46	~~
	Fuel Metering Pump	Replace			0.5	<u> </u>		46,6,163,23,1	AA
		Repair					2.0	46	
0304	AIR CLEANER AND								
	RELATED PARTS								
0304 0020	Air Cleaner Assembly	Inspect	0.1	ļ					
		Service Service	0.5	0.1				46	
		Replace		1.0				46	
		Repair		0.8				46	
		1							

(1)	(2)	(3)			(4))		(5)	(6)
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GROUP	COMPONENT/	MAINT		VIT.	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
0305	SUPERCHARGER, BLOWER, TURBOCHARGER								
0305 0040	Turbo Mounting	Replace		 	0.5			46	AA
	Bracket Turbo Outlet Elbow	Repair			0.5 0.6			46 46	AA AA
	Assembly	Replace Repair			0.6			46	AA
	Turbocharger	Replace			0.3			46,6	AA
	i ruiboonaigei	Repair		<u> </u>	2.0	<u>.</u>		46,116	AB
0306	TANKS, LINES, FITTINGS AND HEADERS	Inspect		0.3				,	
0306 0024	Fuel Tank, Left	Replace Repair			9.0 2.0			46,28 47,1	
0306 0025	Fuel Tank, Right	Replace Repair			2.0 2.0	<u>.</u>		46,28 47,1	
0306 0026	Fuel Tank, Front	Replace Repair			2.0 2.0			46,28,1 47,1	
0306 0027	Fuel Shut-off Cable	Inspect Test		0.1	0.1		<u> </u> 	,	
0309	FUEL FILTERS								
0309 0029	Engine Primary Fuel Filters	Service Replace Repair		1.0 0.8 0.1				46 46,1 46,1	
	Manifold Heater Fuel Filter	Replace Repair		0.1 0.3				46,1 46,1	
	Fuel/Water Separator Filter	Replace Repair		0.3 1.3				46,1 46,1,27	
0309 0042	Fuel Filter Mounting Bracket	Replace Repair				0.1 0.2		46 46,1	AA
0311	ENGINE STARTING AIDS								
	Manifold Heater System	Inspect Test Service		0.2 0.2 0.5		 		46	
0311 0031	Manifold Heater Assembly, Left	Replace Repair		0.3 0.5				46 46	
0311 0032	Manifold Heater Assembly, Right	Replace Repair		0.3 0.5	_			46 46	

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(1)	(2)	(3)			(4))		(5)	(6)
(1)	(-)	(0)		MAINT	ENAN	ICE LE	VEL	(9)	(5)
GROUP	COMPONENT/	MAINT	UI	TIV	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
0312	ACCELERATOR, THROTTLE, OR CHOKE CONTROLS	Test Test		0.1					
		Inspect	<u> </u> 	0.1	0.4	<u> </u> 	<u> </u> 	46	
		Adjust		0.8	0.4			46	
		Service		0.5				46	
0312 0047	Throttle Control	Inspect			0.9				AA
	Solenoid Assembly	Adjust	İ		0.3	Ī	İ	46	AA
		Replace			0.6			46	AA
		Repair			1.9			46,6,84	AA
0312 0048	Governor Throttle	Inspect			0.1			46	AA
	Control Rod Assembly	Replace			0.1				AA
		Repair			0.2			46,27	AA
	Control Rod Assembly	Inspect	<u> </u>		0.1	ļ	ļ		AA
		Inspect			0.1			40	AA
		Replace Repair			0.1 0.1			46 46	AA AA
04	EXHAUST SYSTEM								
0401	MUFFLER AND PIPES								
0401 0036	Exhaust Pipes and	Inspect		0.1				46	
	Insulation Covers	Replace		1.5				46	
05	COOLING SYSTEM								
0501	OIL COOLER								
0501 0037	Hydraulic Oil Cooler	Replace		0.5				46,19	
0502	Shroud Assembly SHROUDS	Repair		1.0		<u>.</u>		46	
0502 0040	Engine Top Shroud	Inspect			0.2				AA
	Assembly	Replace		8.0				46	
		Repair			0.2			46,113	
	Shroud Assembly, Left	Replace			0.5			46	AA
	01	Repair			0.5			46,113	AA
	Shroud Assembly, Right	Replace			0.5			46,113	AA AA
	Mounting Bracket	Repair Replace		0.5				46 46	~~
	I Modifiling Diacket	Repair		0.5	0.5			46 46	AA
0505	FAN ASSEMBLY	Inspect		0.2	0.5			'0	[]
0505 0042	Cooling Fan Mounting	Inspect				0.1			AA
	Bracket	Replace]	0.8	İ		İ	46,1	j
		Repair				0.2		46,1	AA
	Radiator Fan Shroud	Inspect				0.1			AA
		Replace		8.0				46,1	
		Repair				0.2		46,1	AA

(1)	(2)	(3)			(4)		(5)	(6)
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GROUP	COMPONENT/	MAINT		VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
0505 0043	Fan Drive Clutch	Inspect			1.1			1,27,46	AA
	Assembly	Test			0.2			46,1	AA
		Replace		0.3				46	
	<u> </u> 	Replace Repair		0.5	0.8		<u> </u> 	46 46	AA
		Repair		0.5	0.7			1,46,27,6,93,	AA
		Порин			"			97	, , ,
0505 0054	Fan Drive Housing	Inspect	į		İ	0.2		46,1	AA
	Base	Replace				0.6		46,1	AA
		Repair				0.2		46,1	AA
	Mechanical Drive	Inspect				1.0			AA
	Housing	Replace				1.3		46,1,171	AA
		Repair				0.2		46,1,91,171	AA
06	ELECTRICAL SYSTEM		ļ	 	ļ	ļ	_	-	
0601	GENERATOR	Inspect		0.1				40	
0601 0044	Engine Generator	Replace		0.5	4.0			46	AC
0602	VOLTAGE	Repair			4.0				AC
0002	REGULATOR								
0602 0045	APU Voltage Regulator	Replace		1.5				46	
	Main Engine Voltage Regulator	Replace		0.5				46	
0603	STARTING MOTOR	Inspect	Ī	0.1	Ì	Ī			
0603 0046	Engine Starter	Replace		0.5				46	
		Repair			4.0			46	AD
0606 0048	Fuel Shut-off Wiring	Replace		0.5				46	
	Harness	Repair		1.0				46,22,1	
	Automatic Water Drain	Replace		0.3				46	
0607	Wiring Harness CONTROL PANELS	Repair		1.0			l I	46,22,1	
0607 0049	Main Switch Panel	Replace	0.2					46	
	Assembly	Replace	-	0.6				46,18	
	,	Repair		2.4				46,18	
0607 0052	Lead Assembly 4W109	Replace	İ	0.1	İ	İ		46	j
		Repair		2.0				46,22,1	
0607 0053	Lead Assembly 4W117	Replace		0.1				46	
		Repair		0.5				46,22,1	
0607 0054	Wiring Harness 4W118	Replace		0.5				46	
		Repair		0.5				46,22,1	
0607 0055	Wiring Harness 4W151	Replace	<u> </u>	1.0		ļ		46	
		Repair		2.0				46,22,1	
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(4)		T (a)	 	/= \	(0)				
(1)	(2)	(3)		MAINT	(4) ENAN		VEL	(5)	(6)
GROUP	COMPONENT/	MAINT	UI	VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
0607 0056	Gauge Panel Assembly	Inspect	0.1						
		Inspect		0.1					
		Replace	0.4						
		Replace Repair						46 46	
		Replace						46,18	
0607 0057	Wiring Harness 4W152	Replace		0.2				46	
		Repair		1.0				46,22,1	
0607 0060	PTO/Accessory Panel	Inspect		0.1				, ,	
	,	Replace	0.1						
		Replace		0.3				46	
		Repair		1.8				46	
0607 0063	Hydraulic Control Panel	Inspect		0.1					
		Replace		0.3				46	
		Repair	0.4	2.3				46	
0607 0065	APU Control Box	Inspect	ļ	0.1			_		
	Assembly	Replace		0.3				46	
0007.0000	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Repair	0.2	2.5				46	
0607 0066	Wiring Harness 4W725	Replace		1.0				46	
0607 0068	Personnel Heater	Repair		2.0 0.3				46,22,1 46	
0007 0006	Control Box Assembly	Replace Repair		4.2				46	
	Wiring Harness 4W154	Replace		0.1				46	
		Repair		2.0			<u> </u> 	46,22,1	! !
0608	MISCELLANEOUS	l topali						10,22,1	
	ITEMS								
0608 0069	Exhaust Smoke Switch	Replace	0.2						
	Plate	Replace		0.3				46	
		Repair	Ī	1.3				46	
06080080	High Beam Indicator	Replace		0.5				46	
		Repair		0.5				46	
0608 0081	Master Relay	Replace		0.5				46	
0000	LICUTO	Repair	0.4	0.5				46	
0609	LIGHTS	Test Test	0.1	0.2			 		
0609 0083	Headlight Assembly	Replace		0.2				46	
0009 0003	i reduiight Assembly	Repair		2.0				46	
0609 0084	Headlight Base	Replace		0.3				46	
	Assembly, Left	Repair		0.3				46,22,1	
	Headlight Base	Replace		0.3				46	
	Assembly, Right	Repair		0.3				46,22,27,1	
0609 0086	Rear Stop Lights	Replace	İ	0.1			İ	46,27	
		Repair		0.2				46	
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(1)	(2)	(3)		MAINT	(4) ENAN) ICE ! E	V/FI	(5)	(6)
GROUP	COMPONENT/	MAINT		VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	C	Го	F	Н	D	EQUIPMENT	CODE
0609 0087	Emergency Flasher	Replace	\vdash	0.5	<u> </u>	'''		46	OODL
0009 0087	Light	Repair		0.5				46	
0609 0088	Turn Signal Lamp Assy	Replace		0.5				46	
0000 0000	Tarri olgilar Larrip 7 100y	Repair		0.7				46	
0609 0089	Rear Service Light	Replace		0.5		Ī		46	
		Repair		0.5				46	
0609 0090	Trouble Light Pistol Grip	Replace		0.1				46	
		Repair	İ	0.3	İ	Ī		46,27	
0609 0092	Spotlight	Replace		0.3				46	
		Repair		0.5				46	
0609 0093	Winch Illumination	Replace		0.5				46	
	Lamp Assembly	Repair		0.5				46	
0609 0094	Dome Light	Replace		0.5				46	
	LIODA	Repair		0.5				46	ļ !
0611	HORN	Danlass		0.0				40	
0611 0099	Horn	Replace		0.2 0.2				46 46	
0611 0100	Lead Assembly 4W156	Repair Replace		0.2				46	
0011 0100	Lead Assembly 400150	Repair	ļ	0.3		<u> </u>	 	46,22,1	
0611 0101	Proximity Switch	Replace		0.4				46	
		Repair		0.5				46	
0612	BATTERIES								
0612 0102	Batteries	Inspect	0.1		Ī		İ	<u>.</u>	İ
		Service		0.3					
		Replace		1.5				46	
0613	HULL WIRING HARNESS								
0613 0103	Wiring Harness 2W601	Replace		2.0				46	
		Repair		2.0				46,22,1	
0613 0104	Wiring Harness 2W602	Replace		1.0				46	
0610 0105	Miring Herman 014/400	Repair	ļ	2.0	ļ			46,22,1	
0613 0105	Wiring Harness 3W132	Replace		1.0				46	
0613 0106	Wiring Harness 3W142	Repair Replace		2.0 1.3				46,22,1 46	
0013 0100	vviiiily	Repair		1.5				46,22,1	
0613 0107	Wiring Harness 3W143	Replace		1.0				46,22,1	
33.33.37		Repair		2.0				46,22,1	
0613 0108	Wiring Harness 3W174	Replace		0.5				46	
İ		Repair		1.0			İ	46,22,1	j i
0613 0109	Wiring Harness 3W180	Replace		1.0				46	
		Repair		1.5				46,22,1	
0613 0110	Wiring Harness 3W200	Replace		0.5				46	
		Repair		0.5				46,22,1	
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(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)
GROUP	COMPONENT/	MAINT		VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	C	О	F	Н	D	EQUIPMENT	CODE
0613 0111			_	0.5	<u>'</u>	'''		46	OODL
0613 0111	Wiring Harness 3W201	Replace Repair		0.5				46,22,1	
0613 0112	Wiring Harness 3W202	Replace		1.0				46,22,1	
0013 0112	Willing Harriess 300202	Repair		1.0				46,22,1	
0613 0113	Lead Assembly 3W203	Replace		0.5	<u> </u>			46,22,1	
0010 0110	Lead Assembly SVV205	Repair		0.5				46,22,1	
0613 0114	Wiring Harness 3W206	Replace		0.8				46	
100100114	i viiling Flamess 644266	Repair		0.8	<u> </u> 		ļ Ī	46,22,1	! !
0613 0115	Wiring Harness 3W207	Replace		0.6				46	
		Repair		1.3				46,22,1	
0613 0116	Lead Assembly 3W209	Replace		1.0				46	
		Repair		2.0	<u> </u> 		<u> </u> 	46,22,1	
0613 0117	Lead Assembly 3W210	Replace		0.5				46	
		Repair		0.5				46,22,1	
0613 0118	Lead Assembly	Replace		0.3				46	
	3W212-1	Repair		0.3				46,22,1	
	Lead Assembly	Replace		0.3				46	
	3W212-2	Repair		0.3				46,22,1	
	Lead Assembly	Replace		0.3				46	İ
	3W212-3	Repair		0.3				46,22,1	
0613 0119	Wiring Harness 3W213	Replace		0.3				46	
		Repair		0.4				46,22,1	
	Wiring Harness 3W214	Replace		0.3	Ì		Ī	46	
		Repair		0.4				46,22,1	
0613 0120	Lead Assembly 3W215	Replace		0.3				46	
		Repair		0.4				46,22,1	
0613 0121	Wiring Harness 3W217	Replace		0.3				46	
		Repair		0.5				46,22,1	
0613 0122	Lead Assembly 3W218	Replace		0.3				46	
		Repair		0.4				46,22,1	
0613 0123	Wiring Harness 3W702	Replace		2.0				46	
	ļ	Repair		1.0			<u> </u>	46,22,1	<u> </u>
0613 0124	Wiring Harness 3W710	Replace		0.2				46	
		Repair		0.7				46,22,1	
0613 0125	Wiring Harness 3W801	Replace		0.3				46	
0010 0100	14/100	Repair		0.5			ļ	46,22,1	
0613 0126	Wiring Harness 4W100	Replace		4.0				46	
0010 0107	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Repair		3.0				46,22,1	
0613 0127	Wiring Harness 4W101	Replace		0.5				46	
0612 0100	Miring Horness 4\4/100	Repair		0.5				46,22,1	
0613 0128	Wiring Harness 4W103	Replace		1.3				46	
0613 0129	Wiring Harness 4W105	Repair Replace		1.5				46,22,1 46	
00130129	Wiring Harness 4W105			0.6 1.3				46,22,1	
I	1	Repair		۱.۵	1		ĺ	40,22,1	l l

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(1)	(2)	(3)	(4) MAINTENANCE LEVEL				(5)	(6)	
GROUP	COMPONENT/	MAINT	UNIT		DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	C	Το	F	Н	D	EQUIPMENT	CODE
0613 0130	Wiring Harness 4W106	Replace	\vdash	1.0	'	- ' '		46	OODL
0013 0130	VVIIIII Harriess 4VV 100	Repair		1.3				46,22,1	
0613 0131	Wiring Harness 4W107	Replace		2.0				46	
	Trining Flamese Triver	Repair		2.0				46,22,1	
0613 0132	Wiring Harness 4W108	Replace		2.0	Ī	<u>.</u>	İ	46	
		Repair		2.0				46,22,1	
0613 0133	Wiring Harness 4W110	Replace		3.0				46	
		Repair		0.7				46,22,1	
0613 0134	Wiring Harness 4W115	Replace		8.0				46	
		Repair		1.8				46,22,1	
0613 0135	Wiring Harness 4W116	Replace	ļ	0.6	ļ			46	ļ ļ
0610 0100	Miring Hermans 414/404	Repair		1.3				46,22,1	
0613 0136	Wiring Harness 4W124	Replace		2.0 1.3				46 46,22,1	
0613 0137	 Wiring Harness 4W127	Repair Replace	ļ	0.5	<u>l</u> Ī			40,22,1 46	
0013 0137	VVIIIII TIAITIESS 4VV 121	Repair		1.0				46,22,1	
0613 0138	Wiring Harness 4W136	Replace		0.8				46	
00100100	Villing Flamood Tiviloo	Repair		1.5				46,22,1	
0613 0139	Lead Assembly 4W140	Replace		0.5	Ī	<u>.</u>	İ	46	
		Repair		1.0				46,22,1	
0613 0140	Wiring Harness 4W153	Replace		1.0				46	
		Repair		2.0				46,22,1	
0613 0141	Wiring Harness 4W155	Replace		1.0				46	
		Repair		2.0		-	ļ	46,22,1	<u> </u>
0613 0142	Lead Assembly 4W158	Replace		0.3				46	
0610 0140	Mining Hornoon 4\M617	Repair		0.6				46,22,1 46	
0613 0143	Wiring Harness 4W617	Replace Repair		1.0 1.0	Ī	ļ		46,22,1	
0613 0144	Wiring Harness 4W618	Replace		1.0				46,22,1	
0010 0144	VVIIIII G FIGHTICOS TVVOTO	Repair		2.0				46,22,1	
0613 0145	Wiring Harness 4W700	Replace		1.0				46	
		Repair		1.0				46,22,1	
0613 0146	Wiring Harness 4W800	Replace		0.3				46	
		Repair		0.2				46,22,1	
07	TRANSMISSION								
0700	TRANSMISSION ASSEMBLY								
0700 0156	Transmission with	Inspect		0.3					
07000130	Container	Service	0.1	2.3				46	
		Rem/Ins			0.5			46	AE
0700 0157	Mounting Brackets	Replace		0.5				46	
		' Repair		0.5				46	

(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)
GROUP	COMPONENT/	MAINT		MAIN I VIT	DS	GS LE	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	H	DEPOT	EQUIPMENT	CODE
		FUNCTION			Г	П	D	EQUIPMENT	CODE
0705 0159	TRANSMISSION SHIFTING COMPONENTS Transmission Shift Control Assembly	Service Replace		0.1 0.5				46	
0708	TORQUE CONVERTER	Repair			2.8			46,1	
0708 0001	Torque Converter Positive Clutch and Stator	Inspect Replace Repair				1.0 1.0 4.0		46 46 46	AE
0710	TRANSMISSION ASSEMBLY								
0710 0004	Transmission Assy Center Section	Inspect Test Service Replace Repair	0.3			0.3 0.3 18.0 50.0		46 46 46 46 46	AE
0713	INTERMEDIATE CLUTCH	Adjust				3.5		46	
0713 0009	Gear Assembly Carrier Gear Assembly	Inspect Replace Repair Inspect				1.0 1.0 4.0 1.0		46 46 46 46	AE
	Carrier	Replace Repair				1.0	****	46	AE
0714	SERVO UNIT	T				0.5		40	
0714 0013	Rotary Pump	Test Replace Repair				0.5 1.4	***	46 46 46	AE
0714 0014	Transmission Valve Assembly Brake Actuating Link	Test Replace Repair Replace			0.5 1.4 4.0 0.2			46 46 46 46	AE
0714 0015	Direct Linear Valve	Repair Test Replace Repair			0.6 0.5 2.0 6.0			46 46 46 46	AE

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(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)	
GROUP	COMPONENT/	MAINT	UN	VIT	DS	GS	DEPOT	TOOLS AND	REMARKS	
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE	
0721	COOLERS, PUMPS, MOTORS									
0721 0017	Valve Assembly	Test	<u> </u>	<u>.</u>	0.5	Ì		46		
		Replace			2.0			46	AE	
	Flavo Dagodatina Valor	Repair			2.0			46		
	Flow Regulating Valve	Test Replace	<u> </u> 		0.5 2.0	<u> </u>	ļ	46 46	AE	
		Repair			2.0			46	AL	
0721 0018	Rotory Pump	Replace				0.5		46	AE	
}	, , , 	Repair]			1.0		46		
	Input Pump Assembly	Replace				0.5		46	AE	
		Repair				1.0		46		
0721 0162	Transmission Oil Filter	Service	<u> </u> -	0.7		ļ	<u> </u>	46		
	□	Replace		1.0				46,27		
	Filter Head Assembly	Inspect Service		0.3 0.5				46 46		
		Replace		0.5				46		
		Repair		1.0				46,27,35		
0724	STEERING CLUTCH						<u> </u>			
0724 0020	Planetary Carrier	Replace			3.5			46	AE	
0704 0004	Diameter / Carrier	Repair			2.0			46	_	
0724 0021	Planetary Carrier	Replace Repair	<u> </u> 	<u>.</u> I	3.5 2.0	 	Ī	46 46	AE	
0726	BRAKES	riepaii			2.0			40		
0726 0024	Brakes	Replace			1.0			46	AE	
		Repair			1.5			46		
08	FINAL DRIVES									
0801	POWER TRANSFER AND FINAL DRIVE ASSEMBLIES									
0801 0165	Transmission Output Reduction Unit with Container	Rem/Ins		0.5				46		
	Output Reduction Unit	Service		0.5						
		Replace		2.6				46,11,28, 142,35,27		
1103	FINAL DRIVES	Repair					****	,, - -		
1103 0028	Differential Gear Unit	Adjust			0.5			46	AE	
1100 0020	Sinoroniai acai oriit	Replace			4.0			46	, 1	
		Repair			4.0			46		
]			I			

(1)	(2)	(3)	(4) MAINTENANCE LEVEL				(5)	(6)	
GROUP	COMPONENT/	MAINT		MAIN I VIT	DS	GE LE	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	DLFOT	EQUIPMENT	CODE
	BRAKES	FUNCTION	C	0	Г	П	D	EQUIPMENT	CODE
12 1202	SERVICE BRAKES	Test Adjust Service	0.1	0.2 1.5 1.0				46 46	
1202 0168	Brake Pedal & Bracket Assembly	Service Replace Repair		0.1 0.7 2.0				46 46,35 46,35	
1202 0170	Brake Control Assembly	Inspect Repair		0.1 0.4			-	46	
1202 0171	Brake Modulating Valve Assembly Power Boost Hydraulic Manifold	Replace Repair Replace Repair		1.0 0.7 0.6 0.4				46 46,27 46 46	
13	WHEELS AND TRACKS	riopan		0.4				10	
1301	SUSPENSION ASSEMBLY								
1301 0176	Suspension System	Inspect Inspect Service Repair	0.2	0.6 0.5 2.7				 46,1 46 5,11,13,1,46	
1301 0177	Pivot Arm Assembly, (Station 1) Hub and Arm Assembly (Station 1 Left)	Replace Repair Inspect Service Replace		2.6 1.0 0.8 0.1 2.6				46 46,35,1 1 46,29,34,27,	
		Repair		2.2				46,35,27,31, 26,34,29,39,1	
	Hub and Arm Assembly (Station 1 Right)	Inspect Service Replace		0.3 0.1 2.6				1 46,29,34,27, 31	
		Repair		2.2				46,35,27,31, 26,34,29,39,1	
1301 0178	Pivot Arm Assembly (Stations 2 - 6) Hub and Arm Assembly (Station 2 - 6 Left)	Replace Repair Inspect Service Replace		2.6 2.0 0.3 0.1 2.6				46,1,35 46,1,35 1 46,29,34,27, 31	
		Repair		2.2				46,35,27,31, 26,34,29,39,1	

(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)
GROUP	COMPONENT/	MAINT		VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
1301 0178	Hub and Arm Assembly (Station 2 - 6 Right)	Inspect Service Replace		0.3 0.1 2.6				46 46,29,34,27, 31	
		Repair		2.2				46,35,27,31, 26,34,29,39,1	
1301 0179	Roadwheel Hub Assembly (Station 1)	Replace		2.0				46,31,27,34, 29	
		Repair	-	2.0			1	46,26,39,1, 176	
1301 0180	Roadwheel Hub Assembly (Stations 2-6)	Replace Repair		2.0 2.0				46,31,27, 34,29 46,26,39, 1,176	
1302	TRACK SUPPORT ROLLERS AND BRACKETS								
1302 0181	Track Support Roller, Bracket, and Wheel	Replace		1.0				46,39,27, 35,29,1,6, 30,31,33	
		Repair		4.1				46,30,29	
1302 0182	Track Support Roller, Bracket, and Wheel (Left Front)	Replace		1.0				46,39,27, 35,29,1,6, 30,31,33	
		Repair	<u>.</u>	4.1			_	46,30,29	
1303	TRACK IDLERS AND BRACKETS								
1303 0183	Idler Hub and Arm Assembly	Inspect Service Replace Repair		0.8 0.1 2.6 2.6				46,34,29,27 46,26,31,39, 27,1,34,175, 35,128	
	Adjusting Link, Left	Inspect Service Replace Repair Repair Repair	0.1	0.3 1.0 0.5	1.1			1 46 46 46,35,25,27 46,35,25,27,1, 178,179,180	
		Test			0.5			46,179,180	

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(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)
GROUP	COMPONENT/	MAINT		VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
1303 0183	Adjusting Link, Right	Inspect Service Replace Repair Repair Repair	0.1	0.3 1.0 0.5	1.1			46 46 46,35,25,27 46,35,25,1, 178,179,180	
1303 0186	Idler Hub and Arm Assembly	Test Replace Repair		2.6 2.2	0.5			46,179,180 46,34,29,27 46,26,31,39, 27,1,34,175, 35,128	
1304 0187	Sprocket	Inspect Inspect Replace	0.1	0.3 0.5				46,5,11,18,27, 35,127, 142	
1305 1305 0188	TRACK ASSEMBLY Track Assembly	Inspect Adjust Inspect Replace	0.2	0.5 7.0				1 46 46,24,1,35	
	Rubber Track Shoe	Inspect Replace	0.2 1.4	1.3				46,64,24, 8,1,35,133	
1401	STEERING AND SHIFTING CONTROL COMPONENTS MECHANICAL STEERING GEAR ASSEMBLY								
1401 0190	Steering and Shifting Control Assembly	Inspect Test Adjust Service Replace Repair	0.1	0.1 1.2 0.4 0.6 1.0				46 46 46 46,1	

(1)	(2)	(3)			(4))		(5)	(6)
						ICE LE			
GROUP	COMPONENT/	MAINT	U	TIV	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
15 1503	TOWING ATTACHMENT PINTLES AND TOWING								
	ATTACHMENT								
1503 0195	Pintle and Mount Assembly	Inspect Inspect Service Replace Repair	0.1	0.5 0.1 0.5 0.5				1 46,35 46,35,1	
16	SPRINGS AND SHOCK ABSORBERS								
1604	SHOCK ABSORBER EQUIPMENT								
1604 0197	Shock Absorber	Inspect Replace		0.6 0.2				46,35,7	
18	BODY, HOOD, AND HULL	Repair		0.2				46,35,7	
1801	BODY, HOOD, AND HULL ASSEMBLIES	Inspect		0.2					
1801 0200	Engine Deck Assembly	Replace		1.0	İ			46,56	
		Repair		1.0				46	
	Full acced Daffa atom	Repair		م ر	1.0			46,56,19	
	Exhaust Deflector Assembly	Replace Repair		0.5 0.5	ļ		Ī	46 46	
1801 0201	Engine Deck Cover	Inspect	0.1	0.5				40	
1801 0201	Assembly	Replace	0.1	1.0				46,56	
	/ locomoly	Repair	ļ	1.8	ļ			46,56,19	
		Repair			1.0			46,56,19	
	Engine Deck Base	Replace		1.0				46,56	
	Assembly	Repair		1.0				46	
		Repair			1.0			46,56,19	
1801 0202	Engine Deck Door	Replace		1.0				46,161	
1001 0007	Assembly	Repair		1.8				46,161	
1801 0207	Left Stowage Door Assembly	Service Replace	0.1	0.5	ļ		l i	46,161	
	Assembly	Repair		0.5				46,161	
1801 0208	Personnel Door	Inspect	0.1	0.5				13,131	
	Assembly	Service	0.1	0.1			i		
	,	Replace		1.0				46,161	
		Repair		3.0				46,161,27	
1801 0216	Fuel Door Assembly	Replace		0.2				46,161	
		Repair		0.3				46,161,35	

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GROUP	COMPONENT/	MAINT		MAIN I VIT	DS	GS LE	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	C	0	F	Н	DLIGI	EQUIPMENT	CODE
					Г	П	D	·	CODE
1801 0217	APU Door Assembly	Service Replace		0.1 0.2		<u> </u> 		1 46,161	
		Repair		0.2				46,161	
1802	FENDERS AND	Inspect	0.1	0.2				40,101	
1002	ARMOR SKIRTS	Service	0.2	0.1				1	
•		Repair	0	0.5				46,27	<u> </u>
1803	HATCHES AND	Inspect	0.1	0.2				,	
	PERISCOPES	'							
1803 0222	Commander's Cupola	Inspect	0.1						
	Assembly	Inspect		0.3					
		Service		0.1				1	
		Replace		2.0				46,28,27	
		Repair		4.0				46,28,44,27	
1803 0223	Cupola Door Assembly	Replace		1.2				46,44	
		Repair		1.2				46,44,35	
1803 0225	Night Sight Viewer	Replace		0.2				46,161	
	Mount	Repair		0.3		 		46,161	
	Driver and Mechanic's	Replace Repair		1.0 1.0				46,161 46,161,35	
	Cab Top Door Bearing Unit	перап		1.0				40,101,35	
1803 0228	Personnel Cab Top	Replace		1.0				46,161	
	Door Bearing Unit	Repair	Ì	1.0		<u> </u>		46,161,35	
1804	DRAIN VALVES AND COVERS	Inspect	0.1						
1806	SEATS AND SHOULDER HARNESSES	Inspect		0.1					
1806 0234	Commander's Seat	Inspect	0.1	Ī	Ī	Ī			-
	Assembly	Replace		0.3				46	
[Repair	ļ	1.5				46	
	Commander's Pedestal	Replace		0.3				46	
1006 0005	Dergannal Cost Assur	Repair		0.4				46	
1806 0235	Personnel Seat Assy	Replace Repair		0.1 0.1				46 46	
1806 0236	Driver's Seat Assembly	Inspect	0.1	0.1		I I		1 0	
1000 0200	Divor 3 Ocal Assembly	Replace	0.1	0.5				46	
		Repair		1.1				46	
1806 0237	Mechanic's Seat Assy	Inspect	0.1					_	
İ	Í	Replace	İ	0.5	i			46	
		Repair		1.1				46	
		' "							
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(1)	(2)	(3)	(4) MAINTENANCE LEVEL			\	(5)	(6)	
CDOUD		N						TOOLS AND	DEMARKO
GROUP	COMPONENT/	MAINT		VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
1808	STOWAGE RACKS, BOXES, STRAPS AND CARRYING CASES	Inspect	0.3	0.2					
1808 0239	Ammunition Storage	Service	0.1		ļ		<u>.</u>	1	
	Rack	Replace		0.5				46	
1808 0240	Acetylene Cylinder	Repair Replace		0.2 0.5				46 46	
1606 0240	Retaining Strap	Repair		0.5				46	
1808 0245	Water Can Bracket	Replace		0.2			<u> </u> 	46	
1000 0240	VValor Carr Bracket	Repair		0.5				46	
	Side Tow Bar Mounting	Service	0.1	0.0				1	
	Bracket	Replace	• • •	0.2			ļ	46	
		Repair		0.1				46	
1808 0249	Oddment Tray Assy	Replace		0.2				46	
		Repair		0.1				46	
1808 0252	Rear Tow Bar Bracket	Replace	İ	0.2			Ī	46	
	Assembly	Repair		0.5				46	
1808 0254	140-ton Snatch Block	Replace		0.2				46	
	Bracket	Repair		0.1				46	
20	WINCHES, SPADE, AND HOIST BOOM								
2001	WINCHES AND RELATED PARTS								
2001 0257	Hoist Winch Assembly	Inspect	0.1						
		Service	0.1					1	
		Service		1.6				46,1	
		Replace			1.5			46,1,161	
		Repair					***	46	
2001 0258	Hoist Winch Motor	Replace			0.4		dudududu	46	
0001 0000	Mina Dana Dallar	Repair					***	46	
2001 0260	Wire Rope Roller Bearing Unit	Replace		0.5				46 46	
2001 0261	_	Repair	0.1	0.6 0.8				46	
2001 0201	Main Winch and Support Assembly	Inspect Service	0.1	J U.O				1	
	Ouppoir Assembly	Service	0.1	0.1				46,1	
		Replace		0.1	3.0			46,35,138	
		Repair			5.0		***	3,1,46	
2001 0262	Main Winch Assembly	Adjust		1.8			i	, · , · ·	
	,	Test		0.1				46,132	
		Replace			5.0			46,1,28,73, 79,132	
		Repair			0.2		****	46,1,91	

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GROUP	COMPONENT/	MAINT		NAIN I	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	C	0	F	Н	D	EQUIPMENT	CODE
TO MBER	Hydraulic Motor	Replace				• •	****	Egon MERT	0022
2001 0266	Roller Assembly Level Winder Hydraulic Cylinder	Repair Adjust Replace Replace Repair		0.5	0.5		****	46 46,70,161,1, 162,36	
	Level Winder Plate	Replace			1.4			46,28,1	
2001 0268	Assembly Roller Bracket Assembly Auxiliary Winch Assy	Repair Replace Repair Inspect Service	0.4 0.5	2.0 0.4	0.3			46 46 46	
		Service Replace Repair		6 0.9	3.4			46 46,44,35 46,1	
2001 0272	Hydraulic Pump Motor	Replace Repair		8.0			***	46	
2001 0274	Roller Bracket Assy Spooling Roller	Service Replace Repair Service Replace		0.1 0.3 0.5 0.1 0.4				46 46,35 46	
		Repair	<u> </u>	1.0				46,154	
2005	SPADE AND RELATED PARTS								
2005 0277	Spade Lock Assembly Housing Spade Assembly	Replace Repair Inspect Test Service Replace	0.2	1.3 0.3 0.1 0.1 1.0 2.0	1.5			46 46,1 1 46,157,36, 158,155 46,157,36,	
	Spade Actuating	Replace			1.6			158,155 46,28,40	
	Cylinder Assembly	Repair			1.0			4,46,3,1	

(1)	(2)	(3)			(4)	<u> </u>		(5)	(6)
(.,	(-/	(-)		MAINT	ENAN	CE LE	VEL		(-)
GROUP	COMPONENT/	MAINT	UI	TIV	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Η	D	EQUIPMENT	CODE
2007	HOIST BOOM ASSEMBLY AND RELATED PARTS	Inspect Service	0.3	0.2	1.1			1	
2007 0283	Hoist Boom Actuating Cylinder Assembly Stayline Tree Assembly	Replace Repair Replace Repair		1.6 1.0	2.5		****	46,2,40,161 46,35,44 46,35,44	
22	BODY, CHASSIS OR HULL ACCESSORY ITEMS								
2207	PERSONNEL HEATER ASSEMBLY AND RELATED COMPONENTS								
2207 0286	Personnel Heater	Inspect Service Replace Repair	0.1	0.3 0.1 0.6	4.0			1 46,27,1 46	AG
24	HYDRAULIC	·							
2401	PUMP AND MOTOR	Inspect	0.2	0.1					
		Service		0.1				1	
2401 0292	Hydraulic Pump Assy	Replace		8.0				46,44,28,27, 35	
		Repair		1.0			****		
	PTO Shaft	Service		0.1				1	
		Replace Repair	-	0.8	0.5			46,27 46,1	
	PTO Clutch Assembly	Inspect	0.1						
		Test Service	0.1	0.1				1	
		Service	0.1	0.7				1 46	
		Replace		0.4				46,44,28,27,	
							datatat	35	
2401 0295	Fuel Transfer Pump	Repair Replace		0.5			****	46,35	
	Hydraulic Motor	Repair					***	,	
2402	MANIFOLD AND/OR CONTROL VALVES								
2402 0299	Hydraulic Filter Valve Manifold	Service Replace		0.4 0.3				46 46,28	
		Repair		3.0				46,28,27	

(1)	(2)	(3)			(4))	(5)	(6)	
ODOUD	COMPONENT/	NA A IN IT				ICE LE		TOOLOAND	DEMARKO
GROUP	COMPONENT/	MAINT		VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
2402 0301	Regulating Valve	Replace		8.0			***	46	
	Combred Mah.co	Repair		٦			****	46	
	Control Valve	Replace Repair		0.5			***	46	
2402 0302	 Main/Hoist Winch	Replace	<u> </u>	1.2		<u> </u>	<u> </u> 	46,28	
	Directional Control	Repair			1.3			46,1,14	
	Valve							, ,	
2402 0305	Boom Shut-off Valve	Replace	ĺ	0.6	ĺ			46	
		Repair		0.5				46,27	
	Hydraulic Control Valve	Replace			0.6			46,65,28	
	Manifold	Repair Repair		0.2	0.7		ļ	46 46,65,28,1	
	Cross-Port Relief/	Replace		0.5	0.7			46,27	
	Anticavitation Manifold	Repair		1.5				46,14	
2408	LIQUID TANKS OR							,	
	RESERVOIRS								
2408 0331	Hydraulic Reservoir	Inspect	0.1						
		Service	0.1						
		Service Replace		2.3	1.6			46,161	
		Repair		ļ	2.0	<u> </u> 		46,161,1	
29	AUXILIARY	I topali			2.0			40,101,1	
	GENERATOR AND								
	ENGINE CONTROLS								
2901	GENERATOR AND ENGINE ASSEMBLY								
2901 0332	Auxiliary Power Unit	Inspect		0.5		Ī			
2301 0002	Additionally 1 ower office	Test		0.1					
		Service	0.1					1	
		Service		0.3				46	
		Replace	ĺ	1.3	ĺ			46,44	
		Replace			0.2			46,71	
		Repair	ļ	0.6	40.7	Ī		46,27,1	
2910	ENGINE ASSEMBLY	Repair			12.7			46,10,9,1,14	
2910 0333	Power Unit, Diesel	Inspect	0.1						
		Replace			6.3			46,71	AF
		Repair		0.3	İ		ĺ	46	
		Repair			0.1			46	
		Overhaul					30.0	46	
2916	ENGINE LUBRICATION								
2916 0334	Oil Filter Element	Service		0.5					
		Replace		0.2				46,35	
	Oil Drain Line	Replace			0.5			46	

(1)	(2)	(3)			(4))		(5)	(6)
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GROUP	COMPONENT/	MAINT		VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
	Oil Cooler Assembly	Inspect			0.5				
		Service			1.0			46	
		Replace Repair	<u>.</u>		0.5 2.0		 	46 46	AF
2932	ENGINE FUEL PUMP	перап			2.0			40	
	Fuel Injection Pump	Inspect			0.2				
	Assembly	Adjust			0.2			46	
İ	-	Replace	Ī		2.0		İ	46	AF
		Repair			2.5			46	
	Fuel Transfer Pump	Service			0.5				1
	Assembly	Replace	ļ		0.5		ļ	46	AF
	Fuel Nozzle and Holder	Repair Inspect			1.0 1.5			46	
	ruei Nozzie and noidei	Replace			0.5			46	AF
		Repair			2.0		<u> </u>	46	
2933	ENGINE AIR CLEANER	riopa							
2933 0336	APU Intake Air Cleaner	Inspect		0.1					
		Service		0.5				46	
		Replace	ļ	0.2	_			46	
	Adapter and Heater	Inspect			0.5				
<u> </u>	Assembly	Replace	_		2.0		<u>-</u>	46	AF
2936	ENGINE SPEED GOVERNOR AND CONTROLS				<u></u>				
	Governor Linkage	Adjust Replace Repair			0.5 1.8 0.7			46 46 46	AF
2937	ENGINE FUEL FILTER	· -						<u> </u>	
2937 0337	Fuel Filter Assembly	Service	0.1						
		Service		0.2				46	
		Replace		0.3				46	
2061	CENEDATOR	Repair		0.7				46	
2961 2961 0343	GENERATOR Generator/Starter	Replace		0.7				46	
2001 0040	GOT TOTALOT, OLAT LOT	Repair		5.7	1.0			46	AF
		Overhaul					7.0	46	
		2 7 3 1 1 1 4 4 1						-	

(1)	(2)	(3)	(4) MAINTENANCE LEVEL				(5)	(6)	
GROUP	COMPONENT/	MAINT		VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
2963	CIRCUIT BREAKERS,	TONOTION	-		<u>'</u>			EGON WEITT	0022
2903	WIRING AND SWITCHES Fuel Shut-off Solenoid	Adjust			1.0			46	
	Plunger Assembly	Replace	<u> </u> 		0.8			46	l I AF
	Triunger Assembly	Repair			1.0			46	\alpha
2963 0344	Lead Assembly	Replace		0.5	'			46	
2000 00	336-0706	Repair		1.0				46,22,1	
2963 0345	APU Relay	Replace	<u> </u> 	0.5		<u> </u> 	<u>.</u>	46	
		Repair		1.0				46	
2963 0346	Wiring Harness 3W704	Replace		0.1				46	
		Repair		1.3		ļ		46,22,1	
2963 0347	Lead Assembly 3W705	Replace		0.5				46	
		Repair		1.0				46,22,1	
2963 0348	Lead Assembly 3W706	Replace		0.5				46	
	<u> </u>	Repair		1.0		İ	<u>-</u>	46,22,1	
2963 0349	Wiring Harness 3W711	Replace		4.4				46	
		Repair		1.3				46,22,1	
2963 0350	Lead Assembly 3W727	Replace		0.5	İ	Ī		46	İ
		Repair		0.6				46,22,1	
2963 0351	Lead Assembly 3W728	Replace		0.5				46	
		Repair		1.0				46,22,1	
2963 0353	Lead Assembly	Replace		0.5				46	
	11671380-2	Repair		1.0				46,22,1	
33	SPECIAL PURPOSE KITS								
3301	REUSABLE SHIPPING CONTAINERS								
3301 0030	Transmission Shipping	Replace			0.5			46	
	Container	Repair			0.8			46	
		Repair					****		
3301 0031	Final Drive Shipping	Replace		0.5				46	
ļ	Container	Repair	<u> </u>		0.8	<u> </u>	ļ 	46	
		Repair					****		
3301 0067	Engine Shipping	Replace			0.5			46	
2205	Container	Repair			8.0			46	
3305	DEEP WATER FORDING KIT								
3305 0356	Bilge Pump Assembly	Replace		0.5				46	
0000 0000	Digo Fully Assembly	Repair		0.5				46	
		· ·		0.5	0.0				
		Repair			0.8			16,1,38,14	
1		l							

(:)		ON WIOOA					(F)	(5)	
(1)	(2)	(3)		MAINT	(4) ENAN	ICE LE	VEL	(5)	(6)
GROUP	COMPONENT/	MAINT	UI	TIV	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
3307	SPECIAL PURPOSE			<u> </u>					
	KITS								
3307 0363	Smoke Grenade Lamp	Replace		0.1				46	
	Assembly	Repair		0.1				46,35	
3307 0364	Smoke Grenade Switch	Replace		0.2				46	
	Box	Repair		0.8				46,35	
	Wiring Harness 4W108	Replace		1.0				46	
76	FIRE FIGHTING	Repair		1.0				46,22,1	
1'6	EQUIPMENT								
	COMPONENTS								
7639	FIXED FIRE FIGHTING								
	EQUIPMENT								
	(VEHICULAR)	Inspect	0.2						
		Service	0.1	Į					
7639 0367	Fire Extinguisher Valve	Replace		0.3				46,27	
	Assembly	Repair		0.2				46,18,145	
7639 0368	Valve Assembly	Replace		0.5				46,35	
7000 0000	O Otu-l Dullau	Repair		0.5			ļ	46,35	
7639 0369	Corner Control Pulley	Replace		2.0				46,27	
7639 0370	Valve Assembly	Repair Replace		1.0 0.3				46,27 46,27	
7039 0370	i valve Assembly	Repair		0.3			<u> </u>	46,27	
7639 0371	Fire Extinguisher	Replace		0.2				46,35	
	Cylinder	Repair		0.6				46,35	
91	CHEMICAL,							,	
	BIOLOGICAL, AND								
	RADIOLOGICAL (CBR)								
	EQUIPMENT								
9111	GAS PARTICULATE FILTER UNITS								
9111 0373	Protective Collective Kit	Inspect		0.3					
		Replace		0.3				46	
		Repair		0.2				46,35	
9111 0374	M2A2 Air Purifier	Inspect	0.2	İ				,	
		Replace		1.5				46,35	
		Repair			1.5			46	
	Air Purifier Control Unit	Replace		0.1				46	
	Enclosure Assembly	Repair			1.0			46,1	
9111 0378	M3 Air Heater	Replace		0.1				46	
0444 0075	IME to the second AMOST	Repair		0.2			[46	<u> </u>
9111 0379	Wiring Harness 4W305	Replace		0.1				46	
9111 0380	Wiring Harness 4W306	Replace		0.2				46	
		Repair		0.5				46,22,1	

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TABLE 1 MAINTENANCE ALLOCATION CHART FOR M88A2 HRV - CONTINUED

(1)	(2)	(3)	(4)			(5)	(6)		
			MAINTENÀNCE LEVEL						
GROUP	COMPONENT/	MAINT	U	VIT	DS	GS	DEPOT	TOOLS AND	REMARKS
NUMBER	ASSEMBLY	FUNCTION	С	0	F	Н	D	EQUIPMENT	CODE
9111 0381	Wiring Harness 4W307	Replace		0.2				46	
		Repair		0.5				46,22,1	

Table 2 TOOLS AND TEST EQUIPMENT FOR M88A2 HRV

TOOL OR TEST EQUIPMENT REF CODE	MAINT LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
1	O,F,H	Sh Eqpt, Auto Maint	4910-00-754-0705	SC 4910-95-A31
2	F	Adapter	5120-00-767-9102	10867497
3	O,F	Handle,Manual Control	5340-00-766-1964	10867499
4	O,F	Guide, Shaft	4910-00-767-0419	10884600
5	O	Wire Rope Assembly	4010-00-800-8900	10884613
6	F,H,O	Sh Eqpt, Automotive	4910-00-754-0707	SC 4910-95-CL-A63
7	0	Replacer, Shock Absorber	5120-00-279-8325	11654533
8	0	Puller And Pump	5120-01-052-5642	11669394-1
9	F	Puller, Mechanical	5120-00-613-6775	11671732
10	F	Gauge, Alignment	5210-00-613-6779	11671961
11	0	Sling, Final Drive	4910-01-046-8944	11672258
12	0	Adapter, Torsion Bar	5120-01-017-5328	12251805
13	O,F	Pliers, Wire Twister	5120-00-542-4171	CTA 50-970
14	O,F	Tool Kit, Elec Contact	5180-00-876-9336	SC 4940-95-B20
15	O,F	Kit, Terminal Repair	5940-00-525-0907	213247
16	F	Auto Fuel and Elec Tool Kit	5180-00-754-0655	SC 5180-95-CL-B08
17	F	Tester, Diesel Fuel	4910-00-255-8641	3YFL
18	0	Tool Set, Org Maint	4940-00-754-0743	SC 4940-95-A08
19	0	Welding Shop, Trl Mtd	3431-01-090-1231	SC 3431-95-A04
20	0	Sh. Eqpt, Auto Maint	4910-00-754-0653	SC 4910-95-A73
21	0	Tool Kit, Welder's	5180-00-754-0661	SC 5180-90-N39
22	0	Tool Kit, Electrical	5935-01-344-1073	5705498
23	Н	Chain Assembly, Lift	3930-01-105-3611	624-009-010-040
24	0	Adapter, Socket Wrench	5120-00-632-5797	7026898
25	С	Replacer, Bearing	5120-00-614-1454	7027414
26	0	Inserter, Seal	5120-00-473-7475	7078973
27	C,O,F,H	Shop Eqpt, Common #2	4910-00-754-0650	SC 4910-95-A72
28	O,F	Sling, Lifting	4910-00-473-7556	7081593
29	0	Inserter Set, Bearing	5120-00-473-7374	7082834
30	0	Remover And Replacer	5120-00-473-7372	7082863
31	0	Handle, Remover And Repl	5120-00-473-7121	7082881
32	0	Inserter, Seal	5120-00-473-7471	7082882
33	0	Handle, Manual Control	5340-00-708-3883	7083883
34	0	Inserter Set, Bearing	5120-00-473-7373	7082876
35	O,F	Sh Eqpt, Common #1	4910-00-754-0654	SC 4910-95-A74

MAINTENANCE ALLOCATION CHART - CONTINUED

TOOL OR TEST EQUIPMENT	MAINT LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
REF CODE			o. ook nomber	
36	F	Sh Eqpt, Auto Fld	4910-00-754-0706	SC 4910-95-A62
37	F	Socket, Wrench, Face	5120-00-034-8443	8390124
38	F	Wrench, Open-End,1-1/8	5120-00-555-0060	8395504
39	О	Socket, Wrench, Face	5120-00-588-4808	8708459
40	O,F,H	Puller Assy, Slide Hammer	5120-00-310-4668	8708712
41	О	Fixture, Track Connector	5120-00-605-3926	8741739
42	0	Pail, Utility, 3-1/2 Gal.		AA-1273
43	O,F	Tool Kit, Elec Contact	5180-00-876-9336	SC 4940-95-B20
44	О	Sling, Endless, 4FT	3940-00-675-5002	PD101-48
45	О	Bar, Torque Wrench	5120-01-008-3632	PD1459
46	C,O,F,H,D	Tool Kit, General Mechanic	5180-00-177-7033	SC5180-90-N26
*47	F	Welder Set, Arc	3431-00-754-0662	SM9-45180A80
48	F	Adapter, Mechanical	5120-00-837-5091	7082204-A8375091
49	F	Blade, Thickness Gauge	5210-00-793-7898	10882615
50	F	Blade, Thickness Gauge	5210-00-793-7899	10882616
51	F	Blade, Thickness Gauge	5210-00-793-7897	10882617
52	F	Bolt, Eye	5306-00-017-6143	MS51937-7
53	F	Bushing, Reamer Pilot	5110-00-460-5831	11642088
54	F	Bushing, Reamer Pilot	5110-00-003-1010	11642089
55	F	Cutter, Carbon, Nozzle	4910-00-795-7958	10882949
56	F,O	Hoisting Beam	3940-01-440-0283	12366100
57	F	Fuel Injection Advance Test Stand	4910-00-986-9873	10898928
58	F	Gauge, Ring, Plain	5220-00-988-8774	10912589
59	F	Puller Kit, Mechanical	5120-00-313-9496	1178
60	F	Generator Coupling Tool	5180-01-005-2995	11684153
61	F	Generator Holding Tool	5120-01-005-2996	11684166
62	Н	Jack Screw, Hand	5120-00-575-7767	8708361
63	F	Magnifying Glass	6650-00-346-9106	7247968
64	0	Fixture, Track Connecting	5120-01-016-2149	12252120
65	F	Bolt, Eye	5306-01-297-2749	8764542
66	F,O	APU Ground Hop Kit	6115-01-422-2575	12366015
67	F,O	Gauge, Pressure, Dial	6220-00-795-0330	7950330
68	F, O	Gauge Assembly, Testing 0-4000 psi	4910-00-766-3355	10884612
69	F,O	Gauge Assembly, Testing 0-5000 psi	6685-01-130-3471	12310644
70	F	Wrench, Spanner	5120-00-767-9099	10884603
71	F,O	Test Stand, APU		Manufactured Item
72	F,O	Wrench, Adjustable, Auto, 0-2-1/2 jaw opng, 18 in. lg	5120-00-449-8084	D724
73	F	Stand, Nose Piece		Manufactured Item
74	F	Socket, Socket Wrench, 3-5/8 in, 3/4 in dr		LDH1162
75	F	Sling, Lifting		EE2-802-10 ft
76	F	Plug, Flanged, 1 in	4730-01-421-5253	16-FOPX

TOOL OR TEST EQUIPMENT REF CODE	MAINT LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
77	F,O	Kit, Engine Ground Hop	2920-01-421-7066	12365729
78	F	Shackle, 12-1/2 ton		12364386
79	F	Socket Set, Socket Wrench	5130-01-307-2052	427IMY
80	F	Maintenance Stand	4910-00-856-4137	10912260
81	F	Puller, Exhaust Valve Guide	5120-00-448-0401	10882954
82	F	Puller, Intake Valve Guide	5120-00-448-0400	10882953
83	F	Puller, Mechanical	5120-00-440-0400	8761297
84	F	Machine Reamer Set	3455-00-449-7213	SC3455-95A05
85	F	Reamer, Hand	5110-00-708-3698	7083698
86	F	Reamer, Hand	5110-00-708-3699	7083699
87	F	Reamer, Hand	5110-00-708-3696	7083696
88	F	Reamer, Hand	5110-00-708-3697	7083697
89	F	•	5120-00-494-1846	7950177
89		Remover and Replacer, Rings	5120-00-494-1846	7950177
90	F	Replacer, Exhaust Valve Guide	5120-00-448-7993	10883053
91	F	Retaining Ring Pliers	5120-00-752-9755	WT28163
92	F	Ring Compresser	5120-00-795-7956	10882888
93	F	Sleeve, Spacer	5365-00-795-7952	10882651
94	F	Sling Assembly, Accessory Drive	4910-00-795-7954	10882945
95	F	Sling, Crankshaft and Connecting Rod	4910-00-795-7955	10882958
96	F	Socket, Socket Wrench	5120-00-875-9556	11610171
97	F	Tester, Spring Resiliency (Fish Scale Type)	6635-00-918-2788	MIL-T-43560
98	F	Tool Kit, Valve Guide	5180-00-448-0402	10883052
99	F	Tube Assembly, Metal	4910-00-795-7953	10882963
100	F.	Valve Lifter Assembly	5120-00-678-5285	8761535
101	H H	Valve Removing and Insert-	4910-00-554-1317	8708419
101		ing Stand	4010 00 004 1017	0700410
102	F	Wrench, Open End	5120-01-039-2809	12254244
103	F	Bending Tool		X-106685
104	F	Crankcase Protectors		X-106694
105	F	Target Fixture		X-108056
106	F	Torque Wrench Adapter		X-108113
107	F	Torque Wrench Adapter		X-108114
108	F	Torque Wrench Adapter		X-108130
109	F	Torque Wrench Adapter		X-108131
110	F	Brass Wire Probes (1/8")	2432-00-252-8353	
111	F	Gauge, Depth, Micrometer	5210-00-619-4045	GGG-C-105
112	F	Sling, Four Leg	4910-00-919-2884	10952220
113	F	Welding Machine, Resistance	3432-00-436-0574	WT1530
114		Gauge Set, Plug	5220-01-266-8697	B3125
	F F			
115		Puller, Mechanical	5120-00-473-7222	5379997

TOOL OR TEST EQUIPMENT REF CODE	MAINT LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
116	F	Stud Remover and Setter	5120-00-288-6578	GGG-S-775
117	F	Inspection Kit, Dye	6635-00-333-1322	100
118	F	Furnace, Heat Treat	3424-00-008-9607	
119	F	Manometer, Single Tube	6685-00-149-0807	CTCTM40
120	F.	Tester, Cylinder Compres-	4910-00-870-6283	10899180
120		sion	1010 00 070 0200	10000100
121	F	Crowfoot Attachment 9/16	5120-00-222-7975	GGG-W-646
122	F	Crowfoot Attachment 7/16	5120-00-184-8383	GGG-C-1507
*123	F	Caliper, Vernier	5210-00-293-2913	GGG-C-111
124	F	Screwdriver	5120-00-287-2130	GGG-S-121
125	0	Kit, Nitrogen Charging	2025-01-070-3200	8449334
126	Ö	Stencil Set, Marking,	7520-00-205-1760	A-A-130
127	Ö	Socket, Socket Wrench	5130-00-236-3979	15248
121		1–1/2 in, 3/4 in. dr	3130-00-230-3919	13240
128	0	Inserter, Seal	5120-00-492-3672	8708188
129	Ö	Wrench, Adapter, Socket	5120-00-473-7716	7078976
130	0	Indicator, Temperature	6685-00-450-7947	2801A
131	0	Lifter, Roadwheel	4910-01-414-3184	12366180
132	0	Kit, Main Winch Ground Hop	2815-01-422-3190	12366001
133	0	Binder, Torque, Track		12344373
	0		3930-01-091-9058	
134		Gauge, Wear, Track, End Connector	4910-00-799-8732	10887333
135	0	Modification Kit, Vehicle	2590-00-330-8642	8708831
136		Deleted	2590-00-550-6042	8708631
			0401 01 000 1001	11000000
137	0	Shop Equipment, Welding	3431-01-090-1231	11022000
138		Chain, Lifting, Heavy-Duty, 7/8 in.	4010-00-133-6517	10929894
139	0	Rule, Steel, Machinist	5210-00-273-1962	MILR20387
140	0	Square, Combination	5210-00-273-1902	GGG-S-656
	0	Wrench, Open-End,	5120-00-187-7133	
141			5120-00-187-7133	A-A-1356
142	0	1-1/8 in. Adapter,Plate	3040-01-411-2140	12448154
143	0	1 · · · · · · · · · · · · · · · · · · ·	4910-01-222-6589	12259266
143	0	Analyzer Set, Engine Adapter, Socket Wrench 1/2	5120-00-227-8088	SH-131
144		in. x 3/4 in.	3120-00-221-0000	3H-131
145	0	Wrench, Open-End,	5120-00-555-9367	K35515
145		1-3/16 x 1-1/4 in.	5120-00-555-9507	K33313
146	0	Crowfoot Attachment,	5120-00-306-4509	AF-48
140		1-1/2 in.	3120-00-300-4309	AF-46
		ļ , ,	F.100 00 0 005-	A A 4050
147	0	Wrench, Open-End	5120-00-277-2326	A-A-1356
		1-5/8 in.	F.100 00 0== 005=	A A 4050
148	0	Wrench, Box and Open-	5120-00-277-8833	A-A-1358
1.10		End, 1-3/8 in.	E400 00 440 04::	D407.0
149	0	Wrench, Open-End	5120-00-449-8141	B107.6
1		1–11/16 in.		

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TOOL OR TEST EQUIPMENT REF CODE	MAINT LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
150	0	Wrench, Box and Open- End, 2 in.	5120-00-957-3115	1190
151	0	Wrench, Pipe Strap	5120-00-262-8491	G-G-G-W-651
152	0	Socket, Socket Wrench,	5120-00-006-3147	L803
		2-1/2 in, 1 in. dr		
153	0	Adapter, Socket Wrench,	5120-01-356-0742	IM72
		3/4 in. to 1 in.		
154	0	Punch, Drive Pin	5120-00-752-9030	GGG-P-831
155	О	Wrench, Open-End,	5120-00-555-9368	A-A-1351
	_	1–13/16 x 1–7/8 in.		
156	0	Wrench, Open-End,	5120-00-555-9485	A-A-1351
457		1-3/16 x 2-1/4 in.	5400 00 700 0004	1000000
157	0	Wrench, Impact, Hydraulic	5130-00-790-2284	12362630
158	0	Socket, Socket Wrench, 2-1/4 in, 1 in. dr	5130-00-293-1374	2BF878
159	0	Gauge, Fan Rotor	5210-01-099-1477	12275775
160	0	Tool Assembly, Oil Drain	5120-01-445-0706	12366366
161	O,F	Sling, Endless, 8 ft	3940-00-675-5003	PD101-96
162	F	Socket, Socket Wrench	5130-00-227-6685	GGG-W-660
163	F '	Engine Turning Tool	3130-00-221-0003	Manufactured Item
100	<u>'</u>	(Flywheel end)	 	Mandiacidied item
164	F	Engine Turning Tool		Manufactured Item
101	'	(Damper end)		Manadala a nom
165	F	Valve Sleeve Remover		Manufactured Item
166	F	Rod Fixture and Guides		Manufactured Item
167	F	Coupling Puller		Manufactured Item
168	F	Bending Tools		Manufactured Item
169	F	Oil Plug		Manufactured Item
170	F	Socket, Modified		Manufactured Item
171	F	Lifting Tool		Manufactured Item
172	F	Turbocharger Covers		Manufactured Item
173	F	Dipstick Tube Seal		Manufactured Item
174	F	Air Valve Adapter		Manufactured Item
175	0	Socket, Socket Wrench,	5120-01-144-5330	ANS1905A
		2-9/16 in, 3/4 in. dr		
176	O,F	Parts Kit, Transmission	2590-00-330-8642	8708831
177	O,F	Kit, Ground Hop Air Filtra-	2815-01-334-3270	57K1759
	_	tion	4000 00 : 0-5 :	00 1000 05 1:5
178	F	Shp Eqpt, Arty Maint	4933-00-754-0704	SC 4933-95-A12
179	F	Test Fixture, Adjusting Link	4910-01-218-5896	12326061
180	F	Kit, M88A2 Adjusting Link		12477506
		Test Fixture Assembly		

MAINTENANCE ALLOCATION CHART - CONTINUED

0715 00

Table 3 REMARKS FOR M88A2 HRV

REMARKS CODE	REMARKS
AA	See TM 9-2815-247-34
AB	See TM 9-2990-205-34&P
AC	See TM 9-2920-252-34&P
AD	See TM 9-2920-232-34&P
AE	See TM 9-2520-215-34
AF	See TM 9-2815-221-34&P
AG	See TM 9-2540-205-24&P

EXPENDABLE AND DURABLE ITEMS LIST

0716 00

THIS WORK PACKAGE COVERS:

Scope, Explanation of Columns, and a list of all Expendable and Durable items needed to maintain the M88A2 HRV at Unit Level Maintenance.

SCOPE

This work package lists expendables and durable items you will need to maintain the M88A2 HRV systems. This listing is for informational purposes only and is not the authority to requisition the listed items. These items are authorized to you by CTA 50-970, expendable items (except Medical, Class V, Repair Parts and Heraldic Items).

EXPLANATION OF COLUMNS

- a. Column (1) Item number. This number is assigned to the entry in the listing for referencing when required.
- b. Column (2) Level. This column identifies the lowest level of maintenance that requires the listed item.
 - C Operator/Crew
 - O Unit Maintenance
 - F Direct Support Maintenance
 - **H General Support Maintenance**
- c. **Column (3) National Stock Number.** This is the national stock number assigned to the item; use it to request or requisition the item.
- d. **Column (4) Description.** Indicates the federal item name and, if required, a description to identify the item. The last line for each item indicates the Commercial and Government Entity Code (CAGEC) parentheses followed by the part number.
- e. Column (5) Unit Of Measure (U/M)/Unit Of Issue (U/I). This measure is expressed by a two-character alphabetical abbreviation (e.g., EA, IN, PR). If the unit of measure differs from the unit of issue as shown in the Army Master Data File (AMDF) requisition the lowest unit of issue that will satisfy your requirements.

(1)	(2)	(3)	(4)	(5)
Item Number	Level	National Stock Number	Description	(U/M)/ (U/I)
1	0		Solvent, Dry-Cleaning: P-D-680TY3, (81348)	
		6850-01-331-3350 6850-01-331-3349	55 GL Drum 5 GL Can	DR CN
2	0	8030-01-331-3349	Sealing Compound, 60 ft. roll,	FT
_			MIL-S-11030TY3, (81439)	
3	О	9150-00-190-0904	Grease, Automotive and Artillery, MIL-G-10924, (98308)	LB
4	0	5510-00-267-2043	Lumber, Hardwood, MML736, 4x4x10, (81348)	BF
5	0	5510-00-274-5377	Lumber, Hardwood, MML736, 2x4x8, (81348)	BF
6	0	8040-01-031-3170	Adhesive, MIL-A-46106 TYPE I, (81349)	PT
7	0	7920-00-205-1711	Rags, Wiping, 50 LB bale, A-A-2522GRB, (58536)	LB
8	О	3439-00-133-1108	Solder, Tin Alloy, 1 LB spool, SN60WRAP3, (81348)	LB
9	0	3439-00-027-0841	Electrode, Welding, INWELD 909, 1/8 inch, (66376)	LB
10	0		Cap, Dust Protective, 3/4 inch, MIL-C-5501/11F12, (81349)	EA
11	0	5340-00-882-5070	Plug, Dust Protective, 3/4 inch, MIL-C-5501/7-F17, (81349)	EA
12	0	5340-01-085-4239	Plug, Dust Protective, 1/2 inch, MIL-C-5501/7F10 (81349)	EA
13	0	6830-00-292-0131	Nitrogen, Technical, BB-N-411, (81348)	CY
14	Ō	5340-01-109-7061	Plug, Dust Protective, 1/4 inch,	EA
15	0	8040-00-290-4301	MIL-C-5501/7F3, (81349) Adhesive, Rubber Based, General Purpose, Type II, A-1226-B, (91427)	QT
16	0	8030-00-981-7006	Sealing Compound, Loctite 545 (05972)	PT
17	0	8040-00-145-0075	Adhesive, MIL-A-46106 TYPE 2, (81349)	KT
18	0	8040-00-152-0067	Adhesive, 25011-2, (92108)	CA
19	О	8030-00-275-8114	Sealing Compound, MIL-S-11030TY1, (81349)	PT
20	0	9620-00-233-6712	Graphite, Dry, 1 LB can: SSG659, (81348)	LB
21	0	8030-00-889-3535	Tape, Antiseizing, 260 in. spool, MIL-T-27730, (81349)	IN
22	0	8030-00-889-3534	Tape, Antiseizing, MIL-T-27730, (81349)	EA
23	О	8415-00-268-7870	Gloves, Men's & Woman's, MIL-G-2366, (81348)	EA
24	0	4110-00-262-1551	Chain, Weldless, 42C16505, (01976)	FT
25	0	8040-00-833-9563	Adhesive, MIL-A-46106 TYPE 1, (80244)	KT
26	0	5970-00-242-0505	Insulating Compound, MIL-I-46058C Type SR, (16245)	KT
27	0	5970-00-419-4291	Tape, Insulation, Electrical, 108 ft. roll, MIL-I-24391, (81349)	FT

(1)	(2)	(3)	(4)	(5)
Item Number	Level	National Stock Number	Description	(U/M)/ (U/I)
28	0	8040-00-809-8252	Adhesive, EC2210, (04963)	OZ
29	0	8040-01-250-3969	Adhesive, 242, (05972)	EA
30	0	8030-00-148-9833	Sealing Compound, MIL-S46163TY1GRK (80244)	CC
31	Ο	9150-00-250-0926	Petrolatum, Technical, 14P1, (82146)	PT
32	0	7930-00-530-8067	Detergent, General Purpose, P-D-220TY2, (81348)	GL
33	Ο	8030-00-080-2171	Sealing Compound, EC800, (52152)	QT
34	0	4020-01-204-7039	Rope, Fiberous, (19207)	FT
35	О	8040-00-515-2250	Adhesive, EC871, (52152)	QT
36	О	5530-00-128-4475	Plywood, Construction, NN-P-530, (81348)	SH
37	0	8030-01-104-5392	Sealant, 24221, (05972)	BT
38	0	8010-00-065-1151	Lacquer, TT-L-58, (81349)	PT
39	0	8010-00-160-5851	Varnish, Oil, TT-V-121, (81348)	PT
40	0	9505-00-684-4843	Wire, Nonelectrical, MS20995F41, (96906)	LB
41	0		Tape, Pressure Sensitive; 12367083, (19207)	EA
42	0	8030-00-275-8111	Compound, Sealing; A-A-52495-1	GL
43			Lubricating Oil, Engine (OE), MIL-L-2104, (81349)	
	0	9150-01-433-7974	1 QT Can, OE30	QT
	Ο	9150-01-433-7986	5 GL Can, OE30	CN
	0	9150-01-433-7974	55 GL Drum, OE30	DR
	0	9150-01-422-9346	1 QT Can, 15W40	QT
	0	9150-01-438-6082	5 GL Can, 15W40	CN
4.4	0	9150-01-438-6079	55 GL Drum, 15W40	DR
44	0	5340-01-065-9917	Cap, Dust Protective, 1/4 inch, MIL-C-5501/7F4, (81349)	EA
45	0	5340-01-063-1192	Cap, Dust Protective, 1/2 inch, MIL-C-5501/7F8, (81349)	EA
46	0	5340-01-183-0861	Cap, Dust Protective, 3/8 inch, MIL-C-5501/9F6, (81349)	EA
47	Ο	5340-00-682-1857	Plug, Dust Protective, 3/8 inch, MIL-C-5501/1F6, (81349)	EA
48	0	8105-00-837-7754	Bag, Plastic, (83421)	PKG
49	0	9905-00-537-8954	Tag, Marker, MIL-T-12755CLRW, (81349)	EA
50	0	5340-00-286-3506	Plug, Dust Protective, 1–1/4 inch, MIL–C–5501/7F24, (81349)	EA
51	0	9150-01-158-0462	Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic Hydrocarbon Base, MIL-H-46170, (81349)	DR
52	0	9525-00-990-7799	Wire, Nonelectrical, MS20995NC40-12, (96906)	LB
53	0	5340-01-183-0976	Cap, Dust Protective, 1 inch, MIL-C-5501/11F16, (81349)	EA
54	0	5340-01-194-3200	Cap, Dust Protective, 1-1/2 inch, MIL-C-5501/7F25, (81349)	EA

(1)	(2)	(3)	(4)	(5)
Item Number	Level	National Stock Number	Description	(U/M)/ (U/I)
55	0	5340-01-079-7800	Plug, Dust Protective, 1 inch, MIL-C-5501/7F21, (81349)	EA
56	0		Plug, Dust Protective, 1-1/2 inch, MIL-C-5501/XXXX, (81349)	EA
57	Ο	8030-01-234-2187	Sealing Compound, TT-S-00230, TY2, CL A	CN
58	0	9150-01-035-5394	Lubricating Oil, Gear, MIL-L-2105, (81349)	DR
59	0	7920-00-044-9281	Cloth, Cleaning, MIRACLEWIPE001, (51200)	BX
60	0	8010-00-297-0547	Enamel, Black, Lusterless, TT-E-527, (81348)	GL
61	0	9505-00-221-2650	Wire, Nonelectrical, MS20995C20, (96906)	LB
62	Ο	8010-00-148-7042	Epoxy Coating Kit, Class 2, Type III, MIL-C-22750, (81349)	QT
63	Ο	3439-00-400-1972	Flux, Soldering: MIL-F-14256, (81349)	PT
64	0	8040-01-147-9957	Adhesive, 12347278, (19207)	KT
65	0	4730-00-400-6420	Adapter, 37-degree, 1/2 in., ORS, 85F0X-B, (30780)	EA
66	0	4730-00-936-5046	Adapter, 37-degree, 3/4 in., ORS, MS39324-12-12, (96906)	EA
67	Ο	4730-00-912-9416	Plug, 37-degree, 1/4 in., ORS, 4PNTXB, (30780)	EA
68	0	4730-00-833-0211	Plug, 37-degree, 3/8 in., ORS, 6PNTXB, (30780)	EA
69	0	4730-00-833-0215	Plug, 37-degree, 1/2 in., ORS, 8PNTXB, (30780)	EA
70	0	4730-01-030-7129	Plug, 37-degree, 3/4 in., ORS, 12PNTX-B, (30780)	EA
71	0	4730-00-787-9402	Tee, 37-degree, 1/4 in., ORS, 4R50XSS, (30780)	EA
72	0	4730-00-933-3698	Tee, 37-degree, 3/8 in., ORS, 6R50XS, (30780)	EA
73	0	4730-00-937-0232	Tee, 37-degree, 1/2 in., ORS, 8R50XS, (30780)	EA
74	0	4730-00-936-2158	Tee, 37-degree, 3/4 in., ORS, 12R50XS, (30780)	EA
75	0	4730-01-310-2849	Tee, 37-degree, 1 in., ORS, 16R50XS, (30780)	EA
76	0	4730-01-421-5253	Plug, Flanged, 1 in., 16-FOPX, (63383)	EA
77	0	9505-00-555-8648	Wire, Nonelectrical, MS20995C47, (96906)	LB
78	0	8030-01-054-3968	Sealing Compound, MIL-S-46163 Type II, Grade M, Loctite 222-21 (10cc), (09572),	ВТ
79	0	9505-00-248-9850	Wire, Nonelectrical, MS20995F47, (96906)	LB
80	0	5970-00-647-3676	Insulating Varnish, 9060228, Moisture and Fungus Retardant, (18876)	PT
81	0	8040-01-331-7128	Adhesive, Silicon Rubber, Type III, MIL-A-46146, (11297)	OZ
82	0	8030-00-220-6973	Sealing Compound, Type III, MIL-S-45180, (81349)	OZ
83	0	8040-00-152-0063	Adhesive, Type II, MMM-A-1617, (81348)	OZ

(1)	(2)	(3)	(4)	(5)
Item Number	Level	National Stock Number	Description	(U/M)/ (U/I)
84	0	4730-00-203-3638	Cap, 37-degree, 1/4 in., ORS, 4FNTXB, (30780)	EA
85	0		Lubricating Oil, Cat 10	
		9150-01-424-7696	1 QT Can, 8T9566	QT
		9150-01-424-7692	5 GL Can, 8T9568	CN
		9150-01-424-7698	55 GL Drum, 8T9569	DR
86	0	9150-00-402-2372	Lubricating Oil, Internal Combustion, Engine Arctic, MIL-L-46167, (81349)	DR
87	О	9150-00-231-6689	Lubricating Oil, Gen, VV-L-800, (81348)	QT
88	0	9150-00-234-5199	Lubricating Oil, Exposed Wire Rope, Chain, VV-L-751, (81348)	LB
89	0		Epoxy, 12934621 (100 grams)	PKG
90	0	8030-00-155-6444	Antisieze Compound, NSA16, (15145)	CN
91	0	6850-01-390-7811	Compound, Cleaning, MIL-C-87937, (81349)	CN
92	0	9150-00-231-2361	Lubricating Oil, Gen, MIL-L-3150, (81349)	QT
93	0	6520-01-140-5364	Goggles, Safety, 652000C093171, (89875)	EA
94	0	9150-00-140-4434	Lubplate, 71-0297, (92739)	CN
95	Ο	4730-01-214-8938	Reducer, 37-degree, 3/8 in. to 1/4 in., 2040-4-6S, (00624)	EA
96	0	6850-01-304-6632	Silicone Compound, MIL-S-8660, (96906)	TU
97	0	2940-01-415-5891	Surface Cleaner, TT-C-490, (02731)	CN
98	0	8010-00-161-7275	Primer Coating, TT-P-664, (81348)	PT
99	Ο	4730-00-138-8454	Cap, 37-degree, 1 in., ORS (30780) 16 FNTXB	EA
100	0	4730-01-132-1183	Plug, 37-degree, 1 in., ORS (96906) MS51518B16Z	EA
101	0	9505-00-684-4841	Wire, Non-electrical, MS20995F32 (96906)	LB
102	0	8040-00-118-2695	Adhesive Sealant, Silicon RTV, General Purpose, White per MIL-A-46146 (80244)	OZ
103	0	8030-01-104-5392	Sealant (MIL-S-46163, Type II, GRADE N)	CN
104	0		Adhesive, P/N 12414580	TU
105	0	8030-00-163-5792	Sealing Compound P/N 11663357	CN
106	0		Insulation Sleeving, 3", PN 12352468-13	FT
107	0	8030-00-082-2508	Primer, Sealing Compound Grade T Form R (MIL-S-22473) (81349)	ВТ

TOOL IDENTIFICATION LIST

0717 00

THIS WORK PACKAGE COVERS:

Lists all Common Tools and Special Tools/Fixtures needed to maintain the M88A2 at Unit Level Maintenance.

(1)	(2)	(3)	(4)	(5)
ITEM NUMBER	ITEM NAME	NATIONAL STOCK NUMBER	PART NUMBER	REFERENCE
1	Tool Kit, General Mechanic's: Automotive (GMTK)	5180-00-177-7033	SC 5180-90-N26	SC 5180-90-N26
2	Wrench, Torque, 0-175 lb-ft, 1/2 in. dr.	5100-00-640-6364	A-A-2411	SC 4910-95-A72
3	Socket, Wrench, Face 3/4 in. dr.	5120-00-588-4808	8708459	TM 9-2350-292-24P
4	Handle, Remover And Replacer	5120-00-473-7121	7082881	TM 9-2350-292-24P
5	Remover/Replacer, Track Support Roller, Wheel Hub Inner Bearing Cup	5120-00-473-7372	7082863	TM 9-2350-292-24P
6	Handle, Manual Control	5120-00-708-3883	7083883	TM 9-2350-292-24P
7	Inserter Set, Bearing	5120-00-473-7374	7082834	TM 9-2350-292-24P
8	Inserter Set, Seal	5120-00-473-7471	7082882	TM 9-2350-292-24P
9	Wrench, Torque, 0-600 lb-ft, 3/4 in. dr.	5120-00-221-7983	SW130-301	SC 4910-95-A72
10	Jack, Hydraulic, Hand, 30-ton	5120-00-188-1790	5029209-11-101	TM 9-2350-292-10
11	Drill, Electric, Portable	5130-00-807-3009	W-D-661	SC 4910-95-A74
12	Drill Set, Twist	5133-00-293-0983	800434	SC 4910-95-A74
13	Lubricating Gun, Hand	4930-00-766-3545	610101-LVR	TM 9-2350-292-10
14	Kit, Engine Ground Hop	2920-01-421-7066	12365729	TM 9-2350-292-24P
15	Pliers Set, Retaining	5120-00-789-0492	4440R	SC 4910-95-A74
16	Kit, APU Ground Hop	6115-01-422-2575	12366015	TM 9-2350-292-24P
17	Test Stand, APU			Item 1, Appendix D
18	Scale, Weighing	6670-00-254-4634	AAA-S-133	SC 4910-95-A72
19	Indicator, Temperature	6685-00-450-7947	2801A	CTA 50-970
20	Kit, Nitrogen Charging	1025-01-070-3200	8449334	CTA 50-970
21	Wrench, Torque, 0-200 lb-in., 3/8 in. dr.	5120-00-853-4538	F200-1	SC 4910-95-A72
22	Wrench, Adjustable, Auto, 0-3-5/8 in. jaw opng., 15 in. l	5120-00-264-3793	211708	SC 4910-95-A74
23	Sling, Endless, 4 ft.	3940-00-675-5002	PD101-48	TM 9-2350-292-10
24	Sling, Endless, 8 ft.	3940-00-675-5003	PD101-96	TM 9-2350-292-24P
25	Sling, Lifting	4910-00-473-7556	7081593	TM 9-2350-292-24P
26	Kit, Main Winch Ground Hop	2815-01-422-3190	12366001	TM 9-2350-292-24P
27	Pail, Utility, 3-1/2 gal.	7240-00-160-0455	AA-1273	CTA 50-970
28	Socket, Socket Wrench 1-3/8 in., 3/4 in. dr.	5130-00-227-6685	GGG-W-660	SC 4940-95-A08
29	Socket, Socket Wrench 1-1/8 in., 3/4 in. dr.	5120-00-232-5681	A-A-1394	SC 4910-95-A74

(1)	(2)	(3)	(4)	(5)
ITEM NUMBER	ITEM NAME	NATIONAL STOCK NUMBER	PART NUMBER	REFERENCE
30	Wrench, Combination, 1-1/4 in.	5120-00-228-9517	1173	SC 4910-95-A72
31	Inserter and Remover, Stud	5120-00-596-0980	GGG-S-775	SC 4910-95-A72
32	Brush, Wire Scratch	7920-00-291-5815	8078883	SC 4910-95-A74
33	Stencil Set, Marking	7520-00-205-1760	A-A-130	CTA 50-970
34	Heater, Gun Type, Electrical	4940-00-561-1002	500A	SC 4910-95-A72
35	Stand, Nose Piece			Item 3, Appendix D
36	Wire Rope Assembly	4010-00-800-8900	10884613	TM 9-2350-292-24P
37	Sling, Final Drive	4910-01-046-8944	11672258	TM 9-2350-292-24P
38	Adapter, Socket Wrench	5120-00-240-8702	GAX-1	CTA 50-970
39	Bar, Torque Wrench	5120-01-008-3632	PD1459	SC 4940-95-A08
40	Multiplier, Torque Wrench	5120-00-169-2986	PD 1201	SC 4940-95-A08
41	Socket, Socket Wrench 1-1/2 in., 3/4 in. dr.	5120-00-293-0094	A-A-1394	SC 4910-95-A74
42	Inserter, Seal	5120-00-592-3672	8708188	TM 9-2350-292-24P
43	Puller, Mechanical	5120-00-595-9305	GGGP781	SC 4910-95-A74
44	Wrench, Pipe 1/4 in. to 1 in.	5120-00-277-1485	GGG-W-651	SC 4910-95-A72
45	Inserter, Seal	5120-00-473-7475	7078973	TM 9-2350-292-24P
46	Puller, Slide	5120-00-557-3615	5573615	SC 4910-95-A74
47	Wrench, Spanner	5120-00-473-7761	7078980	SC 4910-95-A74
48	Indicator, Dial	5210-00-277-8840	196A	CTA 50-970
49	Puller, Mechanical	5120-00-614-1454	7027414	CTA 50-970
50	Replacer, Shock Absorber	5120-00-279-8325	11654533	TM 9-2350-292-24P
51	Lifter, Roadwheel	4910-01-414-3184	12366180	TM 9-2350-292-24P
52	Crowbar	5120-00-244-1390	11677049-1	TM 9-2350-292-10
53	Adapter, Socket Wrench,	5120-00-473-7716	7078976	TM 9-2350-292-24P
54	Adapter, Torsion Bar	5120-01-017-5328	12251805	TM 9-2350-292-24P
55	Adapter, Socket Wrench	5120-00-632-5797	7026898	TM 9-2350-292-24P
56	Fixture, Track Connecting	5120-01-016-2149	12252120	TM 9-2350-292-24P
57	Puller and Pump, Track End Connector	5120-01-052-5642	11669394-1	TM 9-2350-292-10
58	Hammer, Hand, 10 lbs.	5120-00-900-6097	A-A-1293	TM 9-2350-292-10
59	Chain, Utility, 5/8" V 16	4010-00-473-6166	7077063	TM 9-2350-292-10
60	Binder, Torque, Track	3990-01-235-0367	12344373	TM 9-2350-292-10
61	Inserter Set, Bearing	5120-00-473-7373	7092876	TM 9-2350-292-24P
62	Socket, Socket Wrench, 2-9/16 in., 3/4 in. dr.	5120-01-144-5330	ANS1905A	SC 4910-95-A74
63	Gauge, Wear,Track End Connector	4910-00-799-8732	10887333	TM 9-2350-292-24P
64	Beam, Hoisting		12366100	TM 9-2350-292-24P
65	Parts Kit, Transmission	2590-00-330-8642	8708831	TM 9-2350-292-24P

(1)	(2)	(3)	(4)	(5)
ITEM NUMBER	ITEM NAME	NATIONAL STOCK NUMBER	PART NUMBER	REFERENCE
66	Riveter, Blind, Hand	5120-00-017-2849	250K	SC 4940-95-A08
67	Pliers, Wire Twister	5120-00-542-4171	8491162	SC 4010-95-A74
68	Gauge, 1/8-in. Go/No-Go			Item 4, Appendix D
69	Sander, Disk, Electrical	5130-00-857-8526	00-S-90	SC 4910-95-A72
70	Wheel, Abrasive	5130-00-542-3313	MIL-W-43060	SC 4910-95-A72
71	Shop Equipment, Welding (Trailer-Mounted)	3431-01-090-1231	11022000	SC 3431-95-A04
72	Chain, Lifting, Heavy-Duty, 7/8 in.	4010-00-133-6517	10929894	TM 9-2350-292-10
73	Rule, Steel, Machinist	5210-00-273-1962	MILR20387	CTA 50-970
74	Square, Combination	5210-00-078-8949	GGG-S-656	CTA 50-970
75	Wrench, Open-End, 1-1/8 in.	5120-00-187-7133	A-A-1356	SC 4910-95-A72
76	Socket, Socket Wrench 1-7/8 in., 3/4 in. dr.	5120-00-199-7769	GGG-W-641	SC 4910-95-A74
77	Wrench, Open-End, 1-1/2 in.	5120-00-277-9818	TKKX6	SC 4940-95-A08
78	Final Drive Sling Adapter Plate	3040-01-411-2140	12448154	TM 9-2350-292-24P
79	Gauge, 3/16-in. Go/No-Go			Item 4, Appendix D
80	Jackscrew 3/8-24 UNF X 1-1/2 in. long	5305-00-269-2807	MS90726-64	TM 9-2350-292-24P
81	Gauge, Pressure, Dial, 0-300 psi	6620-00-795-0330	7950330	TM 9-2350-292-24P
82	Gauge Assembly, Testing, 0-4000 psi	4910-00-766-3355	10884612	TM 9-2350-292-24P
83	Gauge, Pressure, Dial, 0-5000 psi	6685-01-130-3471	12310644	TM 9-2350-292-24P
84	Multimeter	6625-01-139-2512	T00377	SC 4910-95-A72
85	Analyzer Set, Engine	4910-01-222-6589	12259266	TM 9-4910-571-12&P
86	Adapter, Socket Wrench, 1/2 in. to 3/4 in.	5120-00-227-8088	SH-131	SC 4910-95-A74
87	Oil Filter Removal Tool	5120-00-865-0933	3003	SC 4910-95-A74
88	Pliers, Slip-Joint	5120-00-278-0350	GGG-P-471	CTA 50-970
89	Wrench Set, Socket, 3/4 in. dr.	5120-00-204-1999	GGG-W-641	TM 9-2350 292-10
90	Wrench, Open-End, 1-3/16 x 1-1/4 in.	5120-00-555-9367	K35515	CTA 50-970
91	Crowfoot Attachment, 1-1/2 in.	5120-01-306-4509	AF-48	CTA 50-970
92	Wrench, Adjustable, Auto, 0 to 2-1/2 in. jaw opng, 18 in. l.	5120-00-449-8084	D724	CTA 50-970
93	Puller, Battery Terminal	5120-00-944-4268	54000	SC 4910-95-A74
94	Carrier, Storage Battery	5120-00-570-4316	A-A-50460	SC 4910-95-A72
95	Wrench, Open-End, 1-5/8 in.	5120-00-277-2326	A-A-1356	CTA 50-970

(1)	(2)	(3)	(4)	(5)
ITEM NUMBER	ITEM NAME	NATIONAL STOCK NUMBER	PART NUMBER	REFERENCE
96	Wrench, Combination, 1-3/8 in.	5120-00-277-8833	A-A-1358	SC 4910-95-A74
97	Wrench, Open-End, 1-11/16 in.	5120-00-449-8141	B107.6	SC 4940-95-A08
98	Wrench, Combination, 2 in.	5120-00-957-3115	1190	CTA 50-970
99	Socket, Socket Wrench, 3/8 in., 1/2 in. dr.	5130-00-221-8004	B107.2	CTA 50-970
100	Wrench, Pipe (strap)	5120-00-020-2947	A91D	SC 4910-95-A74
101	Socket, Socket Wrench, 2-1/2 in., 1 in. dr.	5120-00-006-3147	L803	CTA 50-970
102	Gauge, 1/4-in. Go/No-Go			Item 4, Appendix D
103	Adapter, Socket Wrench, 3/4 in. to 1 in.	5120-01-356-0742	IM72	CTA 50-970
104	Punch, Drive Pin	5120-00-752-9030	GGG-P-831	CTA 50-970
105	Wrench, Open-End, 1-13/16 X 1-7/8 in.	5120-00-555-9368	A-A-1351	CTA 50-970
106	Wrench, Open-End, 1-3/16 X 2-1/4 in.	5120-00-555-9485	A-A-1351	CTA 50-970
107	Socket, Socket Wrench, 1-13/16 in., 3/4 in. dr.	5120-00-199-7768	A-A-1394	TM 9-2350-292-10
108	Wrench, Impact, Hydraulic	5130-00-790-2284	12362630	TM 9-2350-292-10
109	Socket, Socket Wrench, 2-1/4 in., 1 in. dr.	5130-00-293-1374	2BF878	SC 4940-95-A08
110	Screw, Cap Hex	5305-00-903-7767	BI821BH075F400N	CTA 50-970
111	Soldering Gun	3439-00-618-6623	D-550-3	SC 4910-95-A72
112	Maintenance Kit, Electrical	5935-01-344-1073	5705498	
113	Wrench, Torque, 0-300 lb-in	5120-00-776-1841	A-A-1274	SC 4910-95-A74
114	Gauge, Fan Rotor	5210-01-099-1477	122775775	TM 9-2350-292-24P
115	Tool Assembly, Drain	5120-01-445-0706	12366366	TM 9-2350-292-24P
116	Kit, Ground Hop Air Filtration	2815-01-334-3270	57K1759	TM 9-2350-292-24P
117	Cleaner, Oil Cooler	4910-00-494-8527	11641959	TM 9-2350-292-24P
118	Shackle, 12-1/2 ton	4030-01-433-2301	12364386	TM 9-2350-292-10
119	Test Harness, Fuel/Water Separator			Item 5, Appx D
120	Jumper Wire, Fuel/Water Separator			Item 6, Appx D
121	Screw, Cap Hex	5305-00-269-3235	B1821BH038F088N	CTA 50-970
122	Wrench, Spanner, Univ	5120-00-293-1602	GGG-W-665	TM 9-2350-292-24P
123	Funnel, Zinc-coated, 1 qt	7240-00-559-7364	A-A-2898TY1CL1S TBSZ4	TM 9-2350-292-10

(1)	(2)	(3)	(4)	(5)
ITEM NUMBER	ITEM NAME	NATIONAL STOCK NUMBER	PART NUMBER	REFERENCE
124	Clamp, C	5120-00-203-6431	GGG- C-406TY1CLB	SC-4910-95-2A72
125	Screwdriver Attachment, 1/8-in. hex, 3/8-in. drive	5120-01-367-3454	FA4A	TM 9-2350-292-24P
126	Screwdriver Attachment, 8mm hex, 1/2-in. drive	5120-01-437-3688	SAM8A	TM 9-2350-292-24P
127	Adapter, Torque Wrench	5120-01-367-3585	SRE524	CTA 50-970
128	Main Winch Ground Hop Kit		12366001-1	TM 9-2350-292-24P
129	Socket, Socket Wrench Power Drive, 6-Point, 1-5/16 in., 3/4 in. dr	5130-01-084-6025	10894847-1	TM 9-2350-292-10
130	Funnel, Offset		12477631	TM 9-2350-292-10
131	Utility Jug, Measure and Fill		12477632	TM 9-2350-292-10
132	Final Drive Sleeve Tool			Item 7, WP 0719 00
133	Test Set, Electronic System, AN/PSM-9	6625-01-445-0085	123580703	TM 9-6625-2301-12

MANDATORY REPLACEMENT PARTS LIST

0718 00

THIS WORK PACKAGE COVERS:

Scope, Explanation of Columns, and Mandatory Replacement Parts referenced in the task Initial Setups and procedures.

SCOPE

This work package is a cross-reference of item numbers to part numbers and is included for that purpose only.

EXPLANATION OF COLUMNS

- a. **Column (1) Item Number.** This number is assigned to the entry in the listing for cross-referencing to the part number.
- b. **Column (2) Part Number.** Indicates the primary number used by the manufacturer (individual, company, firm, corporation or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specification, standards and inspection requirements to identify an item or range of items.
- c. **Column (3) Description.** This column contains the nomenclature which appears on the first page of the task under the subheading "Materials/Parts".

(1)	(2)	(3)
Item No.	Part Number	Description
1	MS21318-21	Screw, Drive
2	MS35338-46	Washer, Lock
3	MS51910-15-2	Seal, Plain, Encased
4	MS51920-1-1	Seal, Plain, Encased
5	MS24665-285	Pin, Cotter
6	6295364	Gasket
7	1229-J-478	Washer, Flat
8	MS35340-52	Washer, Lock
9	MS35338-44	Washer, Lock
10	MS35338-45	Washer, Lock
11	MS35335-35	Washer, Lock
12	MS35338-48	Washer, Lock
13	MS35338-40	Washer, Lock
14	MS35340-44	Washer, Lock
15	MS24665-132	Pin, Cotter
16	MS16624-1137	Ring, Retaining
17	MS24665-353	Pin, Cotter
18	MS35338-43	Washer, Lock
19	MS24665-283	Pin, Cotter
20	22617-4	Packing, Preformed
21	22617-6	Packing, Preformed
22	22617-8	Packing, Preformed
23	22617-12	Packing, Preformed
24	11672014	Gasket
25	10894496	Gasket
26	7355018	Seal, Nonmetallic
27	MS35340-48	Washer, Lock
28	MS16625-1131	Ring, Retaining
29	MS24665-689	Pin, Cotter
30	MS24665-359	Pin, Cotter
31	MS24665-631	Pin, Cotter
32	MS35340-53	Washer, Lock
33	MS21318-47	Screw, Drive
34	8710629	Pin, Straight
35	MS35338-50	Washer, Lock
36	12364399	Round Rubber Section
37	MS35340-46	Washer, Lock
38	MS35333-42	Washer, Lock
39	MS28775-017	Packing, Preformed
40	MS28775-014	Packing, Preformed
41	MS28778-10	Packing, Preformed
42	200-4-4FTX-SS	Packing, Preformed

(1)	(2)	(3)
Item No.	Part Number	Description
43	MS28778-4	Packing, Preformed
44	MS16633-1075	Ring, Retaining
45	AN415-2	Pin, Lock
46	12364428-1	Seal, Rubber
47	12364428-2	Seal, Rubber
48	12364428-3	Seal, Rubber
49	MS20995F47	Wire, Nonelectrical
50	MS35489-11	Grommet, Synthetic Rubber
51	108630	Pin, Cotter
52	MS35338-65	Washer, Lock
53	MS24665-281	Pin, Cotter
54	MS28778-250	Packing, Preformed
55	MS35489-106	Grommet, Nonmetallic
56	10866621	Grommet, Nonmetallic
57	8705544	Gasket
58	MS35335-33	Washer, Lock
59	11672220-1	Gasket
60	2-460-067-375	Key, Woodruff
61	M12133/4-152	Washer, Spring Tension
62	MS35337-27	Washer, Lock
63	MS35769-26	Gasket
64	MS28778-12	Packing, Preformed
65	10894116	Gasket
66	MS16562-51	Pin, Spring
67	MS24665-421	Pin, Cotter
68	11026	Washer, Lock
69	25107	Ring, Retaining
70	MS21318-52	Screws, Drive
71	MS24665-370	Pin, Cotter
72	MS9048-077	Pin, Spring
73	MS21083F-C8	Nut, Lock
74	MS28778-8	Packing, Preformed
75	10330	Packing, Preformed
76	FF9446-214	Packing, Preformed
77	MS3367-1-0	Strap, Tiedown, Electrical
78	MS35338-51	Washer, Lock
79	8395522	Gasket
80	8395521	Gasket
81	10862830	Gasket
82	MS25036-106	Lug, Terminal
83	MS16624-1050	Ring, Retaining
84	MS35340-50	Washer, Lock

(1)	(2)	(3)
Item No.	Part Number	Description
85	MS35333-40	Washer, Lock
86	MS35333-37	Washer, Lock
87	8724501	Strap, Tie Down, Electrical
88	MS35335-39	Washer, Lock
89	11671130	Grommet, Synthetic Rubber
90	MS35333-38	Washer, Lock
91	7358626	Gasket
92	11605388	Gasket
93	7358625	Washer, Lock
94	10934769	Seal, Anti-Pilferage
95	MS35338-99	Washer, Lock
96	MS9048-142	Pin, Spring
97	MS16562-52	Pin, Spring
98	503186	Seal
99	MS21318-20	Screw, Drive
100	11671510	Gasket
101	228288	Screw, Assembled-Washer
102	10867415	Gasket
103	10884619	Gasket
104	MS51938-6	Seal, Anti-Pilferage
105	12-50641	Washer, Lock
106	NAS1523C-10B	Packing, with Retainer
107	MS24665-425	Pin, Cotter
108	MS9047-234	Pin, Spring
109	1-220889	Gasket
110	MS35333-39	Washer, Lock
111	MS35335-31	Washer, Lock
112	MS35338-42	Washer, Lock
113	MS20470B4-5	Rivet
114	10870150	Gasket
115	MS35337-25	Washer, Lock
116	MS35338-67	Washer, Lock
117	8764337	Strip, Rubber
118	8764338	Strip, Rubber
119	MS9245-24	Pin, Cotter
120	MS51922-21	Nut, Self-Locking
121	MS35338-103	Washer, Lock
122	MS35338-100	Washer, Lock
123	7398878	Gasket
124	MS24665-752	Pin, Cotter
125	MS21083C24	Nut, Self-Locking
126	MS24665-351	Pin, Cotter

(1)	(2)	(3)
Item No.	Part Number	Description
127	MS35335-34	Washer, Lock
128	MS24665-423	Pin, Cotter
129	10894382	Seal, Nonmetallic
130	MS35340-51	Washer, Lock
131	MS16633-1062	Ring, Retaining
132	MS35335-32	Washer, Lock
133	12365276	Gasket
134	10867195	Seal, Nonmetallic
135	MS35336-39	Washer, Lock
136	MS35489-107	Grommet
137	MS45904-76	Washer, Lock
138	MS35336-27	Washer, Lock
139	MS35338-41	Washer, Lock
140	12274570	Nut, Self-Locking
141	123-0191	Gasket
142	MS35769-11	Gasket
143	123-0667	Gasket
144	8376364	Seal, Plain, Encased
145	MS28775-266	Packing, Preformed
146	MS29513-354	Packing, Preformed
147	MS51912-19-2	Seal, Plain, Encased
148	11655771	Washer, Key
149	8387093	Gasket
150	8387092	Gasket
151	12366313	Strip
152	MS24665-426	Pin, Cotter
153	MS21083N6	Nut, Self-Locking
154	10894380	Strip, Rubber
155	MS21044N4	Nut, Self-Locking
156	MS16625-1237	Ring, Retaining
157	10862985	Pad, Cushioning
158	MS16562-31	Pin, Spring
159	11671280	Pin, Grooved
160	7014010	Gasket
161	MS16998-74L	Screw, Self-Locking
162	MS16998-77L	Screw, Self-Locking
163	MS16998-75L	Screw, Self-Locking
164	MS16998-46L	Screw, Self-Locking
165	8725595	Washer, Spring
166	12365510-3	Strip, Rubber
167	M12133/1-11P	Washer, Spring
168	137164	Pin, Cotter

(1)	(2)	(3)
Item No.	Part Number	Description
169	5702471	Parts Kit, Track
170	5703035	Parts Kit, Track
171	8382360	Bolt, Externally Rel
172	8382359	Wedge, Metal
173	15-7	Gasket
174	MS35338-25	Washer, Lock
175	MS21042-6	Nut, Self-Locking
176	7404672	Washer, Split
177	7404671	Washer, Permanent Depression
178	7404624	X-Washer
179	7404670	Ring, Retaining
180	MS35677-24	Pin, Grooved, Headless
181	7404618	Seal, Plain, Encased
182	MS35674-40	Pin, Grooved, Headless
183	6295381	Washer, Key
184	MS51000-178-2	Seal, Plain, Encased
185	MS16562-72	Pin, Spring
186	MS16562-90	Pin, Spring
187	12365510-4	Seal, Nonmetallic, Sp
188	12365510-1	Seal, Nonmetallic, Sp
189	10862525	Seal, Nonmetallic, Sp
190	10862519	Seal, Rubber
191	10862526	Seal, Rubber
192	10862462	Seal, Rubber
193	10862527	Seal, Rubber
194	10862518	Seal, Rubber
195	MIL-W-12133/1-9P	Washer, Spring
196	MS35339-27	Washer, Lock
197	5381399	Pin, Straight, Knurled
198	5381406	Pin, Straight, Headless
199	120380	Washer, Lock
200	MS35338-55	Washer, Lock
201	MS9048-234	Pin, Spring
202	MS35338-47	Washer, Lock
203	12366030	Gasket
204	MS28778-16	Packing, Preformed
205	MS3367-2-9	Strap, Tiedown, Electrical
206	MS24665-355	Pin, Cotter
207	MS21045-7	Nut, Self-Locking
208	10862524	Seal, Nonmetallic
209	10862522	Seal, Rubber
210	10862520	Seal, Rubber

(1)	(2)	(3)
Item No.	Part Number	Description
211	10862465	Seal, Rubber
212	10862521	Seal, Rubber
213	10862514	Seal, Rubber
214	10862515-1	Seal, Rubber
215	10862530	Seal, Rubber
216	10862464-1	Seal, Rubber
217	10862515-2	Seal, Rubber
218	10862531	Seal, Rubber
219	10862513	Seal, Rubber
220	M22023 TY1CL5	Fibrous Glass Felt
221	10862517	Seal, Rubber
222	10862453	Seal, Rubber
223	10862455	Seal, Rubber
224	10862456	Seal, Rubber
225	10862466	Seal, Rubber
226	10862460	Seal, Rubber
227	10862459	Seal, Rubber
228	10862452	Seal, Rubber
229	10862454	Seal, Rubber
230	7708793	Packing, Preformed
231	MS51922-61	Nut, Self-Locking
232	MS35674-41	Pin, Grooved, Headless
233	8762780	Gasket
234	MS21045-5	Nut, Self-Locking
235	MS51922-53	Nut, Self-Locking
236	MS35335-58	Washer, Lock
237	12354303	Gasket
238	10866626	Gasket
239	107762	Pin, Cotter
240	MS35338-10	Washer, Lock
241	MS35764-1603	Screw, Self-Locking
242	7364324	Seal
243	12322582	Gasket
244	12322676	Strip, Rubber
245	10862523	Seal, Rubber
246	10894433	Seal, Rubber
247	11668688	Screw, Self-Locking
248	MS21044N5	Nut, Self-Locking
249	MS28775-222	Packing, Preformed
250	PF13	Filter Element, Fluid
251	MS21045-6	Nut, Self-Locking
252	50302800	Filter Element, Fluid

(1)	(2)	(3)
Item No.	Part Number	Description
253	5704486	Engine Oil Filter Kit
254	10892671	Gasket
255	MS16624-1131	Ring, Retaining
256	11684058	Retainer, Packing
257	7403580-1	Gasket
258	8682772	Gasket
259	MS21044N10	Nut, Self-Locking
260	7084278	Gasket
261	210104-8S	Washer, Lock
262	FF9446-225	Packing, Preformed
263	MS28778-6	Packing, Preformed
264	210104-2-6S	Washer, Lock
265	FF9446-219	Packing, Preformed
266	210104-7S	Washer, Lock
267	FF9446-222	Packing, Preformed
268	MS29513-232	Packing, Preformed
269	5704487	Parts Kit, Fuel Filter
270	5702738	Parts Kit, Fuel Filter
271	MS27183-9	Washer, Lock
272	MS353381-139	Washer, Lock
273	MS35335-40	Lockwasher
274	MS21044N6	Nut, Self-Locking
275	8682503	Gasket
276	MS21083N3	Nut, Self-Locking
277	FF9446-25	Packing, Preformed
278	22617-20	Packing, Preformed
279	MS9388-012	Packing, Preformed
280	8682680	Gasket
281	8682770	Gasket
282	MS51922-23	Nut, Self-Locking
283	MS21044B5	Nut, Self-Locking
284	MS20995C20	Wire, Nonelectrical
285	SE555	Washer, Lock
286	MS35333-41	Washer, Lock
287	854-0010	Washer, Lock
288	10867389	Gasket
289	2015N-9	Packing, Preformed
290	2008N-9	Packing, Preformed
291	2012N-9	Packing, Preformed
292	A82777	Packing, Preformed
293	MS171530	Spring Pin
294	M12133/1-68P	Washer, Spring Tension

(1)	(2)	(3)
Item No.	Part Number	Description
295	M70334/1-0173D	Shim
296	VC-00710F-201KIT	Filter Kit
297	MS35338-52	Washer, Lock
298	SPL51712-6	Nut, Self-Locking
299	11672102	Packing, Preformed
300	MS28778-20	Packing, Preformed
301	MS28775-124	Packing, Preformed
302	MS28774-124	Retainer, Packing
303	MS28774-122	Retainer, Packing
304	MS28775-122	Packing, Preformed
305	MS28775-015	Packing, Preformed
306	MS28774-015	Retainer, Packing
307	MS28775-119	Packing, Preformed
308	MS28774-119	Retainer, Packing
309	MS20615-488	Rivet, Solid
310	548209	Washer, Flat
311	M83248/1-012	Packing, Preformed
312	MS35335-16	Washer, Lock
313	MS16555-77	Pin, Straight, Headless
314	MS20066-203	Key, Machine
315	MS28775-327	Packing, Preformed
316	MS35340-57	Washer, Lock
317	MS51922-83	Nut, Self-Locking
318	MS9048-145	Pin, Spring
319	MS35335-30	Washer, Lock
320	7320655	Gasket
321	7962254	Seal, Nonmetallic
322	MS35337-23	Washer, Lock
323	7962242	Seal, Nonmetallic
324	12343072	Gasket
325	7962251	Packing, Preformed
326	10894371	Gasket
327	8697673	Gasket
328	7962268	Packing, Preformed
329	7962267	Gasket
330	MS28775-113	Packing, Preformed
331	MS35489-104	Grommet
332	10894489	Gasket
333	11598926	Gasket
334	11598927	Washer, Lock
335	MS21083-N3	Nut, Lock
336	MS35338-136	Washer, Lock

(1)	(2)	(3)
Item No.	Part Number	Description
337	1711728-501	Insulation Sleeving
338	MS35489-6	Grommet
339	120382	Washer, Lock
340	616G4	Washer, Finishing
341	7762687	Ring, Retaining
342	8741434	Contact, Electrical
343	8741436	Connector, Electrical
344	8741442	Grommet, Nonmetallic
345	MS20604S5W4	Rivet
346	MS51415-5	Washer, Lock
347	MS16624-4087	Ring, Retaining
348	10866945	Grommet, Nonmetalic
349	MS20995F41	Wire, Nonelectrical
350	MS35335-63	Washer, Lock
351	MS35333-33	Washer, Lock
352	MS45904-68	Washer, Lock
353	MS35333-74	Washer, Lock
354	MS16624-1143	Ring, Retaining
355	MS16633-1118	Ring, Retaining
356	MS35338-63	Washer, Lock
357	MS22064-5	Clamp, Hose
358	12254235	Gasket
359	10935537	Seal, Plain, Encased
360	MS28775-136	Packing, Preformed
361	125774	Washer, Lock
362	138473	Washer, Lock
363	10884510	Seal, Rubber Strip
364	11591041	Gasket
365	12360844	Gasket
366	593377	Rivet, Solid
367	7526007	Grommet Assembly
368	7729800	Spring, Helical
369	7972324	Gasket
370	7972326	Gasket
371	7972327	Grommet, Nonmetallic
372	7972340	Seal, Rubber, Round
373	7972345	Seal, Rubber
374	7972346	Gasket
375	7972350	Seal, Rubber
376	8386470	Rivet, Tubular
377	MS16562-50	Pin, Spring
378	SPL51712-6	Nut, Self-Locking

(1)	(2)	(3)
Item No.	Part Number	Description
379	M83248/1-314	Packing, Preformed
380	585094	Gasket
381	MS28778-4	Packing, Preformed
382	MS3367-1-9	Strap, Tiedown, Electrical
383	7403580-2	Gasket
384	8682679	Gasket
385	MS21044N3	Nut, Self-Locking
386	MS3367-3-9	Strap, Tiedown, Electrical
387	132575	Screw, Cap, Hex Head (comes with lockwasher)
388	MS3367-5	Strap, Tiedown, Electrical
389	16956	Gasket, Sealing
390	MS35333-36	Washer, Lock
391	16958	Gasket, Sealing
392	16968	Gasket, Sealing
393	MS35764-241	Screw, Self-Locking
394	MS51415-7	Washer, Lock
395	11639519-2	Gasket
396	12282673	Bushing, Sleeve
397	12Z12002-87	Grommet, Nonmetallic
398	MS16625-2162	Ring, Retaining
399	12367078-2	Kit, Transmission Filter and Gasket (Right-side)
400	12367078-1	Kit, Transmission Filter and Gasket (Left-Side)
401	NTFR-1/4-0	Insulation, Sleeving
402	MS35338-8	Washer, Lock
403	MS35338-103	Washer, Lock
404	7972333	Gasket
405	TL094	Washer, Lock
406	TL095	Washer, Lock
407	10866873	Gasket
408	206101	Pin, Cotter
409	7323994	Washer, Flat
410	3059	Washer, Lock
411	6140	Grooved Pin, Headless
412	7398879	Gasket
413	2018N-7	Packing, Preformed
414	MS35335-37	Washer, Lock
415	MS45904-86	Washer, Lock
416	7726600	Gasket
417	21-2-5	Washer, Lock
418	425592	Screw, Assembled-Washer
419	7414584	Screw, Assembled-Washer
420	425640	Screw, Assembled-Washer

(1)	(2)	(3)
Item No.	Part Number	Description
421	425599	Screw, Assembled-Washer
422	MS29513-12	Packing, Preformed
423	5704488	Gasket And Preformed Packings
424	425598	Screw, Assembled-Washer
425	MS35335-29	Washer, Lock
426	425567	Screw, Assembled-Washer
427	525722	Gasket
428	1580154	Gasket
429	MS35333-167	Washer, Lock
430	AN737TW48	Clamp, Hose
431	3-908	Packing, Preformed
432	22617-8	Packing, Preformed
433	FF9446-14	Packing, Preformed
434	MS45904-72	Washer, Lock
435	MS35338-53	Washer, Lock
436	MS24665-289	Pin, Cotter
437	22046-18	Packing, Preformed
438	22046-14	Packing, Preformed
439	22046-21	Packing, Preformed
440	22046-12	Packing, Preformed
441	22068-06	Packing, Preformed
442	22068-12	Packing, Preformed
443	11671852	Filter, Element, Intake
444	425580	Screw, Assembled-Washer
445	425578	Screw, Assembled-Washer
446	11672220	Gasket
447	MS20995C47	Wire, Nonelectrical
448	7991273	Gasket
449	AA55610-44	Washer, Lock
450	NAS1523C8B	Packing, Preformed
451	MS16624-4125	Ring, Retaining
452	3-904	Packing, Preformed
453	99X131	Pin, Spring
454	1300585	Strap, Tiedown, Electrical
455	13838	Packing, Preformed
456	21150	Packing, Preformed
457	22617-4	Packing, Preformed
458	NAS1523C12B	Packing, Preformed
459	NAS1523C10B	Packing, Preformed
460	MS27183-9	Washer, Lock
461	MS21044B3	Nut, Self-Locking
462	MS3367-2-0	Strap, Tiedown, Electrical

(1)	(2)	(3)
Item No.	Part Number	Description
463	50315400	Washer, Lock, M-4
464	50334800	Grommet
465	DIN128-10-FST	Washer, Lock
466	50170900	Washer, Lock
467	50208500	Washer, Lock
468	12367271	Gasket
469	50146000	Washer, Lock
470	50001100	Gasket
471	MS21042-08	Nut, Self-Locking
472	AS33671-7-0	Strap, Tiedown, Electrical
473	40028400	Nut, Self-Locking
474	01285500	Gasket
475	JS15CH246X019H	Packing, Preformed
476	MS16632-3025	Ring, Retaining
477	MS16632-3037	Ring, Retaining
478	12367272	Gasket
479	01285600	Gasket
480	MS171504	Pin, Spring
481	MS24665-134	Pin, Cotter
482	DIN128-8-FST	Washer, Lock
483	M23053/5-124-0	Sleeving, Insulation
484	MS16624-1125	Ring, Retaining
485	J515CH198X0118H	Packing, Preformed
486	AS33671-6-0	Strap, Tie Down
486	AS33671-6-0	Strap, Tie Down
487	MS90484-20-1	Gasket
488	MS35338-139	Washer, Lock
488	12367104	Kit, Monthly, PMCS
490	12367103	Kit, Semi-Annual, PMCS

MANUFACTURED ITEMS LIST

0719 00

THIS WORK PACKAGE COVERS:

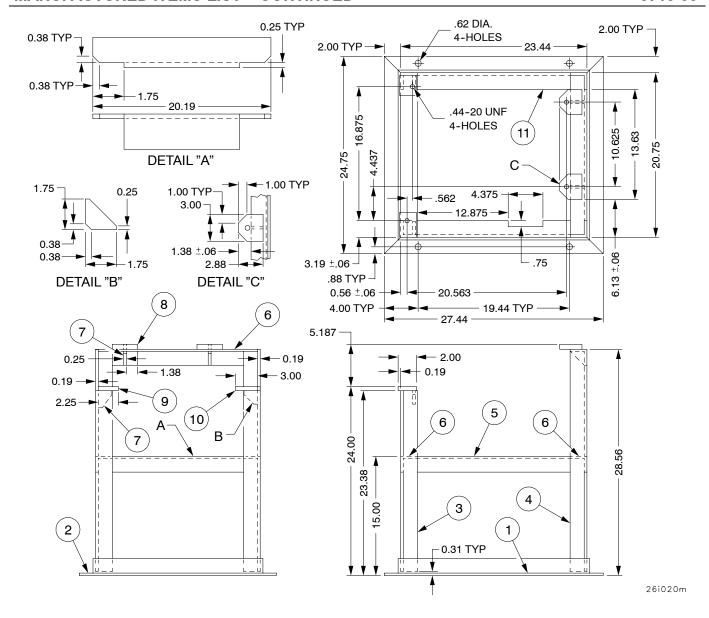
Scope, Part Number List and complete instructions, illustrations and all materials necessary for support items to be manufactured or fabricated at Unit Maintenance Level.

SCOPE

This work package includes complete instructions for making items authorized to be manufactured or fabricated at Unit maintenance level. A part number list is provided for cross-referencing the item to be manufactured to the figure which covers fabrication criteria. All bulk materials needed for manufacture of an item are listed in a tabular list on the illustration.

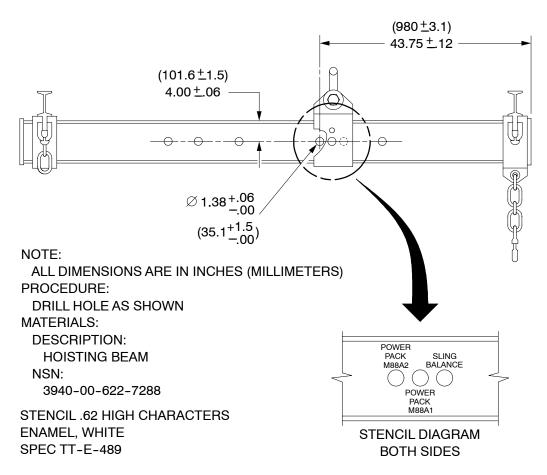
PART NUMBER LIST

<u>ITEM</u>	PART NUMBER	REFERENCE
Test Stand, APU		Figure 1
Modified Sling Assembly	12366100	Figure 2
Stand, Nose Piece		Figure 3
Gauge, 1/8-in Go/No-Go		Figure 4
Gauge, 3/16-in Go/No-Go		Figure 4
Gauge, 1/4-in Go/No-Go		Figure 4
Fuel/Water Separator Test Harness		Figure 5
Fuel/Water Separator Jumper Wire		Figure 6
Final Drive Sleeve Tool		Figure 7



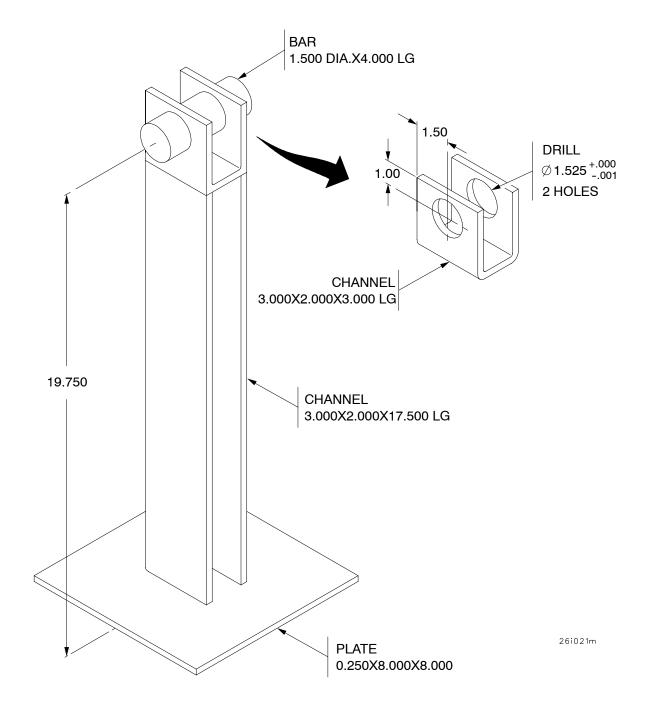
ITEM NO	ITEM NAME	QUANTITY	SIZE (inches)	MATERIAL
1	1 Base angle 2		2.00 X 2.00 X 0.25 X 27.44 Lg	Steel
2	Base angle	2	2.00 X 2.00 X 0.25 X 24.75 Lg	Steel
3	Support angle	2	2.00 X 2.00 X 0.25 X 23.06 Lg	Steel
4	Support angle	2	2.00 X 2.00 X 0.25 X 28 25 Lg	Steel
5	Support angle	1	2.00 X 2.00 X 0.25 X 19.38 Lg	Steel
6	Support angle	3	2.00 X 2.00 X 0.25 X 20.10 Lg	Steel
7	Gusset	4	0.25 X 3.00 X 2.88 Lg	Hr steel
8	Pad	2	0.75 X 1.75 X 1.75 Lg	Hr steel
9	Pad	1	0.75 X 2.25 X 2.00 Lg	Hr steel
10	Pad	1	0.75 X 2.25 X 3.00 Lg	Hr steel
11	Support angle	1	2.00 X 2.00 X 0.25 X 19.38 Lg	Steel

Figure 1. APU Test Stand.



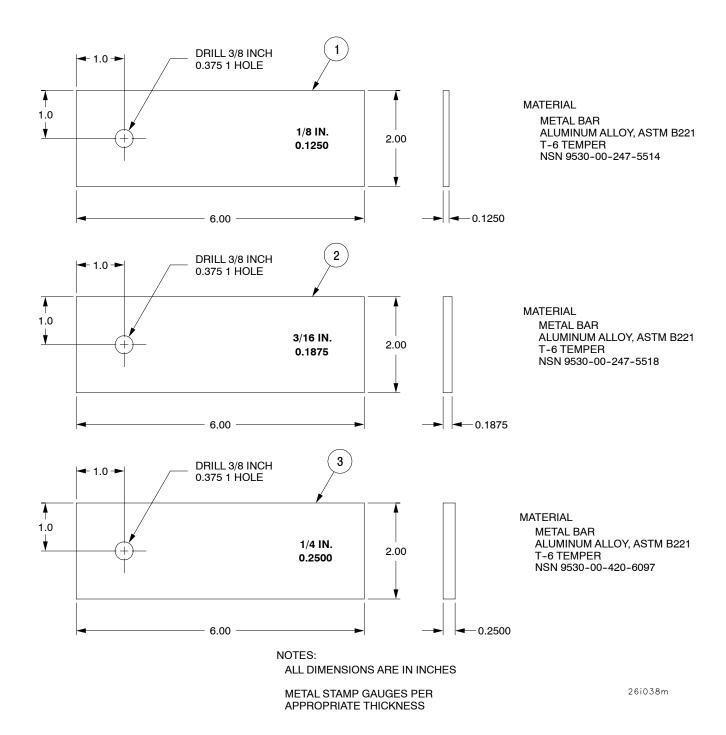
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Figure 2. Modified Sling Assembly.



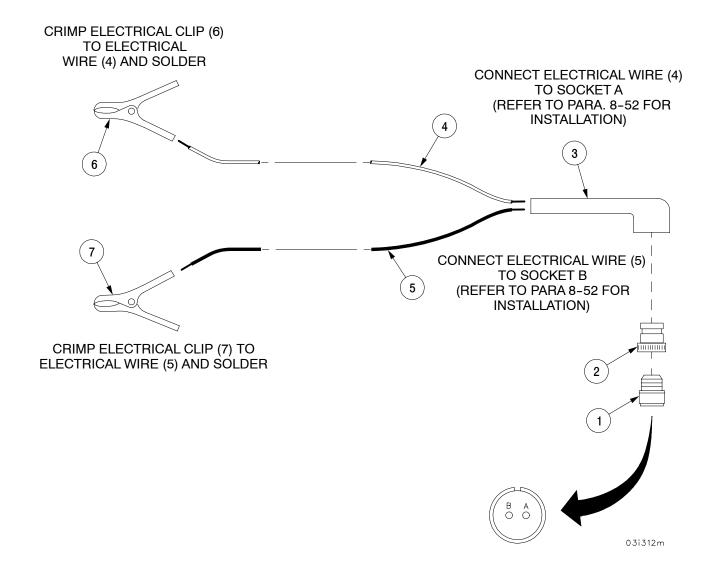
ITEM NO	ITEM NAME	QUANTITY	SIZE (inches)	MATERIAL
1	Plate	2	8.00 X 8.00 X 0.250	Steel
2	Channel	2	3.00 X 2.00 X 0.250 X 17.5 Lg	Steel
3	Channel	2	3.00 X 2.00 X 0.250 X 3 Lg	Steel
4	Bar	2	1.500 X 4 Lg	Steel

Figure 3. Nose Piece Stand



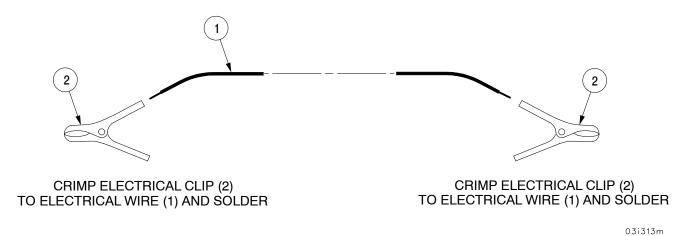
ITEM NO	ITEM NAME	QUANTITY	SIZE (inches)	MATERIAL
1	1/8-in Go/No-Go Gauge	1	2.00 X 0.1250 X 6.00 Lg	Aluminum Alloy
2	3/16-in Go/No-Go Gauge	1	2.00 X 0.1875 X 6.00 Lg	Aluminum Alloy
3	1/4-in Go/No-Go Gauge	1	2.00 X 0.250 X 6.00 Lg	Aluminum Alloy

Figure 4. 1/8-in., 3/16-in. and 1/4-in Go/No-Go Gauge



ITEM NO	ITEM NAME	QUANTITY	NSN	SIZE (FT)
1	Connector, Plug, Elec	1	5935-00-509-6194	
2	Adapter, Cable Clamp	1	5935-01-244-6743	
3	Insulation Sleeving	1	5970-01-116-0284	
4	Wire, electrical (RED)	1	6145-00-490-4243	4.0 Ft (1.21 m)
5	Wire, Electrical (BLACK)	1	6145-00-267-0840	4.0 Ft (1.21 m)
6	Clip, Electrical (RED)	1	5999-01-094-1905	
7	Clip, Electrical (BLACK)	1	5999-01-094-1906	

Figure 5. Fuel/Water Separator Test Harness



ITEM NO	ITEM NAME	ITEM NAME QUANTITY NSN		SIZE (FT)
1	Wire, Electrical (BLACK)	1	6145-00-267-0840	4.0 Ft (1.21 m)
2	Clip, electrical (BLACK)	2	5999-01-094-1906	

Figure 6. Fuel/Water Separator Jumper Wire

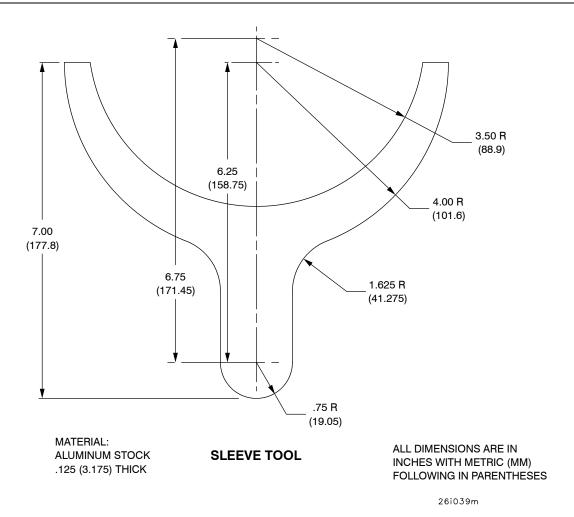


Figure 7. Final Drive Sleeve Tool

TORQUE LIMITS 0720 00

THIS WORK PACKAGE COVERS:

Scope, Torque Limits, How to use Torque Table, Tightening Metal Fasteners, Fastener Size and Thread Pattern, Fastener Grade and Torque Limits for Engine.

SCOPE

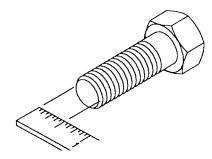
This work package provides general torque limits for screws used on the M88A2 HRV vehicles. Special torque limits are indicated in the maintenance procedures for applicable components. The general torque limits given in this work package shall be used when specific torque limits are not indicated in the maintenance procedure.

These general torque limits shall not be applied to screws that retain rubber components. The rubber components may be damaged before the correct torque limit is reached. If a special torque limit is not given in the maintenance instructions for rubber components, tighten the screw or nut until it touches the metal, then tighten it one more turn.

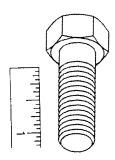
TORQUE LIMITS

Table 1 lists dry torque limits. Dry torque limits are used on screws that do not have lubricants applied to the threads. Table 2 lists wet torque limits. Wet torque limits are used on screws that have high-pressure lubricants applied to the threads.

HOW TO USE TORQUE TABLE



a. Measure the diameter of the screw you are installing.



- b. Count the number of threads per inch or use a pitch gage.
- c. Under the heading SIZE, look down the left hand column until you find the diameter of the screw you are installing (there will usually be two lines beginning with the same size).
- d. In the second column under SIZE, find the number of threads per inch that matches the number of threads you counted in step b.

TORQUE LIMITS - CONTINUED

0720 00

HOW TO USE TORQUE TABLE - CONTINUED

CAPSCREW HEAD MARKINGS Manufacturer's marks may vary. These are all SAE Grade 5 (3 line)







- e. To find the grade screw you are installing, match the markings on the head to the correct picture of CAPSCREW HEAD MARKINGS on the torque table.
- f. Look down the column under the picture you found in step e. until you find the torque limit (in lb-ft or N·m) for the diameter and threads per inch of the screw you are installing.

Table 1. Torque Limits for Dry Fasteners

SAE CAPSCREW HEAD MARK-INGS









SIZE TORQUE										
		SAE GI No. 1	SAE GRADE SAE GRADE No. 1 or 2 No. 5		SAE GRADE No. 6 or 7		SAE GRADE No. 8			
DIA. INS.	THREADS PER INCH	MMs	POUND- FEET	N·m	POUND- FEET	N·m	POUND- FEET	N∙m	POUND- FEET	N·m
1/4	20	6.35	5	6.78	8.0	10.85	10	13.56	12.0	16.27
1/4	28	6.35	6	8.14	10.0	13.56	_	_	14.0	18.98
5/16	18	7.94	11	14.92	17.0	23.05	19	25.76	24.0	32.52
5/16	24	7.94	13	17.63	19.0	25.76	_	_	27.0	36.61
3/8	16	9.53	18	24.41	31.0	42.04	34	46.10	44.0	59.66
3/8	24	9.53	20	27.12	35.0	47.46	_	_	49.0	66.44
7/16	14	11.11	28	37.97	49.0	66.44	55	74.58	70.0	94.92
7/16	20	_	30	40.68	55.0	74.58	_	_	78.0	105.77
1/2	13	12.70	39	52.88	75.0	101.70	85	115.26	105.0	142.38
1/2	20	_	41	55.60	85.0	115.26	_	_	120.0	162.78
9/16	12	14.29	51	69.16	110.0	149.16	120	162.72	155.0	210.18
9/16	18	_	55	74.58	120.0	162.72	_	_	170.0	230.52
5/8	11	15.88	63	85.43	150.0	203.40	167	226.45	210.0	284.76
5/8	18	_	95	128.82	170.0	230.52	_	_	240.0	325.44
3/4	10	19.05	105	142.38	270.0	366.12	280	379.68	375.0	508.50
3/4	16	_	115	155.94	295.0	400.02	_	_	420.0	596.52
7/8	9	22.23	160	216.96	395.0	535.62	440	596.64	605.0	820.38
7/8	14	_	175	237.30	435.0	589.86	_	_	675.0	915.30
1	8	25.40	235	318.66	590.0	800.04	660	894.96	910.0	1233.96
1	14	_	250	339.00	660.0	894.96	_	_	990.0	1342.44
1-1/8		25.58		_	800.0	1064.8	_	_	1280.0	1735.7
					880.0	1193.3			1440.0	1952.8
1-1/4	_	31.75	_	_	_	_	_	_	1820.0	2467.9
							_	_	2000.0	2712.0
1-3/8	_	34.93	_	_	1460.0	1979.8	_	_	2380.0	3227.3
					1680.0	2278.1			2720.0	3688.3
1-1/2	_	38.10	_	_	1940.0	2630.6	_	_	3160.0	4285.0
					2200.0	2983.2			3560.0	4827.4

TORQUE LIMITS - CONTINUED

0720 00

HOW TO USE TORQUE TABLE - CONTINUED

Table 2. Torque Limits for Wet Fasteners

SAE CAPSCREW HEAD MARK-INGS









SIZE					TORG	QUE				
		SAE GF No. 1		SAE GRADE No. 5				SAE GRADE No. 8		
DIA. INS.	THREADS PER INCH	MMs	POUND- FEET	N∙m	POUND- FEET	N∙m	POUND- FEET	N·m	POUND- FEET	N·m
1/4	20	6.35	4.9	6.10	7.2	9.76	9.0	12.20	10.8	14.64
1/4	28	6.35	5.4	7.33	9.0	12.20		_	12.6	17.08
5/16	18	7.94	9.9	13.34	15.3	22.54	17.1	23.18	21.6	29.27
5/16	24	7.94	11.7	15.87	17.1	23.18		_	24.3	32.95
3/8	16	9.53	16.2	21.97	27.9	37.84	30.6	41.49	39.6	53.69
3/8	24	9.53	18.0	24.41	31.5	42.71		_	44.1	59.80
7/16	14	11.11	25.2	34.17	44.1	59.80	49.5	67.12	63.0	85.42
7/16	20	_	27.0	36.61	49.5	67.12		_	70.2	95.19
1/2	13	12.70	35.1	47.59	67.5	91.53	76.5	103.73	94.5	128.14
1/2	20	_	36.9	50.04	76.5	103.73		_	108.0	146.50
9/16	12	14.29	45.9	62.24	99.0	134.24	108.0	146.45	139.5	189.16
9/16	18	_	49.5	67.12	108.0	146.45		_	153.0	207.47
5/8	11	15.88	56.7	76.89	135.0	183.06	150.3	203.80	189.0	256.28
5/8	18	_	85.5	115.94	153.0	207.47		_	216.0	296.90
3/4	10	19.05	94.5	128.14	243.0	329.51	252.0	341.71	337.5	457.65
3/4	16	_	103.5	140.35	265.5	360.2		_	378.0	536.87
7/8	9	22.23	144.0	195.26	355.5	482.06	396.0	536.98	544.5	738.34
7/8	14	_	157.5	213.57	391.5	530.87		_	607.5	823.77
1	8	25.40	211.5	286.79	531.0	720.04	594.0	805.46	819.0	1110.56
1	14	_	225.0	305.10	594.0	805.46			891.0	1208.20
1-1/8	_	25.58	_	_	720.0	976.32		_	1152.0	1562.13
					792.0	1073.97			1296.0	1757.52
1-1/4	_	31.75	_	_	_	_	_	_	_	2221.11
										2440.80
1-3/8	_	34.93	_	_	1314.0	1781.82	_	_	2142.0	2904.57
					1512.0	2050.29			2448.0	3319.47
1-1/2	_	38.10	_	_	1746.0	2367.54	_	_	2844.0	3856.5
					1980.0	2684.88			3204.0	4344.66

TIGHTENING METAL FASTENERS.

When torquing a fastener, select a wrench whose range (Table 3) fits the required torque value. A torque wrench is most accurate from 25% to 75% of its stated range. A wrench with a stated range of 0 to 100 will be most accurate from 25 to 75 Pound–Feet. The accuracy of readings will decrease as you approach 0 Pound–Feet or 100 Pound–Feet. The following ranges (Table 3) are based on this principle.

TIGHTENING METAL FASTENERS - CONTINUED

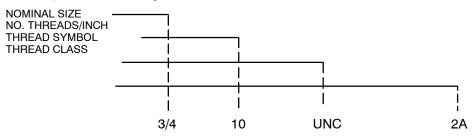
Table 3. TORQUE RANGES			
STATED RANGE	MOST EFFECTIVE RANGE		
0-200 lb-ft	50-150 lb-ft		
0-600 lb-ft	150-450 lb-ft		
0-170 lb-ft	44-131 lb-ft		
15-75 lb-ft	30-60 lb-ft		

FASTENER SIZE AND THREAD PATTERN

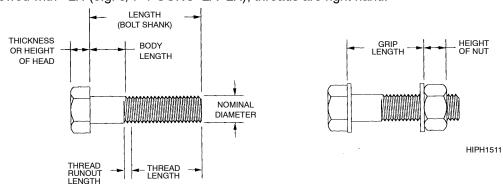
Threaded fasteners are categorized according to diameter of the fastener shank. Thread styles are divided into broad groups, the two most common being coarse (Unified CoarsUNC) and fine (Unified FinUNF). These groups are defined by the number of threads per inch on the bolt shanks. In addition, threads are categorized by thread class (Table 4), which is a measure of the degree of fit between the threads of the bolt or screw (external threads) and the threads of the attaching nut or tapped hole (internal threads). The most common thread class for bolts and screws is Class 2.

Table 4. THREAD CLASSES AND DESCRIPTION				
EXTERNAL	INTERNAL	FIT		
1A	1B	LOOSE FIT		
2A	2B	MEDIUM FIT		
ЗА	3B	CLOSE FIT		

Thread patterns are designed as follows:



NOTE: Unless followed with -LH (e.g. 3/4-1 OUNC-2A-LH), threads are right hand.



TORQUE LIMITS - CONTINUED

0720 00

FASTENER GRADE

In addition to being classified by thread type, threaded fasteners are also classified by material. The most familiar fastener classification system is the SAE grading system (Table 5).

Table 5. SAE Screw and Bolt Markings				
SCREWS	BOLTS			
SAE GRADE 2 NO MARKING	SAE GRADE 6 4 RADIAL DASHES 90° APART			
SAE GRADE 3 2 RADIAL DASHES 180° APART	SAE GRADE 7 5 RADIAL DASHES 72° APART			
SAE GRADE 5 3 RADIAL DASHES 120° APART	SAE GRADE 8 6 RADIAL DASHES 60° APART			

Markings On Hex Locknuts

GRADE A - No Marks	GRADE A - No Mark
GRADE B - 3 Marks	GRADE B - Letter B
GRADE C - 6 Marks	GRADE C - Letter C

GRADE A - No Notches GRADE B - One Notch GRADE C - Two Notches

TORQUE LIMITS FOR ENGINE

The following tables list lubricants and torques for fasteners used on the AVDS-1790-8CR Engine.

HOW TO USE TORQUE TABLES

- a. Measure the diameter of the screw, stud, nut, or pipe plug you are installing.
- b. Use the appropriate table for nuts and bolts (Table 6), pipe plugs (Table 7) or studs (Table 8).
- c. Under the heading SIZE, look down the left hand column until you find the diameter of the screw, stud, nut or pipe plug you are installing, then read across the table to find the proper torque.

HOW TO USE TORQUE TABLES - CONTINUED

Table 6. Standard Nut And Bolt Torques With Lubplate (item 94, WP 0716 00) Thread Lubricant

SIZE DIA. (Inch)	TORQUE (Lb-In)	Lb-ft to N•m
0.250	75-100	101.7-135.6
0.3125	150-175	203.4-237.3
0.375	275-325	372.9-440.7
0.4375	400-450	542.4-610.2
0.500	550-600	745.8-813.6
0.5625	800-850	1084.8-1152.6
0.750	1000-1050	1356.0-1423.8

Table 7. Standard Pipe Torques With Sealant

SIZE DIA. (Inch)	TORQUE (Lb-In)	Lb-ft to N•m
0.125-27	60-80	81.36-108.48
0.250-18	125-145	169.5-196.62
0.375-18	185-215	250.86-291.54
0.500-14	250-280	339-379.68
0.750-14	305-345	413.58-467.82
1.000-11 1/2	500-1000	678-1356

Table 8. Stud Torques in Aluminum With Lubplate (item 94, WP 0716 00) or OE-30 Engine Oil (item 43, Appx C)

SIZE DIA. (Inch)	TORQUE (Lb-In)
#10	25
0.250	50
0.3125	85
0.375	156
0.4375	240
0.5625 Cylinder	850 MIN-2500 MAX
Deck Studs	Use 75% Kerosene and
	25% 847M oil as Lubri-
	cant
0.625	600
0.750	600

TORQUE LIMITS - CONTINUED

0720 00

TIGHTENING METAL FASTENERS

When torquing a fastener, select a wrench whose range (TABLE 9) fits the required torque value. A torque wrench is most accurate from 25% to 75% of its stated range. A wrench with a stated range of 0 to 100 lb-ft will be most accurate from 25 to 75 lb-ft. The accuracy of readings will decrease as you approach 0 lb-ft or 100 lb-ft. The following ranges are based on this principle.

Table 9. Torque Ranges

STATED RANGE	MOST EFFECTIVE RANGE
0-200 lb-ft	50-150 lb-ft
0-600 lb-ft	150-450 lb-ft
0-170 lb-ft	44-131 lb-ft
15-75 lb-ft	30-60 lb-ft

ALPHABETICAL INDEX

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- Adjustment, Brake Linkage Alignment And Bleeding (New Configuration with Brake Modulation), 0357 00-1
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- Adjustment, Level Wind Limit Switches, 0509 00-1
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- Adjustment, Main Winch Drum And Diamond Screw Synchronization, 0505 00-1
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- Air Heater Repair, M3, 0708 00-1
- Air Inlet Cover And Inlet Screen Replacement, Personnel Heater, 0531 00-1
- Air Inlet Cover Replacement, Air Cleaner, 0436 00-1
- Air Intake Elbow Replacement, Engine, 0191 00-1
- Air Intake Hoses And Tube Assemblies Replacement, Air Cleaner, 0212 00-1
- Air Purifier Control Unit Enclosure Assembly And Bracket Repair, 0707 00-1
- Alignment, Adjustment And Bleeding, Brake Linkage (New Configuration), 0356 00-1
- Alignment, Adjustment And Bleeding, Brake Linkage (Old Configuration), 0355 00-1
- Alignment, Adjustment And Bleeding, Brake Linkage (New Configuration with Brake Modulation), 0357 00-1
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- Anchors Replacement, Torsion Bars And Torsion Bar, 0389 00-1
- Angle Adapter, Drive Adapter And Related Parts Replacement, Mechanical Tachometer, Shaft Assembly, Pulse Tachometer, 0695 00-1

- Anticavitation Manifold Hydraulic Lines And Fittings Replacement, Boom Shutoff And Cross Port Relief/, 0576 00-1
- Anticavitation Manifold Repair, Cross Port Relief/, 0560 00-1
- APU Cover Assembly Replacement, 0413 00-1
- APU Door Assembly And Hold-Open Latch Repair, 0438 00-1
- APU Pressure Switch Hydraulic Lines And Fittings Replacement (HATZ), APU And, 0582 00-1
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- Auxiliary Power Unit Assembly Replacement, 0586 00-1
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- Auxiliary Power Unit Chaincase Instruction Plate, Breather Assembly, Oil Fill Plug And Oil Drain Plug Replacement, 0600 00-1
- Auxiliary Power Unit Crankcase Oil Drain Hose Replacement (HATZ), 0607 00-1
- Auxiliary Power Unit Crankcase Oil Drain Hose Replacement, 0606 00-1
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Wiring Harness 3W704 Replacement, Auxiliary Power Unit, 0642 00-1

Wiring Harness 3W711 Replacement (HATZ), Auxiliary Power Unit, 0649 00-1

Wiring Harness 3W711 Replacement, Auxiliary Power Unit, 0648 00-1

Wiring Harness 3W730 Replacement (HATZ), 0654 00-1

Wiring Harness 4W108 Replacement, Smoke Grenade Launcher, 0674 00-1

Wiring Harness 4W152 Repair, Gauge Panel Assembly, Support And, 0243 00-1

Wiring Harness 4W153 Replacement, 0327 00-1

Wiring Harness 4W155 Replacement, 0328 00-1

Wiring Harness 4W305 Replacement, 0709 00-1

Wiring Harness 4W306 Replacement, 0710 00-1

Wiring Harness 4W307 Replacement, 0711 00-1

Wiring Harness 4W502 Replacement, 0678 00-1

Wiring Harness 4W503 Replacement, 0679 00-1

Wiring Harness 4W504 Replacement, 0680 00-1

Wiring Harness 4W506 Replacement, 0681 00-1

Wiring Harness 4W507 Replacement, 0682 00-1

Wiring Harness 4W508 Replacement, 0683 00-1

Wiring Harness 4W617 Replacement, 0330 00-1

Wiring Harness 4W618 Replacement, 0331 00-1

Wiring Harness 4W700 Replacement, 0332 00-1

Wiring Harness 4W800 Replacement, 0333 00-1

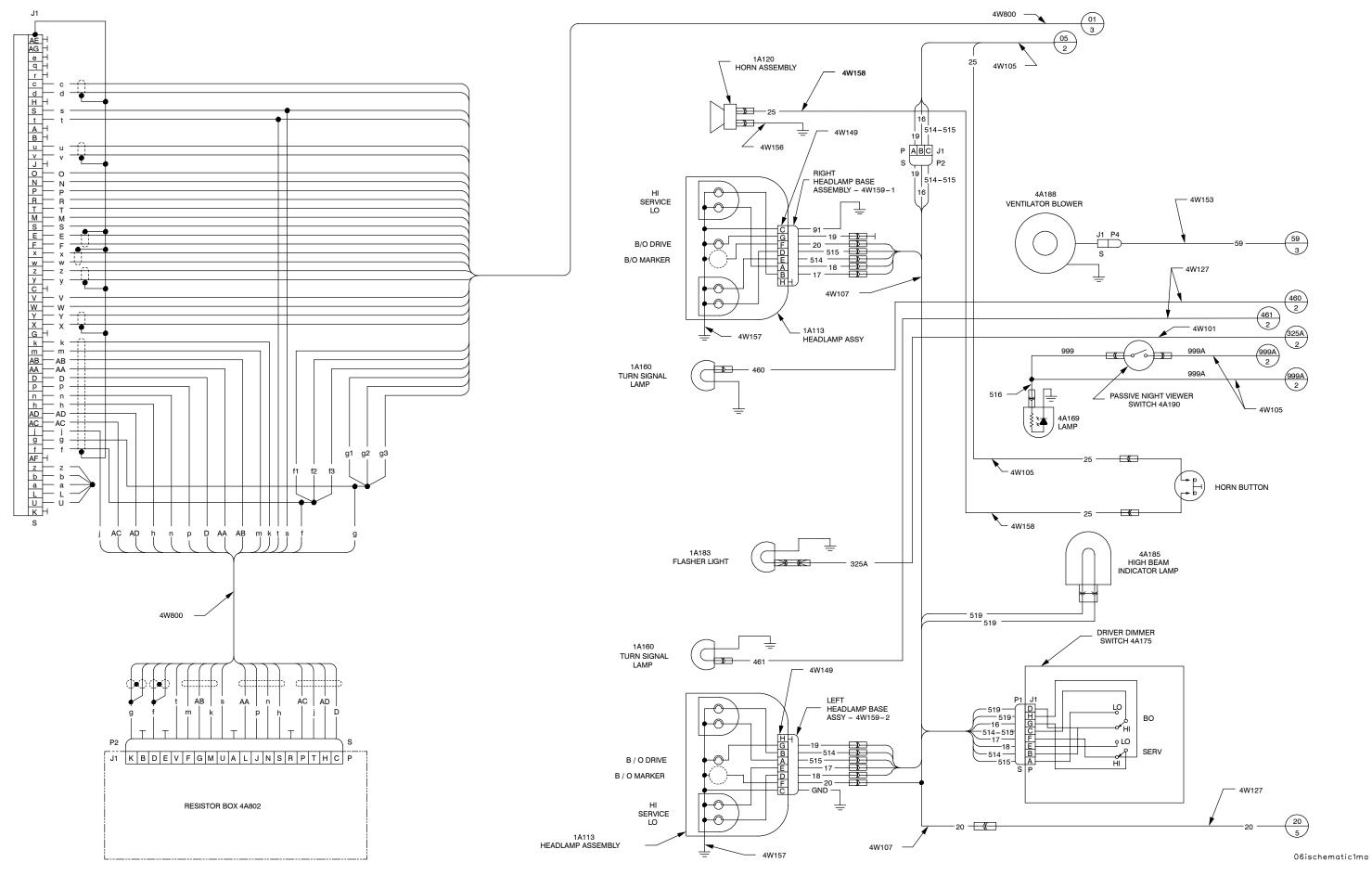
Wiring Harness And Cable Repair, 0290 00-1

Wiring Harness Cable Clamps Replacement, Auxiliary Power Unit, 0592 00-1

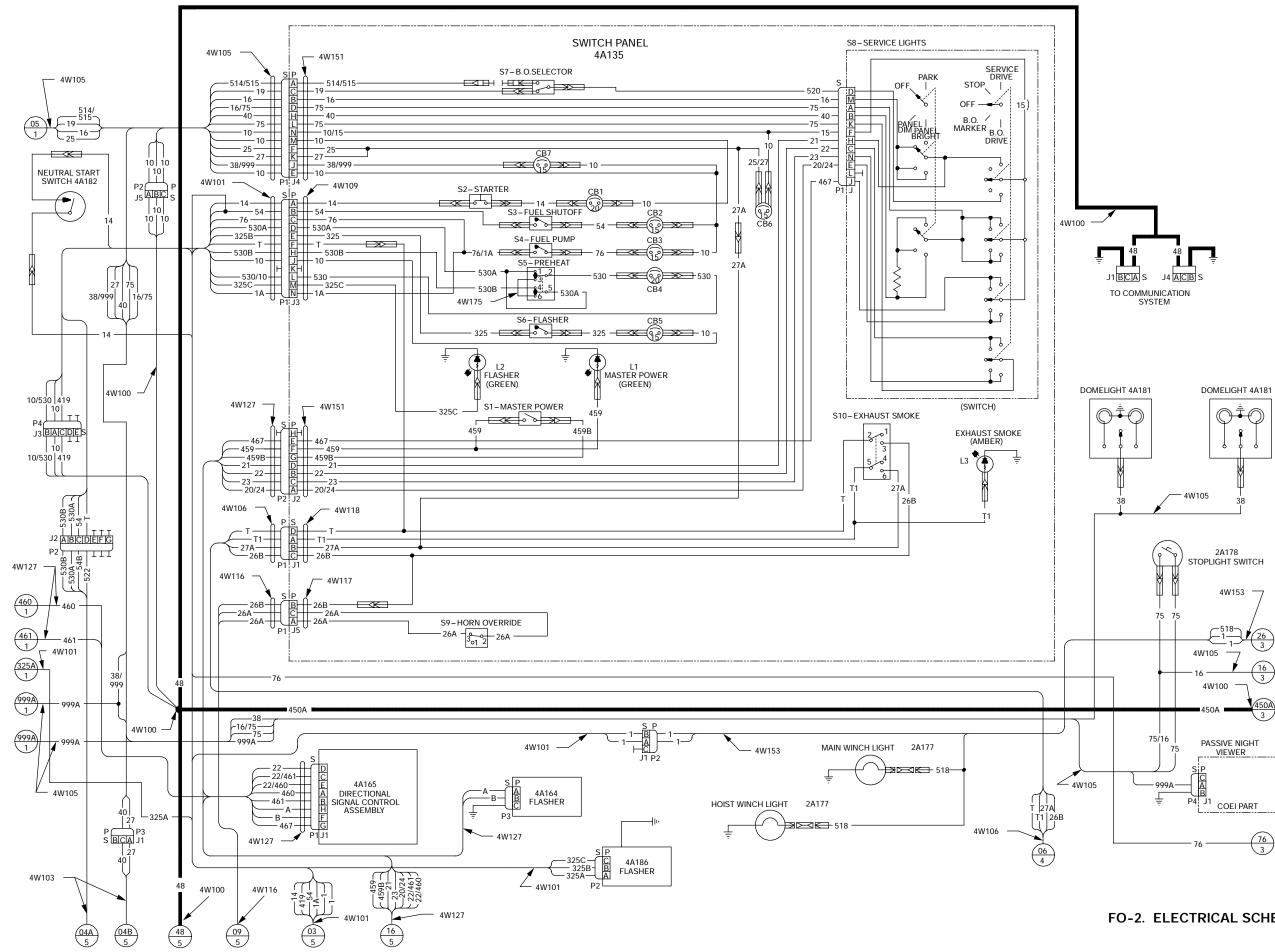
Wiring Harness Guard Replacement, 0343 00-1

Wiring Harness Replacement, Fuel Shutoff, 0337 00-1

Wiring Harness Replacement, Guard, 0343 00-1



FO-1. ELECTRICAL SCHEMATIC (SHEET 1 OF 11) FP-1/(FP-2 blank)



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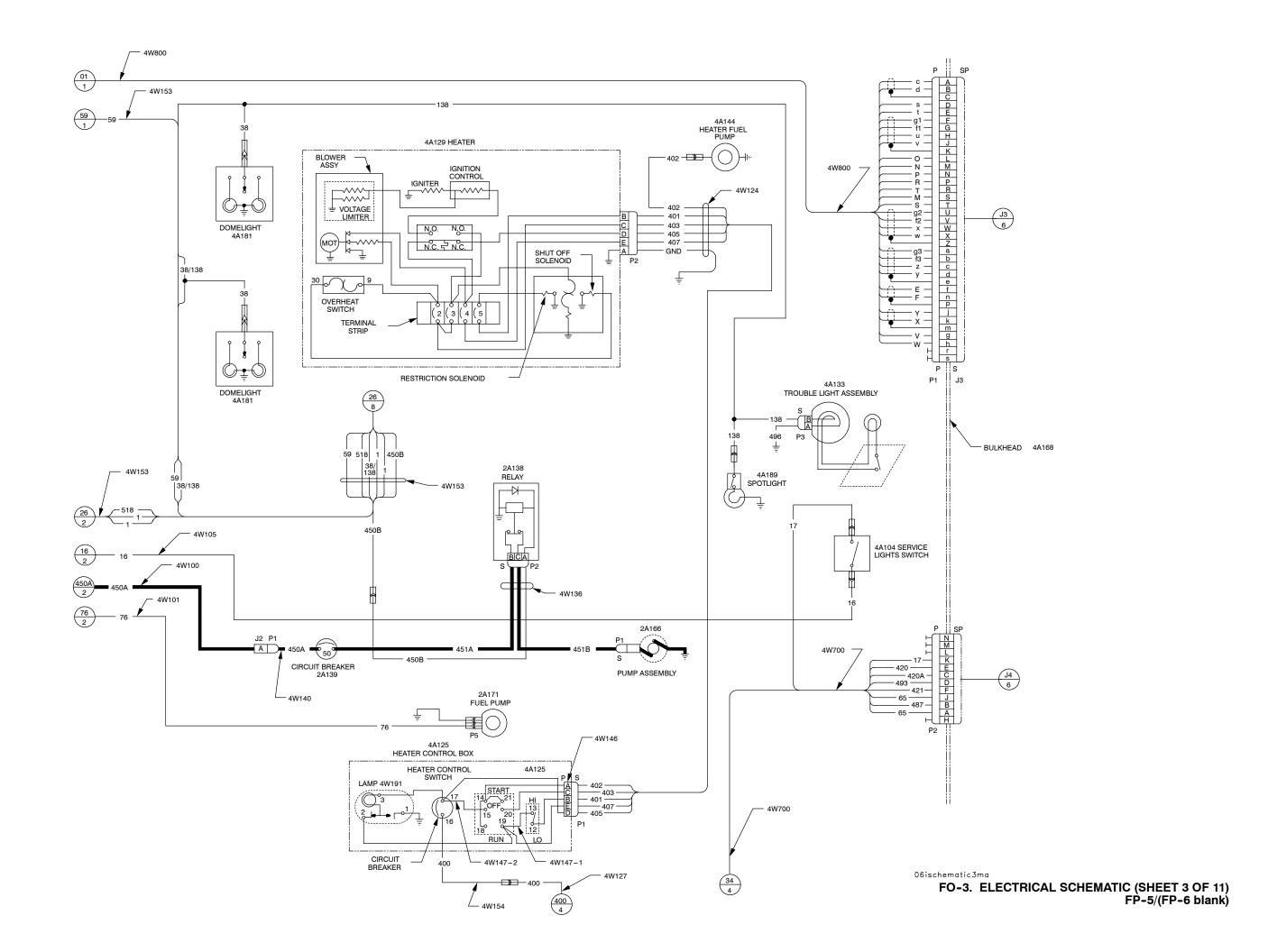
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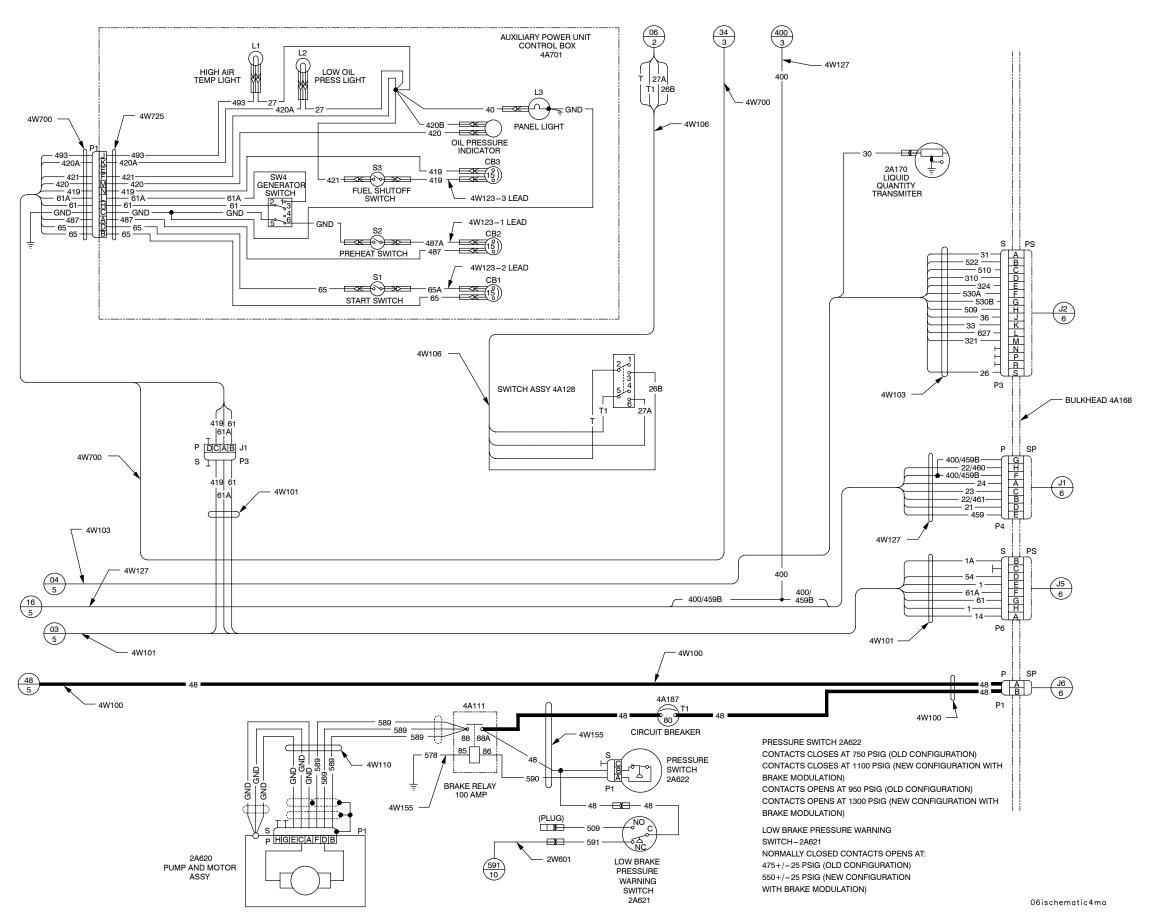
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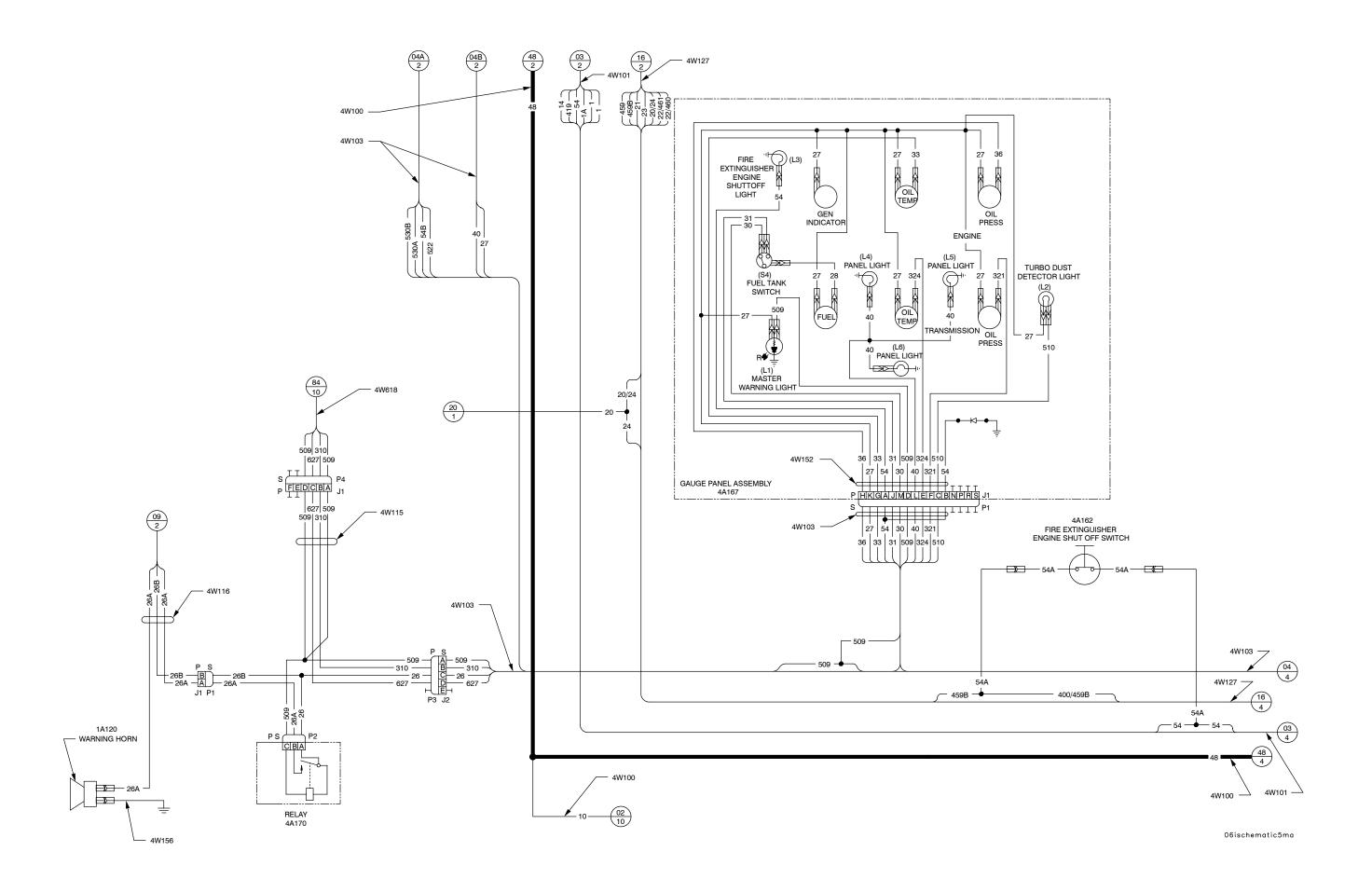
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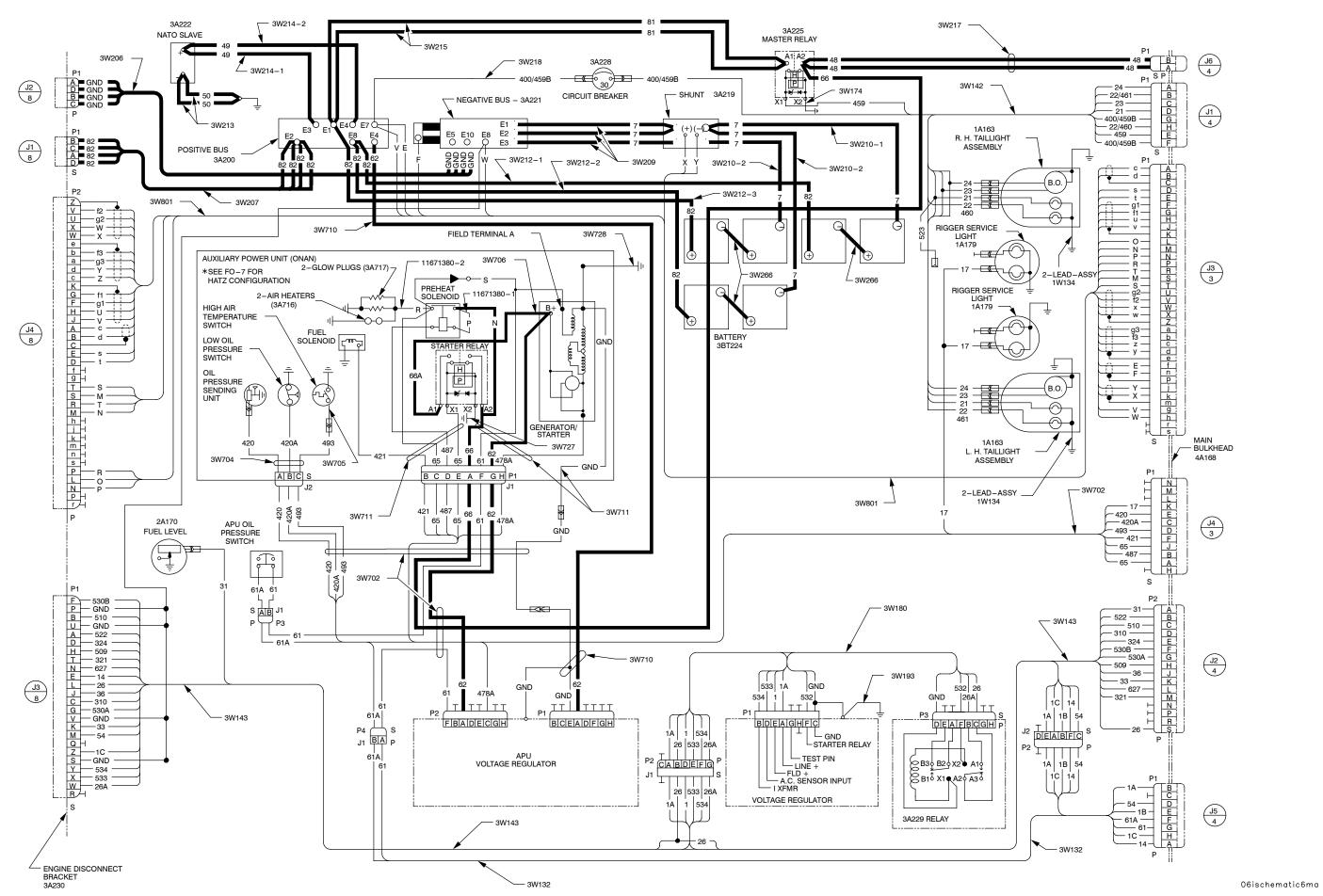
FO-2. ELECTRICAL SCHEMATIC (SHEET 2 OF 11) FP-3/(FP-4 blank)

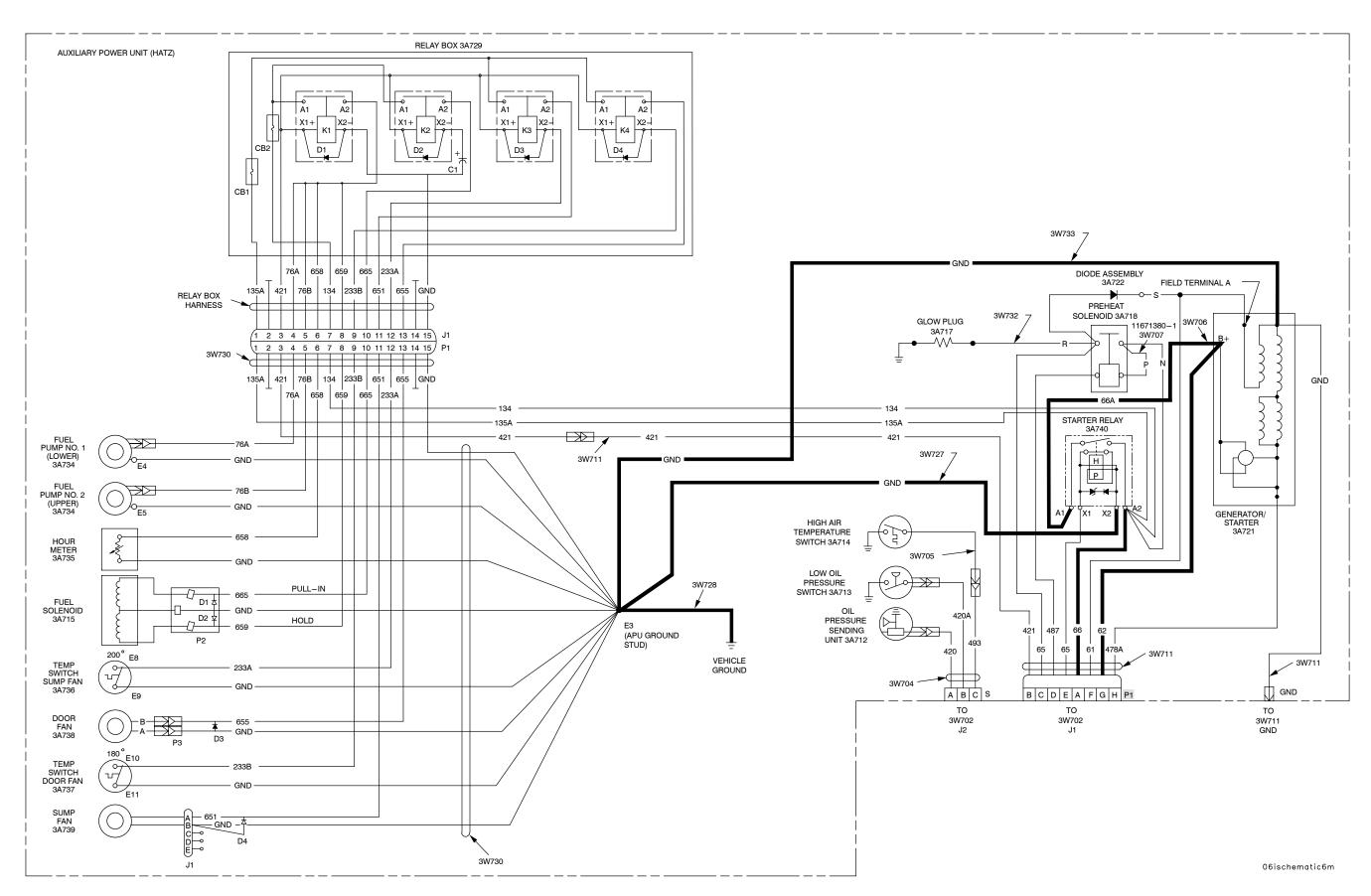
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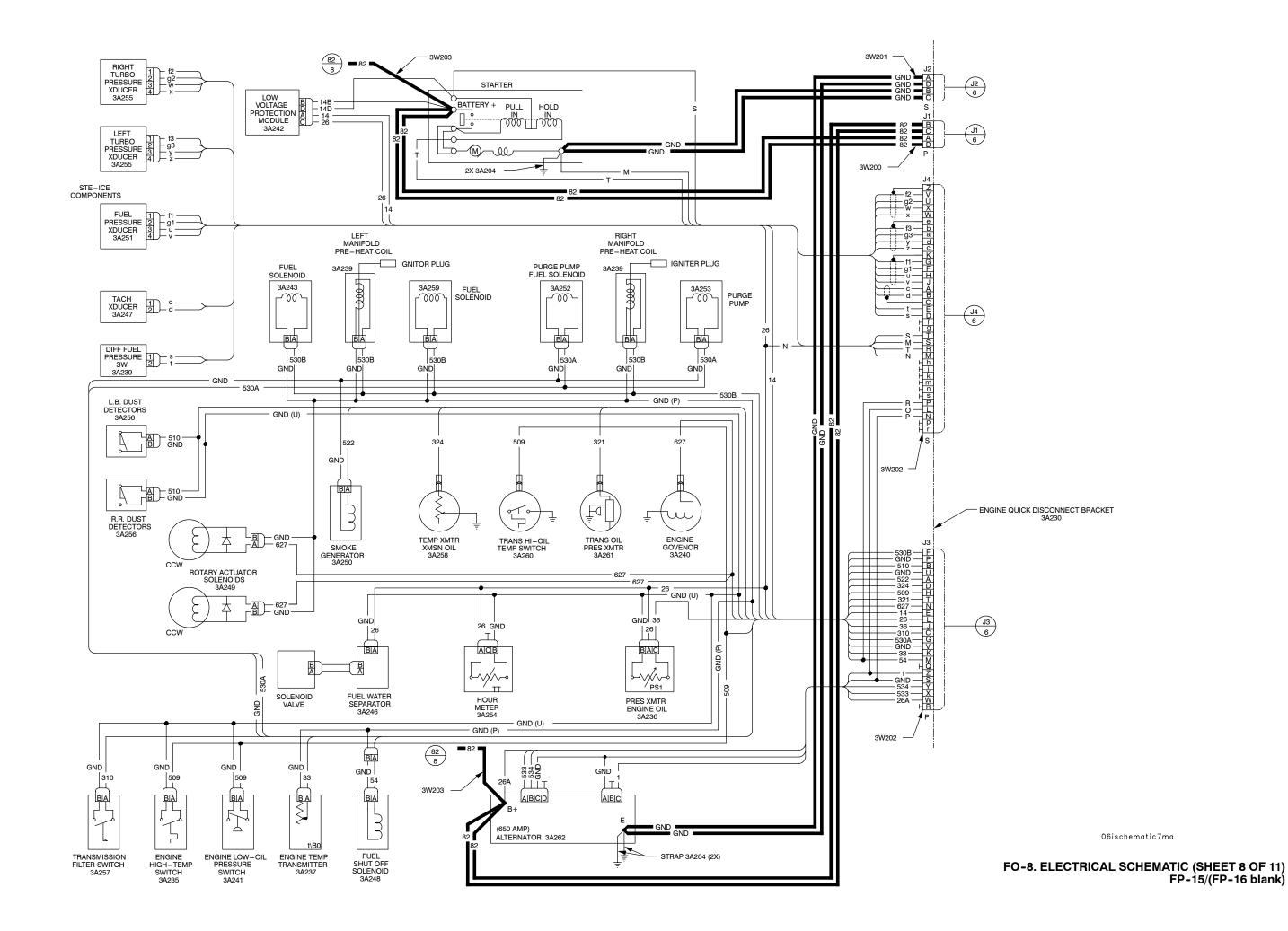


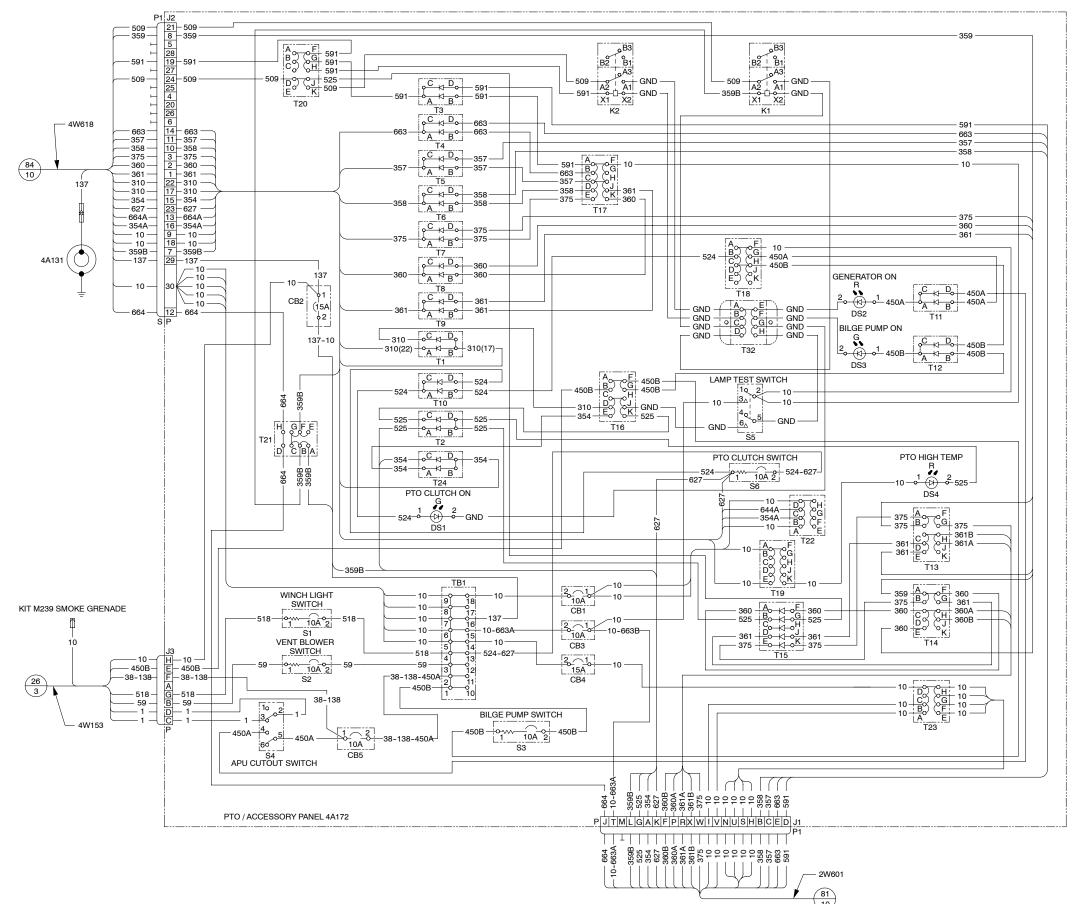


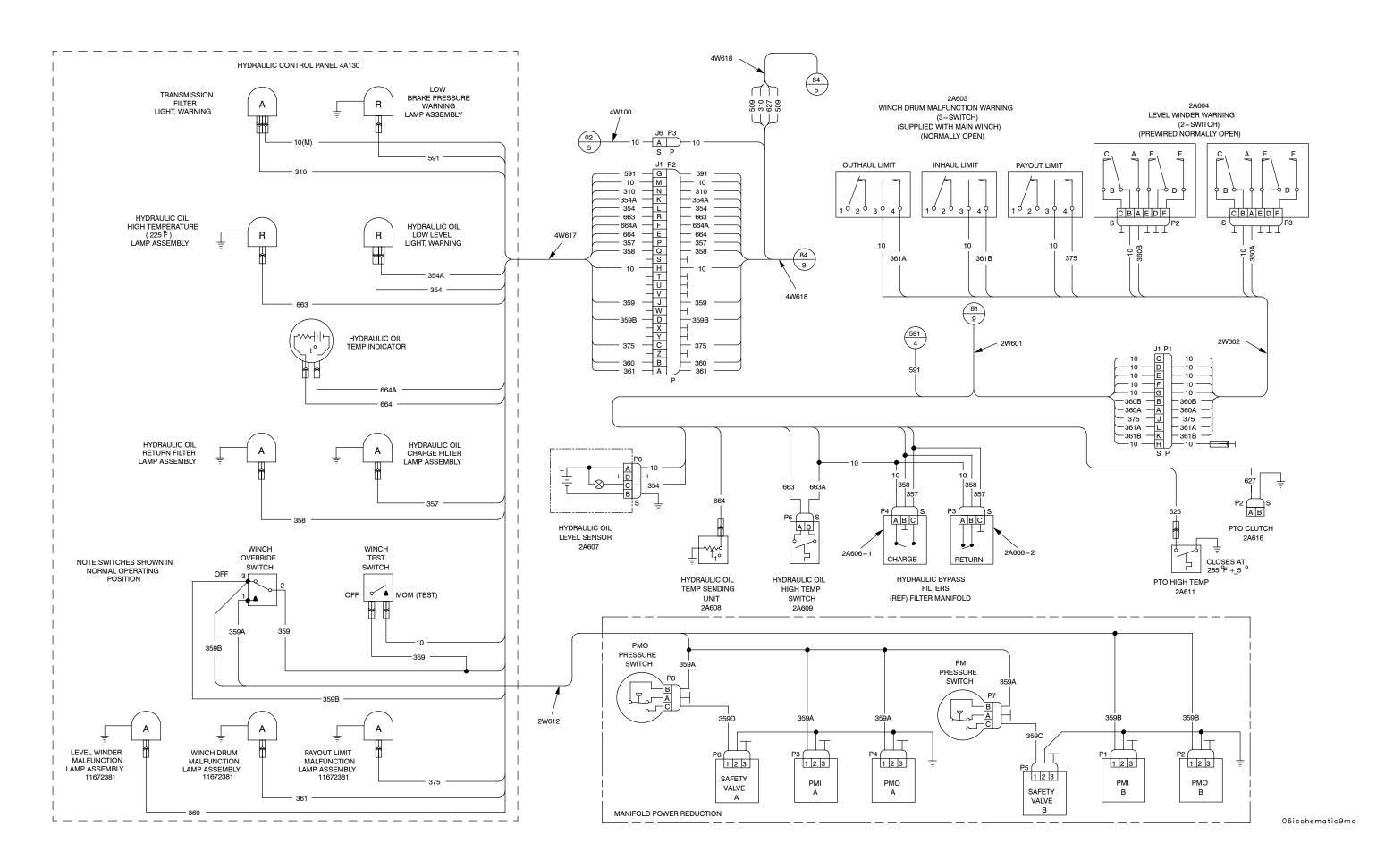












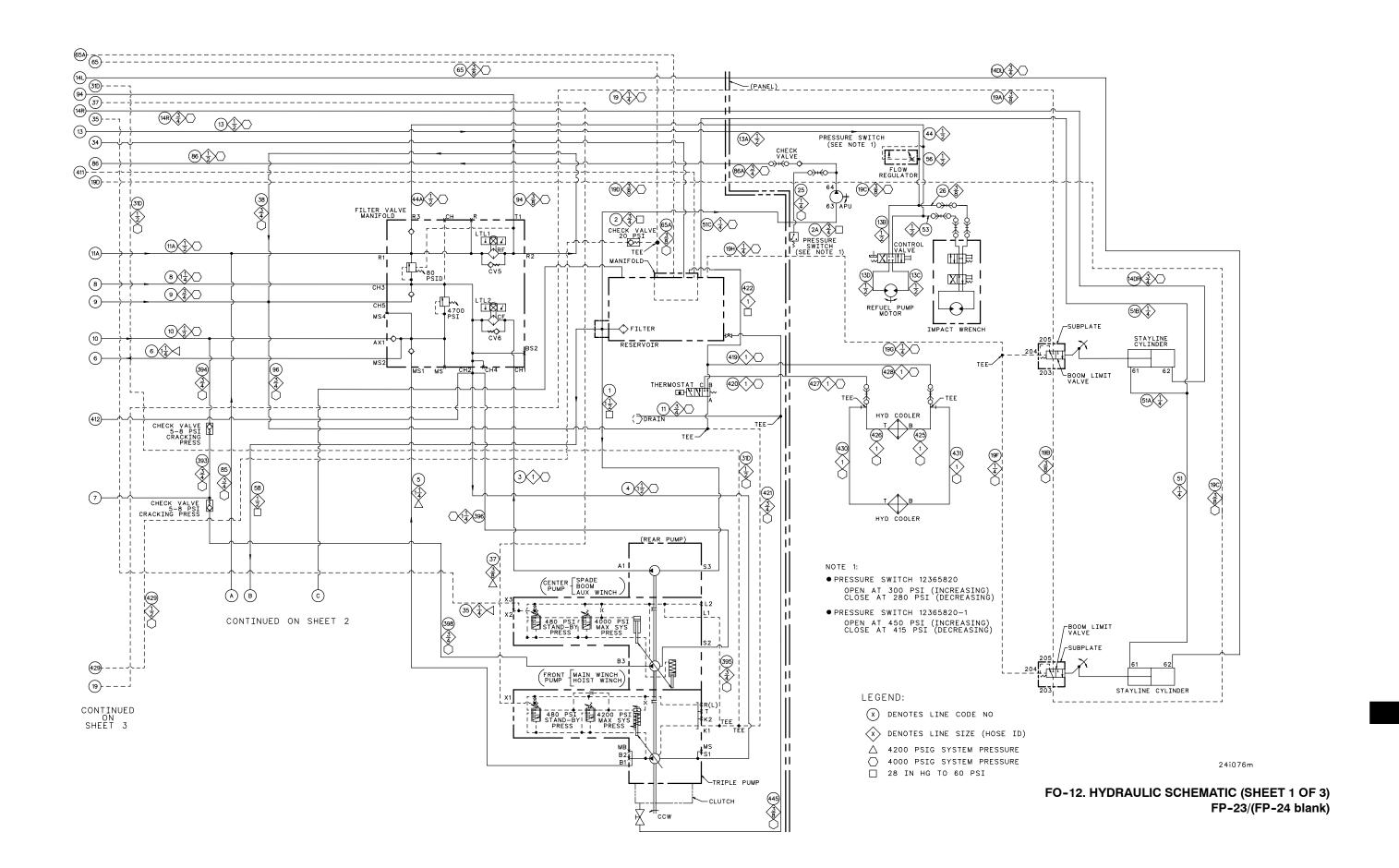
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4 W 10 0	HARNESS ASSEMBLY 4W100	1	2,3,4,5
4 W 10 1	HARNESS ASSEMBLY 4W101	1	2,4
4 W 10 3	HARNESS ASSEMBLY 4W103	1	5
4 W 10 4	SERVICE LIGHT (RIGGERS)	1	3
4 W 10 5	HARNESS ASSEMBLY 4W103	1	
4 W 10 6	WIRING HARNESS ASSEMBLY 4W106	1 1	2
4 W 10 7 4 W 10 8	HARNESS ASSEMBLY 4W107 HARNESS ASSEMBLY 4W108	1 1	1
4 W 10 8	HARNESS ASSEMBLY 4W109	1	2
4 W 110	HARNESS ASSEMBLY 4W110	1	4
4 W 111	RELAY, 100 AMP	1	4
1W112-1	HARNESS ASSEMBLY 1W112-1	1	KIT
1W112-2	HARNESS ASSEMBLY 1W112-2	1	KIT
1A113	HEADLIGHT ASSEMBLY	2	1
1A 114	LAMP ASSEMBLY	1 1	7
4 A 114 4 W 115	HYDRAULIC POWER PACK HARNESS ASSEMBLY 4W115	1 1	X 5
4 W 115	HARNESS ASSEMBLY 4W116	1	5
4 W 117	HARNESS ASSEMBLY 4W117	1	X
4 W 118	HARNESS ASSEMBLY 4W118	1	2
2 A 119	LAMP,ASSEMBLY (2A100)	2	
1A120	HORN	2	1,5
4W123-1	LEAD ASSEMBLY 4W123-1	1	4
4W123-2	LEAD ASSEMBLY 4W123-2	1	4
4W123-3	LEAD ASSEMBLY 4W123-3	1	4
4 W 12 4 4 A 12 5	HARNESS ASSEMBLY 4W124 CONTROL BOX ASSEMBLY, HEATER	1 1	3
4 A 12 S	ARMING BOX GRENADE LAUNCHER	1	KIT
4 A 12 7	HARNESS ASSEMBLY 4W127	1	4
4 A 12 8	SWITCH ASSEMBLY 4A128	1	4
4 A 12 9	PERSONNEL HEATER	1	3
4 A 12 9	PERSONNEL HEATER	opt	3
4 A 13 O	HYDRAULIC PANEL	1	9
4 A 131	UTILITY OUTLET	1	8
3W132	HARNESS ASSEMBLY 3W132	1 1	7
4 A 13 3 1W 13 4	TROUBLE LIGHT LEAD ASSEMBLY	2	3 5
4 A 135	SWITCH PANEL ASSEMBLY 4A135	1	2
4 W 13 6	HARNESS ASSEMBLY 4W136	1 1	3
2A138	RELAY, BILGE PUMP	1	3
2A139	CIRCUIT BREAKER	1	3
4 W 14 O	LEAD ASSEMBLY 4W140	1	3
4 A 14 1	HORN SWITCH	1	1
3W142 3W143	HARNESS ASSEMBLY 3W142 HARNESS ASSEMBLY 3W143	1 1	6
4 A 14 4	FUEL PUMP PERSONNEL HEATER	1	3
4W146	HARNESS ASSEMBLY 4W146	1	3
4 W 14 7	LEAD ASSEMBLY 4W147	1	3
4W149	HARNESS ASSEMBLY 4W149	1	1
4 W 15 0	CABLE ASSEMBLY 4W150	1	KIT
4 W 15 1	HARNESS ASSEMBLY 4W151	1	2
4 W 15 2	HARNESS ASSEMBLY 4W152	1 1	5
4 W 15 3 4 W 15 4	HARNESS ASSEMBLY 4W153 LEAD ASSEMBLY 4W154	1 1	1,2,8
4 W 15 4	HARNESS ASSEMBLY 4W155	1	4
4 W 15 6	LEAD ASSEMBLY 4W156	2	1,5
4 W 15 7	CABLE ASSEMBLY 4W157	2	1
4W158	LEAD ASSEMBLY 4W158	1	1
4W159-1	HEADLAMP BASE ASSEMBLY 4W159-1	1	1
4W159-2	HEADLAMP BASE ASSEMBLY 4W159-2	1	1
1A160	LAMP, TURN SIGNAL ASSEMBLY	2	1
1A161 4A162	SPOTLIGHT SWITCH FIRE EXTINGUISHER	1 1	1 5
1A163	TAIL LIGHT	2	6
4 A 16 4	FLASHER UNIT	1	2
4 A 165	DIRECTIONAL CONTROL SWITCH	1	2
2 A 16 6	BILGE PUMP	1	3
4 A 16 7	GAUGE PANEL	1	1
4 A 168	THRU BULKHEAD ELECT MTG PLATE	1	
4 A 168 J1	CONNECTOR, THRU-BULKHEAD	1 1	4,6
4A168 J2 4A168 J3	CONNECTOR, THRU-BULKHEAD CONNECTOR, THRU-BULKHEAD	1 1	4,6
4A168 J3	CONNECTOR, THRU—BULKHEAD CONNECTOR, THRU—BULKHEAD	1	3,6 3,6
4A168 J5	CONNECTOR, THRU-BULKHEAD	1	4,6
4A168 J6	CONNECTOR, THRU-BULKHEAD	1	4,6
4 A 16 9	INDICATOR LIGHT	1	2
2A170	FUEL LEVEL SENSOR	1	4

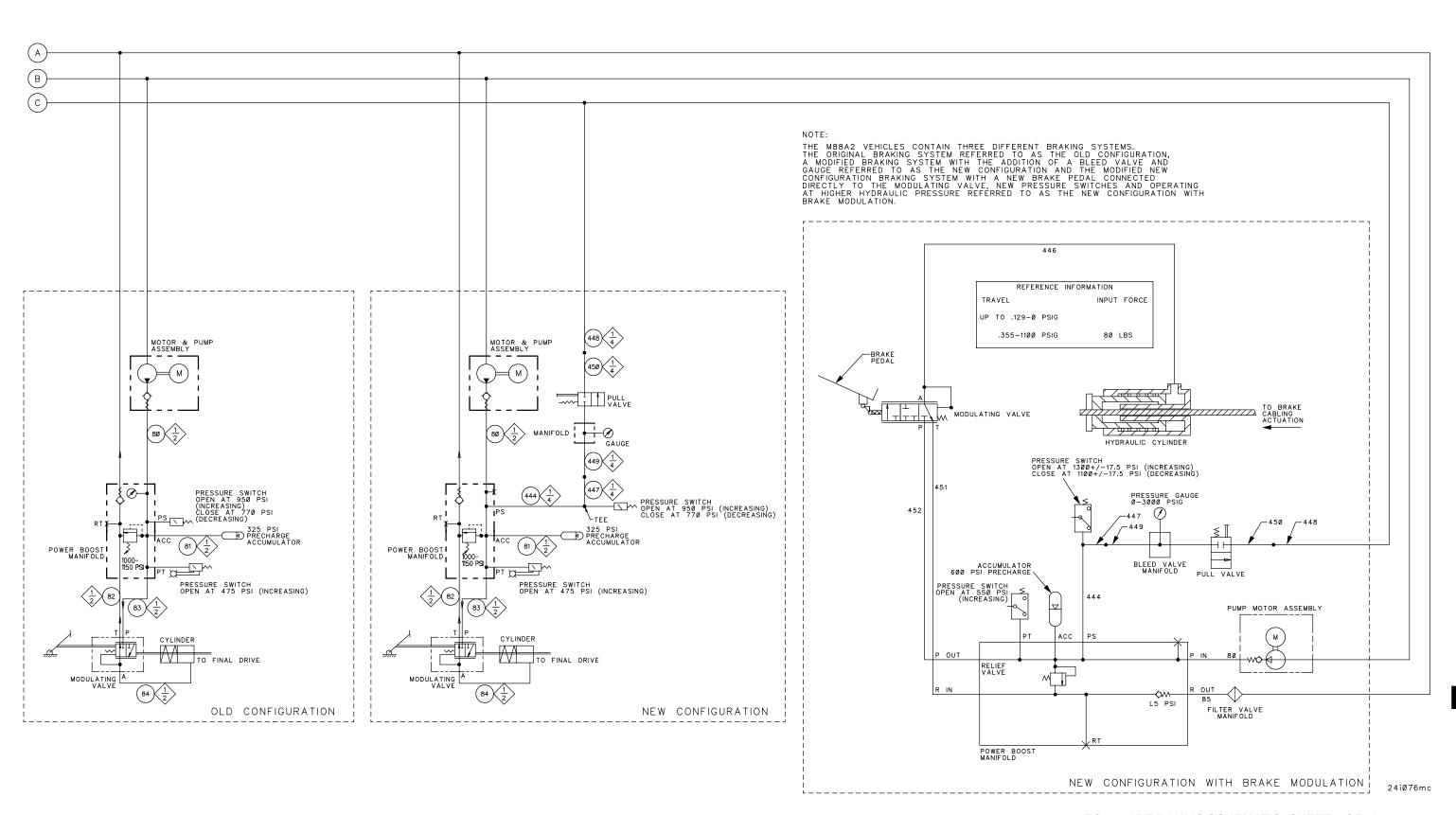
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4 A 17 O	RELAY	1	5
2A171	FUEL PUMP	1	4
4 A 17 2	PTO/ACCESSORY PANEL 4A172	1	8
3W174	LEAD ASSEMBLY 3W174	1	
4 W 17 5	LEAD ASSEMBLY 4W175	1	2
2 A 17 6	THERMOSTAT ASSEMBLY	1	_
2 A 17 7	LAMP ASSEMBLY	2	2
2A178	SWITCH, ROTARY BRAKE	1	2
1A179	SERVICE LAMP,RIGGERS	2	2
3W180	CABLE ASSEMBLY 3W180	1	6
4 A 181	DOME LIGHT ASSEMBLY	4	2,3
4 A 18 2	NEUTRAL START SWITCH	1	7
1A183	LAMP,FLASHER	1	1
4 A 18 4	INDICATOR LAMP HIGH BEAM	1	1
4 A 18 5	INDICATOR LAMP	1	1
4 A 18 6	FLASHER, WARNING	1	2
4 A 18 7	CIRCUIT BREAKER, 80 AMP, THERMAL	1	4
4 A 18 8	BLOWER ASSEMBLY	1	1
4 A 18 9	SPOTLIGHT ASSEMBLY	1	3
4 A 19 O	SWITCH, NIGHT VISION	1	1
4W191	HARNESS ASSEMBLY	1	N/A
4 A 19 2	DIMMER SWITCH	1	1
3W193	LEAD ASSEMBLY	1	6
3W200	CABLE ASSEMBLY 3W200	1	7
3W201	CABLE ASSEMBLY 3W201	1	7
3W202	HARNESS ASSEMBLY 3W202	1	7
3W2O3	CABLE ASSEMBLY 3W2O3	2	7
3W2O4	GROUNDSTRAP	4	7
3W206	CABLE ASSEMBLY 3W206	1	6
3W207	CABLE ASSEMBLY 3W207	1	6
3W209	CABLE ASSEMBLY 3W209	3	6
3W210-1	CABLE ASSEMBLY 3W210-1	1	6
3W210-2	CABLE ASSEMBLY 3W210-2	1	6
3W210-3	CABLE ASSEMBLY 3W210-3	1	6
3A211	BUS BAR 3A211	5	6
3W212-1	CABLE ASSEMBLY 3W212-1	1	6
3W212-2	CABLE ASSEMBLY 3W212-2	1	6
3W212-3	CABLE ASSEMBLY 3W212-3	1	6
3W213	CABLE ASSEMBLY 3W213	2	6
3W214-1	CABLE ASSEMBLY 3W214-1	1	6
3W214-2	CABLE ASSEMBLY 3W214-2	1	6
3W215	CABLE ASSEMBLY 3W215	4	6
3W217	CABLE ASSEMBLY 3W217	1	6
3W218	LEAD ASSEMBLY 3W218	1	6
3A219	SHUNT	1	6
3A220	POSITIVE BUS	1	6
3A221	NEGATIVE BUS	1	6
3A222	NATO SLAVE RECEPTACLE	1	6
3BT224	BATTERY 12 VOLT	6	6
3A225	RELAY 500 AMP	2	6
3A223	REGULATOR, SOLID STATE	1	6
3A227 3A228	CIRCUIT BREAKER THERMAL 30 AMP	1	6
3A230	ENGINE DISCONNECT BRACKET	1	6,7
3A235	SWITCH, HIGH OIL TEMP 3A235	1	7
3A235 3A236	TRANSMITTER, PRESSURE 3A236	1	7
3A236 3A237	TRANSMITTER, PRESSURE 3A236 TRANSMITTER, OIL TEMP 3A237		
	PUMP ASSEMBLY 3A238	1	7
3A238			
3A239	IGNITION MANIFOLD HEATER 3A239	2	7
3A240	SOLENOID 3A240	1	7
3A241	SWITCH, OIL PRESSURE 3A241 LOW VOLTAGE PROTECTION 3A242	1 1	7
3A242 3A243		1	7
	VALVE SOLENOTO 3A244	1	7
3A244	VALVE, SOLENOID 3A244		
3A246	CONTROL MODULE	1	7
3A248	FUEL SHUT OFF SOLENOID	1	7
3A250	SMOKE GENERATOR	1	7
3A252	PURGE PUMP FUEL SOLENOID 3A252	1	7
3A253	PURGE PUMP 3A253	1	7
3A254	HOUR METER 3A254	1	7
3A256	DUST DETECTOR 3A256	2	7
3A257	TRANSMISSION FILTER SWITCH 3A257	1	7
3A258	TRANS, OIL TEMP TRANSMITTER 3A258	1	7
3A259	FUEL SOLENOID 3A259	1	7
3A260	TRANS, HI-OIL TEMP SWITCH 3A260	1	7
3A261	TRANS, OIL PRESS TRANSMITTER 3A261		7
3A262	GENERATOR, OIL COOLED 3A262	1	7
3A265	STARTER MOTOR 3A265	1	7

REF. DES	NOMENCLATURE	QTY	PAGE NO.
3W266	CABLE	3	6
4A300	CONTROL BOX AIR PURIFICATION	2	NBC
4 A 3 0 1	HEATER AIR ELECTRIC M3	3	NBC
4A302	PURIFICATION UNIT, AIR M2 A2	2	NBC
4 W 3 O 3 4 W 3 O 5	LEAD ASSEMBLY 4W303	1	NBC NBC
4W303	LEAD ASSEMBLY 4W305 HARNESS ASSEMBLY 4W306	1	NBC
4W307	HARNESS ASSEMBLY 4W307	1	NBC
3A600	HYDRAULIC SOLENOID	1	7
3A600	ROTARY SOLENOID	2	7
2W601	HARNESS ASSEMBLY 2W601	1	9,8,4
2W602	HARNESS ASSEMBLY 2W602	1	9
2W603	SWITCH, LIMIT MAIN WINCH	3	9
2W604	SWITCH, LEVEL WIND-WARNING	2	9
2W606-1	SWITCH, CHARGE FILTER	1	9
2W606-2	SWITCH, RETURN FILTER	1	9
2W607	HYDRAULIC LEVEL SENSOR	1	9
2W608	SENDING UNIT HYDRAULIC OIL TEMP. SWITCH HIGH OIL TEMP.	1	9
2W609 2W610	VALVE, SOLENOID PAY IN PAY OUT	2	9
2W610	SWITCH HIGH OIL TEMP.	1	9
2W616	CLUTCH POWER TAKE OFF	1	9
4 W 617	HARNESS ASSEMBLY 4W617	1	9
4 W 618	HARNESS ASSEMBLY 4W618	1	5,9
2A620	BRAKE PUMP	1	4
2A621	PRESSURE SWITCH	1	4
2A622	WARNING SWITCH	1	4
3A700	AUXILIARY GENERATOR	1	6
4W700	HARNESS ASSEMBLY 4W700	1	4
3W727	LEAD ASSEMBLY 3W727	1	
4A701	CONTROL BOX 4A701	1	4
3W728	CABLE ASSEMBLY 3W728	2	6
3W702	HARNESS ASSEMBLY 3W702	1	6
3A703 3W704	AUXILIARY POWER UNIT ASSEMBLY HARNESS ASSEMBLY 3W704	1	6
3W704 3W705	LEAD ASSEMBLY 3W705	1	6
3W706	CABLE ASSEMBLY 3W706	1	6
3W707	LEAD ASSEMBLY	1	6
3A709	APU REGULATOR	1	6
3W710	HARNESS ASSEMBLY 3W710	1	6
3W711	HARNESS ASSEMBLY 3W711	1	6
3A712	OIL PRESSURE SENDING UNIT	1	6
3 A 713	LOW OIL PRESSURE SWITCH	1	6
3A714	HIGH AIR TEMP SWITCH	1	6
3 A 715	FUEL SOLENOID	1	6
3 A 7 16	AIR HEATER (SOLD START)	1	6
3A717 3A718	GLOW PLUG PREHEAT SOLENOID	2	6
3A710	HYDRAULIC PRESSURE SWITCH	1	6
3A721	GENERATOR STARTER	1	6
3A722	DIODE ASSEMBLY	1	6
4A725	HARNESS ASSEMBLY 4W725	1	4
4W800	HARNESS ASSEMBLY 4W800	1	1
3W801	HARNESS ASSEMBLY 3W801	1	6
4A802	RESISTOR BOX 4A802	1	1
	DIFFERENTIAL FUEL PRES. SWITCH 3A803	1	7
4A803	MOUNTING BRACKET 4A803	1	X
3A804	PULSE TACK 3A804	1	7
3A805	FUEL PRES. TRANSDUCER DCA 3A805 WIRING HARNESS, RESISTOR BOX 4W805	1	7 X
4W805 3A806	BANK TURBO PRESSURE DCA 3A806	1	7 7
5W900	CABLE ASSEMBLY 5W900	1	COEI
5W901	HARNESS ASSEMBLY 5W901	1	COEI
5W902	CABLE ASSEMBLY 5W902	1	COEI
5W903	CABLE ASSEMBLY 5W903	1	COEI
5W904	HARNESS ASSEMBLY 5W904	1	COEI
5W905	HARNESS ASSEMBLY 5W905	1	COEI
5W906	CABLE ASSEMBLY 5W906	1	COEI
5W907	HARNESS ASSEMBLY 5W907	1	COEI
3W730	HARNESS ASSEMBLY	1	7
3A729	RELAY BOX ASSEMBLY	1	7
4W725	HARNESS ASSEMBLY	1	4
3A734 3A735	FUEL PUMP	2	7
3A736	HOUR METER THERMOSTAT, SUMP FAN	1	7
JA/J0	THERMOSTAT, SUMP FAN THERMOSTAT, DOOR FAN	1	7
3 A 7 3 7	, INCINIOSIAI, DOUN LAN		
3A737 3A738		1 1	7
3A737 3A738 3A739	FAN, DOOR FAN, SUMP	1	7

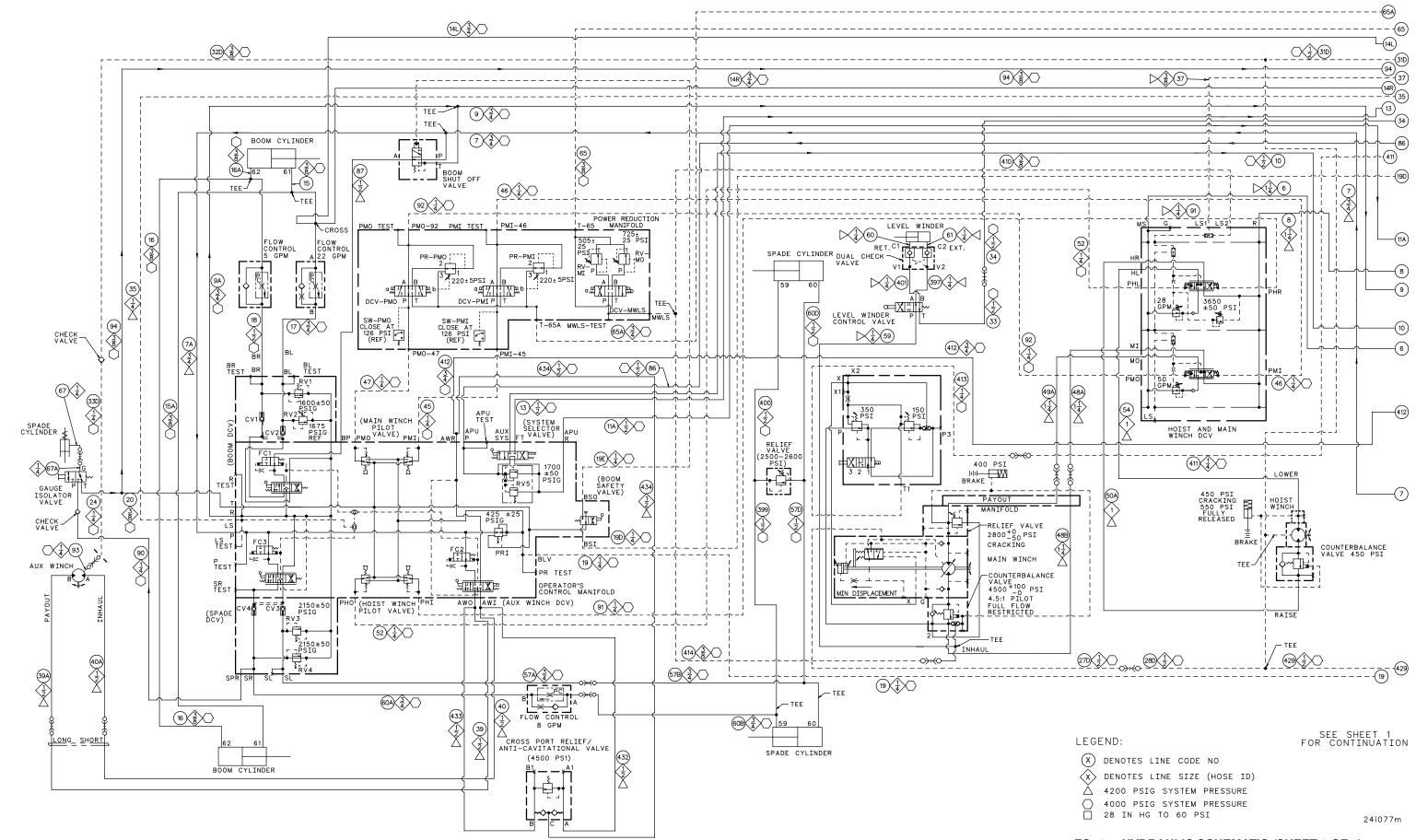
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FO-11. ELECTRICAL SCHEMATIC (SHEET 11 OF 11) FP-21/(FP-22 blank)





FO-13. HYDRAULIC SCHEMATIC (SHEET 2 OF 3) FP-25/(FP-26 blank)



FO-14. HYDRAULIC SCHEMATIC (SHEET 3 OF 3) FP-27/(FP-28 blank)

By Order of the Secretary of the Army:

ERIC K. SHINSEKI General, United States Army Chief of Staff

Official:

JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
0120612

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	N/FORM NUME 350-292-20-2				DATE Janua	nry 01, 20	002		TITLE Unit Mainten Heavy Reco	ance Manual very Vehicle	for M88A2
ITEM	PAGE	PARA	LINE	FIGUR NO.	₹E	TABLE	RECO	MMENI	DED CHANGES	S AND REASOI	V
*Reference to	0188 00-2	within the pa	aragraph or	subpara	agraph.					Lockwashers (6 (item 37, WP 0	
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	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION
PART III -	REMAR	RKS (An	y general remarks or r	ecommendations	s, or sugges	tions for	improvement of	publications and blank forms. Additional blank
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		PART I – A	ALL PUBLIC	ATIONS	S (EXCE	PT RPST	L AND	SC/SM)	AND BLANK F	ORMS	
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TM 9-2	2350-292-	20-2			Janua	ry 01, 20	02		Unit Maintena Heavy Recov	ance Manual fo ery Vehicle	or M88A2
ITEM	PAGE	PARA	LINE	FIGI No	JRE O.	TABLE		RECO	MMENDED CHA	ANGES AND RE	EASON
			*Reference v	to line n					ıbparagraph.		
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CONVERSION TABLE

inch decimal mm 1/64 0.015625 0.3969 1/32 0.031250 0.7938 3/64 0.046875 1.1906 1/16 0.062500 1.5875 5/64 0.078125 1.9844 3/32 0.093750 2.3812 7/64 0.109375 2.7781 1/8 0.125000 3.1750 9/64 0.140625 3.5719 5/32 0.156250 3.9688 11/64 0.171875 4.3656 3/16 0.187500 4.7625 13/64 0.203125 5.1594 7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344 11/32 <td< th=""><th></th><th></th><th></th></td<>			
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1/16 0.062500 1.5875 5/64 0.078125 1.9844 3/32 0.093750 2.3812 7/64 0.109375 2.7781 1/8 0.125000 3.1750 9/64 0.140625 3.5719 5/32 0.156250 3.9688 11/64 0.171875 4.3656 3/16 0.187500 4.7625 13/64 0.203125 5.1594 7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	1/32	0.031250	0.7938
5/64 0.078125 1.9844 3/32 0.093750 2.3812 7/64 0.109375 2.7781 1/8 0.125000 3.1750 9/64 0.140625 3.5719 5/32 0.156250 3.9688 11/64 0.171875 4.3656 3/16 0.187500 4.7625 13/64 0.203125 5.1594 7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	3/64	0.046875	1.1906
3/32 0.093750 2.3812 7/64 0.109375 2.7781 1/8 0.125000 3.1750 9/64 0.140625 3.5719 5/32 0.156250 3.9688 11/64 0.171875 4.3656 3/16 0.187500 4.7625 13/64 0.203125 5.1594 7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	1/16	0.062500	1.5875
3/32 0.093750 2.3812 7/64 0.109375 2.7781 1/8 0.125000 3.1750 9/64 0.140625 3.5719 5/32 0.156250 3.9688 11/64 0.171875 4.3656 3/16 0.187500 4.7625 13/64 0.203125 5.1594 7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344			
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1/8 0.125000 3.1750 9/64 0.140625 3.5719 5/32 0.156250 3.9688 11/64 0.171875 4.3656 3/16 0.187500 4.7625 13/64 0.203125 5.1594 7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	3/32	0.093750	2.3812
9/64 0.140625 3.5719 5/32 0.156250 3.9688 11/64 0.171875 4.3656 3/16 0.187500 4.7625 13/64 0.203125 5.1594 7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	7/64	0.109375	2.7781
5/32 0.156250 3.9688 11/64 0.171875 4.3656 3/16 0.187500 4.7625 13/64 0.203125 5.1594 7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	1/8	0.125000	3.1750
5/32 0.156250 3.9688 11/64 0.171875 4.3656 3/16 0.187500 4.7625 13/64 0.203125 5.1594 7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344			
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3/16 0.187500 4.7625 13/64 0.203125 5.1594 7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	5/32	0.156250	3.9688
13/64 0.203125 5.1594 7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	11/64	0.171875	4.3656
7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	3/16	0.187500	4.7625
7/32 0.218750 5.5562 15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344			
15/64 0.234375 5.9531 1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	13/64	0.203125	5.1594
1/4 0.250000 6.3500 17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	7/32	0.218750	5.5562
17/64 0.265625 6.7469 9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	15/64	0.234375	5.9531
9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	1/4	0.250000	6.3500
9/32 0.281250 7.1438 19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344			
19/64 0.296875 7.5406 5/16 0.312500 7.9375 21/64 0.328125 8.3344	17/64	0.265625	6.7469
5/16 0.312500 7.9375 21/64 0.328125 8.3344	9/32	0.281250	7.1438
21/64 0.328125 8.3344	19/64	0.296875	7.5406
	5/16	0.312500	7.9375
11/32 0.343750 8.7312	21/64	0.328125	8.3344
	11/32	0.343750	8.7312

inch	decimal	mm
23/64	0.359375	9.1281
3/8	0.375000	9.5250
25/64	0.390625	9.9219
13/32	0.406250	10.3188
27/64	0.421875	10.7156
7/16	0.437500	11.1125
29/64	0.453125	11.5094
15/32	0.468750	11.9062
31/64	0.484375	12.3031
1/2	0.500000	12.7000
33/64	0.515625	13.0969
17/32	0.531250	13.4938
35/64	0.546875	13.8906
9/16	0.562500	14.2875
37/64	0.578125	14.6844
19/32	0.593750	15.0812
39/64	0.609375	15.4781
5/8	0.625000	15.8750
		Ī
41/64	0.640625	16.2719
21/32	0.656250	16.6688
43/64	0.671875	17.0656
11/16	0.687500	17.4625

inch	decimal	mm
45/64	0.703125	17.8594
23/32	0.718750	18.2562
47/64	0.734375	18.6531
3/4	0.750000	19.050
49/64	0.765625	19.4469
25/32	0.781250	19.8437
51/64	0.796875	20.2406
13/16	0.812500	20.6375
53/64	0.828125	21.0344
27/32	0.843750	21.4312
55/64	0.859375	21.8281
7/8	0.875000	22.2250
57/64	0.890625	22.6219
29/32	0.906250	23.0188
59/64	0.921875	23.4156
15/16	0.937500	23.8125
61/64	0.953125	24.2094
31/32	0.96750	24.6062
63/64	0.984375	25.0031
1	1.000000	25.4000

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

LIQUID MEASURE

TO CHANGE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches

1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches

1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces

1 Kilogram = 1000 Grams = 2.2 Lb.

1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches

1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet

1 Sq. Kilometer = 1,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches

1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu.Feet

TEMPERATURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces

1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

 $5/9 (_F - 32) = _C$

MULTIPLY BY

212_ Fahrenheit is equivilent to 100_ Celcius

90_ Fahrenheit is equivilent to 32.2_ Celcius

32_ Fahrenheit is equivilent to 0_ Celcius

 $(9/5 \times C) + 32 = F$

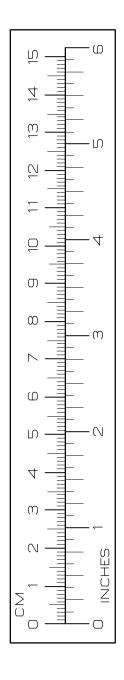
APPROXIMATE CONVERSION FACTORS

TO

Inches Centimeters 2.540

Feet 0.305

1 661		
Yards		
Miles	. Kilometers	1.609
Square Inches	. Square Centimeters	6.451
Square Feet	. Square Meters	0.093
Square Yards		
Square Miles		
Acres		
Cubic Feet		
Cubic Yards		
Fluid Ounces		
Pints		
Quarts		
Gallons		
Ounces		
Pounds		
Short Tons		
Pound-Feet		
Pounds per Square Inch		
Miles per Gallon		
Miles per Hour	. Kilometers per Hour	1.609
TO CHANGE	TO	MULTIPLY BY
Centimeters		
Meters	. Feet	3.280
	. Feet	3.280
Meters	. Feet	3.280 1.094
Meters Meters Kilometers	. Feet	3.280 1.094 0.621
Meters Meters Kilometers Square Centimeters	Feet	3.280 1.094 0.621 0.155
Meters Meters Kilometers Square Centimeters Square Meters	Feet Yards Miles Square Inches Square Feet	
Meters Meters Kilometers Square Centimeters Square Meters Square Meters	Feet Yards Miles Square Inches Square Feet Square Yards	3.280 1.094 0.621 0.155 10.764
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles	
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres	
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet	
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Cubic Meters	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet Cubic Yards	
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Milliliters	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet Cubic Yards Fluid Ounces	
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Cubic Meters Milliliters Liters	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet Cubic Yards Fluid Ounces Pints	
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Cubic Meters Milliliters Liters Liters	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet Cubic Yards Fluid Ounces Pints Quarts	
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Cubic Meters Milliliters Liters Liters Liters Liters	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet Cubic Yards Fluid Ounces Pints Quarts Gallons	3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308 0.034 2.113 1.057
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Cubic Meters Milliliters Liters Liters Liters Grams	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet Cubic Yards Fluid Ounces Pints Quarts Gallons Ounces	3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308 0.034 2.113 1.057 0.264 0.035
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Cubic Meters Milliliters Liters Liters Liters Grams Kilograms	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet Cubic Yards Fluid Ounces Pints Quarts Gallons Ounces Pounds	3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308 0.034 2.113 1.057 0.264 0.035
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Cubic Meters Milliliters Liters Liters Liters Grams Kilograms Metric Tons	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet Cubic Yards Fluid Ounces Pints Ouarts Gallons Ounces Pounds Short Tons	
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Cubic Meters Milliliters Liters Liters Liters Kilograms Metric Tons Newton – Meters	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet Cubic Yards Fluid Ounces Pints Quarts Gallons Ounces Pounds Short Tons Pound – Feet	
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Cubic Meters Milliliters Liters Liters Liters Kilograms Metric Tons Newton—Meters Kilopascals	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet Cubic Yards Fluid Ounces Pints Quarts Gallons Ounces Pounds Short Tons Pounds per Square Inch	3.280
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Cubic Meters Milliliters Liters Liters Liters Liters Kilograms Metric Tons Newton – Meters Kilopascals Kilometers per Liter	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet Cubic Yards Fluid Ounces Pints Quarts Gallons Ounces Pounds Short Tons Pounds per Square Inch Miles	
Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Cubic Meters Milliliters Liters Liters Liters Kilograms Metric Tons Newton—Meters Kilopascals	Feet Yards Miles Square Inches Square Feet Square Yards Square Miles Acres Cubic Feet Cubic Yards Fluid Ounces Pints Quarts Gallons Ounces Pounds Short Tons Pounds per Square Inch Miles	



PIN: 078532-000