

TECHNICAL MANUAL
MAINTENANCE INSTRUCTIONS
UNIT MAINTENANCE
M1083 SERIES, 5-TON, 6 X 6,
MEDIUM TACTICAL VEHICLES (MTV)
VOLUME NO. 4 OF 5

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HEADQUARTERS, DEPARTMENTS OF THE ARMY AND THE AIR FORCE

15 SEPTEMBER 1998

WARNING SUMMARY

WARNING

EXHAUST GASES CAN KILL

1. **DO NOT** operate your vehicle engine in an enclosed area.
2. **DO NOT** idle vehicle engine with cab windows closed.
3. **DO NOT** drive vehicle with inspection plates or covers removed.
4. **BE ALERT** at all times for exhaust odors.
5. **BE ALERT** for exhaust poisoning symptoms, they are:

Headache

Dizziness

Sleepiness

Loss of Muscular Control

6. **IF YOU SEE** another person with exhaust poisoning symptoms:

Remove person from area.

Expose to open air.

Keep person warm.

Do not permit person to move.

Administer cardiopulmonary resuscitation, if necessary. *

* For cardiopulmonary resuscitation, refer to FM 21-11.

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Batteries can explode from a spark. Battery acid is harmful to skin and eyes. Always wear eye protection and rubber gloves when working with batteries. Failure to comply may result in injury to personnel.

WARNING

Do not work on fuel system when engine is hot; fuel can be ignited by a hot engine.

WARNING SUMMARY (CONT)

WARNING

Battery acid (electrolyte) is extremely harmful. Always wear safety goggles and rubber gloves, and do not smoke when performing maintenance on batteries. Injury will result if acid contacts skin or eyes. Wear rubber apron to prevent clothing being damaged. Failure to comply may result in injury to personnel.

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

WARNING

Dry Cleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes, and do not breathe vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint for Type I Dry Cleaning Solvent is 100°F (38°C) and for Type II is 130°F (50°C). Failure to comply may result in serious injury or death to personnel.

If personnel become dizzy while using Dry Cleaning Solvent, immediately get fresh air and medical help. If Dry Cleaning Solvent contacts skin or clothes, flush with cold water. If Dry Cleaning Solvent contacts eyes, immediately flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.

WARNING

Diesel fuel is flammable. If fuel is spilled, clean it up immediately. Failure to comply may result in serious injury or death to personnel.

WARNING

Diesel fuel is flammable. Do not fill fuel tank with engine running, while smoking, or when near an open flame. Never overfill the tank or spill fuel. If fuel is spilled, clean it up immediately. Failure to comply may result in serious injury or death to personnel.

WARNING

Use care when removing/installing springs. Springs are under tension and can act as projectiles when being removed. Failure to comply can cause injury to personnel.

WARNING

Adhesive sealant ML-S-46163 can damage your eyes. Wear safety goggles/glasses when using; avoid contact with eyes. If sealant contacts eyes, flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.

WARNING

After Nuclear, Biological, or Chemical (NBC) exposure of vehicle, all air filters shall be handled with extreme caution. Unprotected personnel may experience serious injury or death if residual toxic agents or radioactive material are present. If vehicle is exposed to chemical or biological agents, servicing personnel shall wear protective mask, hood, protective overgarments, and chemical protective gloves and boots in accordance with FM-3-4. All contaminated air filters shall be placed in double-lined plastic bags and moved swiftly to a segregation area away from the worksite. The same procedure applies for radioactive dust contamination. The Company NBC team should measure radiation prior to filter removal to determine extent of safety procedures required per the NBC Annex to the unit Standard Operating Procedures (SOP). The segregation area in which the contaminated air filters are temporarily stored shall be marked with appropriate NBC placards. Final disposal of contaminated air filters shall be in accordance with local SOP. Decontamination operation shall be in accordance with FM-3-5 and local SOP. Failure to comply may result in serious injury or death to personnel.

WARNING

Ensure exhaust system is cool before performing maintenance. Failure to comply may result in injury to personnel.

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

WARNING

Post signs that read "NO SMOKING WITHIN 50 FEET" when working with open fuel, fuel lines or fuel tanks. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Do not operate vehicle with muffler removed. Toxic exhaust fumes may enter cab, resulting in serious injury or death to personnel.

WARNING SUMMARY (CONT)

WARNING

Exhaust pipe, transmission oil lines, and transmission scavenge pump hose may be hot to the touch. Extreme care should be taken when checking exhaust pipe, transmission oil lines, and transmission scavenge pump hose for leaks. Failure to comply may result in injury to personnel.

WARNING

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). Failure to comply may result in injury to personnel.

WARNING

Wheel drum weighs approximately 90 lbs (41 kgs). Use the aid of an assistant to help remove wheel drum. Failure to comply may result in injury to personnel.

WARNING

Wheel drum weighs approximately 90 lbs (41 kgs). Use the aid of an assistant to help install wheel drum. Failure to comply may result in injury to personnel.

WARNING

Brake shoes may be covered with dust. Breathing this dust may be harmful to your health. Do not use compressed air to clean brake shoes. Wear a filter mask approved for use against brake dust. Failure to comply may result in injury to personnel.

WARNING

Cage spring brake before air chamber is removed or severe injury to personnel will occur.

WARNING

Ensure air chamber is caged prior to installation. Failure to comply may result in injury to personnel.

WARNING

Ensure that tire is totally deflated before removing self-locking nuts. Failure to comply may result in serious injury or death to personnel.

WARNING

Spring brakes must be caged before attempting replacement of a rear axle wheel stud. Failure to comply may result in severe injury to personnel.

WARNING

Wear protective goggles to protect against possible injury from release of high pressure air. Failure to comply may result in injury to personnel.

WARNING

Prolonged contact with lubricating oil (MIL-L-2104) may cause a skin rash. Skin and clothing that come in contact with lubricating oil should be thoroughly washed immediately. Saturated clothing should be removed immediately. Areas in which lubricating oil is used should be well ventilated to keep fumes to a minimum. Failure to comply may result in injury to personnel.

WARNING

Hydraulic fluid (ML-H-5606) is TOXIC. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes. Skin and clothing that come in contact with hydraulic oil should be washed immediately. Saturated clothing should be removed immediately. Failure to comply may result in injury to personnel.

WARNING

Never let moving wire rope slide through hands, even when wearing gloves. A broken wire could cut through gloves and cut hands. Failure to comply may result in injury to personnel.

WARNING

Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

WARNING

Wear appropriate eye protection when drilling holes. Failure to comply may result in injury to personnel.

WARNING

Wear leather gloves at all times when handling winch cable. Do not allow cable to slide through hands even with gloves on. Broken wires may cause injury.

WARNING SUMMARY (CONT)

WARNING

Use extreme caution when working around moving cable. Failure to do so may result in serious injury to personnel.

WARNING

Caution must be exercised while cab is raised. Ensure that locking mechanism is functioning properly before proceeding. Failure to comply may result in death or serious injury to personnel and damage to equipment.

WARNING

Diesel fuel is flammable. Arctic heater components and fuel lines may contain small amounts of fuel. If fuel is spilled, clean up immediately. Failure to comply may result in serious injury or death to personnel.

WARNING

Coolant may be very hot and under pressure from engine operation. Ensure engine is cool before performing maintenance. Failure to comply may result in injury to personnel.

WARNING

Light Material Handling Crane (LMHC) weighs approximately 250 lbs (114 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel.

WARNING

Light Material Handling Crane (LMHC) mast weighs approximately 110 lbs (50 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Light Material Handling Crane (LMHC) boom assembly weighs approximately 150 lbs (68 kgs). Use an assistant when removing boom assembly. Failure to comply may result in injury to personnel.

WARNING

Light Material Handling Crane (LMHC) boom weighs approximately 60 lbs (27 kg). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Machine gun ring assembly weighs approximately 350 pounds (159 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Ensure vehicle is on level ground prior to installation/removal of collapsible drums. Failure to comply may result in serious injury or death to personnel or damage to equipment.

WARNING

Ensure cargo bed is free of equipment and debris and not warped or damaged in any way. Failure to comply may result in serious injury or death to personnel or damage to equipment.

WARNING

Both collapsible drums weigh approximately 235 lbs (107 kgs) empty and 3800 lbs (1725 kgs) full. Attach a suitable lifting device prior to installation. Failure to comply may result in serious injury or death to personnel or damage to equipment.

WARNING

S-280 shelter weighs approximately 1500 lbs (680 kgs) empty. Attach a suitable lifting device prior to installation. Failure to comply may result in serious injury or death to personnel or damage to equipment.

WARNING

Ensure vehicle is on level ground prior to installation or removal of tank and pump unit. Failure to comply may result in serious injury or death to personnel or damage to equipment.

WARNING

Tank weighs approximately 500 lbs (227 kgs) empty or 4000 lbs (1816 kgs) full. Attach a suitable lifting device prior to installation. Failure to comply may result in serious injury or death to personnel or damage to equipment.

WARNING SUMMARY (CONT)

WARNING

Rump unit weighs approximately 870 lbs (395 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in serious injury or death to personnel or damage to equipment.

WARNING

Do not remove oil filter while engine is hot. Failure to comply may result in injury to personnel.

WARNING

Starting fluid is toxic and highly flammable. Container is pressurized. NEVER heat container and NEVER discharge starting fluid in confined areas or near open flame. Failure to comply may cause serious injury or death to personnel.

WARNING

Tab of HAND THROTTLE lever must be positioned above throttle pivot bar. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Use extreme care when opening cab door with cab raked. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Do not operate vehicle with exhaust pipe removed. Toxic exhaust fumes may enter cab, resulting in serious injury or death to personnel.

WARNING

Radiator and charge air cooler assembly weigh approximately 160 lbs (73 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Cargo sling must be placed under charge air cooler inlet and outlet ports. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Alternator weighs approximately 50 lbs (23 kgs). The aid of an assistant is required to remove alternator. Failure to comply may result in injury to personnel.

WARNING

Starting motor weighs approximately 60 lbs (27 kg). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Negative battery terminals must be connected last. Failure to comply may result in serious injury or death to personnel.

WARNING

Negative battery terminals and battery tester negative terminal lug must be disconnected first. Failure to comply may result in serious injury or death to personnel.

WARNING

Battery box weighs approximately 70 lbs (32 kgs). The aid of two assistants is required to remove battery box from vehicle frame. Failure to comply may result in injury to personnel.

WARNING

Battery box weighs approximately 70 lbs (32 kg). The aid of two assistants is required to position battery box on vehicle frame. Failure to comply may result in injury to personnel.

WARNING

Ensure WTEC III cab transmission harness does not interfere with throttle linkage. Failure to comply may result in injury to personnel.

WARNING

Self-adjusting brakes will not self-adjust without applying brake pedal. Failure to comply may result in injury to personnel.

WARNING SUMMARY (CONT)

WARNING

Ensure air hoses are connected to correct fittings. Failure to comply may result in serious injury or death to personnel.

WARNING

Proper adjustment of load sensing valve may only be accomplished with vehicle unloaded. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Always use an inflation safety cage to inflate tires mounted on multipiece rims, and tire/rim assemblies not mounted on a tire changing machine that has a positive lock down device designed to hold the assembly during inflation (TM 9-2610-200-14). When using a tire changing machine, always follow manufacturer's mounting and safety instructions. Failure to comply may result in serious injury or death to personnel. Always inflate tires that are mounted on rims with demountable side ring flanges or lockrings in an inflation safety cage or serious injury or death may result.

WARNING

Tire weighs approximately 350 lbs (159 kgs). Use extreme care when handling tire. Failure to comply may result in injury to personnel.

WARNING

Wheel drum weighs approximately 92 lbs (42 kgs). Use the aid of an assistant to help remove wheel drum from axle. Failure to comply may result in injury to personnel.

WARNING

The sudden release of high pressure air can cause damage to eyes. Wear appropriate eye protection when working near pressurized air. Failure to comply may result in injury to personnel.

WARNING

Leave shackles installed in front bumper to support front bumper until ready to remove. Failure to Comply may result in injury to personnel.

WARNING

Front bumper weighs approximately 100 lbs (45 kgs). Use the aid of an assistant to remove front bumper. Failure to comply may result in injury to personnel.

WARNING

Tractor platform weighs approximately 550 lbs (250 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Spare tire retainer weighs approximately 150 lbs (68 kgs). The aid of two assistants is required to remove spare tire retainer from vehicle. Failure to comply may result in injury to personnel.

WARNING

Rear stabilizer bar weighs approximately 50 lbs (22 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Cab roof weighs approximately 110 lbs (50 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel.

WARNING

Use care when removing/installing window. Do not force window, or window may shatter. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Tailgate assembly weighs approximately 130 lbs (59 kg). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Tow bar weighs approximately 150 lbs (68 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING SUMMARY (CONT)

WARNING

Rear tool box weighs approximately 75 lbs (34 Kgs) empty. Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Cable can become frayed or contain broken wires. Wear heavy leather-palmed gloves when handling cable. Frayed or broken wires can injure hands. Failure to comply may result in injury to personnel.

WARNING

Remote control must be used to operate 30K winch while breaking in cables. Failure to comply may result in injury to personnel.

WARNING

Cab weighs approximately 3000 lbs (1362 kgs) attach a suitable lifting device prior to raising cab. Failure to comply may result in injury to personnel.

WARNING

Hydraulic tank weighs approximately 190 lbs (86 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Extreme care must be taken when lowering gravel deflector. Coolant hoses could be pulled loose. Failure to comply could result in serious eye injury.

WARNING

Retaining rings are under tension and can act as projectiles when released causing severe eye injury. Use care when installing retaining rings. Failure to comply may result in injury to personnel.

WARNING

Do not open coolant fill cap if temperature reads above 110 degrees F (43 degrees C). Steam or hot coolant is under pressure. Failure to comply may result in injury to personnel.

WARNING

Pressure in reservoir tank must be released before removing cap. Failure to comply may result in injury to personnel.

WARNING

Excess coolant may splash out when hoses are removed from swingfire pump. Wear appropriate eye protection. Failure to comply may result in injury to personnel.

WARNING

200 amp alternator weighs approximately 72 lbs (33 kgs). The aid of an assistant is required to install 200 amp alternator. Failure to comply may result in injury to personnel.

WARNING

100 amp alternator weighs approximately 70 lbs (32 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel.

WARNING

Both collapsible drums weigh approximately 235 lbs (107 kgs) empty and 3800 lbs (1725 kgs) full each. Attach a suitable lifting device prior to removal. Failure to comply may result in serious injury or death to personnel or damage to equipment.

WARNING

Air dryer may contain air pressure. Loosen input air hose connector slowly to vent off air pressure. Failure to comply may result in injury to personnel.

WARNING

Radiator and charge air cooler assembly weigh approximately 160 lbs (73 Kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Tractor platform weighs approximately 550 lbs (250 kg). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

WARNING SUMMARY (CONT)

WARNING

Spare tire retainer weighs approximately 150 lbs (68 kg). The aid of two assistants is required to install spare tire retainer on vehicle. Failure to comply may result in injury to personnel.

WARNING

Rear stabilizer bar weighs approximately 50 lbs (22 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Cab roof weighs approximately 110 lbs (50 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel.

WARNING

Do not remove radiator cap when the engine is hot; steam and hot coolant can escape and burn skin. Failure to comply may result in injury to personnel.

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NO. 9-2320-366-20-4

TECHNICAL ORDER
NO. 36A12-1C-1102-4

Washington D.C., 15 September 1998

Unit Maintenance Manual
**M1083 SERIES, 5-TON, 6 x 6,
MEDIUM TACTICAL VEHICLES (MTV)**
VOLUME NO. 4 OF 5

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REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of any way to improve the procedures, please let us know. Mail your letter, DA Form 2082 (Recommended Changes to Publications and Blank Forms), or DA form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-AC-NMLI, Rock Island, Ill, 61299. A reply will be furnished to you.

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HOW TO USE THIS MANUAL

OVERVIEW

This Technical Manual (TM) is provided to help you maintain the MTV at the Unit Maintenance level. Because of its size, it is divided into five volumes. Volume 4 contains the following major sections in order of appearance:

- **WARNING SUMMARY.** Provides a summary of the most important warnings that apply throughout the manual.
- **CHAPTER 7, ELECTRICAL SYSTEM MAINTENANCE (CONT)**
- **CHAPTER 8, TRANSMISSION MAINTENANCE**
- **CHAPTER 9, PROPELLER SHAFT MAINTENANCE**
- **CHAPTER 10, FRONT AND REAR AXLE MAINTENANCE**
- **CHAPTER 11, BRAKE SYSTEM MAINTENANCE**
- **CHAPTER 12, WHEELS, TIRES, AND HUBS MAINTENANCE**
- **CHAPTER 13, STEERING SYSTEM MAINTENANCE**
- **CHAPTER 14, FRAME, TOWING ATTACHMENTS, AND DRAWBARS MAINTENANCE**
- **CHAPTER 15, SUSPENSION MAINTENANCE**

OVERVIEW (CONT)

- **CHAPTER 16, BODY AND CAB MAINTENANCE**
- **APPENDIX A, REFERENCES.** Lists publications used with the MTV.
- **APPENDIX B, MAINTENANCE ALLOCATION CHART.** The maintenance allocation chart denotes the level of maintenance which performs specific maintenance tasks and the time required. It also lists tools and special tools required for each task.
- **APPENDIX C, TOOLS IDENTIFICATION LIST.** Lists equipment used in the performance of maintenance and references publications which contain information regarding the equipment.
- **APPENDIX D, EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST.** Lists expendable and durable items used in the performance of maintenance.
- **APPENDIX E, ILLUSTRATED LIST OF MANUFACTURED ITEMS.** Illustrates and describes items that must be fabricated from bulk materials for repair of the MTV.
- **APPENDIX F, TORQUE LIMITS.** Lists the standard torque values for specific attaching hardware.
- **APPENDIX G, MANDATORY REPLACEMENT PARTS.**
- **APPENDIX H, LUBRICATION ORDER.**
- **APPENDIX J, ADDITIONAL AUTHORIZATION LIST (AAL).**
- **SUBJECT INDEX.** Lists important subjects contained in volume 4 in alphabetical order and gives the associated paragraph number.

FINDING INFORMATION

There are several ways to find the information you need in this manual, They are as follows:

- **FRONT COVER INDEX.** The front cover index contains a list of the most important topics contained in each volume. It features a black box at the right edge of the cover which corresponds with a black box on the page containing the topic. The topics listed on the front cover are highlighted in the table of contents with a box.
- **TABLE OF CONTENTS.** Lists chapters, sections, appendixes, and indexes with page numbers in order of appearance.
- **CHAPTER INDEXES.** List paragraphs contained in the individual chapters with paragraph and page numbers in order of appearance.
- **SYMPTOM INDEX.** Lists malfunctions contained in the troubleshooting table with page numbers in order of appearance.

TROUBLESHOOTING

Troubleshooting is contained in chapter 2. When a malfunction occurs, look at the symptom index for the vehicle troubleshooting table in chapter 2. Find the malfunction in the index. Turn to the page number listed for the malfunction in the troubleshooting table. Perform the steps required to correct the malfunction. If you can't find the malfunction, or the malfunction is not corrected, notify your supervisor.

MAINTENANCE

- **SCHEDULED MAINTENANCE.** Your scheduled maintenance is located in Volume 1, table 2-1, PMCS. These checks and services are mandatory at the intervals listed. Always follow the **WARNINGS** and **CAUTIONS**.
- **UNSCHEDULED MAINTENANCE.** Unscheduled maintenance is located in chapters 3 thru 24. The PMCS and troubleshooting tables often reference you to these procedures. When you perform maintenance, look over the entire procedure before starting. Make sure you have the necessary tools and materials at hand. Always follow the **WARNINGS** and **CAUTIONS**.

FOLLOW THESE GUIDELINES WHEN USING THIS MANUAL:

- Become familiar with the entire maintenance procedure before beginning a maintenance task.
- Read all **WARNINGS** and **CAUTIONS** before performing any procedures.

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7-92.	M1084/M1086 HOIST UP LOCKOUT SOLENOID CABLE REPLACEMENT	7-458
7-93.	M1084/M1086 HOIST UP SOLENOID CABLE REPLACEMENT	7-462
7-94.	M1084/M1086 LEFT JACK CYLINDER PROXIMITY SENSOR CABLE REPLACEMENT	7-466
7-95.	M1084/M1086 OVERLOAD LOCKOUT CABLE REPLACEMENT	7-470
7-96.	M1084/M1086 REMOTE CONTROL CABLE REPLACEMENT	7-474
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7-101.	M1084/M1086 TELESCOPE IN SOLENOID CABLE REPLACEMENT	7-493
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7-80. ENGINE CONTROL CABLE ASSEMBLY REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Batteries disconnected (para 7-57).
- Instrument panel assembly removed for access (para 7-15).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Socket Set, Socket Wrench (Item 34, Appendix C)

Materials/Parts

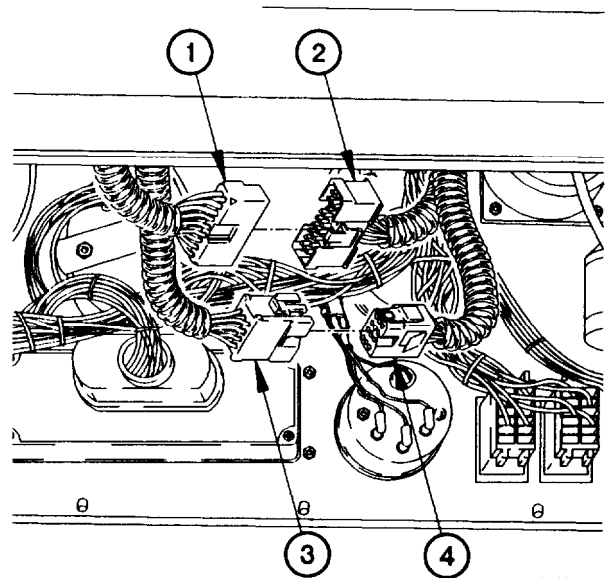
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Lockwasher (2) (Item 93, Appendix G)
- Lockwasher (Item 103, Appendix G)
- Nut, Self-Locking (2) (Item 143, Appendix G)
- Nut, Self-Locking (Item 144, Appendix G)
- Nut, Self-Locking (5) (Item 128, Appendix G)

a. Removal.

NOTE

- Remove plastic cable ties as required.
- Note routing of engine control cable assembly prior to removal.
- Tag connectors and connection points prior to disconnecting.

- (1) Disconnect connector P31 (1) from connector J31 (2).
- (2) Disconnect connector P31 X (3) from connector J31 X (4).



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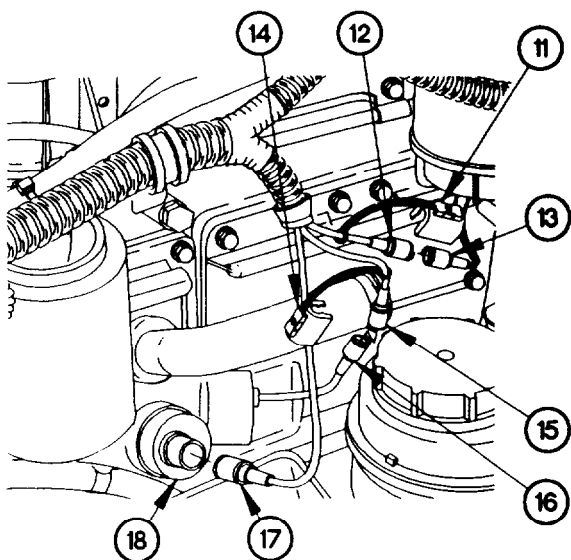
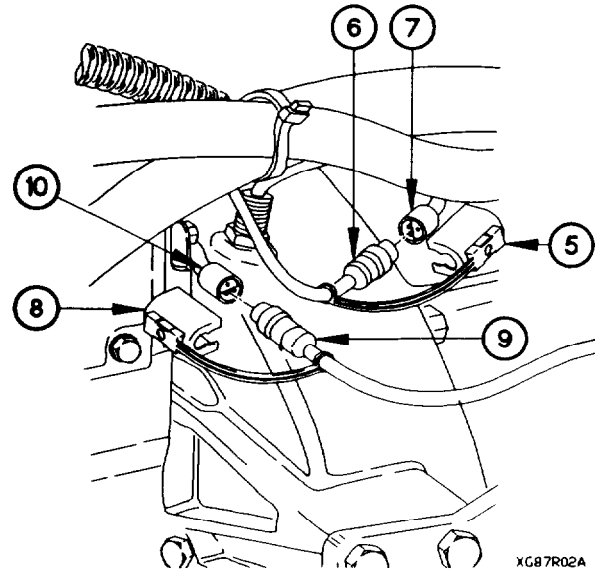
7-80. ENGINE CONTROL CABLE ASSEMBLY REPLACEMENT (CONT)

- (3) Raise cab (TM 9-2320-366-10-1).
- (4) Disconnect connector clamp (5) from connector P38 (6).
- (5) Disconnect connector P38 (6) from engine speed sensor connector J38 (7).

NOTE

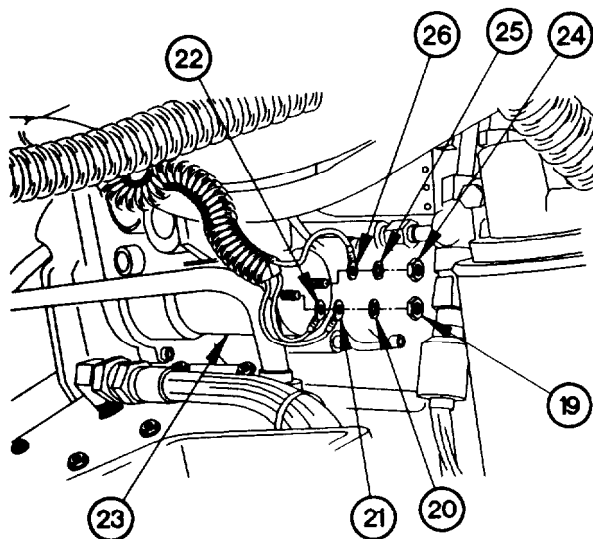
Perform steps (6) and (7) on vehicles equipped with troopseats.

- (6) Disconnect connector clamp (8) from connector P39 (9).
- (7) Disconnect connector P39 (9) from connector J39 (10).

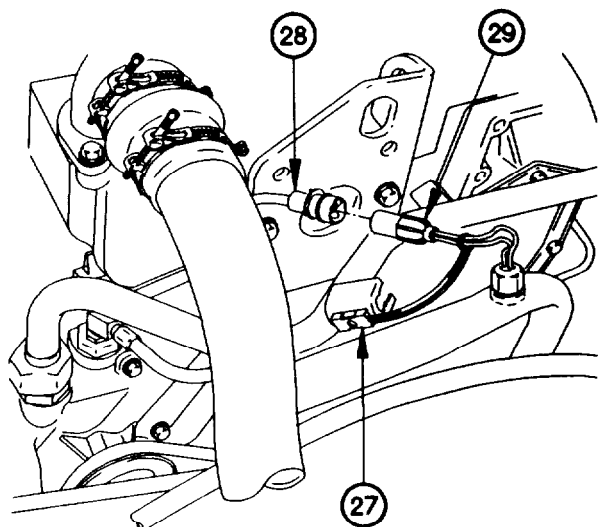


- (8) Disconnect connector clamp (11) from connector P33 (12).
- (9) Disconnect connector P33 (12) from fuel/water separator connector (13).
- (10) Disconnect connector clamp (14) from connector P34 (15).
- (11) Disconnect connector P34 (15) from oil pressure switch connector (16).
- (12) Disconnect connector P32 (17) from oil pressure transducer (18).

- (13) Remove nut (19), lockwasher (20), and terminal lugs TL29 (21) and TL66 (22) from fuel shutoff solenoid (23). Discard lockwasher.
- (14) Remove nut (24), lockwasher (25), and terminal lug TL28 (26) from fuel shutoff solenoid (23). Discard lockwasher.



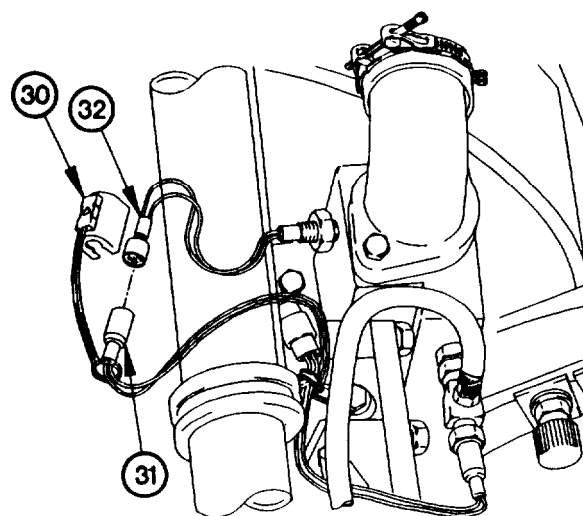
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XG87R05A

- (15) Disconnect connector clamp (27) from connector P42 (28).
- (16) Disconnect connector P42 (28) from ether sensor connector (29).

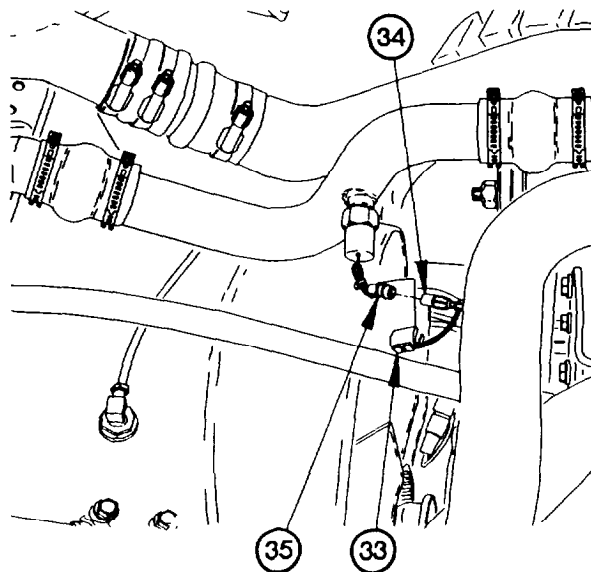
- (17) Disconnect connector clamp (30) from connector P37 (31).
- (18) Disconnect connector P37 (31) from coolant temperature light switch connector (32).



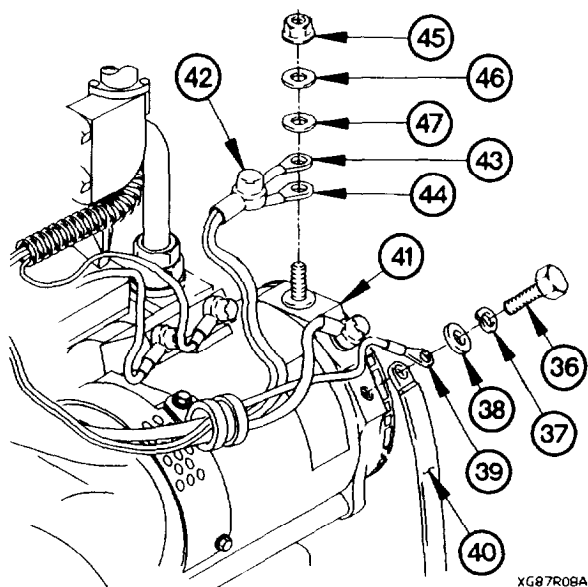
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7-80. ENGINE CONTROL CABLE ASSEMBLY REPLACEMENT (CONT)

- (19) Disconnect connector clamp (33) from connector P36 (34).
- (20) Disconnect connector P36 (34) from water temperature switch connector (35).



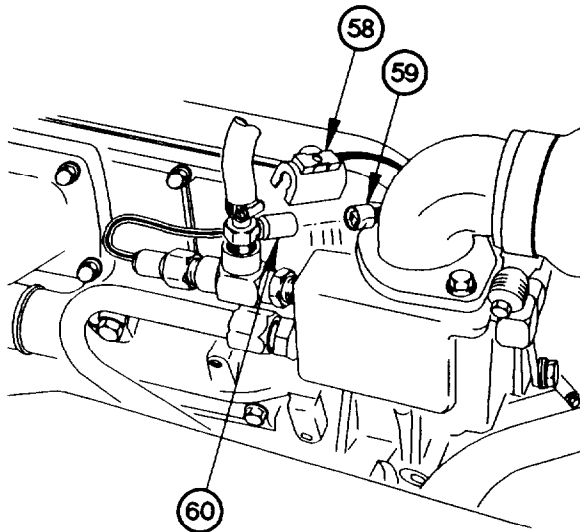
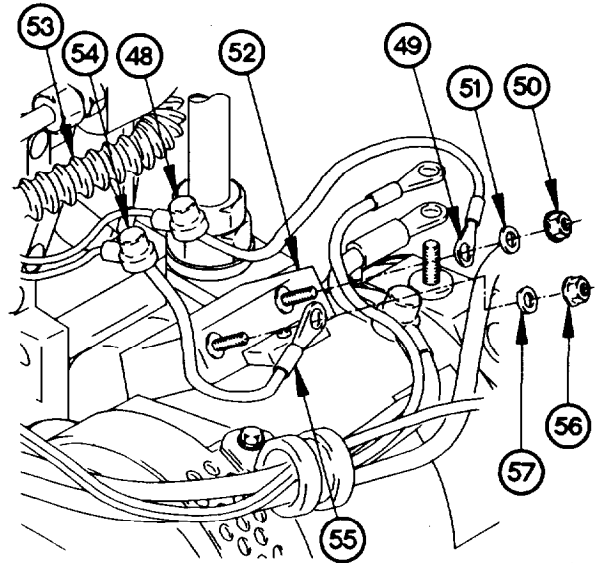
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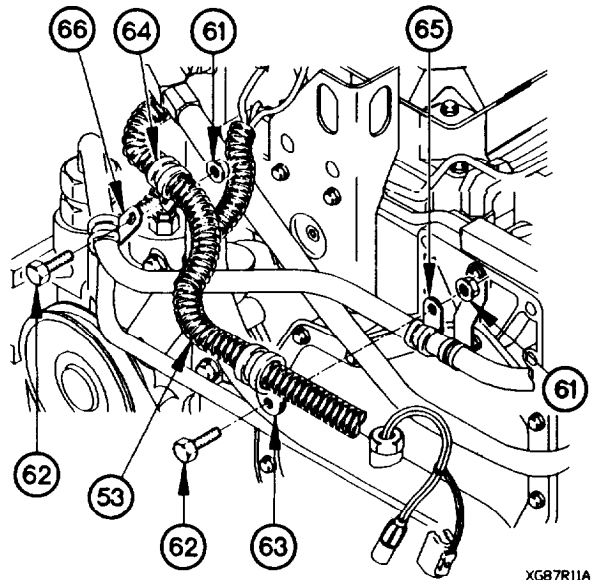
- (21) Remove screw (36), lockwasher (37), washer (38), terminal lugs TL5 (39) and TL8 (40) from alternator (41). Discard lockwasher.
- (22) Lift dust boot (42) on terminal lugs TL6 (43) and TL2 (44).
- (23) Remove self-locking nut (45), washer (46), insulation washer (47), and terminal lugs TL6 (43) and TL2 (44) from alternator (41). Discard self-locking nut.
- (24) Remove terminal lug TL6 (43) from dust boot (42).

- (25) Lift dust boot (48) on terminal lug TL35 (49).
- (26) Remove self-locking nut (50), washer (51), and terminal lug TL35 (49) from voltage regulator (52). Discard self-locking nut.
- (27) Remove dust boot (48) from engine control cable assembly (53).
- (28) Lift dust boot (54) on terminal lug TL110 (55).
- (29) Remove self-locking nut (56), washer (57), and terminal lug TL110 (55) from voltage regulator (52). Discard self-locking nut.
- (30) Remove dust boot (54) from engine control cable assembly (53).



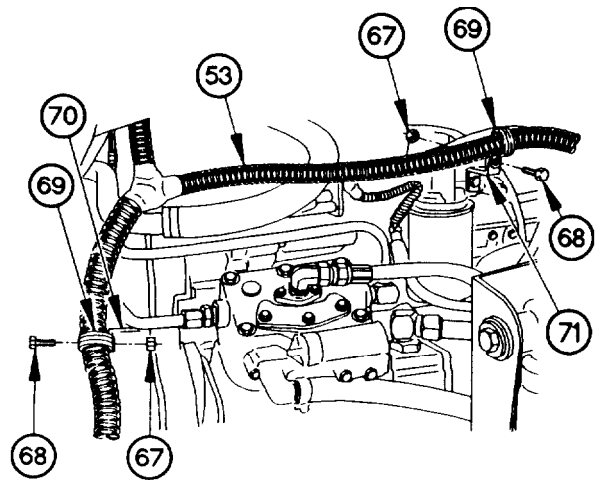
- (31) Disconnect connector clamp (58) from connector P41 (59).
- (32) Disconnect connector P41 (59) from coolant temperature gage sensor connector (60).

- (33) Remove two self-locking nuts (61), screws (62), and clamps (63 and 64) from clamps (65 and 66). Discard self-locking nuts.
- (34) Remove clamps (63 and 64) from engine control cable assembly (53).

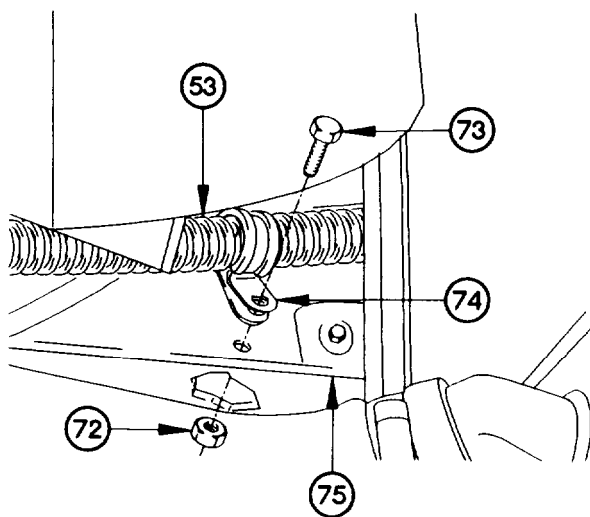


7-80. ENGINE CONTROL CABLE ASSEMBLY REPLACEMENT (CONT)

- (35) Remove two self-locking nuts (67), screws (68), and clamps (69) from brackets (70 and 71). Discard self-locking nuts.
- (36) Remove two clamps (69) from engine control cable assembly (53).



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XG87R131

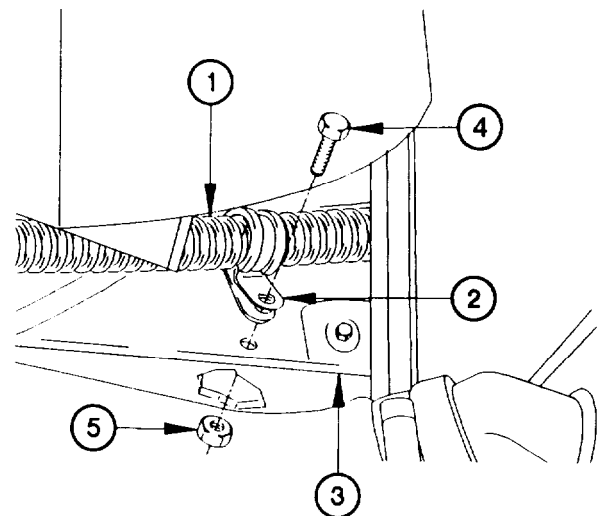
- (37) Remove self-locking nut (72), screw (73), and clamp (74) from left frame rail (75).
- (38) Remove clamp (74) from engine control cable assembly (53).
- (39) Remove engine control cable assembly (53) from vehicle.

b. Installation.

NOTE

Install plastic cable ties as required.

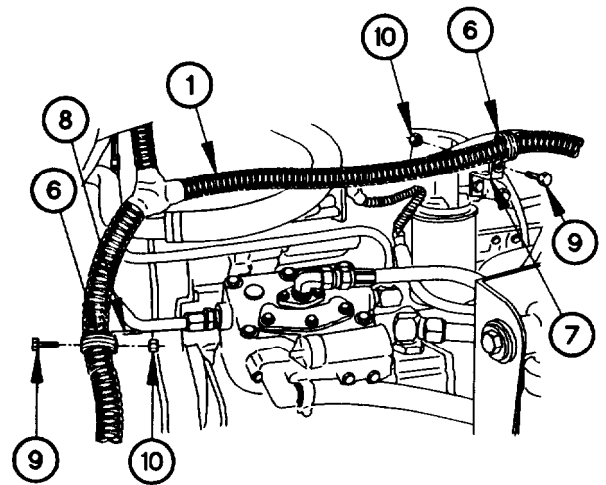
- (1) Position engine control cable assembly (1) in vehicle,
- (2) Install clamp (2) on engine control cable assembly (1).
- (3) Install clamp (2) on left frame rail (3) with screw (4) and self-locking nut (5).



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(4) Install two clamps (6) on engine control cable assembly (1).

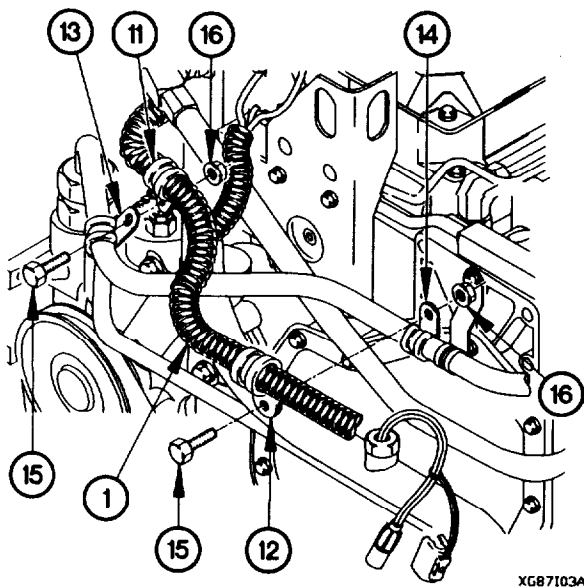
(5) Install two clamps (6) on brackets (7 and 8) with two screws (9) and self-locking nuts (10).



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(6) Install clamps (11 and 12) on engine control cable assembly (1).

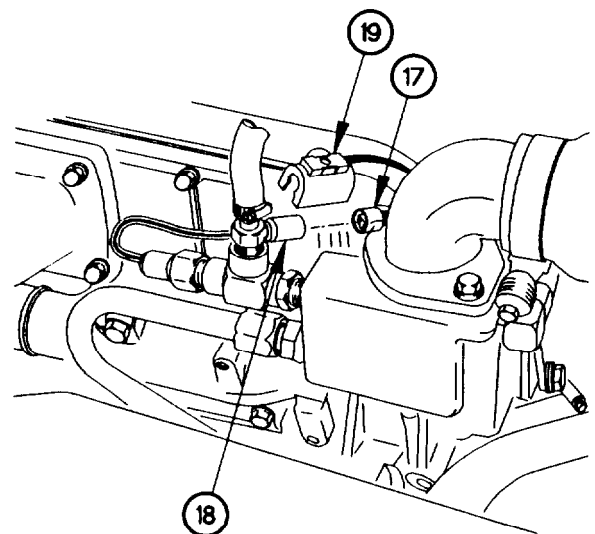
(7) Install clamps (11 and 12) on clamps (13 and 14) with two screws (15) and self-locking nuts (16).



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(8) Connect connector P41 (17) to coolant temperature gage sensor connector (18).

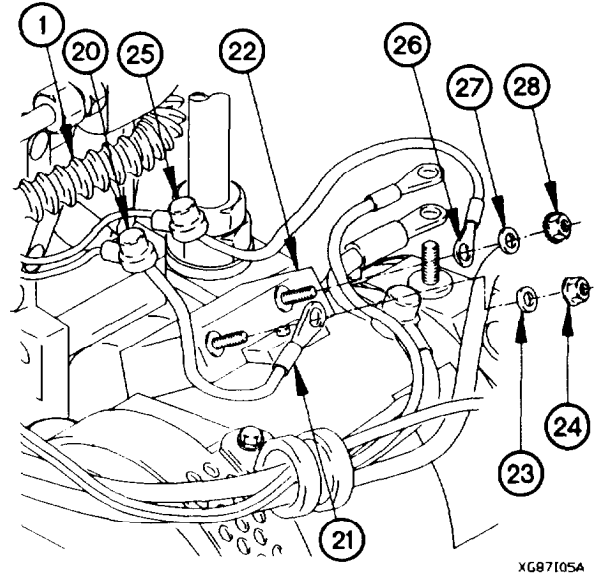
(9) Connect connector clamp (19) on connector P41 (17).



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7-80. ENGINE CONTROL CABLE ASSEMBLY REPLACEMENT (CONT)

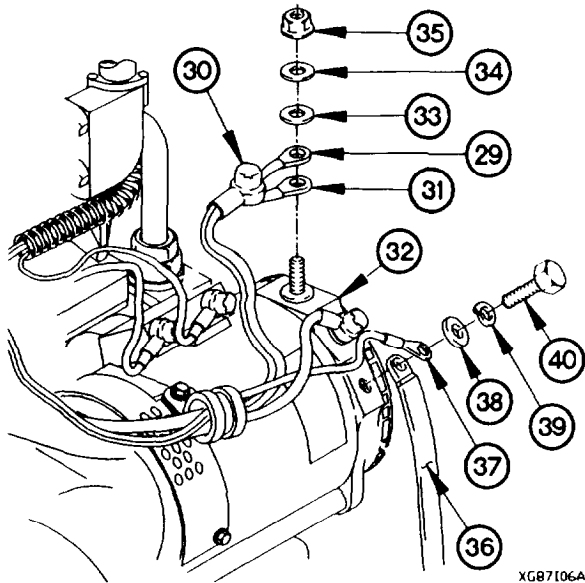
- (10) Install dust boot (20) on engine control cable assembly (1).
- (11) Position terminal lug TL110 (21) on voltage regulator (22) with washer (23) and self-locking nut (24).
- (12) Tighten self-locking nut (24) to 25 lb-in. (3 N•m).
- (13) Position dust boot (20) on terminal lug TL110 (21).
- (14) Install dust boot (25) on engine control cable assembly (1).
- (15) Position terminal lug TL35 (26) on voltage regulator (22) with washer (27) and self-locking nut (28).
- (16) Tighten self-locking nut (28) to 25 lb-in. (3 N•m).
- (17) Position dust boot (25) on terminal lug TL35 (26).



- (18) Install terminal lug TL6 (29) in dust boot (30).

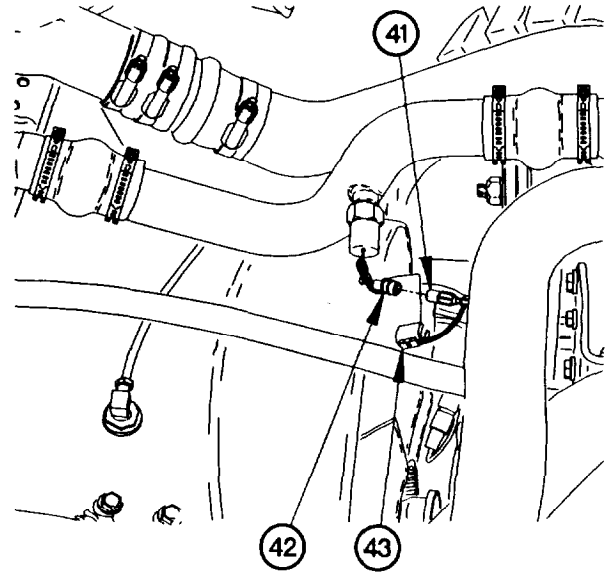
CAUTION

Insulation washer must be installed with flat side up. Failure to comply may result in damage to equipment.

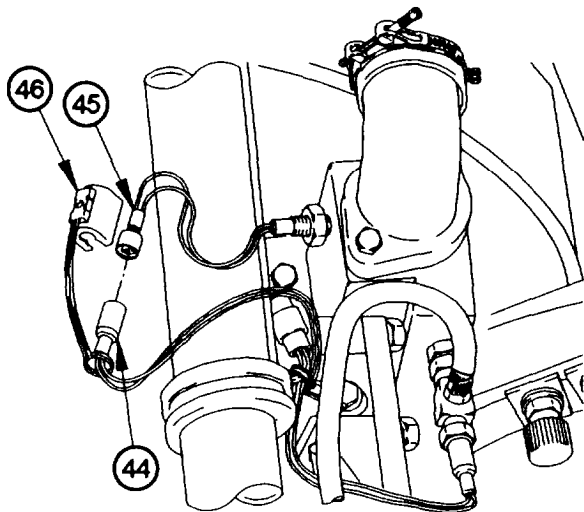


- (19) Position terminal lugs TL2 (31) and TL6 (29) on alternator (32) with insulation washer (33), washer (34), and self-locking nut (35).
- (20) Tighten self-locking nut (35) to 40 lb-in. (5 N•m).
- (21) Position dust boot (30) on terminal lugs TL6 (29) and TL2 (31).
- (22) Position terminal lugs TL8 (36) and TL5 (37) on alternator (32) with washer (38), lockwasher (39), and screw (40).
- (23) Tighten screw (40) to 40 lb-in. (5 N•m).

- (24) Connect connector P36 (41) to water temperature switch connector (42).
- (25) Connect connector clamp (43) on connector P36 (41).



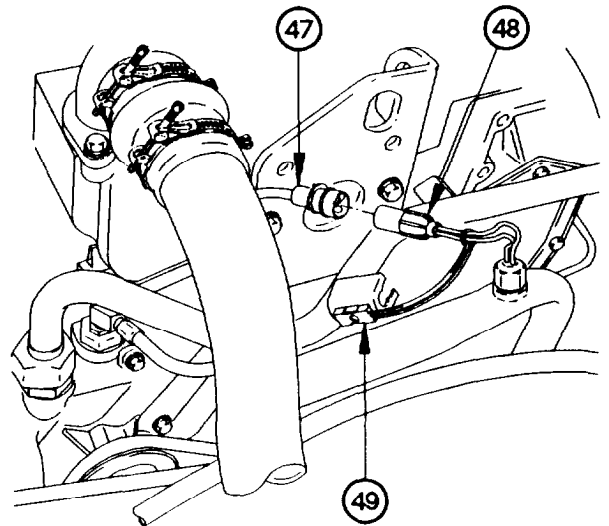
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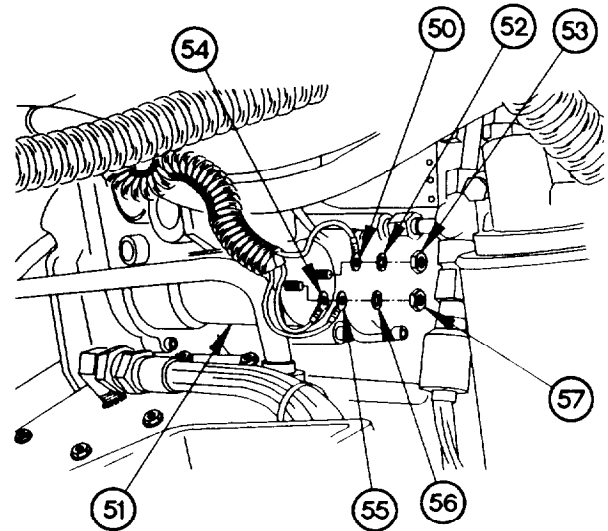
- (26) Connect connector P37 (44) to coolant temperature light switch connector (45).
- (27) Connect connector clamp (46) on connector P37 (44).

- (28) Connect connector P42 (47) to ether sensor connector (48).
- (29) Connect connector clamp (49) on connector P42 (47).

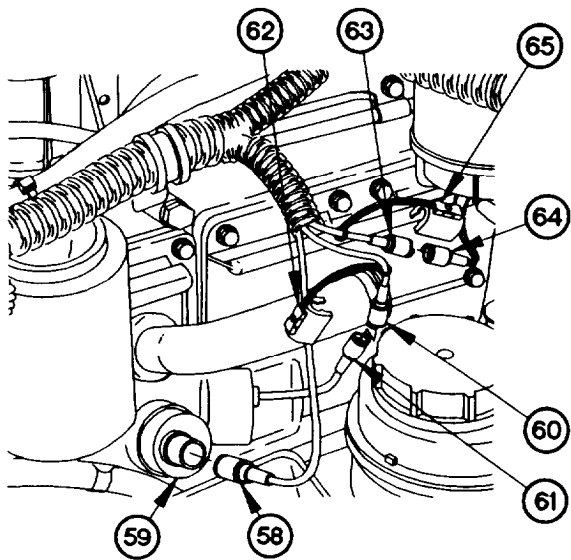


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- (30) Install terminal lug TL28 (50) on fuel shutoff solenoid (51) with lockwasher (52) and nut (53).
- (31) Install terminal lugs TL66 (54) and TL29 (55) on fuel shutoff solenoid (51) with lockwasher (56) and nut (57).



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- (32) Connect connector P32 (58) to oil pressure transducer (59).
- (33) Connect connector P34 (60) to oil pressure light switch connector (61).
- (34) Connect connector clamp (62) on connector P34 (60).
- (35) Connect connector P33 (63) to fuel/water separator connector (64).
- (36) Connect connector clamp (65) on connector P33 (63).

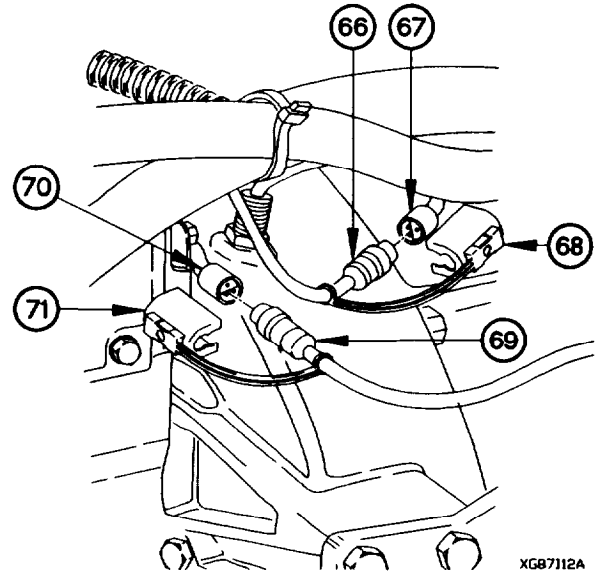
7-80. ENGINE CONTROL CABLE ASSEMBLY REPLACEMENT (CONT)

- (37) Connect connector P38 (66) to engine speed sensor connector J38 (67).
- (38) Connect connector clamp (68) on connector P38 (66).

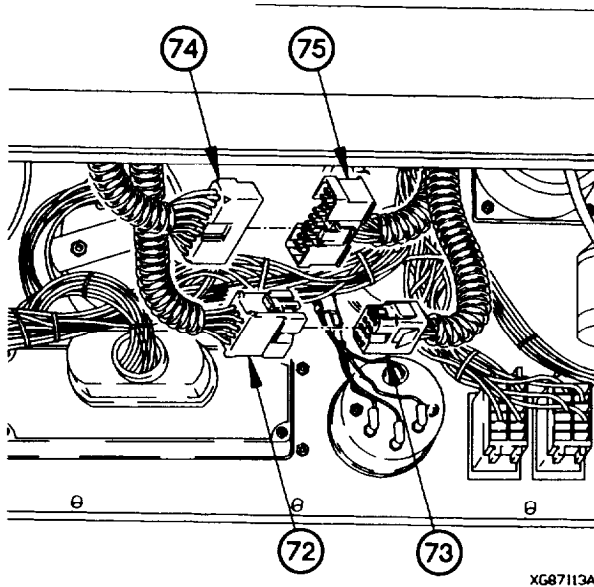
NOTE

Perform steps (39) and (40) on vehicles equipped with troopseats.

- (39) Connect connector P39 (69) to connector J39 (70).
- (40) Connect connector clamp (71) on connector P39 (69).



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XG87113A

- (41) Lower cab (TM 9-2320-366-10-1).
- (42) Connect connector P31 X (72) to connector J31 X (73).
- (43) Connect connector P31 (74) to connector J31 (75).

c. Follow-On Maintenance.

- (1) Install instrument panel assembly (para 7-15).
- (2) Connect batteries (para 7-57).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Check VOLTS gage for charge indication (TM 9-2320-366-10-1).
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.

7-81. FRONT INTERVEHICULAR 12 VDC (7 Pin) CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation

INITIAL SETUP

Equipment Conditions

Batteries disconnected (para 7-57).

Materials/Parts

Ties, Cable, Plastic (Item 69, Appendix D)
Nut, Self-Locking (2) (Item 128, Appendix G)

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
Tool Kit, Genl Mech (Item 46, Appendix C)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector J32 (1) from connector P52F (2).
- (2) Remove two self-locking nuts (3), washers (4), screws (5), and front intervehicular 12 vdc cable (6) from vehicle. Discard self-locking nuts.

b. Installation.

- (1) Install front intervehicular 12 vdc cable (6) on vehicle with two screws (5), washers (4), and self-locking nuts (3).

NOTE

Install plastic cable ties as required.

- (2) Connect connector J32 (1) to connector P52F (2).

End of Task.

7-82. FRONT LIGHTS CABLE ASSEMBLY REPLACEMENT

This task covers:

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Removal b. Installation | <ul style="list-style-type: none"> c. Follow-On Maintenance |
|---|--|

INITIAL SETUP

Equipment Conditions

- Batteries disconnected (para 7-57).
- PDP cover removed (para 16-2).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Socket Set, Socket Wrench (Item 34, Appendix C)
- Wrench, Torque, 0-75 lb-in. (Item 90, Appendix 8)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Adhesive (Item 8, Appendix D)
- Lockwasher (3) (Item 96, Appendix G)
- Lockwasher (2) (Item 93, Appendix G)

a. Removal.

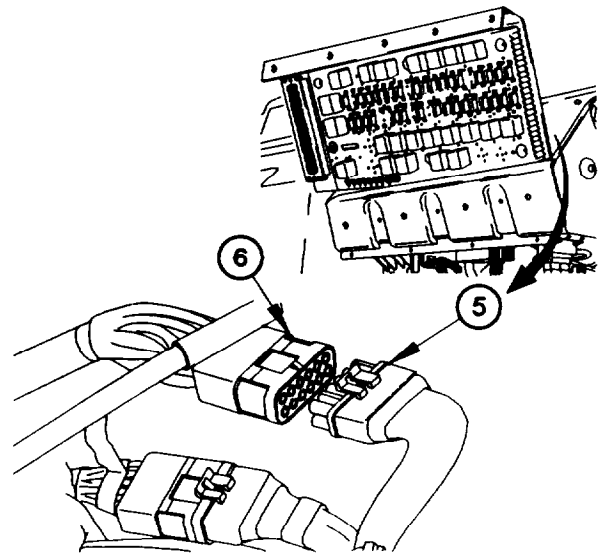
NOTE

- Remove plastic cable ties as required.
- Tag wires and connection points prior to disconnecting.

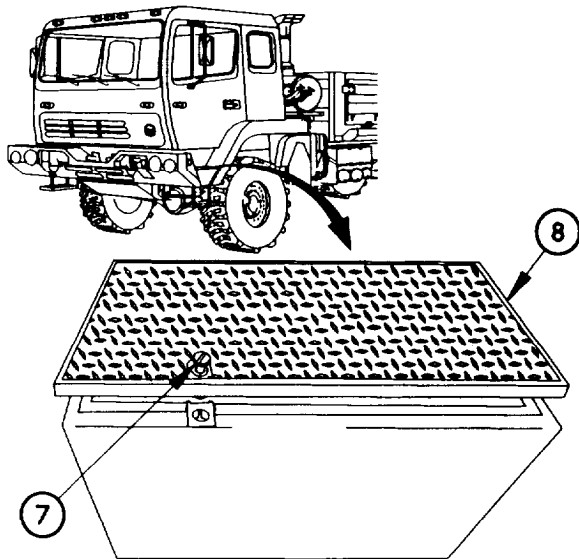
- (1) Remove three screws (1) and washers (2) from PDP
- (2) Remove three screws (4) from PDP (3).
- (3) Lift PDP (3) outward to gain access.

7-82. FRONT LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

(4) Disconnect connector P27 (5) from connector J27 (6).



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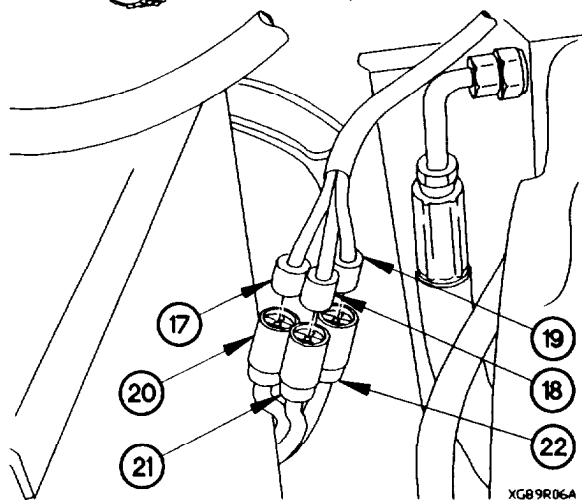
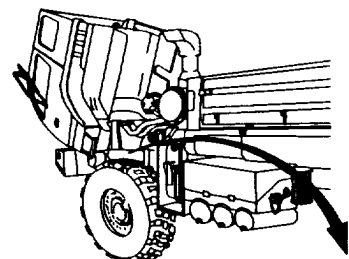
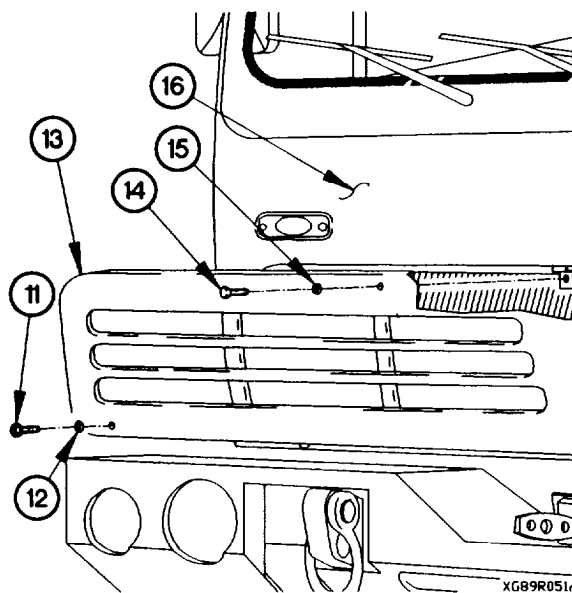


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(5) Loosen screw (7) and open cab step tread (8).

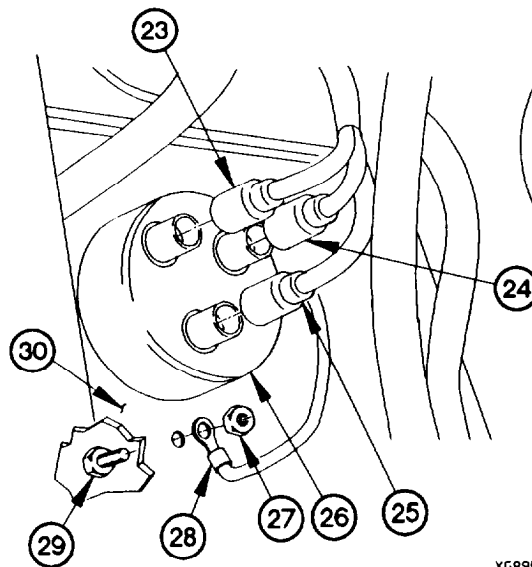
(6) Disconnect connector P25 (9) from connector J25 (10).

- (7) Remove two screws (11) and washers (12) from front grille (13).
- (8) Remove screw (14), washer (15), and front grille (13) from cab (16).
- (9) Raise cab (TM 9-2320-366-10-1).



- (10) Disconnect connectors P22 (17), P23 (18), and P24 (19) from left composite light connectors 481 (20), 461 (21), and 20 (22).

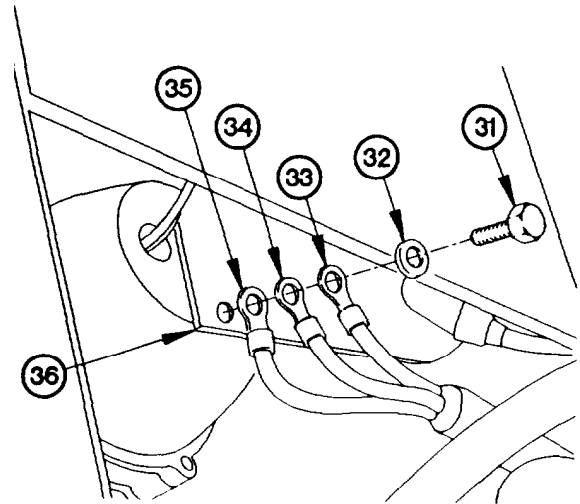
- (11) Disconnect connectors P4 (23), P20 (24), and P19 (25) from headlight (26).
- (12) Remove nut (27), terminal lug TL82 (28), and screw (29) from bracket (30).



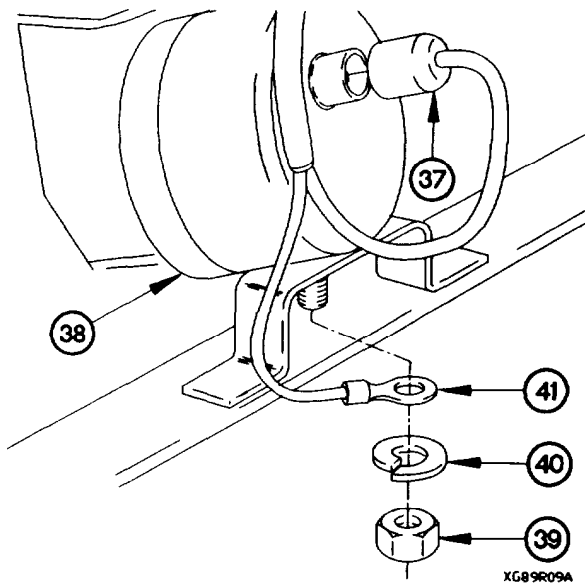
XG89R071

7-82. FRONT LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

(13) Remove screw (31), lockwasher (32), and terminal lugs TL79 (33), TL123 (34), and TL126 (35) from left composite light bracket (36). Discard lockwasher.



XG89R08A

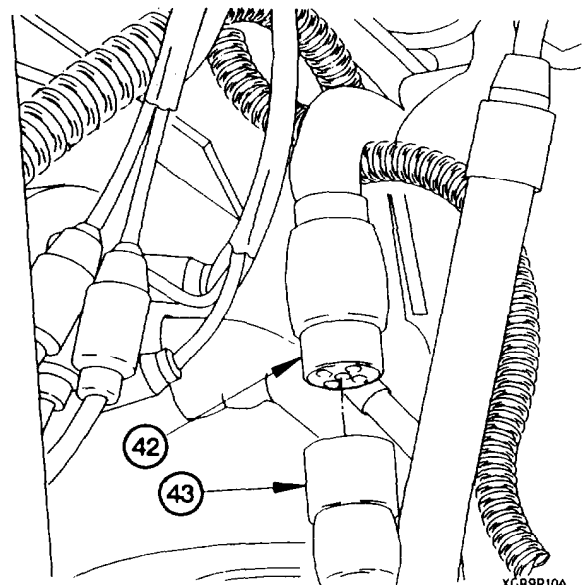


XG89R09A

(14) Disconnect connector P17 (37) from blackout drive light (38).

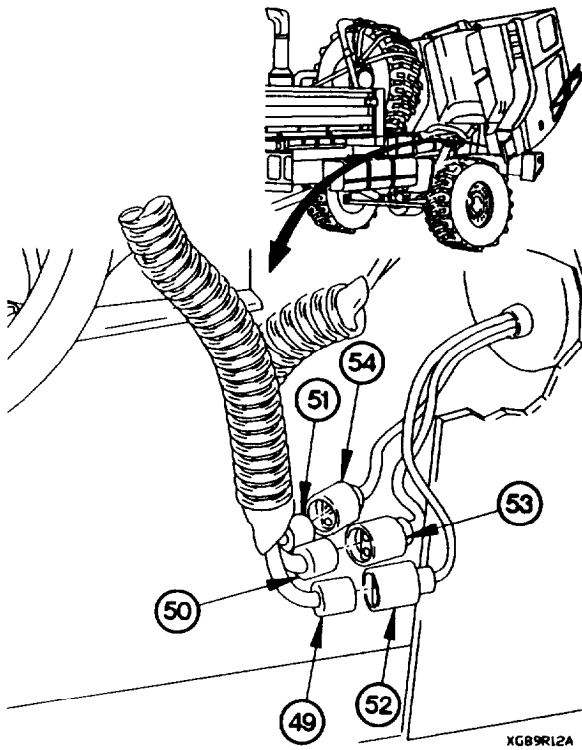
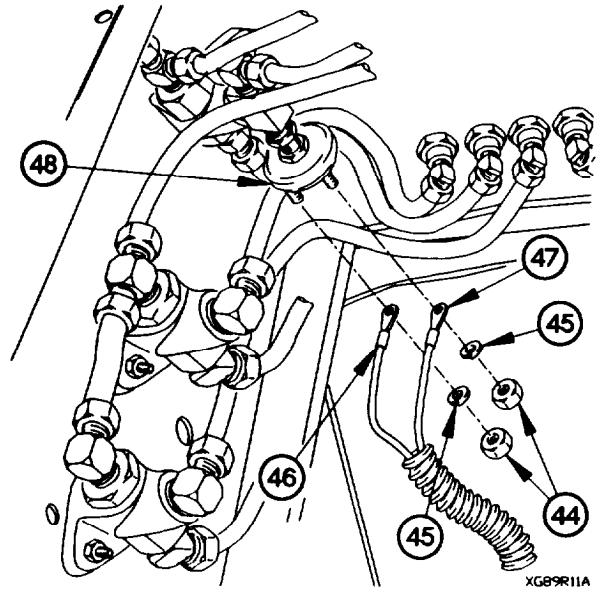
(15) Remove nut (39), lockwasher (40), and terminal lug TL72 (41) from blackout drive light (38). Discard lockwasher.

(16) Disconnect connector P52F (42) from connector J52



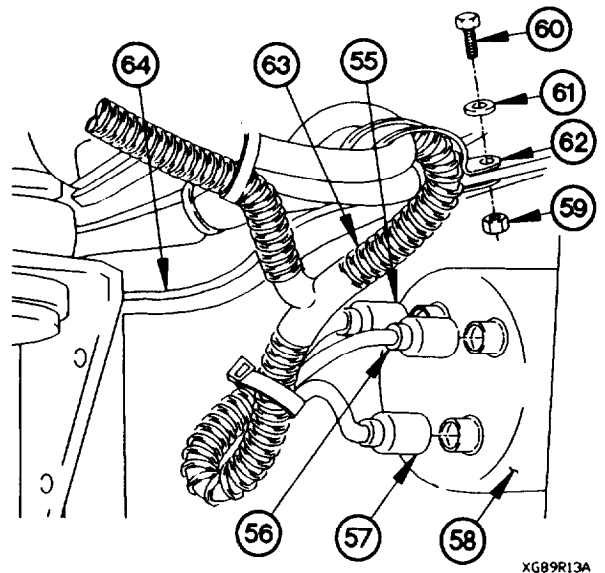
XG89R10A

- (17) Remove adhesive, two nuts (44), lockwashers (45), and terminal lugs TL201 (46) and TL202 (47) from air pressure transmitter (48). Discard lockwashers.



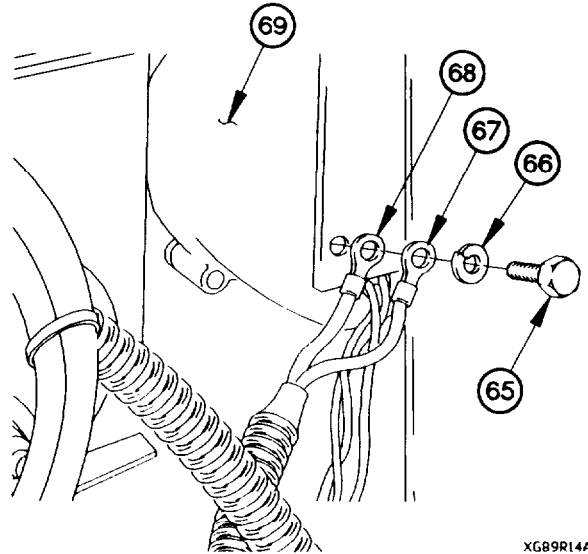
- (18) Disconnect connectors P8 (49), P9 (50), and P10 (51) from right composite light connectors 20 (52), 461 (53), and 481 (54).

- (19) Disconnect connectors P12 (55), P13 (56), and P14 (57) from headlight (58).
- (20) Remove nut (59), screw (60), washer (61), clamp (62), and front lights cable assembly (63) from bracket (64).
- (21) Remove clamp (62) from front lights cable assembly (63).



7-82. FRONT LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

(22) Remove screw (65), lockwasher (66), and terminal lugs TL70 (67) and TL81 (68) from right composite light (69). Discard lockwasher.



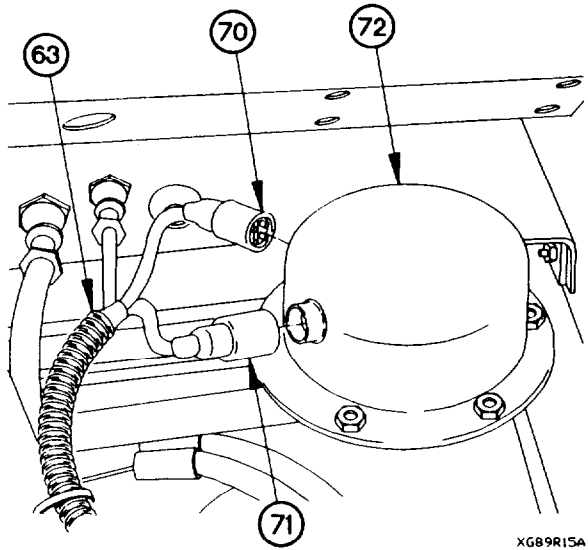
XG89R14A

(23) Disconnect connectors P5 (70) and P6 (71) from horn (72).

NOTE

Note routing of front lights cable prior to removal.

(24) Remove front lights cable assembly (63) from vehicle.



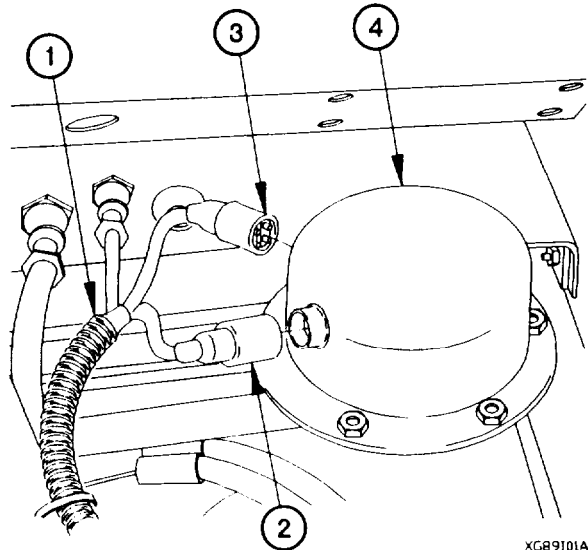
XG89R15A

b. Installation.

NOTE

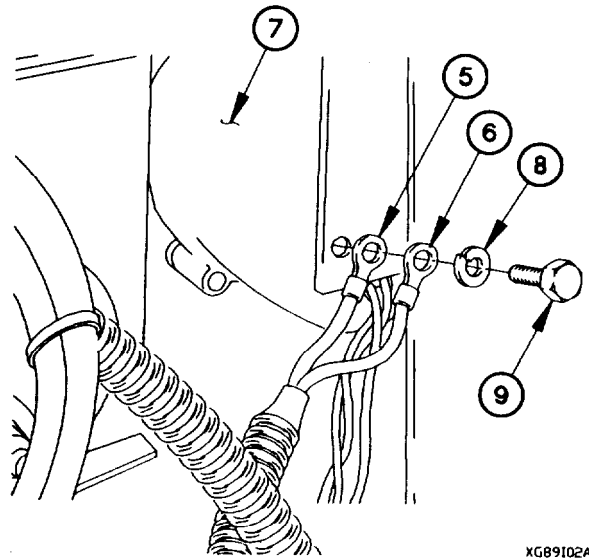
Install plastic cable ties as required.

- (1) Position front lights cable assembly (1) on vehicle.
- (2) Connect connectors P6 (2) and P5 (3) to horn (4).

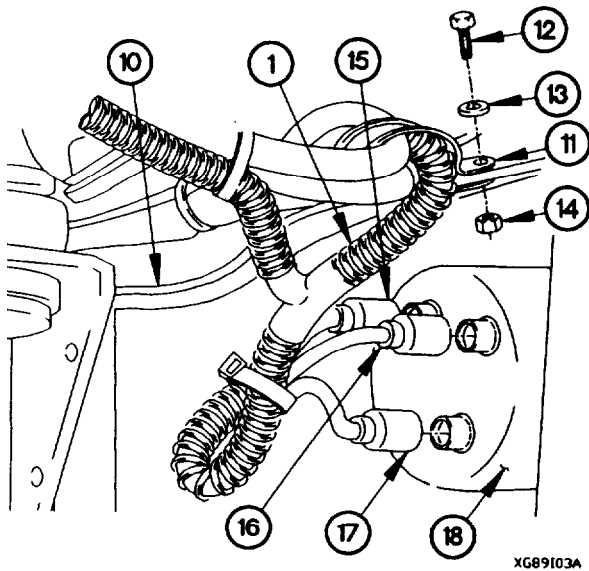


XG89101A

(3) Install terminal lugs TL70 (5) and TL81 (6) on right composite light (7) with lockwasher (8) and screw (9).



XG89102A

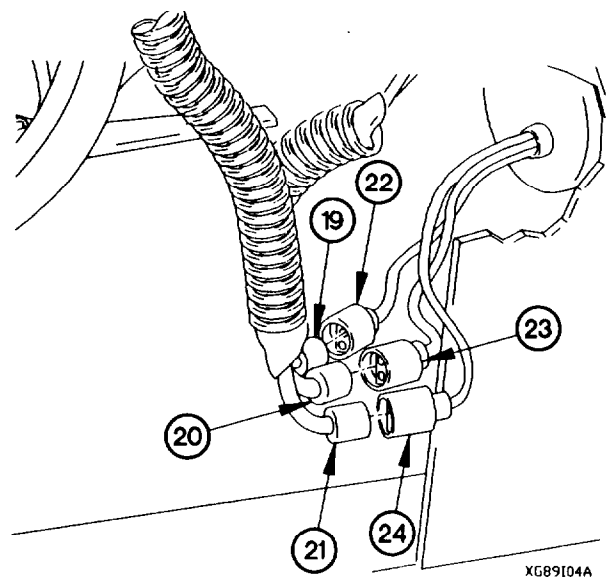


XG89103A

(4) Install front lights cable assembly (1) on bracket (10) with clamp (11), screw (12), washer (13), and nut (14).

(5) Connect connectors P12 (15), P13 (16), and P14 (17) on headlight (18).

(6) Connect connectors P10 (19), P9 (20), and P8 (21) on right composite light connectors 481 (22), 461 (23), and 20 (24).



XG89104A

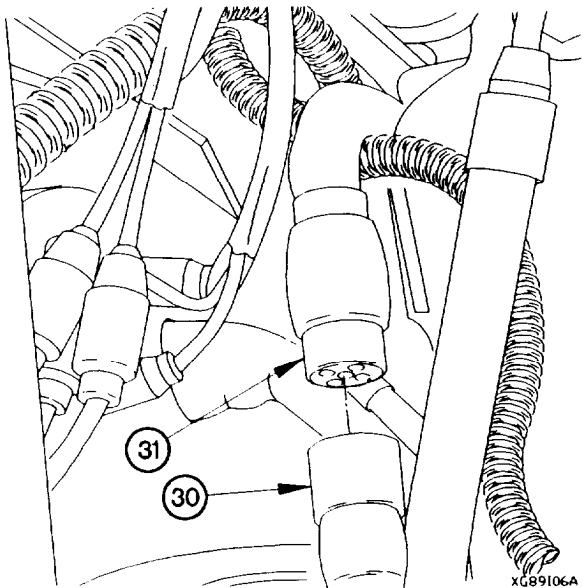
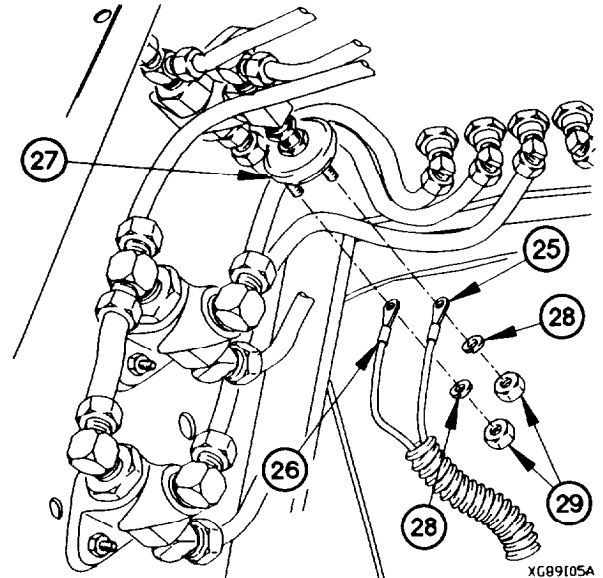
7-82. FRONT LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (7) Install terminal lugs TL202 (25) and TL201 (26) on air pressure transmitter (27) with two lockwashers (28) and nuts (29).

WARNING

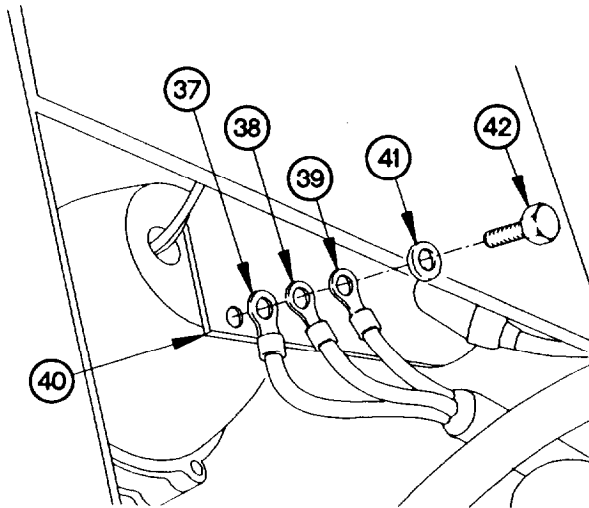
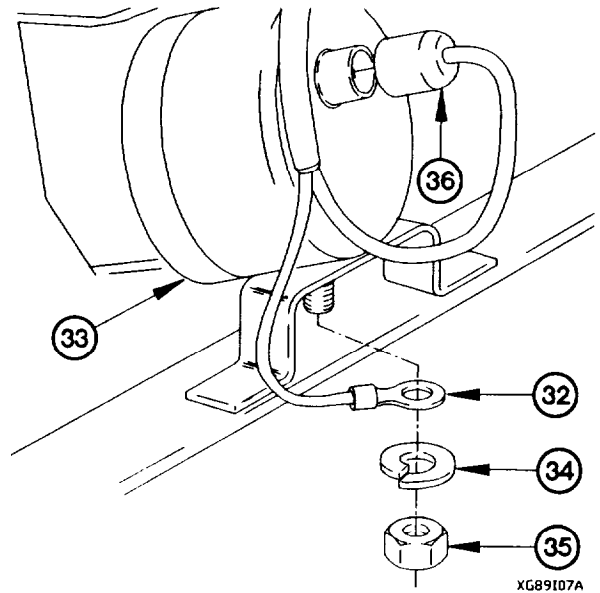
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (8) Apply adhesive to terminal lugs TL202 (25) and TL201 (26) on air pressure transmitter (27).



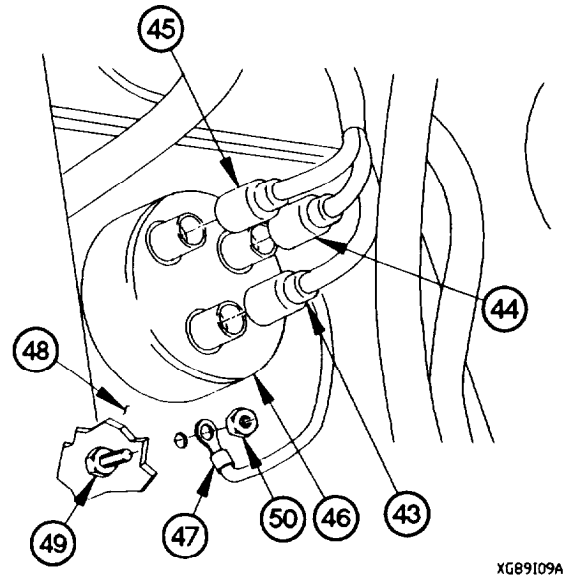
- (9) Connect connector J52 (30) to P52F (31).

- (10) Install terminal lug TL72 (32) on blackout drive light (33) with lockwasher (34) and screw (35).
- (11) Connect connector P17 (36) to blackout drive light (33).



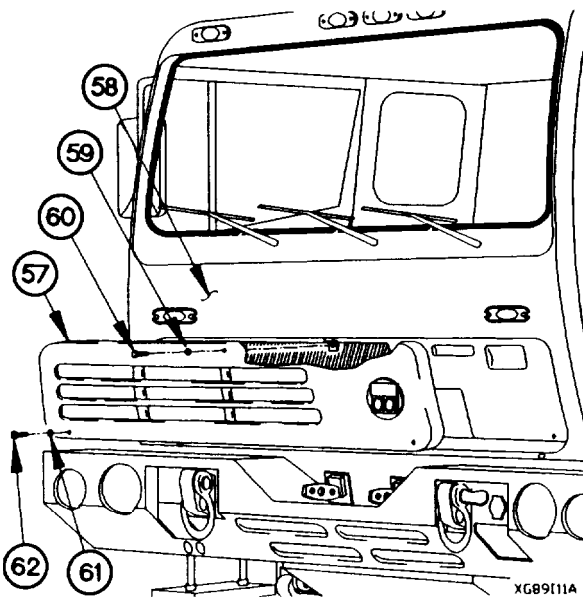
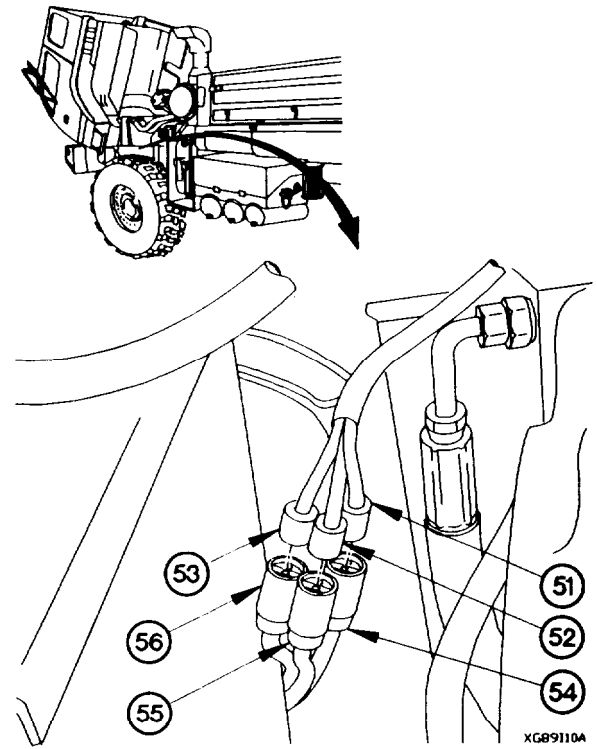
- (12) Install terminal lugs TL126 (37), TL123 (38), and TL79 (39) on left composite light bracket (40) with washer (41) and screw (42).

- (13) Connect connectors P19 (43), P20 (44), and P4 (45) on headlight (46).
- (14) Install terminal lug TL82 (47) on bracket (48) with screw (49) and nut (50).



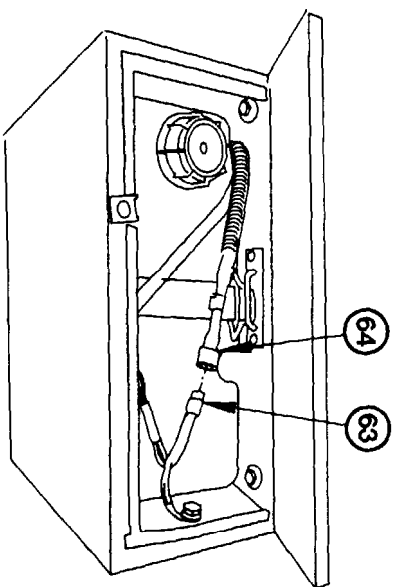
7-82. FRONT LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (15) Connect connectors P24 (51), P23 (52), and P22 (53) on left composite light connectors 20 (54), 461 (55), and 481 (56).
- (16) Lower cab (TM 9-2320-366-10-1).



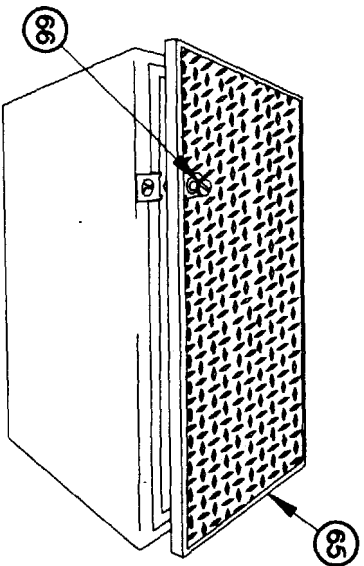
- (17) Position front grille (57) on cab (58) with washer (59) and screw (60).
- (18) Position two washers (61) and screws (62) in front grille (57).
- (19) Tighten screw (60) to 48-60 lb-in. (5-7 N•m).
- (20) Tighten two screws (62) to 24 lb-in. (3 N•m).

(21) Connect connector J25 (63) to connector P25 (64).



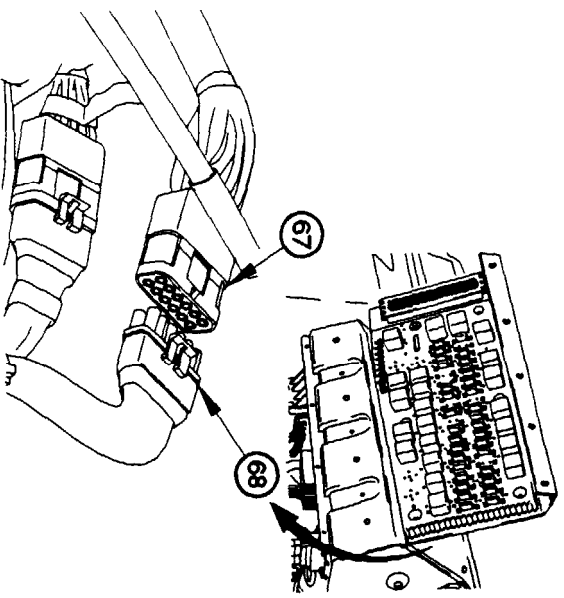
XG89112A

(22) Close cap step tread (65) and tighten screw (66).



XG89113A

(23) Connect connector J27 (67) to connector P27 (68).



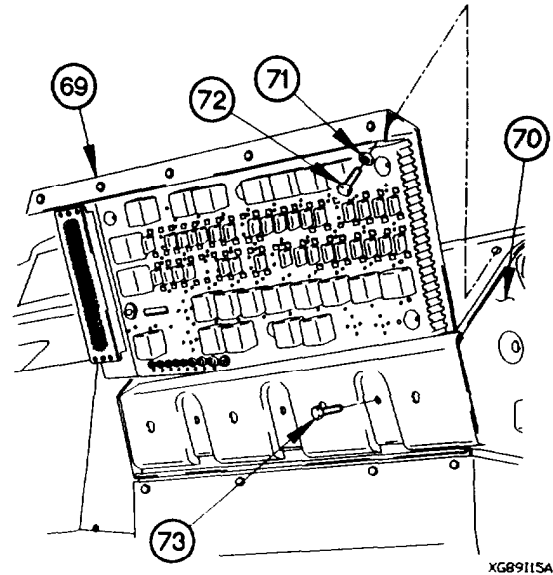
XG89114A

7-82. FRONT LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (24) Install PDP (69) on dashboard (70) with three washers (71) and screws (72).
- (25) Install three screws (73) in PDP (69).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Start engine (TM 9-2320-366-10-1).
- (3) Check operation of front lights, blackout drive light, horn, and windshield washer (TM 9-2320-366-10-1).
- (4) Shut down engine (TM 9-2320-366-10-1).



End of Task.

7-83. M1089 WRECKER CONTROL PANEL WIRING HARNESS REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

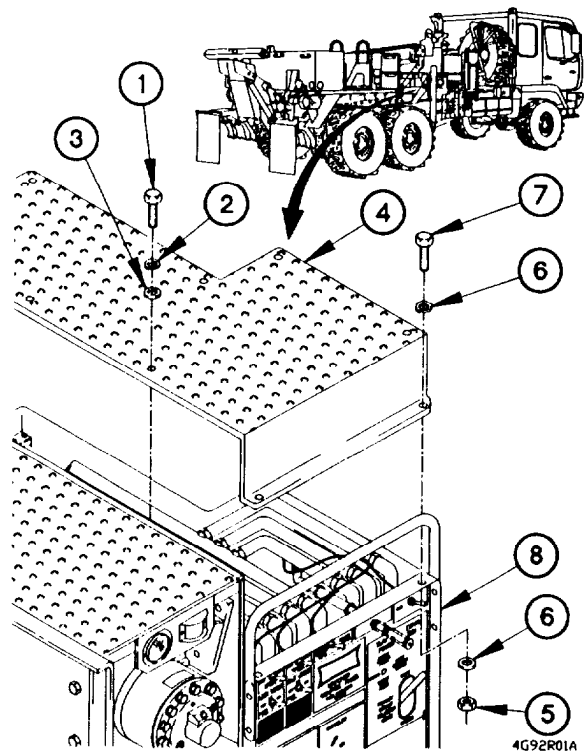
Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Material/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Lockwasher (8) (Item 100, Appendix G)
Nut, Self-Locking (2) (Item 133, Appendix G)
Splice, Conductor (6) (Item 275, Appendix G)
Splice, Conductor (10) (Item 276, Appendix G)

a. Removal.

- (1) Remove eight screws (1), lockwashers (2), and washers (3) from control panel top cover (4). Discard lockwashers.
- (2) Remove two self-locking nuts (5), four washers (6), two screws (7), and control panel top cover (4) from WRECKER CONTROL PANEL (8). Discard self-locking nuts.

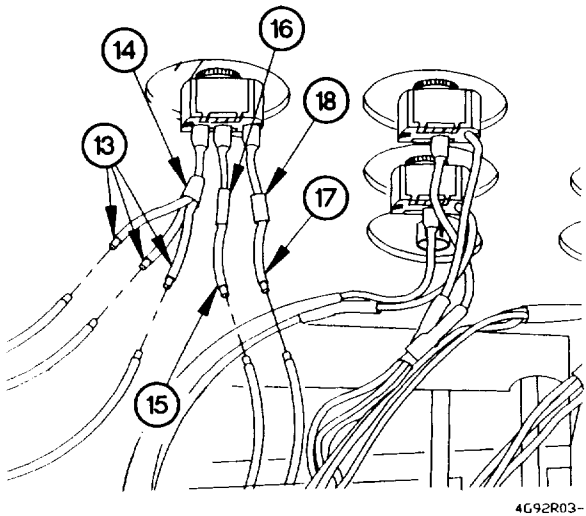
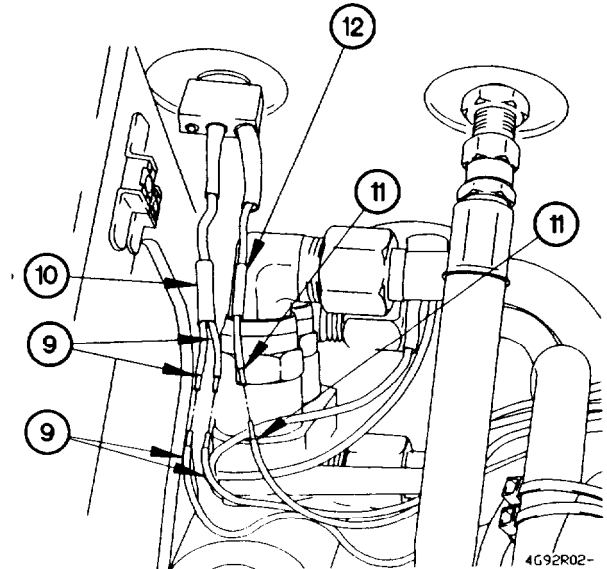


7-83. M1089 WRECKER CONTROL PANEL WIRING HARNESS REPLACEMENT (CONT)

NOTE

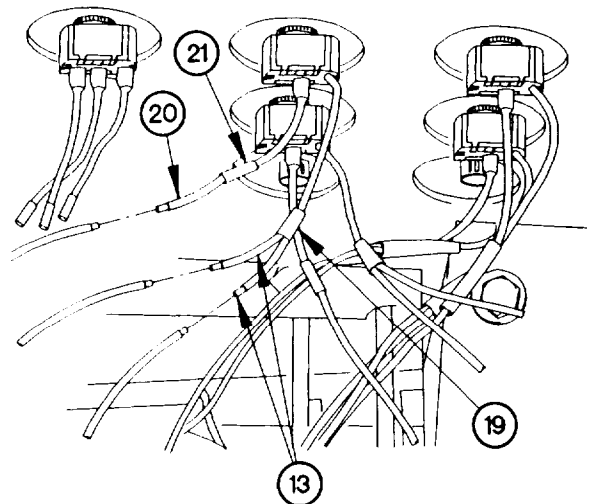
- Tag wires and connection points prior to disconnecting.
- Cut wires approximately one inch back from conductor splices to allow enough wire remaining to attach replacement wiring harness.

- (3) Cut two wires 9 (9) leading to EMERGENCY SHUTDOWN switch conductor splice (10).
- (4) Cut wire 10 (11) leading to EMERGENCY SHUTDOWN switch conductor splice (12).

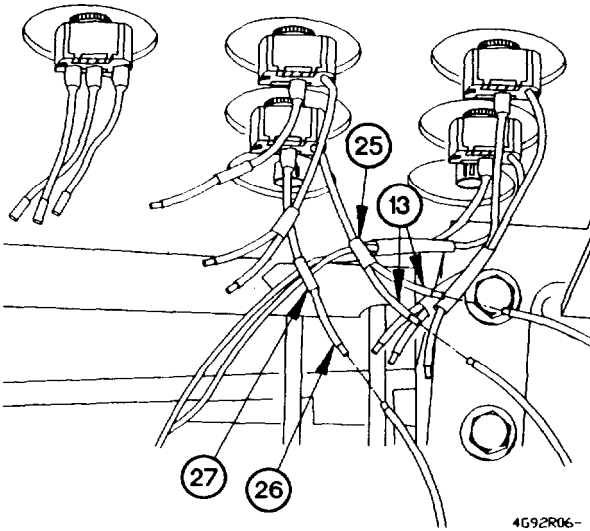
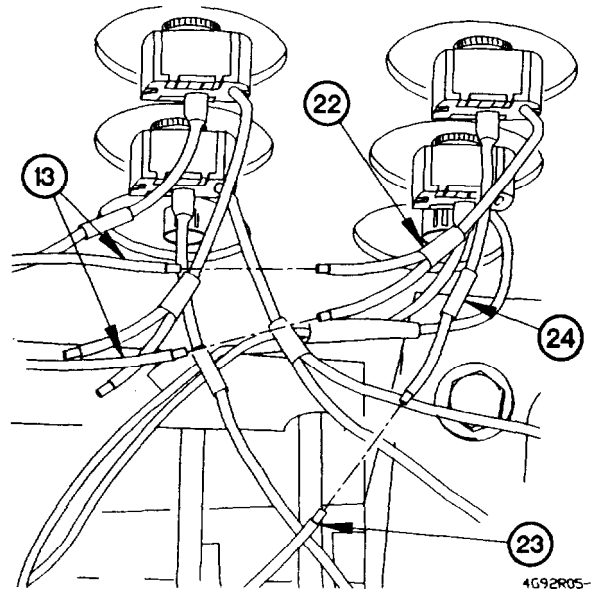


- (5) Cut three wires 7A (13) leading to STATION SELECTOR switch conductor splice (14).
- (6) Cut wire 9 (15) leading to STATION SELECTOR switch conductor splice (16).
- (7) Cut wire 7 (17) leading to STATION SELECTOR switch conductor splice (18).

- (8) Cut two wires 7A (13) leading to MAIN WINCH RH SPEED switch conductor splice (19).
- (9) Cut wire 12 (20) leading to MAIN WINCH RH SPEED switch conductor splice (21).

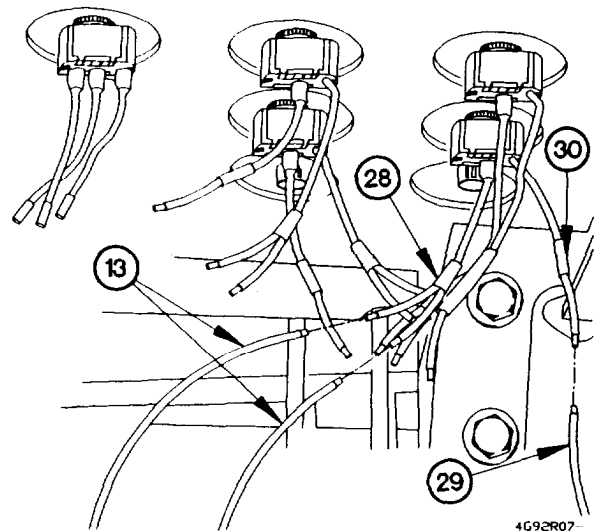


- (10) Cut two wires 7A (13) leading to MAIN WINCH LH SPEED switch conductor splice (22).
- (11) Cut wire 14 (23) leading to MAIN WINCH LH SPEED switch conductor splice (24).



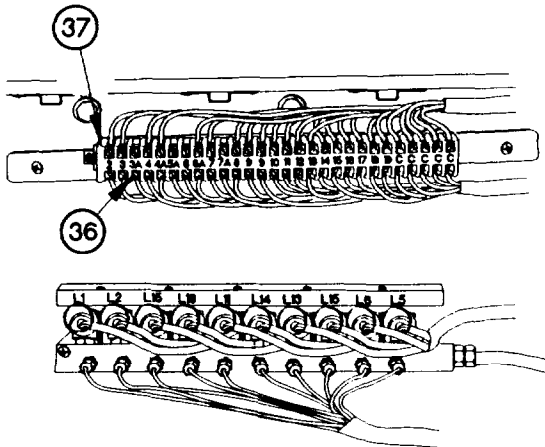
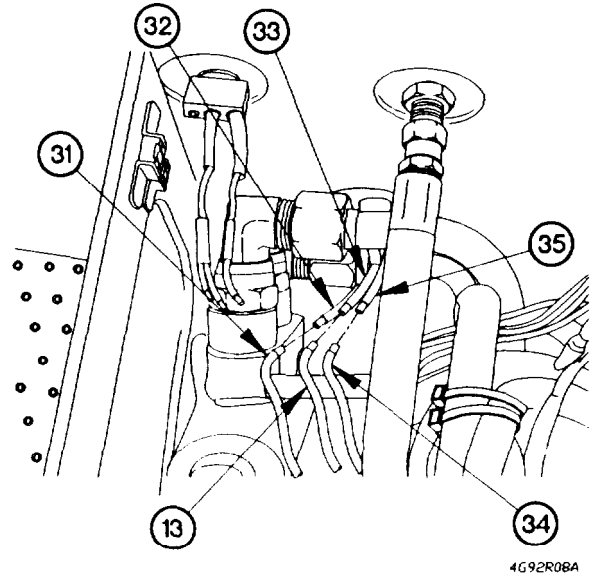
- (12) Cut two wires 7A (13) leading to MAIN WINCH RH FREE SPOOL switch conductor splice (25).
- (13) Cut wire 18 (26) leading to MAIN WINCH AH FREE SPOOL switch conductor splice (27).

- (14) Cut two wires 7A (13) leading to MAIN WINCH LH FREE SPOOL switch conductor splice (28).
- (15) Cut wire 19 (29) leading to MAIN WINCH LH FREE SPOOL switch conductor splice (30).



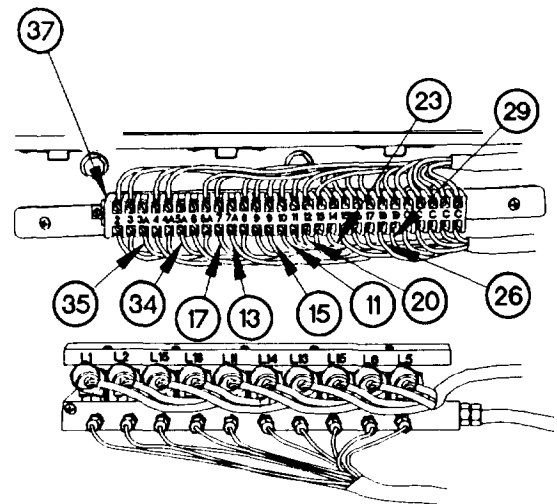
7-83. M1089 WRECKER CONTROL PANEL WIRING HARNESS REPLACEMENT (CONT)

- (16) Cut wire 3A (31) leading to MODE SELECTOR switch conductor splice (32).
- (17) Cut wire 7A (13) leading to MODE SELECTOR switch conductor splice (33).
- (18) Cut wire 5A (34) leading to MODE SELECTOR switch conductor splice (35).



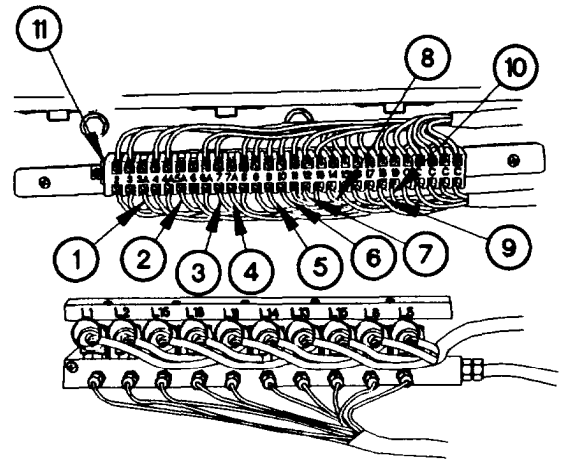
- (19) Loosen ten screws (36) on terminal board (37) Positions 3A, 5A, 7, 7A, 9, 10, 12, 14, 18, and 19.

- (20) Remove wires 3A (35), 5A (34), 7 (17), 7A (13), 9 (15), 10 (11), 12 (20), 14 (23), 18 (26), and 19 (29) from terminal board (37).

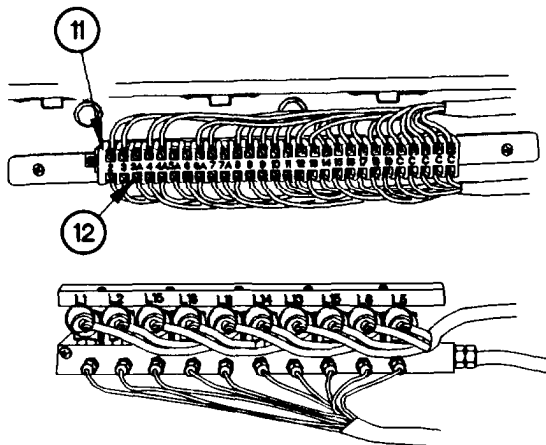


b. Installation.

- (1) Install wires 3A (1), 5A (2), 7 (3), 7A (4), 9 (5), 10 (6), 12 (7), 14 (8), 18 (9), and 19 (10) on terminal board (11) positions 3A, 5A, 7, 7A, 9, 10, 12, 14, 18, and 19.



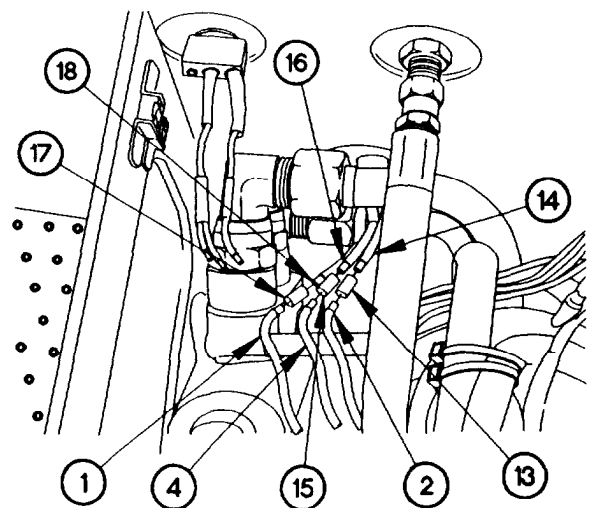
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4G92102A

- (2) Tighten ten screws (12) on terminal board (11) positions 3A, 5A, 7, 7A, 9, 10, 12, 14, 18, and 19.

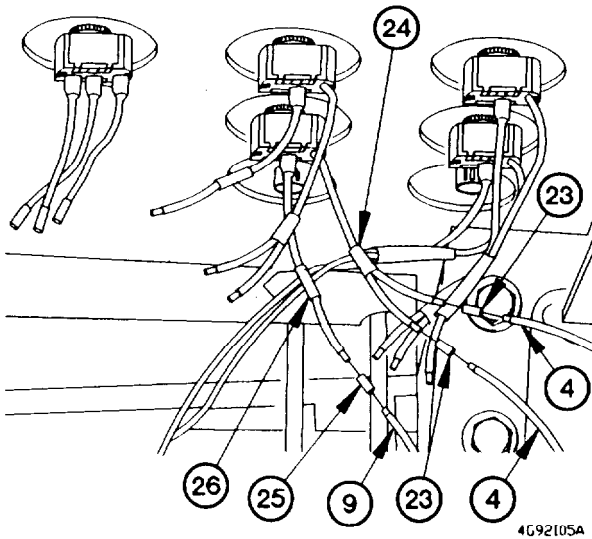
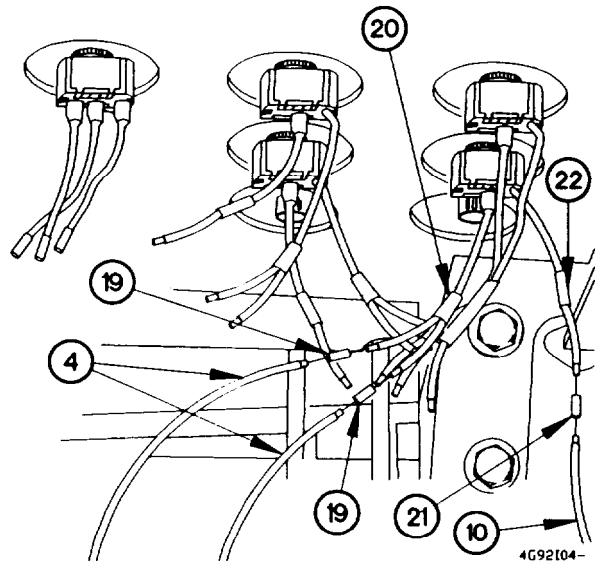
- (3) Install conductor splice (13) on wire 5A (2) and MODE SELECTOR switch wire (14).
- (4) Install conductor splice (15) on wire 7A (4) and MODE SELECTOR switch wire (16).
- (5) Install conductor splice (17) on wire 3A (1) and MODE SELECTOR switch wire (18).



4G92103-

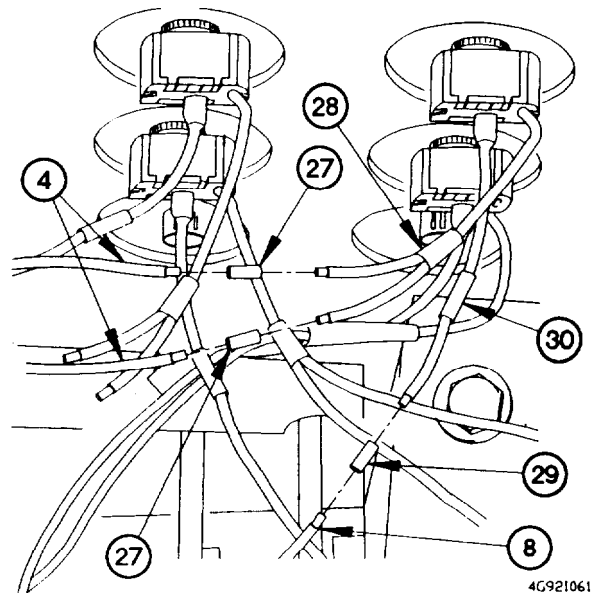
7-83. M1089 WRECKER CONTROL PANEL WIRING HARNESS REPLACEMENT (CONT)

- (6) Install two conductor splices (19) on wires 7A (4) and MAIN WINCH LH FREE SPOOL switch wire (20).
- (7) Install conductor splice (21) on wire 19 (10) and MAIN WINCH LH FREE SPOOL switch wire (22).

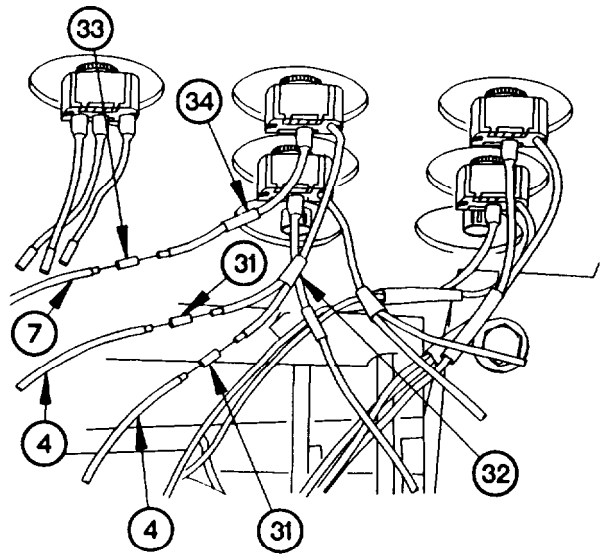


- (8) Install two conductor splices (23) on wires 7A (4) and MAIN WINCH RH FREE SPOOL switch wire (24).
- (9) Install conductor splice (25) on wire 18 (9) and MAIN WINCH RH FREE SPOOL switch wire (26).

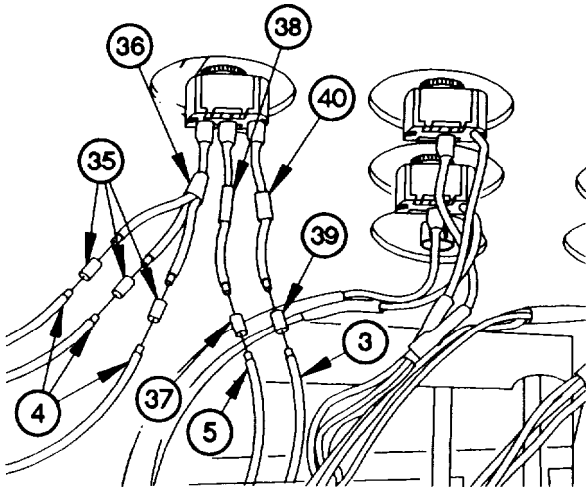
- (10) Install two conductor splices (27) on wires 7A (4) and MAIN WINCH LH SPEED switch wire (28).
- (11) Install conductor splice (29) on wire 14 (8) and MAIN WINCH LH SPEED switch wire (30).



- (12) Install conductor splice (31) on two wires 7A (4) and MAIN WINCH RH SPEED switch wire (32).
- (13) Install conductor splice (33) on wire 12 (7) and MAIN WINCH RH SPEED switch wire (34).



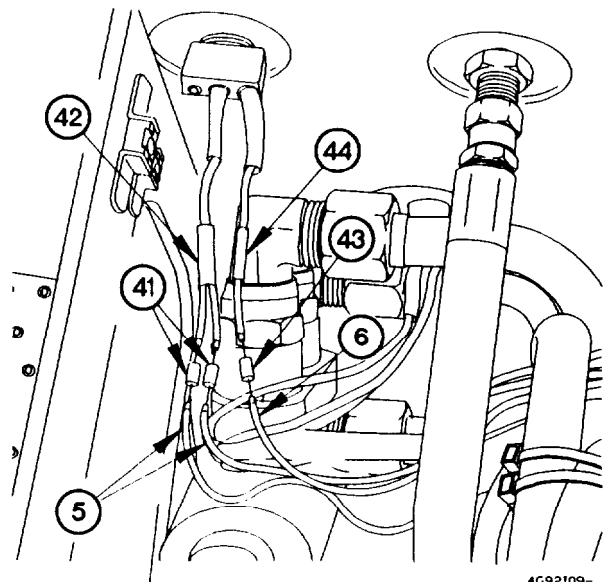
4G92107-



4G92108-

- (14) Install three conductor splices (35) on wires 7A (4) and STATION SELECTOR switch wire (36).
- (15) Install conductor splice (37) on wire 9 (5) and STATION SELECTOR switch wire (38).
- (16) Install conductor splice (39) on wire 7 (3) and STATION SELECTOR switch wire (40).

- (17) Install two conductor splices (41) on wires 9 (5) and EMERGENCY SHUTDOWN switch wire (42).
- (18) Install conductor splice (43) on wire 10 (6) and EMERGENCY SHUTDOWN switch wire (44).



4G92109-

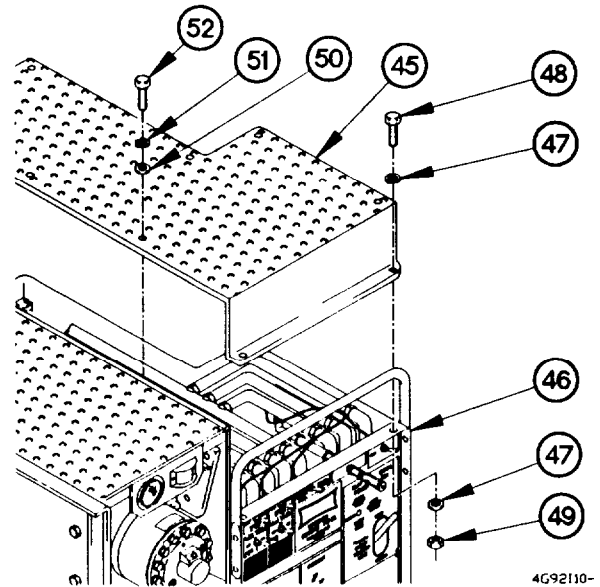
7-83. M1089 WRECKER CONTROL PANEL WIRING HARNESS REPLACEMENT (CONT)

- (19) Install control panel top cover (45) on WRECKER CONTROL PANEL (46) with four washers (47), two screws (48) and self-locking nuts (49).
- (20) Install eight washers (50), lockwashers (51), and screws (52) in control panel top cover (45).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate all wrecker functions and check for proper operation (TM 9-2320-366-10-1).

End of Task.



**7-84. M1083/M1084/M1085/M1090/M1092/M1093/M194/M1096 REAR LIGHTS
CABLE ASSEMBLY REPLACEMENT**

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Batteries disconnected (para 7-57).
- Kick panel removed (para 16-3).
- Exhaust muffler removed (para 5-2).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Socket Set, Socket Wrench (Item 34, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Lockwasher (7) (Item 82, Appendix G)
- Lockwasher (3) (Item 96, Appendix G)
- Nut, Self-Locking (Item 150, Appendix G)
- Nut, Self-Locking (13) (Item 128, Appendix G)
- Washer, Spring (2) (Item 289, Appendix G)

Personnel Required

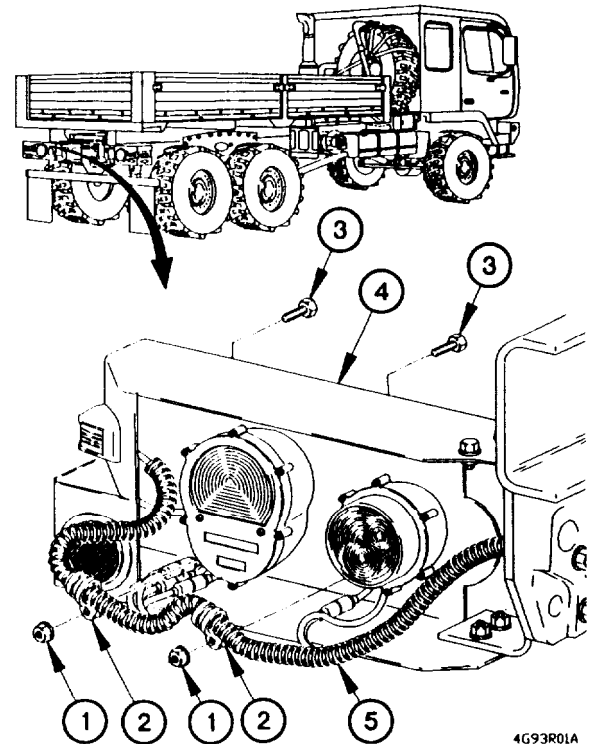
(2)

a. Removal.

NOTE

- Note routing of rear lights cable assembly and clamps prior to removal.
- Perform steps (1) through (16) on M1083/M1085/M1093, and M1084/M1090/M1094 with vehicle serial numbers 3465 and higher.

- (1) Remove two self-locking nuts (1), clamps (2), and screws (3) from left taillight carrier (4).
- (2) Remove two clamps (2) from rear lights cable assembly (5).

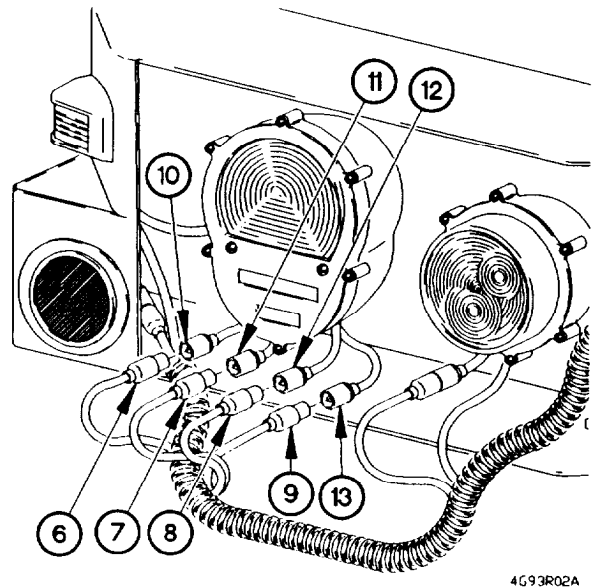


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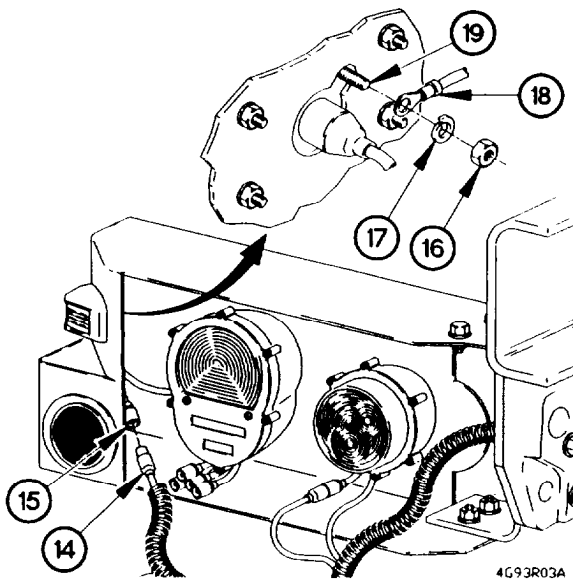
**7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS
CABLE ASSEMBLY REPLACEMENT (CONT)**

NOTE

- Remove plastic cable ties as required.
 - Tag connectors, terminal lugs, and connection points prior to disconnecting.
- (3) Disconnect connectors P74 (6), P76 (7), P77 (8), and P78 (9) from left composite taillight connectors 22 (10), 24 (11), 23 (12), and 21 (13).



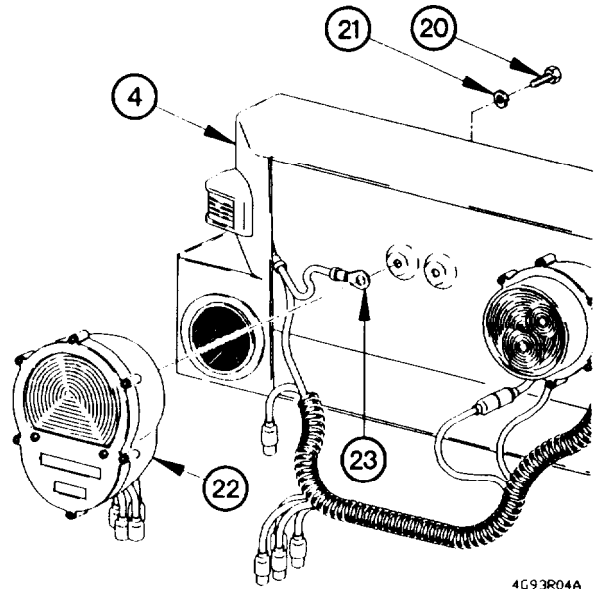
4G93R02A



4G93R03A

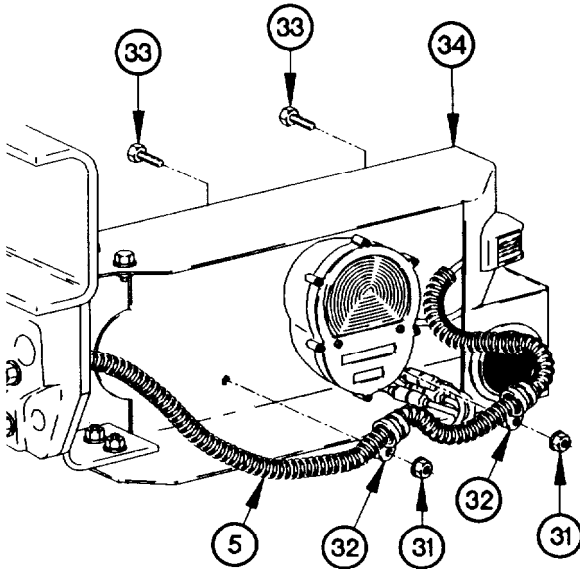
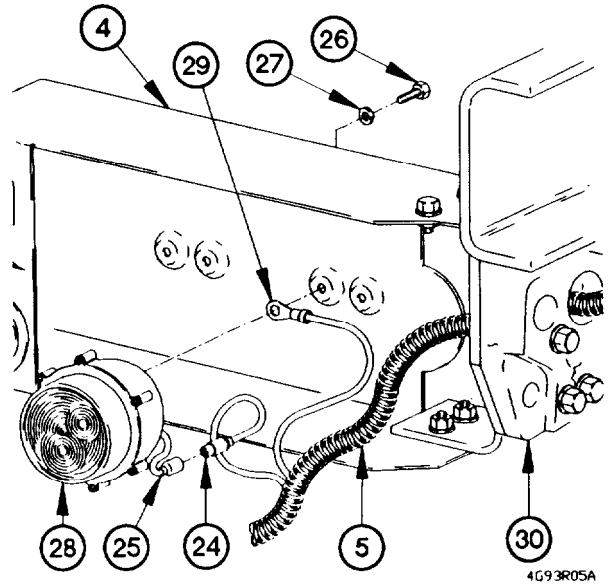
- (4) Disconnect connector P85 (14) from left rear marker light connector (15).
- (5) Remove nut (16), lockwasher (17), and terminal lug TL16 (18) from left rear marker light stud (19). Discard lockwasher.

- (6) Remove two screws (20), lockwashers (21), left composite taillight (22), and terminal lug TL18 (23) from left taillight carrier (4). Discard lockwashers.



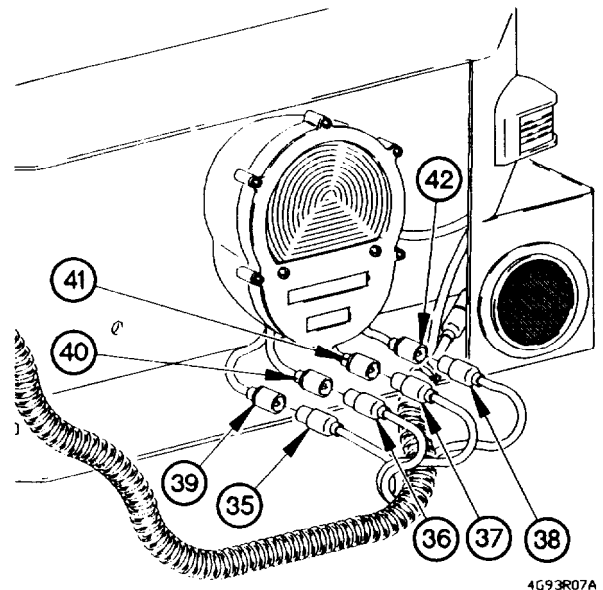
4G93R04A

- (7) Disconnect connector P87 (24) from backup light connector (25).
- (8) Remove two screws (26), lockwashers (27), backup light (28), and terminal lug TL17 (29) from left taillight carrier (4). Discard lockwashers.
- (9) Pull rear lights cable assembly (5) through left frame rail (30).



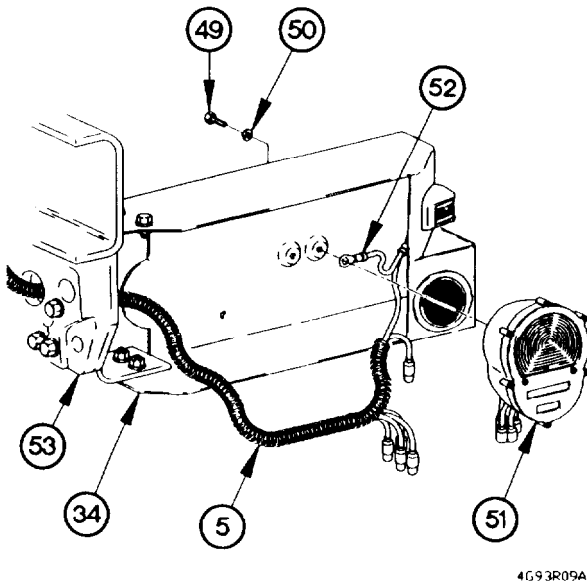
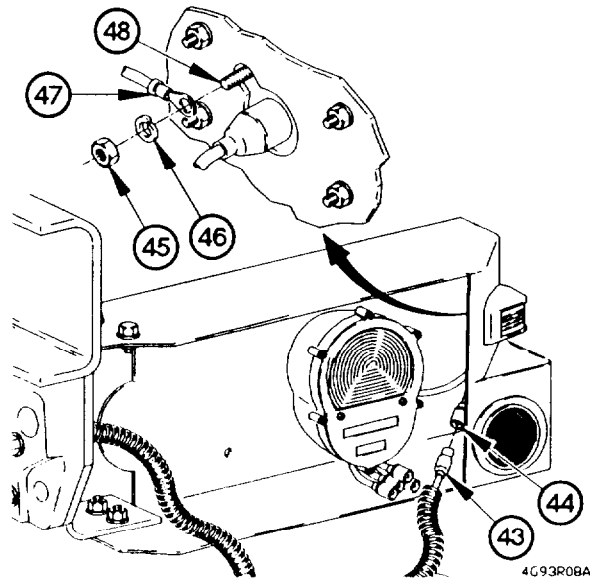
- (10) Remove two self-locking nuts (31), clamps (32), and screws (33) from right taillight carrier (34). Discard self-locking nuts.
- (11) Remove two clamps (32) from rear lights cable assembly (5).

- (12) Disconnect connectors P61 (35), P62 (36), P63 (37), and P64 (38) from right composite taillight connectors 22 (39), 24 (40), 23 (41), and 21 (42).



7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (13) Disconnect connector P89 (43) from right rear marker light connector (44).
- (14) Remove nut (45), lockwasher (46), and terminal lug TL20 (47) from right rear marker light stud (48). Discard lockwasher.

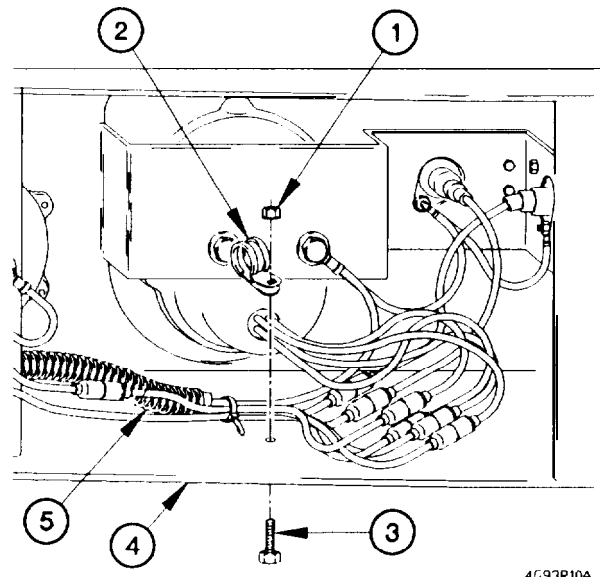


- (15) Remove two screws (49), lockwashers (50), right composite taillight (51), and terminal lug TL21 (52) from right taillight carrier (34). Discard lockwashers.
- (16) Pull rear lights cable assembly (5) through right frame rail (53).

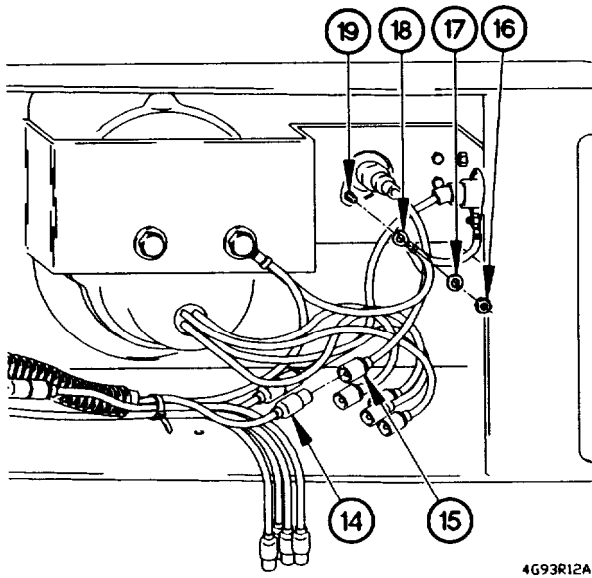
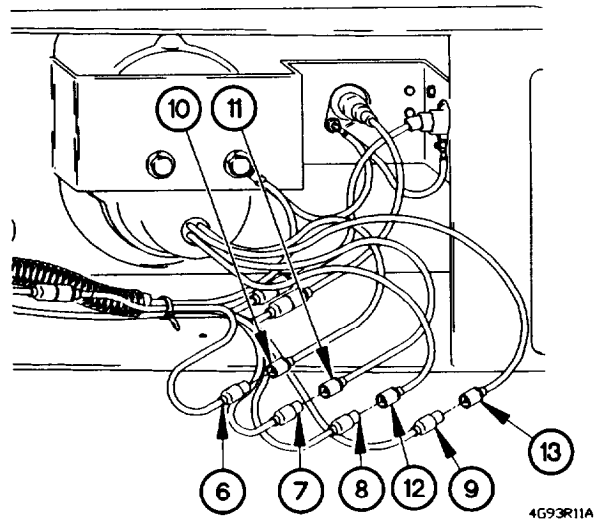
NOTE

Perform steps (17) through (36) on M1084/M1090/M1094 with vehicle serial numbers 0001 through 3464.

- (17) Remove self-locking nut (1), clamp (2), and screw (3) from left taillight carrier (4). Discard self-locking nut.
- (18) Remove clamp (2) from rear lights cable assembly (5).



- (19) Disconnect connectors P74 (6), P76 (7), P77 (8), and P78 (9) from left composite taillight connectors 22 (10), 24 (11), 23 (12), and 21 (13).

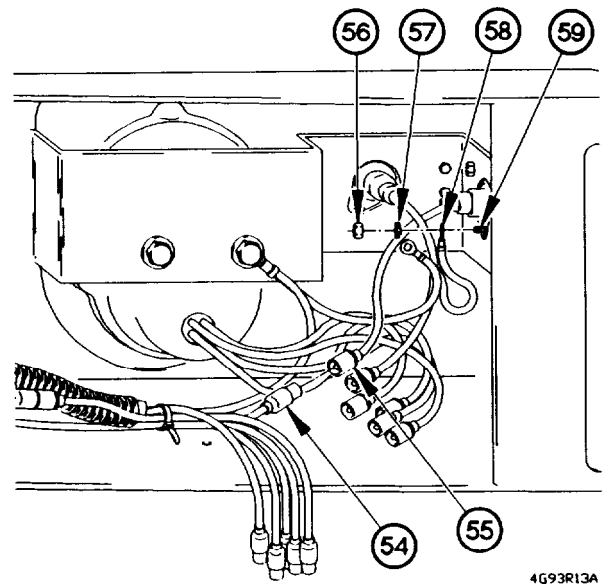


- (20) Disconnect connector P86 (14) from left rear marker light connector (15).

- (21) Remove nut (16), lockwasher (17), and terminal lug TL16 (18) from left rear marker light stud (19). Discard lockwasher.

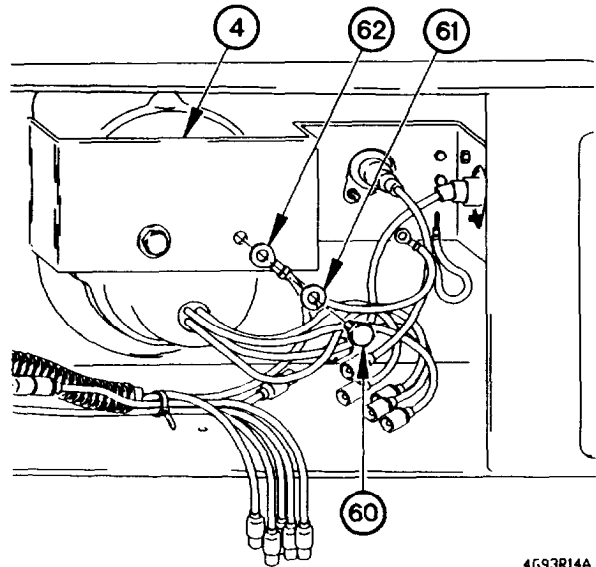
- (22) Disconnect connector P85 (54) from left side marker light connector (55).

- (23) Remove nut (56), lockwasher (57), and terminal lug TL15 (58) from left side marker light stud (59). Discard lockwasher.

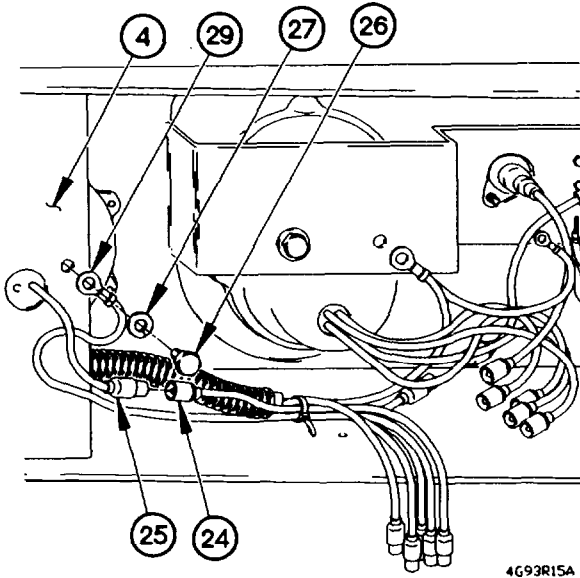


7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

(24) Remove screw (60), lockwasher (61), and terminal lug TL18 (62) from left taillight carrier (4).



4G93R14A

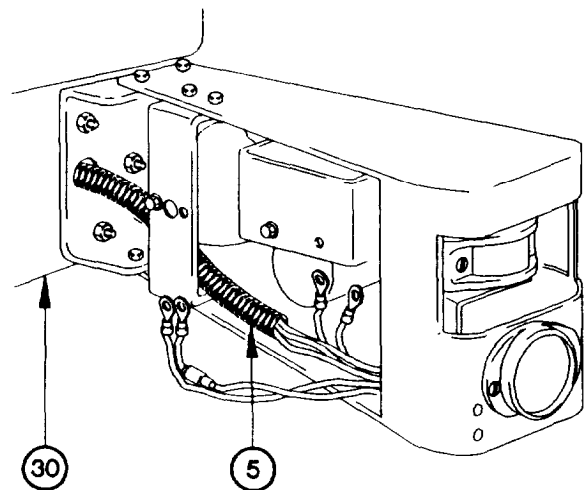


4G93R15A

(25) Disconnect connector P87 (24) from backup light connector (25).

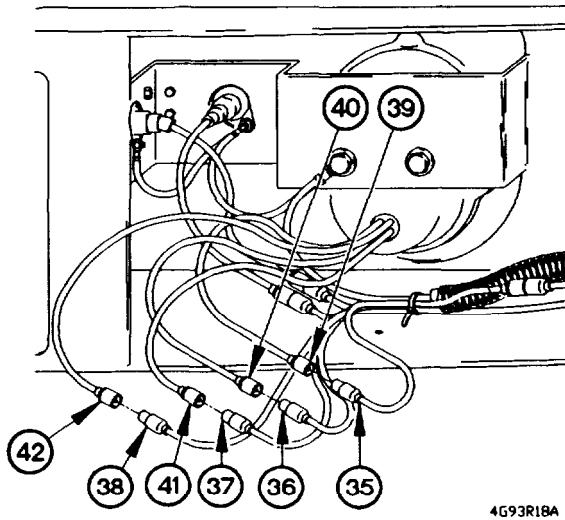
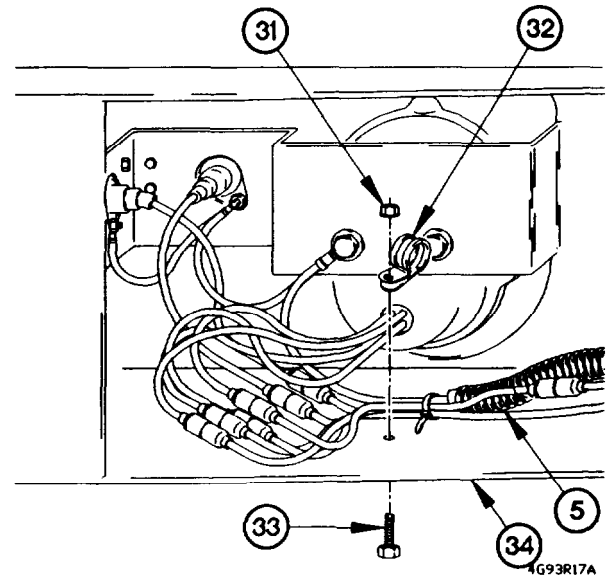
(26) Remove screw (26), lockwasher (27), and terminal lug TL17 (29) from left taillight carrier (4).

(27) Pull rear lights cable assembly (5) through left frame rail (30).



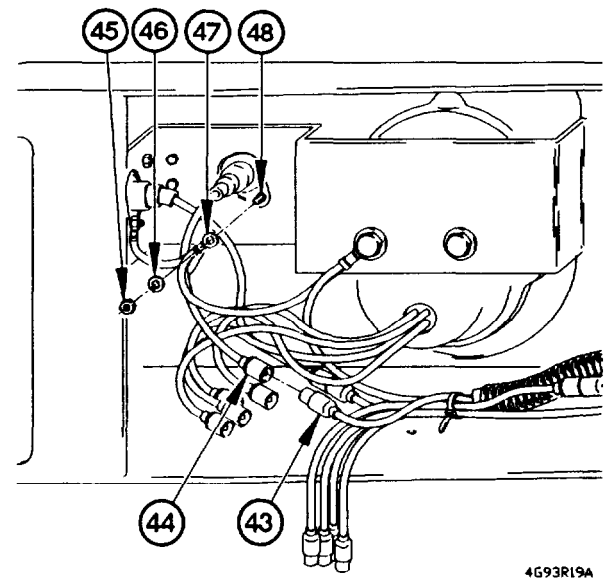
4G93R16A

- (28) Remove self-locking nuts (31), clamp (32), and screw (33) from right taillight carrier (34). Discard self-locking nut.
- (29) Remove clamp (32) from rear lights cable assembly (5).



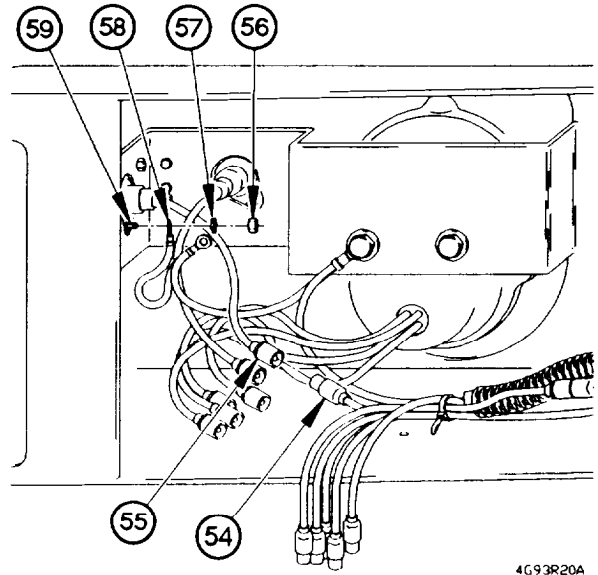
- (30) Disconnect connectors P61 (35), P62 (36), P63 (37), and P64 (38) from right composite taillight connectors 22 (39), 24 (40), 23 (41), and 21 (42).

- (31) Disconnect connector P89 (43) from right rear marker light connector (44).
- (32) Remove nut (45), lockwasher (46), and terminal lug TL20 (47) from right rear marker light stud (48). Discard lockwasher.

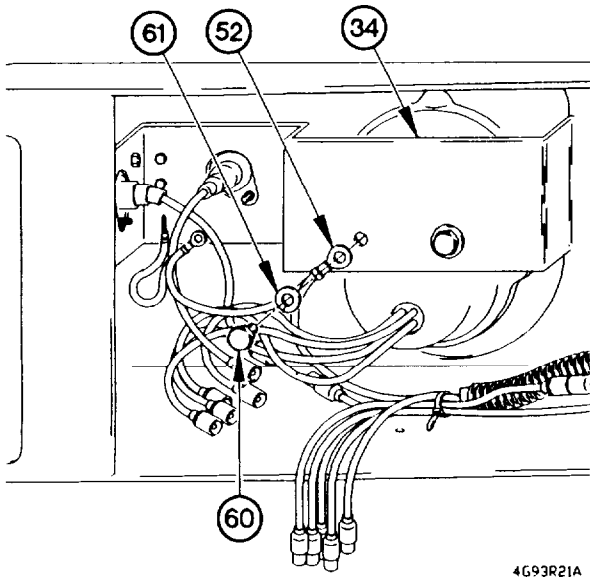


**7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS
CABLE ASSEMBLY REPLACEMENT (CONT)**

- (33) Disconnect connector P88 (54) from right side marker light connector (55).
- (34) Remove nut (56), lockwasher (57), and terminal lug TL19 (58) from right side marker light stud (59). Discard lockwasher.



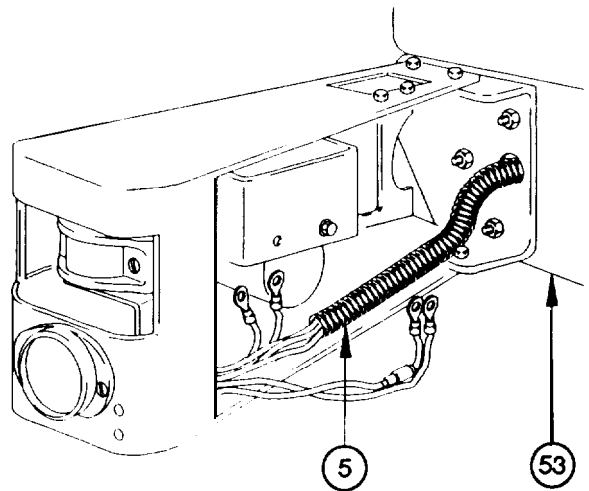
4G93R20A



4G93R21A

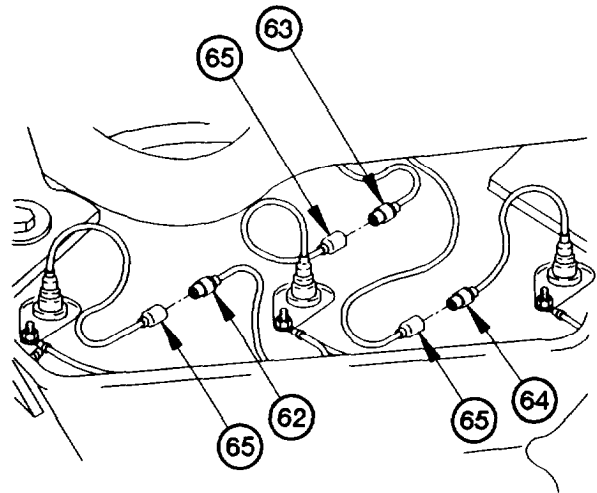
- (35) Remove screw (60), lockwasher (61), and terminal lug TL21 (52) from right taillight carrier (34). Discard lockwasher.

- (36) Pull rear lights cable assembly (5) through right frame rail (53).

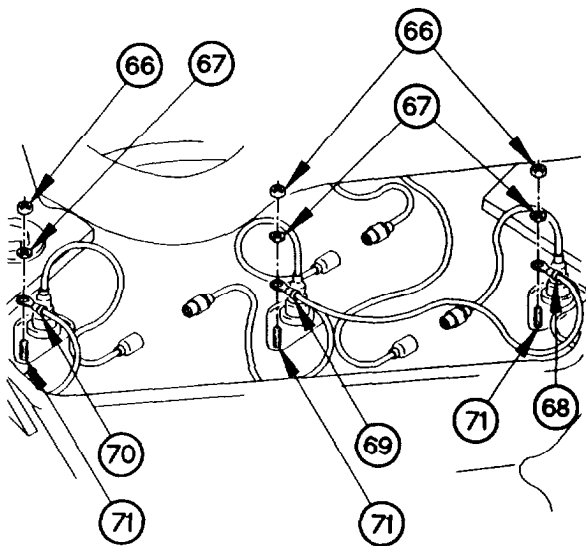


4G93R22A

(37) Disconnect connectors P54 (62), P56 (63), and P58 (64) from three rear marker lights connectors (65).



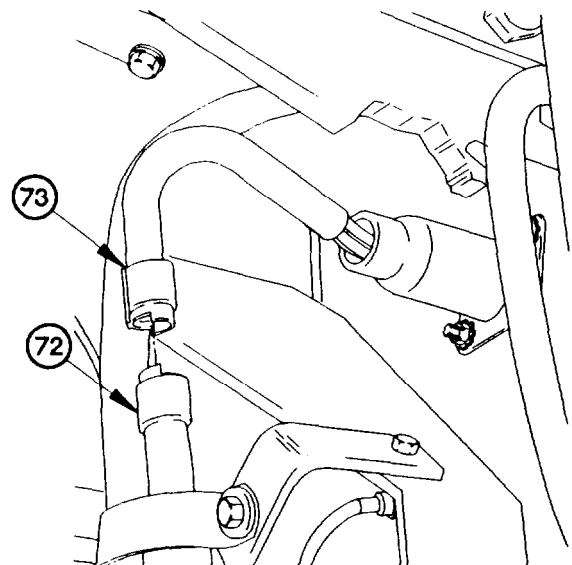
4G93R23A



4G93R24A

(38) Remove three nuts (66), lockwashers (67), and terminal lugs TL30 (68), TL31 (69), and TL32 (70) from rear marker light studs (71). Discard lockwashers.

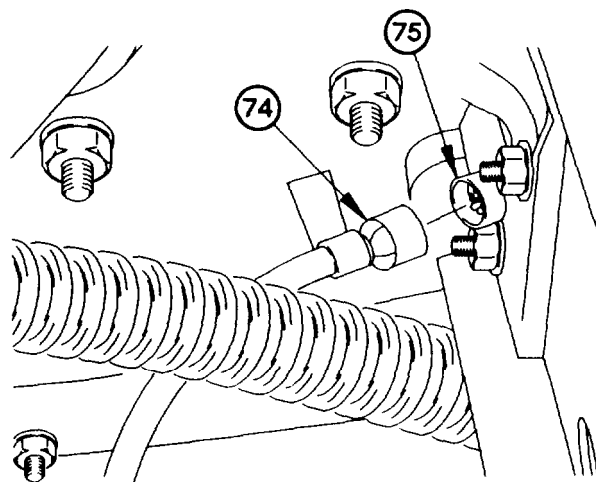
(39) Disconnect connector P53R (72) from connector J53R (73)



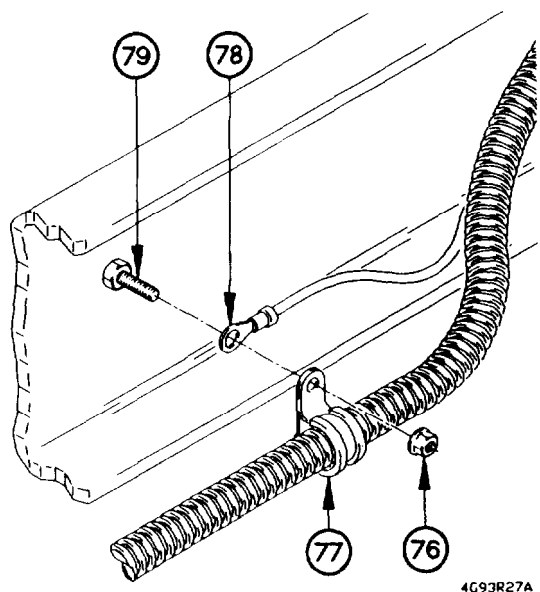
4G93R25A

7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

(40) Disconnect connector P52R (74) from connector J52R (75).



4G93R26A



4G93R27A

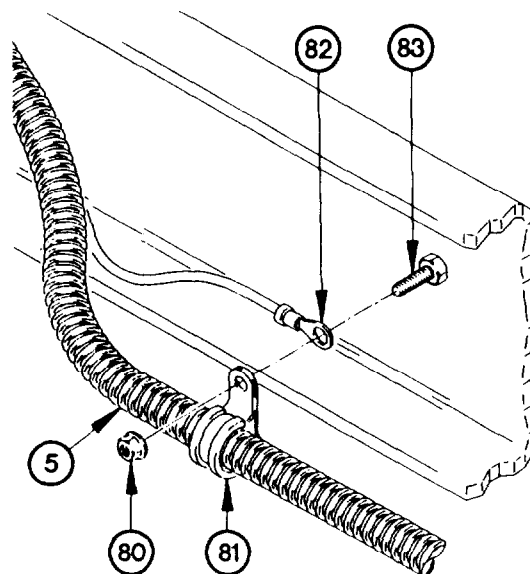
(41) Remove self-locking nut (76), clamp (77), and terminal lug TL93 (78) from left frame rail ground stud (79). Discard self-locking nut.

NOTE

Perform steps (42) through (45) on M1083/M1090/M1092/M1093, and M1094.

(42) Remove self-locking nut (80), clamp (81), and terminal lug TL92 (82) from right frame rail ground stud (83). Discard self-locking nut.

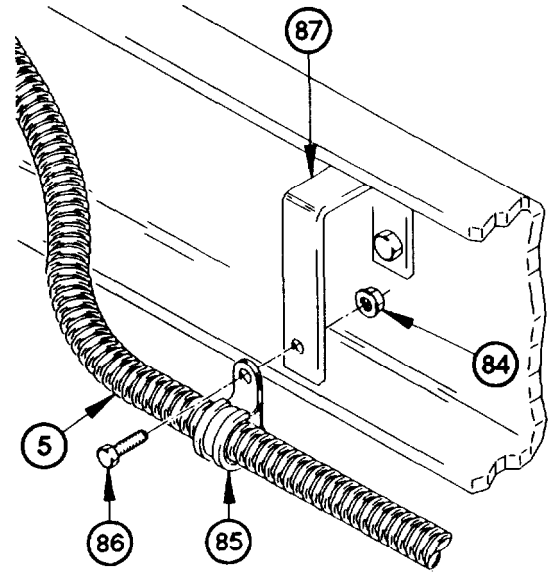
(43) Remove rear lights cable assembly (5) from clamp (81).



4G93R28A

(44) Remove two self-locking nuts (84), clamps (85), and screws (86) from brackets (87). Discard self-locking nuts.

(45) Remove rear lights cable assembly (5) from two clamps (85).



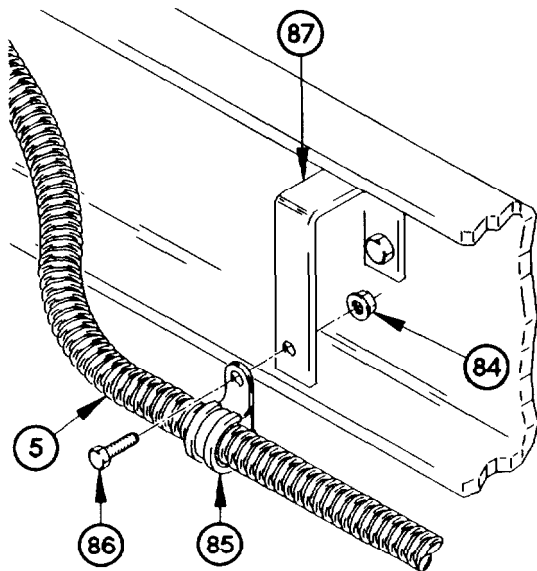
4G93R29A

NOTE

Perform steps (46) through (51) on M1084.

(46) Remove self-locking nut (84), clamp (85), and screw (86) from bracket (87). Discard self-locking nut.

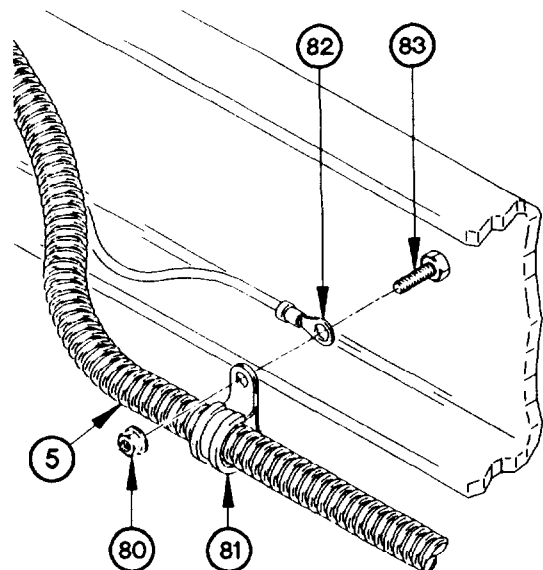
(47) Remove rear lights cable assembly (5) from clamp (85).



4G93R30A

(48) Remove self-locking nut (80), clamp (81), and terminal lug TL92 (82) from right frame rail ground stud (83). Discard self-locking nut.

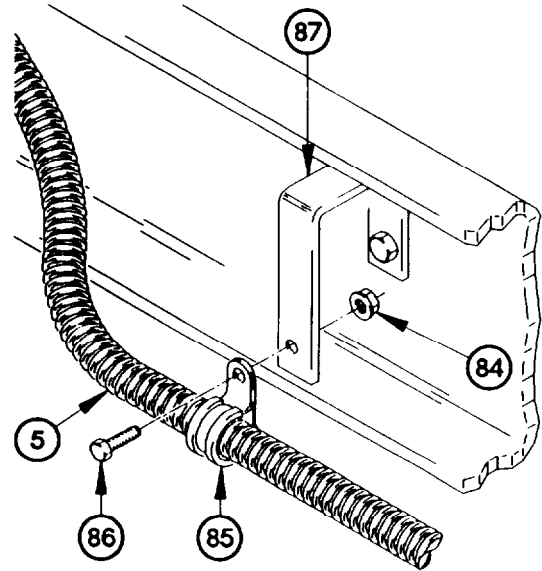
(49) Remove rear lights cable assembly (5) from clamp (81).



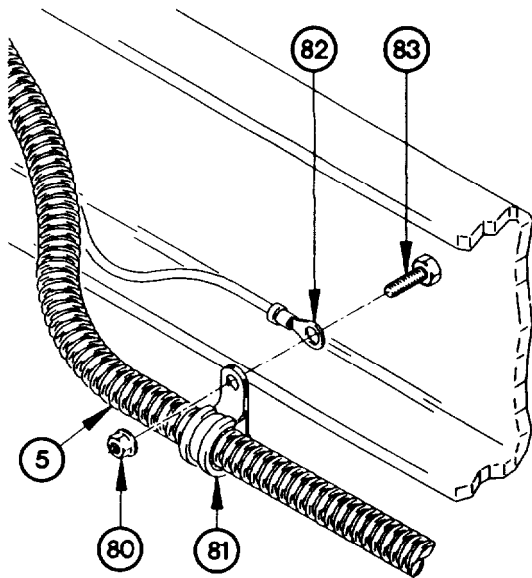
4G93R31A

7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (50) Remove two self-locking nuts (84), clamps (85), and screws (86) from brackets (87). Discard self-locking nuts.
- (51) Remove rear lights cable assembly (5) from two clamps (85).



4G93R32A



4G93R33A

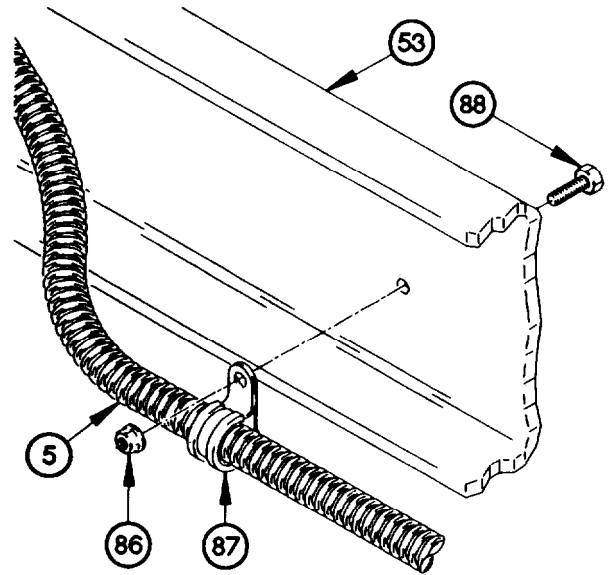
NOTE

Perform steps (52) through (59) on M1085 and M1096.

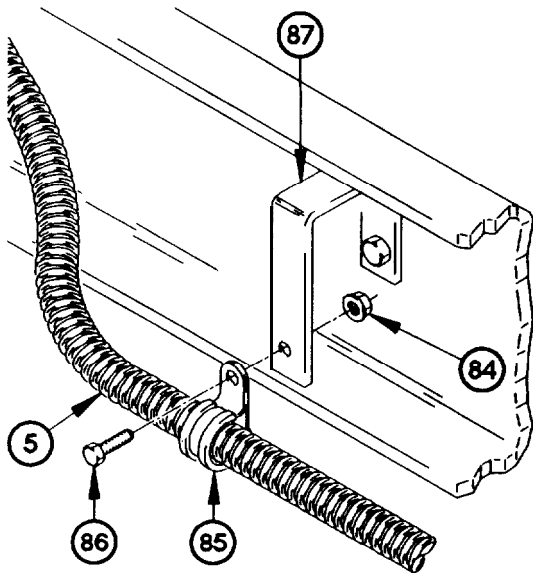
- (52) Remove self-locking nut (80), clamp (81), and terminal lug TL92 (82) from right frame rail ground stud (83). Discard self-locking nut.
- (53) Remove rear lights cable assembly (5) from clamp (81).

(54) Remove two self-locking nuts (86), clamps (87), and screws (88) from right frame rail (53). Discard self-locking nuts.

(55) Remove rear lights cable assembly (5) from two clamps (87).



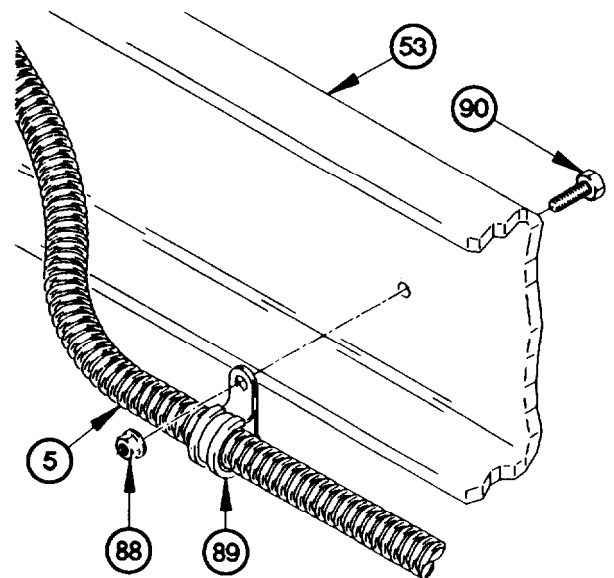
4G93R34A



4G93R35A

(56) Remove two self-locking nuts (84), clamps (85), and screws (86) from brackets (87). Discard self-locking nuts.

(57) Remove rear lights cable assembly (5) from two clamps (85).



4G93R36A

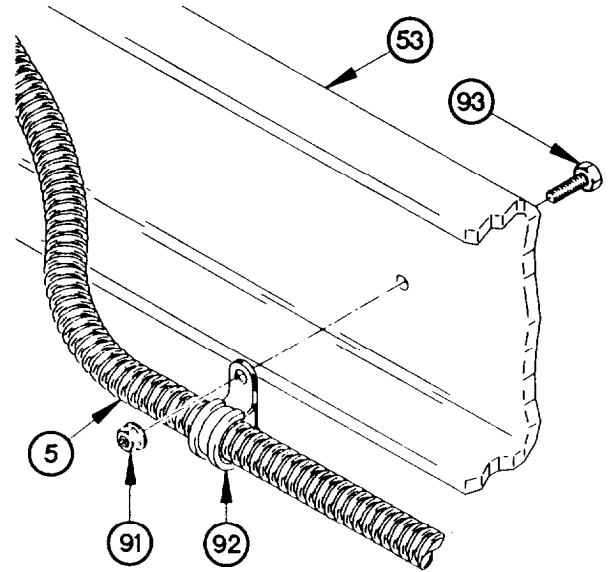
(58) Remove self-locking nut (88), clamp (89) and screw (90) from right frame rail (53). Discard self-locking nut.

(59) Remove rear lights cable assembly (5) from clamp (89).

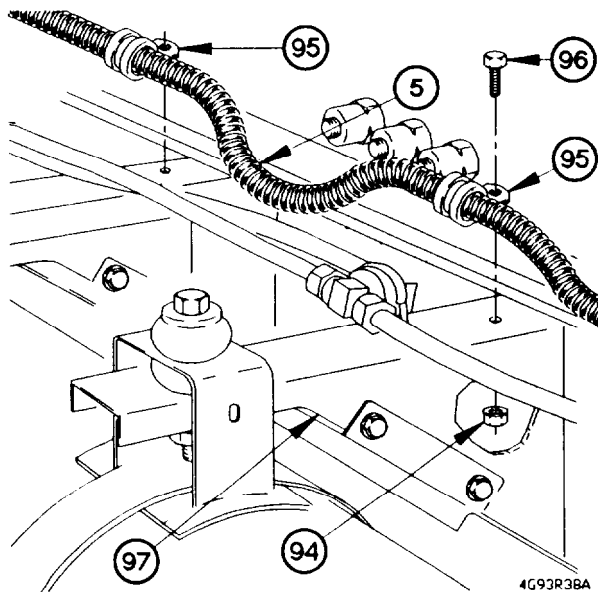
**7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS
CABLE ASSEMBLY REPLACEMENT (CONT)**

(60) Remove self-locking nut (91), clamp (92), and screw (93) from right frame rail (53). Discard self-locking nut.

(61) Remove rear lights cable assembly (5) from clamp (92).



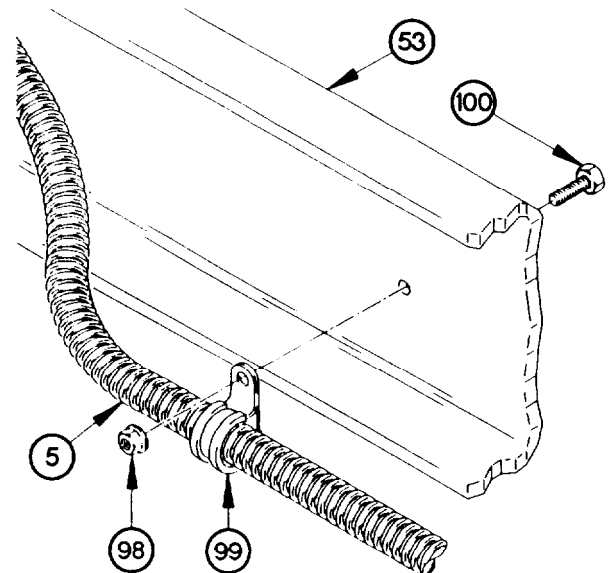
4G93R37A



4G93R38A

(62) Remove two self-locking nuts (94), clamps (95), and screws (96) from exhaust muffler brackets (97). Discard self-locking nuts.

(63) Remove rear lights cable assembly (5) from two clamps (95).



4G93R39A

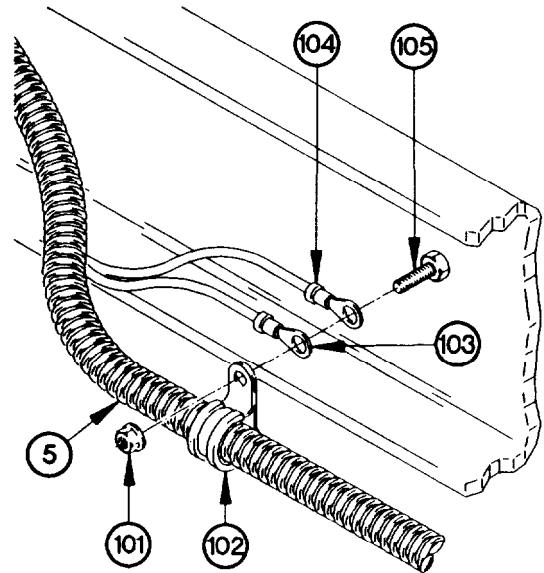
(64) Remove self-locking nut (98), clamp (99), and screw (100) from right frame rail (53). Discard self-locking nut.

(65) Remove rear lights cable assembly (5) from clamp (99).

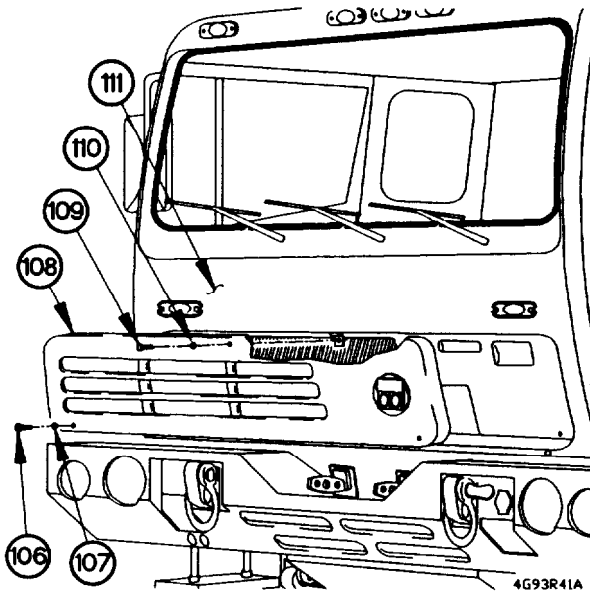
NOTE

Other terminal lugs may be removed with clamp and rear lights cable assembly.

- (66) Remove self-locking nut (101), clamp (102), and terminal lugs TL83 (103) and TL101 (104) from right frame rail ground stud (105). Discard self-locking nut.
- (67) Remove rear lights cable assembly (5) from clamp (102).



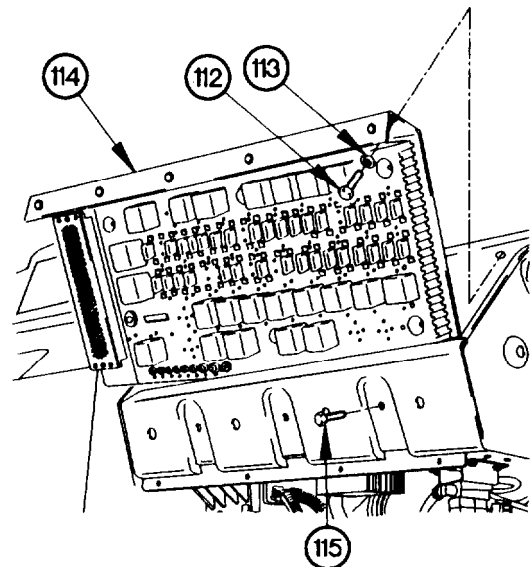
4G93R40A



4G93R41A

- (68) Remove two screws (106) and washers (107) from front grille (108).
- (69) Remove screw (109), washer (110), and front grill (108) from cab (111).

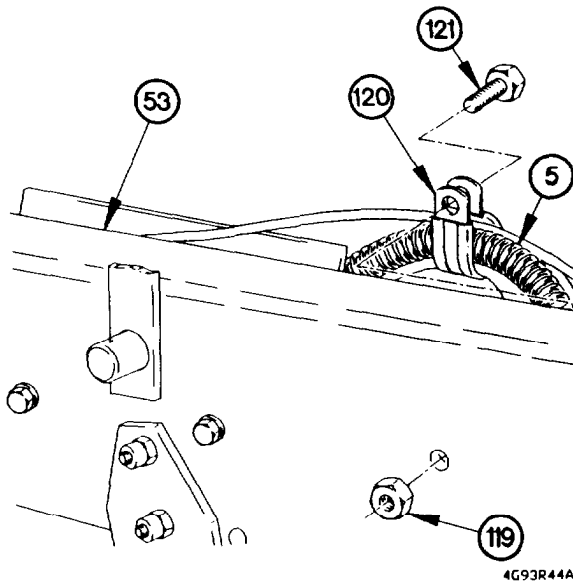
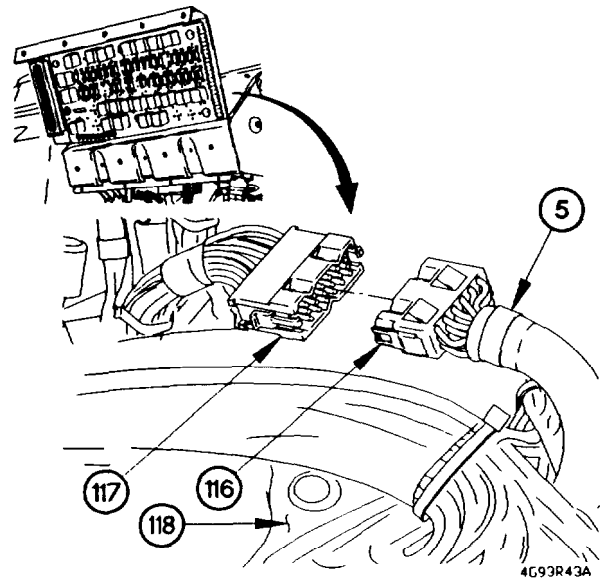
- (70) Remove three screws (112) and washers (113) from PDP (114).
- (71) Remove three screws (115) from PDP (114).
- (72) Lift PDP (114) outward to gain access.



4G93R42A

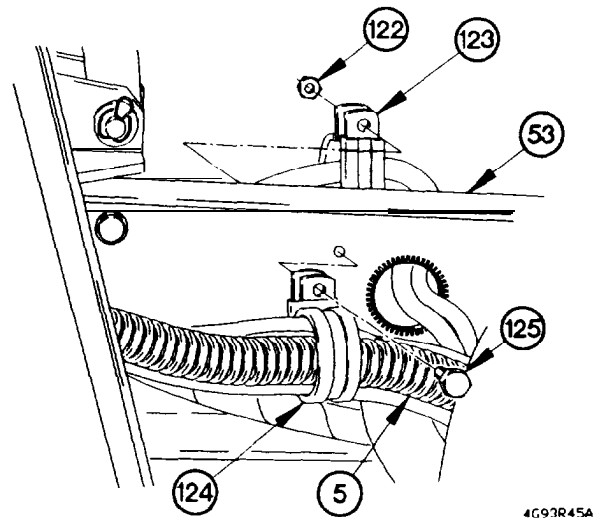
7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (73) Disconnect connector P51 (116) from connector J51 (117).
- (74) Remove rear lights cable assembly (5) from dashboard (118).

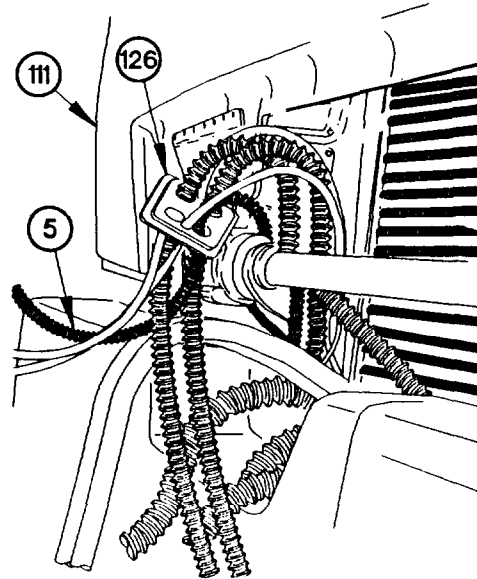


- (75) Raise cab (TM 9-2320-366-10-1).
- (76) Remove self-locking nut (119), clamp (120), and screw (121) from right frame rail (53). Discard self-locking nut.
- (77) Remove rear lights cable assembly (5) from clamp (120).

- (78) Remove self-locking nut (122), clamps (123 and 124), and screw (125) from right frame rail (53). Discard self-locking nut.
- (79) Remove rear lights cable assembly (5) from Clamp (124).

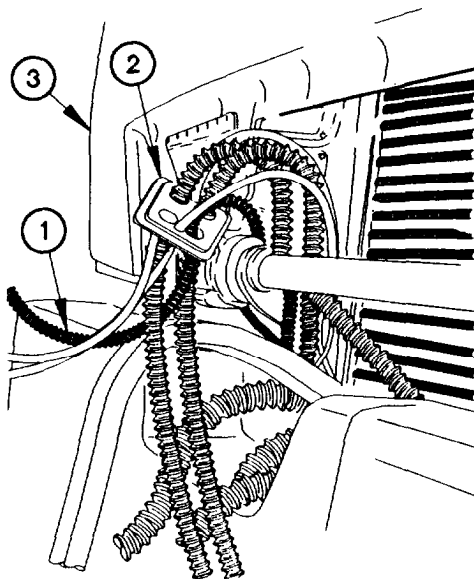


- (80) Remove grommet (126) from cab (111).
- (81) Remove rear lights cable assembly (5) from grommet (126).
- (82) Lower cab (TM 9-2320-366-10-1).
- (83) Remove rear lights cable assembly (5) from vehicle.



4G93R46A

b. Installation.



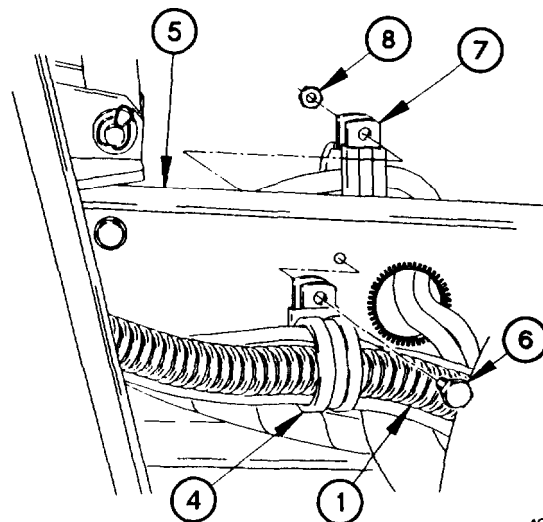
4G93101A

NOTE

Install plastic cable ties as required.

- (1) Position rear lights cable assembly (1) on vehicle.
- (2) Raise cab (TM 9-2320-366-10-1).
- (3) Position rear light cable assembly (1) in grommet (2).
- (4) Install grommet (2) in cab (3).

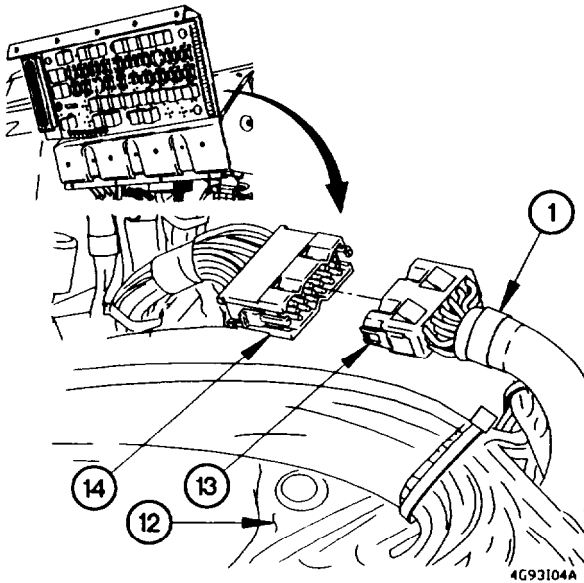
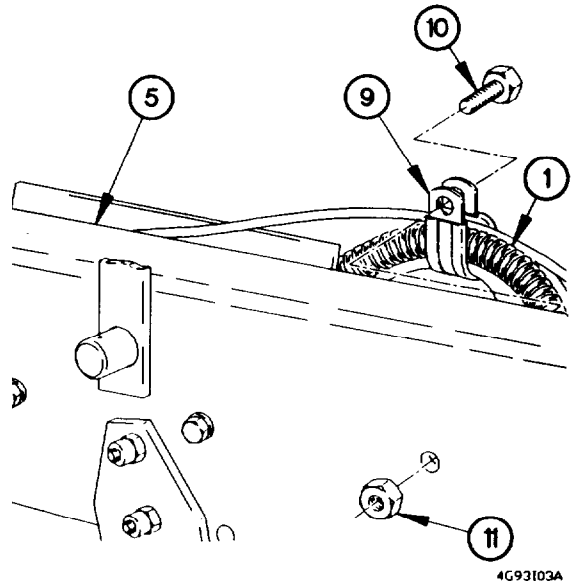
- (5) Position rear lights cable assembly (1) in clamp (4).
- (6) Position clamp (4) on right frame rail (5) with screw (6), clamp (7) and self-locking nut (8).
- (7) Tighten self-locking nut (8) to 84-108 lb-in. (10-12 N•m).



4G93102A

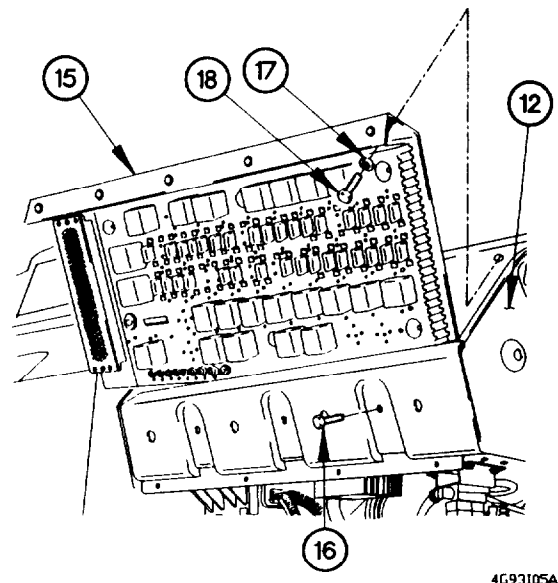
7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (8) Position rear lights cable assembly (1) in clamp (9).
- (9) Position clamp (9) on right frame rail (5) with screw (10) and self-locking nut (11).
- (10) Tighten self-locking nut (11) to 84-108 lb-in (10-12 N•m).
- (11) Lower cab (TM 9-2320-366-10-1).

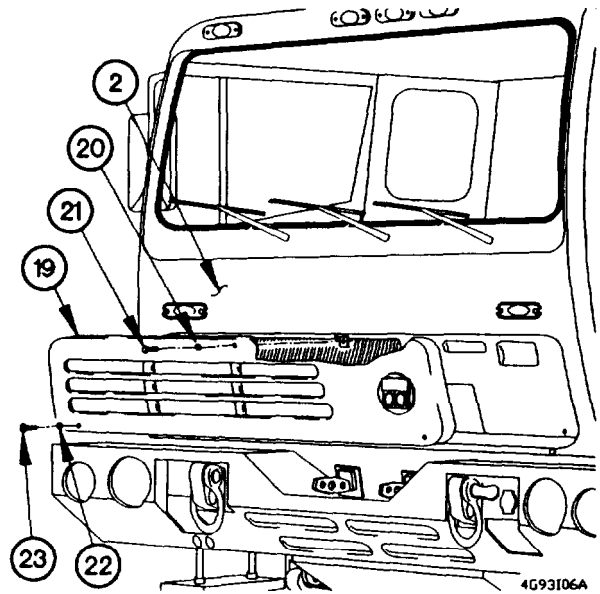


- (12) Position rear lights cable assembly (1) in dashboard (12).
- (13) Connect connector P51 (13) to connector J51 (14).

- (14) Install PDP (15) in dashboard (12) with three screws (16).
- (15) Install three washers (17) and screws (18) in PDP (15).



- (16) Position grille (19) on cab (2) with washer (20) and screw (21).
- (17) Position two washers (22) and screws (23) in grille (19).
- (18) Tighten screw (21) to 48-60 lb-in. (5-7 N•m).
- (19) Tighten two screws (23) to 24 lb-in. (3 N•m).

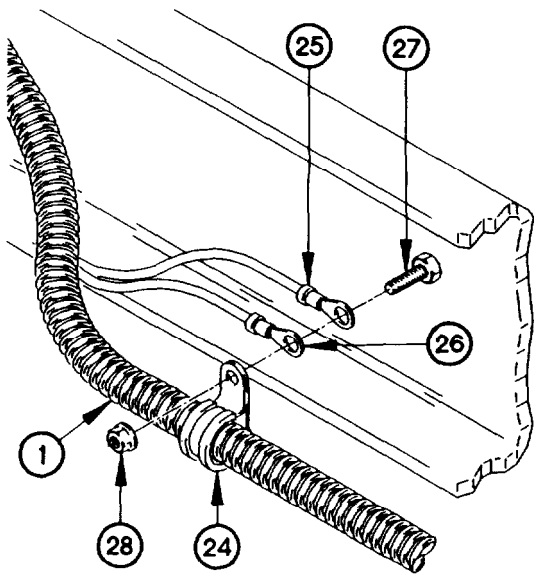


- (20) Install rear lights cable assembly (1) in clamp (24).

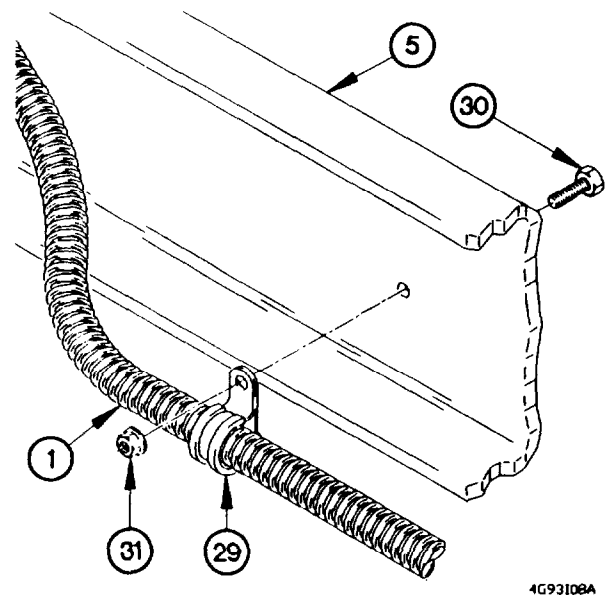
NOTE

Other terminal lugs may be installed with clamp and rear lights cable assembly.

- (21) Position two terminal lugs TL101 (25), TL83 (26), and clamp (24) on right frame rail ground stud (27) with self-locking nut (28).
- (22) Tighten self-locking nut (28) to 84-108 lb-in. (10-12 N•m).

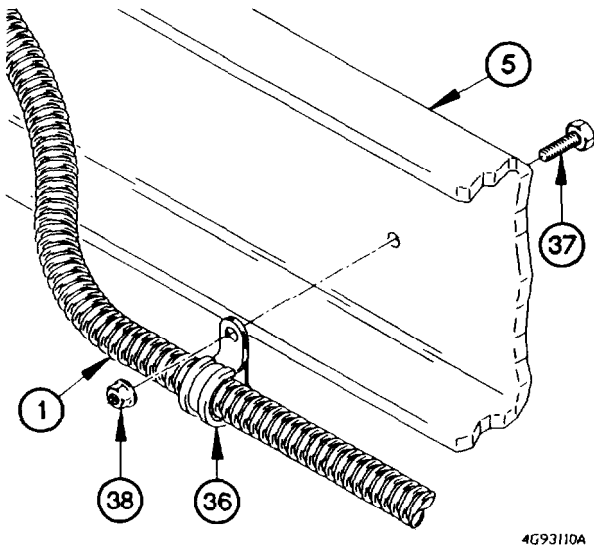
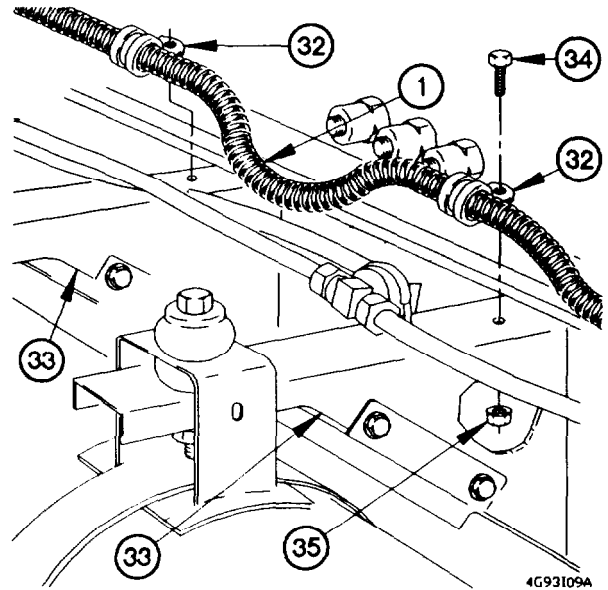


- (23) Install rear lights cable assembly (1) in clamp (29).
- (24) Position clamp (29) on right frame rail (5) with screw (30) self-locking nut (31).
- (25) Tighten self-locking nut (31) to 84-108 lb-in. (10-12 N•m).



7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (26) Install rear lights cable assembly (1) in two clamps (32).
- (27) Position two clamps (32) on exhaust muffler brackets (33) with screws (34) and self-locking nuts (35).
- (28) Tighten two self-locking nuts (35) to 84-108 lb-in. (10-12 N•m).

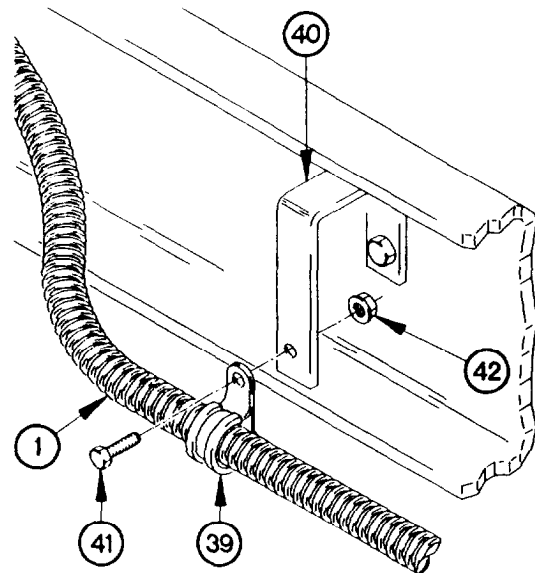


- (29) Install rear lights cable assembly (1) in clamp (36).
- (30) Position clamp (36) on right frame rail (5) with screw (37) and self-locking nut (38).
- (31) Tighten self-locking nut (38) to 84-108 lb-in. (10-12 N•m).

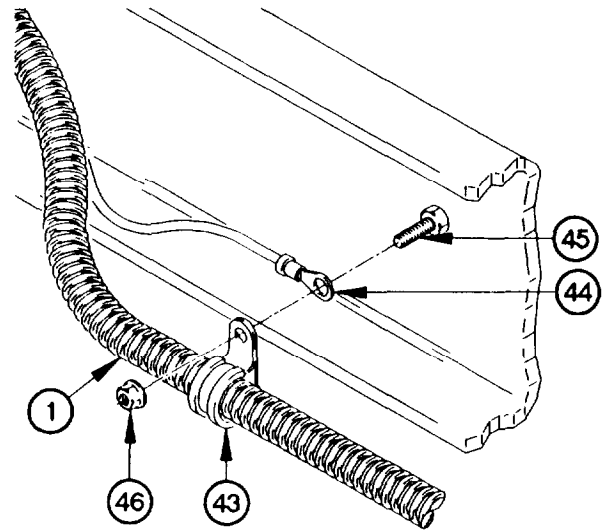
NOTE

Perform steps (32) through (37) on M1083/M1090/M1092/M1093 and M1094.

- (32) Install rear lights cable assembly (1) in two clamps (39).
- (33) Position two clamps (39) on brackets (40) with screws (41) and self-locking nuts (42).
- (34) Tighten two self-locking nuts (42) to 84-108 lb-in. (10-12 N•m).



- (35) Install rear light cable assembly (1) in clamp (43).
- (36) Position terminal lug TL92 (44) and clamp (43) on right frame rail ground stud (45) with self-locking nut (46).
- (37) Tighten self-locking nut (46) to 84-108 lb-in. (10-12 N•m).

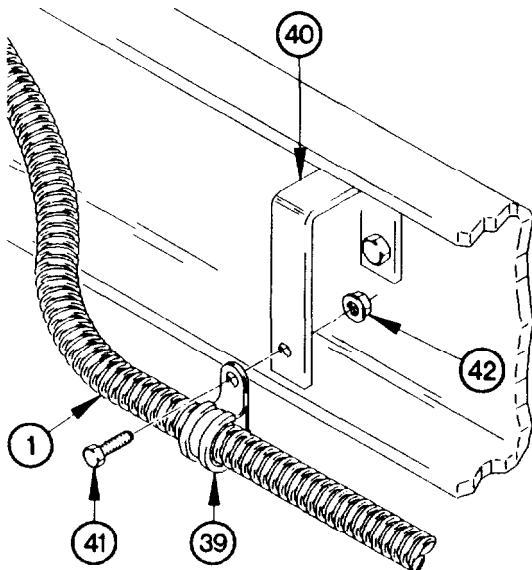


4G93112A

NOTE

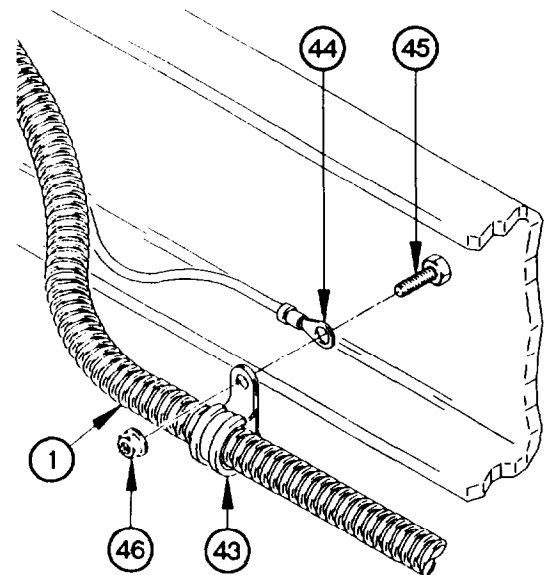
Perform steps (38) through (46) on M1084.

- (38) Install rear lights cable assembly (1) in two clamps (39).
- (39) Position two clamps (39) on brackets (40) with screws (41) self-locking nuts (42).
- (40) Tighten two self-locking nuts (42) to 84-108 lb-in. (10-12 N•m).



4G93113A

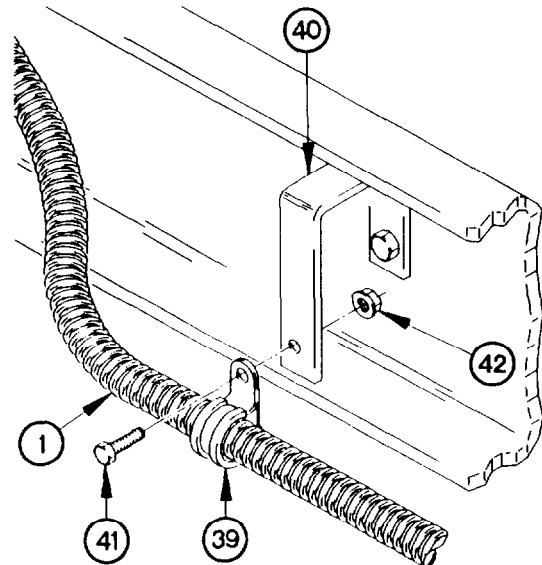
- (41) Install rear lights cable assembly (1) in clamp (43).
- (42) Position terminal lug TL92 (44) and clamp (43) on right frame rail ground stud (45) with self-locking nut (46).
- (43) Tighten self-locking nut (46) to 84-108 lb-in. (10-12 N•m).



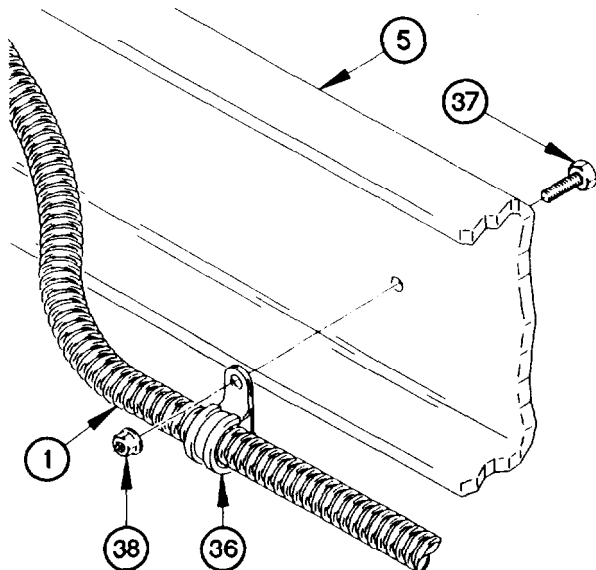
4G93114A

**7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS
CABLE ASSEMBLY REPLACEMENT (CONT)**

- (44) Install rear lights cable assembly (1) in clamp (39).
- (45) Position clamp (39) on bracket (40) with screw (41) and self-locking nut (42).
- (46) Tighten self-locking nut (42) to 84-108 lb-in. (10-12 (N•m)).



4G93115A



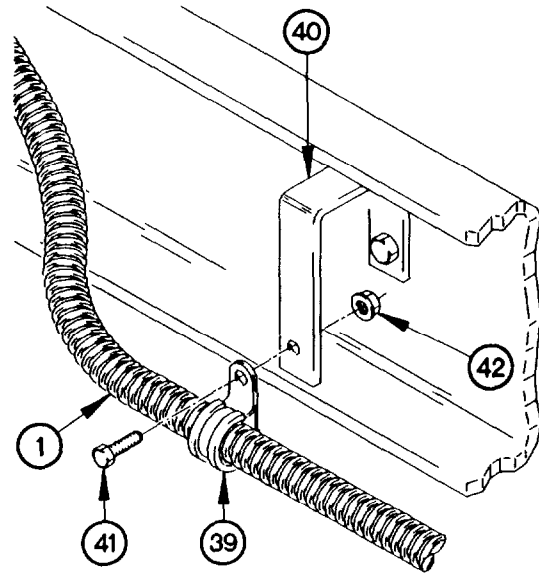
4G93116A

NOTE

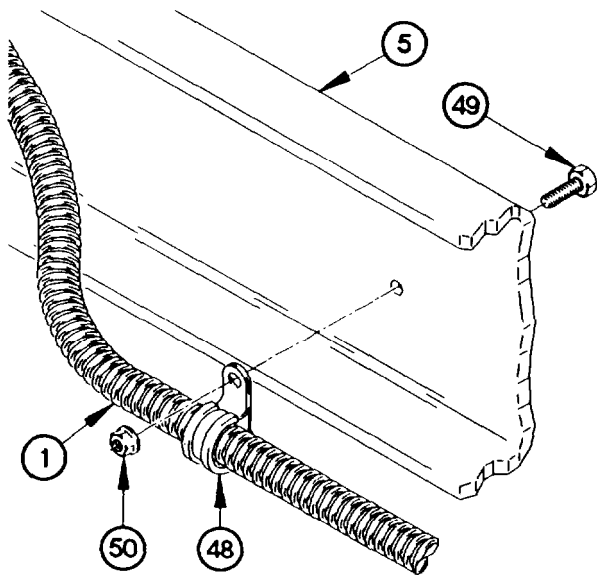
Perform steps (47) through (57) on M1085 and M1086.

- (47) Install rear lights cable assembly (1) in clamp (36).
- (48) Position clamp (36) on right frame rail (5) with screw (37) and self-locking nut (38).
- (49) Tighten self-locking nut (38) to 84-108 lb-in. (10-12 (N•m)).

- (50) Install rear lights cable assembly (1) in two clamps (39).
- (51) Position two clamps (39) on brackets (40) with screws (41) and self-locking nuts (42).
- (52) Tighten two self-locking nuts (42) to 84-108 lb-in. (10-12 N•m).



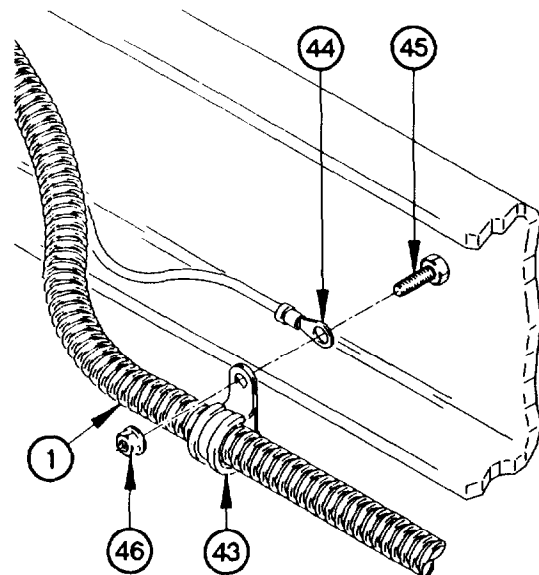
4G93117A



4G93118A

- (53) Install rear lights cable assembly (1) in two clamps (48).
- (54) Position two clamps (48) on right frame rail (5) with two screws (49) and self-locking nuts (50).
- (55) Tighten two self-locking nuts (50) to 84-108 lb-in. (10-12 N•m).

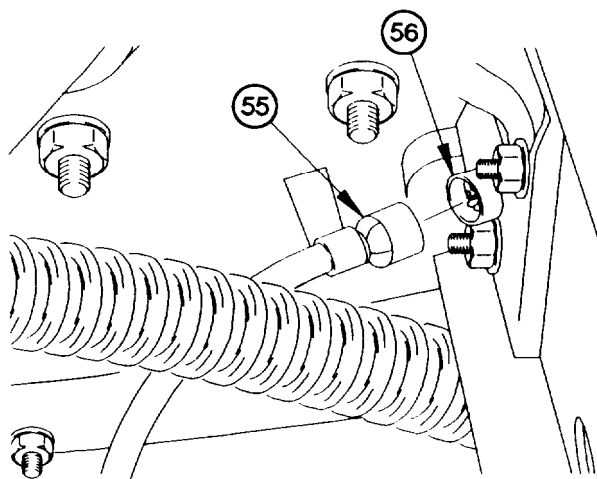
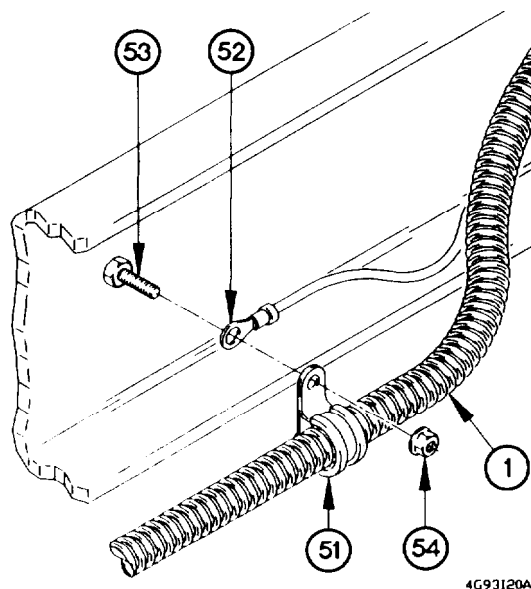
- (55) Install rear lights cable assembly (1) in clamp (43).
- (56) Position terminal lug TL92 (44) and clamp (43) on right frame rail stud (45) with self-locking nut (46).
- (57) Tighten self-locking nut (46) to 84-108 lb-in. (10-12 N•m).



4G93119A

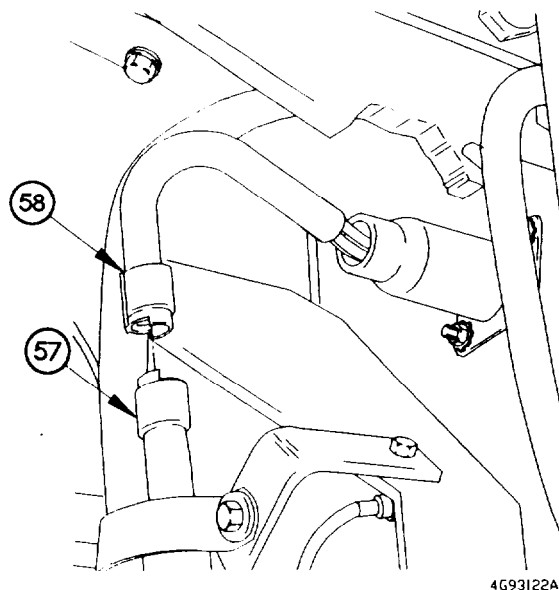
**7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS
CABLE ASSEMBLY REPLACEMENT (CONT)**

- (58) Install rear lights cable assembly (1) in clamp (51).
- (59) Position terminal lug TL93 (52) and clamp (51) on left frame rail ground stud (53) with self-locking nut (54).
- (60) Tighten self-locking nut (54) to 84-108 lb-in. (10-12 N•m).

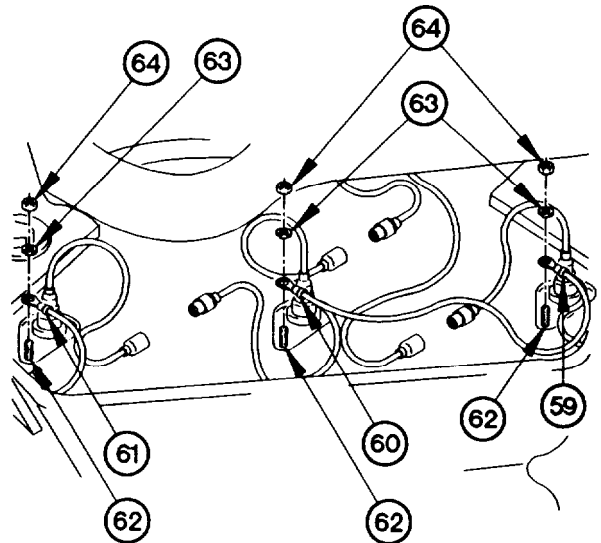


- (61) Connect connector P52R (55) to connector J52R (56).

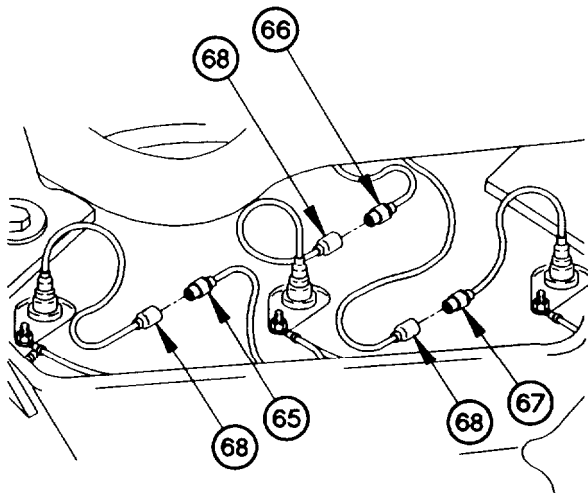
- (62) Connect connector P53R (57) to connector J53R (58).



(63) Install terminal lugs TL32 (59), TL31 (60), and TL30 (61) on three rear marker light studs (62) with lockwashers (63) and nuts (64).



4G93123A



4G93124A

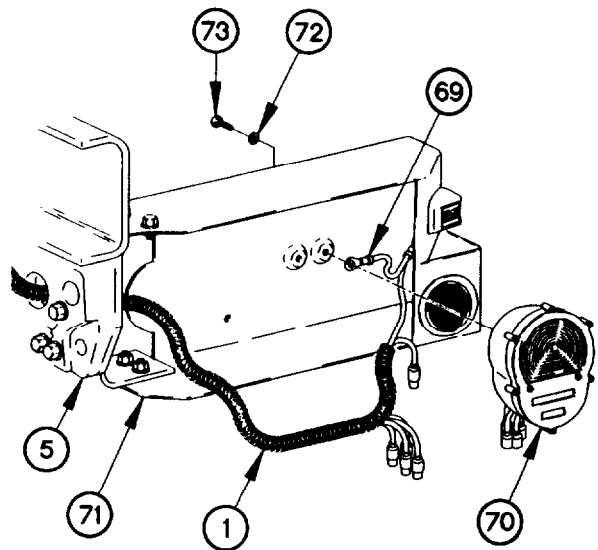
(64) Connect connectors P58 (65), P56 (66), and P54 (67) to three rear marker lights connectors (68).

NOTE

Perform steps (65) through (81) on M1083/M1085/M1093 and M1084/M1090/M1094 with vehicle serial numbers 3465 and higher.

(65) Route rear lights cable assembly (1) through right frame rail (5).

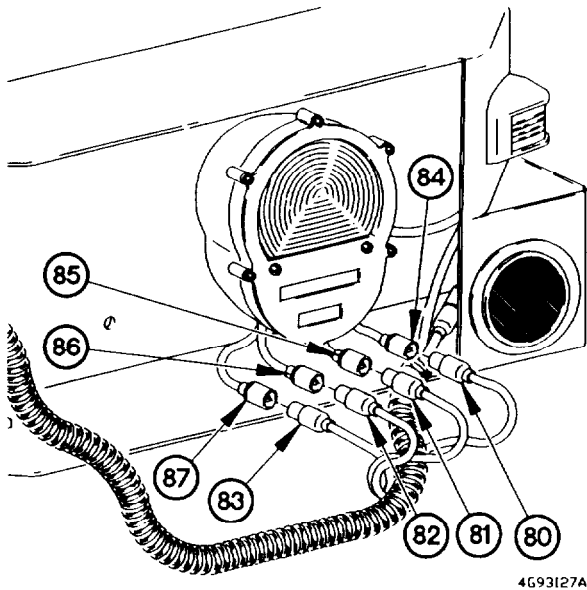
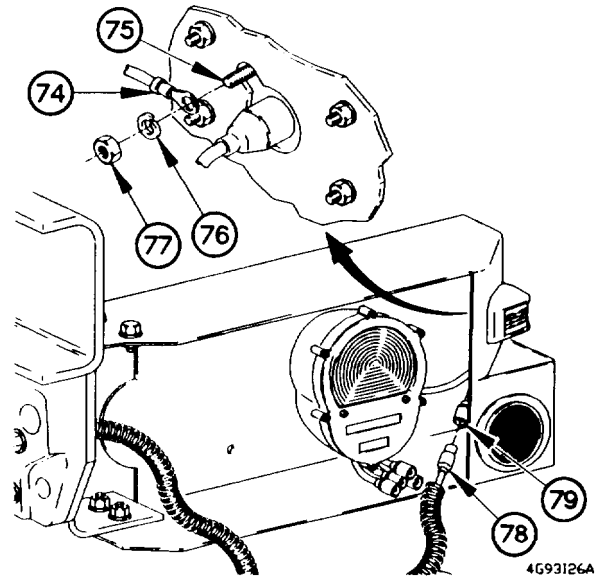
(66) Install terminal lug TL21 (69) and right composite taillight (70) on right taillight carrier (71) with two lockwashers (72) and screws (73).



4G93125A

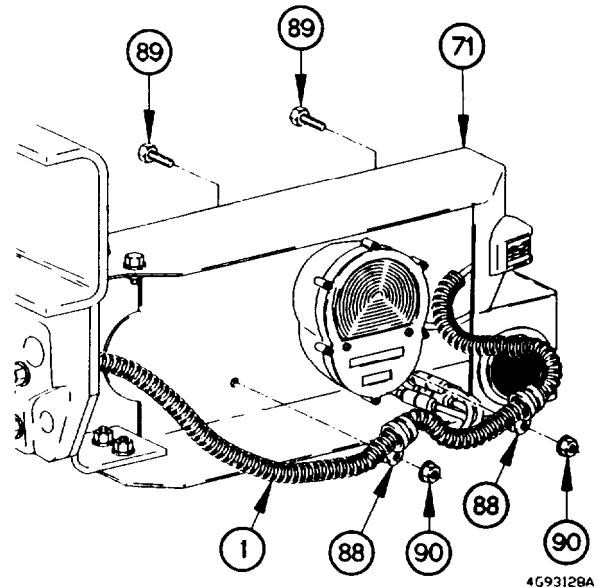
7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (67) Install terminal lug TL20 (74) on right rear marker light stud (75) with lockwasher (76) and nut (77).
- (68) Connect connector P89 (78) to right rear marker light connector (79).

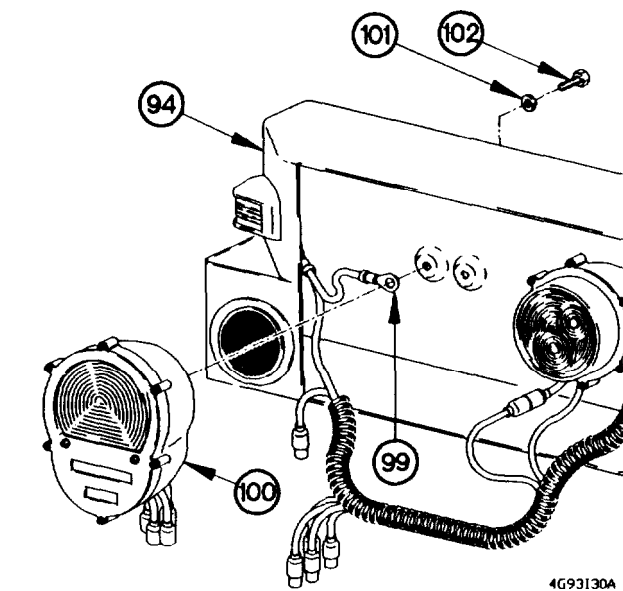
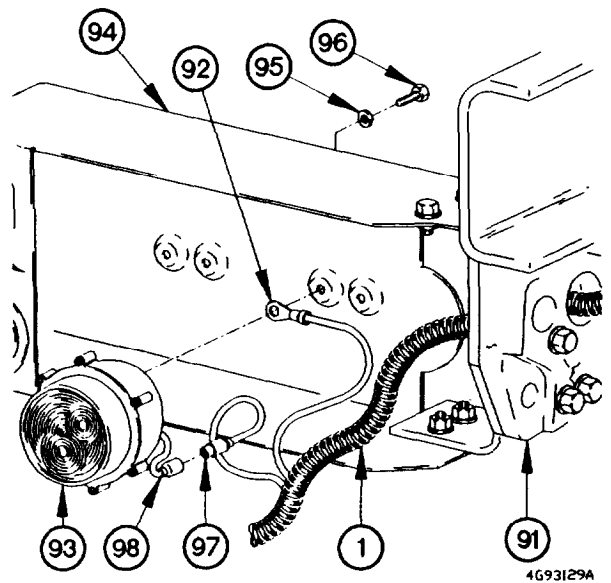


- (69) Connect connectors P64 (80), P63 (81), P62 (82) and P61 (83) to right composite taillight connectors 21 (84), 23 (85), 24 (86) and 22 (87).

- (70) Install rear lights cable assembly (1) in two clamps (88).
- (71) Position two screws (89) and clamps (88) on right taillight carrier (71) with two self-locking nuts (90).
- (72) Tighten two self-locking nuts (90) to 84-108 lb-in. (10-12 N•m).

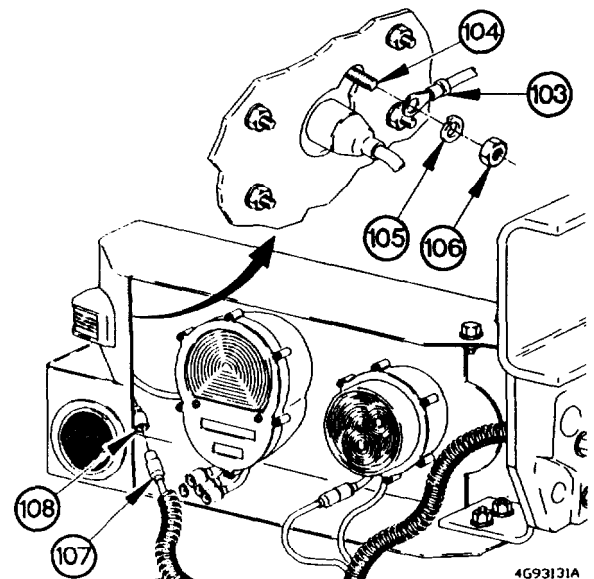


- (73) Route rear lights cable assembly (1) through left frame rail (91).
- (74) Install terminal lug TL17 (92) and backup light (93) on left taillight carrier (94) with two lockwashers (95) and screws (96).
- (75) Connect connector P87 (97) to backup light connector (98).



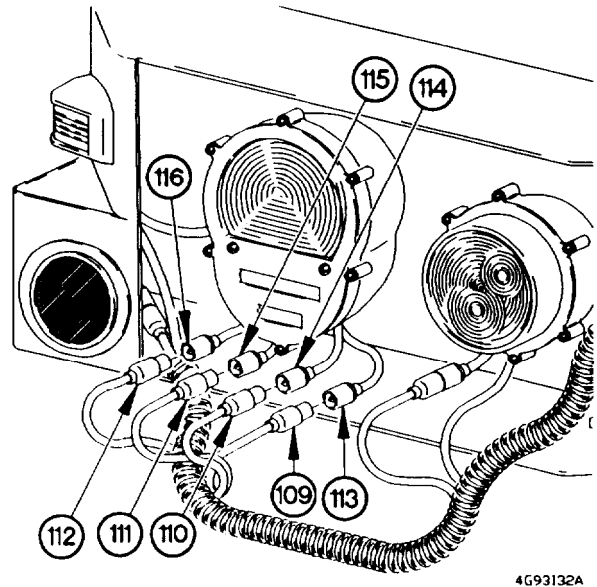
- (76) Install terminal lug TL18 (99) and left composite taillight (100) on left taillight carrier (94) with two lockwashers (101) and screws (102).

- (77) Install terminal lug TL16 (103) on left rear marker light stud (104) with lockwasher (105) and nut (106).
- (78) connect connector P85 (107) to left rear marker light connector (108).



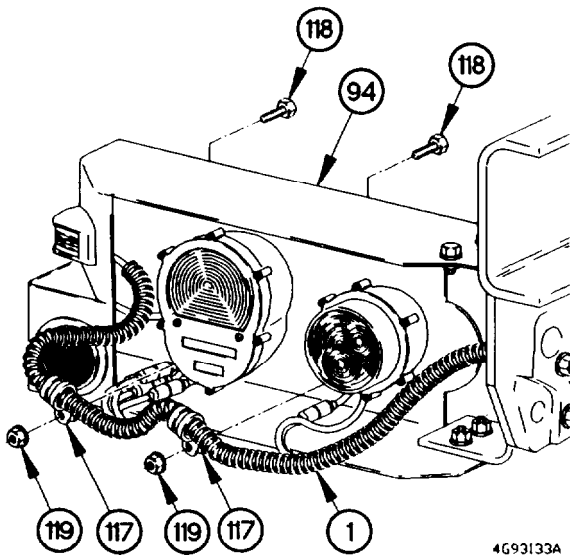
7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

(79) Connect connectors P78 (109), P77 (110), P76 (111) and P74 (112) to left composite taillight connectors 21 (113), 23 (114), 24 (115) and 22 (116).



(80) Install two clamps (117) on rear lights cable assembly (1).

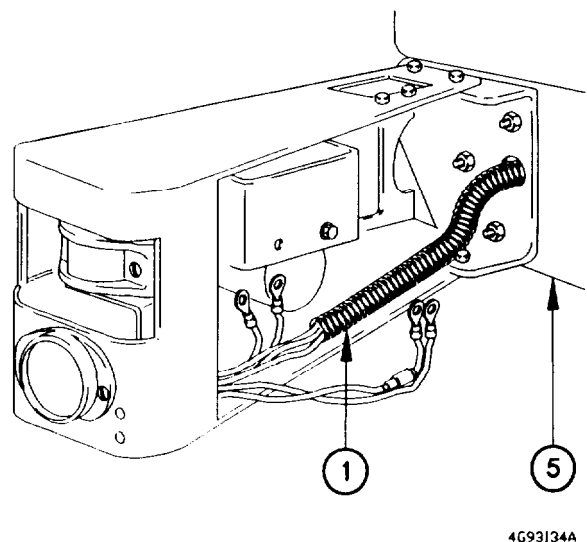
(81) Position two screws (118) and clamps (117) on left taillight carrier (94) with two self-locking nuts (119).



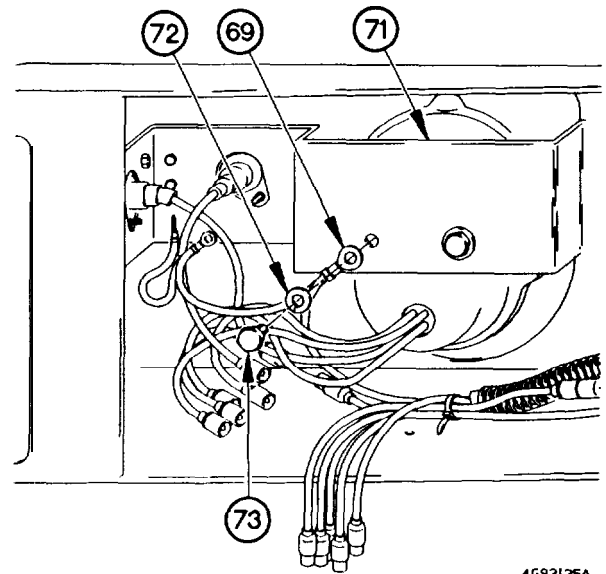
NOTE

Perform steps (82) through (103) on M1084/M1090 and M1094 with vehicle serial numbers 0001 through 3464.

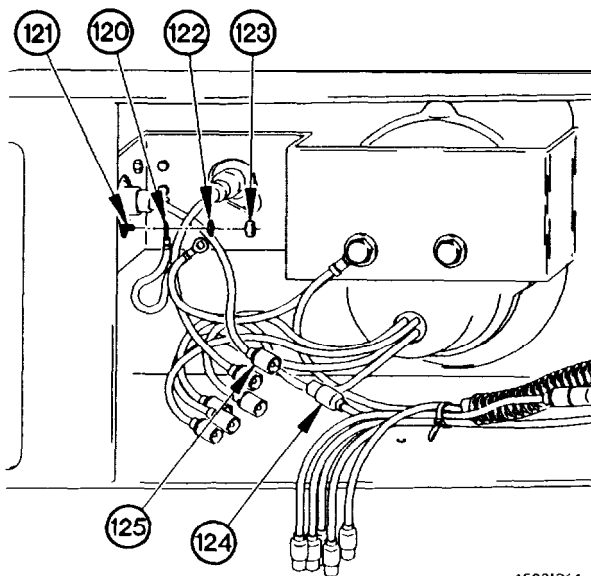
(82) Route rear lights cable assembly (1) through right frame rail (5).



- (83) Install terminal lug TL21 (69) on right taillight carrier (71) with lockwasher (72) and screw (73).



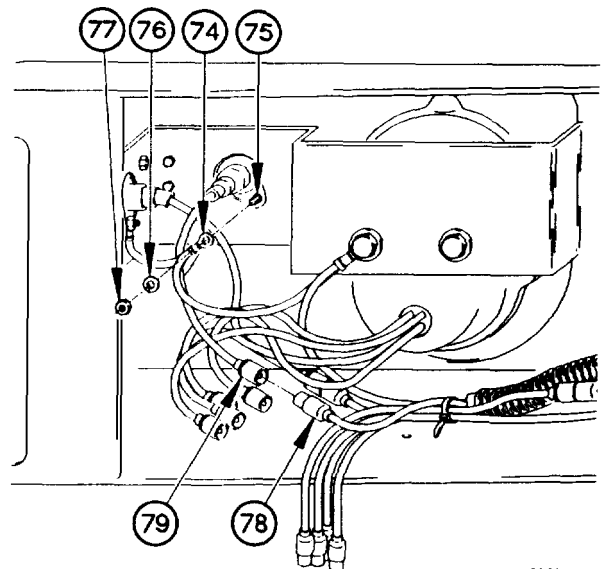
4G93135A



4G93136A

- (84) Install terminal lug TL19 (120) on right side marker light stud (121) with lockwasher (122) and nut (123).
- (85) Connect connector P88 (124) to right side marker light connector (125).

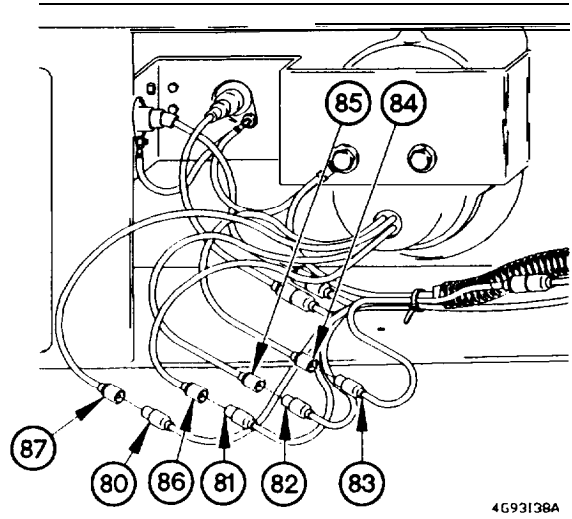
- (86) Install terminal lug TL20 (74) on right rear marker light stud (75) with lockwasher (76) and nut (77).
- (87) Connect connector P89 (78) to right rear marker light connector (79).



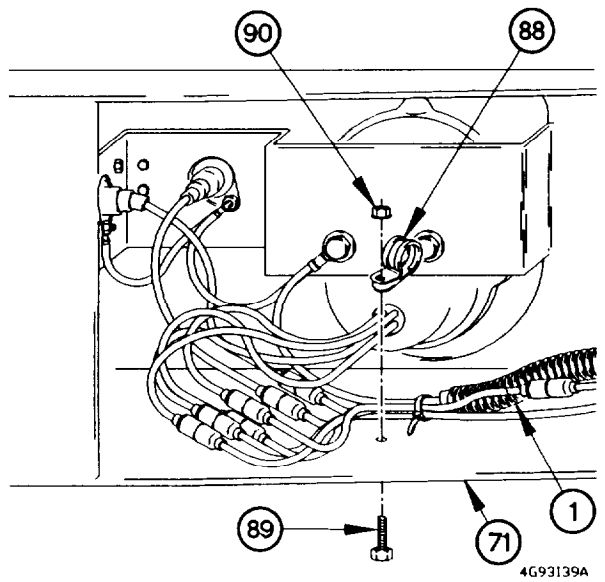
4G93137A

**7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS
CABLE ASSEMBLY REPLACEMENT (CONT)**

(88) Connect connectors P64 (80), P63 (81), P62 (82) and P61 (83) to right composite taillight connectors 21 (84), 23 (85), 24 (86) and 22 (87).



4G93138A



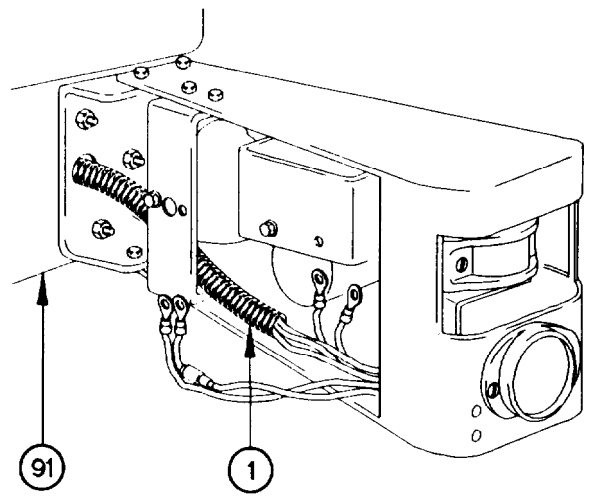
4G93139A

(89) Install clamp (88) on rear lights cable assembly (1).

(90) Position screw (89) and clamp (88) on right taillight carrier (71) with self-locking nut (90).

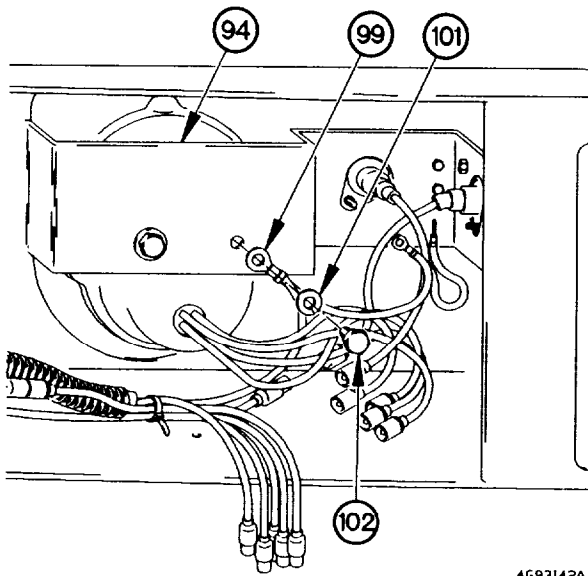
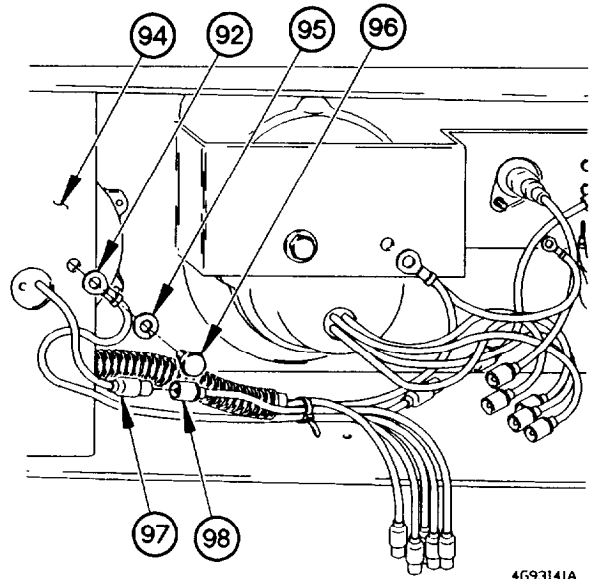
(91) Tighten self-locking nut (90) to 84-108 lb-in. (10-12 N•m).

(92) Route rear lights cable assembly (1) through left frame rail (91).



(93) Install terminal lug TL17 (92) on left taillight carrier (94) with lockwasher (95) and screw (96).

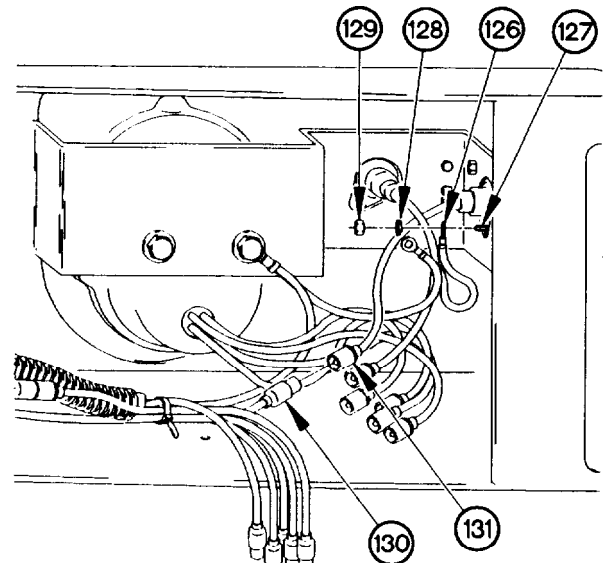
(94) Connect connector P87 (97) to backup light connector (98).



(95) Install terminal lug TL18 (99) on left taillight carrier (94) with lockwasher (101) and screw (102).

(96) Install terminal lug TL15 (126) on left side marker light stud (127) with lockwasher (128) and nut (129).

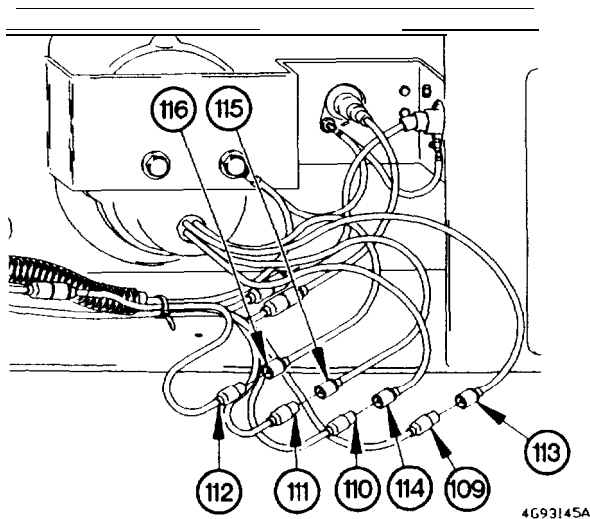
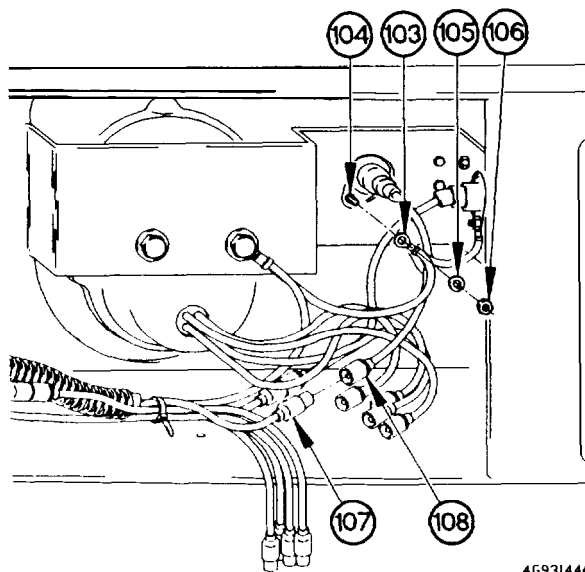
(97) Connect connector P85 (130) to left side marker light connector (131).



7-84. M1083/M1084/M1085/M1090/M1092/M1093/M1094/M1096 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

(98) Install terminal lug TL16 (103) on left rear marker light stud (104) with lockwasher (105) and nut (106).

(99) Connect connector P86 (107) to left rear marker light connector (108).

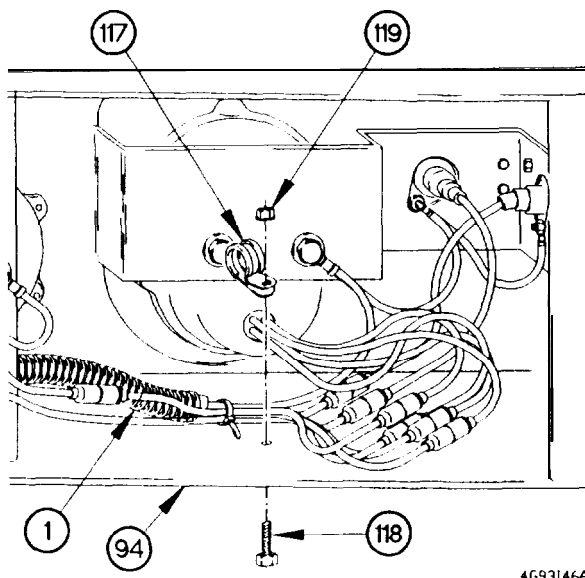


(100) Connect connectors P78 (109), P77 (110), P76 (111) and P74 (112) to left composite taillight Connectors 21 (113), 23 (114), 24 (115) and 22 (116).

(101) Install clamp (117) on rear lights cable assembly (1).

(102) Position screw (118) and clamp (117) on left taillight carrier (94) with self-locking nut (119).

(103) Tighten self-locking nut (119) to 84-108 lb-in. (10-12 N•m).



c. Follow-On Maintenance.

- (1) Install exhaust muffler (para 5-2).
- (2) Install kick panel (para 16-3).
- (3) Connect batteries (para 7-57).
- (4) Start engine (TM 9-2320-366-10-1).
- (5) Check rear lights for proper operation.
- (6) Shut down engine (TM 9-2320-366-10-1).

End of Task.

7-85. M1084/M1086 BOOM DOWN LOCKOUT SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1)
 Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

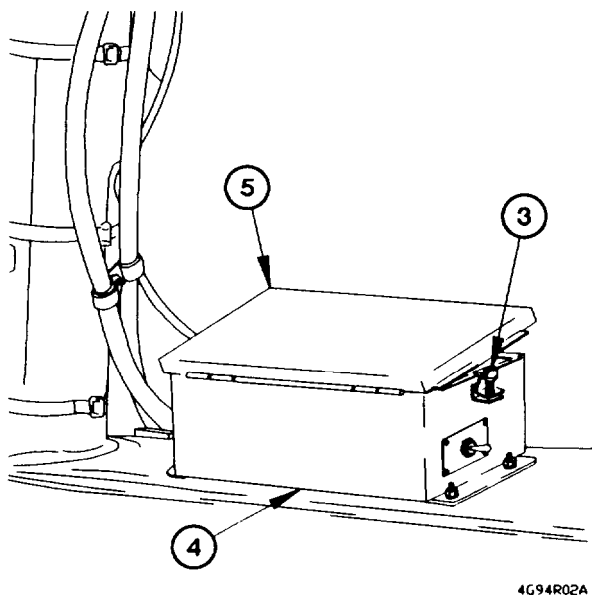
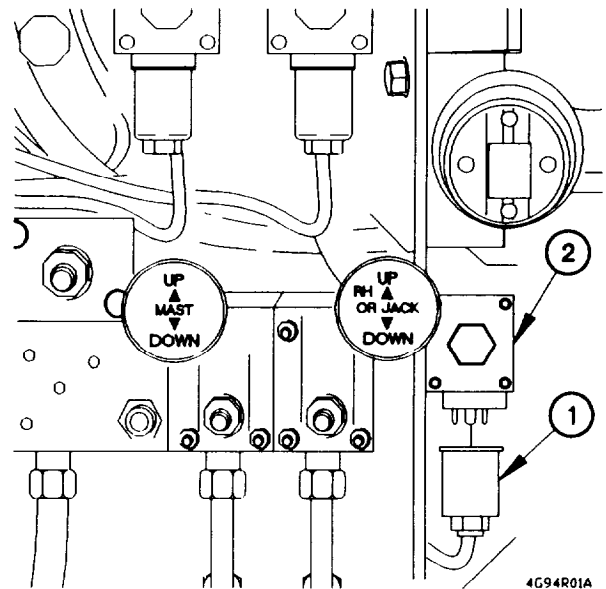
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Ties, Cable, Plastic (Item 69, Appendix D)
 Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from boom down lockout solenoid (2).



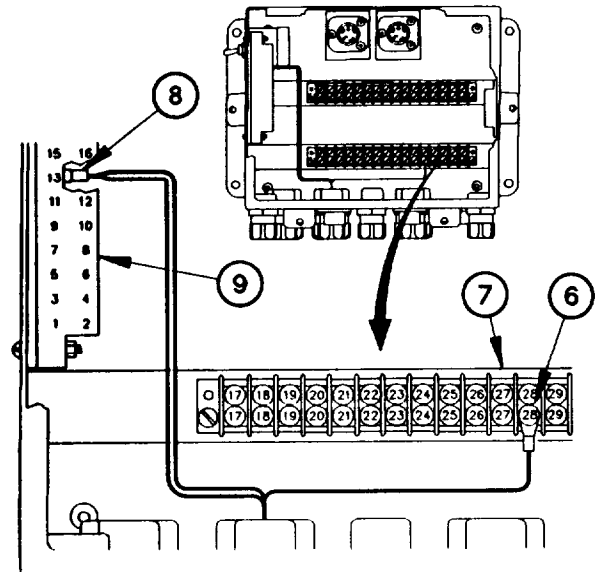
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

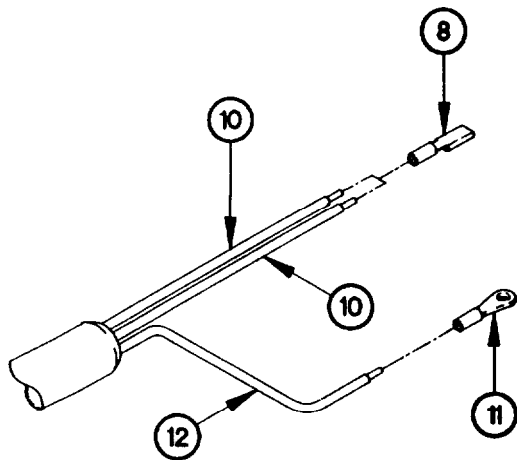
NOTE

Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 28.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 13.



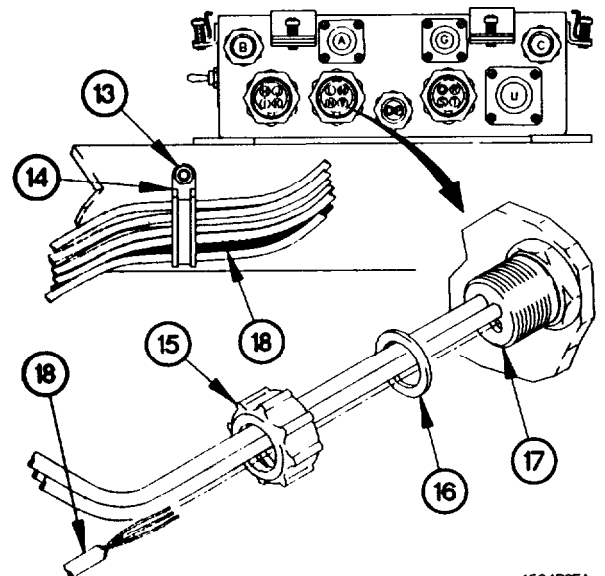
4G94R03A



4G94R04A

- (6) Remove quick disconnect terminal (8) from two black wires (10).
- (7) Remove terminal lug (11) from white wire (12).

- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove boom down lockout solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove boom down lockout solenoid cable (18) from clamp (14).

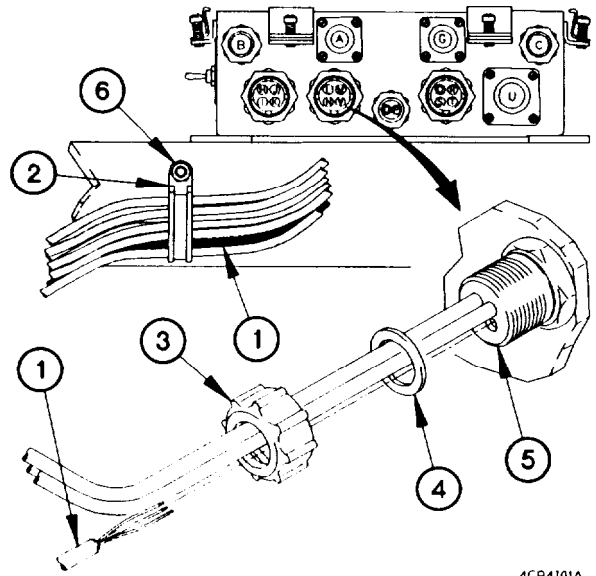


4G94R05A

7-85. M1084/M1086 BOOM DOWN LOCKOUT SOLENOID CABLE REPLACEMENT (CONT)

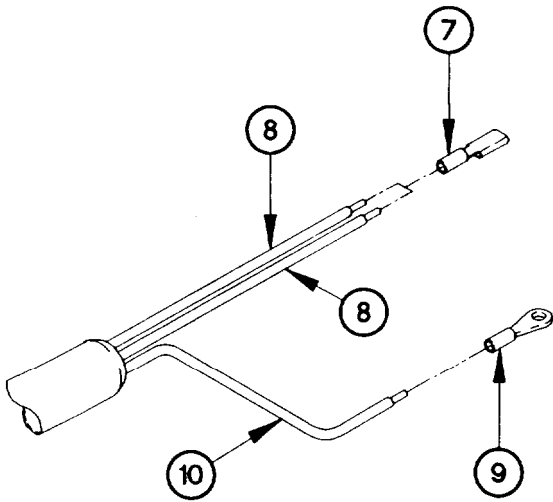
b. Installation.

- (1) Position boom down lockout solenoid cable (1) through clamp (2).
- (2) Position boom down lockout solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).



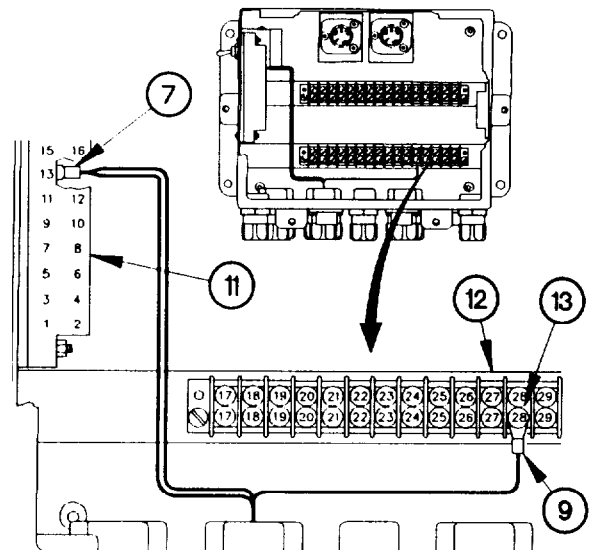
4G94101A

- (5) Install quick disconnect terminal (7) on two black wires (8).
- (6) Install terminal lug (9) on white wire (10).



4G94102A

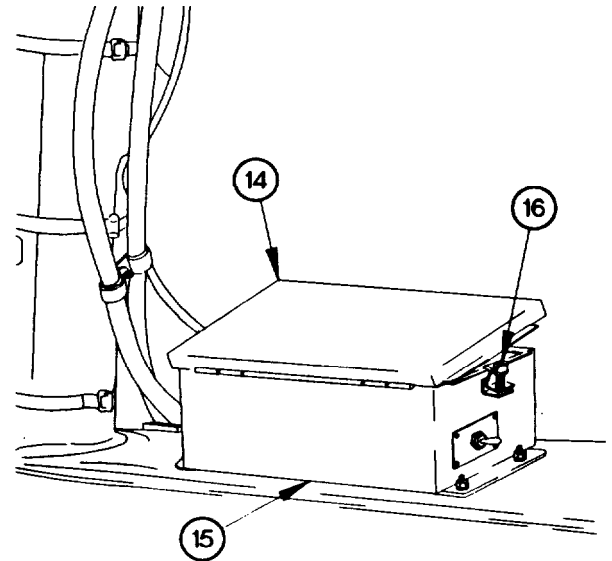
- (7) Install quick disconnect terminal (7) on ground strip (11) position 13.
- (8) Install terminal lug (9) on terminal block (12) position 28 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).



4G94103A

(10) Close cover (14) on junction box (15).

(11) Tighten four screws (16) on junction box (15).

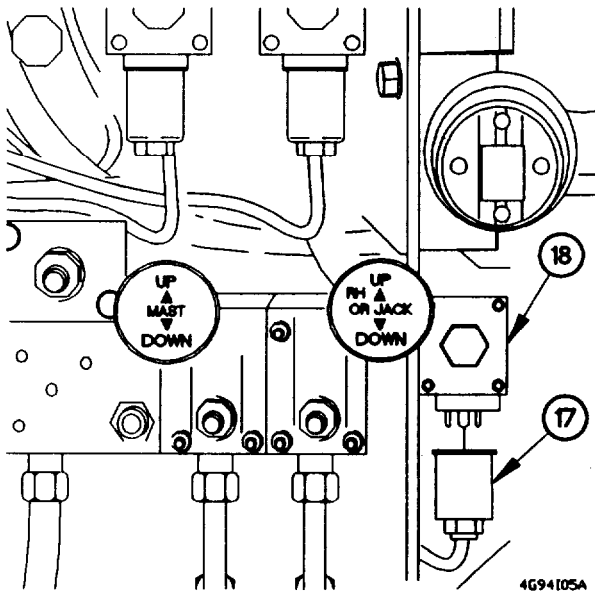


4G94104A

NOTE

Install plastic cable ties as required.

(12) Connect connector (17) to boom down lockout solenoid (18).



4G94105A

c. Follow-On Maintenance.

(1) Connect batteries (para 7-57).

(2) Operate MHC and check boom down lockout operation (TM 9-2320-366-10-1).

End of Task.

7-86. M1084/M1086 BOOM DOWN SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Batteries disconnected (para 7-57).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

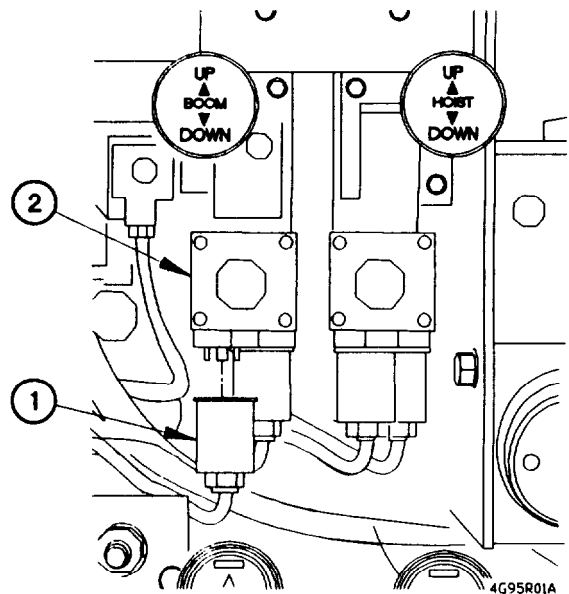
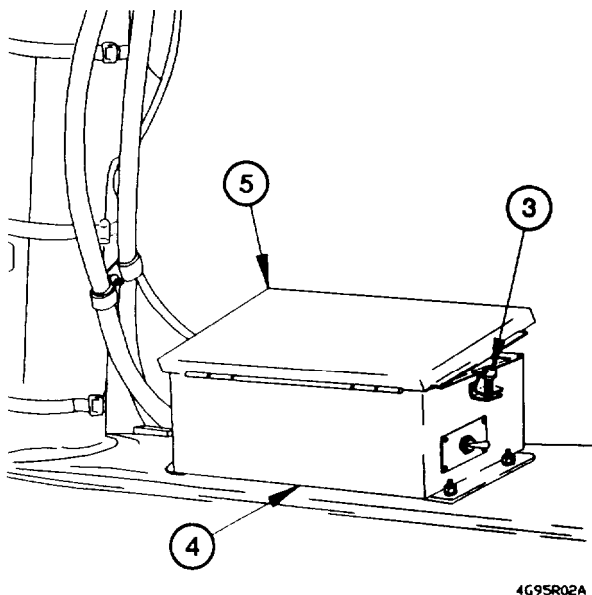
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from boom down solenoid (2).



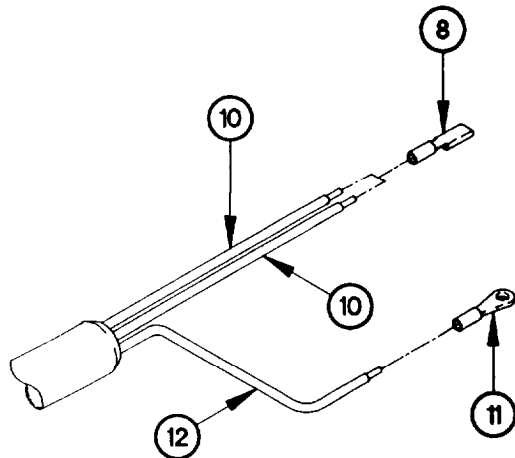
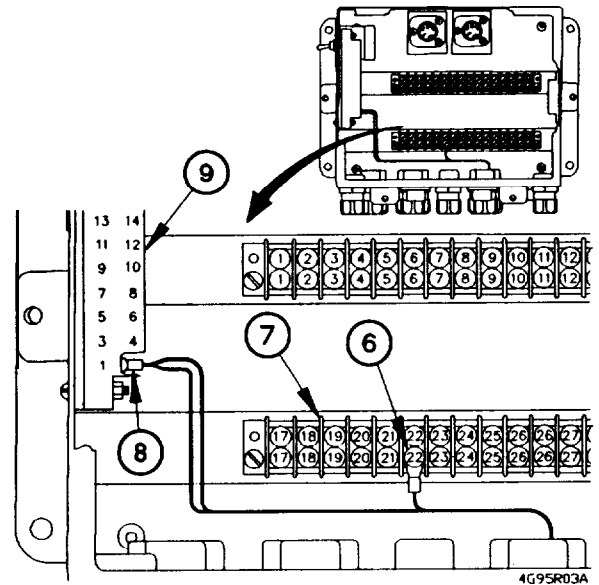
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

NOTE

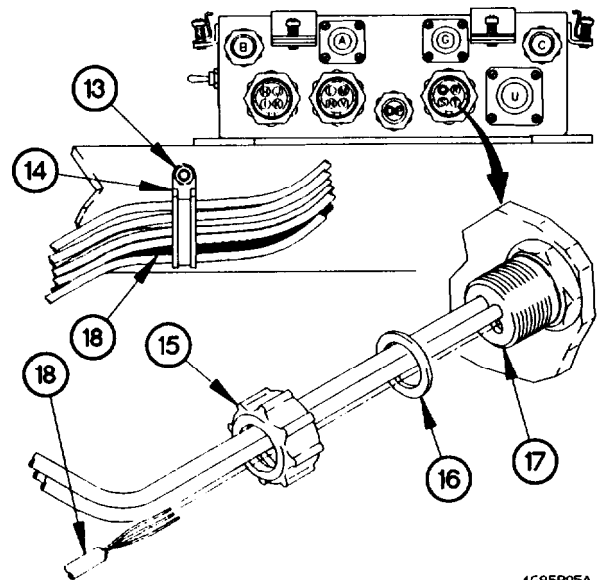
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 22.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 1.



- (6) Remove quick disconnect terminal (8) from two black wires (10).
- (7) Remove terminal lug (11) from white wire (12).

- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove boom down solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove boom down solenoid cable (18) from clamp (14).

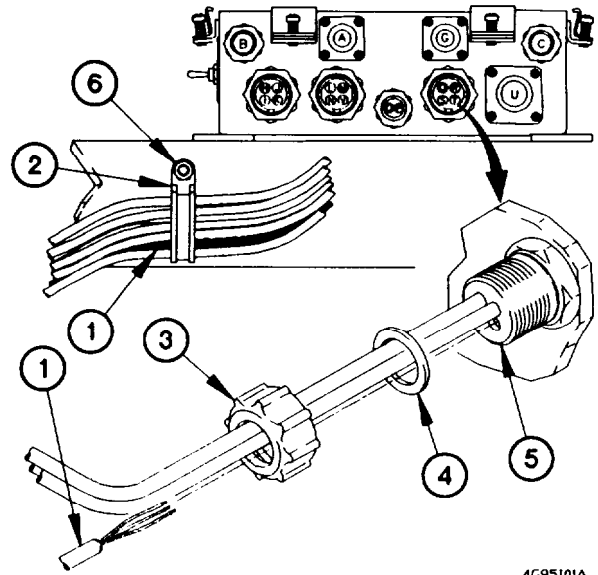


4G95R05A

7-86. M1084/M1086 BOOM DOWN SOLENOID CABLE REPLACEMENT (CONT)

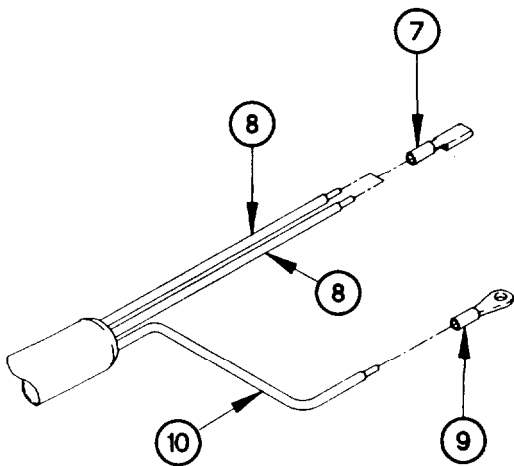
b. Installation.

- (1) Position boom down solenoid cable (1) through clamp (2).
- (2) Position boom down solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).



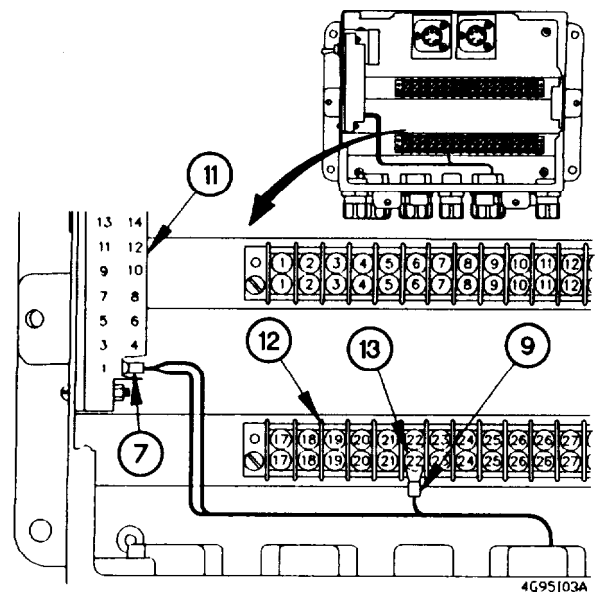
4G95101A

- (5) Install quick disconnect terminal (7) on two black wires (8).
- (6) Install terminal lug (9) on white wire (10).



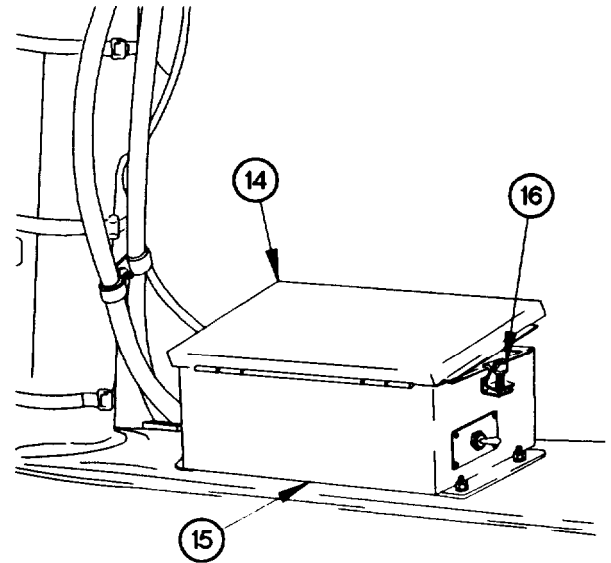
4G95102A

- (7) Install quick disconnect terminal (7) on ground strip (11) position 1.
- (8) Install terminal lug (9) on terminal block (12) position 22 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).

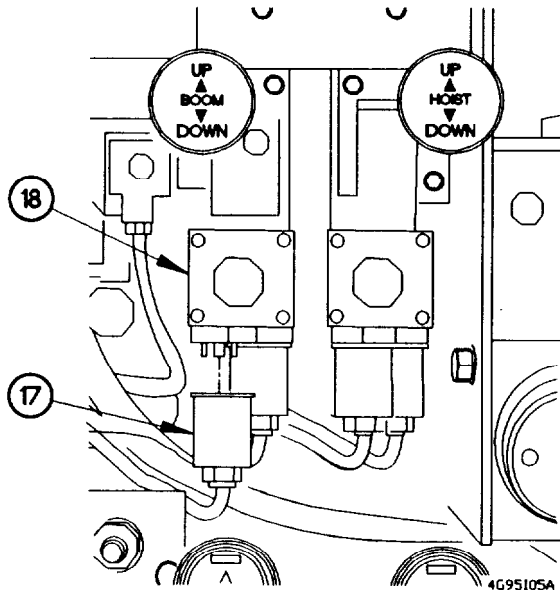


4G95103A

- (10) Install cover (14) on junction box (15).
- (11) Tighten four screws (16) on junction box (15).



4G95104A



4G95105A

NOTE

Install plastic cable ties as required.

- (12) Connect connector (17) to boom down solenoid (18).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check boom down operation (TM 9-2320-366-10-1).

End of Task.

7-87. M1084/M1086 BOOM UP LOCKOUT SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

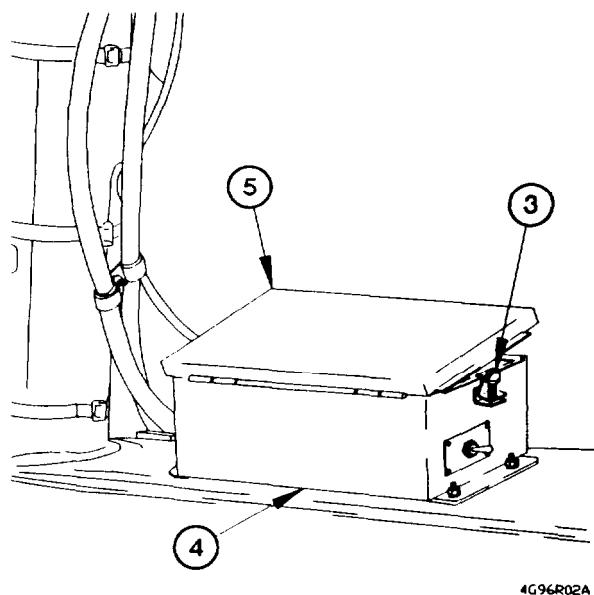
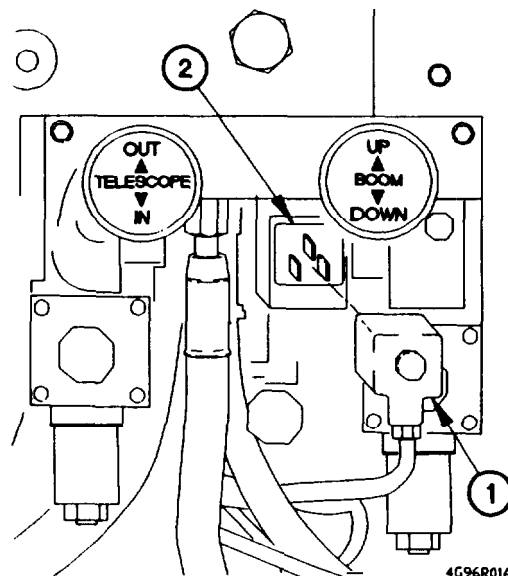
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from boom up lockout solenoid (2).



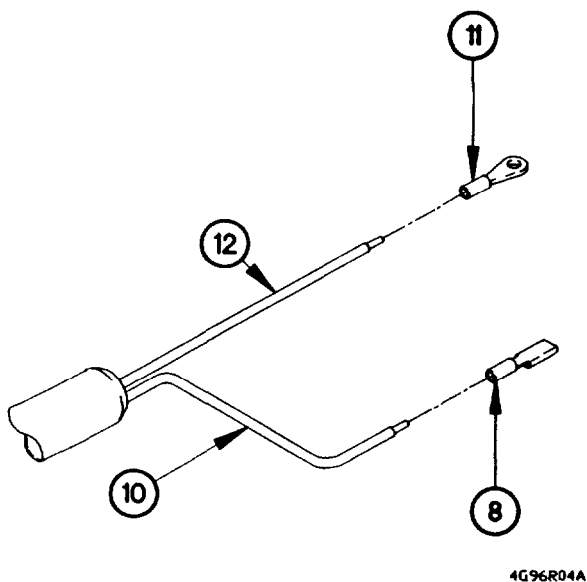
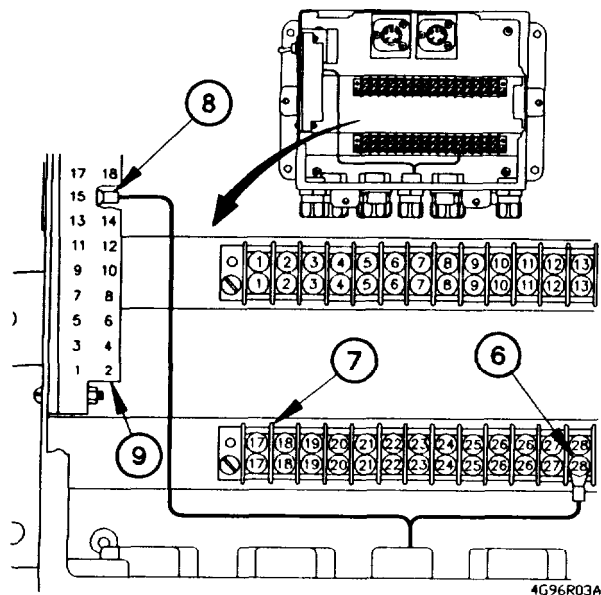
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

NOTE

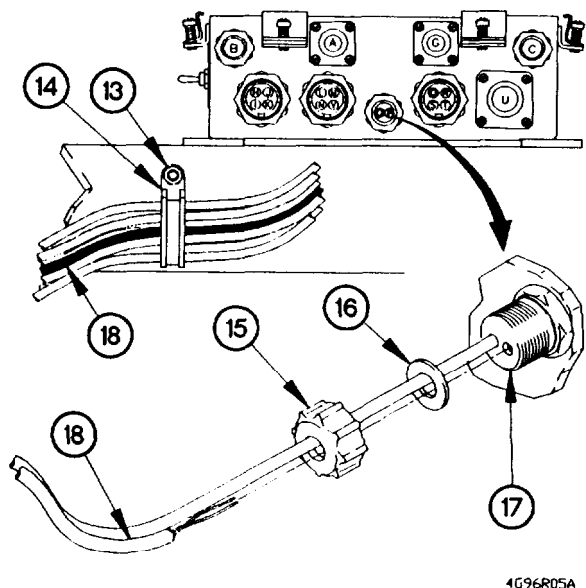
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 28.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 15.



- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

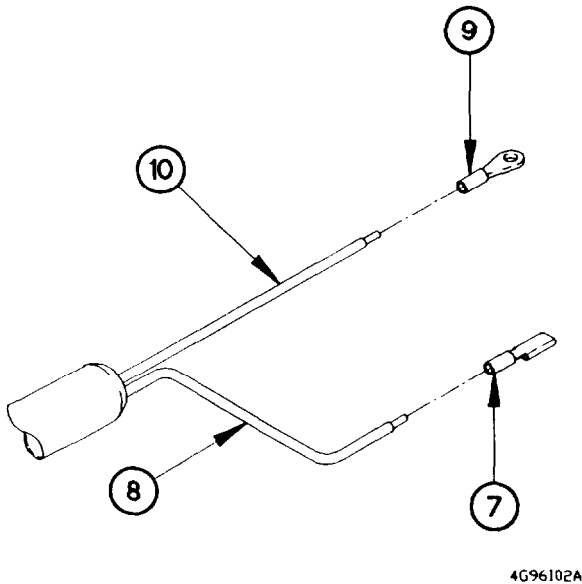
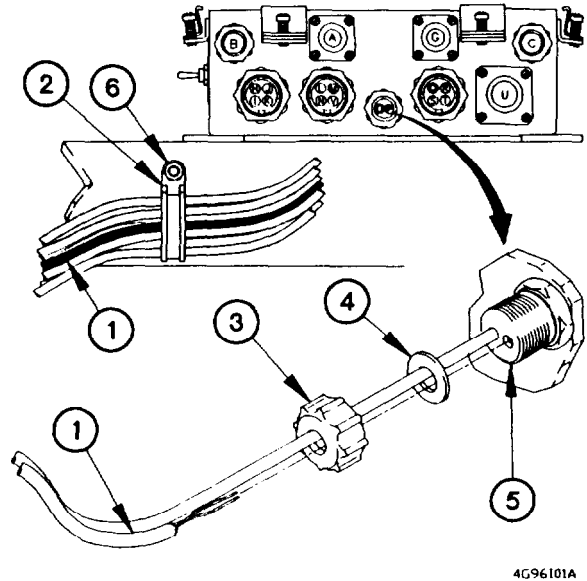
- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove boom up lockout solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove boom up lockout solenoid cable (18) from clamp (14).



7-87. M1084/M1086 BOOM UP LOCKOUT SOLENOID CABLE REPLACEMENT (CONT)

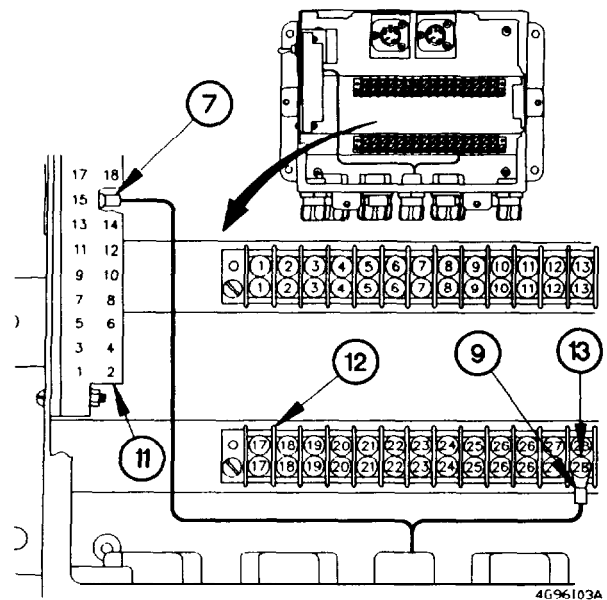
b. Installation.

- (1) Position boom up lockout solenoid cable (1) through clamp (2).
- (2) Position boom up lockout solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).

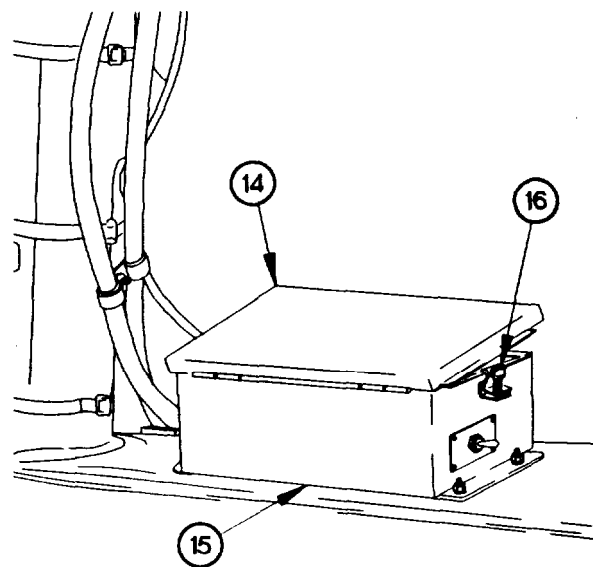


- (7) Install quick disconnect terminal (7) on ground strip (11) position 15.
- (8) Install terminal lug (9) on terminal block (12) position 28 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).

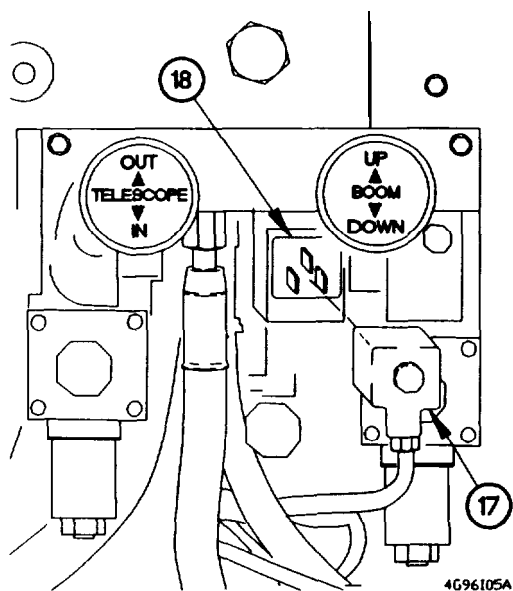
- (5) Install quick disconnect terminal (7) on black wire (8).
- (6) Install terminal lug (9) on white wire (10).



- (10) Close cover (14) on junction box (15).
- (11) Tighten four screws (16) on junction box (15).



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4G96105A

NOTE

Install plastic cable ties as required.

- (12) Connect connector (17) to boom up lockout solenoid (18).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check boom up lockout operation (TM 9-2320-366-10-1).

End of Task.

7-88. M1084/M1086 BOOM UP SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

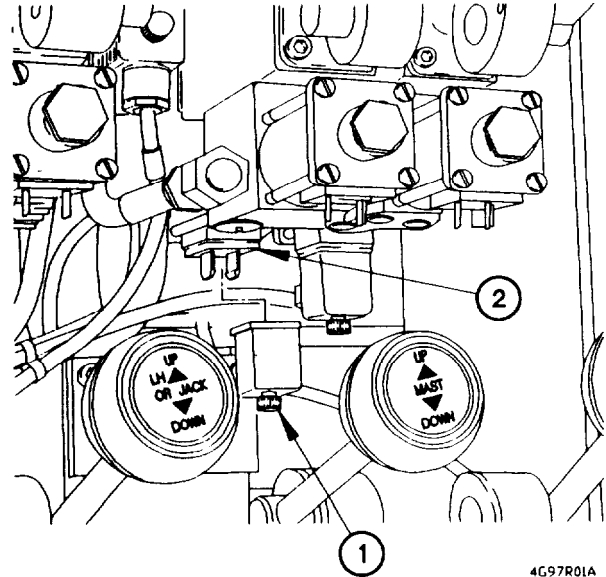
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

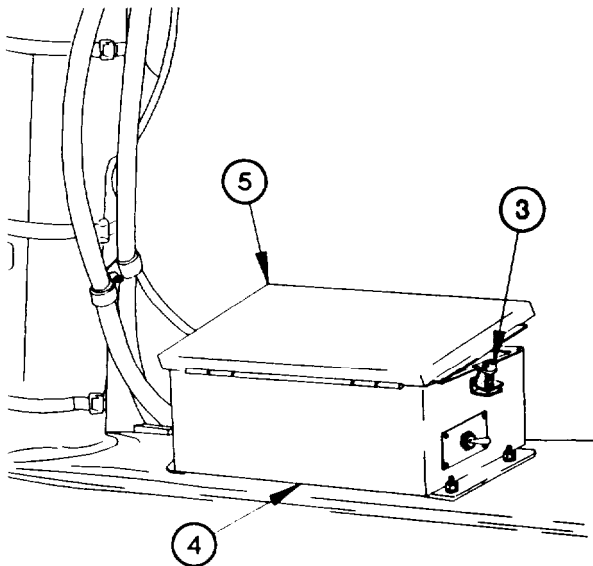
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from boom up solenoid (2).



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4G97R02A

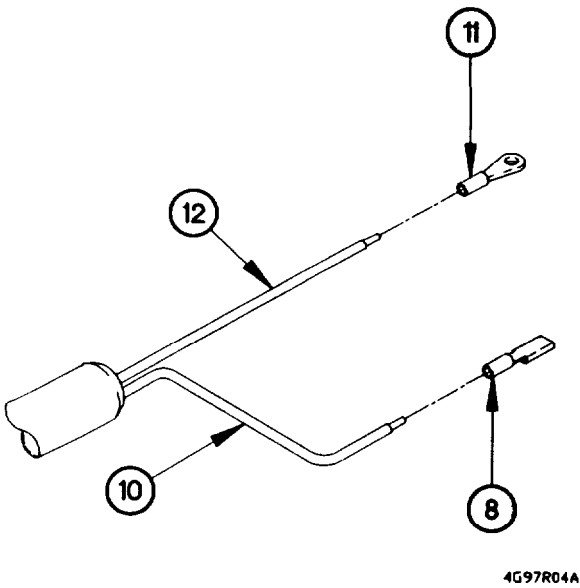
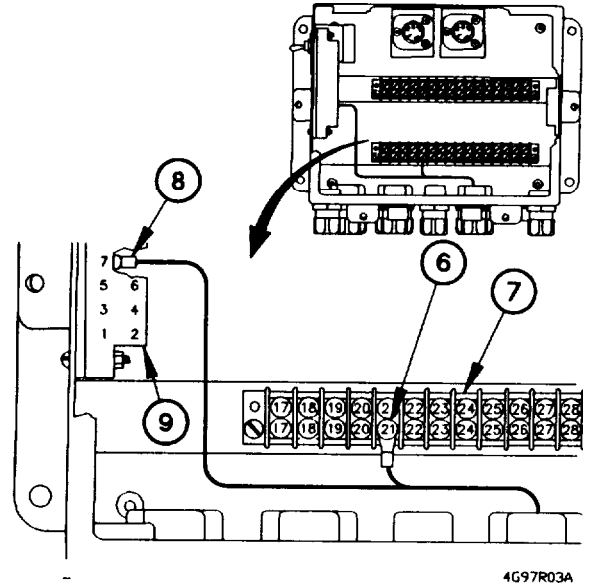
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

NOTE

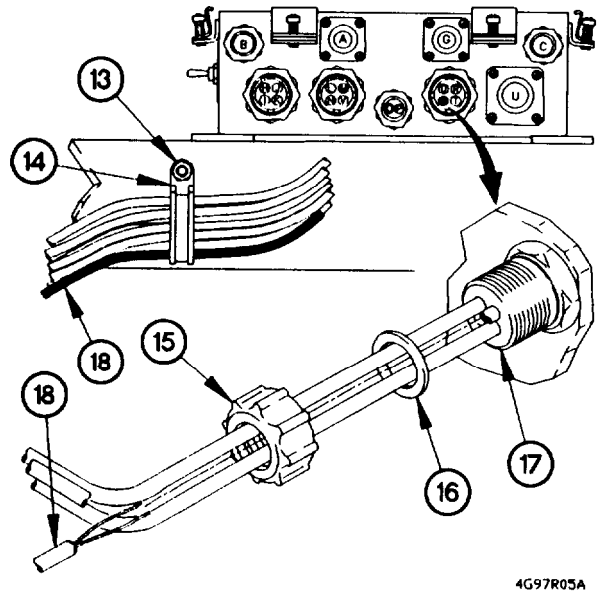
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 21.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 7.



- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove boom up solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove boom up solenoid cable (18) from clamp (14).

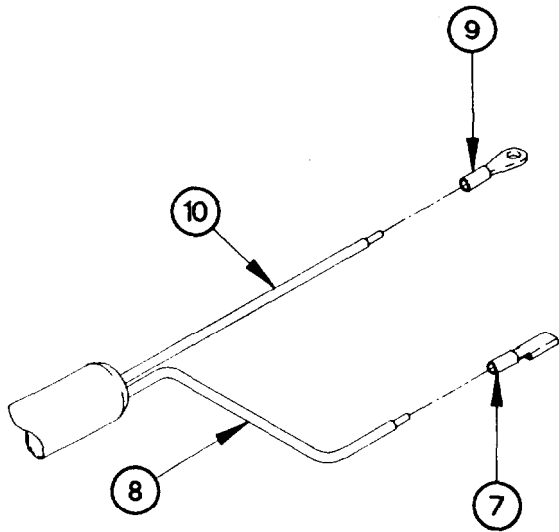
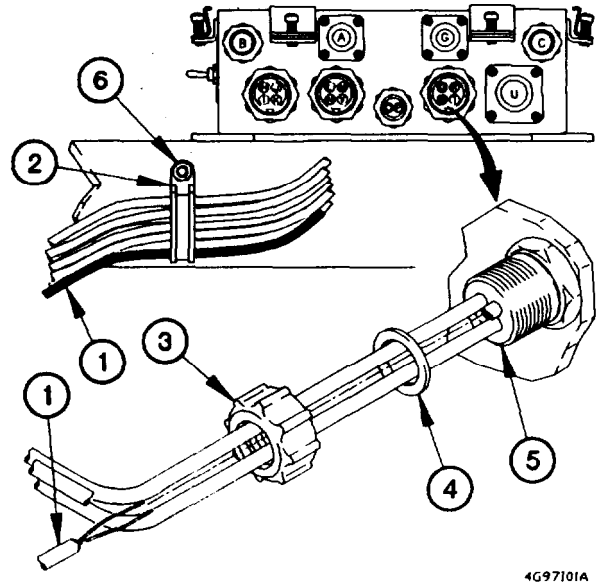


4G97R05A

7-88. M1084/M1086 BOOM UP SOLENOID CABLE REPLACEMENT (CONT)

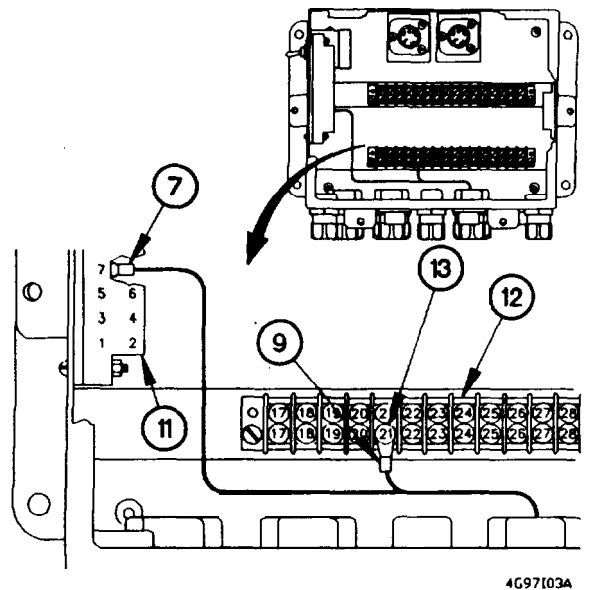
b. Installation.

- (1) Position boom up solenoid cable (1) through clamp (2).
- (2) Position boom up solenoid cable (1) through compression nut (3), washer (4) and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).

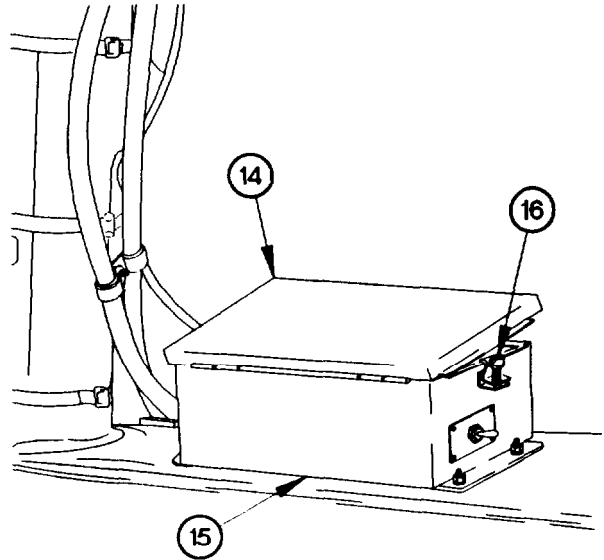


- (5) Install quick disconnect terminal (7) on black wire (8).
- (6) Install terminal lug (9) on white wire (10).

- (7) Install quick disconnect terminal (7) on ground strip (11) position 7.
- (8) Install terminal lug (9) on terminal block (12) position 21 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).



- (10) Close cover (14) on junction box (15).
- (11) Tighten four screws (16) on junction box cover (14).

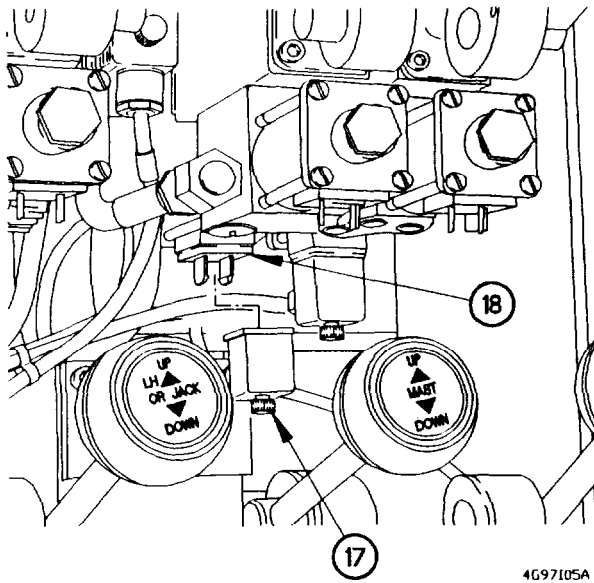


4G97I04A

NOTE

Install plastic cable ties as required.

- (12) Connect connector (17) to boom up solenoid (18).



4G97I05A

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check boom up operation (TM 9-2320-366-10-1).

End of Task.

7-89. M1084/M1086 CONTROL LOCKOUT SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- MHC erected (TM 9-2320-366-10-1).
- Engine shut down (TM 9-2320-366-10-1).
- Batteries disconnected (para 7-57).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

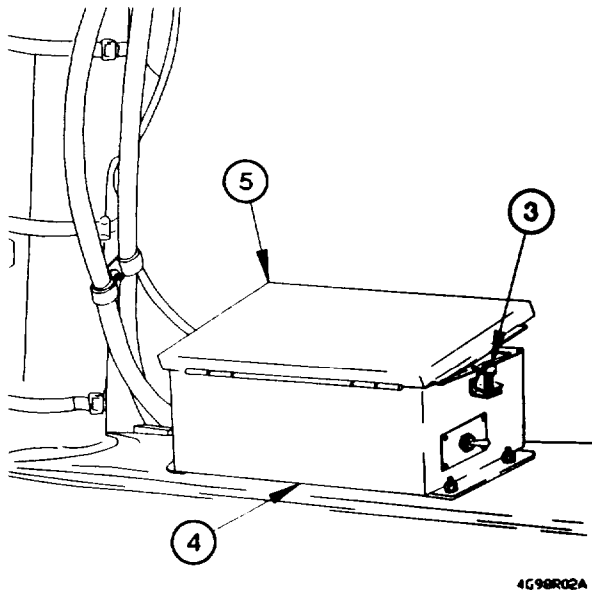
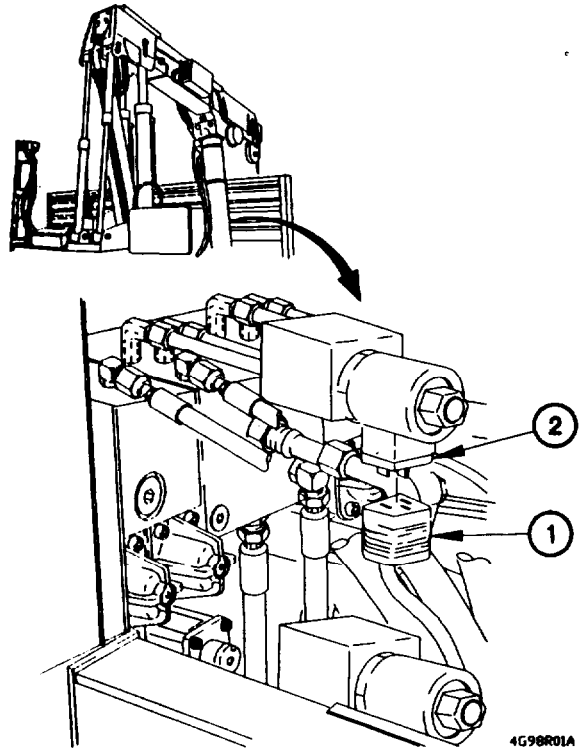
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

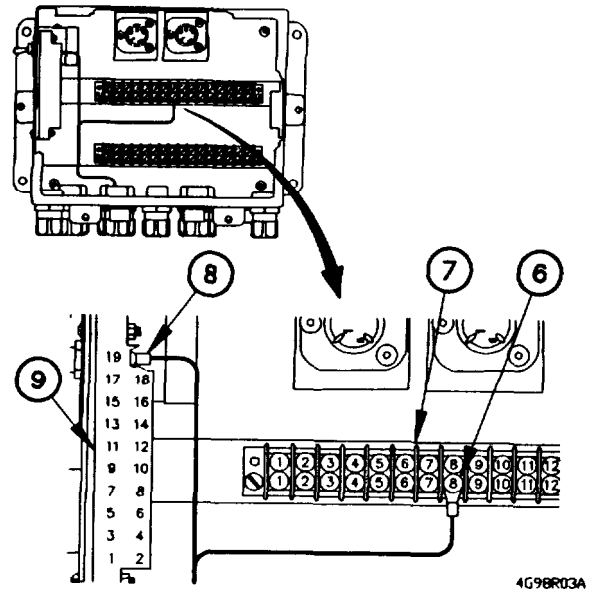
Remove plastic cable ties as required.

- (1) Disconnect connector (1) from control lockout solenoid (2).

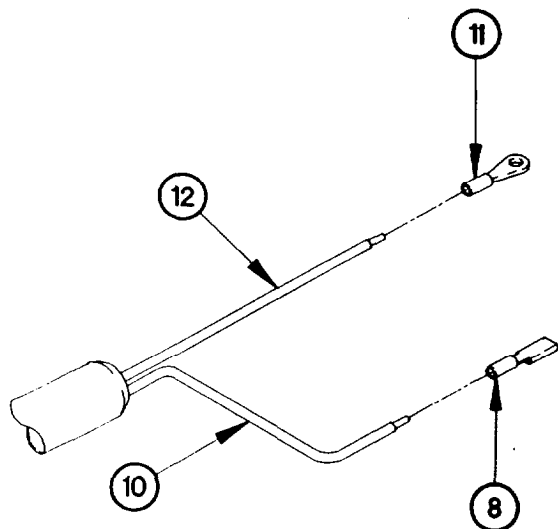


- (2) Loosen four screws (3) on junction box (4).
- (3) Open cover (5) on junction box (4).

- (4) Remove screw (6) from terminal block (7) position 8.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 19.



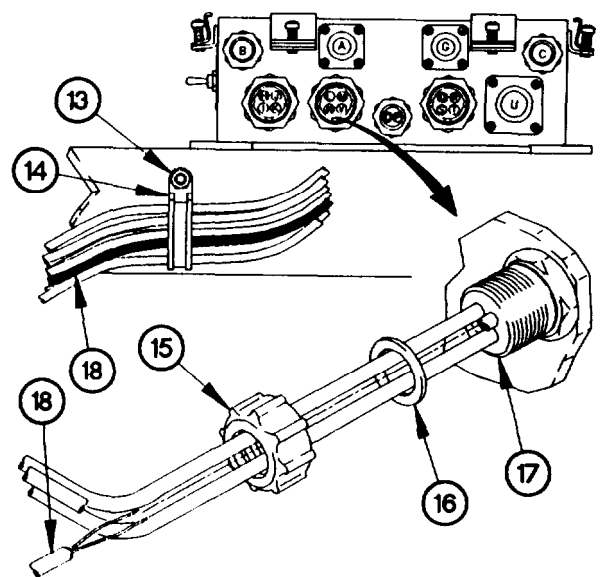
4G98R03A



4G98R04A

- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove control lockout solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove control lockout solenoid cable (18) from clamp (14).

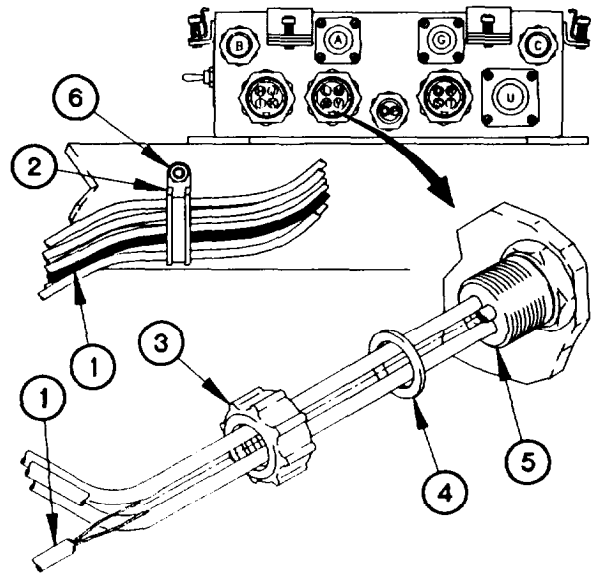


4G98R05A

7-89. M1084/M1086 CONTROL LOCKOUT SOLENOID CABLE REPLACEMENT (CONT)

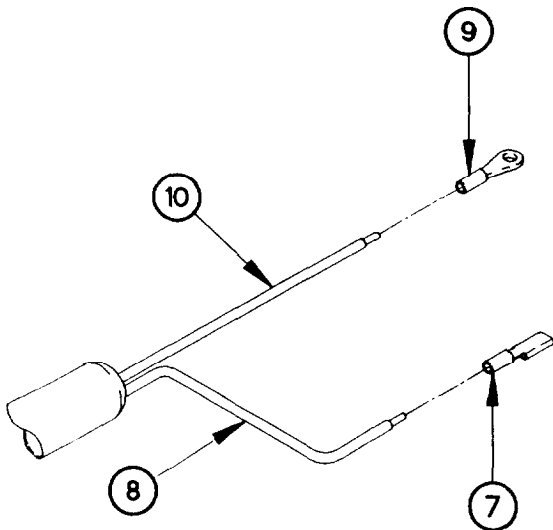
b. Installation.

- (1) Position control lockout solenoid cable (1) through clamp (2).
- (2) Position control lockout solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).



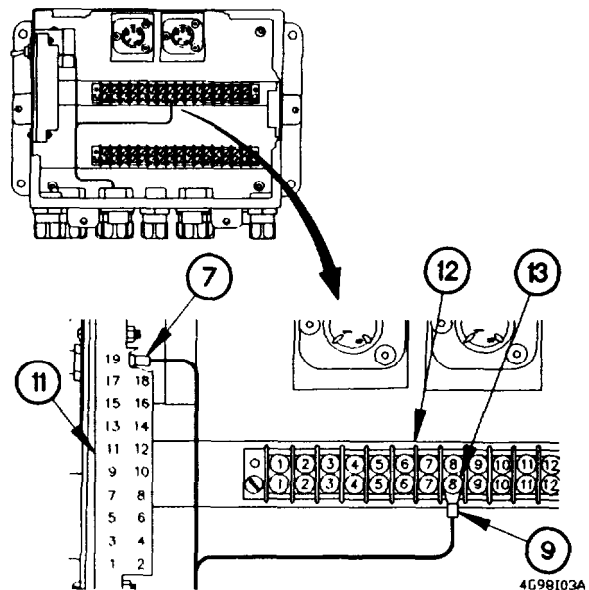
4G98101A

- (5) Install quick disconnect terminal (7) on black wire (8).
- (6) Install terminal lug (9) on white wire (10).



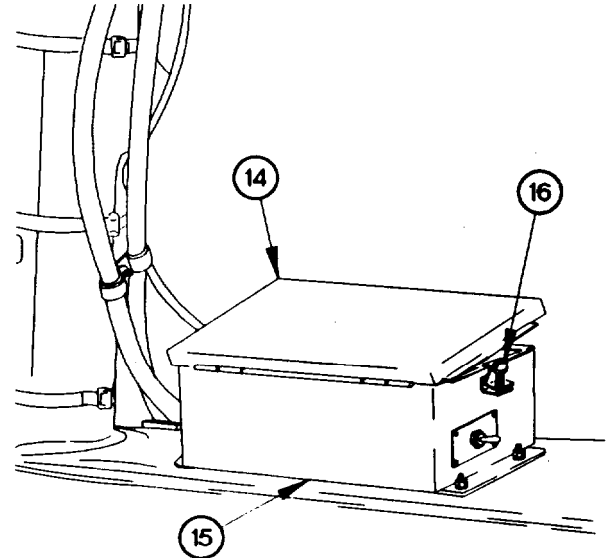
4G98102A

- (7) Install quick disconnect terminal (7) on ground strip (11) position 19.
- (8) Install terminal lug (9) on terminal block (12) position 8 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).



4G98103A

- (10) Close cover (14) on junction box (15).
- (11) Tighten four screws (16) on junction box (15).

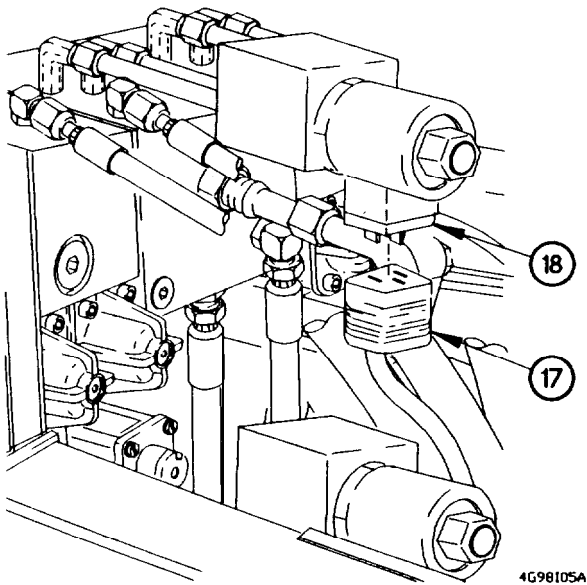


4G98104A

NOTE

Install plastic cable ties as required.

- (12) Connect connector (17) to control lockout solenoid (18).



4G98105A

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check control lockout operation (TM 9-2320-366-10-1).

End of Task.

7-90. M1084/M1086 CRANE POWER CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Batteries disconnected (para 7-57).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

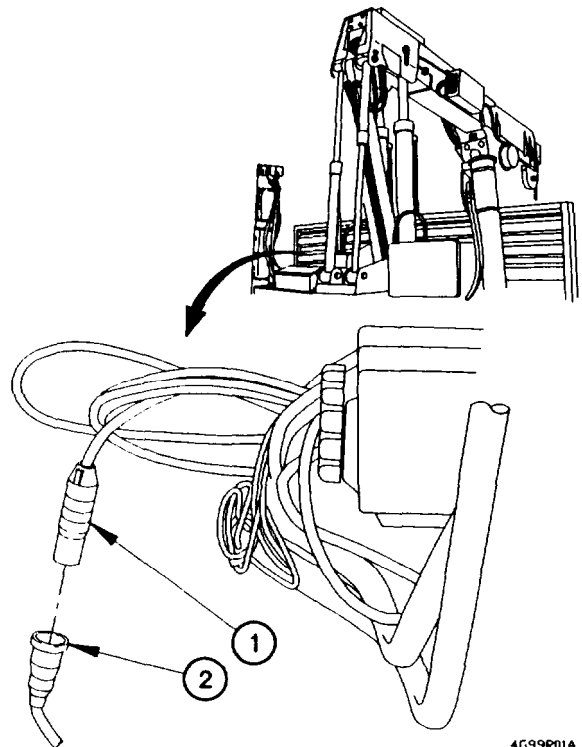
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Varnish, Oil (Item 70, Appendix D)

a. Removal.

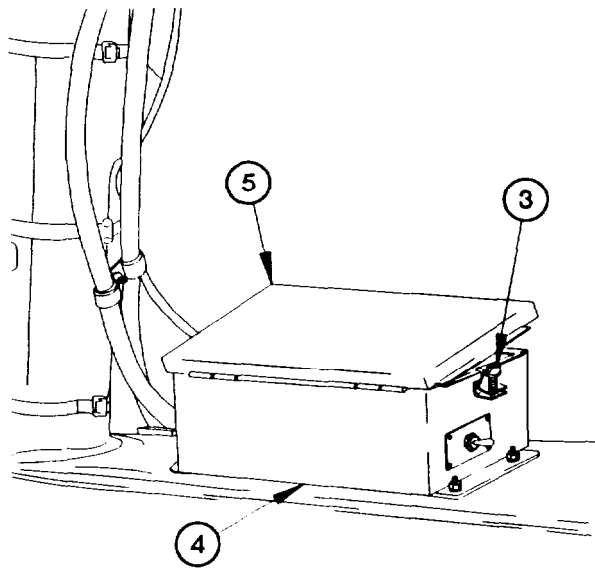
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from crane power connector (2).



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4G99R02A

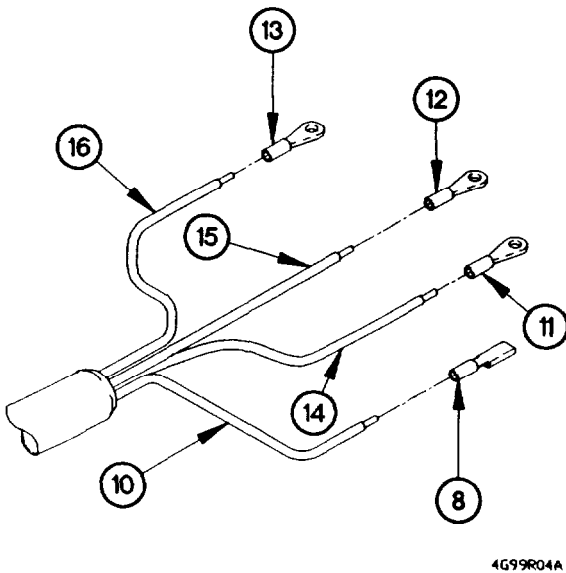
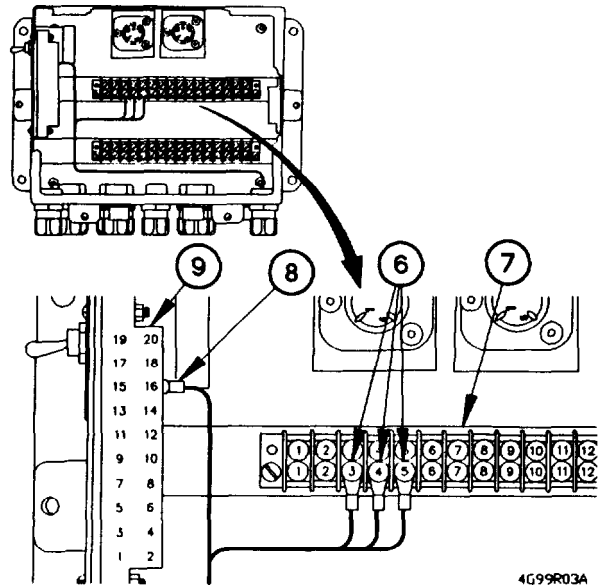
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

NOTE

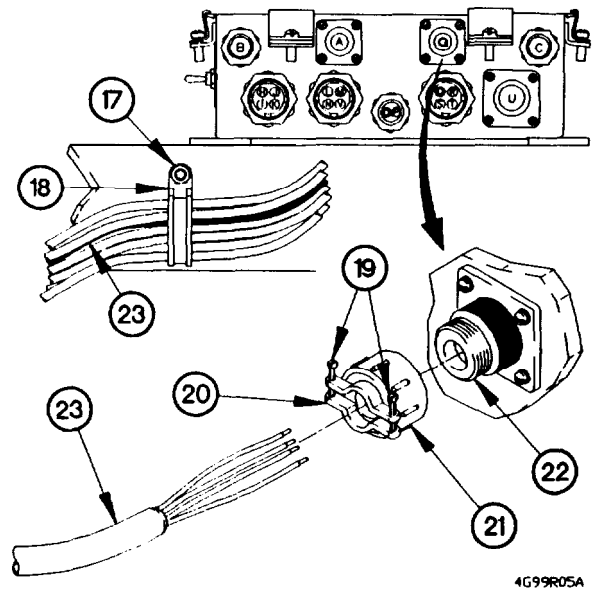
Tag wires and connection points prior to disconnecting.

- (4) Remove three screws (6) from terminal block (7) positions 3, 4, and 5.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 16.



- (6) Remove quick disconnect terminal (8) from green wire (10)
- (7) Remove terminal lugs (11, 12, and 13) from white wire (14), red wire (15), and black wire (16).

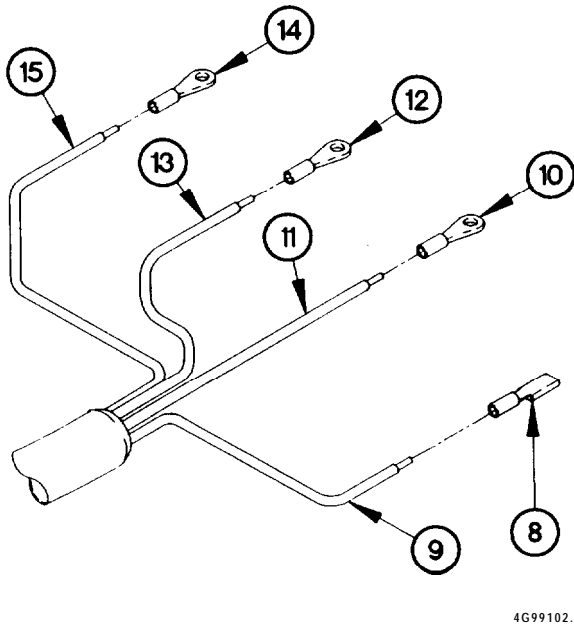
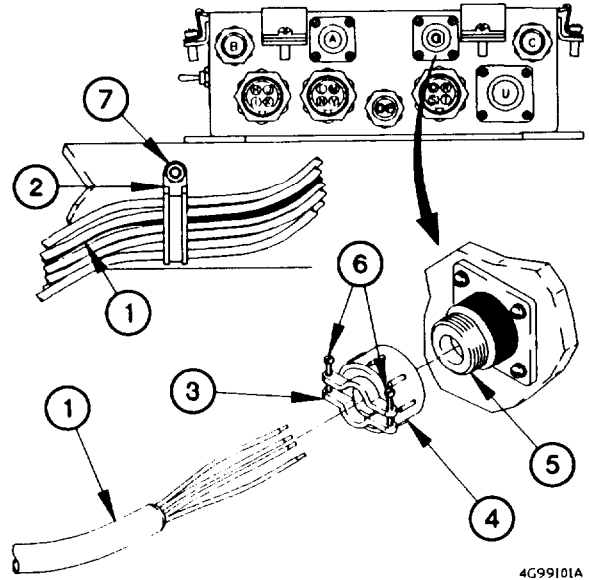
- (8) Loosen nut (17) on clamp (18).
- (9) Loosen two screws (19) on clamp (20).
- (10) Remove compression nut (21) from connector (22).
- (11) Remove crane power cable (23) from connector (22), compression nut (21), and clamp (20).
- (12) Remove crane power cable (23) from clamp (18).



7-90. M1084/M1086 CRANE POWER CABLE REPLACEMENT (CONT)

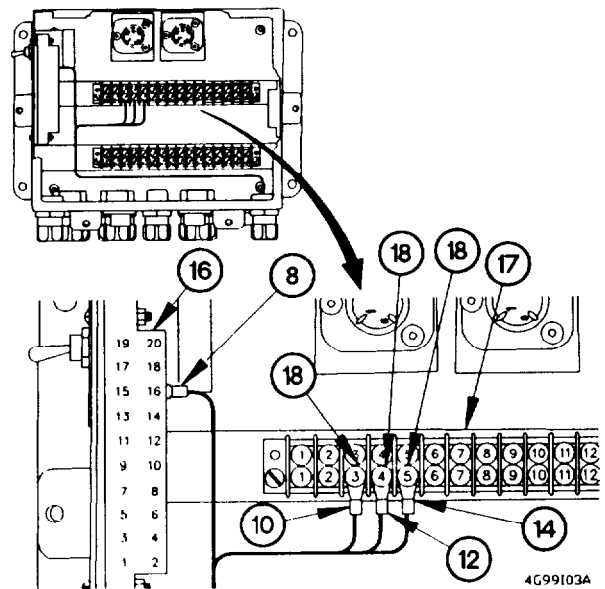
b. Installation.

- (1) Route crane power cable (1) through clamp (2).
- (2) Route crane power cable (1) through clamp (3), compression nut (4), and connector (5).
- (3) Install compression nut (4) and clamp (3) on connector (5).
- (4) Tighten two screws (6) on clamp (3).
- (5) Tighten nut (7) on clamp (2).



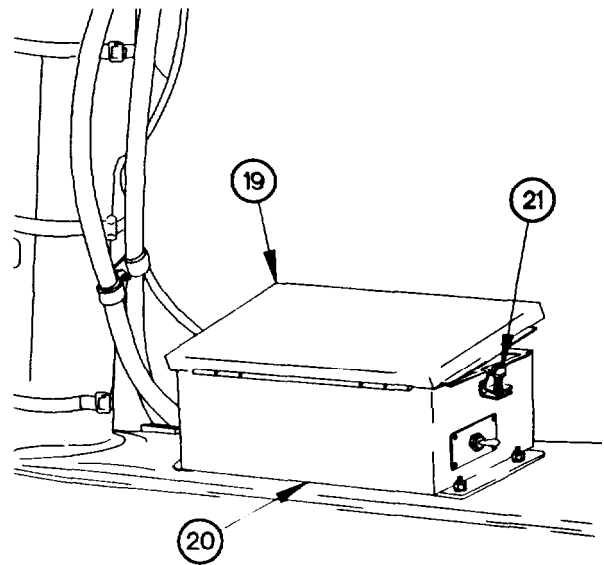
- (6) Install quick disconnect terminal (8) on green wire (9).
- (7) Install terminal lug (10) on white wire (11).
- (8) Install terminal lug (12) on red wire (13).
- (9) Install terminal lug (14) on black wire (15).

- (10) Install quick disconnect terminal (8) on ground strip (16) position 16.
- (11) Install terminal lug (10) on terminal block (17) position 3 with screw (18).
- (12) Install terminal lug (12) on terminal block (17) position 4 with screw (18).
- (13) Install terminal lug (14) on terminal block (17) position 5 with screw (18).
- (14) Apply varnish to quick disconnect terminal (8) and terminal lugs (10, 12 and 14).

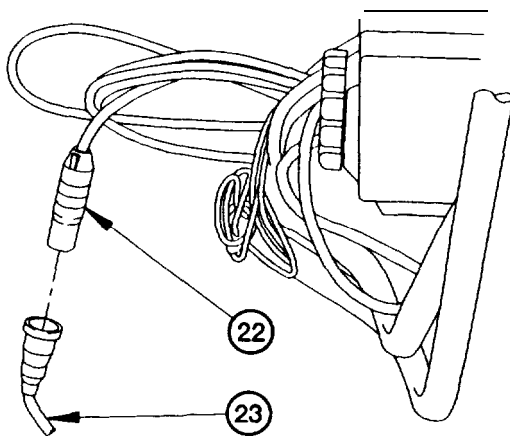


(15) Close cover (19) on junction box (20).

(16) Tighten four screws (21) on junction box (20).



4C991MA



4G99105A

NOTE

Install plastic cable ties as required.

(17) Connect connector (22) to crane power connector (23).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-57).

(2) Operate MHC and check MHC power operation (TM 9-2320-366-10-1).

End of Task.

7-91. M1084/M1086 HOIST DOWN SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit; Electrical (Item 45, Appendix C)

Materials/Parts

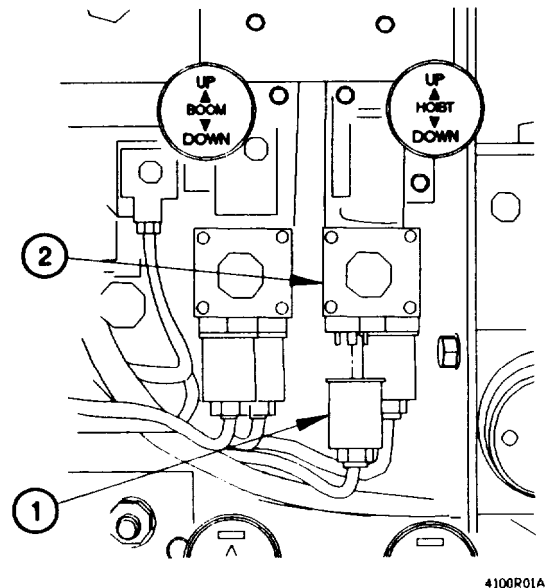
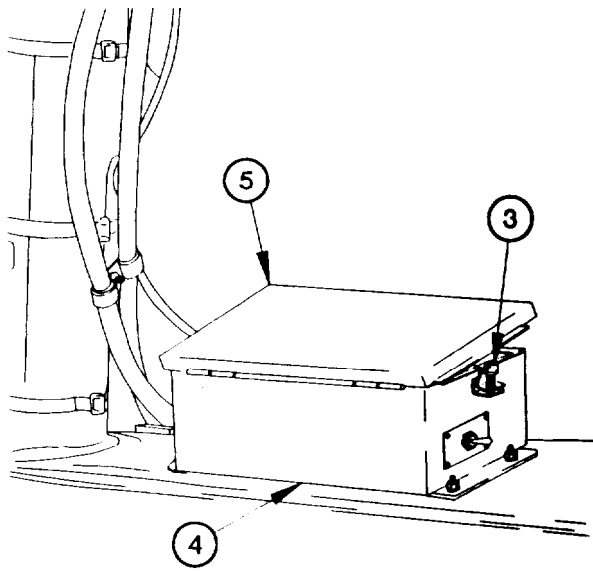
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from hoist down solenoid (2).

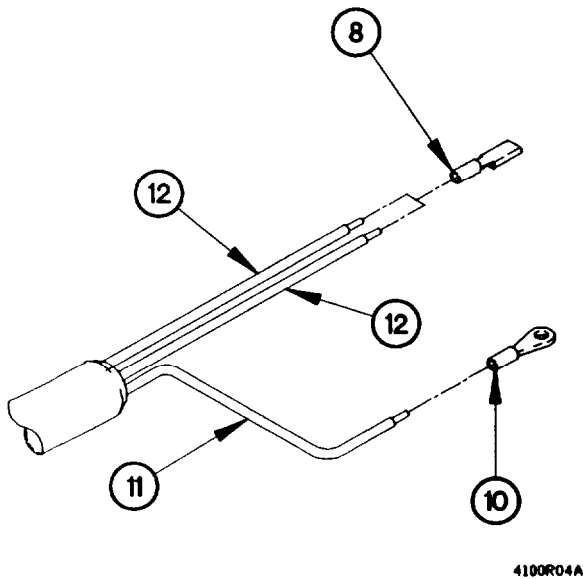
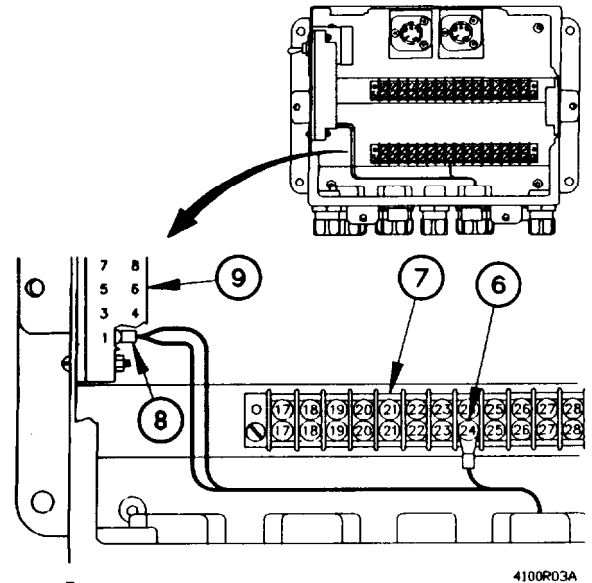


- (2) Loosen four screws (3) on junction box (4).
- (3) Open cover (5) on junction box (4).

NOTE

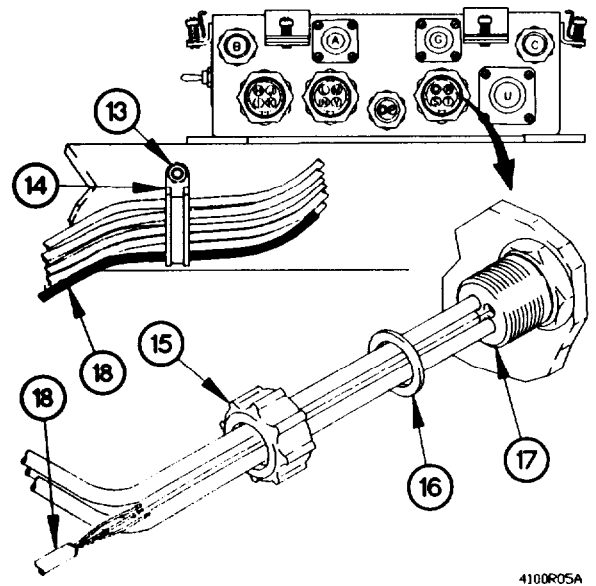
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 24.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 1.



- (6) Remove terminal lug (10) from white wire (11).
- (7) Remove quick disconnect terminal (8) from two black wires (12).

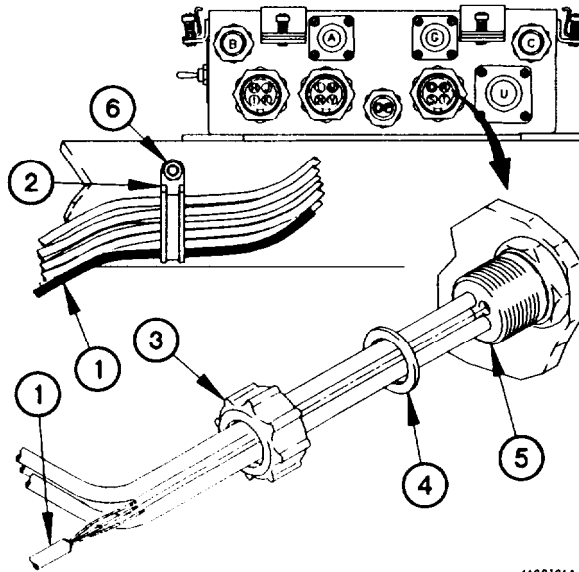
- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove hoist down solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove hoist down solenoid cable (18) from clamp (14).



7-91. M1084/M1086 HOIST DOWN SOLENOID CABLE REPLACEMENT (CONT)

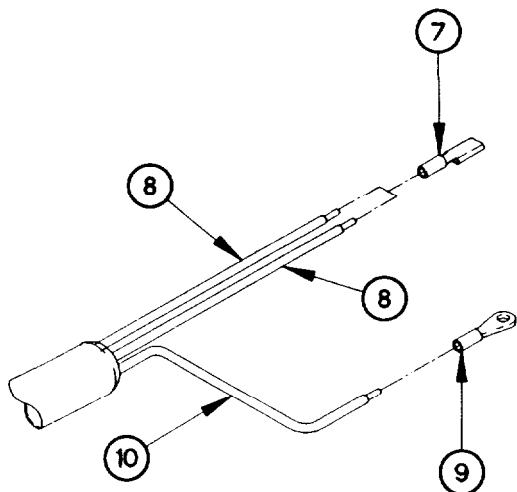
b. Installation.

- (1) Position hoist down solenoid cable (1) through clamp (2).
- (2) Position hoist down solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).



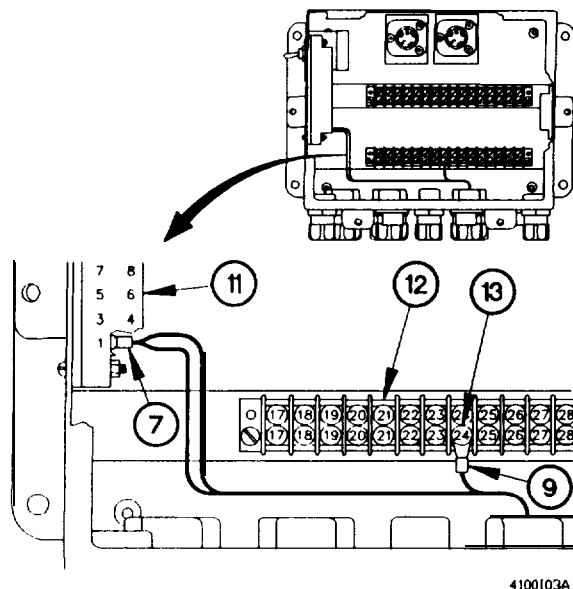
4100101A

- (5) Install quick disconnect terminal (7) on two black wires (8).
- (6) Install terminal lug (9) on white wire (10).



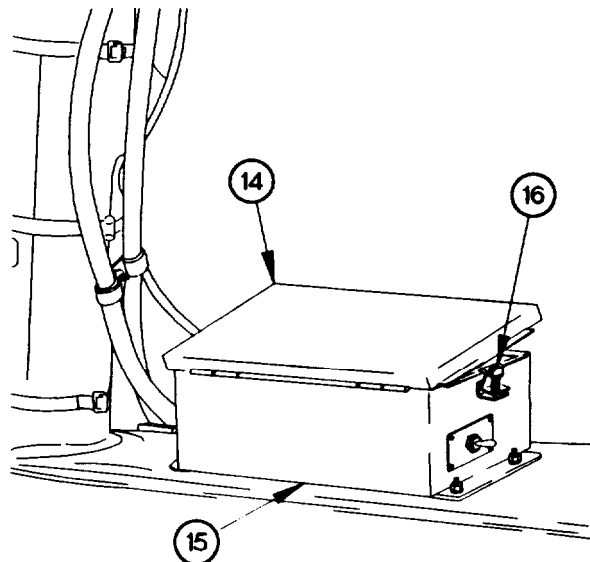
4100102A

- (7) Install quick disconnect terminal (7) on ground strip (11) position 1.
- (8) Install terminal lug (9) on terminal block (12) position 24 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).

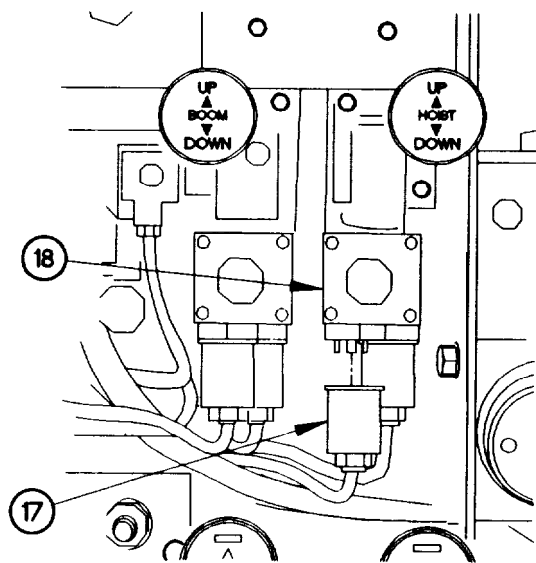


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- (10) Close cover (14) on junction box (15).
- (11) Tighten four screws (16) on junction box (15).



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NOTE

Install plastic cable ties as required.

- (12) Connect connector (17) to hoist down solenoid (18).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check hoist down operation (TM 9-2320-366-10-1).

End of Task.

7-92. M1084/M1086 HOIST UP LOCKOUT SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Batteries disconnected (para 7-57).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

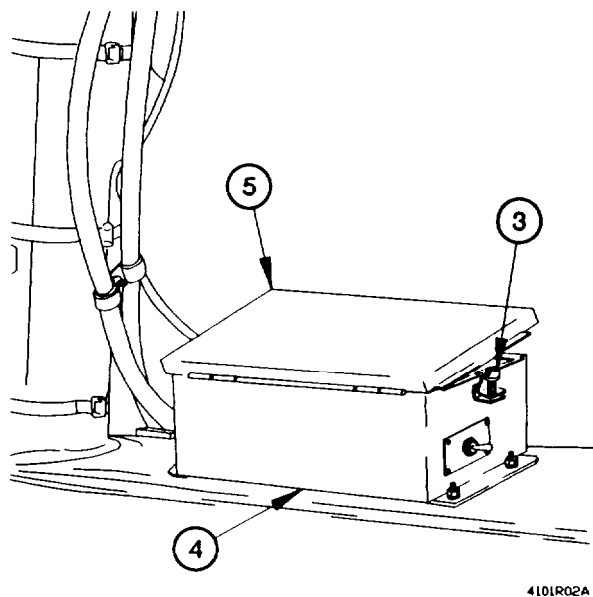
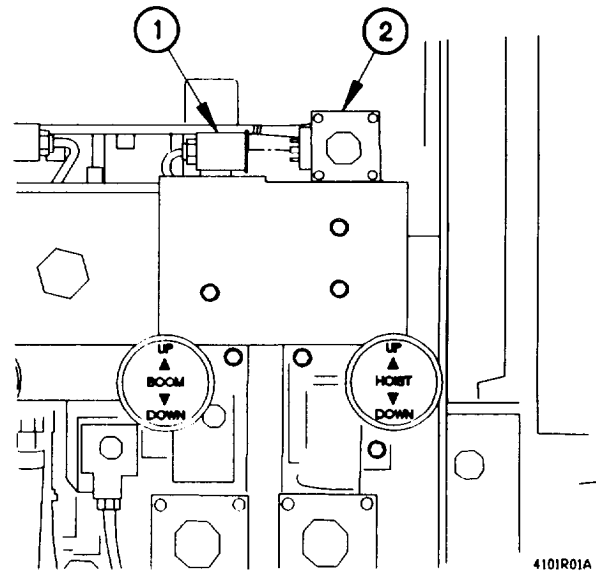
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from hoist up lockout solenoid (2).

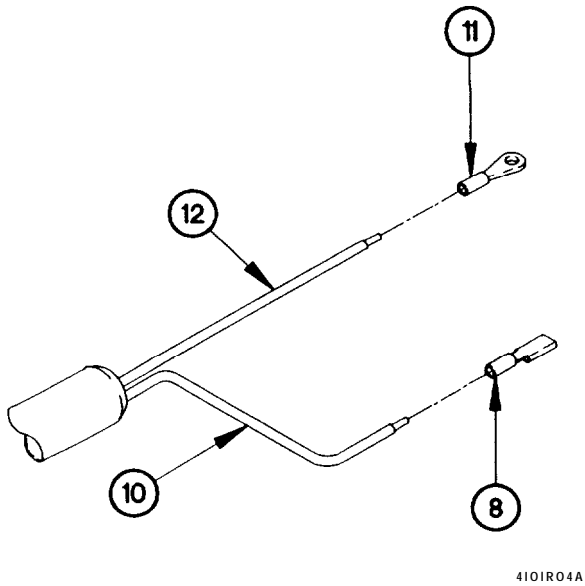
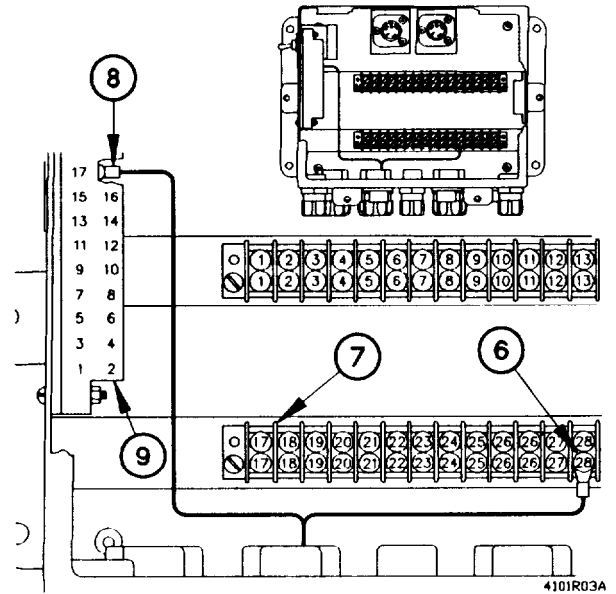


- (2) Loosen four screws (3) on junction box (4).
- (3) Open cover (5) on junction box (4).

NOTE

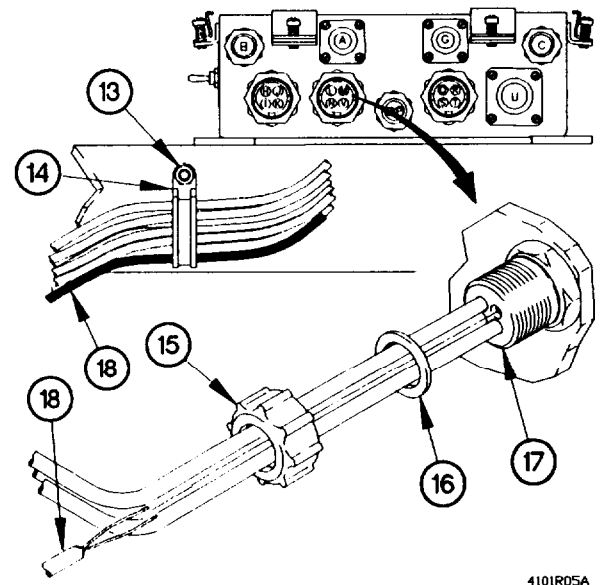
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 28.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 17.



- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

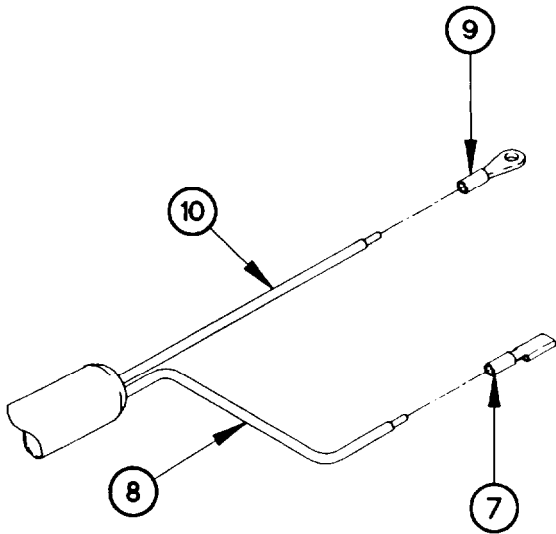
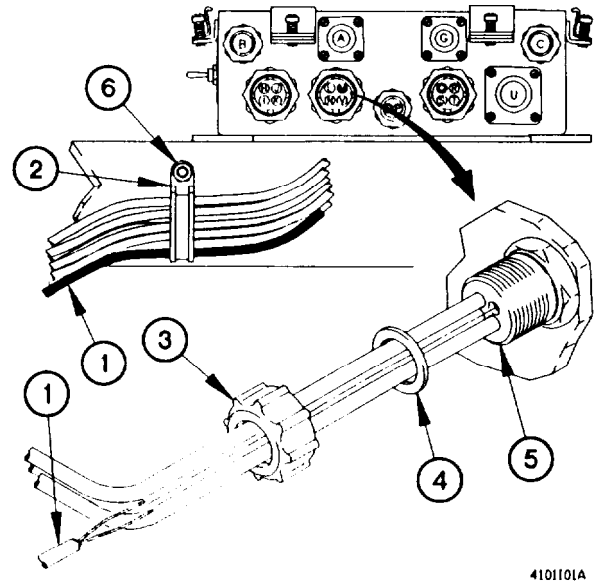
- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove hoist up lockout solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove hoist up lockout solenoid cable (18) from clamp (14).



7-92. M1084/M1086 HOIST UP LOCKOUT SOLENOID CABLE REPLACEMENT (CONT)

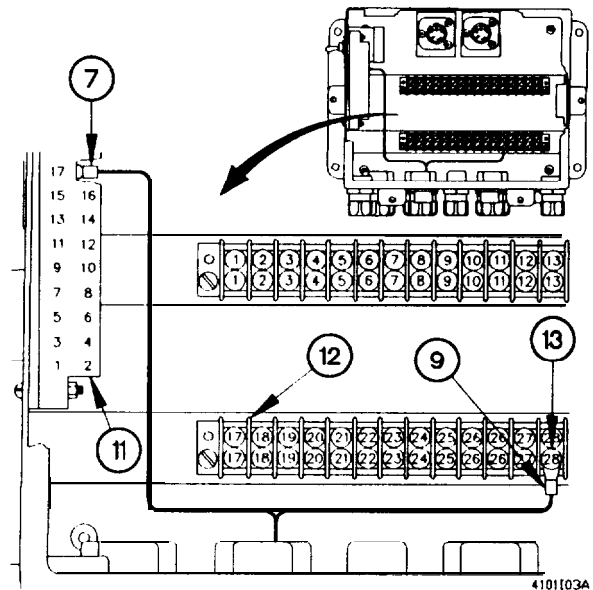
b. Installation.

- (1) Position hoist up lockout solenoid cable (1) through clamp (2).
- (2) Position hoist up lockout solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).

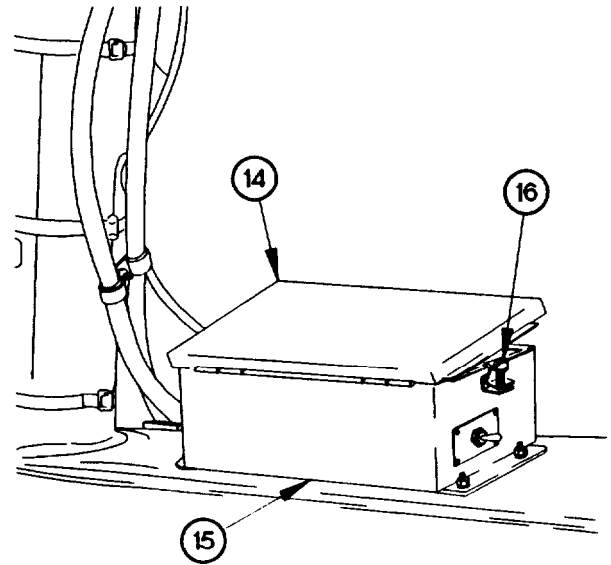


- (5) Install quick disconnect terminal (7) on black wire (8).
- (6) Install terminal lug (9) on white wire (10).

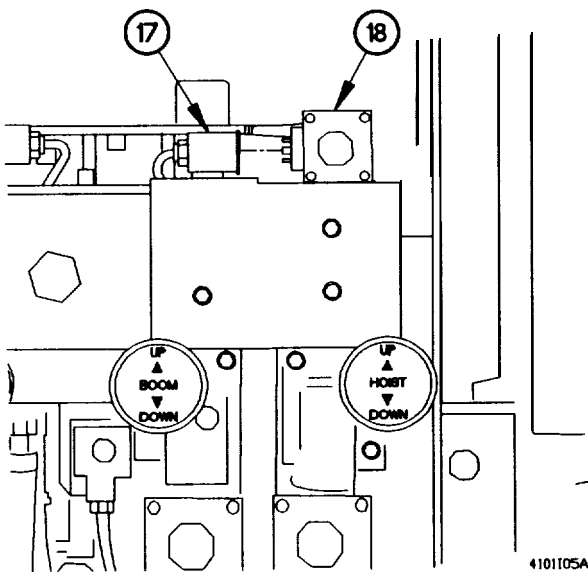
- (7) Install quick disconnect terminal (7) on ground strip (11) position 17.
- (8) Install terminal lug (9) on terminal block (12) position 28 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).



- (10) Close cover (14) on junction box (15).
- (11) Tighten four screws (16) on junction box (15).



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NOTE

Install plastic cable ties as required.

- (12) Connect connector (17) to hoist up lockout solenoid (18).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check hoist up lockout operation (TM 9-2320-366-10-1).

End of Task.

7-93. M1084/M1086 HOIST UP SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

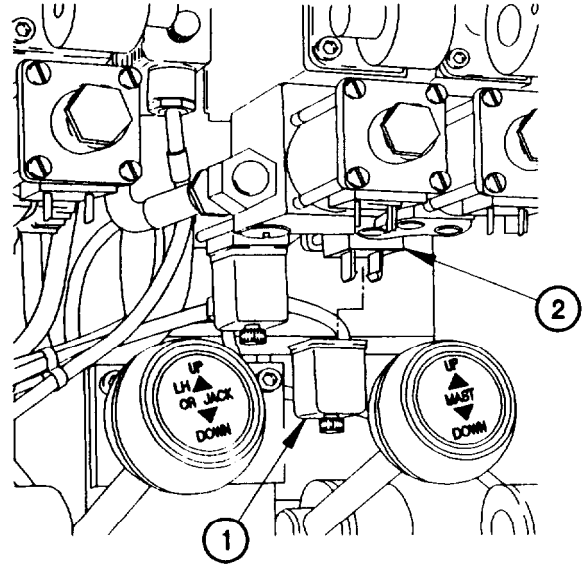
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

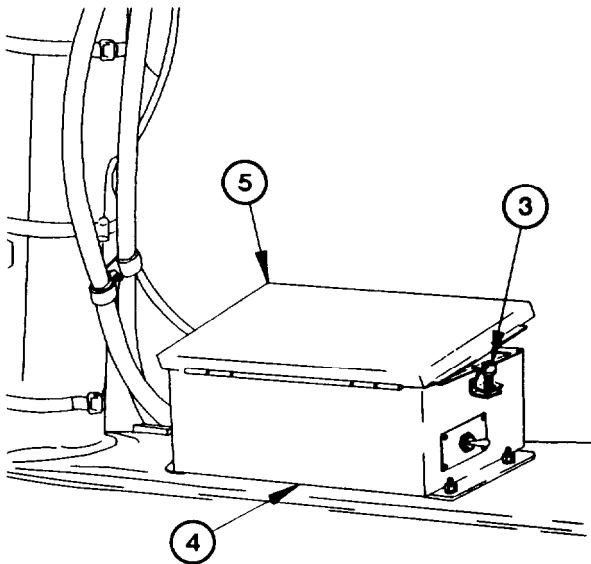
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from hoist up solenoid (2).



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4102R02A

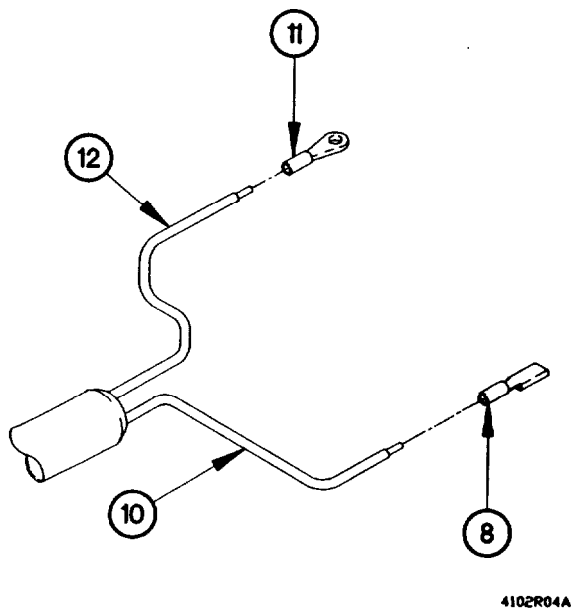
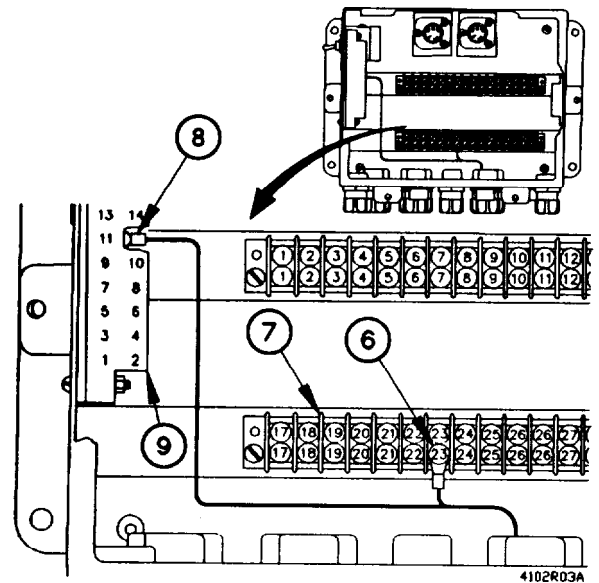
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

NOTE

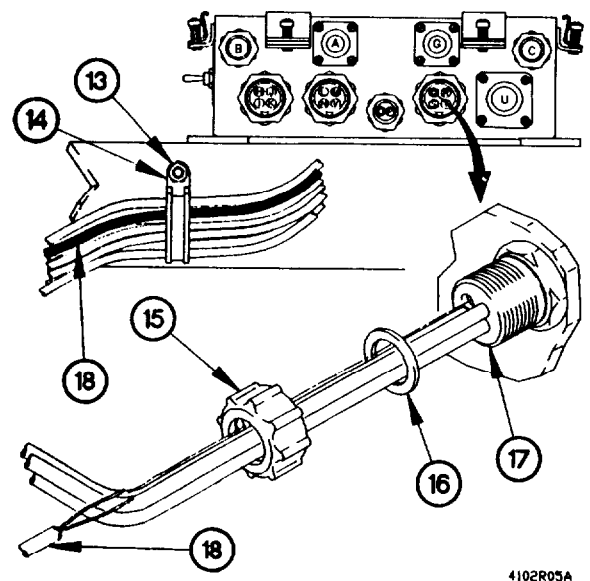
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 23.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 11.



- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

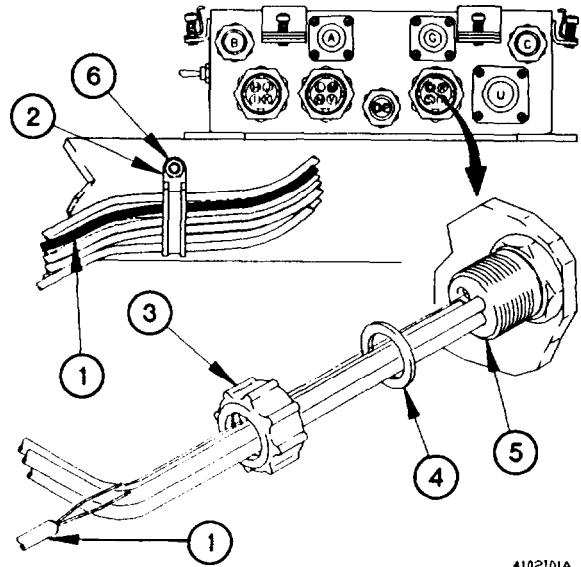
- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove hoist up solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove hoist up solenoid cable (18) from clamp (14).



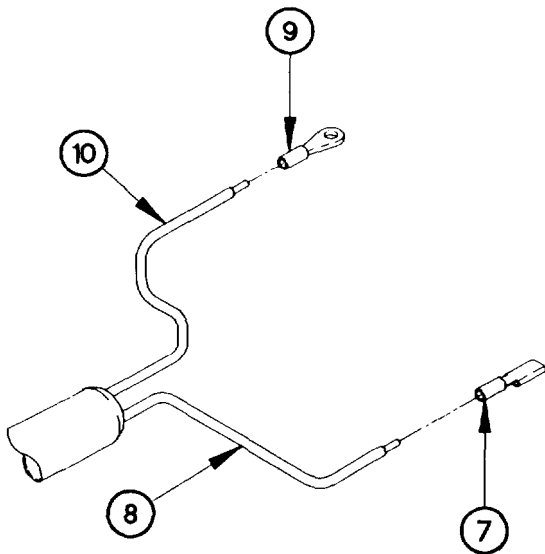
7-93. M1084/M1086 HOIST UP SOLENOID CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Position hoist up solenoid cable (1) through clamp (2).
- (2) Position hoist up solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).



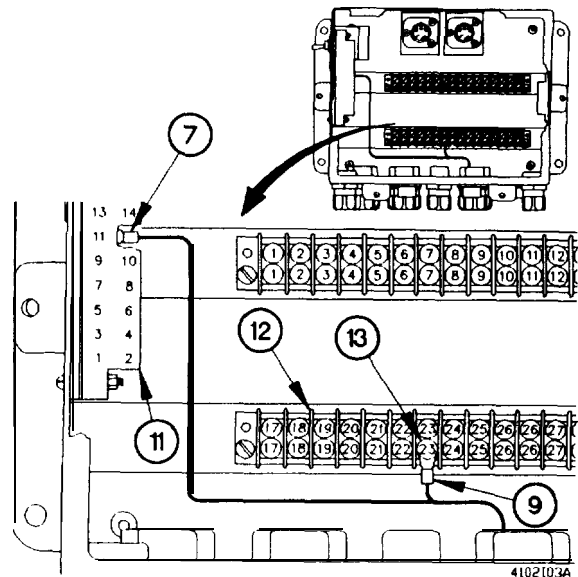
4102101A



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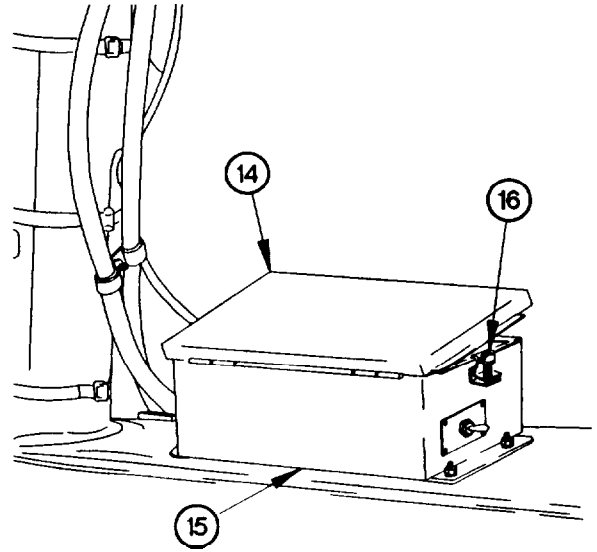
- (5) Install quick disconnect terminal (7) on black wire (8).
- (6) Install terminal lug (9) on white wire (10).

- (7) Install quick disconnect terminal (7) on ground strip (11) position 11.
- (8) Install terminal lug (9) on terminal block (12) position 23 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).

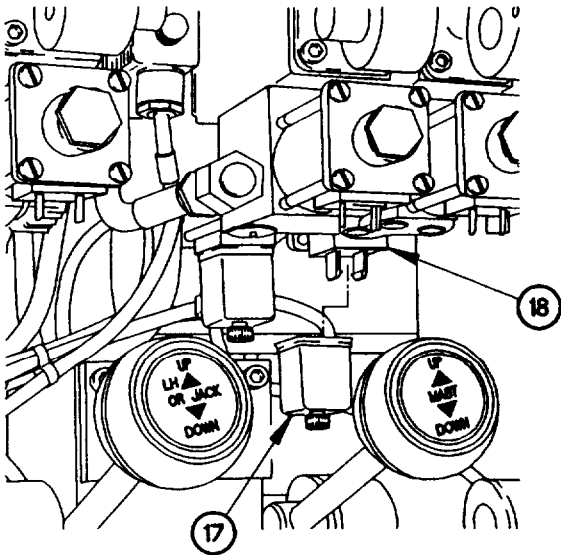


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- (10) Close cover (14) on junction box (15).
- (11) Tighten four screws (16) on junction box (15).



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NOTE

Install plastic cable ties as required.

- (12) Connect connector (17) to hoist up solenoid (18).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check hoist up operation (TM 9-2320-366-10-1).

End of Task.

7-94. M1084/M1086 LEFT JACK CYLINDER PROXIMITY SENSOR CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

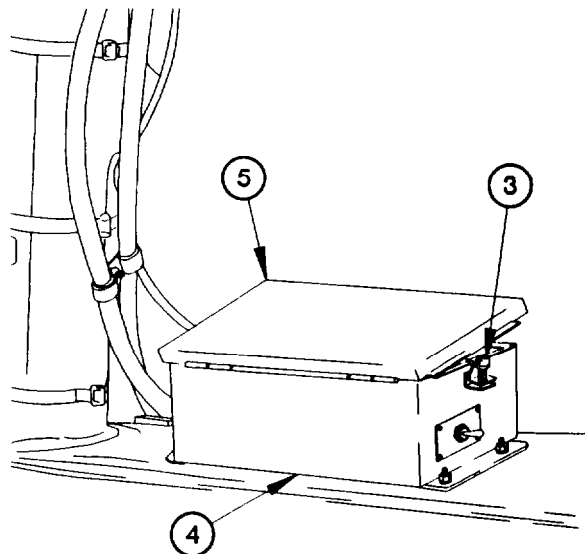
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

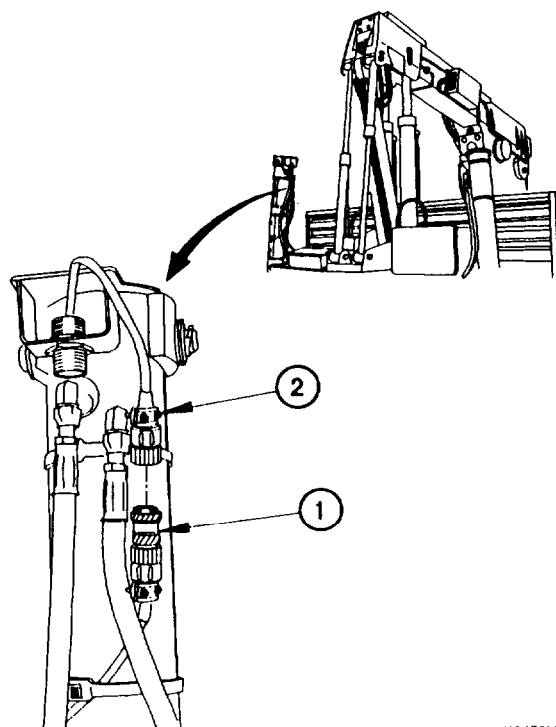
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from proximity sensor connector (2).



4104R02A



4104R01A

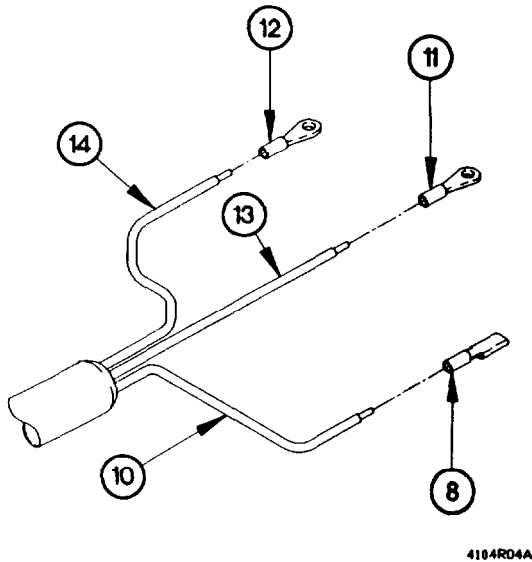
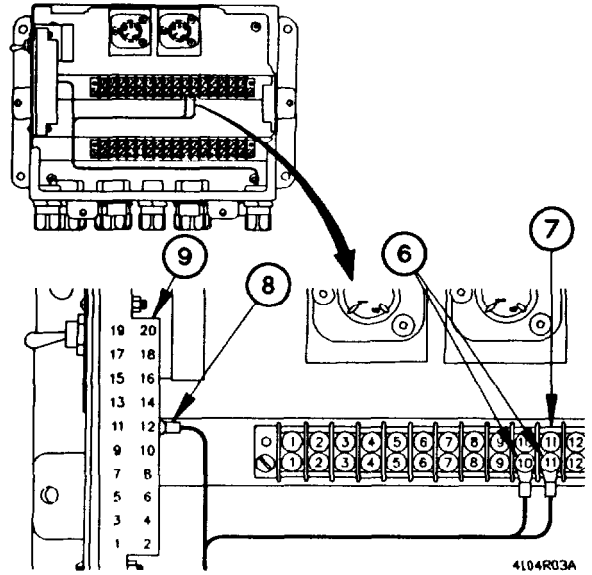
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

NOTE

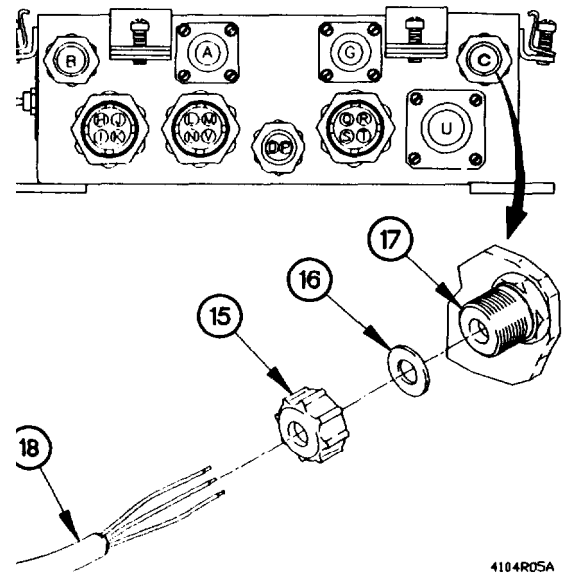
Tag wires and connection points prior to disconnecting.

- (4) Remove two screws (6) from terminal block (7) positions 10 and 11.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 12.



- (6) Remove quick disconnect terminal (8) from red wire (10).
- (7) Remove terminal lugs (11 and 12) from white wire (13) and black wire (14).

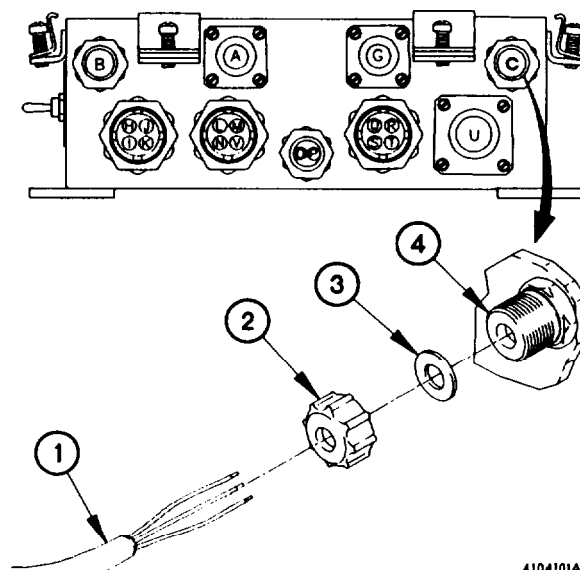
- (8) Remove compression nut (15) and washer (16) from connector (17).
- (9) Remove left jack cylinder proximity sensor cable (18) from connector (17), washer (16), and compression nut (15).



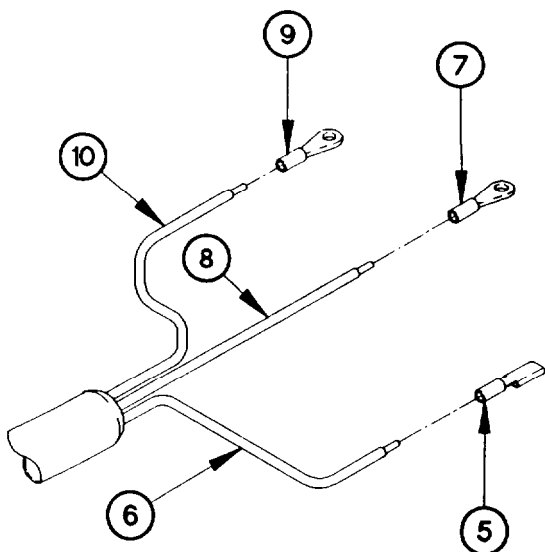
7-94. M1084/M1086 LEFT JACK CYLINDER PROXIMITY SENSOR CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Position left jack cylinder proximity sensor cable (1) through compression nut (2), washer (3), and connector (4).
- (2) Install washer (3) and compression nut (2) on connector (4).



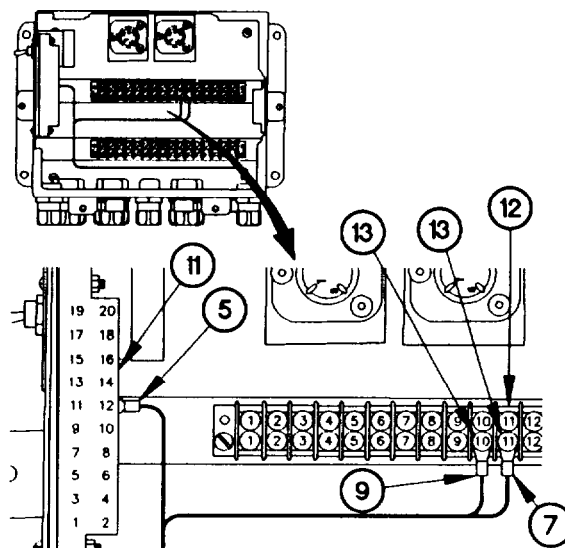
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- (3) Install quick disconnect terminal (5) on red wire (6).
- (4) Install terminal lug (7) on white wire (8).
- (5) Install terminal lug (9) on black wire (10).

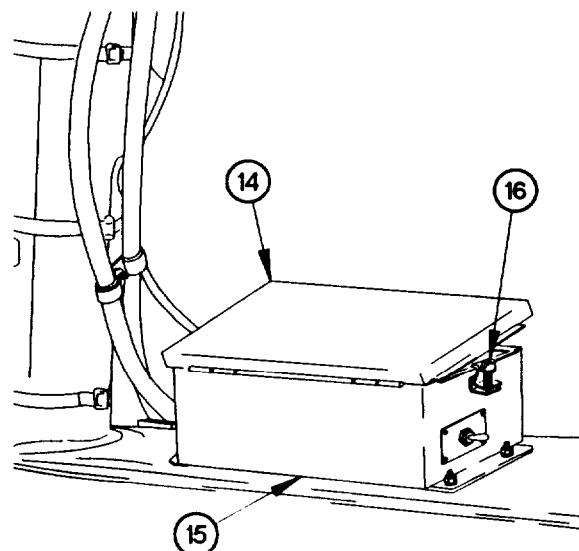
- (6) Install quick disconnect terminal (5) on ground strip (11) position 12.
- (7) Install terminal lug (7) on terminal block (12) position 11 with screw (13).
- (8) Install terminal lug (9) on terminal block (12) position 10 with screw (13).
- (9) Apply varnish to quick disconnect terminal (5) and terminal lugs (7 and 9).



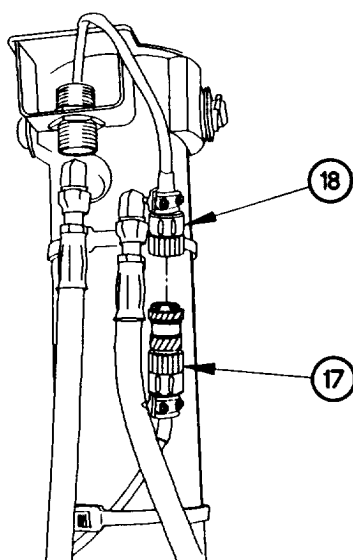
4104103A

(10) Close cover (14) on junction box (15).

(11) Tighten four screws (16) on junction box (15).



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NOTE

Install plastic cable ties as required.

(12) Connect connector (17) on proximity sensor connector (18).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-57).

(2) Operate MHC and check left jack cylinder operation (TM 9-2320-366-10-1).

End of Task.

7-95. M1084/M1086 OVERLOAD LOCKOUT CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- MHC erected (TM 9-2320-366-10-1).
- Engine shut down (TM 9-2320-366-10-1).
- Batteries disconnected (para 7-57).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

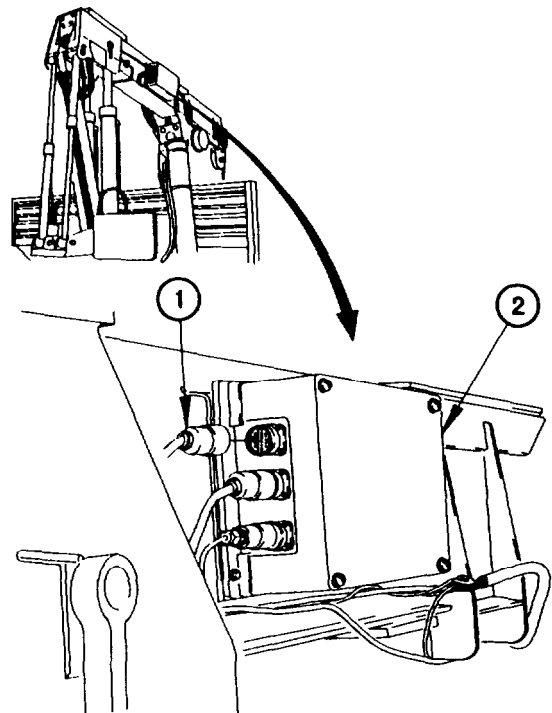
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Varnish, Oil (Item 70, Appendix D)

a. Removal.

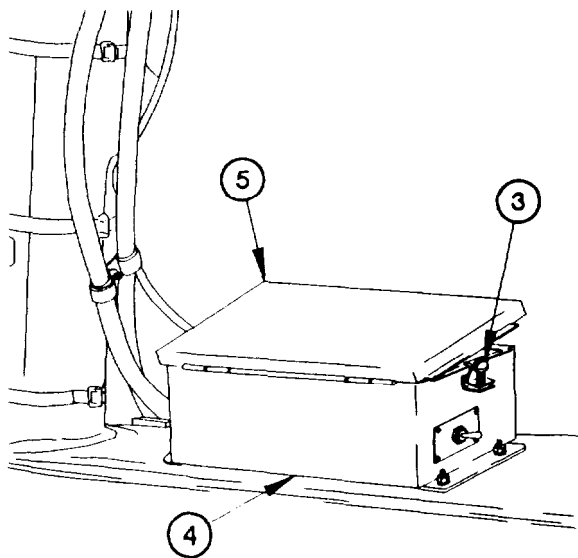
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from overload shutdown (2).



4105R01A



4105R02A

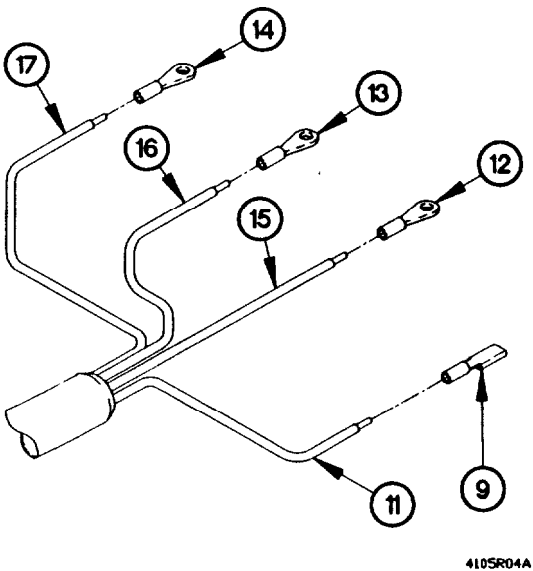
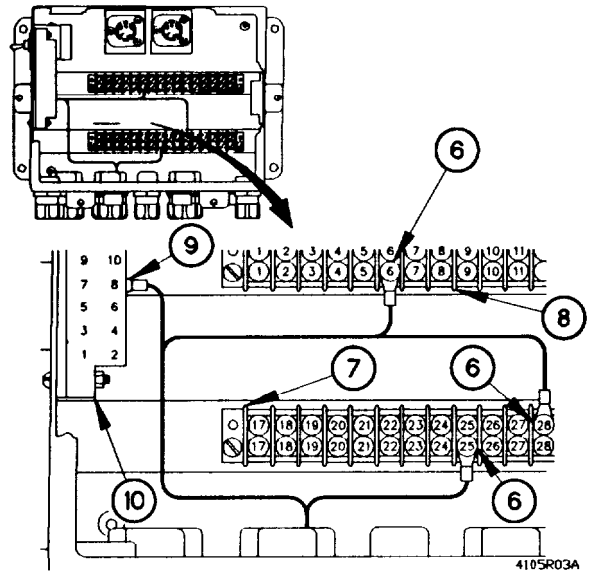
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

NOTE

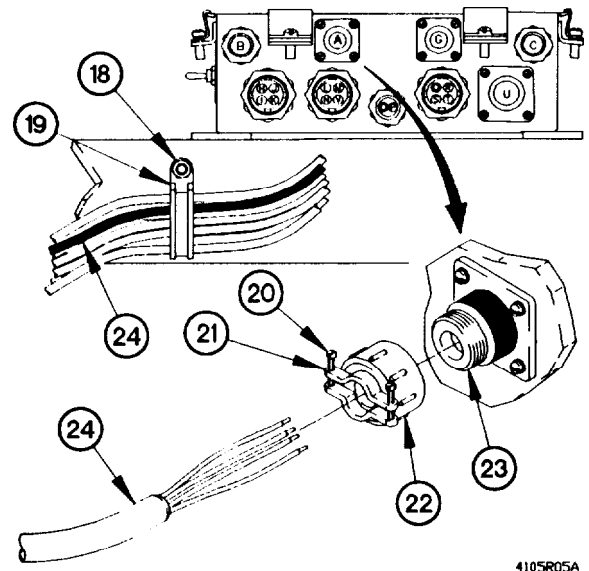
Tag wires and connection points prior to disconnecting.

- (4) Remove three screws (6), from terminal blocks (7 and 8) positions 6, 25, and 28.
- (5) Disconnect quick disconnect terminal (9) from ground strip (10) position 8.



- (6) Remove quick disconnect terminal (9) from green wire (11).
- (7) Remove terminal lugs (12, 13, and 14) from black wire (15), red wire (16), and white wire (17).

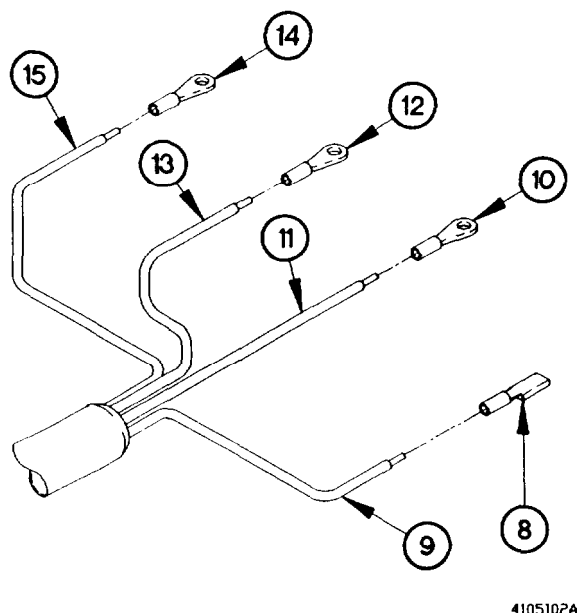
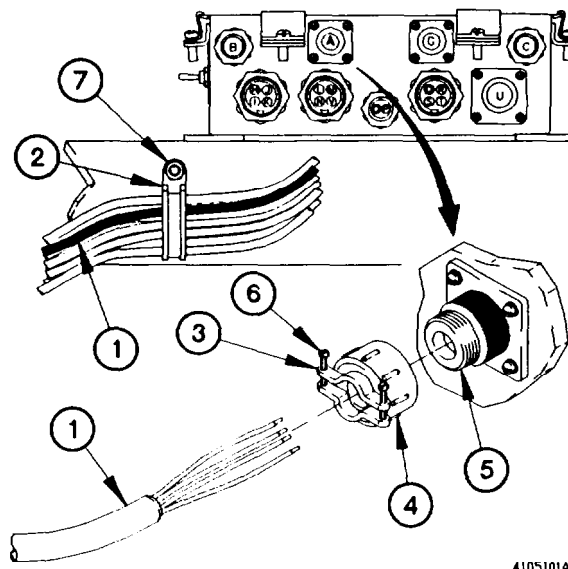
- (8) Loosen nut (18) on clamp (19).
- (9) Loosen two screws (20) on clamp (21).
- (10) Remove compression nut (22) from connector (23).
- (11) Remove overload lockout cable (24) from connector (23), compression nut (22), and clamp (21).
- (12) Remove overload lockout cable (24) from clamp (19).



7-95. M1084/M1086 OVERLOAD LOCKOUT CABLE REPLACEMENT (CONT)

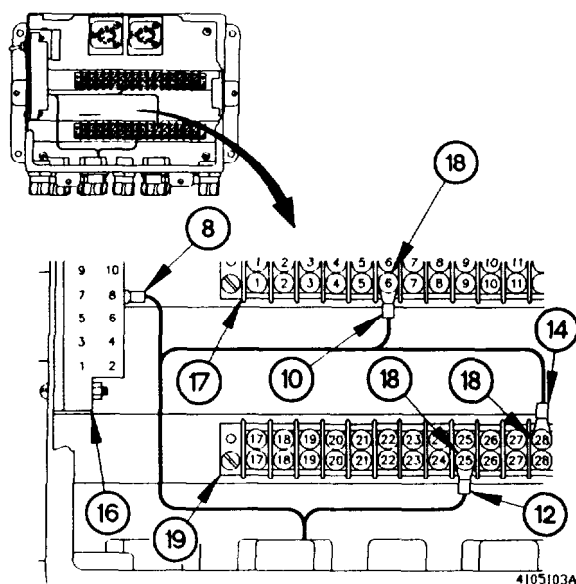
b. Installation.

- (1) Position overload lockout cable (1) through clamp (2).
- (2) Route overload lockout cable (1) through clamp (3), compression nut (4), and connector (5).
- (3) Install compression nut (4) on connector (5).
- (4) Tighten two screws (6) on clamp (3).
- (5) Tighten nut (7) on clamp (2).

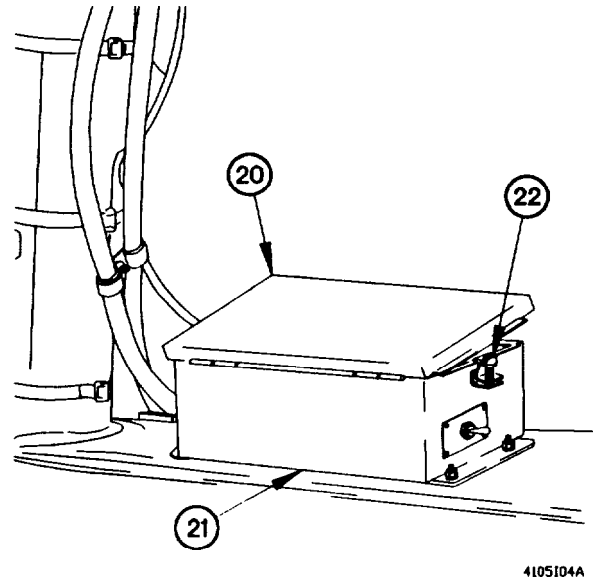


- (6) Install quick disconnect terminal (8) on green wire (9).
- (7) Install terminal lug (10) on black wire (11).
- (8) Install terminal lug (12) on red wire (13).
- (9) Install terminal lug (14) on white wire (15).

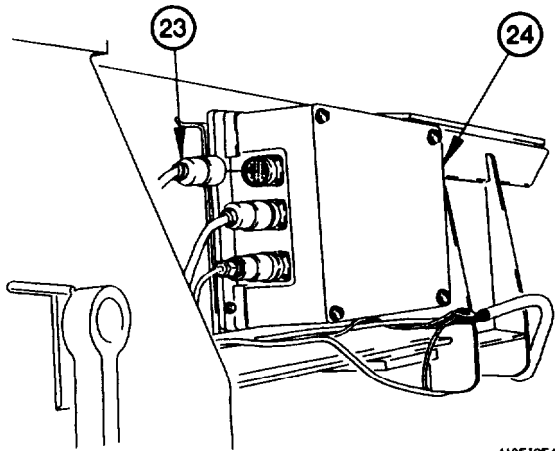
- (10) Install quick disconnect terminal (8) on ground strip (16) position 8.
- (11) Install terminal lug (10) on terminal block (17) position 6 with screw (18).
- (12) Install terminal lug (12) on terminal block (19) position 25 with screw (18).
- (13) Install terminal lug (14) on terminal block (19) position 28 with screw (18).
- (14) Apply varnish to quick disconnect terminal (8) and terminal lugs (10, 12, and 14).



- (15) Close cover (20) on junction box (21).
- (16) Tighten four screws (22) on junction box (21).



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NOTE

Install plastic cable ties as required.

- (17) Connect connector (23) to overload shutdown (24).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check overload lockout operation (TM 9-2320-366-10-1).

End of Task.

7-96. M1084/M1086 REMOTE CONTROL CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

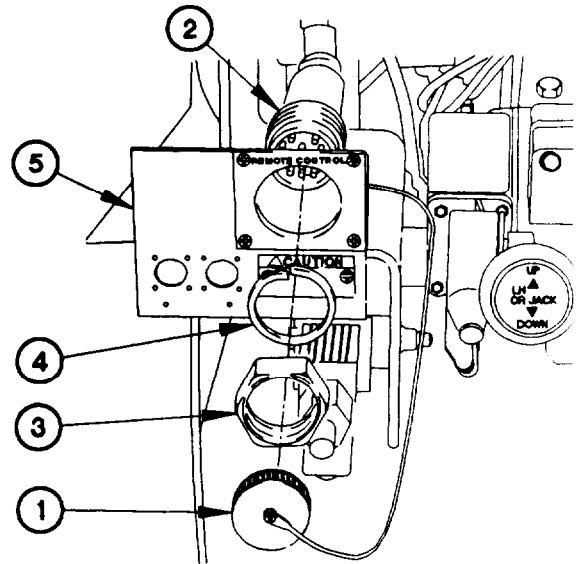
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)
Lockwasher (4) (Item 106, Appendix G)
Lockwasher (Item 100, Appendix G)

a. Removal.

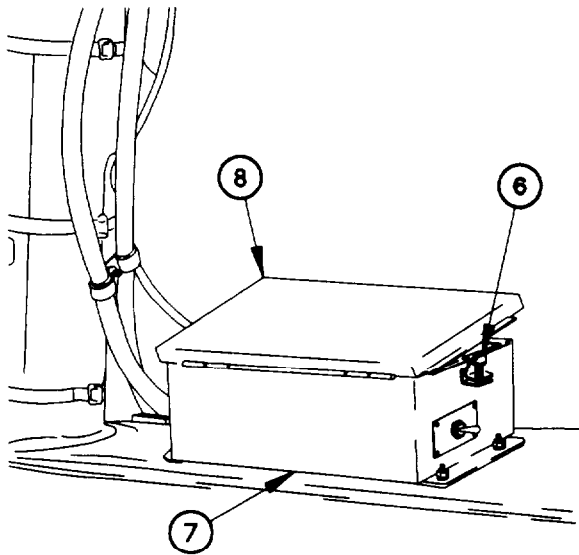
NOTE

Remove plastic cable ties as required.

- (1) Remove cap (1) from connector (2).
- (2) Remove nut (3) and lockwasher (4) from connector (2). Discard lockwasher.
- (3) Remove connector (2) from mounting bracket (5).



4106P01A



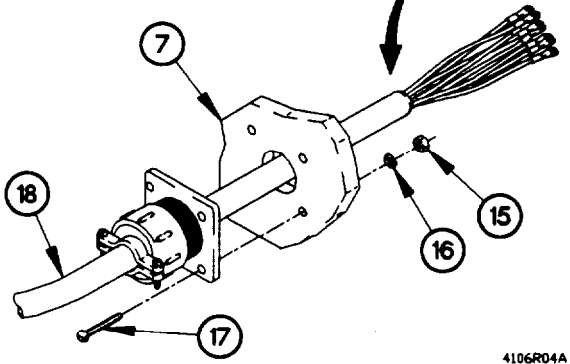
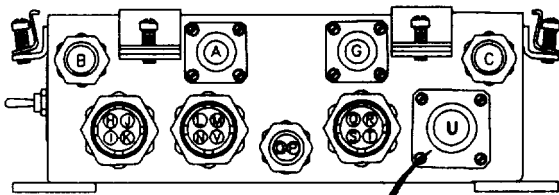
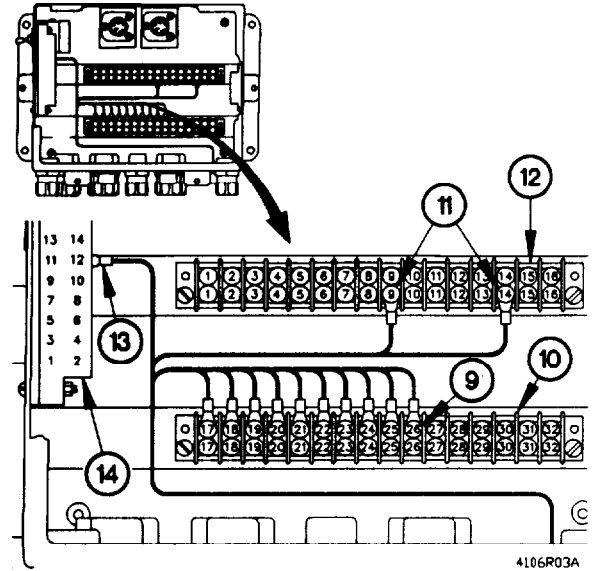
4106R02A

- (4) Loosen four screws (6) on junction box (7).
- (5) Open cover (8) on junction box (7).

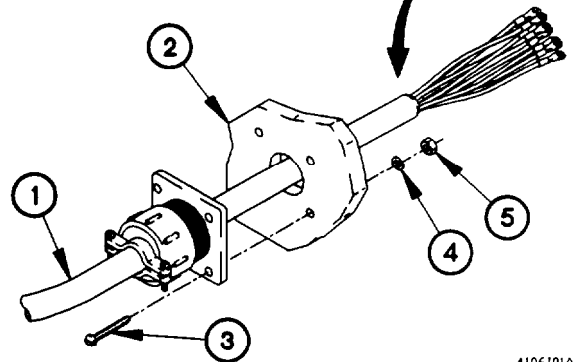
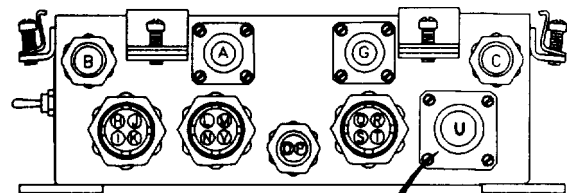
NOTE

Tag wires and connection points prior to disconnecting.

- (6) Remove ten screws (9) from terminal block (10) positions 17 through 26.
- (7) Remove two screws (11) from terminal block (12) positions 9 and 14.
- (8) Disconnect quick disconnect terminal (13) from ground strip (14) position 12.



- (9) Remove four nuts (15), lockwashers (16), screws (17), and remote control cable (18) from junction box (7). Discard lockwashers.



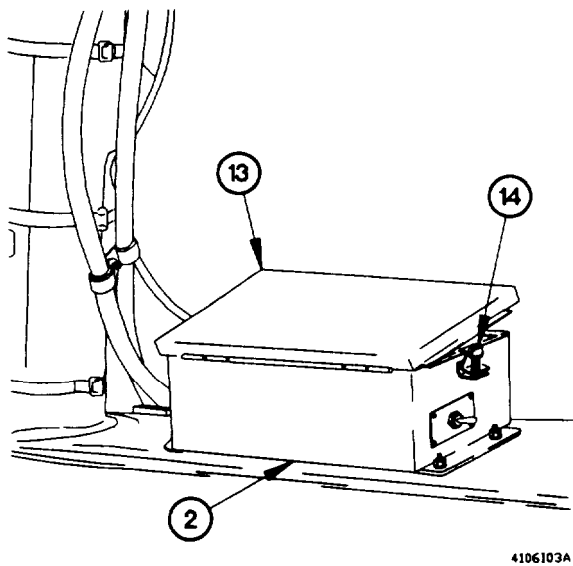
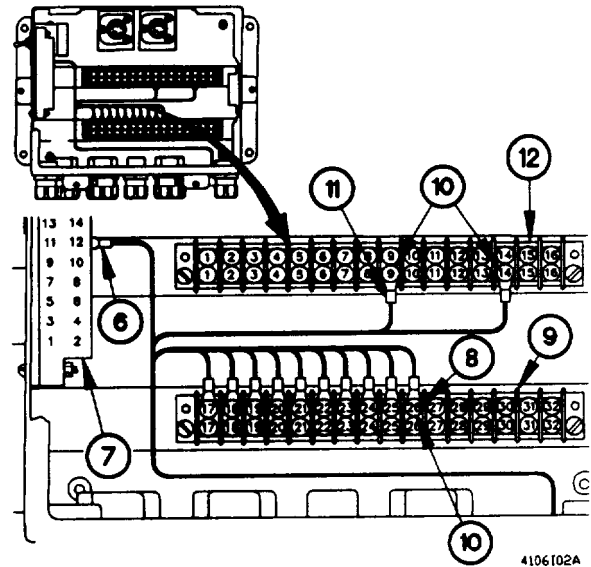
b. Installation.

- (1) Install remote control cable (1) in junction box (2) with four screws (3), lockwashers (4), and nuts (5).

4106101A

7-96. M1084/M1086 REMOTE CONTROL CABLE REPLACEMENT (CONT)

- (2) Install quick disconnect terminal (6) on ground strip (7) position 12.
- (3) Install ten terminal lugs (8) on terminal block (9) positions 17 through 26 with ten screws (10).
- (4) Install two terminal lugs (11) on terminal block (12) positions 9 and 14 with two screws (10).
- (5) Apply varnish to quick disconnect terminal (6) and terminal lugs (8 and 11).

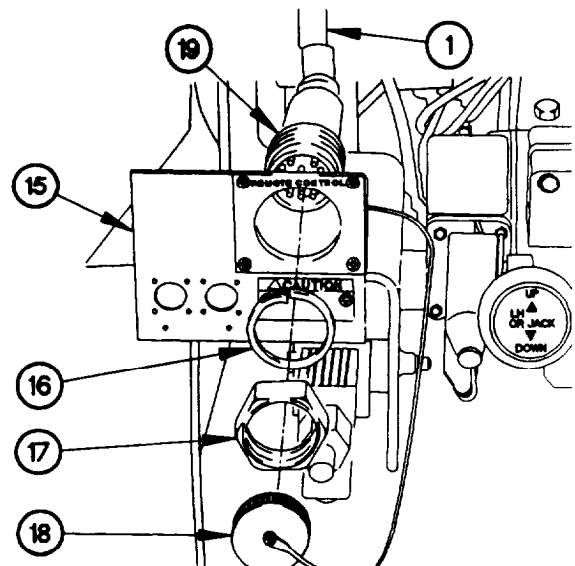


- (6) Close cover (13) on junction box (2).
- (7) Tighten four screws (14) on junction box (2).

- (8) Route remote control cable (1) to mounting bracket (15).
- (9) Install remote control cable (1) in mounting bracket (15) with lockwasher (16) and nut (17).
- (10) Install cap (18) on connector (19).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check remote control operation (TM 9-2320-366-10-1).



End of Task.

7-97. M1084/M1086 RIGHT JACK CYLINDER PROXIMITY SENSOR CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-5)1.

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical Item 45, Appendix C)

Materials/Parts

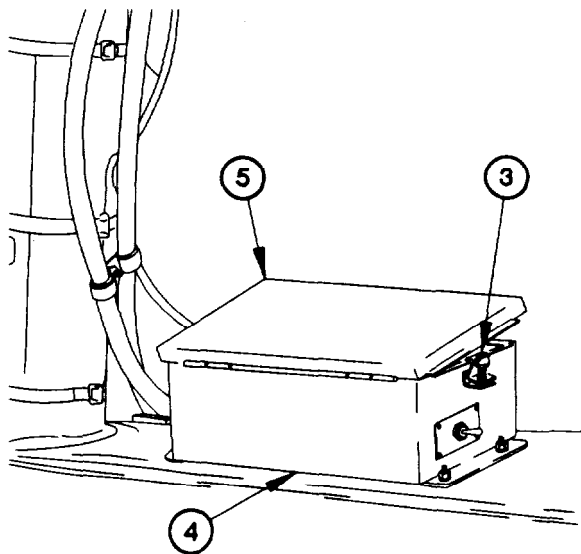
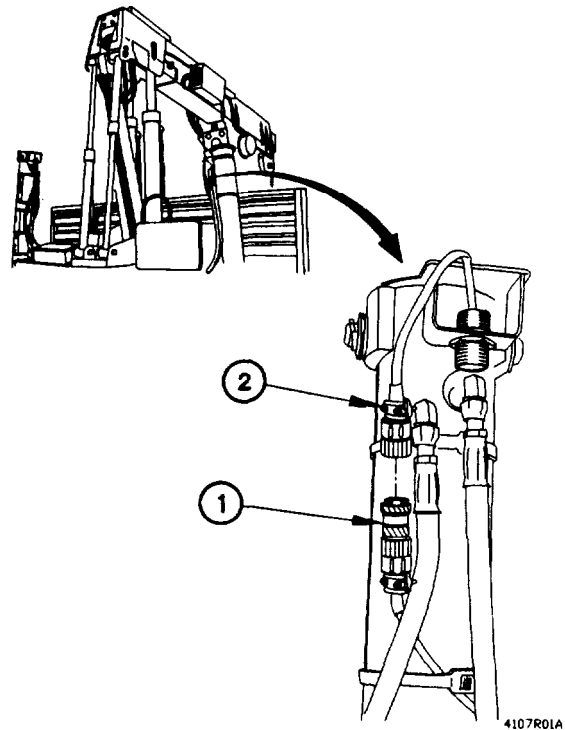
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from proximity sensor connector (2).



4107R02A

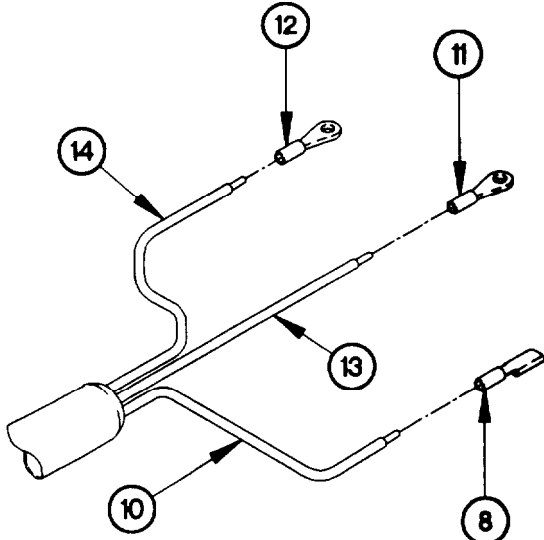
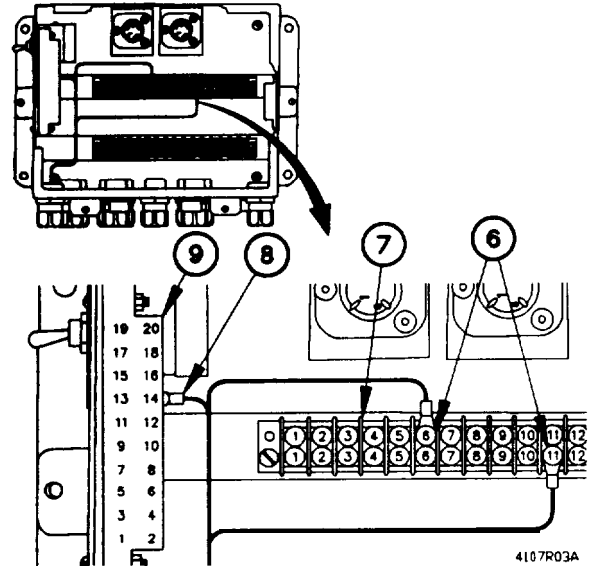
- (2) Loosen four screws (3) on junction box (4).
- (3) Open cover (5) on junction box (4).

7-97. M1084/M1086 RIGHT JACK CYLINDER PROXIMITY SENSOR CABLE REPLACEMENT (CONT)

NOTE

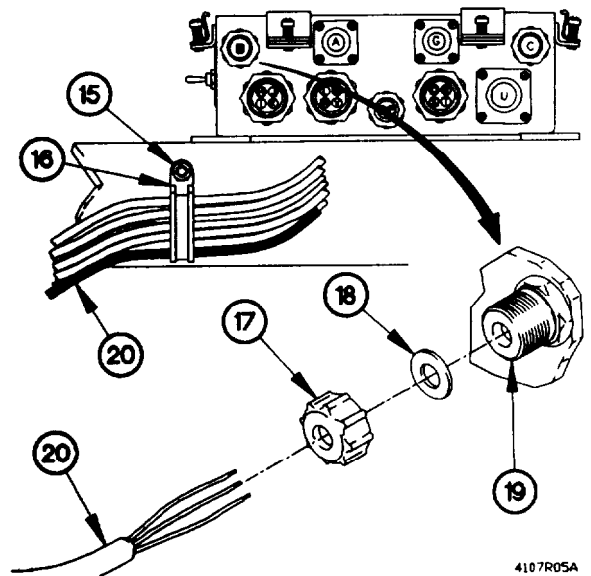
Tag wires and connection points prior to disconnecting.

- (4) Remove two screws (6) from terminal block (7) positions 6 and 11.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 14.



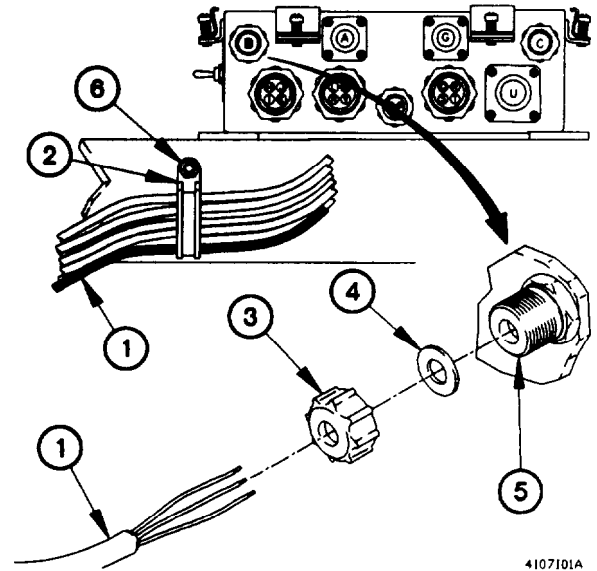
- (8) Remove quick disconnect terminal (8) from red wire (10).
- (7) Remove terminal lugs (11 and 12) from white wire (13) and black wire (14).

- (8) Loosen nut (15) on clamp (16).
- (9) Remove compression nut (17) and washer (18) from connector (19).
- (10) Remove right jack cylinder proximity sensor cable (20) from connector (19), washer (18) and cornut (17).
- (11) Remove right jack cylinder proximity sensor cable (20) from clamp (16).

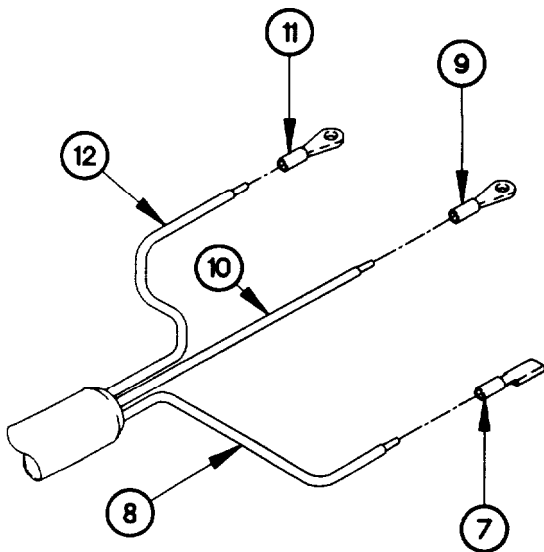


b. Installation

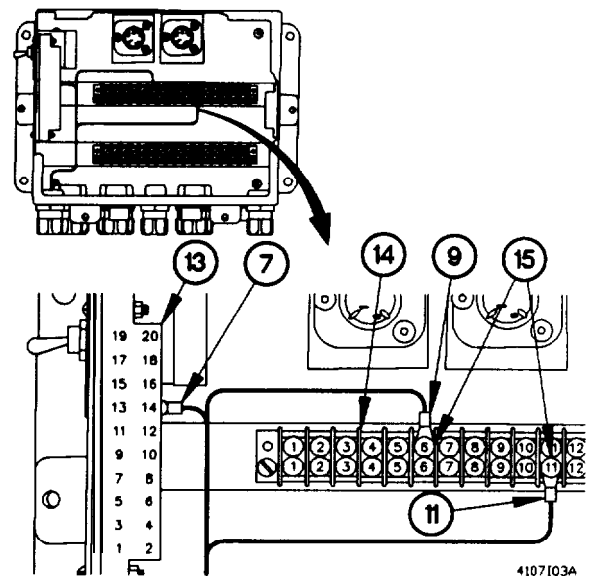
- (1) Position right jack cylinder proximity sensor cable (1) through clamp (2).
- (2) Position right jack cylinder proximity sensor cable (1) through compression nut (3), washer (4) and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).



- (5) Install quick disconnect terminal (7) on red wire (8).
- (6) Install terminal lug (9) on white wire (10).
- (7) Install terminal lug (11) on black wire (12).



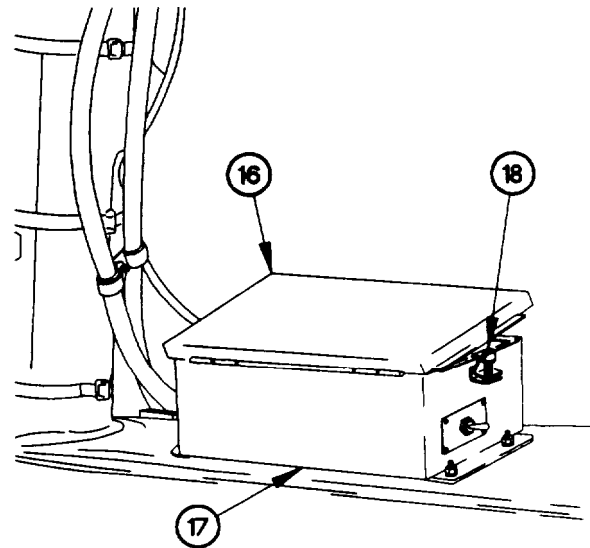
- (8) Install quick disconnect terminal (7) on ground strip (13) position 14.
- (9) Install terminal lug (9) on terminal block (14) position 6 with screw (15).
- (10) Install terminal lug (11) on terminal block (14) position 11 with screw (15).
- (11) Apply varnish to quick disconnect terminal (7) and terminal lugs (9 and 11).



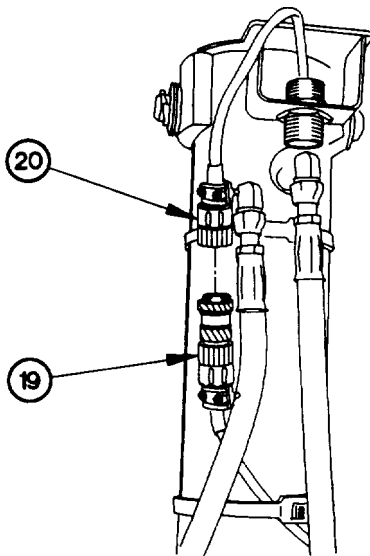
**7-97. M1084/M1086 RIGHT JACK CYLINDER PROXIMITY SENSOR CABLE
REPLACEMENT (CONT)**

(12) Close cover (16) on junction box (17).

(13) Tighten four screws (18) on junction box (17).



4107104A



4107105b

NOTE

Install plastic cable ties as required.

(14) Connect connector (19) to proximity sensor connector (20).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-57).

(2) Operate MHC and check right jack cylinder operation (TM 9-2320-366-10-1)

End of Task.

7-98. M1084/M1086 SWING CCW SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
 Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

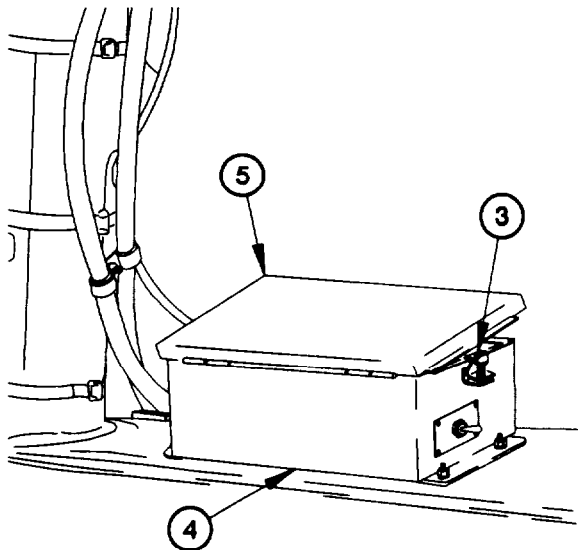
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Ties, Cable, Plastic (Item 69, Appendix D)
 Varnish, Oil (Item 70, Appendix D)

a. Removal.

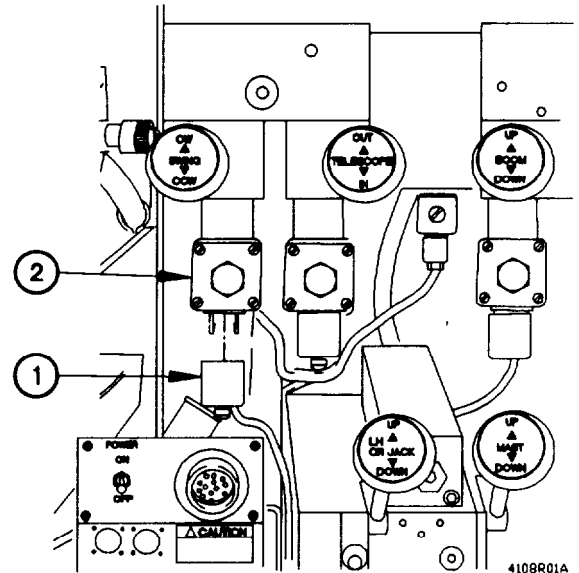
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from swing CCW solenoid
- (2).



4108R02A



4108R01A

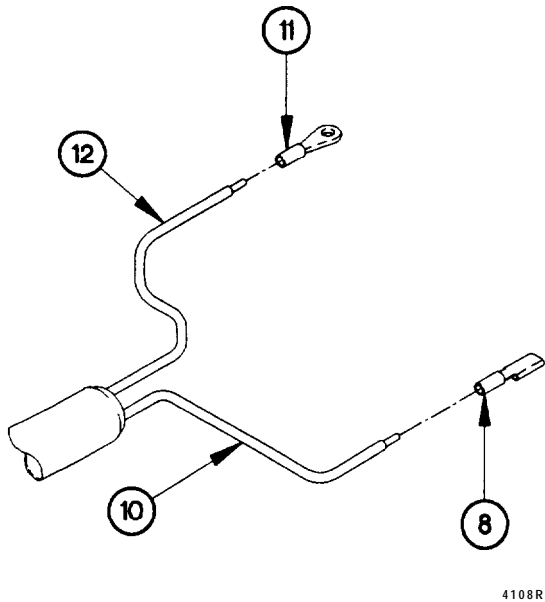
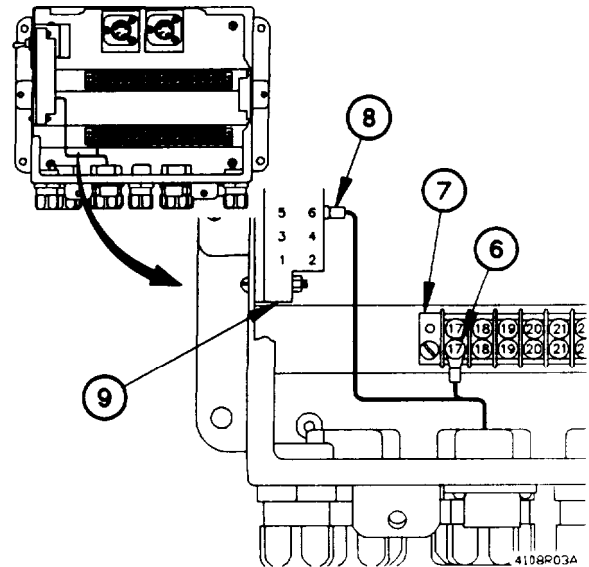
- (2) Loosen four screws (3) on junction box (4).
- (3) Open cover (5) on junction box (4).

7-98. M1084/M1086 SWING CCW SOLENOID CABLE REPLACEMENT (CONT)

NOTE

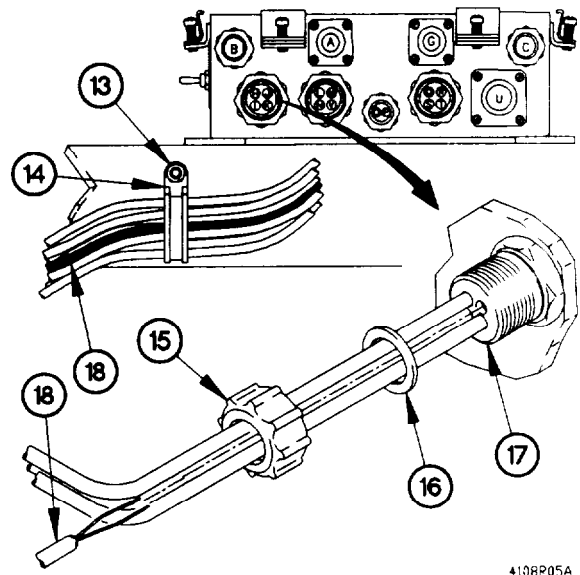
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 17.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 6.



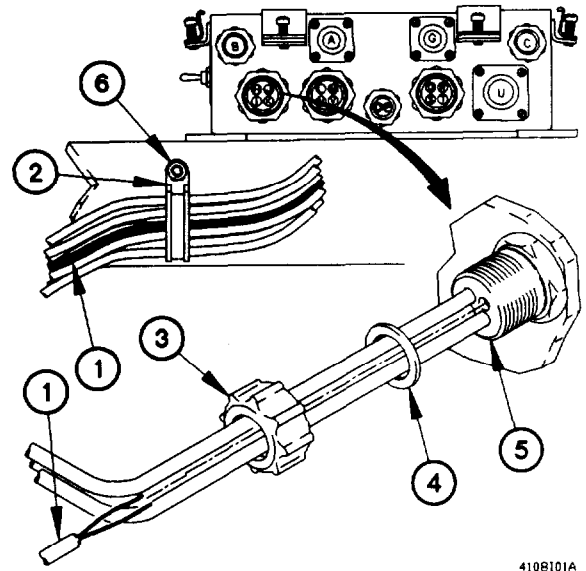
- (6) Remove quick disconnect terminal (8) from black wire (10)
- (7) Remove terminal lug (11) from white wire (12).

- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove swing CCW solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove swing CCW solenoid cable (18) from clamp (14).



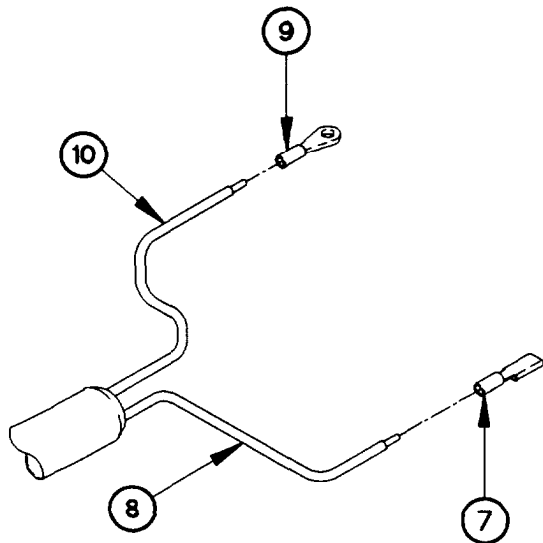
b. Installation.

- (1) Position swing CCW solenoid cable (1) through clamp (2).
- (2) Position swing CCW solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).



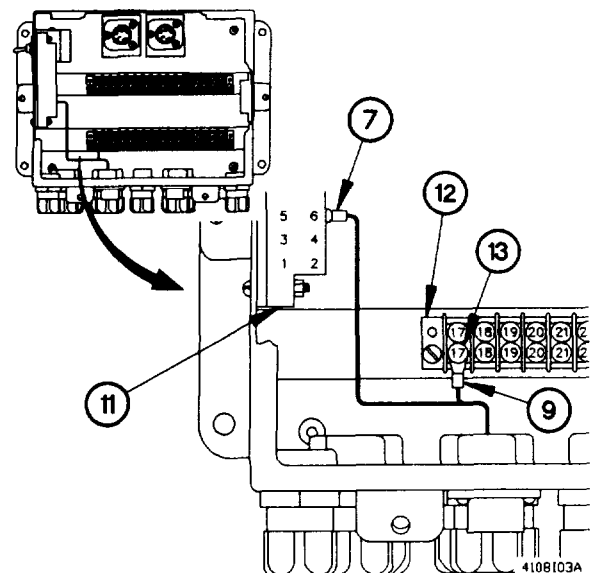
4108101A

- (5) Install quick disconnect terminal (7) on black wire (8).
- (6) Install terminal lug (9) on white wire (10).



4108102A

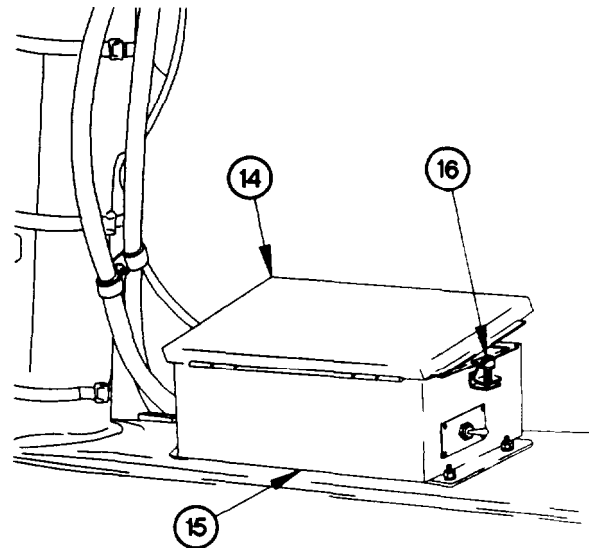
- (7) Install quick disconnect terminal (7) on ground strip (11) position 6.
- (8) Install terminal lug (9) on terminal block (12) position 17 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).



4108103A

7-98. M1084/M1086 SWING CCW SOLENOID CABLE REPLACEMENT (CONT)

- (10) Close cover (14) on junction box (15).
- (11) Tighten four screws (16) on junction box (15).



4108104A

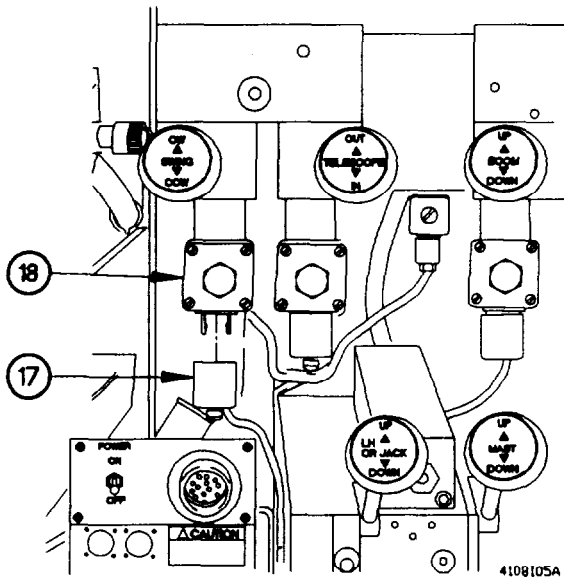
NOTE

Install plastic cable ties as required.

- (12) Connect connector (17) to swing CCW solenoid (18).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check swing CCW operation (TM 9-2320-366-10-1).



4108105A

End of Task.

7-99. M1084/M1086 SWING CW SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

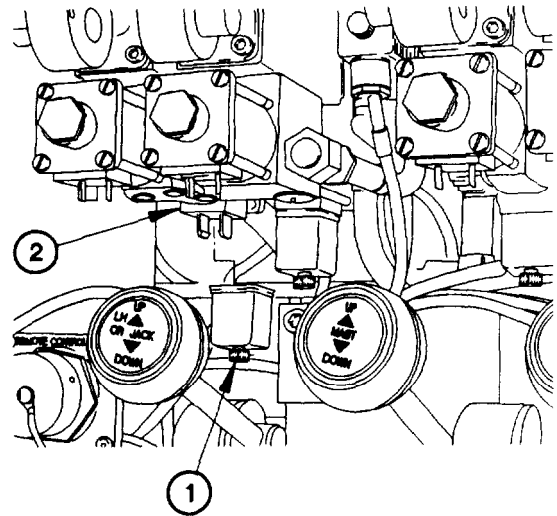
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

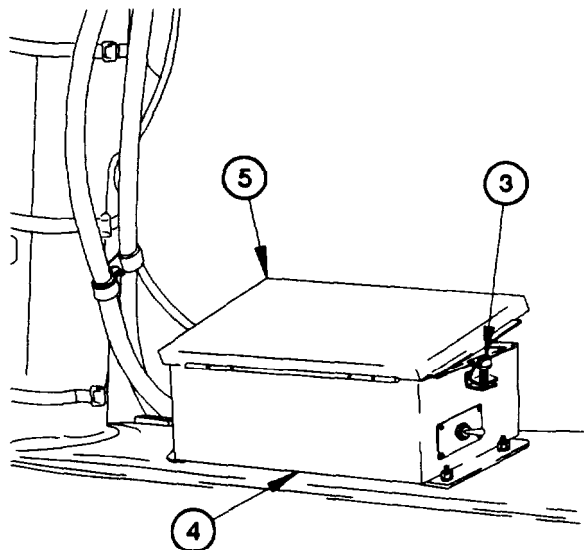
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from swing CW solenoid (2).



4109R01A



4109R02A

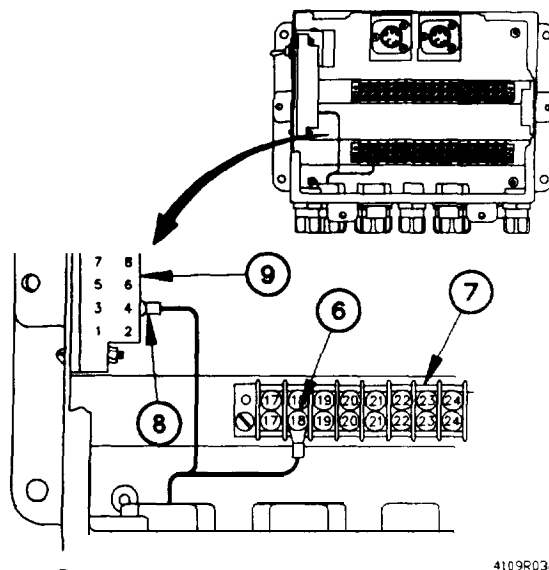
- (2) Loosen four screws (3) on junction box (4).
- (3) Open cover (5) on junction box (4).

7-99. M1084/M1086 SWING CW SOLENOID CABLE REPLACEMENT (CONT)

NOTE

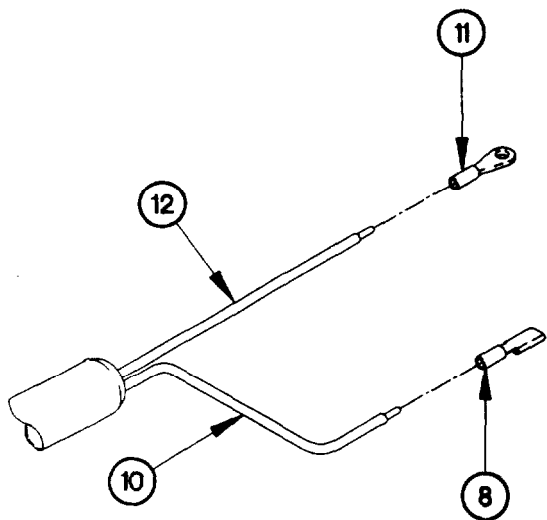
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 18.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 4.



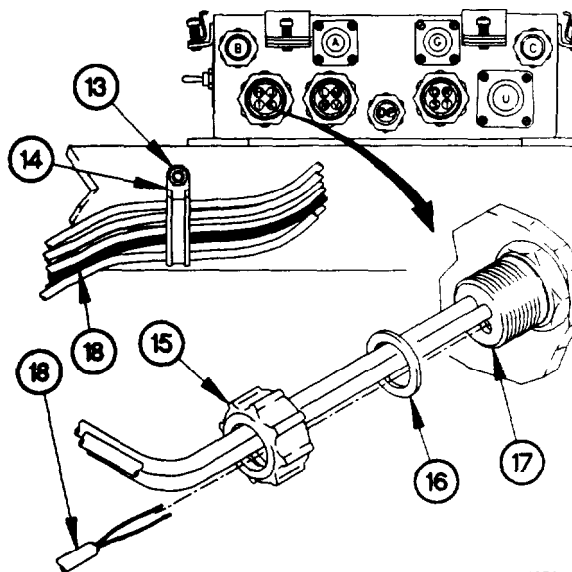
4109R03A

- (8) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).



4109R04A

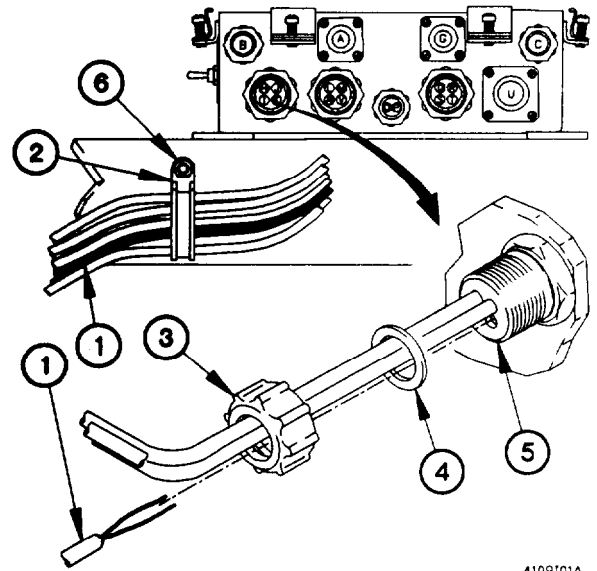
- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove swing CW solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove swing CW solenoid cable (18) from clamp (14).



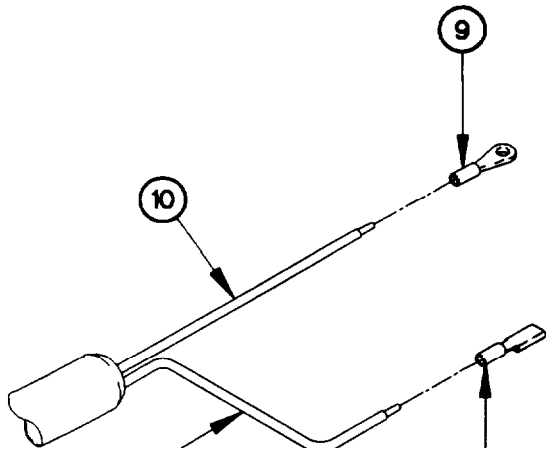
4109P05A

b. Installation.

- (1) Position swing CW solenoid cable (1) through damp (2).
- (2) Position swing CW solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).



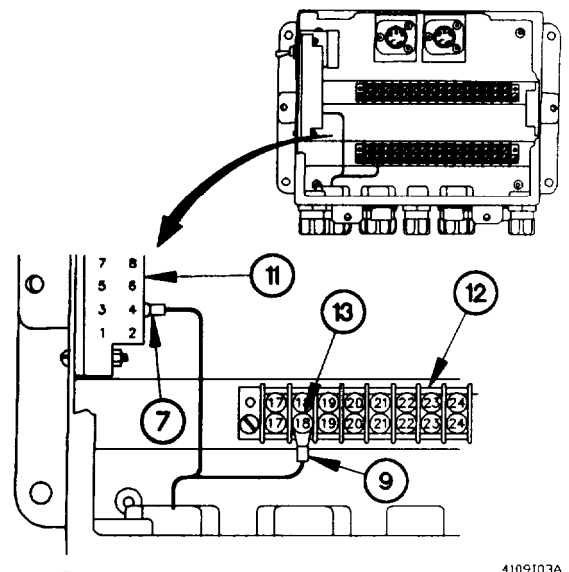
4109101A



4109102A

- (5) Install quick disconnect terminal (7) on black wire (8).
- (6) Install terminal lug (9) on white wire (10).

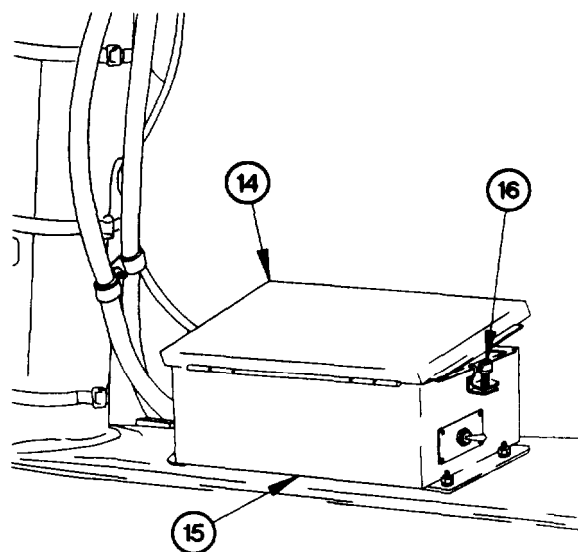
- (7) Install quick disconnect terminal (7) on ground strip (11) position 4.
- (8) Install terminal lug (9) on terminal block (12) position 18 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).



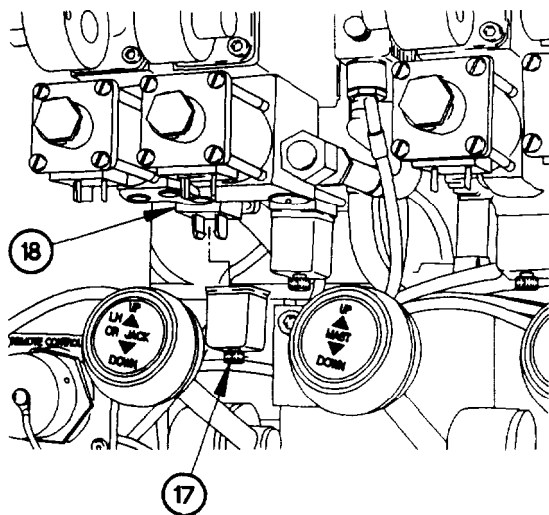
4109103A

7-99. M1084/M1088 SWING CW SOLENOID CABLE REPLACEMENT (CONT)

- (10) Close cover (14) on junction box (15).
- (11) Tighten four screws (16) on junction box (15).



4109104A



4109105A

NOTE

Install plastic cable ties as required.

- (12) Connect connector (17) to swing CW solenoid (18).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check swing CW operation (TM 9-2320-366-10-1).

End of Task.

7-100. M1084/M1086 SYSTEM SHUTDOWN SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

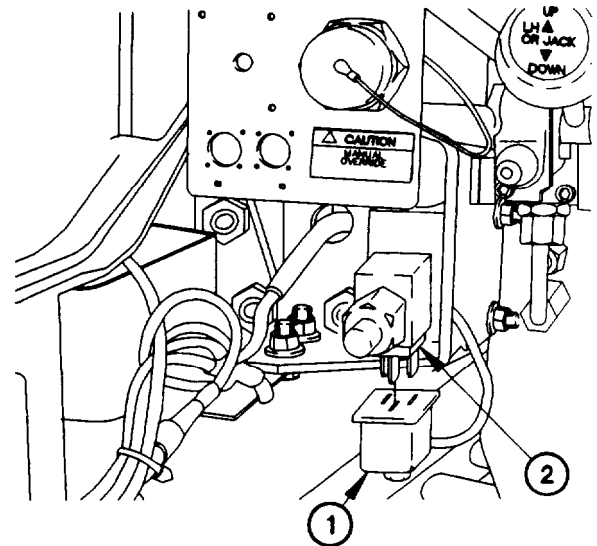
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

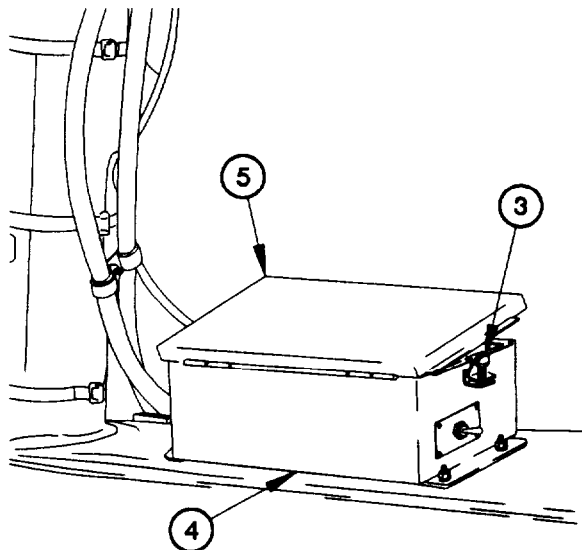
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from system shutdown solenoid (2).



4110R01A

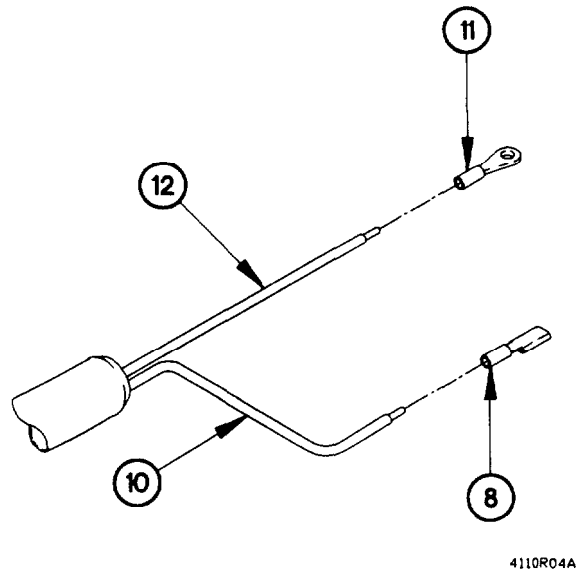
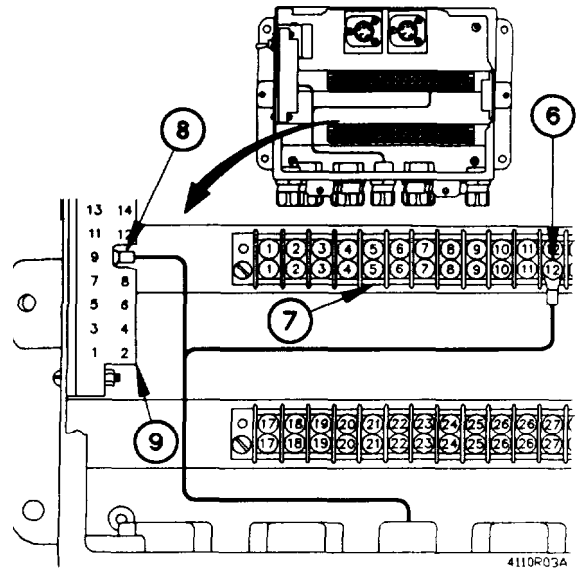


4110R02A

- (2) Loosen four screws (3) on junction box (4).
- (3) Open cover (5) on junction box (4).

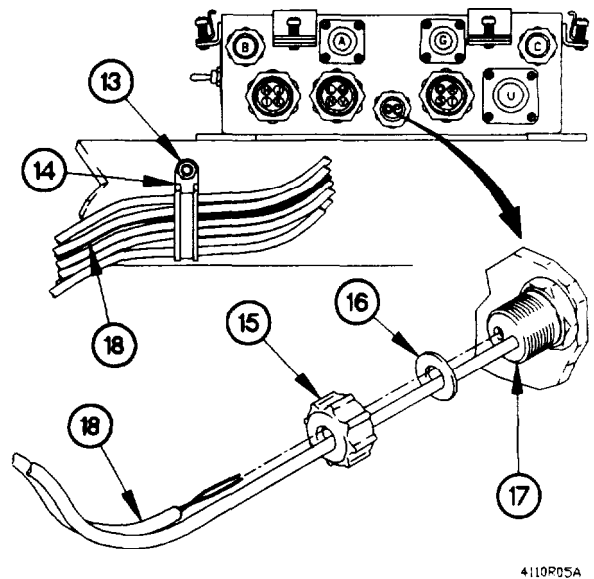
7-100. M1084/M1086 SYSTEM SHUTDOWN SOLENOID CABLE REPLACEMENT (CONT)

- (4) Remove screw (6) from terminal block (7) position 12.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 9.



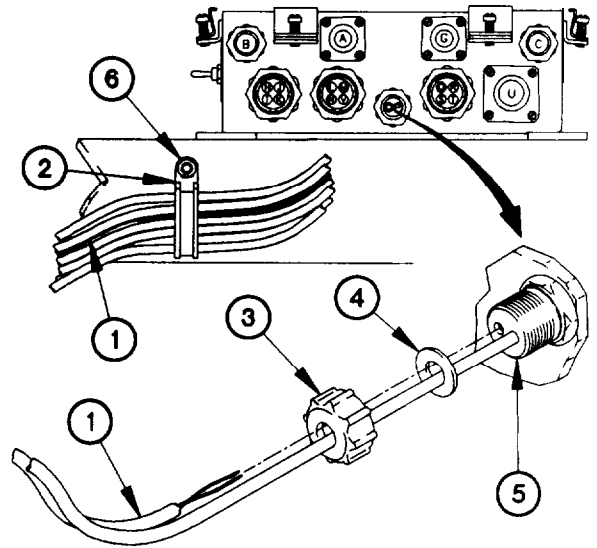
- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove system shutdown solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove system shutdown solenoid cable (18) from clamp (14).

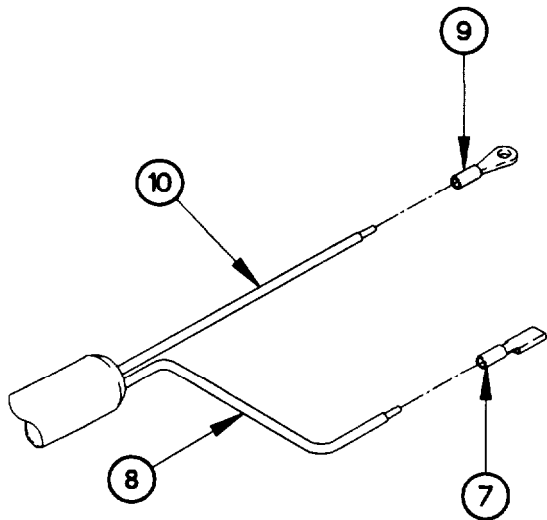


b. Installation.

- (1) Position system shutdown solenoid cable (1) through clamp (2).
- (2) Position system shutdown solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).



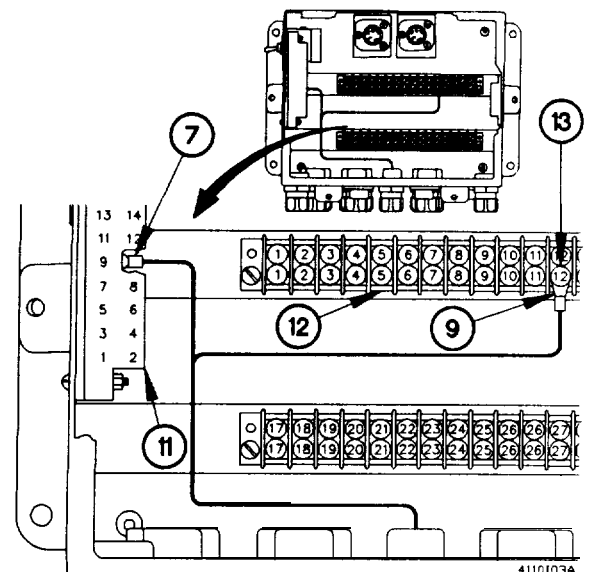
4110101A



4110102A

- (7) Install quick disconnect terminal (7) on ground strip (11) position 9.
- (8) Install terminal lug (9) on terminal block (12) position 12 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).

- (5) Install quick disconnect terminal (7) on black wire (8).
- (6) Install terminal lug (9) on white wire (10).

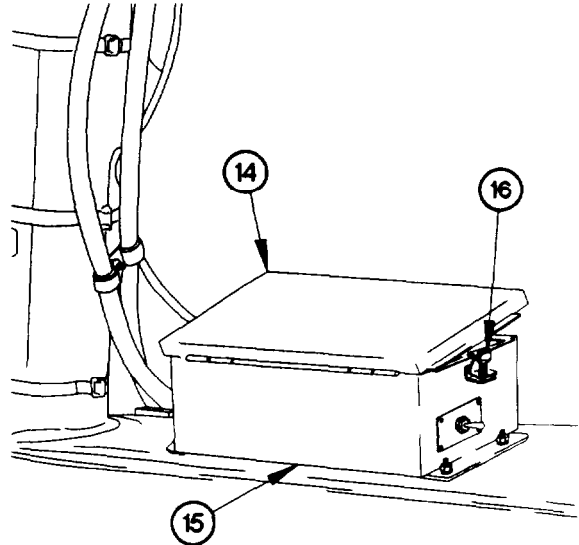


4110103A

7-100. M1084/M1086 SYSTEM SHUTDOWN SOLENOID CABLE REPLACEMENT (CONT)

(10) Close cover (14) on junction box (15).

(11) Tighten four screws (16) on junction box (15).

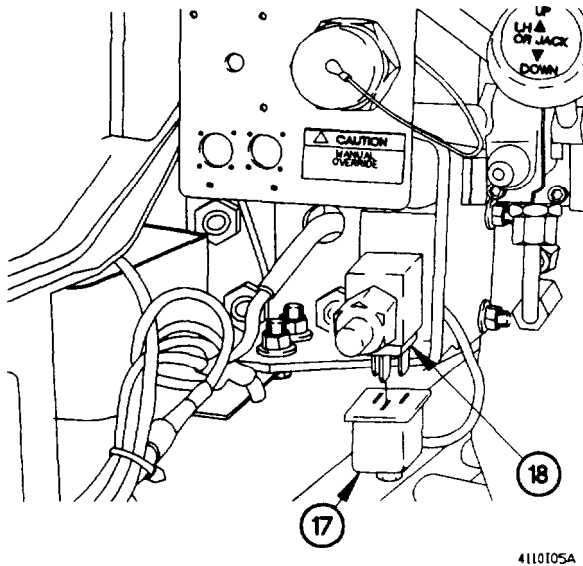


4110104A

NOTE

Install plastic cable ties as required.

(12) Connect connector (17) to system shutdown solenoid (18).



4110105A

c. Follow-On Maintenance.

(1) Connect batteries (para 7-57).

(2) Operate MHC and check system shutdown operation (TM 9-2320-366-10-1).

End of Task.

7-101. M1084/M1086 TELESCOPE IN SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

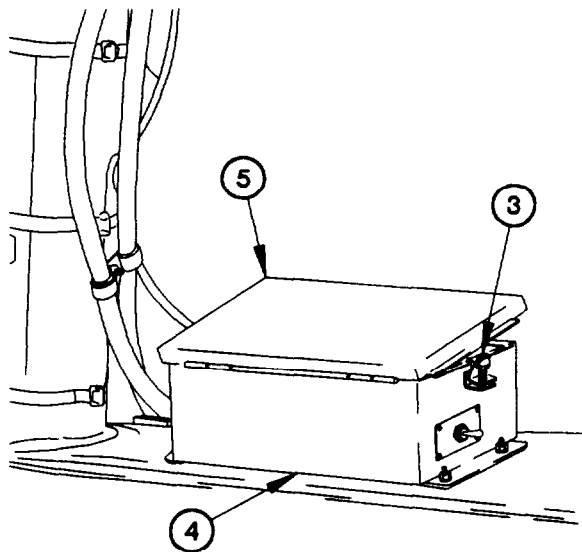
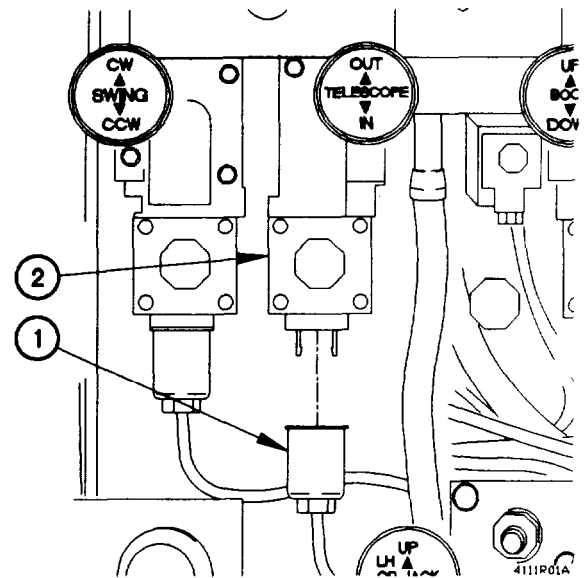
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from telescope in solenoid (2).



4111R02A

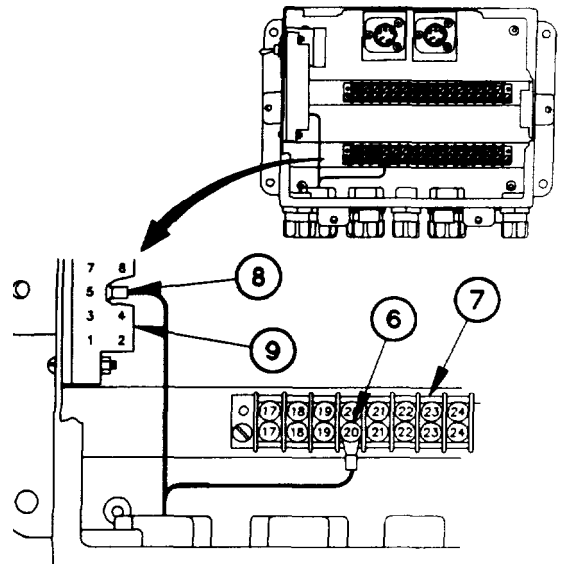
- (2) Loosen four screws (3) on junction box (4).
- (3) Open cover (5) on junction box (4).

7-101. M1084/M1086 TELESCOPE IN SOLENOID CABLE REPLACEMENT (CONT)

NOTE

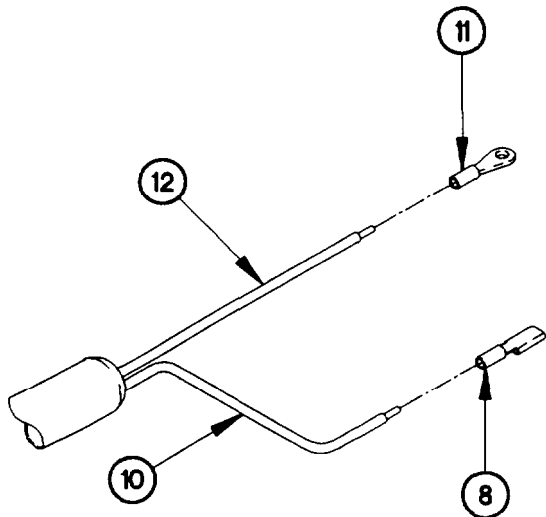
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 20.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 5.



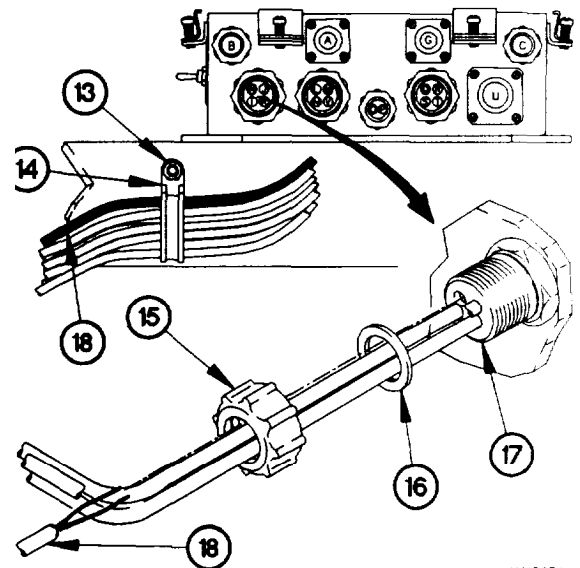
4111R03A

- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).



4111R04A

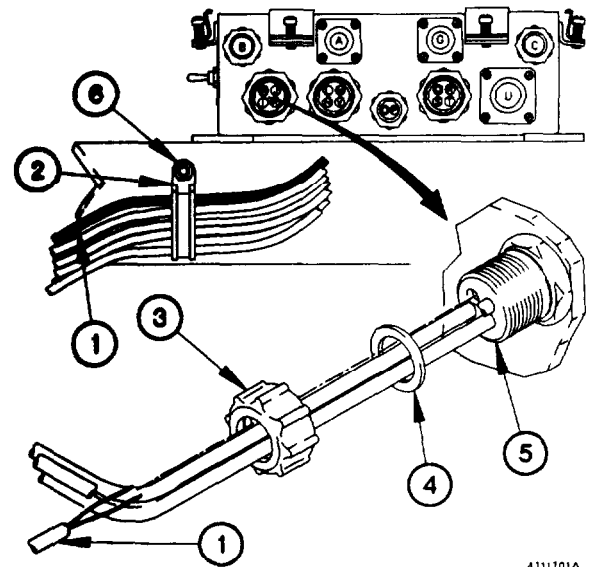
- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove telescope in solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove telescope in solenoid cable (18) from clamp (14).



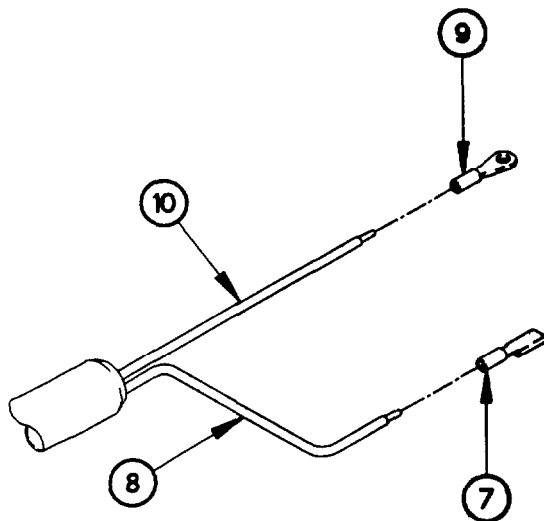
4111R05A

b. Installation.

- (1) Route telescope in solenoid cable (1) through clamp (2).
- (2) Position telescope in solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).



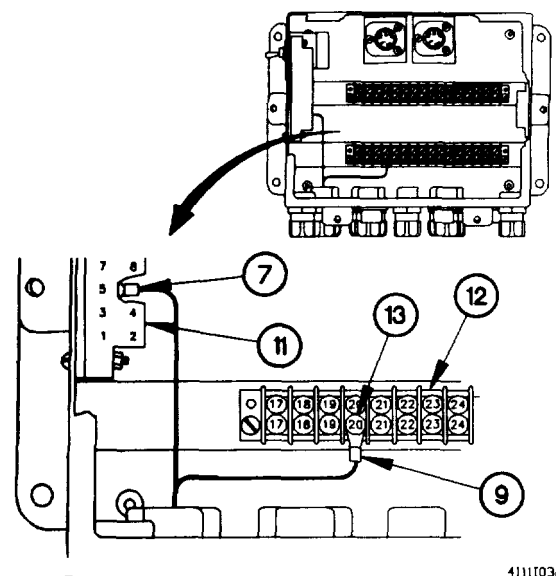
411101A



411102A

- (5) Install quick disconnect terminal (7) on black wire (8).
- (6) Install terminal lug (9) on white wire (10).

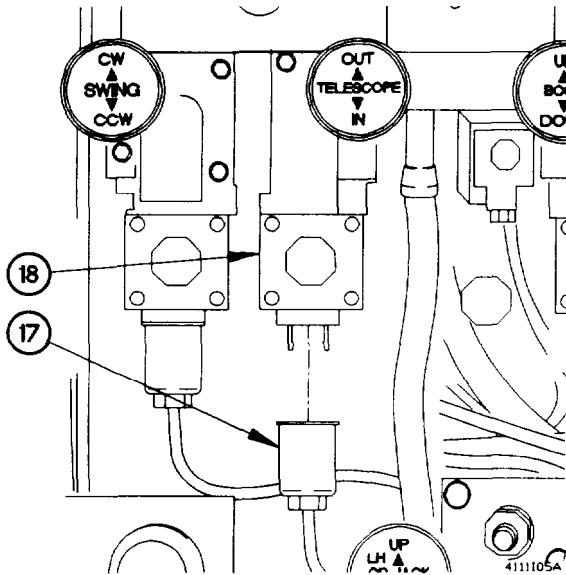
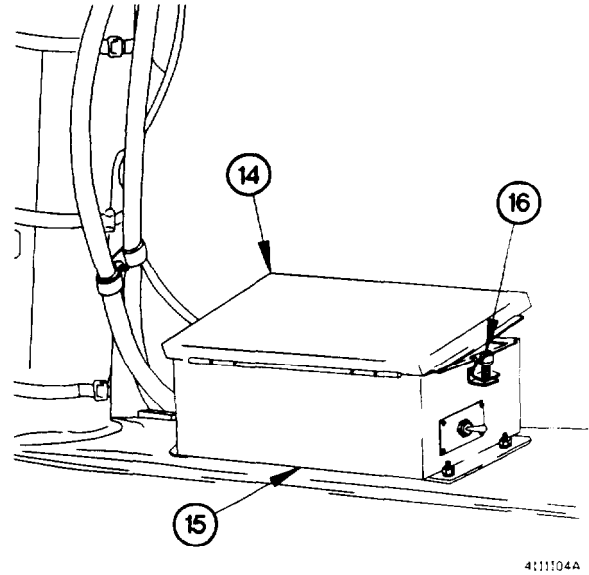
- (7) Install quick disconnect terminal (7) on ground strip (11) position 5.
- (8) Install terminal lug (9) on terminal block (12) position 20 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).



411103A

7-101. M1084/M1086 TELESCOPE IN SOLENOID CABLE REPLACEMENT (CONT)

- (10) Close cover (14) on junction box (15)
- (11) Tighten four screws (16) on junction box (15).



NOTE

Install plastic cable ties as required.

- (12) Connect cable connector (17) to telescope in solenoid (18).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check telescope in operation (TM 9-2320-366-10-1).

End of Task.

7-102. M1084/M1086 TELESCOPE OUT LOCKOUT SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

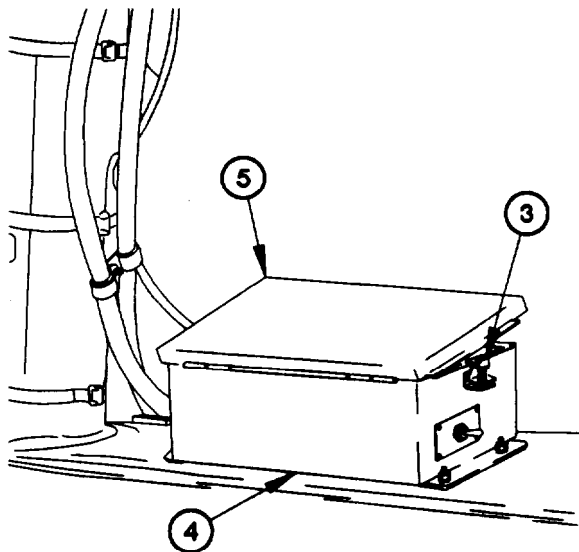
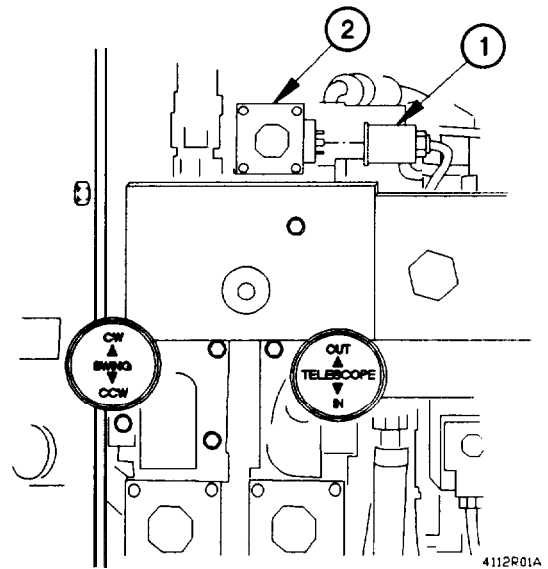
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from telescope out lockout solenoid (2).



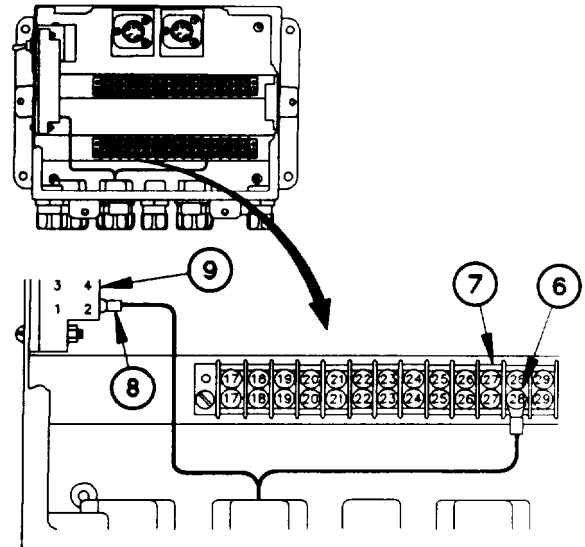
- (2) Loosen four screws (3) on junction box (4).
- (3) Open cover (5) on junction box (4).

7-102. M1084/M1086 TELESCOPE OUT LOCKOUT SOLENOID CABLE REPLACEMENT (CONT)

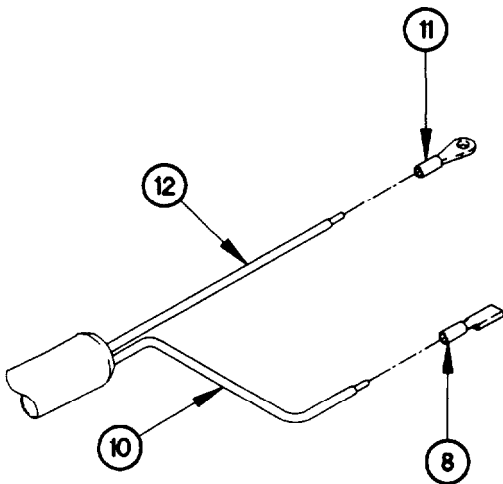
NOTE

Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 28.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 2.

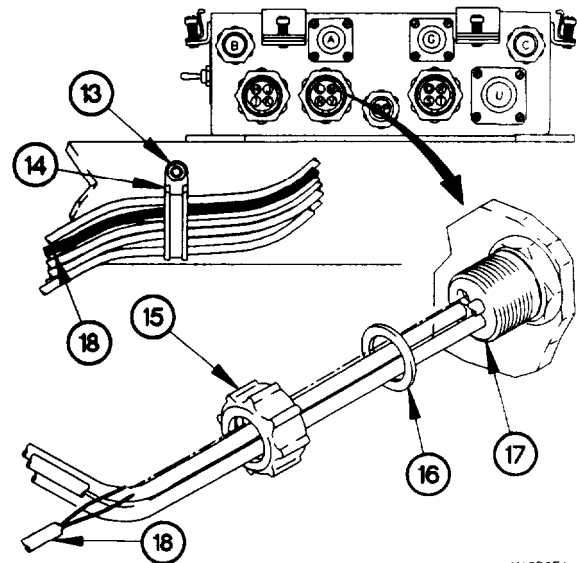


4112P03A



4112R04A

- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

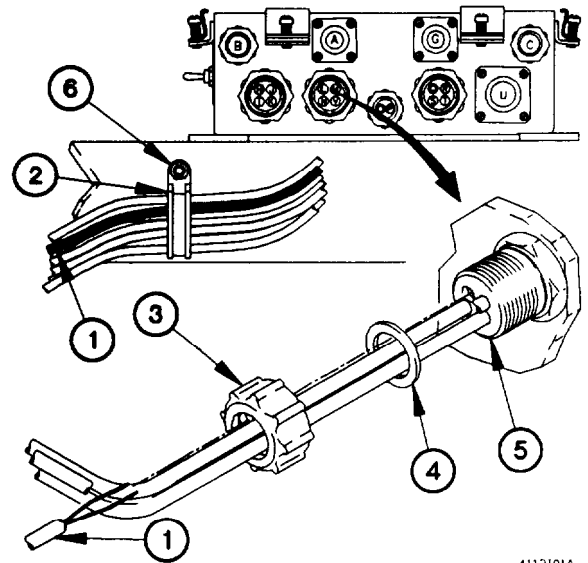


4112P05A

- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove telescope out lockout solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove telescope out lockout solenoid cable (18) from clamp (14).

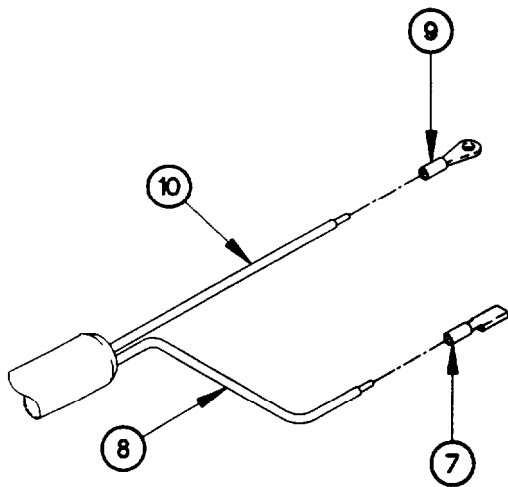
b. Installation.

- (1) Position telescope out lockout solenoid cable (1) through clamp (2).
- (2) Position telescope out lockout solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).



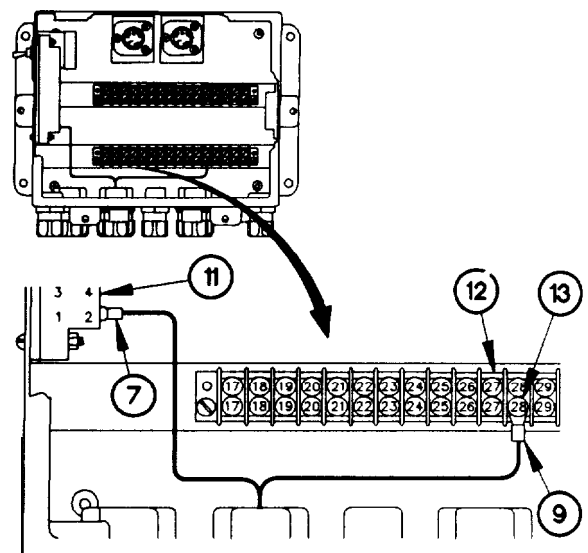
4112101A

- (5) Install quick disconnect terminal (7) on black wire (8).
- (6) Install terminal lug (9) on white wire (10).



4112102A

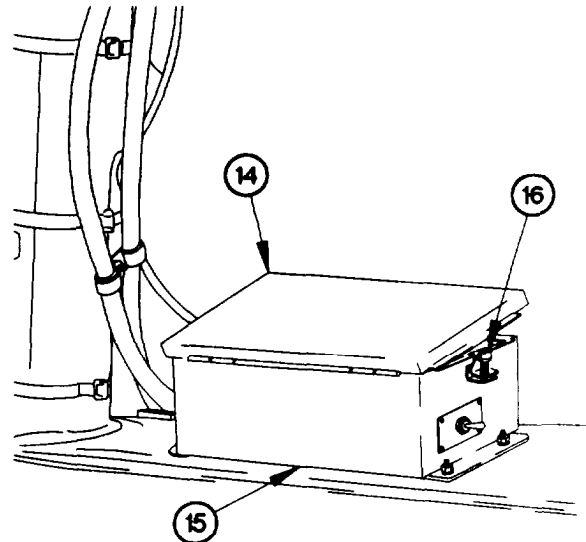
- (7) Install quick disconnect terminal (7) on ground strip (11) position 2.
- (8) Install terminal lug (9) on terminal block (12) position 28 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).



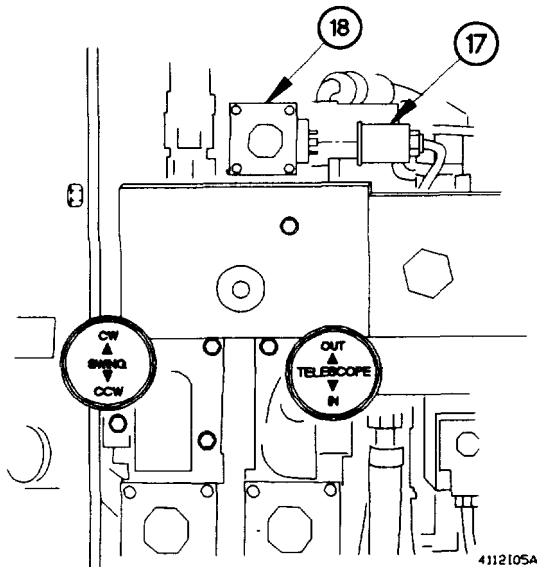
4112103A

**7-102. M1084/M1086 TELESCOPE OUT LOCKOUT SOLENOID CABLE REPLACEMENT
(CONT)**

- (10) Close cover (14) on junction box (15).
- (11) Tighten four screws (16) on junction box (15).



4112104A



4112105A

NOTE

Install plastic cable ties as required.

- (12) Connect connector (17) to telescope out lockout solenoid (18).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check telescope out lockout operation (TM 9-2320-366-10-1).

End of Task.

7-103. M1084/M1086 TELESCOPE OUT SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

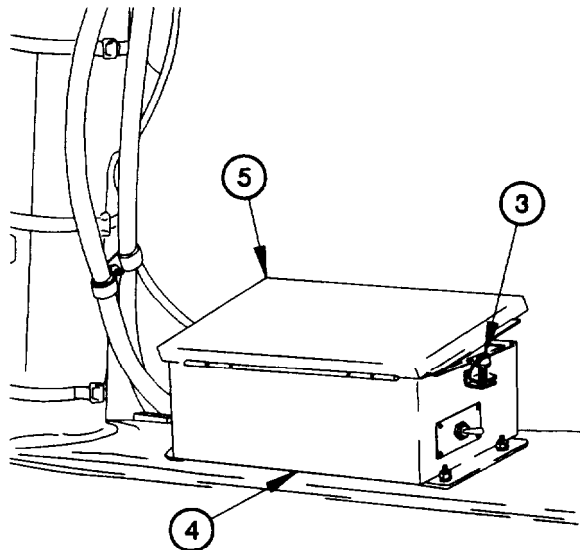
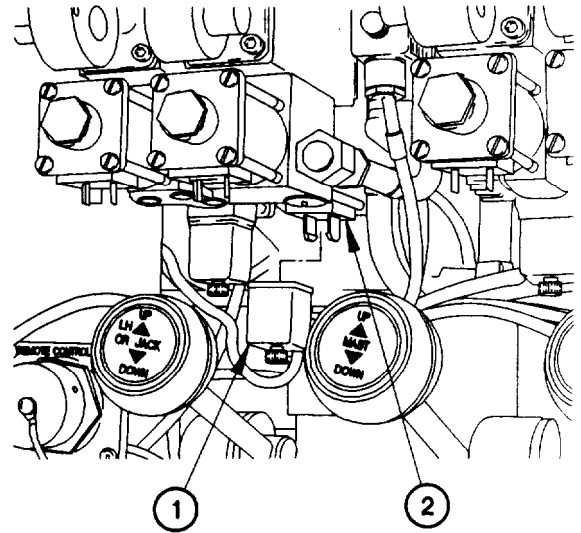
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from telescope out solenoid (2).



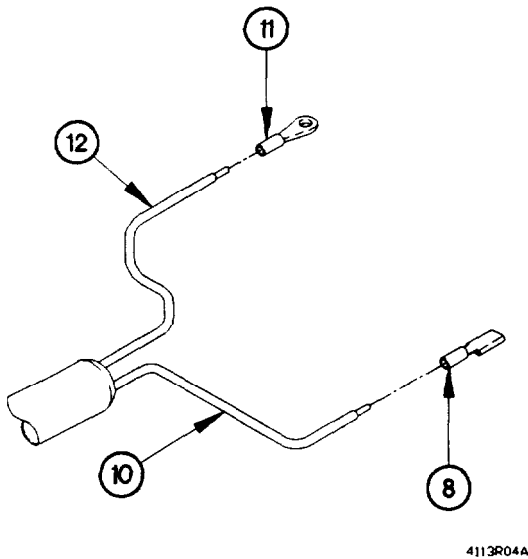
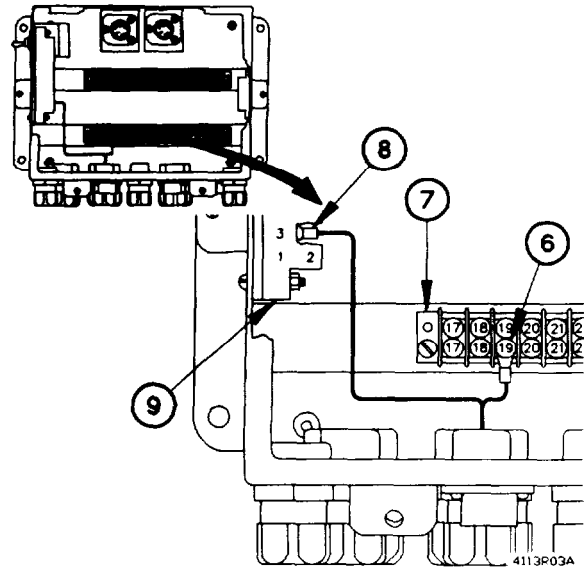
- (2) Loosen four screws (3) on junction box (4).
- (3) Open cover (5) on junction box (4).

7-103. M1084/M1086 TELESCOPE OUT SOLENOID CABLE REPLACEMENT (CONT)

NOTE

Tag wires and connection points prior to disconnecting.

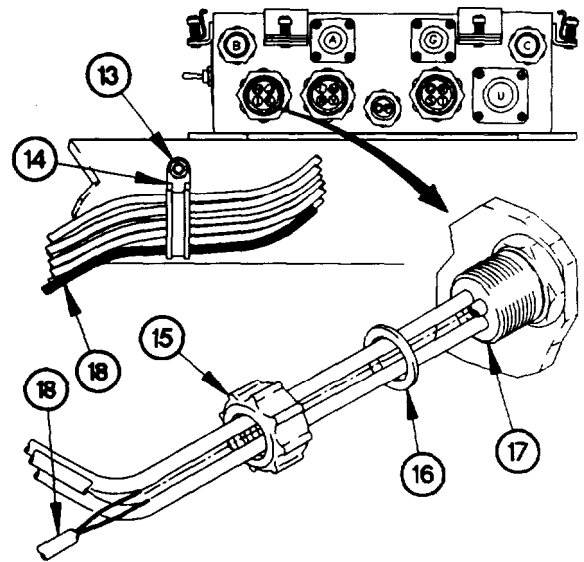
- (4) Remove screw (6) from terminal block (7) position 19.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 3.



- (6) Remove quick disconnect terminal (8) from black wire (10).

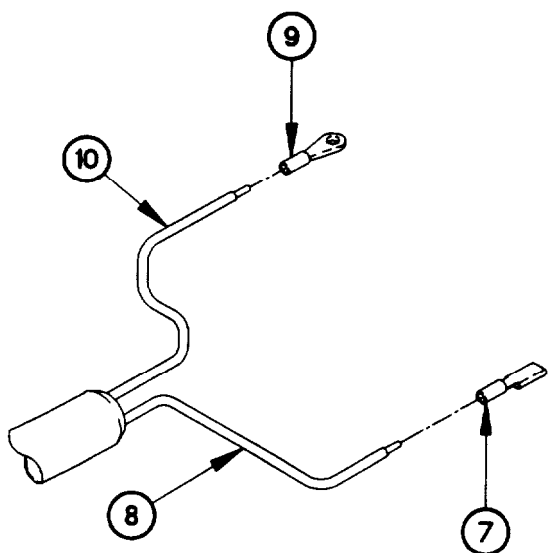
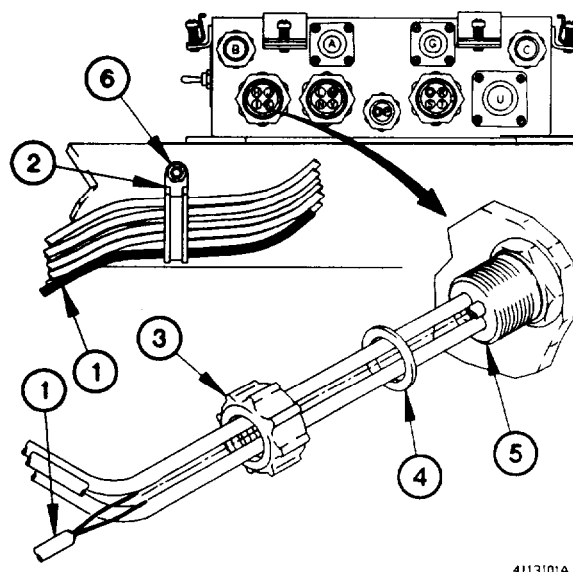
- (7) Remove terminal lug (11) from white wire (12).

- (8) Loosen nut (13) on clamp (14).
- (9) Remove compression nut (15) and washer (16) from connector (17).
- (10) Remove telescope out solenoid cable (18) from connector (17), washer (16), and compression nut (15).
- (11) Remove telescope out solenoid cable (18) from clamp (14).



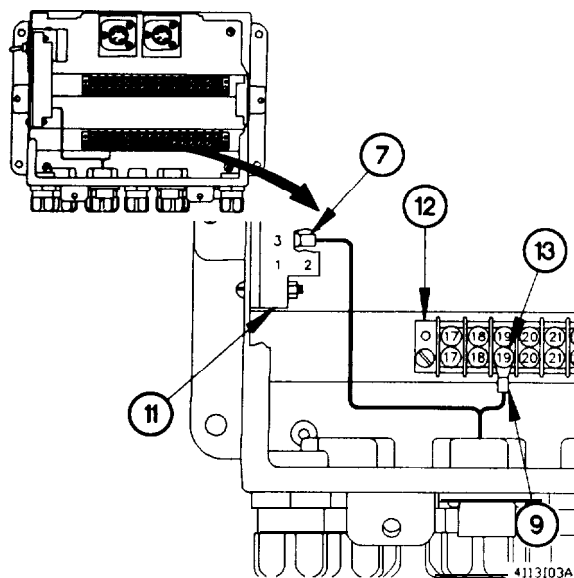
b. Installation.

- (1) Position telescope out solenoid cable (1) through clamp (2).
- (2) Position telescope out solenoid cable (1) through compression nut (3), washer (4), and connector (5).
- (3) Install washer (4) and compression nut (3) on connector (5).
- (4) Tighten nut (6) on clamp (2).



- (7) Install quick disconnect terminal (7) on ground strip (11) position 3.
- (8) Install terminal lug (9) on terminal block (12) position 19 with screw (13).
- (9) Apply varnish to quick disconnect terminal (7) and terminal lug (9).

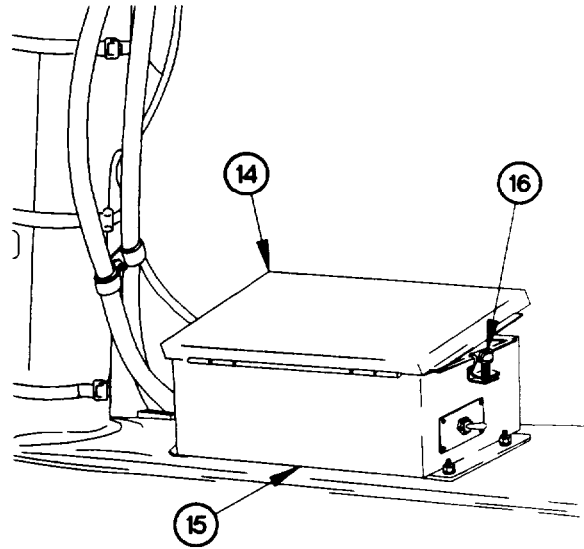
- (5) Install quick disconnect terminal (7) on black wire (8).
- (6) Install terminal lug (9) on white wire (10).



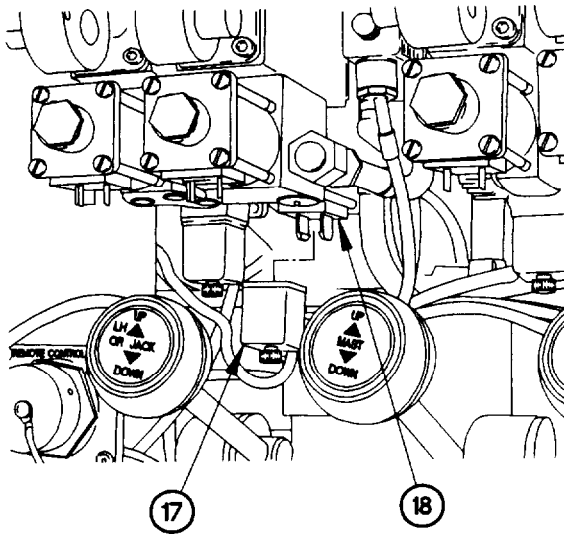
7-103. M1084/M1086 TELESCOPE OUT SOLENOID CABLE REPLACEMENT (CONT)

(10) Close cover (14) on junction box (15).

(11) Tighten four screws (16) on junction box (15).



4113104A



4113105A

NOTE

Install plastic cable ties as required.

(12) Connect connector (17) to telescope out solenoid (18).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-57).

(2) Operate MHC and check telescope out operation (TM 9-2320-366- 10-1).

End of Task.

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Batteries disconnected (para 7-57).
- Muffler and heat shield removed (para 5-2).
- Kick panel removed (para 16-3).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Lockwasher (8) (Item 76, Appendix G)
- Lockwasher (9) (Item 82, Appendix G)
- Lockwasher (4) (Item 96, Appendix G)
- Nut, Self-Locking (19) (Item 128, Appendix G)

Personnel Required

(2)

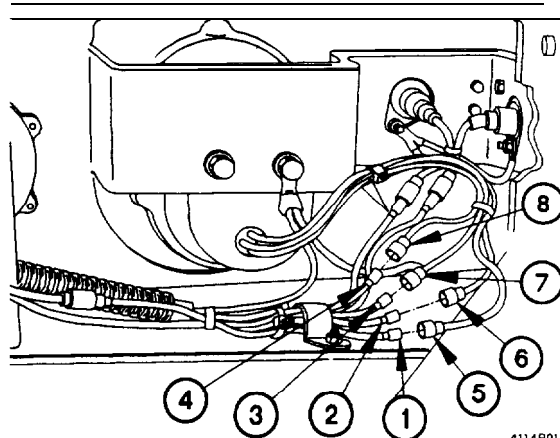
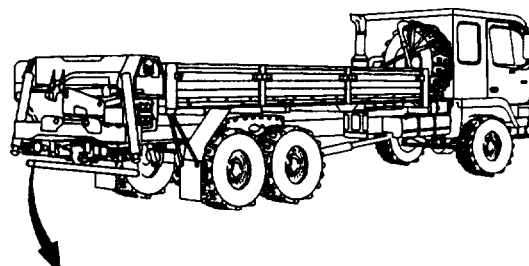
a. Removal.



Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

NOTE

- Remove plastic cable ties as required.
 - Tag connectors, terminal lugs, and connection points prior to disconnecting.
- (1) Disconnect connectors P74 (1), P76 (2), P77 (3), and P78 (4) from left composite taillight connectors 22 (5), 24 (6), 23 (7), and 21 (8).



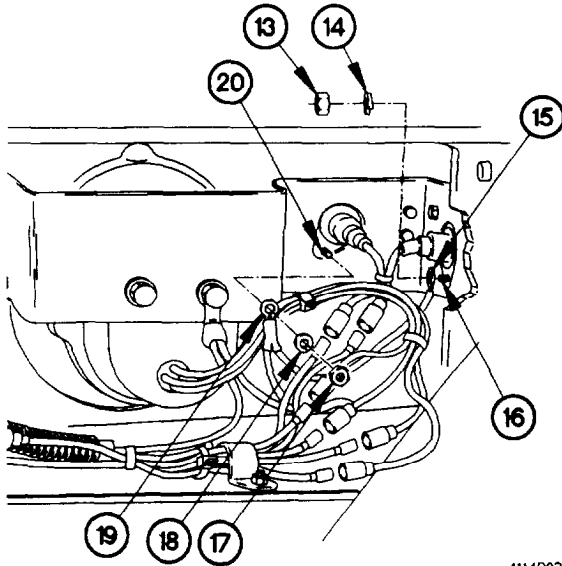
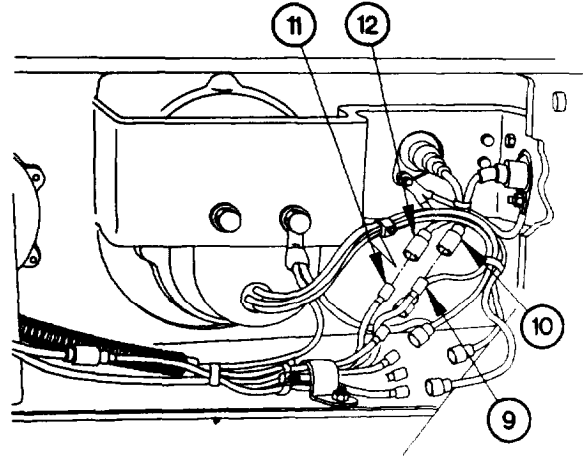
4114P01A

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

NOTE

Perform steps (2) through (4) on M1086 and M1089.

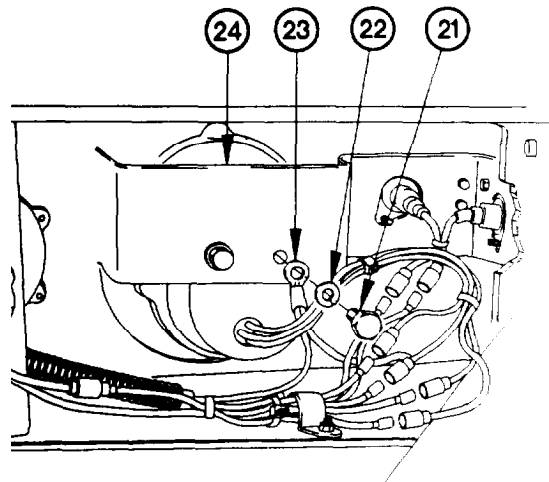
- (2) Disconnect connector P85 (9) from left side marker light connector (10).
- (3) Disconnect connector P86 (11) from left rear marker light connector (12).



4114R03A

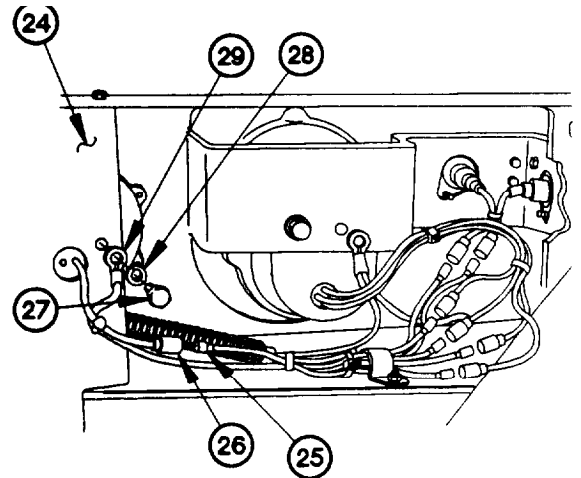
- (4) Remove nut (13), lockwasher (14), and terminal lug TL15 (15) from left side marker light stud 116). Discard lockwasher.
- (5) Remove nut (17), lockwasher (18), and terminal lug TL16 (19) from left rear marker light stud (20). Discard lockwasher.

- (6) Remove screw (21), lockwasher (22), and terminal lug TL18 (23) from left taillight carrier (24). Discard lockwasher.



4114F04A

- (7) Disconnect connector P87 (25) from backup light connector (26).
- (8) Remove screw (27), lockwasher (28), and terminal lug TL17 (29) from left taillight carrier (24). Discard lockwasher.

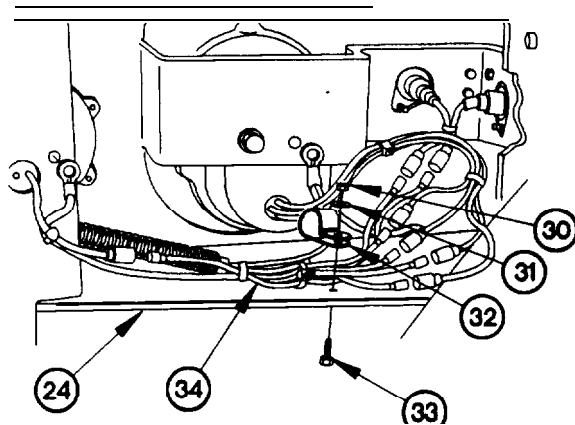


4114P05A

NOTE

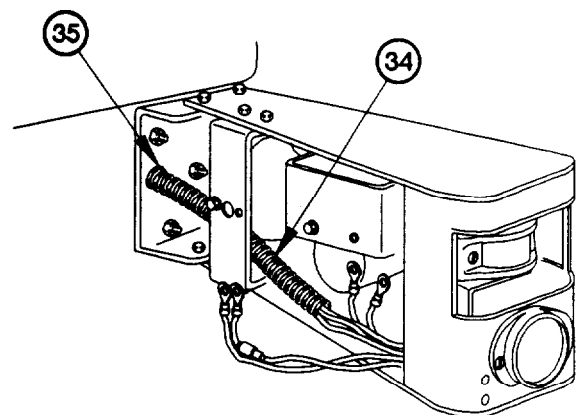
Perform steps (9) and (10) on M1086.

- (9) Remove self-locking nut (30), washer (31), clamp (32), screw (33), and rear lights cable assembly (34) from left taillight carrier (24). Discard self-locking nut.
- (10) Remove clamp (32) from rear lights cable assembly (34).



4114R06A

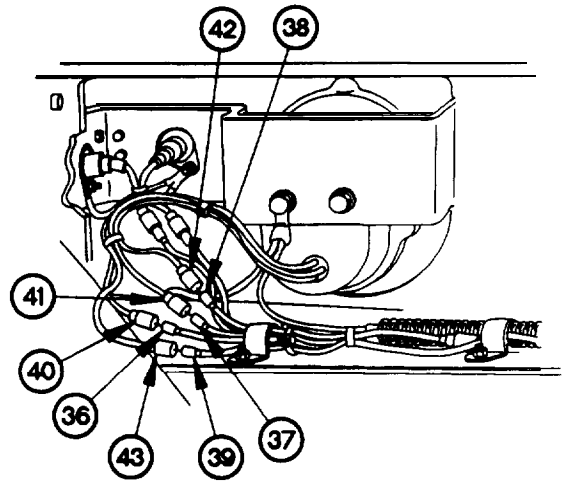
- (11) Pull rear lights cable assembly (34) through left frame rail (35).



4114P07A

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (12) Disconnect connectors P61 (36), P62 (37), P63 (38), and P64 (39) from right composite taillight connectors 22 (40), 24 (41), 23 (42), and 21 (43).

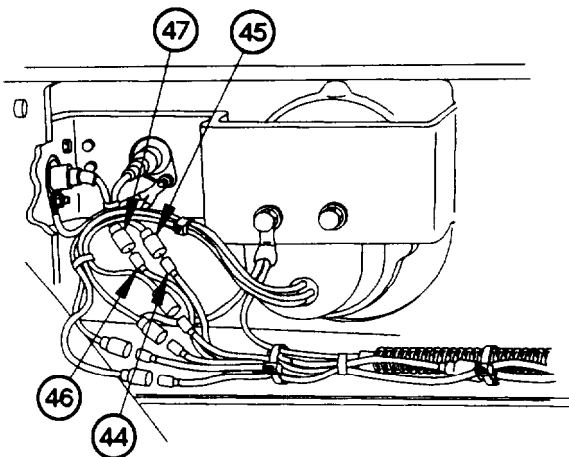


4114R08A

NOTE

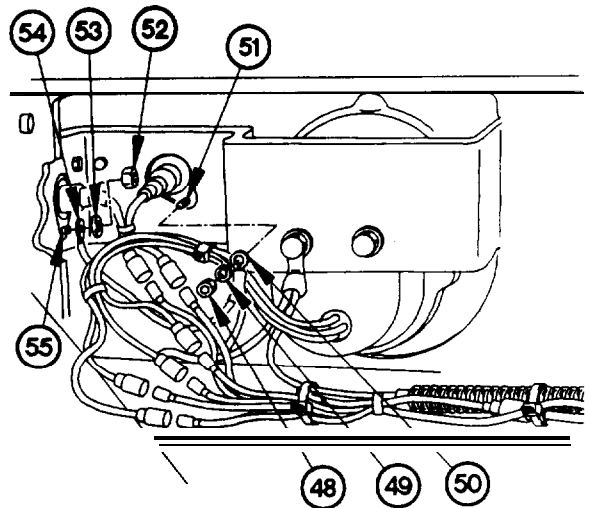
Perform steps (13) through (16) on M1086 and M1089.

- (13) Disconnect connector P88 (44) from right rear marker light connector (45).
 (14) Disconnect connector P89 (46) from right side marker light connector (47).



4114R09A

- (15) Remove nut (48), lockwasher (49), and terminal lug TL20 (50) from right rear marker light stud (51). Discard lockwasher.
 (16) Remove nut (52), lockwasher (53), and terminal lug TL19 (54) from right side marker light stud (55). Discard lockwasher.

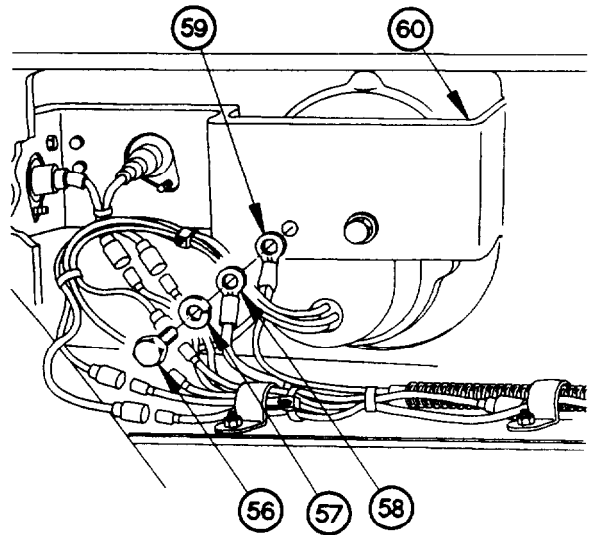


4114P10A

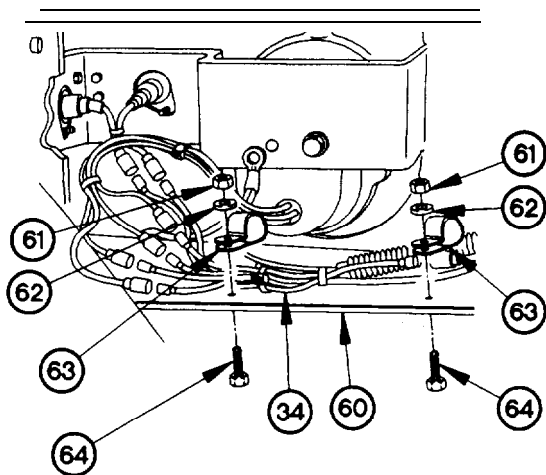
NOTE

Perform steps (17) through (20) on M1086.

- (17) Remove screw (56), lockwasher (57), and terminal lugs TL21 (58) and TL68 (59) from right taillight carrier (60). Discard lockwasher.



4114P11A

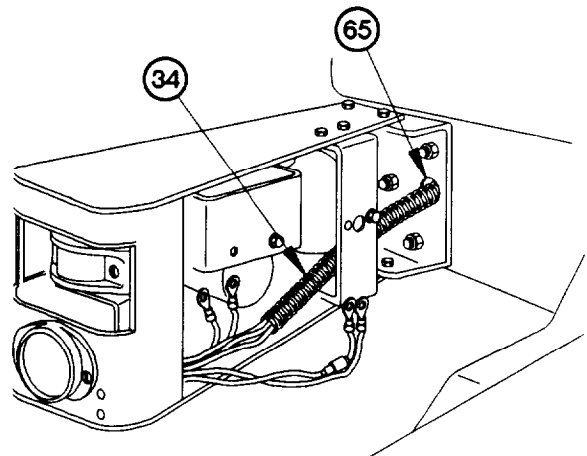


4114R12A

- (18) Remove two self-locking nuts (61), washers (62), clamps (63), screws (64), and rear lights cable assembly (34) from right taillight carrier (60). Discard self-locking nuts.

- (19) Remove two clamps (63) from rear lights cable assembly (34).

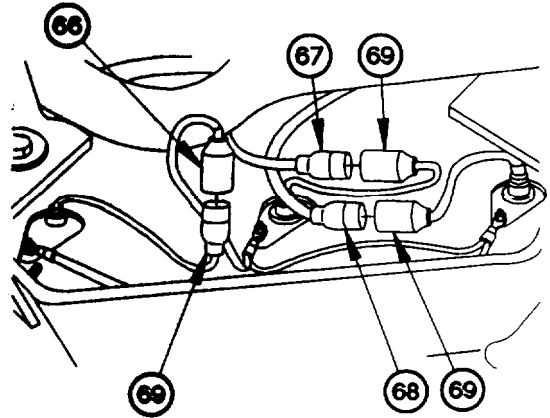
- (20) Pull rear lights cable assembly (34) through right frame rail (65).



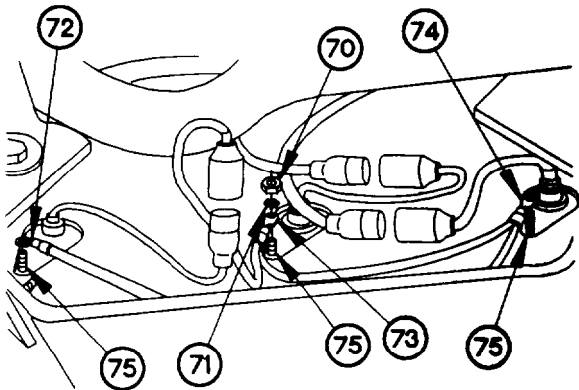
4114R13A

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

(21) Disconnect connectors P54 (66), P56 (67), and P68 (68) from three rear marker light connectors (69).



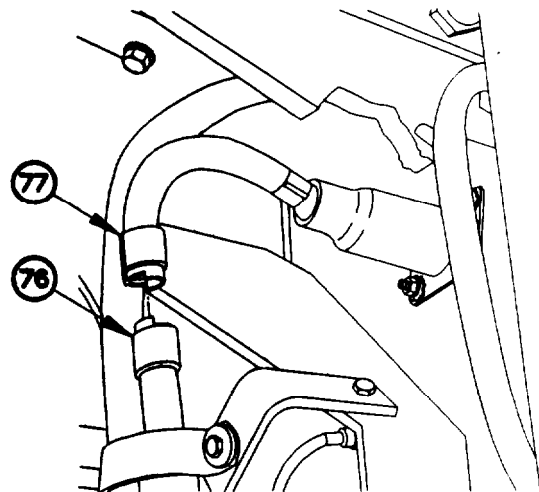
4114R14A



(22) Remove three nuts (70), lockwashers (71), and terminal lugs TL30 (72), TL31 (73), and TL32 (74) from three rear marker lights posts (75). Discard lockwashers.

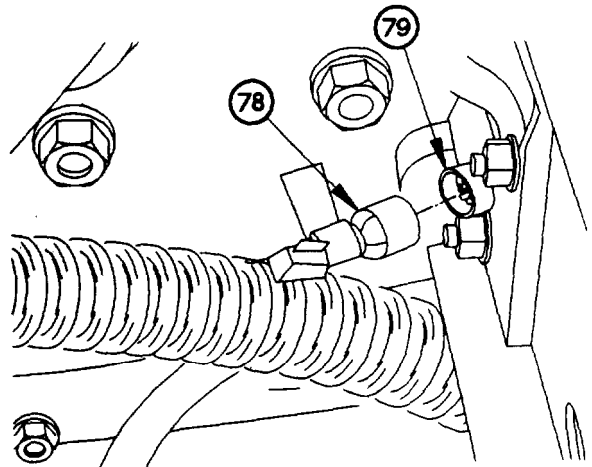
4114R15A

(23) Disconnect connector P53R (76) from connector J53R (77).



4114R16A

(24) Disconnect connector P52R (78) from connector J52R (79).

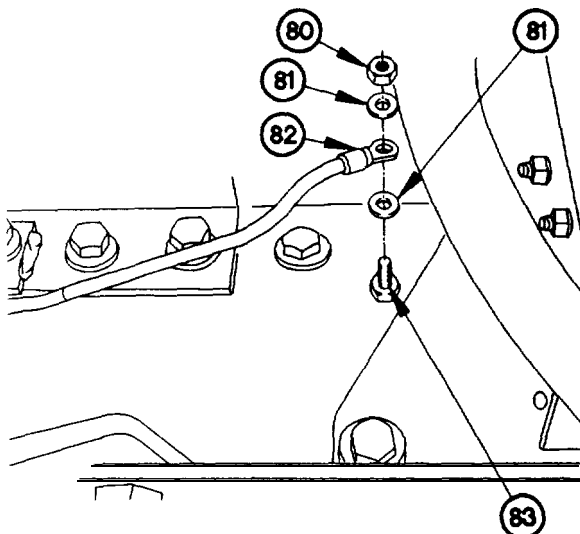


4114R17A

NOTE

Perform step (25) on M1088 and M1089.

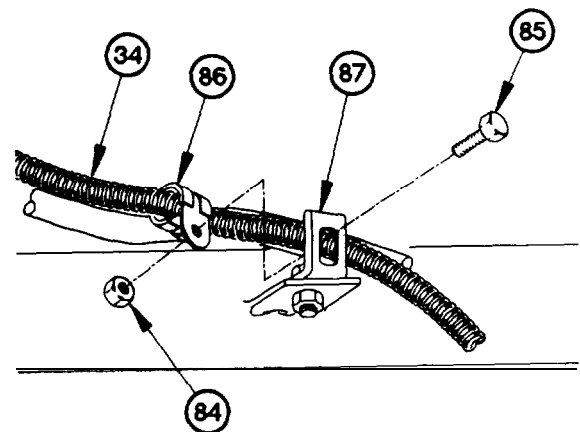
(25) Remove self-locking nut (80), two washers (81), and terminal lug TL93 (82) from left frame rail ground stud (83). Discard self-locking nut.



4114R18A

(26) Remove two nuts (84), screws (85), clamps (86), and rear lights cable assembly (34) from two brackets (87).

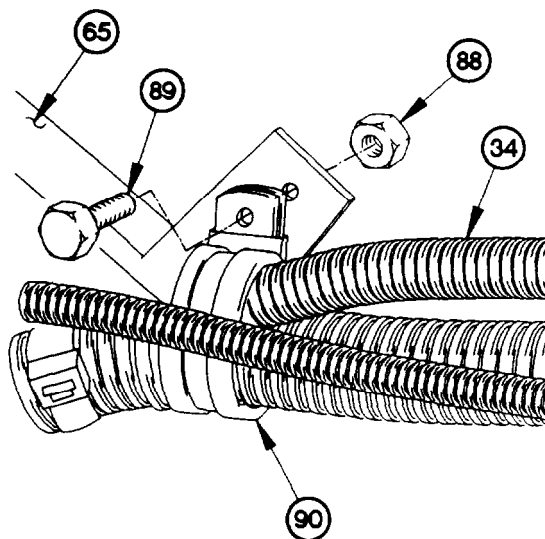
(27) Remove two clamps (86) from rear lights cable assembly (34).



4114R19A

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (28) Remove two self-locking nuts (88), screws (89), and clamps (90) from right frame rail (65). Discard self-locking nuts
- (29) Remove two clamps (90) from rear lights cable assembly (34).

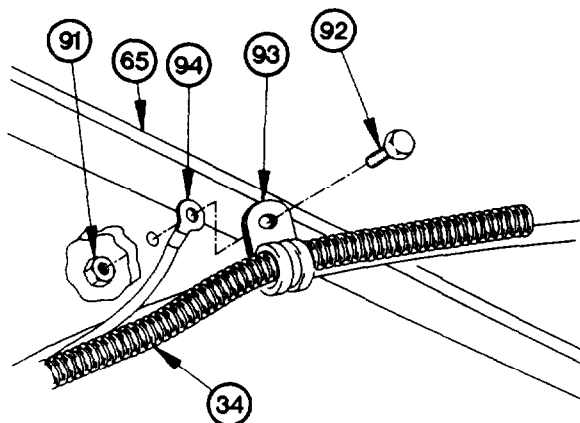


4114R20A

NOTE

Steps (30) and (31) require the aid of an assistant.

- (30) Remove self-locking nut (91), screw (92), clamp (93), rear lights cable assembly (34), and terminal lug TL92 (94) from right frame rail (65).
- (31) Remove clamp (93) from rear lights cable assembly (34).

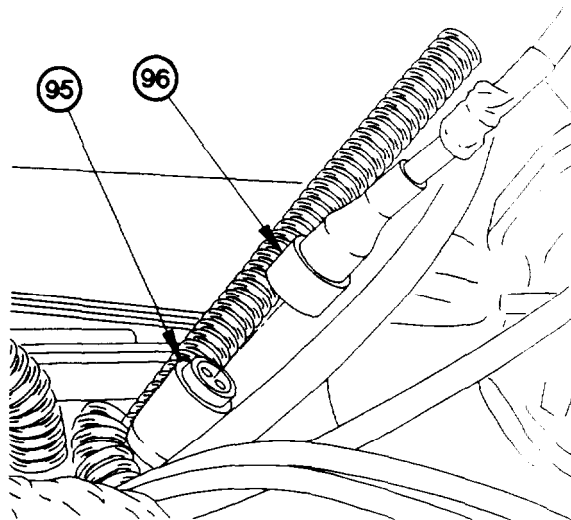


4114R21A

NOTE

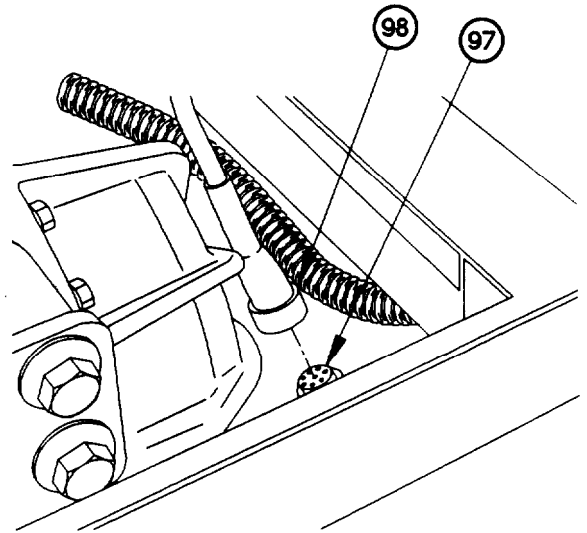
Perform steps (32) and (33) on M1088.

- (32) Disconnect connector P53M (95) from connector J53M (96).

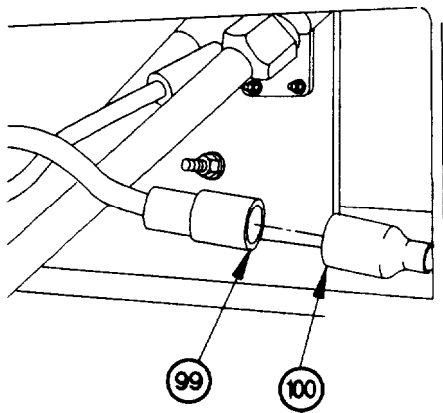


4114R22A

- (33) Disconnect connector P52M (97) from connector J52M (98).



4114R23A



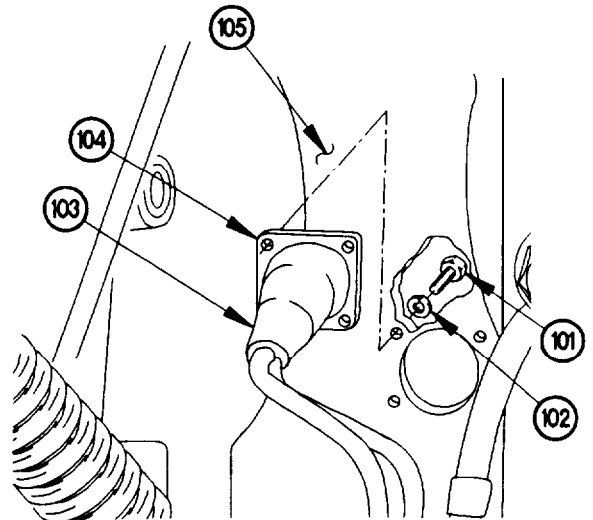
4114R24A

NOTE

Perform steps (34) through (36) on M1088 and M1089.

- (34) Disconnect connector P133A (99) from worklight connector (100).

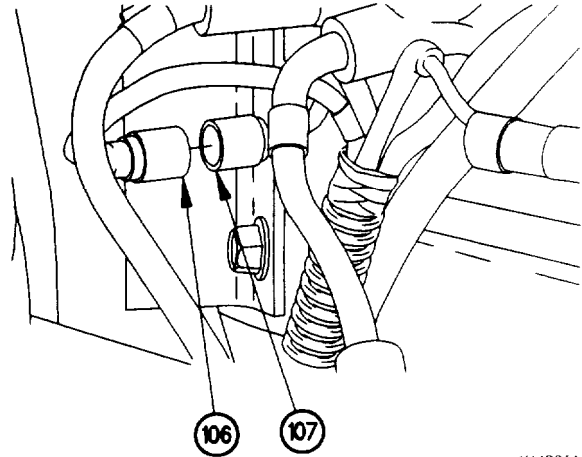
- (35) Remove four screws (101), lockwashers (102), connector P133 (103), and retaining plate (104) from platform (105). Discard lockwashers.



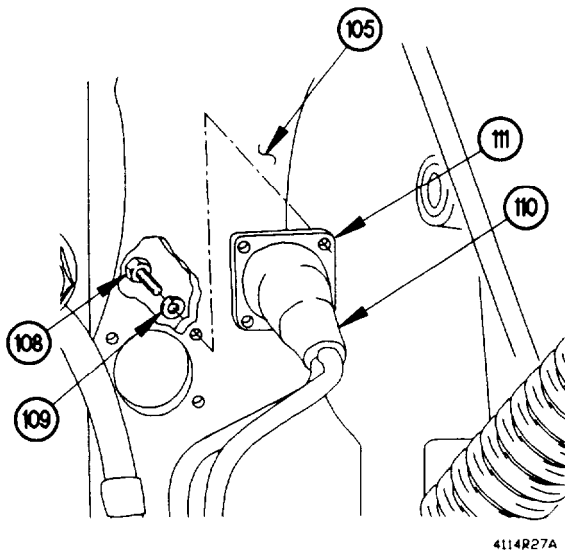
4114R25A

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (36) Disconnect connector P134A (106) from worklight connector (107).



4114R26A



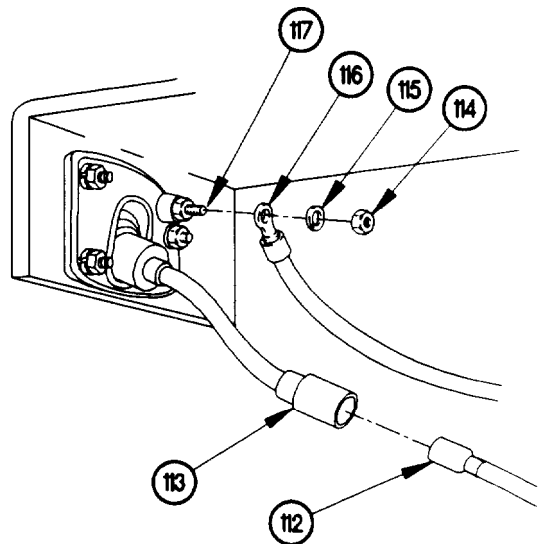
4114R27A

- (37) Remove four screws (108), lockwashers (109), connector P134 (110), and retaining plate (111) from platform (105). Discard lockwashers.

NOTE

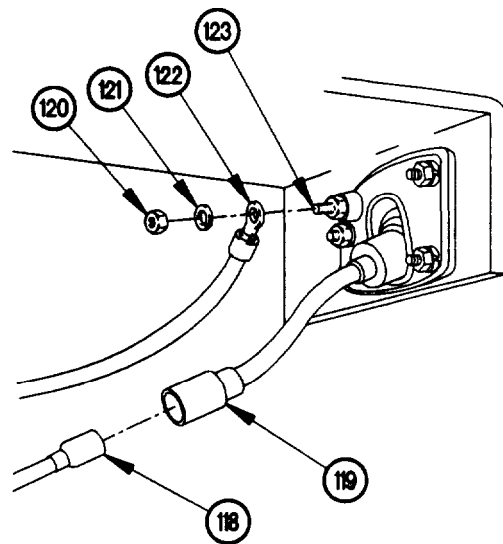
Perform steps (38) through (41) on M1086 and M1089.

- (38) Disconnect connector P94 (112) from left side marker light connector (113).
- (39) Remove nut (114), lockwasher (115), and terminal lug TL88 (116) from left side marker light stud (117). Discard lockwasher.



4114P28A

- (40) Disconnect connector P95 (118) from right side marker light connector (119).
- (41) Remove nut (120), lockwasher (121), and terminal lug TL89 (122) from right side marker light stud (123). Discard lockwasher.

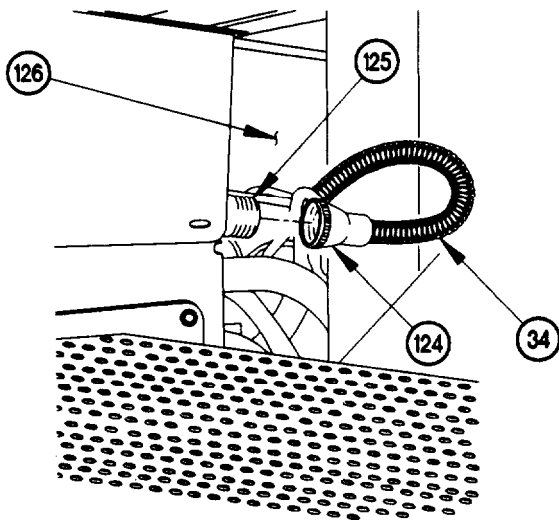


4114R29A

NOTE

Perform steps (42) and (43) on M1089.

- (42) Disconnect connector P107 (124) from connector J107 (125).
- (43) Remove rear lights cable assembly (34) from main winch frame (126).

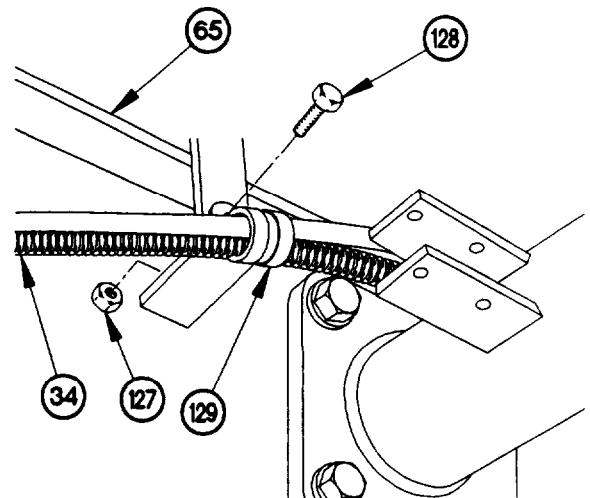


4114R30A

NOTE

- Other hoses, cable assemblies, and terminal lugs are removed with clamps and rear lights cable assembly.
- Steps (44) and (45) require the aid of an assistant.

- (44) Remove eight self-locking nuts (127), screws (128), clamps (129), and rear lights cable assembly (34) from right frame rail (65). Discard self-locking nuts.
- (45) Remove eight clamps (129) from rear lights cable assembly (34).



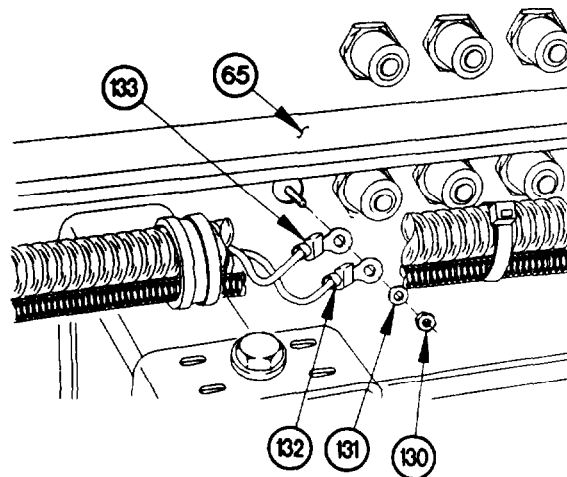
4114R31A

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

NOTE

Perform step (46) on M1088.

- (46) Remove self-locking nut (130), washer (131), and terminal lugs TL109 (132) and TL93M (133) from right frame rail (65). Discard self-locking nut.

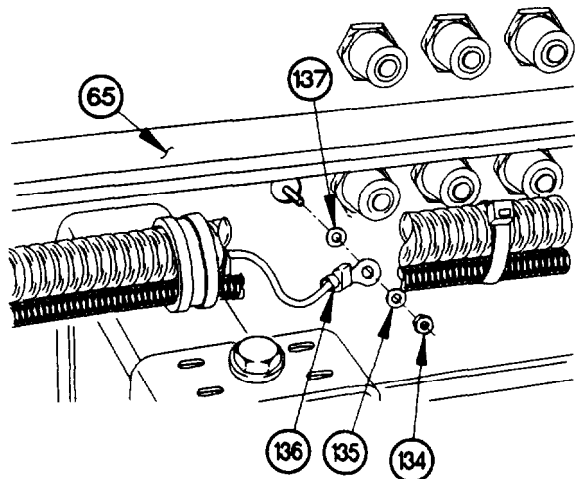


4114R32A

NOTE

Perform step (47) on M10836.

- (47) Remove self-locking nut (134), washer (135), terminal lug TL90 (136), and washer (137) from right frame rail (65). Discard self-locking nut.



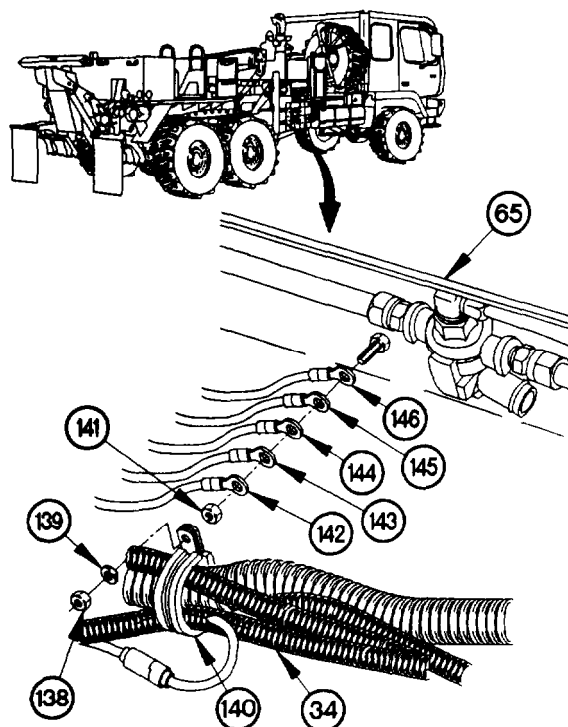
4114R33A

NOTE

Perform steps (48) and (49) on M1089.

(48) Remove nut (138), lockwasher (139), clamp (140), nut (141), terminal lugs TL320 (142), TL54 (143), TL90 (144), T111 (145), and TL83 (146) from right frame rail (65). Discard lockwasher.

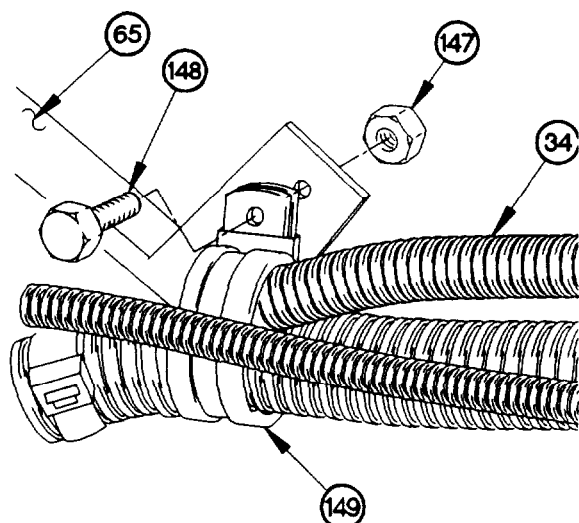
(49) Remove clamp (140) from rear lights cable assembly (34).



4114P34A

(50) Remove five self-locking nuts (147), screws (148), clamps (149), and rear lights cable assembly (34) from right frame rail (65). Discard self-locking nuts.

(51) Remove five clamps (149) from rear lights cable assembly (34).

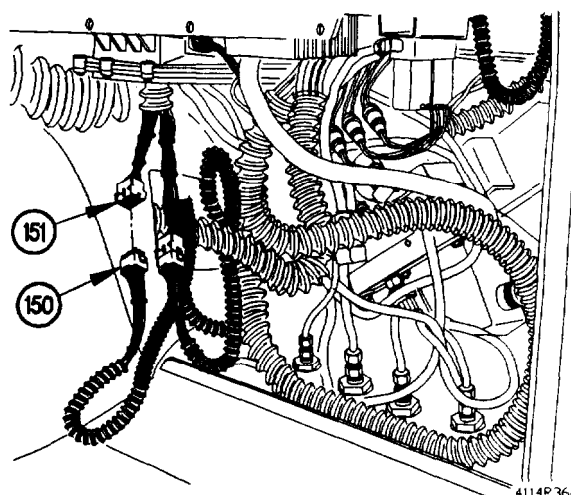


4114R35A

NOTE

Perform step (52) on M1089.

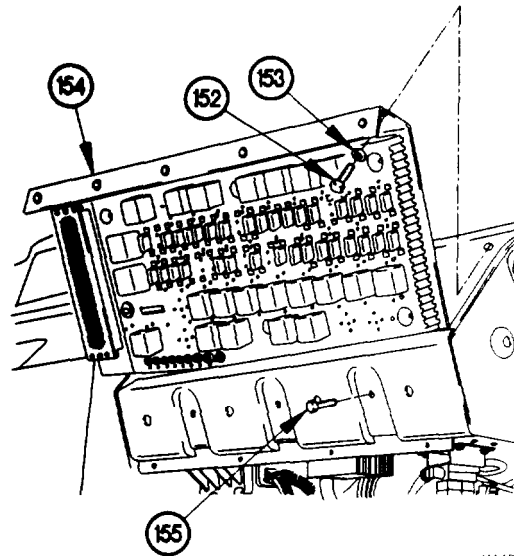
(52) Disconnect connector P108 (150) from connector J108 (151).



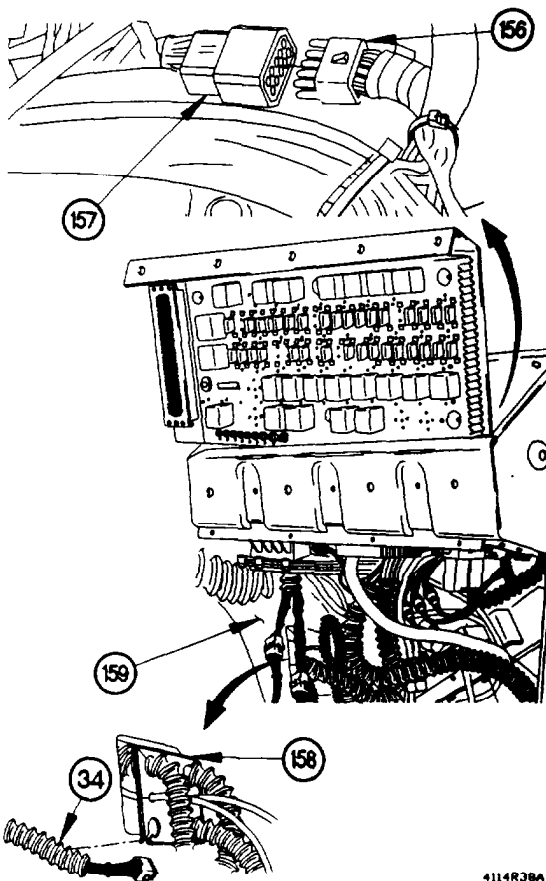
4114P36A

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (53) Remove three screws (152) and washers (153) from PDP (154).
- (54) Remove three screws (155) from PDP (154).
- (55) Lift PDP (154) outward to gain access.



4114937A



4114R38A

- (56) Disconnect connector P51 (156) from connector J51 (167).
- (67) Remove grommet (158) from cab (159).
- (56) Remove rear lights cable assembly (34) from grommet (158).

NOTE

Note routing of rear lights cable assembly prior to removal.

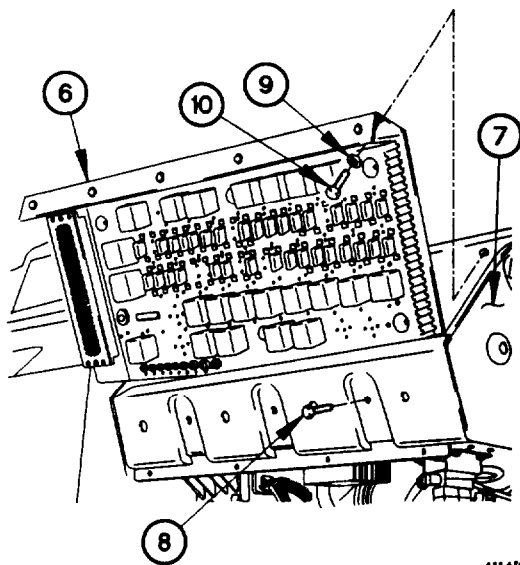
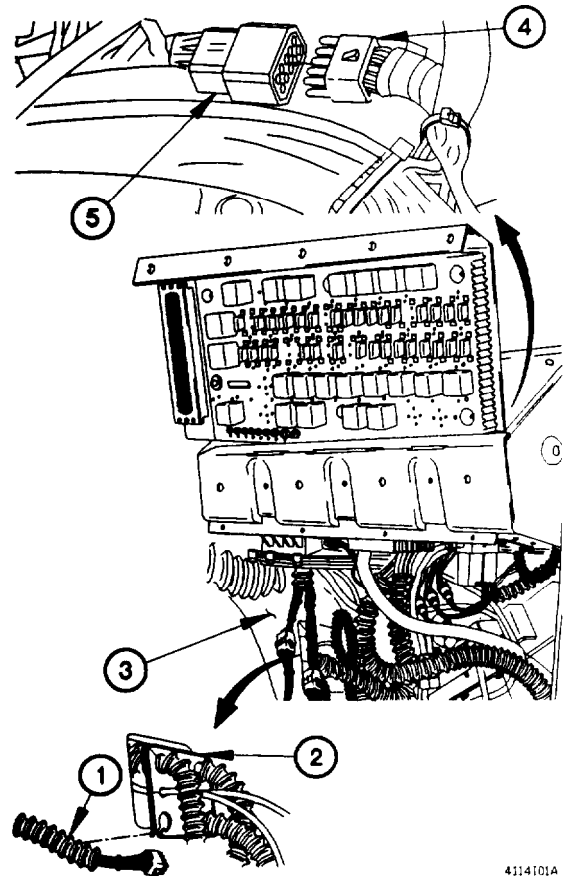
- (59) Raise cab (TM 9-2320-366-10-1).
- (60) Remove rear lights cable assembly (34) from vehicle.

b. Installation.

NOTE

Install plastic cable ties as required.

- (1) Position rear lights cable assembly (1) on vehicle.
- (2) Lower cab (TM 9-2320-366-10-1).
- (3) Install rear lights cable assembly (1) in grommet (2).
- (4) Install grommet (2) in cab (3).
- (5) Connect connector P51 (4) to connector J51 (5).



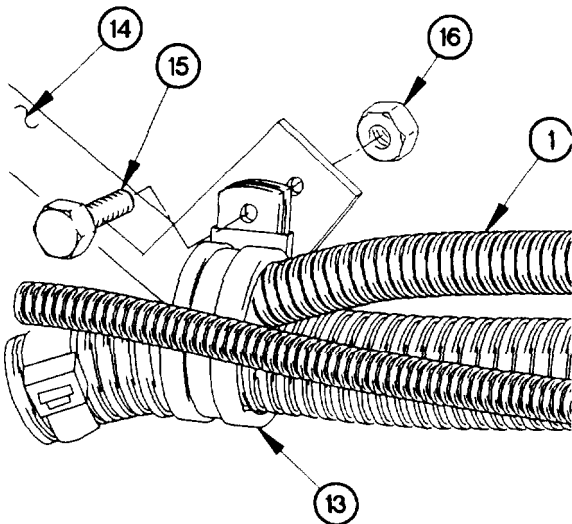
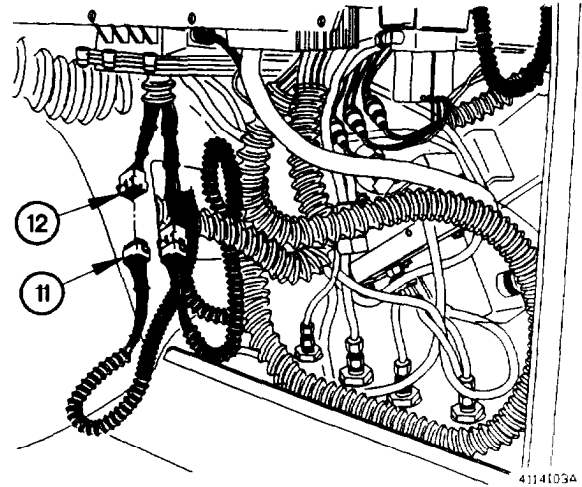
- (8) Install PDP (6) on dashboard (7) with three screws (8).
- (9) Install three washers (9) and screws (10) in PDP (6).

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

NOTE

Perform step (8) on M1089.

(8) Connect connector P108 (11) to connector J108 (12).



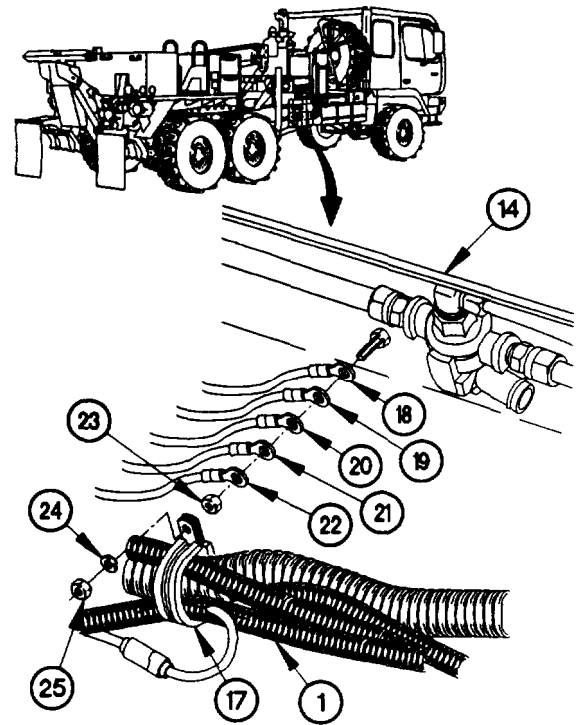
NOTE

- Other hoses, cable assemblies, and terminal lugs are installed with clamps and rear lights cable assembly.
 - Steps (9) and (10) require the aid of an assistant.
- (9) Position five clamps (13) on rear lights cable assembly (1).
- (10) Install five clamps (13) and rear lights cable assembly (1) on right frame rail (14) with five screws (15) and self-locking nuts (16).

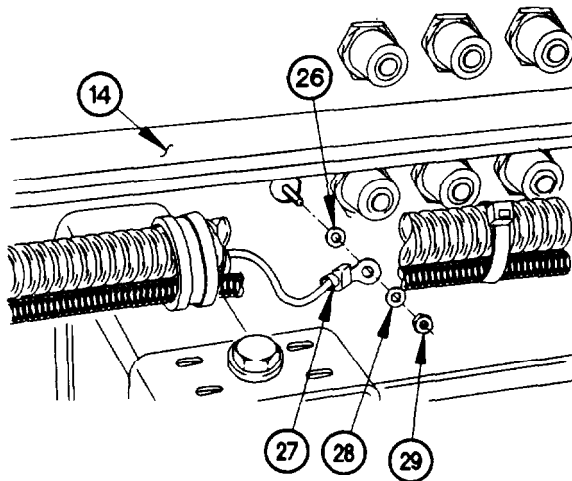
NOTE

Perform steps (11) through (13) on M1089.

- (11) Position clamp (17) on rear lights cable assembly (1).
- (12) Install terminal lugs TL83 (18), TL111 (19), TL90 (20), TL54 (21), and TL320 (22) on right frame rail (14) with nut (23).
- (13) Install clamp (17) and rear lights cable assembly (1) on right frame rail (14) with lockwasher (24) and nut (25).



4114105A



4114106A

NOTE

Perform step (14) on M1086.

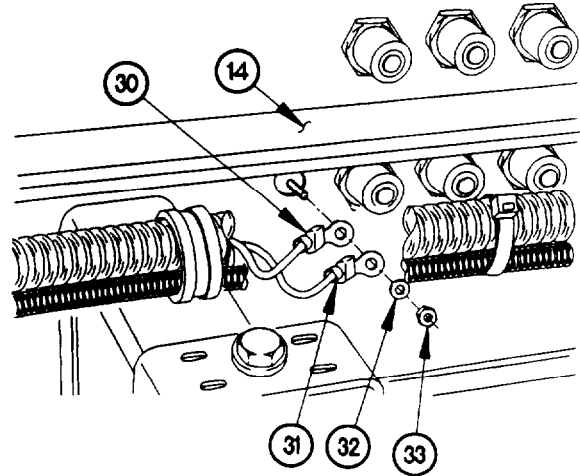
- (14) Install washer (26) and terminal lug TL90 (27) on right frame rail (14) with washer (28) and self-locking nut (29).

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

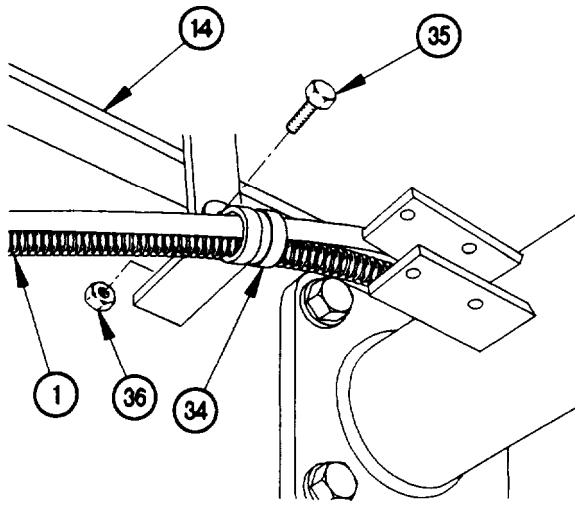
NOTE

Perform step (15) on M1088.

- (15) Install terminal lugs TL93M (30) and TL109 (31) on right frame rail (14) with washer (32) and self-locking nut (33).



4114107A



4114108A

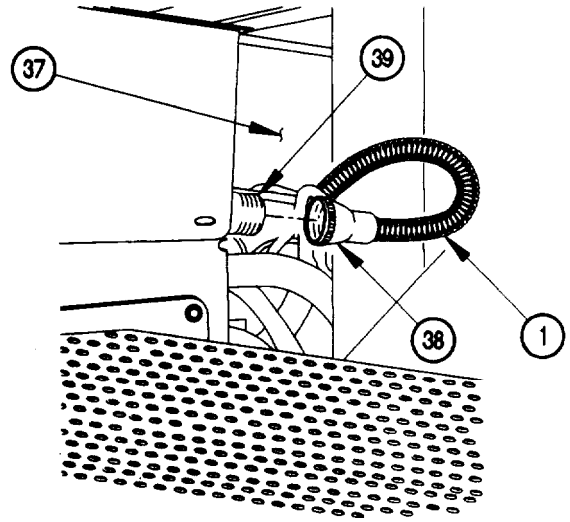
NOTE

- Other hoses, cable assemblies, and terminal lugs are installed with clamps and rear lights cable assembly.
 - Steps (16) and (17) require the aid of an assistant.
- (16) Position eight clamps (34) on rear lights cable assembly (1).
- (17) Install eight clamps (34) and rear lights cable assembly (1) on right frame rail (14) with eight screws (35) and self-locking nuts (36).

NOTE

Perform steps (18) and (19) on M1089.

- (18) Position rear lights cable assembly (1) on main winch frame (37).
- (19) Connect connector P107 (38) to connector J107 (39).

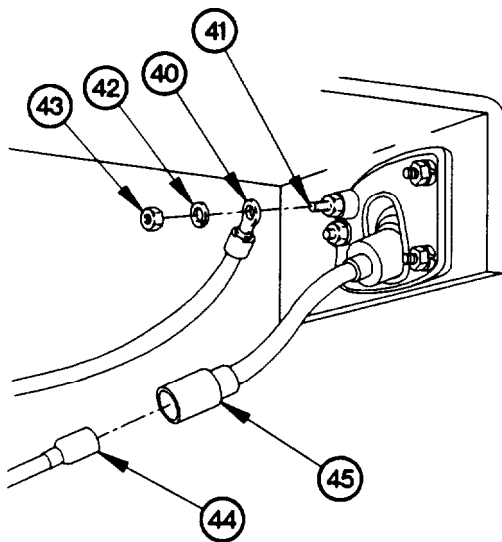


4114109A

NOTE

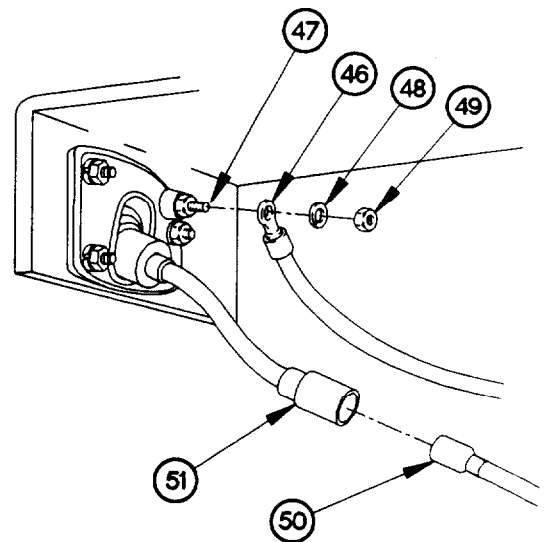
Perform steps (20) through (23) on M1086 and M1089.

- (20) Install terminal lug TL89 (40) on right side marker light stud (41) with lockwasher (42) and nut (43).
- (21) Connect connector P95 (44) to right side marker light connector (45).



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- (22) Install terminal lug TL88 (46) on left side marker light stud (47) with lockwasher (48) and nut (49).
- (23) Connect connector P94 (50) to left side marker light connector (51).



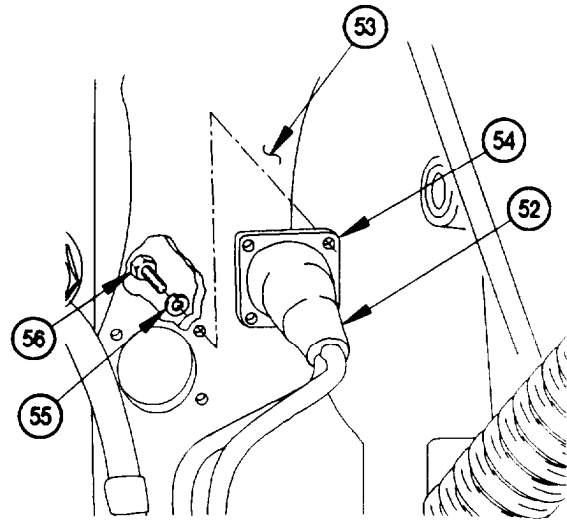
4114111A

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

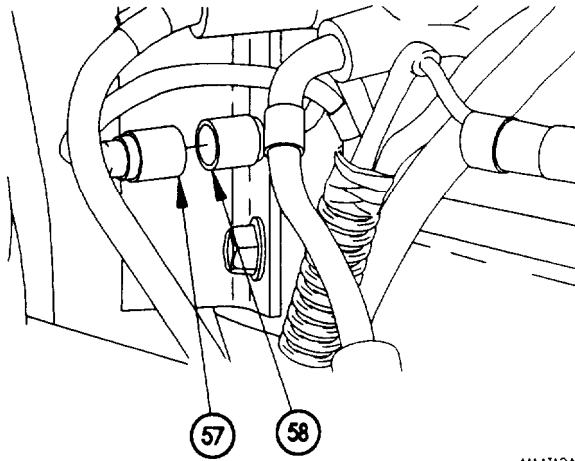
NOTE

Perform steps (24) through (27) on M1088 and M1089.

- (24) Install connector P134 (52) on platform (53) with retaining plate (54), four lockwashers (55), and screws (56).



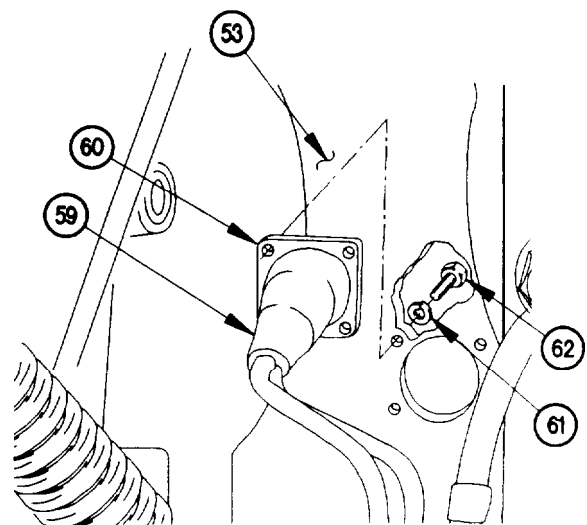
4114112A



4114113A

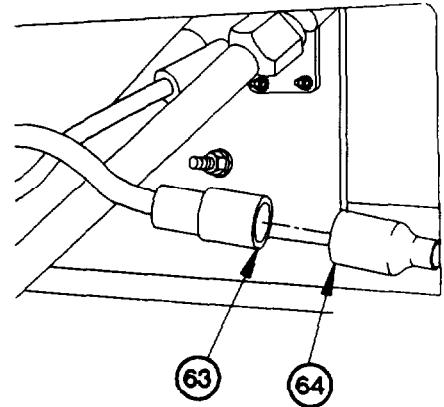
- (25) Connect connector P134A (57) to worklight connector (58).

- (26) Install connector P133 (59) on platform (53) with retaining plate (60), four lockwashers (61), and screws (62).



4114114A

(27) Connect connector P133A (63) to worklight connector (64).

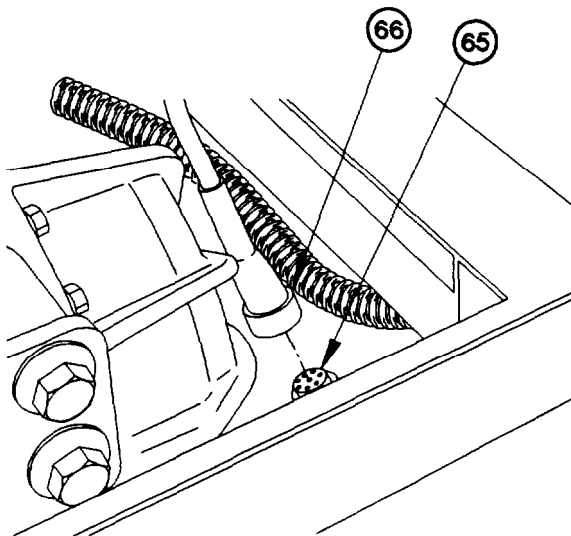


4114115A

NOTE

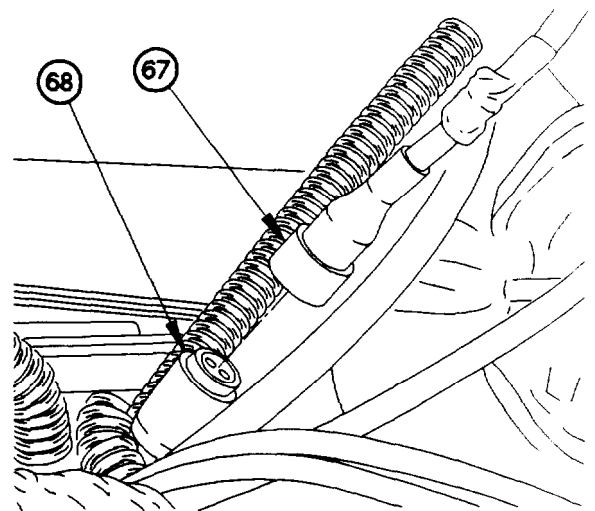
Perform steps (28) and (29) on M1086 and M1088.

(28) Connect connector P52M (65) to connector J52M (66).



4114116A

(29) Connect connector P53M (67) to connector J53M (68).



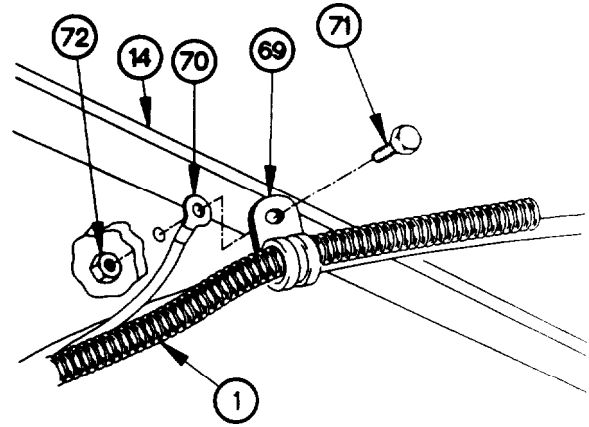
4114117A

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

NOTE

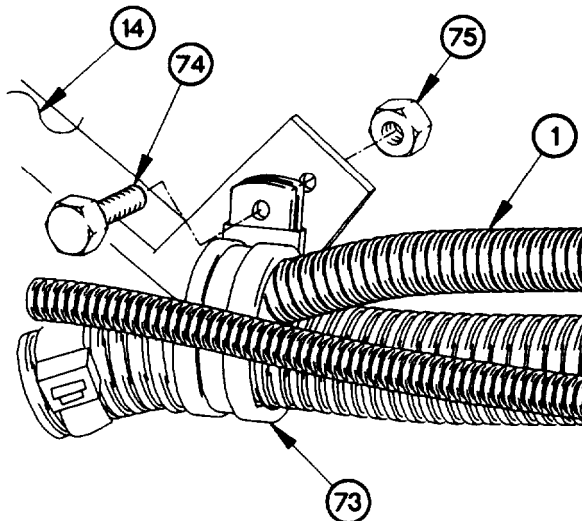
Steps (30) and (31) require the aid of an assistant.

- (30) Position clamp (69) on rear lights cable assembly (1).
- (31) Install terminal lug TL92 (70), clamp (69), and rear lights cable assembly (1) on right frame rail (14) with screw (71) and self-locking nut (72).



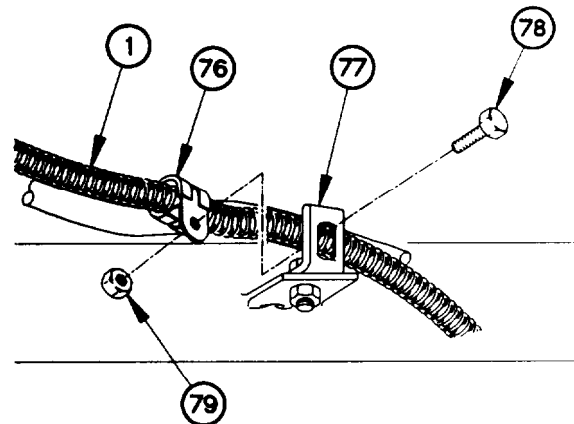
4114118A

- (32) Position two clamps (73) on rear lights cable assembly (1).
- (33) Install two clamps (73) and rear lights cable assembly (1) on right frame rail (14) with two screws (74) and self-locking nuts (75).



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- (34) Position two clamps (76) on rear lights cable assembly (1).
- (35) Install two clamps (76) and rear lights cable assembly (1) on two brackets (77) with screws (78) and nuts (79).

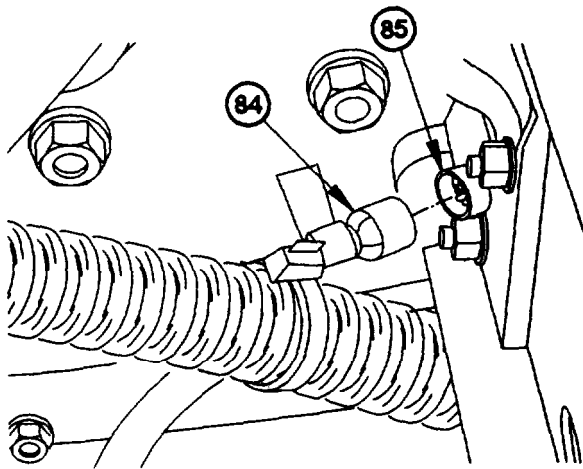
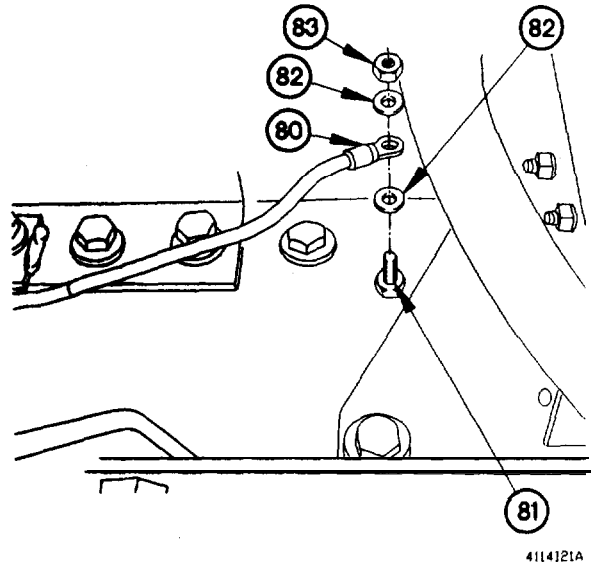


4114120A

NOTE

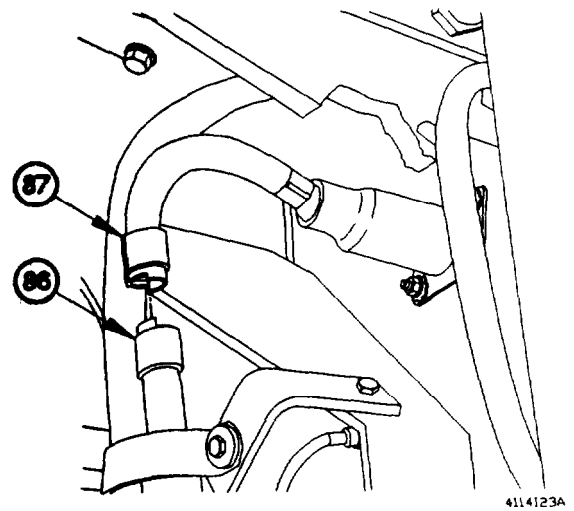
Perform step (36) on M1088 and M1089.

- (36) Install terminal lug TL83 (80) on left frame rail ground stud (81) with two washers (82) and self-locking nut (83).

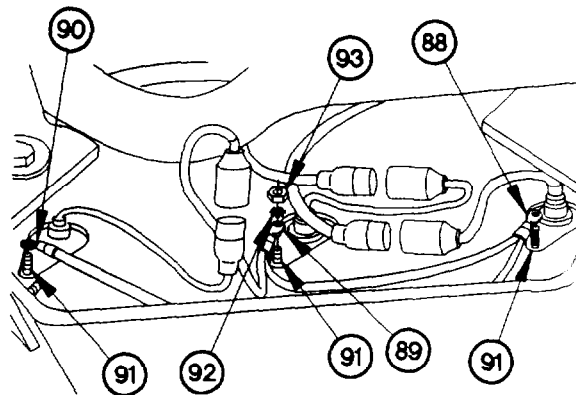


- (37) Connect connector P52R (84) to connector J52R (85).

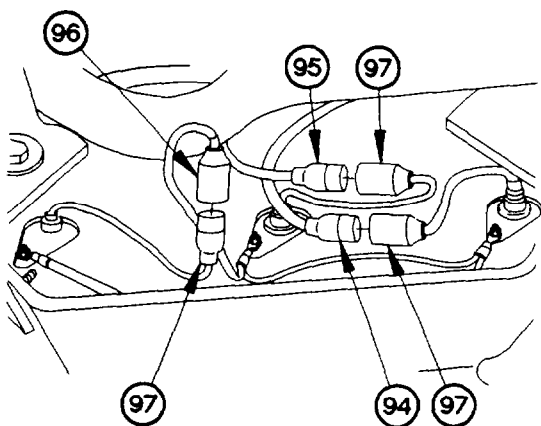
- (38) Connect connector P53R (88) to connector J53R (87).



(39) Install terminal lugs TL32 (88), TL31 (89), and TL30 (90) on three marker lights posts (91) with lockwashers (92) and nuts (93).



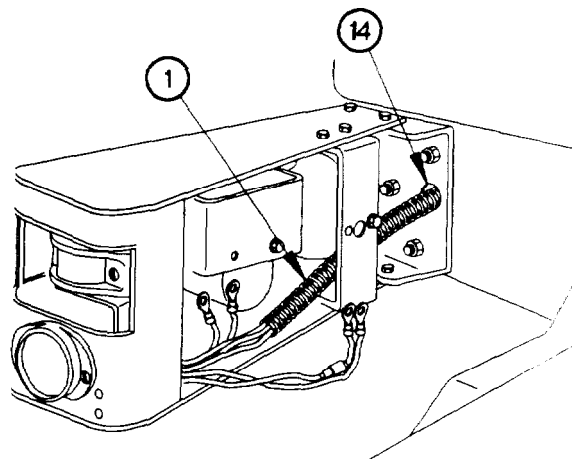
4114124A



4114125A

(40) Connect connectors P58 (94), P56 (95), and P54 (96) to three rear marker light connectors (97).

(41) Route rear lights cable assembly (1) through right frame rail (14).

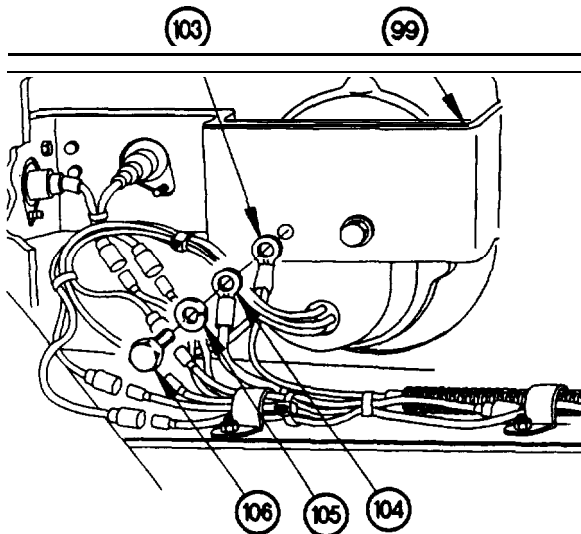


4114126A

NOTE

Perform steps (42) through (44) on M1086.

- (42) Position two clamps (98) on rear lights cable assembly (1).
- (43) Install two clamps (98) and rear lights cable assembly (1) on right taillight carrier (99) with two screws (100), washers (101), and self-locking nuts (102).

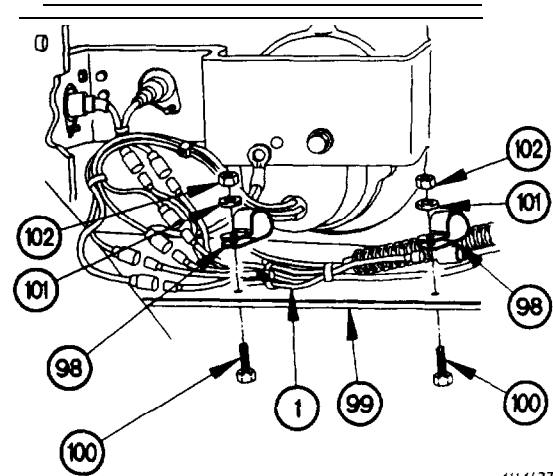


4114128A

NOTE

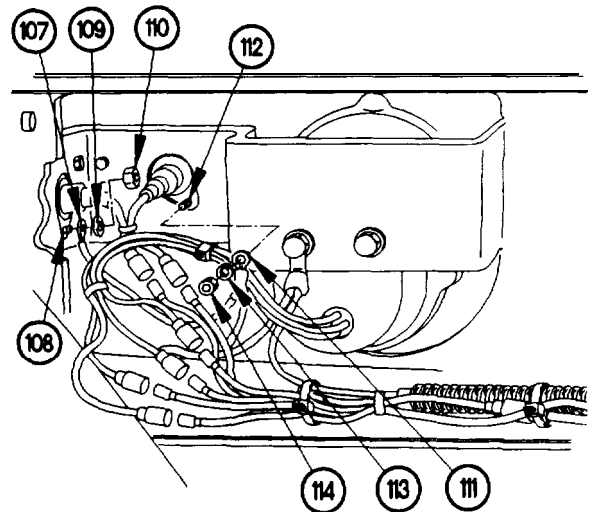
Perform steps (45) through (48) on M1088 and M1089.

- (45) Install terminal lug TL19 (107) on right side marker light stud (108) with lockwasher (109) and nut (110).
- (46) Install terminal lug TL20 (111) on right rear marker light stud (112) with lockwasher (113) and nut (114).



4114127A

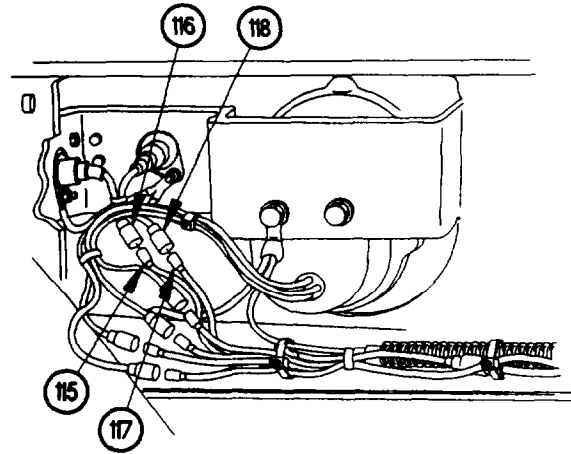
- (44) Install terminal lugs TL68 (103) and TL21 (104) on right taillight carrier (99) with lockwasher (105) and screw (106).



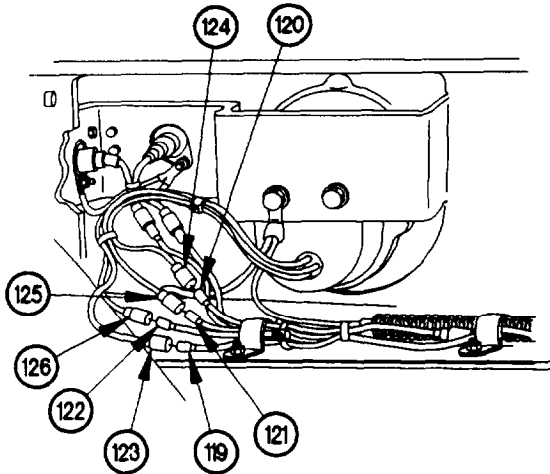
4114129A

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

- (47) Connect connector P89 (115) to right side marker light connector (116).
- (48) Connect connector P88 (117) to right rear marker light connector (118).



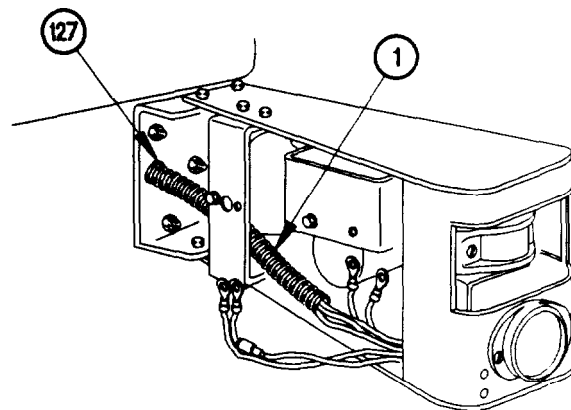
4114130A



4114131A

- (49) Connect connectors P64 (119), P63 (120), P62 (121), and P61 (122) to right composite taillight connectors 21 (123), 23 (124), 24 (125) and 22 (126).

- (50) Route rear lights cable assembly (1) through left frame rail (127).

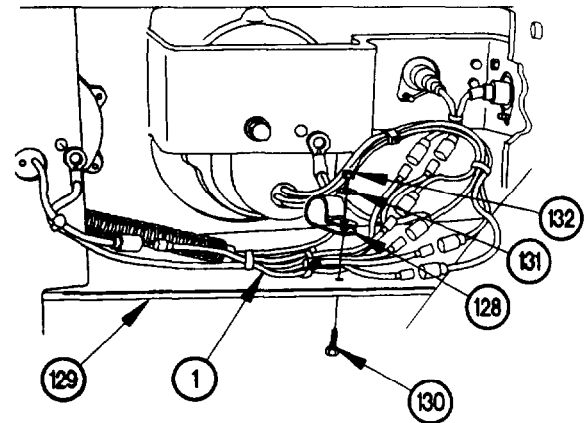


4114132A

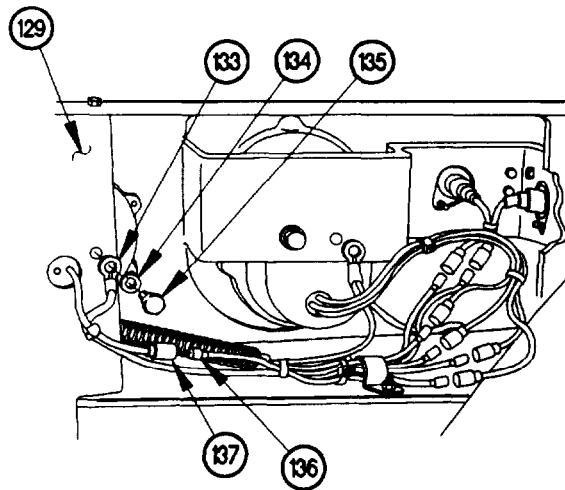
NOTE

Perform steps (51) and (52) on M1086.

- (51) Position clamp (128) on rear lights cable assembly (1).
- (52) Install clamp (128) and rear lights cable assembly (1) on left taillight carrier (129) with screw (130), washer (131), and self-locking nut (132).



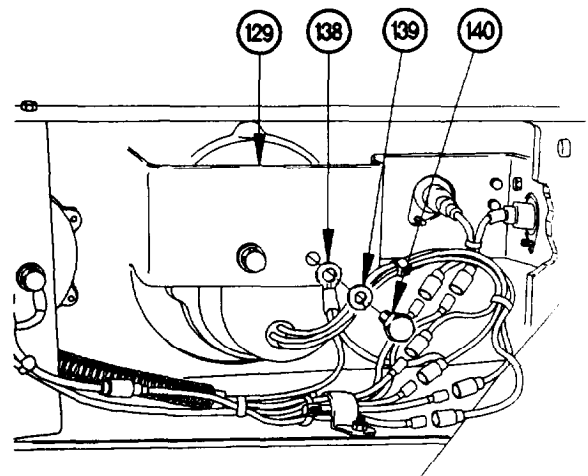
4114133A



4114134A

- (53) Install terminal lug TL17 (133) on left taillight carrier (129) with lockwasher (134) and screw (135).
- (54) Connect connector P67 (136) to backup light connector (137).

- (55) Install terminal lug TL18 (138) on left taillight carrier (129) with lockwasher (139) and screw (140).



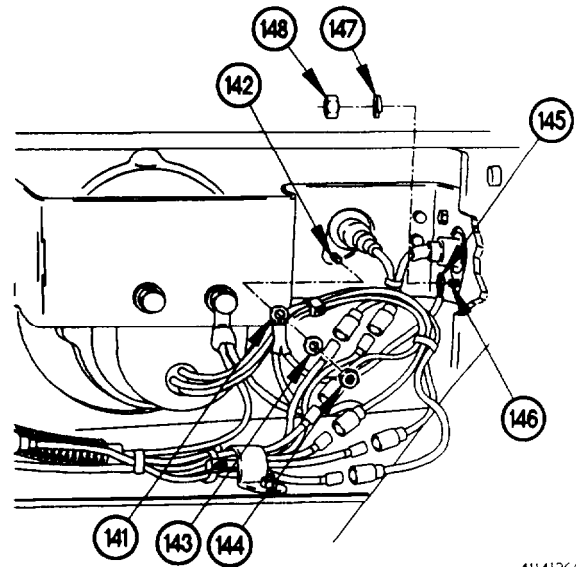
4114135A

7-104. M1086/M1088/M1089 REAR LIGHTS CABLE ASSEMBLY REPLACEMENT (CONT)

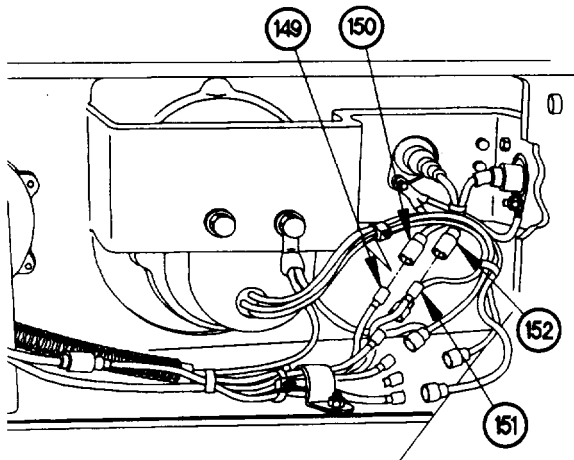
NOTE

Perform steps (56) through (59) on M1086 and M1089.

- (56) Install terminal lug TL16 (141) on left rear marker light stud (142) with lockwasher (143) and nut (144).
- (57) Install terminal lug TL15 (145) on left side marker light stud (146) with lockwasher (147) and nut (148).



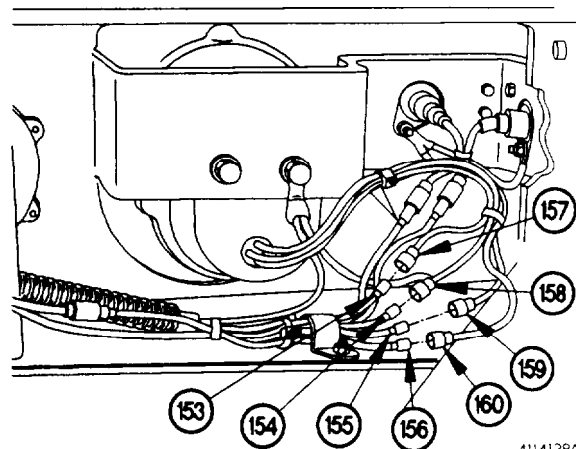
4114136A



4114137A

- (58) Connect connector P86 (149) to left rear marker light connector (150).
- (59) Connect connector P85 (151) to left side marker light connector (152).

- (60) Connect connectors P78 (153), P77 (154), P76 (155), and P74 (156) to left composite taillight Connectors 21 (157), 23 (158), 24 (159), and 22 (160).



4114138A

c. Follow-On Maintenance.

- (1) Install kick panel (para 16-3).
- (2) Install muffler and heat shield (para 5-2).
- (3) Connect batteries (para 7-57).
- (4) Start engine (TM 9-2320-366-10-1).
- (5) Check operation of rear lights (TM 9-2320-366-10-1).
- (6) Shut down engine (TM 9-2320-366-10-1).

End of Task.

7-105. M1089 BOOM DOWN LOCKOUT SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

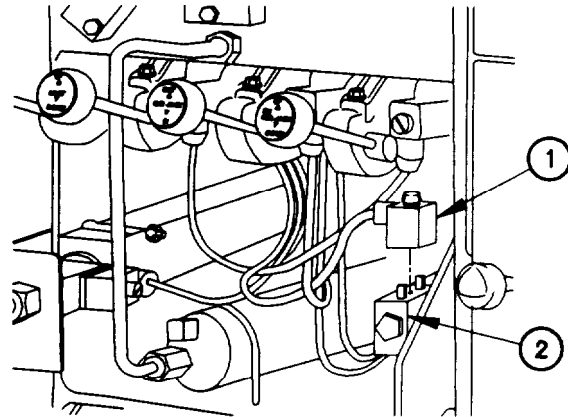
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

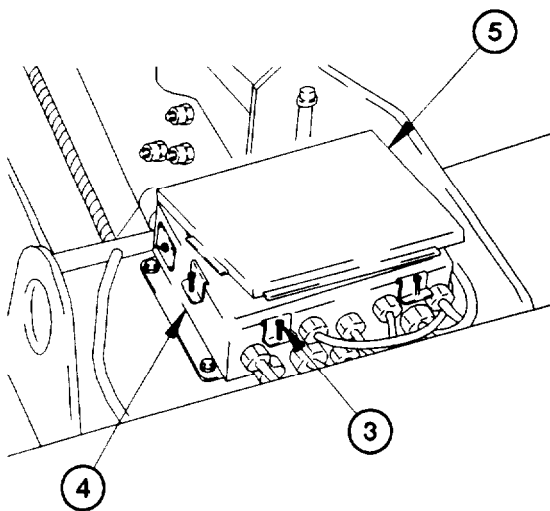
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from boom down lockout solenoid (2).



4115R01A



4115R02A

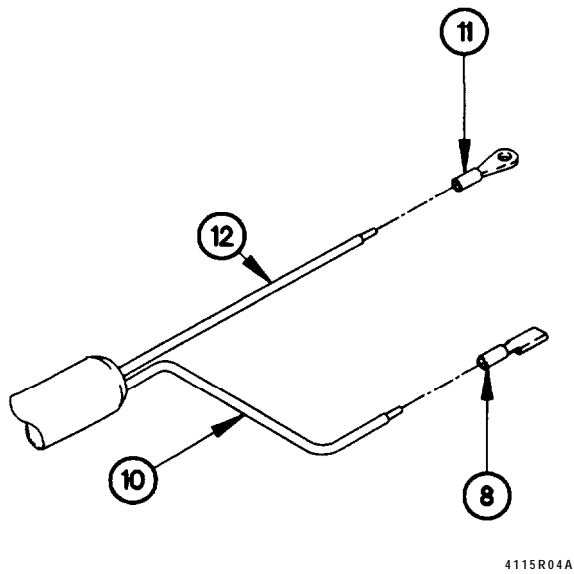
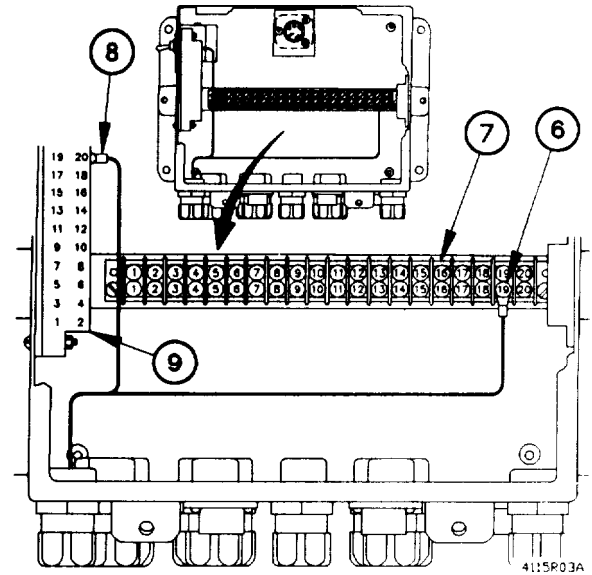
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

NOTE

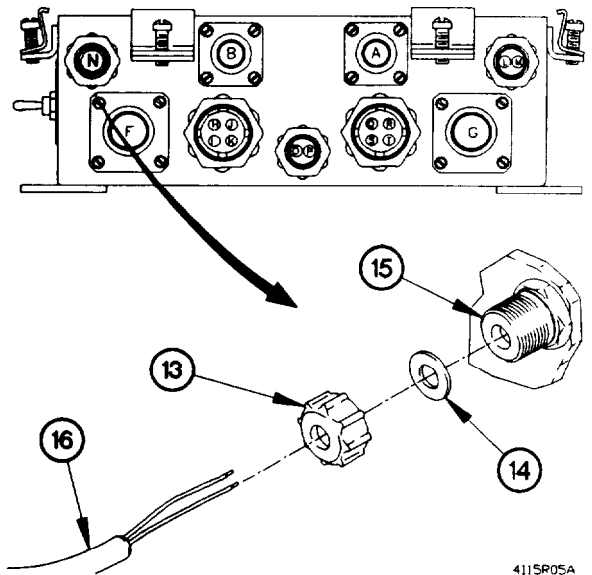
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 19,
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 20.



- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

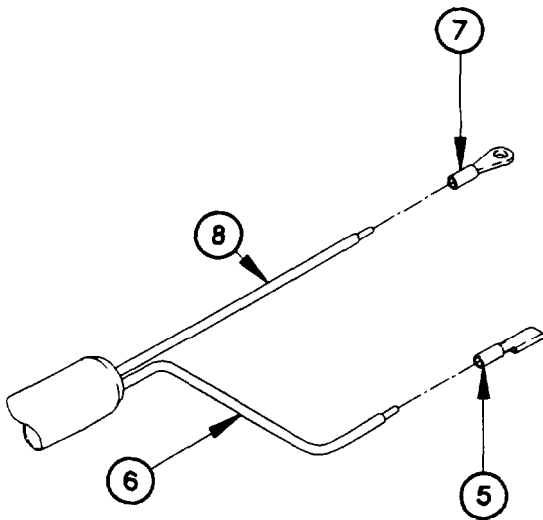
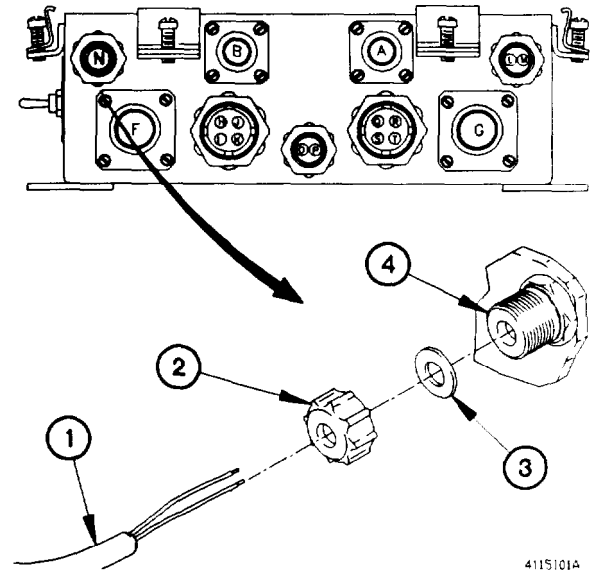
- (8) Remove compression nut (13) and washer (14) from connector (15).
- (9) Remove boom down lockout solenoid cable (16) from connector (15), washer (14), and compression nut (13).



7-105. M1089 BOOM DOWN LOCKOUT SOLENOID CABLE REPLACEMENT (CONT)

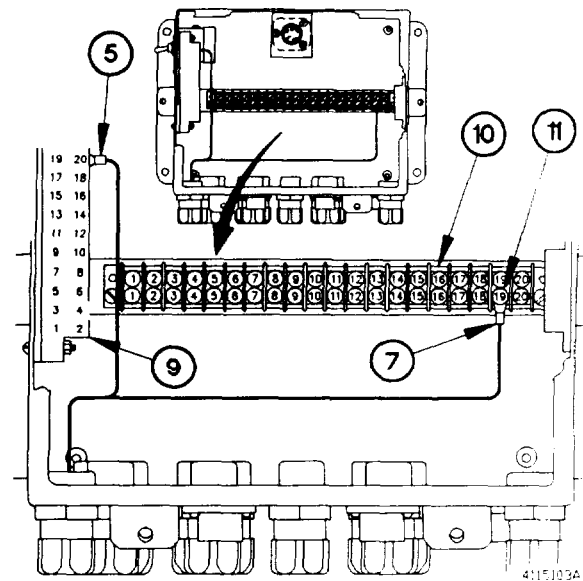
b. Installation.

- (1) Install boom down lockout solenoid cable (1) through compression nut (2), washer (3), and connector (4).
- (2) Install compression nut (2) on connector (4).

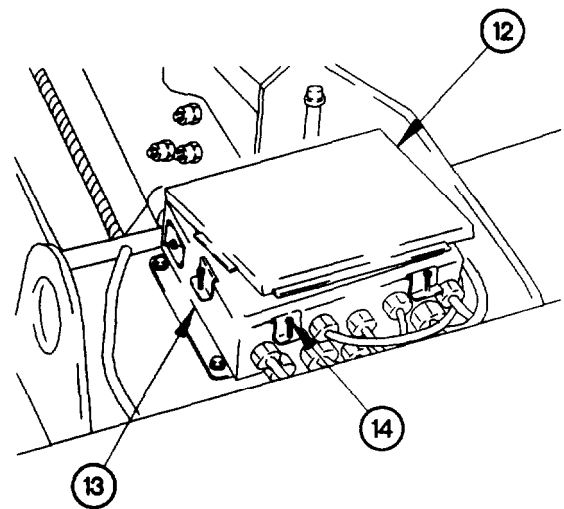


- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).

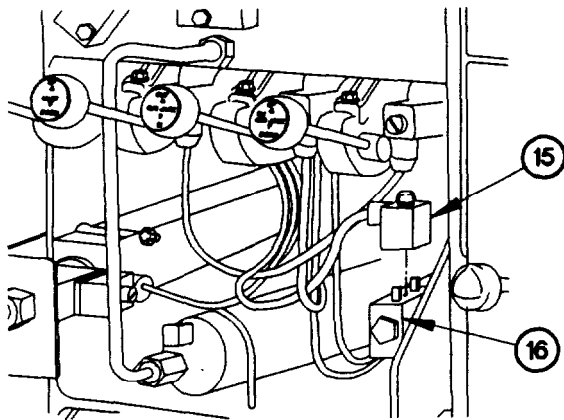
- (5) Install quick disconnect terminal (5) on ground strip (9) position 20.
- (6) Install terminal lug (7) on terminal block (10) position 19 with screw (11).
- (7) Apply varnish to quick disconnect terminal (5) and terminal lug (7).



- (8) Close cover (12) on junction box (13).
- (9) Tighten four screws (14) on junction box (13).



4115104A



4115105A

NOTE

Install plastic cable ties as required.

- (10) Connect connector (15) to boom down lockout solenoid (16).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check boom down lockout operation (TM 9-2320-366- 10-2).

End of Task.

7-106. M1089 BOOM DOWN SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

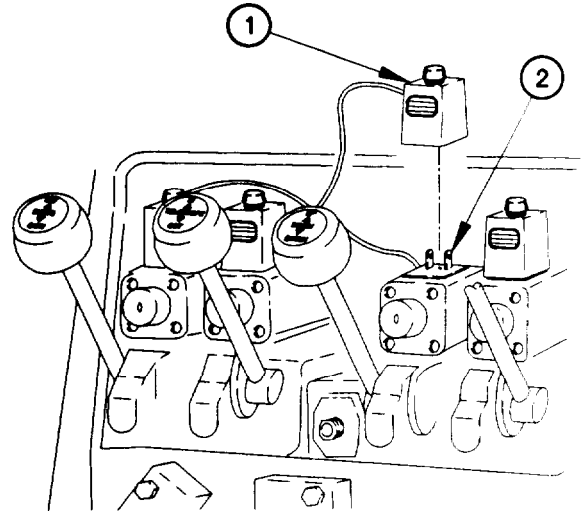
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

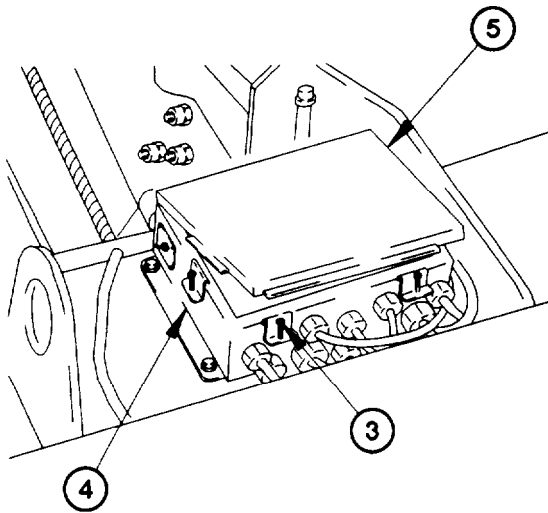
NOTE

Remove plastic cable ties as required.

(1) Disconnect connector (1) on boom down solenoid (2).



4116P01A



4116R02A

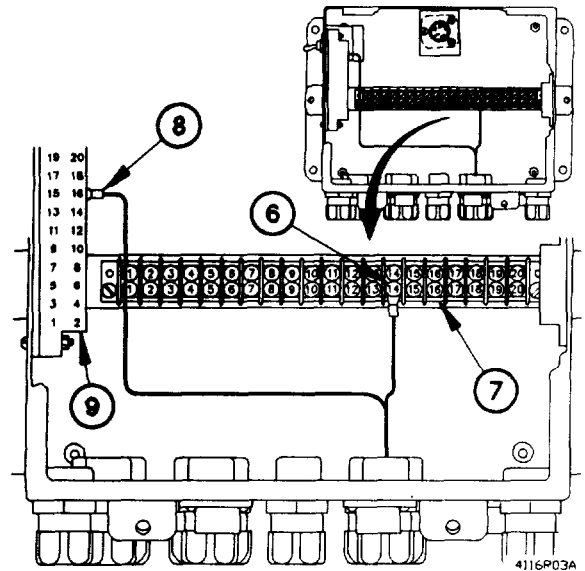
(2) Loosen four screws (3) on junction box (4).

(3) Open cover (5) on junction box (4).

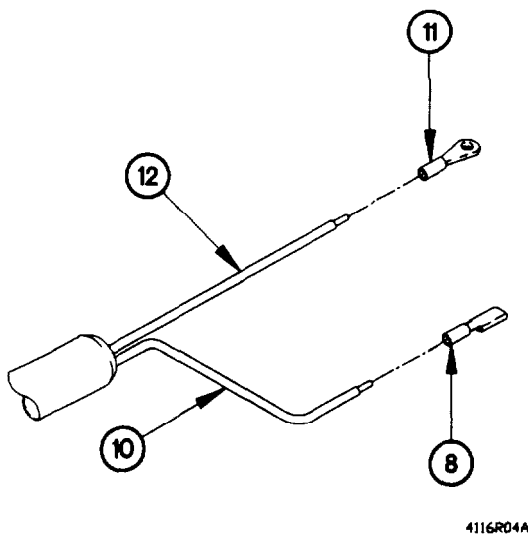
NOTE

Tag wires and connection points prior to disconnecting.

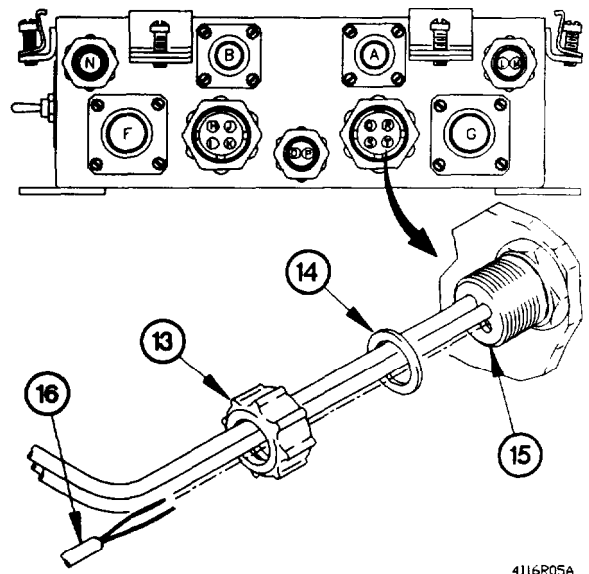
- (4) Remove screw (6) from terminal block (7) position 14.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 16.



- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).



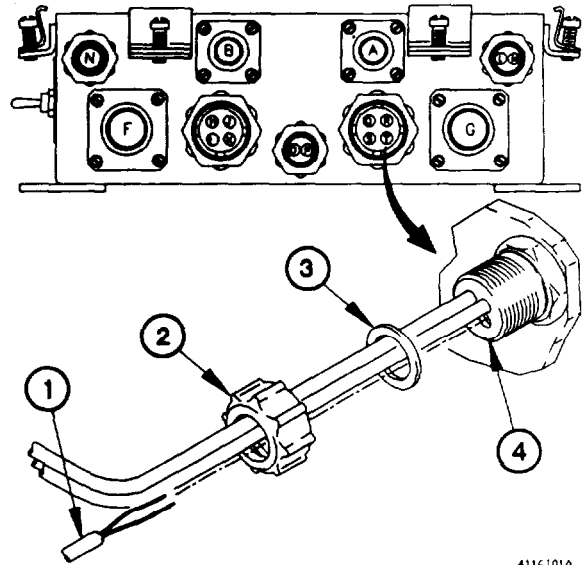
- (8) Remove compression nut (13) and washer (14) from connector (15).
- (9) Remove boom down solenoid cable (16) from connector (15), washer (14), and compression nut (13).



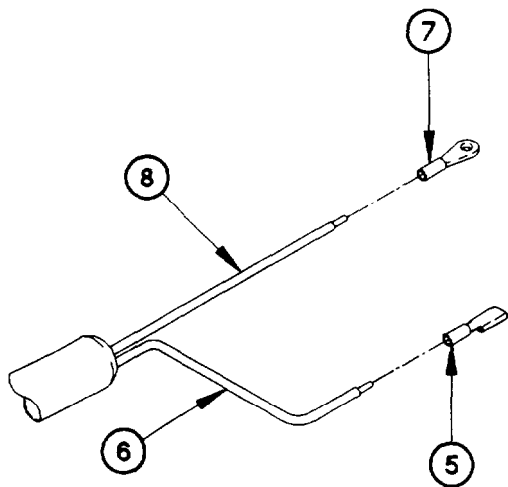
7-106. M1089 BOOM DOWN SOLENOID CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Install boom down solenoid cable (1) through compression nut (2), washer (3), and connector (4).
- (2) Install compression nut (2) on connector (4).



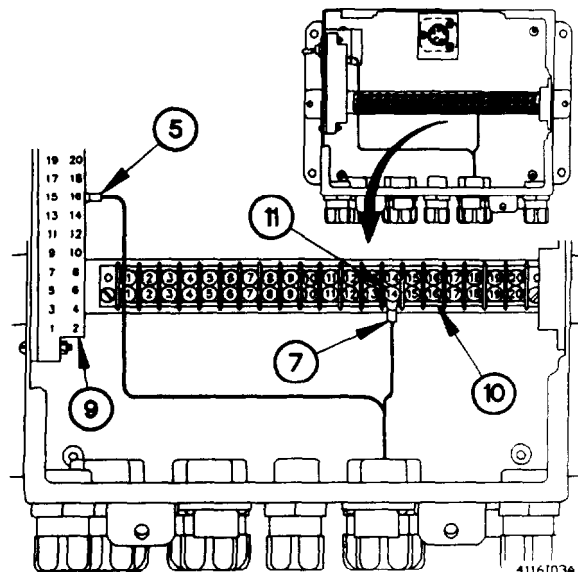
4116101A



4116102A

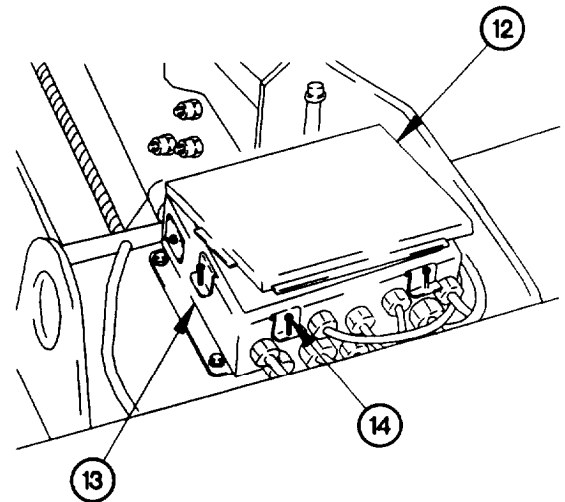
- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).

- (5) Install quick disconnect terminal (5) on ground strip (9) position 16.
- (6) Install terminal lug (7) on terminal block (10) position 14 with screw (11).
- (7) Apply varnish to quick disconnect terminal (5) and terminal lug (7).

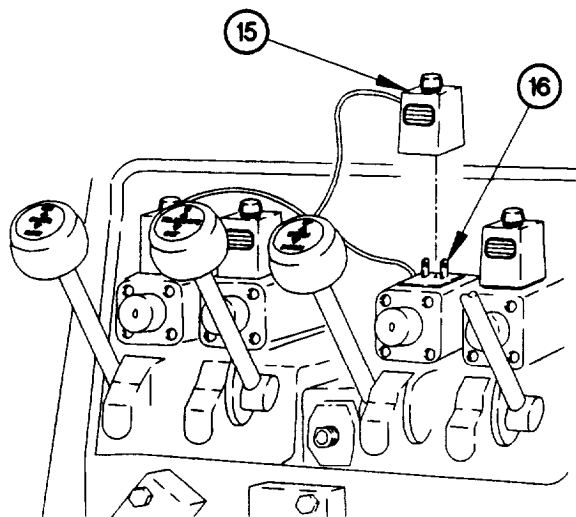


4116103A

- (8) Close cover (12) on junction box (13).
- (9) Tighten four screws (14) on junction box (13).



4116104A



4116105A

NOTE

Install plastic cable ties as required.

- (10) Connect connector (15) to boom down solenoid (16).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check boom down operation (TM 9-2320-366-10-2).

End of Task.

7-107. M1089 BOOM UP LOCKOUT SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

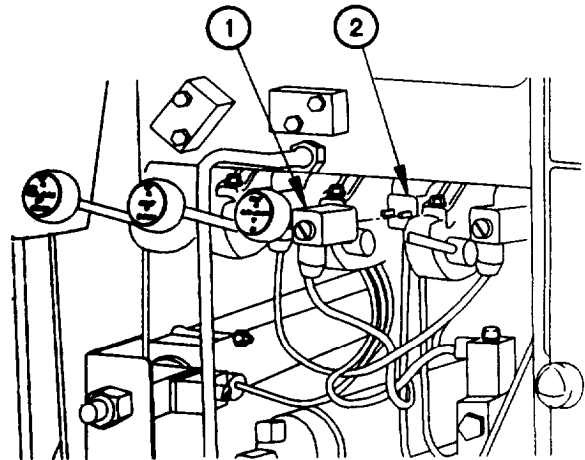
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

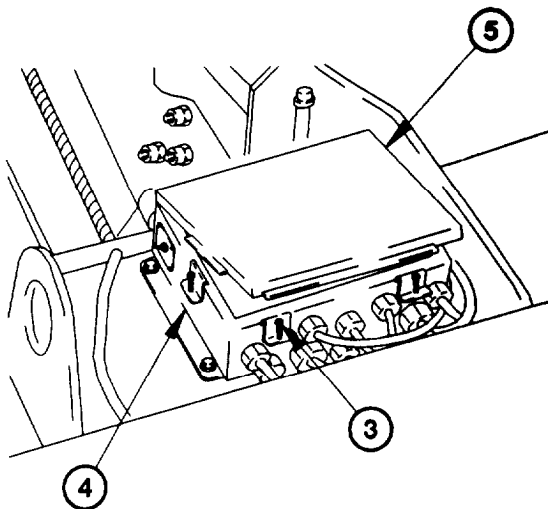
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from boom up lockout solenoid (2).



4117R01A



4117R02A

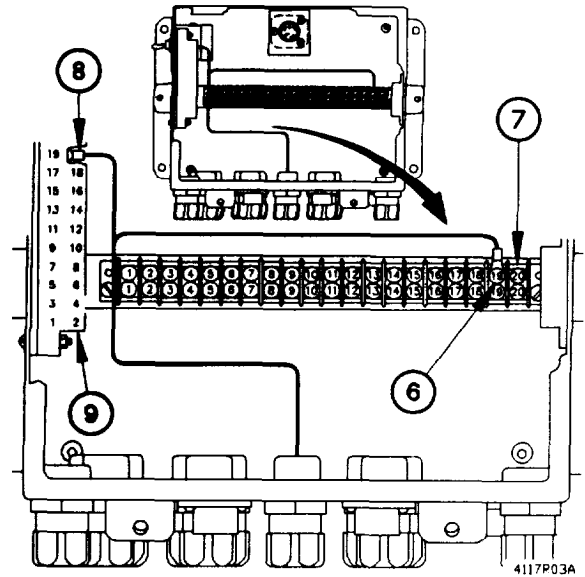
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

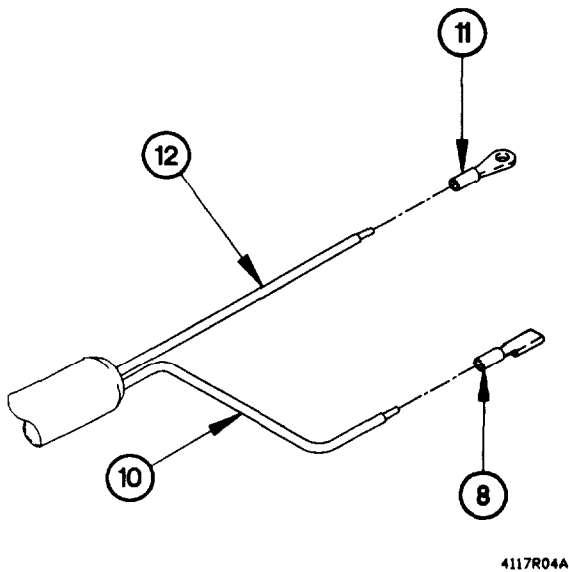
NOTE

Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 19.
- (5) Disconnect quick disconnect terminal (6) from ground strip (9) position 19.

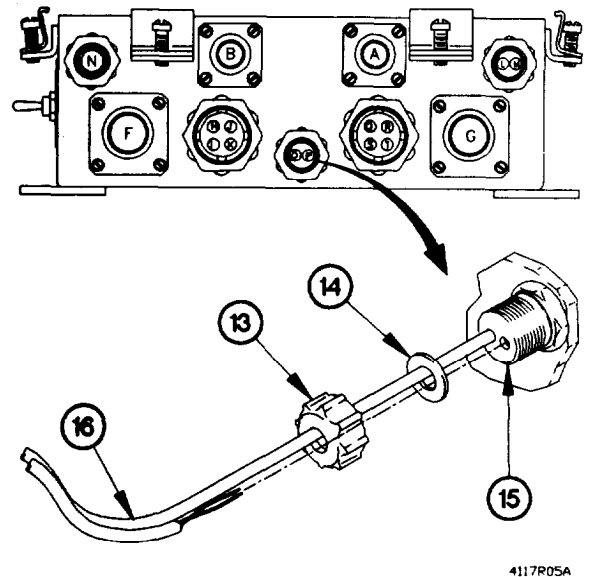


- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).



4117R04A

- (8) Remove compression nut (13) and washer (14) from connector (15).
- (9) Remove boom up lockout solenoid cable (16) from connector (15), washer (14), and compression nut (13).

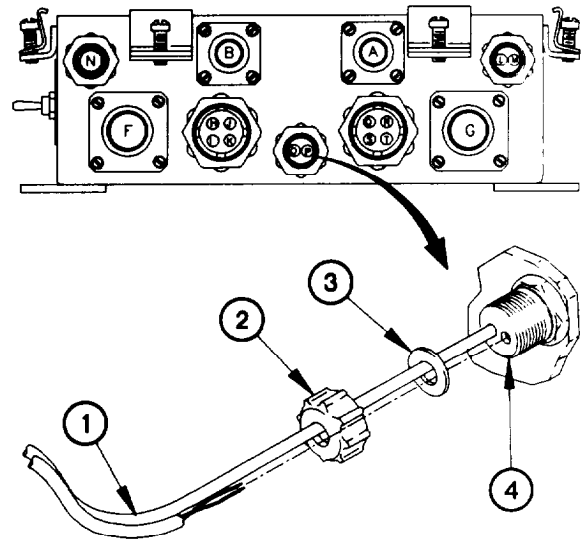


4117R05A

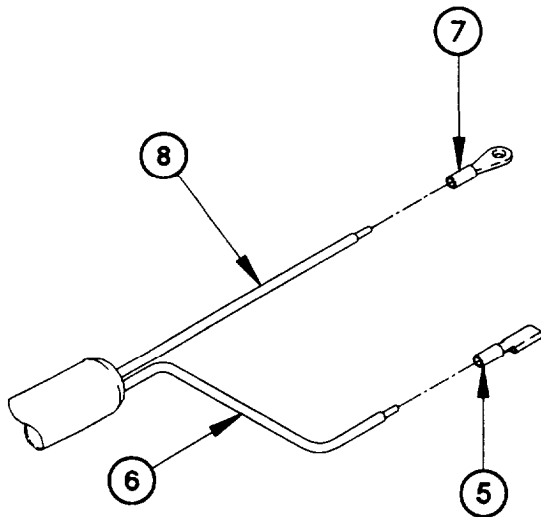
7-107. M1089 BOOM UP LOCKOUT SOLENOID CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Install boom up lockout solenoid cable (1) through compression nut (2), washer (3), and connector (4).
- (2) Install compression nut (2) on connector (4).



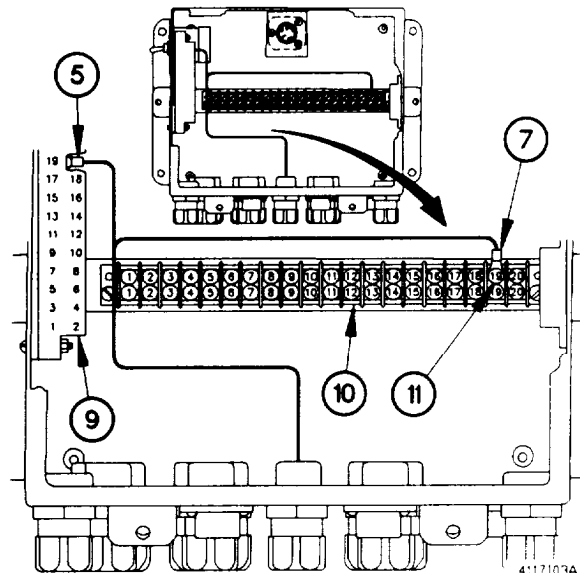
4117101A



4117102A

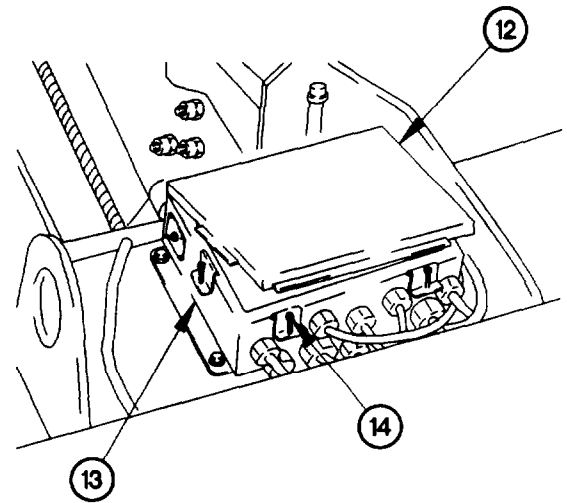
- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).

- (5) Install quick disconnect terminal (5) on ground strip (9) position 19.
- (6) Install terminal lug (7) on terminal block (10) position 19 with screw (11).
- (7) Apply varnish to quick disconnect terminal (5) and terminal lug (7).

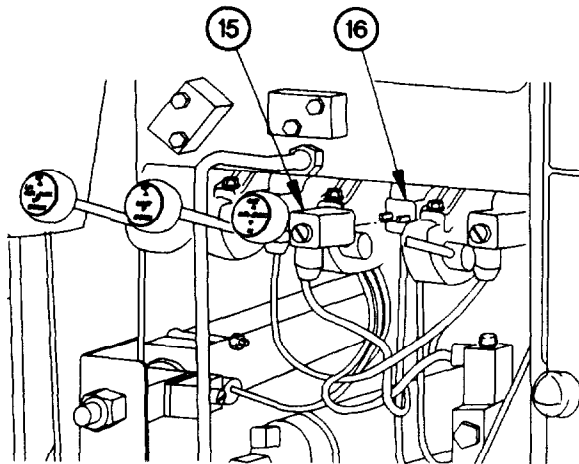


4117103A

- (8) Close cover (12) on junction box (13).
- (9) Tighten four screws (14) on junction box (13).



4117104A



4117105A

NOTE

Install plastic cable ties as required.

- (10) Connect connector (15) to boom up lockout solenoid (16).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check boom up lockout operation (TM 9-2320-368-10-2).

End of Task.

7-108. M1089 BOOM UP SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit] Electrical (Item 45, Appendix C)

Materials/Parts

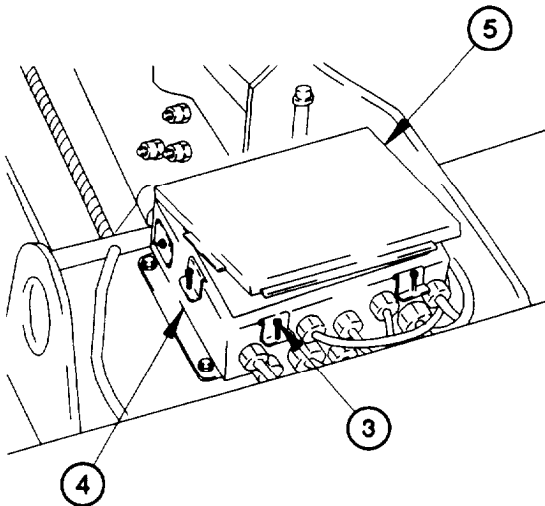
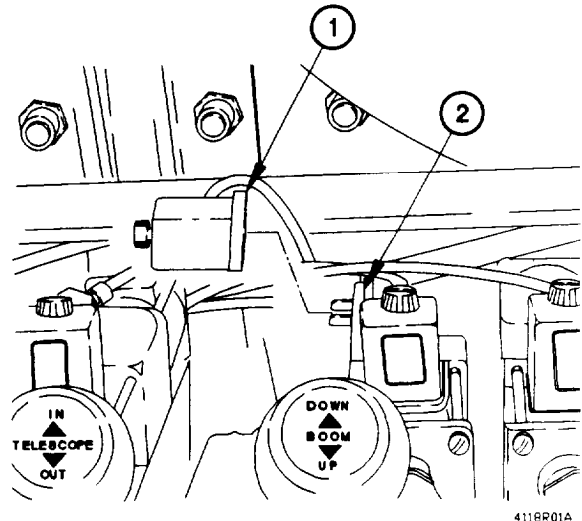
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from boom up solenoid (2).



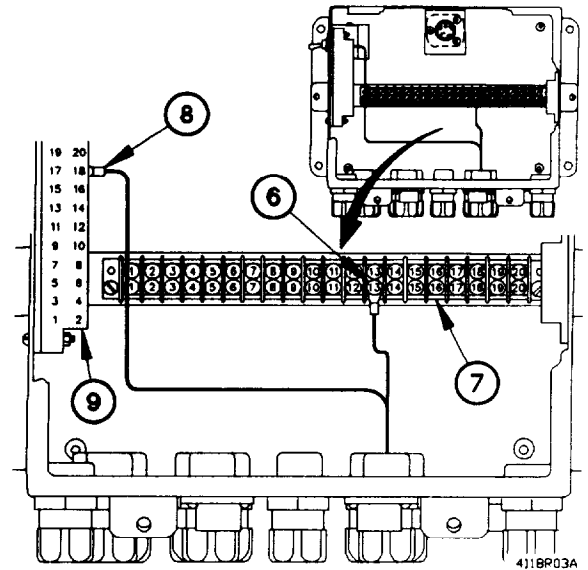
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

NOTE

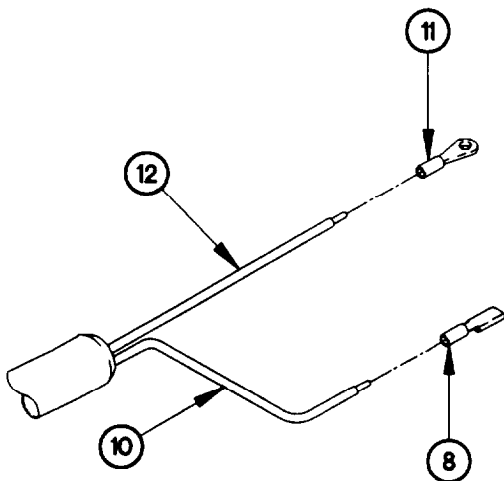
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 13.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 18.



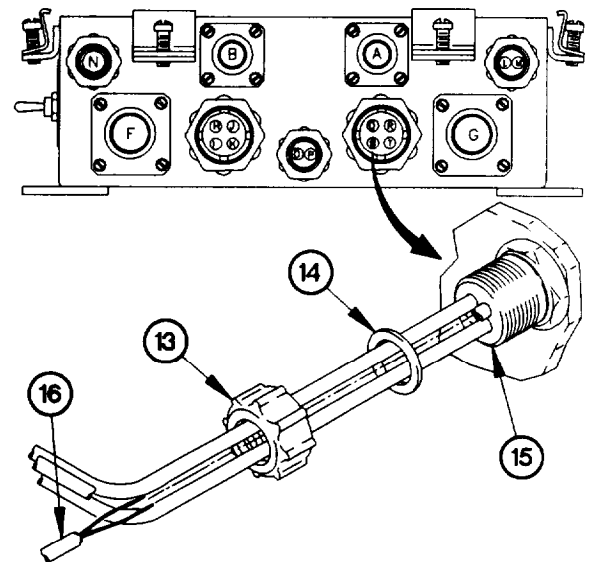
411BR03A

- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).



411BR04A

- (8) Remove compression nut (13) and washer (14) from connector (15).
- (9) Remove boom up solenoid cable (18) from connector (15), washer (14), and compression nut (13).

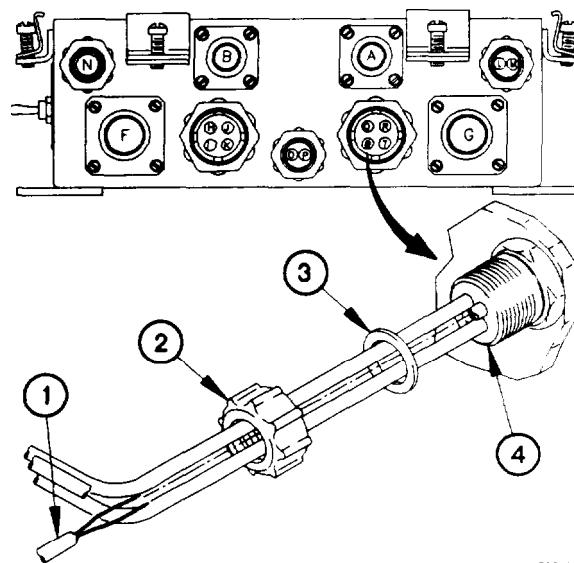


411BR05A

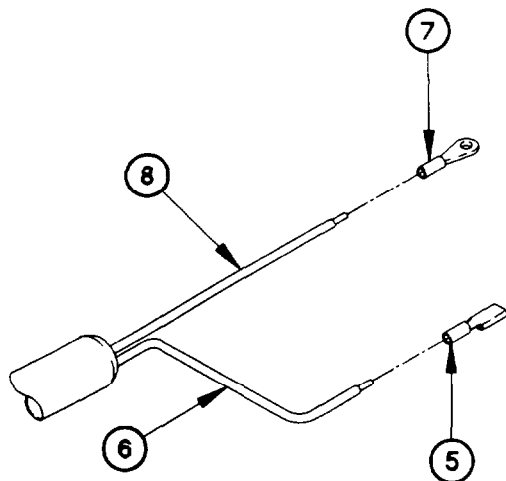
7-108. M1089 BOOM UP SOLENOID CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Install boom up solenoid cable (1) through compression nut (2), washer (3), and connector (4).
- (2) Install compression nut (2) on connector (4).



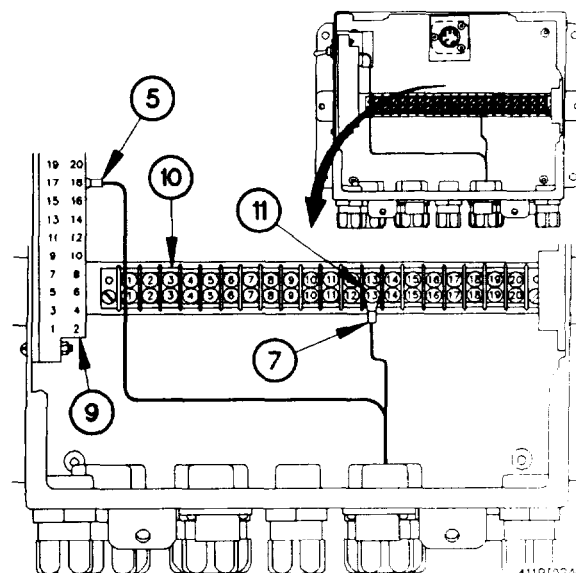
4118101A



4118102A

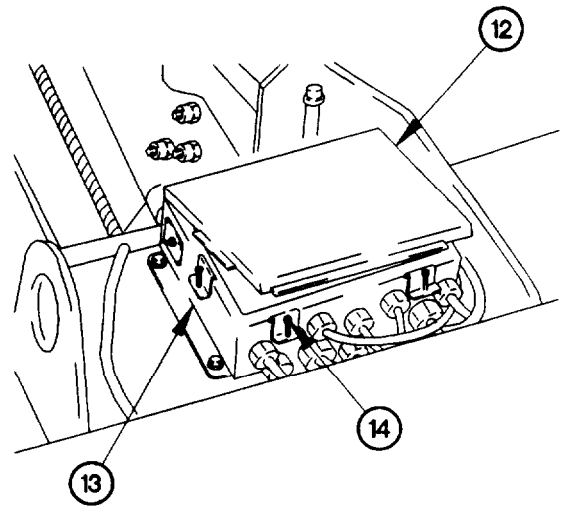
- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).

- (5) Install quick disconnect terminal (5) on ground strip (9) position 18.
- (6) Install terminal lug (7) on terminal block (10) position 13 with screw (11).
- (7) Apply varnish to quick disconnect terminal (5) and terminal lug (7).

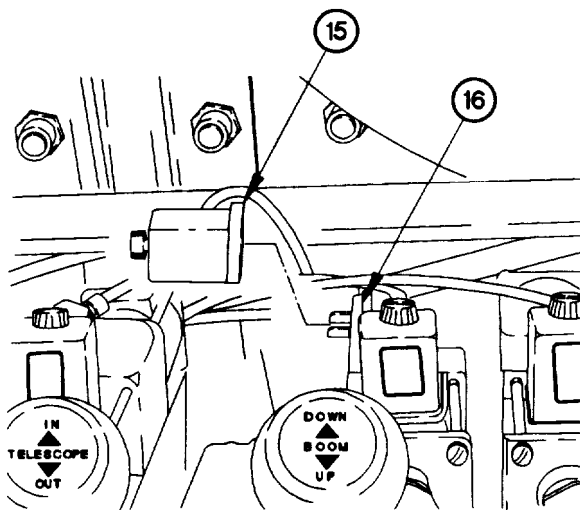


4118103A

- (8) Close cover (12) on junction box (13).
- (9) Tighten four screws (14) on junction box (13).



4118104A



4118105A

NOTE

Install plastic cable ties as required.

- (10) Connect connector (15) to boom up solenoid (16).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check boom up operation (TM 9-2320-366-10-2).

End of Task.

7-109. M1089 CONTROL PANEL POWER CABLE ASSEMBLY REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

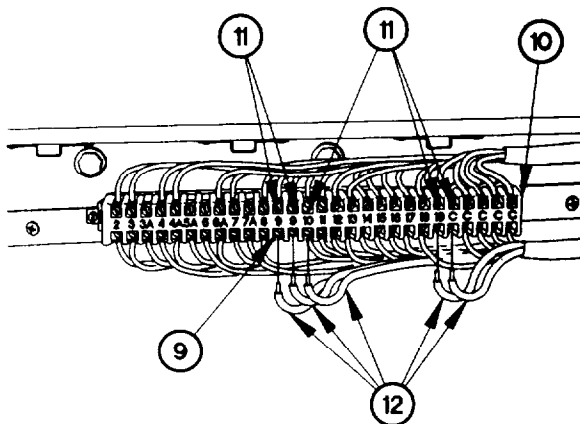
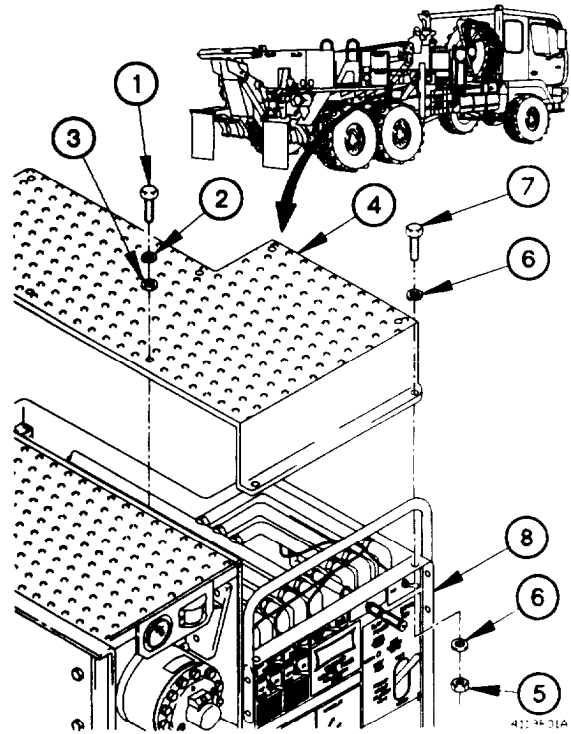
Tool Kit, Genl Mech (Item 46, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Lockwasher (8) (Item 100, Appendix G)
Nut, Self-Locking (2) (Item 133, Appendix G)

a. Removal.

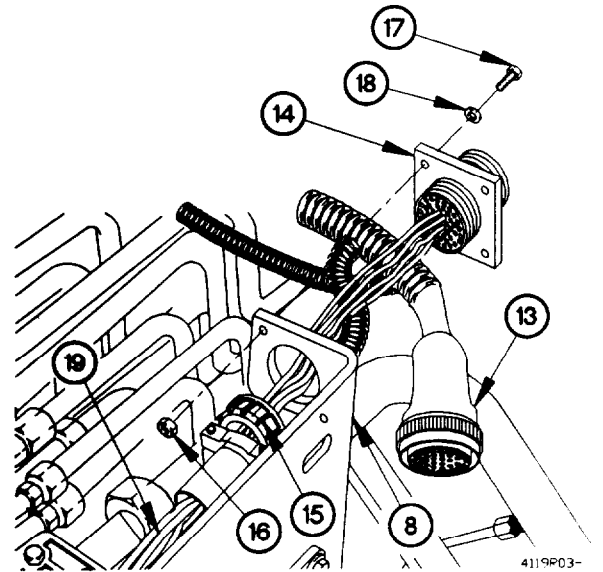
- (1) Remove eight screws (1), lockwashers (2), and washers (3) from control panel top cover (4). Discard lockwashers.
- (2) Remove two self-locking nuts (5), four washers (6), two screws (7), and control panel top cover (4) from control panel (8). Discard self-locking nuts.



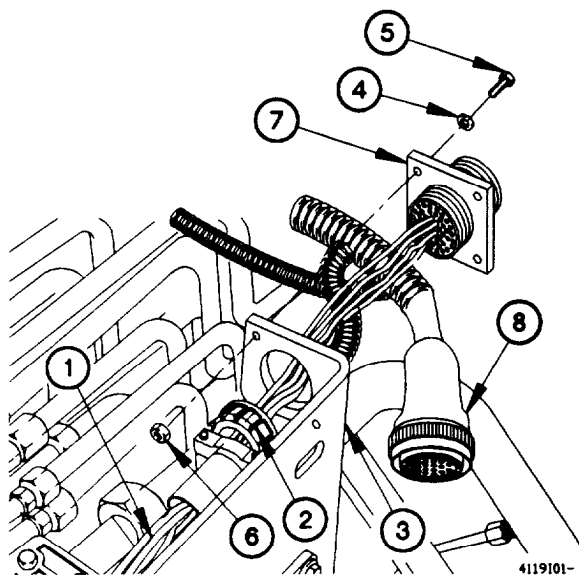
NOTE

- Tag electrical wires and connection points prior to disconnecting.
 - Remove plastic cable ties as required.
- (3) Loosen five screws (9) on terminal board assembly (10) at positions 9,9,10,19,C (11).
 - (4) Remove five electrical wires (12) from positions 9,9,10,19,C (11) on terminal board assembly (10).

- (5) Disconnect connector P107 (13) from connector J107 (14).
- (6) Loosen back shell (15) on connector J107 (14).
- (7) Remove four nuts (16), screws (17), washers (18), control panel power cable assembly (19), and back shell (15) from control panel (8).



b. Installation.

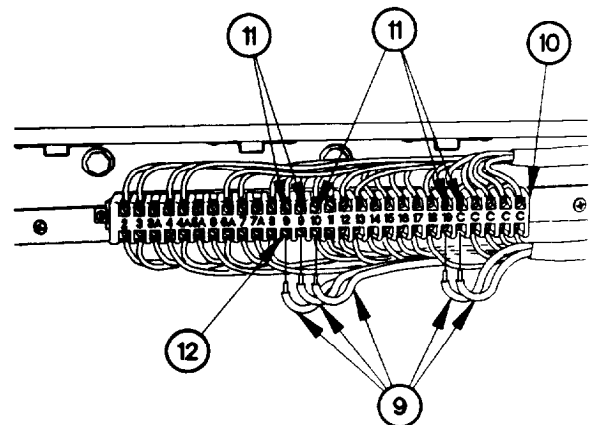


- (1) Install control panel power cable assembly (1) and back shell (2) in control panel (3) with four washers (4), screws (5), and nuts (6).
- (2) Install back shell (2) on connector J107 (7).
- (3) Connect connector P107 (8) to connector J107 (7).

NOTE

Install plastic cable ties as required.

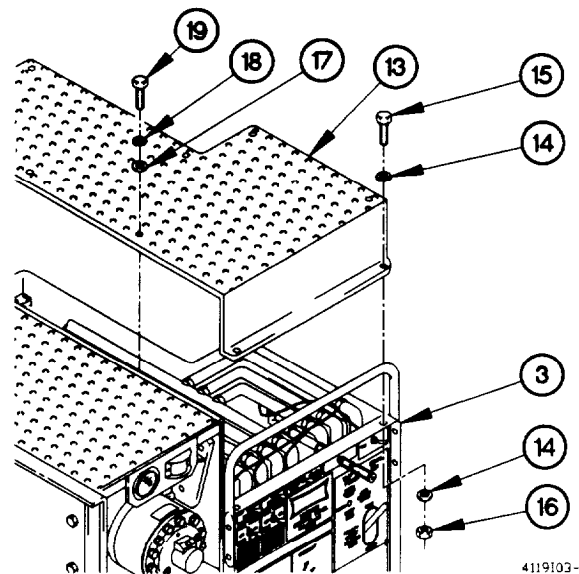
- (4) Position five electrical wires (9) on terminal board assembly (10) at positions 9,9,10,19,C (11).
- (5) Tighten five screws (12) on terminal board assembly (10) at positions 9,9,10,19,C (11).



4119I02A

7-109. M1089 CONTROL PANEL POWER CABLE ASSEMBLY REPLACEMENT (CONT)

- (6) Install control panel top cover (13) on control panel (3) with four washers (14), two screws (15) and self-locking nuts (16).
- (7) Install eight washers (17), lockwashers (18), and screws (19) in control panel top cover (13).



c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate all wrecker functions and check for proper operation (TM 9-2320-366-10-2).

End of Task.

7-110. M1089 CRANE POWER CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- MHC erected (TM 9-2320-366-10-2).
- Engine shut down (TM 9-2320-366-10-1).
- Batteries disconnected (para 7-57).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

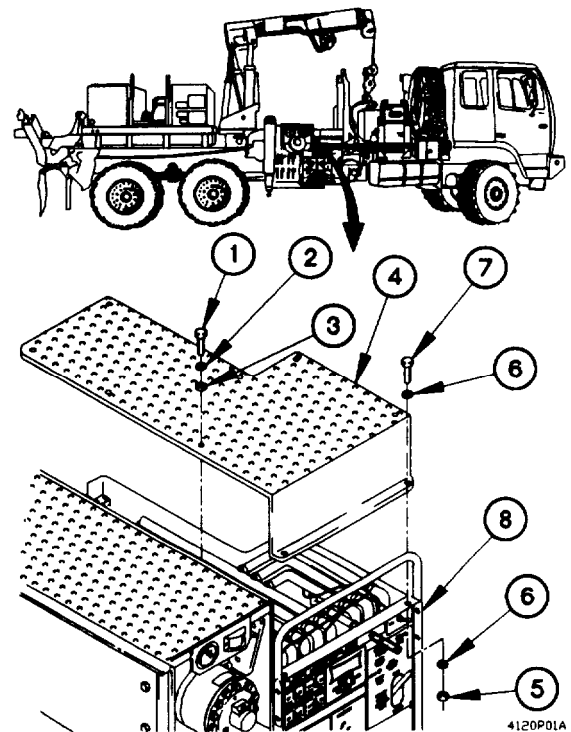
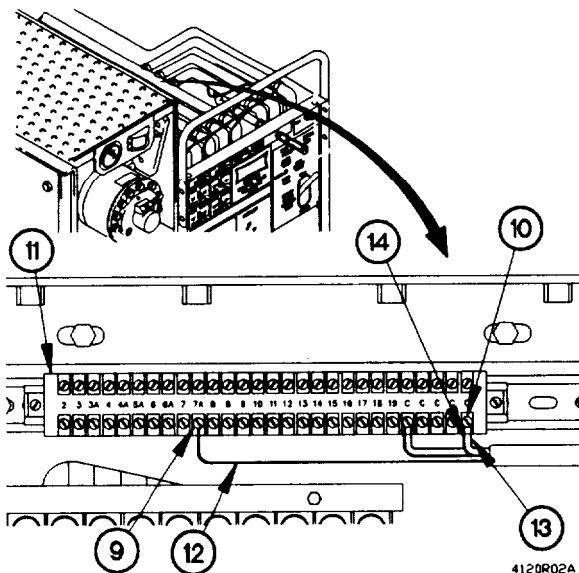
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Varnish, Oil (Item 70, Appendix D)
- Lockwasher (8) (Item 102, Appendix G)
- Nut, Self-Locking (2) (Item 135, Appendix G)

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Remove eight screws (1), lockwashers (2), and washers (3) from control panel cover (4). Discard lockwashers.
- (2) Remove two self-locking nuts (5), four washers (6), two screws (7), and control panel top cover (4) from control panel (8). Discard self-locking nuts.



NOTE

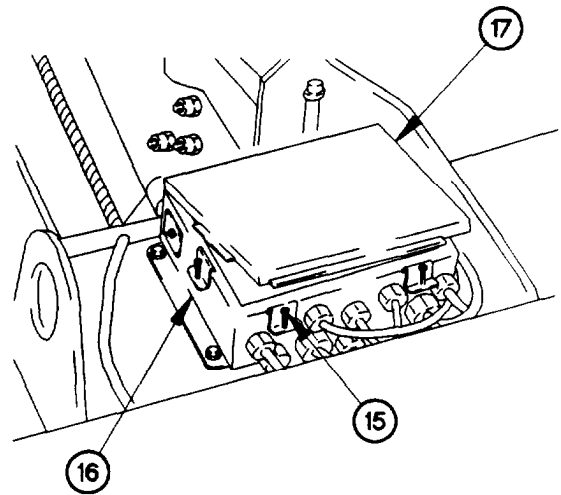
Tag wires and connection points prior to disconnecting.

- (3) Loosen screws (9 and 10) on terminal board (11) positions 7A and C.
- (4) Remove black wire (12), green wire (13), and shield (14) from terminal block (11).

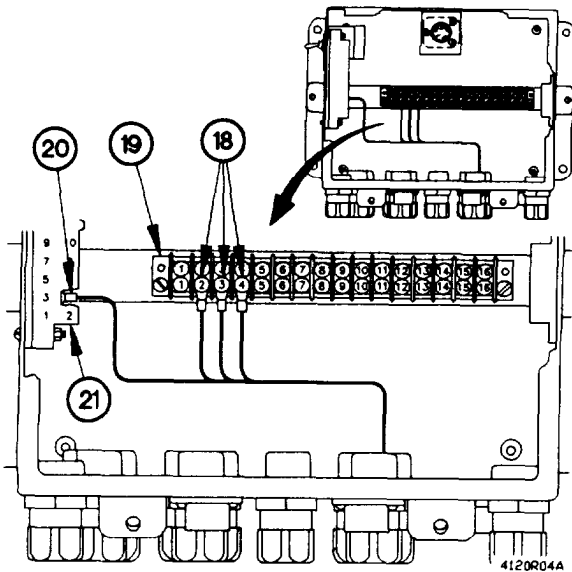
7-110. M1089 CRANE POWER CABLE REPLACEMENT (CONT)

(5) Loosen four screws (15) on junction box (16).

(6) Open cover (17) on junction box (16).



4120P03A

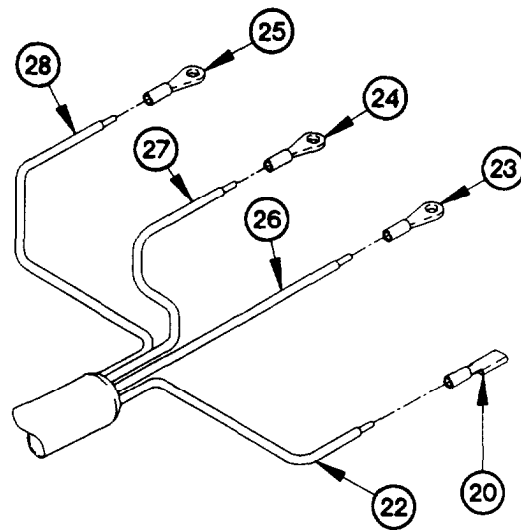


(7) Remove three screws (18) from terminal block (19) positions 2, 3, and 4.

(8) Disconnect quick disconnect terminal (20) from ground strip (21) position 3.

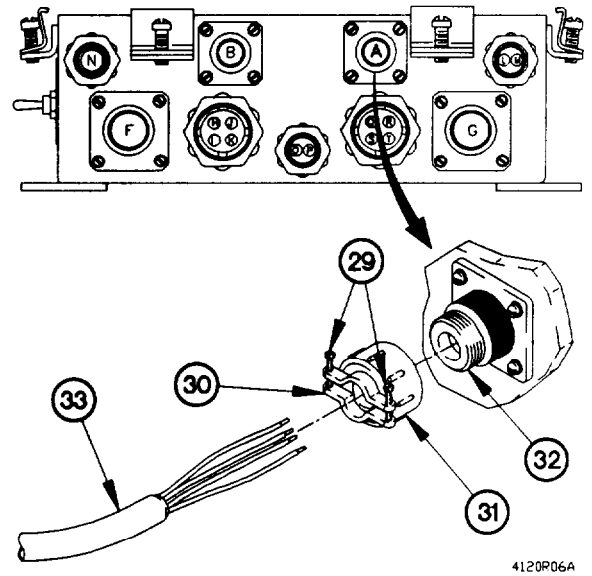
(9) Remove quick disconnect terminal (20) from green wire (22).

(10) Remove terminal lugs (23, 24, and 25) from black wire (26) and white wires (27 and 28).

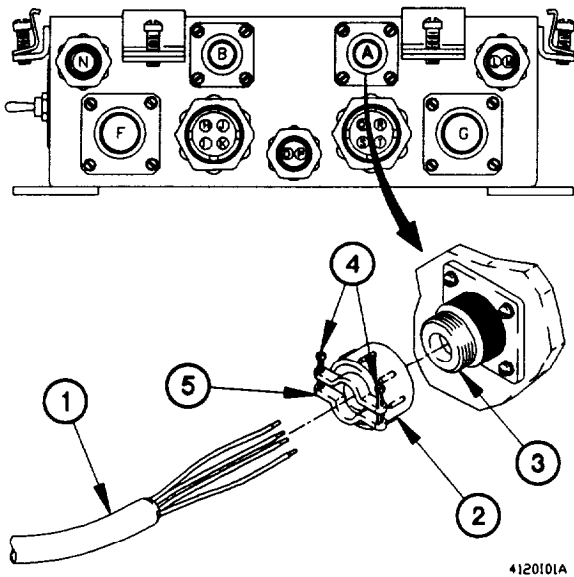


4120P05A

- (11) Loosen two screws (29) on clamp (30).
- (12) Remove compression nut (31) from connector (32).
- (13) Remove crane power cable (33) from compression nut (31).

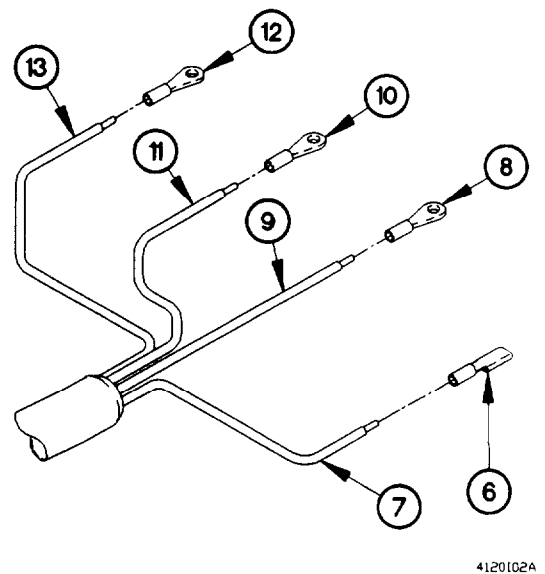


b. Installation.



- (1) Install crane power cable (1) through compression nut (2) and connector (3).
- (2) Install compression nut (2) on connector (3).
- (3) Tighten two screws (4) on clamp (5).

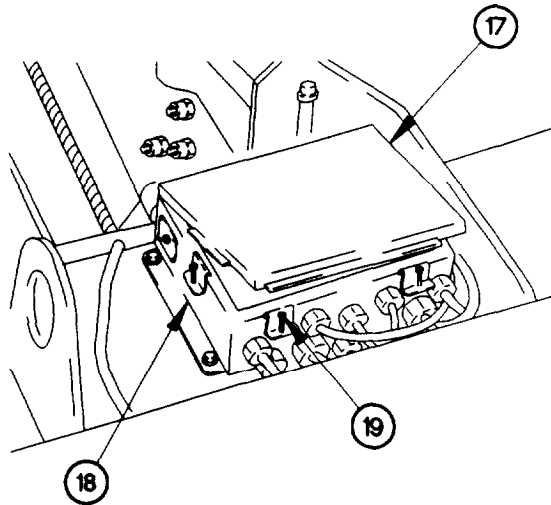
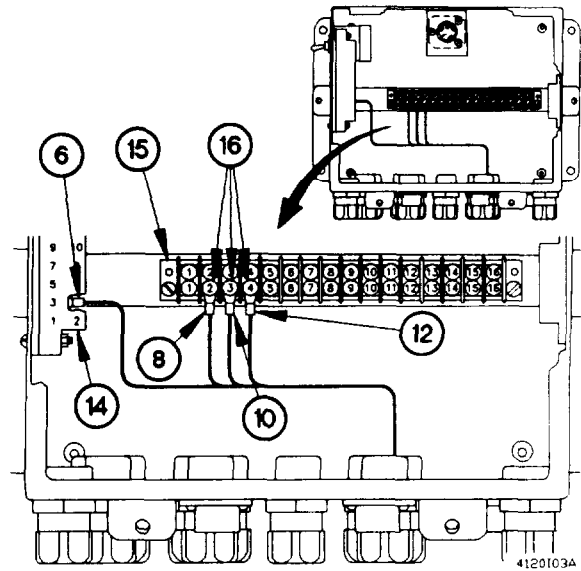
- (4) Install quick disconnect terminal (6) on green wire (7).
- (5) Install terminal lug (8) on black wire (9).
- (6) Install terminal lug (10) on white wire (11).
- (7) Install terminal lug (12) on white wire (13).



4120I02A

7-110. M1089 CRANE POWER CABLE REPLACEMENT (CONT)

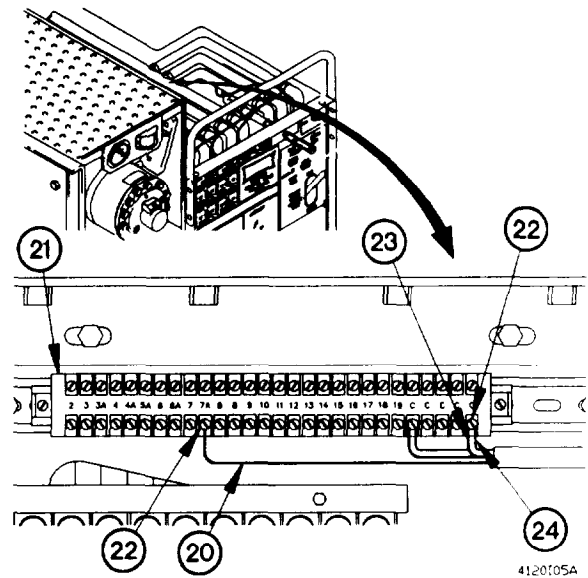
- (8) Install quick disconnect terminal (6) on ground strip (14) position 3.
- (9) Install terminal lugs (8, 10, and 12) on terminal block (15) positions 2, 3, and 4 with three screws (16).
- (10) Apply varnish to quick disconnect terminal (6) and terminal lugs (8, 10, and 12).



4120104A

- (11) Close cover (17) on junction box (18).
- (12) Tighten four screws (19) on junction box (18).

- (13) Install black wire (20) on terminal block (21) position 7A with screw (22).
- (14) Install green wire (23) and shield (24) on terminal block (21) position C with screw (22).



4120105A

NOTE

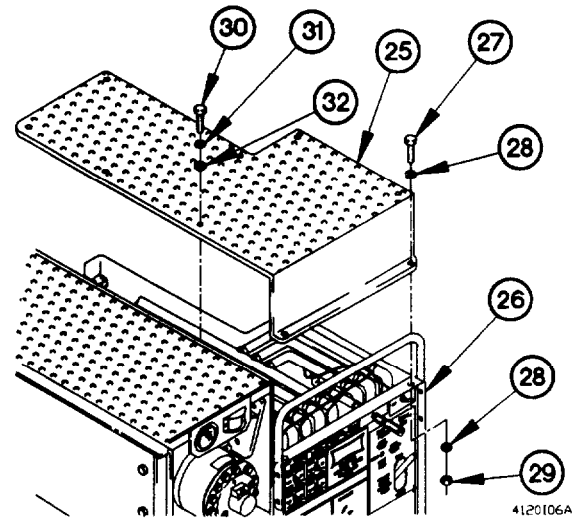
Install plastic cable ties as required.

- (15) Install control panel cover (25) on control panel (26) with two screws (27), four washers (28), and two self-locking nuts (29).
- (16) Install eight screws (30), lockwashers (31), and washers (32) in control panel cover (25).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check MHC for proper operation (TM 9-2320-366-10-2).

End of Task.



7-111. M1089 HOIST DOWN SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

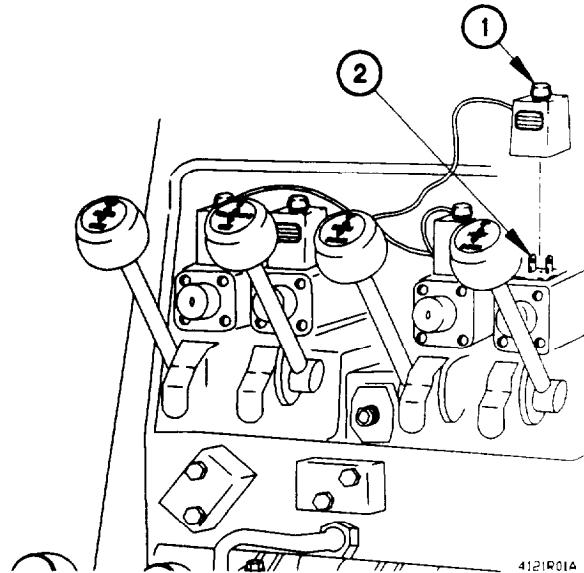
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

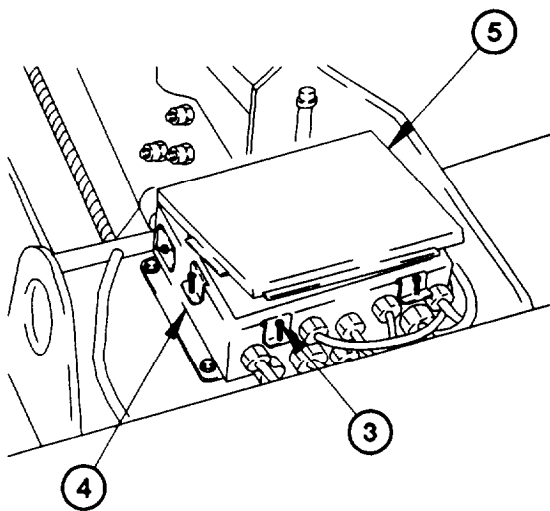
Remove plastic cable ties as required.

- (1) Disconnect connector (1) from hoist down solenoid



- (2) Loosen four screws (3) on junction box (4).

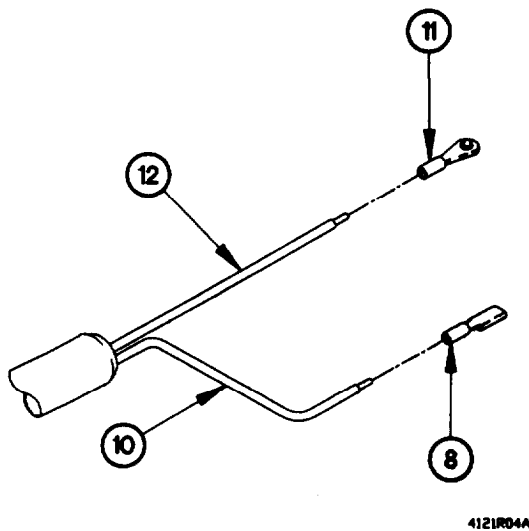
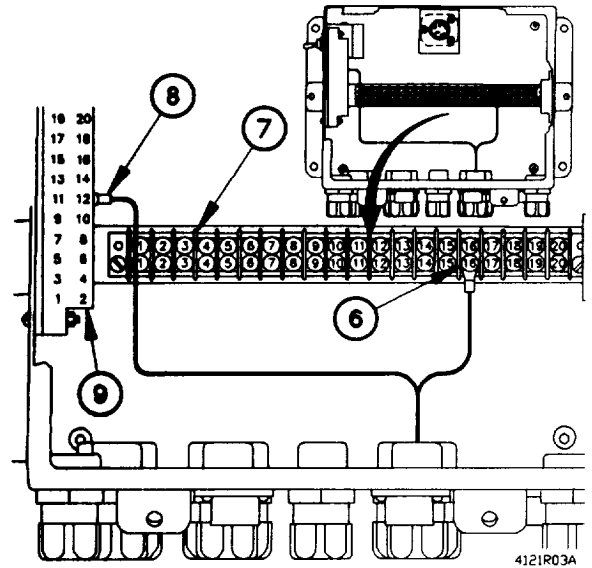
- (3) Open cover (5) on junction box (4).



NOTE

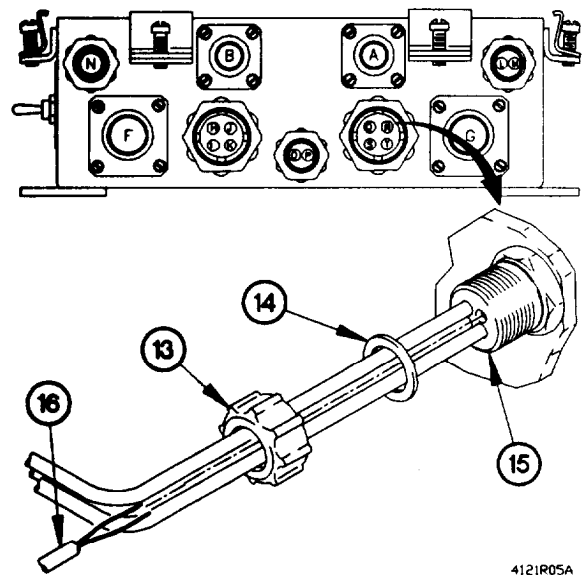
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 16.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 12.



- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

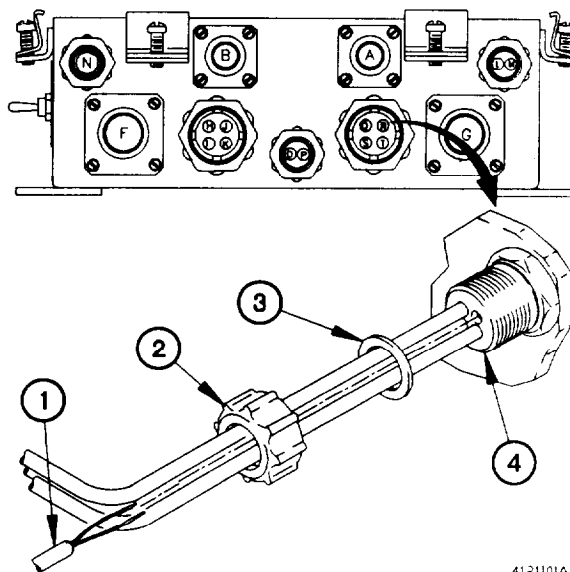
- (8) Remove compression nut (13) and washer (14) from connector (15).
- (9) Remove hoist down solenoid cable (16) from connector (15), washer (14), and compression nut (13).



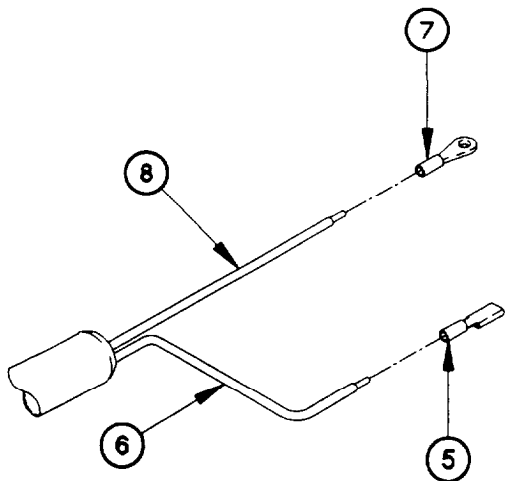
7-111. M1089 HOIST DOWN SOLENOID CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Install hoist down solenoid cable (1) through compression nut (2), washer (3), and connector (4).
- (2) Install compression nut (2) on connector (4).



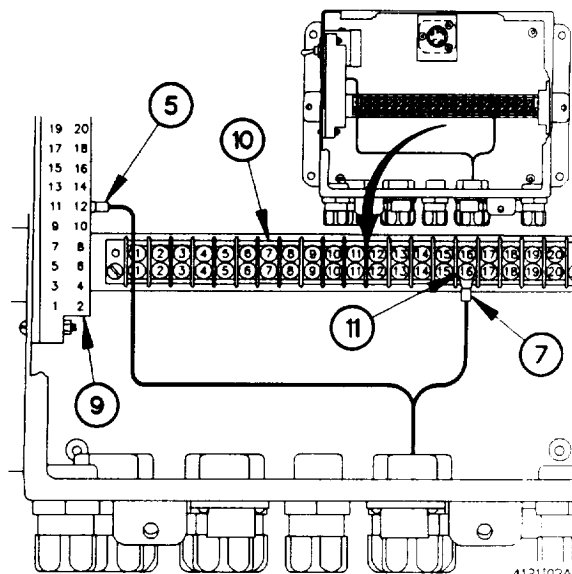
4121101A



4121102A

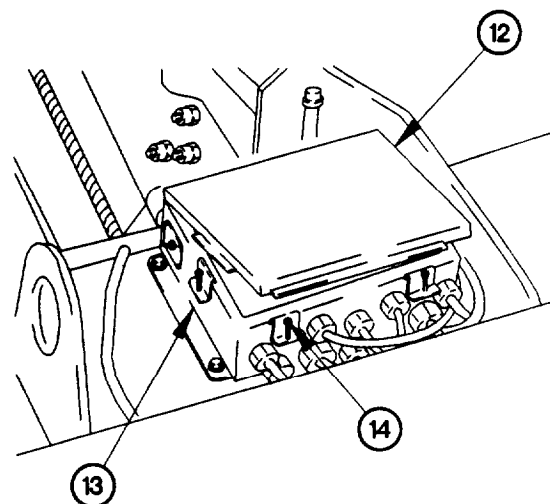
- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).

- (5) Install quick disconnect terminal (5) on ground strip (9) position 12.
- (6) Install terminal lug (7) on terminal block (10) position 16 with screw (11).
- (7) Apply varnish to quick disconnect terminal (5) and terminal lug (7).

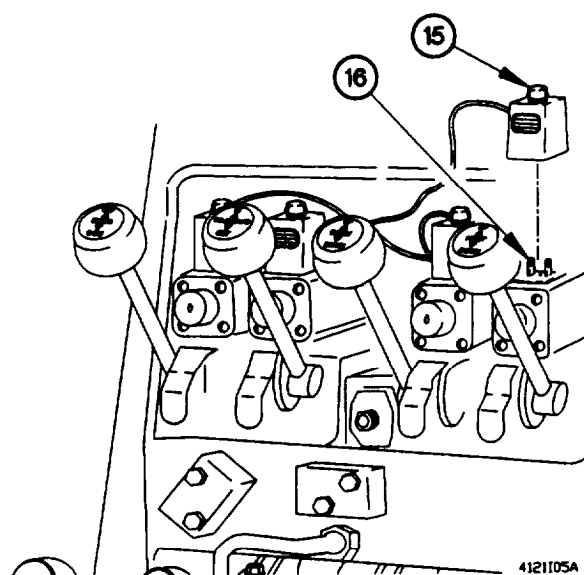


4121103A

- (8) Close cover (12) on junction box (13).
- (9) Tighten four screws (14) on junction box (13).



4121104A



4121105A

NOTE

Install plastic cable ties as required.

- (10) Connect connector (15) to hoist down solenoid (16).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check hoist down operation (TM 9-2320-366-10-2).

End of Task.

7-112. M1089 HOIST UP LOCKOUT SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

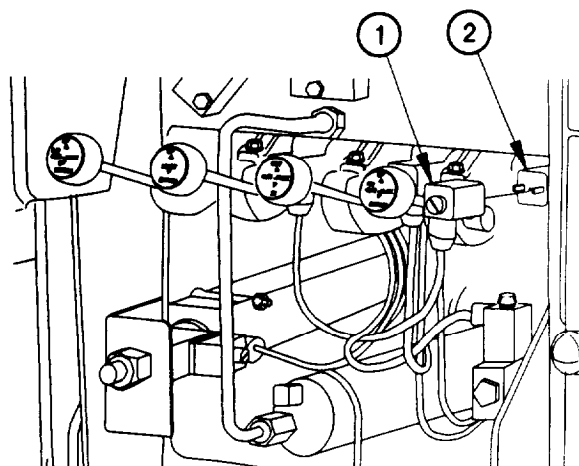
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

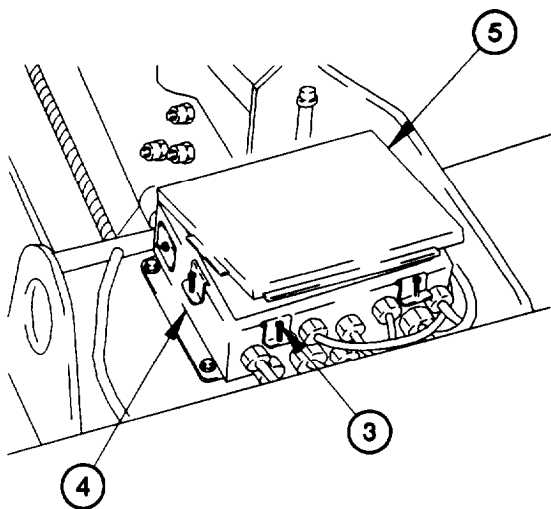
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from hoist up lockout solenoid (2).



4122R01A



4122R02A

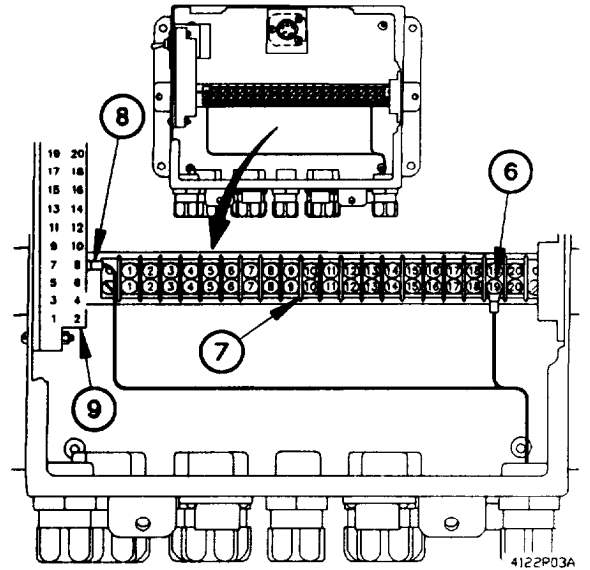
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

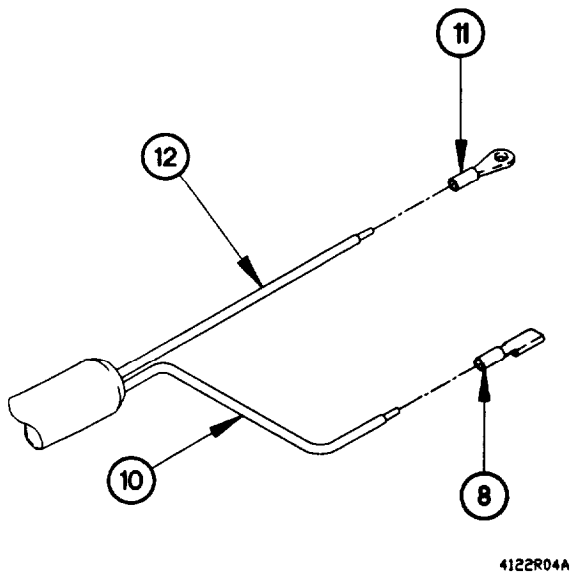
NOTE

Tag wires and connection points prior to disconnecting.

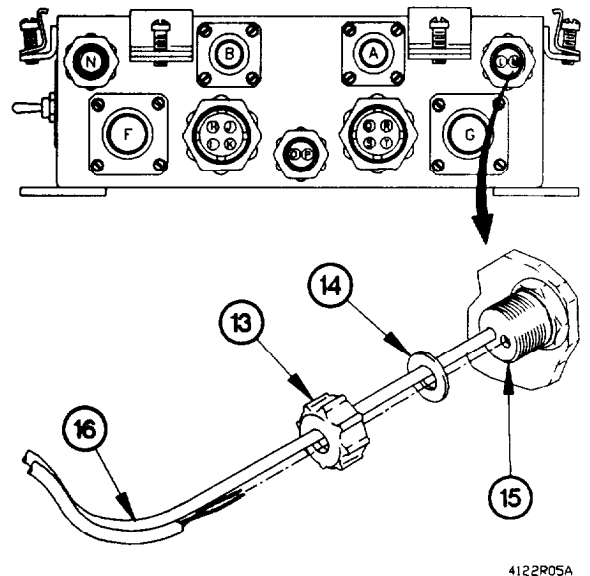
- (4) Remove screw (6) from terminal block (7) position 19.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 8.



- (6) Remove quick disconnect terminal (8) from black wire
- (7) Remove terminal lug (11) from white wire (12).



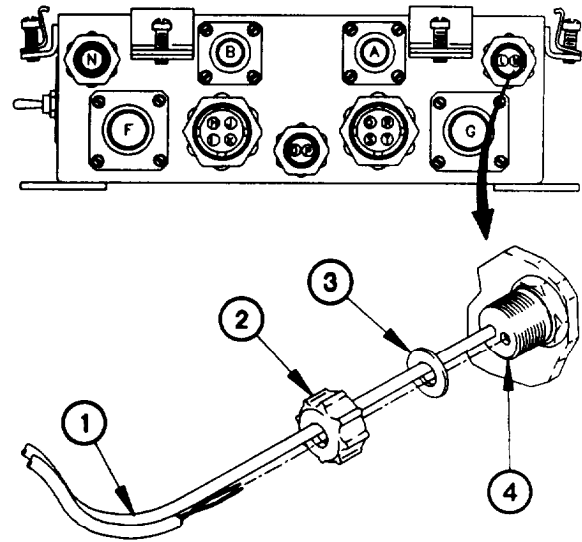
- (8) Remove compression nut (13) and washer (14) from connector (15).
- (9) Remove hoist up lockout solenoid cable (16) from connector (15), washer (14), and compression nut (13).



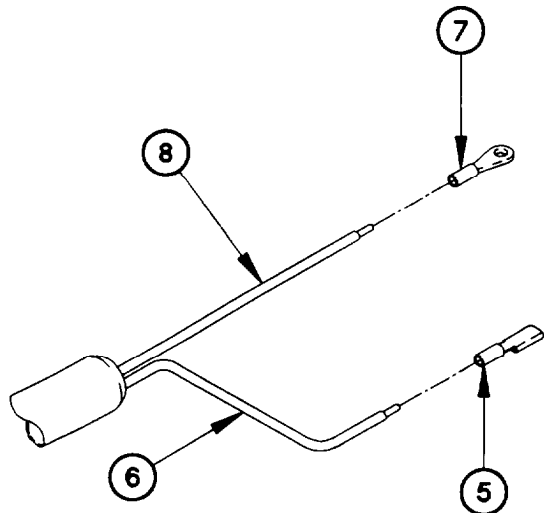
7-112. M1089 HOIST UP LOCKOUT SOLENOID CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Install hoist up lockout solenoid cable (1) through compression nut (2), washer (3), and connector (4).
- (2) Install compression nut (2) on connector (4).



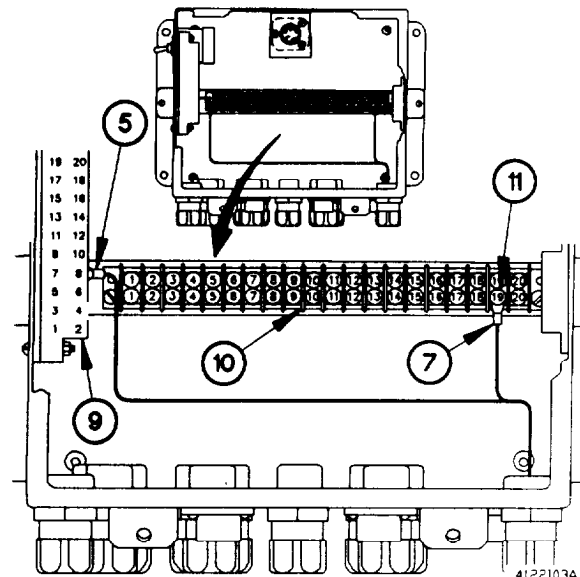
4122101A



4122102A

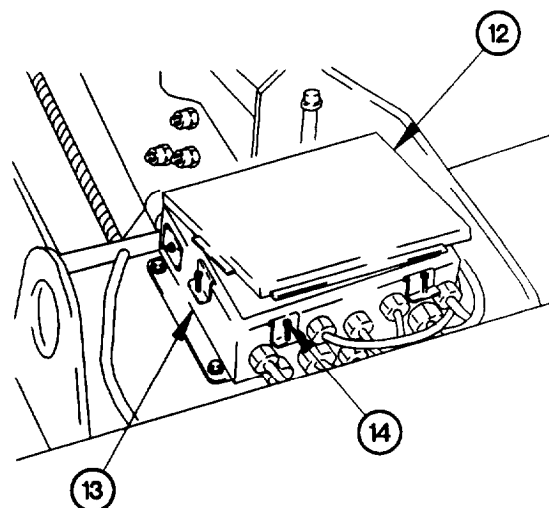
- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).

- (5) Install quick disconnect terminal (5) on ground strip (9) position 8.
- (6) Install terminal lug (7) on terminal block (10) position 19 with screw (11).
- (7) Apply varnish to quick disconnect terminal (5) and terminal lug (7).

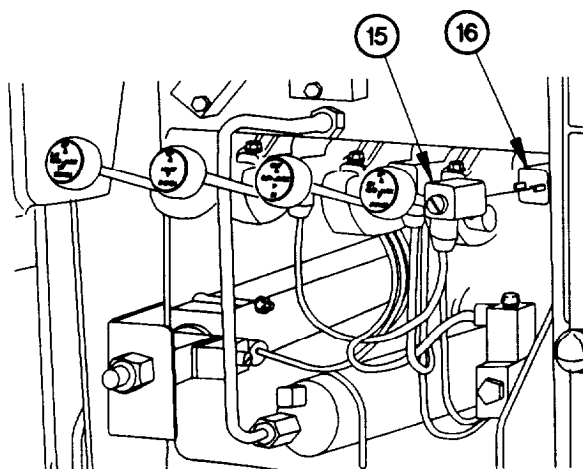


4122103A

- (8) Close cover (12) on junction box (13).
- (9) Tighten four screws (14) on junction box (13).



4122104A



4122105A

NOTE

Install plastic cable ties as required.

- (9) Connect connector (15) to hoist up lockout solenoid (16).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check hoist up lockout operation (TM 9-2320-366-10-2).

End of Task.

7-113. M1089 HOIST UP SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

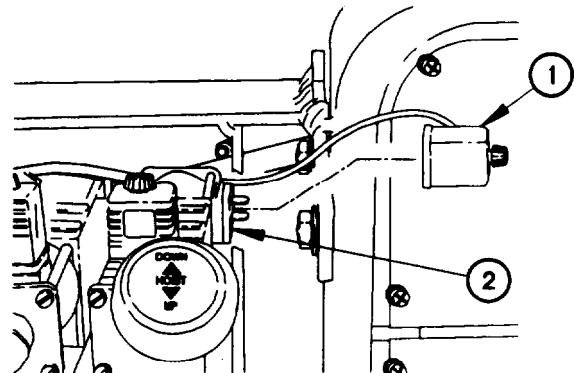
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

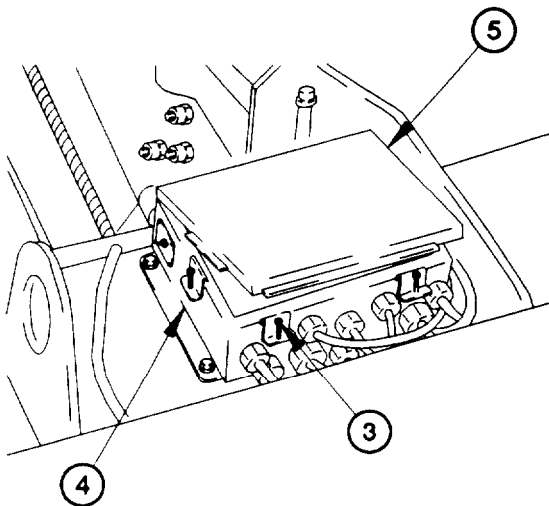
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from hoist up solenoid (2).



4123R01A



4123R02A

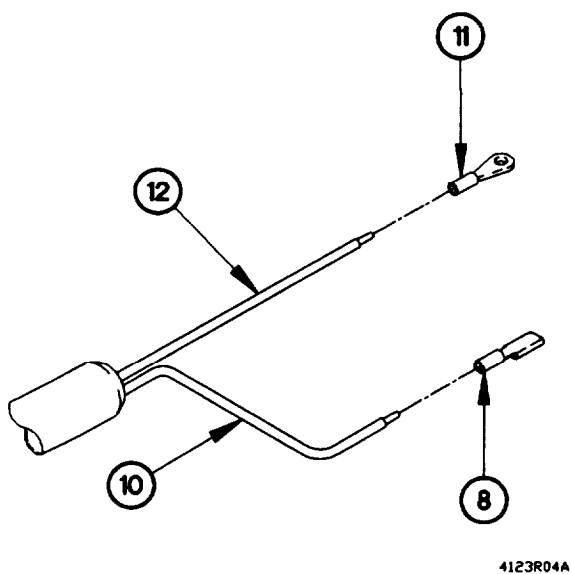
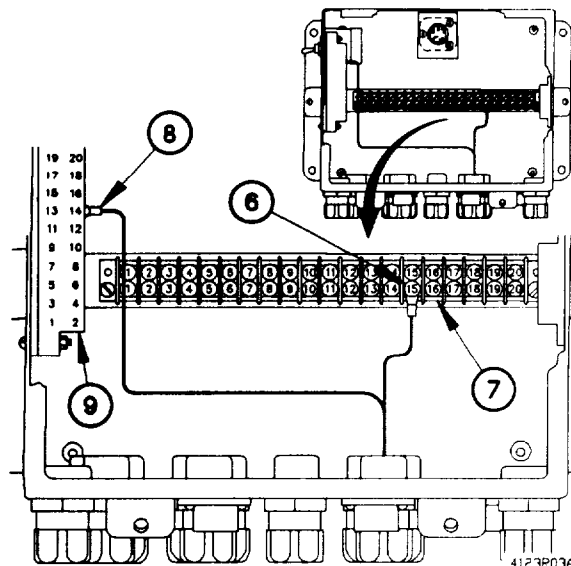
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

NOTE

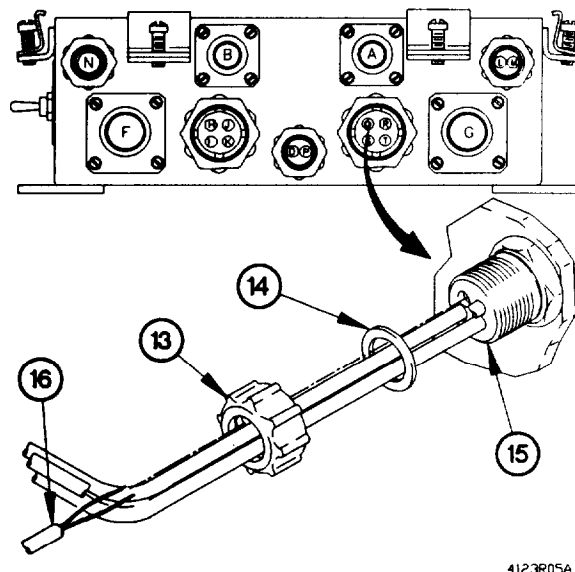
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 15.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 14.



- (6) Remove quick disconnect terminal (8) from black wire
- (7) Remove terminal lug (11) from white wire (12).

- (8) Remove compression nut (13) and washer (14) from connector (15).
- (9) Remove hoist up solenoid cable (16) from connector (15), washer (14), and compression nut (13).

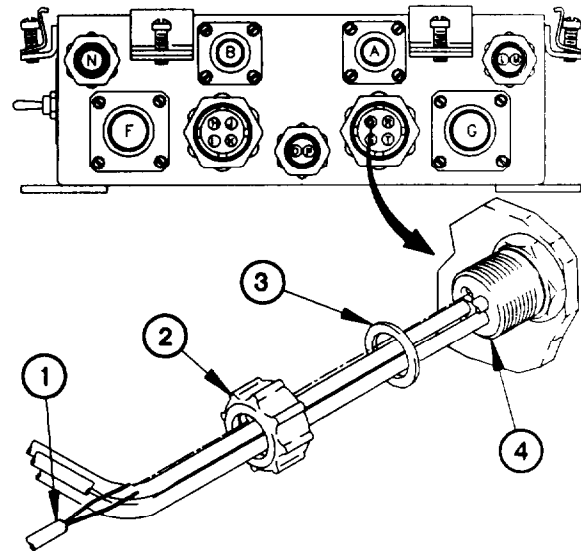


4123R05A

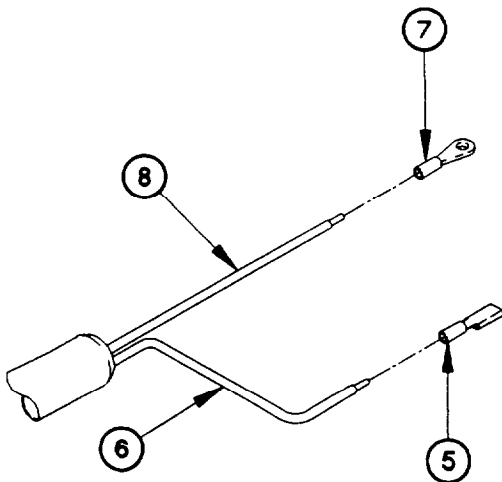
7-113. M1089 HOIST UP SOLENOID CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Install hoist up solenoid cable (1) in compression nut (2), washer (3), and connector (4).
- (2) Install compression nut (2) on connector (4).



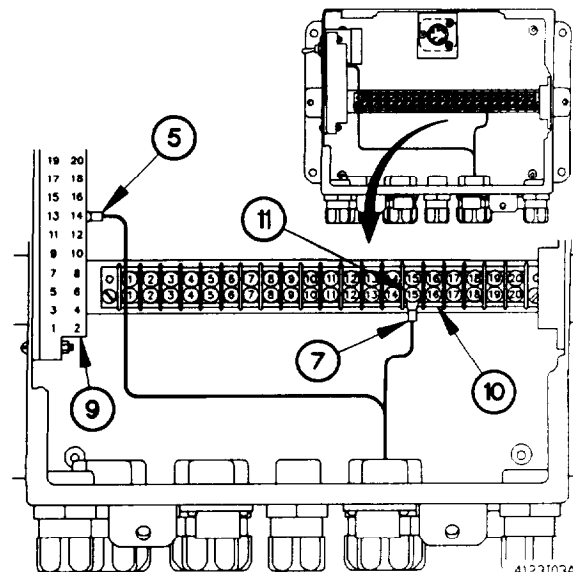
4123101A



4123102A

- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).

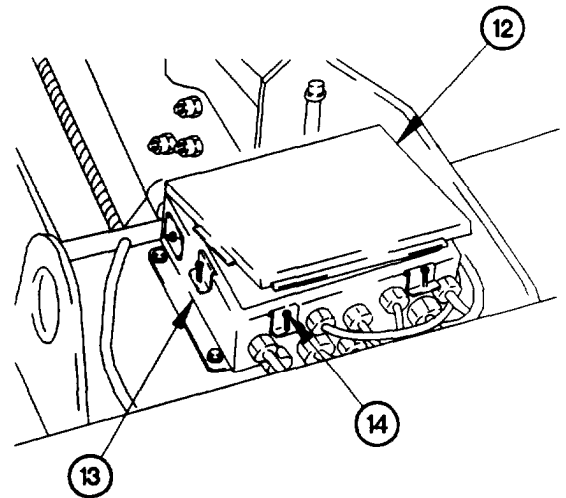
- (5) Install quick disconnect terminal (5) on ground strip (9) position 14.
- (6) Install terminal lug (7) on terminal block (10) position 15 with screw (11).
- (7) Apply varnish to quick disconnect terminal (5) and terminal lug (7).



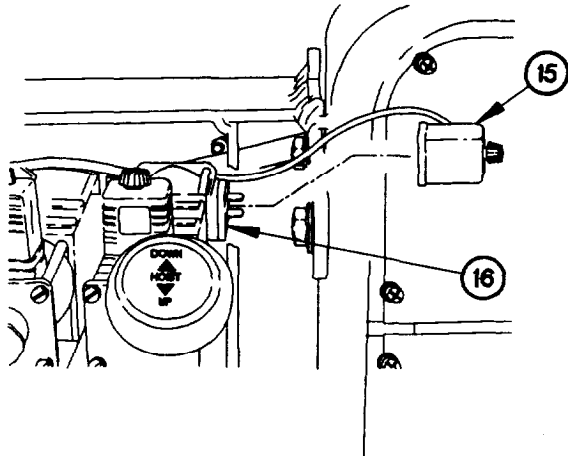
4123103A

(8) Close cover (12) on junction box (13).

(9) Tighten four screws (14) on junction box (13).



4123104A



4123105A

NOTE

Install plastic cable ties as required.

(10) Connect connector (15) to hoist up solenoid (16).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-57).

(2) Operate MHC and check hoist up operation (TM 9-2320-366-10-2).

End of Task.

7-114. M1089 HYDRAULIC SYSTEM SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

MHC erected (TM 9-2320-366-10-2).
 Engine shut down (TM 9-2320-366-10-1).
 Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

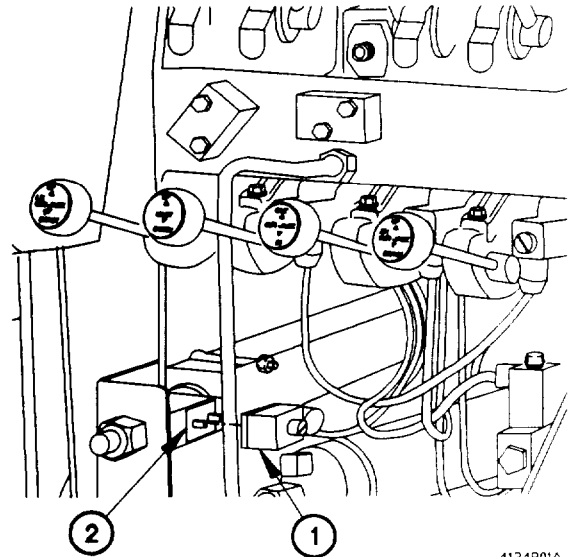
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Ties, Cable, Plastic (Item 69, Appendix D)
 Varnish, Oil (Item 70, Appendix D)

a. Removal.

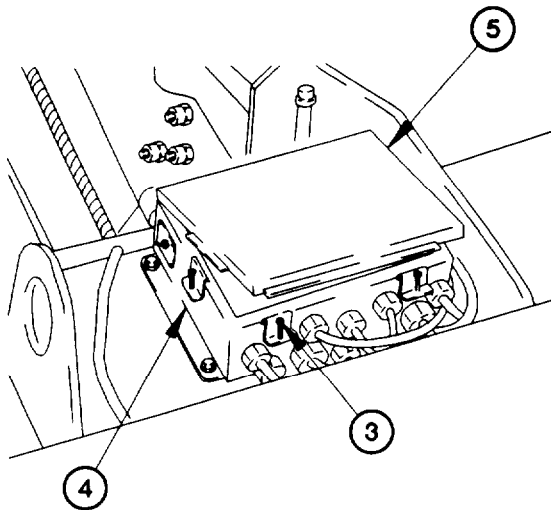
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from hydraulic system solenoid (2).



4124P01A



4124R02A

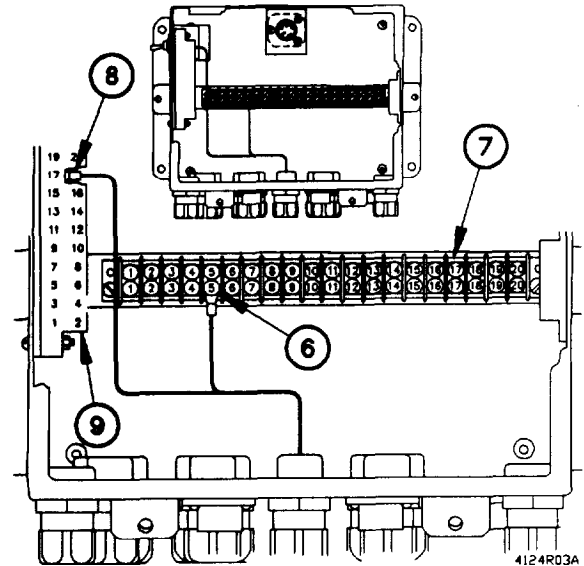
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

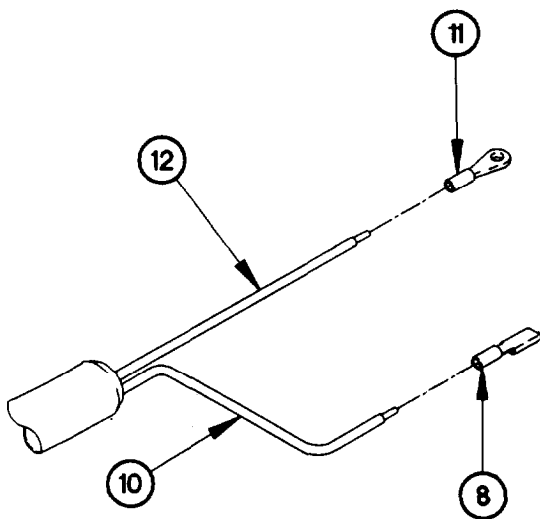
NOTE

Tag wires and connection points prior to disconnecting.

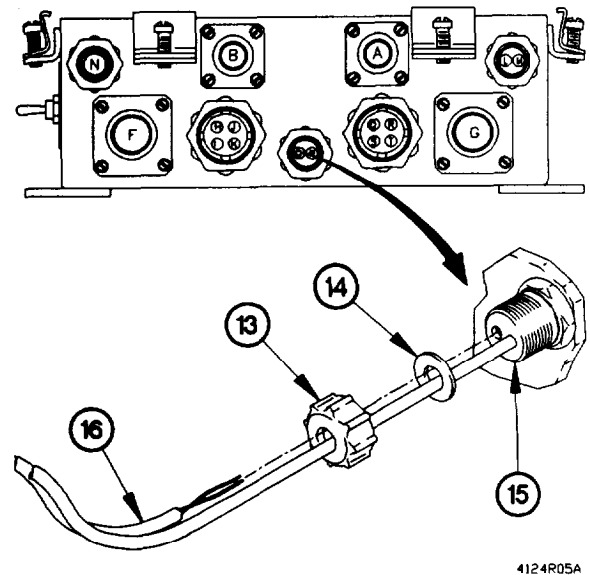
- (4) Remove screw (6) from terminal block (7) position 5.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 17.



- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).



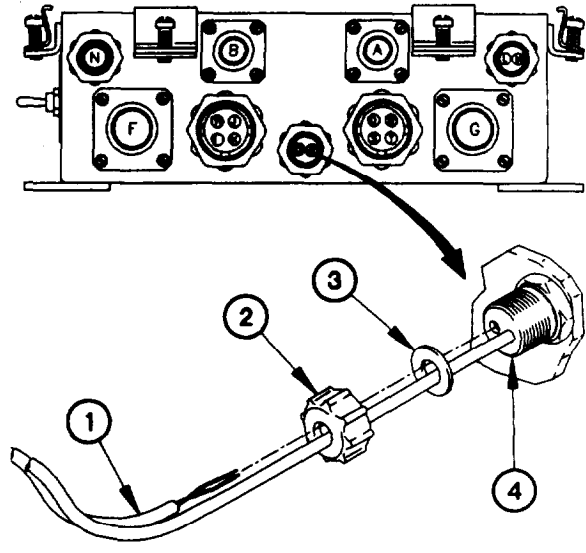
- (8) Remove compression nut (13) and washer (14) from connector (15).
- (9) Remove hydraulic system solenoid cable (16) from connector (15), washer (14), and compression nut (13).



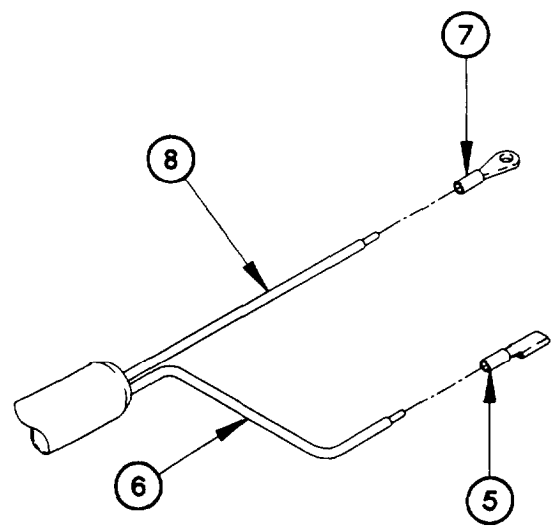
7-114. M1089 HYDRAULIC SYSTEM SOLENOID CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Install hydraulic system solenoid cable (1) through compression nut (2), washer (3), and connector (4).
- (2) Install compression nut (2) on connector (4).



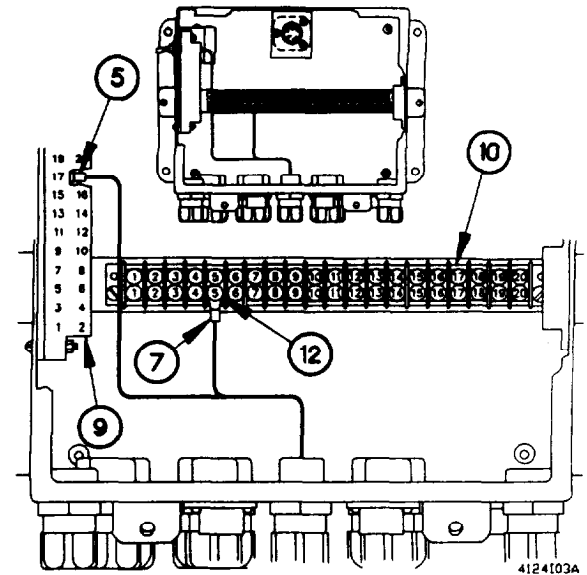
4124101A



4124102A

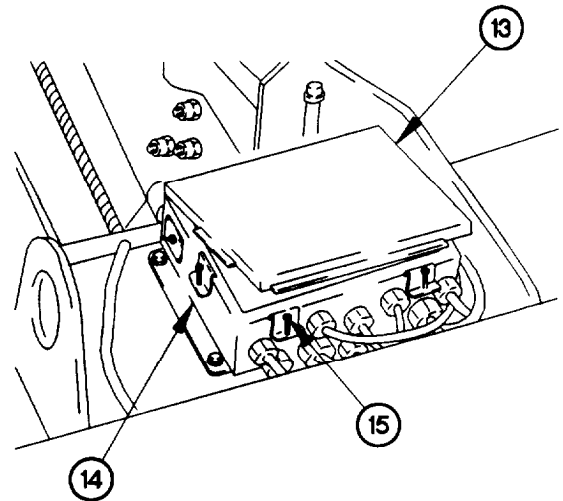
- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).

- (5) Install quick disconnect terminal (5) on ground strip (9) position 17.
- (6) Install terminal lug (7) on terminal block (10) position 5 with screw (12).
- (7) Apply varnish to quick disconnect terminal (5) and terminal lug (7).

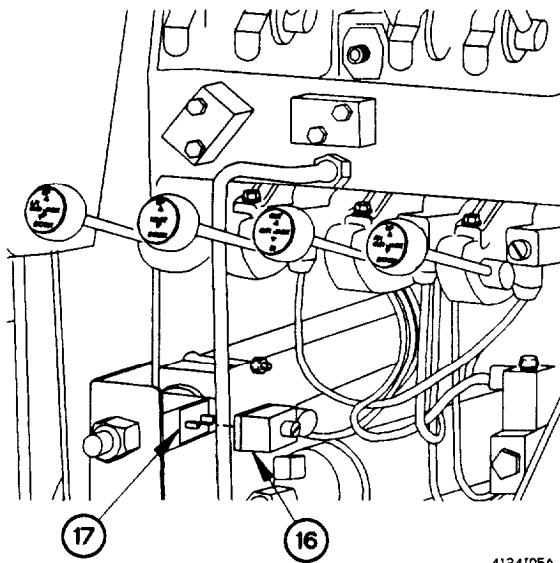


4124103A

- (8) Close cover (13) on junction box (14).
- (9) Tighten four screws (15) on junction box (14).



4124104A



4124105A

NOTE

Install plastic cable ties as required.

- (10) Connect connector (16) to hydraulic system solenoid (17).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check hydraulic system operation (TM 9-2320-366-10-2).

End of Task.

7-115. M1089 LEFT SIDE REMOTE CONTROL CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

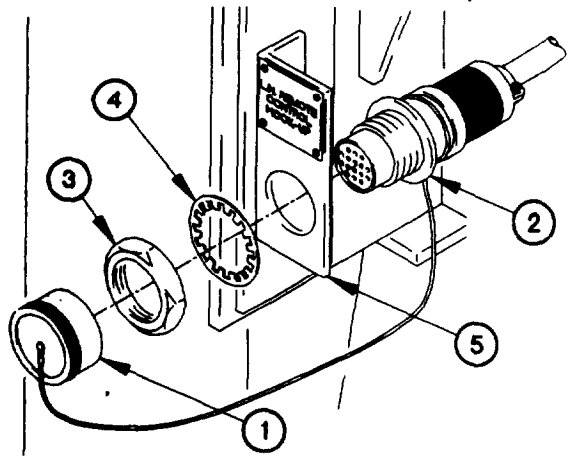
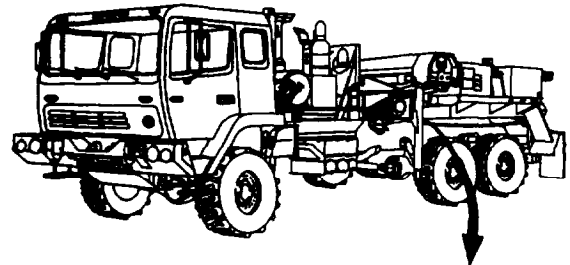
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)
Lockwasher (Item 100, Appendix G)
Lockwasher (4) (Item 106, Appendix G)

a. Removal.

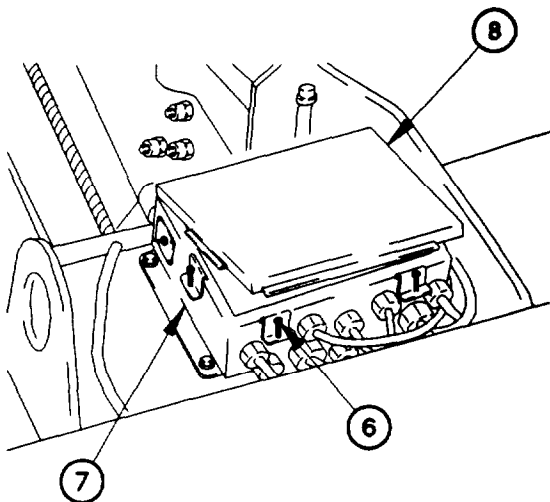
NOTE

Remove plastic cable ties as required.

- (1) Remove cap (1) from connector (2).
- (2) Remove nut (3) and lockwasher (4) from connector (2). Discard lockwasher.
- (3) Remove connector (2) from mounting bracket (5).



4125R01A



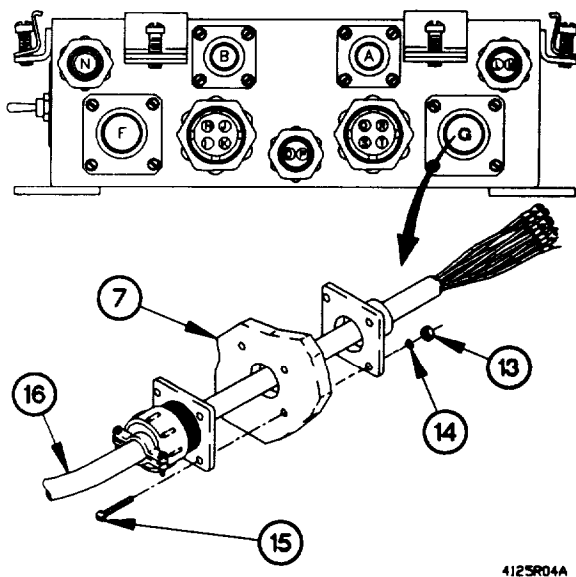
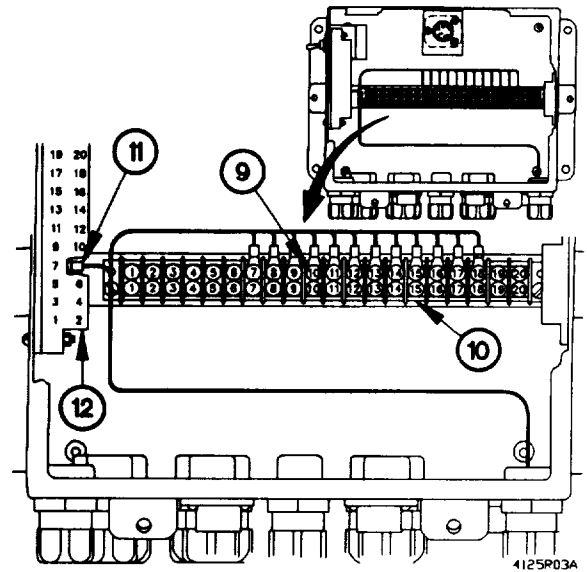
4125R02A

- (4) Loosen four screws (6) on junction box (7).
- (5) Open cover (8) on junction box (7).

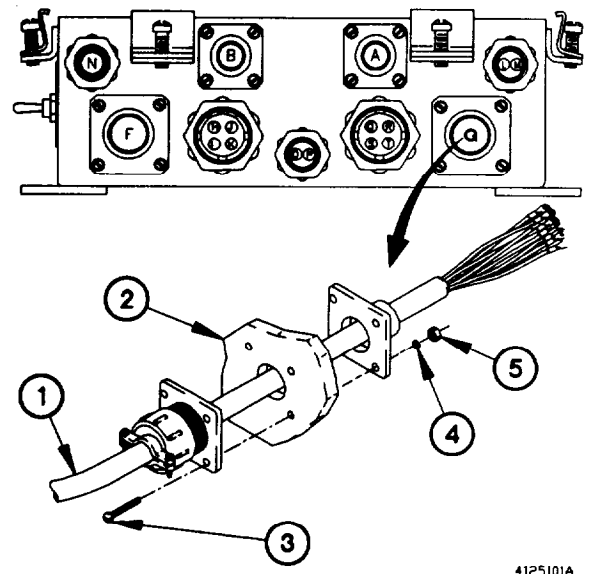
NOTE

Tag wires and connection points prior to disconnecting.

- (6) Remove 12 screws (9) from terminal block (10) positions 7 through 18.
- (7) Disconnect quick disconnect terminal (11) from ground strip (12) position 7.



- (8) Remove four nuts (13), lockwashers (14), screws (15), and left side remote control cable (16) from junction box (7). Discard lockwashers.



b. Installation.

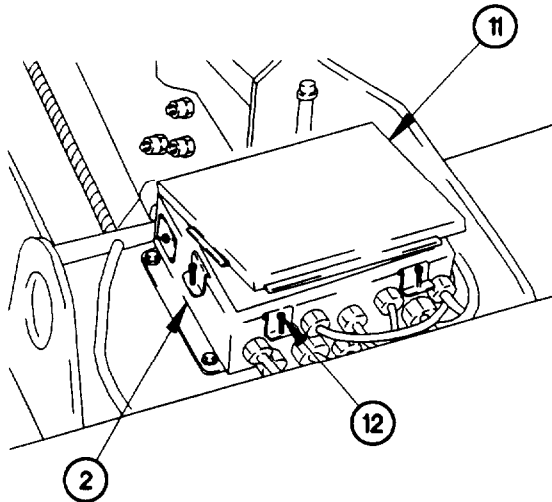
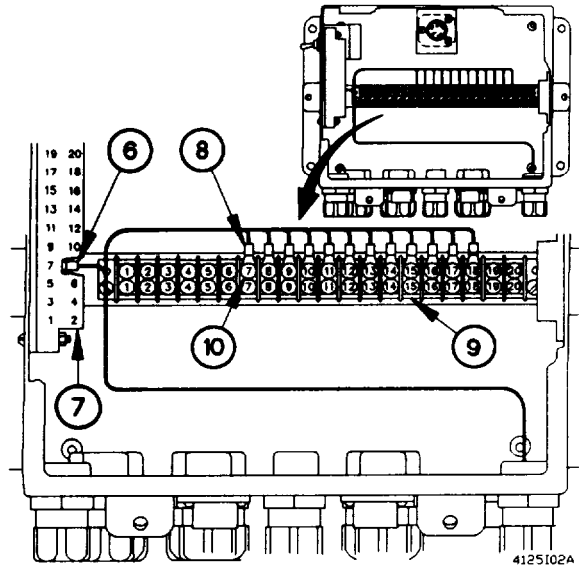
- (1) Install left side remote control cable (1) in junction box (2) with four screws (3), lockwashers (4), and nuts (5).

4125R04A

4125101A

7-115. M1089 LEFT SIDE REMOTE CONTROL CABLE REPLACEMENT (CONT)

- (2) Install quick disconnect terminal (6) on ground strip (7) position 7.
- (3) Install 12 terminal lugs (8) on terminal block (9) position 7 through 18 with 12 screws (10).
- (4) Apply varnish to quick disconnect terminal (6) and 12 terminal lugs (8).



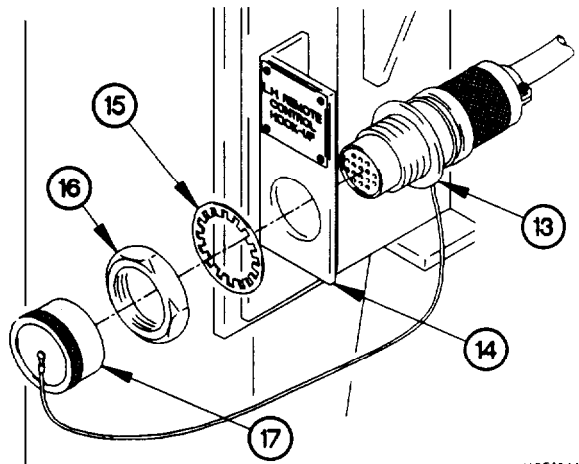
- (5) Close cover (11) on junction box (2).
- (6) Tighten four screws (12) on junction box (2).

4125103A

NOTE

Install plastic cable ties as required.

- (7) Install connector (13) in mounting bracket (14) with lockwasher (15) and nut (16).
- (8) Install cap (17) on connector (13).



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c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check left side remote operation (TM 9-2320-366-10-2).

End of Task.

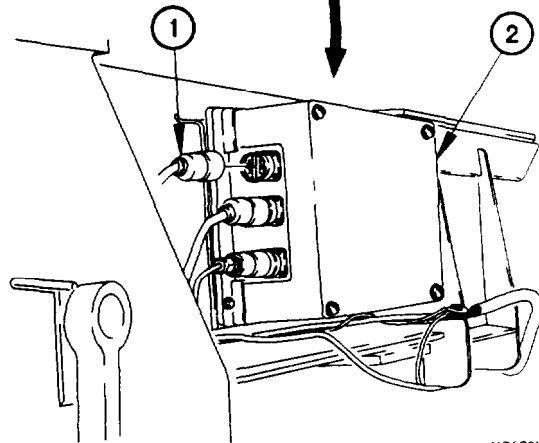
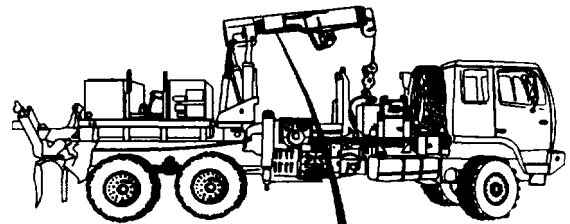
7-116. M1089 OVERLOAD LOCKOUT CABLE REPLACEMENT	
This task covers:	
a. Removal b. Installation	c. Follow-On Maintenance
INITIAL SETUP	
Equipment Conditions MHC erected (TM 9-2320-366-10-2). Engine shut down (TM 9-2320-366-10-1). Batteries disconnected (para 7-571).	Materials/Parts Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D) Ties, Cable, Plastic (Item 69, Appendix D) Varnish, Oil (Item 70, Appendix D)
Tools and Special Tools Tool Kit, Genl Mech (Item 46, Appendix C) Tool Kit, Electrical (Item 45, Appendix C)	

a. Removal.

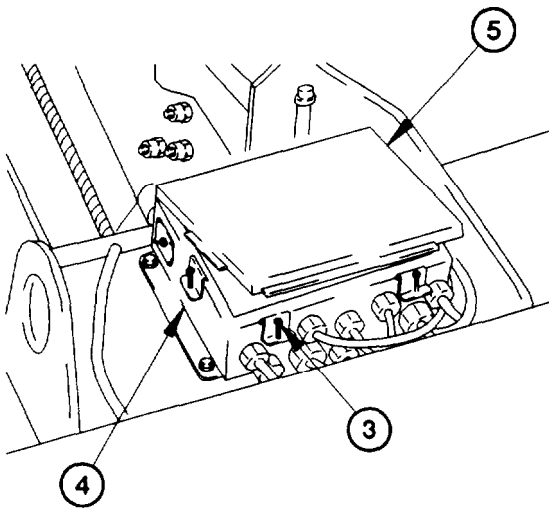
NOTE

Remove plastic cable ties as required.

(1) Disconnect connector (1) from overload shutdown (2).



4126R01A



4126R02A

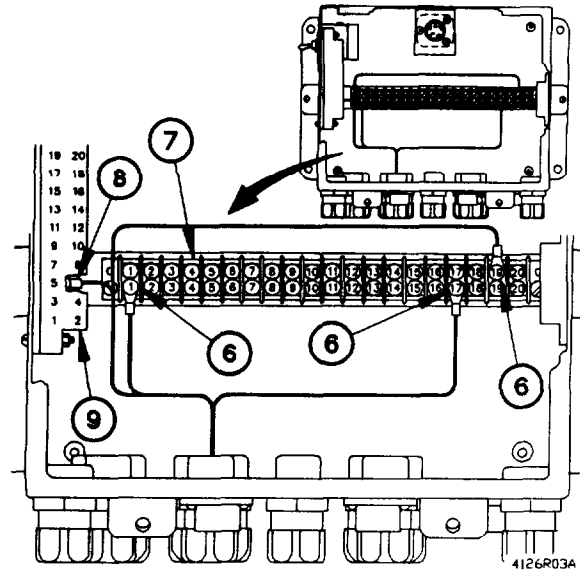
(2) Loosen four screws (3) on junction box (4).

(3) Open cover (5) on junction box (4).

NOTE

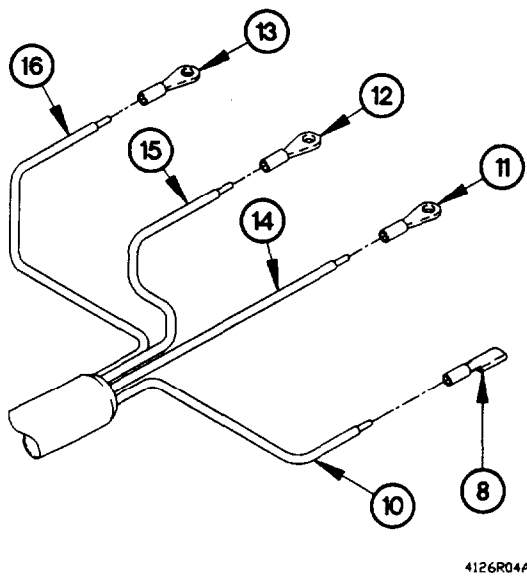
Tag wires and connection points prior to disconnecting.

- (4) Remove three screws (6) from terminal block (7) positions 1, 17, and 19.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 5.

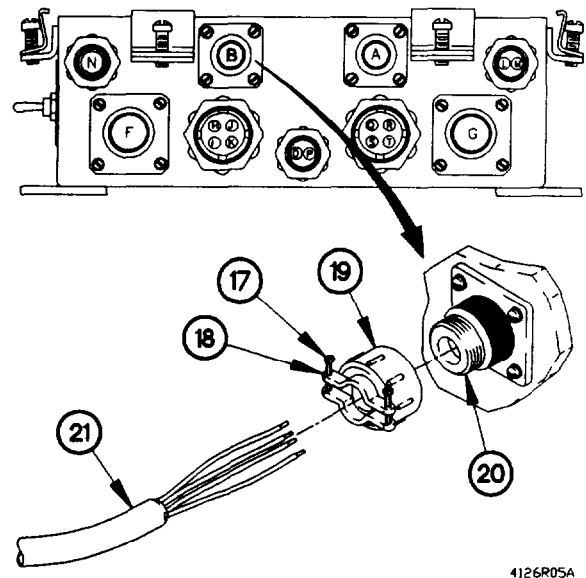


- (6) Remove quick disconnect terminal (8) from green wire

- (7) Remove terminal lugs (11, 12, and 13) from black wire (14), red wire (15), and white wire (16).



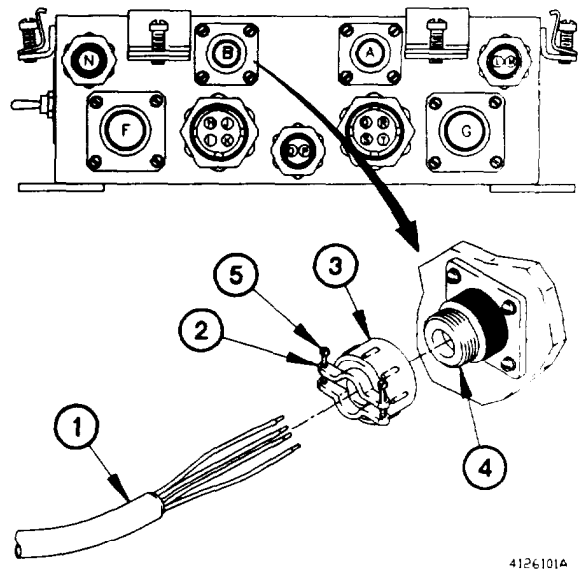
- (8) Loosen two screws (17) on clamp (18).
- (9) Remove compression nut (19) from connector (20).
- (10) Remove overload lockout cable (21) from compression nut (19).



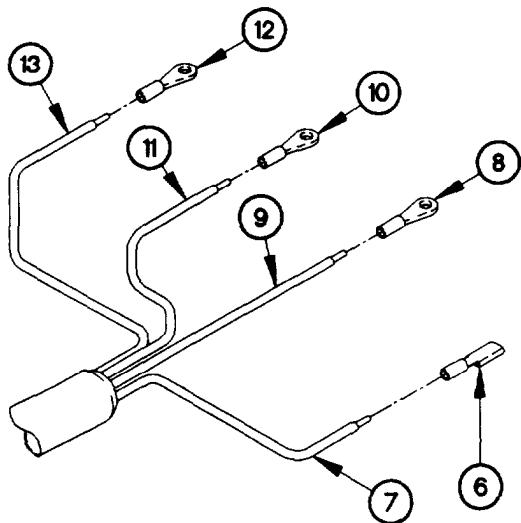
7-116. M1089 OVERLOAD LOCKOUT CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Install overload lockout cable (1) through clamp (2), compression nut (3), and connector (4).
- (2) Install compression nut (3) on connector (4).
- (3) Tighten two screws (5) on clamp (2).



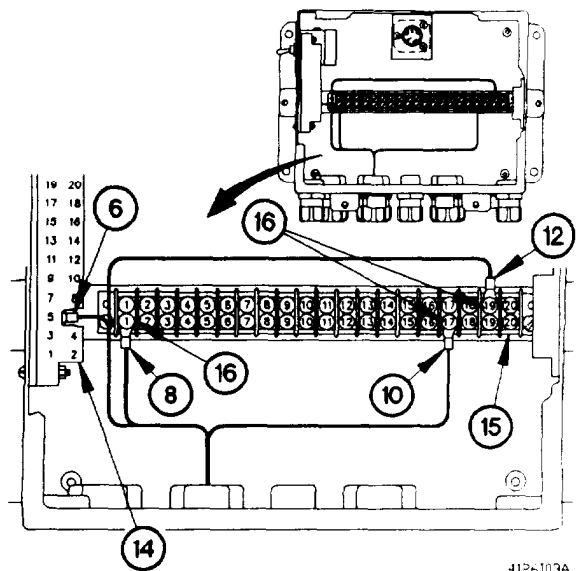
4126101A



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- (4) Install quick disconnect terminal (6) on green wire (7).
- (5) Install terminal lug (8) on black wire (9).
- (6) Install terminal lug (10) on red wire (11).
- (7) Install terminal lug (12) on white wire (13).

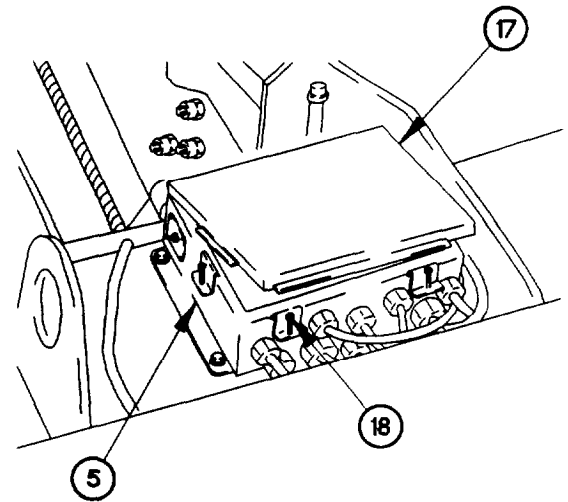
- (8) Install quick disconnect terminal (6) on ground strip (14) position 5.
- (9) Install terminal lug (8) on terminal block (15) position 1 with screw (16).
- (10) Install terminal lug (10) on terminal block (15) position 17 with screw (16).
- (11) Install terminal lug (12) on terminal block (15) position 19 with screw (16).
- (12) Apply varnish to quick disconnect terminal (6) and terminal lugs (8, 10, and 12).



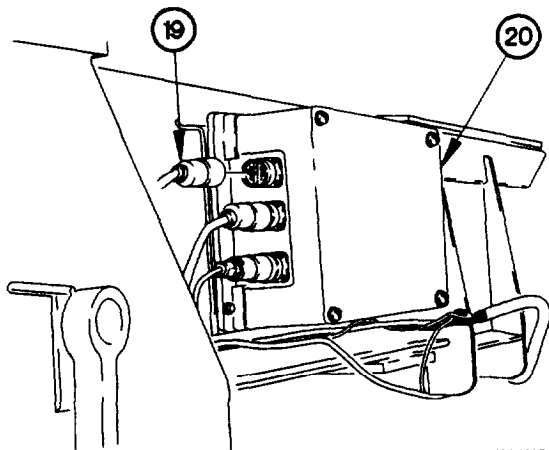
4126103A

(13) Close cover (17) on junction box (5)

(14) Tighten four screws (18) on junction box (5).



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NOTE

Install plastic cable ties as required.

(15) Connect connector (19) to overload shutdown (20).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check overload lockout operation (TM 9-2320-366-10-2).

End of Task.

7-117. M1089 REMOTE CONTROL WIRING HARNESS REPLACEMENT

This task covers:

a. Removal
 b. Installation
 c. Follow-On Maintenance

INITIAL SETUP

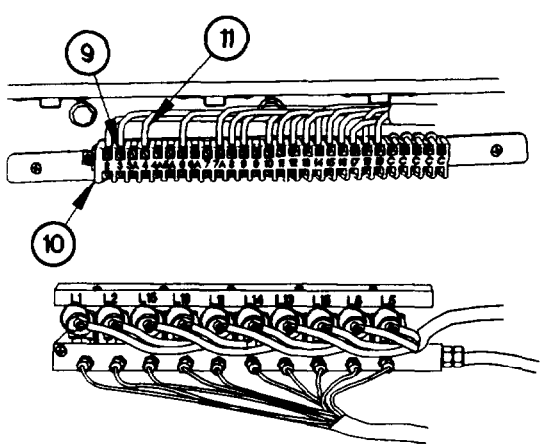
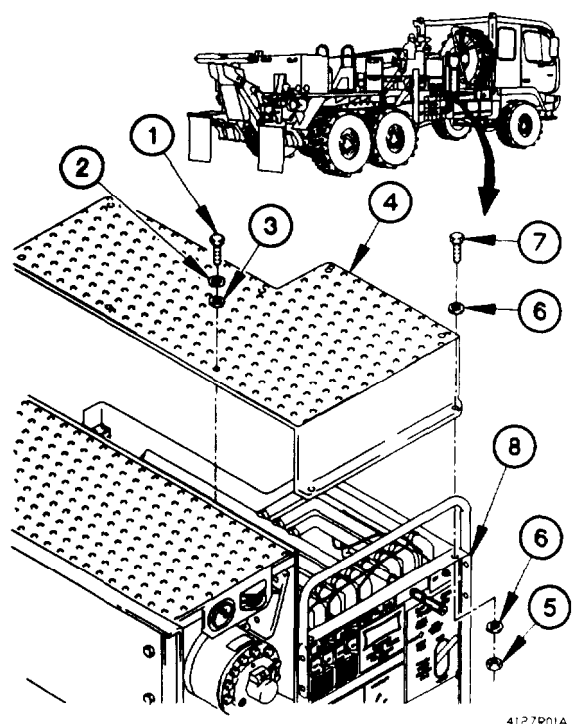
Equipment Conditions
 Engine shut down (TM 9-2320-366-10-1).
 Batteries disconnected (para 7-57).

Tools and Special Tools
 Tool Kit, Genl Mech (Item 46, Appendix B)

Materials/Parts
 Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Ties, Cable Plastic (Item 69, Appendix D)
 Lockwasher (8) (Item 100, Appendix G)
 Nut, Self-Locking (2) (Item 133, Appendix G)

a. Removal.

- (1) Remove eight screws (1), lockwashers (2), and washers (3) from control panel top cover (4). Discard lockwashers.
- (2) Remove two self-locking nuts (5), four washers (6), two screws (7), and control panel top cover (4) from control panel (8). Discard self-locking nuts.



WIRES REMOVED FOR CLARITY

4127R02A

NOTE

- Tag electrical wires and connection points prior to disconnecting.
 - Remove plastic cable ties as required.
- (3) Loosen 17 screws (9) on terminal board (10) at positions 2, 3, 4, 6, 7a, 8, 9, and 10 through 19.
 - (4) Remove 17 electrical wires (11) on terminal board (10) from positions 2, 3, 4, 6, 7a, 8, 9, and 10 through 19.

(5) Remove connector cover (12) from remote control cable connector (13).

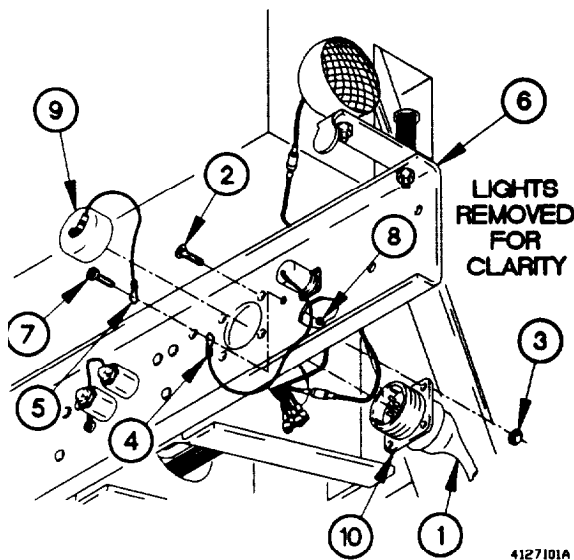
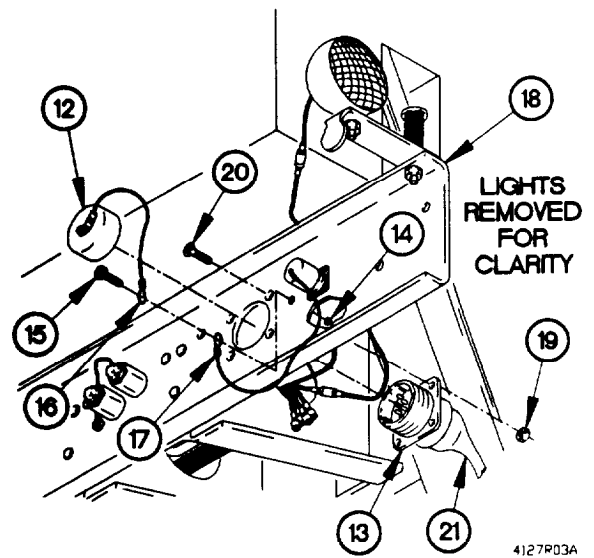
(6) Remove nut (14), screw (15), connector cover (12), and lanyards (16 and 17) from support structure (18).

NOTE

Note routing of cable assembly prior to removal.

(7) Remove four nuts (19), screws (20), and remote control cable assembly (21) from vehicle.

b. Installation.



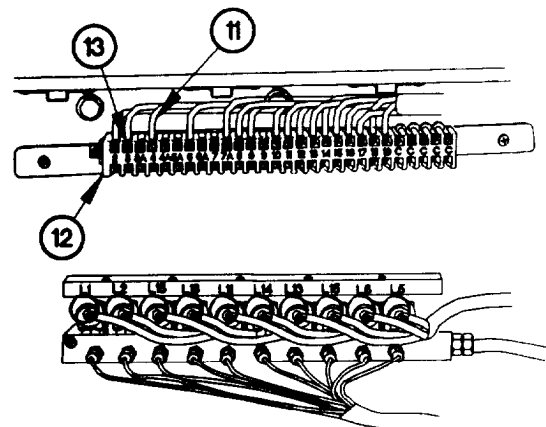
- (1) Install remote control cable assembly (1) on vehicle with four screws (2) and nuts (3).
- (2) Install lanyards (4 and 5) on support structure (6) with screw (7) and nut (8).
- (3) Install connector cover (9) on remote control cable connector (10).

NOTE

Install plastic cable ties as required.

(4) Position 17 electrical wires (11) on terminal board (12) at positions 2, 3, 4, 6, 7a, 8, 9, and 10 through 19.

(5) Tighten 17 screws (13) on terminal board (12) at positions 2, 3, 4, 6, 7a, 8, 9, and 10 through 19.



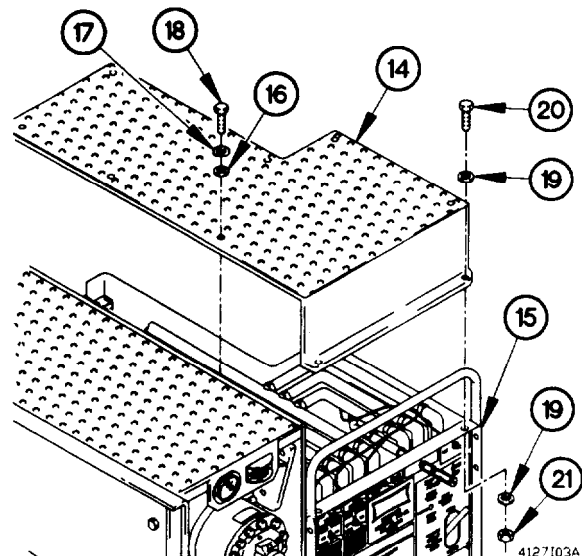
WIRES REMOVED FOR CLARITY

4127I02A

7-117. M1089 REMOTE CONTROL WIRING HARNESS REPLACEMENT (CONT)

(6) Install top cover (14) on control panel (15) with eight washers (16), lockwashers (17), and screws (18).

(7) Install four washers (19), two screws (20), and self-locking nuts (21) in top cover (14).



c. Follow-On Maintenance.

(1) Connect batteries (para 7-57).

(2) Operate all wrecker functions from remote control and check for proper operation (TM 9-2320-366-10-2).

End of Task.

7-118. M1089 RIGHT SIDE REMOTE CONTROL CABLE REPLACEMENT

This task covers:

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Removal b. Installation | <ul style="list-style-type: none"> c. Follow-On Maintenance |
|---|--|

INITIAL SETUP**Equipment Conditions**

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)
Lockwasher (Item 100, Appendix G)
Lockwasher (4) (Item 106, Appendix G)

a. Removal.**NOTE**

Remove plastic cable ties as required.

- (1) Remove cap (1) from connector (2).
- (2) Remove nut (3) and lockwasher (4) from connector (2). Discard lockwasher.
- (3) Remove connector (2) from mounting bracket (5).

(4) Loosen four screws (6) on junction box (7).

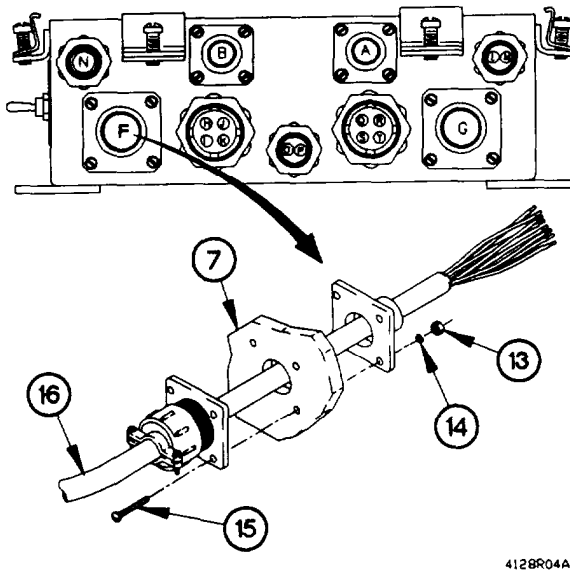
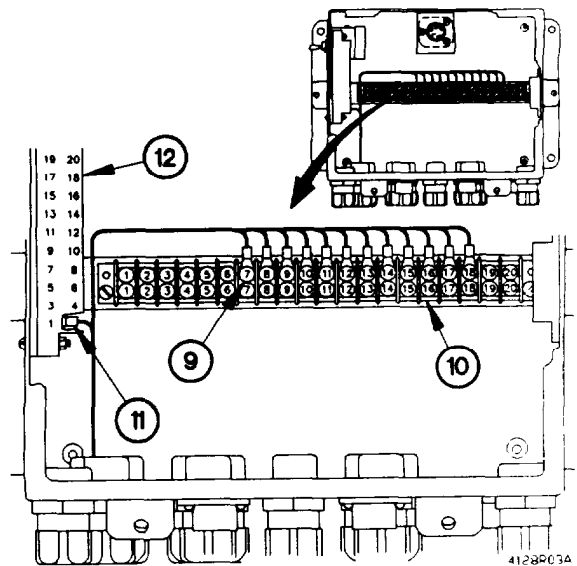
(5) Open cover (8) on junction box (7).

7-118. M1089 RIGHT SIDE REMOTE CONTROL CABLE REPLACEMENT (CONT)

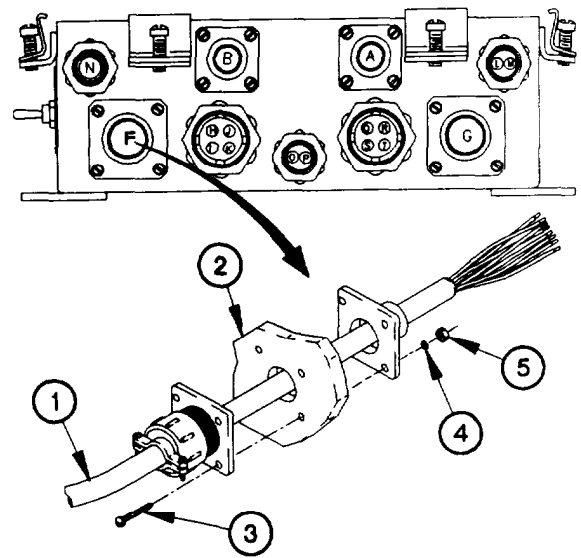
NOTE

Tag wires and connection points prior to disconnecting.

- (6) Remove 12 screws (9) from terminal block (10) positions 7 through 18.
- (7) Disconnect quick disconnect terminal (11) from ground strip (12) position 1 .



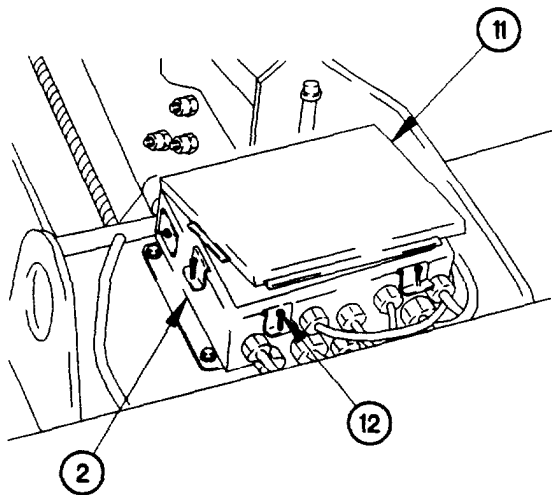
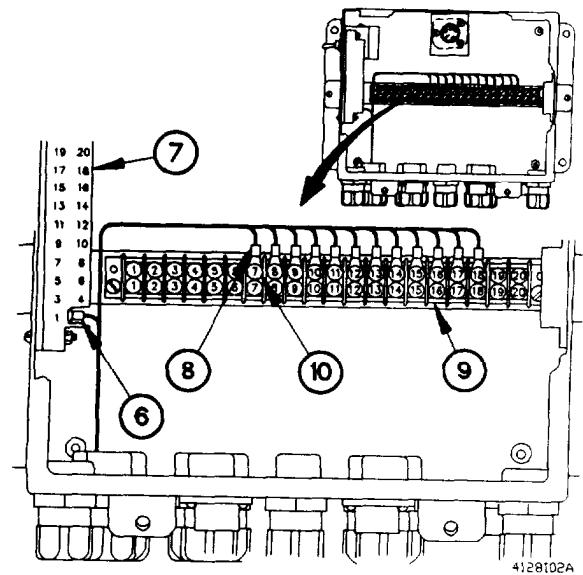
- (8) Remove four nuts (13), lockwashers (14), screws (15), and right side remote control cable (16) from junction box (7). Discard lockwashers.



b. Installation.

- (1) Install right side remote control cable (1) in junction box (2) with four screws (3), lockwashers (4) and nuts (5).

- (2) Install quick disconnect terminal (6) on ground strip (7) position 1.
- (3) Install 12 terminal lugs (8) on terminal block (9) positions 7 through 18 with 12 screws (10).
- (4) Apply varnish to quick disconnect terminal (8) and 12 terminal lugs (8).



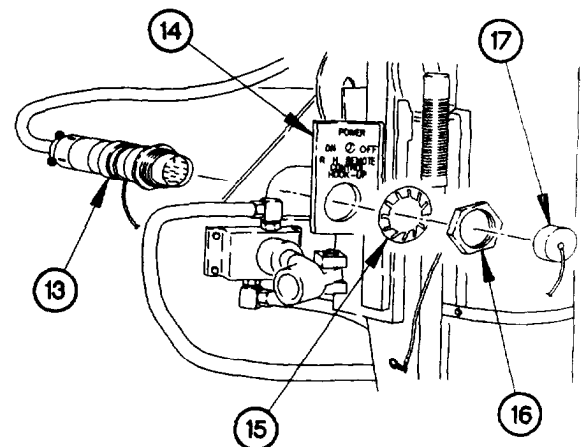
- (5) Close cover (11) on junction box (2).
- (6) Tighten four screws (12) on junction box (2).

4128103A

- (7) Install connector (13) in mounting bracket (14) with lockwasher (15) and nut (16).
- (8) Install cap (17) on connector (13).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check right side remote operation (TM 9-2320-366-10-2).



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End of Task.

7-119. M1089 SWING CCW SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
 Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

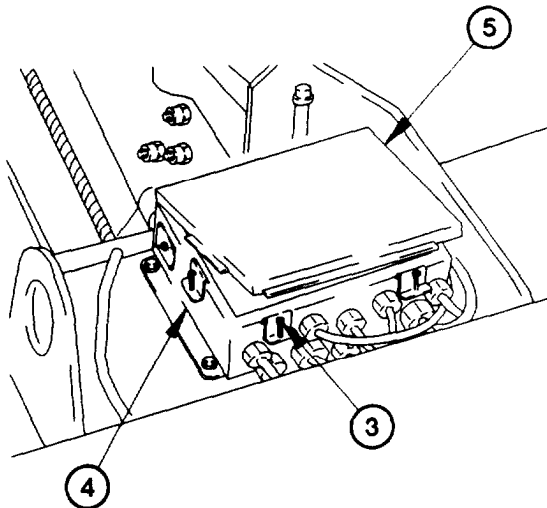
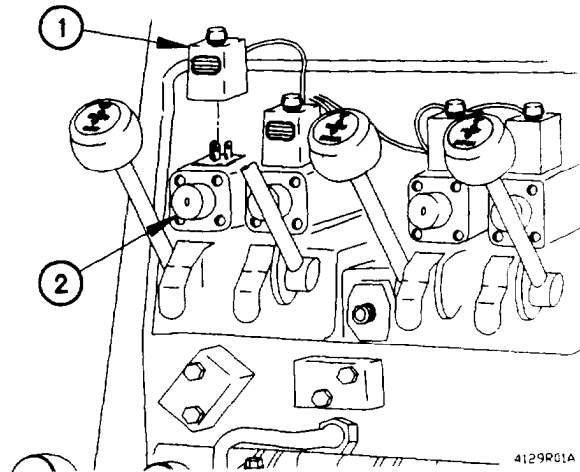
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Ties, Cable, Plastic (Item 69, Appendix D)
 Varnish, Oil (Item 70, Appendix D)

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from swing CCW solenoid (2).



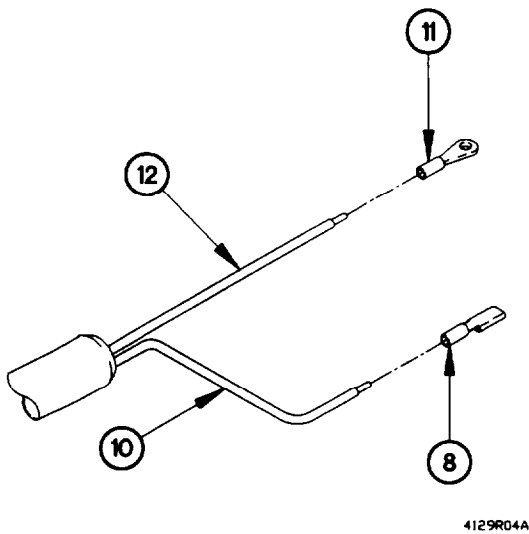
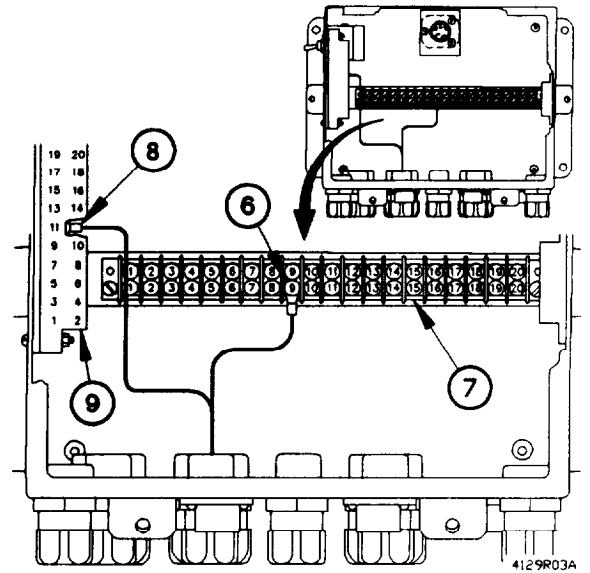
- (2) Loosen four screws (3) on junction box (4).
- (3) Open cover (5) on junction box (4).

4129R02A

NOTE

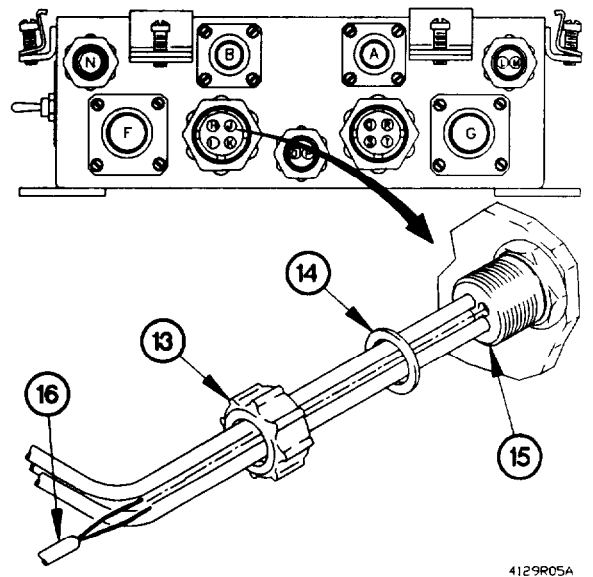
Tag wires and connection points prior to disconnecting

- (4) Remove screw (6) from terminal block (7) position 9.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 11.



- (8) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

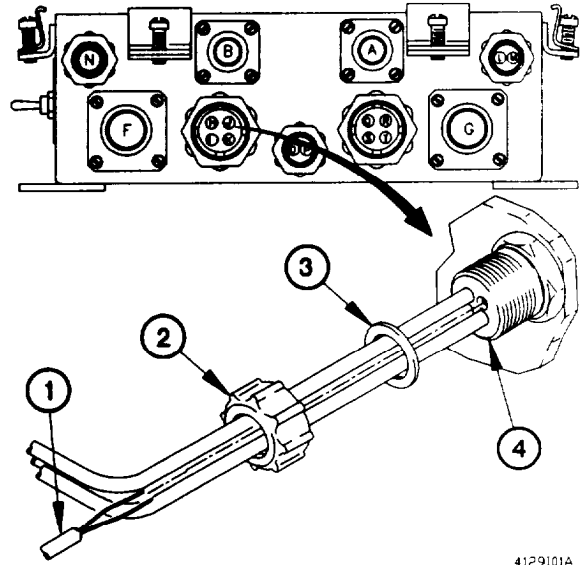
- (8) Remove compression nut (13) and washer (14) from connector (15).
- (9) Remove swing CCW solenoid cable (16) from connector (15), washer (14), and compression nut (13).



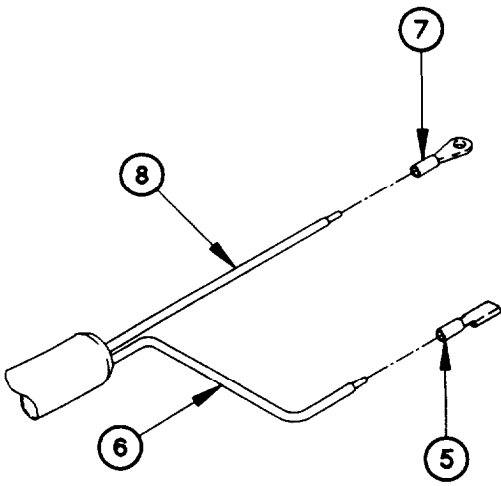
7-119. M1089 SWING CCW SOLENOID CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Install swing CCW solenoid cable (1) through compression nut (2), washer (3), and connector (4).
- (2) Install compression nut (2) on connector (4).



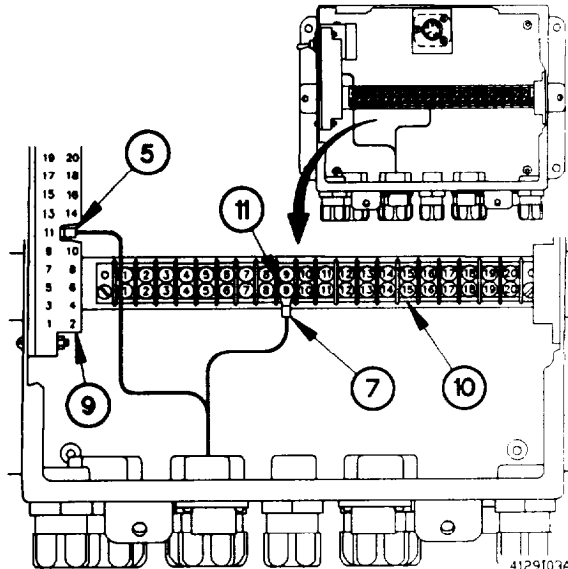
4129101A



4129102A

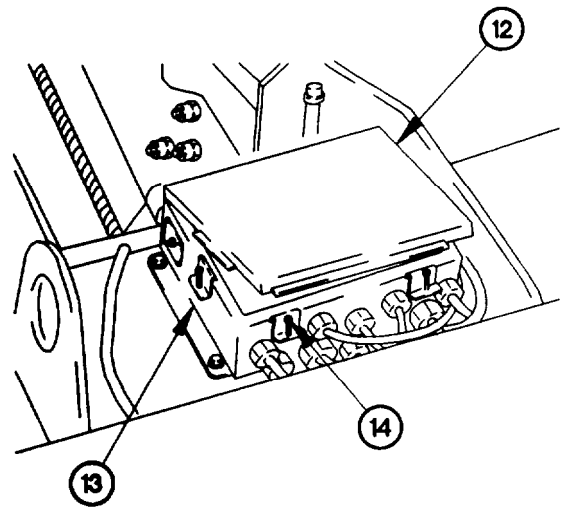
- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).

- (5) Install quick disconnect terminal (5) on ground strip (9) position 11 .
- (6) Install terminal lug (7) on terminal block (10) position 9 with screw (11).
- (7) Apply varnish to quick disconnect terminal (5) and terminal lug (7).

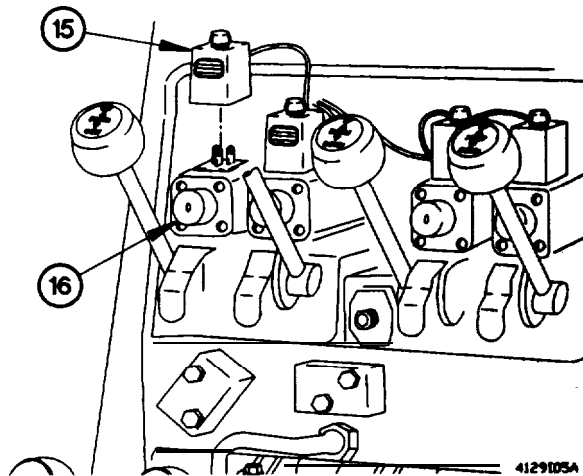


4129103A

- (8) Close cover (12) on junction box (13).
- (9) Tighten four screws (14) on junction box (13).



4129104A



4129105A

NOTE

Install plastic cable ties as required.

- (10) Connect connector (15) to swing CCW solenoid (16).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check swing CCW operation (TM 9-2320-366-10-2).

End of Task.

7-120. M1089 SWING CW SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

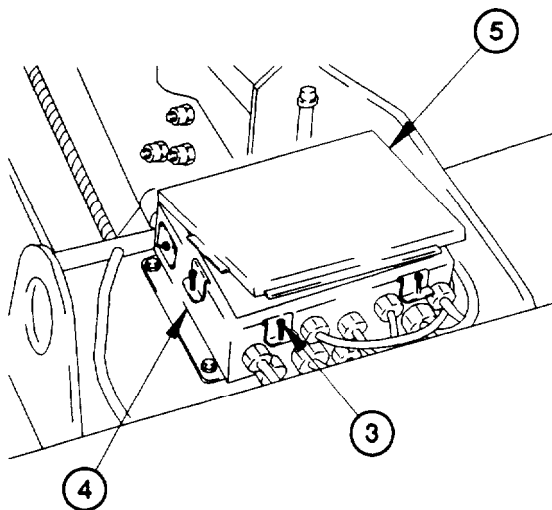
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

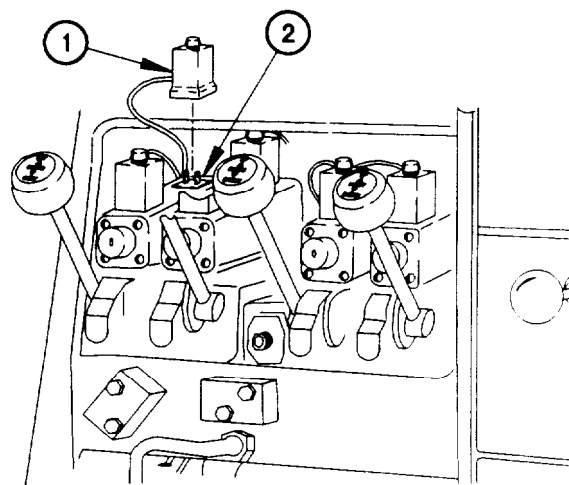
NOTE

Remove plastic cable ties as required.

(1) Disconnect connector (1) from swing CW solenoid (2).



4130R02A



4130R01A

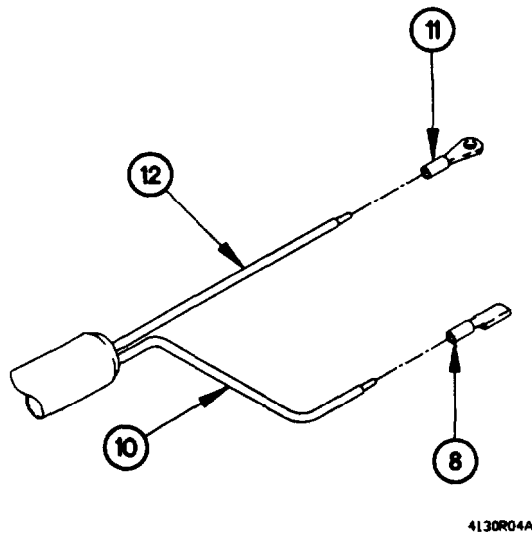
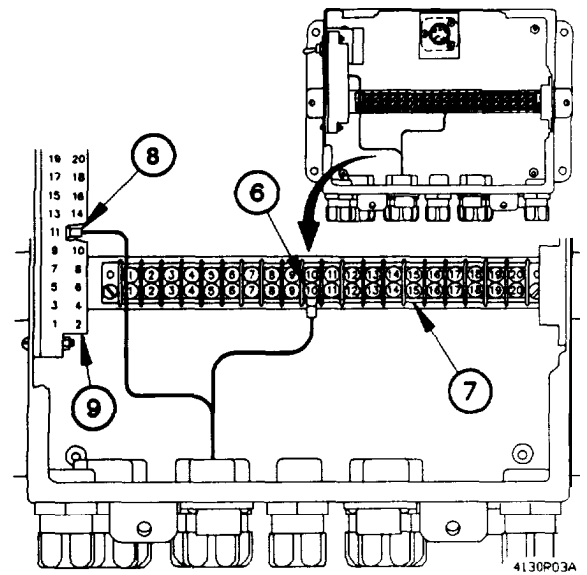
(2) Loosen four screws (3) on junction box (4).

(3) Open cover (5) on junction box (4).

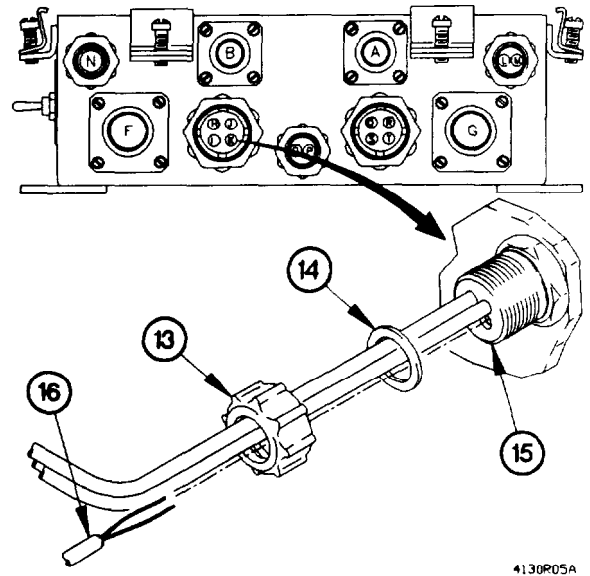
NOTE

Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 10.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 11.



- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

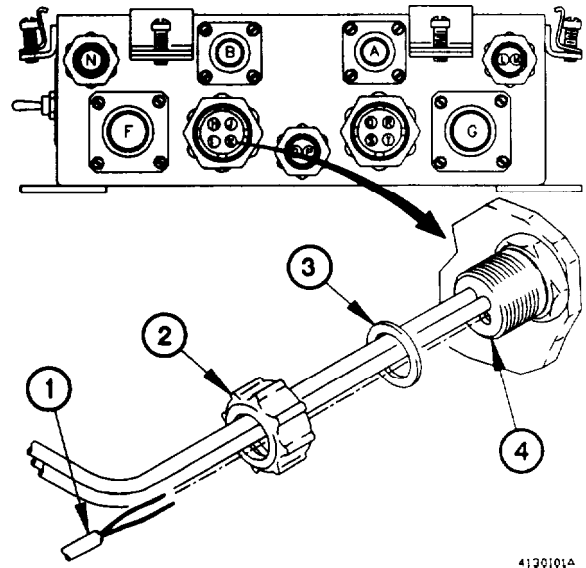


- (8) Remove compression nut (13) and washer (14) from connector (15).
- (9) Remove swing CW solenoid cable (16) from connector (15), washer (14), and compression nut (13).

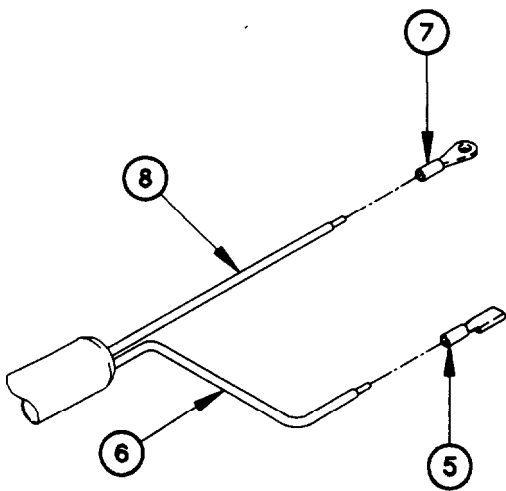
7-120. M1089 SWING CW SOLENOID CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Install swing CW solenoid cable (1) in compression nut (2), washer (3) and connector (4).
- (2) Install compression nut (2) on connector (4).

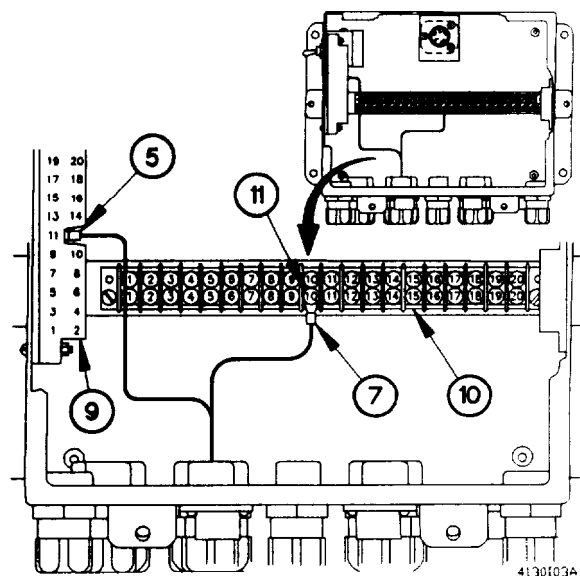


4130101A



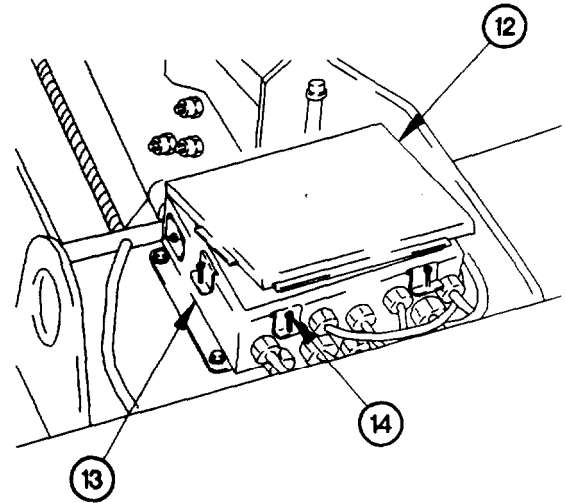
4130102A

- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).
- (5) Install quick disconnect terminal (5) on ground strip (9) position 11.
- (6) Install terminal lug (7) on terminal block (10) position 10 with screw (11).
- (7) Apply varnish to quick disconnect terminal (5) and terminal lug (7).

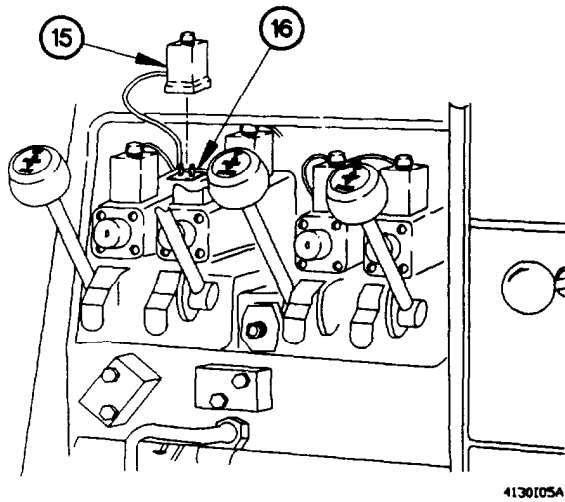


4130103A

- (8) Close cover (12) on junction box (13).
- (9) Tighten four screws (14) on junction box (13).



4130104A



- (10) Connect connector (15) to swing CW solenoid (16).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check swing CW operation (TM 9-2320-366-10-2).

End of Task.

7-121. M1089 TELESCOPE IN SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

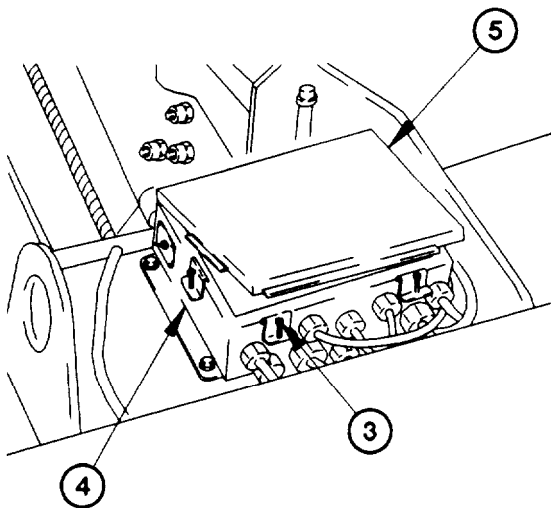
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

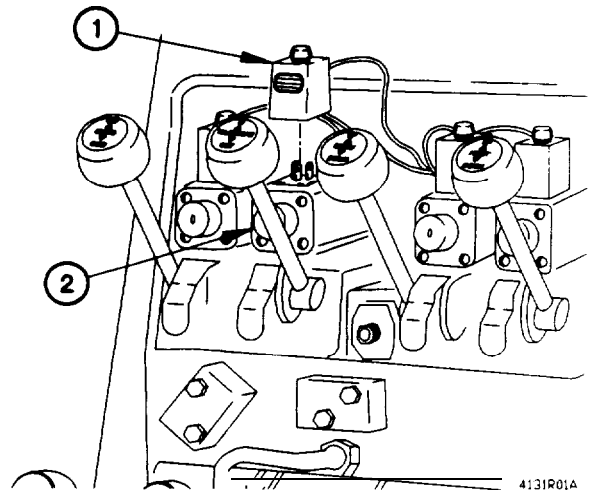
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from telescope in solenoid
- (2).



4131R02A



4131R01A

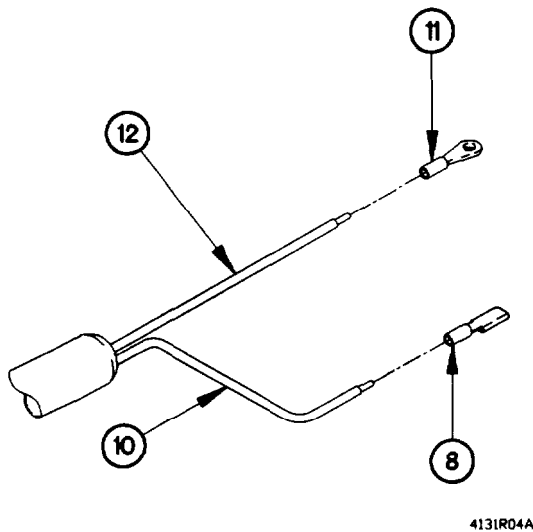
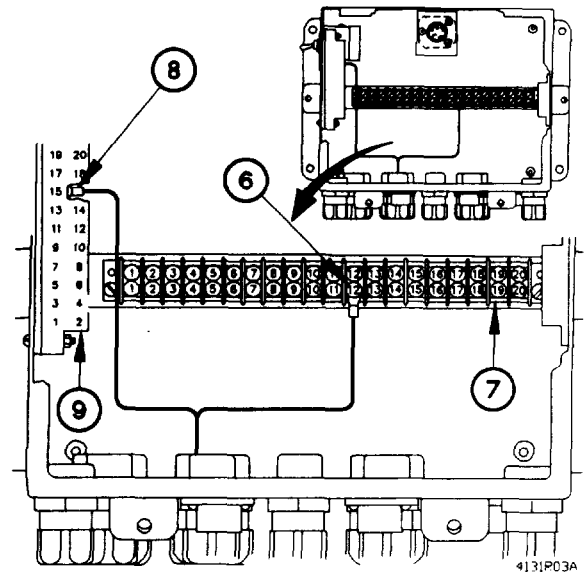
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

NOTE

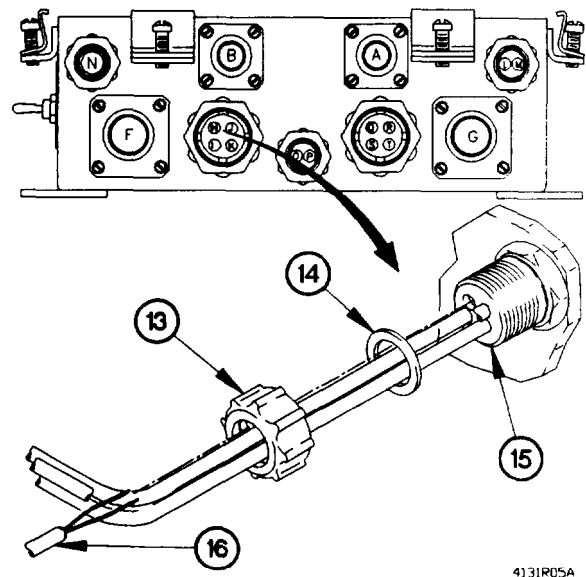
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 12.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 15.



- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

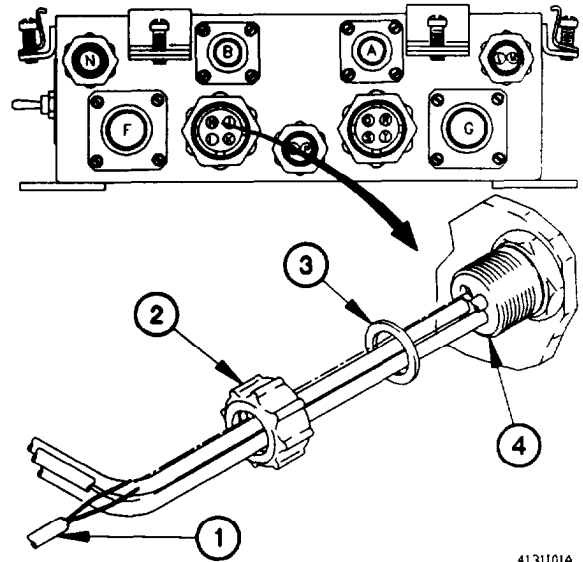
- (8) Remove compression nut (13) and washer (14) from connector (15).
- (9) Remove telescope in solenoid cable (16) from connector (15), washer (14), and compression nut (13).



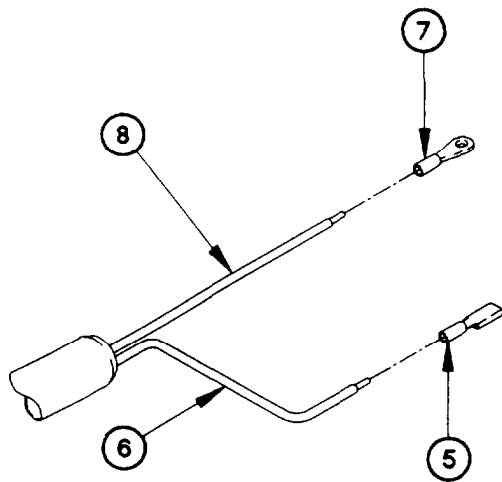
7-121. M1089 TELESCOPE IN SOLENOID CABLE REPLACEMENT (CONT)

b. Installation.

- (1) Install telescope in solenoid cable (1) through compression nut (2), washer (3), and connector (4).
- (2) Install compression nut (2) on connector (4).



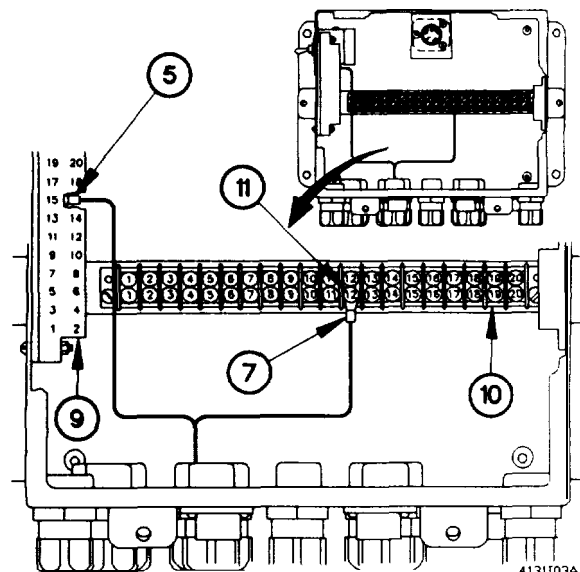
4131101A



4131102A

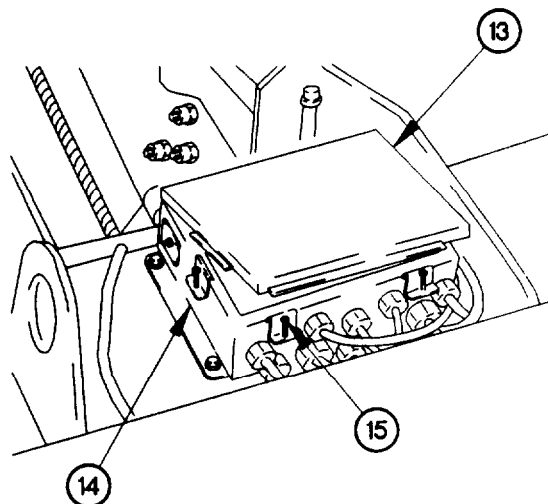
- (5) Install quick disconnect terminal (5) on ground strip (9) position 15.
- (6) Install terminal lug (7) on terminal block (10) position 12 with screw (11).
- (7) Apply varnish to quick disconnect terminal (5) and terminal lug (7).

- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).

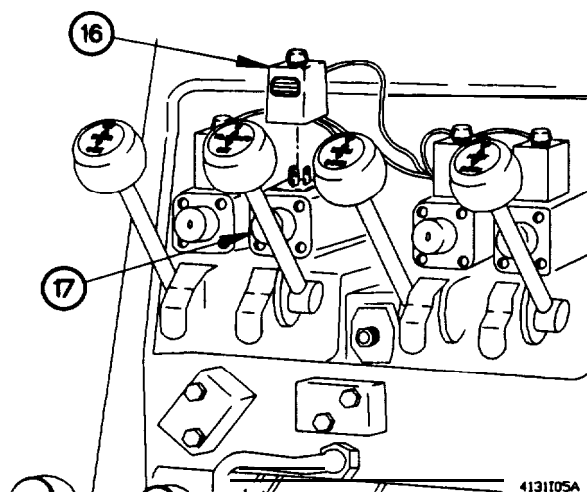


4131103A

- (8) Close cover (13) on junction box (14).
- (9) Tighten four screws (15) on junction box (14).



413104A



413105A

NOTE

Install plastic cable ties as required.

- (10) Connect connector (16) to telescope in solenoid (17).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check telescope in operation (TM 9-2320-366-10-2).

End of Task.

7-122. M1089 TELESCOPE OUT LOCKOUT SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

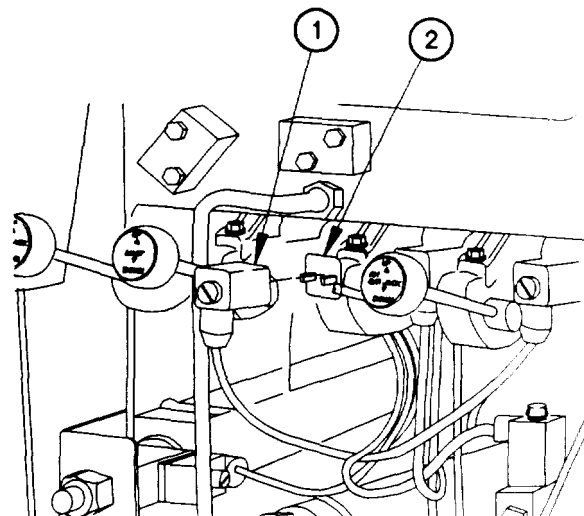
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

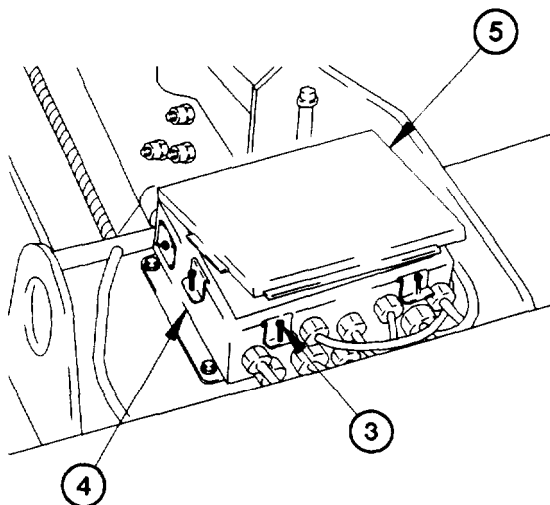
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from telescope out lockout solenoid (2).



4132R01A



4132R02A

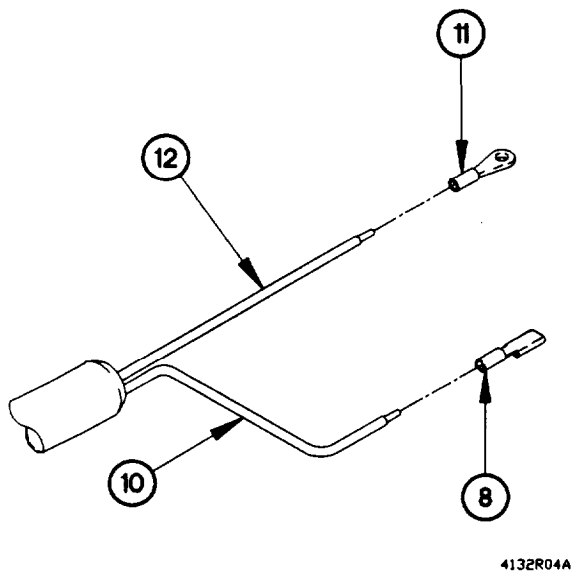
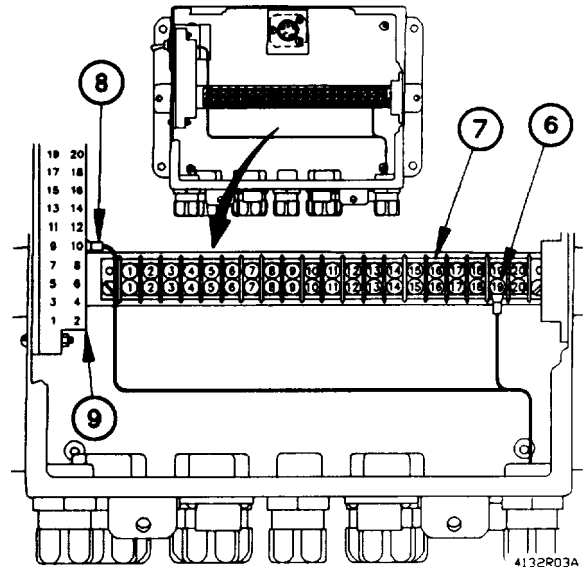
- (2) Loosen four screws (3) on junction box (4).

- (3) Open cover (5) on junction box (4).

NOTE

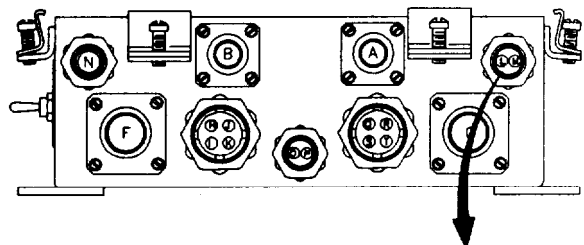
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 19.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 10.



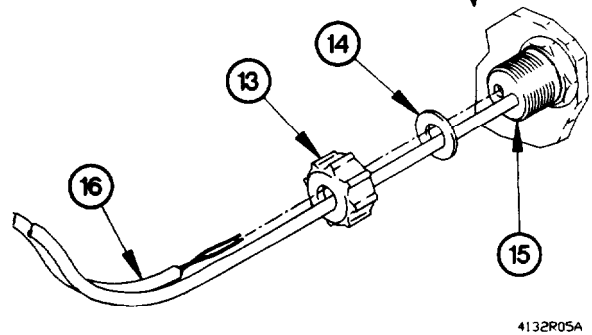
- (6) Remove quick disconnect terminal (8) from black wire (10).

- (7) Remove terminal lug (11) from white wire (12).



- (8) Remove compression nut (13) and washer (14) from connector (15).

- (9) Remove telescope out lockout solenoid cable (16) from connector (15), washer (14), and compression nut (13).

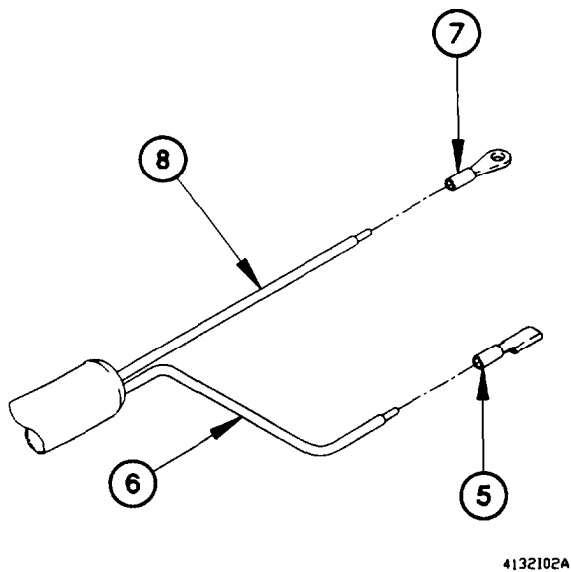
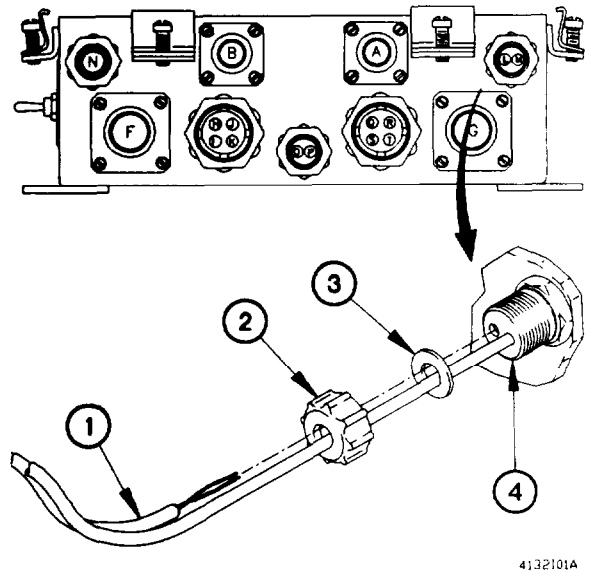


4132R05A

7-122. M1089 TELESCOPE OUT LOCKOUT SOLENOID CABLE REPLACEMENT (CONT)

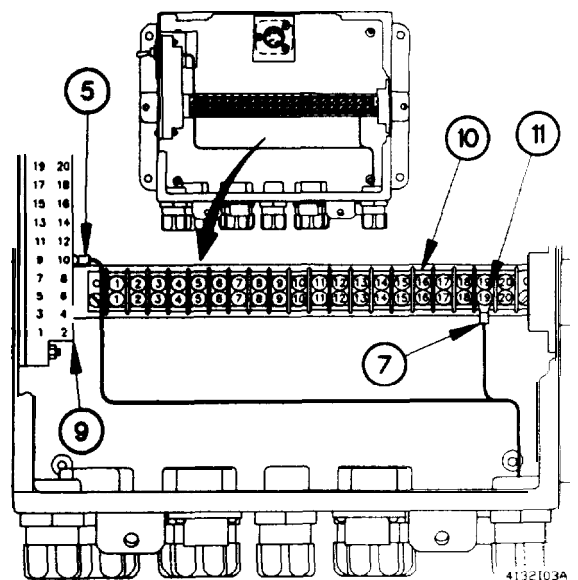
b. Installation.

- (1) Install telescope out lockout solenoid cable (1) through compression nut (2), washer (3), and connector (4).
- (2) Install compression nut (2) on connector (4).

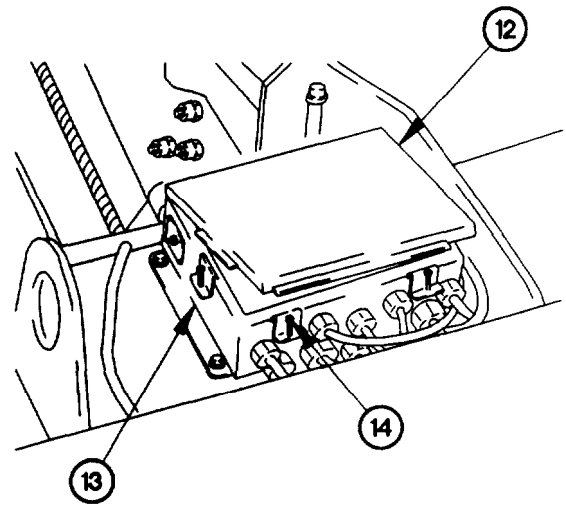


- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).

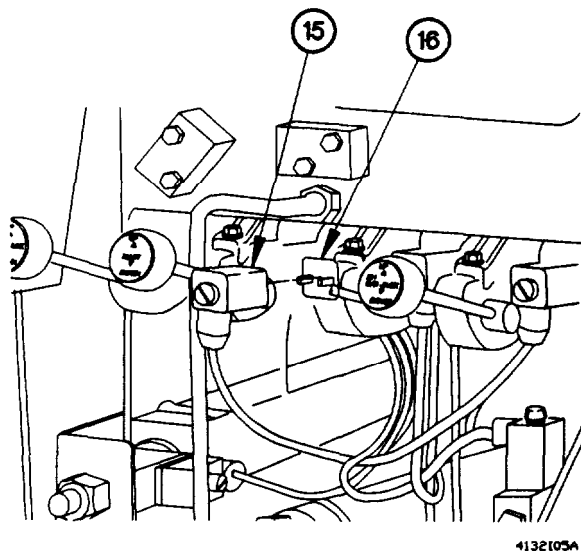
- (5) Install quick disconnect terminal (5) on ground strip (9) position 10.
- (6) Install terminal lug (7) on terminal block (10) position 19 with screw (11).
- (7) Apply varnish to quick disconnect terminal (5) and terminal lug (7).



- (8) Close cover (12) on junction box (13).
- (9) Tighten four screws (14) on junction box (13).



4132104A



4132105A

NOTE

Install plastic cable ties as required.

- (10) Connect connector (15) to telescope out lockout solenoid (16).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check telescope out lockout operation (TM 9-2320-366-10-2).

End of Task.

7-123. M1089 TELESCOPE OUT SOLENOID CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Electrical (Item 45, Appendix C)

Materials/Parts

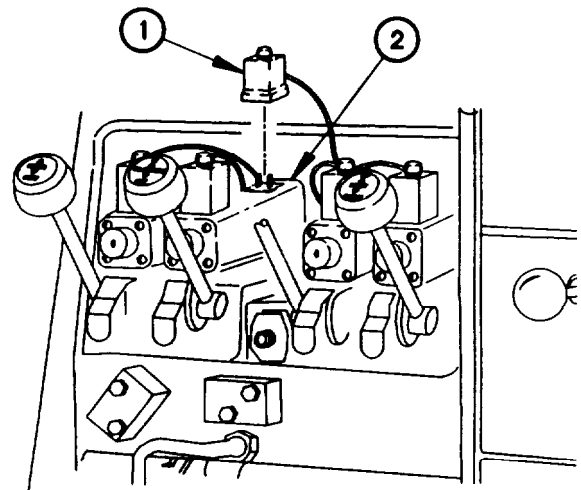
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Varnish, Oil (Item 70, Appendix D)

a. Removal.

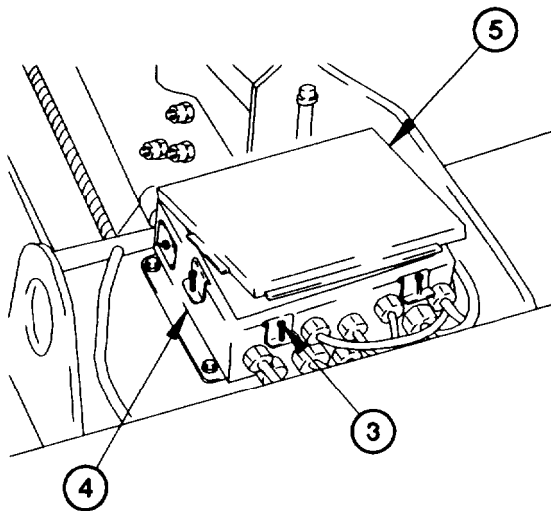
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector (1) from telescope out solenoid



4133R01A



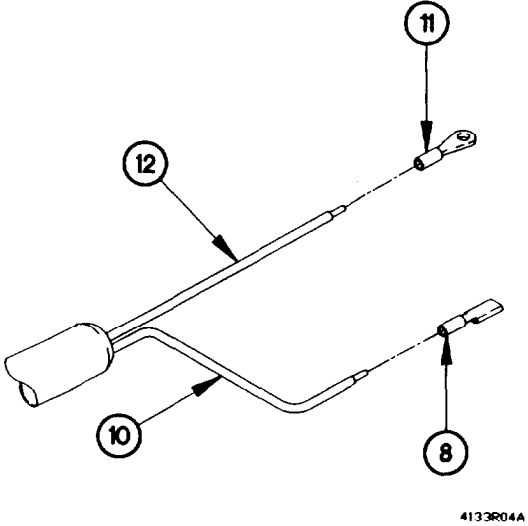
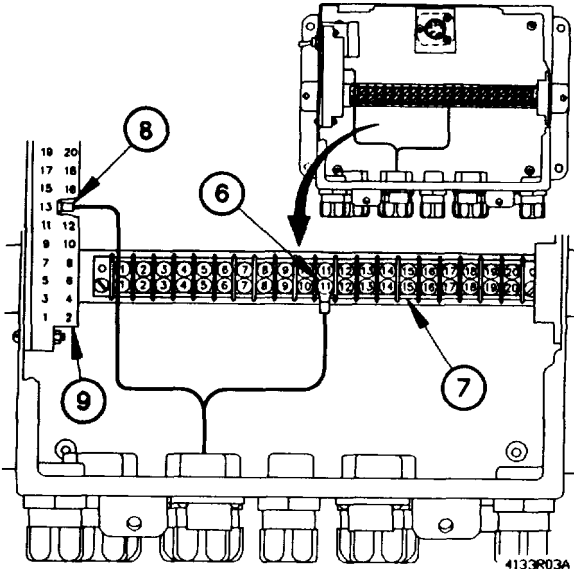
4133R02A

- (2) Loosen four screws (3) on junction box (4).
- (3) Open cover (5) on junction box (4).

NOTE

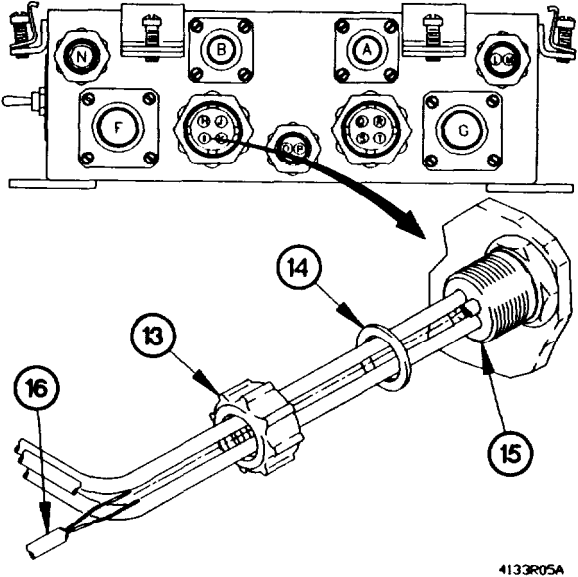
Tag wires and connection points prior to disconnecting.

- (4) Remove screw (6) from terminal block (7) position 11.
- (5) Disconnect quick disconnect terminal (8) from ground strip (9) position 13.



- (6) Remove quick disconnect terminal (8) from black wire (10).
- (7) Remove terminal lug (11) from white wire (12).

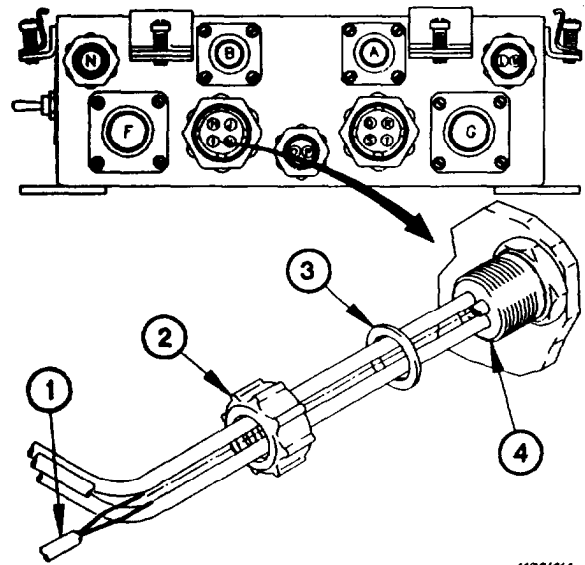
- (8) Remove compression nut (13) and washer (14) from connector (15).
- (9) Remove telescope out solenoid cable (16) from connector (15), washer (14), and compression nut (13).



7-123. M1089 TELESCOPE OUT SOLENOID CABLE REPLACEMENT (CONT)

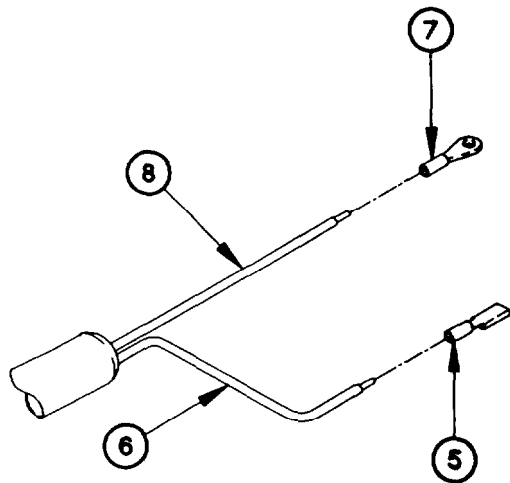
b. Installation.

- (1) Install telescope out solenoid cable (1) in compression nut (2), washer (3), and connector (4).
- (2) Install compression nut (2) on connector (4).



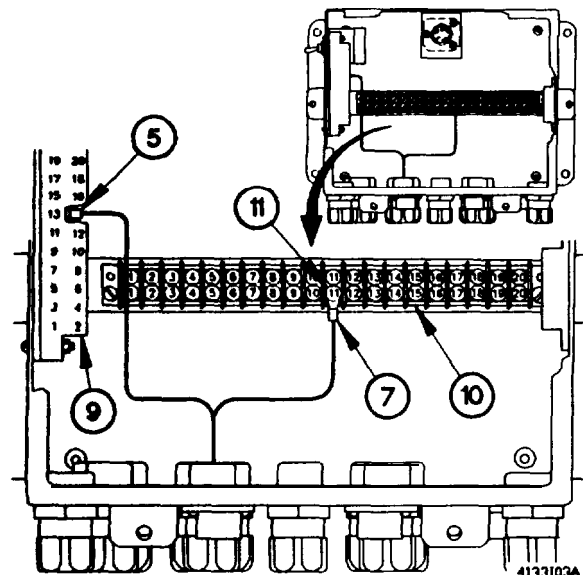
4133101A

- (3) Install quick disconnect terminal (5) on black wire (6).
- (4) Install terminal lug (7) on white wire (8).



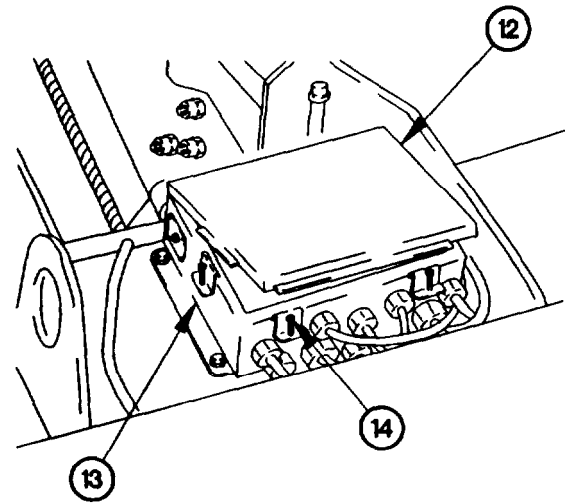
4133102A

- (5) Install quick disconnect terminal (5) on ground strip (9) position 13.
- (6) Install terminal lug (7) on terminal block (10) position 11 with screw (11).
- (7) Apply varnish to quick disconnect terminal (6) and terminal lug (7).

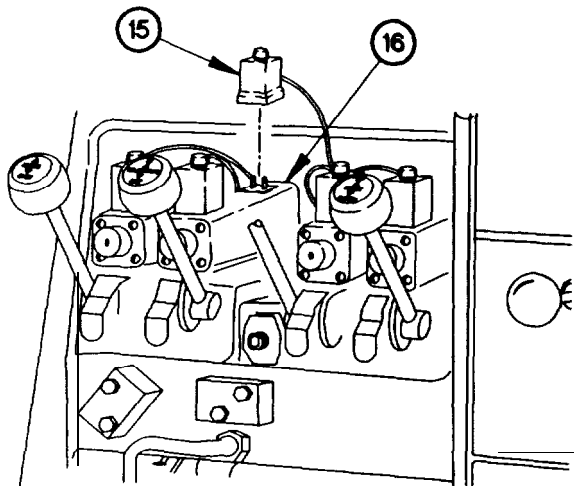


4133103A

- (8) Close cover (12) on junction box (13).
- (9) Tighten four screws (14) on junction box (13).



4133104A



4133105A

NOTE

Install plastic cable ties as required.

- (10) Connect connector (15) to telescope out solenoid (16).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate MHC and check telescope out operation (TM 9-2320-366-10-2).

End of Task.

7-124. M1090/M1094 DUMP CABLE ASSEMBLY REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Dump body raised to maintenance position (TM 9 2320-366-10-1).
Batteries disconnected (para 7-57).

Tools and Special Tools

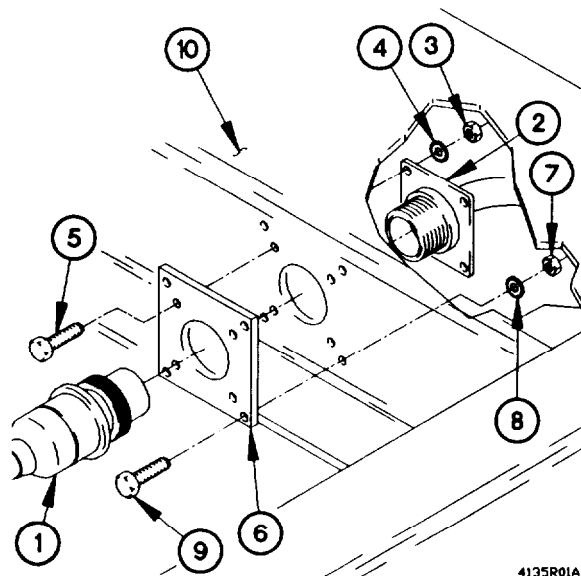
Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

Materials/Parts

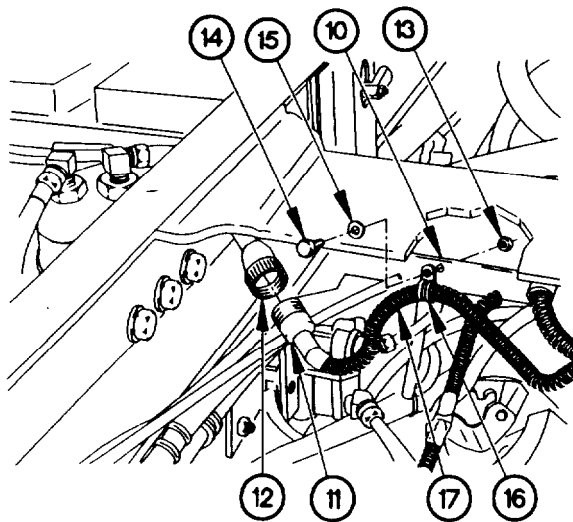
Dispenser, Pressure Adhesive Sensitive Tape (Item 20, Appendix D)
Lockwasher (8) (Item 110, Appendix G)
Nut, Self-Locking (6) (Item 165, Appendix G)

a. Removal.

- (1) Disconnect connector P172 (1) from connector J172 (2).
- (2) Remove four nuts (3), lockwashers (4), screws (5), and connector J172 (2) from connector plate (6). Discard lockwashers.
- (3) Remove four nuts (7), lockwashers (8), screws (9), and connector plate (6) from crossmember (10). Discard lockwashers.



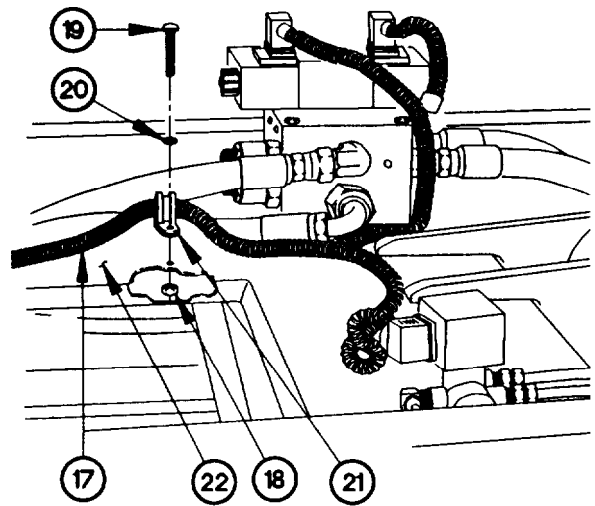
4135R01A



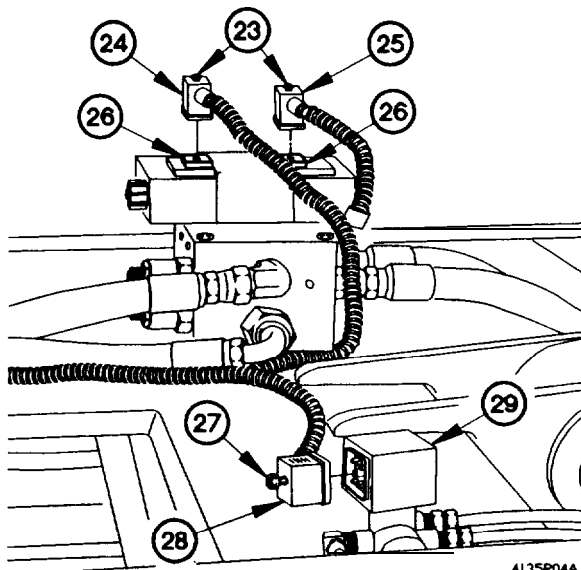
4135R02A

- (4) Disconnect connector P25 (11) from dump body switch connector (12).
- (5) Remove self-locking nut (13), screw (14), washer (15), and clamp (16) from crossmember (10). Discard self-locking nut.
- (6) Remove clamp (16) from dump cable assembly (17).

- (7) Remove five self-locking nuts (18), screws (19), washers (20), and clamps (21) from frame rail (22). Discard self-locking nuts.
- (8) Remove five clamps (21) from dump cable assembly (17).



4135R03A



4135R04A

NOTE

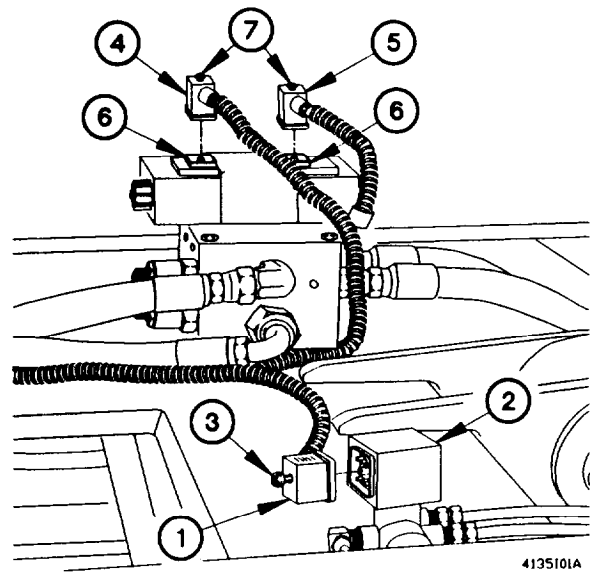
Tag wires and connection points prior to disconnecting.

- (9) Loosen two captive screws (23) in connectors L8 (24) and L9 (25).
- (10) Remove connectors L8 (24) and L9 (25) from two solenoids (26).
- (11) Loosen captive screw (27) in connector L7 (28).
- (12) Remove connector L7 (28) from solenoid (29).

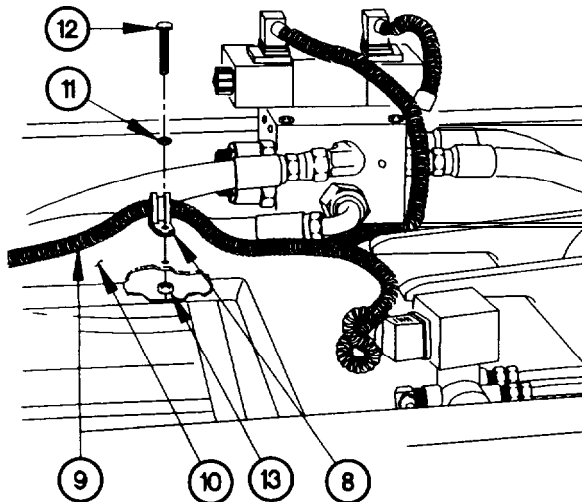
7-124. M1090/M1094 DUMP CABLE ASSEMBLY REPLACEMENT (CONT)

b. Installation.

- (1) Install connector L7 (1) on solenoid (2).
- (2) Tighten captive screw (3) in connector L7 (1).
- (3) Install connectors L8 (4) and L9 (5) on two solenoids (6).
- (4) Tighten two captive screws (7) in connectors L8 (4) and L9 (5).



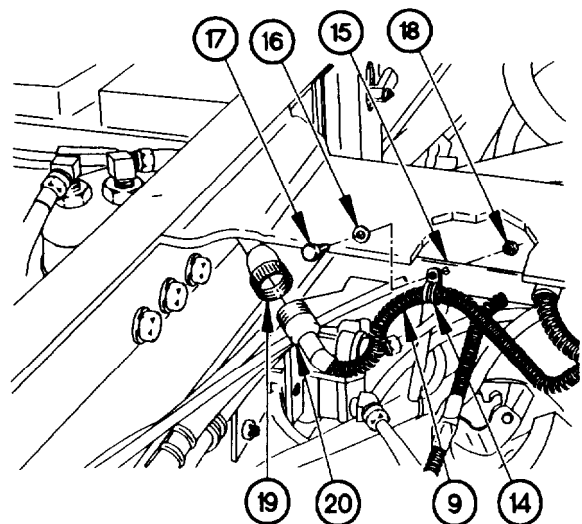
4135101A



4135102A

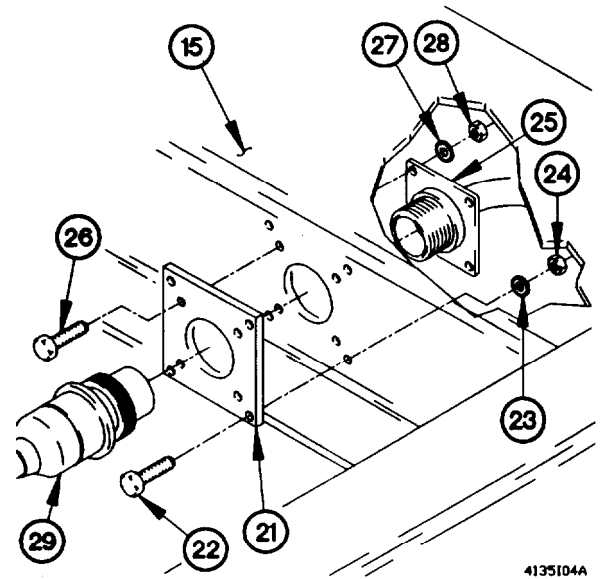
- (5) Install five clamps (8) on dump cable assembly (9).
- (6) Position five clamps (8) on frame rail (10) with five washers (11), screws (12), and self-locking nuts (13).
- (7) Tighten five self-locking nuts (13) to 96-120 lb-in. (11-14 N•m).

- (8) Install clamp (14) on dump cable assembly (9).
- (9) Position clamp (14) on crossmember (15) with washer (16), screw (17), and self-locking nut (18).
- (10) Tighten self-locking nut (18) to 96-120 lb-in. (11-14 N•m).
- (11) Connect dump body switch connector (19) to connector P25 (20).



4135103A

- (12) Install connector plate (21) on crossmember (15) with four screws (22), lockwashers (23), and nuts (24).
- (13) Install connector J172 (25) in connector plate (21) with four screws (26), lockwashers (27), and nuts (28).
- (14) Connect connector P172 (29) to connector J172 (25).



4135104A

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate dump body and check for proper operation (TM 9-2320-366-10-1).

End of Task.

7-125. M1090/M1094 DUMP POWER CABLE ASSEMBLY REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Dump body raised to maintenance position (TM 9-2320-366-10-1).
- Batteries disconnected (para 7-57).
- Kick panel removed (para 16-3).
- Lower radiator fan shroud removed (para 6-4).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)

Tools and Special Tools (Cont)

- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

- Ties, Cable, Plastic (Item 69, Appendix D)
- Nut, Self-Locking (5) (Item 128, Appendix G)
- Nut, Self-Locking (5) (Item 158, Appendix G)

Personnel Required

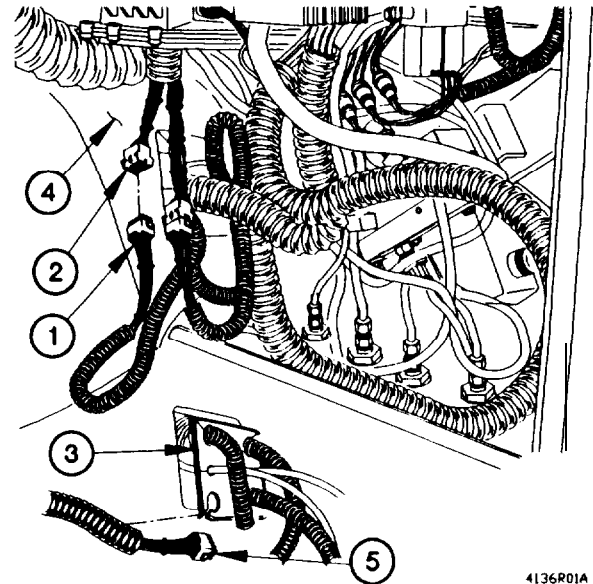
(2)

a. Removal.

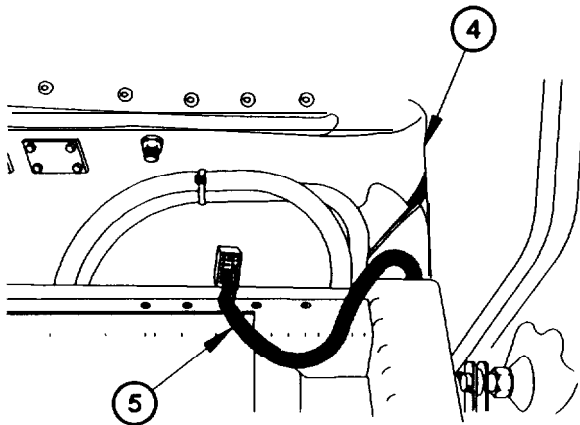
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector J108 (1) from connector P108 (2).
- (2) Remove grommet (3) from cab (4).
- (3) Remove dump power cable assembly (5) from grommet (3).



4136R01A



4136R02A

- (4) Raise cab (TM 9-2320-366-10-1).

NOTE

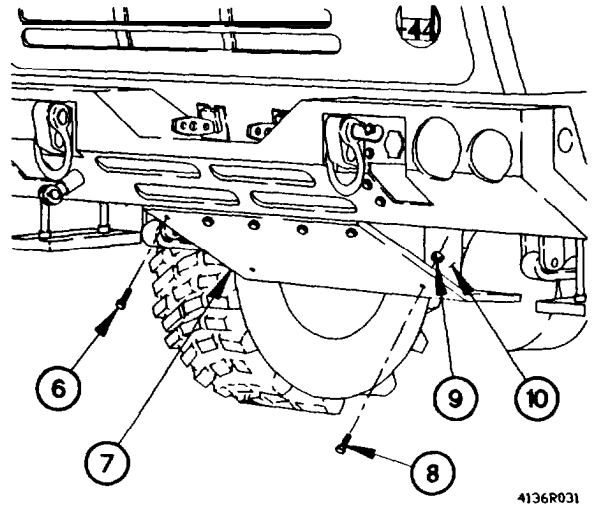
- Steps (5) through (18) require the aid of an assistant.
- Note routing of cable assembly prior to removal.

- (5) Remove dump power cable assembly (5) from cab (4).

WARNING

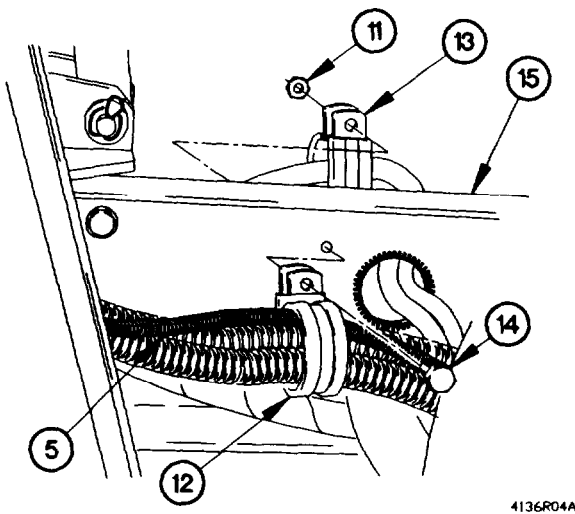
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

- (6) Remove five screws (6) from top edge of gravel deflector (7).
- (7) Remove five screws (8), self-locking nuts (9), and gravel deflector (7) from two brackets (10). Discard self-locking nuts.



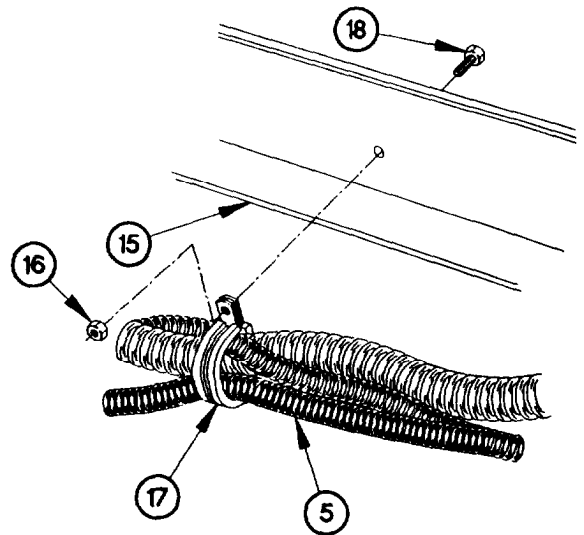
4136R031

- (8) Remove self-locking nut (11), clamps (12 and 13), screw (14), and dump power cable assembly (5) from frame rail (15). Discard self-locking nut.
- (9) Remove dump power cable assembly (5) from clamp (12).



4136R04A

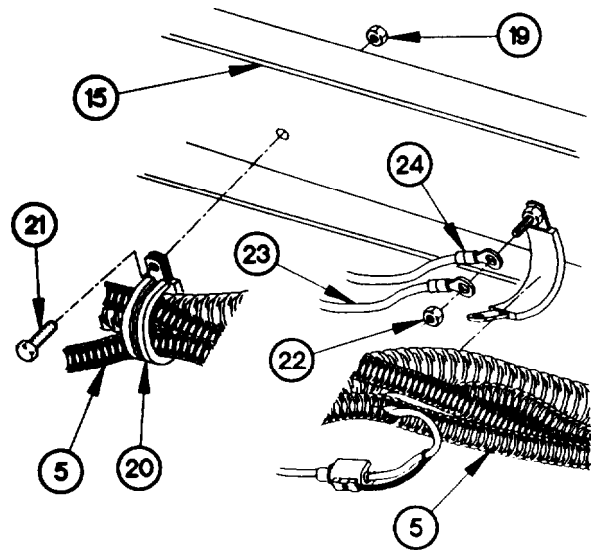
- (10) Remove self-locking nut (16), clamp (17), screw (18), and dump power cable assembly (5) from frame rail (15). Discard self-locking nut.
- (11) Remove dump power cable assembly (5) from clamp (17).



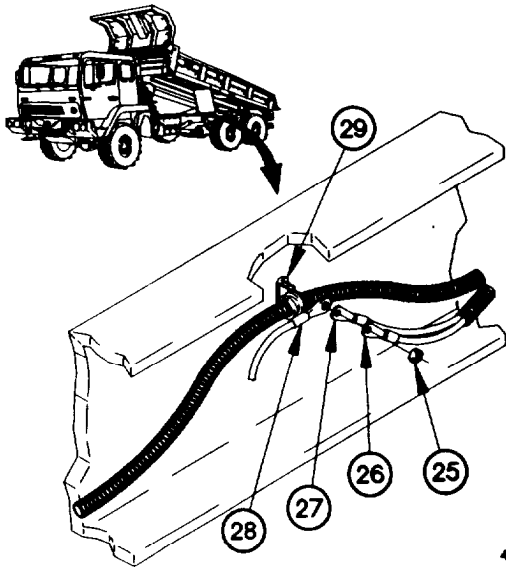
4136R05I

7-125. M1090/M1094 DUMP POWER CABLE ASSEMBLY REPLACEMENT (CONT)

- (12) Remove self-locking nut (19), clamp (20), screw (21), and dump power cable assembly (5) from frame rail (15). Discard self-locking nut.
- (13) Remove dump power cable assembly (5) from clamp (20).
- (14) Remove self-locking nut (22), terminal lugs TL83 (23) and TL111 (24), and dump power cable assembly (6) from frame rail (15). Discard self-locking nut.



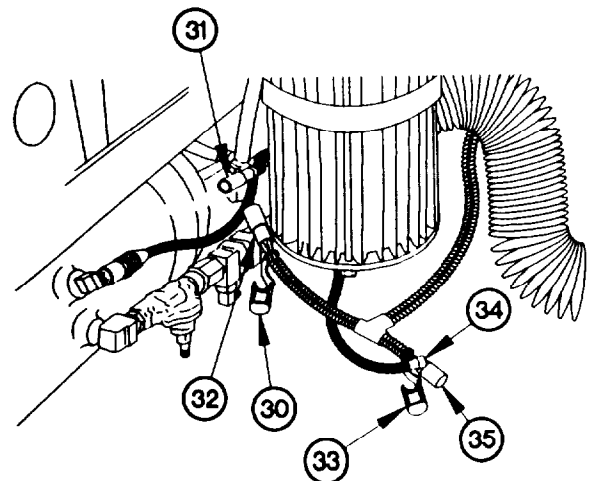
4136R06A



4136R071

- (15) Remove self-locking nut (25), terminal lugs TL77 (26), TL78 (27), and TL85 (28) from clamp (29). Discard self-locking nut.

- (16) Disconnect connector clamp (30) from connector J80A (31).
- (17) Disconnect connector P80 (32) from connector J80A (31).
- (18) Disconnect connector clamp (33) from connector P80B (34).
- (19) Disconnect connector P80B (34) from air dryer connector (35).

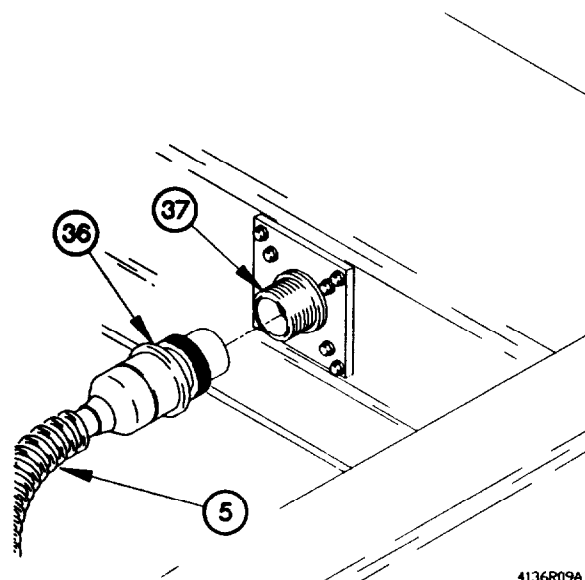


4136R08A

(20) Disconnect connector P172 (36) from connector J172 (37).

(21) Remove dump power cable assembly (5) from vehicle.

b. Installation.



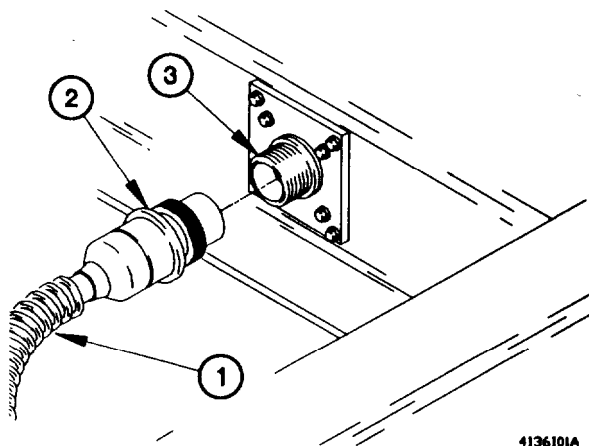
4136R09A

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

(1) Position dump power cable assembly (1) on vehicle.

(2) Connect connector P172 (2) to connector J172 (3).



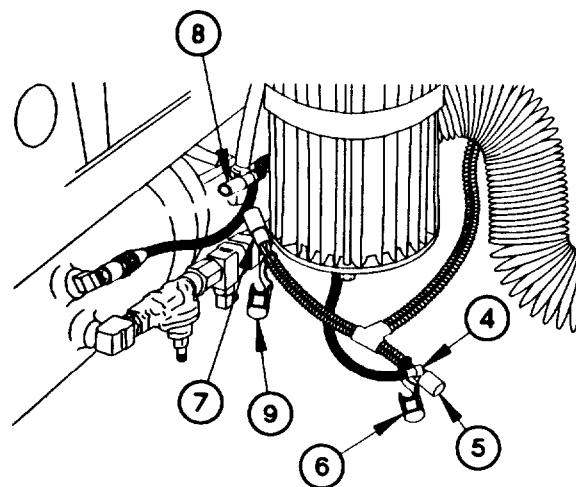
4136101A

(3) Connect connector P80B (4) to air dryer connector (5).

(4) Connect connector clamp (6) on connector P80B (4).

(5) Connect connector P80 (7) to J80A (8).

(6) Connect connector clamp (9) on connector J80A (8).



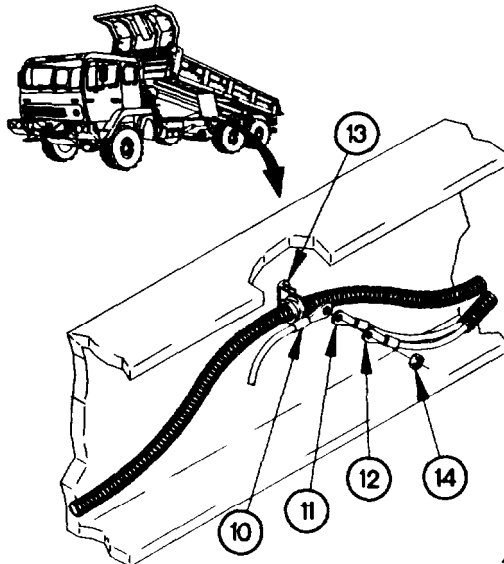
4136102A

7-125. M1090/M1094 DUMP POWER CABLE ASSEMBLY REPLACEMENT (CONT)

NOTE

- Install plastic cable ties as required.
- Steps (7) through (16) require the aid of an assistant.

(7) Install terminal lugs TL85 (10), TL78 (11), and TL77 (12) on clamp (13) with self-locking nut (14).

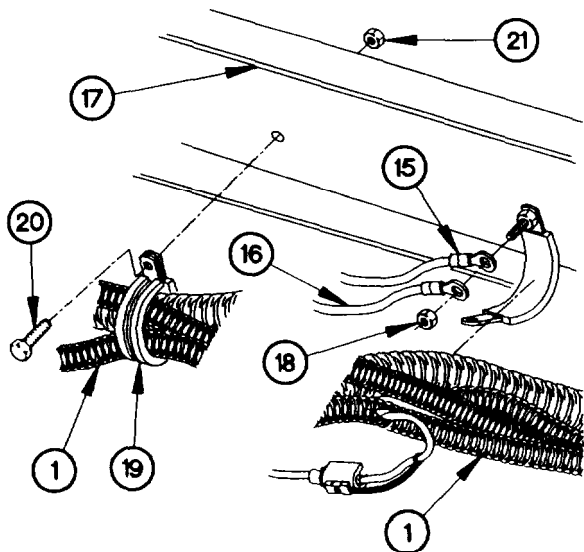


41361031

(8) Install dump power cable assembly (1) and terminal lugs TL111 (15) and TL83 (16) on frame rail (17) with self-locking nut (18).

(9) Install dump power cable assembly (1) in clamp (19).

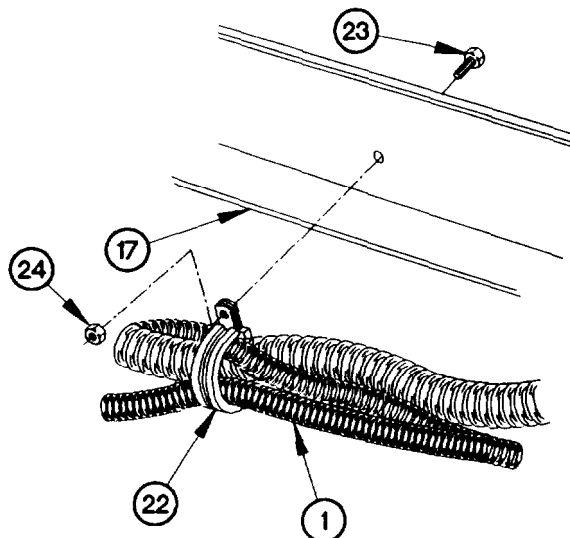
(10) Install dump power cable assembly (1) and clamp (19) on frame rail (17) with screw (20) and self-locking nut (21).



4136104A

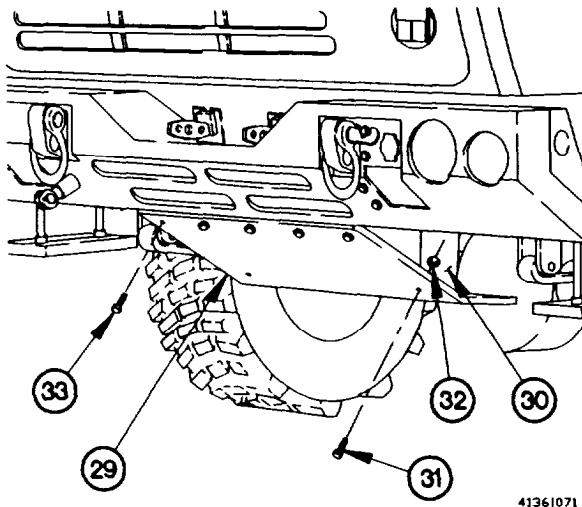
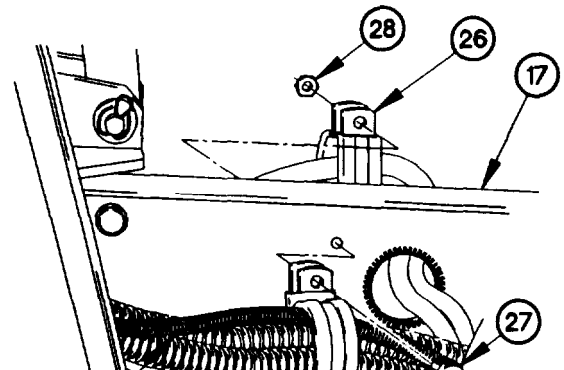
(11) Install dump power cable assembly (1) in clamp (22).

(12) Install dump power cable assembly (1) and clamp (22) on frame rail (17) with screw (23) and self-locking nut (24).



4136105A

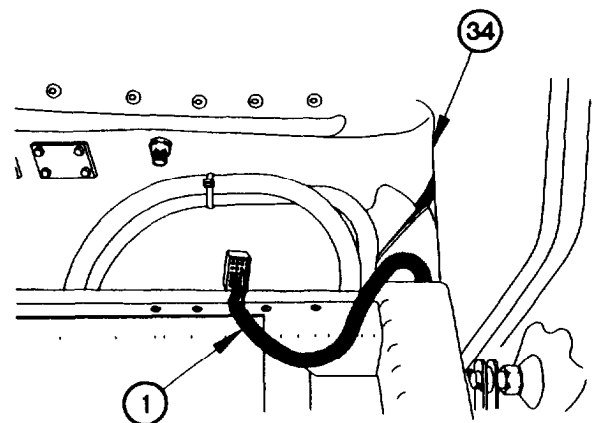
- (13) Install dump power cable assembly (1) in clamp (25).
- (14) Install dump power cable assembly (1) and clamps (25 and 26) on frame rail (17) with screw (27) and self-locking nut (28).



41361071

- (15) Position gravel deflector (29) on two brackets (30) with five screws (31) and self-locking nuts (32).
- (16) Tighten five self-locking nuts (32) to 76-94 lb-ft (103-127 N•m).
- (17) Position five screws (33) in top edge of gravel deflector (29).
- (18) Tighten five screws (33) to 43-52 lb-ft (58-71 N•m).

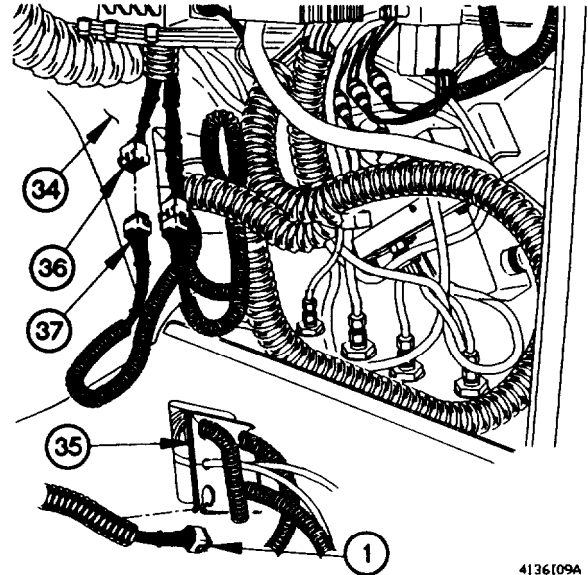
- (19) Install dump power cable assembly (1) in cab (34).
- (20) Lower cab (TM 9-2320-366-10-1).



4136108A

7-125. M1090/M1094 DUMP POWER CABLE ASSEMBLY REPLACEMENT (CONT)

- (21) Install dump power cable assembly (1) in grommet (35).
- (22) Install grommet (35) in cab (34).
- (23) Connect connector P108 (36) to connector J108 (37).



4136109A

c. Follow-On Maintenance.

- (1) Install lower radiator fan shroud (para 6-4).
- (2) Install kick panel (para 16-3).
- (3) Connect batteries (para 7-57).
- (4) Start engine (TM 9-2320-366-10-1).
- (5) Lower dump body (TM 9-2320-366-10-1).
- (6) Check dump body operation (TM 9-2320-366-10-1).
- (7) Shut down engine (TM 9-2320-366-10-1).

End of Task.

7-126. POWER DISTRIBUTION PANEL (PDP) TO CAB GROUND CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Batteries disconnected (para 7-57).
 PDP cover removed (para 16-2).

Materials/Parts

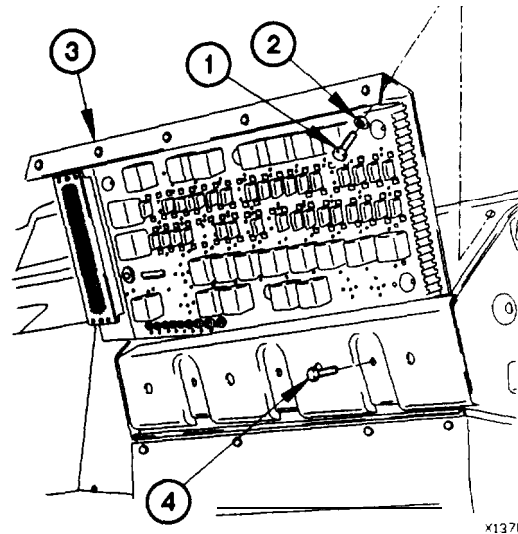
Ties, Cable, Plastic (Item 69, Appendix D)
 Lockwasher (Item 83, Appendix G)
 Lockwasher (Item 84, Appendix G)

Tools and Special Toots

Tool Kit, Genl Mech (Item 46, Appendix C)

a. Removal

- (1) Remove three screws (1) and washers (2) from PDP (3).
- (2) Remove three screws (4) from PDP (3).
- (3) Lift PDP (3) outward to gain access.

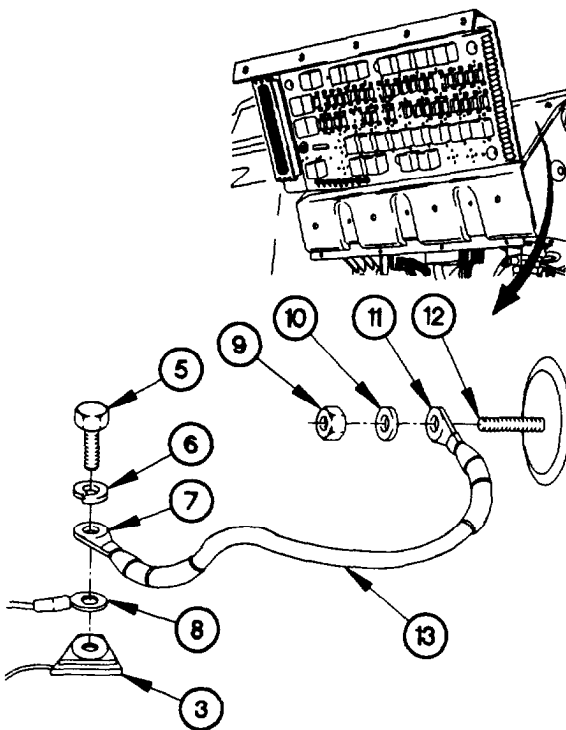


X137R01A

NOTE

Remove plastic cable ties as required.

- (4) Remove screw (5), lockwasher (6), terminal lug TL56 (7), and wire 1623 (8) from PDP (3). Discard lockwasher.
- (5) Remove nut (9), lockwasher (10), and terminal lug TL57 (11) from grounding stud (12). Discard lockwasher.
- (6) Remove PDP to cab ground cable (13) from vehicle.



X137R02A

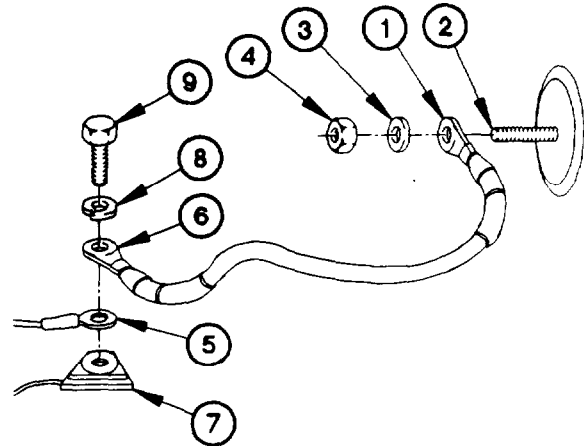
7-126. POWER DISTRIBUTION PANEL (PDP) TO CAB GROUND CABLE REPLACEMENT (CONT)

b. Installation.

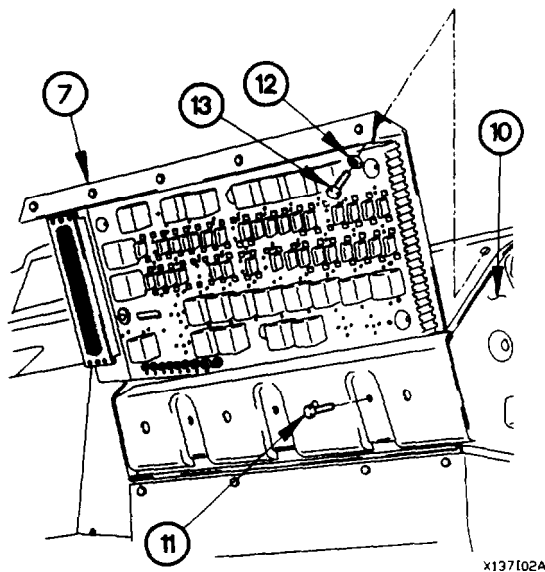
NOTE

Install plastic cable ties as required.

- (1) Install terminal lug TL57 (1) on grounding stud (2) with lockwasher (3) and nut (4).
- (2) Install wire 1623 (5) and terminal lug TL56 (6) on PDP (7) with lockwasher (8) and screw (9).



X137101A



X137102A

- (3) Install PDP (7) on dashboard (10) with three screws (11).
- (4) Install three washers (12) and screws (13) in PDP (7).

c. Follow-On Maintenance.

- (1) Install PDP cover (para 16-2).
- (2) Connect batteries (para 7-57).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Check VOLTS gage for charge indication (TM 9-2320-366-10-1).
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.

7-127. POWER TAKE-OFF (PTO) CABLE ASSEMBLY REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP**Equipment Conditions**

Batteries disconnected (para 7-57).
Kick panel removed (para 16-3).

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
Socket Set, Socket Wrench (Item 36, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Nut, Self-Locking (5) (Item 153, Appendix G)

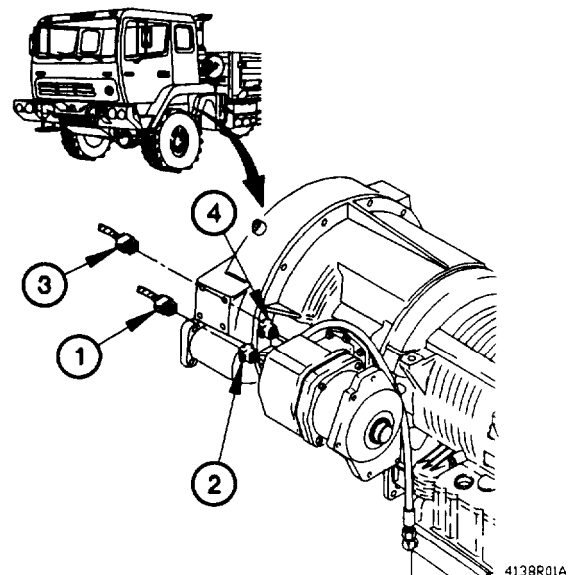
WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.**NOTE**

- Tag connectors and connection points prior to disconnecting.
- Remove plastic cable ties as required.

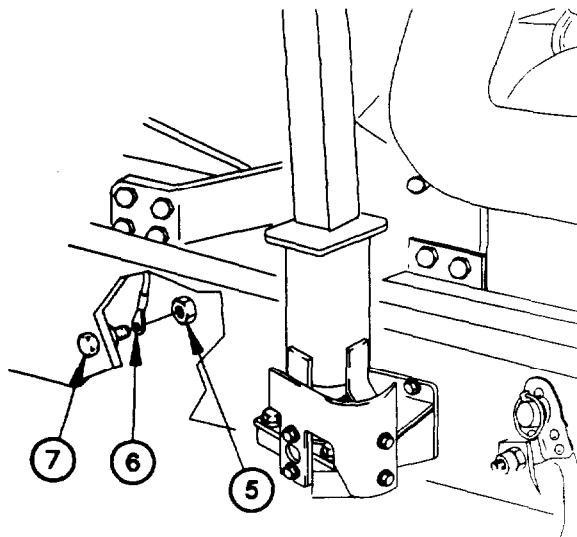
- (1) Disconnect connector P217 (1) from PTO solenoid connector (2).
- (2) Disconnect connector P216 (3) from PTO pressure switch connector (4).



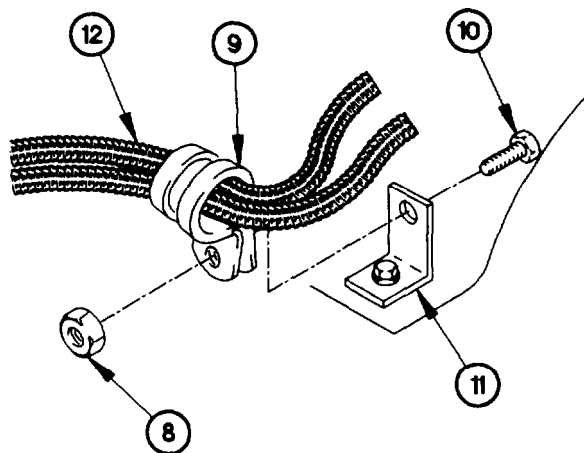
4138R01A

7-127. POWER TAKE-OFF (PTO) CABLE ASSEMBLY REPLACEMENT (CONT)

- (3) Remove self-locking nut (5) and terminal lug TL76 (6) from screw (7). Discard self-locking nut.



4138P02A



4138R03A

- (4) Remove self-locking nut (8), clamp (9), and screw (10) from bracket (11). Discard self-locking nut.

- (5) Remove PTO cable assembly (12) from clamp (9).

- (6) Disconnect connector clamp (13) from connector P209A (14).

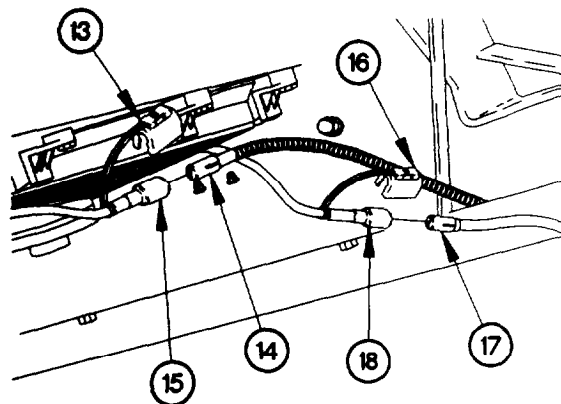
- (7) Disconnect connector J209A (15) from connector P209A (14).

NOTE

Perform steps (8) and (9) on M1088 and M1089.

- (8) Disconnect connector clamp (16) from connector P209B (17).

- (9) Disconnect connector J209B (18) from connector P209B (17).



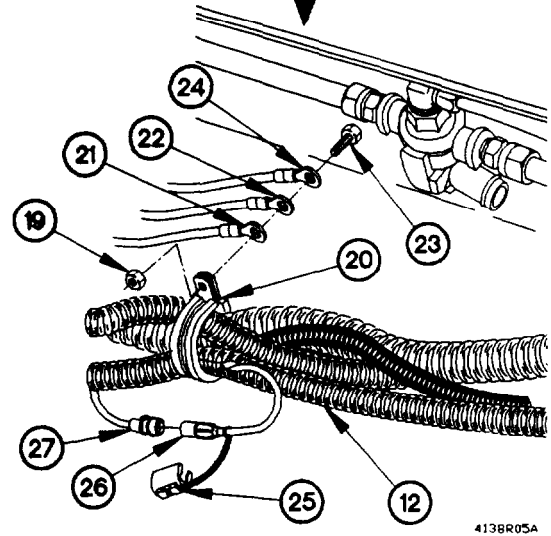
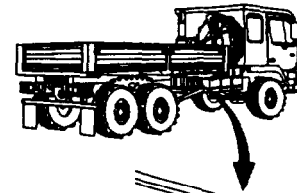
4138R04A

- (10) Remove self-locking nut (19), clamp (20), and terminal lugs TL83 (21), and TL111 (22) from screw (23). Discard self-locking nut.

NOTE

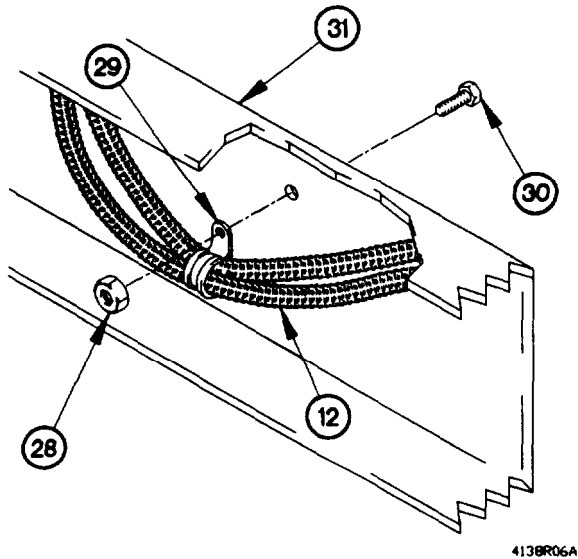
Perform steps (11) through (13) on vehicles equipped with self-recovery winch.

- (11) Remove terminal lug TL320 (24) from screw (23).
- (12) Disconnect connector clamp (25) from connector P215 (26).
- (13) Disconnect connector P215 (28) from connector J215 (27)
- (14) Remove PTO cable assembly (12) from clamp (20).



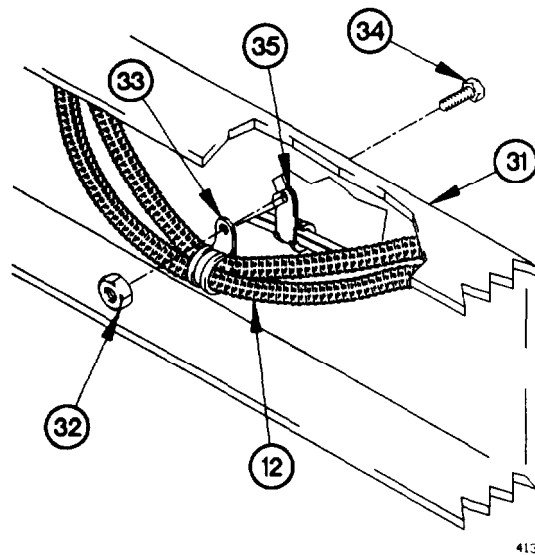
- (15) Remove self-locking nut (28), clamp (29), and screw (30) from frame rail (31). Discard self-locking nut.

- (16) Remove PTO cable assembly (12) from clamp (29).



- (17) Remove self-locking nut (32), clamp (33), screw (34), and clamp (35) from frame rail (31). Discard self-locking nut.

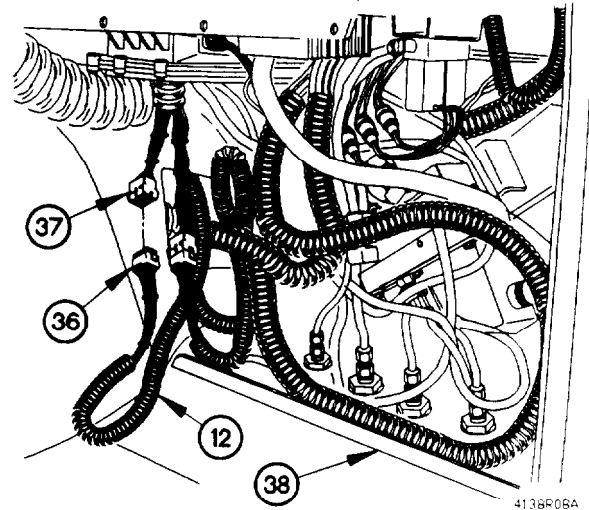
- (18) Remove PTO cable assembly (12) from clamp (33).



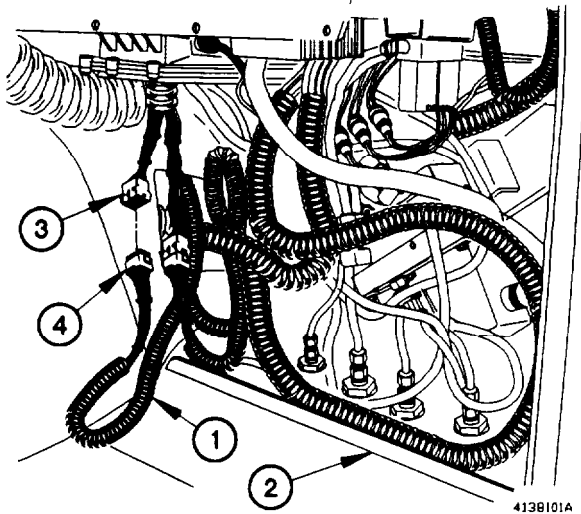
7-127. POWER TAKE-OFF (PTO) CABLE ASSEMBLY REPLACEMENT (CONT)

(19) Disconnect connector P210 (36) from connector J210 (37).

(20) Remove PTO cable assembly (12) from cab (38).



b. Installation.



NOTE

Install plastic cable ties as required.

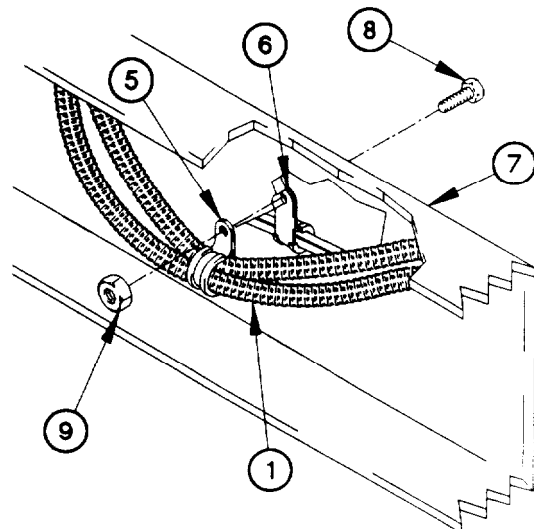
(1) Position PTO cable assembly (1) in cab (2).

(2) Connect connector J210 (3) to connector P210 (4).

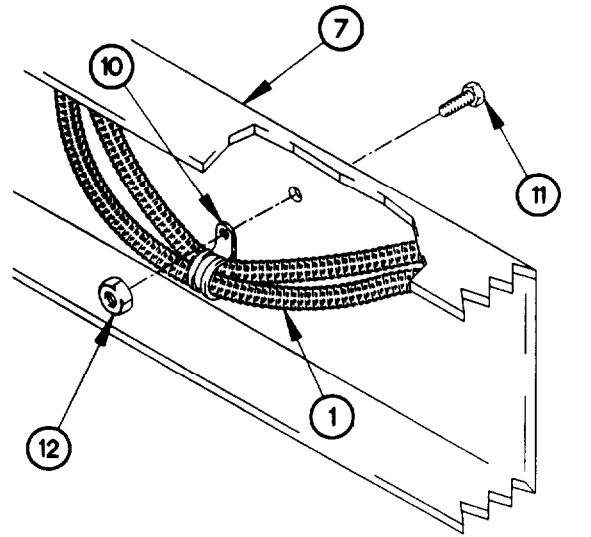
(3) Position PTO cable assembly (1) in clamp (5).

(4) Position clamp (5) and clamp (6) on frame rail (7) with screw (8) and self-locking nut (9).

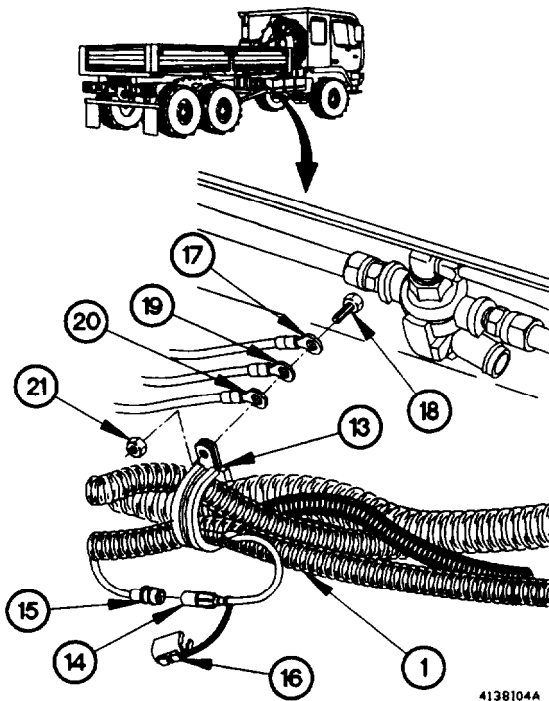
(5) Tighten self-locking nut (9) to 84-108 lb-in. (10-12 N•m).



- (6) Position PTO cable assembly (1) in clamp (10).
- (7) Position clamp (10) on frame rail (7) with screw (11) and self-locking nut (12).
- (8) Tighten self-locking nut (12) to 84-108 lb-in. (10-12 N•m).



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- (9) Position PTO cable assembly (1) in clamp (13).

NOTE

Perform steps (10) through (12) on vehicles equipped with self-recovery winch.

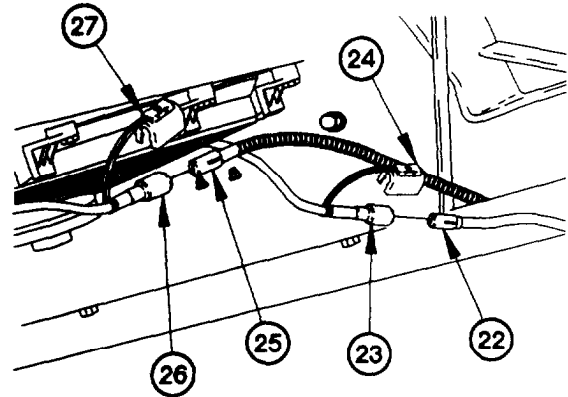
- (10) Connect connector J215 (14) to connector P215 (15).
- (11) Connect connector clamp (16) on connector P215 (15).
- (12) Position terminal lug TL320 (17) on screw (18).
- (13) Position terminal lugs TL111 (19) and TL83 (20), and clamp (13) on screw (18) with self-locking nut (21).
- (14) Tighten self-locking nut (21) to 97-120 lb-in. (11-14 N•m).

7-127. POWER TAKE-OFF (PTO) CABLE ASSEMBLY REPLACEMENT (CONT)

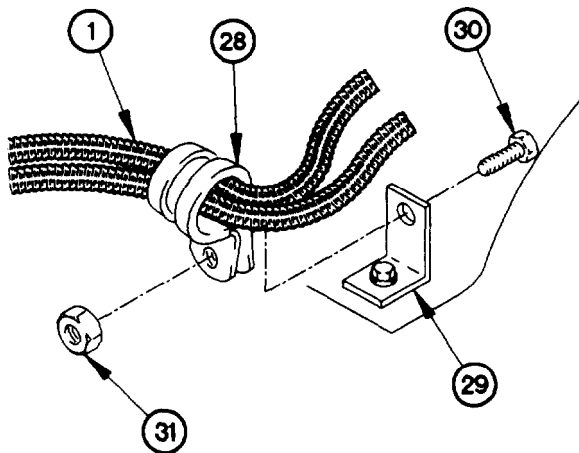
NOTE

Perform steps (15) and (18) on M1088 and M1089.

- (15) Connect connector P209B (22) to connector J209B (23).
- (16) Connect connector clamp (24) on connector P209B (23).
- (17) Connect connector P209A (25) to connector J209A (26).
- (18) Connect connector clamp (27) on connector P209A (25).

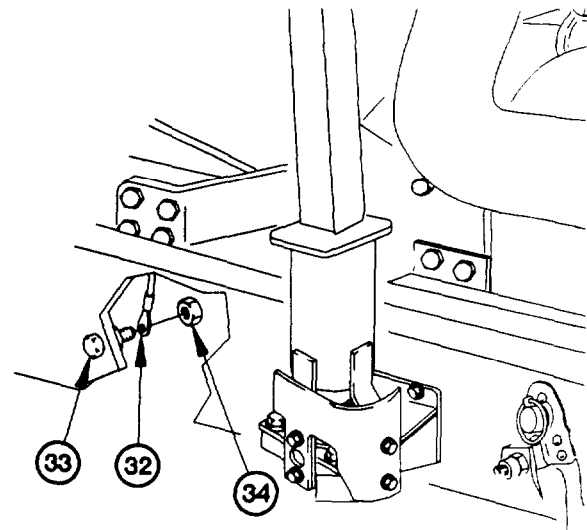


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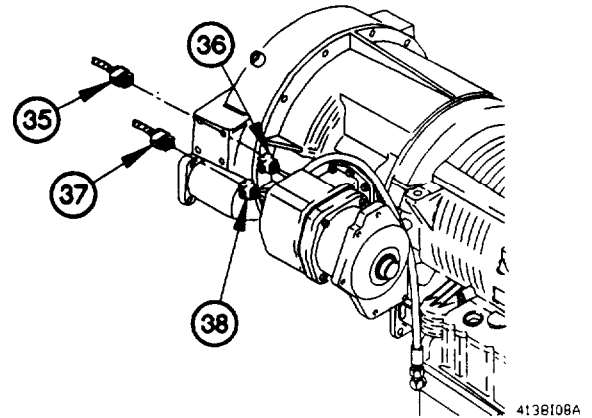
- (19) Position PTO cable assembly (1) in clamp (28).
- (20) Position clamp (28) on bracket (29) with screw (30) and self-locking nut (31).
- (21) Tighten self-locking nut (31) to 84-108 lb-in. (10-12 N•m).



4139107A

- (22) Position terminal lug TL76 (32) on screw (33) with self-locking nut (34).
- (23) Tighten self-locking nut (34) to 84-108 lb-in. (10-12 N•m).

- (24) Connect connector P216 (35) to PTO pressure switch connector (38).
- (25) Connect connector P217 (37) to PTO solenoid connector (38).



c. Follow-On Maintenance.

- (1) Install kick panel (para 16-3).
- (2) Connect batteries (para 7-57).
- (3) Operate PTO and check for proper operation (TM 9-2320-366-10-1).
- (4) Operate 15K SRW and check for proper operation, if equipped (TM 9-2320-366-10-2).
- (5) Check operation of transmission auxiliary oil cooler fan(s) (TM 9-2320-366-10-1).

End of Task.

7-128. REAR INTERVEHICULAR 12 VDC (7 Pin) CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

Ties, Cable, Plastic (Item 69, Appendix D)
Nut, Self-Locking (2) (Item 128, Appendix G)

WARNING

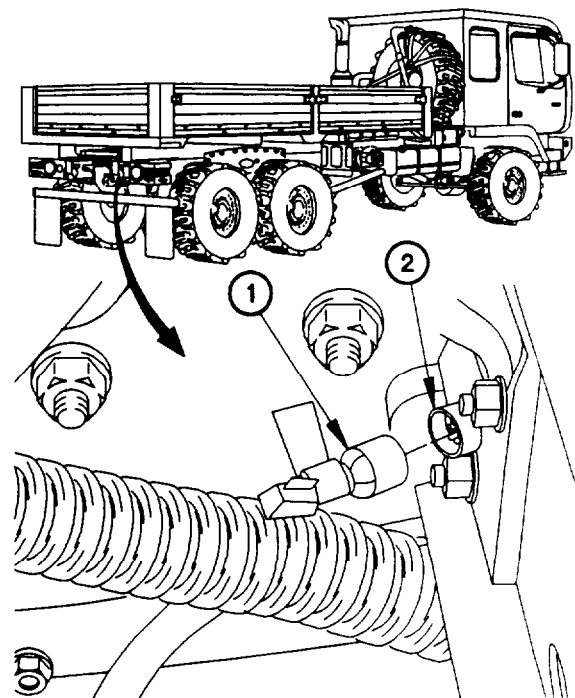
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

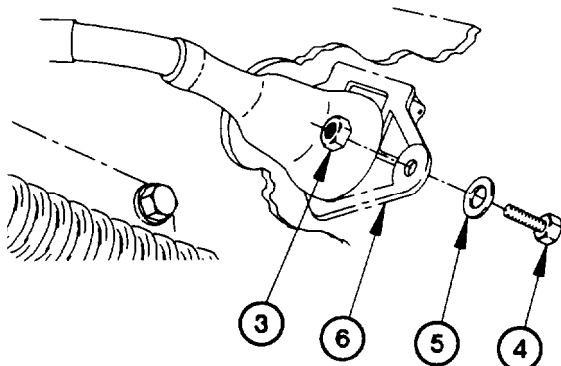
NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector J52 (1) from connector P52R (2).



x139P01A

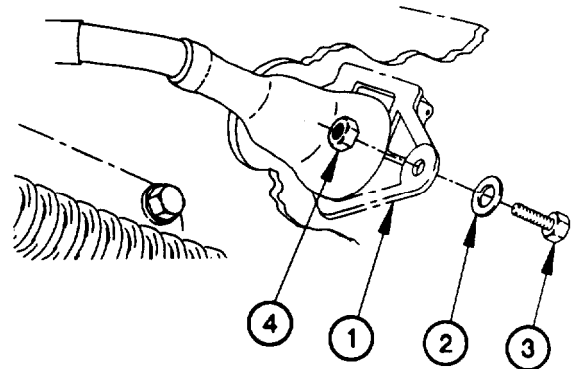


x139R02-

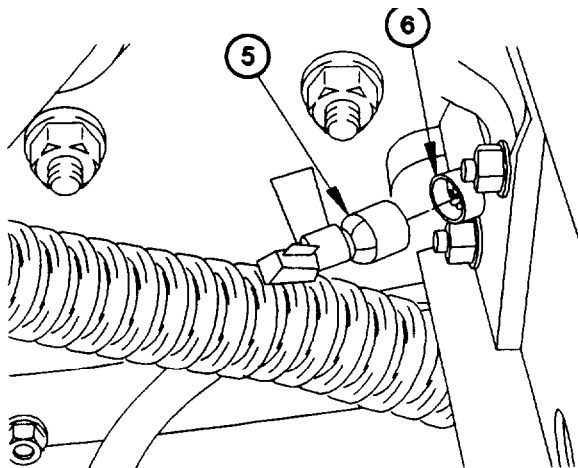
- (2) Remove two self-locking nuts (3), screws (4), washers (5), and rear intervehicular 12 vdc cable (6) from vehicle. Discard self-locking nuts.

b. Installation.

- (1) Install rear intervehicular 12 vdc cable (1) on vehicle with two washers (2), screws (3), and self-locking nuts (4).



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NOTE

Install plastic cable ties as required.

- (2) Connect connector J52 (5) to connector P52R (6).

c. Follow-On Maintenance.

Connect batteries (para 7-57).

End of Task.

7-129. REAR INTERVEHICULAR 24 VDC (12 Pin) CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

Ties, Cable, Plastic (Item 69, Appendix D)
Nut, Self-Locking (4) (Item 128, Appendix G).

WARNING

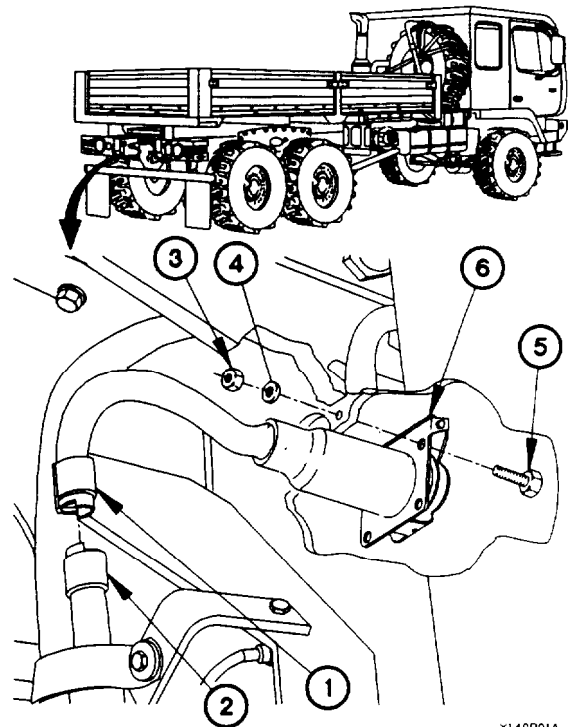
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector J53 (1) from connector P53 (2).
- (2) Remove four self-locking nuts (3), washers (4), screws (5), and rear intervehicular 24 vdc cable (6) from vehicle. Discard self-locking nuts.



X140R01A

b. Installation.

- (1) Install rear intervehicular 24 vdc cable (6) on vehicle with four screws (5), washers (4), and self-locking nuts (3).

NOTE

Install plastic cable ties as required.

- (2) Connect connector J53 (1) to connector P53 (2).

c. Follow-On Maintenance.

Connect batteries (para 7-57).

End of Task.

**7-130. 100 AMP REVERSE POLARITY RELAY TO POWER DISTRIBUTION (PDP) PANEL
12 VDC CABLE REPLACEMENT**

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Batteries disconnected (para 7-57).
- PDP cover removed (para 16-2).
- Spare tire lowered (TM 9-2320-366-10-2).
- Lower radiator fan shroud removed (para 6-4).

Materials/Parts

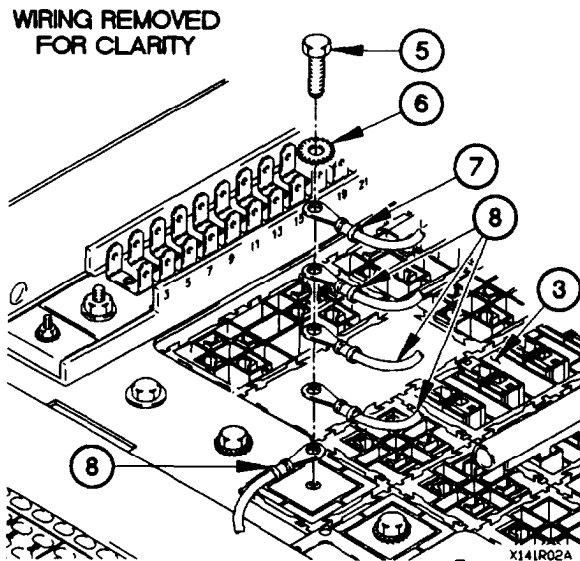
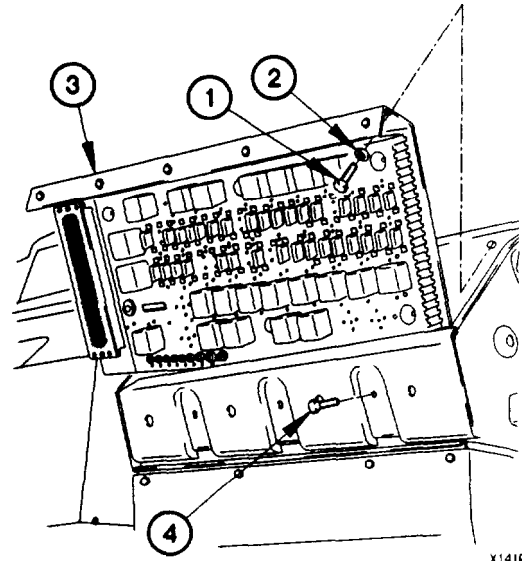
- Ties, Cable, Plastic (Item 69, Appendix D)
- Nut, Self-Locking (2) (Item 153, Appendix G)
- Lockwasher (Item 96, Appendix G)
- Lockwasher (Item 84, Appendix G)

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Socket Set, Socket Wrench (Item 34, Appendix C)

a. Removal.

- (1) Remove three screws (1) and washers (2) from PDP (3).
- (2) Remove three screws (4) from PDP (3).
- (3) Lift PDP (3) outward to gain access.



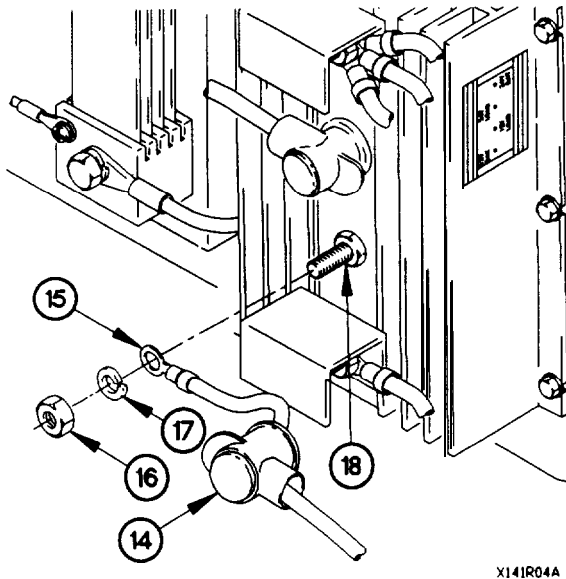
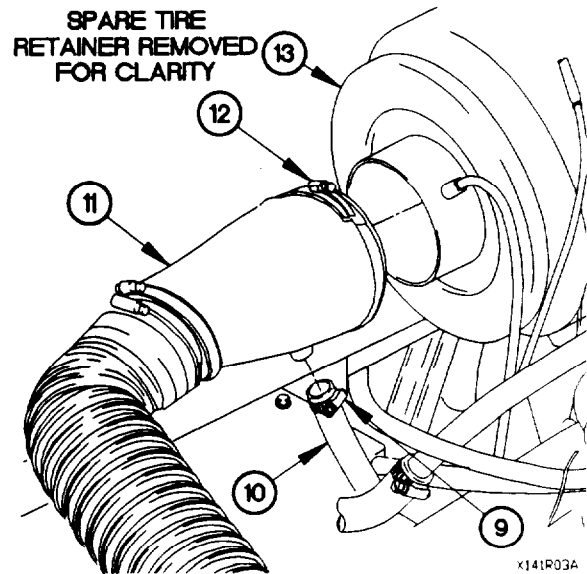
NOTE

Remove plastic cable ties as required.

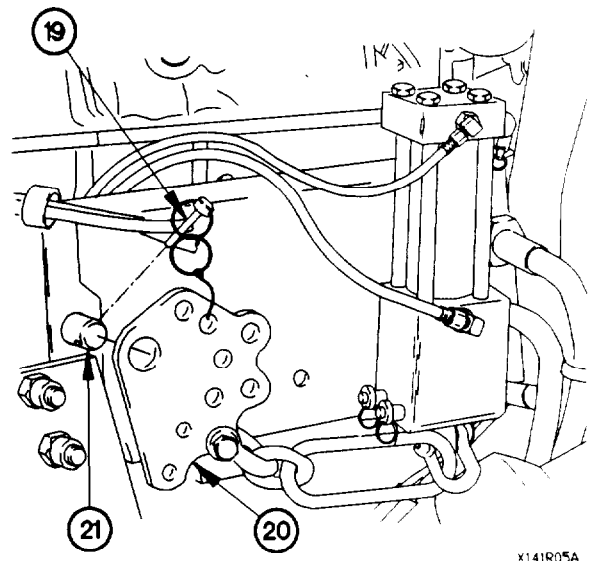
- (4) Remove screw (5), lockwasher (6), terminal lug TL41 (7), and four terminal lugs (8) from PDP (3). Discard lockwasher.
- (5) Position four terminal lugs (8) on PDP (3) with screw 15).

**7-130. 100 AMP REVERSE POLARITY RELAY TO POWER DISTRIBUTION (PDP) PANEL
12 VDC CABLE REPLACEMENT (CONT)**

- (6) Loosen clamp (9) on air compressor intake hose (10).
- (7) Remove air compressor intake hose (10) from intake air cleaner boot (11).
- (8) Loosen clamp (12) on intake air cleaner boot (11).
- (9) Remove intake air cleaner boot (11) from intake air cleaner housing (13).

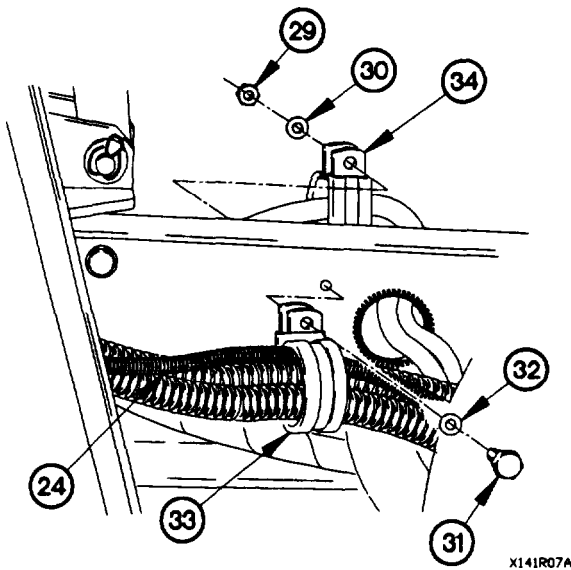
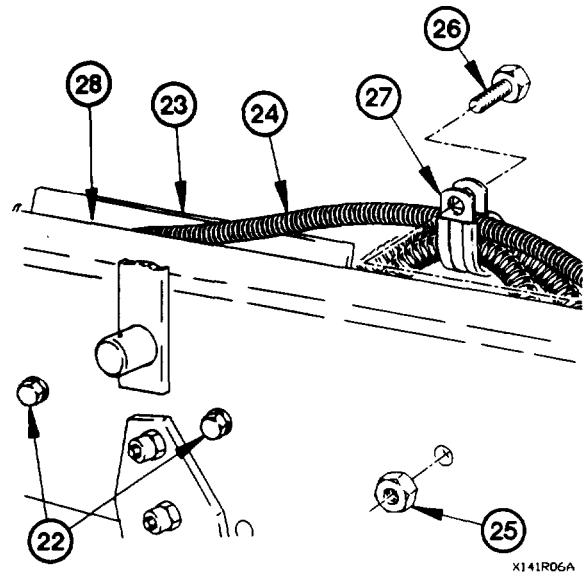


- (10) Raise dust boot (14) on terminal lug TL80 (15).
- (11) Remove nut (16), lockwasher (17), and terminal lug TL80 (15) from 100 amp reverse polarity relay 12 vdc terminal (18). Discard lockwasher.



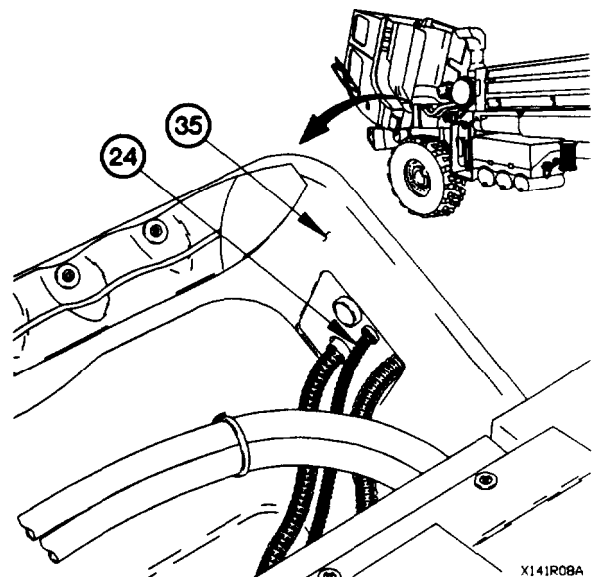
- (12) Remove spring pin (19) and suspension compression plate (20) from suspension compression plate stud (21).

- (13) Loosen two screws (22) in heat shield assembly (23).
- (14) Remove 100 amp reverse polarity relay to PDP 12 vdc cable (24) from heat shield assembly (23).
- (15) Remove self-locking nut (25), screw (26), clamp (27), and 100 amp reverse polarity relay to PDP 12 vdc cable (24) from frame rail (28). Discard self-locking nut.
- (16) Remove 100 amp reverse polarity relay to PDP 12 vdc cable (24) from clamp (27).



- (17) Raise cab (TM 9-2320-368-10-1).
- (18) Remove self-locking nut (29), washer (30), screw (31), and washer (32) from clamps (33 and 34).
- (19) Remove 100 amp reverse polarity relay to PDP 12 vdc cable (24) from clamp (33).

- (20) Remove 100 amp reverse polarity relay to PDP 12 vdc cable (24) from cab (35).



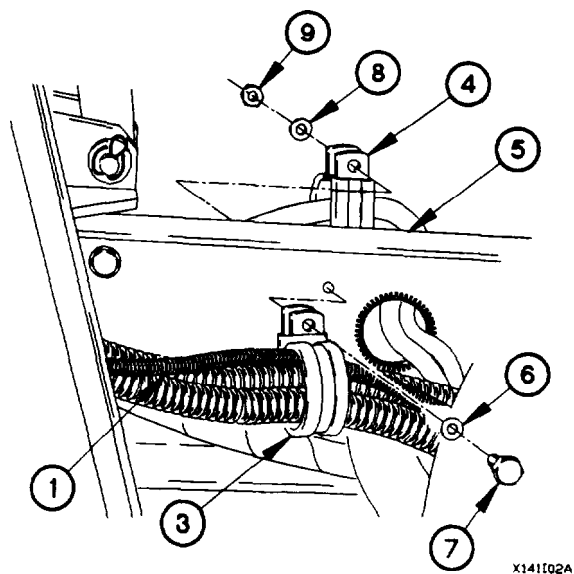
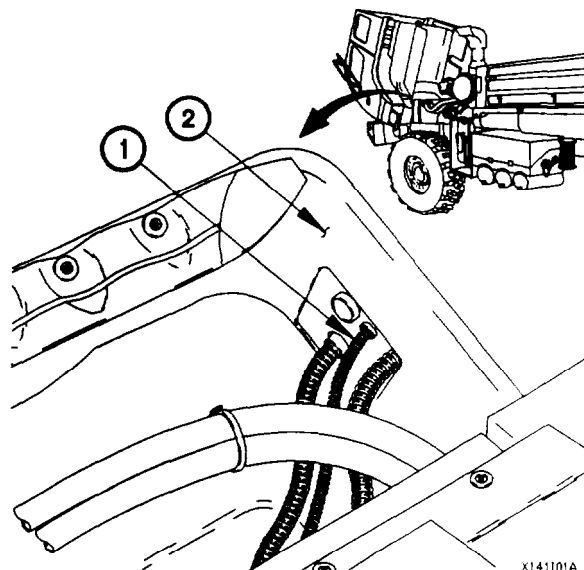
**7-130. 100 AMP REVERSE POLARITY RELAY TO POWER DISTRIBUTION (PDP) PANEL
12 VDC CABLE REPLACEMENT (CONT)**

b. Installation.

NOTE

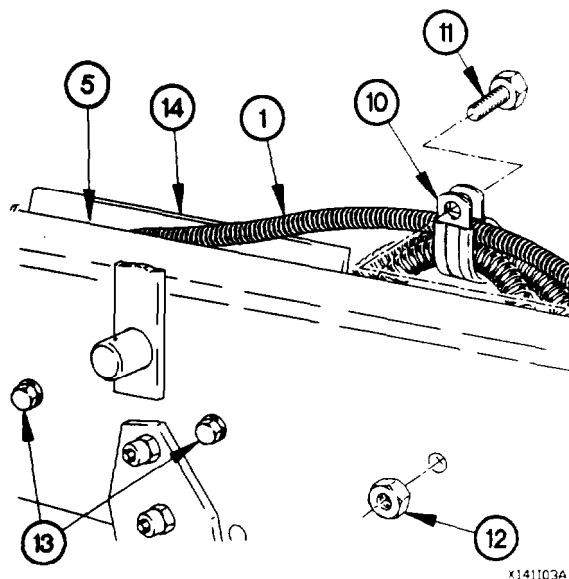
Install plastic cable ties as required.

- (1) Route 100 amp reverse polarity relay to PDP 12 vdc cable (1) through bottom of cab (2).

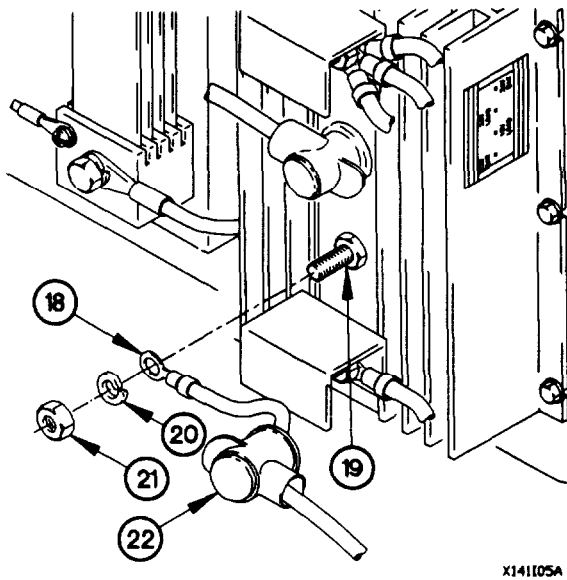
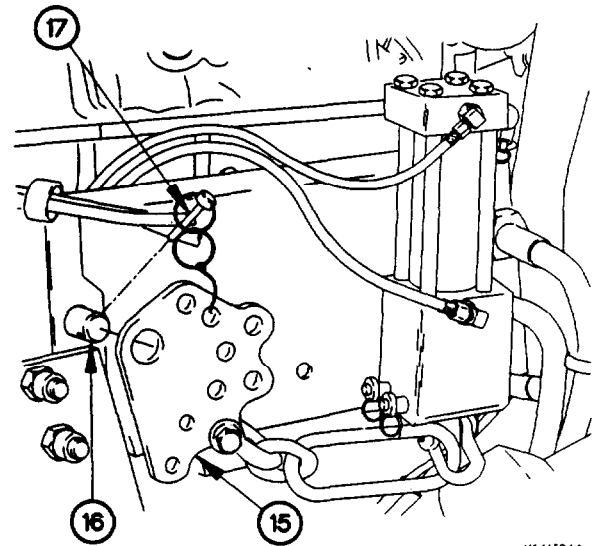


- (2) Position 100 amp reverse polarity relay to PDP 12 vdc cable (1) in clamp (3).
- (3) Position clamps (3 and 4) on frame rail (5) with washer (6), screw (7), washer (8), and self-locking nut (9).
- (4) Tighten self-locking nut (9) to 97-120 lb-in. (11-14 N•m).

- (5) Position 100 amp reverse polarity relay to PDP 12 vdc cable (1) in clamp (10).
- (6) Install clamp (10) on frame rail (5) with screw (11), and self-locking nut (12).
- (7) Tighten self-locking nut (12) to 97-120 lb-in. (11-14 N•m).
- (8) Tighten two screws (13) in heat shield assembly (14).



- (9) Install suspension compression plate (15) on suspension compression plate stud (16) with spring pin (17).



- (10) Install terminal lug TL80 (18) on 100 amp reverse polarity relay 12 vdc terminal (19) with lockwasher (20) and nut (21).

- (11) Position dust boot (22) on terminal lug TL80 (18).

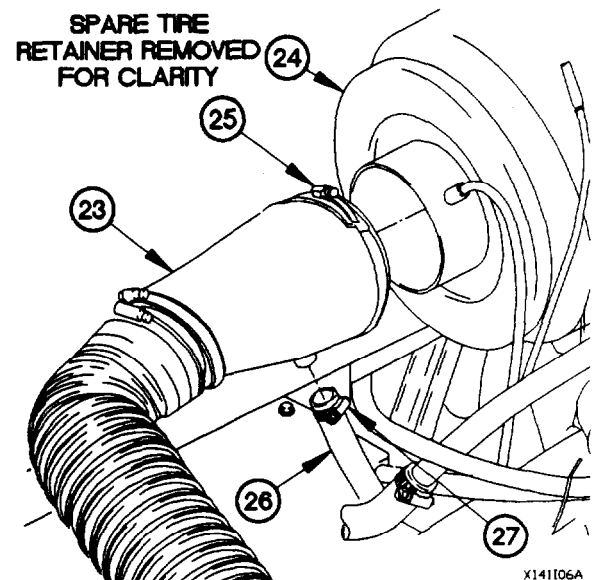
- (12) Position intake air cleaner boot (23) on intake air cleaner housing (24) with clamp (25).

- (13) Tighten clamp (25) to 36-48 lb-in. (4-5 N•m).

- (14) Position air compressor intake hose (26) on intake air cleaner boot (23) with clamp (27).

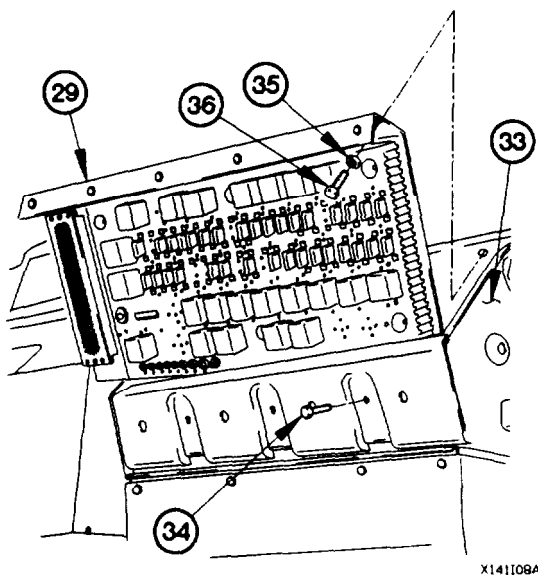
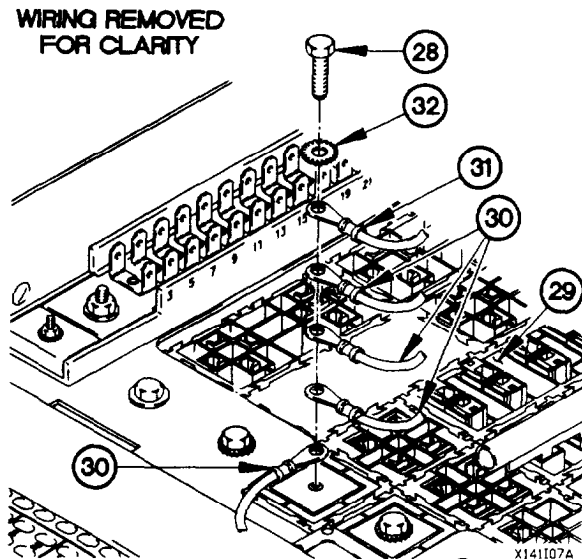
- (15) Tighten clamp (27) to 36-48 lb-in. (4-5 N•m).

- (18) Lower cab (TM 9-2320-368-10-1).



**7-130. 100 AMP REVERSE POLARITY RELAY TO POWER DISTRIBUTION (PDP) PANEL
12 VDC CABLE REPLACEMENT (CONT)**

- (17) Remove screw (28) from PDP (29).
- (18) Position four terminal lugs (30) and terminal lug TL41 (31) on PDP (29) with lockwasher (32) and screw (28).
- (19) Tighten screw (28) to 35-45 lb-in. (4-5 N•m).



- (20) Install PDP (29) on dashboard (33) with three screws (34).
- (21) Install three washers (35) and screws (36) in PDP (29).

c. Follow-On Maintenance.

- (1) Install PDP cover (para 16-2).
- (2) Install lower radiator fan shroud (para 6-4).
- (3) Connect batteries (para 7-57).
- (4) Raise spare tire (TM 9-2320-366-10-2).
- (5) Start engine (TM 9-2320-366-10-1).
- (6) Check VOLTS gage for charge indication (TM 9-2320-366-10-1).
- (7) Shut down engine (TM 9-2320-366-10-1).

End of Task.

**7-131. 100 AMP REVERSE POLARITY RELAY TO POWER DISTRIBUTION (PDP) PANEL
24 VDC CABLE REPLACEMENT**

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Batteries disconnected (para 7-57).
- PDP cover removed (para 16-2).
- Spare tire lowered (TM 9-2320-366-10-2).
- Lower radiator fan shroud removed (para 6-4).
- Cab lowered (TM 9-2320-366-10-1).

Materials/Parts

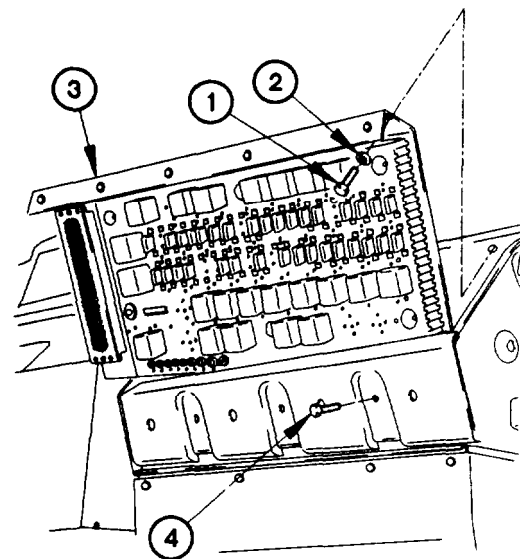
- Ties, Cable, Plastic (Item 69, Appendix D)
- Nut, Self-Locking (2) (Item 153, Appendix G)
- Lockwasher (Item 96, Appendix G)
- Lockwasher (Item 84, Appendix G)

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Socket Set, Socket Wrench (Item 34, Appendix C)

a. Removal.

- (1) Remove three screws (1) and washers (2) from PDP (3).
- (2) Remove three screws (4) from PDP (3).
- (3) Lift PDP (3) outward to gain access.

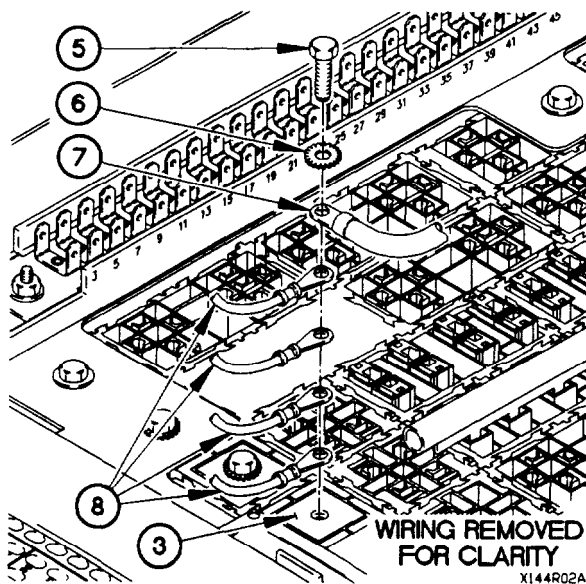


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NOTE

Remove plastic cable ties as required.

- (4) Remove screw (5), lockwasher (6), terminal lug TL42 (7), and four terminal lugs (8) from PDP (3). Discard lockwasher.
- (5) Position four terminal lugs (8) on PDP (3) with screw (5).

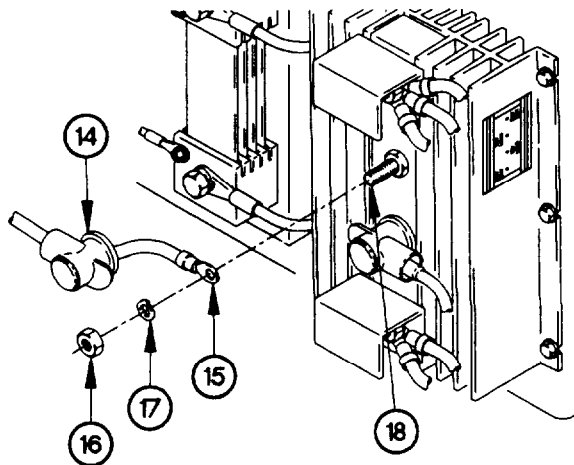
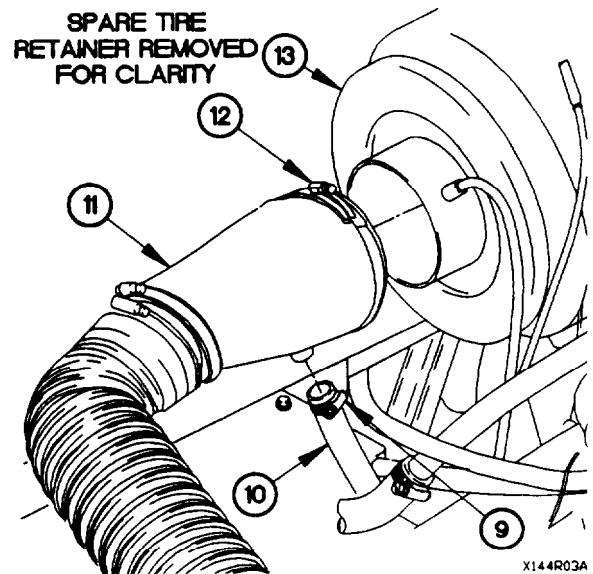


WIRING REMOVED FOR CLARITY

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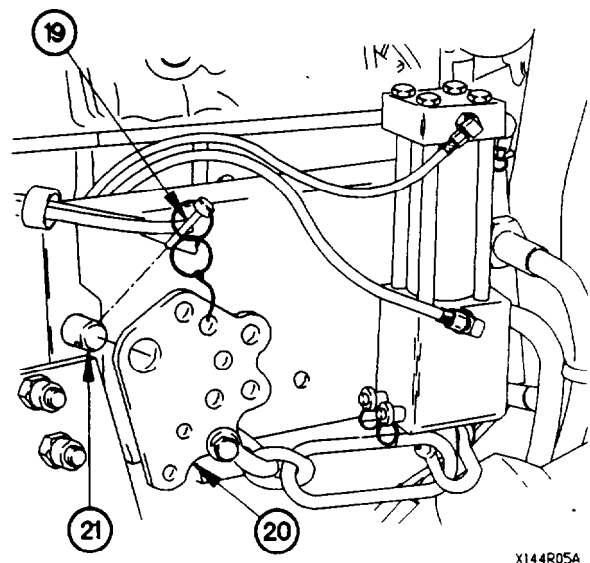
**7-131. 100 AMP REVERSE POLARITY RELAY TO POWER DISTRIBUTION (PDP) PANEL
24 VDC CABLE REPLACEMENT (CONT)**

- (6) Loosen clamp (9) on air compressor intake hose (10).
- (7) Remove air compressor intake hose (10) from intake air cleaner boot (11).
- (8) Loosen clamp (12) on intake air cleaner boot (11).
- (9) Remove intake air cleaner boot (11) from intake air cleaner housing (13).



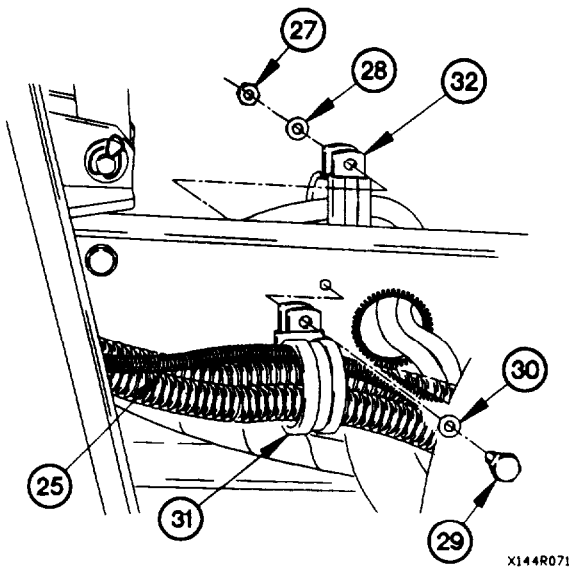
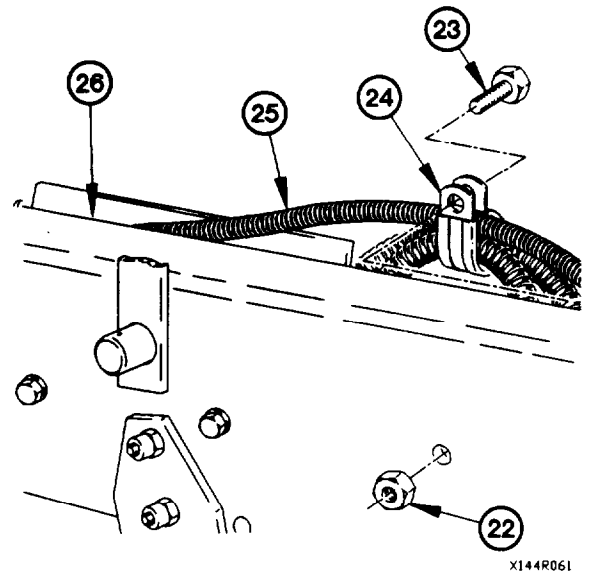
- (10) Lift dust boot (14) on terminal lug TL44 (15).
- (11) Remove nut (16), lockwasher (17), and terminal lug TL44 (15) from 100 amp reverse polarity relay 24 vdc terminal (18). Discard lockwasher.

- (12) Raise cab (TM 9-2320-366-10-1).
- (13) Remove spring pin (19) and suspension compression plate (20) from suspension compression plate stud (21).



(14) Remove self-locking nut (22), screw (23), clamp (24), and 100 amp reverse polarity relay to PDP 24 vdc cable (25) from frame rail (26). Discard self-locking nut.

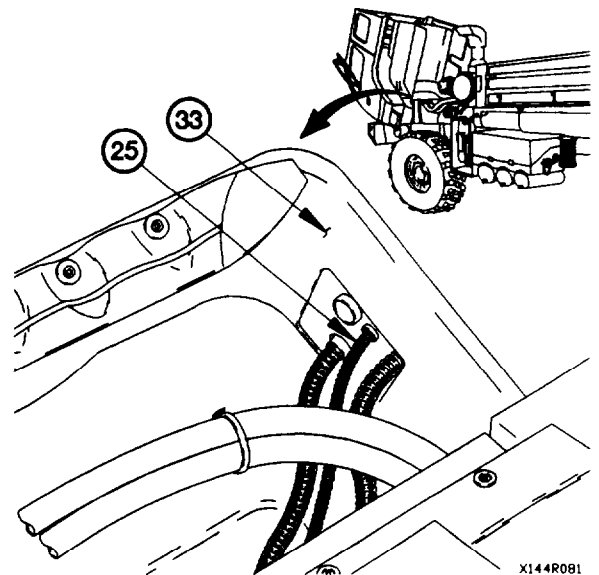
(15) Remove 100 amp reverse polarity relay to PDP 24 vdc cable (25) from clamp (24).



(16) Remove self-locking nut (27), washer (28), screw (29), and washer (30) from clamps (31 and 32). Discard self-locking nut.

(17) Remove 100 amp reverse polarity relay to PDP 24 vdc cable (25) from clamp (31).

(18) Remove 100 amp reverse polarity relay to PDP 24 vdc cable (25) from cab (33).



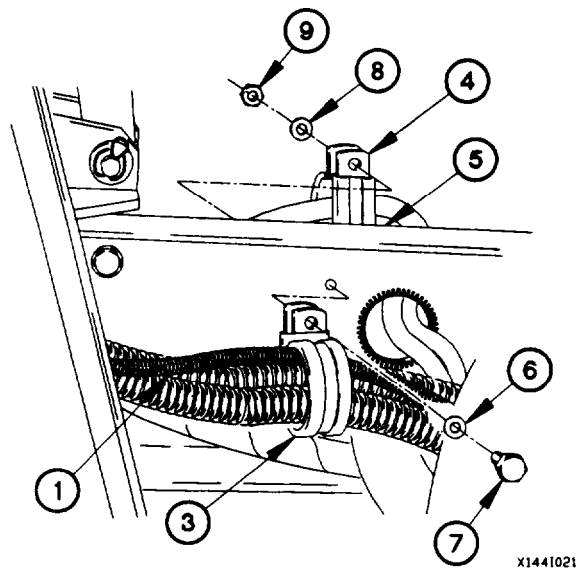
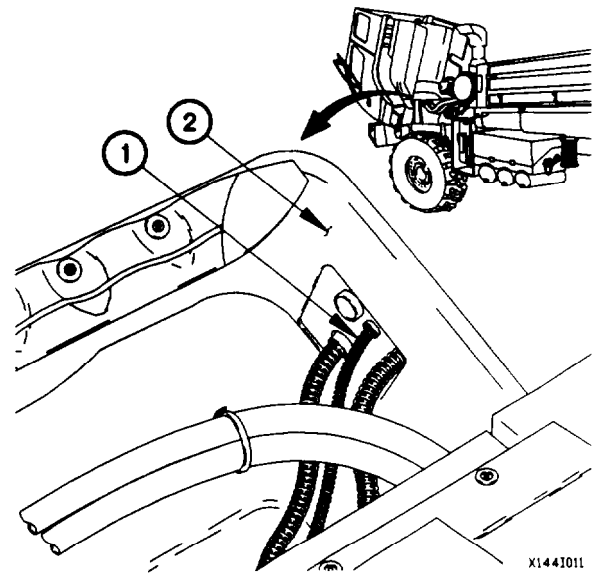
**7-131. 100 AMP REVERSE POLARITY RELAY TO POWER DISTRIBUTION (PDP) PANEL
24 VDC CABLE REPLACEMENT (CONT)**

b. Installation.

NOTE

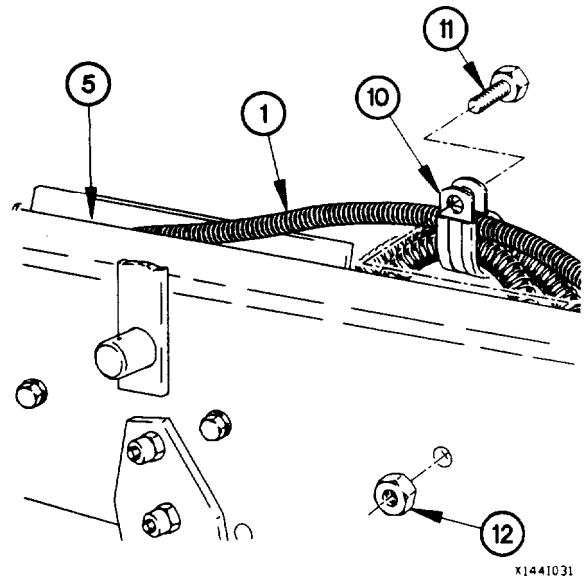
Install plastic cable ties as required.

- (1) Position 100 amp reverse polarity relay to PDP 24 vdc cable (1) through bottom of cab (2).

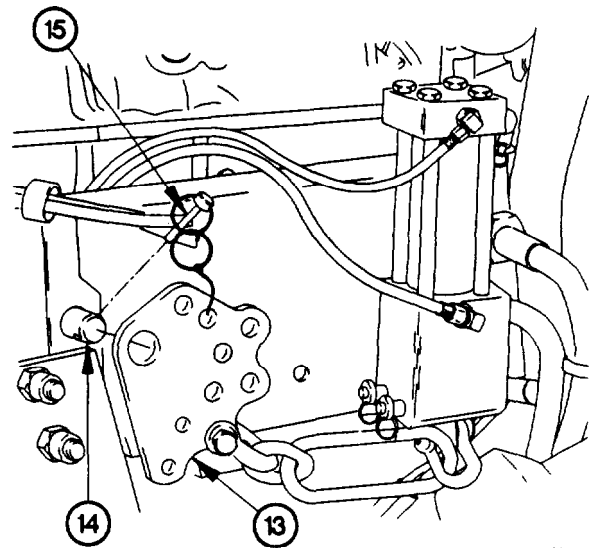


- (2) Position 100 amp reverse polarity relay to PDP 24 vdc cable (1) in clamp (3).
- (3) Position clamps (3 and 4) on frame rail (5) with washer (6), screw (7), washer (8), and self-locking nut (9).
- (4) Tighten self-locking nut (9) to 97-120 lb-in. (11-14 N•m).

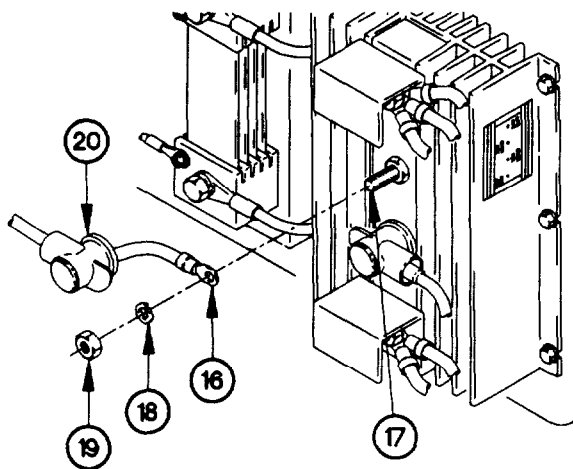
- (5) Position 100 amp reverse polarity relay to PDP 24 vdc cable (1) in clamp (10).
- (6) Install clamp (10) on frame rail (5) with screw (11) and self-locking nut (12).
- (7) Tighten self-locking nut (12) to 97-120 lb-in. (11-14 N•m).



- (8) Install suspension compression plate (13) on suspension compression plate stud (14) with spring pin (15).



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- (9) Install terminal lug TL44 (16) on 100 amp reverse polarity relay 24 vdc terminal (17) with lockwasher (18) and nut (19).

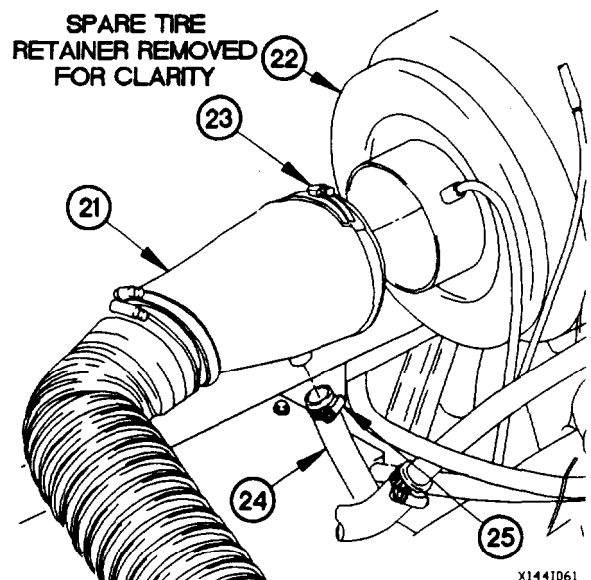
- (10) Position dust boot (20) on terminal lug TL44 (16).

- (11) Position intake air cleaner boot (21) on intake air cleaner housing (22) with clamp (23).

- (12) Position air compressor intake hose (24) on intake air cleaner boot (21) with clamp (25).

- (13) Tighten clamps (23 and 25) to 36-48 lb-in. (4-5 N•m).

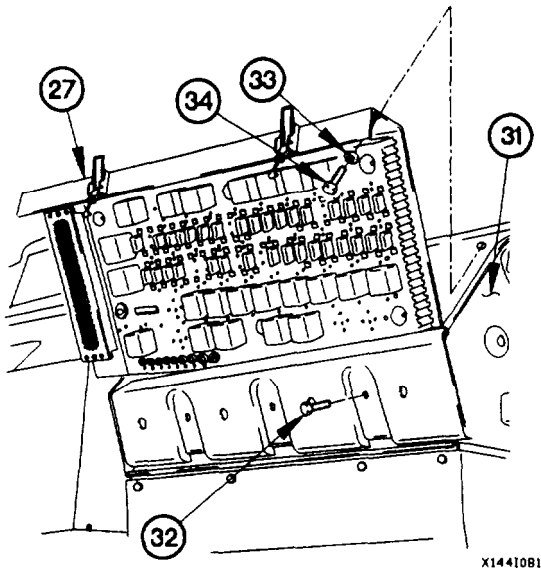
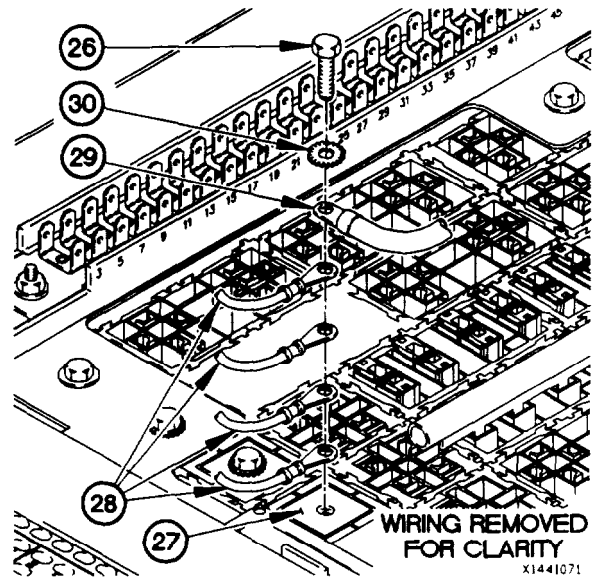
- (14) Lower cab (TM 9-2320-365-10).



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**7-131. 100 AMP REVERSE POLARITY RELAY TO POWER DISTRIBUTION (PDP) PANEL
24 VDC CABLE REPLACEMENT (CONT)**

- (15) Remove screw (26) from PDP (27).
- (16) Position four terminal lugs (28) and terminal lug TL42 (29) on PDP (27) with lockwasher (30) and screw (26).
- (17) Tighten screw (26) to 35-45 lb-in. (4-5 N•m).



- (18) Install PDP (27) on dashboard (31) with three screws (32).
- (19) Install three washers (33) and screws (34) in PDP (27).

c. Follow-On Maintenance.

- (1) Install bottom radiator fan shroud (para 6-4).
- (2) Raise spare tire (TM 9-2320-366-10-10-2).
- (3) Install PDP cover (para 16-2).
- (4) Connect batteries (para 7-57).
- (5) Start engine (TM 9-2320-366-10-1).
- (6) Check VOLTS gage for charge indication (TM 9-2320-366-10-1).
- (7) Shut down engine (TM 9-2320-366-10-1).

End of Task.

7-132. START AND CHARGING CABLE ASSEMBLY REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Spare tire lowered (TM 9-2320-366-10-2).
 Batteries disconnected (para 7-57).
 Instrument panel assembly removed for access (para 7-15).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
 Socket Set, Socket Wrench (Item 34, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Ties, Cable, Plastic (Item 69, Appendix D)
 Adhesive (Item 8, Appendix D)
 Nut, Self-Locking (7) (Item 128, Appendix G)
 Nut, Self-Locking (Item 150, Appendix G)
 Nut, Self-Locking (Item 153, Appendix G)
 Lockwasher (Item 96, Appendix G)
 Lockwasher (3) (Item 87, Appendix G)
 Lockwasher (2) (Item 89, Appendix G)

Personnel Required

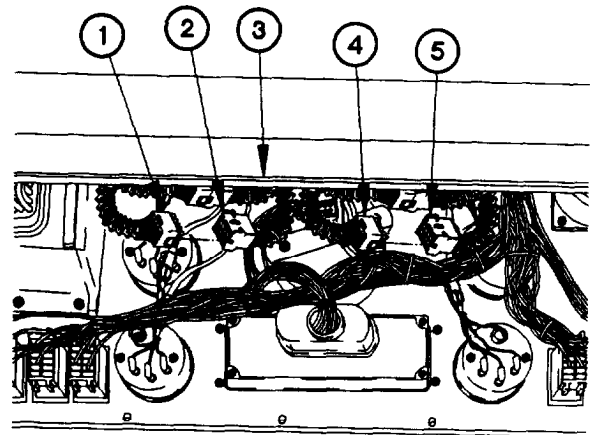
(2)

a. Removal.

NOTE

- Remove plastic cable ties as required.
- Tag connectors and connection points prior to disconnecting.

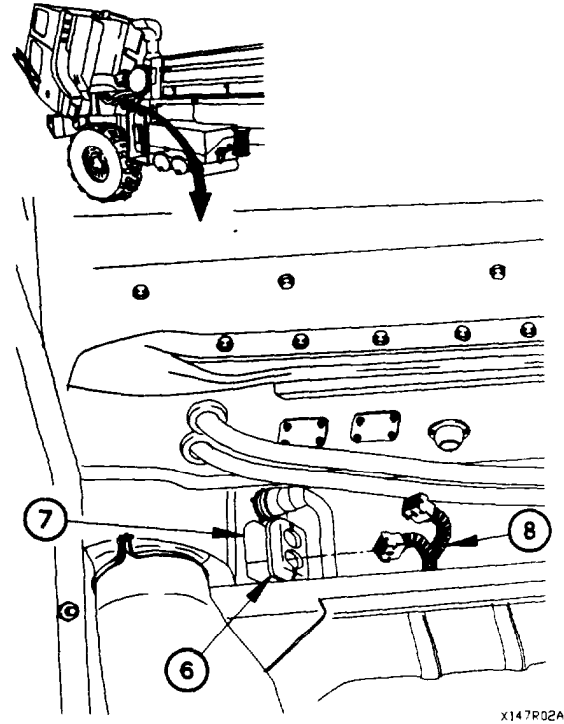
- (1) Disconnect connector P43 (1) from connector J43 (2).
- (2) Position connector P43 (1) through bottom of dashboard (3).
- (3) Disconnect connector P43X (4) from connector J43X (5).
- (4) Position connector P43X (4) through side of dashboard (3).



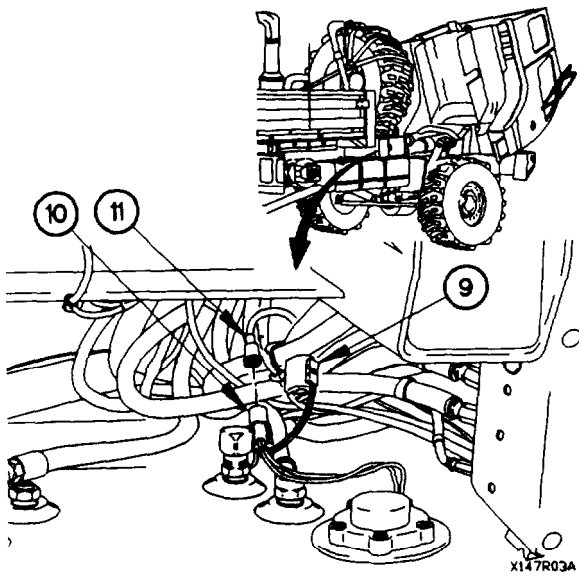
X147R01A

7-132. START AND CHARGING CABLE ASSEMBLY REPLACEMENT (CONT)

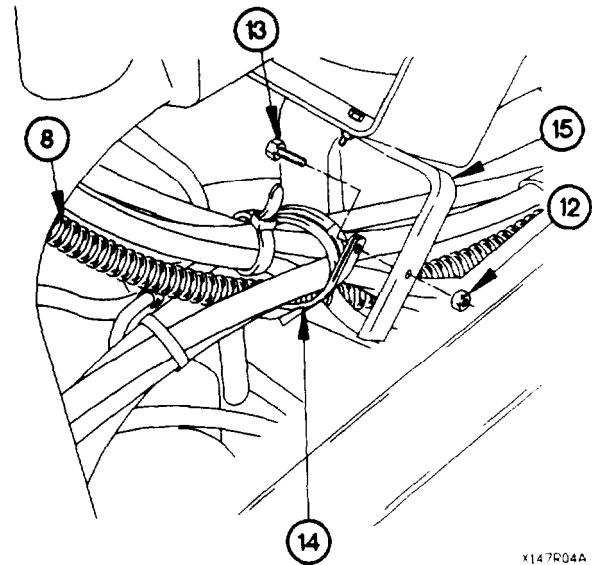
- (5) Raise cab (TM 9-2320-366-10-1).
- (6) Remove grommet (6) from cab (7).
- (7) Remove start and charging cable assembly (8) from grommet (6).



- (8) Disconnect connector clamp (9) from fuel sending unit connector J82 (10).
- (9) Disconnect connector P82 (11) from fuel sending unit connector J82 (10).



- (10) Remove self-locking nut (12), screw (13), and clamp (14) from bracket (15). Discard self-locking nut.
- (11) Remove start and charging cable assembly (8) from clamp (14).



- (12) Remove self-locking nut (16), clamp (17), and terminal lug TL83 (18) from screw (19). Discard self-locking nut.

NOTE

Perform step (13) on vehicles equipped with PTO.

- (13) Remove terminal lug TL111 (20) from screw (19).

NOTE

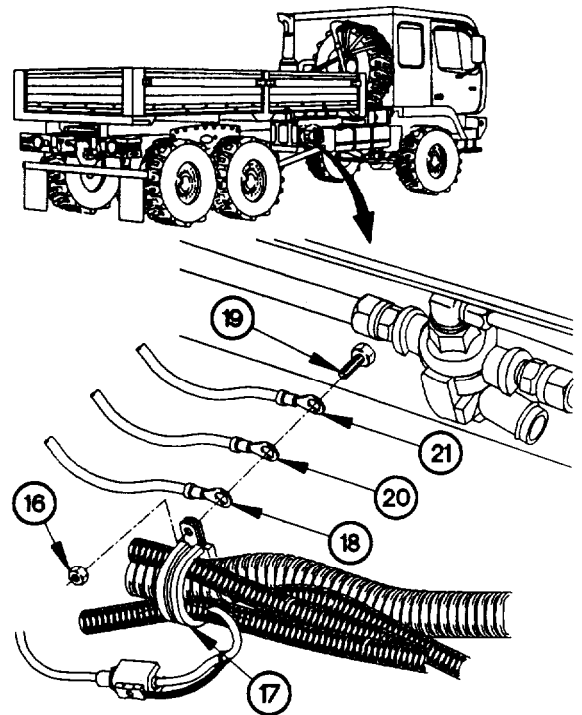
Perform step (14) on vehicles equipped with arctic kit(s).

- (14) Remove terminal lug TL101 (20) from screw (19).

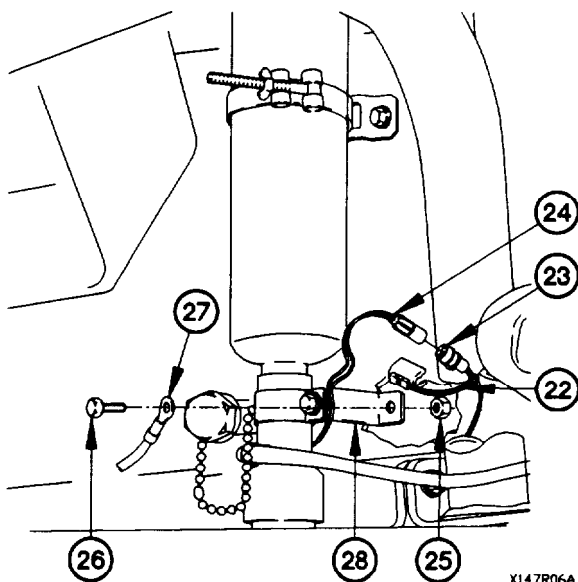
NOTE

Perform step (15) on vehicles equipped with 11K SRW.

- (15) Remove terminal lug TL320 (21) from screw (19).



4147R05A

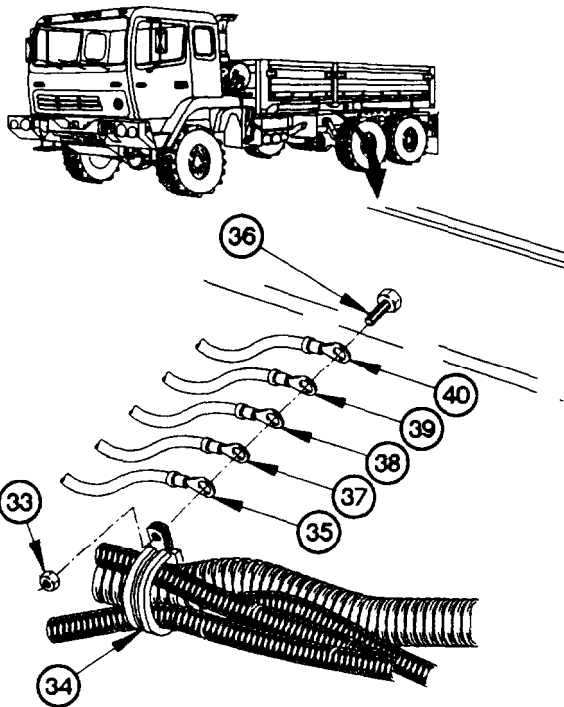
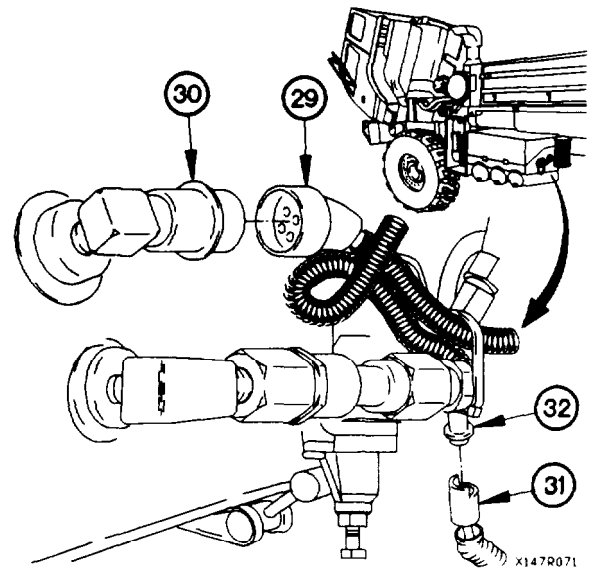


X147R06A

- (16) Disconnect connector clamp (22) from connector P93 (23).
- (17) Disconnect connector J93 (24) from connector P93 (23).
- (18) Remove self-locking nut (25), screw (26), and terminal lug TL84 (27) from bracket (28). Discard self-locking nut.

7-132. START AND CHARGING CABLE ASSEMBLY REPLACEMENT (CONT)

- (19) Disconnect connector P84 (29) from wet tank air pressure switch J84 (30).
- (20) Disconnect connector P80 (31) from air dryer connector J80 (32).



- (21) Remove self-locking nut (33), clamp (34), and terminal lug TL85 (35) from screw (36). Discard self-locking nut.

NOTE

Perform step (22) on M1090/M1094.

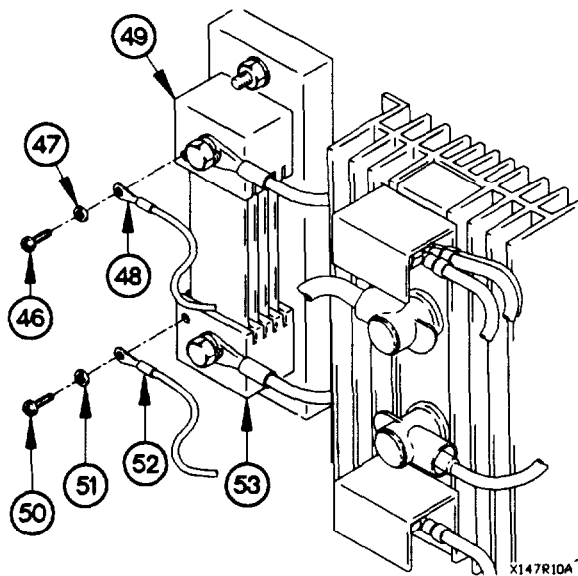
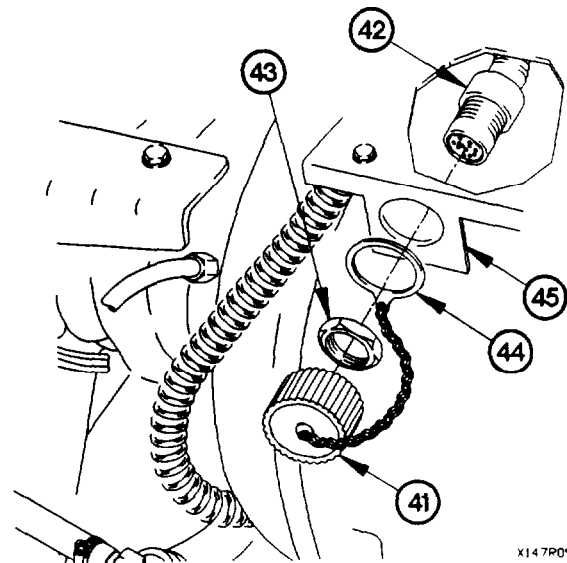
- (22) Remove terminal lugs TL77 (37), and TL78 (38) from screw (36).

NOTE

Perform step (23) on vehicles equipped with arctic kit(s).

- (23) Remove terminal lugs TL102 (39) and TL103 (40) from screw (36).

- (24) Remove dust cap (41) from connector J106 (42).
- (25) Remove nut (43), dust cap lanyard (44), and connector J106 (42) from chemical detector mounting bracket (45).

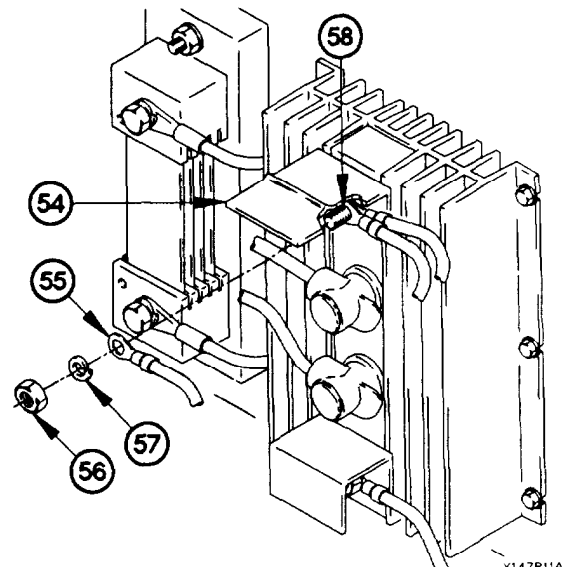


- (26) Remove screw (46), washer (47), and terminal lug TL51 (48) from upper shunt terminal (49).
- (27) Remove screw (50), washer (51), and terminal lug TL38 (52) from lower shunt terminal (53).

NOTE

Perform steps (28) and (29) on vehicles equipped with 100 amp alternator.

- (28) Lift terminal cover (54) on terminal lug TL36 (55).
- (29) Remove nut (56), lockwasher (57), and terminal lug TL36 (55) from reverse polarity relay 24 VDC BAT terminal (58). Discard lockwasher.

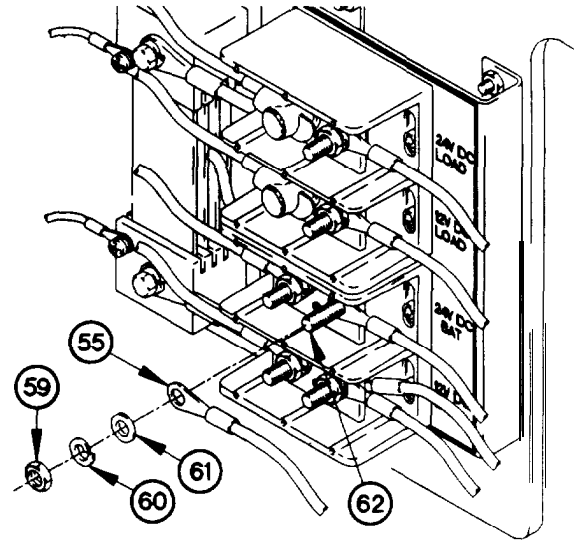


7-132. START AND CHARGING CABLE ASSEMBLY REPLACEMENT (CONT)

NOTE

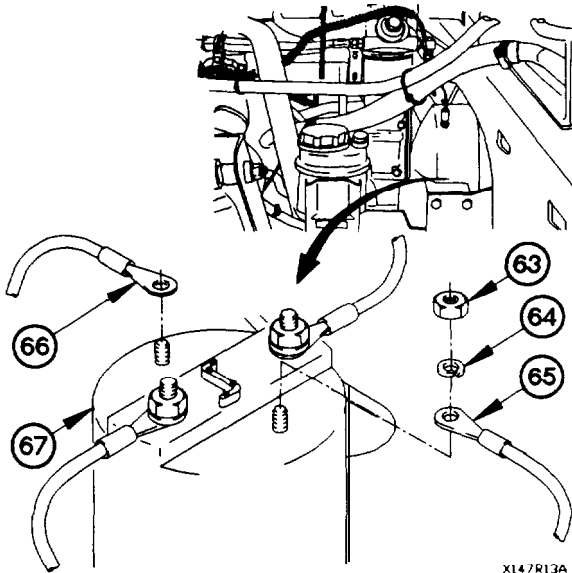
Perform step (30) on vehicles equipped with 200 amp alternator.

- (30) Remove nut (59), lockwasher (60), washer (61), and terminal lug TL36 (55) from 200 amp terminal block terminal (62). Discard lockwasher.



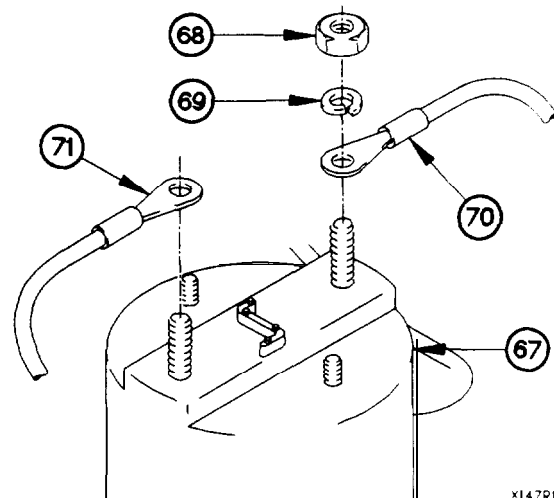
X147R12A

- (31) Remove adhesive, two nuts (63), lockwashers (64), and terminal lugs TL23 (65) and TL33 (66) from auxiliary starter solenoid (67). Discard lockwashers.



X147R13A

- (32) Remove adhesive, two nuts (68), lockwashers (69), and terminal lugs TL24 (70) and TL9 (71) from auxiliary starter solenoid (67). Discard lockwashers.

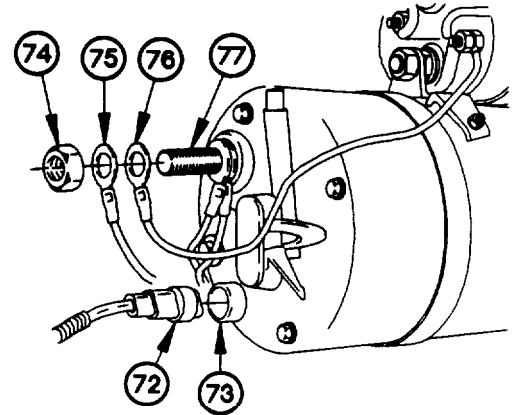


X147R14A

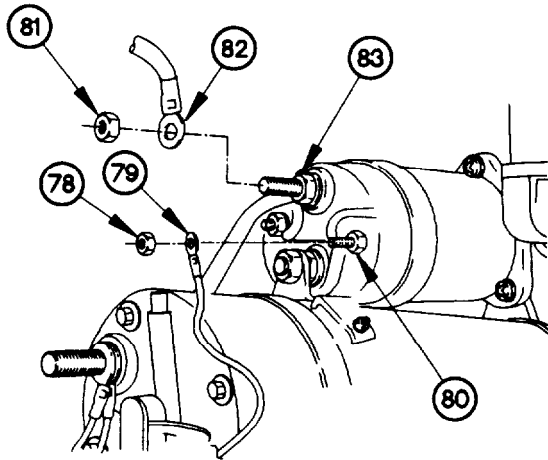
NOTE

Other terminal lugs may also need to be removed.

- (33) Disconnect connector P81 (72) from starting motor connector (73).
- (34) Remove adhesive, nut (74), and terminal lugs TL53 (75) and TL25 (76) from starting motor terminal (77).



X147R15A



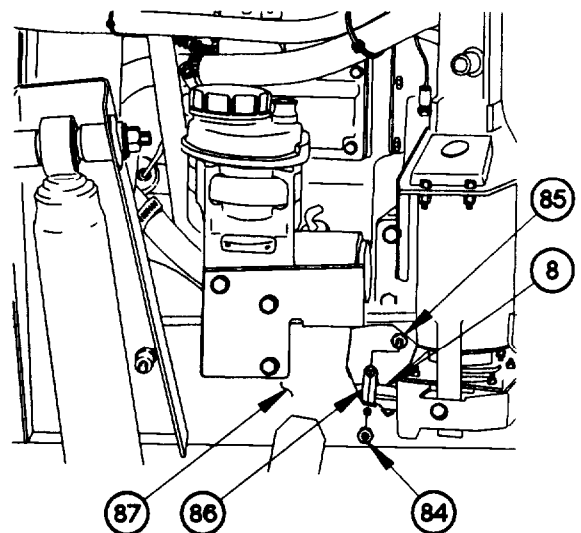
X147R16A

- (35) Remove adhesive, nut (78), and terminal lug TL26 (79) from starter solenoid terminal (80).
- (36) Remove adhesive, nut (81), and terminal lug TL55 (82) from starter solenoid terminal (83).

NOTE

- All five clamps are removed the same way. One shown.
- Step (37) requires the aid of an assistant.

- (37) Remove self-locking nut (84), screw (85), and clamp (86) from frame rail (87). Discard self-locking nut.
- (38) Remove start and charging cable assembly (8) from clamp (86).
- (39) Perform steps (37) and (38) on remaining four clamps.
- (40) Remove start and charging cable assembly (8) from vehicle.



X147R17A

7-132. START AND CHARGING CABLE ASSEMBLY REPLACEMENT (CONT)

b. Installation.

NOTE

Install plastic cable ties as required.

- (1) Position start and charging cable assembly (1) on vehicle.

NOTE

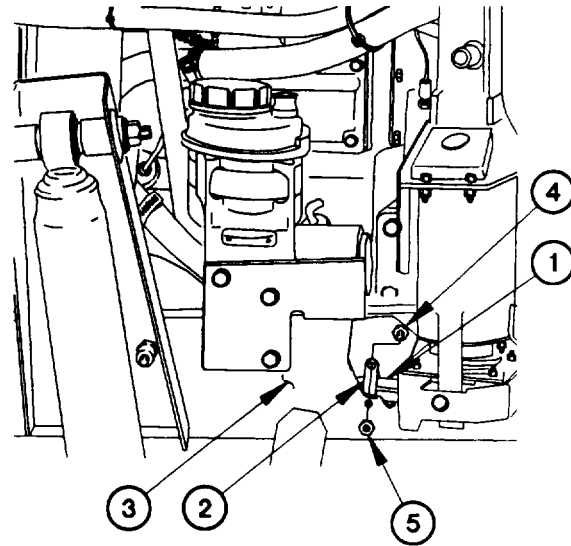
All five clamps are installed the same way. One shown.

- (2) Position start and charging cable assembly (1) in clamp (2).

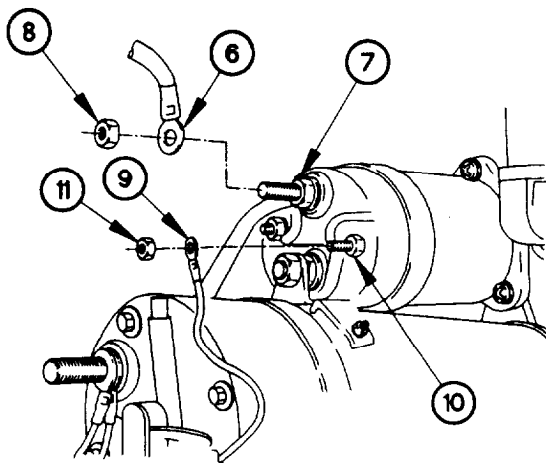
NOTE

Steps (3) and (4) require the aid of an assistant.

- (3) Position clamp (2) on frame rail (3) with screw (4) and self-locking nut (5).
- (4) Tighten self-locking nut (5) to 120-144 lb-in. (14-16 N•m).
- (5) Perform steps (2) through (4) on remaining four clamps.



X147101A



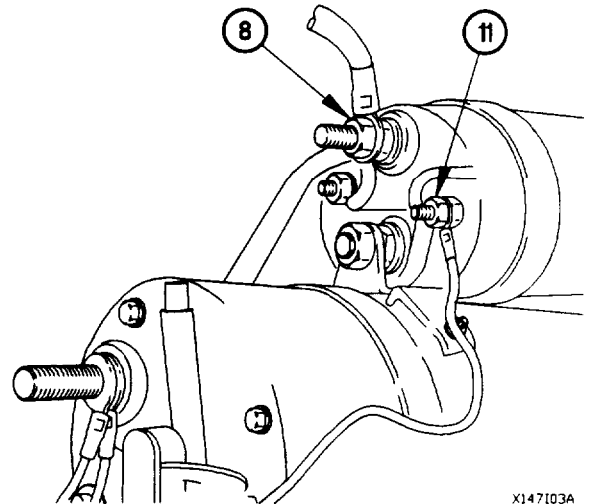
X147102A

- (6) Position terminal lug TL55 (6) on starter solenoid terminal (7) with nut (8).
- (7) Tighten nut (8) to 20-25 lb-ft (27-34 N•m).
- (8) Position terminal lug TL26 (9) on starter solenoid terminal (10) with nut (11).
- (9) Tighten nut (11) to 18-27 lb-in. (2-3 N•m).

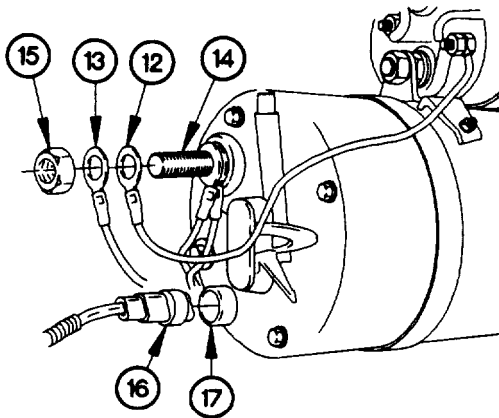
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

(10) Apply adhesive to nuts (8 and 11).



X147I03A



X147I04A

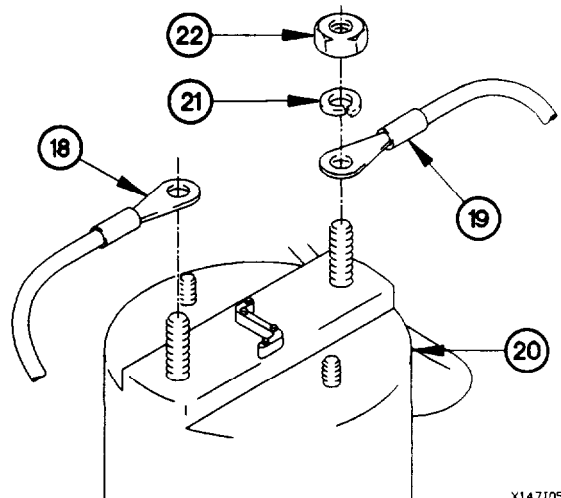
(11) Position terminal lugs TL25 (12) and TL53 (13) on starting motor terminal (14) with nut (15).

(12) Tighten nut (15) to 20-25 lb-ft (27-34 N•m).

(13) Connect connector P81 (16) to starting motor connector (17).

(14) Apply adhesive to terminal lugs TL25 (12) and TL53 (13) and starting motor terminal (14).

(15) Install terminal lugs TL9 (18) and TL24 (19) on auxiliary starter solenoid (20) with lockwashers (21) and nuts (22).



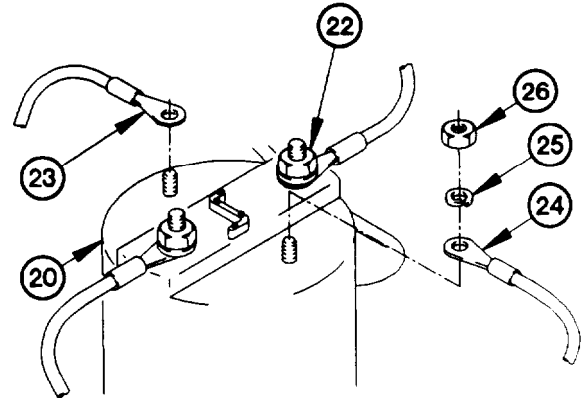
X147I05A

7-132. START AND CHARGING CABLE ASSEMBLY REPLACEMENT (CONT)

- (16) Install terminal lugs TL33 (23) and TL23 (24) on auxiliary starter solenoid (20) with two lockwashers (25) and nuts (26).

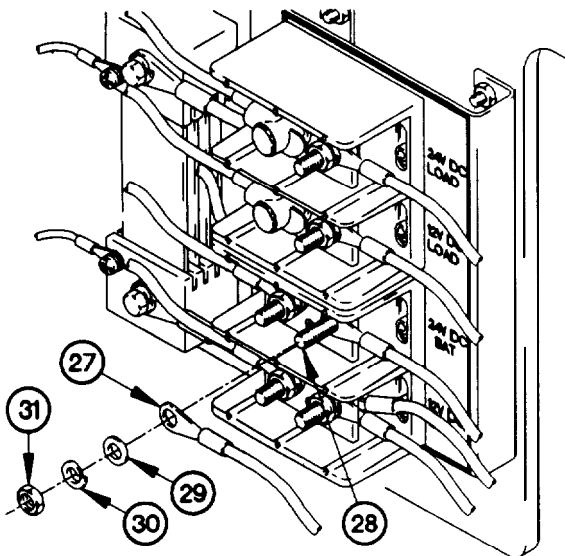
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



X147106A

- (17) Apply adhesive to nuts (22 and 26).



X147107A

NOTE

Perform steps (18) and (19) on vehicles equipped with 200 amp alternator.

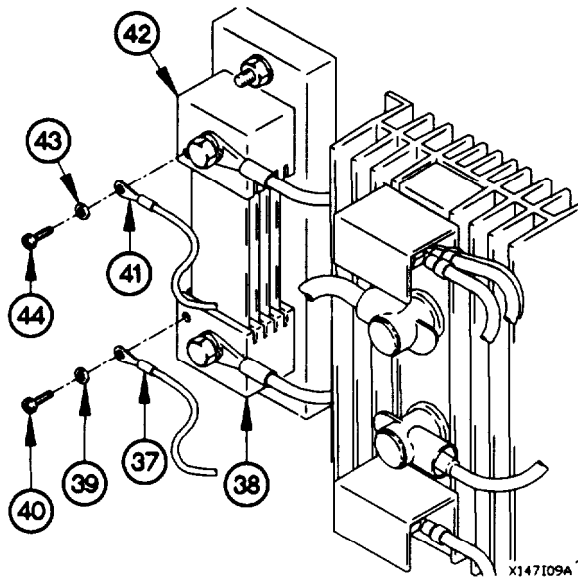
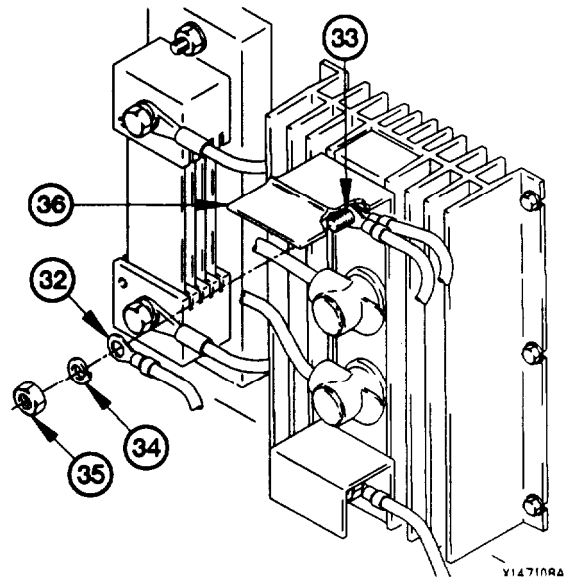
- (18) Install terminal lug TL36 (27) on 200 amp terminal block terminal (28) with washer (29), lockwasher (30), and nut (31).
- (19) Tighten nut (31) to 16-18 lb-ft (21-25 N•m).

NOTE

Perform steps (20) and (21) on vehicles equipped with 100 amp alternator.

(20) Install terminal lug TL36 (32) on reverse polarity relay 24 VDC BAT terminal (33) with lockwasher (34) and nut (35).

(21) Position terminal cover (36) on terminal lug TL36 (32).

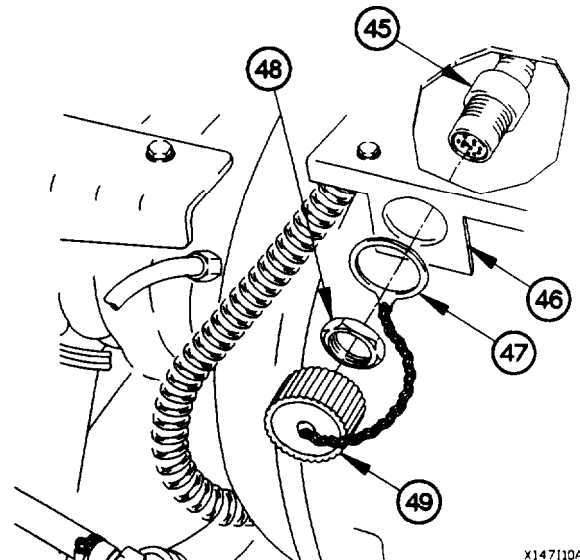


(22) Install terminal lug TL38 (37) on lower shunt terminal (38) with washer (39) and screw (40).

(23) Install terminal lug TL51 (41) on upper shunt terminal (42) with washer (43) and screw (44).

(24) Install connector J106 (45) on chemical detector mounting bracket (46) with dust cap lanyard (47) and nut (48).

(25) Install dust cap (49) on connector J106 (45).



X147110A

7-132. START AND CHARGING CABLE ASSEMBLY REPLACEMENT (CONT)

NOTE

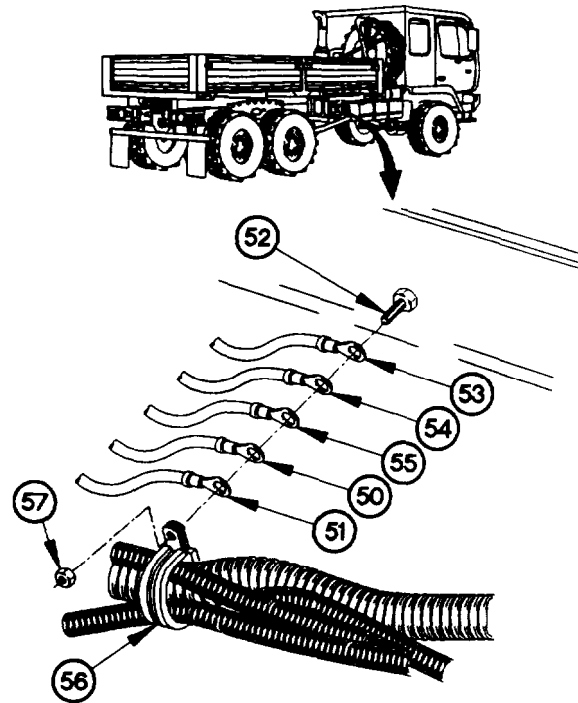
Perform step (26) on vehicles equipped with arctic kit(s).

- (26) Position terminal lugs TL102 (50) and TL103 (51) on screw (52).

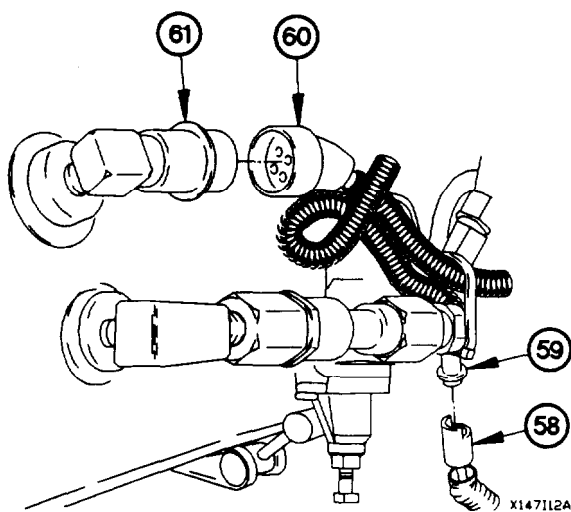
NOTE

Perform step (27) on M1090/M1094.

- (27) Position terminal lugs TL77 (53) and TL78 (54) on screw (52).
- (28) Position terminal lug TL85 (55) and clamp (56) on screw (52) with self-locking nut (57).
- (29) Tighten self-locking nut (57) to 120-144 lb-in. (14-16 N•m).



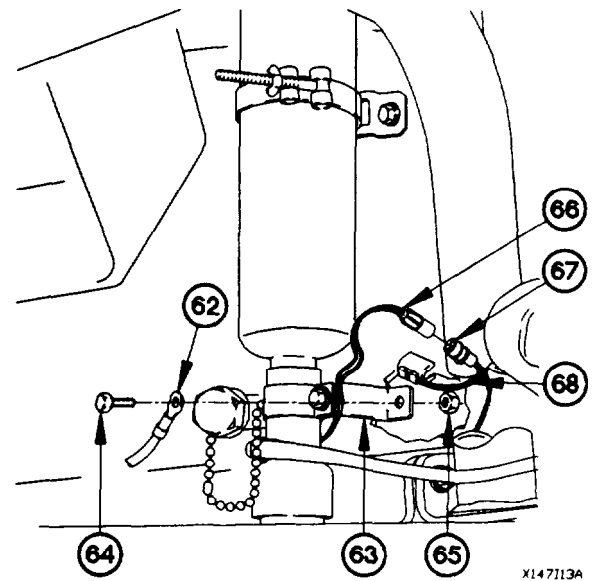
4147111A



X147112A

- (30) Connect connector P80 (58) to air dryer connector J80 (59).
- (31) Connect connector P84 (60) to wet tank air pressure switch J84 (61).

- (32) Position terminal lug TL84 (62) on bracket (63) with screw (64) and self-locking nut (65).
- (33) Tighten self-locking nut (65) to 20-25 lb-ft (29-35 N•m).
- (34) Connect connector J93 (66) to connector P93 (67).
- (35) Connect connector clamp (68) on connector P93 (67).



NOTE

Perform step (36) on vehicles equipped with 11K SRW.

- (36) Position terminal lug TL320 (69) on screw (70).

NOTE

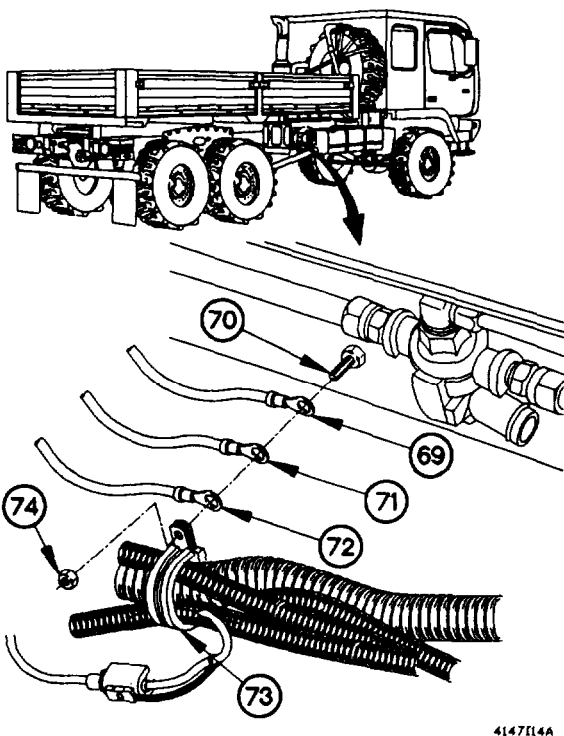
Perform step (37) on vehicles equipped with arctic kit(s).

- (37) Position terminal lug TL101 (71) on screw (70).

NOTE

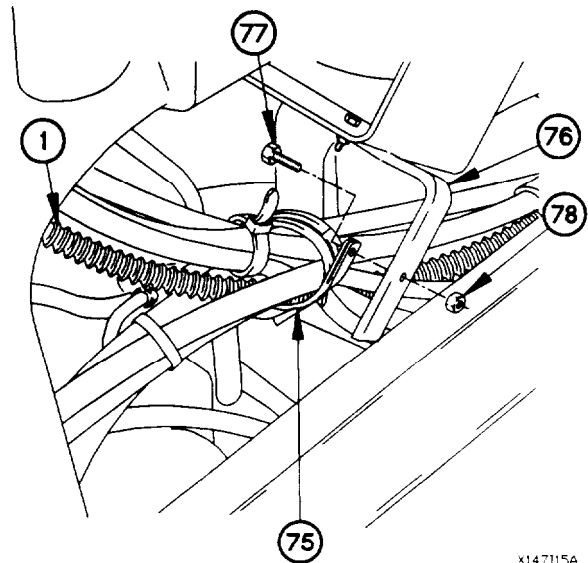
Perform step (38) on vehicles equipped with PTO.

- (38) Position terminal lug TL111 (71) on screw (70).
- (39) Position terminal lug TL83 (72) and clamp (73) on screw (70) with self-locking nut (74).
- (40) Tighten self-locking nut (74) to 97-120 lb-in. (11-14 N•m).



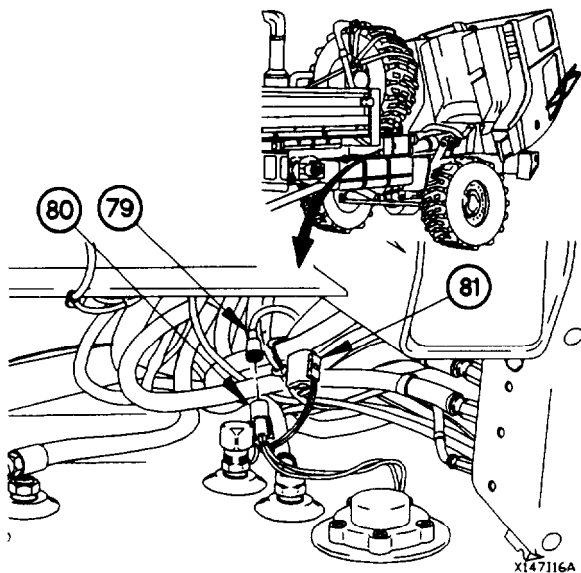
7-132. START AND CHARGING CABLE ASSEMBLY REPLACEMENT (CONT)

- (41) Position start and charging cable assembly (1) in clamp (75).
- (42) Position clamp (75) on bracket (76) with screw (77) and self-locking nut (78).
- (43) Tighten self-locking nut (78) to 120-144 lb-in. (14-16 N•m).

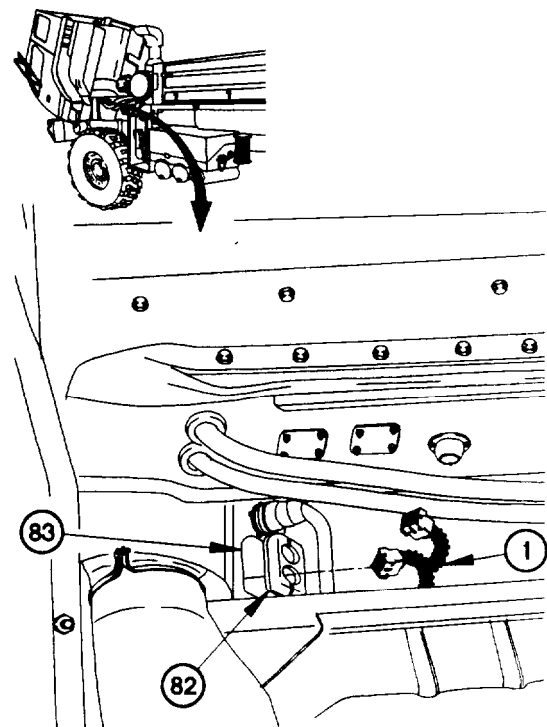


X147115A

- (44) Connect connector P82 (79) to connector J82 (80).
- (45) Connect connector clamp (81) on connector J82 (80).



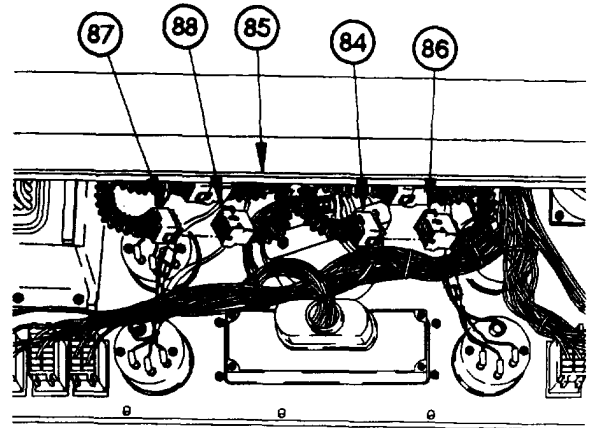
X147116A



X147117A

- (46) Install start and charging cable assembly (1) in grommet (82).
- (47) Install grommet (82) in cab (83).
- (48) Lower cab (TM 9-2320-366-10-1).

- (49) Route connector P43X (84) through side of dashboard (85).
- (50) Connect connector P43X (84) to connector J43X (86).
- (51) Route connector P43 (87) through bottom of dashboard (85).
- (52) Connect connector P43 (87) to connector J43 (88).



X147118A

c. Follow-On Maintenance.

- (1) Install instrument panel assembly (para 7-15).
- (2) Connect batteries (para 7-57).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Check VOLTS gage for charge indication (TM 9-2320-366-10-1).
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.

7-133. STARTER TO CHASSIS GROUND CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Cab raised (TM 9-2320-366-10-1).
- Batteries disconnected (para 7-57).

Tools and Special Tools

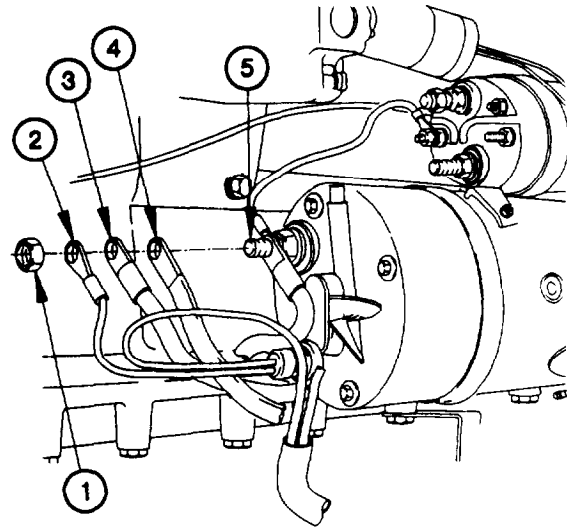
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench; Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

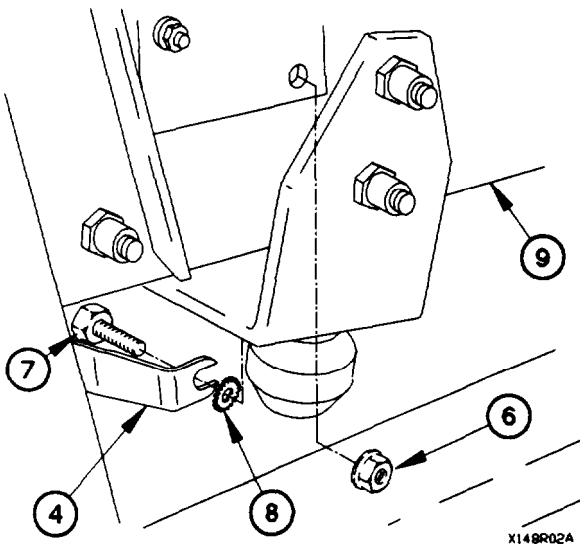
- Adhesive (Item 8, Appendix D)
- Nut, Self-Locking (Item 158, Appendix G)
- Lockwasher (Item 81, Appendix G)

a. Removal.

- (1) Remove adhesive, nut (1), terminal lugs TL25 (2) and TL46 (3), and starter to chassis ground cable (4) from starting motor terminal (5).



X14BR01A

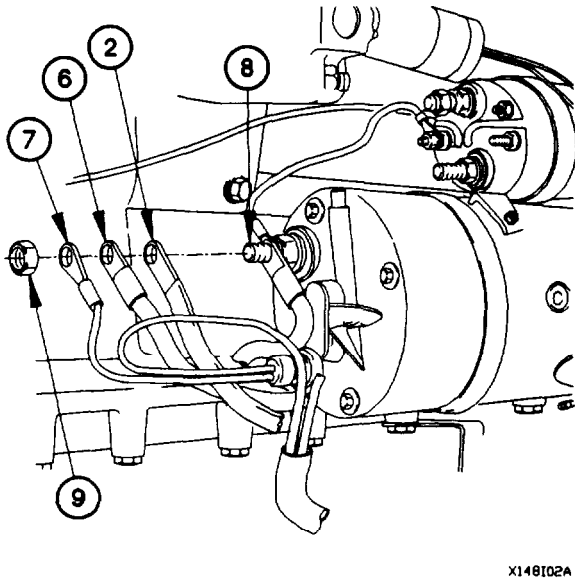
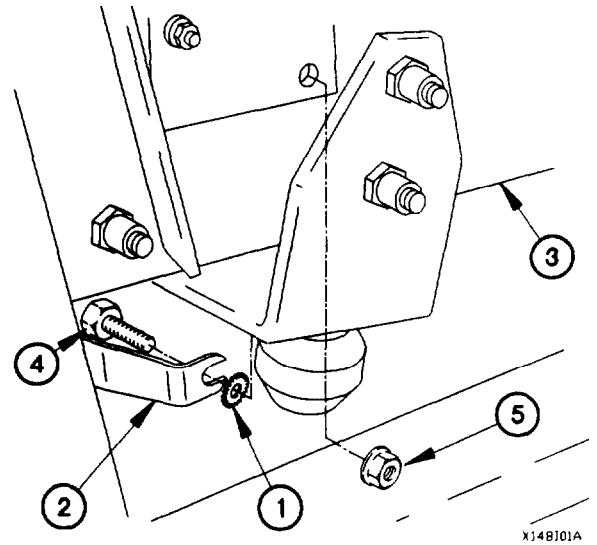


X14BR02A

- (2) Remove self-locking nut (6), screw (7), starter to chassis ground cable (4), and lockwasher (8) from chassis (9). Discard self-locking nut.

b. Installation.

- (1) Install lockwasher (1) and starter to chassis ground cable (2) on chassis (3) with screw (4) and self-locking nut (5).



- (2) Position starter to chassis ground cable (2) and terminal lugs TL46 (6) and TL25 (7) on starting motor terminal (8) with nut (9).

- (3) Tighten nut (9) to 15-20 lb-ft (20-27 N•m).

WARNING

Adhesive, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (4) Apply adhesive to starting motor terminal (8).

7-133. STARTER TO CHASSIS GROUND CABLE REPLACEMENT (CONT)

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Lower cab (TM 9-2320-366-10-1).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Check VOLTS gage for charge indication (TM 9-2320-366-10-1).
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.

7-134. STARTER TO SHUNT 24 VDC CABLE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Spare tire lowered (TM 9-2320-366-10-2).
- Cab raised (TM 9-2320-366-10-1).
- Batteries disconnected (para 7-57).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Socket Set, Socket Wrench (Item 34, Appendix C)

Materials/Parts

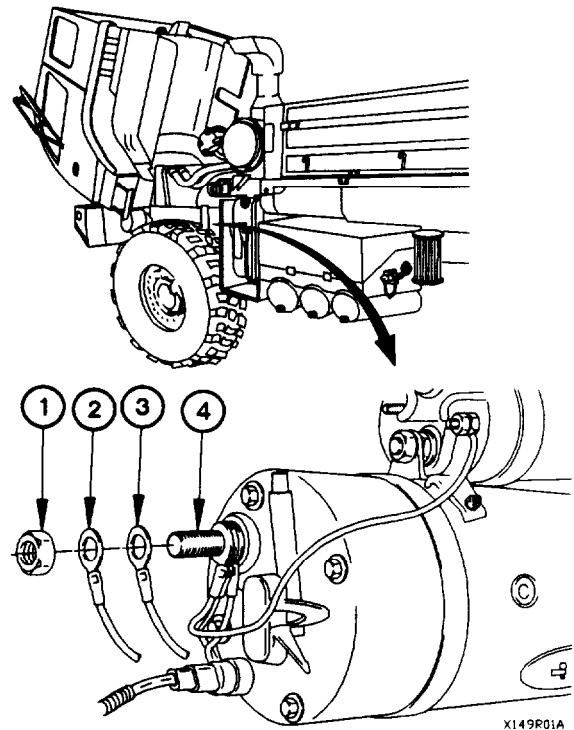
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Adhesive (Item 8, Appendix D)
- Lockwasher (Item 87, Appendix G)
- Nut, Self-Locking (2) (Item 128, Appendix G)

a. Removal.

NOTE

Tag wires and connection points prior to disconnecting.

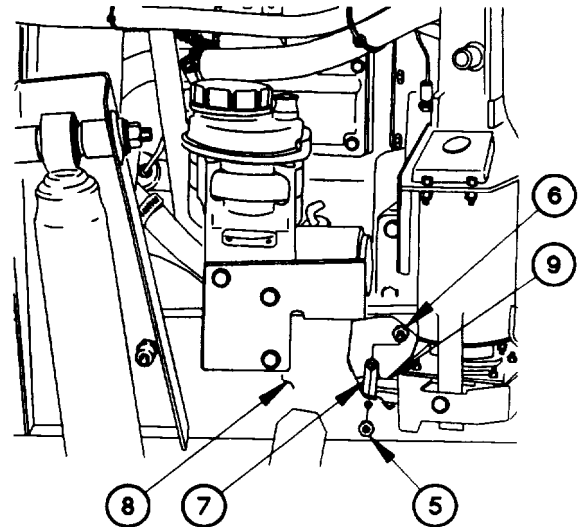
- (1) Remove adhesive, nut (1), and terminal lugs TL25 (2) and TL46 (3) from starting motor terminal (4).



7-134. STARTER TO SHUNT 24 VDC CABLE REPLACEMENT (CONT)

NOTE

- Both clamps are removed the same way. One shown.
 - Remove plastic cable ties as required.
 - Step (2) requires the aid of an assistant.
- (2) Remove self-locking nut (5), screw (6), and clamp (7) from frame rail (8). Discard self-locking nut.
 - (3) Remove starter to shunt 24 vdc cable (9) from clamp (7).
 - (4) Perform steps (2) and (3) on remaining clamp.



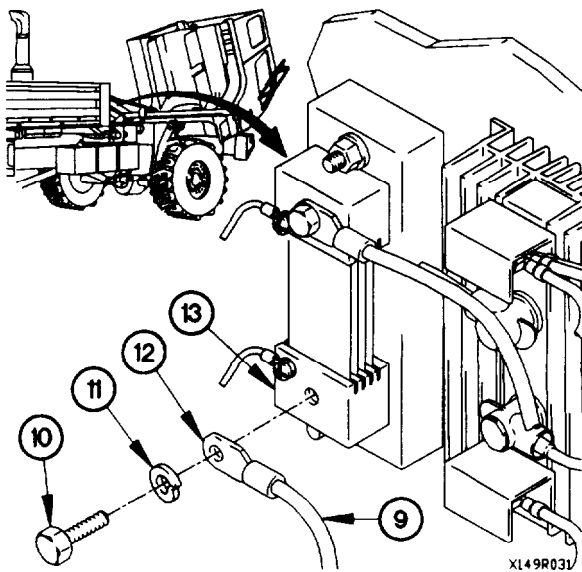
X149R02A

- (5) Remove screw (10), lockwasher (11), and terminal lug TL45 (12) from lower shunt terminal (13). Discard lockwasher.

NOTE

Note routing of starter to shunt 24 vdc cable prior to removal.

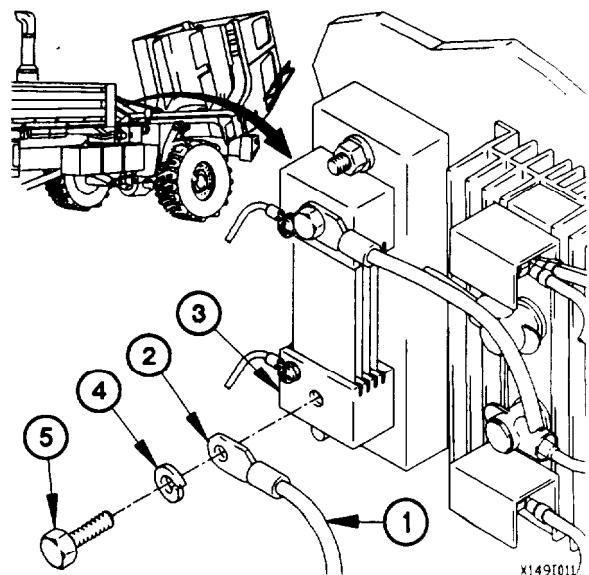
- (6) Remove starter to shunt 24 vdc cable (9) from vehicle.



X149R03V

b. Installation.

- (1) Position starter to shunt 24 vdc cable (1) on vehicle.
- (2) Install terminal lug TL45 (2) on lower shunt terminal (3) with lockwasher (4) and screw (5).



X149I01V

NOTE

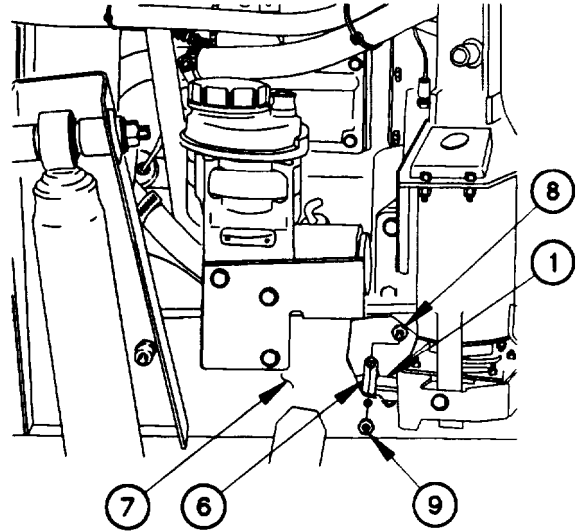
- Both clamps are installed the same way. One shown.
- Install plastic cable ties as required.

- (3) Position starter to shunt 24 vdc cable (1) in clamp (6).
- (4) Position clamp (6) on frame rail (7) with screw (8) and self-locking nut (9).
- (5) Perform steps (2) and (3) on remaining clamp.

NOTE

Step (6) requires the aid of an assistant.

- (6) Tighten two self-locking nuts (9) to 96-120 lb-in. (11-14 N•m).

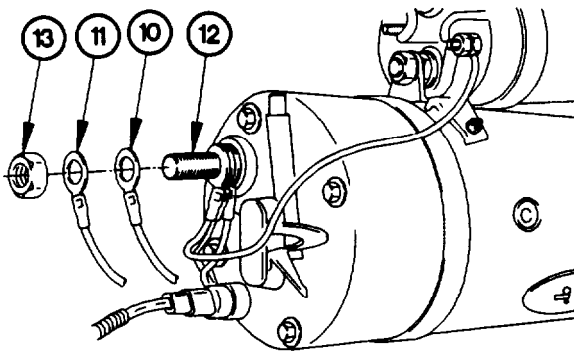


X149102A

- (7) Position terminal lugs TL46 (10) and TL25 (11) on starting motor terminal (12) with nut (13).
- (8) Tighten nut (13) to 15-20 lb-ft (20-27 N•m).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



X149103A

- (9) Apply adhesive to terminal lugs TL46 (10) and TL25 (11) and nut (13).

7-134. STARTER TO SHUNT 24 VDC CABLE REPLACEMENT (CONT)

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Lower cab (TM 9-2320-366-10-1).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Check VOLTS gage for charge indication (TM 9-2320-366-10-1).
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.

7-135. WINCH CONTROL VALVE CABLE ASSEMBLY REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Batteries disconnected (para 7-57).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

- Ties, Cable, Plastic (Item 69, Appendix D)
- Nut, Self-Locking (3) (Item 128, Appendix G)
- Lockwasher (Item 113, Appendix G)

Personnel Required

(2)

WARNING

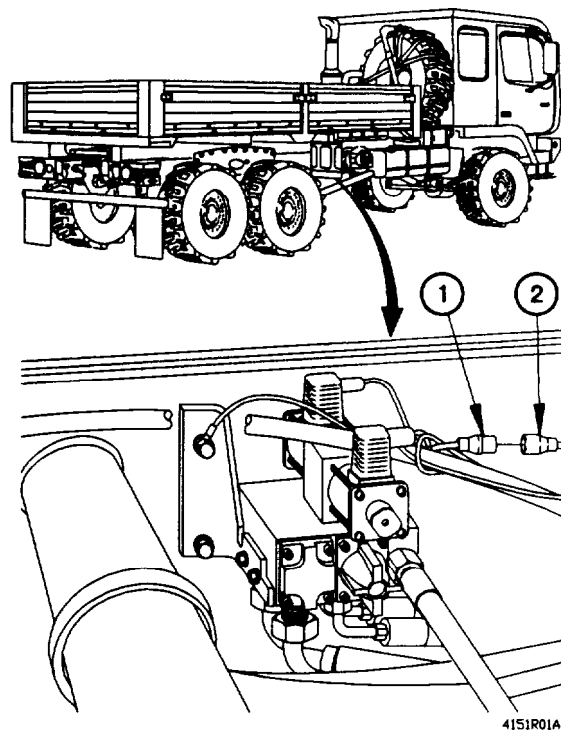
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

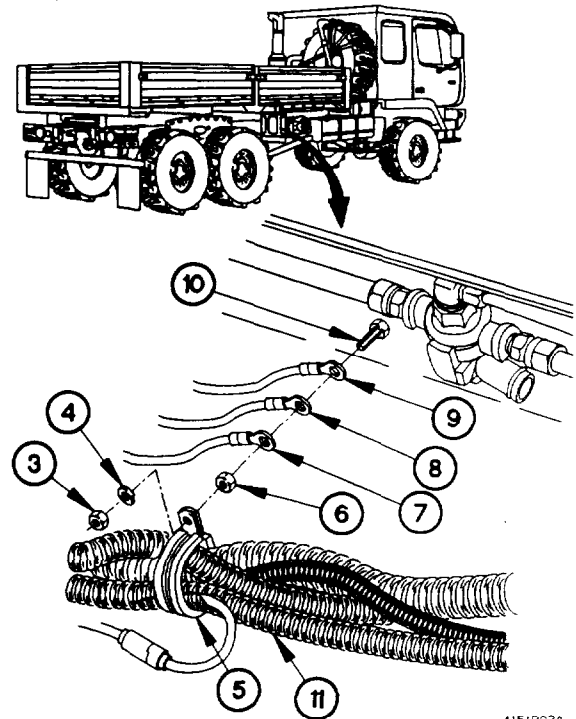
Remove plastic cable ties as required.

- (1) Disconnect connector J215 (1) from connector P215 (2).

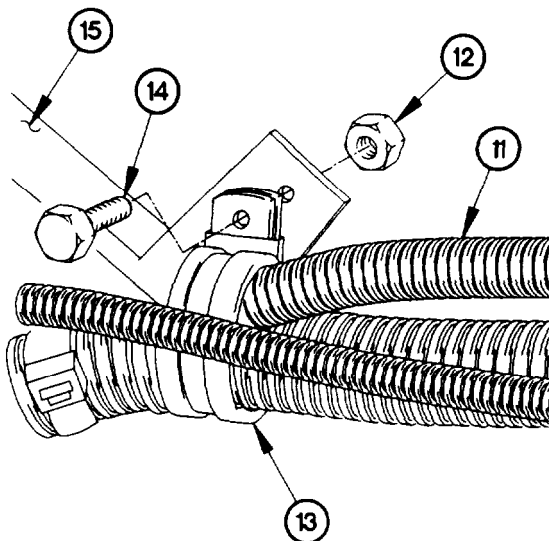


7-135. WINCH CONTROL VALVE CABLE ASSEMBLY REPLACEMENT (CONT)

- (2) Remove nut (3), lockwasher (4), clamp (5), nut (6), and terminal lugs TL320 (7), TL111 (8), and TL83 (9) from screw (10). Discard lockwasher.
- (3) Remove clamp (5) from winch control valve cable assembly (11).



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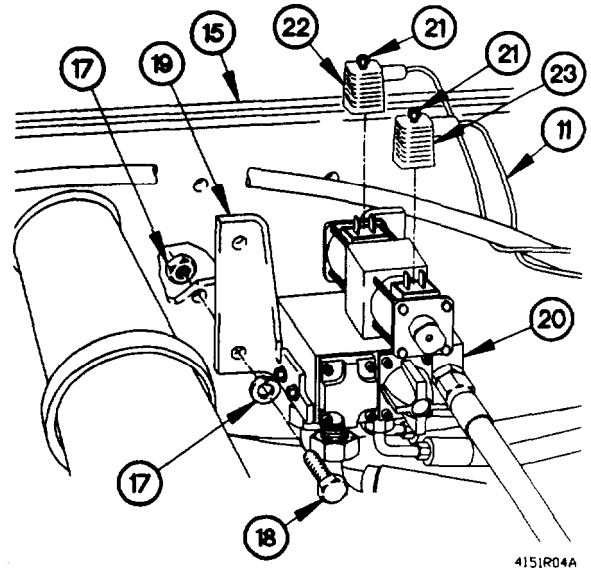


4151R03A

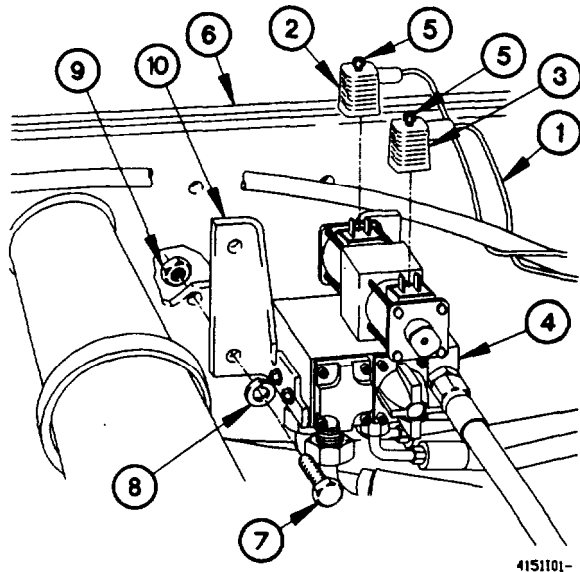
NOTE

- Other hoses, cable assemblies, and terminal lugs are removed with clamps and winch control valve cable assembly.
 - Steps (4) and (5) require the aid of an assistant.
- (4) Remove three self-locking nuts (12), clamps (13), winch control valve cable assembly (11), and three screws (14) from right frame rail (15). Discard self-locking nuts.
 - (5) Remove three clamps (13) from winch control valve cable assembly (11).

- (6) Remove four nuts (16), washers (17), and screws (18) from 15K SRW control valve bracket (19).
- (7) Move 15K SRW control valve (20) away from right frame rail (15).
- (8) Loosen two captive screws (21) and remove connectors L4 (22) and L5 (23) from 15K SRW control valve (20).
- (9) Remove winch control valve cable assembly (11) from vehicle.



b. Installation



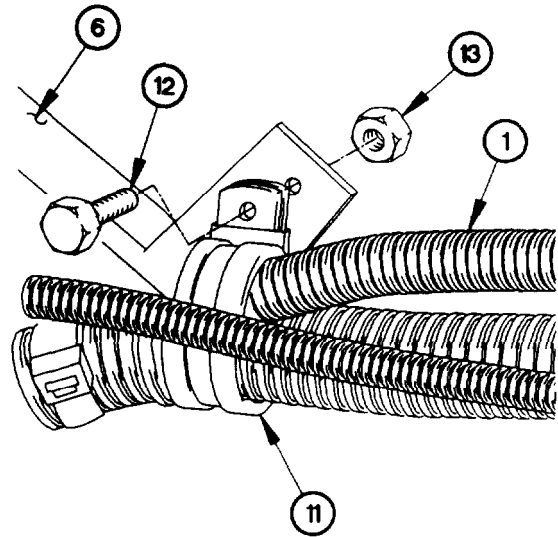
- (1) Position winch control valve cable assembly (1) on
- (2) Install connectors L4 (2) and L5 (3) on 15K SRW control valve (4).
- (3) Tighten two captive screws (5) in connectors L4 (2) and L5 (3).
- (4) Position 15K SRW control valve (4) on right frame rail (6).
- (5) Position four screws (7), washers (8), and nuts (9) in 15K SRW control valve bracket (10).
- (6) Tighten four nuts (9) to 18-22 lb-ft (24-29 N•m).

7-135. WINCH CONTROL VALVE CABLE ASSEMBLY REPLACEMENT (CONT)

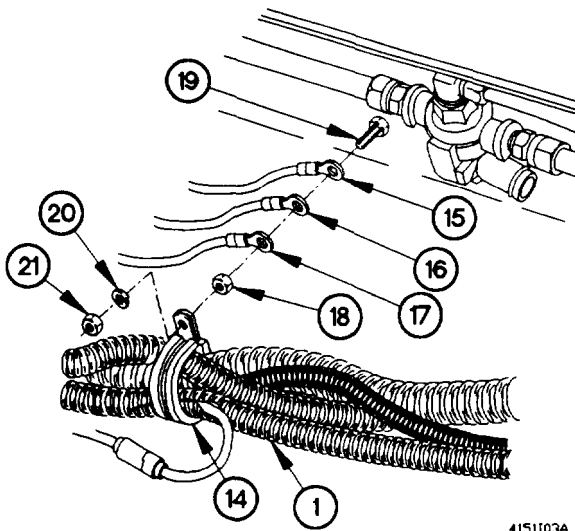
NOTE

- Other hoses, cable assemblies, and terminal lugs are installed with clamps and winch control valve cable assembly.
- Steps (7) and (8) require the aid of an assistant.

- (7) Position three clamps (11) on winch control valve cable assembly (1).
- (8) Install winch control valve cable assembly (1) on right frame rail (6) with three clamps (11), screws (12), and self-locking nuts (13).



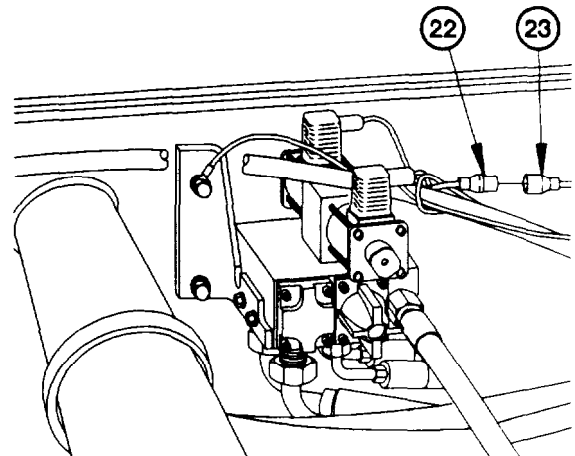
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- (9) Position clamp (14) on winch control valve cable assembly (1).
- (10) Install terminal lugs TL83 (15), TL111 (16), TL320 (17), nut (18), clamp (14) and winch control valve cable assembly (1) on screw (19) with lockwasher (20), and nut (21).

- (11) Connect connector J215 (22) to connector P215 (23).



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c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Start engine (TM 9-2320-366-10-1).
- (3) Check 15K SRW operation (TM 9-2320-366-10-2).
- (4) Shut down engine (TM 9-2320-366-10-1).

End of Task.

7-136. TRANSMISSION AUXILIARY OIL COOLER FAN CABLE ASSEMBLY REPLACEMENT

This task covers:

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Removal (M1083 with winch/M1084/M1085 with winch/M1086/M1090/M1094) b. Installation (M1083 with winch/M1084/M1085 with winch/M1086/M1090/M1094) c. Removal (M1083 w/o winch/M1085 w/o winch/M1092/M1093 w/o winch/M1096) | <ul style="list-style-type: none"> d. Installation (M1083 w/o winch/M1085 w/o winch/M1092/M1093 w/o winch/M1096) e. Removal (M1088 w/o winch) f. Installation (M1088 w/o winch) g. Follow-On Maintenance |
|---|--|

INITIAL SETUP

Equipment Conditions

Dump body raised to maintenance position (M1090/M1094) (TM 9-2320-366-10-1).
 Batteries disconnected (para 7-57).
 Lower radiator fan shroud removed (c. thru f.) (para 6-4).
 Personnel heater removed for access (c. thru f.) para 18-9).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Goggles, Industrial (Item 15, Appendix C)

Tools and Special Tools (Cont)

Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
 Socket Set, Socket Wrench (Item 34, Appendix C)

Materials/Parts

Ties, Cable, Plastic (Item 69, Appendix D)
 Nut, Self-Locking (4) (Item 128, Appendix G)
 Nut, Self-Locking (2) (Item 150, Appendix G)



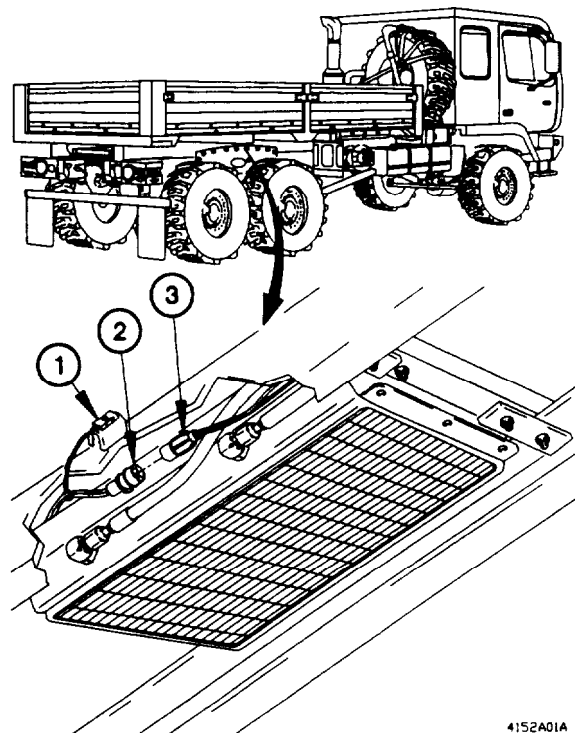
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

- a. Removal (M1083 with winch/M1084/M1085 with winch/M1086/M1090/M1094).

NOTE

Remove plastic cable ties as required.

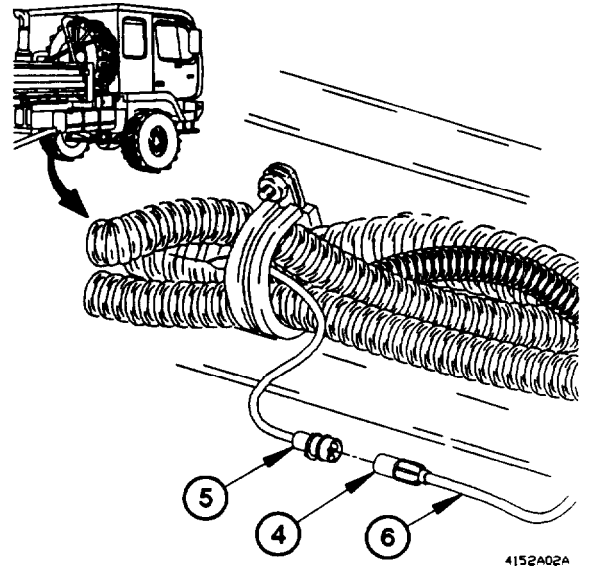
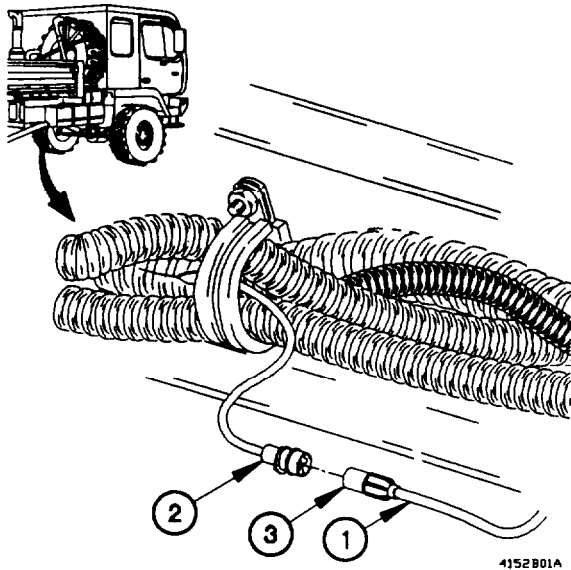
- (1) Disconnect connector clamp (1) from connector P209 (2).
- (2) Disconnect connector P209 (2) from connector J209 (3)



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- (3) Disconnect connector P209B (4) from connector J209B (5).
- (4) Remove transmission auxiliary oil cooler fan cable assembly (6) from vehicle.

b. Installation (M1083 with winch/M1084/M1085 with winch/M1086/M1090/M1094).

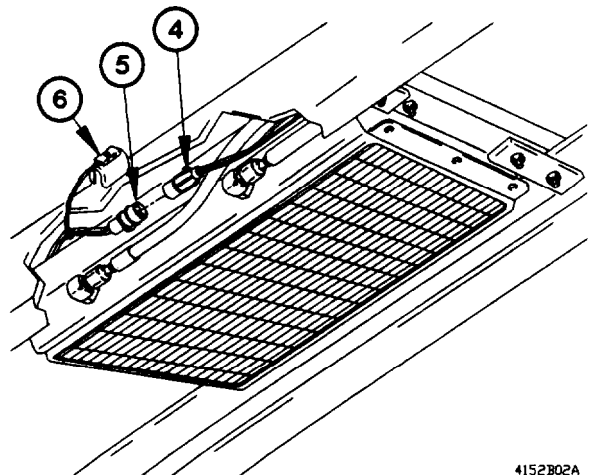


NOTE

Install plastic cable ties as required.

- (1) Position transmission auxiliary oil cooler fan cable assembly (1) on vehicle.
- (2) Connect connector J209B (2) to connector P209B (3).

- (3) Connect connector J209 (4) to connector P209 (5).
- (4) Connect connector clamp (6) on connector P209 (5).



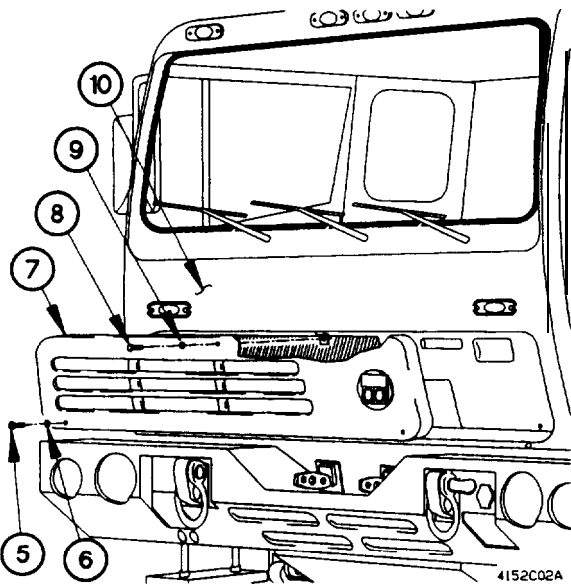
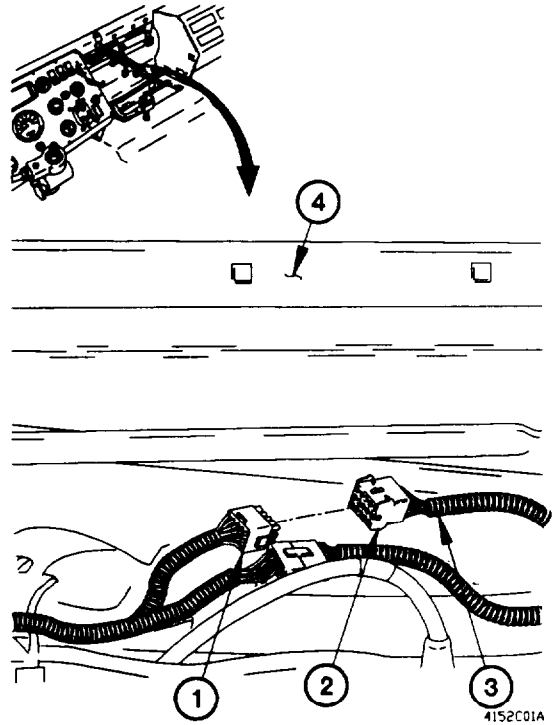
7-136. TRANSMISSION AUXILIARY OIL COOLER FAN CABLE ASSEMBLY REPLACEMENT (CONT)

c. Removal (M1083 w/o winch/M1085 w/o winch /M1092/M1093 w/o winch/M1096).

NOTE

Remove plastic cable ties as required.

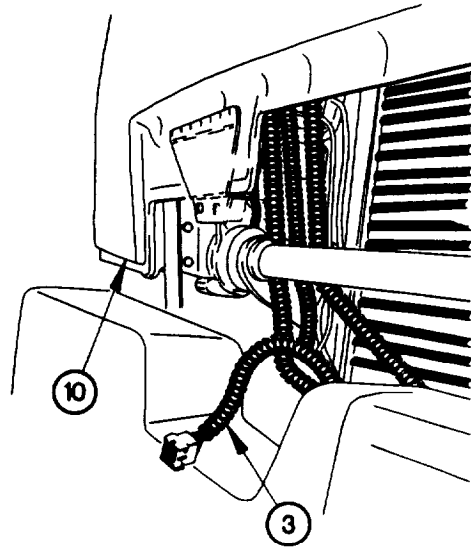
- (1) Disconnect connector J912 (1) from connector P912A (2).
- (2) Remove transmission auxiliary oil cooler fan cable assembly (3) from dashboard (4).



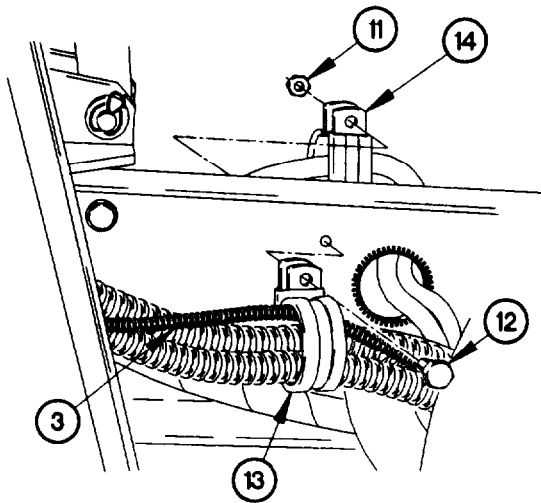
- (3) Remove two screws (5) and washers (6) from front grille (7).
- (4) Remove screw (8), washer (9), and front grille (7) from cab (10).

(5) Remove transmission auxiliary oil cooler fan cable assembly (3) from cab (10).

(6) Raise cab (TM 9-2320-366-10-1).



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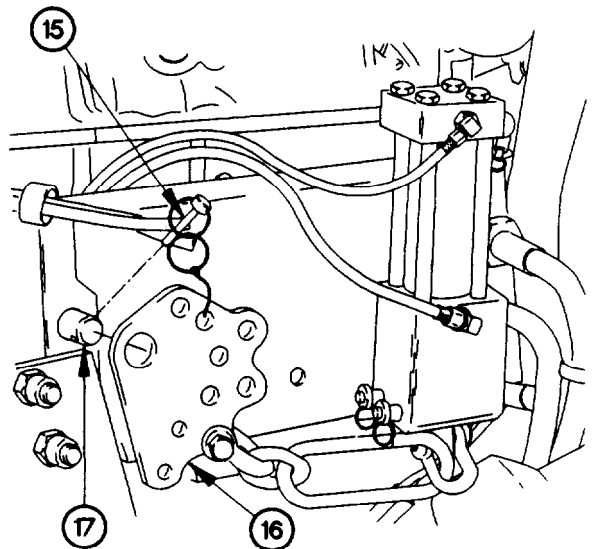


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(7) Remove self-locking nut (11) and screw (12) from clamps (13 and 14). Discard self-locking nut.

(8) Remove transmission auxiliary oil cooler fan cable assembly (3) from clamp (13).

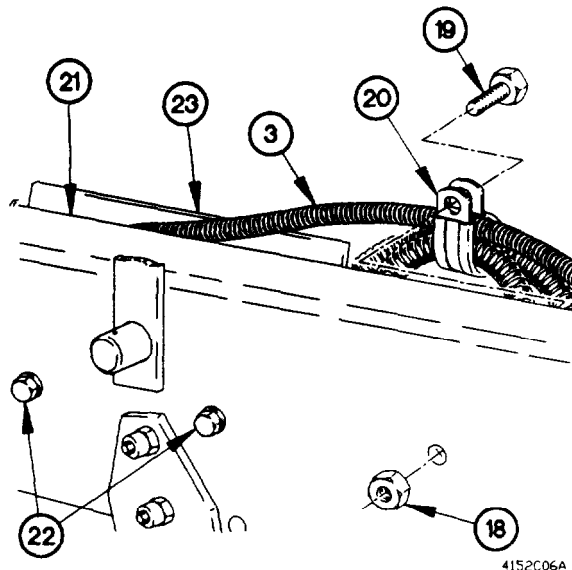
(9) Remove spring pin (15) and suspension compression plate (16) from suspension compression plate stud (17).



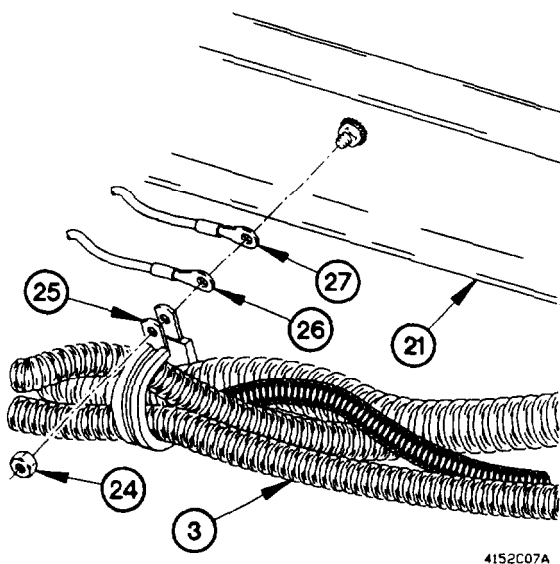
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7-136. TRANSMISSION AUXILIARY OIL COOLER FAN CABLE ASSEMBLY REPLACEMENT (CONT)

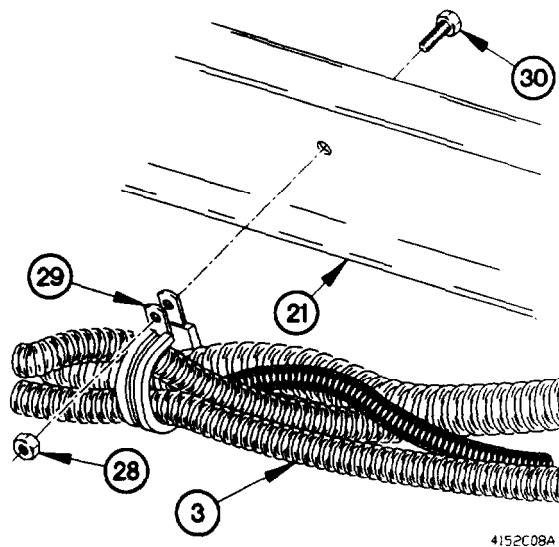
- (10) Remove self-locking nut (18), screw (19), clamp (20), and transmission auxiliary oil cooler fan cable assembly (3) from frame rail (21). Discard self-locking nut.
- (11) Remove transmission auxiliary oil cooler fan cable assembly (3) from clamp (20).
- (12) Loosen two screws (22) in heat shield assembly (23).
- (13) Remove transmission auxiliary oil cooler fan cable assembly (3) from heat shield assembly (23).



- (14) Remove self-locking nut (24), clamp (25), and terminal lugs TL83 (26) and TL101 (27) from frame rail (21). Discard self-locking nut.
- (15) Remove transmission auxiliary oil cooler fan cable assembly (3) from clamp (25).

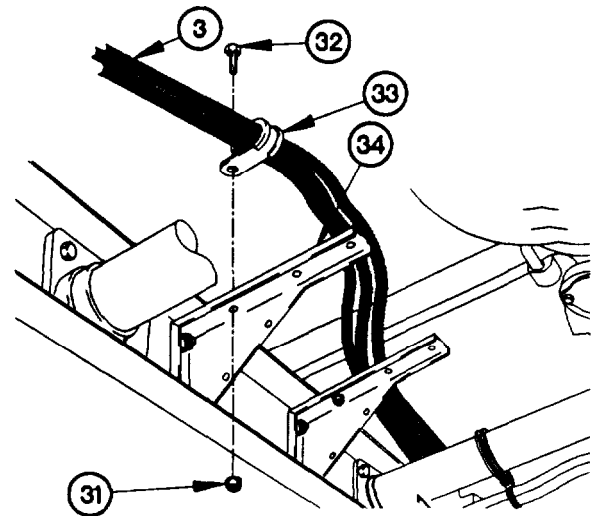


- (16) Remove self-locking nut (28), clamp (29), screw (30), and transmission auxiliary oil cooler fan cable assembly (3) from frame rail (21). Discard self-locking nut.
- (17) Remove clamp (29) from transmission auxiliary oil cooler fan cable assembly (3).

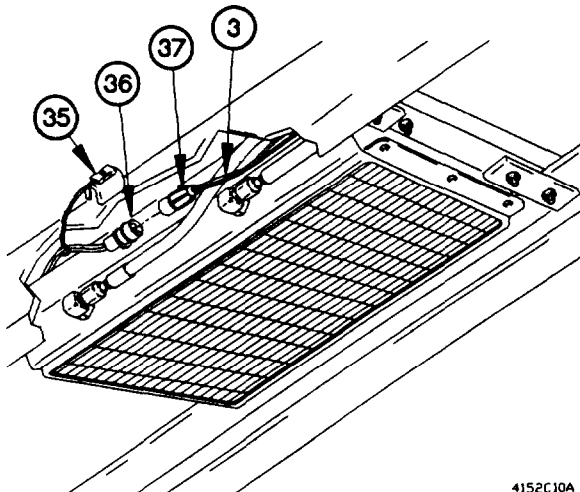


(18) Remove two self-locking nuts (31), screws (32), clamps (33), and transmission auxiliary oil cooler fan cable assembly (3) from two muffler brackets (34). Discard self-locking nuts.

(19) Remove two clamps (33) from transmission auxiliary oil cooler fan cable assembly (3).



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4152C10A

(20) Disconnect connector clamp (35) from connector P209 (36).

(21) Disconnect connector J209 (37) from connector P209 (36).

(22) Remove transmission auxiliary oil cooler fan cable assembly (3) from vehicle.

d. Installation (M1083 w/o winch/M1085 w/o winch/M1092/M1093 w/o winch/M 1096).

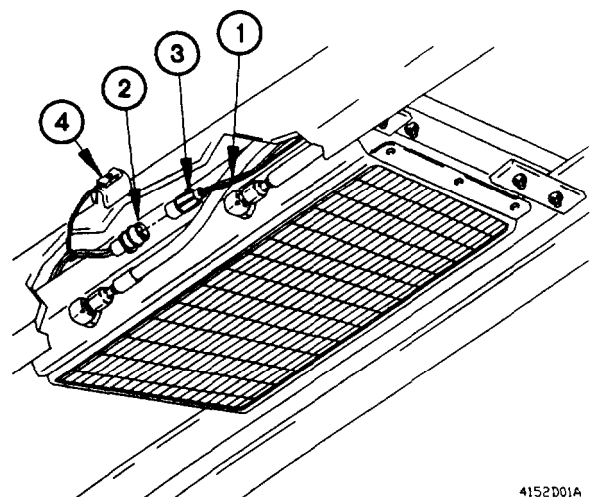
NOTE

Install plastic cable ties as required.

(1) Position transmission auxiliary oil cooler fan cable assembly (1) on vehicle.

(2) Connect connector P209 (2) to connector J209 (3).

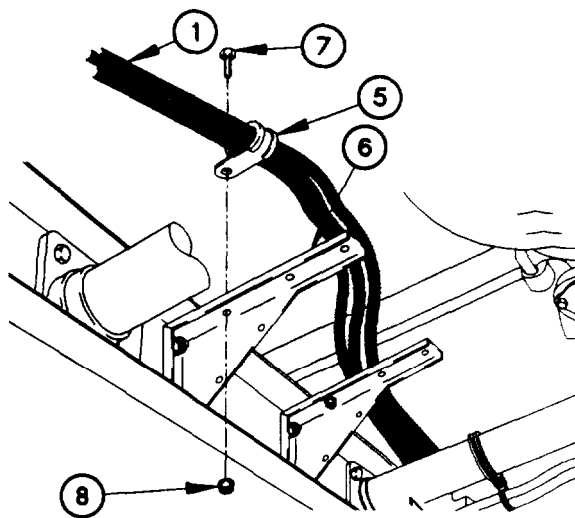
(3) Connect connector clamp (4) on connector P209 (2).



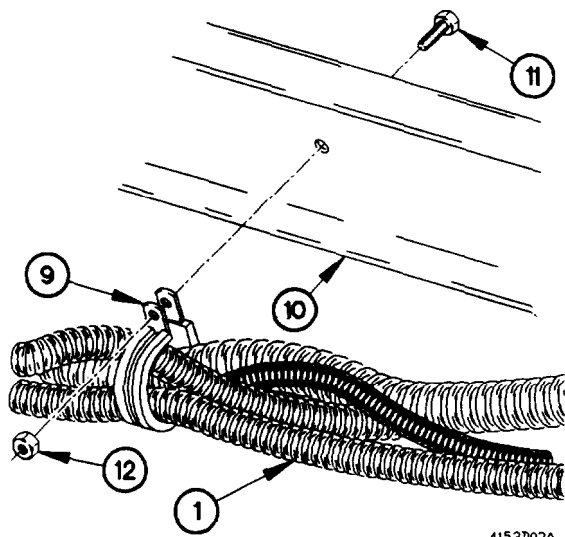
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7-136. TRANSMISSION AUXILIARY OIL COOLER FAN CABLE ASSEMBLY REPLACEMENT (CONT)

- (4) Position two clamps (5) on transmission auxiliary oil cooler fan cable assembly (1).
- (5) Position two clamps (5) on muffler brackets (6) with screws (7) and self-locking nuts (8).
- (6) Tighten two self-locking nuts (8) 84-108 lb-in. (10-12 N•m).

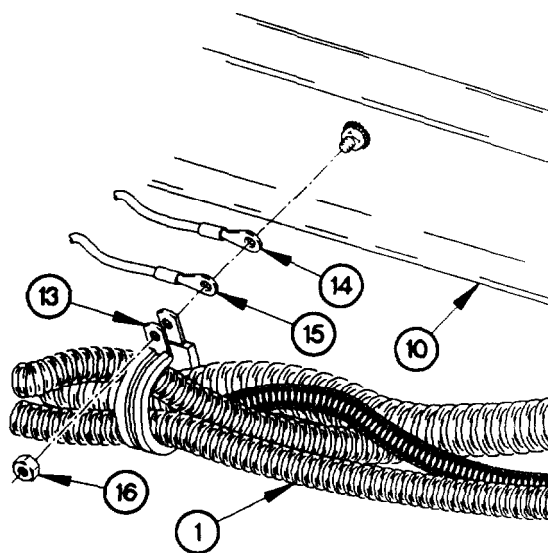


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4152D03A

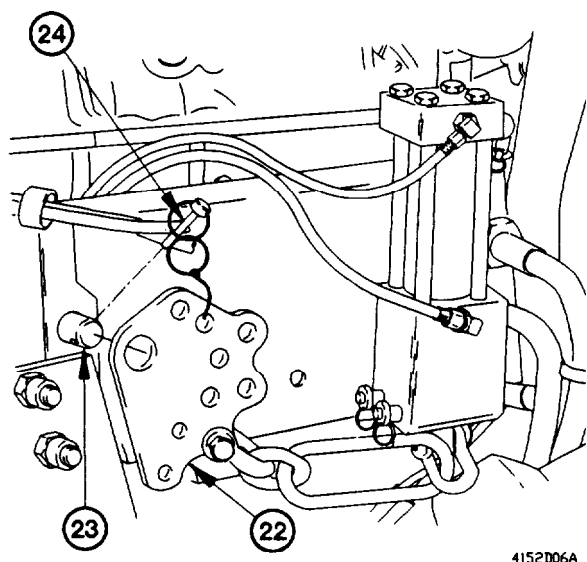
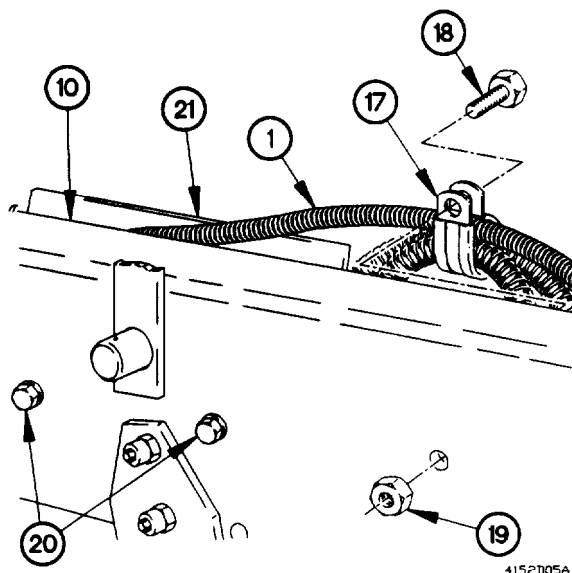
- (7) Position clamp (9) on transmission auxiliary oil cooler fan cable assembly (1).
- (8) Position clamp (9) on frame rail (10) with screw (11) and self-locking nut (12).
- (9) Tighten self-locking nut (12) to 120-144 lb-in. (14-16 N•m).



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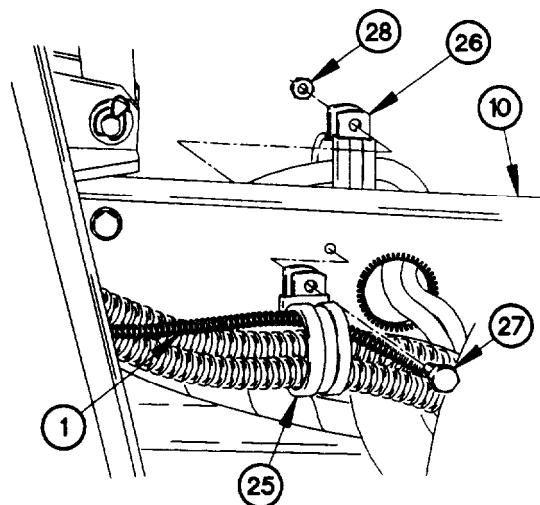
- (10) Position clamp (13) on transmission auxiliary oil cooler fan cable assembly (1).
- (11) Position terminal lugs TL101 (14) and TL83 (15) and clamp (13) on frame rail (10) with self-locking nut (16).
- (12) Tighten self-locking nut (16) to 84-108 lb-in. (10-12 N•m).

- (13) Position transmission auxiliary oil cooler fan cable assembly (1) in clamp (17).
- (14) Position clamp (17) on frame rail (10) with screw (18) and self-locking nut (19).
- (15) Tighten self-locking nut (19) to 120-144 lb-in. (14-16 N•m).
- (16) Tighten two screws (20) in heat shield assembly (21).



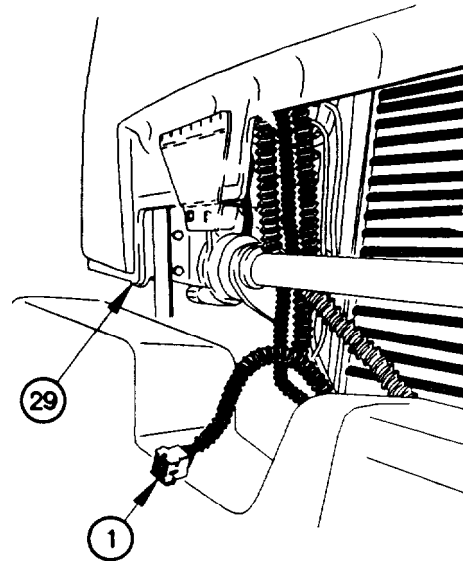
- (17) Install suspension compression plate (22) on suspension compression plate stud (23) with spring pin (24).

- (18) Position transmission auxiliary oil cooler fan cable assembly (1) in clamp (25).
- (19) Position clamps (25 and 26) on frame rail (10) with screw (27) and self-locking nut (28).
- (20) Tighten self-locking nut (28) to 120-144 lb-in. (14-16 N•m).



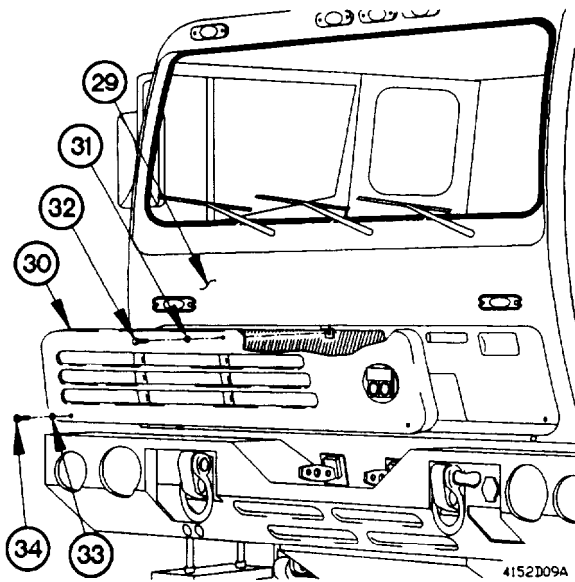
7-136. TRANSMISSION AUXILIARY OIL COOLER FAN CABLE ASSEMBLY REPLACEMENT (CONT)

- (21) Position transmission auxiliary oil cooler fan cable assembly (1) in cab (29).
- (22) Lower cab (TM 9-2320-366-10-1).



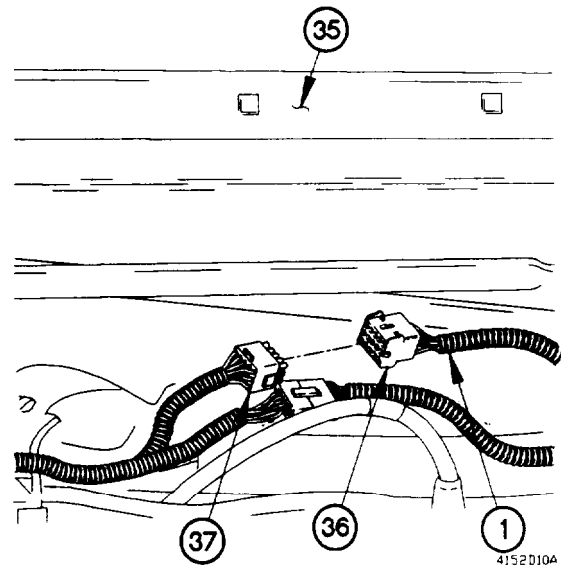
4152D08A

- (23) Position front grille (30) on cab (29) with washer (31) and screw (32).
- (24) Position two washers (33) and screws (34) in front grille (30).
- (25) Tighten screw (32) to 48-60 lb-in. (5-7 N•m).
- (26) Tighten two screws (34) to 24 lb-in. (3 N•m).



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- (27) Position transmission auxiliary oil cooler fan cable assembly (1) in dashboard (35).
- (28) Connect connector P912A (36) to connector J912 (37).



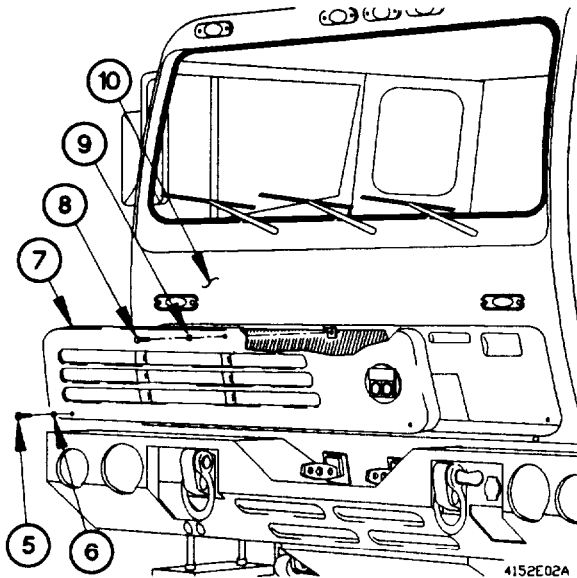
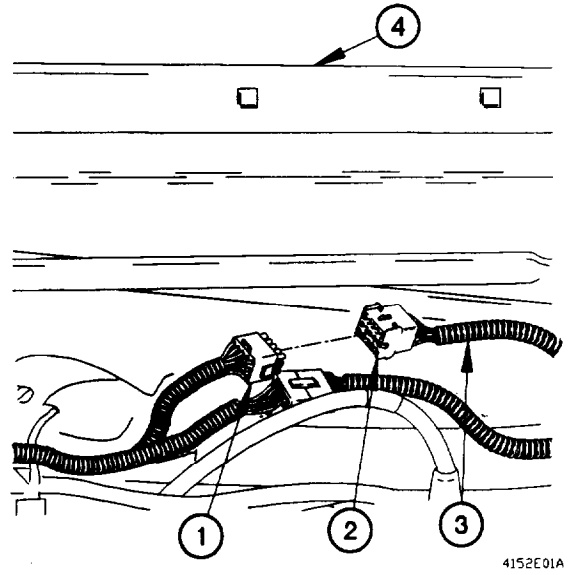
4152D10A

e. Removal (M1099 w/o winch).

NOTE

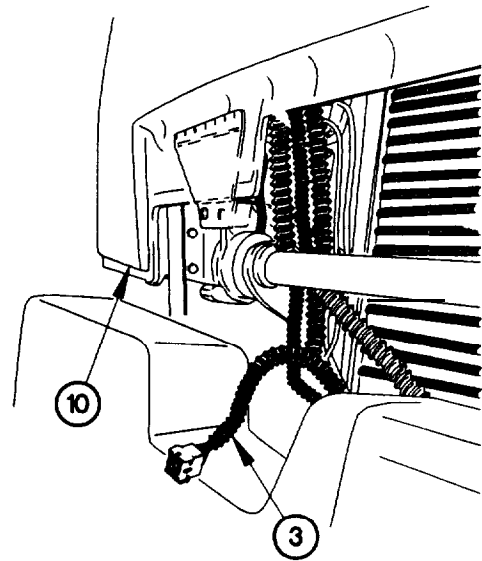
Remove plastic cable ties as required.

- (1) Disconnect connector J912 (1) from connector P912 (2).
- (2) Remove transmission auxiliary oil cooler fan cable assembly (3) from dashboard (4).



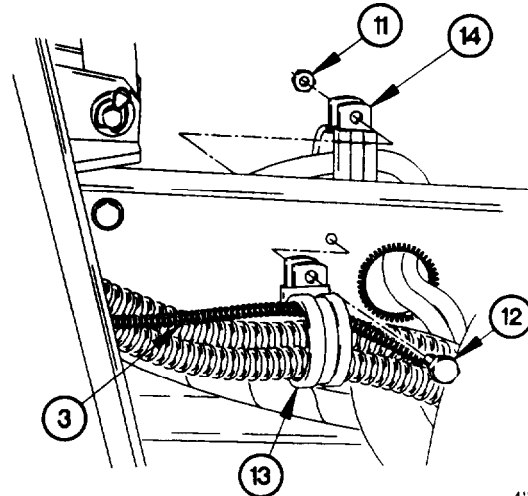
- (3) Remove two screws (5) and washers (6) from front grille (7).
- (4) Remove screw (8), washer (9), and front grille (7) from cab (10).

- (5) Remove transmission auxiliary oil fan cable assembly (3) from cab (10).
- (6) Raise cab (TM 9-2320-366-10-1).

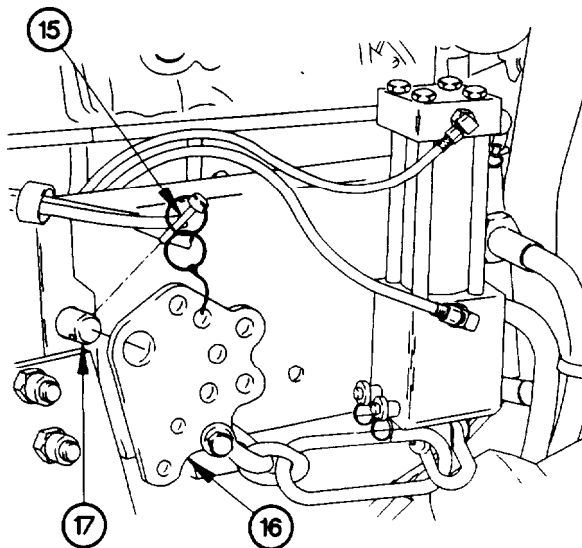


7-136. TRANSMISSION AUXILIARY OIL COOLER FAN CABLE ASSEMBLY REPLACEMENT (CONT)

- (7) Remove self-locking nut (11) and screw (12) from clamps (13 and 14). Discard self-locking nut.
- (8) Remove transmission auxiliary oil cooler fan cable assembly (3) from clamp (13).



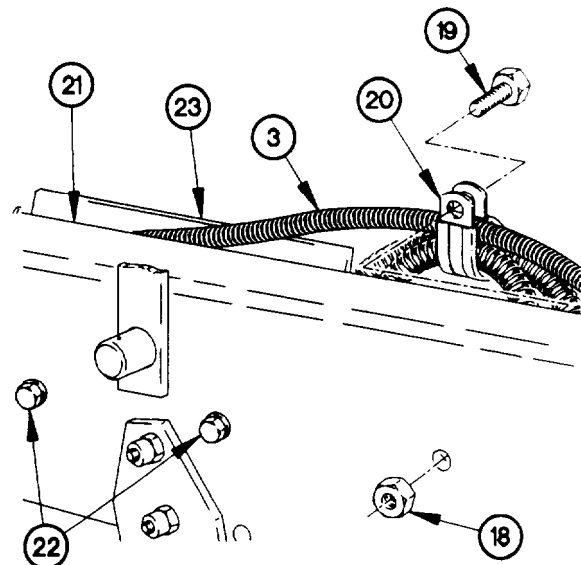
4152E04A



4152E05A

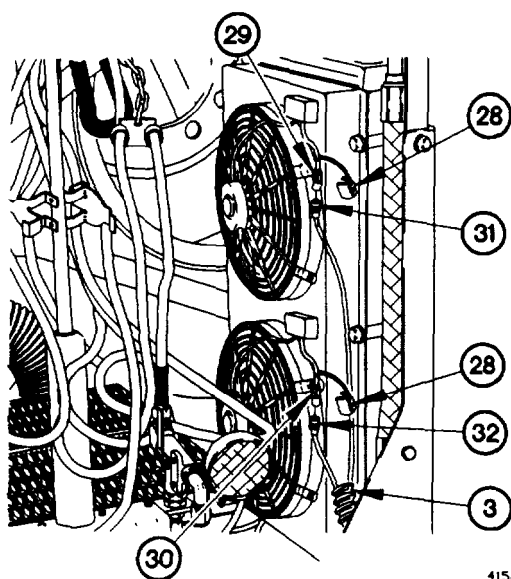
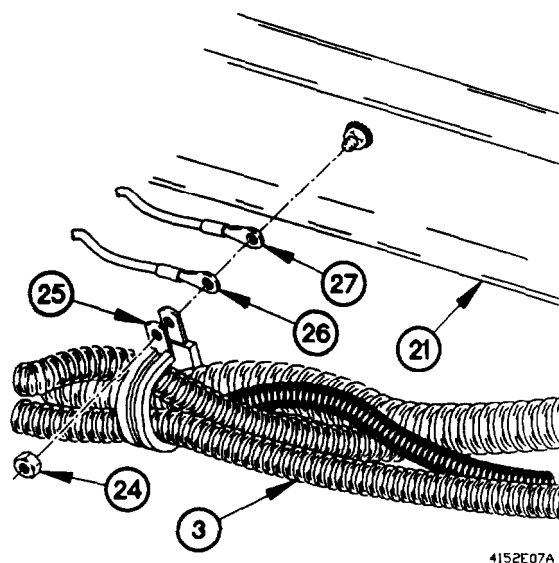
- (9) Remove spring pin (15) and suspension compression plate (16) from suspension compression plate stud (17).

- (10) Remove self-locking nut (18), screw (19), clamp (20) and transmission auxiliary oil cooler fan cable assembly (3) from frame rail (21).
- (11) Remove transmission auxiliary oil cooler fan cable assembly (3) from clamp (20).
- (12) Loosen two screws (22) in heat shield assembly (23).
- (13) Remove transmission auxiliary oil cooler fan cable assembly (3) from heat shield assembly (23).



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- (14) Remove self-locking nut (24), clamp (25), and terminal lugs TL83 (26) and TL101 (27) from frame rail (21). Discard self-locking nut.
- (15) Remove transmission auxiliary oil cooler fan cable assembly (3) from clamp (25).



- (16) Disconnect connector clamps (28) from connectors P209A (29) and P209B (30).
- (17) Disconnect connector P209A (29) from connector J209A (31).
- (18) Disconnect connector P209B (30) from connector J209B (32).
- (19) Remove transmission auxiliary oil cooler fan cable assembly (3) from vehicle.

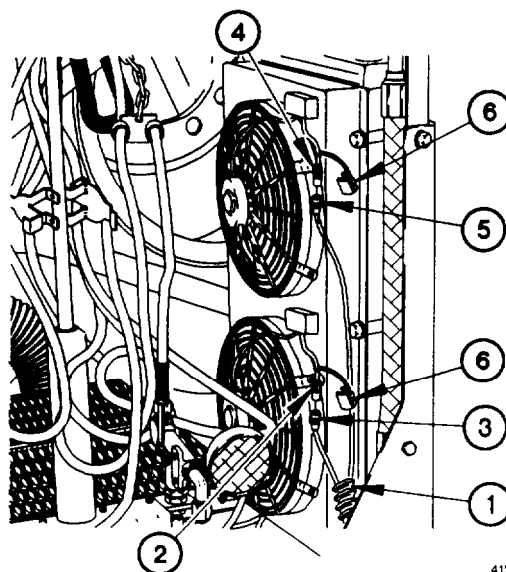
7-136. TRANSMISSION AUXILIARY OIL COOLER FAN CABLE ASSEMBLY REPLACEMENT (CONT)

f. Installation (M1088 w/o winch).

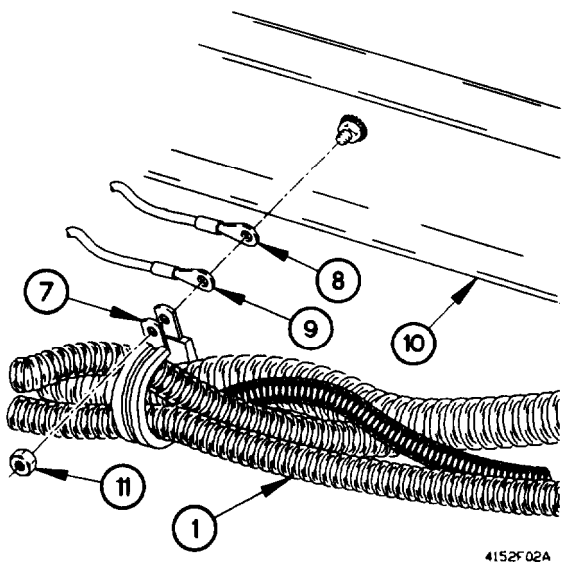
NOTE

Install plastic cable ties as required.

- (1) Position transmission auxiliary oil cooler fan cable assembly (1) on vehicle.
- (2) Connect connector P209B (2) to connector J209B (3).
- (3) Connect connector P209A (4) to connector J209A (5).
- (4) Connect connector clamps (6) on connectors P209B (2) and P209A (4).

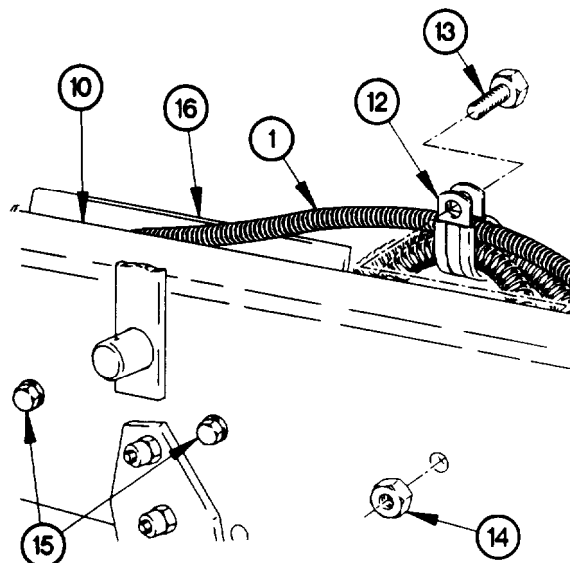


4152F01A



4152F02A

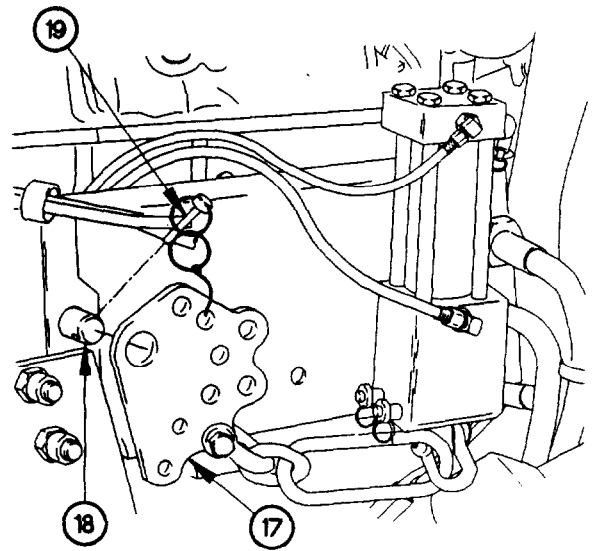
- (5) Position clamp (7) on transmission auxiliary oil cooler fan cable assembly (1).
- (6) Position terminal lugs TL101 (8) and TL83 (9) and clamp (7) on frame rail (10) with self-locking nut (11).
- (7) Tighten self-locking nut (11) to 84-108 lb-in. (10-12 N•m).



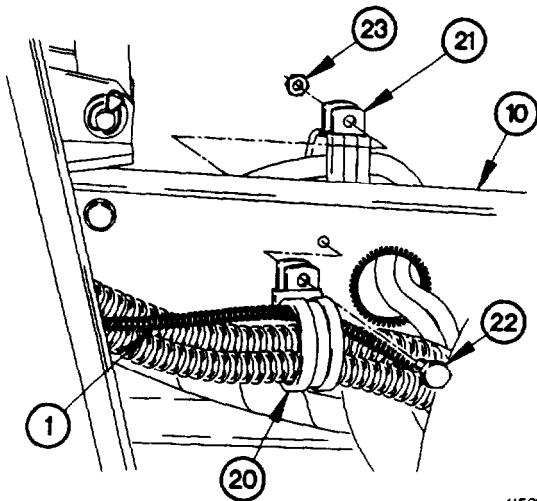
4152F03A

- (8) Position transmission auxiliary oil cooler fan cable assembly (1) in clamp (12).
- (9) Position clamp (12) on frame rail (10) with screw (13) and self-locking nut (14).
- (10) Tighten self-locking nut (14) to 120-144 lb-in. (14-16 N•m).
- (11) Tighten two screws (15) in heat shield assembly (16).

(12) Install suspension compression plate (17) on suspension compression plate stud (18) with spring pin (19).



4152F04A



4152F05A

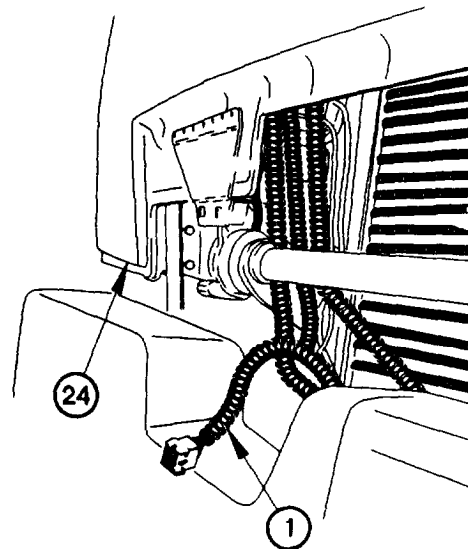
(13) Position transmission auxiliary oil cooler fan cable assembly (1) in clamp (20).

(14) Position clamps (20 and 21) on frame rail (10) with screw (22) and self-locking nut (23).

(15) Tighten self-locking nut (23) to 120-144 lb-in. (14-16 N•m).

(16) Position transmission auxiliary oil cooler fan cable assembly (1) in cab (24).

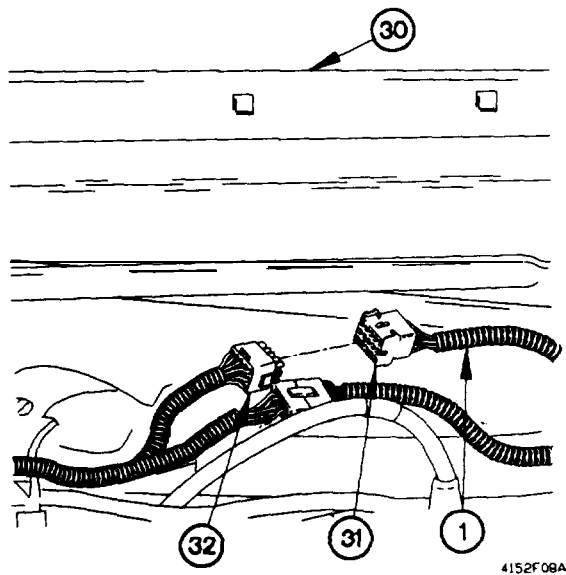
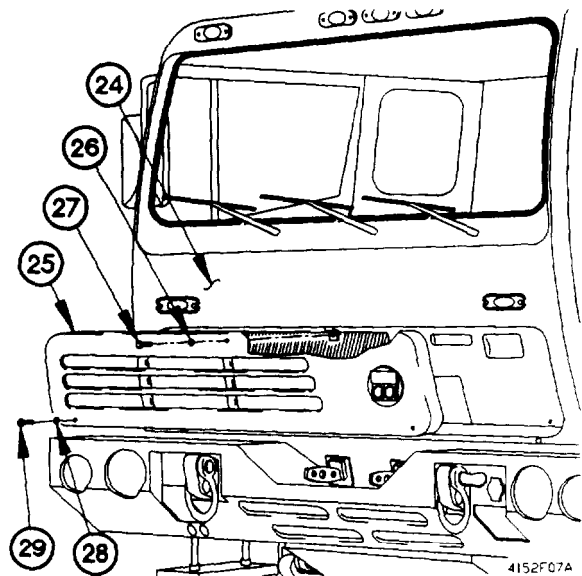
(17) Lower cab (TM 9-2320-366-10-1).



4152F06A

7-136. TRANSMISSION AUXILIARY OIL COOLER FAN CABLE ASSEMBLY REPLACEMENT (CONT)

- (18) Position front grille (25) on cab (24) with washer (26) and screw (27).
- (19) Position two washers (28) and screws (29) in front grille (25).
- (20) Tighten screw (27) to 48-60 lb-in. (5-7 N•m).
- (21) Tighten two screws (29) to 24 lb-in. (3 N•m).



- (22) Position transmission auxiliary oil cooler fan cable assembly (1) in dashboard (30).
- (23) Connect connector P912 (31) to connector J912 (32).

g. Follow-On Maintenance.

- (1) Lower dump body (M1090/M1094) (TM 9-2320-366-10-1).
- (2) Install personnel heater (c. thru f.) (para 18-9).
- (3) Install kick panel (c. thru f.) (para 16-3).
- (4) Connect batteries (para 7-57).
- (5) Start engine (TM 9-2320-366-10-1).
- (6) Check operation of transmission auxiliary oil cooler fan(s) (TM 9-2320-366-10-1).
- (7) Shut down engine (TM 9-2320-366-10-1).

End of Task.

7-137. WTEC II CAB TRANSMISSION HARNESS REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP**Equipment Conditions**

Instrument panel assembly removed for access (para 7-15).
 Kick panel removed (para 16-3).
 Personnel heater removed (para 18-9).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Lockwasher (4) (Item 76, Appendix G)
 Gasket (Item 25, Appendix G)

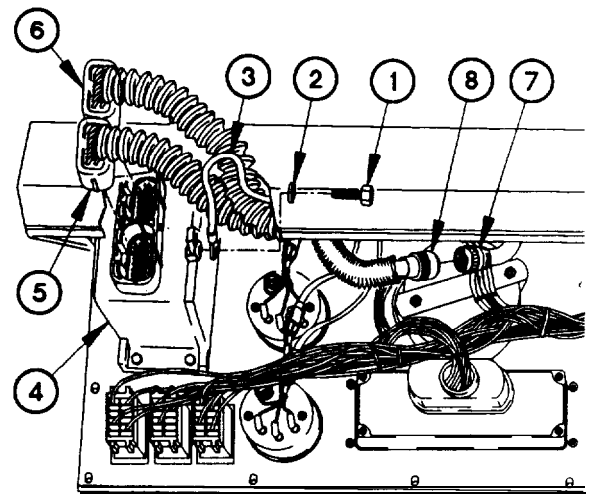
Personnel Required

(2)

a. Removal.**NOTE**

Tag wires and connection points prior to disconnecting.

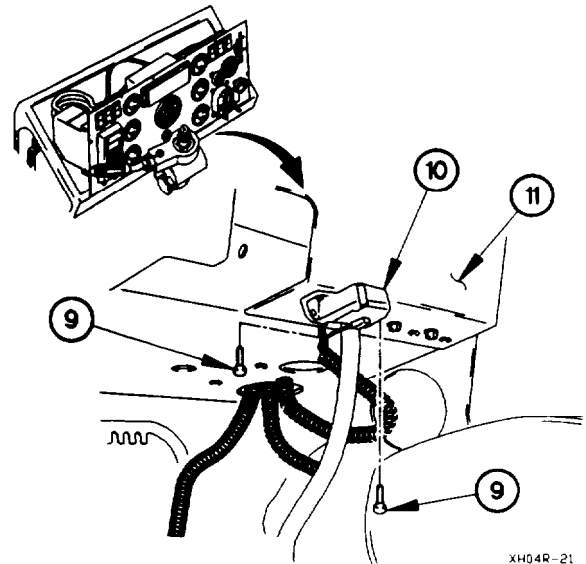
- (1) Remove screw (1), washer (2), and ground terminal lug (3) from WTEC II TEPSS (4).
- (2) Disconnect connector J115 (5) from WTEC II TEPSS (4).
- (3) Disconnect connector J114 (6) from WTEC II TEPSS (4).
- (4) Disconnect connector J118 (7) from connector P118 (8).



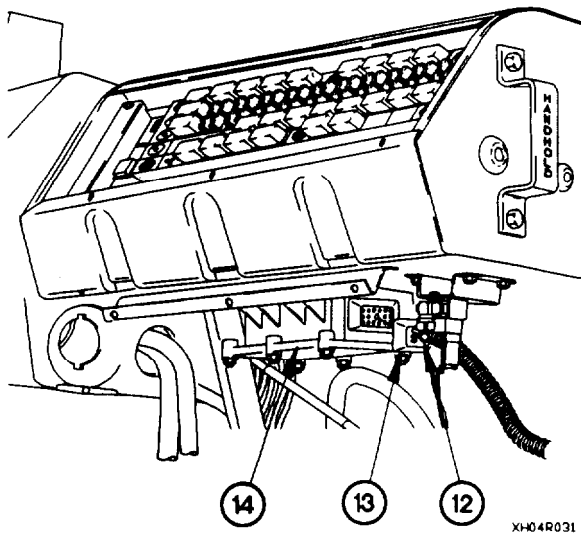
XH04R011

7-137. CAB TRANSMISSION HARNESS REPLACEMENT (CONT)

- (5) Remove two screws (9) and connector J117 (10) from dashboard (11).



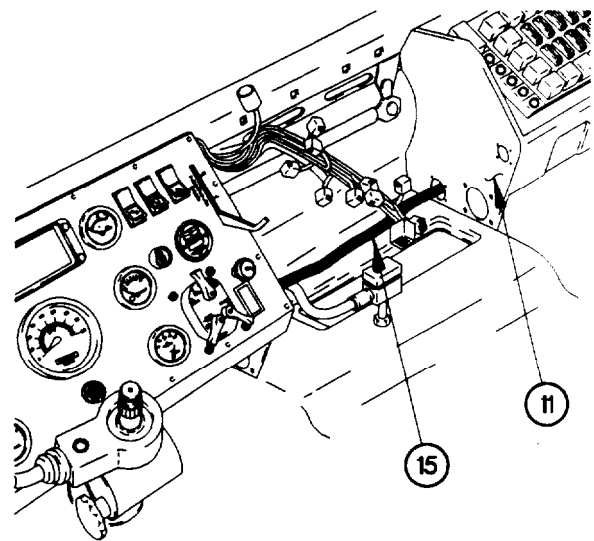
XH04R-21



XH04R031

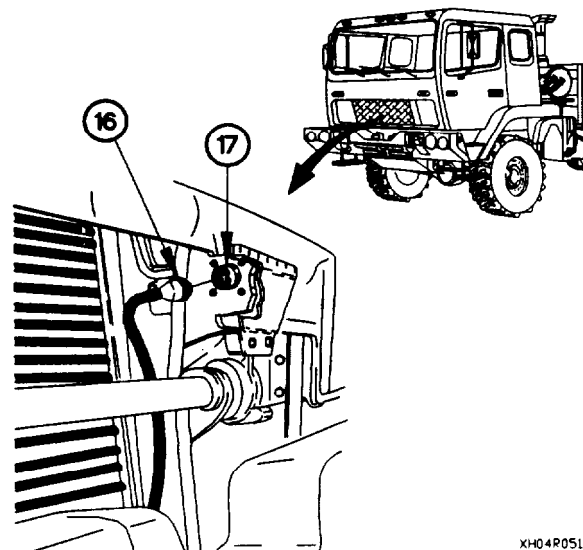
- (6) Loosen screw (12) in connector J116 (13).
 (7) Disconnect connector J116 (13) from WTEC II VIM (14).

- (8) Remove WTEC II cab transmission harness (15) from dashboard (11).

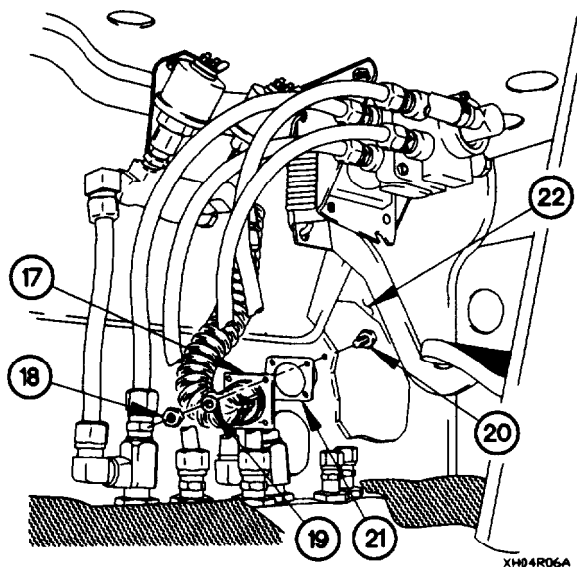


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- (9) Disconnect connector P119 (16) from connector J119 (17).



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XH04R06A

CAUTION

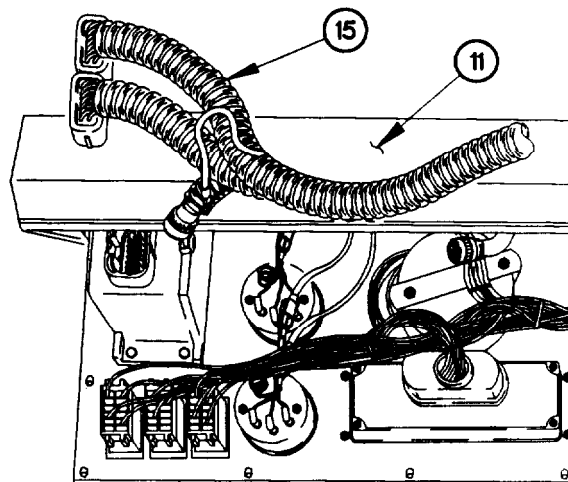
Cab transmission harness connectors are easily damaged. Use care when routing harness through dashboard. Failure to comply may result in damage to equipment.

- (11) Remove WTEC II cab transmission harness (15) from left side of dashboard (11).

NOTE

Step (10) requires the aid of an assistant.

- (10) Remove four nuts (18), lockwashers (19), screws (20), gasket (21), and connector J119 (17) from cab (22). Discard lockwashers and gasket.



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7-137. CAB TRANSMISSION HARNESS REPLACEMENT (CONT)

b. Installation.

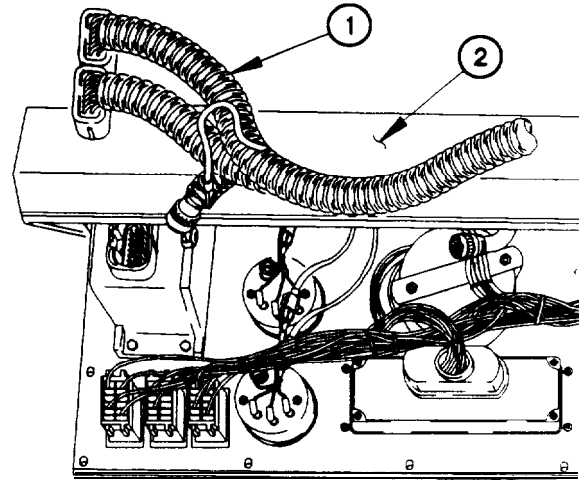
CAUTION

Cab transmission harness connectors are easily damaged. Use care when routing harness through dashboard. Failure to comply may result in damage to equipment.

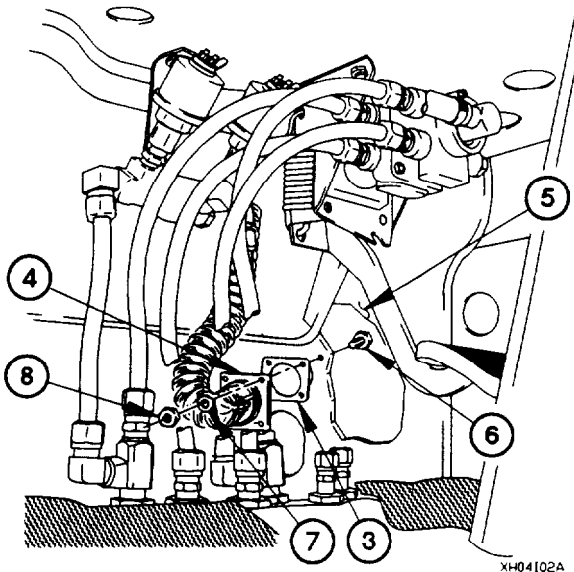
NOTE

If replacing WTEC II cab transmission harness with WTEC III cab transmission harness perform para 7-138.

- (1) Route WTEC II cab transmission harness (1) through left side of dashboard (2).



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XH04102A

WARNING

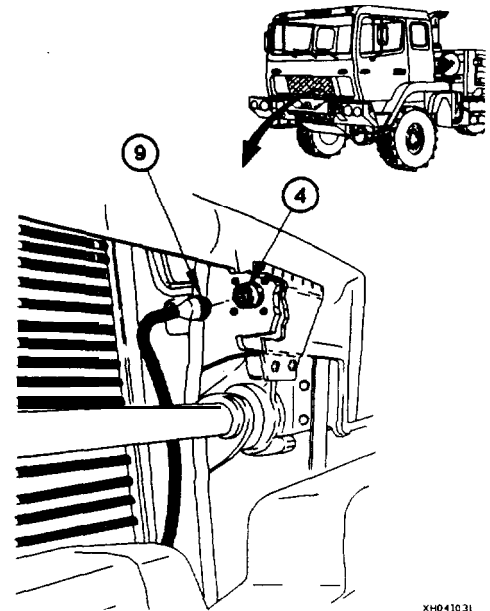
Ensure WTEC II cab transmission harness does not interfere with throttle linkage. Failure to comply may result in injury to personnel.

NOTE

Step (2) requires the aid of an assistant.

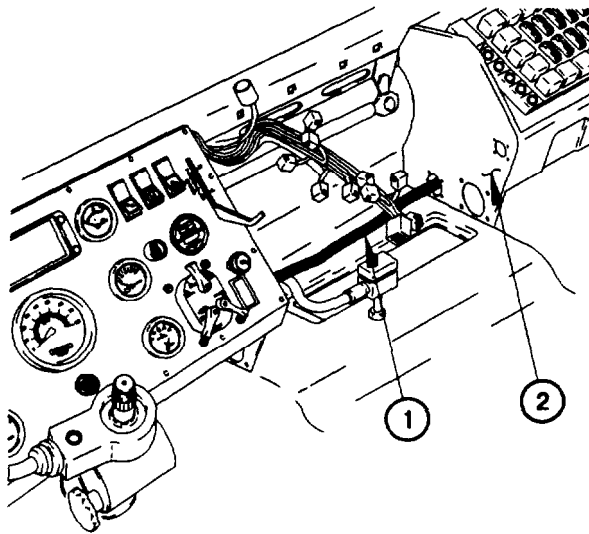
- (2) Install gasket (3) and connector J119 (4) on cab (5) with four screws (6), lockwashers (7), and nuts (8).

(3) Connect connector P119 (9) to connector J119 (4).



XH041031

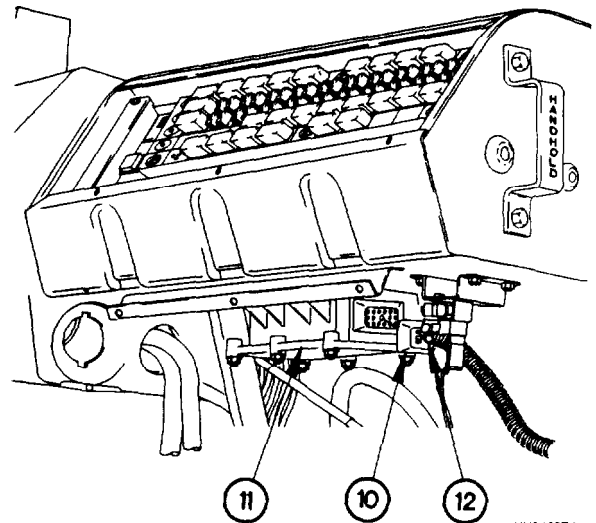
(4) Route WTEC II cab transmission harness (1) through right side of dashboard (2).



XH04104A

(5) Connect connector J116 (10) to WTEC II VIM (11).

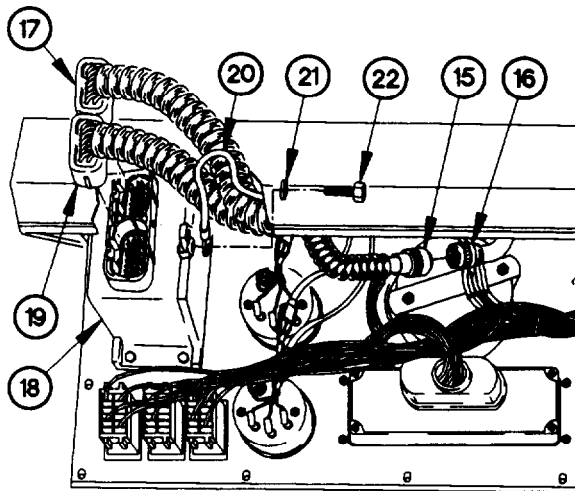
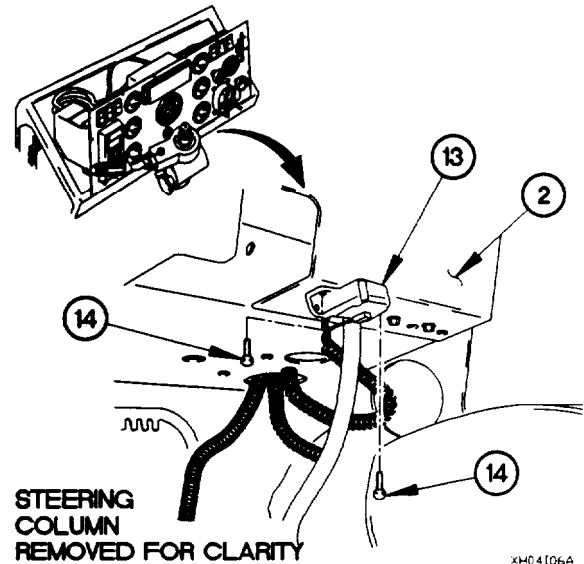
(6) Tighten screw (12) in connector J116 (10).



XH04105A

7-137. CAB TRANSMISSION HARNESS REPLACEMENT (CONT)

- (7) Install connector J117 (13) on dashboard (2) with two screws (14).



- (8) Connect connector P118 (15) to connector J118 (16).
- (9) Connect connector J114 (17) to WTEC II TEPSS (18).
- (10) Connect connector J115 (19) to WTEC II TEPSS (18).
- (11) Install ground terminal lug (20) on WTEC II TEPSS (18) with washer (21) and screw (22).

c. Follow-On Maintenance.

- (1) Install personnel heater (para 18-9).
- (2) Install kick panel (para 16-3).
- (3) Install instrument panel assembly (para 7-15).
- (4) Operate vehicle and check for proper operation (TM 9-2320-366-10-1).

End of Task

7-138. WTEC III CAB TRANSMISSION HARNESS REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Instrument panel assembly removed for access (para 7-15).
 Kick panel removed (para 16-3)
 Personnel heater removed (para 18-9).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Ties, Cable, Plastic (Item 69, Appendix D)
 Lockwasher (4) (Item 76, Appendix G)
 Gasket (Item 25, Appendix G)

Personnel Required

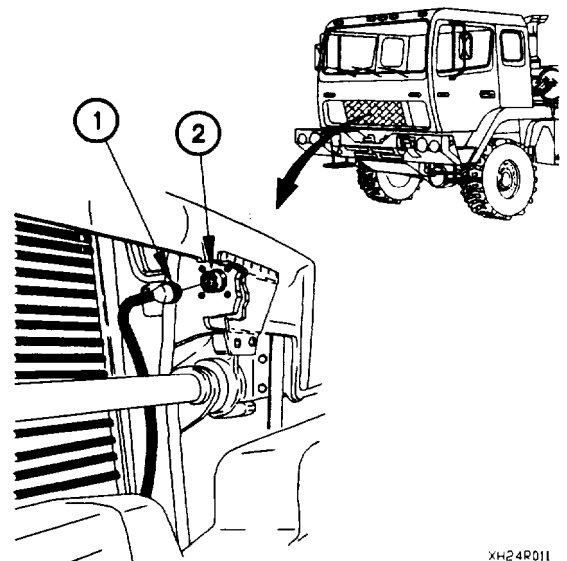
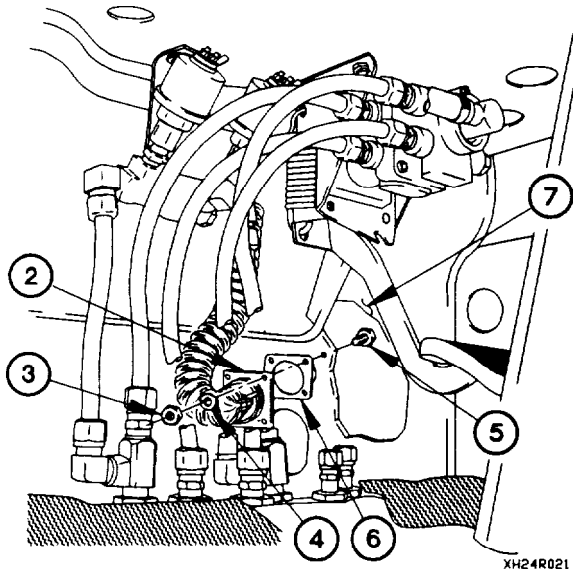
(2)

a. Removal.

NOTE

- Remove plastic cable ties as required.
- Note routing of WTEC III cab transmission harness prior to removal.
- Tag connectors and connection points prior to disconnecting.

- (1) Disconnect connector P119 (1) from connector J119 (2).



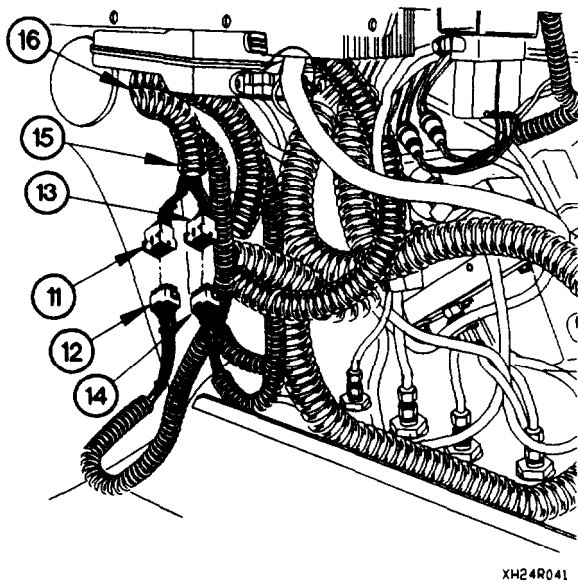
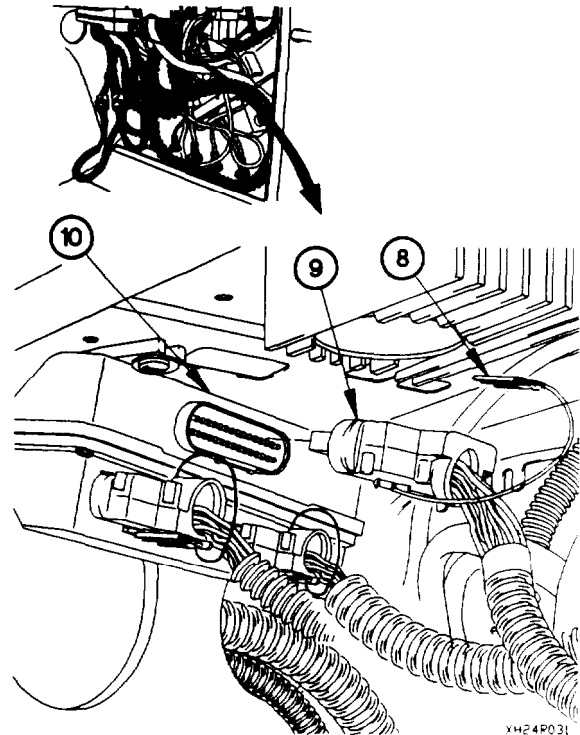
NOTE

Step (2) requires the aid of an assistant.

- (2) Remove four nuts (3), lockwashers (4), screws (5), gasket (6), and connector J119 (2) from cab (7). Discard lockwashers and gasket.

7-138. WTEC III CAB TRANSMISSION HARNESS REPLACEMENT (CONT)

- (3) Disconnect connector clamp (8) from connector P114 (9).
- (4) Disconnect connector P114 (9) from WTEC III transmission ECU (10).

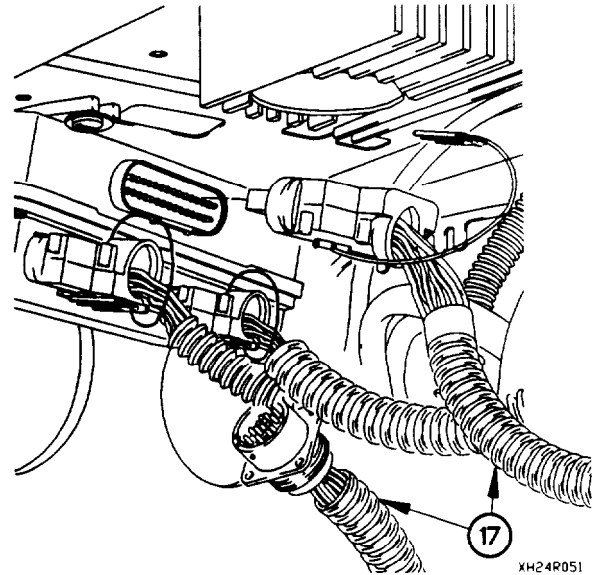


NOTE

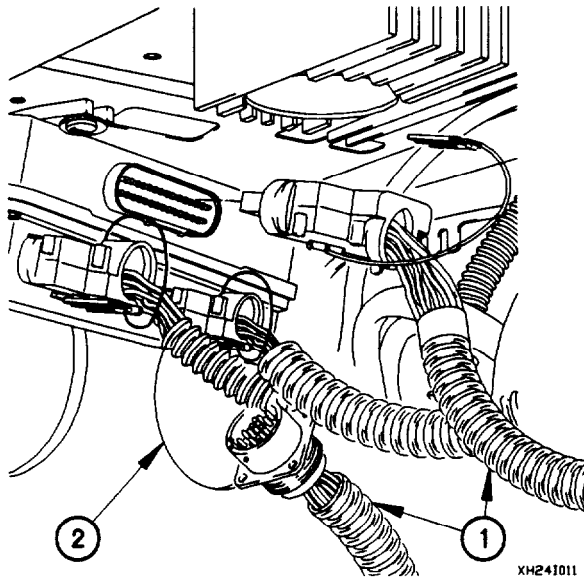
Perform steps (5) through (7) on vehicles equipped with auxiliary panel.

- (5) Disconnect connector J108 (11) from connector P108 (12).
- (6) Disconnect connector J210 (13) from connector P210 (14).
- (7) Pull auxiliary panel cable assembly (15) through forward hole in dashboard (16).

(8) Remove WTEC III cab transmission harness (17) from vehicle.



b. Installation.



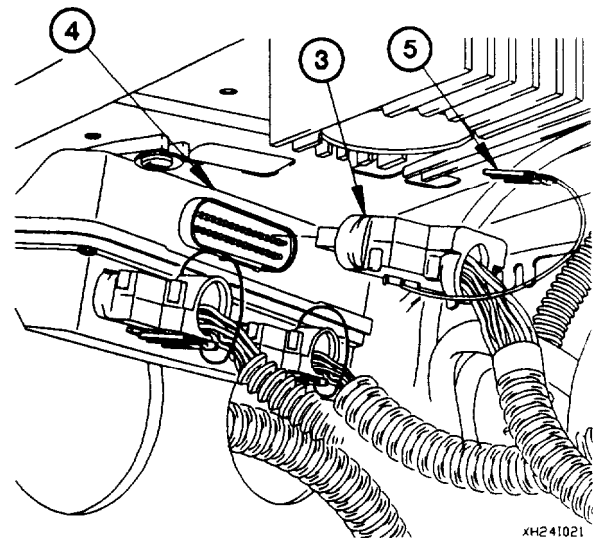
NOTE

- Install plastic cable ties as required.
- Route connector J119 through forward hole in dashboard under kick panel. Route behind personnel heater to left side of dashboard.

(1) Position WTEC III cab transmission harness (1) in dashboard (2).

(2) Connect connector P114 (3) to WTEC III transmission ECU (4).

(3) Connect connector clamp (5) on connector P114 (3).

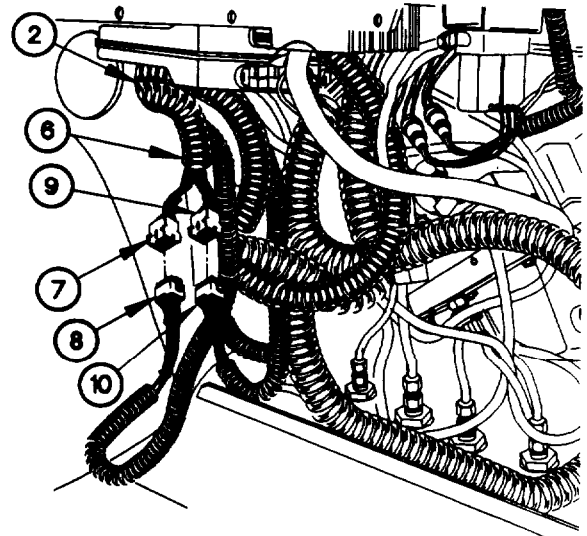


7-138. WTEC III CAB TRANSMISSION HARNESS REPLACEMENT (CONT)

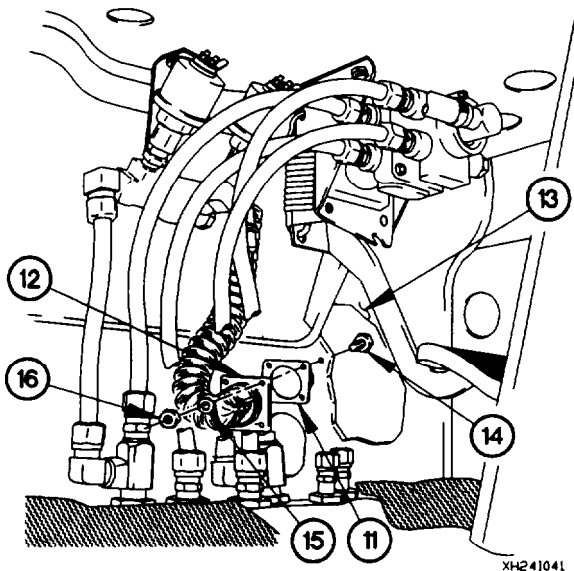
NOTE

Perform steps (4) through (6) on vehicles equipped with auxiliary panel.

- (4) Push auxiliary panel cable assembly (6) back through forward hole in dashboard (2).
- (5) Connect connector P108 (7) to connector J108 (8).
- (6) Connect connector P210 (9) to connector J210 (10).



XH2 41031



XH2 41041

WARNING

Ensure WTEC III cab transmission harness does not interfere with throttle linkage. Failure to comply may result in injury to personnel.

NOTE

Step (7) requires the aid of an assistant.

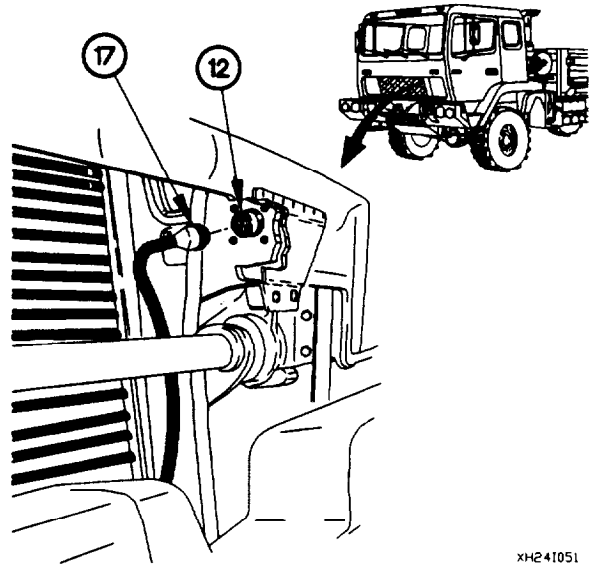
- (7) Install gasket (11) and connector J119 (12) on cab (13) with four screws (14), lockwashers (15), and nuts (16).

- (8) Connect connector P119 (17) to connector J119 (12).

c. Follow-On Maintenance.

- (1) Install personnel heater (para 18-9).
- (2) Install kick panel (para 16-3).
- (3) Install instrument panel assembly (para 7-15).
- (4) Start engine (TM 9-2320-366-10-1).
- (5) Check VOLTS gage for charge indication (TM 9-2320-366-10-1).
- (6) Shut down engine (TM 9-2320-366-10-1).

End of Task.



XH241051

CHAPTER 8 TRANSMISSION MAINTENANCE

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Section I. INTRODUCTION

8-1. INTRODUCTION

This chapter contains instructions for replacing and repairing transmission components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.

Section II. MAINTENANCE PROCEDURES

8-2. WTEC II TRANSMISSION ECU PUSHBUTTON SHIFT SELECTOR (TEPSS) AND BRACKET REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Calibration

INITIAL SETUP

Equipment Conditions

Instrument panel assembly removed for access (para 7-15).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-75 lb-in. (Item 59, Appendix C)

Materials/Parts

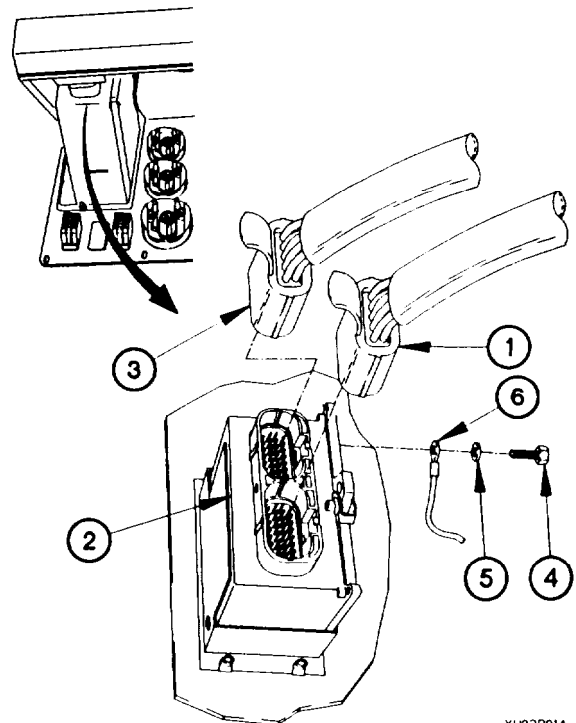
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Solvent, Dry Cleaning SD (P-D-680) (Item 65, Appendix D)
Paper, Abrasive (Item 47, Appendix D)
Fastener Tape (Item 12, Appendix G)
Fastener Tape (Item 13, Appendix G)

a. Removal.

NOTE

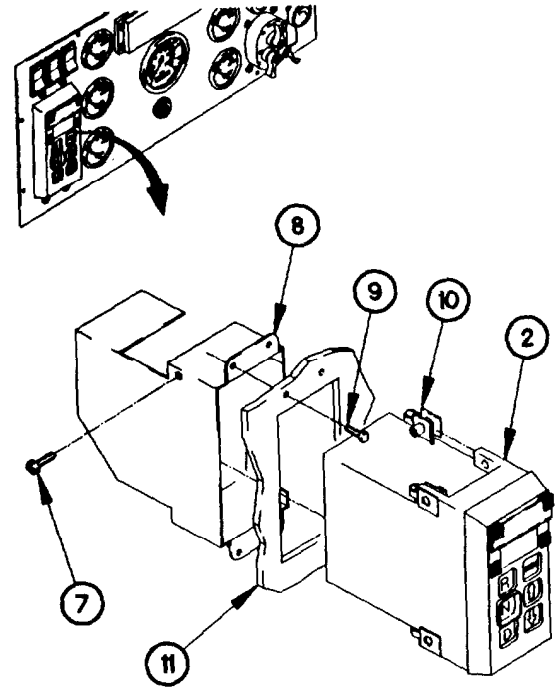
Tag connectors and connection points prior to disconnecting.

- (1) Disconnect connector J115 (1) from WTEC II TEPSS (2).
- (2) Disconnect connector J114 (3) from WTEC II TEPSS
- (3) Remove screw (4), washer (5), and ground terminal lug (6) from WTEC II TEPSS (2).



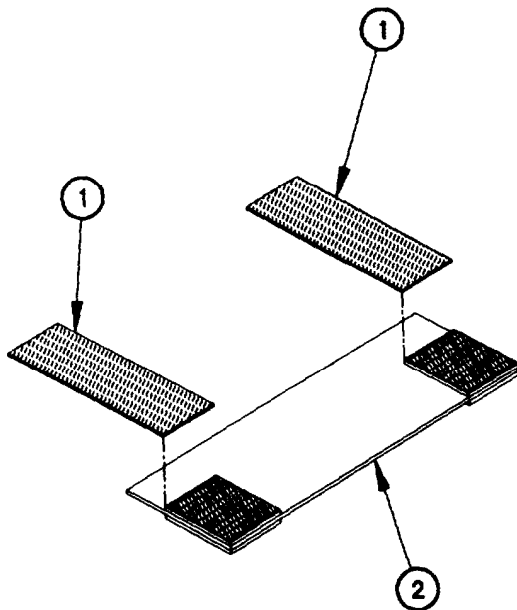
XI-02R01A

- (4) Remove two screws (7) from mounting bracket (8).
- (5) Remove four screws (9), mounting bracket (8), two captive nuts (10), and WTEC II TEPSS (2) from instrument panel assembly (11).



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b. Installation.



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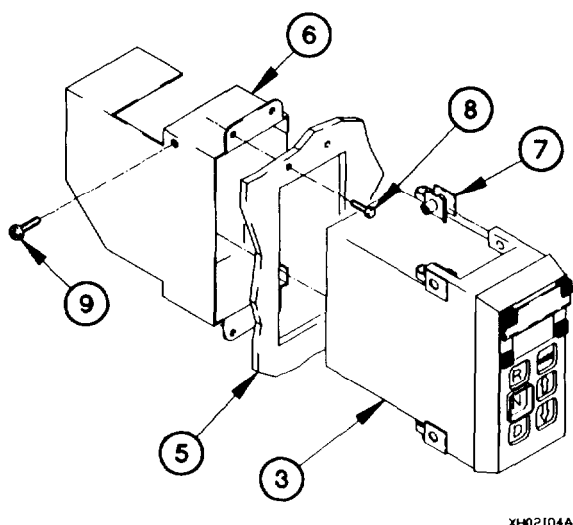
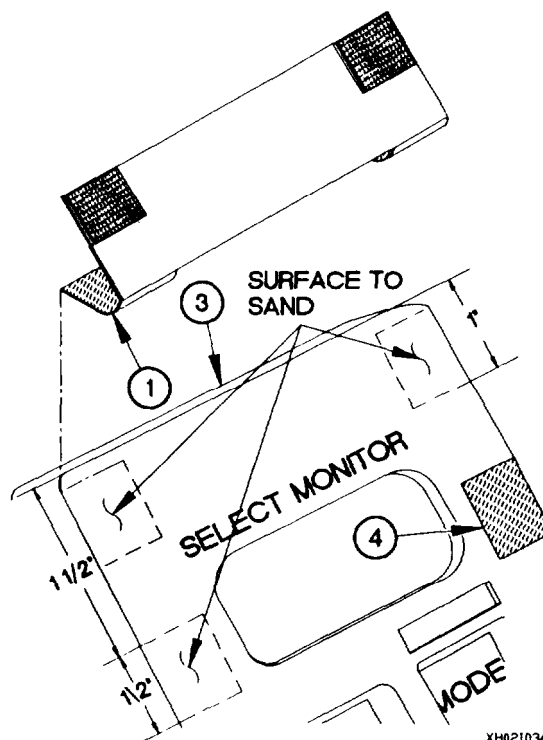
- (1) Cut two pieces of fastener tape (hook side) (1) to 1.5 X 0.5 in. (3.8 X 1.3 cm).
- (2) Install two fastener tapes (1) on light filter assembly (2) at locations shown.

8-2. WTEC II TRANSMISSION ECU PUSHBUTTON SHIFT SELECTOR (TEPSS) AND BRACKET REPLACEMENT (CONT)

WARNING

- Dry Cleaning Solvent P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes, and do not breathe vapors. Keep away from heat or flame. Never smoke when using dry cleaning solvent; the flashpoint for Type I Dry Cleaning Solvent is 100°F (38°C) and for Type II is 130°F (50°C). Failure to comply may result in serious injury or death to personnel.
- If personnel become dizzy while using Dry Cleaning Solvent, immediately get fresh air and medical help. If Dry Cleaning Solvent contacts skin or clothes, flush with cold water. If Dry Cleaning Solvent contacts eyes, immediately flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.

- (3) Clean WTEC II TEPSS (3) with dry cleaning solvent.
- (4) Sand WTEC II TEPSS (3) lightly at locations shown.
- (5) Clean WTEC II TEPSS (3) with dry cleaning solvent.
- (6) Cut two pieces of fastener tape (hook side) (4) to 0.625 X 0.5 in. (1.6 X 1.3 cm).
- (7) Install two fastener tapes (4) on WTEC II TEPSS (3) at locations shown.
- (8) Install two fastener tapes (1) on WTEC II TEPSS (3) at locations shown.



- (9) Position WTEC II TEPSS (3) in instrument panel assembly (5) with mounting bracket (6), two captive nuts (7), and four screws (8).
- (10) Position two screws (9) in mounting bracket (6).
- (11) Tighten four screws (8) to 9 lb-in. (1 N•m).
- (12) Tighten two screws (9) to 27-35 lb-in. (3-4 N•m).

- (13) Install ground terminal lug (10) on WTEC II TEPSS (3) with washer (11) and screw (12).
- (14) Connect connector J114 (13) to WTEC II TEPSS (3).
- (15) Connect connector J115 (14) to WTEC II TEPSS (3).

c. Calibration.

- (1) Install instrument panel assembly (para 7-15).

NOTE

WTEC II TEPSS requires calibration after replacement. Calibration is accomplished in steps (2) through (5).

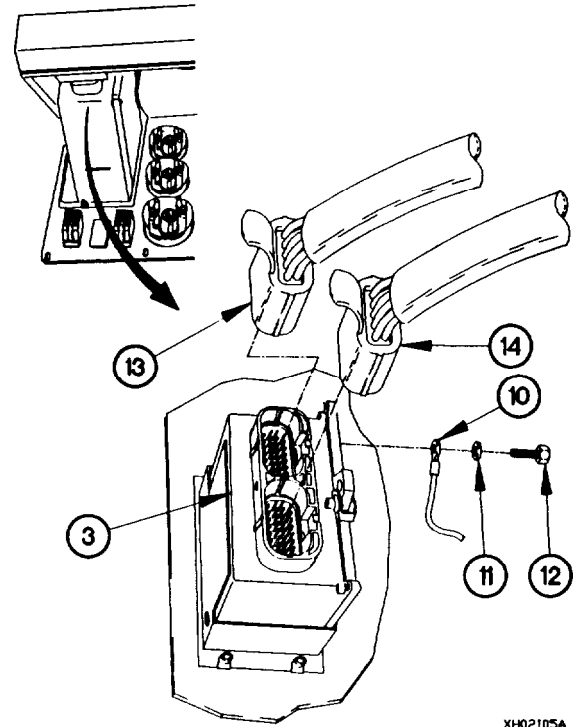
- (2) Position master power switch to on and wait for neutral (N) indication from WTEC II TEPSS (TM 9-2320-366-10-1).
- (3) Position master power switch to off (TM 9-2320-366-10-1).
- (4) Perform steps (2) and (3) four more times.
- (5) Position master power switch to on and depress accelerator pedal all the way to cab floor (TM 9-2320-366-10-1).
- (6) Start engine (TM 9-2320-366-10-1).

NOTE

Transmission shifting may be rough until WTEC II TEPSS determines proper shift points. Operating vehicle through each gear range several times will allow WTEC II TEPSS to determine proper shift points.

- (7) Operate vehicle through all gear ranges several times (TM 9-2320-366-10-1).
- (8) Shut down engine (TM 9-2320-366-10-1).

End of Task.



XH02105A

8-3. WTEC III TRANSMISSION PUSHBUTTON SHIFT SELECTOR (TPSS) AND BRACKET REPLACEMENT AND CALIBRATION

This task covers:

- a. Removal
- b. Installation
- c. Calibration

INITIAL SETUP

Equipment Conditions

Instrument panel assembly removed for access (para 7-15).

Materials/Parts

Nut, Self-Locking (2) (Item 173, Appendix G)

Tools and Special Tools

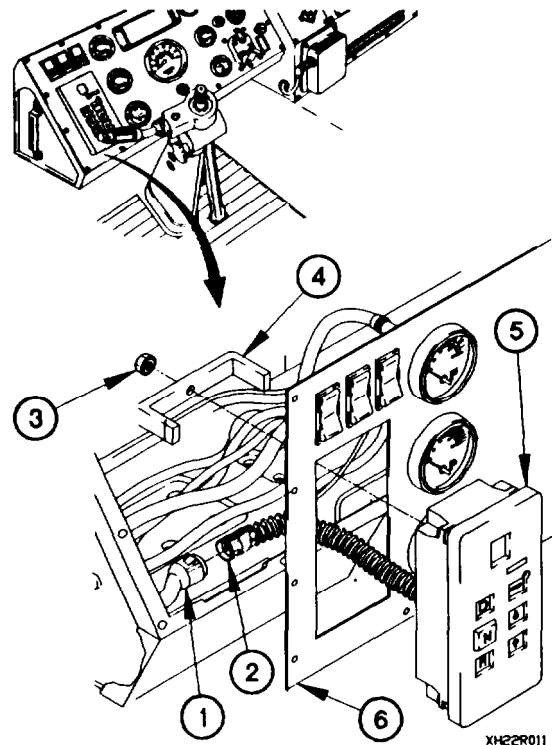
Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-75 lb-in. (Item 90, Appendix B)

a. Removal.

NOTE

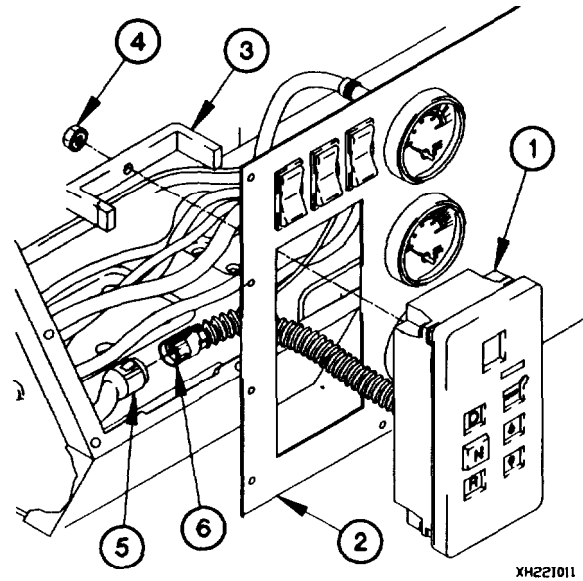
Tag connectors and connection points prior to disconnecting

- (1) Disconnect connector PX33 (1) from WTEC III TPSS connector (2).
- (2) Remove two self-locking nuts (3) and two brackets (4) from WTEC III TPSS (5). Discard self-locking nuts.
- (3) Remove WTEC III TPSS (5) from front of instrument panel assembly (6).



b. Installation.

- (1) Install WTEC III TPSS (1) in instrument panel assembly (2).
- (2) Position two brackets (3) and self-locking nuts (4) on WTEC III TPSS (1).
- (3) Tighten two self-locking nuts (4) to 11-13 lb-in. (1-2 N•m).
- (4) Connect connector PX33 (5) to WTEC III TPSS connector (6).

**c. Calibration.****NOTE**

WTEC III TPSS requires calibration after replacement. Calibration is accomplished in steps (1) through (4).

- (1) Position master power switch to on and wait for neutral (N) indication from WTEC III TPSS (TM 9-2320-366-10-1).
- (2) Position master power switch to off (TM 9-2320-366-10-1).
- (3) Perform steps (1) and (2) four more times.
- (4) Position master power switch to on (TM 9-2320-366-10-1).
- (5) Start engine (TM 9-2320-366-10-1).
- (6) Check volts gage for charge indication (TM 9-2320-366-10-1).

8-3. WTEC III TRANSMISSION PUSHBUTTON SHIFT SELECTOR (TPSS) AND BRACKET REPLACEMENT AND CALIBRATION (CONT)

NOTE

Transmission shifting may be rough until WTEC III TPSS determines proper shift points. Operating vehicle through each gear range several times will allow WTEC III TPSS to determine proper shift points.

- (1) Test drive vehicle and check operation through all gear ranges several times (TM 9-2320-366-10-1).
- (8) Shut down engine (TM 9-2320-366-10-1).

End of Task.

8-4. WTEC II CODE READING AND CODE CLEARING PROCEDURES

This task covers:

- | | |
|---------------------------------------|--|
| a. Reading Diagnostic Codes | d. Exiting the Diagnostic Display Mode |
| b. Clearing Active Diagnostic Codes | e. Follow-On Maintenance |
| c. Clearing Historic Diagnostic Codes | |

INITIAL SETUP

Equipment Conditions

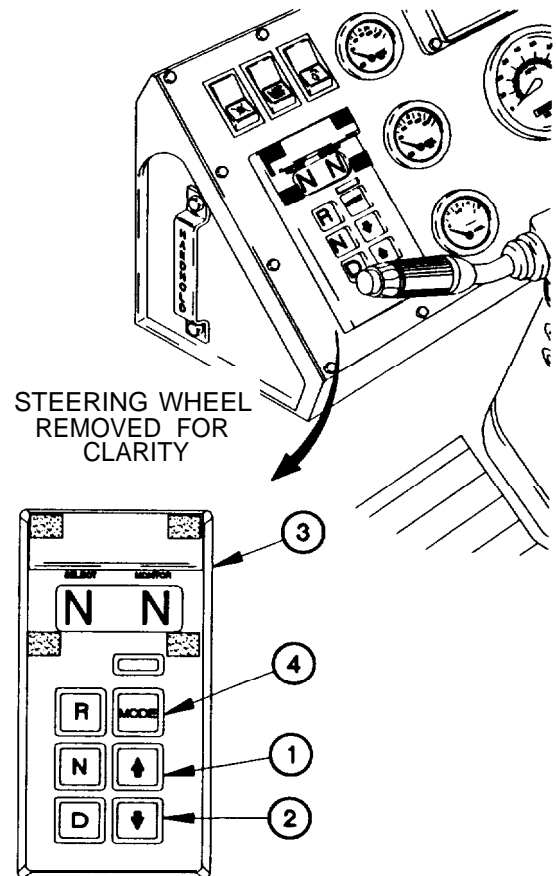
Master power switch positioned to on (TM 9-2320-366-10-1).

a. Reading Diagnostic Codes.

NOTE

- Diagnostic codes may be viewed even while vehicle is moving.
- There are two types of diagnostic codes, active and historic, which may be displayed on WTEC II TEPSS. An active diagnostic code indicates a fault which is currently being detected by WTEC II TEPSS. An historic diagnostic code represents a fault which was detected prior to engine shutdown. All active diagnostic codes, except main code 69 sub code 34, will become historic codes when electrical power is removed from WTEC II TEPSS.
- When an active diagnostic code is displayed on WTEC II TEPSS, the MODE ON light will be illuminated.

- (1) Enter diagnostic display mode by pressing ↑ (1) and ↓ (2) (up arrow and down arrow) buttons on WTEC II TEPSS (3) at the same time.



XH20T01A

8-4. WTEC II CODE READING AND CODE CLEARING PROCEDURES (CONT)

NOTE

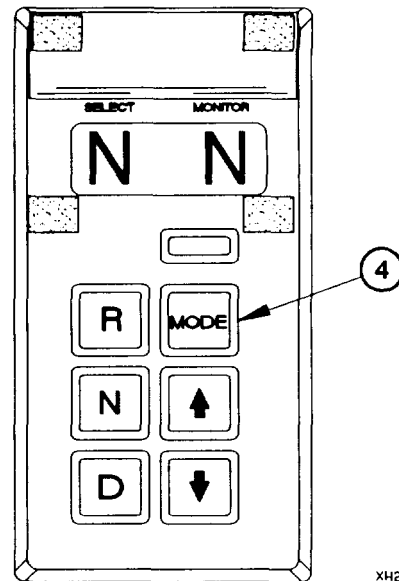
- WTEC II TEPSS is capable of storing (logging) up to five diagnostic codes in memory. The diagnostic code positions are identified as d1, d2, d3, d4, and d5. Diagnostic code position d1 represents the most recently logged diagnostic code.
- WTEC II TEPSS will display the four position diagnostic codes two characters at a time, beginning with the most recently logged diagnostic code (d1). The following example shows main code 24 sub code 12 logged in diagnostic code position d1:
 1. Code list position - d1
 2. Main code - 24
 3. Sub code - 12
 4. Code position repeats - d1,24,12
- Display of first diagnostic code (d1) will be repeated until MODE button is pressed to view remaining diagnostic codes (d2, d3, d4, and d5) or until diagnostic mode is exited.
- Any diagnostic code position which does not have a diagnostic code logged will display "--".

(2) Record first diagnostic code (d1) displayed on WTEC II TEPSS (3).

NOTE

Pressing MODE button momentarily after fifth diagnostic code (d5) is displayed will cause code positions displayed to begin again with first diagnostic code (d1).

- (3) Press MODE button (4) momentarily to view next diagnostic code (d2).
- (4) Record diagnostic code, if any, displayed on WTEC II TEPSS (3).
- (5) Perform steps (3) and (4) for remaining diagnostic code positions (d3, d4, and d5).
- (6) Refer to **Table 8-1. WTEC II Diagnostic Code List and Description** for identification of diagnostic codes and to determine which troubleshooting task(s) to perform.



XH20T02A

Table 8-1. WTEC II Diagnostic Code List and Description

MAIN CODE	SUB CODE	DESCRIPTION	PERFORM TROUBLESHOOTING TASK
13	ANY	ECU input voltage, low/high	f19
21	ANY	Throttle position sensor, failed low/high	f12
22	14	Engine speed sensor reasonableness test	f2
	15	Turbine speed sensor reasonableness test	f3
	16	Output speed sensor reasonableness or rapid decal test	f4
24	ANY	Sump oil temperature, cold/hot	f5
25	ANY	Output speed reasonableness test, detected at 0 speed	f14
32	ANY	C3 pressure switch open	f6
33	ANY	Sump oil temperature sensor failed low/high	f5
34	ANY	Calibration compatibility or check sum fault	Replace WTEC II TEPSS (para 8-2).
35	ANY	Power interruption	f7 and f19. If fault persists, replace WTEC II TEPSS (para 8-2).
36	ANY	Hardware/software not compatible	Replace WTEC II TEPSS (para 8-2).
41	ANY	Open or short to ground, solenoid circuit	f7
42	ANY	Short to battery, solenoid circuit	f7
43	ANY	Low side driver, solenoid circuit	f8
44	ANY	Short to ground, solenoid circuit	f7
45	ANY	Open circuit, solenoid circuit	f7
51	10	Offgoing ratio test (during shift), 1 to L	f13
	12	Offgoing ratio test (during shift), 1 to 2	f13
	21	Offgoing ratio test (during shift), 2 to 1	f13
	23	Offgoing ratio test (during shift), 2 to 3	f13
	43	Offgoing ratio test (during shift), 4 to 3	f13
	45	Offgoing ratio test (during shift), 4 to 5	f13
	65	Offgoing ratio test (during shift), 6 to 5	f13
52	ANY	Offgoing C3PS test (during shift)	f9

8-4. WTEC II CODE READING AND CODE CLEARING PROCEDURES (CONT)

Table 8-1. Diagnostic Code List and Description (Cont)

MAIN CODE	SUB CODE	DESCRIPTION	PERFORM TROUBLESHOOTING TASK
53	ANY	Offgoing speed test (during shift)	f15
54	01	Oncoming ratio test (after shift), L to 1	f16
	07	Oncoming ratio test (after shift), L to R	f16
	10	Oncoming ratio test (after shift), 1 to L	f16
	12	Oncoming ratio test (after shift), 1 to 2	f16
	17	Oncoming ratio test (after shift), 1 to R	f16
	21	Oncoming ratio test (after shift), 2 to 1	f16
	23	Oncoming ratio test (after shift), 2 to 3	f16
	27	Oncoming ratio test (after shift), 2 to R	f16
	32	Oncoming ratio test (after shift), 3 to 2	f16
	34	Oncoming ratio test (after shift), 3 to 4	f16
	43	Oncoming ratio test (after shift), 4 to 3	f16
	45	Oncoming ratio test (after shift), 4 to 5	f16
	54	Oncoming ratio test (after shift), 5 to 4	f16
	56	Oncoming ratio test (after shift), 5 to 6	f16
	65	Oncoming ratio test (after shift), 6 to 5	f16
	70	Oncoming ratio test (after shift), R to L	f16
	71	Oncoming ratio test (after shift), R to 1	f16
	72	Oncoming ratio test (after shift), R to 2	f16
	80	Oncoming ratio test (after shift), N1 to L	f16
	81	Oncoming ratio test (after shift), N1 to 1	f16
	82	Oncoming ratio test (after shift), N1 to 2	f16
	83	Oncoming ratio test (after shift), N1 to 3	f16
	85	Oncoming ratio test (after shift), N1 to 5	f16
	86	Oncoming ratio test (after shift), N1 to 6	f16
	92	Oncoming ratio test (after shift), N2 to 2	f16
	93	Oncoming ratio test (after shift), N3 to 3	f16
	95	Oncoming ratio test (after shift), N3 to 5	f16
	96	Oncoming ratio test (after shift), N4 to 6	f16
	97	Oncoming ratio test (after shift), 2 to R (2 to NNC to R)	f16

Table 8-1. Diagnostic Code List and Description (Cont)

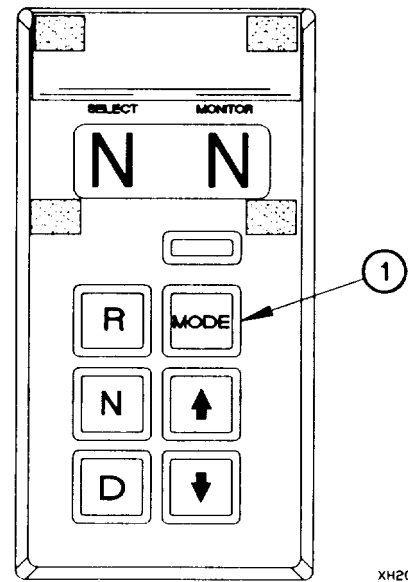
MAIN CODE	SUB CODE	DESCRIPTION	PERFORM TROUBLESHOOTING TASK
55	ANY	Oncoming C3PS test (after shift)	f17
56	ANY	Range verification test	f18
57	ANY	Range verification C3PS test	f10
69	ANY	ECU malfunction	f7. If fault persists, replace WTEC II TEPSS (para 8-2).

b. Clearing Active Diagnostic Codes.

NOTE

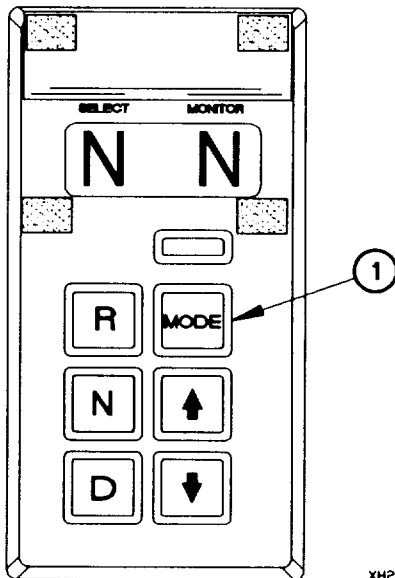
Active diagnostic codes can only be cleared when transmission output speed equals zero and no output speed sensor fault is active.

- (1) Press and hold MODE button (1), approximately three seconds, until WTEC II TEPSS tone sounds for 1/2 second.
- (2) Release MODE button (1).



XH20T03A

c. Clearing Historic Diagnostic Codes.



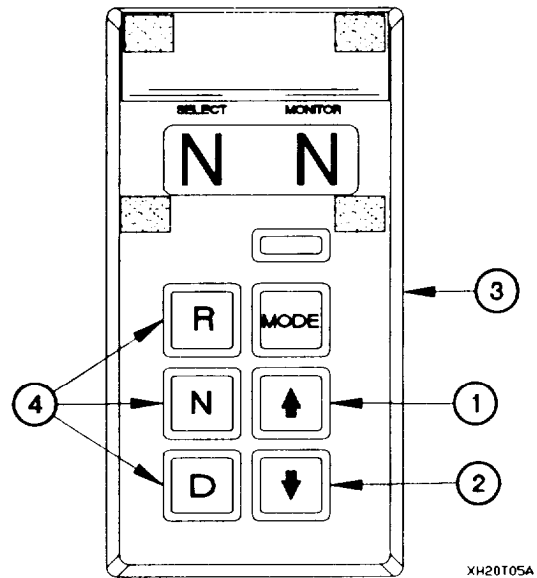
XH20T04A

- (1) Press and hold MODE button (1), approximately 10 seconds, until tone sounds.
- (2) Release MODE button (1).

8-4. WTEC II CODE READING AND CODE CLEARING PROCEDURES (CONT)

c. Exiting the Diagnostic Display Mode.

- (1) Exit the diagnostic display mode by any of the following methods.
 - (a) Press ↑ (1) and ↓ (2) (up arrow and down arrow) buttons on WTEC II TEPSS (3) at the same time.
 - (b) Press any range button (4). D, N, or R on WTEC II TEPSS (3) (the shift will be commanded if not inhibited by an active code).
 - (c) Wait until the calibrated time (approximately 10 minutes) has passed and system automatically returns to the normal operating mode.
 - (d) Position master power switch to off (TM 9-2320-366-10-1).



e. Follow-On Maintenance.

Perform Transmission Troubleshooting (para 2-17).

End of Task.

8-5. WTEC III CODE READING AND CODE CLEARING PROCEDURES

This task covers:

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Reading Diagnostic Codes b. Clearing Active Diagnostic Codes c. Clearing Historic Diagnostic Codes | <ul style="list-style-type: none"> d. Exiting the Diagnostic Display Mode e. Follow-On Maintenance |
|---|--|

INITIAL SETUP

Equipment Conditions

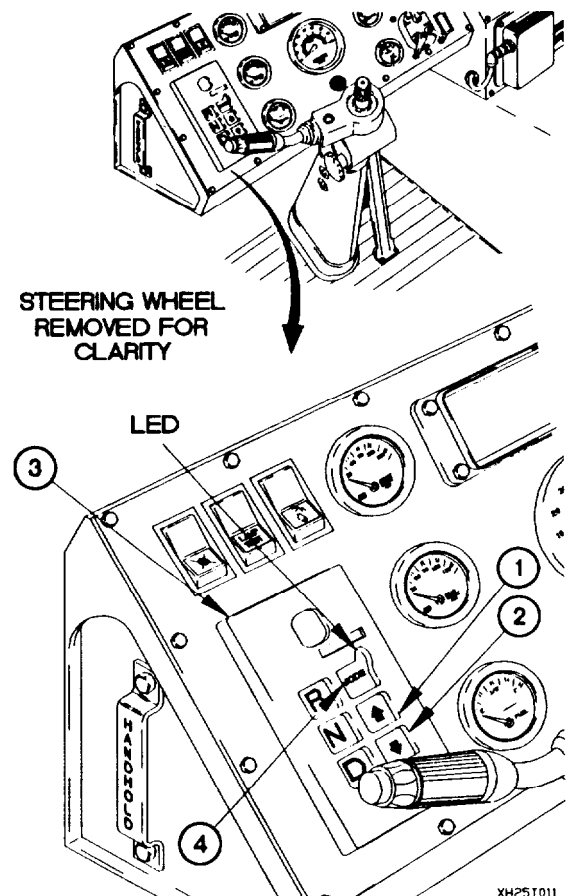
Master power switch positioned to on (TM 9-2320-366-10-1).

a. Reading Diagnostic Codes.

NOTE

- Diagnostic codes may be viewed even while vehicle is moving.
- There are two types of diagnostic codes, active and historic, which may be displayed on WTEC III TPSS. An active diagnostic code indicates a fault which is currently being detected by WTEC III TPSS. An historic diagnostic code represents a fault which was detected prior to engine shutdown. All active diagnostic codes, except main code 69 sub code 34, will become historic codes when electrical power is removed from WTEC III transmission ECU.
- When an active diagnostic code is displayed on WTEC III TPSS, the Light Emitting Diode (LED) at upper right corner of MODE button will be illuminated.

- (1) Enter diagnostic display mode by pressing ↑ (1) and ↓ (2) (up arrow and down arrow) buttons on WTEC III TPSS selector (3) at the same time.



8-5. WTEC III CODE READING AND CODE CLEARING PROCEDURES (CONT)

NOTE

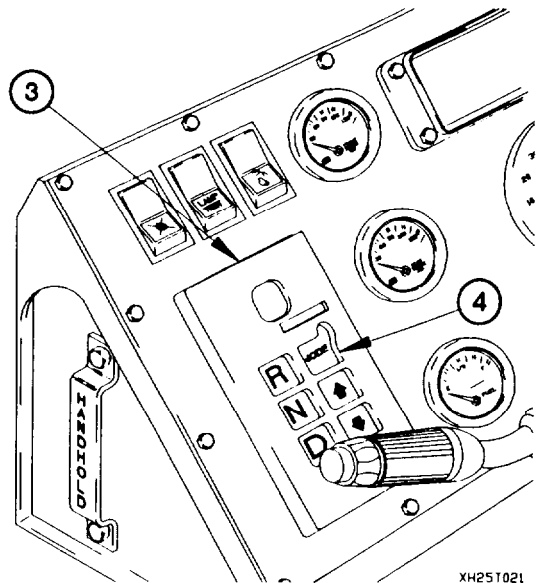
- WTEC III transmission ECU is capable of storing (logging) up to five diagnostic codes in memory. The diagnostic code positions are identified as d1, d2, d3, d4, and d5. Diagnostic code position d1 represents the most recently logged diagnostic code.
- WTEC III TPSS will display the four position diagnostic codes one character at a time, beginning with the most recently logged diagnostic code (d1). The following example shows main code 24 sub code 12 logged in diagnostic code position d1:
 1. Code list position - d,1
 2. Main code - 2,4
 3. Sub code - 1,2
 4. Code position repeats - d,1,2,4,1,2
- Display of first diagnostic code (d1) will be repeated until MODE button is pressed to view remaining diagnostic codes (d2, d3, d4, and d5) or until diagnostic mode is exited.
- Any diagnostic code position which does not have a diagnostic code logged will display "--".

(2) Record first diagnostic code (d1) displayed on WTEC III TPSS (3).

NOTE

Pressing MODE button momentarily after fifth diagnostic code (d5) is displayed will cause code positions displayed to begin again with first diagnostic code (d1).

- (3) Press MODE button (4) momentarily to view next diagnostic code (d2).
- (4) Record diagnostic code, if any, displayed on WTEC III TPSS (3).
- (5) Perform steps (3) and (4) for remaining diagnostic code positions (d3, d4, and d5).
- (6) Refer to **Table 8-2. WTEC III Diagnostic Code List and Description** for identification of diagnostic codes and to determine which troubleshooting task(s) to perform.



XH25T021

Table 8-2. WTEC III Diagnostic Code List end Description

MAIN CODE	SUB CODE	DESCRIPTION	PERFORM TROUBLESHOOTING TASK
13	ANY	ECU input voltage, low/high	f37
21	ANY	Throttle position sensor, failed low/high	f30
22	14	Engine speed sensor reasonableness test	f22
	15	Turbine speed sensor reasonableness test	f23
	16	Output speed sensor reasonableness test	f24
24	ANY	Sump oil temperature, cold/hot	f25
25	ANY	Output speed reasonableness test, detected at 0 speed	f32
32	ANY	C3 pressure switch open	f26
33	ANY	Sump oil temperature sensor failed low/high	f25
34	ANY	Calibration compatibility or check sum fault	Replace WTEC III transmission ECU (para 8-7).
35	ANY	Power interruption	f27 and f37. If fault persists, replace WTEC III transmission ECU (para 8-7).
36	ANY	Hardware/software not compatible	Replace WTEC III transmission ECU (para 8-7).
42	ANY	Short to battery, solenoid circuit	f27
44	ANY	Short to ground, solenoid circuit	f27
45	ANY	Open circuit, solenoid circuit	f27
51	ANY	Offgoing ratio test (during shift)	f31
52	ANY	Offgoing C3PS test (during shift)	f28
53	ANY	Offgoing speed test (during shift)	f33
54	ANY	Oncoming ratio test (after shift)	f34
55	ANY	Oncoming C3PS test (after shift)	f35
56	ANY	Range verification test	f36
57	ANY	Range verification C3PS test	f29
69	ANY	ECU malfunction	f27. If fault persists, replace WTEC III transmission ECU (para 8-7).

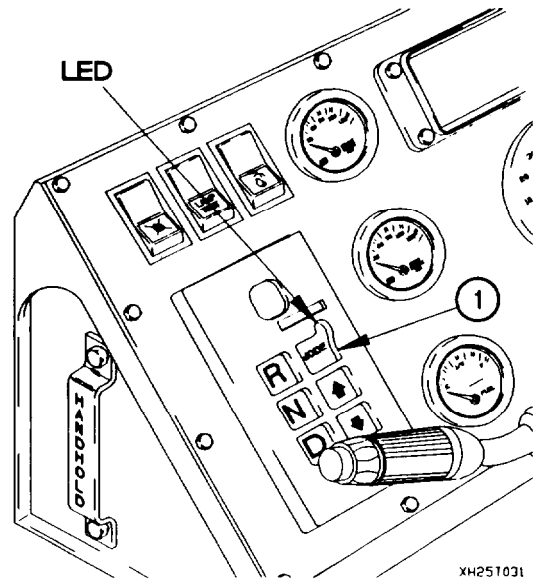
8-5. WTEC III CODE READING AND CODE CLEARING PROCEDURES (CONT)

b. Clearing Active Diagnostic Codes.

NOTE

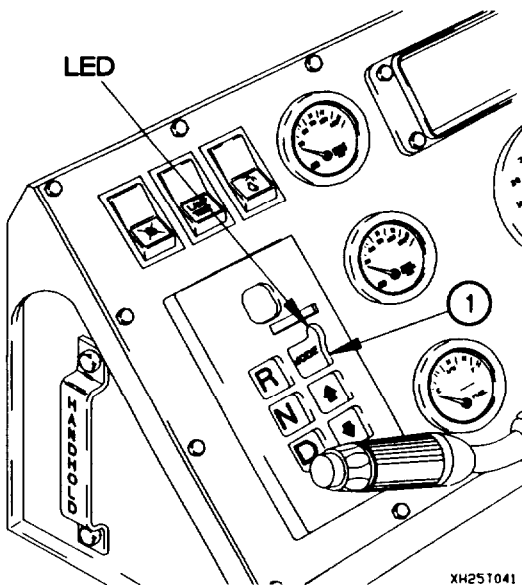
Active diagnostic codes can only be cleared when transmission output speed equals zero and no output speed sensor fault is active.

- (1) Press and hold MODE button (1), approximately three seconds, until LED at upper right corner of MODE button flashes three times.
- (2) Release MODE button (1).



XH251031

c. Clearing Historic Diagnostic Codes.

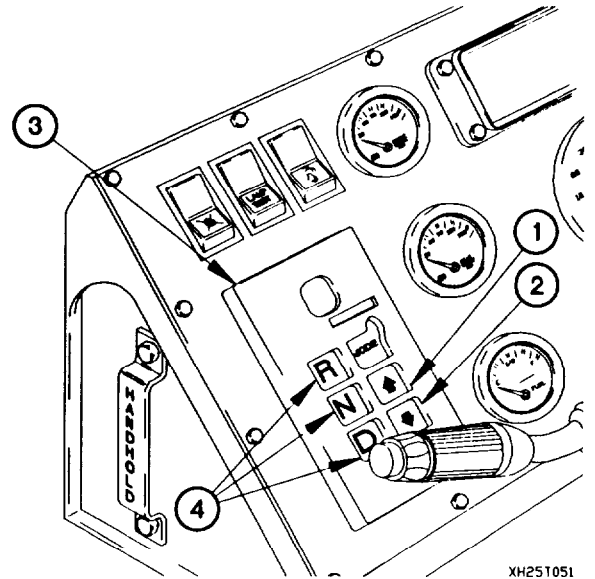


XH251041

- (1) Press and hold MODE button (1), approximately 10 seconds, until LED at upper right corner of MODE button flashes three times.
- (2) Release MODE button (1).

d. Exiting the Diagnostic Display Mode.

- (1) Exit the diagnostic display mode by any of the following methods:
 - (a) Press ↑ (1) and ↓ (2) (up arrow and down arrow) buttons on WTEC III TPSS (3) at the same time.
 - (b) Press any range button (4), D, N, or R on WTEC III TPSS (3) (shift will be commanded if not inhibited by an active diagnostic code).
 - (c) Wait until the calibrated time (approximately 10 minutes) has passed and system automatically returns to normal operating mode.
 - (d) Position master power switch to off (TM 9-2320-366-10-1).



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e. Follow-On Maintenance.

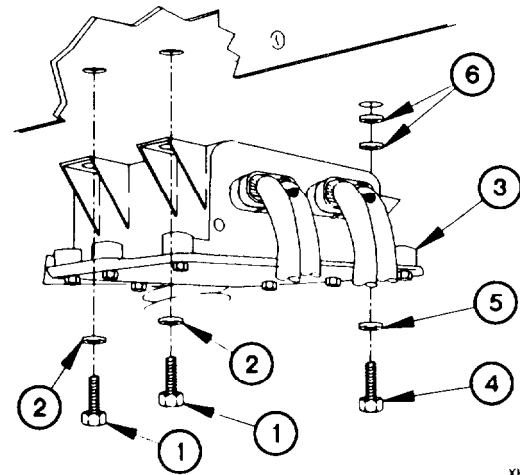
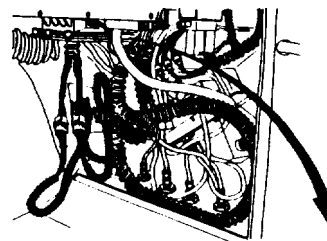
Perform Transmission Troubleshooting (para 2-17).

End of Task.

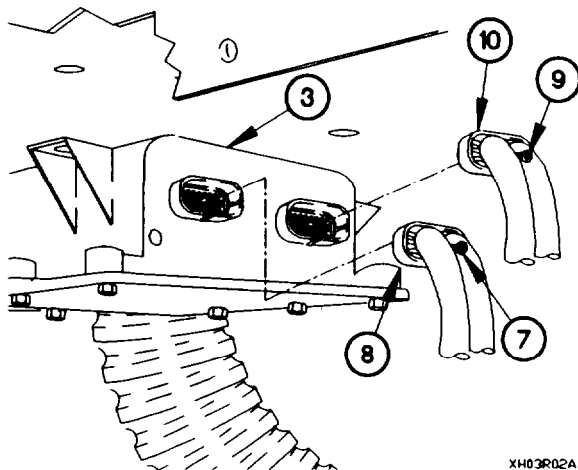
8-6. WTEC II VEHICLE INTERFACE MODULE (VIM) REPLACEMENT/REPAIR	
This task covers:	
a. Removal	d. Installation
b. Disassembly	e. Follow-On Maintenance
c. Assembly	
INITIAL SETUP	
Equipment Conditions Batteries disconnected (para 7-57). Kick panel removed (para 16-3).	Tools and Special Tools Tool Kit, Genl Mech (Item 46, Appendix C)
	Materials/Parts Seal Ring, Metal (Item 268, Appendix G)

a. Removal.

- (1) Remove two screws (1) and washers (2) from WTEC II VIM (3).
- (2) Remove screw (4), washer (5), and two washers (6) from WTEC II VIM (3).



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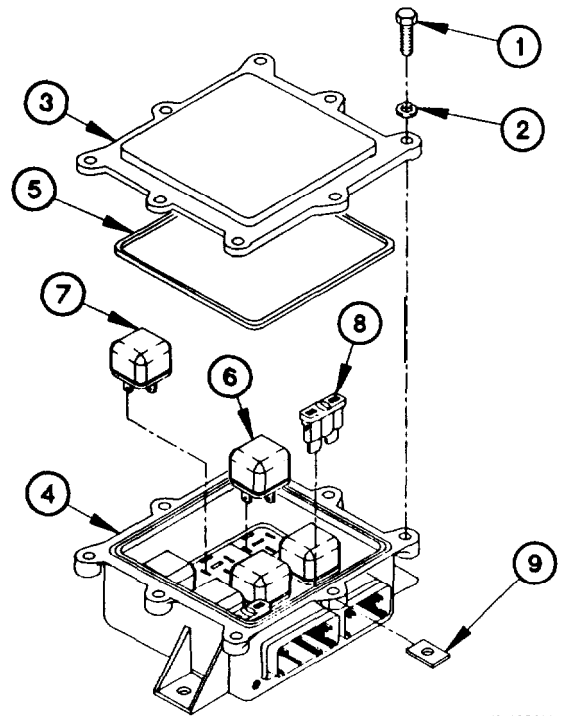


XH03R02A

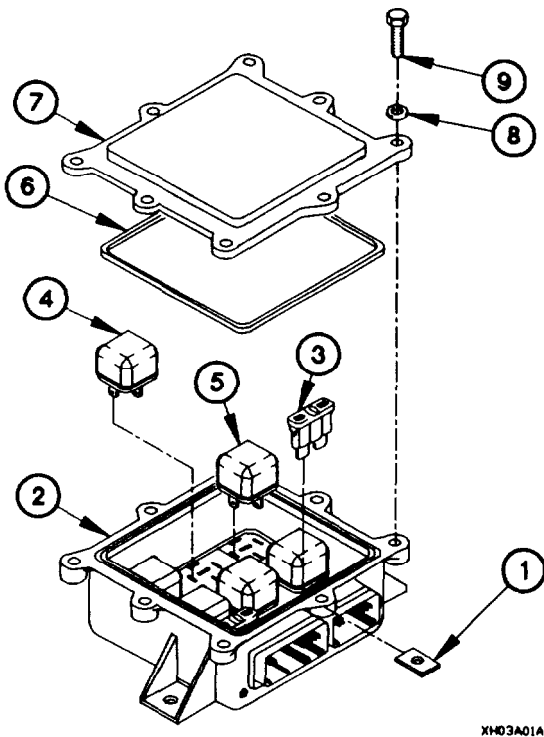
- (3) Loosen screw (7) in connector J116 (8).
- (4) Disconnect connector J116 (8) from WTEC II VIM (3).
- (5) Loosen screw (9) in connector PX33 (10).
- (6) Disconnect connector PX33 (10) from WTEC II VIM (3).
- (7) Remove WTEC II VIM (3) from vehicle.

b. Disassembly.

- (1) Remove eight screws (1), washers (2), and VIM cover (3) from WTEC II VIM (4).
- (2) Remove metal seal ring (5) from WTEC II VIM (4). Discard metal seal ring.
- (3) Remove two 12V relays (6) from WTEC II VIM (4).
- (4) Remove four 24V relays (7) from WTEC II VIM (4).
- (5) Remove two 10 amp fuses (8) from WTEC II VIM (4).
- (6) Remove nutplate (9) from WTEC II VIM (4).



c. Assembly.



- (1) Install nutplate (1) in WTEC II VIM (2).
- (2) Install two 10 amp fuses (3) in WTEC II VIM (2).
- (3) Install four 24V relays (4) in WTEC II VIM (2).
- (4) Install two 12V relays (5) in WTEC II VIM (2).
- (5) Install metal seal ring (6) on WTEC II VIM (2).
- (6) Install VIM cover (7) on WTEC II VIM (2) with eight washers (8) and screws (9).

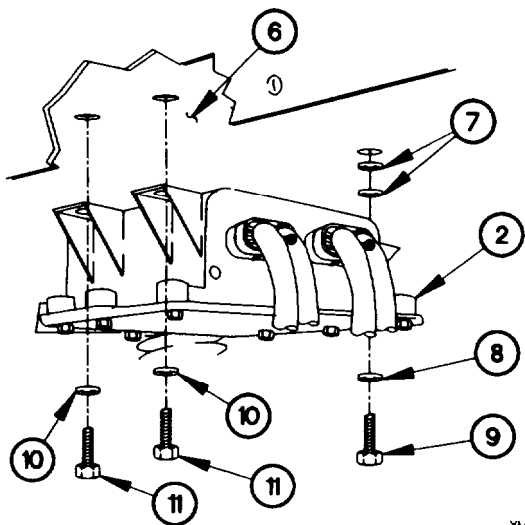
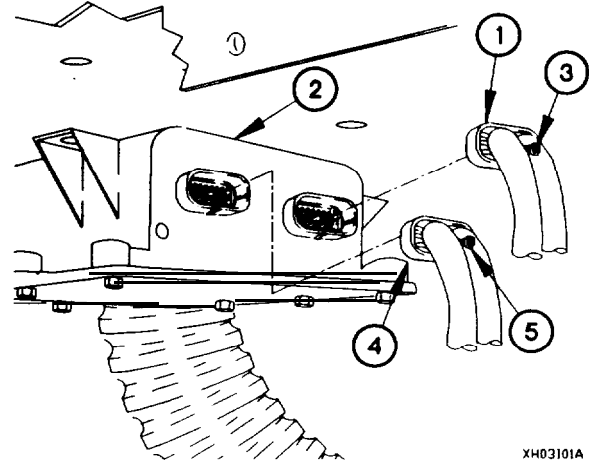
8-6. WTEC II VEHICLE INTERFACE MODULE (VIM) REPLACEMENT/REPAIR (CONT)

d. Installation.

NOTE

If replacing WTEC II VIM and a WTEC II VIM is not available, perform para 8-8.

- (1) Connect connector PX33 (1) to WTEC II VIM (2).
- (2) Tighten screw (3) in connector PX33 (1).
- (3) Connect connector J116 (4) to WTEC II VIM (2).
- (4) Tighten screw (5) in connector J116 (4).



- (5) Install WTEC II VIM (2) on bottom of dashboard (6) with two washers (7), washer (8), and screw (9).
- (6) Install two washers (10) and screws (11) in WTEC II

e. Follow-On Maintenance.

- (1) Install kick panel (para 16-3).
- (2) Connect batteries (para 7-57).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Road test vehicle (TM 9-2320-366-10-1).
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.

8-7. WTEC III TRANSMISSION ECU REPLACEMENT

This task covers:

- a. Removal
- b. Installation

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Batteries disconnected (para 7-57).
- Kick panel removed (para 16-3)

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)

Materials/Parts

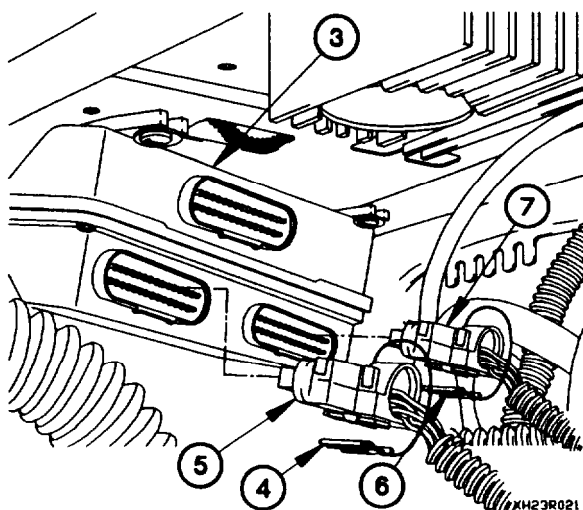
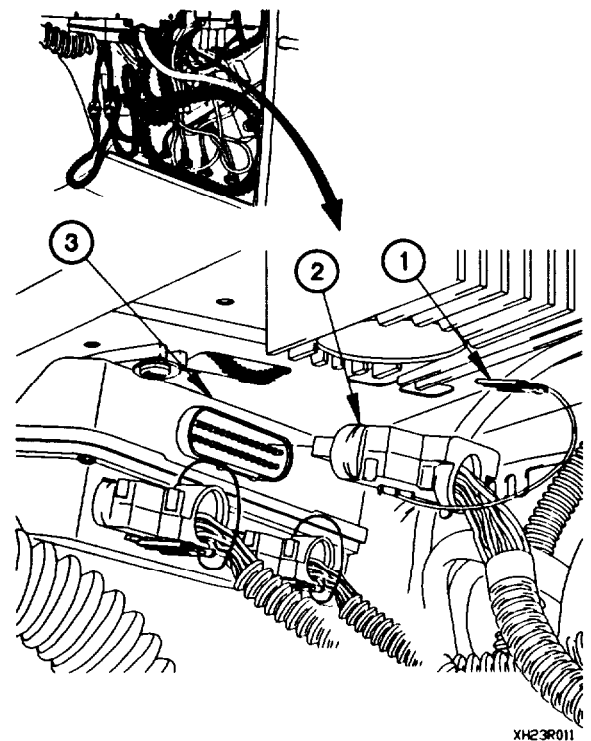
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)

a. Removal.

NOTE

- Remove plastic cable ties as required.
- Tag connectors and connection points prior to disconnecting.

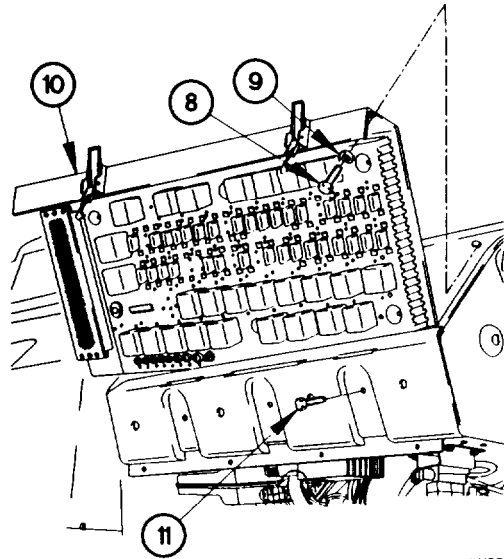
- (1) Disconnect connector clamp (1) from connector P114 (2).
- (2) Disconnect connector P114 (2) from WTEC III transmission ECU (3).



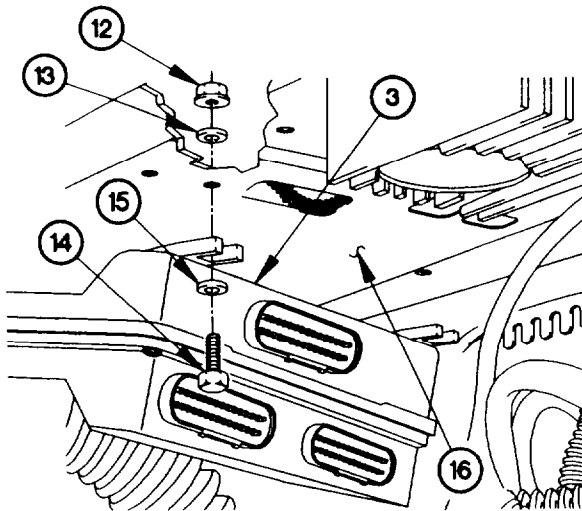
- (3) Disconnect connector clamp (4) from connector P115 (5).
- (4) Disconnect connector P115 (5) from WTEC III transmission ECU (3).
- (5) Disconnect connector clamp (6) from connector P116 (7).
- (6) Disconnect connector P116 (7) from WTEC III transmission ECU (3).

8-7. WTEC III TRANSMISSION ECU REPLACEMENT (CONT)

- (7) Remove three screws (8) and washers (9) from PDP
- (8) Remove three screws (11) from PDP (10).
- (9) Lift PDP (10) outward to gain access.



XH23R031



XH23R041

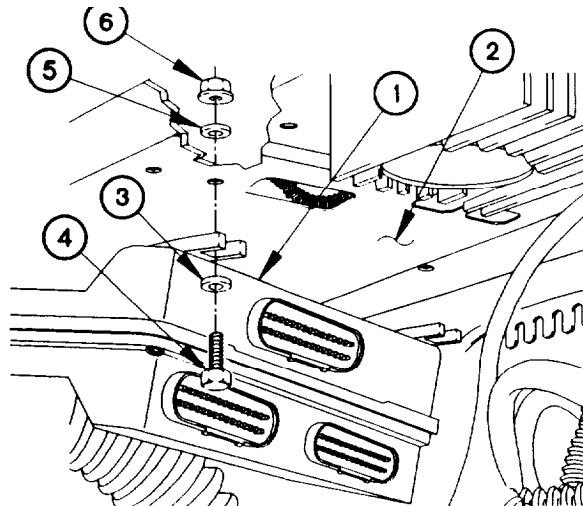
- (10) Remove three nuts (12), washers (13), screws (14), washers (15), and WTEC III transmission ECU (3) from dashboard (16).

b. Installation.

NOTE

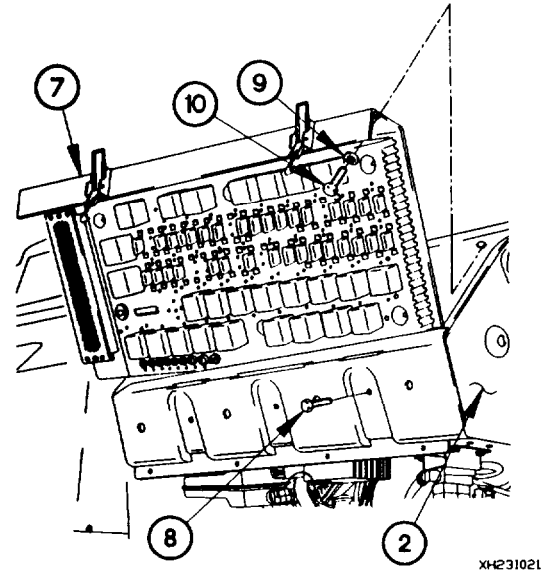
Install plastic cable ties as required.

- (1) Install WTEC III transmission ECU (1) on dashboard (2) with three washers (3), screws (4) washers (5) and nuts (6).

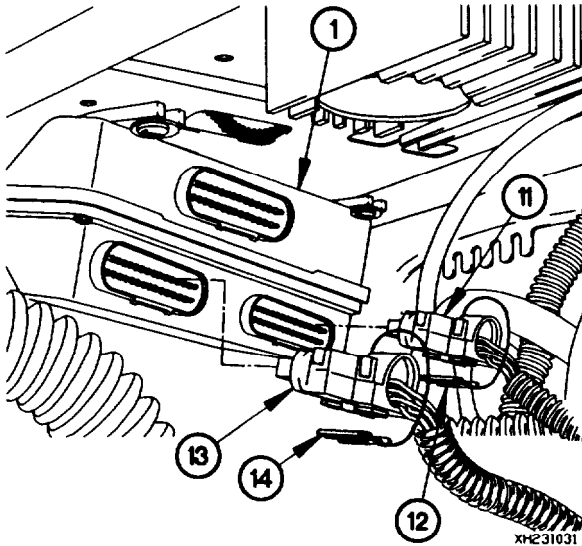


XH231011

- (2) Install PDP (7) on dashboard (2) with three screws (8).
- (3) Install three washers (9) and screws (10) in PDP (7).



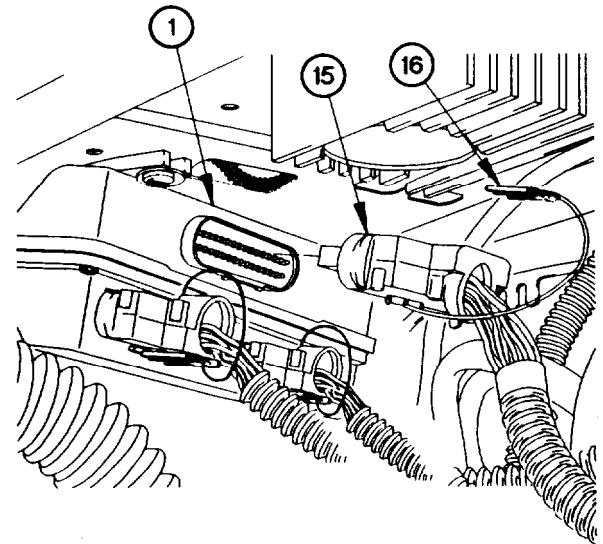
xh231021



xh231031

- (4) Connect connector P116 (11) to WTEC III transmission ECU (1).
- (5) Connect connector clamp (12) to connector P116 (11).
- (6) Connect connector P115 (13) to WTEC III transmission ECU (1).
- (7) Connect connector clamp (14) to connector P115 (13).

- (8) Connect connector P114 (15) to WTEC III transmission ECU (1).
- (9) Connect connector clamp (16) to connector P114 (15).



xh231041

8-7. WTEC III TRANSMISSION ECU REPLACEMENT (CONT)

c. Follow-On Maintenance.

- (1) Install kick panel (para 16-3).
- (2) Connect batteries (para 7-57).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Check VOLTS gage for charge indication (TM 9-2320-366-10-1).
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.

8-8. WTEC III TRANSMISSION CONTROLS INITIAL INSTALLATION

This task covers:

a. Initial Installation

b. WTEC III TPSS Calibration

INITIAL SETUP

Equipment Conditions

WTEC II dashboard cable assembly removed (para 7-10).

WTEC II TEPSS removed (para 8-2).

WTEC II VIM removed (para 8-6).

WTEC II cab transmission harness removed (para 7-137).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)

Wrench, Torque, 0-75 lb-in. (Item 90, Appendix B)

Drill, Portable, Electric (Item 7, Appendix C)

Drill Set, Twist (Item 6, Appendix C)

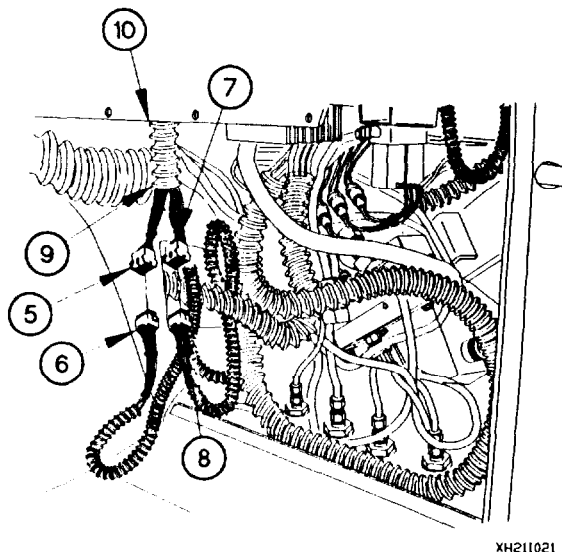
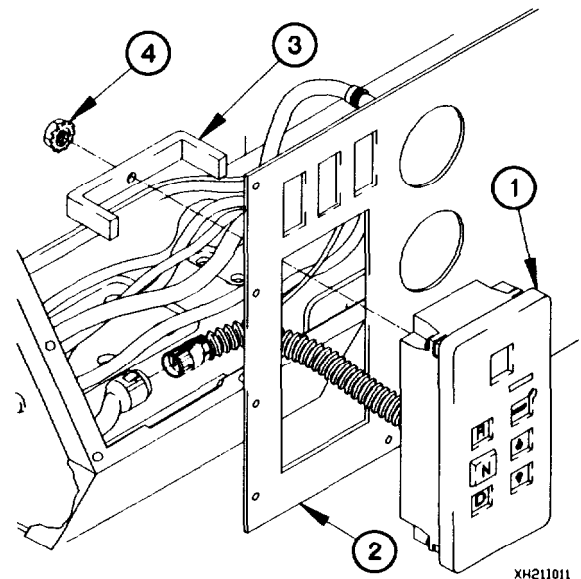
Goggles, Industrial (Item 15, Appendix C)

Personnel Required

(2)

a. Initial Installation.

- (1) Install WTEC III TPSS (1) in instrument panel assembly (2).
- (2) Position two brackets (3) and self-locking nuts (4) on rear of WTEC III TPSS (1).
- (3) Tighten two self-locking nuts (4) to 11-13 lb-in. (1-2 N•m).



NOTE

Perform steps (4) through (6) on vehicles equipped with auxiliary panel.

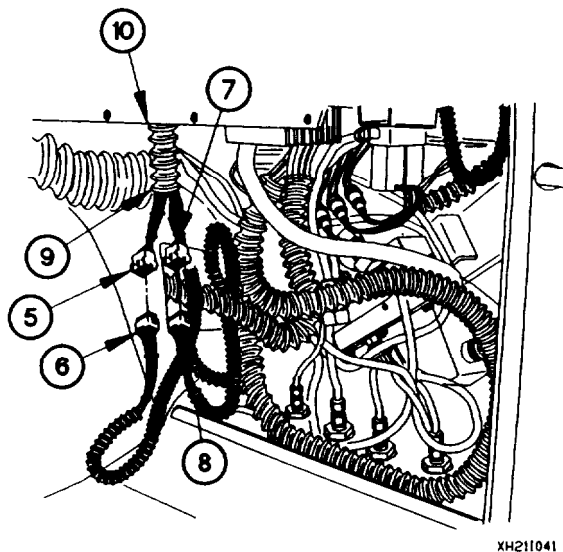
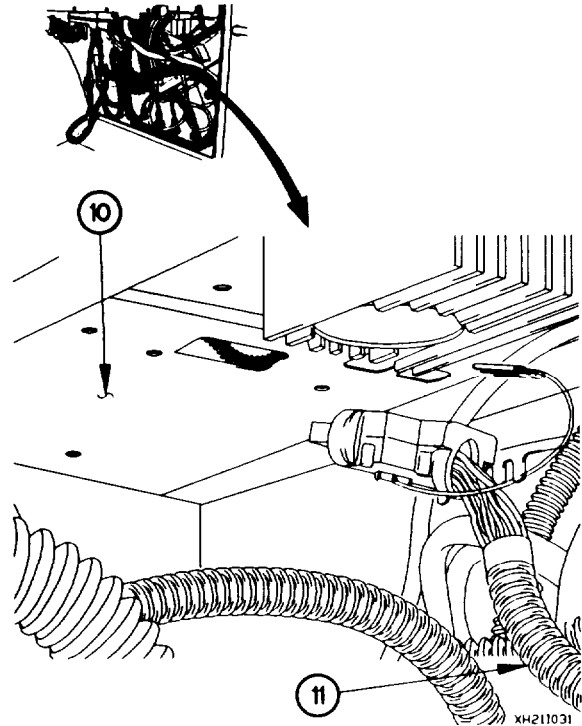
- (4) Disconnect connector J108 (5) from connector P108 (6).
- (5) Disconnect connector J210 (7) from connector P210 (8).
- (6) Pull auxiliary panel cable assembly (9) through forward hole in dashboard (10).

8-8. WTEC III TRANSMISSION CONTROLS INITIAL INSTALLATION (CONT)

NOTE

- Install plastic cable ties as required.
- Route WTEC III cab transmission harness with connector J119 going through forward hole in dashboard under kick panel, until in position under left side dashboard.

(7) Position WTEC III cab transmission harness (11) in dashboard (10).



NOTE

Perform steps (8) through (10) on vehicles equipped with auxiliary panel.

- (8) Route auxiliary panel cable assembly (9) through forward hole in dashboard (10).
- (9) Connect connector P108 (6) to connector J108 (5).
- (10) Connect connector P210 (8) to connector J210 (7).

NOTE

Reference points are from inside passenger side dashboard.

- (11) Measure and mark a line 2.0 in. (5 cm) from point A to point B in dashboard (10).

NOTE

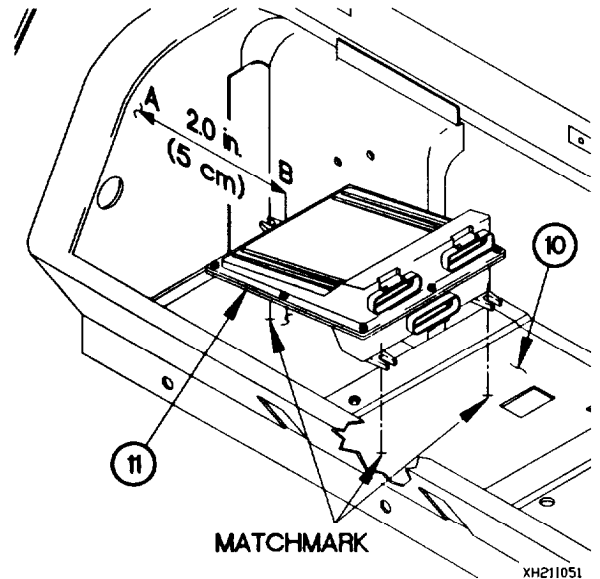
Position WTEC III transmission ECU in dashboard with mounting tabs down.

- (12) Position WTEC III transmission ECU (11) in dashboard (10) with single mounting tab over matchmark.

CAUTION

Do not position WTEC III transmission ECU on weldnuts in dashboard. Failure to comply may result in damage to equipment.

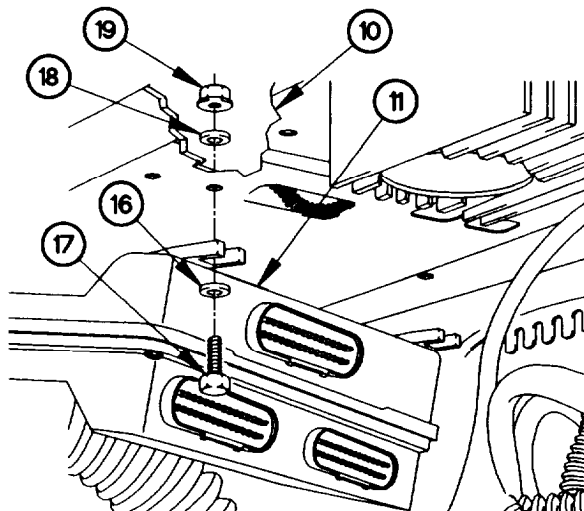
- (13) Match mark mounting tabs on WTEC III transmission ECU (11) with centerpunch.
- (14) Remove WTEC III transmission ECU (11) from dashboard (10).



WARNING

Wear goggles when drilling metal. Failure to comply may result in injury to personnel.

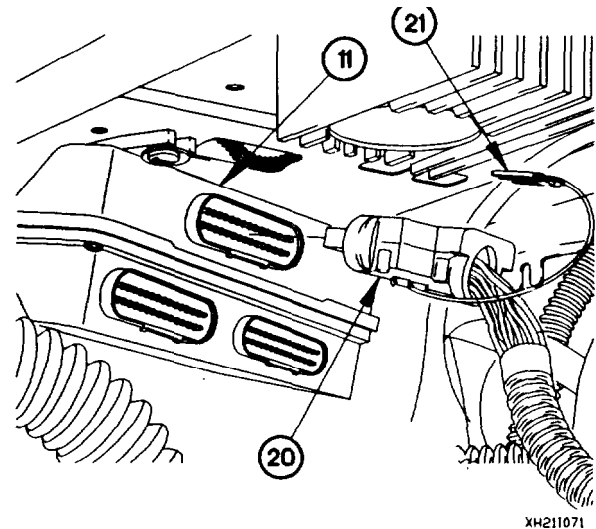
- (15) Drill a pilot hole at centerpunch points marked in step (13).
- (16) Enlarge three pilot holes in step (15) to 0.315 in. (0.8 cm).
- (17) Install WTEC III transmission ECU (11) under dashboard (10) with three washers (16), screws (17), washers (18), and nuts (19).



XH211061

8-8. WTEC III TRANSMISSION CONTROLS INITIAL INSTALLATION (CONT)

- (18) Connect connector P114 (20) to WTEC III transmission ECU (11).
- (19) Connect connector clamp (21) on connector P114 (19).



XH211071

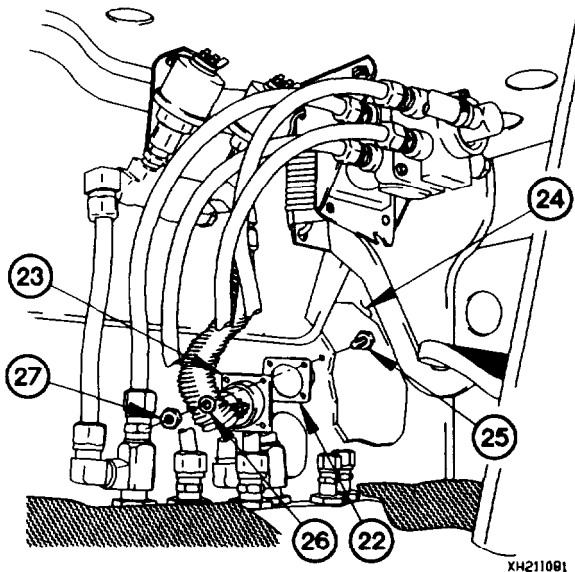
WARNING

Ensure WTEC III cab transmission harness does not interfere with throttle linkage. Failure to comply may result in injury to personnel.

NOTE

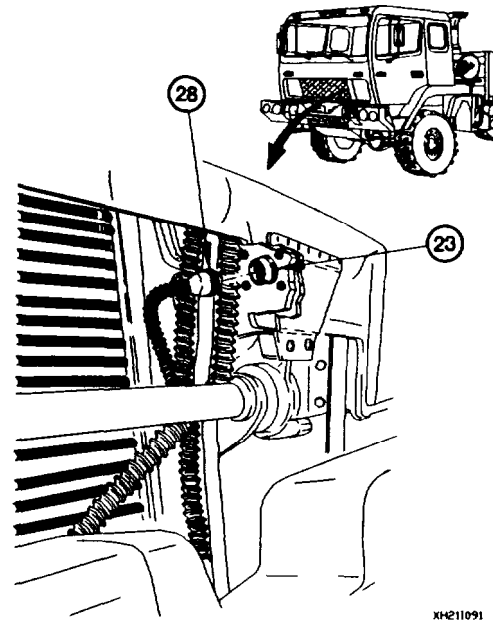
Step (20) requires the aid of an assistant.

- (20) Install gasket (22) and connector J119 (23) on cab (24) with four screws (25), lockwashers (26), and nuts (27).



XH211091

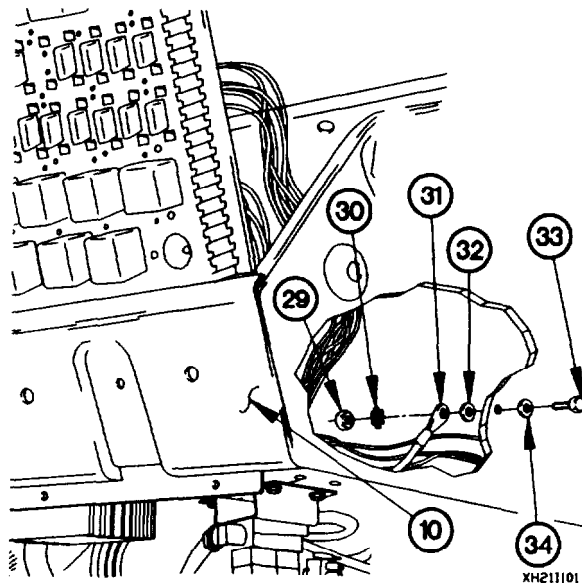
(21) Connect connector P119 (28) to connector J119 (23).



XH211091

(22) Remove nut (29), lockwasher (30), terminal lug TL57 (31), washer (32), screw (33), and washer (34) from dashboard (10). Discard lockwasher.

(23) Install WTEC III dashboard cable assembly (para 7-11).



XH211101

b. WTEC III TPSS Calibration.

NOTE

WTEC III TPSS requires calibration after installation. Calibration is accomplished in steps (1) through (4).

- (1) Position master power switch to on and wait for neutral (N) indication from WTEC III TPSS (TM 9-2320-366-10-1).
- (2) Position master power switch to off (TM 9-2320-366-10-1).

8-8. WTEC III TRANSMISSION CONTROLS INITIAL INSTALLATION (CONT)

- (3) Perform steps (1) and (2) four more times.
- (4) Position master power switch to on (TM 9-2320-366-10-1).
- (5) Start engine (TM 9-2320-366-10-1).
- (6) Check VOLTS gage for charge indication (TM 9-2320-366-10-1).

NOTE

Transmission shifting may be rough until WTEC III TPSS determines proper shift points. Operating vehicle through each gear range several times will allow WTEC III TPSS to determine proper shift points.

- (7) Test drive vehicle and check operation of vehicle through all gear ranges several times (TM 9-2320-366-10-1).
- (8) Shut down engine (TM 9-2320-366-10-1).

End of Task.

8-9. TRANSMISSION OIL FILTER REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
 Container (60 qt (57 L) capacity)
 Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

Oil, Lubricating, OE/HDO 30 (Item 45, Appendix D)
 Kit, Filter (transmissions SN 6510069120 and higher)
 (Item 63, Appendix G)
 Kit, Filter (transmissions SN lower than 6510069120)
 (Item 64, Appendix G)

WARNING

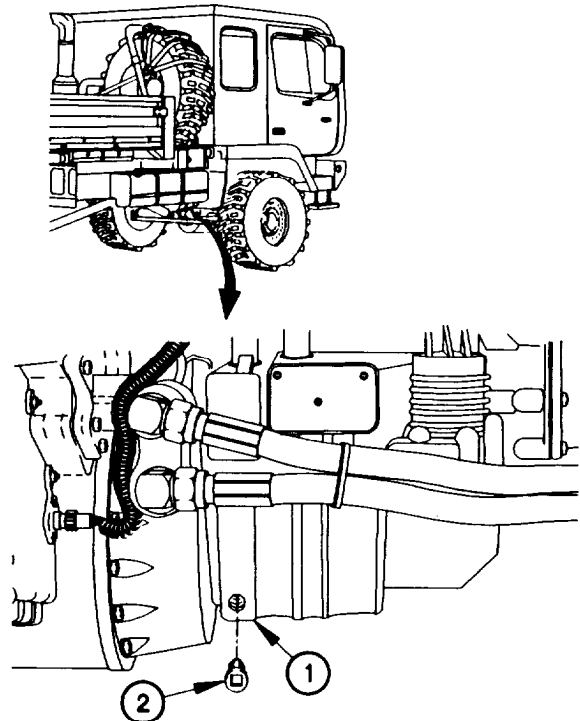
- Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.
- Ensure exhaust system is cool before performing maintenance. Failure to comply may result in injury to personnel.

CAUTION

There are two transmission oil filters. Do not replace one transmission oil filter without replacing the other. Failure to comply may result in damage to equipment.

a. Removal.

- (1) Position container under transmission control module (1).
- (2) Remove drain plug (2) from transmission control module (1) and drain oil.



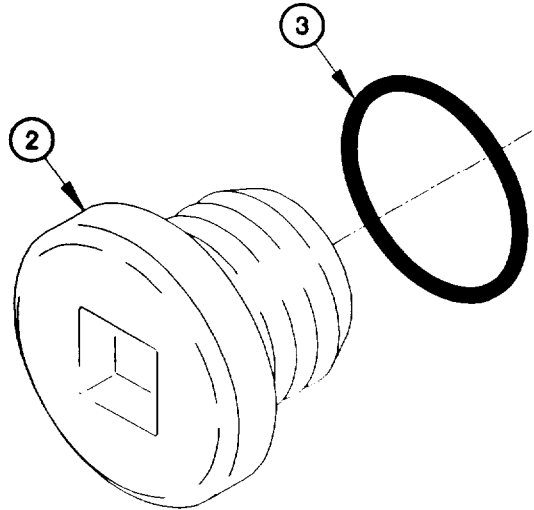
XH05R011

8-9. TRANSMISSION OIL FILTER REPLACEMENT (CONT)

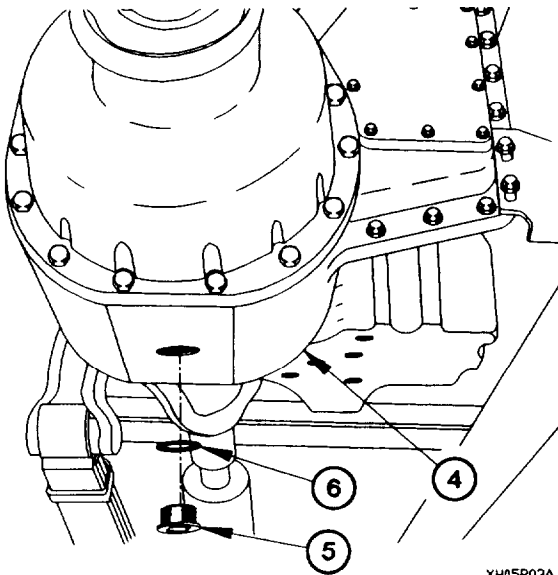
CAUTION

Perform Transmission Troubleshooting, f20. Metal Particles Found During Transmission Oil Change, if inspection of drain plug reveals metal particles. Failure to comply may result in damage to equipment.

- (3) Inspect drain plug (2) for presence of metal particles.
- (4) Remove preformed packing (3) from drain plug (2). Discard preformed packing.



XH05R02A



XH05R03A

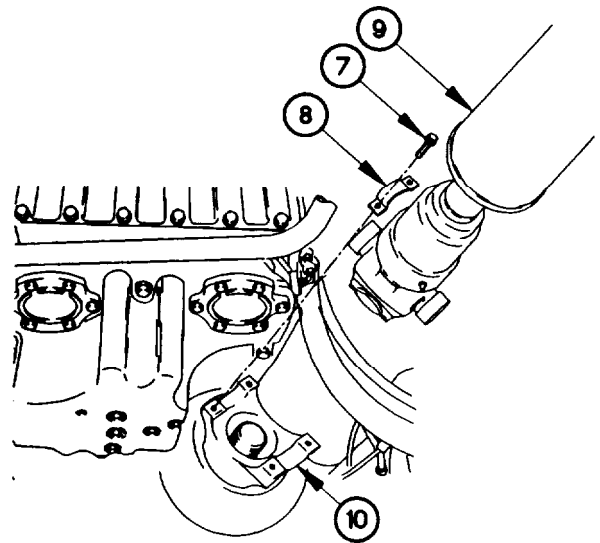
- (5) Position container under transfer case (4).
- (6) Remove drain plug (5) from transfer case (4) and drain oil.

CAUTION

Perform Transmission Troubleshooting, f20. Metal Particles Found During Transmission Oil Change, if inspection of drain plug reveals metal particles. Failure to comply may result in damage to equipment.

- (7) Inspect drain plug (5) for presence of metal particles.
- (8) Remove preformed packing (6) from drain plug (5). Discard preformed packing.

- (9) Remove four screws (7) and two retaining straps (8) from propeller shaft (9).
- (10) Separate propeller shaft (9) from yoke (10).



XH05R04A

NOTE

Both transmission oil filters are removed the same way. Left transmission oil filter shown.

- (11) Remove six screws (11) from transmission oil filter cover (12).

NOTE

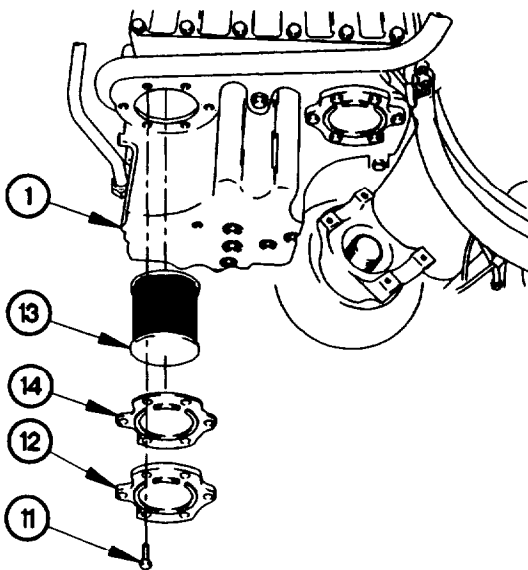
Perform step (12) on transmissions SN lower than 6510029120.

- (12) Remove transmission oil filter cover (12) and transmission oil filter (13) from transmission control module (1).

NOTE

Perform step (13) on transmissions SN 6510069120 and higher.

- (13) Remove transmission oil filter cover (12), gasket (14), and transmission oil filter (13) from transmission control module (1). Discard gasket.
- (14) Remove transmission oil filter (13) from transmission oil filter cover (12).



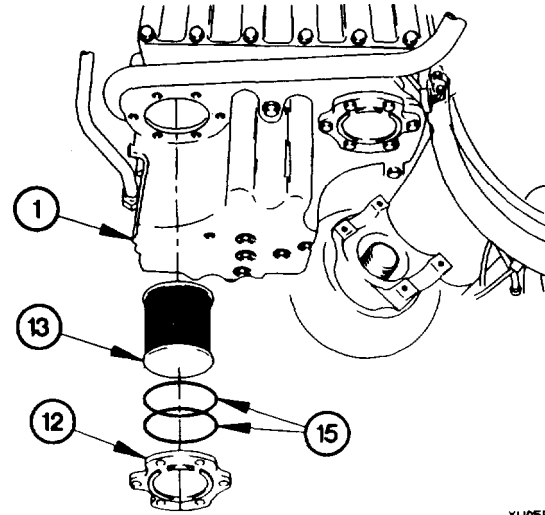
XH05R05B

8-9. TRANSMISSION OIL FILTER REPLACEMENT (CONT)

CAUTION

Perform Transmission Troubleshooting, f20. Metal Particles Found During Transmission Oil Change, if inspection of transmission oil filter reveals metal particles. Failure to comply may result in damage to equipment.

- (15) Inspect transmission oil filter (13) for presence of metal particles. Discard transmission oil filter.
- (16) Remove two preformed packings (15) from transmission oil filter cover (12). Discard preformed packings.



XH05R06B

b. Installation.

NOTE

Both transmission oil filters are installed the same way. Left transmission oil filter shown.

- (1) Install two preformed packings (1) on transmission oil filter cover (2).
- (2) Install transmission oil filter (3) in transmission filter oil cover (2).

NOTE

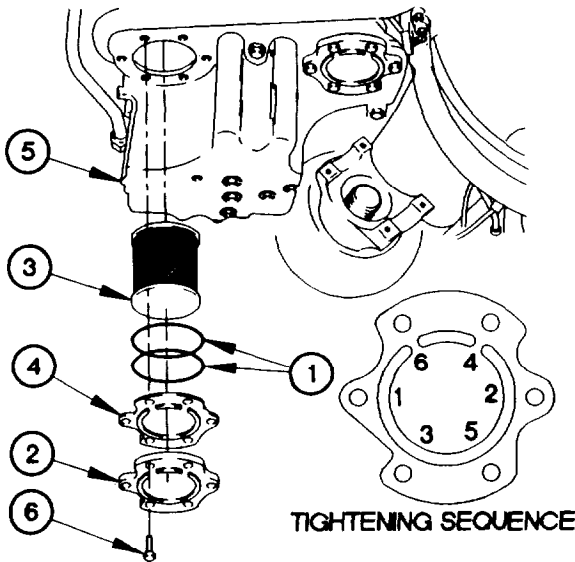
Perform step (3) on transmissions SN 6510069120 and higher.

- (3) Position gasket (4) and transmission oil filter cover (2) on transmission control module (5) with six screws (6).

NOTE

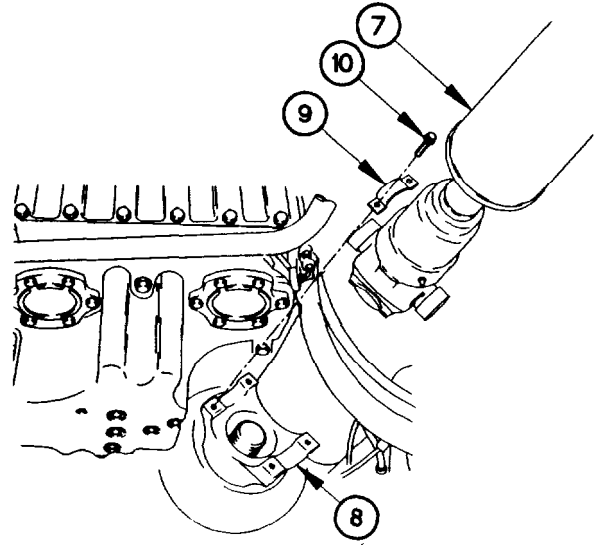
Perform step (4) on transmissions SN lower than 6510069120

- (4) Position transmission oil filter cover (2) on transmission control module (5) with six screws (6).
- (5) Tighten six screws (6) to 38-45 lb-ft (52-61 N•m) in sequence shown.

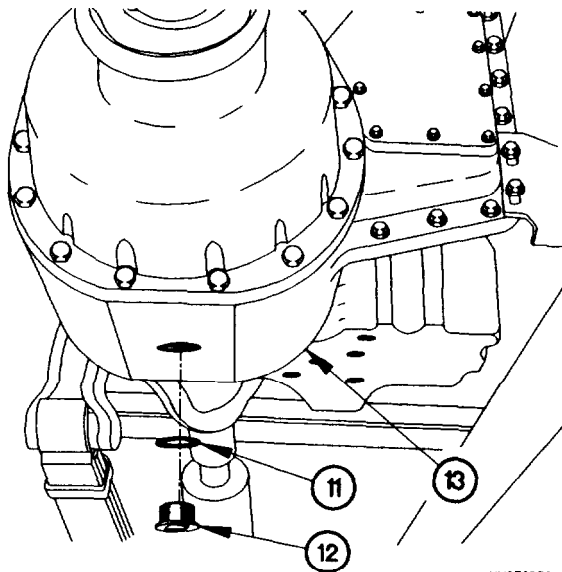


XH05101B

- (6) Position propeller shaft (7) on yoke (8) with two retaining straps (9) and four screws (10).
- (7) Tighten four screws (10) to 44-52 lb-ft (60-71 N•m).



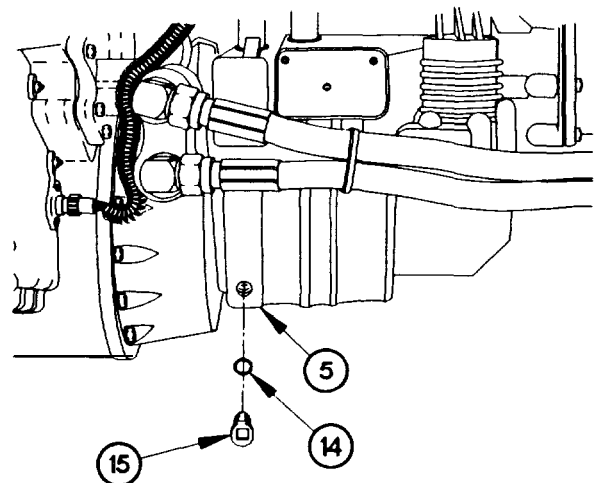
XH05102B



XH05103B

- (8) Install preformed packing (11) on drain plug (12).
- (9) Position drain plug (12) in transfer case (13).
- (10) Tighten drain plug (12) to 18-24 lb-ft (25-32 N•m).

- (11) Install preformed packing (14) on drain plug (15).
- (12) Position drain plug (15) in transmission control module (5).
- (13) Tighten drain plug (15) to 18-24 lb-ft (25-32 N•m).



XH051041

8-9. TRANSMISSION OIL FILTER REPLACEMENT (CONT)

c. Follow-On Maintenance.

- (1) Add lubricating oil to transmission (Appendix H).
- (2) Start engine (TM 9-2320-366-10-1).
- (3) Check transmission oil level (TM 9-2320-366-10-2).
- (4) Check for oil leaks around transmission oil filters.
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.

8-10. TRANSMISSION OIL COOLER REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Googles, Industrial (Item 15, Appendix C)
 Container (60 qt (57 L) capacity)
 Pan, Drain (Item 24, Appendix C)
 Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque. 0-75 lb-in. (Item 90, Appendix B)

Materials/Parts

Oil, Lubricating OE/HDO 30 (Item 45, Appendix D)
 Antifreeze, Ethylene Glycol, Permanent (Item 12, Appendix D)
 Packing, Preformed (2) (Item 184, Appendix G)

Personnel Required

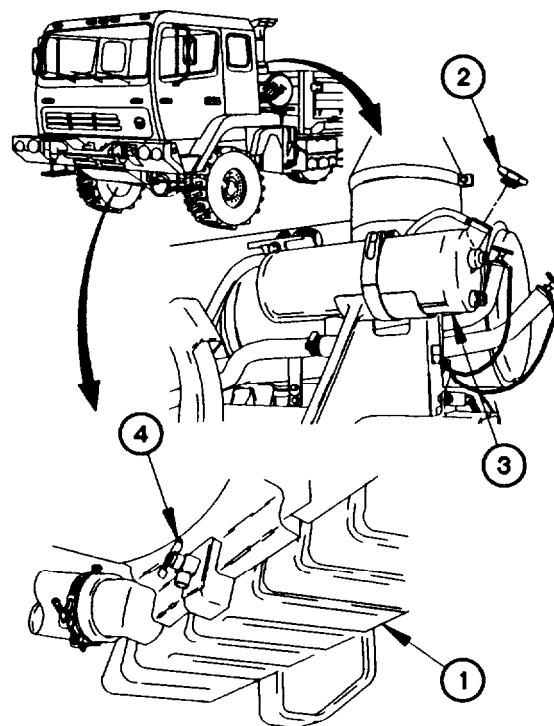
(2)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

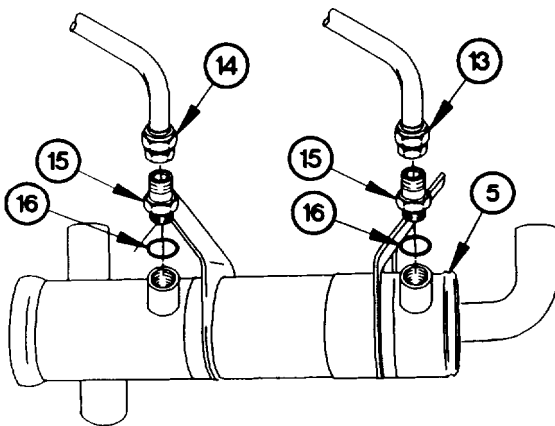
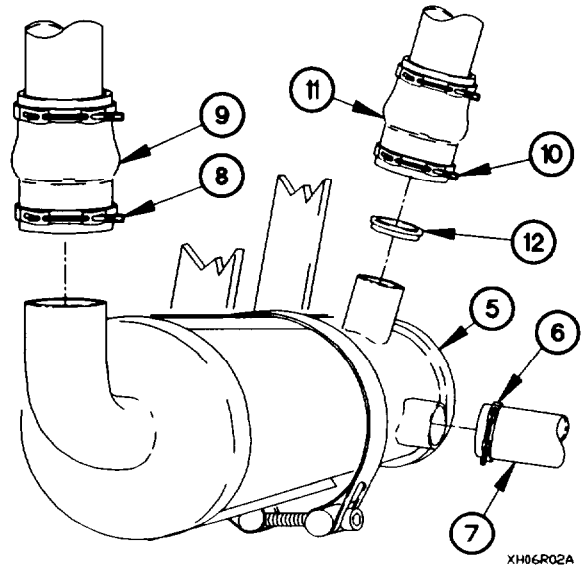
- (1) Position container under radiator (1).
- (2) Remove radiator cap (2) from radiator overflow tank (3).
- (3) Open radiator draincock (4) and drain coolant.
- (4) Close radiator draincock (4).



XH06R01A

8-10. TRANSMISSION OIL COOLER REPLACEMENT (CONT)

- (5) Position drain pan under transmission oil cooler (5).
- (6) Loosen clamp (6) on radiator hose (7).
- (7) Remove radiator hose (7) from transmission oil cooler (5).
- (8) Remove clamp (6) from radiator hose (7).
- (9) Loosen clamp (8) on coolant hose (9).
- (10) Remove coolant hose (9) from transmission oil cooler (5).
- (11) Remove clamp (8) from coolant hose (9).
- (12) Loosen clamp (10) on coolant hose (11).
- (13) Remove coolant hose (11) and flow restrictor (12) from transmission oil cooler (5).
- (14) Remove clamp (10) from coolant hose (11).



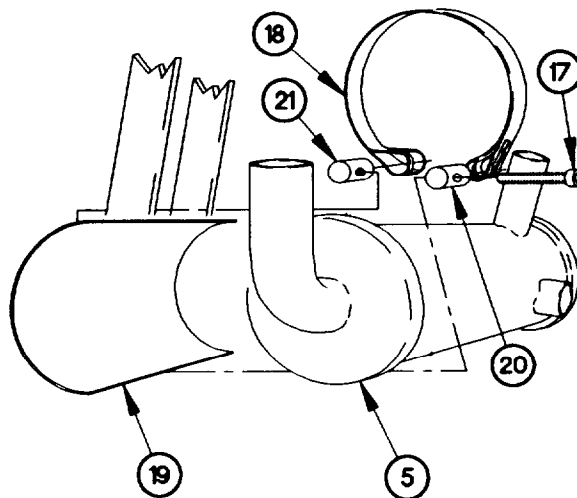
- (15) Disconnect oil cooler flow tube (13) and oil cooler return tube (14) from transmission oil cooler (5).
- (16) Remove two fittings (15) from transmission oil cooler (5).
- (17) Remove two preformed packings (16) from fittings (15). Discard preformed packings.

NOTE

Step (18) requires the aid of an assistant.

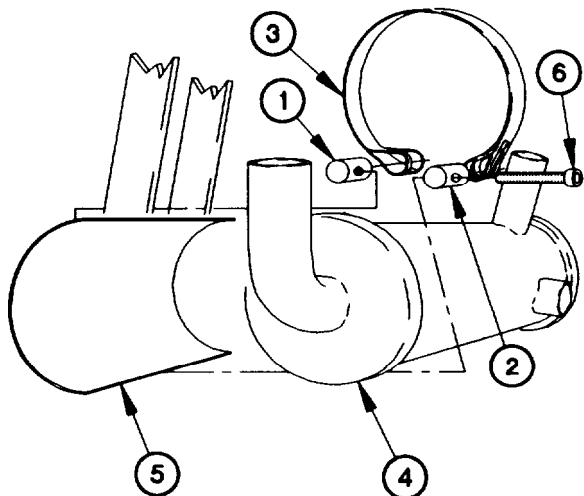
(18) Remove screw (17), clamp (18) and transmission oil cooler (5) from bracket (19).

(19) Remove headless pins (20 and 21) from clamp (18).



XH06R04A

b. Installation.



XH06I01A

(1) Install headless pins (1 and 2) in clamp (3).

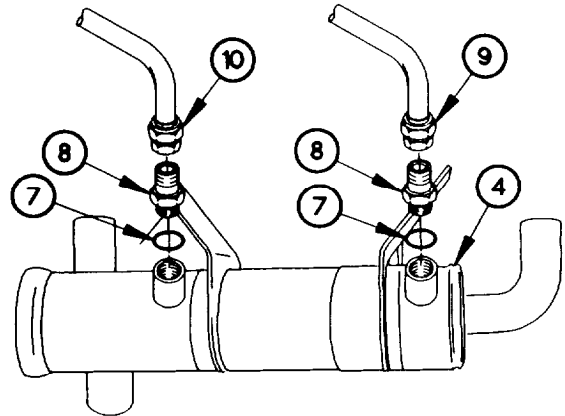
NOTE

Step (2) requires the aid of an assistant.

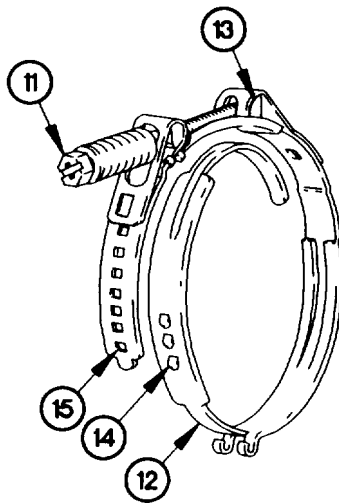
(2) Install transmission oil cooler (4) on bracket (5) with clamp (3) and screw (6).

8-10. TRANSMISSION OIL COOLER REPLACEMENT (CONT)

- (3) Install two preformed packings (7) on fittings (8).
- (4) Install two fittings (8) in transmission oil cooler (4).
- (5) Install oil cooler flow tube (9) and oil cooler return tube (10) on transmission oil cooler (4).

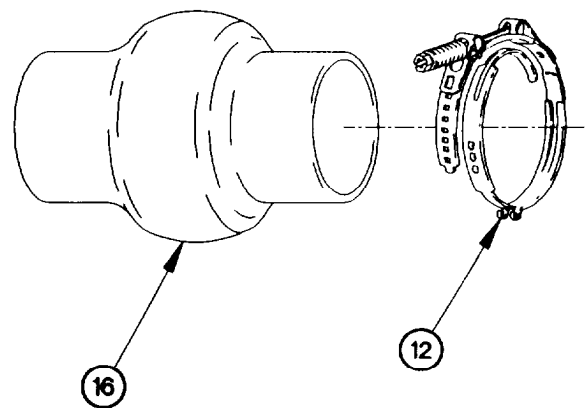


XH061021



- (6) Loosen screws (11) in three clamps (12) as far as possible without disengaging screws from D-nuts (13).
- (7) Unhook clamp tabs (14) from tab windows (15).

- (8) Position clamp (12) on coolant hose (16).



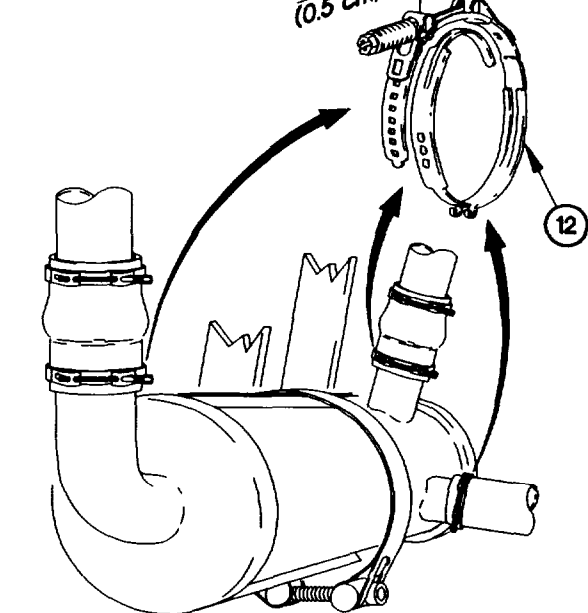
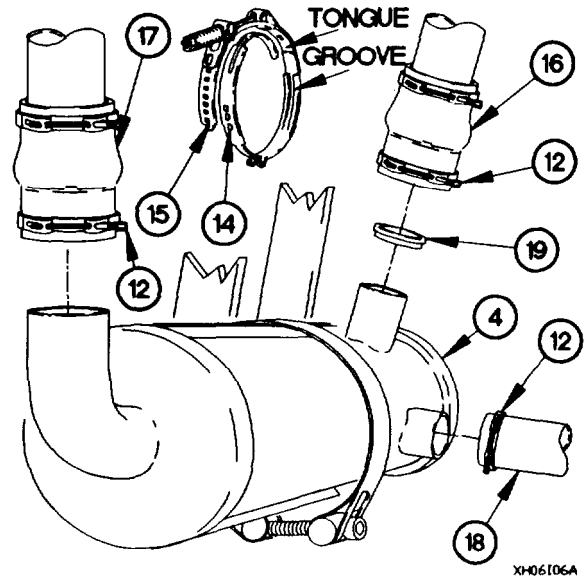
XH06104A

- (9) Perform step (8) on coolant hose (17) and radiator hose (18).
- (10) Position flow restrictor (19) and coolant hose (18) on transmission oil cooler (4).
- (11) Position coolant hose (17) on transmission oil cooler (4).
- (12) Position radiator hose (18) on transmission oil cooler (4).

CAUTION

Ensure clamp tongue is started in clamp groove. Failure to comply may result in damage to equipment.

- (13) Engage as many clamp tabs (14) as possible in tab windows (15) allowing little or no play between clamp and coolant hose (16).
- (14) Tighten three clamps (12) to 12-18 lb-in. (1-2 N•m).



XH061071

NOTE

Minimum allowable gap between ends of clamp is 0.2 in. (0.5 cm). If gap is less than minimum allowable, remove and re-install clamp.

- (15) Measure gap between ends of three clamps (12).

8-10. TRANSMISSION OIL COOLER REPLACEMENT (CONT)

c. Follow-On Maintenance.

- (1) Add coolant to radiator overflow tank (Appendix H).
- (2) Install radiator cap on radiator overflow tank.
- (3) Start engine and check around hoses and transmission oil cooler for coolant and oil leaks (TM 9-2320-366-10-1).
- (4) Check transmission oil level and add lubricating oil as required (Appendix H).
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.

8-11. M1083/M1084/M1085/M1086/M1093 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT

This task covers:

- a. Removal
- b. installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Batteries disconnected (para 7-57).
Winch control valve assembly removed, if equipped (para 17-25).

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
Pan, Drain (Item 24, Appendix C)
Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Material/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Cap and Plug Set (Item 14, Appendix D)
Nut, Self-Locking (5) (Item 150, Appendix G)
Nut, Self-Locking (8) (Item 154, Appendix G)
Nut, Self-Locking (4) (Item 158, Appendix G)
Lockwasher (6) (Item 95, Appendix G)
Packing, Preformed (2) (Item 184, Appendix G)
Transmission Auxiliary Oil Cooler Rubber Seal (2) (Item E-10, Appendix E)

Personnel Required

(2)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

CAUTION

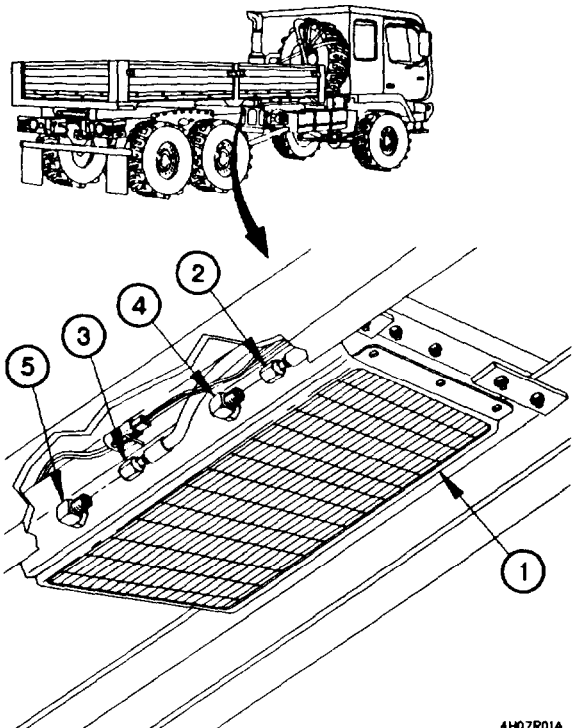
Cap or plug hoses and tubes when disconnecting. Failure to comply may result in damage to equipment.

NOTE

- Tag oil hoses and tubes prior to disconnecting.
- Remove plastic cable ties as required.

a. Removal.

- (1) Position drain pan beneath transmission auxiliary oil cooler (1).
- (2) Disconnect hoses (2 and 3) from 90-degree fittings (4 and 5).



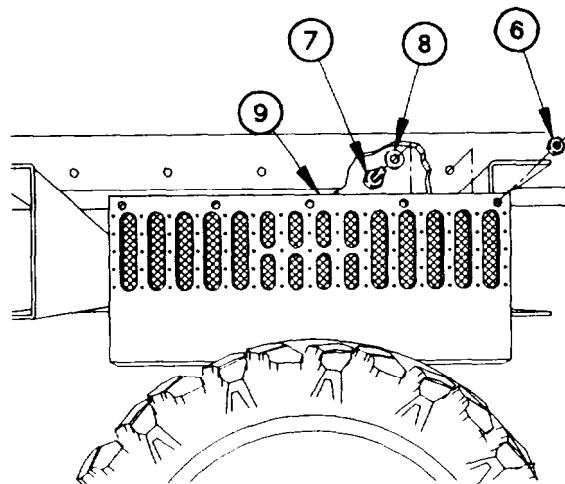
4H07R01A

8-11. M1083/M1084/M1085/M1086/M1093 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

NOTE

Step (3) requires the aid of an assistant.

- (3) Remove five self-locking nuts (6), screws (7), washers (8), and right splash shield (9) from vehicle. Discard self-locking nuts.

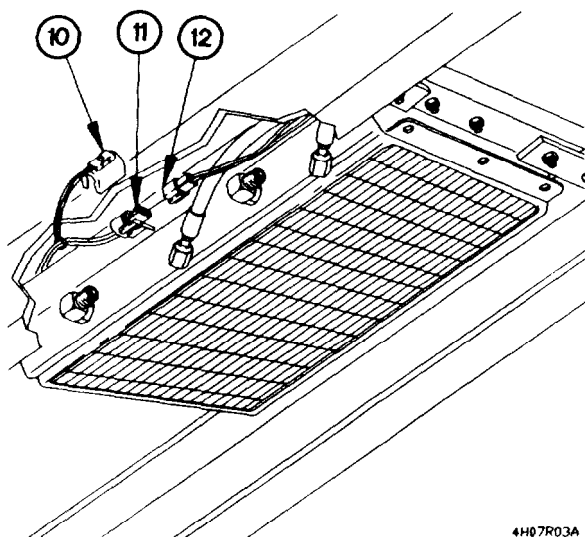


4H07R02A

NOTE

Position electrical cables for clearance.

- (4) Disconnect Remove connector clamp (10) from connector P209 (11).
 (5) Disconnect connector J209 (12) from connector P209 (11).

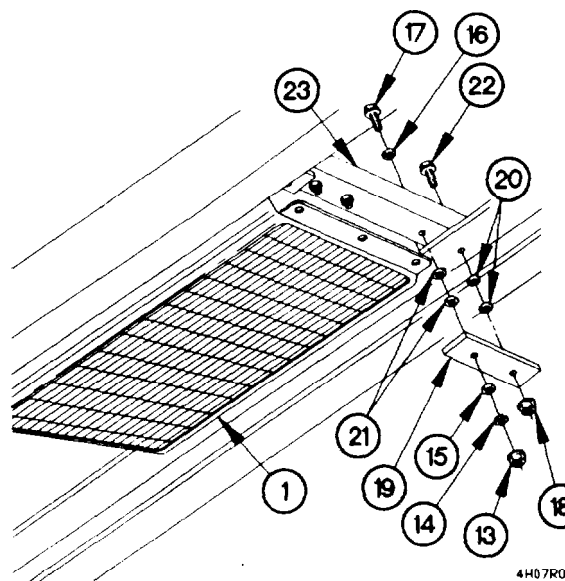


4H07R03A

NOTE

- Left front and rear brackets are removed the same way. Left front bracket shown.
- Steps (6) through (14) require the aid of an assistant.

- (6) Remove nut (13), lockwasher (14), washer (15), washer (16), and screw (17) from transmission auxiliary oil cooler (1). Discard lockwasher.
- (7) Remove self-locking nut (18), bracket (19), two spacers (20), spacers (21), and screw (22) from bracket (23). Discard self-locking nut.
- (8) Perform steps (6 and 7) on left rear bracket.

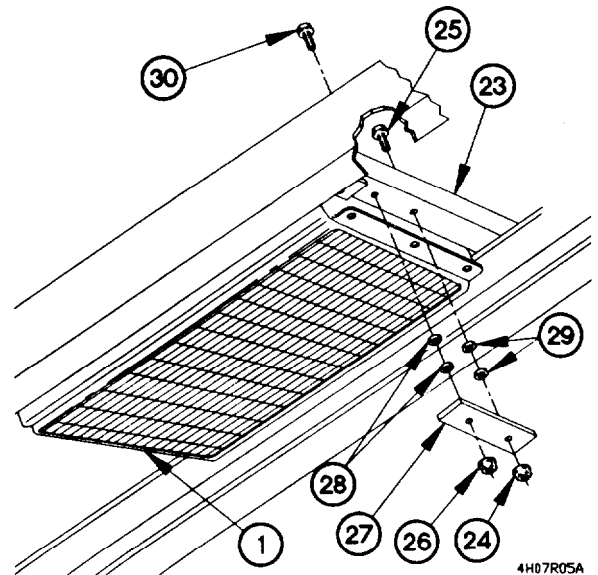


4H07R04A

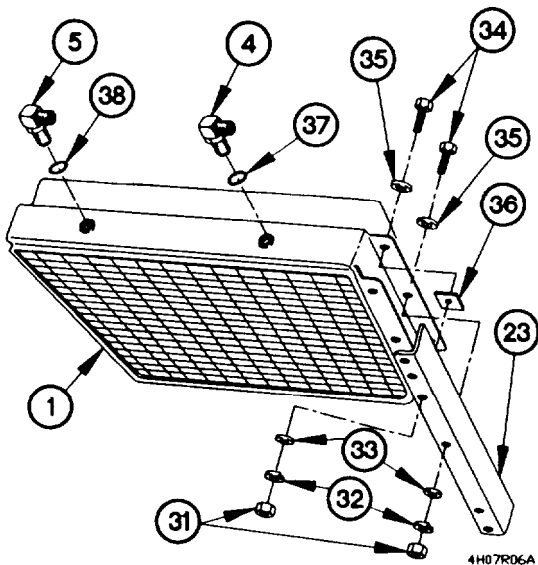
NOTE

Right front and rear brackets are removed the same way. Right front bracket shown.

- (9) Remove self-locking nut (24) and screw (25) from bracket (23). Discard self-locking nut.
- (10) Remove self-locking nut (26), bracket (27), two spacers (28), spacers (29), and screw (30) from bracket (23). Discard self-locking nut.
- (11) Perform steps (9 and 10) on right rear bracket,
- (12) Remove transmission auxiliary oil cooler (1) from vehicle.
- (13) Drain transmission auxiliary oil cooler (1).



4H07R05A



4H07R06A

- (14) Remove four nuts (31), lockwashers (32), washers (33), screws (34), washers (35), two brackets (23), and six bevel washers (36) from transmission auxiliary oil cooler (1). Discard lockwashers.

NOTE

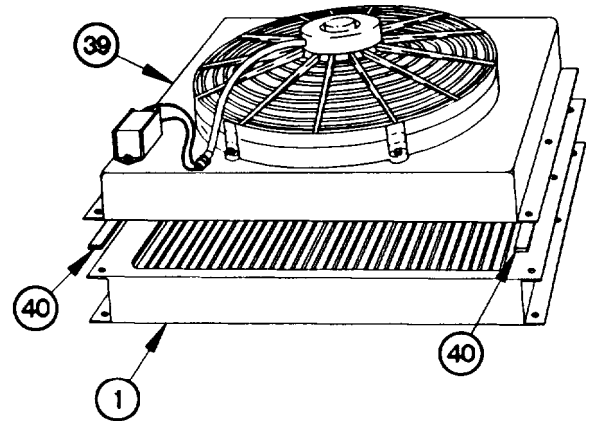
Note orientation of 90-degree fittings prior to removal.

- (15) Remove 90-degree fittings (4 and 5) from transmission auxiliary oil cooler (1).
- (16) Remove preformed packings (37 and 38) from 90-degree fittings (4 and 5). Discard preformed packings.

8-11. M1083/M1084/M1085/M1086/M1093 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

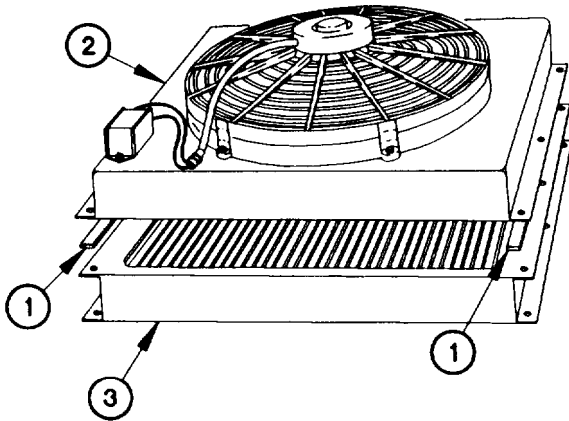
- (17) Remove fan housing (39) and two seals (40) from transmission auxiliary oil cooler (1). Discard seals.

b. Installation.



4H07R07A

- (1) Position two seals (1) and fan housing (2) on transmission auxiliary oil cooler (3).



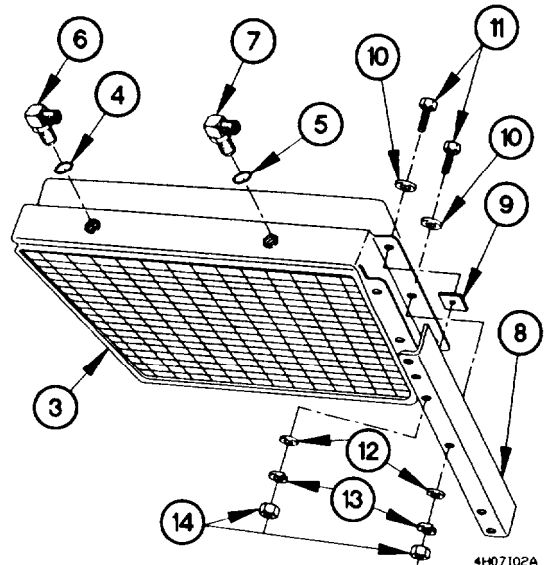
4H07101A

- (2) Install preformed packings (4 and 5) on 90-degree fittings (6 and 7).
 (3) Install 90-degree fittings (6 and 7) in transmission auxiliary oil cooler (3).

CAUTION

Install bevel washers with tapered end toward transmission auxiliary oil cooler. Failure to comply may result in damage to equipment.

- (4) Position two brackets (8) and six bevel washers (9) on transmission auxiliary oil cooler (3) with six washers (10), screws (11), four washers (12), lockwashers (13), and nuts (14).



4H07102A

- (5) Tighten four nuts (14) to 20-30 lb-ft (27-41 N•m).

NOTE

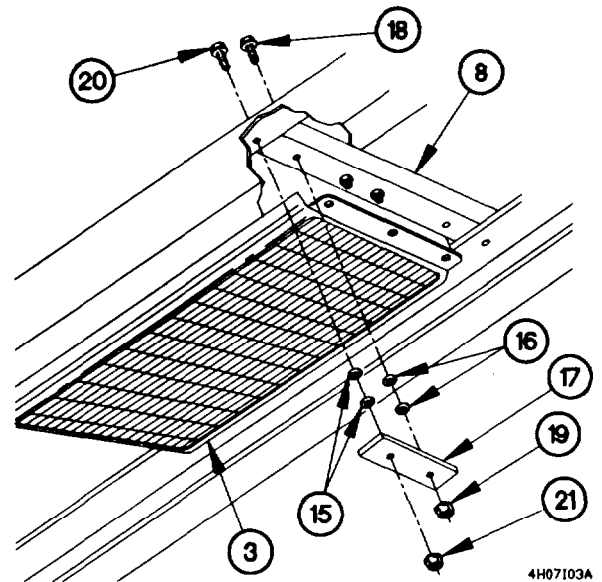
Steps (6 through 12) requires the aid of an assistant.

- (6) Position transmission auxiliary oil cooler (3) on vehicle.

NOTE

Right front and rear brackets are installed the same way. Right front bracket shown.

- (7) Position two spacers (15), spacers (16), and bracket (17) on bracket (8) with screw (18) and self-locking nut (19).
- (8) Position screw (20) and self-locking nut (21) in bracket (17).
- (9) Tighten self-locking nuts (19 and 21) to 20-30 lb-ft (27-41 N•m).
- (10) Perform steps (7) through (9) on right rear bracket.

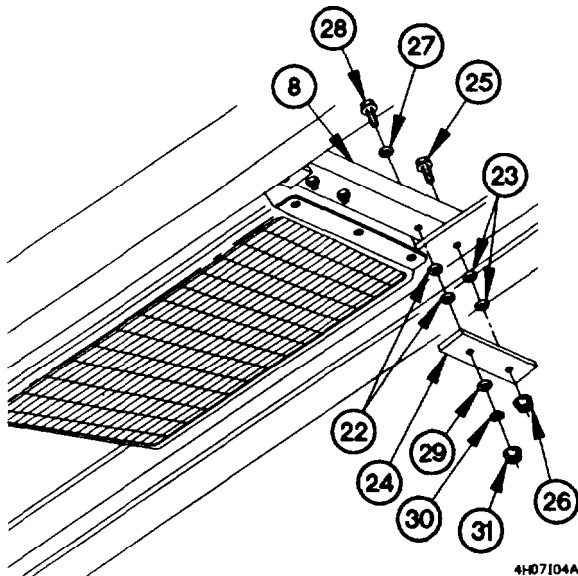


4H07103A

NOTE

Left front and rear brackets are installed the same way. Left front bracket shown.

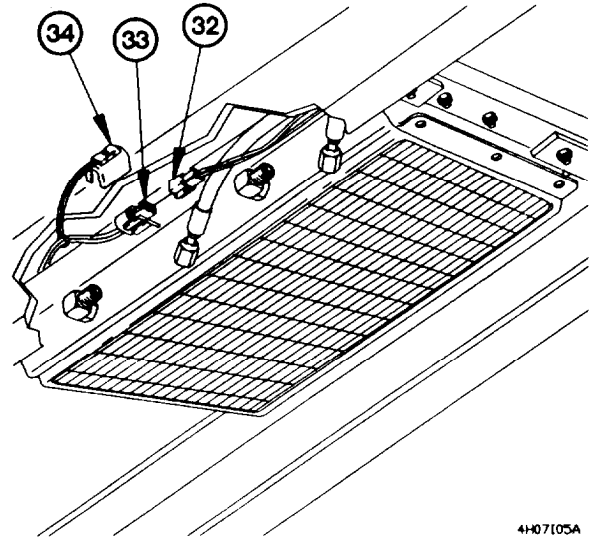
- (11) Position two spacers (22), spacers (23), and left front bracket (24) on bracket (8) with screw (25) and self-locking nut (26).
- (12) Position washer (27), screw (28), washer (29), lockwasher (30), and self-locking nut (31) in bracket (24).
- (13) Tighten self-locking nuts (26 and 31) to 20-30 lb-ft (27-41 N•m).
- (14) Perform steps (11) through (13) on left rear bracket.



4H07104A

8-11. M1083/M1084/M1085/M1086/M1093 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

- (15) Connect connector J209 (32) to connector P209 (33).
- (16) Disconnect connector clamp (34) on connector P209 (33).

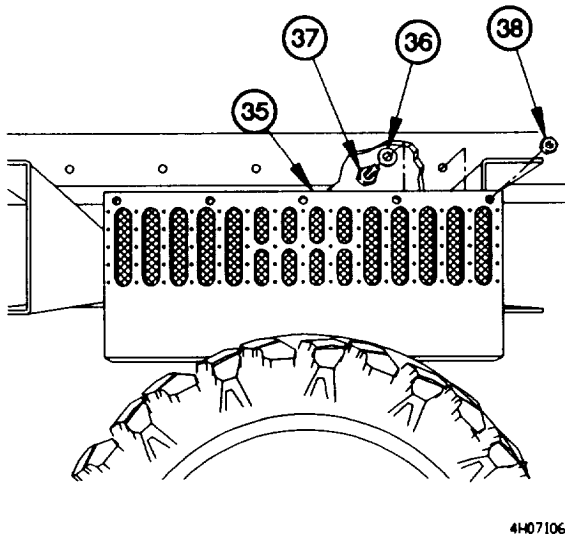


- (17) Position right splash shield (35) on vehicle with five washers (36), screws (37), and self-locking nuts (38).

NOTE

Step (18) requires the aid of an assistant.

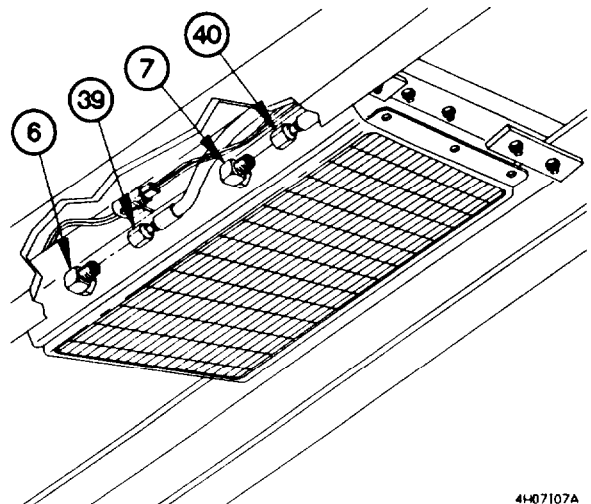
- (18) Tighten five self-locking nuts (38) to 20-30 lb-ft (27-41 N•m).



- (19) Install hoses (39 and 40) on 90-degree fittings (6 and 7).

c. Follow-On Maintenance.

- (1) Install self-recovery winch control valve assembly, if equipped (para 17-25).
- (2) Connect batteries (para 7-57).
- (3) Service transmission (Appendix H).
- (4) Operate vehicle and check for oil leaks (TM 9-2320-366-10-1).



End of Task.

8-12. M1088 TRANSMISSION AUXILIARY OIL COOLER AND BRACKET REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Batteries disconnected (para 7-57).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Pan, Drain (Item 24, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Wrench Set, Socket (Item 51, Appendix C)
- Wrench, Box and Open End (Item 54, Appendix C)
- Wrench, Box and Open End (Item 55, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Cap and Plug Set (Item 14, Appendix D)
- Packing, Preformed (2) (Item 184, Appendix G)
- Nut, Self-Locking (4) (Item 161, Appendix G)
- Nut, Self-Locking (10) (Item 154, Appendix G)
- Nut, Self-Locking (4) (Item 150, Appendix G)
- Nut, Self-Locking (8) (Item 167, Appendix G)
- Washer, Spring (8) (Item 292, Appendix G)

Personnel Required

(2)

WARNING

- Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.
- Ensure exhaust system is cool before performing maintenance. Failure to comply may result in injury to personnel.

a. Removal.

CAUTION

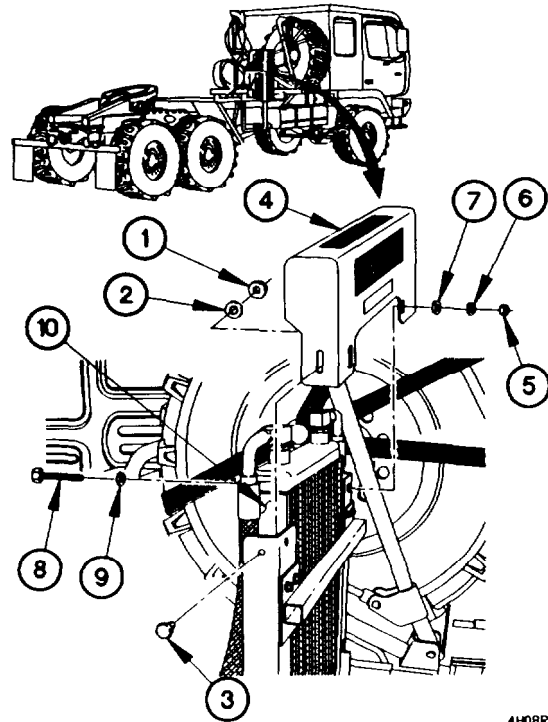
Cap or plug hoses and tubes when disconnecting to prevent contamination of transmission oil. Failure to comply may result in damage to equipment.

NOTE

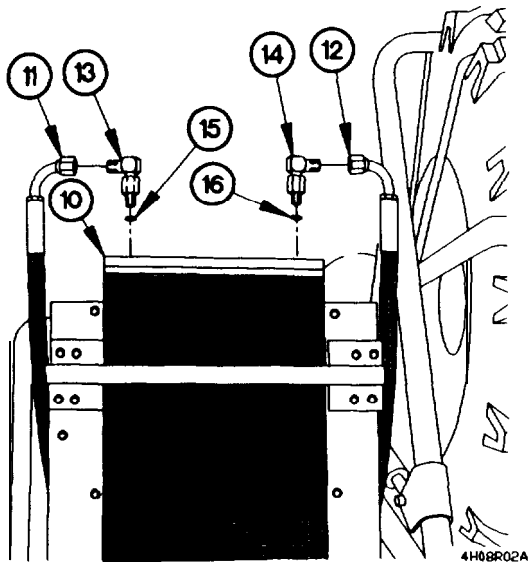
- Tag hoses and tubes prior to disconnecting.
- Remove plastic cable ties as required.

8-12. M1088 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

- (1) Remove two self-locking nuts (1), washers (2), and screws (3) from heat shield (4). Discard self-locking nuts.
- (2) Remove two self-locking nuts (5), spring washers (6), washers (7), screws (8), washers (9), and heat shield (4) from transmission auxiliary oil cooler (10). Discard self-locking nuts and spring washers.



4H0BR01A



4H0BR02A

- (3) Disconnect hoses (11 and 12) from 90-degree fittings (13 and 14).

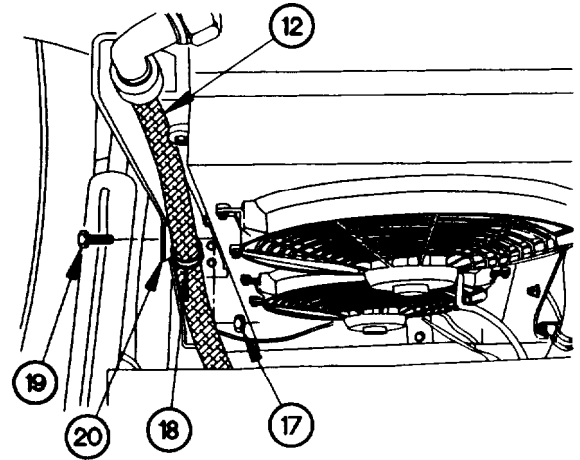
NOTE

Note orientation of 90-degree fittings prior to removal.

- (4) Remove 90-degree fittings (13 and 14) from transmission auxiliary oil cooler (10).
- (5) Remove preformed packings (15 and 16) from 90-degree fittings (13 and 14). Discard preformed packings.

(6) Remove self-locking nut (17), clamp (18), and screw (19) from bracket (20). Discard self-locking nut.

(7) Remove clamp (18) from hose (12).

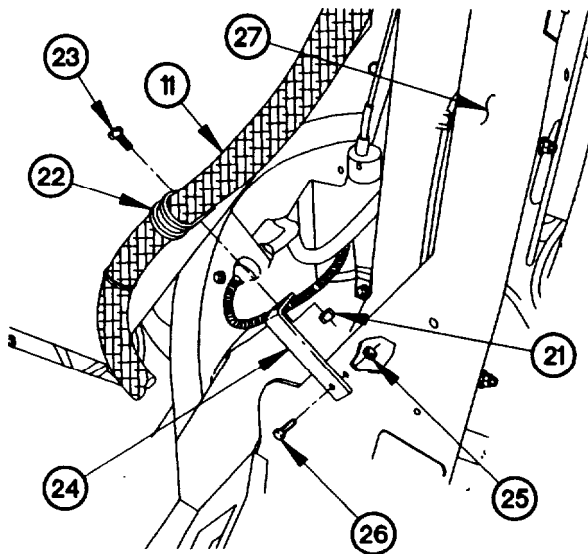


4H0BR03A

(8) Remove self-locking nut (21), clamp (22), and screw (23) from bracket (24). Discard self-locking nut.

(9) Remove clamp (22) from hose (11).

(10) Remove self-locking nut (25), bracket (24), and screw (26) from left transmission auxiliary oil cooler frame (27). Discard self-locking nut.



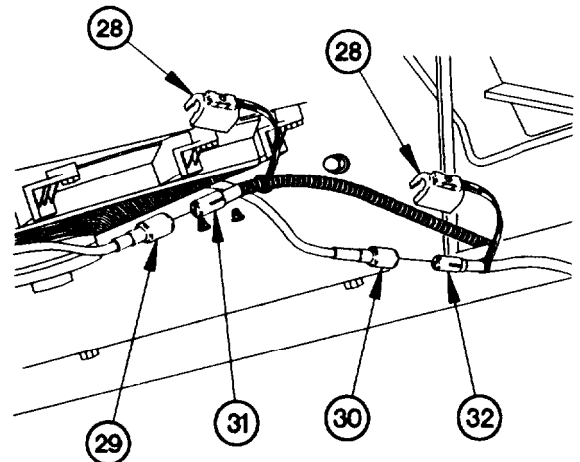
4H0BR04A

NOTE

- Tag connectors and connections points prior to disconnecting.
- Position electrical cables to allow clearance.

(11) Disconnect two connector clamps (28) from connectors J209A and J209B (29 and 30).

(12) Disconnect connectors J209A and J209B (29 and 30) from connectors P209A and P209B (31 and 32).



4H0BR05A

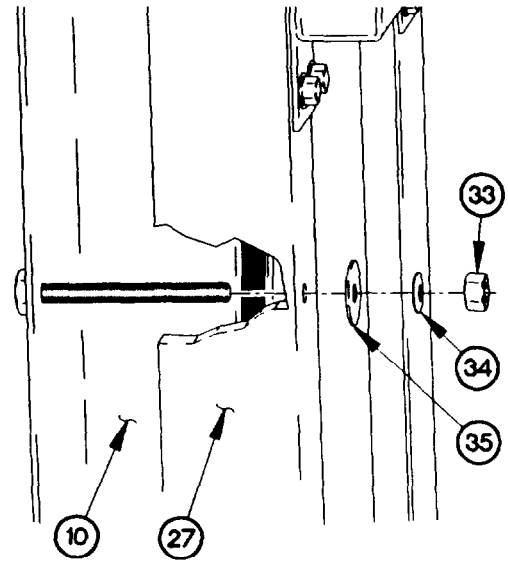
8-12. M1088 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

NOTE

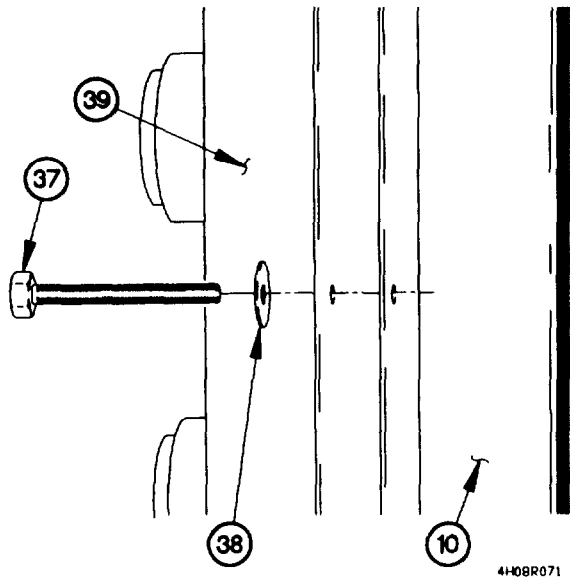
- Steps (13) and (14) require the aid of an assistant.
- Note position of transmission auxiliary oil cooler prior to removal.

(13) Remove six self-locking nuts (33), spring washers (34), washers (35), and transmission auxiliary oil cooler (10) from left and right transmission auxiliary oil cooler frames (27 and 38). Discard self-locking nuts and spring washers.

(14) Drain transmission auxiliary oil cooler (10) in drain pan.



4H08R061

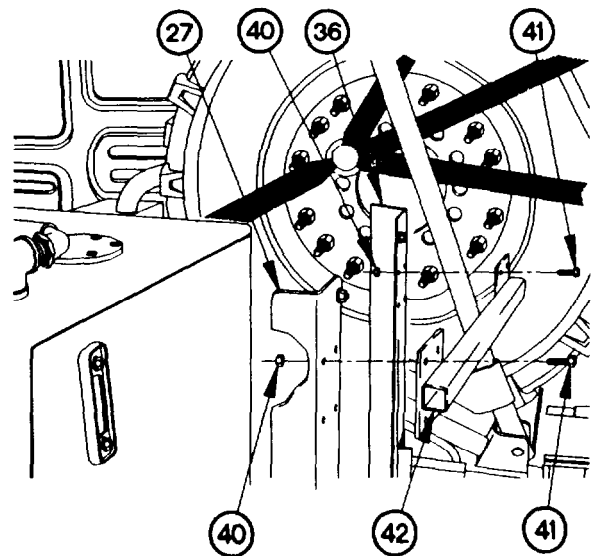


4H08R071

(15) Remove six screws (37) and washers (38) from transmission auxiliary oil cooler (10).

(16) Remove fan housing (39) from transmission auxiliary oil cooler (10).

(17) Remove eight self-locking nuts (40), screws (41), and bracket (42) from left and right transmission auxiliary oil cooler frames (27 and 36). Discard self-locking nuts.

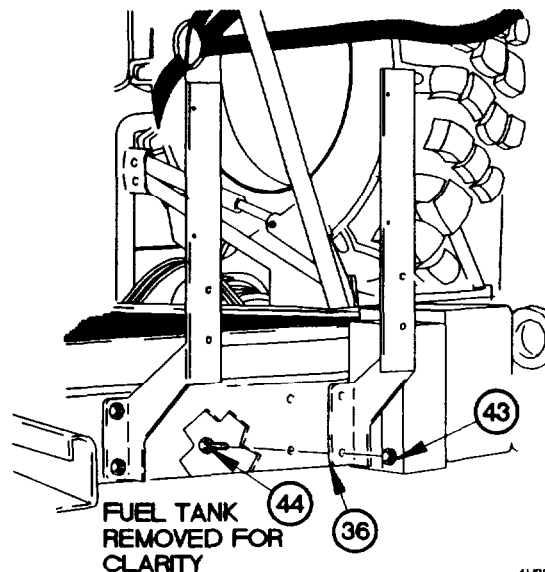


4H08R081

NOTE

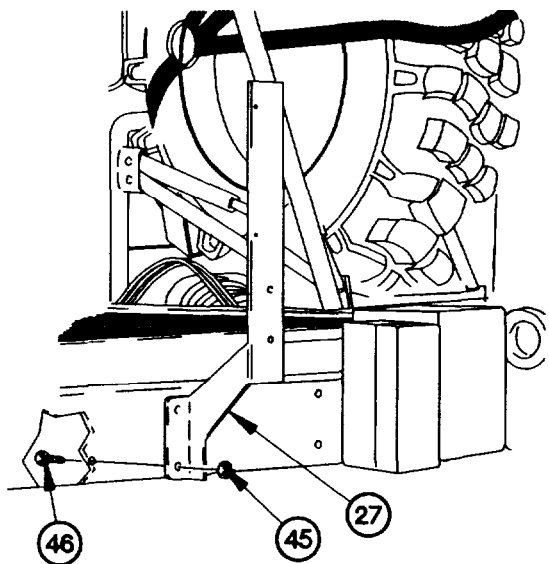
Steps (18) and (19) require the aid of an assistant.

- (18) Remove two self-locking nuts (43), bolts (44), and right transmission auxiliary oil cooler frame (36) from vehicle. Discard self-locking nuts.



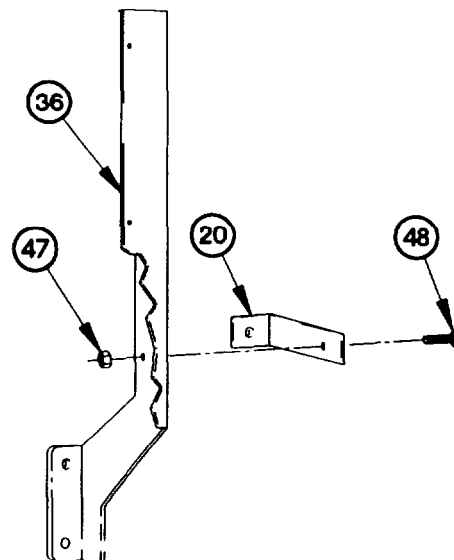
4H0BR091

- (19) Remove two self-locking nuts (45), bolts (46), and left transmission auxiliary oil cooler frame (27) from vehicle. Discard self-locking nuts.



4H0BR10A

- (20) Remove self-locking nut (47), screw (48), and bracket (20) from right transmission auxiliary oil Cooler frame (36). Discard self-locking nut.

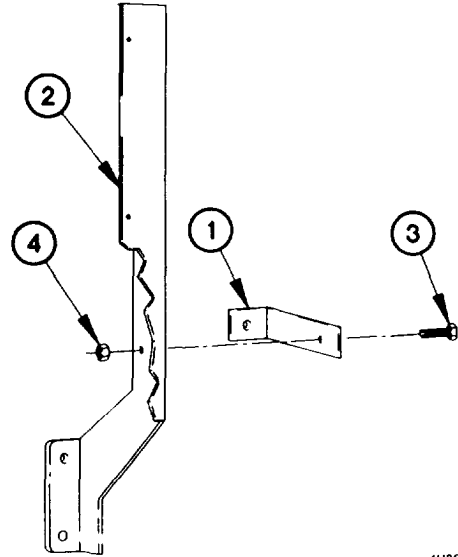


4H0BR111

8-12. M1088 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

b. Installation.

- (1) Install bracket (1) on right transmission auxiliary oil cooler frame (2) with screw (3) and self-locking nut (4).

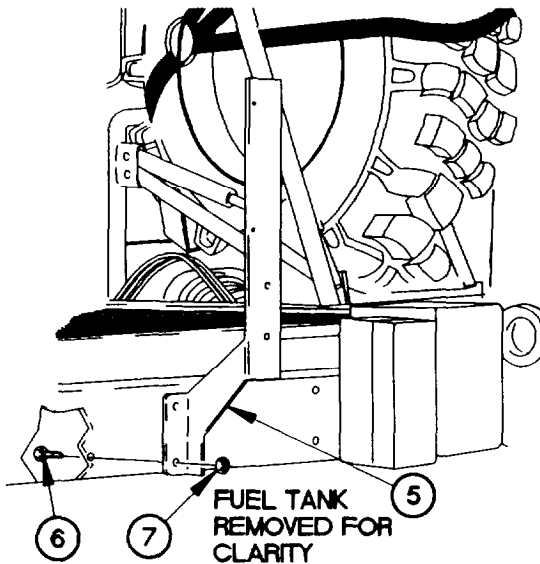


4H08101A

NOTE

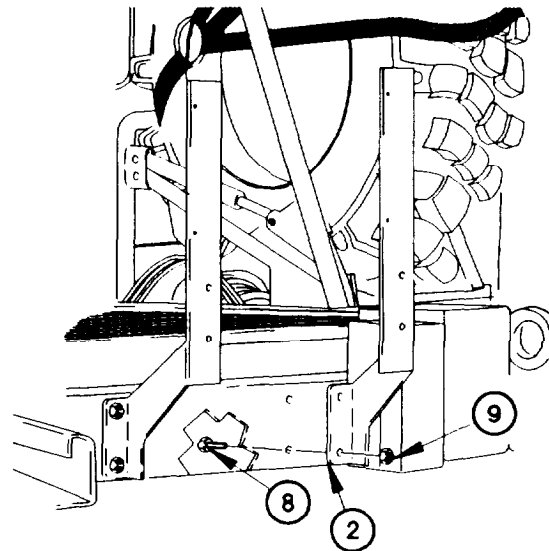
Steps (2) and (3) require the aid of an assistant.

- (2) Position left transmission auxiliary oil cooler frame (5) on vehicle with two bolts (6) and self-locking nuts (7).



4H08102A

- (3) Position right transmission auxiliary oil cooler frame (2) on vehicle with two bolts (8) and self-locking nuts (9).

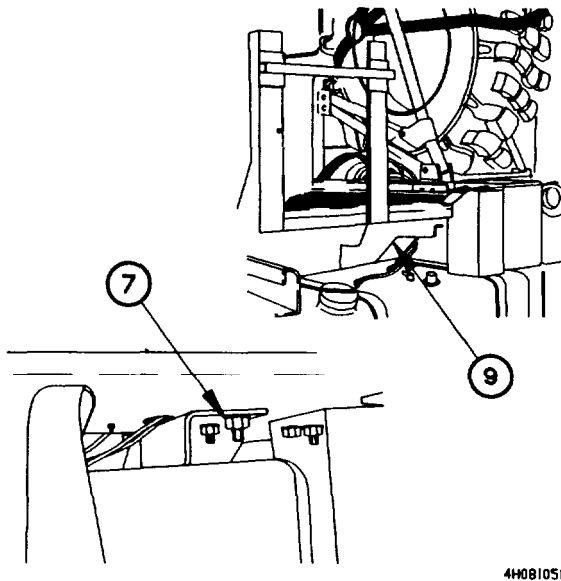
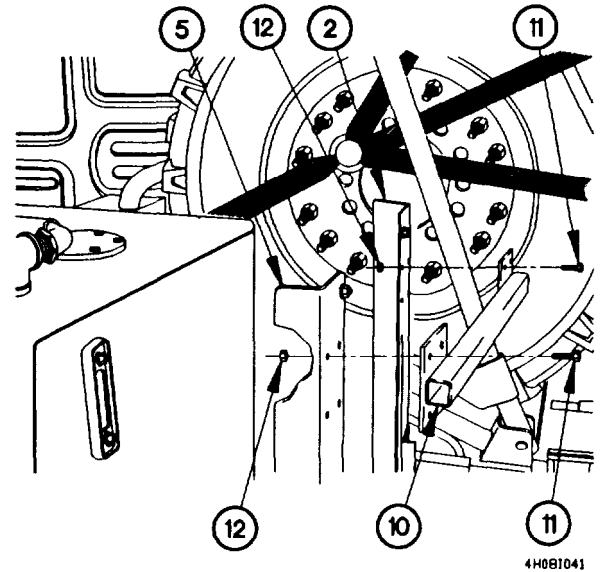


4H08103I

NOTE

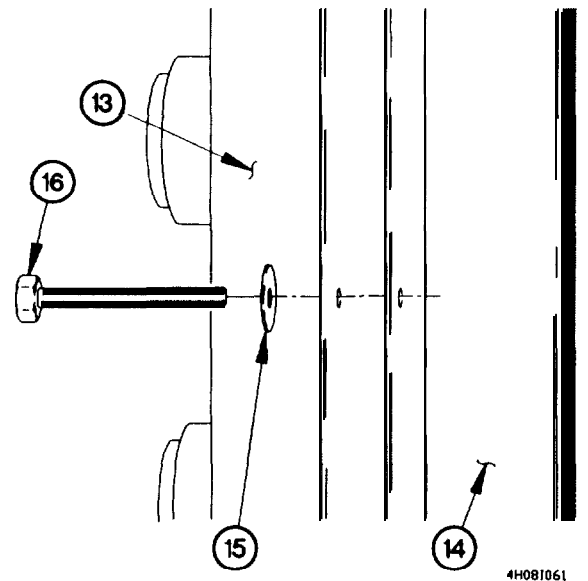
Steps (4) through (11) require the aid of an assistant.

- (4) Position bracket (10) on right and left transmission auxiliary oil cooler frames (2 and 5) with eight screws (11) and self-locking nuts (12).
- (5) Tighten eight self-locking nuts (12) to 20-30 lb-ft (27-41 N•m).



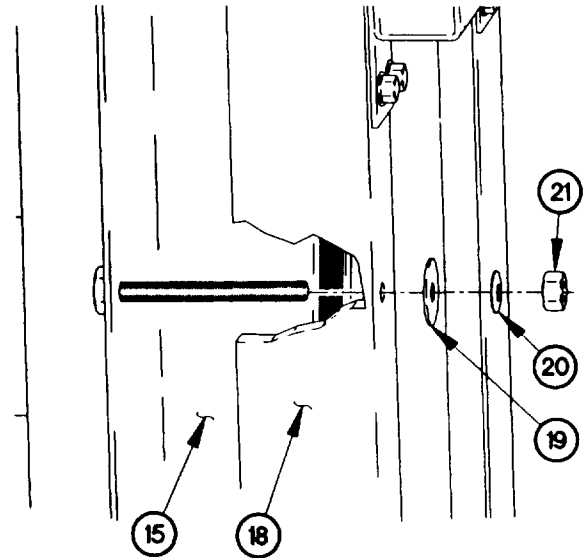
- (6) Tighten two self-locking nuts (7 and 9) to 190-210 lb-ft (258-285 N•m).

- (7) Position fan housing (13) on transmission auxiliary oil cooler (14) with six washers (15) and screws (16).

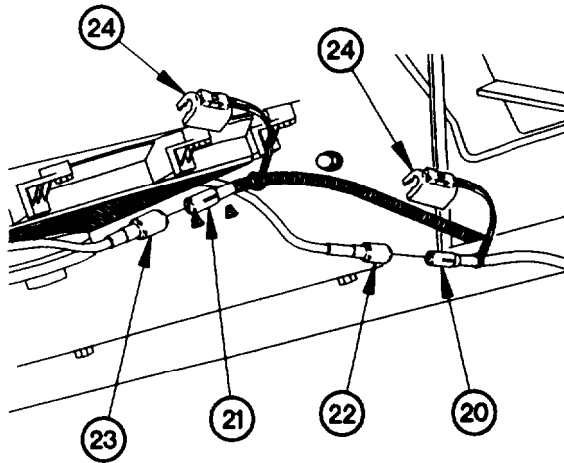


8-12. M1088 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

- (8) Position transmission auxiliary oil cooler (14) in right and left transmission auxiliary oil cooler frames (2 and 5) with six washers (17), spring washers (18), and self-locking nuts (19).
- (9) Tighten six self-locking nuts (19) to 20-25 lb-ft (27-34 N•m).



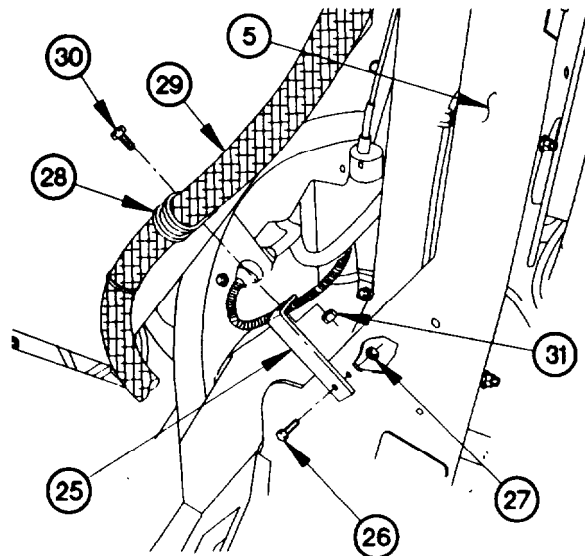
4H081071



4H081091

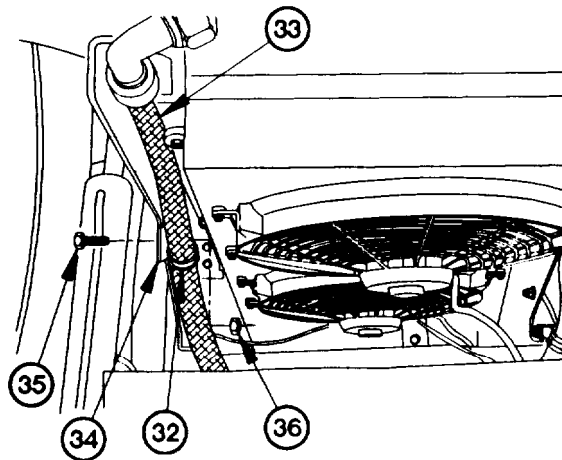
- (10) Connect connectors P209A and P209B (20 and 21) to connectors J209A and J209B (22 and 23).
- (11) Connect two connector clamps (24) on connectors J209A and J209B (22 and 23).

- (12) Position bracket (25) on left transmission auxiliary oil cooler frame (5) with screw (26) and self-locking nut (27).
- (13) Position clamp (28) on hose (29).
- (14) Position clamp (28) on bracket (25) with screw (30) and self-locking nut (31).
- (15) Tighten self-locking nuts (27 and 31) to 7-11 lb-ft (9-15 N•m).



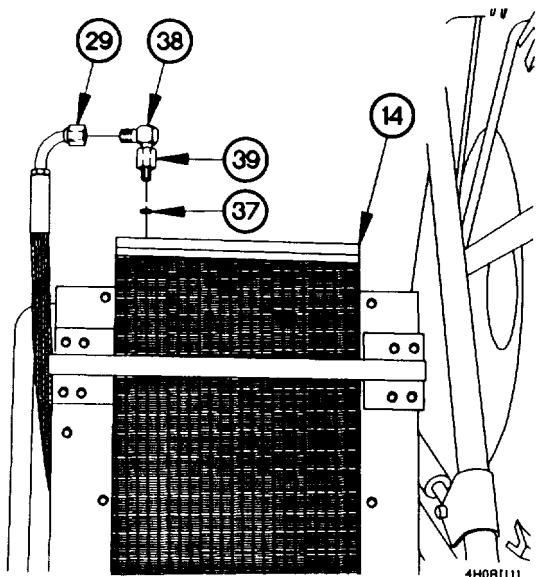
4H081091

- (16) Position clamp (32) on hose (33).
- (17) Position clamp (32) on bracket (34) with screw (35) and self-locking nut (36).
- (18) Tighten self-locking nut (36) to 7-11 lb-ft (9-15 N•m).



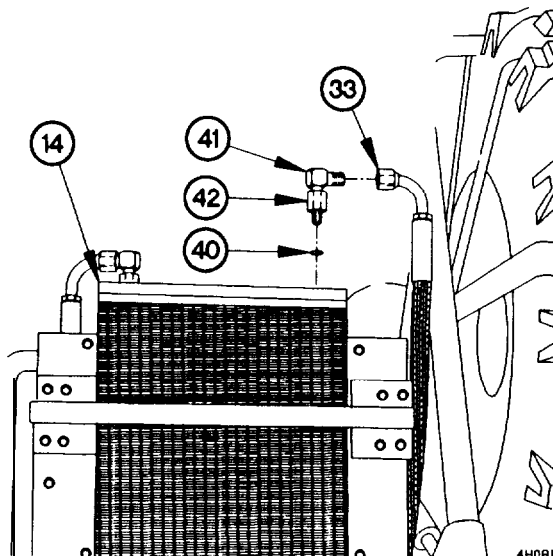
4H081101

- (19) Install preformed packing (37) on 90-degree fitting (38).
- (20) Position 90-degree fitting (38) in transmission auxiliary oil cooler (14).
- (21) Tighten jam nut (39) on 90-degree fitting (38).
- (22) Connect hose (29) to 90-degree fittings (38).



4H081111

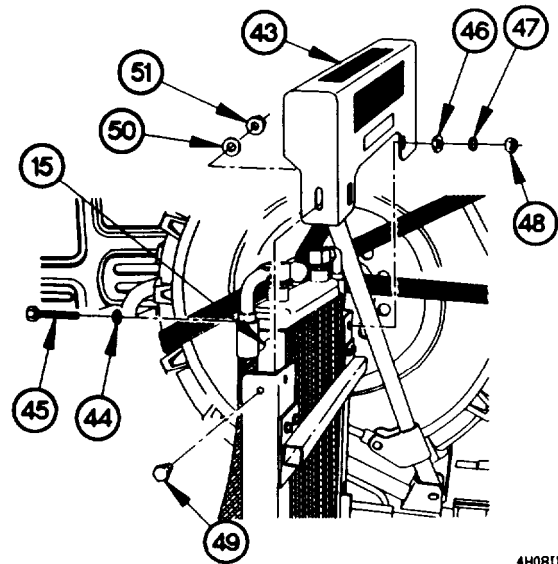
- (23) Install preformed packing (40) on 90-degree fitting (41).
- (24) Position 90-degree fitting (41) in transmission auxiliary oil cooler (14).
- (25) Tighten jam nut (42) on 90-degree fitting (41).
- (26) Connect hose (33) to 90-degree fitting (41).



4H081121

8-12. M1088 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

- (27) Position heat shield (43) on transmission auxiliary oil cooler (15) with two washers (44), screws (45), washers (46), spring washers (47), and self-locking nuts (48).
- (28) Position two screws (49), washers (50), and self-locking nuts (51) in heat shield (43).
- (29) Tighten two self-locking nuts (48) to 22-26 lb-ft (29-35 N•m).
- (30) Tighten two self-locking nuts (51) to 22-26 lb-ft (29-35 N•m).



4H08113

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Service transmission (Appendix H).
- (3) Operate vehicle and check for oil leaks (TM 9-2320-366-10-1).

End of Task.

8-13. M1089 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Batteries disconnected (para 7-57).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Pan, Drain (Item 24, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-200 lb in. (Item 59, Appendix C)
- Wrench, Torque, 0-175 lb ft (Item 58, Appendix C)
- Wrench, Torque, 0-600 lb-ft (Item 60, Appendix C)
- Wrench Set, Socket (Item 51, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Cap and Plug Set (Item 14, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Nut, Self-Locking (2) (Item 128, Appendix G)
- Nut, Self-Locking (2) (Item 136, Appendix G)
- Nut, Self-Locking (4) (Item 150, Appendix G)
- Nut, Self-Locking (10) (Item 154, Appendix G)
- Nut, Self-Locking (4) (Item 161, Appendix G)
- Nut, Self-Locking (8) (Item 167, Appendix G)
- Nut, Self-Locking (2) (Item 168, Appendix G)
- Washer, Spring (8) Item 292, Appendix G)
- Packing, Preformed (2) (Item 184, Appendix G)

Personnel Required

(2)

WARNING

- Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.
- Ensure exhaust system is cool before performing maintenance. Failure to comply may result in injury to personnel.

a. Removal.

CAUTION

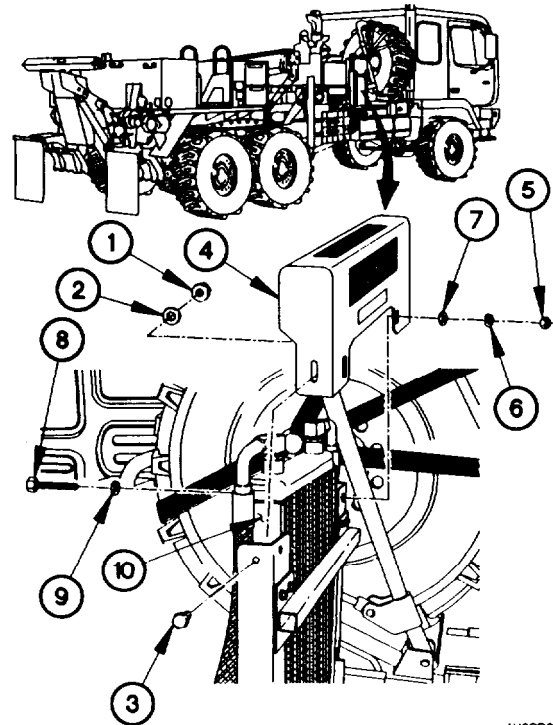
Cap or plug hoses and tubes when disconnecting to prevent contamination of transmission oil. Failure to comply may result in damage to equipment.

NOTE

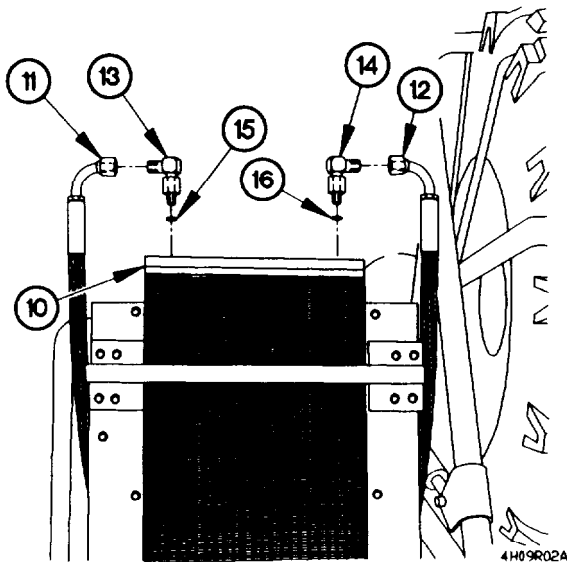
- Tag hoses and tubes prior to disconnecting.
- Remove plastic cable ties as required.

8-13. M1089 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

- (1) Remove two self-locking nuts (1), washers (2), and screws (3) from heat shield (4). Discard self-locking nuts.
- (2) Remove two self-locking nuts (5), spring washers (8), washers (7), screws (8), washers (9), and heat shield (4) from transmission auxiliary oil cooler (10). Discard self-locking nuts and spring washers.



4H09R011



4H09R02A

- (3) Disconnect hoses (11 and 12) from 90-degree fittings (13 and 14).

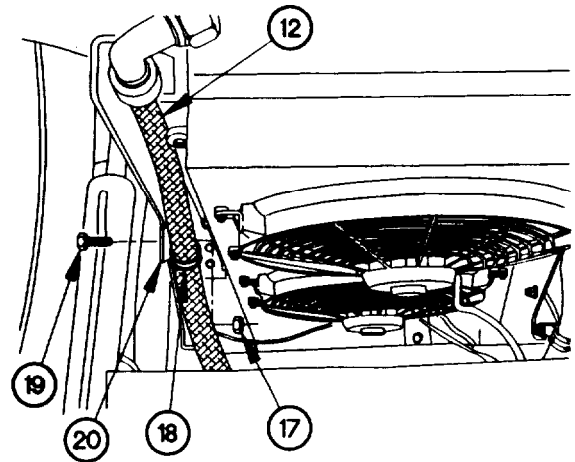
NOTE

Note orientation of 90-degree fittings prior to removal.

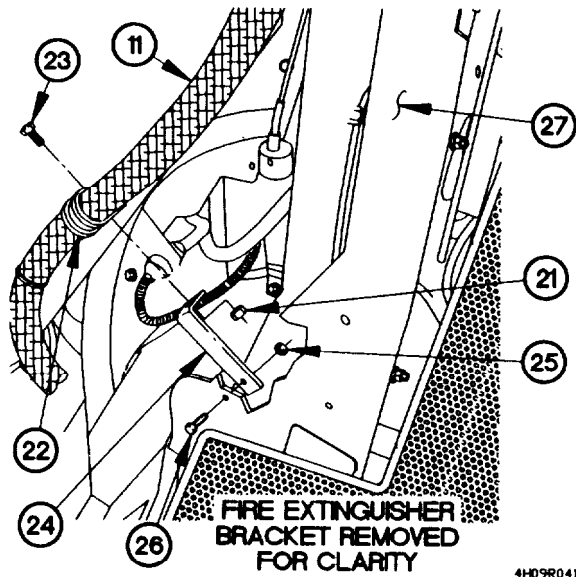
- (4) Remove 90-degree fittings (13 and 14) from transmission auxiliary oil cooler (10).
- (5) Remove preformed packings (15 and 16) from 90-degree fittings (13 and 14). Discard preformed packings.

(6) Remove self-locking nut (17), clamp (18), and screw (19) from bracket (20). Discard self-locking nut.

(7) Remove clamp (18) from hose (12).



4H09R03A



4H09R041

(8) Remove self-locking nut (21), clamp (22), and screw (23) from bracket (24). Discard self-locking nut.

(9) Remove clamp (22) from hose (11).

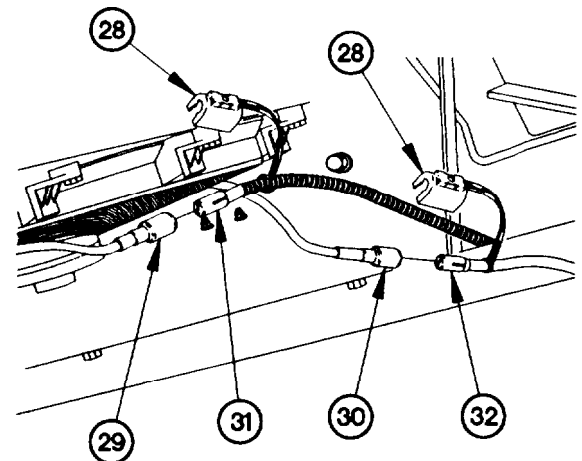
(10) Remove self-locking nut (25), bracket (24), and screw (26) from left transmission auxiliary oil cooler frame (27). Discard self-locking nut.

NOTE

- Tag connectors and connection points prior to disconnecting.
- Position electrical cables to allow clearance.

(11) Disconnect two connector clamps (28) from connectors J209A and J209B (29 and 30).

(12) Disconnect connectors J209A and J209B (29 and 30) from connectors P209A and P209B (31 and 32).



4H09R05A

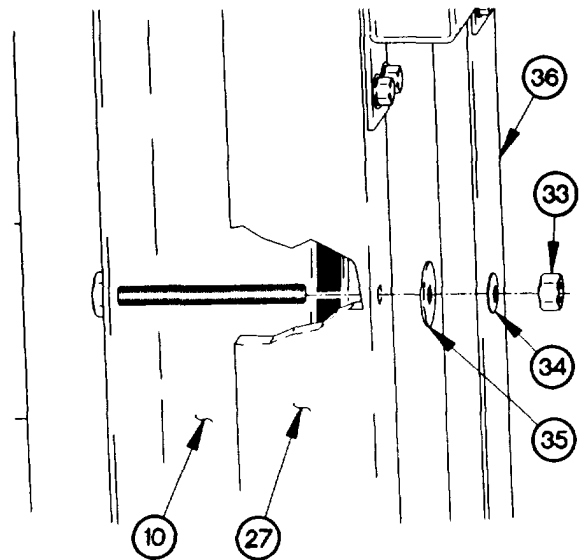
8-13. M1089 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

NOTE

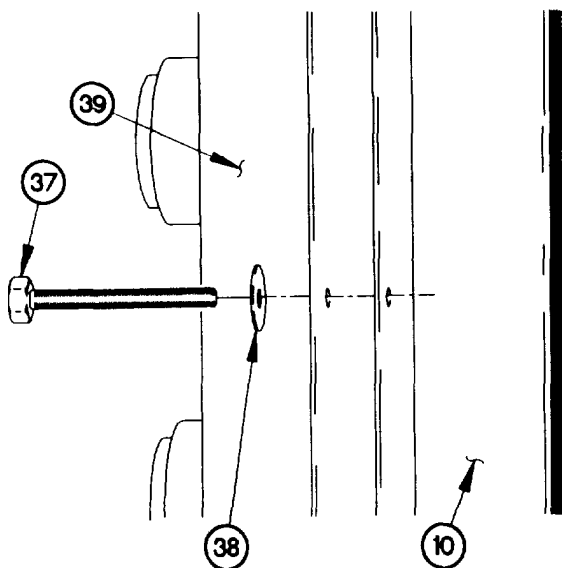
- Steps (13) and (14) require the aid of an assistant.
- Note position of transmission auxiliary oil cooler and mounting hardware prior to removal.

(13) Remove six self-locking nuts (33), spring washers (34), washers (35), and transmission auxiliary oil cooler (10) from left and right transmission auxiliary oil cooler frames (27 and 36). Discard self-locking nuts and spring washers.

(14) Drain transmission auxiliary oil cooler (10) in drain pan.



4H09R061

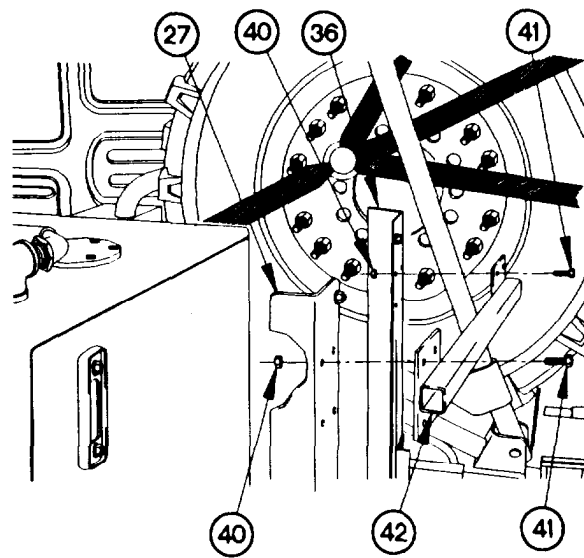


4H09R07A

(15) Remove six screws (37) and washers (38) from transmission auxiliary oil cooler (10).

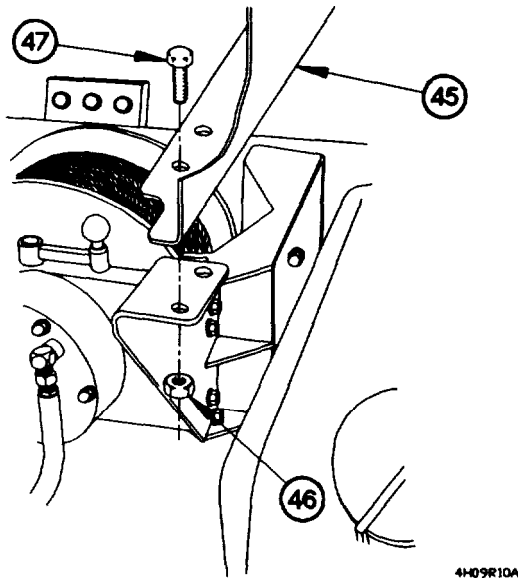
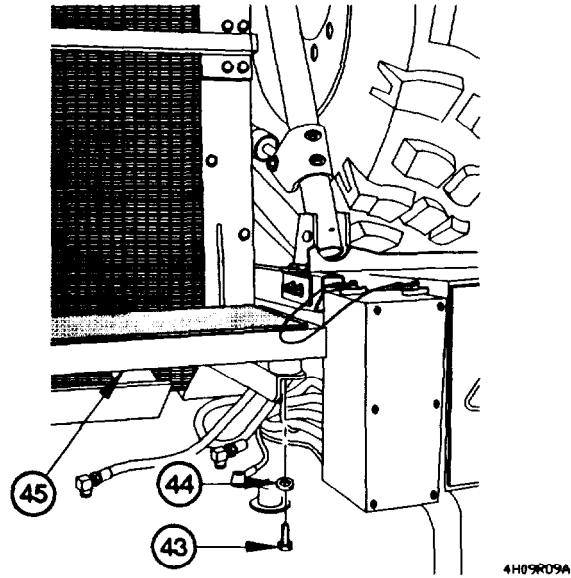
(16) Remove fan housing (39) from transmission auxiliary oil cooler (10).

(17) Remove eight self-locking nuts (40), screws (41), and bracket (42) from left and right transmission auxiliary oil cooler frames (27 and 36). Discard self-locking nuts.



4H09R08A

(18) Remove two screws (43) and washers (44) from catwalk (45).

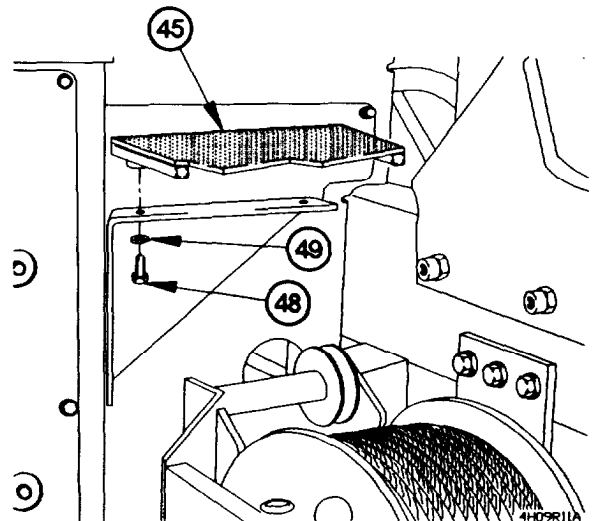


(19) Remove two self-locking nuts (46) and screws (47) from catwalk (45). Discard self-locking nuts.

NOTE

Step (20) requires the aid of an assistant.

(20) Remove two screws (48), washers (49), and catwalk (45) from vehicle.

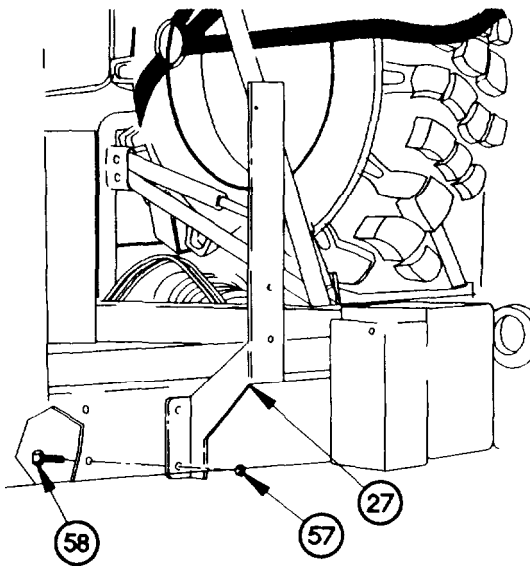
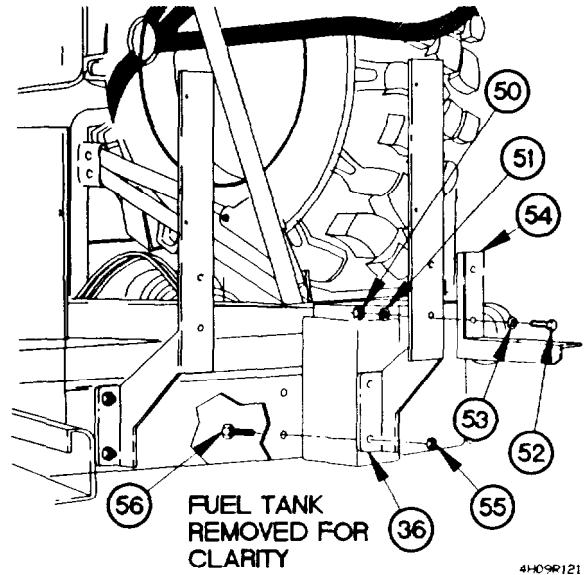


8-13. M1089 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

NOTE

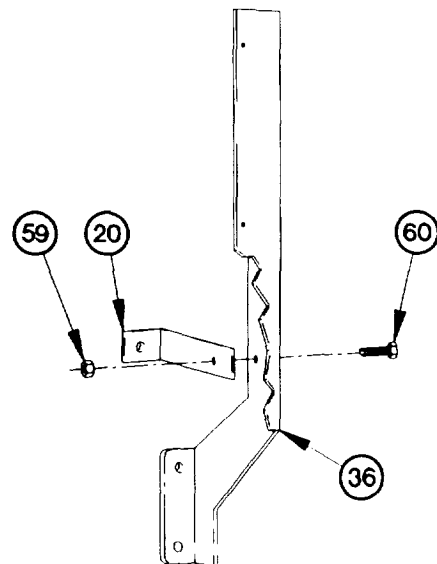
Steps (21) through (23) require the aid of an assistant.

- (21) Remove two self-locking nuts (50), washers (51), screws (52), washers (53), and bracket (54) from right transmission auxiliary oil cooler frame (36). Discard self-locking nuts.
- (22) Remove two self-locking nuts (55), screws (56), and right transmission auxiliary oil cooler frame (36) from vehicle. Discard self-locking nuts.

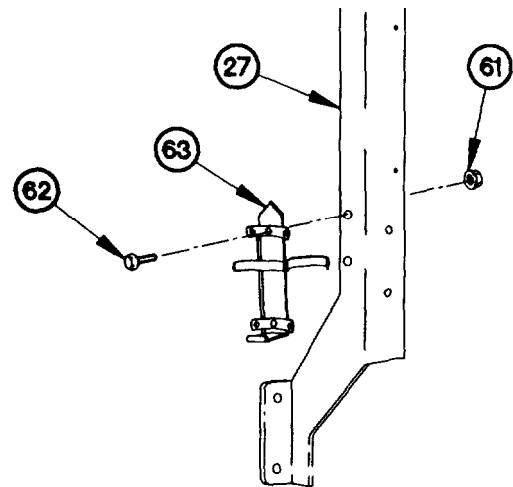


- (23) Remove two self-locking nuts (57), screws (58), and left transmission auxiliary oil cooler frame (27) from vehicle. Discard self-locking nuts.

- (24) Remove self-locking nut (59), screw (60), and bracket (20) from right transmission auxiliary oil cooler frame (36). Discard self-locking nut.

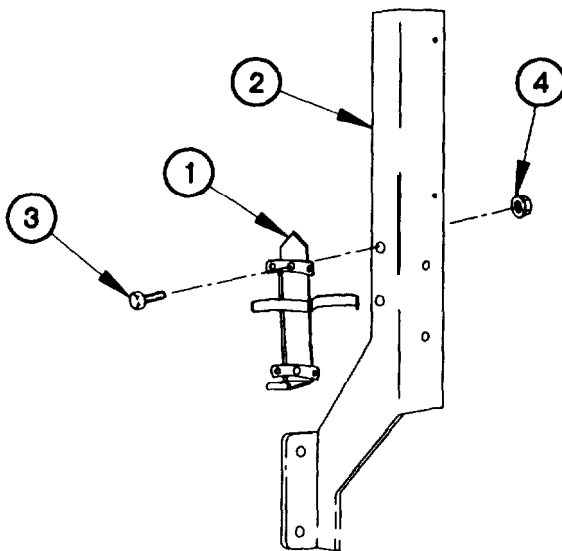


- (25) Remove two self-locking nuts (61), screws (62), and fire extinguisher bracket (63) from left transmission auxiliary oil cooler frame (27). Discard self-locking nuts.



4H09R151

b. Installation.

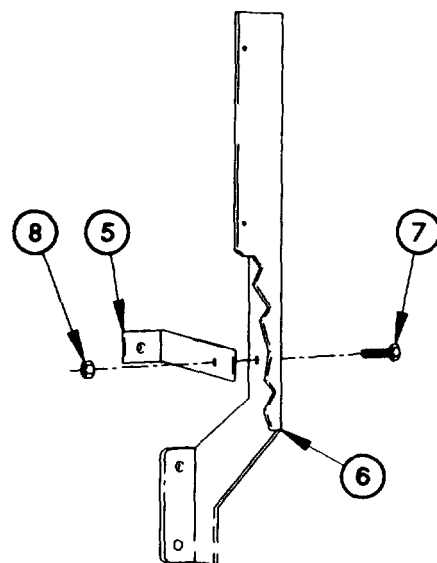


4H09I01A

- (1) Install fire extinguisher bracket (1) on left transmission auxiliary oil cooler frame (2) with two screws (3), and self-locking nuts (4).

- (2) Position bracket (5) on right transmission auxiliary oil cooler frame (6) with screw (7) and self-locking nut (8).

- (3) Tighten self-locking nut (8) to 84-132 lb-in. (10-15 N•m)



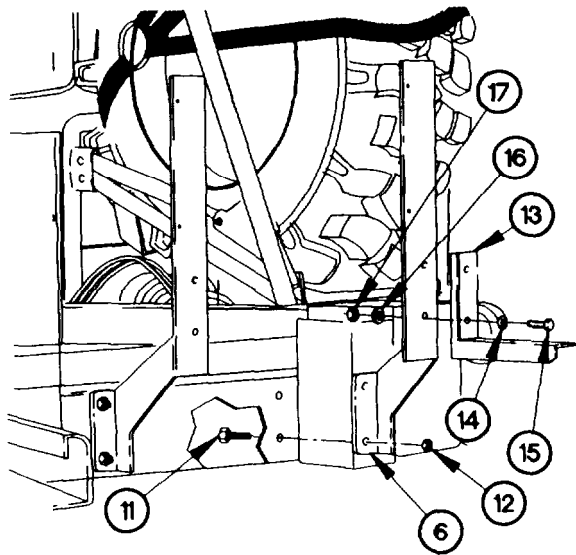
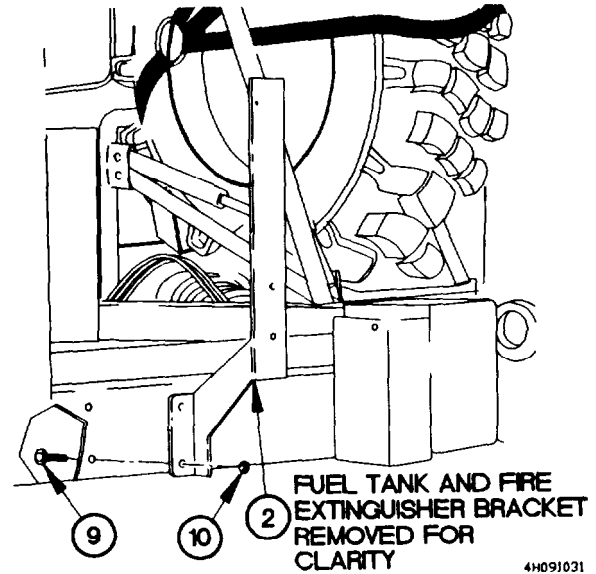
4H09I02A

8-13. M1089 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

NOTE

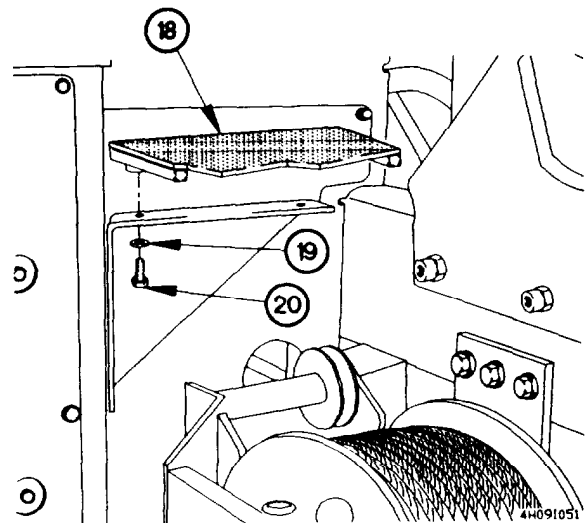
Steps (4) through (18) require the aid of an assistant.

- (4) Position left transmission auxiliary oil cooler frame (2) on vehicle with two screws (9) and self-locking nuts (10).

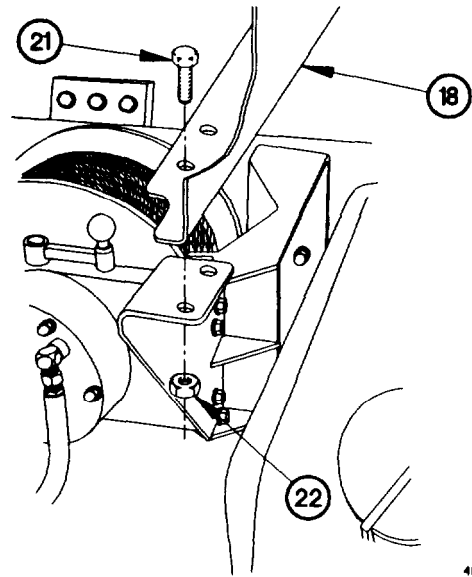


- (5) Position right transmission auxiliary oil cooler frame (6) on vehicle with two screws (11) and self-locking nuts (12).
- (6) Position bracket (13) on right transmission auxiliary oil cooler frame (6) with two washers (14), screws (15), washers (16), and two self-locking nuts (17).
- (7) Tighten two self-locking nuts (17) to 27-33 lb-ft (37-45 N•m).

- (8) Position catwalk (18) on vehicle with two washers (19) and screws (20).

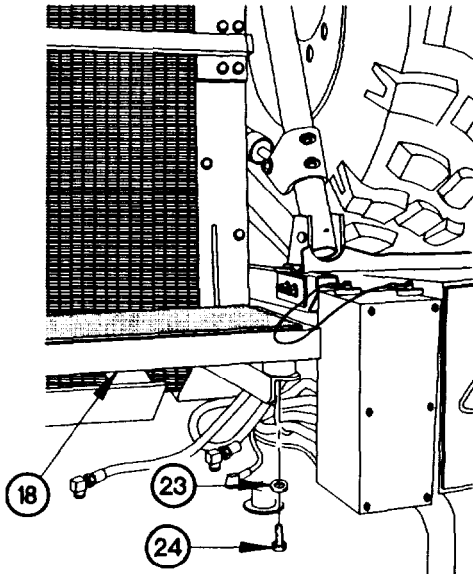


(9) Position two screws (21) and self-locking nuts (22) in catwalk (18).



4H091061

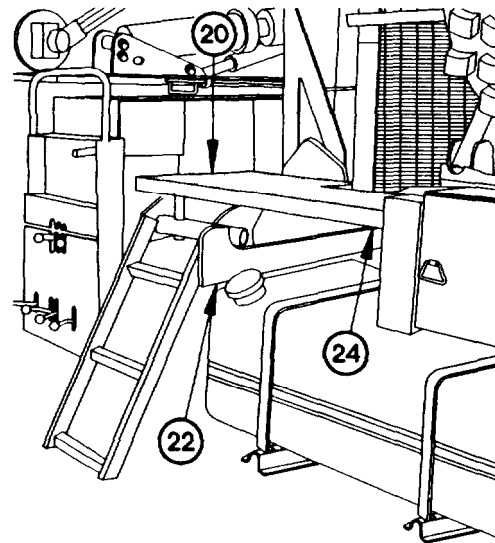
(10) Position two washers (23) and screws (24) in catwalk (18).



4H091071

(11) Tighten screws (20 and 24) to 27-33 lb-ft (37-45 N•m).

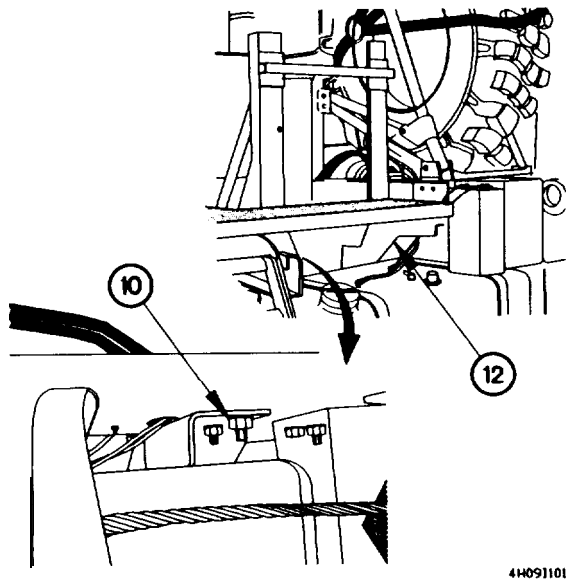
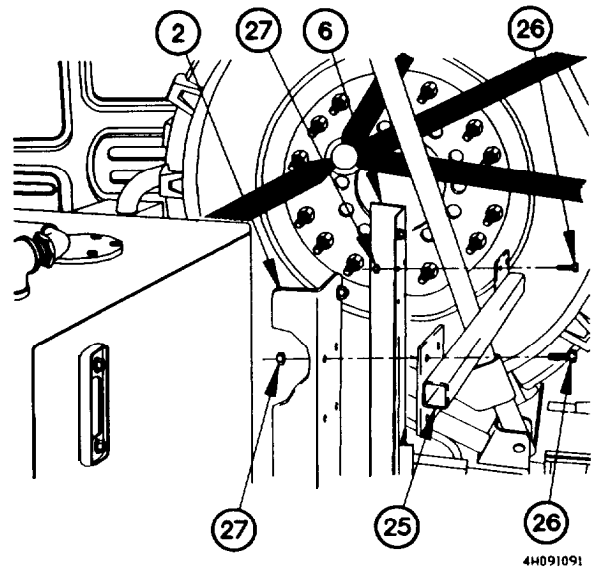
(12) Tighten two self-locking nuts (22) to 27-33 lb-ft (37-45 N•m).



4H091081

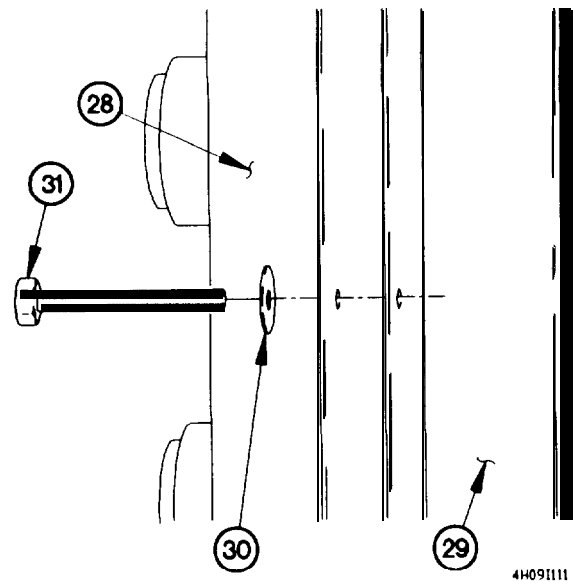
8-13. M1089 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

- (13) Position bracket (25) on left and right transmission auxiliary oil cooler frames (2 and 6) with eight screws (26) and self-locking nuts (27).
- (14) Tighten eight self-locking nuts (27) to 20-30 lb-ft (27-41 N•m).



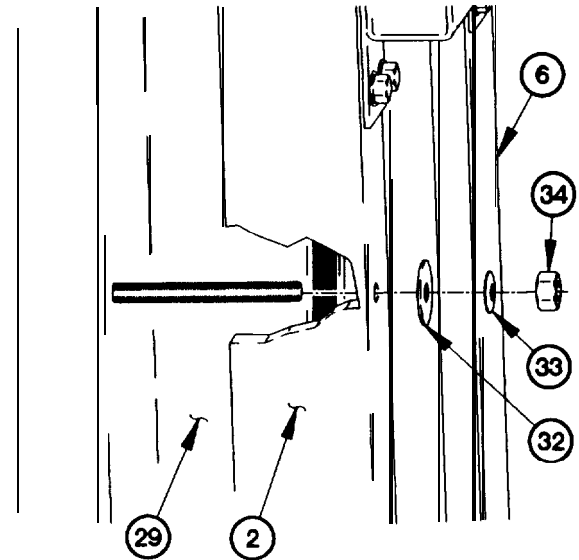
- (15) Tighten self-locking nuts (10 and 12) to 190-210 lb-ft (258-285 N•m).

- (16) Position fan housing (28) on transmission auxiliary oil cooler (29) with six washers (30) and screws (31).

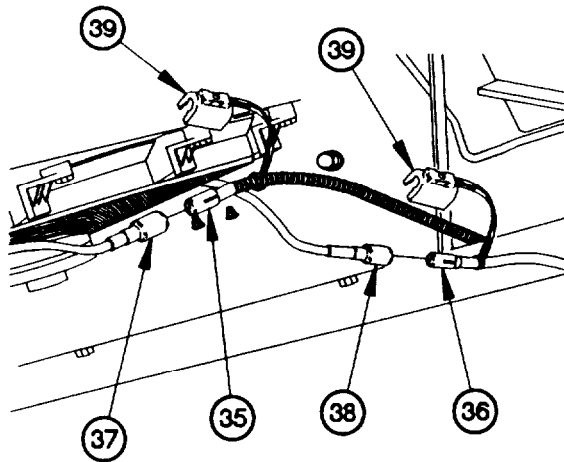


(17) Position transmission auxiliary oil cooler (29) in left and right transmission auxiliary oil cooler frames (2 and 6) with six washers (32), spring washers (33), and self-locking nuts (34).

(18) Tighten six self-locking nuts (34) to 22-26 lb-ft (29-35 N•m).



4H09112L



4H09113I

(19) Connect connectors P209A and P209B (35 and 36) to connectors J209A and J209B (37 and 38).

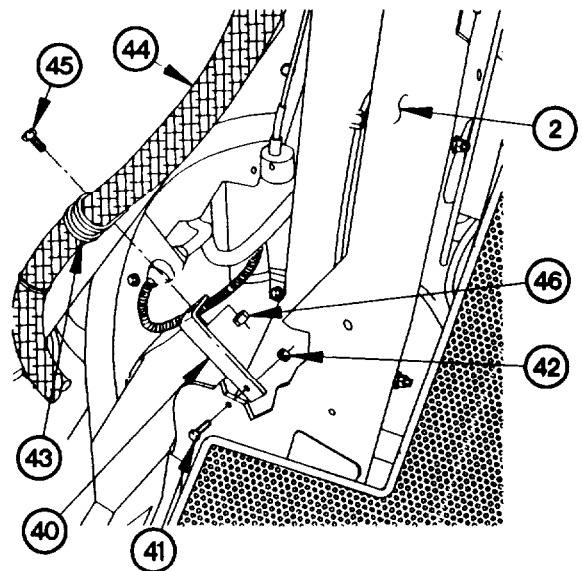
(20) Connect two connector clamps (39) on connectors J209A and J209B (37 and 38).

(21) Position bracket (40) on left transmission auxiliary oil cooler frame (2) with screw (41) and self-locking nut (42).

(22) Position clamp (43) on hose (44).

(23) Position clamp (43) on bracket (40) with screw (45) and self-locking nut (46).

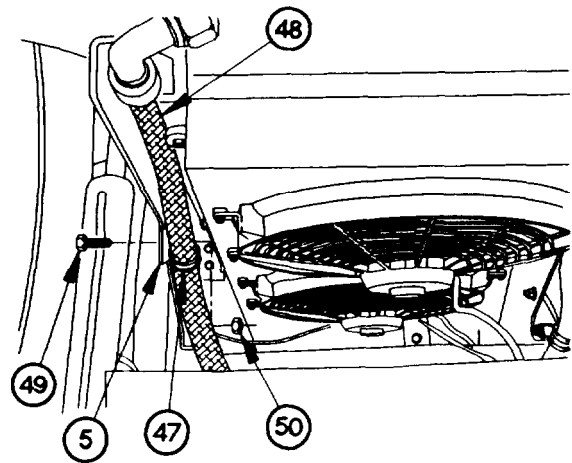
(24) Tighten self-locking nuts (42 and 46) to 84-132 lb-in. (10-15 N•m).



4H09114I

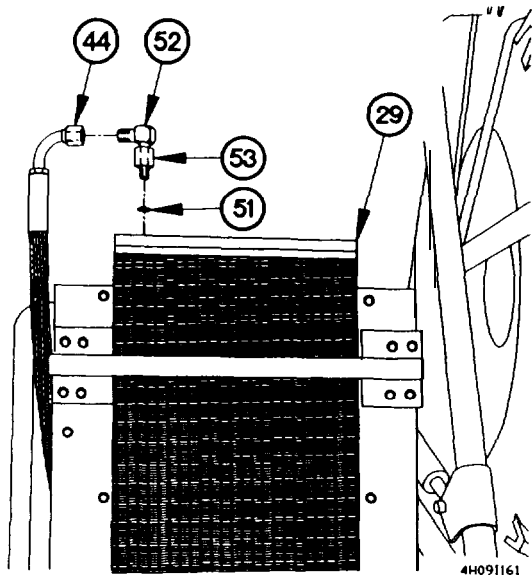
8-13. M1089 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

- (25) Position clamp (47) on hose (48).
- (26) Position clamp (47) on bracket (5) with screw (49) and self-locking nut (50).
- (27) Tighten self-locking nut (50) to 84-132 lb-in. (10-15 N•m).



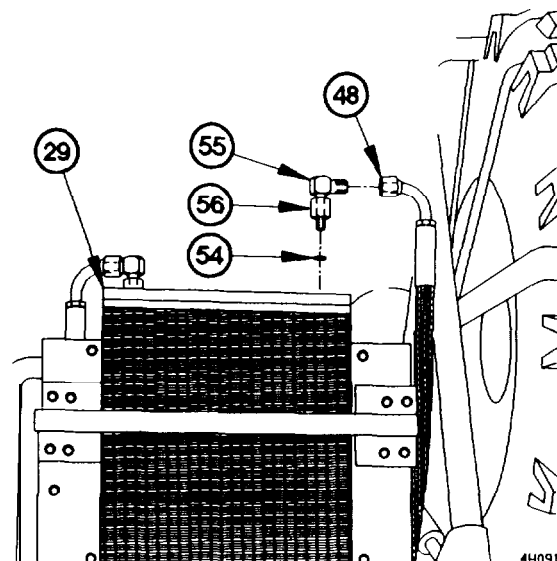
4H091151

- (28) Install preformed packing (51) on 90-degree fitting (52).
- (29) Position 90-degree fitting (52) in transmission auxiliary oil cooler (29).
- (30) Tighten jam nut (53) on 90-degree fitting (52).
- (31) Connect hose (44) to 90-degree fitting (52).



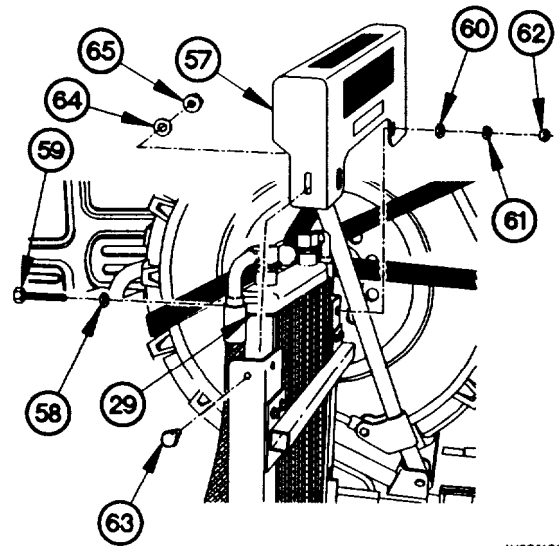
4H091161

- (32) Install preformed packing (54) on 90-degree fitting (55).
- (33) Position 90-degree fitting (55) in transmission auxiliary oil cooler (29).
- (34) Tighten jam nut (56) on 90-degree fitting (55).
- (35) Connect hose (48) to 90-degree fitting (55).



4H091171

- (36) Position heat shield (57) on transmission auxiliary oil cooler (29) with two washers (58), screws (59), washers (60), spring washers (61), and self-locking nuts (62).
- (37) Position two screws (63), washers (64), and self-locking nuts (65) in heat shield (57).
- (38) Tighten two self-locking nuts (62) to 22-26 lb-ft (29-35 N•m).
- (39) Tighten two self-locking nuts (65) to 22-26 lb-ft (29-35 N•m).



4H091181

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Service transmission (Appendix H).
- (3) Operate vehicle and check for oil leaks (TM 9-2320-366-10-1).

End of Task.

8-14. M1090/M1094 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Dump body raised to maintenance position (TM 9-2320-366-10-1).
- Batteries disconnected (para 7-57).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Pan, Drain (Item 24, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Material/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Cap and Plug Set (Item 14, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Nut, Self-Locking (6) (Item 155, Appendix G)
- Nut, Self-Locking (12) (Item 154, Appendix G)
- Packing, Preformed (2) (Item 184, Appendix G)
- Transmission Auxiliary Oil Cooler Rubber Seal (2) (Item E-10, Appendix E)

Personnel Required

(2)

WARNING

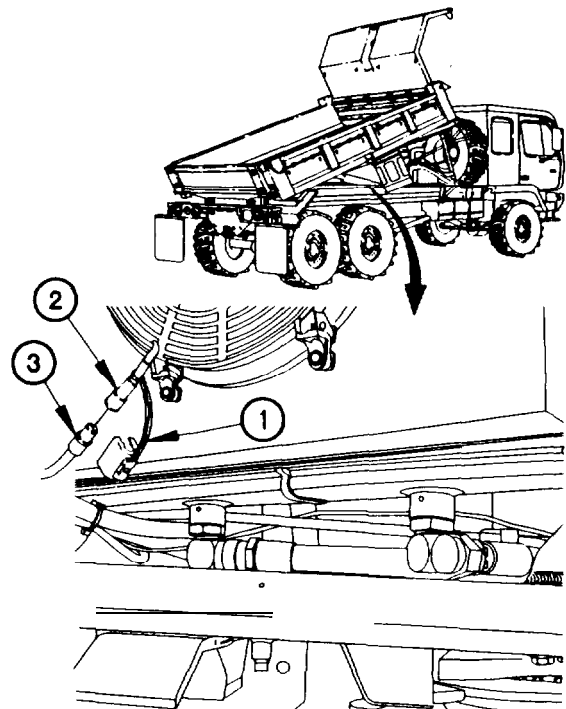
- Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.
- Ensure exhaust system is cool before performing maintenance. Failure to comply may result in severe burns.

a. Removal.

NOTE

Remove plastic cable ties as required.

- (1) Disconnect connector clamp (1) from connector P209 (2).
- (2) Disconnect connector P209 (2) from connector J209 (3).

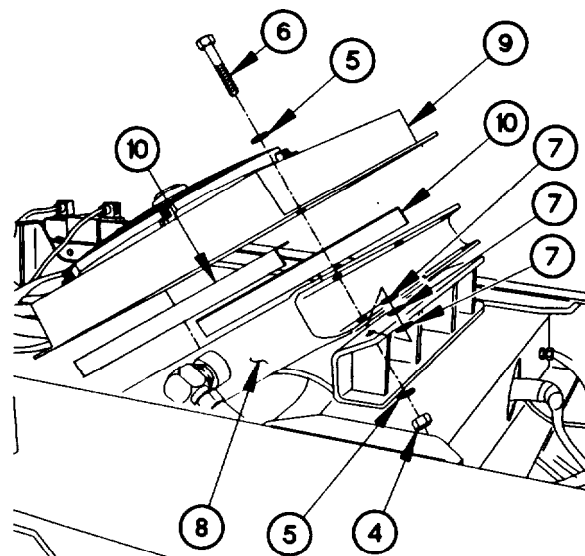


4H10R011

NOTE

Steps (3) through (13) require the aid of an assistant.

- (3) Remove six self-locking nuts (4), 12 washers (5), six bolts (6), and 18 washers (7) from transmission auxiliary oil cooler (8). Discard self-locking nuts.
- (4) Remove fan shroud (9) and two seals (10) from transmission auxiliary oil cooler (8). Discard seals.



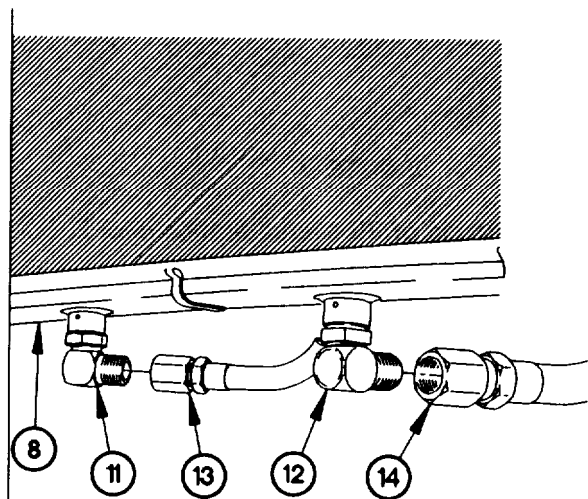
4H10R02A

CAUTION

Cap or plug hoses and tubes when disconnecting to prevent contamination of transmission oil. Failure to comply may result in damage to equipment.

NOTE

Tag oil hoses and connection points prior to disconnecting.

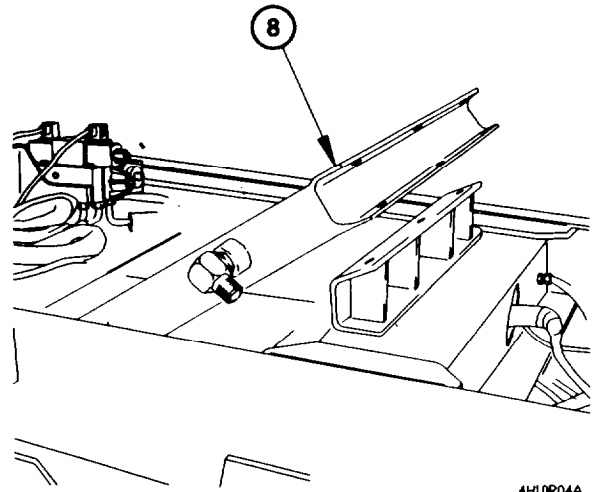


4H10R03A

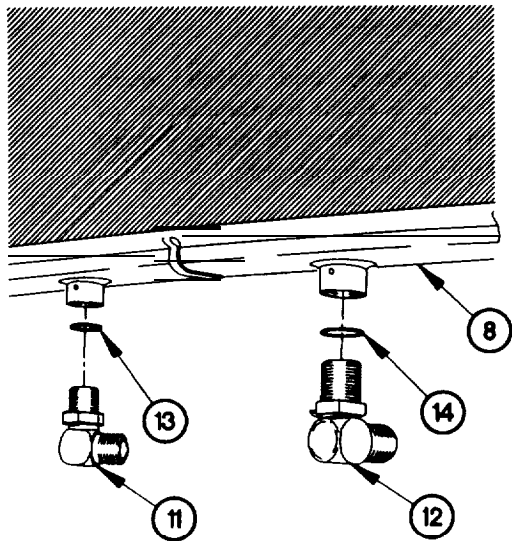
- (5) Position transmission auxiliary oil cooler (8) for access to 90-degree fittings (11 and 12).
- (6) Position drain pan under transmission auxiliary oil cooler (8).
- (7) Disconnect hoses (13 and 14) from 90-degree fittings (11 and 12).

8-14. M1090/M1094 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

- (8) Drain transmission auxiliary oil cooler (8) into drain pan.
- (9) Remove transmission auxiliary oil cooler (8) from vehicle.



4H10R04A



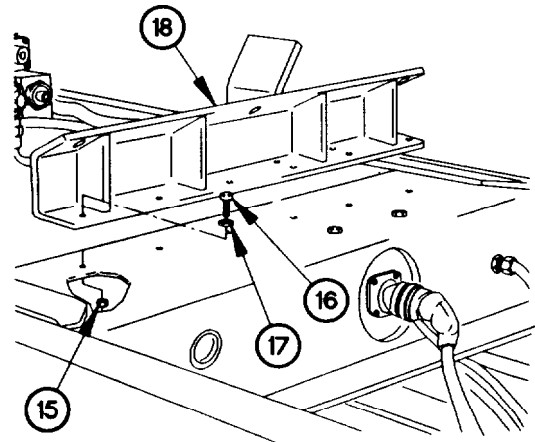
4H10R05A

NOTE

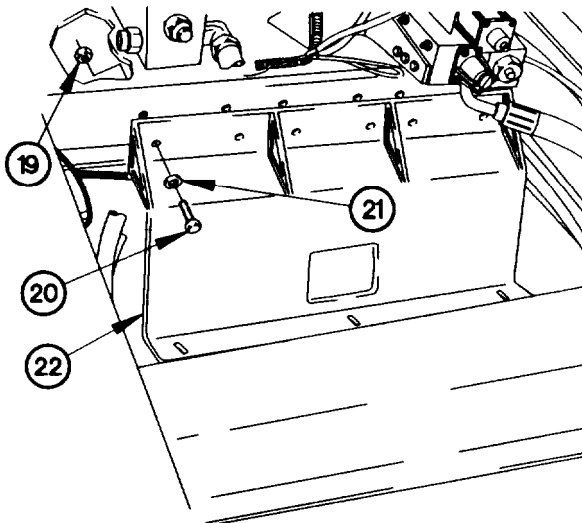
Note orientation of 90-degree fittings prior to removal.

- (10) Remove 90-degree fittings (11 and 12) from transmission auxiliary oil cooler (8).
- (11) Remove preformed packings (13 and 14) from 90-degree fittings (11 and 12). Discard preformed packings.

(12) Remove six self-locking nuts (15), bolts (16), washers (17), and front bracket (18) from vehicle. Discard self-locking nuts.



4H10R061



4H10R07A

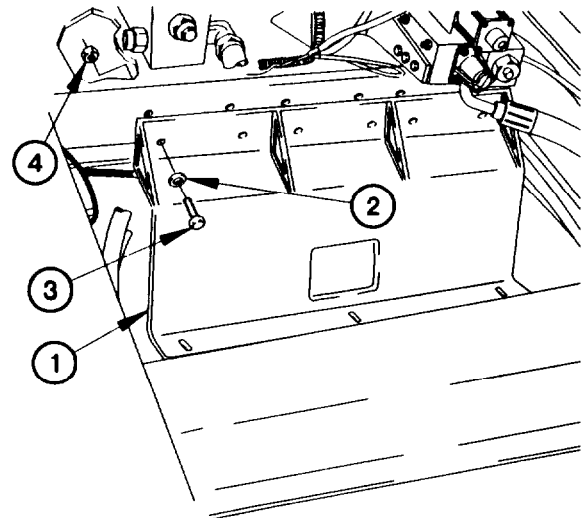
(13) Remove six self-locking nuts (19), bolts (20), washers (21), and rear bracket (22) from vehicle. Discard self-locking nuts.

b. Installation.

NOTE

Steps (1) and (2) require the aid of an assistant.

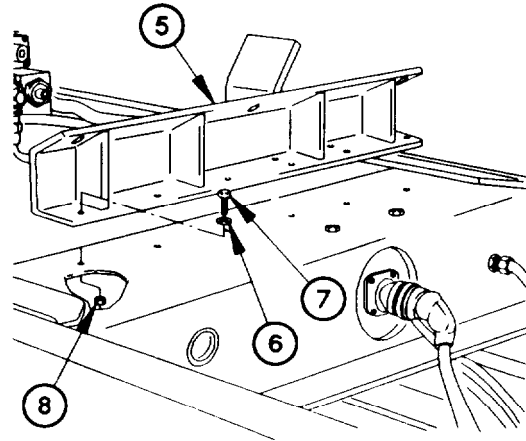
- (1) Position rear bracket (1) on vehicle with six washers (2), bolts (3), and self-locking nuts (4).
- (2) Tighten six bolts (3) to 20-30 lb-ft (27-41 N•m).



4H10I01A

8-14. M1090/M1094 TRANSMISSION AUXILIARY OIL COOLER REPLACEMENT (CONT)

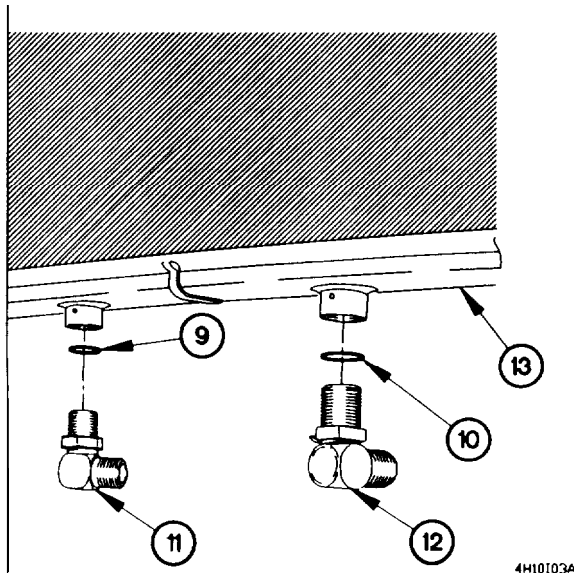
(3) Position front bracket (5) on vehicle with six washers (6), bolts (7), and self-locking nuts (8).



4H101021

(4) Install preformed packings (9 and 10) on 90-degree fittings (11 and 12).

(5) Install 90-degree fittings (11 and 12) in transmission auxiliary oil cooler (13).



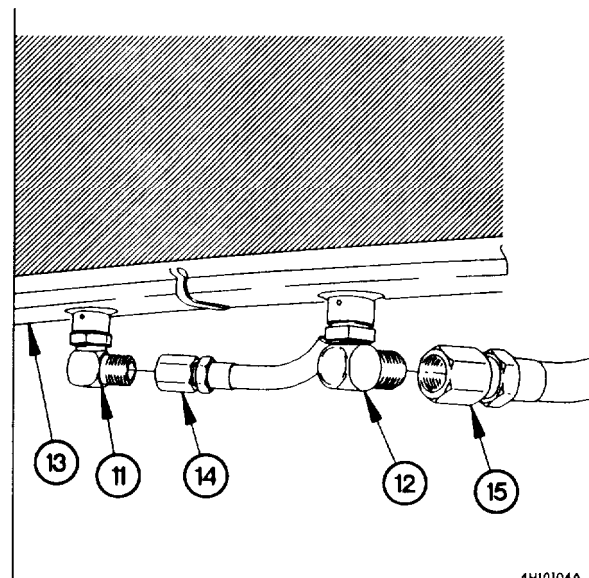
4H10103A

NOTE

Steps (6) through (10) require the aid of an assistant.

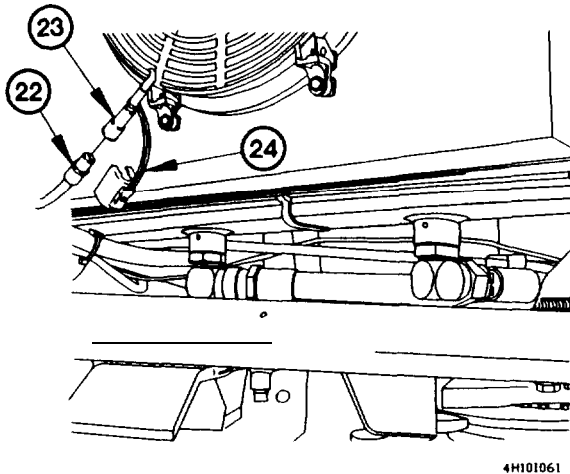
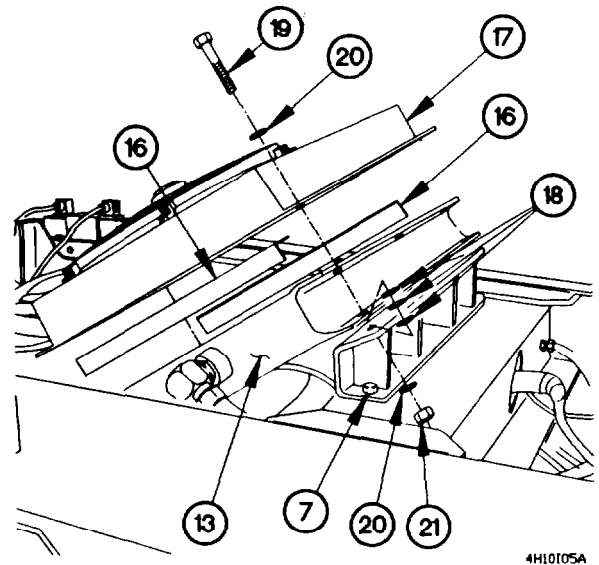
(6) Position transmission auxiliary oil cooler (13) on vehicle.

(7) Install hoses (14 and 15) on 90-degree fittings (11 and 12).



4H10104A

- (8) Position two seals (16) and fan shroud (17) on transmission auxiliary oil cooler (13) with 18 washers (18), six bolts (19), 12 washers (20), and six self-locking nuts (21).
- (9) Tighten six self-locking nuts (21) to 20-30 lb-ft (27-41 N•m).
- (10) Tighten six bolts (7) to 20-30 lb-ft (27-41 N•m).



NOTE

Install plastic cable ties as required.

- (11) Connect connector J209 (22) to connector P209 (23).
- (12) Connect connector clamp (24) on connector P209 (23).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Service transmission (Appendix H).
- (3) Operate vehicle and check for oil leaks (TM 9-2320-366-10-1).

End of Task.

8-15. M1083/M1084/M1085/M1086/M1093 TRANSMISSION AUXILIARY OIL COOLER HOSE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Batteries disconnected (para 7-57).
Winch control valve assembly removed, if equipped (para 17-25).

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
Pan, Drain (Item 24, Appendix C)
Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Cap and Plug Set (Item 14, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Nut, Self-Locking (Item 128, Appendix G)

WARNING

- Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.
- Ensure exhaust system is cool before performing maintenance. Failure to comply may result in injury to personnel.

a. Removal.

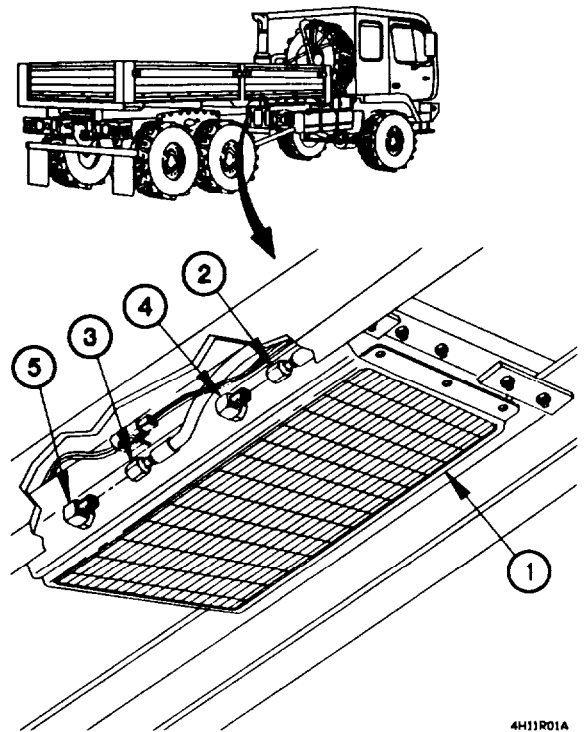
CAUTION

Cap or plug hoses and tubes when disconnecting to prevent contamination of transmission oil. Failure to comply may result in damage to equipment.

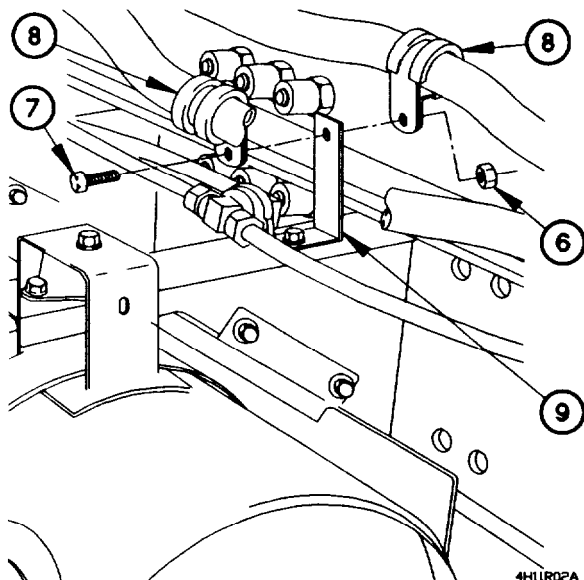
NOTE

- Tag hoses, tubes, and connection points prior to disconnecting.
- Remove plastic cable ties as required.

- (1) Position drain pan under transmission auxiliary cooler (1).
- (2) Disconnect hoses (2 and 3) from 90-degree fittings (4 and 5).



4H11R01A



4H11R02A

NOTE

Step (3) requires the aid of an assistant.

- (3) Remove self-locking nut (6), bolt (7), and two clamps (8) from bracket (9). Discard self-locking nut.

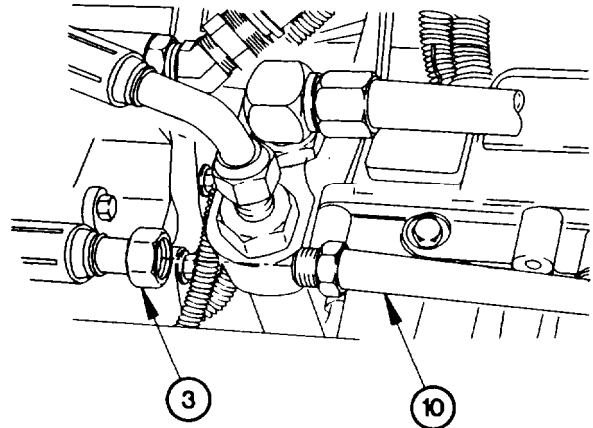
8-15. M1083/M1084/M1085/M1086/M1093 TRANSMISSION AUXILIARY OIL COOLER HOSE REPLACEMENT (CONT)

- (4) Position drain pan under transmission oil cooler tube (10).
- (5) Disconnect hose (3) from transmission oil cooler tube (10).

NOTE

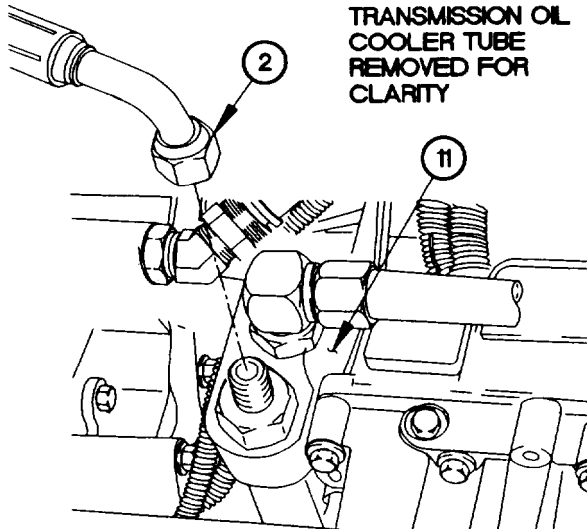
Note routing of hoses prior to removal.

- (6) Remove hose (3) from vehicle.



4H11R03A

- (7) Position drain pan under transmission (11).
- (8) Disconnect hose (2) from transmission (11).
- (9) Remove hose (2) from vehicle.



TRANSMISSION OIL COOLER TUBE REMOVED FOR CLARITY

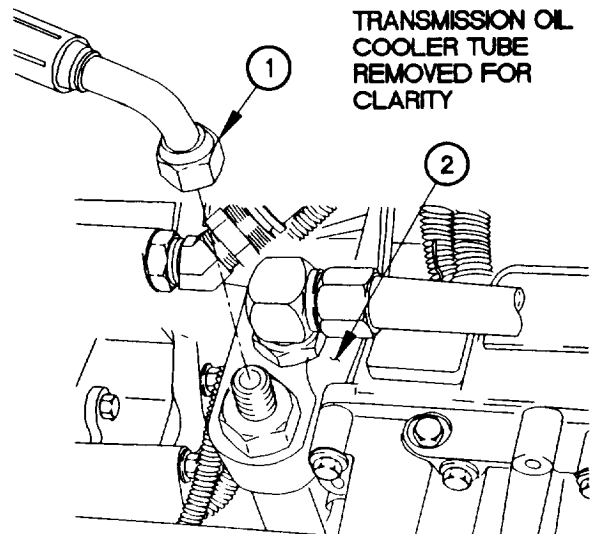
4H11R04A

b. Installation.

NOTE

- Step (1) requires the aid of an assistant.
- Install plastic cable ties as required.

- (1) Route hose (1) on vehicle.
- (2) Connect hose (1) to transmission (2).



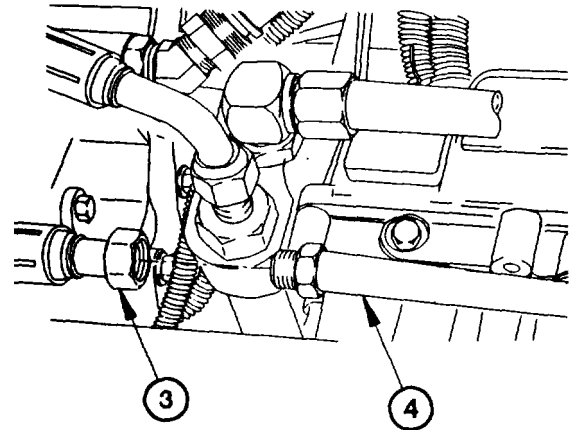
TRANSMISSION OIL COOLER TUBE REMOVED FOR CLARITY

4H11I01A

NOTE

Step (3) requires the aid of an assistant.

- (3) Route hose (3) on vehicle.
- (4) Connect hose (3) to transmission oil cooler tube (4).

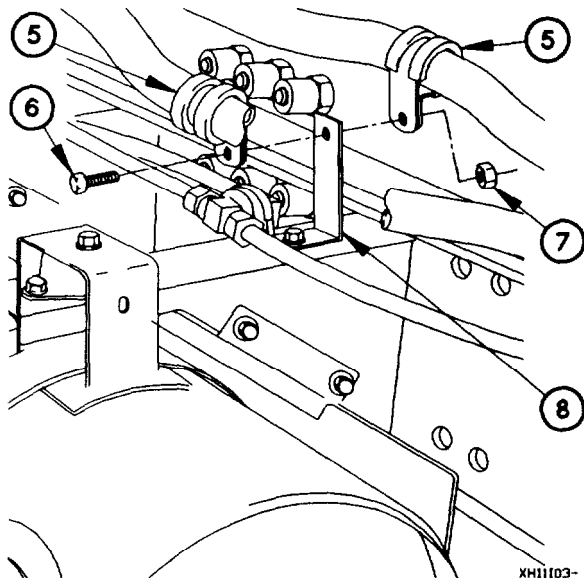


4H11102A

NOTE

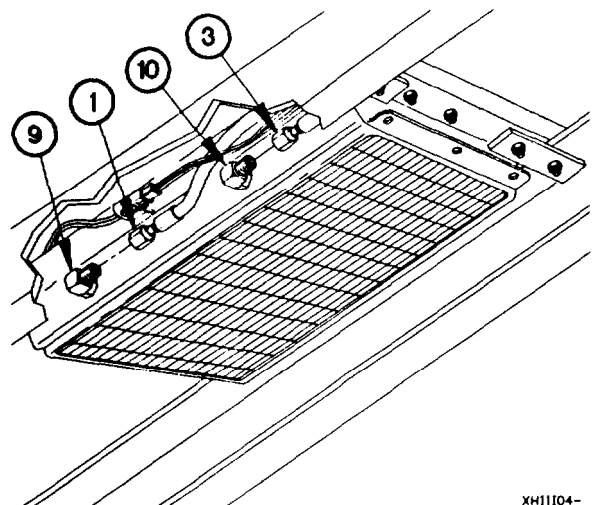
Step (5) requires the aid of an assistant.

- (5) Position two clamps (5), bolts (6), and self-locking nut (7) on bracket (8).
- (6) Tighten self-locking nut (7) to 7-11 lb-ft (9-15 N•m).



XH11103-

- (7) Connect hoses (1 and 3) to 90-degree fittings (9 and 10).



XH11104-

**8-15. M1083/M1084/M1085/M1086/M1093 TRANSMISSION AUXILIARY OIL COOLER
HOSE REPLACEMENT (CONT)**

c. Follow-On Maintenance.

- (1) Install self-recovery winch control valve assembly, if equipped (para 17-25).
- (2) Connect batteries (para 7-57).
- (3) Service transmission (Appendix H).
- (4) Start engine (TM 9-2320-366-10-1).
- (5) Operate vehicle and check for oil leaks (TM 9-2320-366-10-1).
- (6) Shut down engine (TM 9-2320-366-10-1).

End of Task.

8-16. M1088/M1089 TRANSMISSION AUXILIARY OIL COOLER HOSE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP**Equipment Conditions**

Batteries disconnected (para 7-57).

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
 Pan, Drain (Item 24, Appendix C)
 Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
 Socket Set, Socket Wrench (Item 34, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

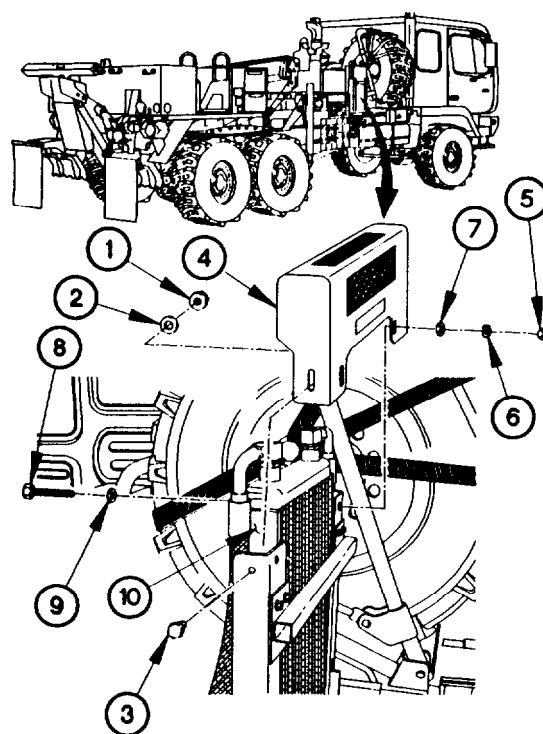
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Cap and Plug Set (Item 14, Appendix D)
 Ties, Cable, Plastic (Item 69, Appendix D)
 Nut, Self-Locking (2) (Item 167, Appendix G)
 Nut, Self-Locking (2) (Item 154, Appendix G)
 Nut, Self-Locking (2) (Item 152, Appendix G)
 Washer, Spring (2) (Item 291, Appendix G)

Personnel Required

(2)

a. Removal.

- (1) Remove two self-locking nuts (1), washers (2), and screws (3) from heat shield (4). Discard self-locking nuts.
- (2) Remove two self-locking nuts (5), spring washers (6), washers (7), screws (8), washers (9), and heat shield (4) from transmission auxiliary oil cooler (10). Discard self-locking nuts and spring washers.



4M12R011

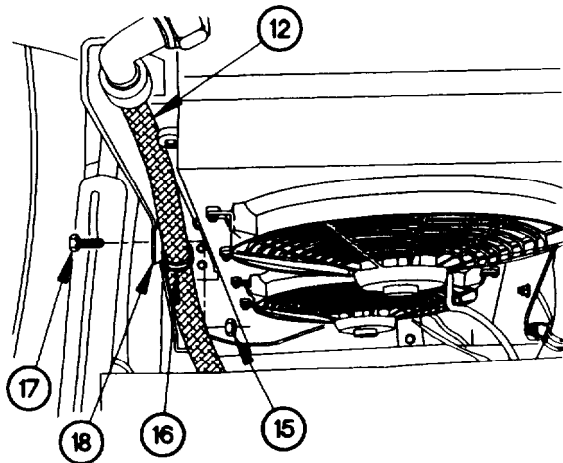
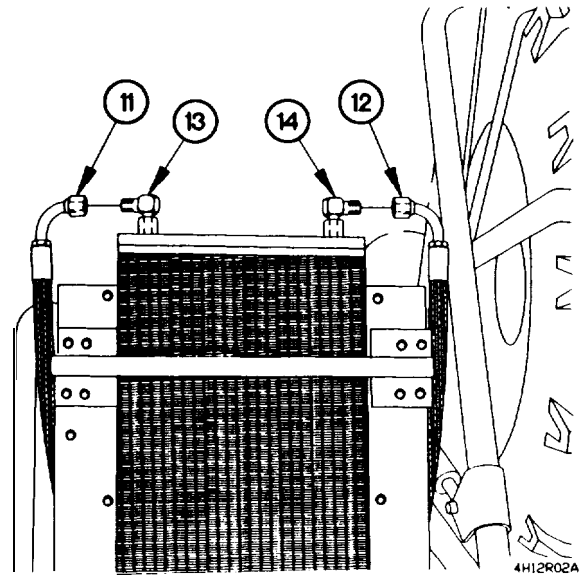
8-16. M1088/M1089 TRANSMISSION AUXILIARY OIL COOLER HOSE REPLACEMENT (CONT)

CAUTION

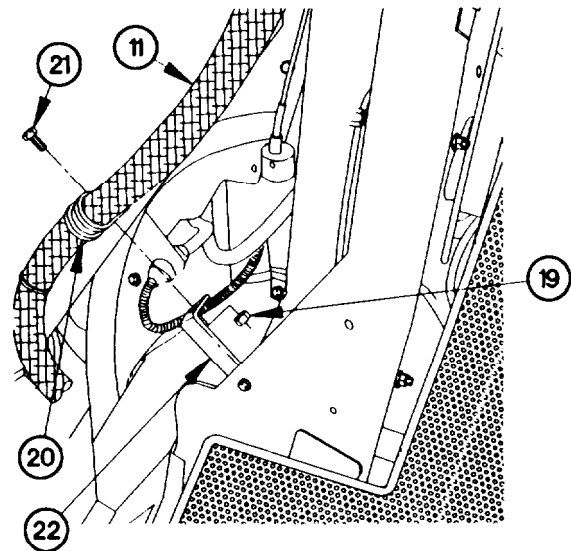
Cap or plug hoses and tubes when disconnecting to prevent contamination of transmission oil. Failure to comply may result in damage to equipment.

NOTE

- Tag hoses, tubes, and connection points prior to disconnecting.
 - Remove plastic cable ties as required.
- (3) Disconnect hoses (1) and (2) from 90-degree fittings (3 and 4).



- (4) Remove self-locking nut (15), clamp (16), and screw (17) from bracket (18). Discard self-locking nut.
- (5) Remove clamp (16) from hose (12).

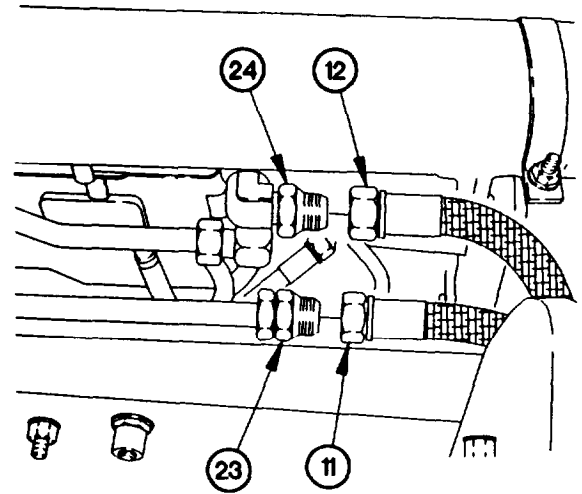


- (6) Remove self-locking nut (19), clamp (20), and screw (21) from bracket (22). Discard self-locking nut.
- (7) Remove clamp (20) from hose (11).

WARNING

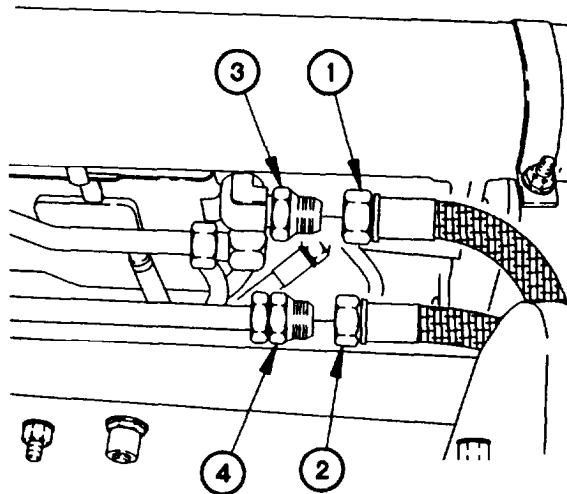
- Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.
- Ensure exhaust system is cool before performing maintenance. Failure to comply may result in injury to personnel.

- (8) Position drain pan under hoses (11 and 12).
- (9) Disconnect hose (11) from union (23).
- (10) Remove hose (11) from vehicle.
- (11) Disconnect hose (12) from fitting (24).
- (12) Remove hose (12) from vehicle.



4H12R05A

b. Installation.

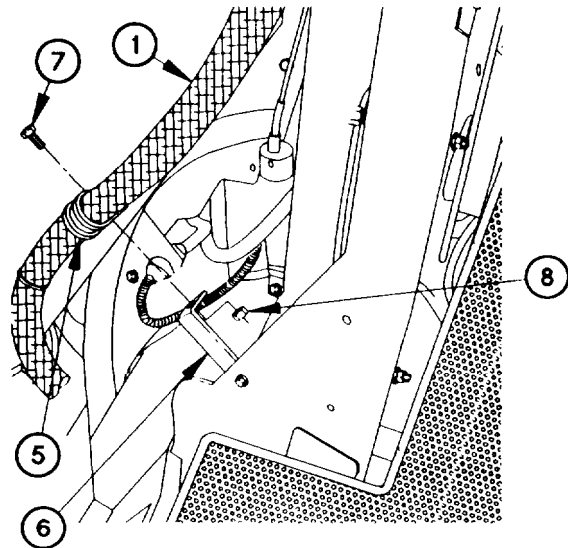


4H12101-

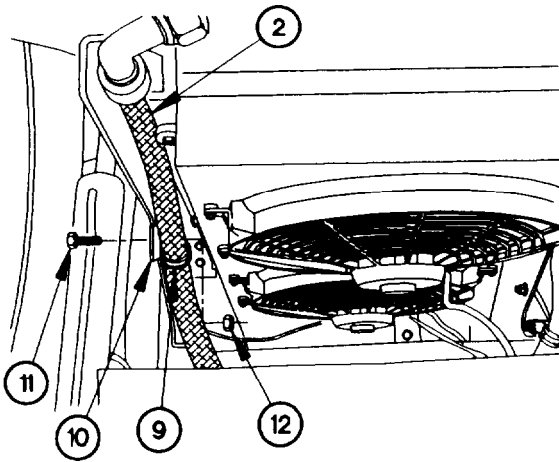
- (1) Position hoses (1 and 2) on vehicle.
- (2) Position hose (1) on fitting (3).
- (3) Position hose (2) on union (4).
- (4) Tighten hoses (1 and 2) to 130-140 lb-ft (176-190 N•m).

8-16. M1088/M1089 TRANSMISSION AUXILIARY OIL COOLER HOSE REPLACEMENT (CONT)

- (5) Position clamp (5) on hose (1).
- (6) Position clamp (5) on bracket (6) with screw (7) and self-locking nut (8).
- (7) Tighten self-locking nut (8) to 84-132 lb-in. (9-15 N•m).



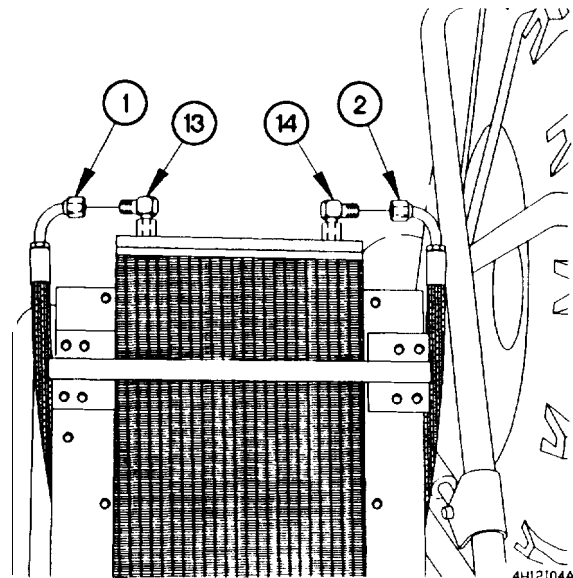
4H12102A



4H12103A

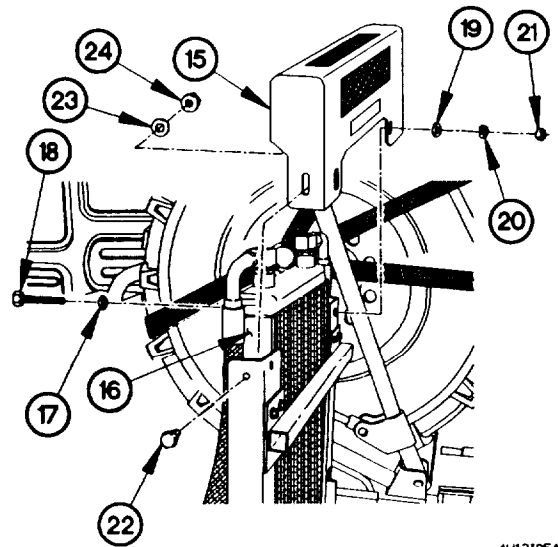
- (11) Position hoses (1 and 2) on fittings (13 and 14).
- (12) Tighten hoses (1 and 2) to 95-105 lb-ft (129-142 N•m).

- (8) Position clamp (9) on hose (2).
- (9) Position clamp (9) on bracket (10) with screw (11) and self-locking nut (12).
- (10) Tighten self-locking nut (12) to 84-132 lb-in. (9-15 N•m).



4H12104A

- (13) Position heat shield (15) on transmission auxiliary oil cooler (16) with two washers (17), screws (18), washers (19), spring washers (20), and self-locking nuts (21).
- (14) Position two screws (22), washers (23), and self-locking nuts (24) in heat shield (15).
- (15) Tighten two self-locking nuts (21) to 22-26 lb-ft (29-35 N•m).
- (16) Tighten two self-locking nuts (24) to 22-26 lb-ft (29-35 N•m).



4H12105A

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Service transmission (Appendix H).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Check for oil leaks.
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.

8-17. TRANSMISSION OIL COOLER TUBES AND FITTING REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Cab raised (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Tools and Special Tools (Cont)

Pan, Drain (Item 24, Appendix C)

Materials/Parts

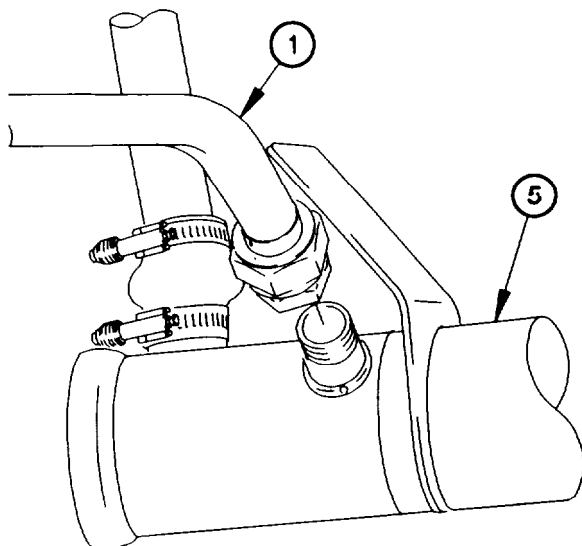
Oil, Lubricating, OE/HDO 30 (Item 45, Appendix D)
Packing, Preformed (Item 184, Appendix G)
Packing, Preformed (Item 186, Appendix G)

WARNING

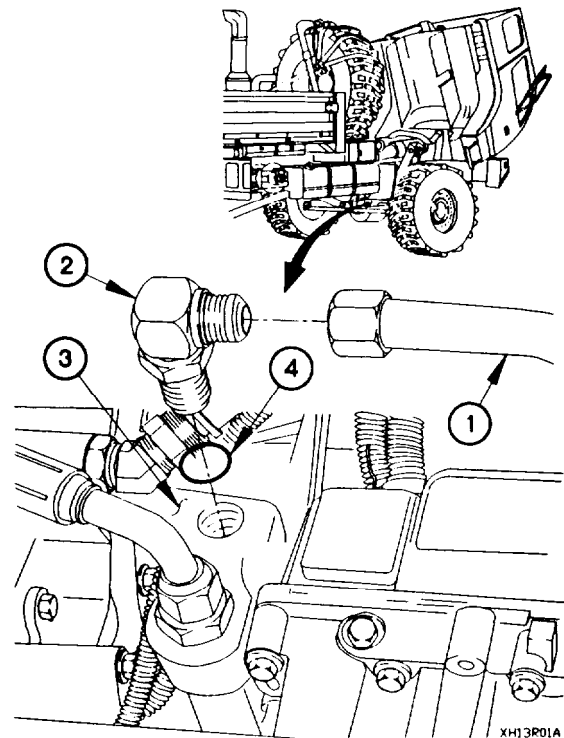
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

- (1) Place drain pan under oil cooler flow tube (1).
- (2) Disconnect oil cooler return tube (1) from 90-degree fitting (2).
- (3) Remove 90-degree fitting (2) from transmission (3).
- (4) Remove preformed packing (4) from 90-degree fitting (2). Discard preformed packing.



XHIROE-

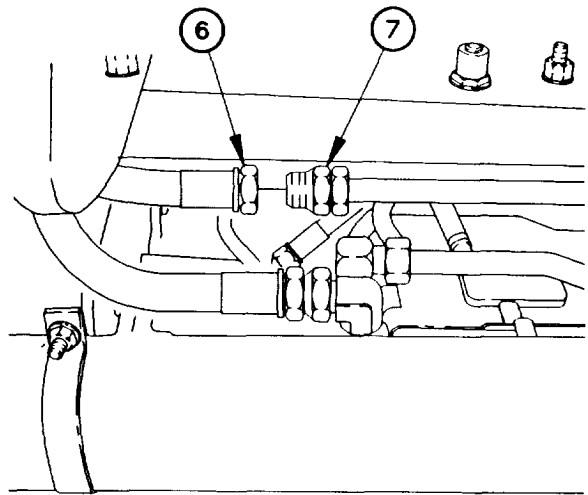


CAUTION

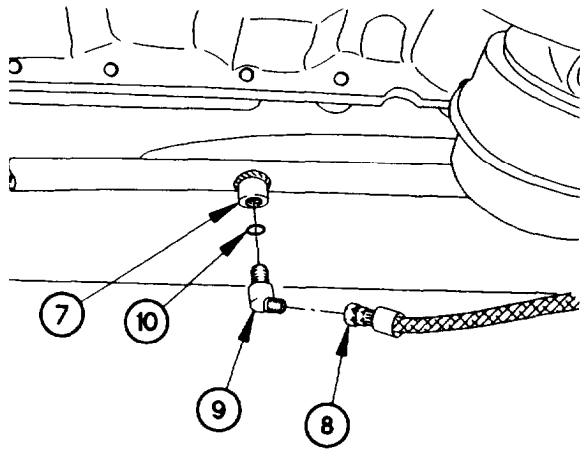
Transmission oil cooler return tube can only be removed toward rear of vehicle. Failure to comply may result in damage to equipment.

- (5) Remove transmission oil cooler return tube (1) from transmission oil cooler (5).

- (6) Disconnect transmission auxiliary oil cooler hose (6) from transmission oil cooler flow tube (7).



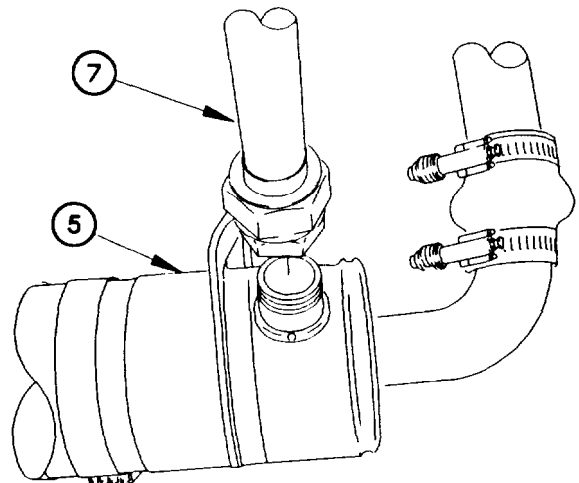
XH13R03-



XH13R04-

- (7) Disconnect transmission oil sampling hose (8) from 45-degree fitting (9).
- (8) Remove 45-degree fitting (9) from transmission oil cooler flow tube (7).
- (9) Remove preformed packing (10) from 45-degree fitting (9). Discard preformed packing.

- (10) Remove transmission oil cooler flow tube (7) from transmission oil cooler (5).

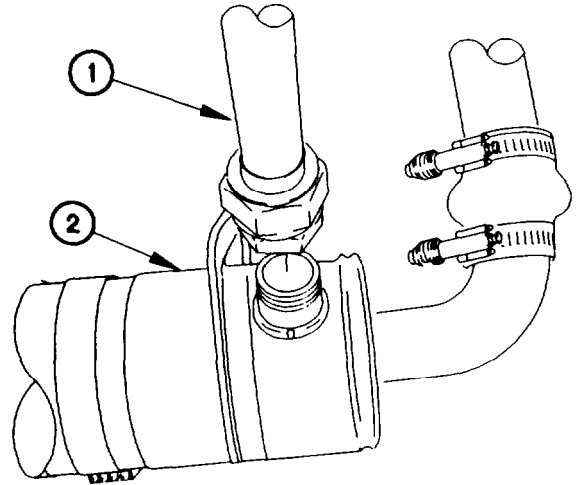


XH13R05-

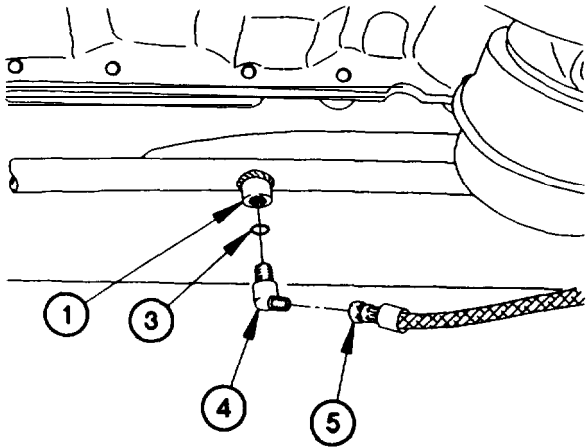
8-17. TRANSMISSION OIL COOLER TUBES AND FITTINGS REPLACEMENT (CONT)

b. Installation.

(1) Install transmission oil cooler flow tube (1) on transmission oil cooler (2).



XH13101-



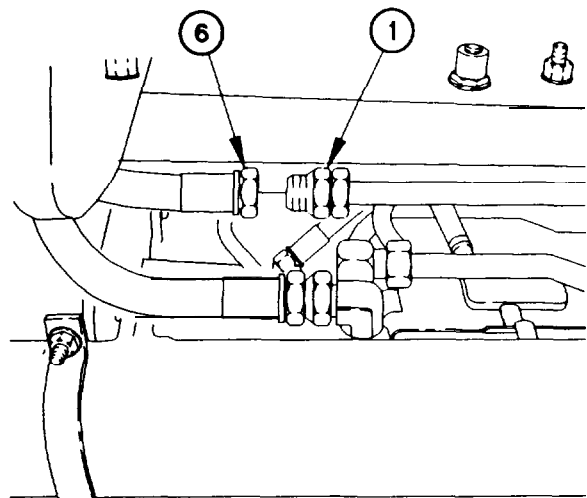
XH13102-

(2) Install preformed packing (3) on 45-degree fitting (4).

(3) Install 45-degree fitting (4) in transmission oil cooler flow tube (1).

(4) Connect transmission oil sampling hose (5) to 45-degree fitting (4).

(5) Connect transmission oil cooler flow tube (1) to transmission auxiliary oil cooler hose (6).

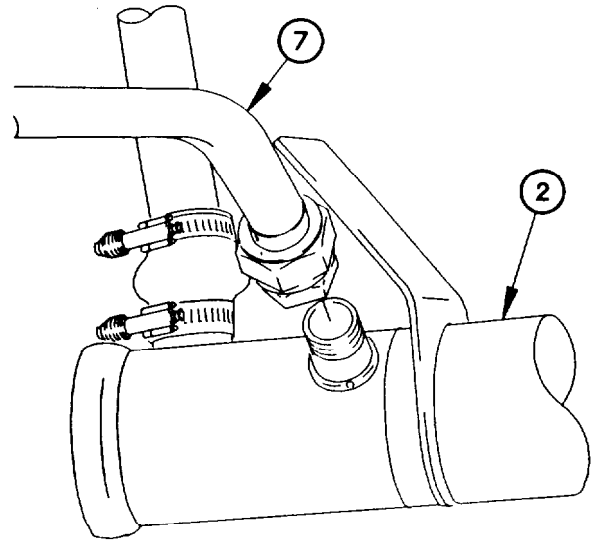


XH13103-

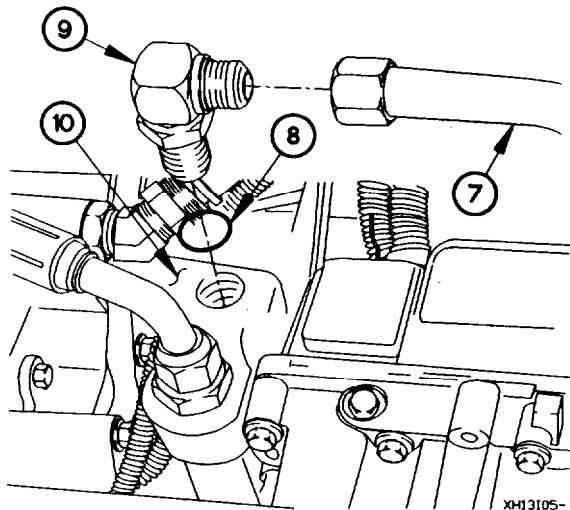
CAUTION

Transmission oil cooler return tube can only be installed from rear of vehicle. Failure to comply may result in damage to equipment.

- (6) Install transmission oil cooler return tube (7) on transmission oil cooler (2).



XH13104-



XH13105-

- (7) Install preformed packing (8) on 90-degree fitting (9).
 (8) Install 90-degree fitting (9) in transmission (10).
 (9) Install transmission oil cooler return tube (7) on 90-degree fitting (9).

c. Follow-On Maintenance.

- (1) Fill transmission with lubricating oil (Appendix H).
- (2) Lower cab (TM 9-2320-366-10-1).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Check oil level (TM 9-2320-366-10-2).
- (5) Check for oil leaks around lines and fittings.
- (6) Shut down engine (TM 9-2320-366-10-1).

End of Task.

8-18. TRANSMISSION SCAVENGE PUMP HOSE REPLACEMENT

This task covers:

<p>a. Removal</p> <p>b. Installation</p>	<p>c. Follow-On Maintenance</p>
--	---------------------------------

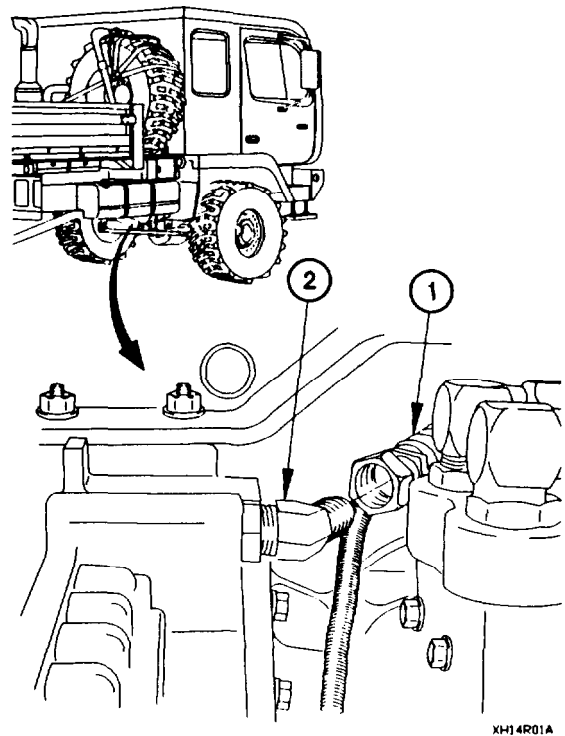
INITIAL SETUP	
<p>Equipment Conditions</p> <p>Exhaust pipe removed (para 5-3). Transmission oil cooler tube removed (para 8-17).</p> <p>Tools and Special Tools</p> <p>Goggles, Industrial (Item 15, Appendix C) Pan, Drain (Item 24, Appendix C) Tool Kit, Genl Mech (Item 46, Appendix C)</p>	<p>Materials/Parts</p> <p>Oil, Lubricating, OE/HDO 30 (Item 45, Appendix D) Filter Element, Fluid (Item 18, Appendix G) Packing, Preformed (21 (Item 198, Appendix G)</p>

WARNING

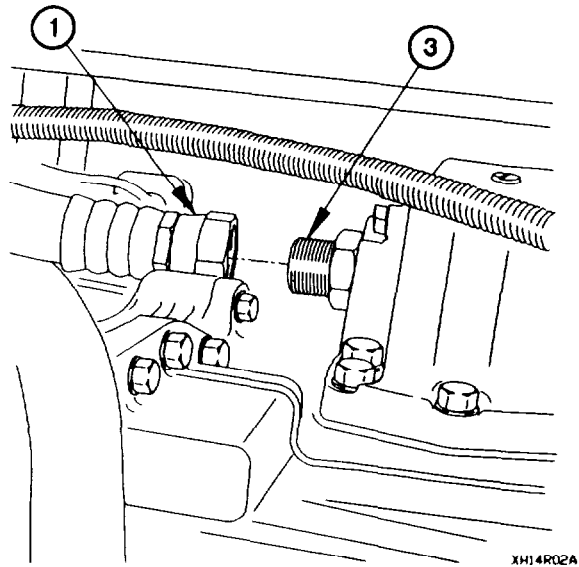
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

- (1) Place drain pan under back end of scavenge pump hose (1).
- (2) Disconnect scavenge pump hose (1) from 45-degree fitting (2).



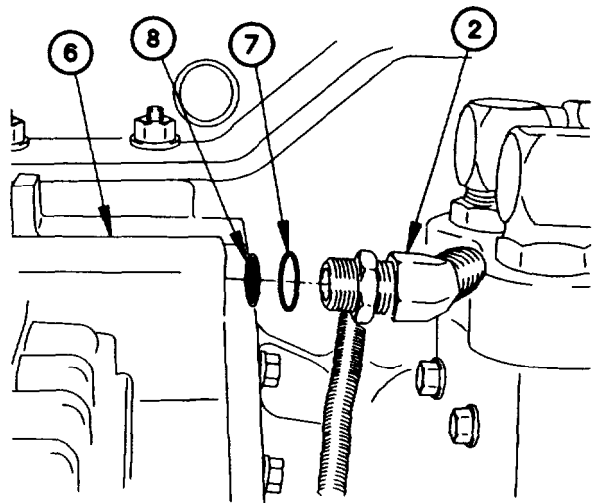
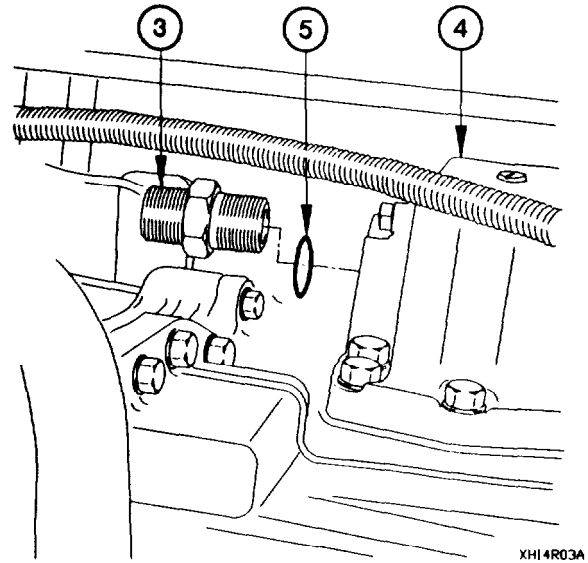
XH14R01A



XH14R02A

- (3) Remove scavenge pump hose (1) from fitting (3).

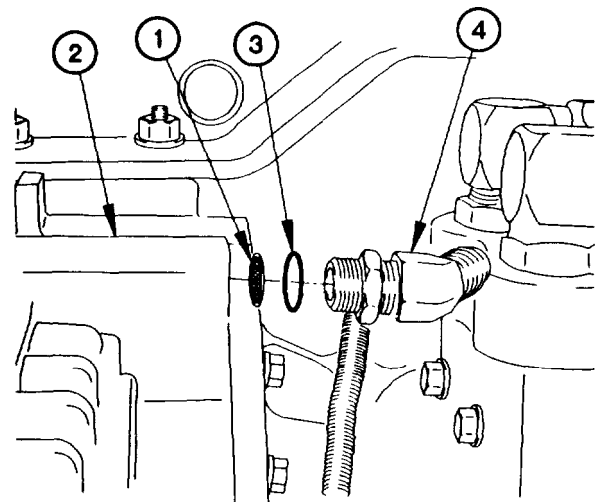
- (4) Remove fitting (3) from scavenge pump (4).
- (5) Remove preformed packing (5) from fitting (3). Discard preformed packing.



- (6) Remove 45-degree fitting (2) from transfer case (6).
- (7) Remove preformed packing (7) from 45-degree fitting (2). Discard preformed packing.
- (8) Remove filter (8) from transfer case (6). Discard filter.

b. Installation.

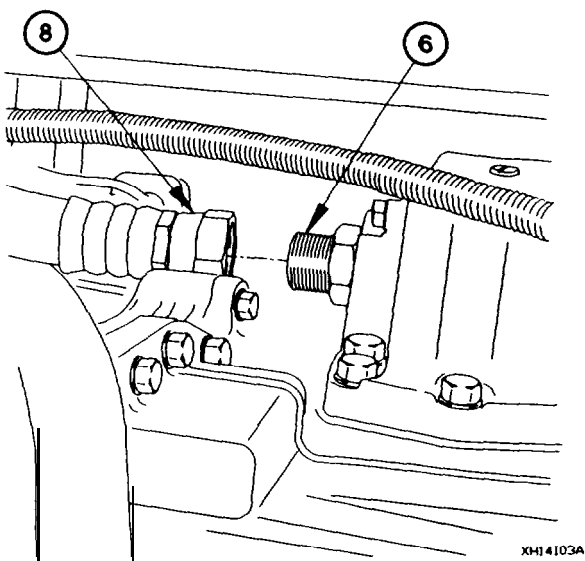
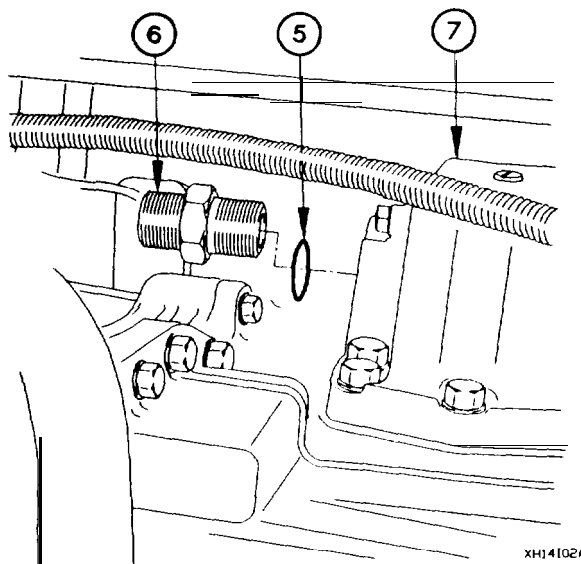
- (1) Install filter (1) in transfer case (2).
- (2) Install preformed packing (3) on 45-degree fitting (4).
- (3) Install 45-degree fitting (4) in transfer case (2).



8-18. TRANSMISSION SCAVENGE PUMP HOSE REPLACEMENT (CONT)

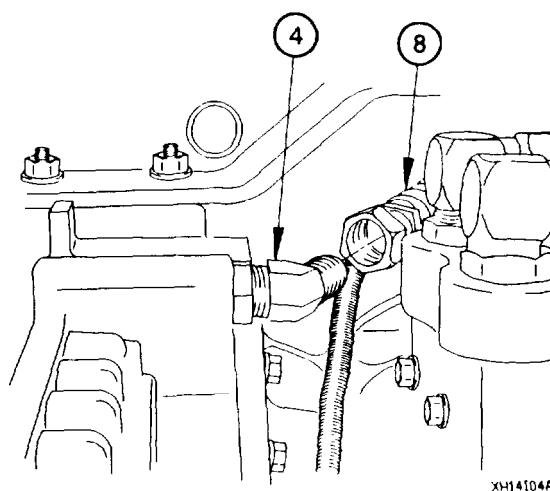
(4) Install preformed packing (5) on fitting (6).

(5) Install fitting (6) in scavenge pump (7).



(6) Install scavenge pump hose (8) on fitting (6).

(7) Install scavenge pump hose (8) on 45-degree fitting (4).



c. Follow-On Maintenance.

- (1) Install transmission oil cooler tube (para 8-17).
- (2) Install exhaust pipe (para 5-3).
- (3) Remove transmission oil dipstick (TM 9-2320-366-10-2).
- (4) Add lubricating oil to transmission (Appendix H).
- (5) Start engine (TM 9-2320-366-10-1).
- (6) Check for exhaust leaks around exhaust pipe.
- (7) Check for oil leaks around transmission scavenge pump hose.
- (8) Check transmission oil level on dipstick (TM 9-2320-366-10-2).
- (9) Install transmission oil dipstick (TM 9-2320-366-10-2).
- (10) Shut down engine (TM 9-2320-366-10-1).

End of Task.

8-19. M1083/M1084/M1085/M1086/M1093 TRANSMISSION AUXILIARY OIL COOLER FAN REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Batteries disconnected (para 7-57).
Transmission auxiliary oil cooler removed (para 8-11).

Materials/Parts

Lockwasher (2) (Item 92, Appendix G)
Nut, Plain, Blind Rivet (2) (Item 126, Appendix G)

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Blind Rivet (Item 44, Appendix C)

a. Removal.

- (1) Remove four screws (1), washers (2), and transmission auxiliary oil cooler fan (3) from fan housing (4).

NOTE

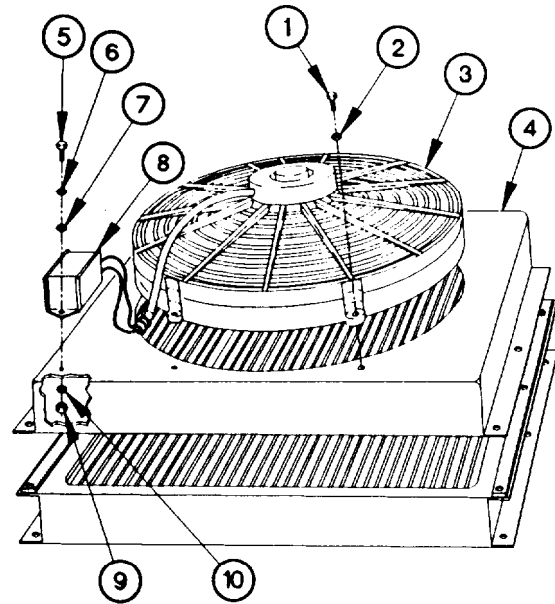
Perform step (2) on vehicles equipped with blind rivet nuts.

- (2) Remove two screws (5), lockwashers (6), washers (7), and EMI filter (8) from fan housing (4). Discard lockwashers.

NOTE

Perform step (3) on vehicles equipped with nuts.

- (3) Remove two nuts (9), washers (10), screws (5), lockwashers (6), washers (7), and EMI filter (8) from fan housing (4). Discard nuts, washers, and lockwashers.

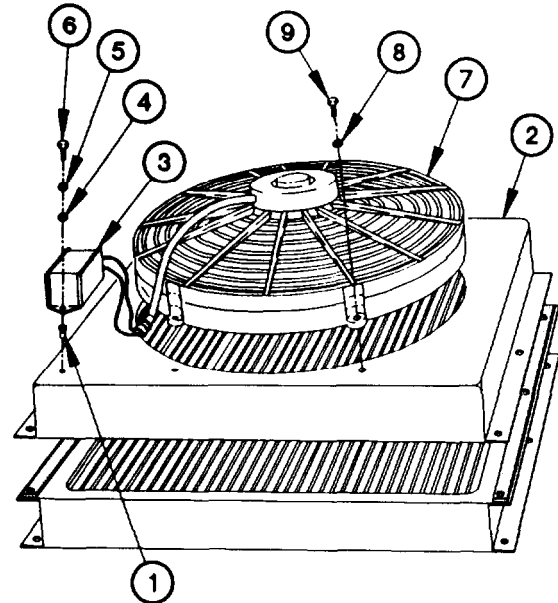


4H15R011

b. Installation.**NOTE**

Perform step (1) on vehicle not originally equipped with blind rivet nuts.

- (1) Install two blind rivet nuts (1) in fan housing (2).
- (2) Install EMI filter (3) on fan housing (2) with two washers (4), lockwashers (5), and screws (6).
- (3) Install transmission auxiliary oil cooler fan (7) on fan housing (2) with four washers (8) and screws (9).



4H15101A

c. Follow-On Maintenance.

- (1) Install transmission auxiliary oil cooler (para 8-11).
- (2) Connect batteries (para 7-57).
- (3) Operate vehicle and check operation of transmission auxiliary oil cooler fan (TM 9-2320-366-10-1).

End of Task.

8-20. M1088/M1089 TRANSMISSION AUXILIARY OIL COOLER FAN REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Tool Kit, Blind Rivet (Item 44, Appendix C)

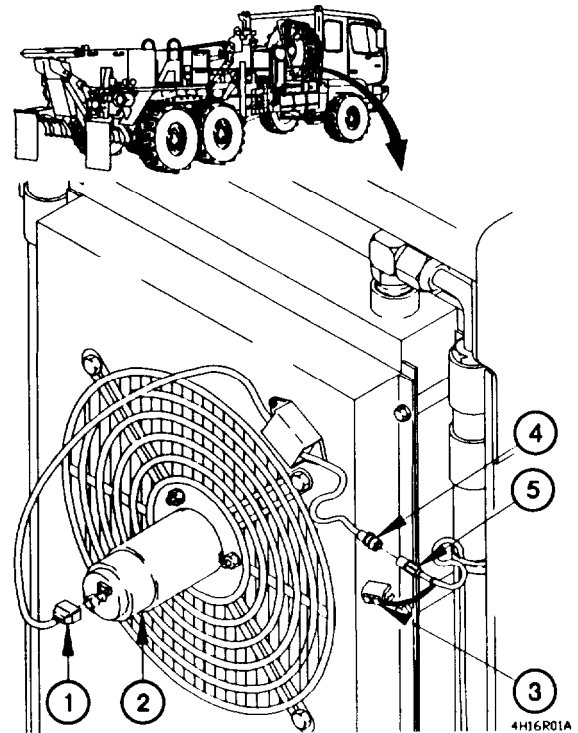
Materials/Parts

Ties, Cable, Plastic (Item 69, Appendix D)
 Nut, Plain, Blind Rivet (2) (Item 126, Appendix G)
 Lockwasher (6) (Item 94, Appendix G)

a. Removal.

NOTE

- Top and bottom transmission auxiliary oil cooler fans are removed the same way. Top transmission auxiliary oil cooler fan shown.
 - Remove plastic cable ties as required.
- (1) Disconnect connector (1) from transmission auxiliary oil cooler fan (2).
 - (2) Disconnect connector clamp (3) from connector J209B (4).
 - (3) Disconnect connector J209B (4) from connector P209B (5).



- (4) Remove four screws (6), lockwashers (7), washers (8) and transmission auxiliary oil fan (2) from fan housing (9). Discard lockwashers.

NOTE

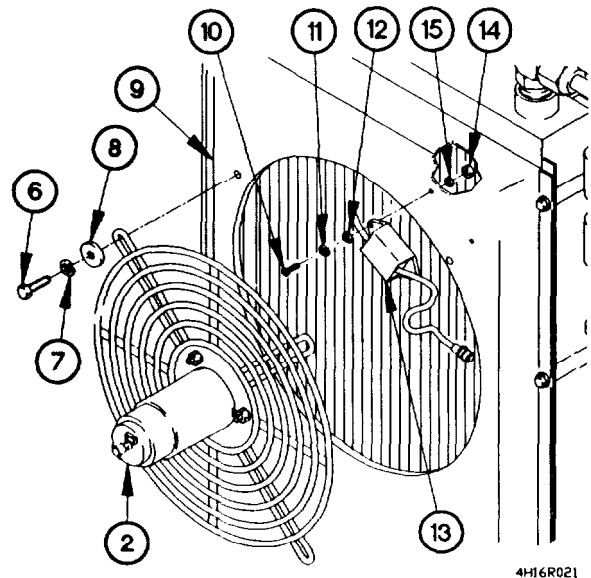
Perform step (5) on fans equipped with blind rivet nuts.

- (5) Remove two screws (10), lockwashers (11), washers (12), and EMI filter (13) from fan housing (9). Discard lockwashers.

NOTE

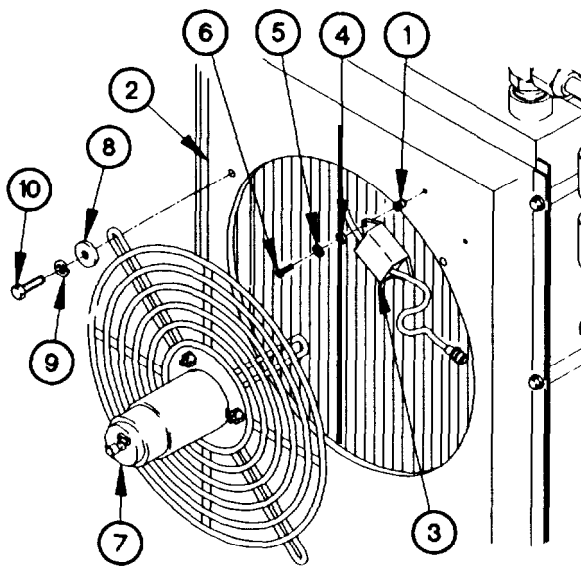
Perform step (6) on fans equipped with nuts.

- (6) Remove two nuts (14), washers (15), screws (10), lockwashers (11), washers (12), and EMI filter (13) from fan housing (9). Discard nuts, washers, and lockwashers.



4H16R021

b. Installation.



4H16I011

NOTE

Perform step (1) on fans not equipped with blind rivet nuts.

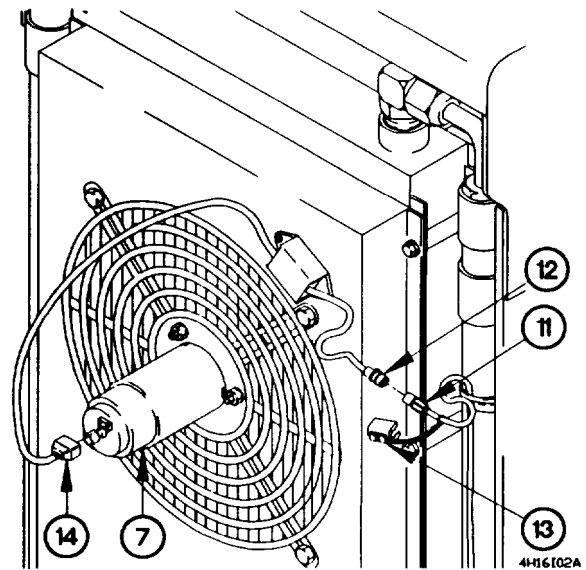
- (1) Install two blind rivet nuts (1) in fan housing (2).
- (2) Install EMI filter (3) on fan housing (2) with two washers (4), lockwashers (5), and screws (6).
- (3) Install transmission auxiliary oil cooler fan (7) on fan housing (2) with four washers (8), lockwashers (9), and screws (10).

**8-20. M1088/M1089 TRANSMISSION AUXILIARY OIL COOLER FAN REPLACEMENT
(CONT)**

- (4) Connect electrical P209B (11) to connector J209B (12).
- (5) Connect connector clamp (13) on connector J209B (12).
- (6) Connect connector (14) to transmission auxiliary oil cooler fan (7).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate vehicle and check for proper operation of transmission auxiliary oil cooler fan (TM 9-2320-366-10-1).



End of Task.

8-21. M1090/M1094 TRANSMISSION AUXILIARY OIL COOLER FAN REPLACEMENT

This task covers:

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Removal b. Installation | <ul style="list-style-type: none"> c. Follow-On Maintenance |
|---|--|

INITIAL SETUP**Equipment Conditions**

Dump body raised to maintenance position (TM 9-2320-366-10-1).
Batteries disconnected (para 7-57).

Materials/Parts

Ties, Cable, Plastic (Item 69, Appendix D)
Lockwasher (2) (Item 92, Appendix G)
Nut, Plain, Blind Rivet (2) (Item 126, Appendix G)

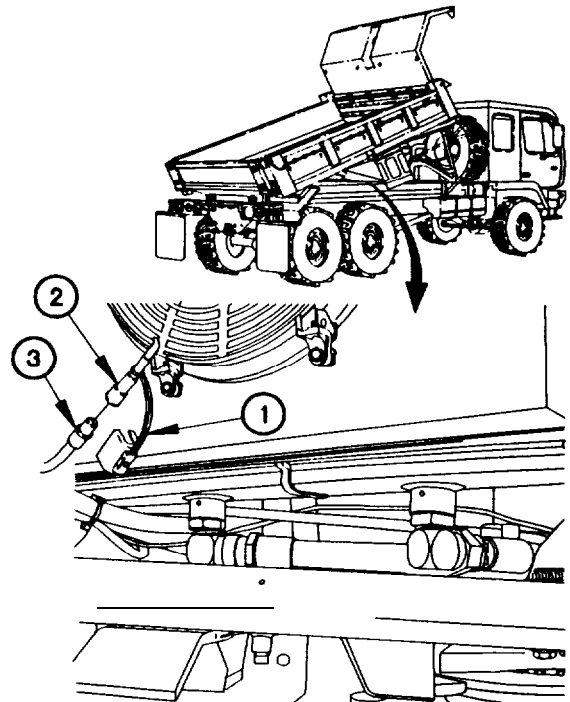
Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Tool Kit, Blind Rivet (Item 44, Appendix C)

a. Removal.**NOTE**

Remove plastic cable ties as required.

- (1) Disconnect connector clamp (1) from connector J209 (2).
- (2) Disconnect connector J209 (2) from connector P209 (3).



4417R011

NOTE

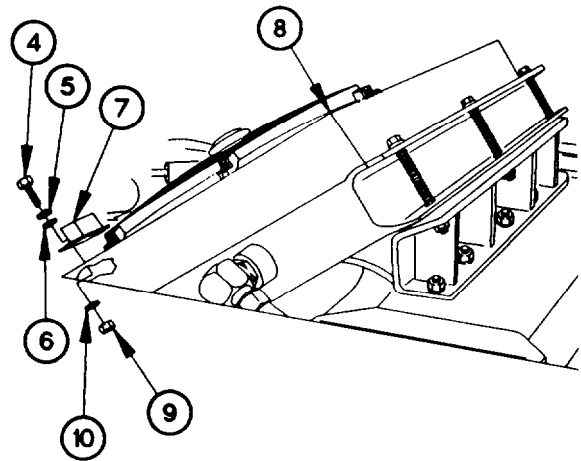
Perform step (3) on vehicles equipped with blind rivet nuts.

- (3) Remove two screws (4), lockwashers (5), washers (6), and EMI filter (7) from fan housing (8). Discard lockwashers.

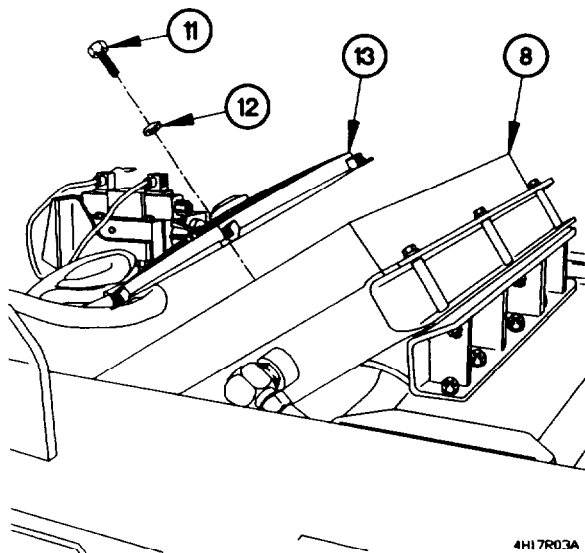
NOTE

Perform step (4) on vehicles equipped with nuts.

- (4) Remove two nuts (9), washers (10), screws (4), lockwashers (5), washers (6), and EMI filter (7) from fan housing (8). Discard lockwashers and nuts.

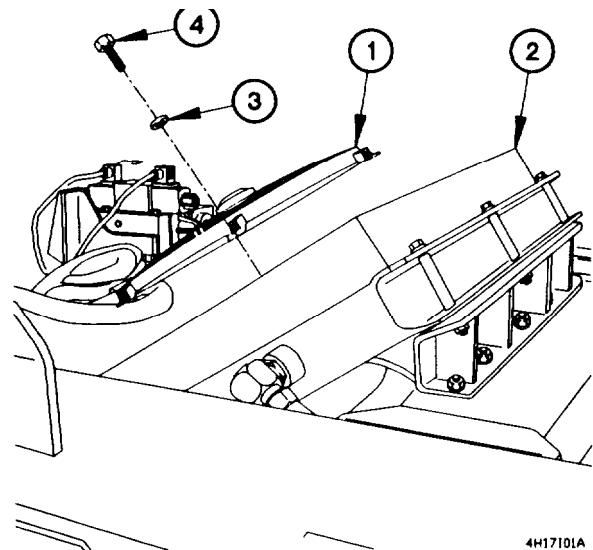


4H17R02A



4H17R03A

- (5) Remove four screws (11), washers (12) and transmission auxiliary oil cooler fan (13) from fan housing (8).



4H17I01A

b. Installation.

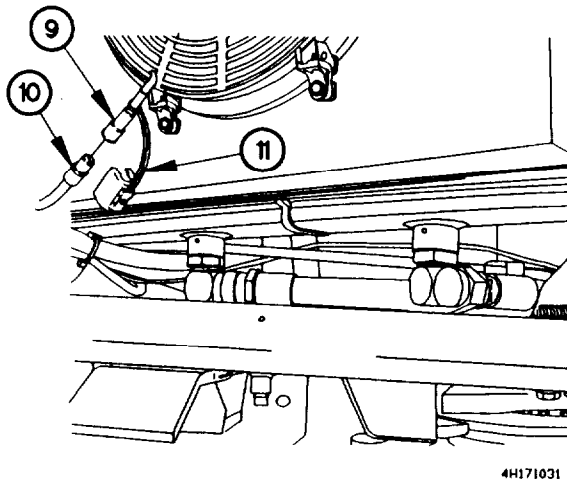
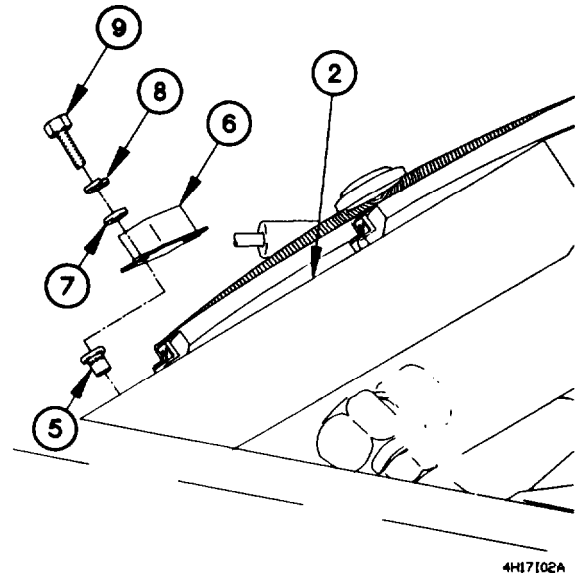
- (1) Install transmission auxiliary oil cooler fan (1) on fan housing (2) with four washers (3) and screws (4).

8-21. M1090/M1094 TRANSMISSION AUXILIARY OIL COOLER FAN REPLACEMENT (CONT)

NOTE

Perform step (2) on vehicles not originally equipped with blind rivet nuts.

- (2) Install two blind rivet nuts (5) in fan housing (2).
- (3) Install EMI filter (6) on fan housing (2) with two washers (7), lockwashers (8), and screws (9).



NOTE

Install plastic cable ties as required.

- (4) Connect connector J209 (9) to connector P209 (10).
- (5) Connect connector clamp (11) on connector J209 (9).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Operate vehicle and check for proper operation of transmission auxiliary oil cooler fan (TM 9-2320-366-10-1).

End of Task.

8-22. TRANSMISSION OIL FILL TUBE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Cab raised (TM 9-2320-366-10-1).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Screwdriver Attachment, Socket Wrench (Item 61, Appendix B)

Tools and Special Tools (Cont)

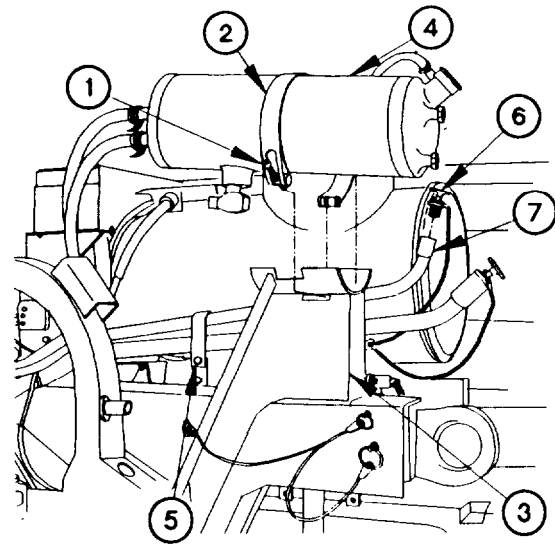
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Socket Set, Socket Wrench (Item 36, Appendix C)

Materials/Parts

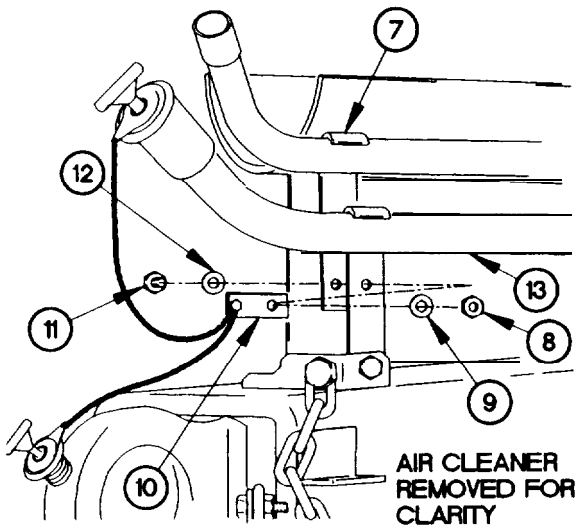
- Nut, Self-Locking (3) (Item 167, Appendix G)

a. Removal.

- (1) Remove screw (1) and clamp (2) from radiator overflow tank bracket (3).
- (2) Position radiator overflow tank (4) for access to screw (5).
- (3) Remove cap (6) from transmission oil fill tube (7).



XH19R01A



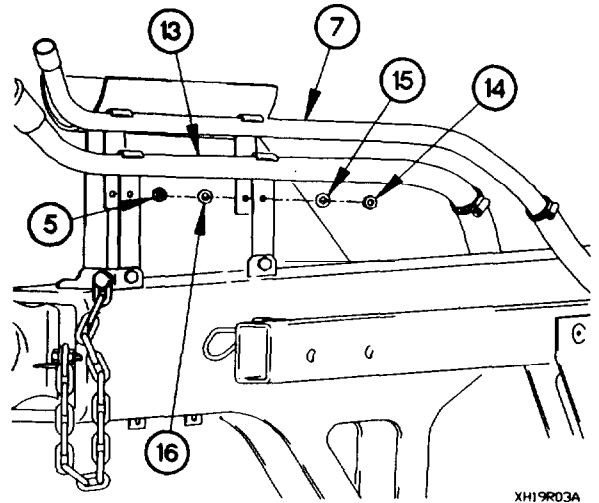
XH19R02A

- (4) Remove self-locking nut (8), washer (9) lanyard mounting plate (10), transmission oil fill tube (7), screw (11), and washer (12) from engine oil fill tube (13). Discard self-locking nut.

NOTE

Perform step (5) on all models except M1093/M1094.

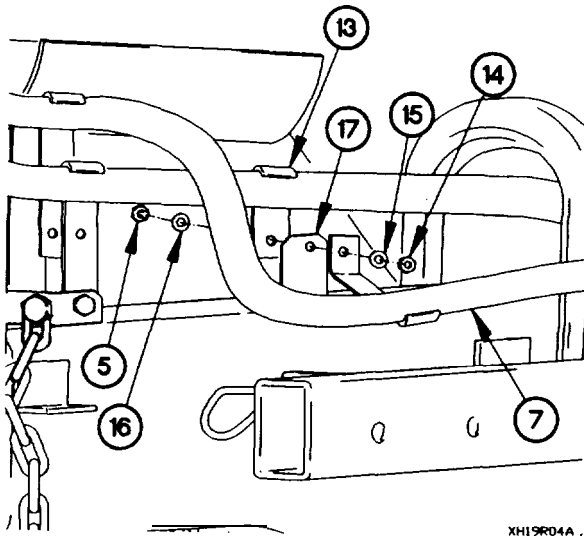
- (5) Remove self-locking nut (14), washer (15), transmission oil fill tube (7), screw (5), and washer (16) from engine oil fill tube (13). Discard self-locking nut.



NOTE

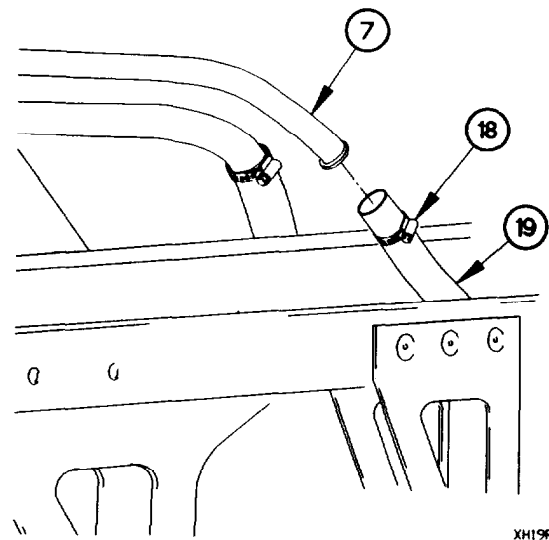
Perform step (6) on M1093/M1094.

- (6) Remove self-locking nut (14), washer (15), transmission oil fill tube (7), engine oil fill tube (13), screw (5), and washer (16) from front lifting beam (17). Discard self-locking nut.



- (7) Loosen clamp (18) on transmission oil fill hose (19).

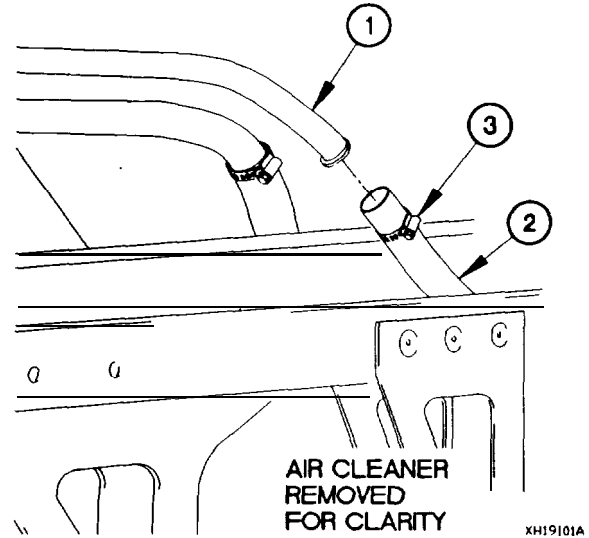
- (8) Remove transmission oil fill tube (7) from transmission oil fill hose (19).



8-22. TRANSMISSION OIL FILL TUBE REPLACEMENT (CONT)

b. Installation.

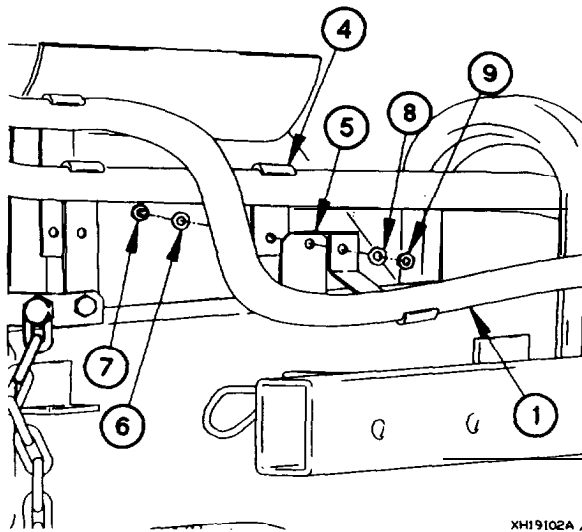
- (1) Position transmission oil fill tube (1) in transmission oil fill hose (2) with clamp (3).
- (2) Tighten clamp (3) to 27-44 lb-in. (3-5 N•m).



NOTE

Perform steps (3) on M1093/M1094.

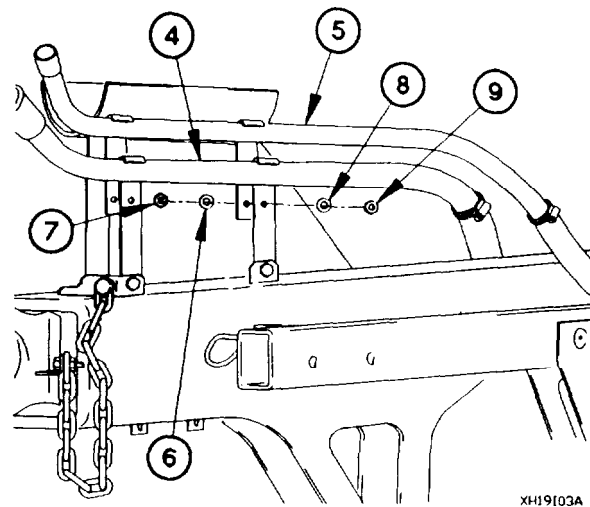
- (3) Position engine oil fill tube (4) and transmission oil fill tube (1) on front lifting beam (5) with washer (6), screw (7), washer (8), and self-locking nut (9).



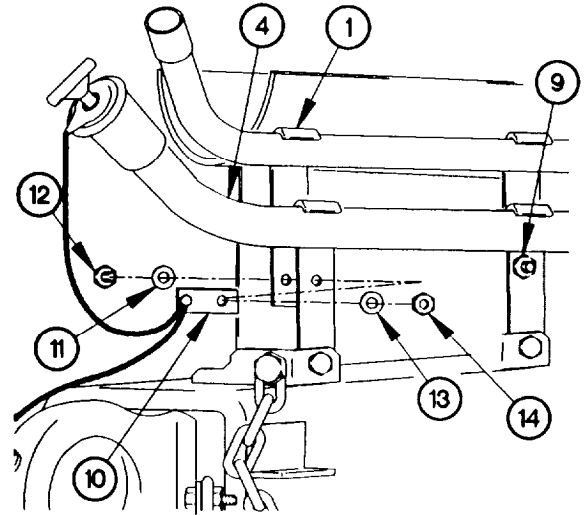
NOTE

Perform steps (4) on all models except M1093/M1094.

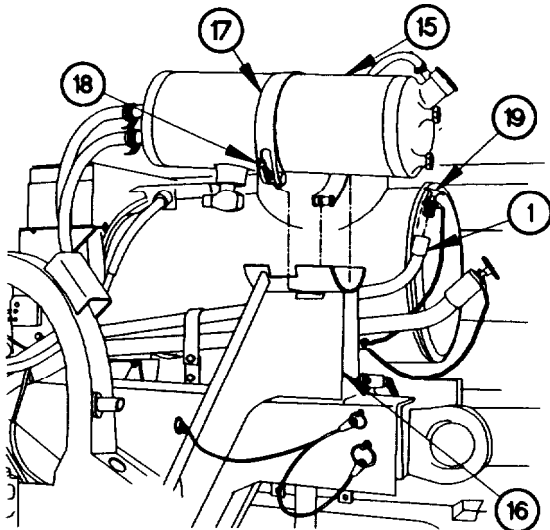
- (4) Position transmission oil fill tube (5) on engine oil fill tube (4) with washer (6), screw (7), washer (8), and self-locking nut (9).



- (5) Position lanyard mounting plate (10) and transmission oil fill tube (1) on engine oil fill tube (4) with washer (11), screw (12), washer (13), and self-locking nut (14).
- (6) Tighten self-locking nuts (9 and 14) to 21-26 lb-ft (19-35 N•m).



XH19104A



XH19105A

- (7) Position radiator overflow tank (15) on radiator overflow tank bracket (16) with clamp (17) and screw (18).
- (8) Tighten screw (18) to 23-29 lb-ft (31-39 N•m).
- (9) Install cap (19) on transmission oil fill tube (1).

c. Follow-On Maintenance.

Lower cab (TM 9-2320-366-10-1).

End of Task.

CHAPTER 9 PROPELLER SHAFT MAINTENANCE

Section I. INTRODUCTION	9-1
9-1. INTRODUCTION	9-1
Section II. MAINTENANCE PROCEDURES	9-2
9-2. DRIVE SHAFT AND UNIVERSAL JOINT REPLACEMENT	9-2
9-3. DRIVE SHAFT COUPLING REPLACEMENT	9-5

Section I. INTRODUCTION

9-1. INTRODUCTION

This chapter contains maintenance instructions for replacing drive shafts, propeller shafts, and universal joints authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.



Section II. MAINTENANCE PROCEDURES

9-2. DRIVE SHAFT AND UNIVERSAL JOINT REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
 Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

Grease, Automotive and Artillery (GAA) (Item 22, Appendix D)
 Kit, Propeller Shaft (Item 62, Appendix G)

Personnel Required

(2)

WARNING

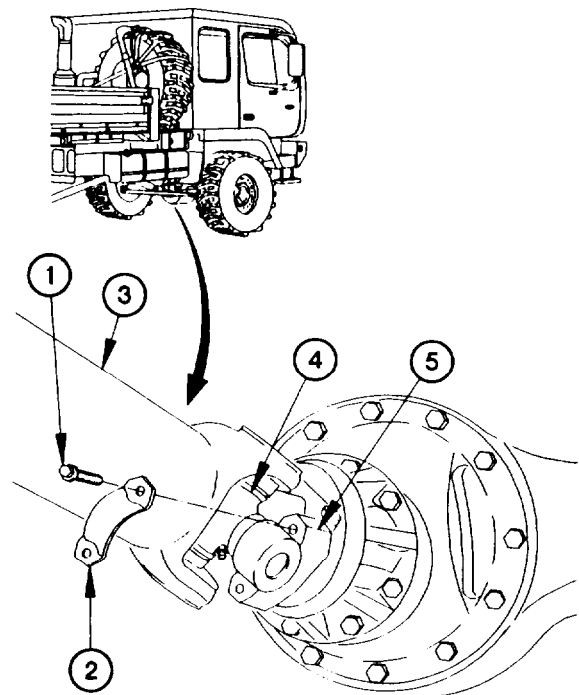
Wear appropriate eye protection when Working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

All drive shafts are removed the same way. Front drive shaft shown.

- (1) Remove four screws (1) and two retaining straps. (2) from drive shaft (3).
- (2) Push in drive shaft (3) to separate universal joint (4) from yoke (5).

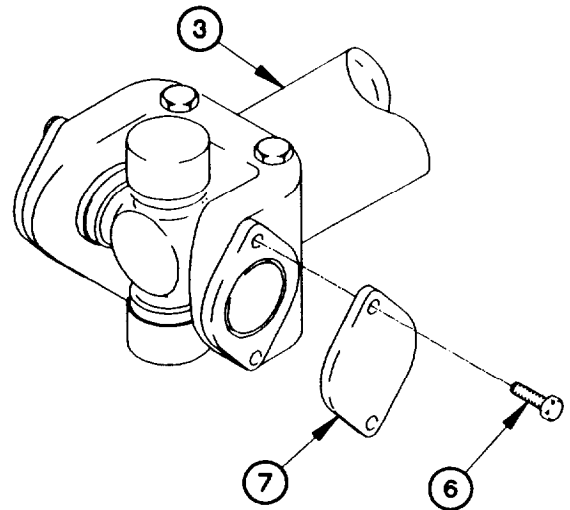


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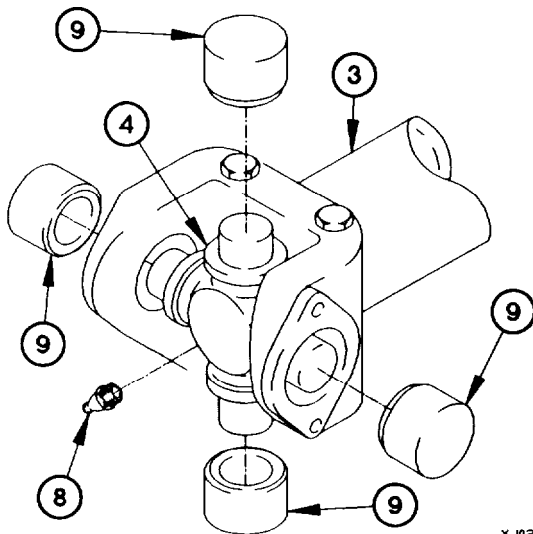
NOTE

- All universal joints are removed the same way. One shown.
- Retaining plates are spot welded to bearing end cap. Retaining plates will be frozen in place and will break during removal.

(3) Remove four screws (6) and two retaining plates (7) from drive shaft (3).



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X J02R03-

(4) Remove two grease fittings (8) from universal joint (4).

(5) Remove four universal joint end caps (9) from drive shaft (3).

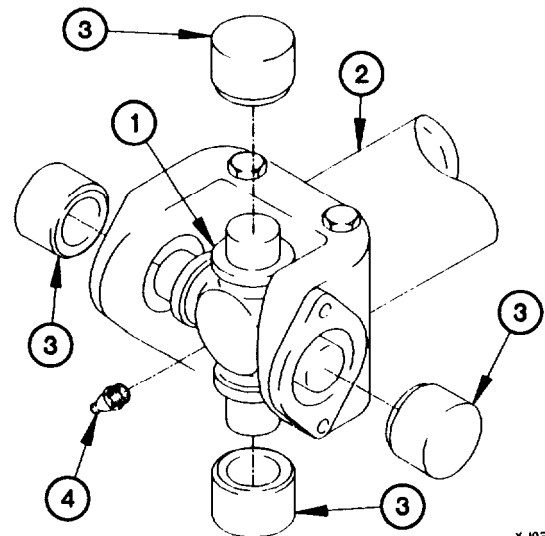
(6) Remove universal joint (4) from drive shaft (3).

b. Installation.

NOTE

All universal joints are installed the same way. One shown.

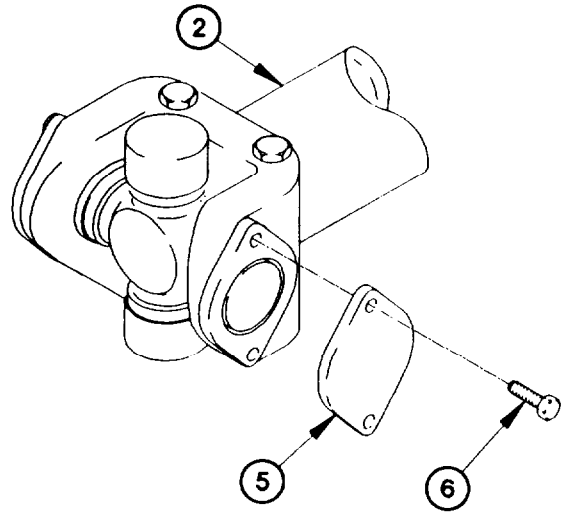
- (1) Install universal joint (1) on drive shaft (2).
- (2) Install four universal joint end caps (3) on drive shaft (2).
- (3) Install two grease fittings (4) on universal joint (1).



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9-2. DRIVE SHAFT AND UNIVERSAL JOINT REPLACEMENT (CONT)

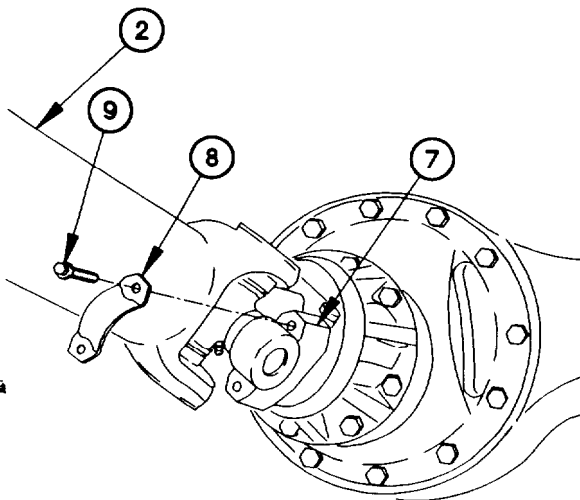
- (4) Position two retaining plates (5) on drive shaft (2) with four screws (6).
- (5) Tighten four screws (6) to 43-53 lb-ft (58-72 N•m).



x.02102-

NOTE

- All drive shafts are installed the same way. Front drive shaft shown.
 - Step (6) requires the aid of an assistant.
- (6) Position drive shaft (2) on yoke (7) with two straps (8) and four screws (9).
 - (7) Tighten four screws (9) to 43-53 lb-ft (58-72 N•m).



XM2103-

c. Follow-On Maintenance.

- (1) Lubricate drive shaft and universal joints (Appendix H).
- (2) Test drive vehicle and check for unusual vibrations,

End of Task.

9-3. DRIVE SHAFT COUPLING REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Intermediate drive shaft removed (para 9-2).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

Grease, Automotive and Artillery (GAA) (Item 22, Appendix D)
Kit, Propeller Shaft (Item 62, Appendix G)

Personnel Required

(2)

WARNING

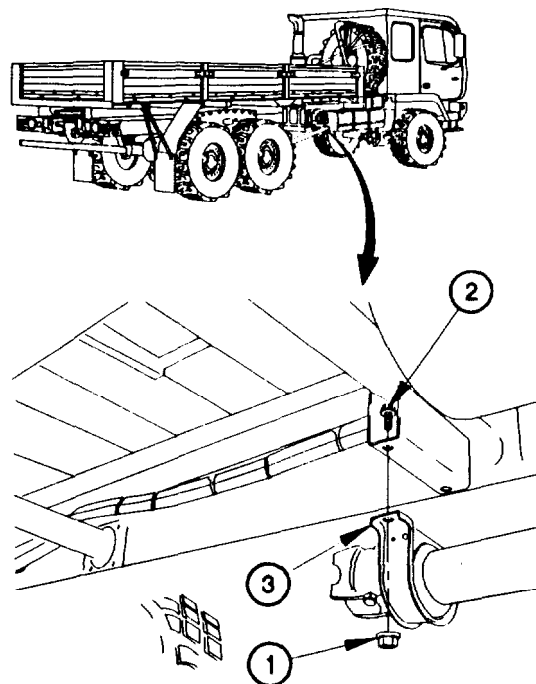
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

- This procedure applies to models M1085, M1086, M1089, and M1096.
- Step (1) requires the aid of an assistant.

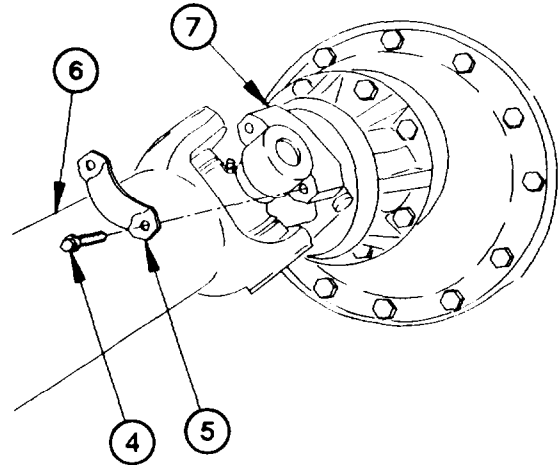
- (1) Remove two nuts (1), screws (2), and coupling (3) from vehicle.



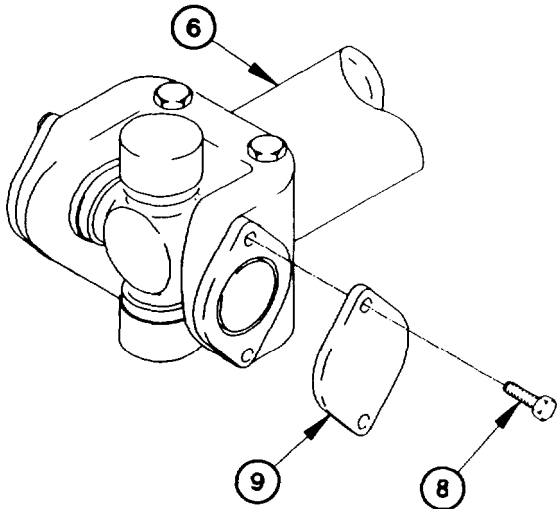
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9-3. DRIVE SHAFT COUPLING REPLACEMENT (CONT)

- (2) Remove four screws (4), two retaining straps (5) and drive shaft (6) from transfer case yoke (7).



4 J03R02



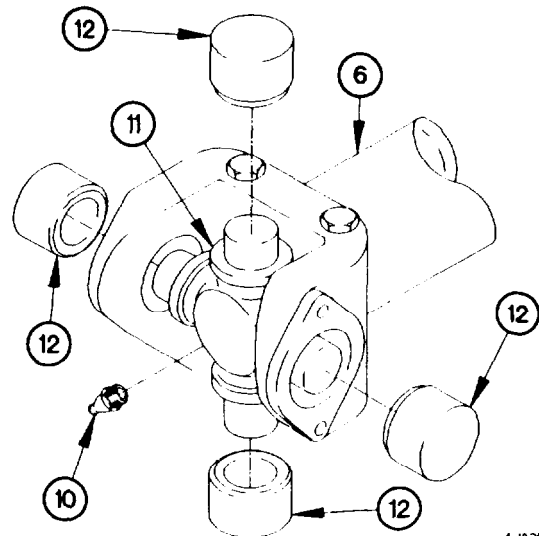
4 J03R03-

NOTE

- All universal joints are removed the same way. One shown.
- Retaining plates are spot welded to bearing end cap. Retaining plates will be frozen in place and will break during removal.

- (3) Remove four screws (8) and two retaining plates (9) from drive shaft (6).

- (4) Remove two grease fittings (10) from universal joint (11).
- (5) Remove four universal joint end caps (12) from drive shaft (6).
- (6) Remove universal joint (11) from drive shaft (6).



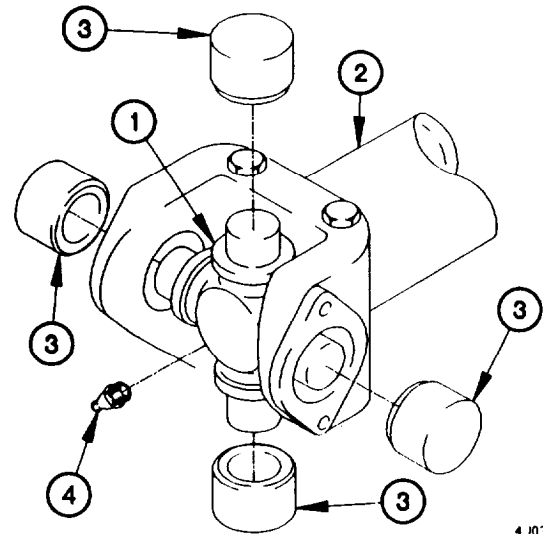
4 J03R04-

b. Installation.

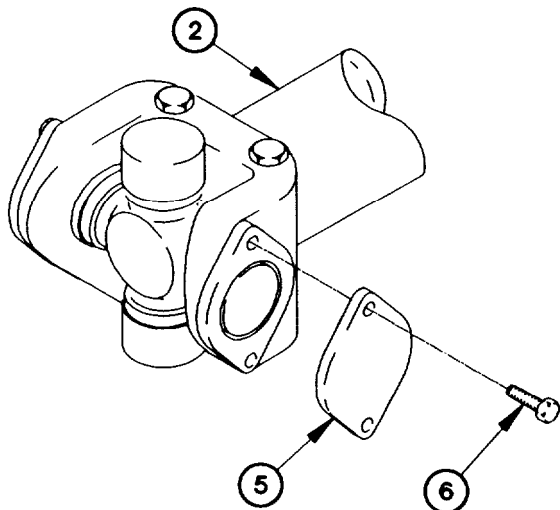
NOTE

All universal joints are installed the same way. One shown.

- (1) Install universal joint (1) on drive shaft (2).
- (2) Install four universal joint end caps (3) on drive shaft (2).
- (3) Install two grease fittings (4) on universal joint (1).



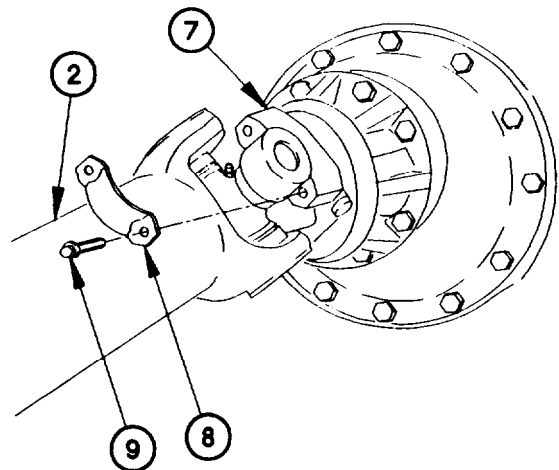
4 J03101-



4 J03102-

- (4) Position two retaining plates (5) on drive shaft (2) with four screws (6).
- (5) Tighten four screws (6) to 43-53 lb-ft (58-72 N•m).

- (6) Position drive shaft (2) on transfer case yoke (7) with two retaining straps (8) and four screws (9).
- (7) Tighten four screws (9) to 43-53 lb-ft (58-72 N•m).



4 J03103-

9-3. DRIVE SHAFT COUPLING REPLACEMENT (CONT)

(8) Position coupling (10) on vehicle with two screws (11) and nuts (12).

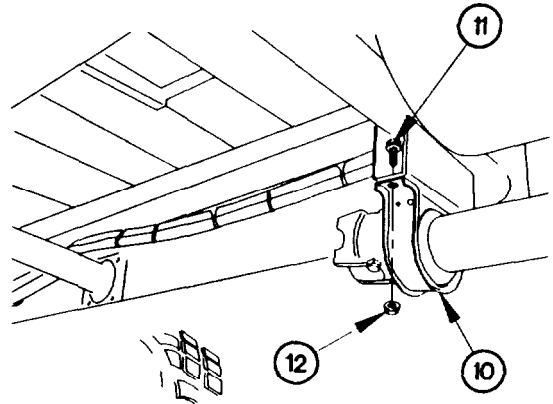
(9) Tighten two nuts (12) to 66-81 lb-ft (89-110 N•m).

c. Follow-On Maintenance.

(1) Install intermediate drive shaft (para 9-2).

(2) Lubricate propeller shaft (Appendix H).

(3) Test drive vehicle and check for unusual vibrations.



4.03104-

End of Task.

CHAPTER 10

FRONT, INTERMEDIATE, AND REAR AXLE MAINTENANCE

Section I. INTRODUCTION	10-1
10-1. INTRODUCTION	10-1
Section II. MAINTENANCE PROCEDURES	10-2
10-2. WHEEL BEARING/CENTRAL TIRE INFLATION SYSTEM (CTIS) SEAL REPLACEMENT	10-2
10-3. DIFFERENTIAL SPIDER ASSEMBLY REPLACEMENT	10-12
10-4. INTERMEDIATE AND REAR AXLE SHAFT REPLACEMENT	10-18
10-5. REAR AXLE BOGIE SERVICE	10-20

Section I. INTRODUCTION

10-1. INTRODUCTION

This chapter contains maintenance instructions for replacing front, intermediate, and rear axle components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.



Section II. MAINTENANCE PROCEDURES

10-2. WHEEL BEARING/CENTRAL TIRE INFLATION SYSTEM (CTIS) SEAL REPLACEMENT

This task covers:

- a. Removal
- b. Cleaning/Inspection
- c. Installation
- d. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Wheel removed (TM 9-2320-366-10-2).
Differential spider assembly removed (para 10-3).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Gloves, Rubber (Item 13, Appendix C)
Goggles, Industrial (Item 15, Appendix C)
Trestle, Motor Vehicle Maintenance (Item 106, Appendix C)
Jack, Hydraulic, Hand (Item 21, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
Socket, Socket Wrench (Item 72, Appendix B)
CTIS Seal Driver (Item 19, Appendix E)
Wheel Hub Grease Seal Driver (Item 20, Appendix E)

Tools and Special Tools (Cont)

Wheel Bearing Shim Tool Rest (Item 11, Appendix E)
Gage, Depth, Micrometer (Item 10, Appendix C)

Materials/Parts

Rag, Wiping (Item 50, Appendix D)
Adhesive (Item 5, Appendix D)
Tape, Duct (Item 67, Appendix D)
Solvent, Dry Cleaning (Item 65, Appendix D)
Grease, Automotive and Artillery (GAA) (Item 22, Appendix D)
Seal Assembly, CTIS (2) (Item 266, Appendix G)
Seal Assembly, Hub (Item 267, Appendix G)

Personnel Required

(2)

a. Removal.

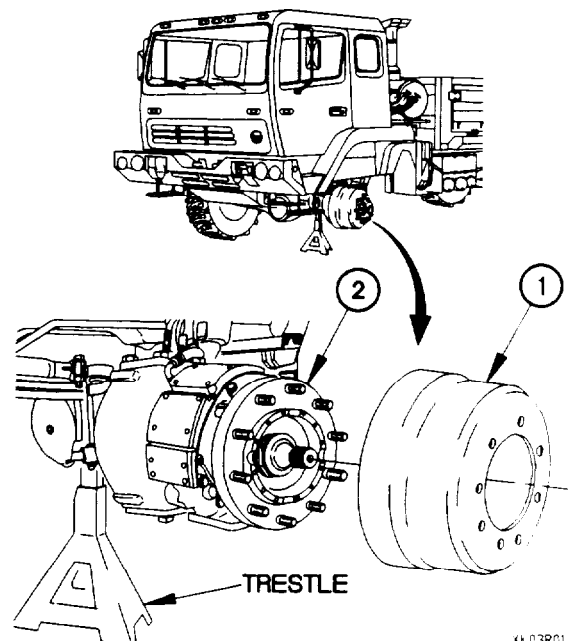
WARNING

Wheel drum weighs approximately 90 lbs (41 Kgs). Use the aid of an assistant to help remove wheel drum. Failure to comply may result in injury to personnel.

NOTE

Front, intermediate, and rear axle wheel bearings and CTIS seals are removed the same way. Left front axle shown.

- (1) Remove wheel drum (1) from wheel end hub (2).

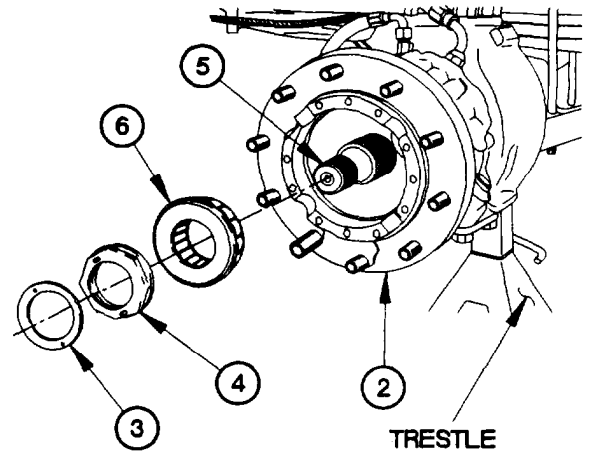


48 03901

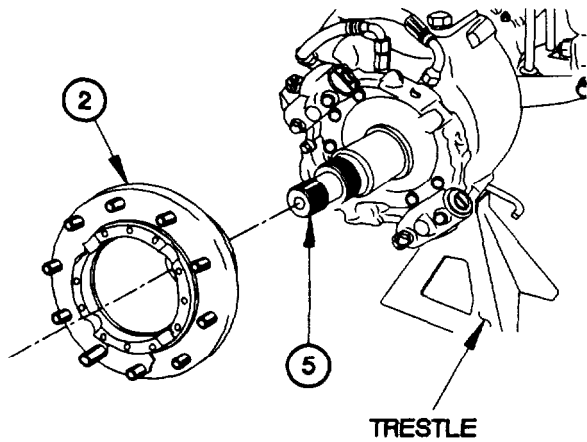
NOTE

Number of shims may vary on each wheel end.

- (2) Remove shim(s) (3) and wheel bearing nut (4) from spindle (5).
- (3) Remove outer wheel bearing cone (6) from wheel end hub (2).



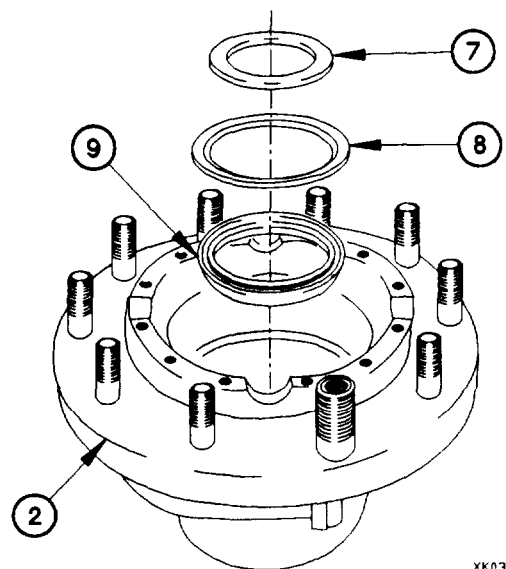
XK03R02-



XK03R03-

- (4) Remove wheel end hub (2) from spindle (5).

- (5) Remove CTIS seal retaining ring (7) from wheel end hub (2).
- (6) Remove CTIS seal guide (8) and CTIS seal (9) from wheel end hub (2). Discard CTIS seal.

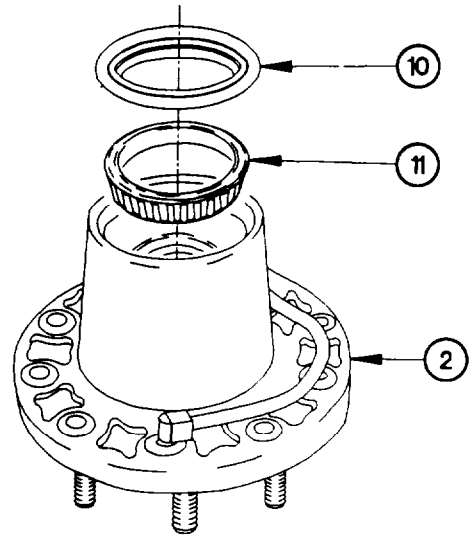


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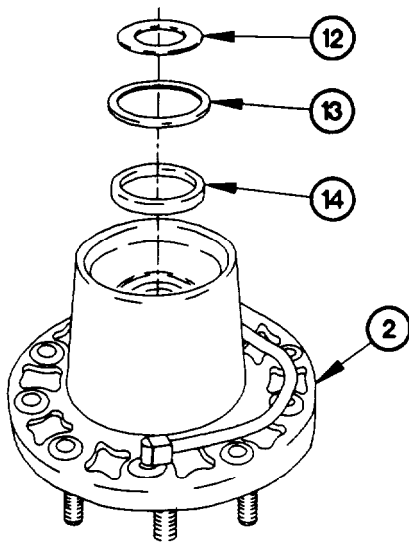
10-2. WHEEL BEARING/CENTRAL TIRE INFLATION SYSTEM (CTIS) SEAL REPLACEMENT (CONT)

(7) Remove hub seal (10) from wheel end hub (2). Discard hub seal.

(8) Remove inner wheel bearing cone (11) from wheel end hub (2).



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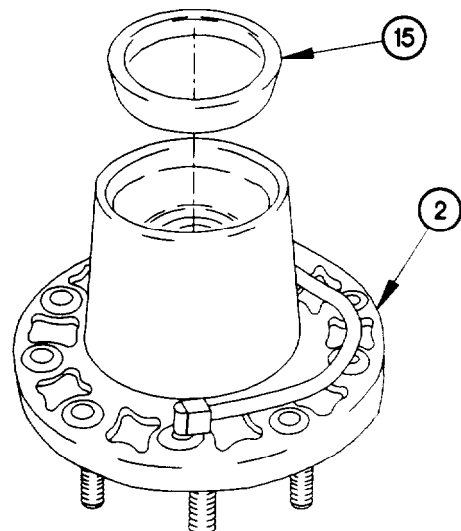


XX03R06-

(9) Remove CTIS seal retaining ring (12) from wheel end hub (2).

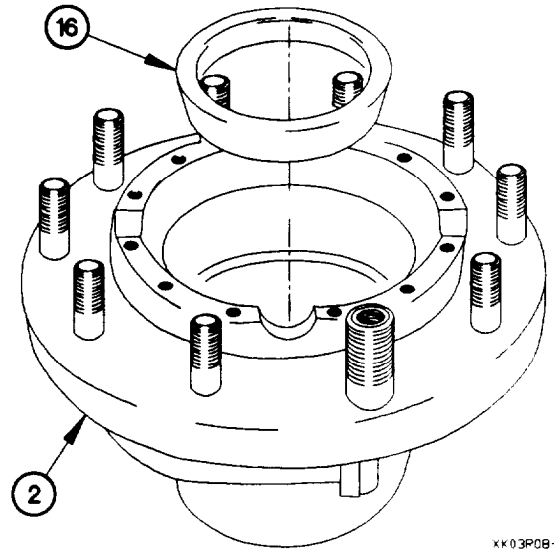
(10) Remove CTIS seal guide (13) and CTIS seal (14) from wheel end hub (2). Discard CTIS seal.

(11) Remove cup (15) from wheel end hub (2).



XX03R07-

(12) Remove cup (16) from wheel end hub (2).

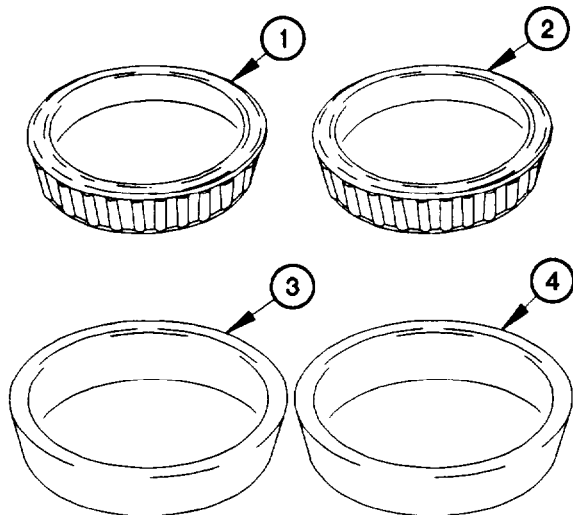


XK03P08-

b. Cleaning/Inspection.

WARNING

- Dry cleaning solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes, and do not breathe vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint for Type I Dry Cleaning Solvent is 100°F (38°C) and for Type II is 130°F (50°C). Failure to comply may result in serious injury or death to personnel.
- If personnel become dizzy while using Dry Cleaning Solvent, immediately get fresh air and medical help. If Dry Cleaning Solvent contacts skin or clothes, flush with cold water. If Dry Cleaning Solvent contacts eyes, immediately flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.



XK03N01A

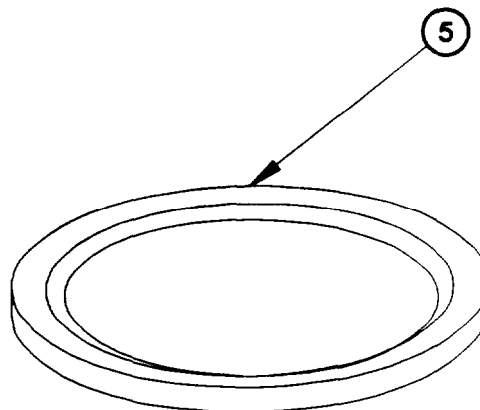
NOTE

Thoroughly clean all metal parts with dry cleaning solvent and dry with wiping rag prior to inspection.

Inspect inner wheel bearing cone (1), outer wheel bearing cone (2), cup (3), and cup (4) for scoring, pitting, corrosion, and excessive wear. Replace both wheel bearing cones and cups if either fails visual inspection.

10-2. WHEEL BEARING/CENTRAL TIRE INFLATION SYSTEM (CTIS) SEAL REPLACEMENT (CONT)

(2) Inspect two CTIS seal guides (5) for nicks or cracks.



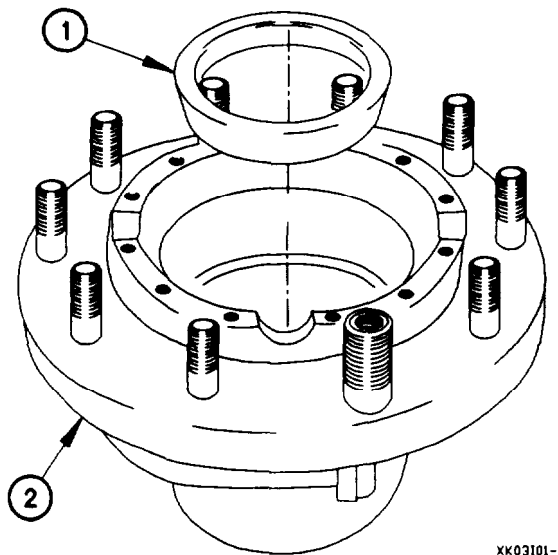
XK03N02A

NOTE

Front, intermediate, and rear axle wheel bearings and CTIS seals are installed the same way. Left front axle shown.

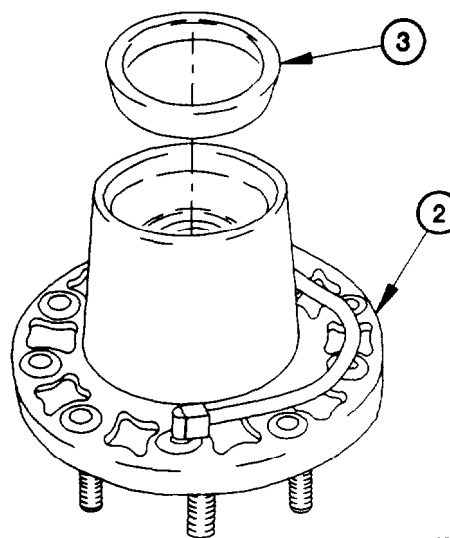
(1) Install cup (1) in wheel end hub (2).

c. Installation.



XK03101-

(2) Install cup (3) in wheel end hub (2).

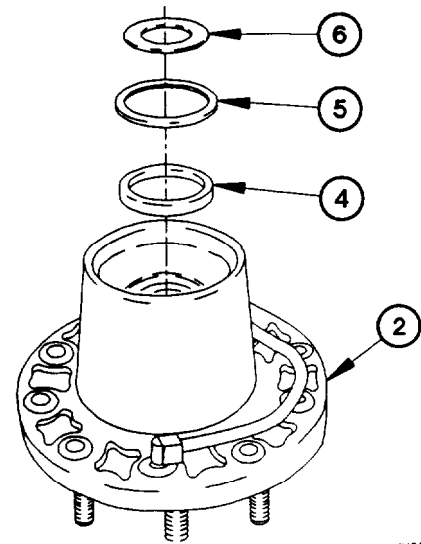


XK.03102

NOTE

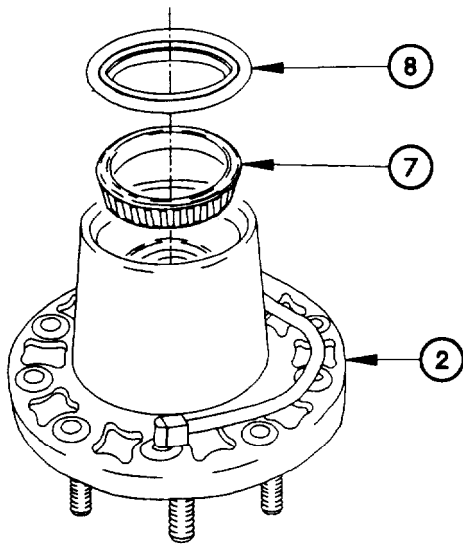
Install CTIS seal guide bevel side up.

- (3) Install CTIS seal (4) and CTIS seal guide (5) in wheel end hub (2).
- (4) Install CTIS seal retaining ring (6) in wheel end hub (2).



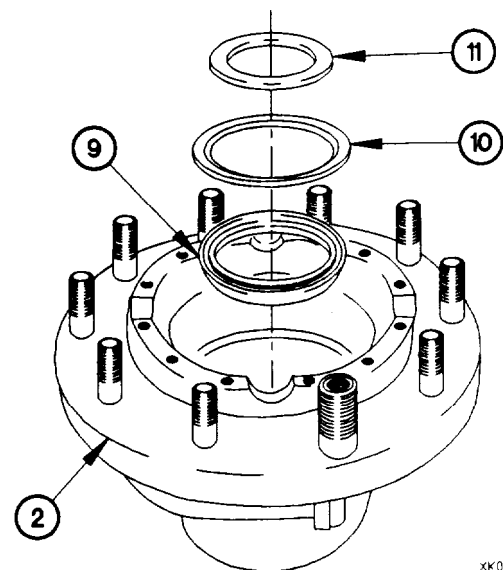
xx03103-

- (5) Pack inner wheel bearing cone (7) with grease.
- (6) Install inner wheel bearing cone (7) in wheel end hub (2).
- (7) Install hub seal (8) in wheel end hub (2).



xx03104-

- (8) Install CTIS seal (9) and CTIS seal guide (10) in wheel end hub (2).
- (9) Install CTIS seal retaining ring (11) in wheel end hub (2).



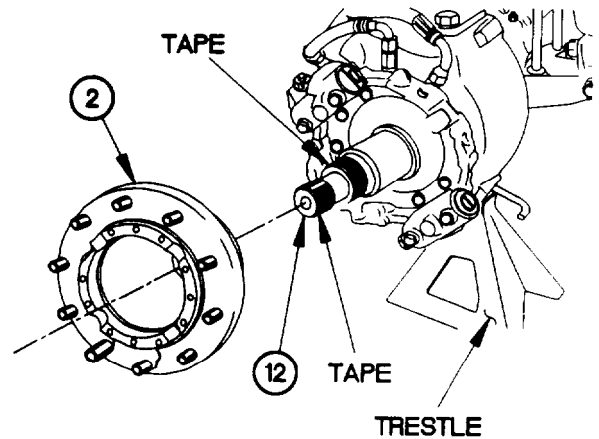
xx03105A

10-2. WHEEL BEARING/CENTRAL TIRE INFLATION SYSTEM (CTIS) SEAL REPLACEMENT (CONT)

- (10) Apply two wraps of duct tape on splined and threaded portions of spindle (12).

CAUTION

Use care when installing wheel end hub assembly on spindle. Failure to comply may damage CTIS seal and cause early failure of CTIS seals.



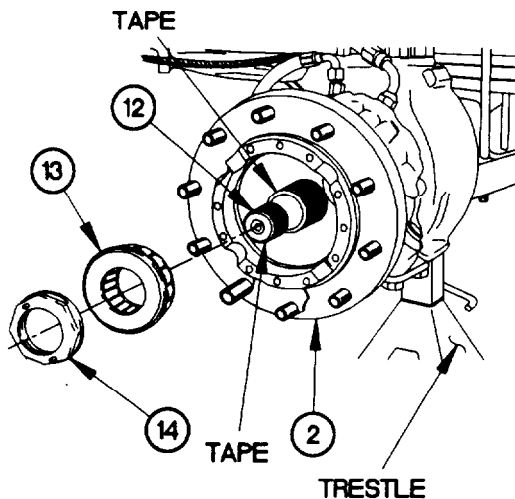
- (11) Install wheel end hub (2) on spindle (12).

xx03106-

- (12) Remove duct tape from spindle (12).
- (13) Install outer wheel bearing cone (13) in wheel end hub (2).
- (14) Position wheel bearing nut (14) on spindle (12).

CAUTION

Rotate wheel end hub to the left and to the right while tightening wheel bearing nut. Failure to comply may result in damage to equipment.



xx03107-

- (15) Tighten wheel bearing nut (14) to 50 lb-ft (68 N•m).
- (16) Loosen wheel bearing nut (14) one quarter turn (90-degrees).

CAUTION

Do not tighten wheel bearing nut more than 10-20 lb-ft (14-27 N•m). Failure to comply may result in damage to equipment.

- (17) Tighten wheel bearing nut (14) to 10-20 lb-ft (14-27 N•m).

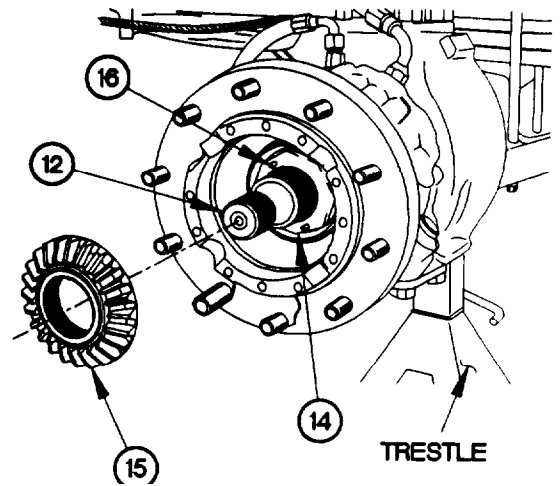
(18) Install inner bevel side gear (15) on spindle (12).

CAUTION

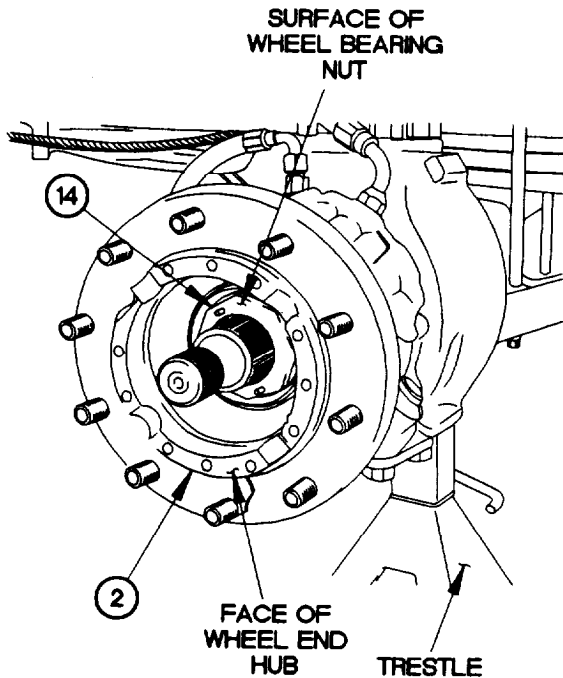
If alignment pins on wheel bearing nut do not line up with alignment holes on inner bevel side gear, loosen wheel bearing nut until pins and holes are aligned. Do not loosen wheel bearing nut more than one spline tooth. Failure to comply will result in damage to equipment.

(19) Align pins (16) on wheel bearing nut (14) with alignment holes in inner bevel side gear (15).

(20) Remove inner bevel side gear (15) from spindle (12).



XK03108-



XK03109A

NOTE

Record measurement taken in step (21).

(21) Measure depth from surface of wheel bearing nut (14) to face of wheel end hub (2).

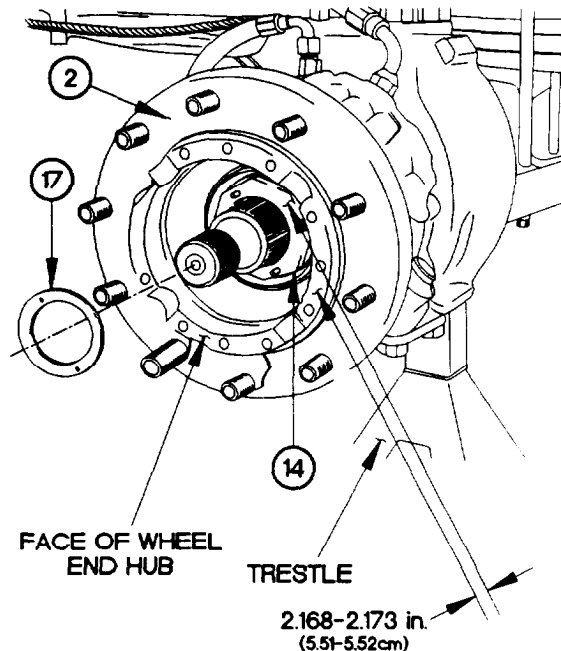
10-2. WHEEL BEARING/CENTRAL TIRE INFLATION SYSTEM (CTIS) SEAL REPLACEMENT (CONT)

- (22) Install wheel end shim(s) (17) on wheel bearing nut (14).

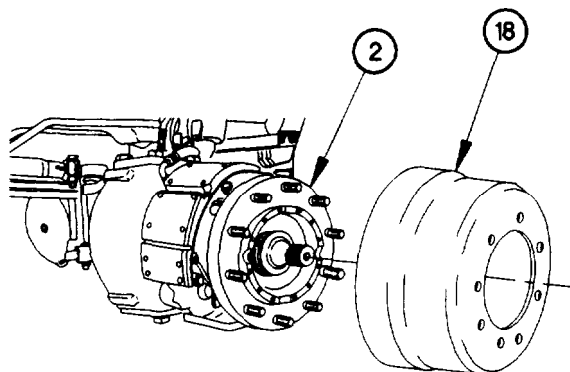
CAUTION

Measurement from surface of shims to face of wheel end hub must be 2.168-2.173 in. (5.51-5.52 cm). Failure to comply may result in damage to equipment.

- (23) Measure distance from surface of shim(s) (17) to face of wheel end hub (2).
- (24) Add or remove shim(s) (17) as required to obtain measurement of 2.168-2.173 in. (5.51-5.52 cm).



✖ 031101



xk03111-

WARNING

Wheel drum weighs approximately 90 lbs (41 kgs). Use the aid of an assistant to help install wheel drum. Failure to comply may result in injury to personnel.

- (25) Install wheel drum (18) on wheel end hub (2).

d. Follow-On Maintenance.

- (1) Install differential spider assembly (para 10-3).
- (2) Install wheel (TM 9-2320-366-10-2).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Road test vehicle and check for proper steering operation and excessive wheel end vibration.
- (5) Shut down engine (TM 9-2320-366-10-1).
- (6) Check for oil leaks around wheel end assembly.

End of Task.

10-3. DIFFERENTIAL SPIDER ASSEMBLY REPLACEMENT

This task covers:

- | | |
|------------------------|--------------------------|
| a. Removal | c. Installation |
| b. Cleaning/Inspection | d. Follow-On Maintenance |

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Hub assembly drained (Appendix H).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
Goggles, Industrial (Item 15, Appendix C)
Gloves, Rubber (Item 13, Appendix C)

Materials/Parts

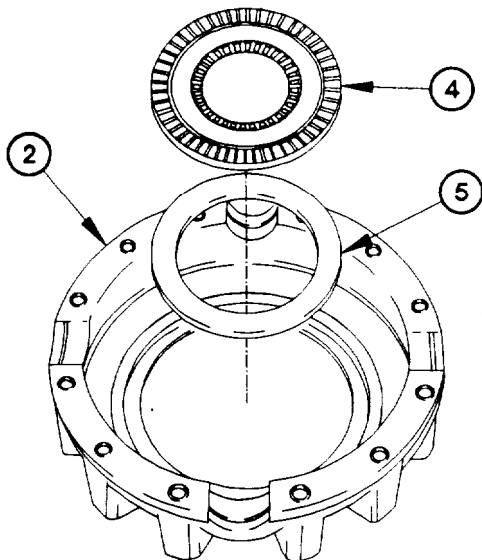
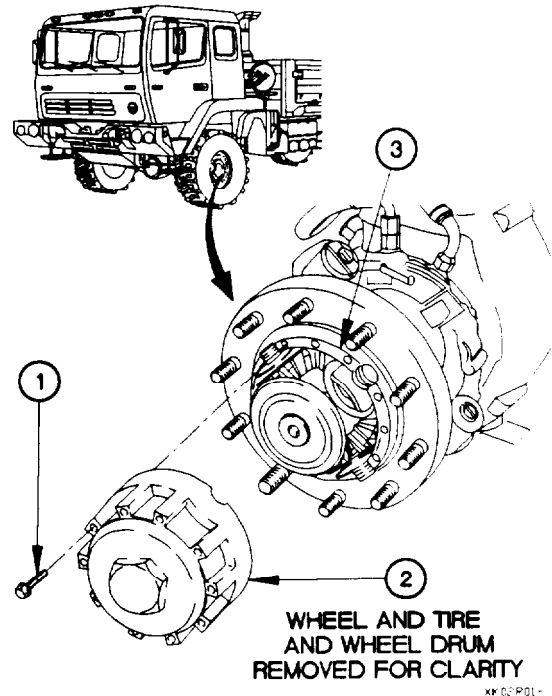
Rag, Wiping (Item 50, Appendix D)
Sealing Compound (Item 57, Appendix D)
Solvent, Dry Cleaning (Item 65, Appendix D)
Grease, Automotive and Artillery (GAA) (Item 22, Appendix D)
Packing, Preformed (4) (Item 208, Appendix G)

a. Removal.

NOTE

Front, intermediate, and rear axle differential spider assemblies are removed the same way. Left front axle differential spider assembly shown.

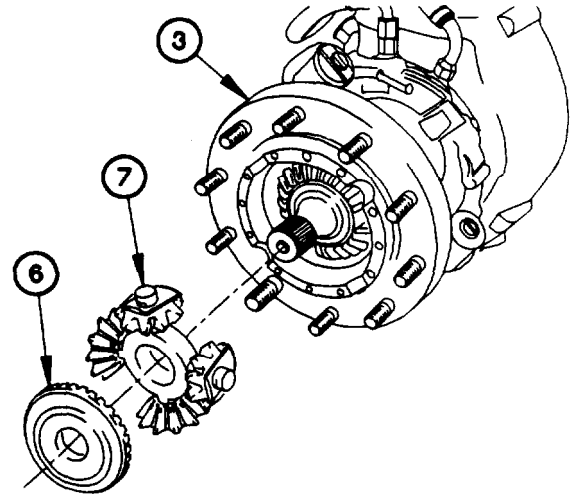
- (1) Remove 12 screws (1) from bevel gear hub cover (2).
- (2) Remove bevel gear hub cover (2) from wheel end hub assembly (3).



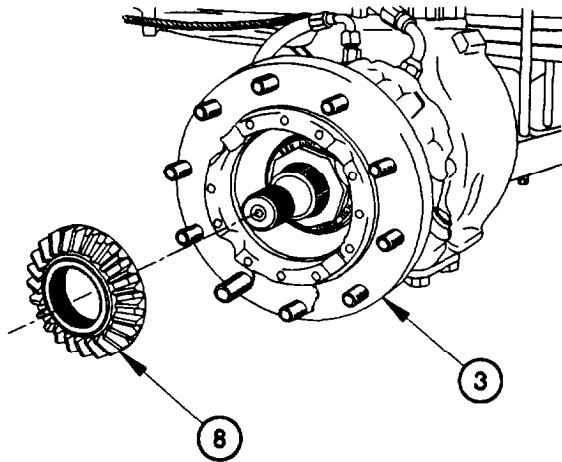
XX02R02-

- (3) Remove thrust bearing (4) and thrust washer (5) from bevel gear hub cover (2).

- (4) Remove outer bevel side gear (6) from wheel end hub assembly (3).
- (5) Remove differential spider assembly (7) from wheel end hub assembly (3).



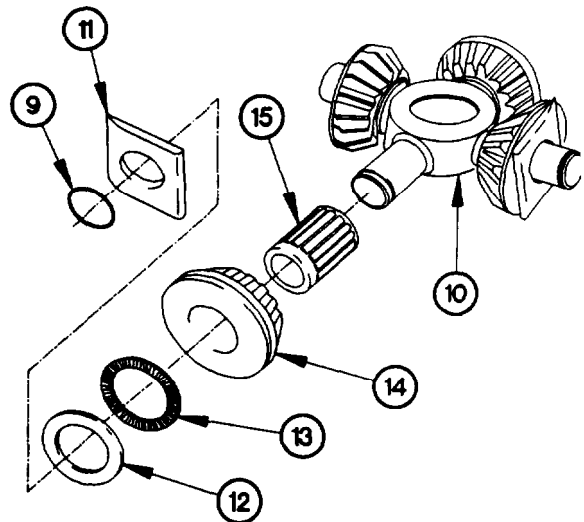
XX02R03-



- (6) Remove inner bevel side gear (8) from wheel end hub assembly (3).

XX02R04-

- (7) Remove four preformed packings (9) from differential spider (10). Discard preformed packings.
- (8) Remove four outer thrust washers (11), inner thrust washers (12), thrust bearings (13), differential pinion gears (14), and pinion gear bearings (15) from differential spider (10).



XX02R05-

10-3. DIFFERENTIAL SPIDER ASSEMBLY REPLACEMENT (CONT)

b. Cleaning/Inspection.

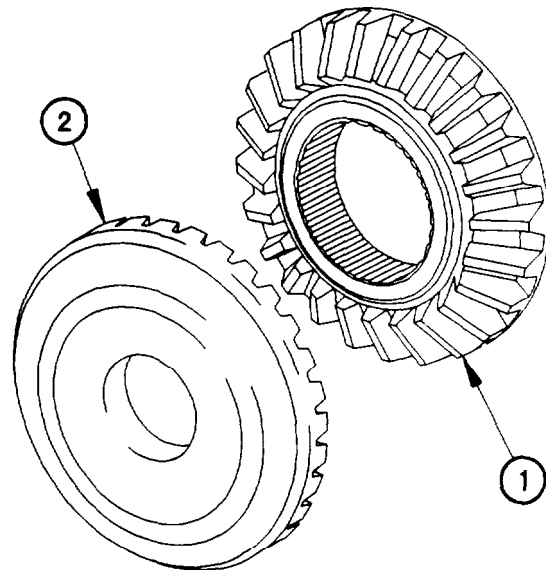
WARNING

- Dry cleaning solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes, and do not breathe vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint for Type I dry cleaning solvent is 100 degrees F (38 degrees C) and for Type II is 130 degrees F (50 degrees C). Failure to comply may result in serious injury or death to personnel.
- If personnel become dizzy while using Dry Cleaning Solvent, immediately get fresh air and medical help. If Dry Cleaning Solvent contacts skin or clothes, flush with cold water. If solvent contacts eyes, immediately flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.
- 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). Failure to comply may result in injury to personnel.

NOTE

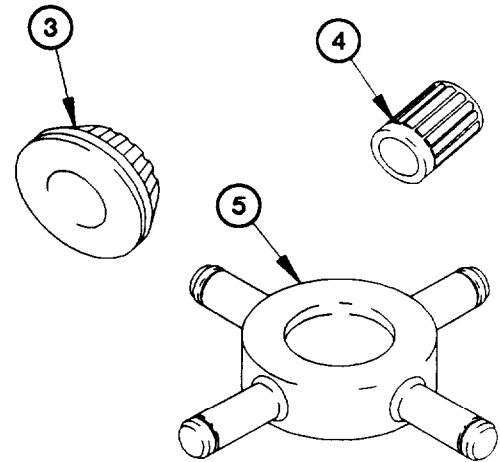
Thoroughly clean all metal parts with dry cleaning solvent and dry using compressed air prior to inspection.

- (1) Inspect inner bevel side gear (1) and outer bevel side gear (2) for cracked or broken gear teeth, scoring, pitting, and corrosion. Replace inner and/or outer bevel side gear that fail inspection.



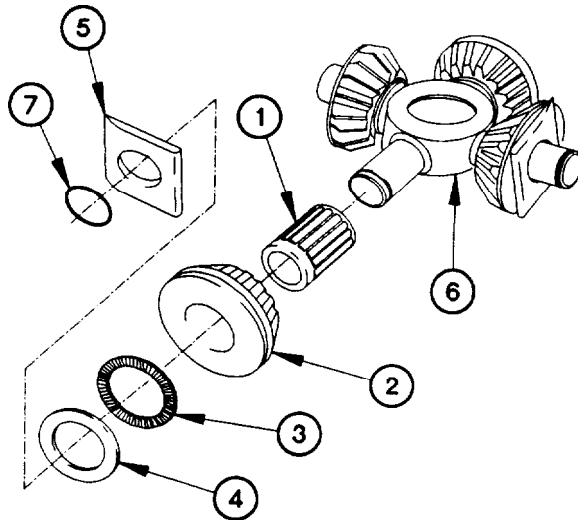
xk02N01-

- (2) Inspect differential pinion gears (3) for cracked or broken gear teeth, scoring, pitting, and corrosion. Replace differential pinion gear(s) that fail inspection.
- (3) Inspect pinion gear bearings (4) for scoring, pitting, and corrosion. Replace radial pinion gear bearing(s) that fail inspection.
- (4) Inspect differential spider (5) for cracks, scoring, pitting, and corrosion. Replace differential spider that fail inspection.



XX 02N02-

c. Installation.



XX 02101-

NOTE

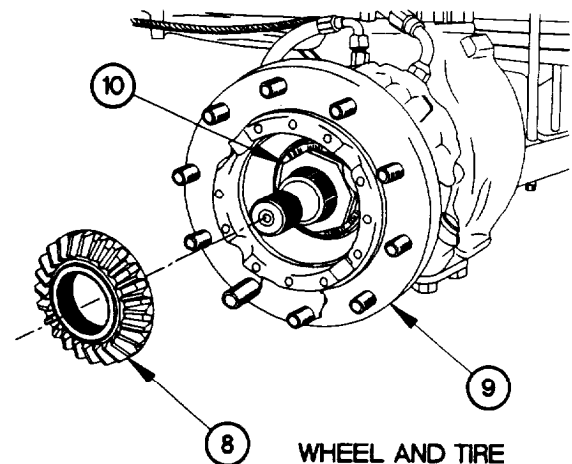
Front, intermediate, and rear axle differential spider assemblies are installed the same way. Left front axle differential spider assembly shown.

- (1) Install four pinion gear bearings (1), differential pinion gears (2), thrust bearings (3), inner thrust washers (4), and outer thrust washers (5) on differential spider (6).
- (2) Install four preformed packings (7) on differential spider (6).

NOTE

If pins in self-locking nut do not line up with holes in inner bevel side gear, adjust self-locking nut accordingly.

- (3) Install inner bevel side gear (8) in wheel end hub assembly (9) with holes in inner bevel side gear aligned with pins in self-locking nut (10).

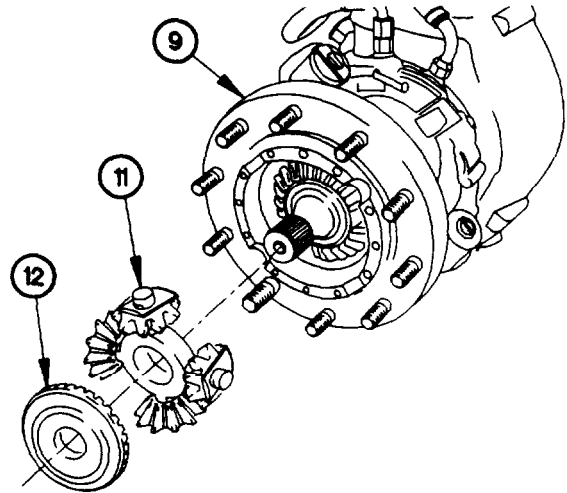


**WHEEL AND TIRE
AND WHEEL DRUM
REMOVED FOR CLARITY**

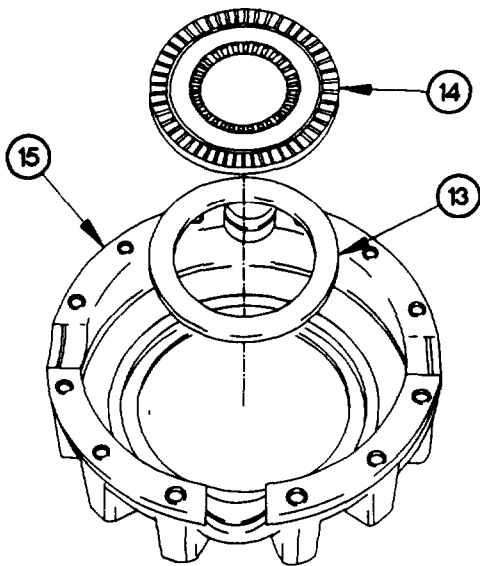
XX 02102-

10-3. DIFFERENTIAL SPIDER ASSEMBLY REPLACEMENT (CONT)

- (4) Install differential spider assembly (11) in wheel end hub assembly (9).
- (5) Install outer bevel side gear (12) in wheel end hub assembly (9).



xx02103-



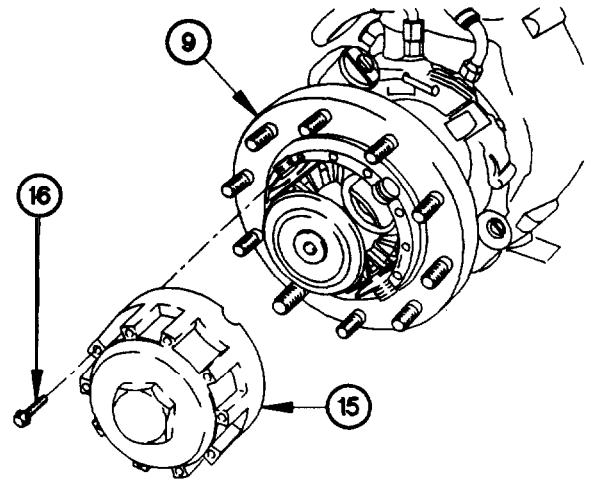
xx02104-

- (6) Apply a small amount of grease to side gear thrust washer (13) and side gear thrust bearing (14) to hold them in bevel gear hub cover (15) during installation.
- (7) Install side gear thrust washer (13) and side gear thrust bearing (14) in bevel gear hub cover (15).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (8) Apply a small bead of sealing compound to mating surface of bevel gear hub cover (15).
- (9) Install bevel gear hub cover (15) on wheel end hub assembly (9).
- (10) Position 12 screws (16) in bevel gear hub cover (15).
- (11) Tighten 12 screws (16) to 35-50 lb-ft (47-68 N•m).



XK02105-

d. Follow-On Maintenance.

- (1) Fill hub assembly (Appendix H).
- (2) Start engine (TM 9-2320-366-10-1).
- (3) Test operate vehicle and check for unusual noise or vibration from planetary drive assembly.
- (4) Shut down engine (TM 9-2320-366-10-1).
- (5) Check for oil leaks around bevel gear hub cover.

End of Task.

10-4. INTERMEDIATE AND REAR AXLE SHAFT REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Materials/Parts

Screw (MS35307-64 or equivalent)

Tools and Special Tools

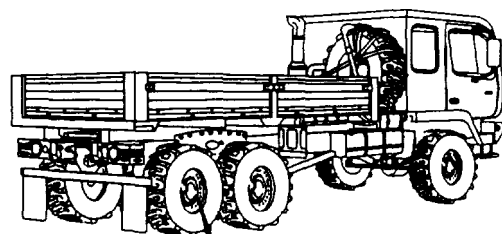
Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Adjustable (Item 112, Appendix C)

a. Removal.

NOTE

Left and right intermediate and rear axle shafts are removed the same way. Right rear axle shaft shown.

- (1) Remove grease cap (1) from wheel hub assembly (2).
- (2) Install screw in axle shaft (3).
- (3) Remove axle shaft (3) from wheel hub assembly (2).

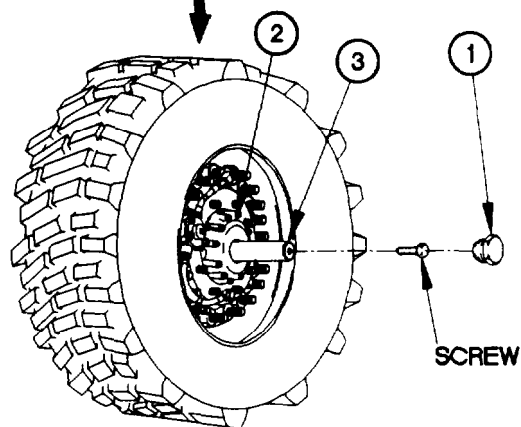


b. Installation.

NOTE

Perform step (1) only if axle shaft is not being replaced.

- (1) Remove screw from axle shaft (3).
- (2) Align splines of axle shaft (3) with gears in differential carrier.
- (3) Install axle shaft (3) in wheel hub assembly (2).
- (4) Install grease cap (1) on wheel hub assembly (2).



4x04P01-

c. Follow-On Maintenance.

- (1) Add oil to differential carrier (Appendix H).
- (2) Add oil to wheel hub assembly (Appendix H).
- (3) Stan engine (TM 9-2320-366-10-1).
- (4) Road test vehicle and check for unusual noise or vibration from axles.
- (5) Shut down engine (TM 9-2320-366-10-1).
- (6) Check around grease cap for oil leaks.

End of Task.

10-5. REAR AXLE BOGIE SERVICE

This task covers:

- a. Draining
- b. Filling
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
 Pan, Drain (Item 24, Appendix C)
 Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

Sealing, Compound (Item 57, Appendix D)
 Oil, Lubricating, Gear, GO 75W (Item 39, Appendix D)
 Sealing Compound (Item 55, Appendix D)



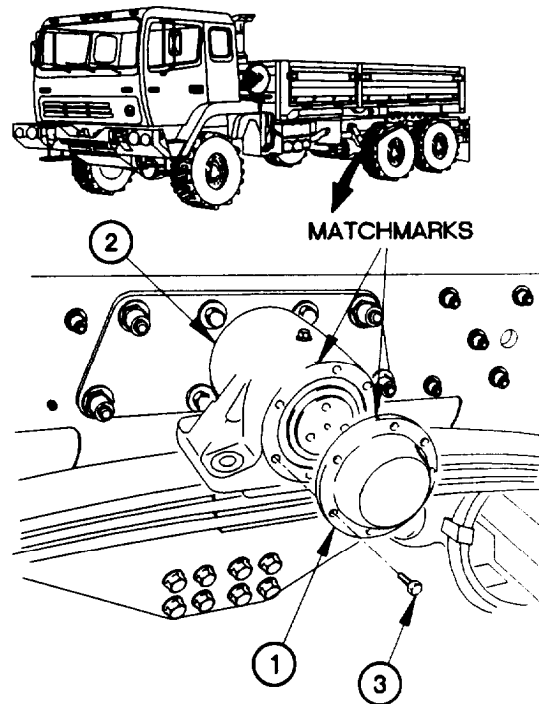
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Draining.

NOTE

Left and right bogie covers are removed the same way. Left cover shown.

- (1) Match mark cover (1) to bogie housing (2).
- (2) Place drain pan under bogie housing (2).
- (3) Remove six screws (3) and cover (1) from bogie housing (2).



4K05R01A

b. Filling.

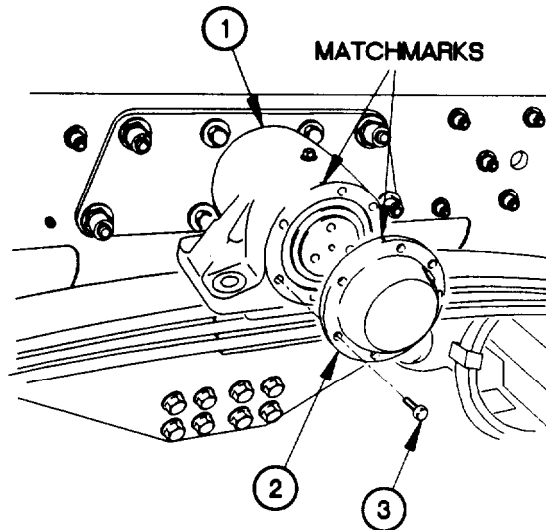
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

NOTE

Left and right bogie covers are installed the same way. Left cover shown.

- (1) Apply light bead of sealing compound to seating surface of bogie housing (1).
- (2) Install cover (2) on bogie housing (1) with matchmarks aligned.
- (3) Position six screws (3) in cover (2).
- (4) Tighten six screws (3) to 24 lb-ft (33 N•m).

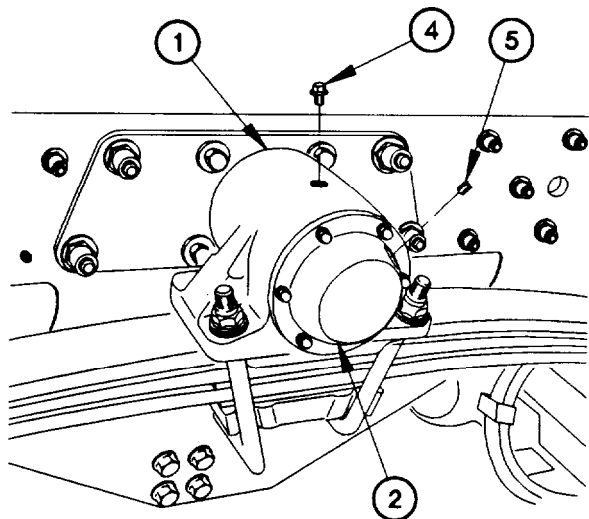


4K05101A

- (5) Remove plugs (4 and 5) from bogie housing (1) and cover (2).
- (6) Fill bogie housing (1) with lubricating gear oil (Appendix H).

WARNING

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



4K05102-

- (7) Apply sealing compound to threads of plugs (4 and 5).
- (8) Install plugs (4 and 5) in bogie housing (1) and cover (2).

10-5. REAR AXLE BOGIE SERVICE (CONT)

c. Follow-On Maintenance.

- (1) Operate vehicle (TM 9-2320-366-10-1).
- (2) Check rear axle bogie for oil leaks.

End of Task.

CHAPTER 11 BRAKE SYSTEM MAINTENANCE

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Section I. INTRODUCTION

11-1. INTRODUCTION

This chapter contains maintenance instructions for replacing, repairing, and adjusting brake system components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.

Section II. MAINTENANCE PROCEDURES

11-2. FRONT BRAKE SHOES REPLACEMENT/ADJUSTMENT

This task covers:

- | | |
|--|---|
| <ul style="list-style-type: none"> a. Removal b. Inspection c. Installation | <ul style="list-style-type: none"> d. Adjustment e. Follow-On Maintenance |
|--|---|

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-101).
Tire removed (TM 9-2320-366-10-2).

Tools and Special Tools (Cont)

Brake Adjusting Tool Support (Item E-2, Appendix E)

Tools and Special Tools

Trestle, Motor Vehicle Maintenance (Item 47, Appendix C)
Tool Kit, Genl Mech (Item 46, Appendix C)
Tool, Spring Removal (Item 85, Appendix B)
Respirator, Air Filter (Item 23, Appendix C)
Adjusting Tool, Brake Shoe (Item 2, Appendix C)

Materials/Parts

Rag, Wiping (Item 50, Appendix D)
Grease, Automotive and Artillery (GAA) (Item 22, Appendix D)
Lockwasher (2) (Item 107, Appendix G)

Personnel Required

(2)

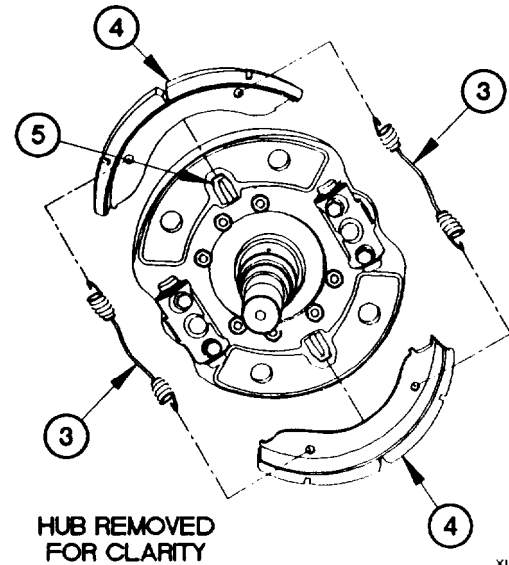
a. Removal.



- **Wheel drum weighs approximately 90 lbs (41 kg). Use the aid of an assistant to help remove wheel drum. Failure to comply may result in injury to personnel.**
- **Brake shoes may be covered with dust. Breathing this dust may be harmful to your health. Do not use compressed air to clean brake shoes. Wear a filter mask approved for use against brake dust. Failure to comply may result in injury to personnel.**

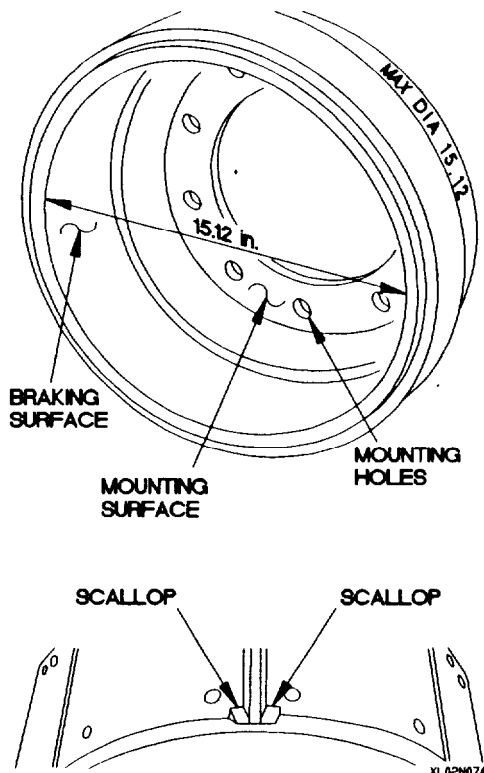
(1) Remove wheel drum (1) from wheel hub (2).

- (2) Remove two return springs (3) from brake shoes (4).
- (3) Remove two brake shoes (4) from holddown clips (5).
- (4) Perform front brake plunger assembly replacement /repair (para 11-4).



XL 02R02A

b. Inspection.



CAUTION

Replace wheel drums that fail visual inspection. Failure to comply may result in damage to equipment.

- (1) Clean wheel drums of all mud, sand, and debris.
- (2) Inspect wheel drums for the following:
 - a. Braking surface of wheel drums must be free of scoring and cracks.
 - b. Maximum inside diameter, which is stamped on wheel drum, does not exceed 15.12 in. (38.4 cm).
 - c. Wheel drum mounting holes must not be egg-shaped or have cracks around edges.
 - d. Wheel drum mounting surface must be flat.
- (3) Inspect brake shoes for presence of scallops at brake shoe lining four inner corners.

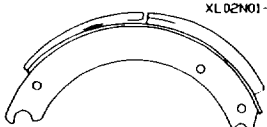

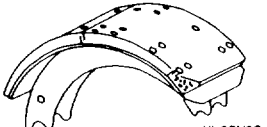

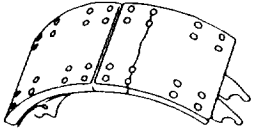
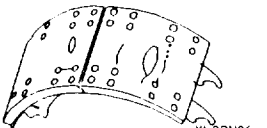
11-2. FRONT BRAKE SHOES REPLACEMENT/ADJUSTMENT (CONT)

NOTE

- Over time a ridge will form on the outer edge of the brake shoes. This is normal and does not affect brake shoe serviceability.
- It is normal for the leading edge of the front brake shoes to wear faster than the remaining area of the lining.

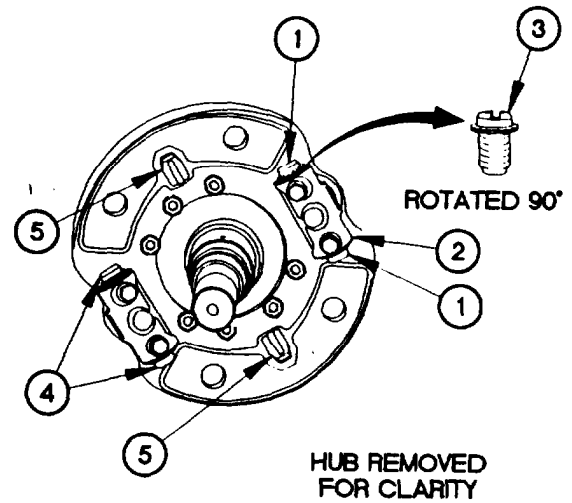
(3) Inspect brake shoes for OUT-OF-SERVICE and IN-SERVICE criteria as shown in **Figure 11-1. Front Brake Shoe Service Criteria.**

Figure 11-1. Front Brake Shoe Service Criteria

OUT-OF-SERVICE	IN-SERVICE
 <p>Cracks or voids that exceed 1/16 in. in width. Cracks that exceed 1-1/2 in. in length.</p>	 <p>Vertical or horizontal cracks in lining edge not exceeding 1/16 in. in width or not exceeding 1-1/2 in. in length.</p>
 <p>Portion of lining missing that exposes a fastening device, or worn to the point that a fastening device exposed.</p>	 <p>Corner segment missing with no fastening device (rivet or bolt) exposed.</p>
 <p>Cracks across the lining face that extend through the lining edges.</p>	 <p>Surface cracks in lining face that can extend from hole to hole. Pitting and material erosion on the lining face.</p>

c. Installation.

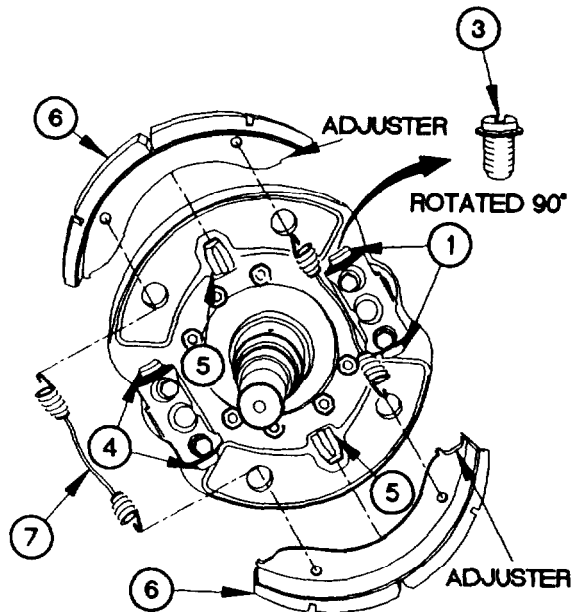
- (1) Turn two adjusting screws (1) in plunger housing (2) until they bottom.
- (2) Apply a film of grease to slots (3) in two adjusting screws (1), anchor plungers (4) and to inside of two holddown clips (5).



XL02101A

CAUTION

- Do not rely on automatic adjusters to take up excessive initial clearance. Tightening adjusting screws against plunger housings may result in failure of automatic adjusters to function properly. Failure to comply may result in damage to equipment.
- Brake shoe ends stamped ADJUSTER are positioned on adjusting screws. Failure to comply may result in damage to equipment.



XL02102A

- (3) Loosen two adjusting screws (1) 1/2 turn or until slots (3) are aligned with brake shoes (6).
- (4) Install two brake shoes (6) in holddown clips (5) with ends seated in slots in adjusting screws (1) and anchor plungers (4).
- (5) Install two return springs (7) on brake shoes (6).

11-2. FRONT BRAKE SHOES REPLACEMENT/ADJUSTMENT (CONT)

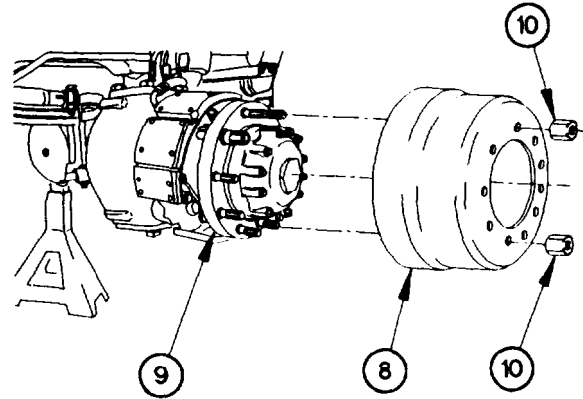
WARNING

Wheel drum weighs approximately 90 lbs (41 kg). Use the aid of an assistant to help install wheel drum. Failure to comply may result in injury to personnel.

NOTE

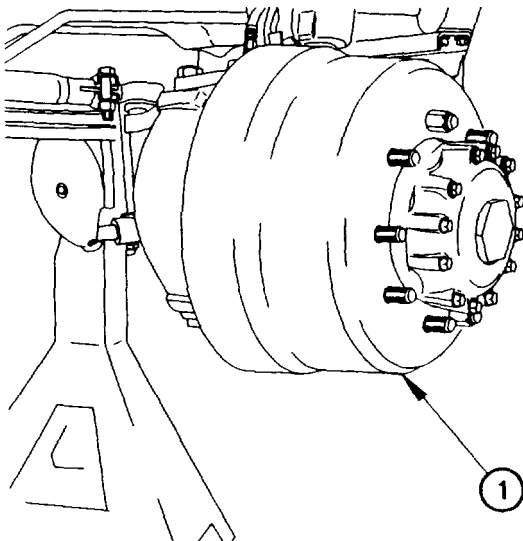
Position lug nuts 180 degrees apart and tighten until wheel drum is seated.

- (6) Position wheel drum (8) on hub (9) with two lugnuts (10).



XL02103A

d. Adjustment.



XL02J01A

WARNING

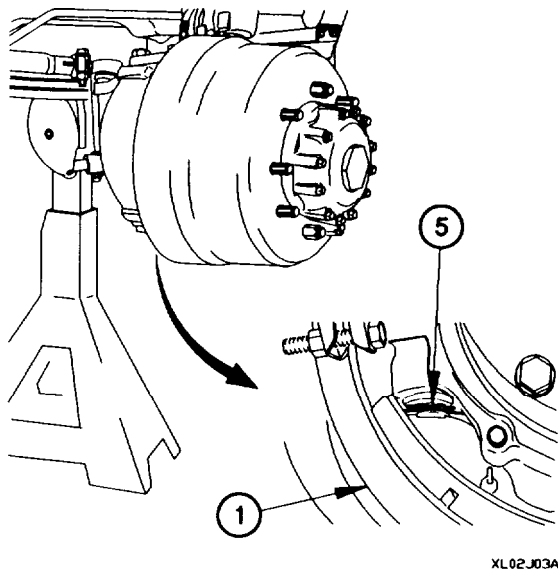
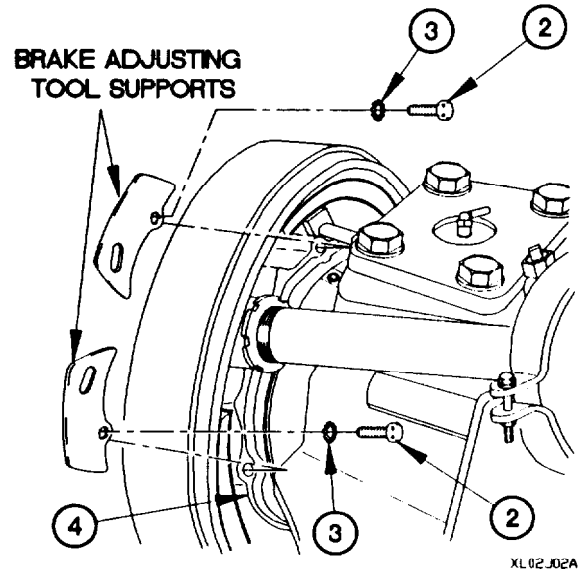
Self-adjusting brakes will not self-adjust without applying brake pedal. Failure to comply may result in injury to personnel.

NOTE

Steps (1) and (2) require the aid of an assistant.

- (1) Apply and release brake pedal.
- (2) Turn wheel drum (1) through one or more revolutions to ensure there is no binding.

- (3) Remove two screws (2) and lockwashers (3) from back of spider (4).
- (4) Install two brake adjusting tool supports on spider (4) with lockwashers (3) and screws (2).



WARNING

Self-adjusting brakes will not self-adjust without applying brake pedal. Failure to comply may result in injury to personnel.

- (5) Adjust brake adjusting screw (5) until wheel drum (1) does not turn freely or until heavy drag is noticed.
- (6) Apply and release brake pedal several times to position brake shoes.

NOTE

Step (7) requires the aid of an assistant.

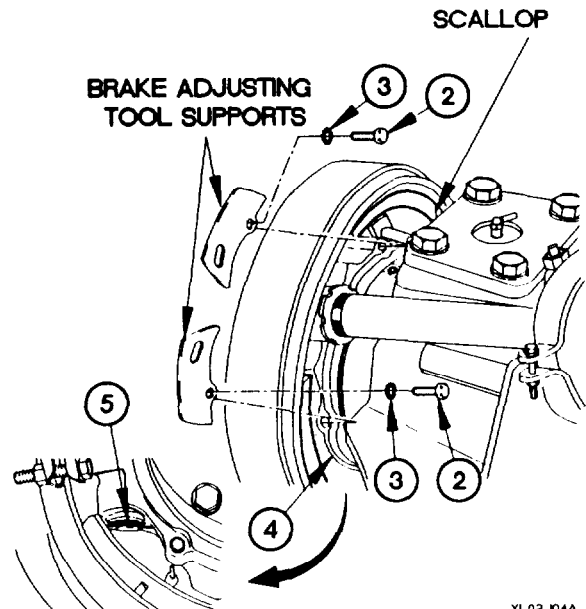
- (7) Readjust brake adjusting screw (5) while turning wheel drum (1) until heavy drag is noticed.

11-2. FRONT BRAKE SHOES REPLACEMENT/ADJUSTMENT (CONT)

CAUTION

- Wheel drum clearance must be checked along centerline of brake shoe at scallop. Failure to comply may result in damage to equipment.
- Record the number of clicks as adjusting screw is loosened. All adjustments on any wheel should be within six clicks of one another. If not, repeat procedure or examine for damage. Failure to comply may result in damage to equipment.

- (8) Back off brake adjusting screw (5) to obtain 0.020-0.040 in. (0.051-0.102 cm) clearance.
- (9) Repeat steps (6 through 8) for second brake adjusting screw.
- (10) Remove two screws (2), lockwashers (3), and brake adjusting tool supports from spider (4). Discard lockwashers.
- (11) Install two lockwashers (3) and screws (2) in spider (4).



e. Follow-On Maintenance.

- (1) Install tire (TM 9-2320-366-10-2).
- (2) Start engine (TM 9-2320-366-10-1).
- (3) Road test vehicle and check for proper brake operation.
- (4) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-3. REAR BRAKE SHOES REPLACEMENT/ADJUSTMENT

This task covers:

- | | |
|-----------------|--------------------------|
| a. Removal | d. Adjustment |
| b. Inspection | e. Follow-On Maintenance |
| c. Installation | |

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Tire removed (TM 9-2320-366-10-2).
- Brakes caged (para 11-6).

Tools and Special Tools

- Trestle, Motor Vehicle Maintenance (Item 47, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Tool, Spring Removal (Item 85, Appendix B)
- Respirator, Air Filter (Item 29, Appendix C)
- Adjusting Tool, Brake Shoe (Item 2, Appendix C)
- Brake Adjusting Tool Support (Item E-2, Appendix E)

Materials/Parts

- Rag, Wiping (Item 50, Appendix D)
- Grease, Automotive and Artillery (GAA) (Item 22, Appendix D)
- Lockwasher (2) (Item 107, Appendix G)

Personnel Required

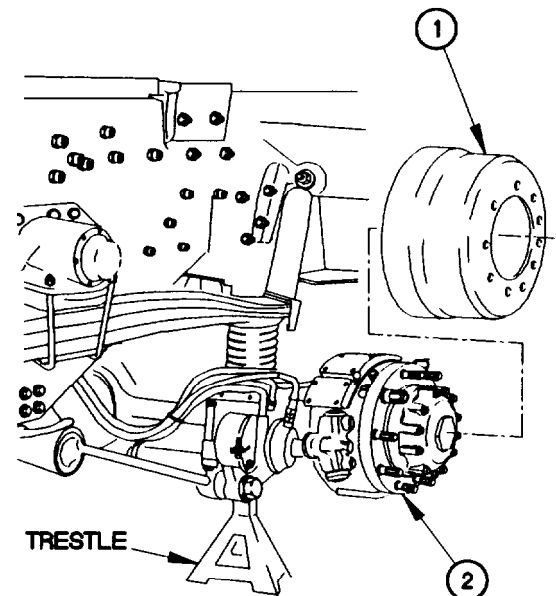
(2)

a. Removal.

WARNING

- **Wheel drum weighs approximately 90 lbs (41 kg). Use the aid of an assistant to help remove wheel drum. Failure to comply may result in injury to personnel.**
- **Brake shoes may be covered with dust. Breathing this dust may be harmful to your health. Do not use compressed air to clean brake shoes. Wear a filter mask approved for use against brake dust. Failure to comply may result in injury to personnel.**

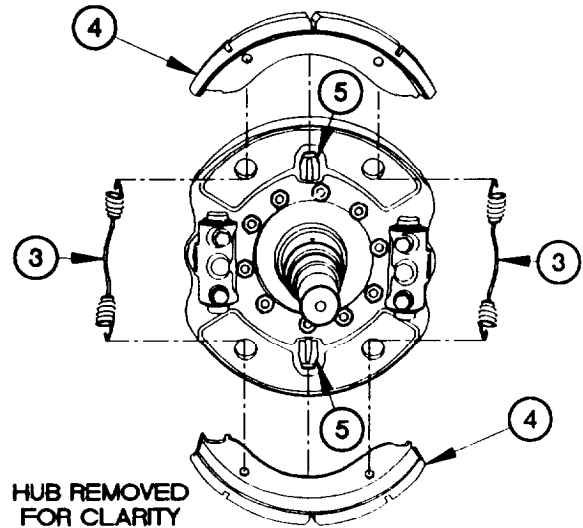
(1) Remove wheel drum (1) from wheel hub (2).



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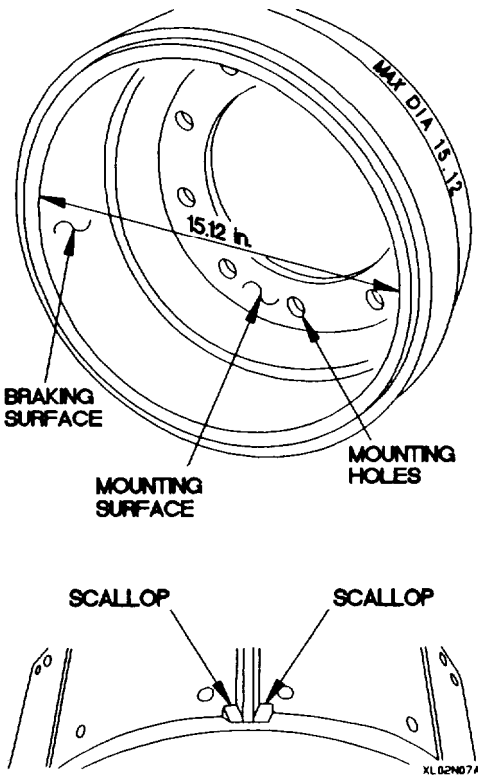
11-3. REAR BRAKE SHOES REPLACEMENT/ADJUSTMENT (CONT)

- (2) Remove two return springs (3) from brake shoes (4).
- (3) Remove brake shoes (4) from holddown clips (5).
- (4) Perform rear brake plunger assembly replacement/repair (para 11-5).



XL 03R02A

b. Inspection.



XL 02ND7A

WARNING

Replace wheel drums that fail visual inspection. Failure to comply may result in damage to equipment.


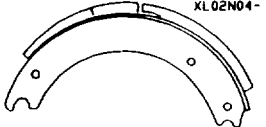
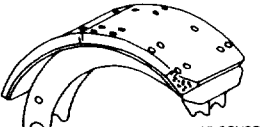
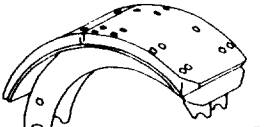
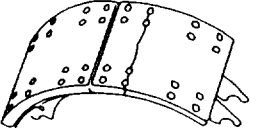
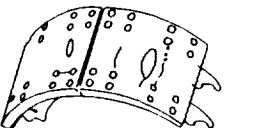
- (1) Clean wheel drums of all mud, sand, and debris.
- (2) Inspect wheel drums for the following:
 - a. Braking surface of wheel drums must be free of scoring and cracks.
 - b. Maximum inside diameter, which is stamped on wheel drum, does not exceed 15.12 in. (38.4 cm).
 - c. Wheel drum mounting holes must not be egg-shaped or have cracks around edges.
 - d. Wheel drum mounting surface must be flat.
- (3) Inspect brake shoes for presence of scallops at brake shoe lining four inner corners.

NOTE

Over time a ridge will form on the outer edge of the brake shoes. This is normal and does not affect brake shoe serviceability.

(3) Inspect rear brake shoes for OUT-OF-SERVICE and IN-SERVICE criteria as shown in **Figure 11-2. Rear Brake Shoe Service Criteria.**

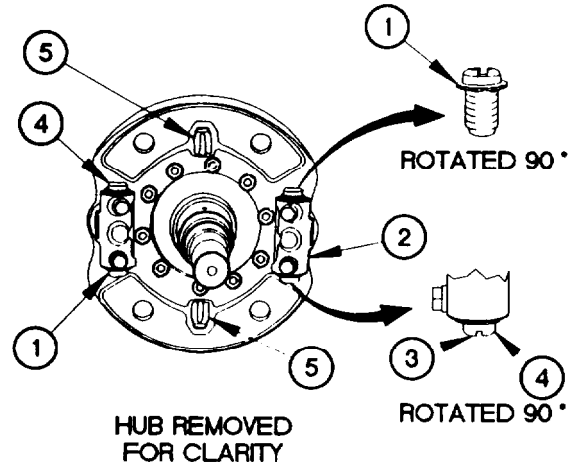
Figure 11-2. Rear Brake Shoe Service Criteria

OUT-OF-SERVICE	IN-SERVICE
 <p>Cracks or voids that exceed 1/16 in. in width. Cracks that exceed 1-1/2 in. in length.</p>	 <p>Vertical or horizontal cracks in lining edge not exceeding 1/16 in. in width or not exceeding 1-1/2 in. in length.</p>
 <p>Portion of lining missing that exposes a fastening device.</p>	 <p>Corner segment missing with no fastening device (rivet or bolt) exposed.</p>
 <p>Cracks across the lining face that extend through the lining edges.</p>	 <p>Surface cracks in lining face that can extend from hole to hole. Pitting and material erosion on the lining face.</p>

11-3. REAR BRAKE SHOES REPLACEMENT/ADJUSTMENT (CONT)

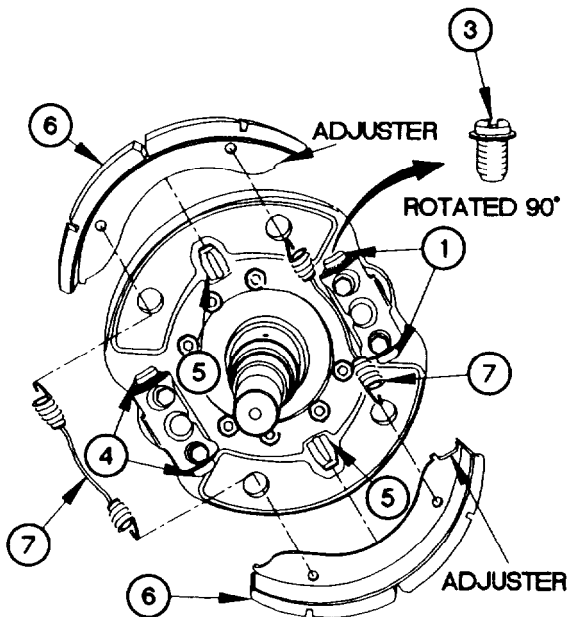
c. Installation.

- (1) Turn two adjusting screws (1) in plunger housings (2) until they bottom.
- (2) Apply a thin film of grease to slots (3) in two anchor plungers (4), adjusting screws (1), and inside of two holddown clips (5).



WARNING

- Do not rely on automatic adjusters to take up excessive initial clearance. Tightening adjusting screws against plunger housings may result in failure of automatic adjusters to function properly. Failure to comply may result in damage to equipment.
- Brake shoe ends stamped ADJUSTER are positioned on adjusting screws. Failure to comply may result in damage to equipment.



- (3) Loosen two adjusting screws (1) 1/2 turn or until slots (3) are aligned with brake shoes (6).
- (4) Install two brake shoes (6) in holddown clips (5) with ends seated in slots in adjusting screws (1) and anchor plungers (4).
- (5) Install two return springs (7) on brake shoes (6).

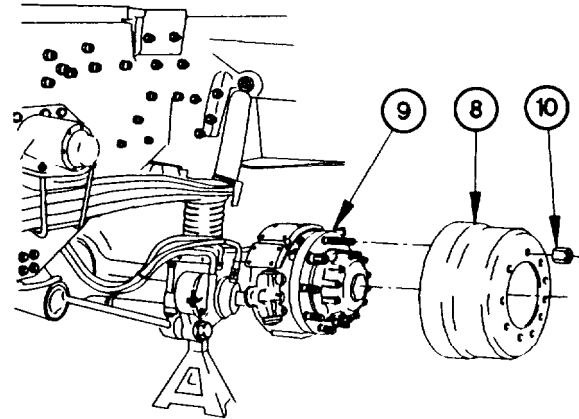
WARNING

Wheel drum weighs approximately 90 lbs (41 kg). Use the aid of an assistant to help install wheel drum. Failure to comply may result in injury to personnel.

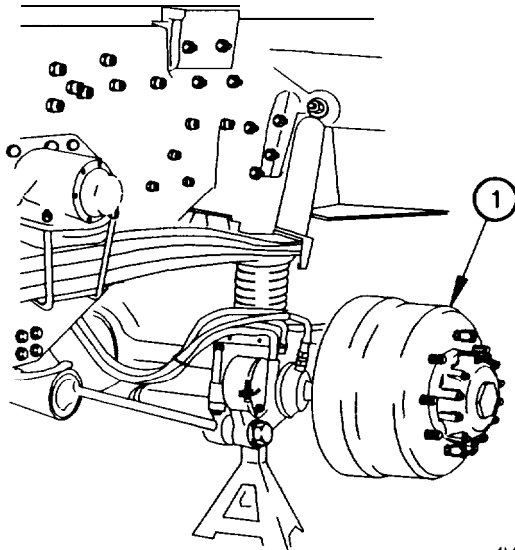
NOTE

Position lugnuts 180 degrees apart and tighten until wheel drum is seated.

- (6) Position wheel drum (8) on hub (9) with two lugnuts (10).



d. Adjustment.



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WARNING

Self-adjusting brakes will not self-adjust without applying brake pedal. Failure to comply may result in injury to personnel.

NOTE

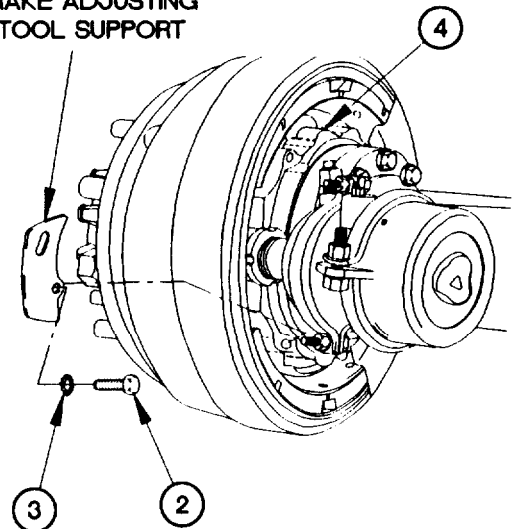
Steps (1) and (2) require the aid of an assistant.

- (1) Apply and release brake pedal.
- (2) Turn wheel drum (1) through one or more revolutions to ensure there is no binding.

- (3) Remove screw (2) and lockwasher (3) from back side of spider (4) toward rear of vehicle.

- (4) Install brake adjusting tool support on spider (4) with lockwasher (3) and screw (2).

BRAKE ADJUSTING TOOL SUPPORT



XL03J02A

11-3. REAR BRAKE SHOES REPLACEMENT/ADJUSTMENT (CONT)

WARNING

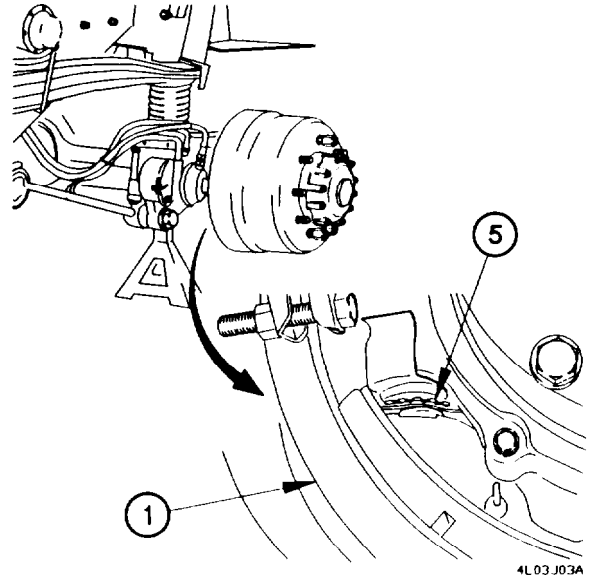
Self-adjusting brakes will not self-adjust without applying brake pedal. Failure to comply may result in injury to personnel.

- (5) Adjust brake adjusting screw (5) until wheel drum (1) does not turn freely or until heavy drag is noticed.
- (6) Uncage spring brakes (para 11-6).
- (7) Apply and release brake pedal several times to position brake shoes.

NOTE

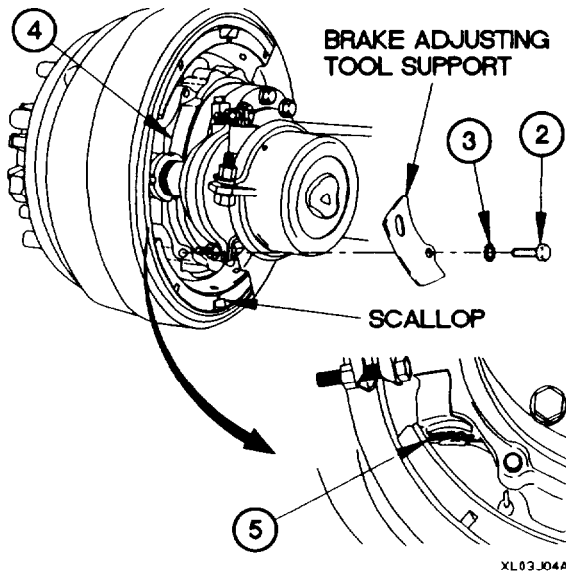
Step (8) requires the aid of an assistant.

- (8) Readjust brake adjusting screw (5) while turning wheel drum (1) until heavy drag is noticed.



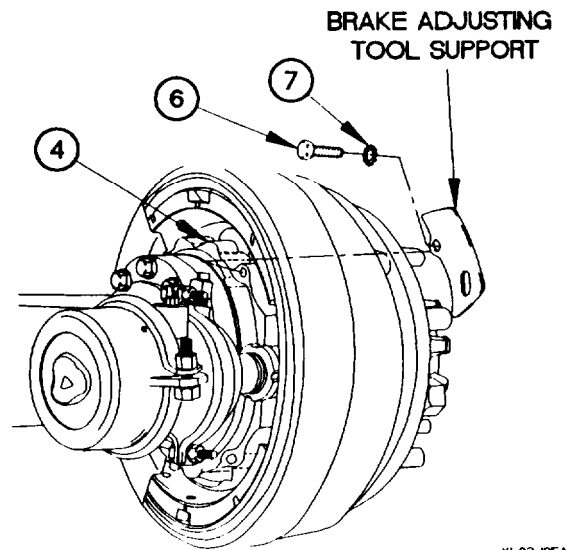
CAUTION

- Wheel drum clearance must be checked along centerline of brake shoe at scallop. Failure to comply may result in damage to equipment.
- Record the number of clicks as adjusting screw is loosened. All adjustments on any wheel should be within six clicks of one another. If not, repeat procedure or examine for damage. Failure to comply may result in damage to equipment.

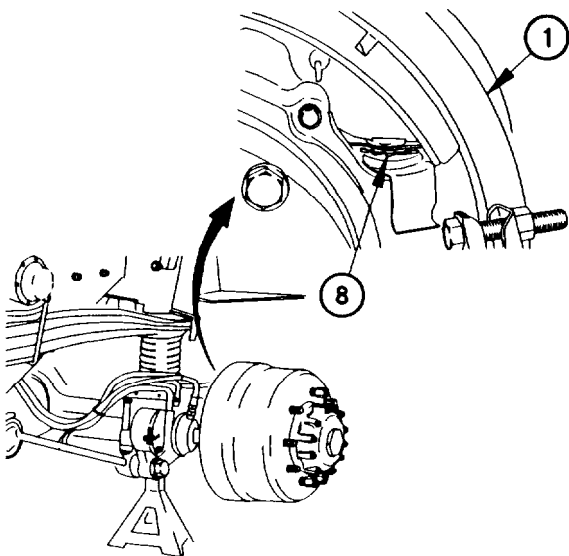


- (9) Back-off adjusting screw (5) to obtain 0.020-0.040 in. (0.051-0.102 cm) clearance between brake shoe and wheel drum.
- (10) Remove screw (2), lockwasher (3) and brake adjusting tool support from spider (4). Discard lockwasher.
- (11) Install lockwasher (3) and screw (2) in spider (4).

- (12) Remove screw (6) and lockwasher (7) from back side of spider (4) toward front of vehicle.
- (13) Install brake adjusting tool support on spider (4) with lockwasher (7) and screw (6).



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WARNING

Self-adjusting brakes will not self-adjust without applying brake pedal. Failure to comply may result in injury to personnel.

- (14) Adjust brake adjusting screw (8) until wheel drum (1) does not turn freely or until heavy drag is noticed.
- (15) Apply and release brake pedal several times to position brake shoes.

NOTE

Step (16) requires the aid of an assistant.

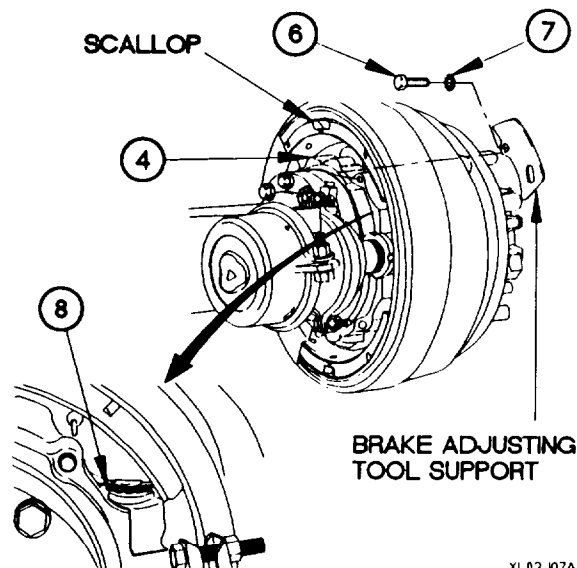
- (16) Readjust brake adjusting screw (8) while turning wheel drum (1) until heavy drag is noticed.

11-3. REAR BRAKE SHOES REPLACEMENT/ADJUSTMENT (CONT)

CAUTION

- Wheel drum clearance must be checked along centerline of brake shoe at scallop. Failure to comply may result in damage to equipment.
- All adjustments on any wheel should be within six clicks of one another. Record the number of clicks as adjusting screw is loosened. If not, repeat procedure or examine for damage. Failure to comply may result in damage to equipment.

- (17) Rack-off adjusting screw (8) to obtain 0.020-0.040 in. (0.051-0.102 cm) clearance between brake shoe and wheel drum.
- (18) Remove screw (6), lockwasher (7), and brake adjusting tool support from spider (4). Discard lockwasher.
- (19) Install lockwasher (7) and screw (6) in spider (4).



XL03.J07A

e. Follow-On Maintenance.

- (1) Install tire (TM 9-2320-366-10-2).
- (2) Start engine (TM 9-2320-366-10-1).
- (3) Road test truck and check for proper brake operation.
- (4) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-4. FRONT BRAKE PLUNGER ASSEMBLY REPLACEMENT/REPAIR

This task covers:

- | | |
|------------------------|--------------------------|
| a. Removal | d. Assembly |
| b. Disassembly | e. Installation |
| c. Cleaning/Inspection | f. Follow-On Maintenance |

INITIAL SETUP

Equipment Conditions

- Front brake shoes removed (para 11-2).
- Front brake air chamber removed (para 11-7).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Trestle, Motor Vehicle Maintenance (Item 47, Appendix C)
- Gloves, Rubber (Item 13, Appendix C)
- Brake Plunger Seal Driver (Item E-3, Appendix E)

Materials/Parts

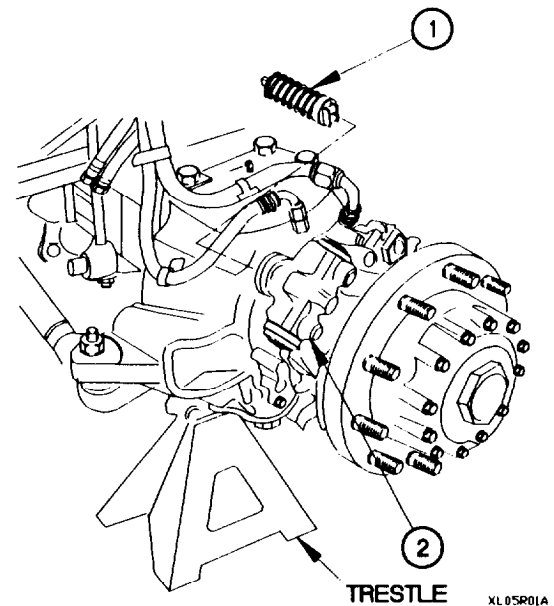
- Solvent, Dry Cleaning (Item 65, Appendix D)
- Grease, Automotive and Artillery (GAA) (Item 22, Appendix D)
- Rag, Wiping (Item 50, Appendix D)
- Lockwasher (41 (Item 118, Appendix G)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

- (1) Remove wedge assembly (1) from plunger housing (2).



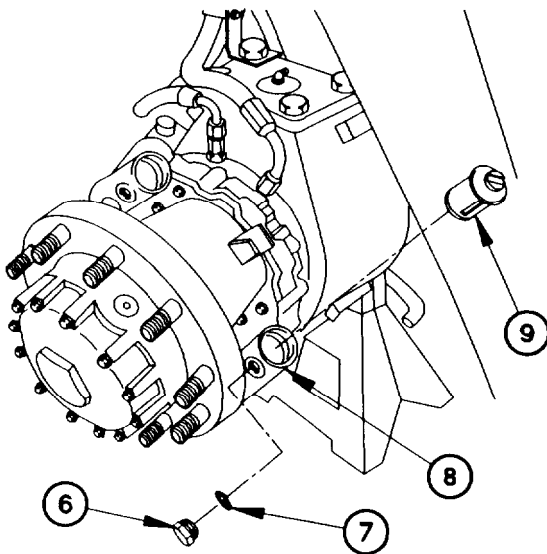
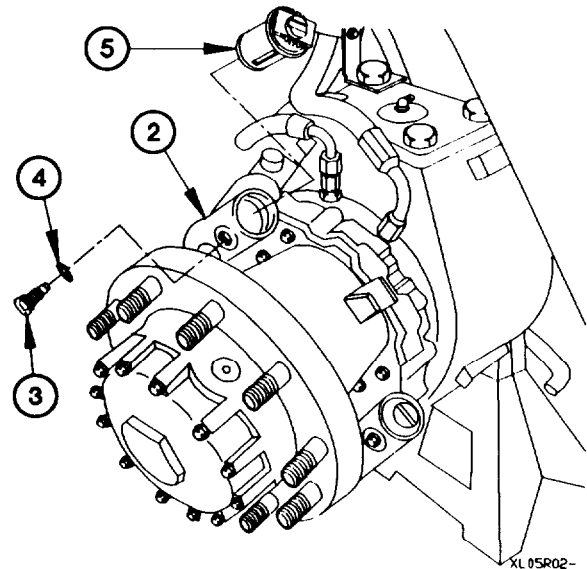
11-4. FRONT BRAKE PLUNGER ASSEMBLY REPLACEMENT/REPAIR (CONT)

- (2) Remove two adjusting pawl assemblies (3) and lockwashers (4) from plunger housing (2). Discard lockwashers.

NOTE

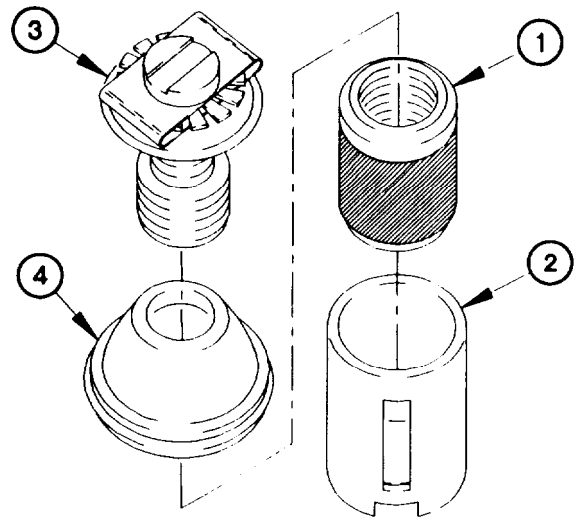
Note location of adjusting plunger assemblies prior to removal.

- (3) Remove two adjusting plunger assemblies (5) from plunger housing (2).



- (4) Remove two guide screws (6) and lockwashers (7) from plunger housing (8). Discard lockwashers.

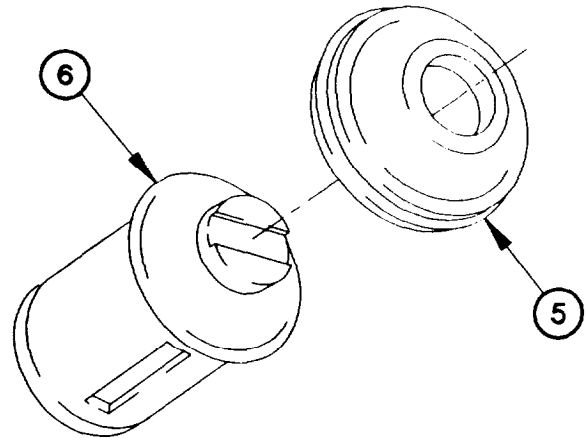
- (5) Remove two anchor plungers (9) from plunger housing (8).



b. Disassembly.

- (1) Remove adjusting sleeve (1) from adjusting plunger (2).
- (2) Remove adjusting screw (3) from adjusting sleeve (1).
- (3) Remove seal (4) from adjusting screw (3).
- (4) Perform steps (1) through (3) on second adjusting plunger assembly.

- (5) Remove seal (5) from anchor plunger (6).
- (6) Perform step (5) on second anchor plunger.



c. Cleaning/Inspection.

XL05DO2-

WARNING

Dry Cleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in a well-ventilated area; avoid contact with skin, eyes, and clothes, and do not breathe vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint for Type I Dry Cleaning Solvent is 100°F (38°C) and for Type II Dry Cleaning Solvent is 130°F (50°C). Failure to comply may result in serious injury or death to personnel.

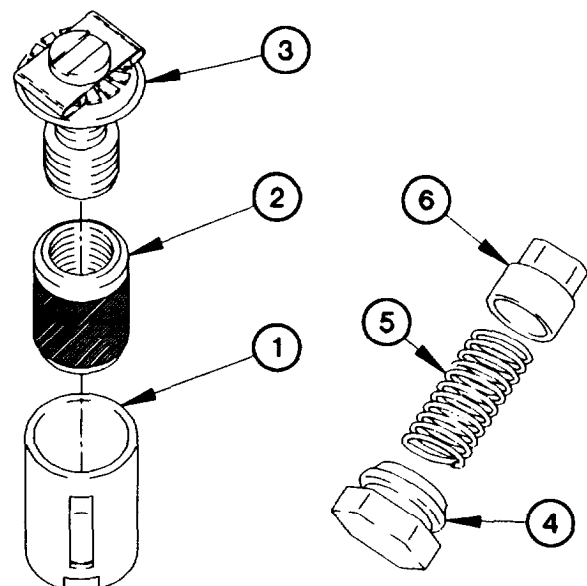
If personnel become dizzy while using Dry Cleaning Solvent, immediately get fresh air and medical help. If Dry Cleaning Solvent contacts skin or clothes, flush with cold water. If Dry Cleaning Solvent contacts eyes, immediately flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.

- (1) Clean all metal parts thoroughly with dry cleaning solvent.

NOTE

Replace plungers, sleeves, screws, springs, and pawls as a unit.

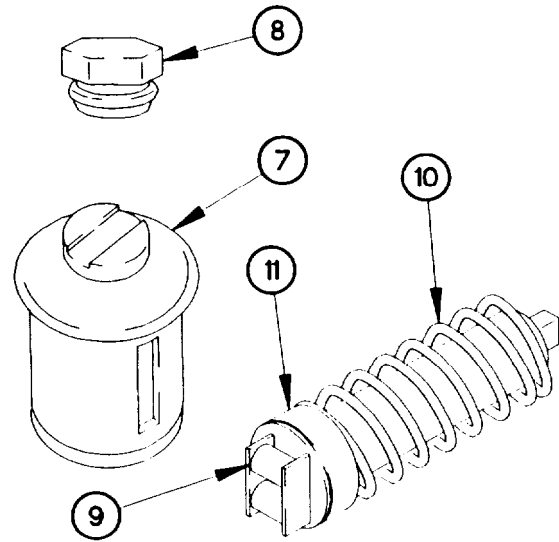
- (2) Inspect two adjusting plungers (1), adjusting sleeves (2), and adjusting screws (3) for damage.
- (3) Inspect two screws (4), springs (5), and adjusting pawls (6) for damage.



XL05N01-

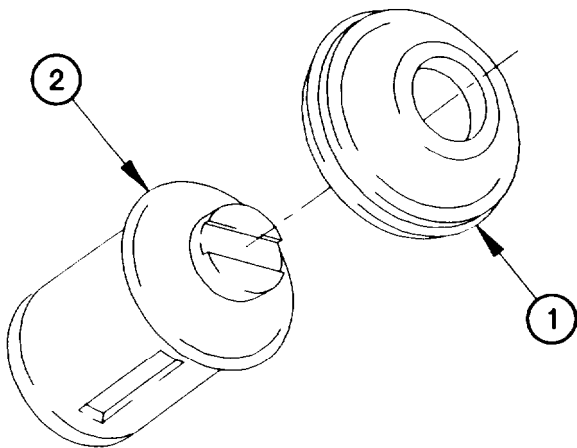
11-4. FRONT BRAKE PLUNGER ASSEMBLY REPLACEMENT/REPAIR (CONT)

- (4) Inspect two anchor plungers (7) and guide screws (8) for damage.
- (5) Inspect rollers (9) for freedom of movement and pitting or cracks.
- (6) Inspect spring (10) for cracks, distortion, or corrosion.
- (7) Inspect rubber (11) for cracks, breaks or damage.



XL05N02-

d. Assembly.



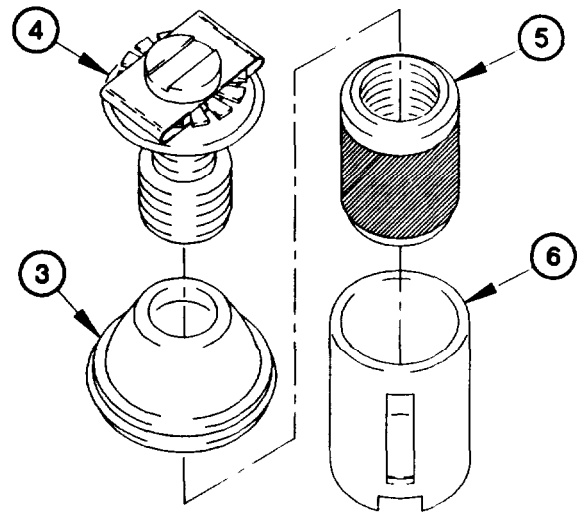
- (1) Apply grease to inside surfaces of seal (1).
- (2) Seat seal (1) on anchor plunger (2).
- (3) Perform steps (1) and (2) for second anchor plunger.

XLII5A0I-

- (4) Apply grease to inside surface of seal (3).
- (5) Seat seal (3) on adjusting screw (4).
- (6) Install adjusting screw (4) in adjusting sleeve (5). Back off 1/4 turn.
- (7) Apply film of grease on adjusting sleeve (5).

CAUTION

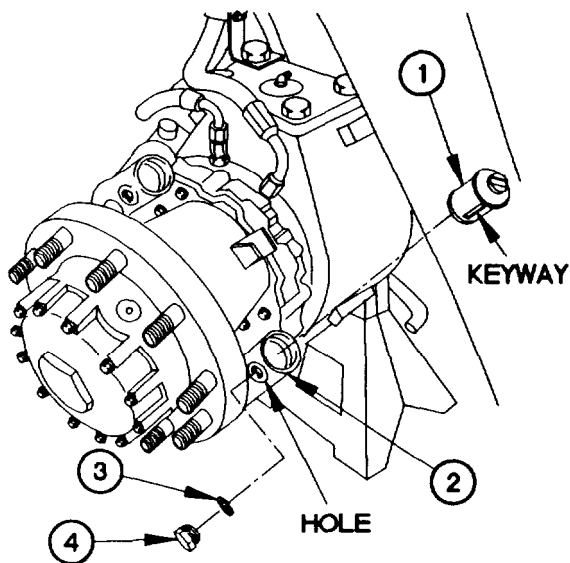
- Ensure adjusting sleeve is installed in adjusting plunger with large shouldered end up. Failure to comply will cause self-adjusting feature not to function.
- Adjusting sleeve must bottom on shoulder in adjusting plunger. If adjusting screw is threaded too far into adjusting sleeve, adjusting screw will bottom in adjusting plunger and automatic adjustment will not function.



XL05A02-

- (8) Install adjusting sleeve (5) in adjusting plunger (6).
- (9) Apply film of grease on adjusting plunger (6).
- (10) Perform steps (4) through (9) for other adjusting plunger assembly.

e. Installation.



XL05101-

NOTE

Align keyway in anchor plunger with hole in plunger housing.

- (1) Install anchor plunger (1) in plunger housing (2).
- (2) Position lockwasher (3) and guide screw (4) in plunger housing (2).
- (3) Tighten guide screw (4) to 15-25 lb-ft (20-34 N•m).
- (4) Perform steps (1) through (3) on second anchor plunger.

11-4. FRONT BRAKE PLUNGER ASSEMBLY REPLACEMENT/REPAIR (CONT)

NOTE

Align keyway in adjusting plunger with hole in plunger housing.

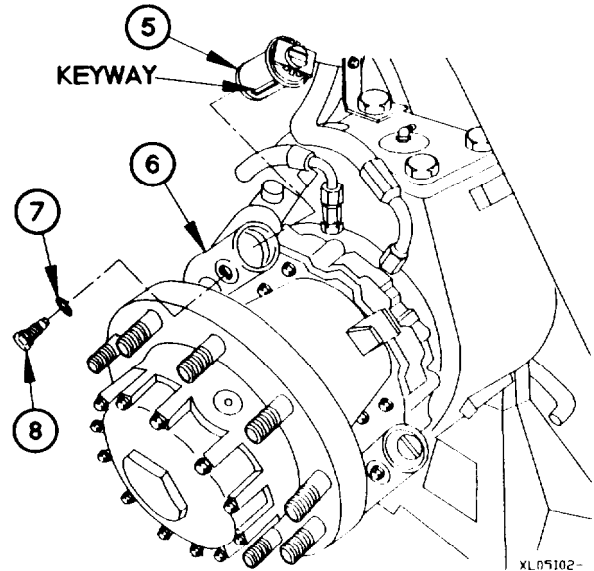
(5) Install adjusting plunger (5) in plunger housing (6).

CAUTION

- Ensure pawl enters adjusting plunger so that adjusting plunger slides freely in plunger housing. Failure to comply may result in damage to equipment.
- Ensure grooves on pawl engages grooves on adjusting sleeve. Failure to comply may result in damage to equipment.

(6) Position lockwasher (7) and adjusting pawl assembly (8) in plunger housing (6).

(7) Tighten adjusting pawl assembly (8) to 15-25 lb-ft (20-34 N•m).



XL05102-

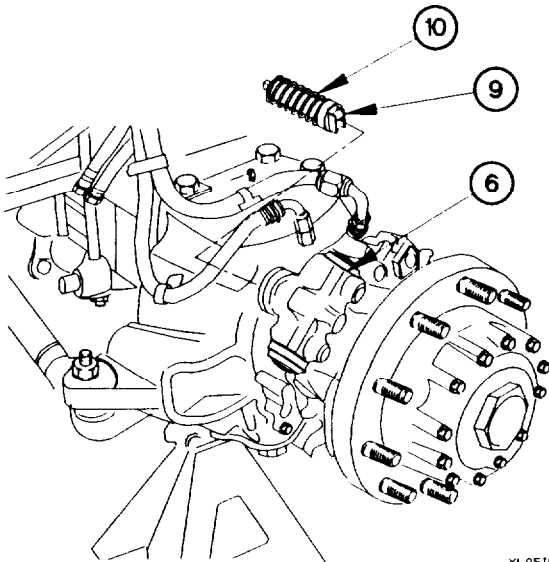
(8) Perform steps (5) through (7) on second adjusting plunger assembly.

(9) Apply grease on wedge rollers (9).

CAUTION

Ensure wedge rollers are aligned with slots in adjusting plungers. Firm pressure is required to fully seat wedge in adjusting plungers. Failure to fully seat wedge in adjusting plungers may result in damage to equipment.

(10) Install wedge (10) in plunger housing (6).



XL05103-

f. Follow-On Maintenance.

(1) Install front brake air chamber (para 11-7).

(2) Install front brake shoes (para 11-2).

End of Task.

11-5. REAR BRAKE PLUNGER ASSEMBLY REPLACEMENT/REPAIR

This task covers:

- | | |
|------------------------|--------------------------|
| a. Removal | d. Assembly |
| b. Disassembly | e. Installation |
| c. Cleaning/Inspection | f. Follow-On Maintenance |

INITIAL SETUP

Equipment Conditions

- Rear brake shoes removed (para 11-3).
- Rear brake air chamber removed (para 11-8).

Tools and Special Tools

- Trestle, Motor Vehicle Maintenance (Item 47, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Respirator, Air Filter (Item 29, Appendix C)
- Gloves, Rubber (Item 13, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)

Tools and Special Tools (Cont)

- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Brake Plunger Seal Driver (Item E-3, Appendix E)

Materials/Parts

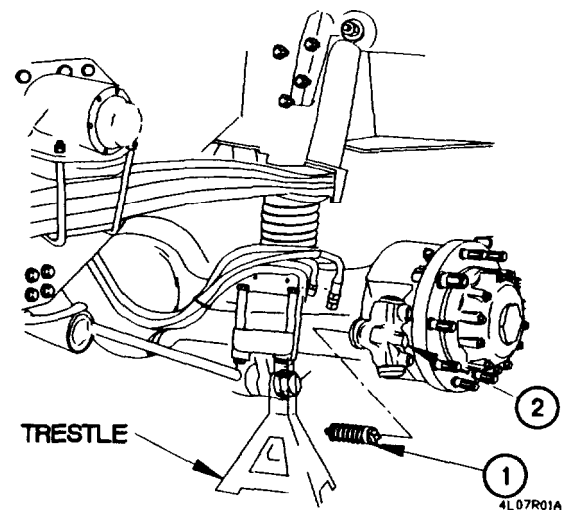
- Solvent, Dry-Cleaning (Item 65, Appendix D)
- Grease, Automotive and Artillery (GAA) (Item 22, Appendix D)
- Lockwasher (4) (Item 136, Appendix G)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

- (1) Remove wedge assembly (1) from plunger housing (2).



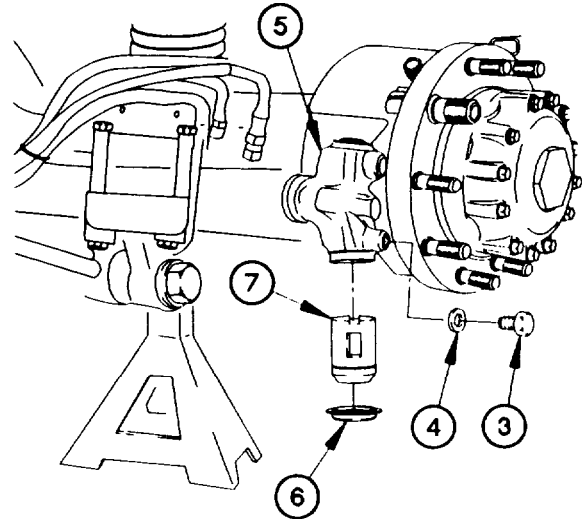
11-5. REAR BRAKE PLUNGER ASSEMBLY REPLACEMENT/REPAIR (CONT)

WARNING

Brake shoes may be covered with dust. Breathing this dust may be harmful to your health. Do not use compressed air to clean brake shoes. Wear a filter mask approved for use against brake dust. Failure to comply may result in injury to personnel.

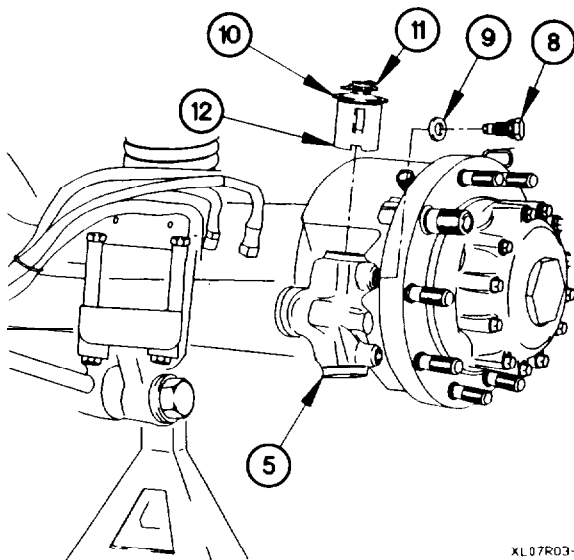
NOTE

- Identify anchor and adjusting plunger locations prior to disassembly.
- Anchor plungers and adjusting plungers are opposite each other in each plunger housing. The positions are reversed for opposite sides of the wheel. Perform the following procedure to disassemble both plunger assemblies.



XL 07R02-

- (2) Remove guide screw (3) and lockwasher (4) from plunger housing (5). Discard lockwasher.
- (3) Remove seal (6) and anchor plunger (7) from plunger housing (5).

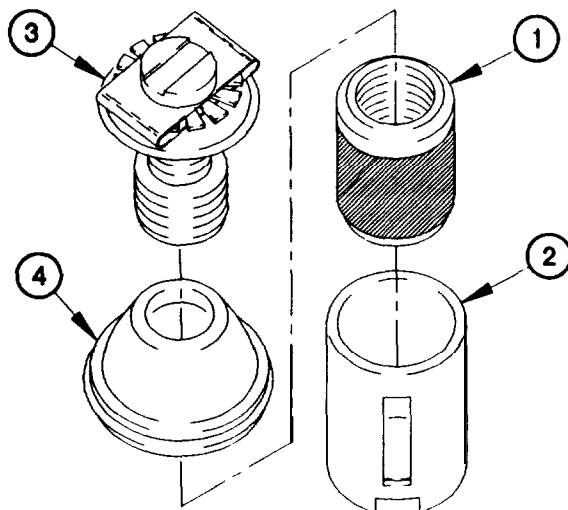


XL 07R03-

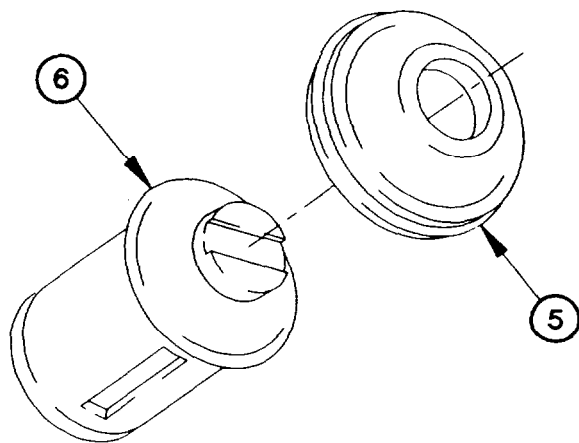
- (4) Remove adjusting pawl assembly (8) and lockwasher (9) from plunger housing (5). Discard lockwasher.
- (5) Remove seal (10), adjusting screw (11), and adjusting plunger (12) from plunger housing (5).

b. Disassembly.

- (1) Remove adjusting sleeve (1) from adjusting plunger (2).
- (2) Remove adjusting screw (3) from adjusting sleeve (1).
- (3) Remove seal (4) from adjusting screw (3).



XL05D01-



- (4) Remove seal (5) from anchor plunger (6).

XL05D02-

11-5. REAR BRAKE PLUNGER ASSEMBLY REPLACEMENT/REPAIR (CONT)

c. Cleaning/Inspection.

WARNING

Dry Cleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes, and do not breathe vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint for Type I Dry Cleaning Solvent is 100°F (38°C) and for Type II is 130°F (50°C). Failure to comply may result in serious injury or death to personnel.

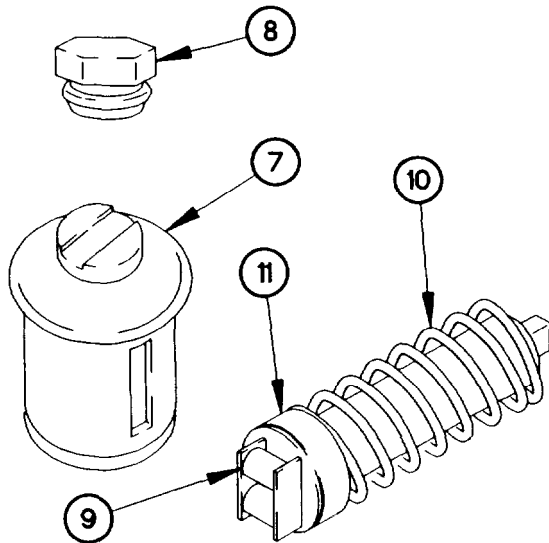
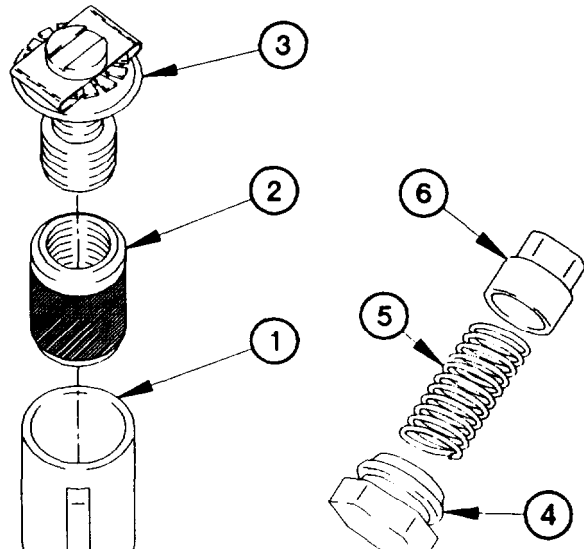
If personnel become dizzy while using Dry Cleaning Solvent, immediately get fresh air and medical help. If Dry Cleaning Solvent contacts skin or clothes, flush with cold water. If Dry Cleaning Solvent contacts eyes, immediately flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.

- (1) Clean all metal parts thoroughly with dry cleaning solvent.

NOTE

Replace plungers, sleeves, screws, springs, and pawls as a unit.

- (2) Inspect adjusting plunger (1), adjusting sleeve (2), and adjusting screw (3) for damage.
- (3) Inspect screw (4), spring (5), and adjusting pawl (6) for damage.

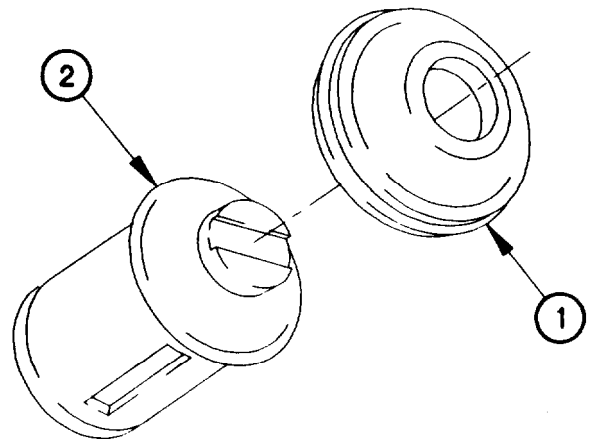


- (4) Inspect anchor plunger (7) and guide screw (8) for damage.
- (5) Inspect rollers (9) for freedom of movement, and pitting or cracks.
- (6) Inspect spring (10) for cracks, distortion, or corrosion.
- (7) Inspect rubber (11) for deterioration or damage.

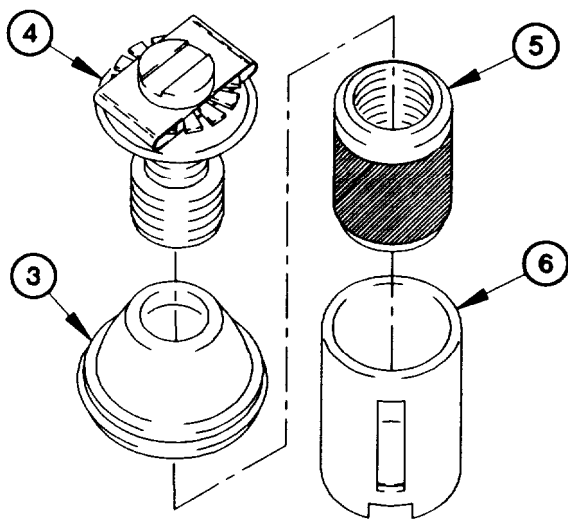
XLOS02-

d. Assembly.

- (1) Apply grease to inside surfaces of seal (1).
- (2) Position and seat seal (1) on anchor plunger (2).



XLrJ5AOI-



XL05A02-

- (3) Apply grease to inside surface of seal (3).
- (4) Position and seat seal (3) on adjusting screw (4).
- (5) Install adjusting screw (4) in adjusting sleeve (5) until snug. Back off 1/4 turn.
- (6) Apply film of grease on adjusting sleeve (5).

CAUTION

Ensure adjusting sleeve is installed in adjusting plunger with large shouldered end up. Failure to comply will cause self-adjusting feature not to function.

- (7) Position adjusting sleeve (5) in adjusting plunger (6).
- (8) Apply film of grease on adjusting plunger (6).

11-5. REAR BRAKE PLUNGER ASSEMBLY REPLACEMENT/REPAIR (CONT)

e. Installation.

CAUTION

Adjusting sleeve must bottom on shoulder inside plunger. Threading adjusting screw too far into adjusting sleeve will cause automatic adjuster not to function.

NOTE

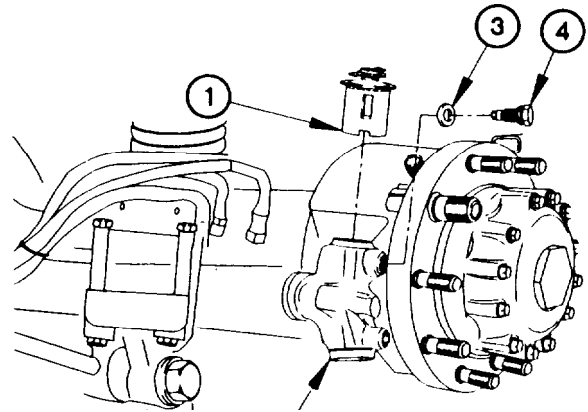
Install plungers in same location as removed and align keyways in anchor/adjusting plungers with hole in plunger housings.

- (1) Install adjusting plunger assembly (1) in plunger housing (2).

NOTE

Make certain grooves in pawl assembly end engage in adjusting sleeve grooves.

- (2) Position lockwasher (3) and pawl assembly (4) in plunger housing (2).
- (3) Tighten pawl assembly (4) to 15-25 lb-ft (20-34 N•m).



NOTE

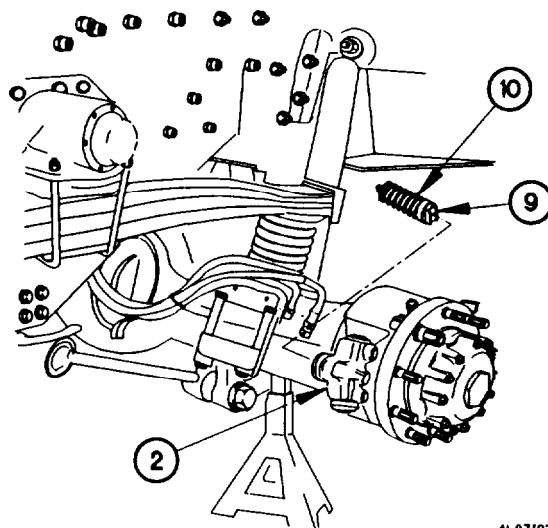
- One anchor (solid) and one adjusting plunger must be installed in each plunger housing.
 - Install anchor plunger marked "L" in left plunger housing. Install anchor plunger marked "R" in right plunger housing.
- (4) Apply film of grease on anchor plunger (5).
 - (5) Install and seat seal (6) and anchor plunger (5) in plunger housing (2).
 - (6) Position lockwasher (7) and guide screw (8) in plunger housing (2).
 - (7) Tighten guide screw (8) to 15-25 lb-ft (20-34 N•m).

- (8) Apply grease to rollers (9) on wedge assembly (10).

CAUTION

Ensure wedge rollers are aligned with slots in adjusting plunger and anchor plunger. Firm pressure is required to fully seat wedge in plungers. Failure to fully seat wedge in plungers may result in damage to equipment.

- (9) Install wedge assembly (10) in back of plunger housing (2).



4L07103-

f. Follow-On Maintenance.

- (1) Install rear brake air chamber (para 11-8).
 (2) Install rear brake shoes (para 11-3).

End of Task.

11-6. REAR SPRING BRAKE CAGING

This task covers:

a. Caging

b. Uncaging

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
 Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Tools and Special Tools (Cont)

Socket, Socket Wrench (Item 40, Appendix C)
 Wrench, Torque, 0-600 lb-ft (Item 60, Appendix C)
 Wrench Set, Socket (Item 50, Appendix C)

Material/Parts

Nut, Self-Locking (2) (Item 161, Appendix G)

WARNING

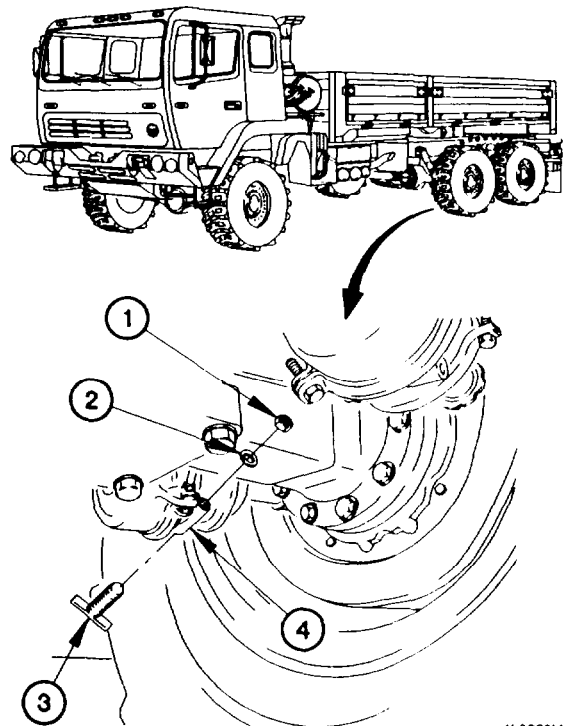
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Caging.

NOTE

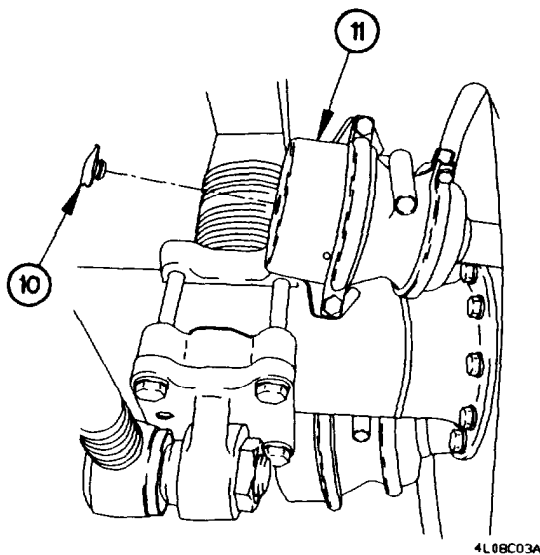
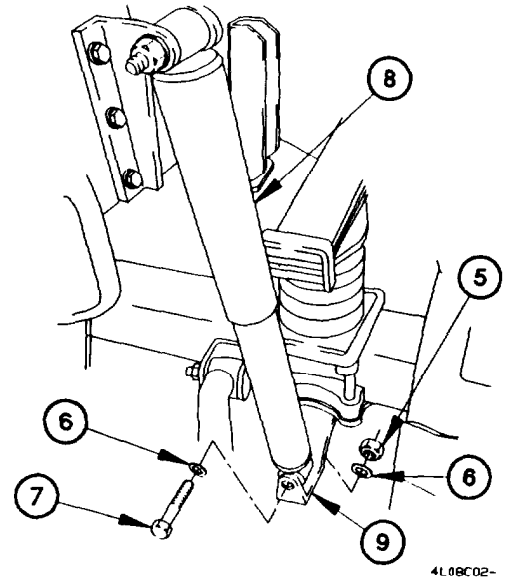
To cage brakes, apply caging procedure to both top and bottom spring brake chambers.

- (1) Remove nut (1) and washer (2) from caging bolt (3).
- (2) Remove caging bolt (3) from caging bolt holder (4).



4L09C01A

- (3) Remove self-locking nut (5), two washers (6), screw (7), and shock absorber (8) from lower mounting bracket (9). Discard self-locking nut.

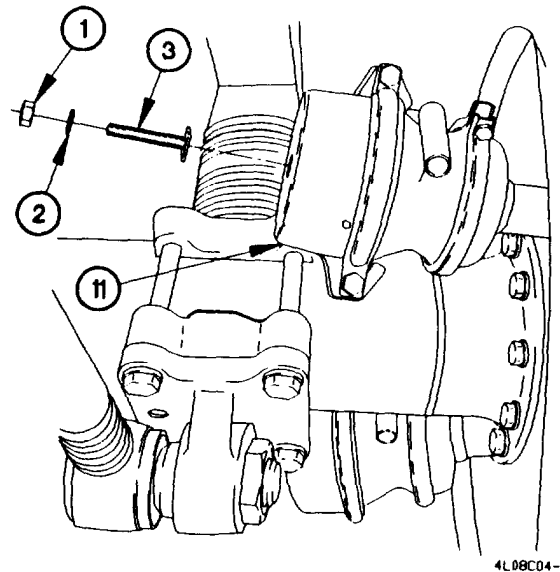


NOTE

Save rubber cap for use after uncaging operation to seal spring brake chamber.

- (4) Remove rubber cap (10) from spring brake chamber

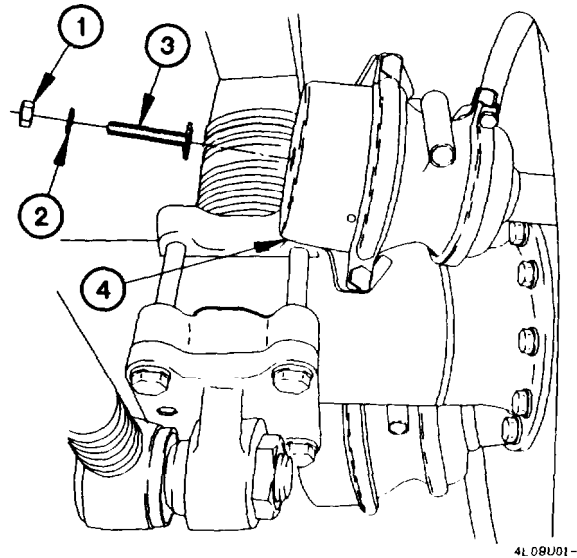
- (5) Insert T-end of caging bolt (3) in back of spring brake chamber (11).
- (6) Lock caging bolt (3) in place by turning caging bolt to the right 1/4 turn.
- (7) Install washer (2) and nut (1) on caging bolt (3).



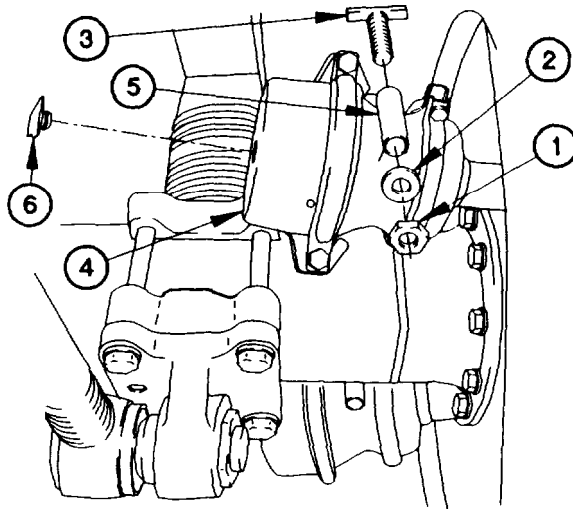
11-6. REAR SPRING BRAKE CAGING (CONT)

b. Uncaging.

- (1) Remove nut (1) and washer (2) from caging bolt (3).
- (2) Remove caging bolt (3) by turning to the left 1/4 turn.
- (3) Remove caging bolt (3) from spring brake chamber (4).



4L08U01-



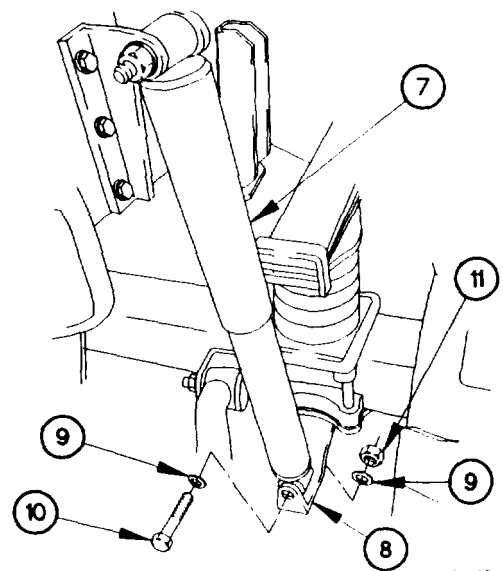
4L08U02A

- (4) Install caging bolt (3) in caging bolt holder (5).
- (5) Position washer (2) and nut (1) on caging bolt (3).
- (6) Tighten nut (1) to 50 lb-ft (68 N•m).
- (7) Install rubber cap (6) on spring brake chamber (4).

- (8) Position shock absorber (7) in lower mounting bracket (8) with two washers (9), screw (10), and self-locking nut (11).

- (9) Tighten screw (10) to 196-240 lb-ft (266-325 N•m).

End of Task.



4L08U03-

11-7. FRONT BRAKE AIR CHAMBER REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Pipe (Item 56, Appendix C)
 Trestle, Motor Vehicle Maintenance (Item 47, Appendix B)
 Goggles, Industrial (Item 15, Appendix C)
 Respirator, Air Filter (Item 29, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Antiseize Compound (Item 13, Appendix D)
 Ties, Cable, Plastic (Item 69, Appendix D)

Personnel Required

(2)

a. Removal.

WARNING

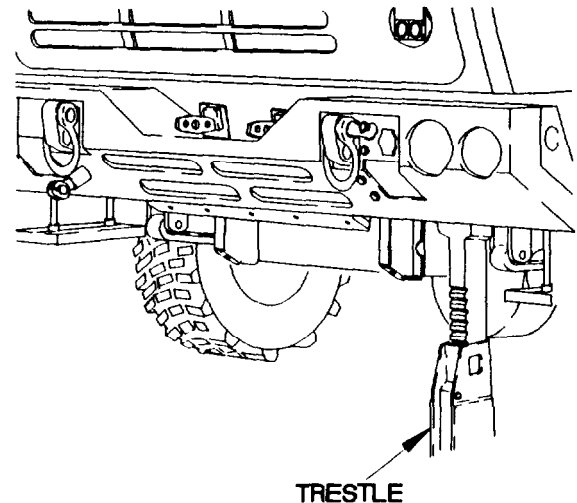
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

CAUTION

Use caution not to pinch left side air hoses when positioning trestles. Failure to comply may result in damage to equipment.

NOTE

Left and right front brake air chambers are removed the same way. Left side shown.



XL04R01A

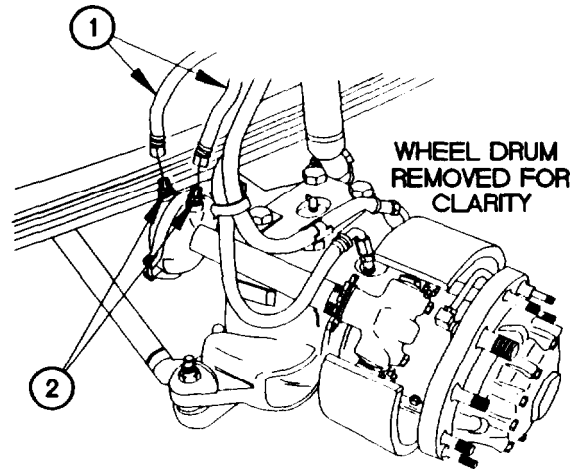
- (1) Position front of vehicle on trestle so tire is off ground.
- (2) Remove left front tire from vehicle (TM 9-2320-366-10-2).

11-7. FRONT BRAKE AIR CHAMBER REPLACEMENT (CONT)

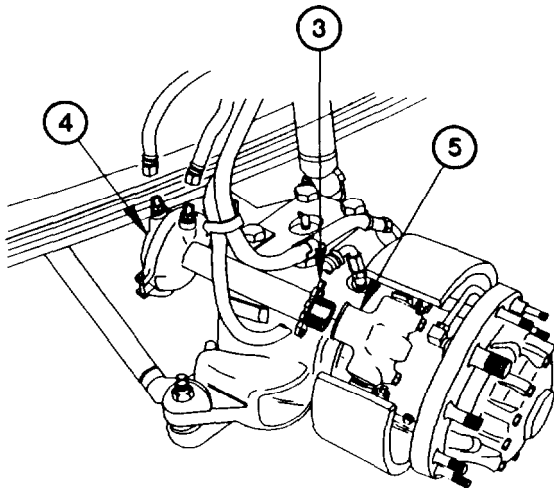
NOTE

- Tag air hoses and connection points prior to disconnecting.
- Remove plastic cable ties as required.

(3) Disconnect two air hoses (1) from fittings (2).



XL04R02A

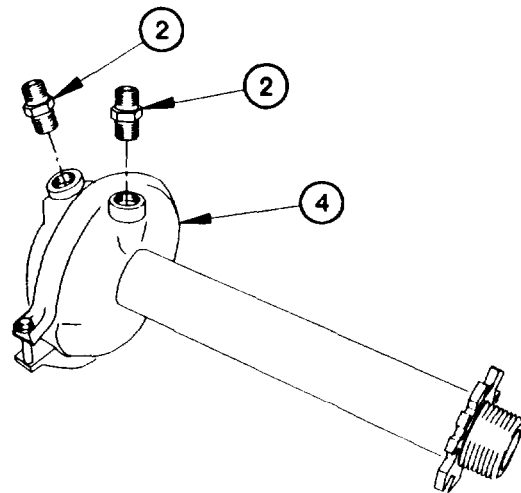


XL04R03A

(4) Loosen collet nut (3) on air chamber (4).

(5) Remove air chamber (4) from plunger housing (5).

(6) Remove two fittings (2) from air chamber (4).



XL04R04A

b. Installation.

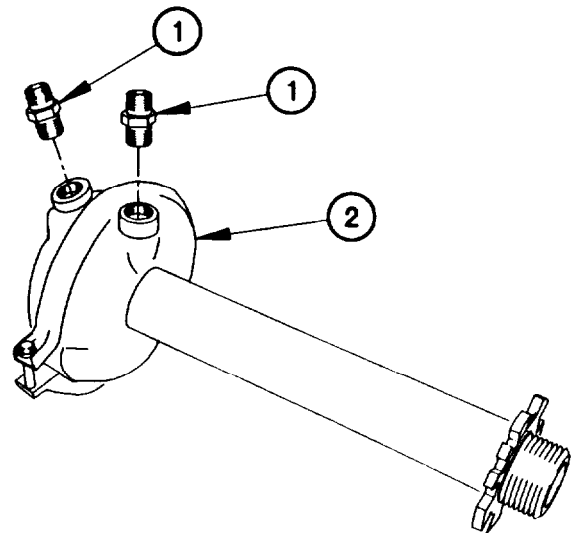
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

NOTE

Left and right front brake air chambers are installed the same way. Left side shown.

- (1) Apply antiseize compound to threads of two fittings (1).
- (2) Install two fittings (1) in air chamber (2).
- (3) Apply antiseize compound to threads of air chamber



XLO4101-

CAUTION

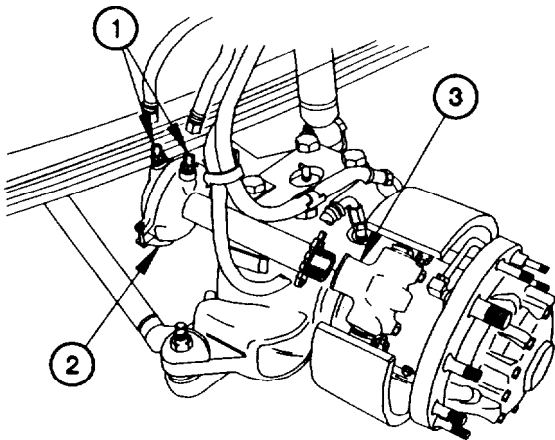
Ensure air chamber is installed with fittings positioned up. Failure to comply may result in damage to equipment.

- (4) Install air chamber (2) in plunger housing (3) until it bottoms.

CAUTION

Air chamber must not be loosened no more than one full turn. Failure to comply may result in damage to equipment.

- (5) Loosen air chamber (2) until fittings (1) are up.



XLO4102-

11-7. FRONT BRAKE AIR CHAMBER REPLACEMENT (CONT)

NOTE

Install plastic cable ties as required.

- (6) Connect two air hoses (4) to fittings (1).

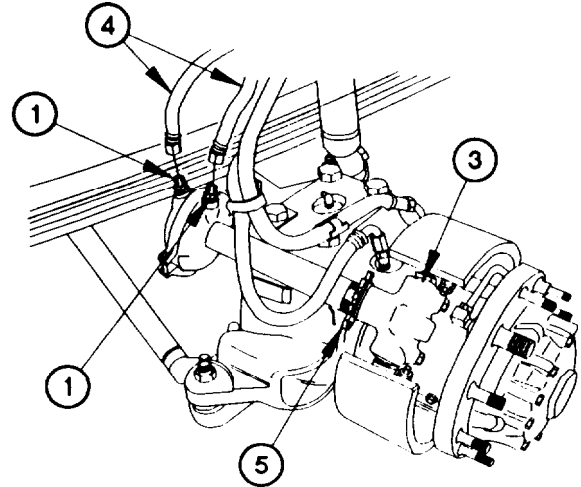
CAUTION

Brake pedal must be fully applied before and during tightening of collet nut. Failure to comply may result in damage to equipment.

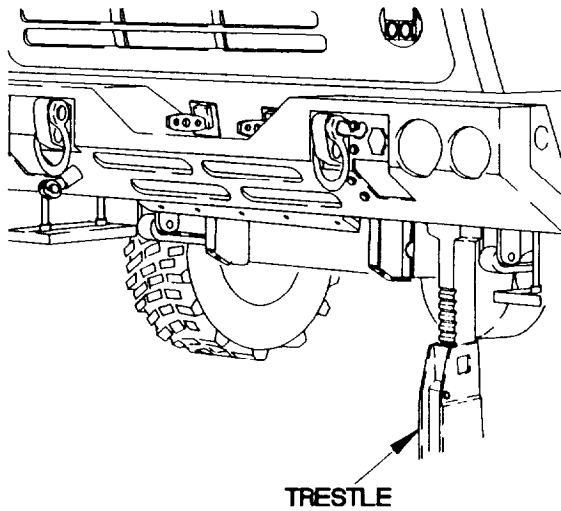
NOTE

Steps (7) through (9) require the aid of an assistant.

- (7) Apply brake pedal and continue holding until steps (8) and (9) are accomplished.
- (8) Hand tighten collet nut (5) against plunger housing (3).
- (9) Tighten collet nut (4) 3/16 turn (1/2 teeth).



XL04103-



XL04104A

- (10) Install left front tire on vehicle (TM 9-2320-366-10-2).
- (11) Remove trestle from front of vehicle.

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Check for air leaks around air chamber and fittings.
- (3) Road test vehicle and check for proper brake operation (TM 9-2320-366-10-1).
- (4) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-8. REAR BRAKE AIR CHAMBER REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Rear tire removed (TM 9-2320-366-10-2).
- Rear spring brakes caged (para 11-6).

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Sealing Compound (Item 58, Appendix D)

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Pipe (Item 56, Appendix C)

WARNING

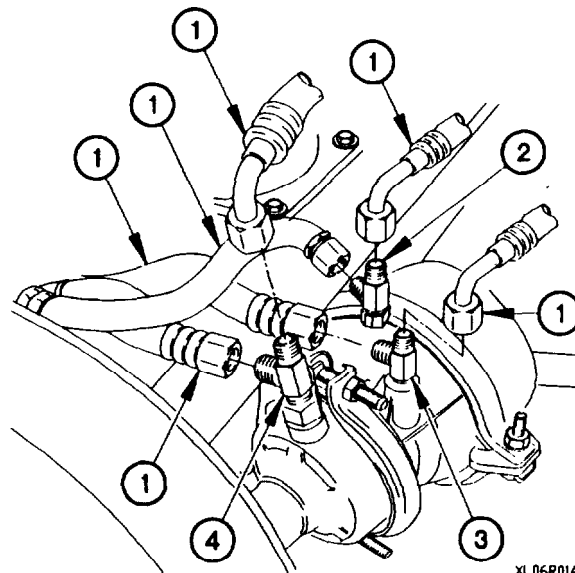
- Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.
- Ensure air chamber is caged prior to installation. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

Tag air hoses and connection points prior to removal.

- (1) Disconnect six air hoses (1) from tee fittings (2, and 4).

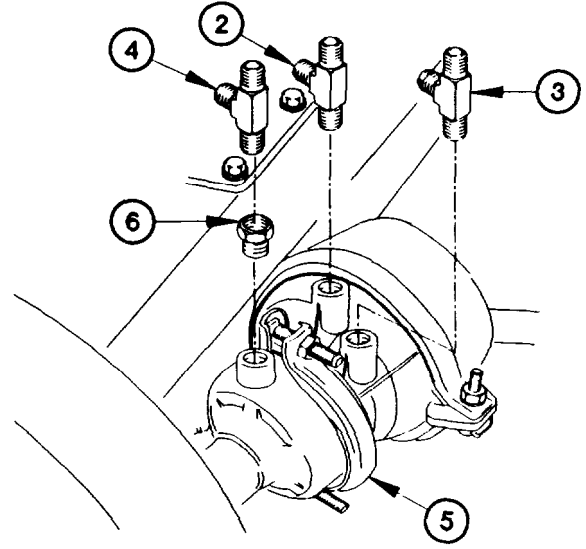


11-8. REAR BRAKE AIR CHAMBER REPLACEMENT (CONT)

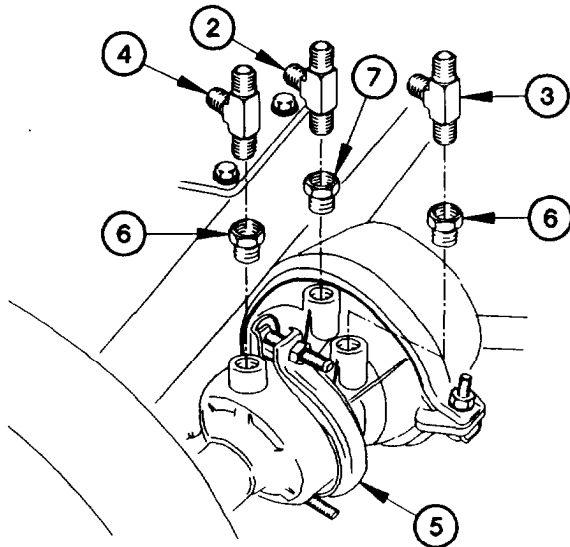
NOTE

- Perform steps (2) through (4) on vehicle serial numbers 0001 through 2450 except M1088 and M1089.
- Note orientation of fittings prior to removal.

- (2) Remove tee fittings (2 and 3) from rear air chamber (5).
- (3) Remove tee fitting (4) from adapter (6).
- (4) Remove adapter (6) from rear air chamber (5).



XL06Ro2.4



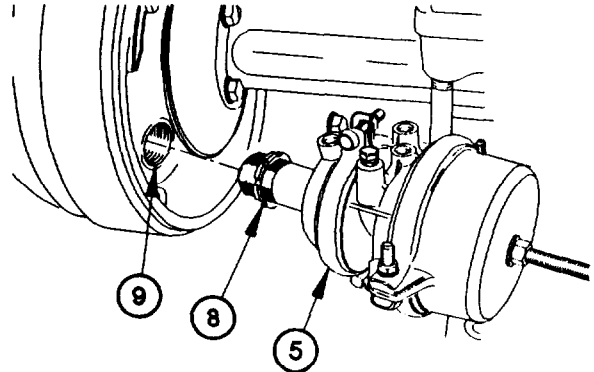
4L 06R03A

NOTE

- Perform steps (5) and (6) on M1088 and M1089, and vehicle serial numbers 2451 and higher.
- Note orientation of fittings prior to removal.

- (5) Remove tee fittings (2, 3, and 4) from two adapters (6) and adapter (7).
- (6) Remove two adapters (6) and adapter (7) from rear air chamber (5).

- (7) Loosen collet nut (8) on rear air chamber (5).
- (8) Remove rear air chamber (5) from plunger housing (9).

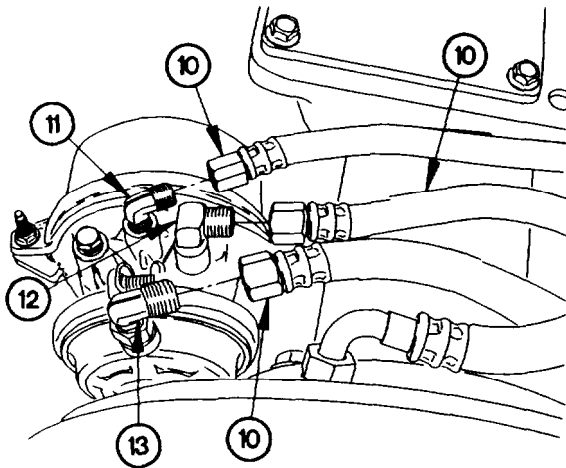


4L06R04A

NOTE

Tag air hoses and connection points prior to disconnecting.

- (9) Remove three air hoses (10) from 90-degree fittings (11, 12, and 13).

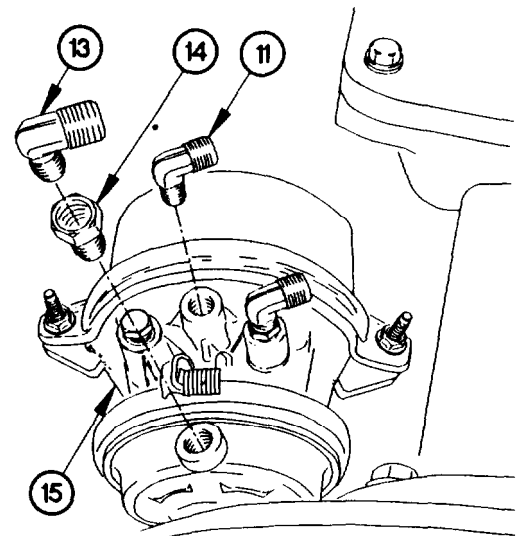


4L06R05A

NOTE

Note orientation of fittings prior to removal.

- (10) Remove 90-degree fitting (13) from adapter (14).
- (11) Remove adapter (14) from front air chamber (15),
- (12) Remove 90-degree fitting (11) from front air chamber (15).



4L06R06A

11-8. REAR BRAKE AIR CHAMBER REPLACEMENT (CONT)

NOTE

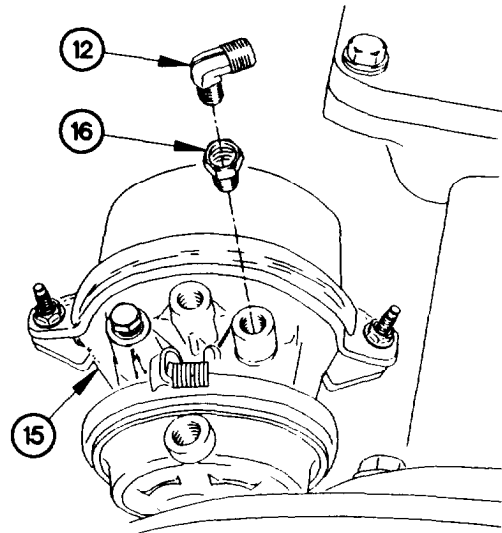
Perform step (13) on vehicle serial numbers 0001 through 2450 except M1088 and M1089.

- (13) Remove 90-degree fitting (12) from front air chamber (15).

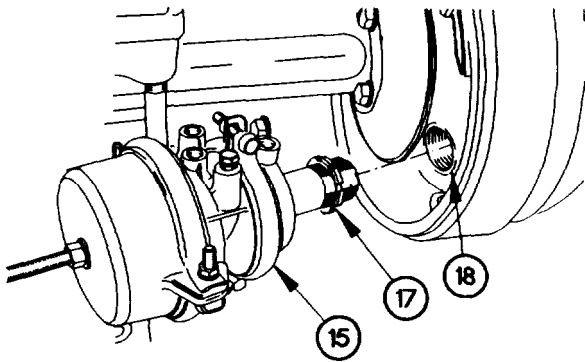
NOTE

Perform steps (14) and (15) on M1088 and M1089, and vehicle serial numbers 2451 and higher.

- (14) Remove 90-degree fitting (12) from adapter (16).
- (15) Remove adapter (16) from front air chamber (15).



XL06P07A



4L06R08A

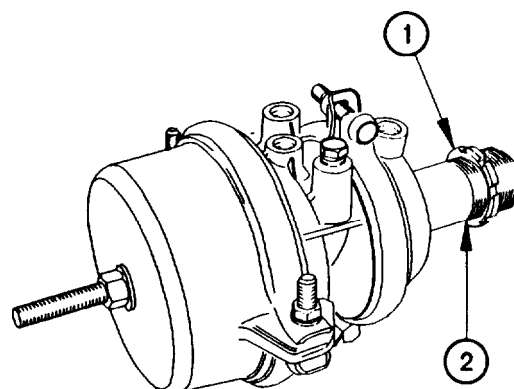
- (16) Loosen collet nut (17) on front air chamber (15).
- (17) Remove front air chamber (15) from plunger housing (18).

b. Installation.

- (1) Install collet nut (1) on front air chamber (2) to bottom of threads.

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



XL06101-

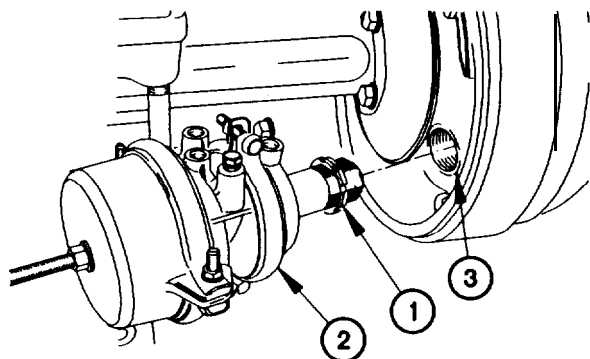
- (2) Apply sealing compound to threads of front air chamber (2).

WARNING

Ensure air chamber is caged prior to installation. Failure to comply may result in injury to personnel.

CAUTION

Ensure front air chamber is installed with fitting ports positioned up. Failure to comply may result in damage to equipment.



XL06102A

- (3) Install front air chamber (2) in plunger housing (3) until it bottoms.

CAUTION

Loosen front air chamber no more than one full turn. Failure to comply may result in damage to equipment.

- (4) Loosen front air chamber (2) until fitting ports are up.
- (5) Tighten collet nut (1) against plunger housing (3).

11-8. REAR BRAKE AIR CHAMBER REPLACEMENT (CONT)

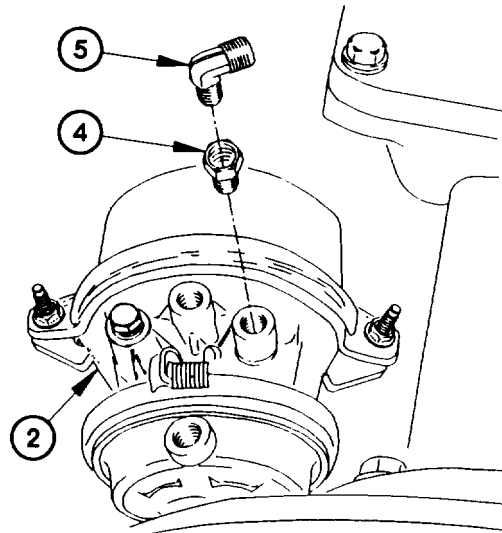
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

NOTE

- Clean fittings and front air chamber of all sealing compound residue prior to installation.
- Perform steps (6) through (9) on M1088 and M1089, and vehicle serial numbers 2451 and higher.

- (6) Apply sealing compound to threads of adapter (4).
- (7) Install adapter (4) in front air chamber (2).
- (8) Apply sealing compound to threads of 90-degree fitting (5).
- (9) Install 90-degree fitting (5) in adapter (4).



XL06103A

NOTE

Perform steps (10) and (11) on vehicle serial numbers 0001 through 2450 except M1088 and M1089.

- (10) Apply sealing compound to threads of 90-degree fitting (5).
- (11) Install 90-degree fitting (5) in front air chamber (2).

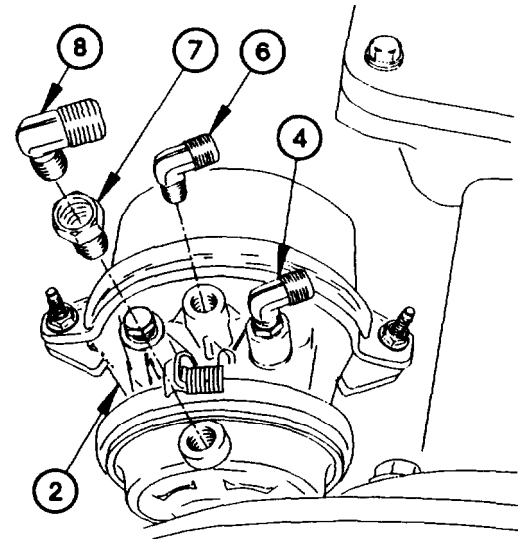
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

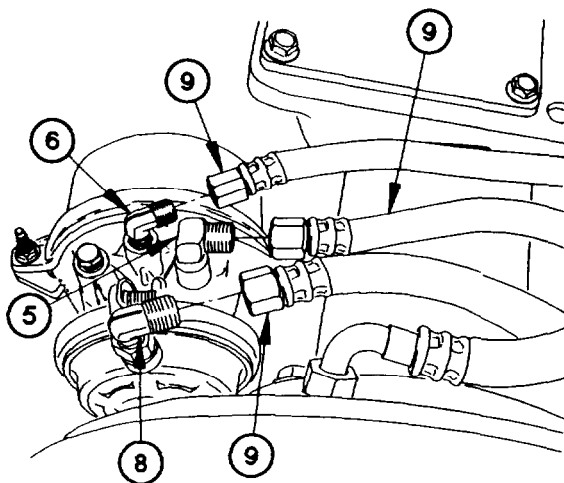
NOTE

Clean fittings and front air chamber of all sealing compound residue prior to installation.

- (12) Apply sealing compound to threads of 90-degree fitting (6).
- (13) Install 90-degree fitting (6) in front air chamber (2).
- (14) Apply sealing compound to threads of adapter (7).
- (15) Install adapter (7) in front air chamber (2).
- (18) Apply sealing compound to threads of 90-degree fitting (8).
- (17) Install 90-degree fitting (8) in adapter (7).



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4L06105A

- (18) Connect three air hoses (9) to 90-degree fittings (6, 5, and 8).

11-8. REAR BRAKE AIR CHAMBER REPLACEMENT (CONT)

- (19) Install collet nut (10) on rear air chamber (11) to bottom of threads.

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (20) Apply sealing compound to threads of rear air chamber (11).

WARNING

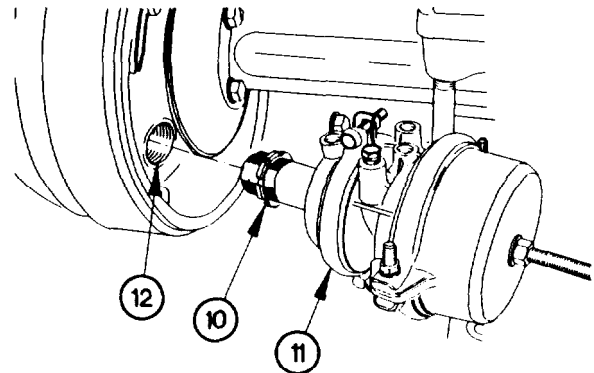
Ensure rear air chamber is caged prior to installation. Failure to comply may result in injury to personnel.

- (21) Install rear air chamber (11) in plunger housing (12) until it bottoms.

CAUTION

Loosen rear air chamber no more than one full turn. Failure to comply may result in damage to equipment.

- (22) Tighten collet nut (10) against plunger housing (12).



4L06106A

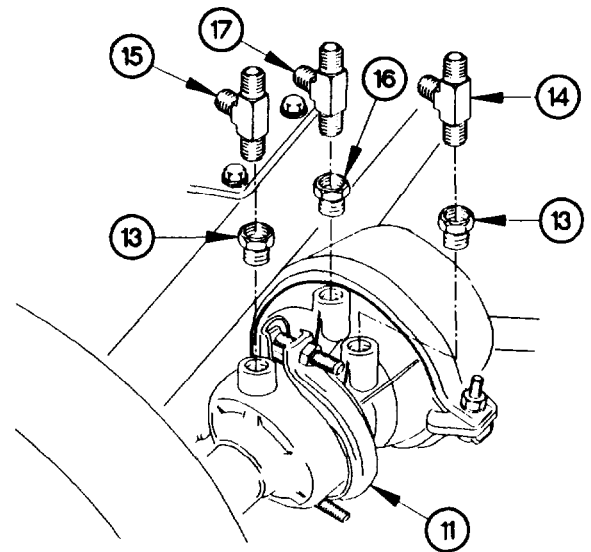
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

NOTE

- Perform steps (23) through (30) on M1088 and M1089, and vehicle serial numbers 2451 and higher.
- Clean fittings and rear air chamber of all sealing compound residue prior to installation.

- (23) Apply sealing compound to threads of two adapters (13).
- (24) Install two adapters (13) in rear air chamber (11).
- (25) Apply sealing compound to threads of tee fittings (14 and 15).
- (26) Install tee fittings (14 and 15) in two adapters (13).
- (27) Apply sealing compound to threads of adapter (16).
- (28) Install adapter (16) in rear air chamber (11).
- (29) Apply sealing compound to threads of tee fitting (17).
- (30) Install tee fitting (17) in adapter (16).



4L06107A

11-8. REAR BRAKE AIR CHAMBER REPLACEMENT (CONT)

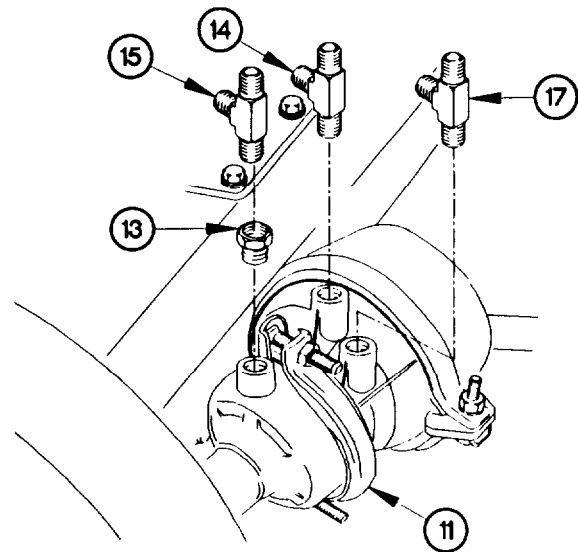
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

NOTE

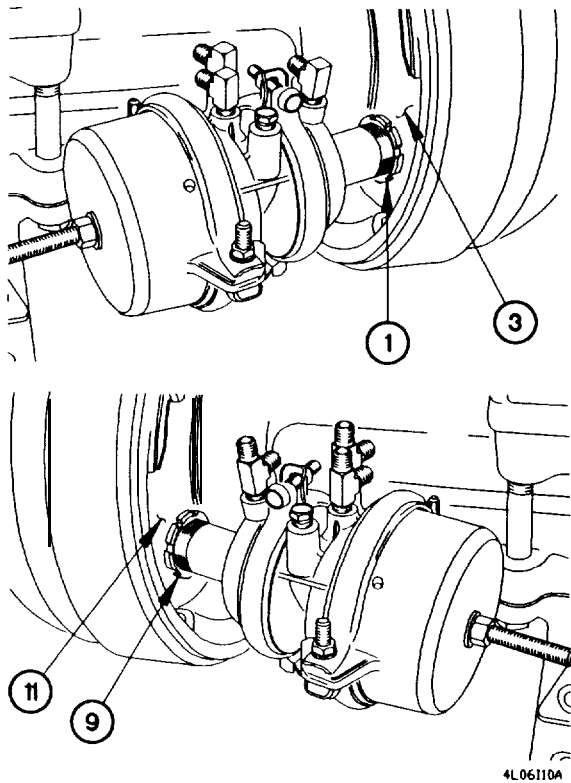
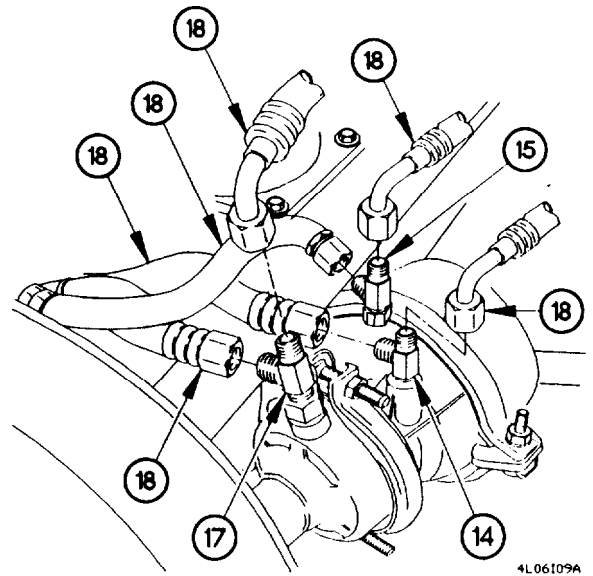
- Perform steps (31) through (36) on vehicle serial numbers 0001 through 2450 except M1088 and M1089.
- Clean fittings and rear air chamber of all sealing compound residue prior to installation.

- (31) Apply sealing compound to threads of adapter (13).
- (32) Install adapter (13) in rear air chamber (11).
- (33) Apply sealing compound to threads of tee fitting (15).
- (34) Install tee fitting (15) in adapter (13).
- (35) Apply sealing compound to threads of tee fittings (14 and 17).
- (36) Install tee fittings (14 and 17) in rear air chamber (11).



4L0610BA

(37) Connect six air hoses (18) to tee fittings (14, 15, and 17).



CAUTION

Apply full brake pedal before and during tightening of collet nut. Failure to comply may result in damage to equipment.

NOTE

Steps (38) through (40) require the aid of an assistant.

- (38) Apply brake pedal and continue holding until steps (39) and (40) are accomplished.
- (39) Hand tighten collet nuts (1 and 10) against plunger housings (3 and 12).
- (40) Tighten collet nuts (1 and 10) 3/16 turn (1/2 teeth).

11-8. REAR BRAKE AIR CHAMBER REPLACEMENT (CONT)

c. Follow-On Maintenance.

- (1) Install rear tire (TM 9-2320-366-10-2).
- (2) Uncage spring brakes (para 11-6).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Check for air leaks around air chamber and fittings.
- (5) Road test vehicle and check for proper brake operation.
- (6) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-9 FOOT CONTROL VALVE AND BRAKE FOOT PEDAL REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Air tanks drained (TM 9-2320-366-10-1).
Instrument panel assembly removed for access (para 7-15).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Ties, Cable, Plastic (Item 89, Appendix D)
Antiseize Compound (Item 13, Appendix D)
Lockwasher (4) (Item 93, Appendix G)
Nut, Self-Locking (8) (Item 166, Appendix G)
Pin, Cotter (Item 225, Appendix G)

Personnel Required

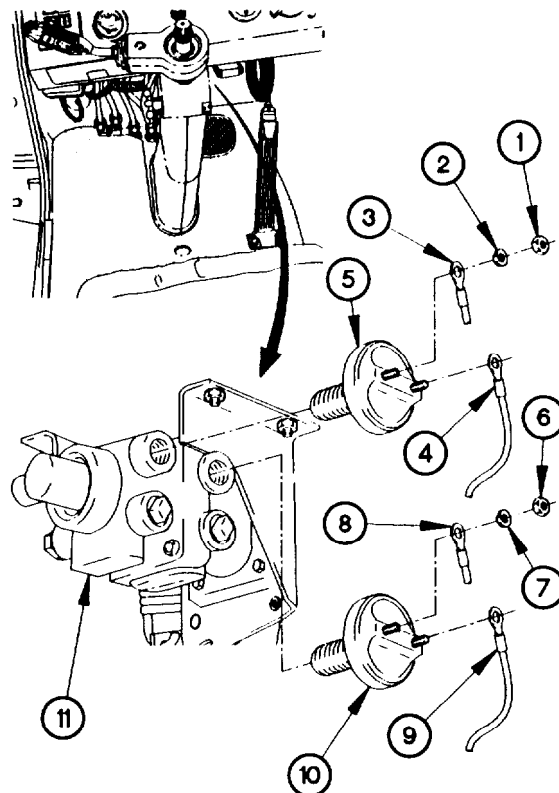
(2)

a. Removal.

NOTE

Tag terminal lugs and connection points prior to removal.

- (1) Remove two nuts (1), lockwashers (2), and terminal lugs TL152 (3), and TL153 (4) from rear stoplight switch (5). Discard lockwashers.
- (2) Remove two nuts (6), lockwashers (7), and terminal lugs TL154 (8), and TL155 (9) from front stoplight switch (10). Discard lockwashers.
- (3) Remove stoplight switches (5 and 10) from foot control valve (11).



XL09R01A

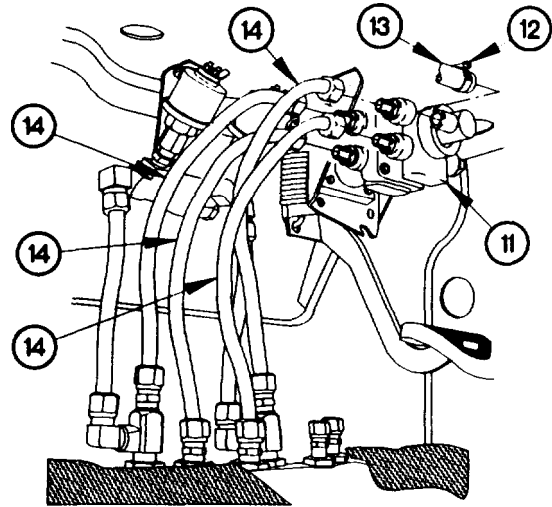
11-9. FOOT CONTROL VALVE AND BRAKE FOOT PEDAL REPLACEMENT (CONT)

- (4) Loosen clamp (12) on exhaust hose (13).
- (5) Disconnect exhaust hose (13) from foot control valve (11).

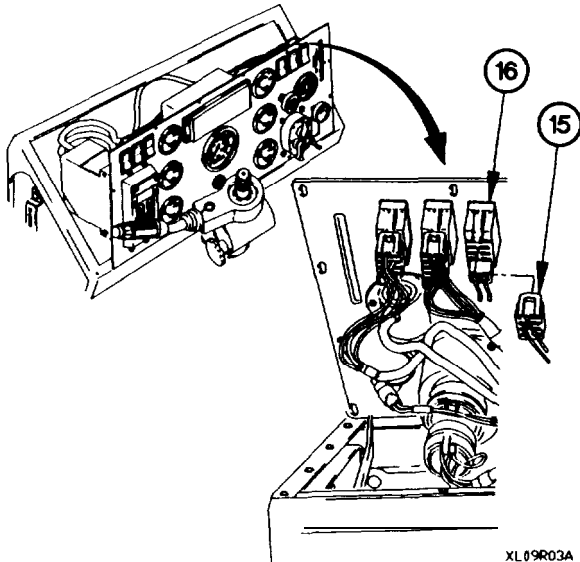
NOTE

- Tag air hoses and connection points prior to disconnecting.
- Remove plastic cable ties as required.

- (6) Disconnect four air hoses (14) from foot control valve (11).



XL 09R02A



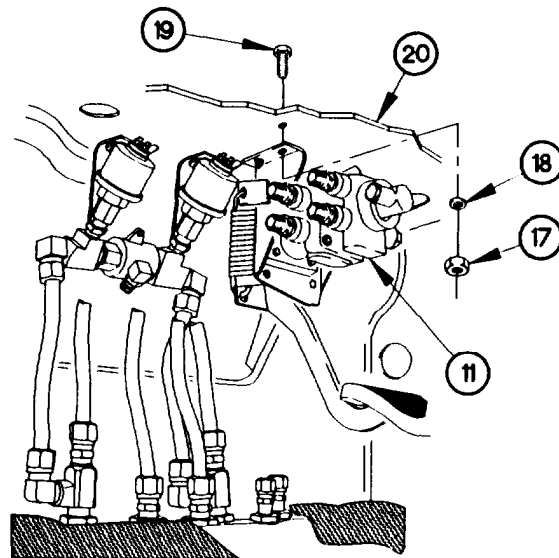
XL 09R03A

- (7) Disconnect connector PX17 (15) from master power switch (16).

NOTE

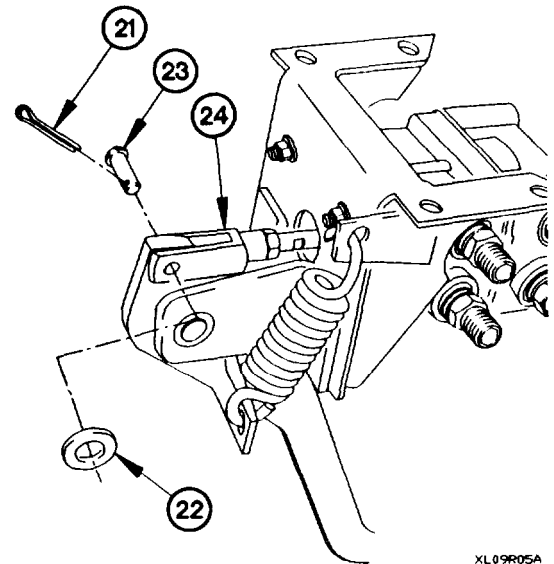
Step (8) requires the aid of an assistant.

- (8) Remove four self-locking nuts (17), washers (18), and screws (19) from foot control valve (11). Discard self-locking nuts.
- (9) Remove foot control valve (11) from dashboard (20).

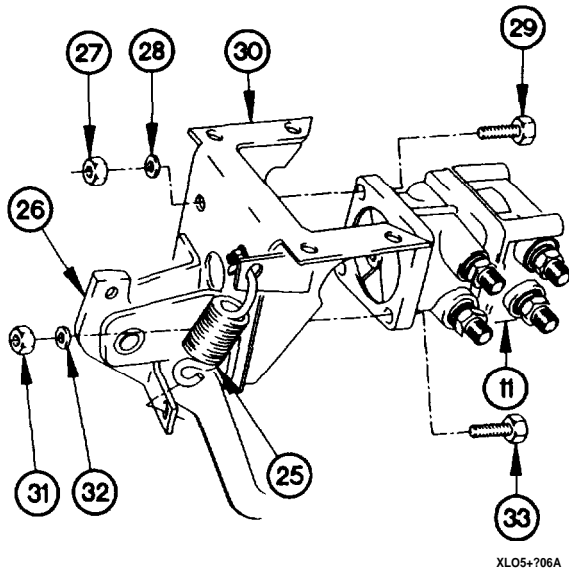


XL 09R04A

- (10) Remove cotter pin (21), washer (22), and pin (23) from foot control linkage (24). Discard cotter pin.



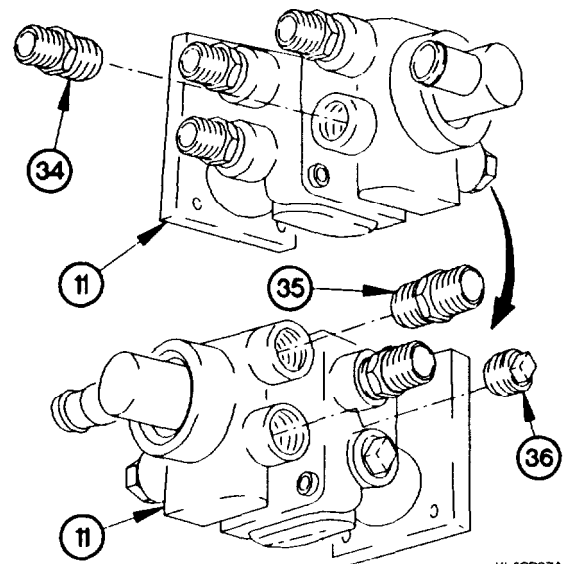
XL09R05A



XL05+706A

- (11) Remove spring (25) from brake foot pedal (26).
- (12) Remove two self-locking nuts (27), washers (28), and screws (29) from bracket (30). Discard self-locking nuts.
- (13) Remove two self-locking nuts (31), washers (32), screws (33), foot control valve (11), and brake foot pedal (26) from bracket (30). Discard self-locking nuts.

- (14) Remove four adapters (34) from foot control valve (11).
- (15) Remove two adapters (35) from foot control valve (11).
- (16) Remove two plugs (36) from foot control valve (11).



XL09R07A

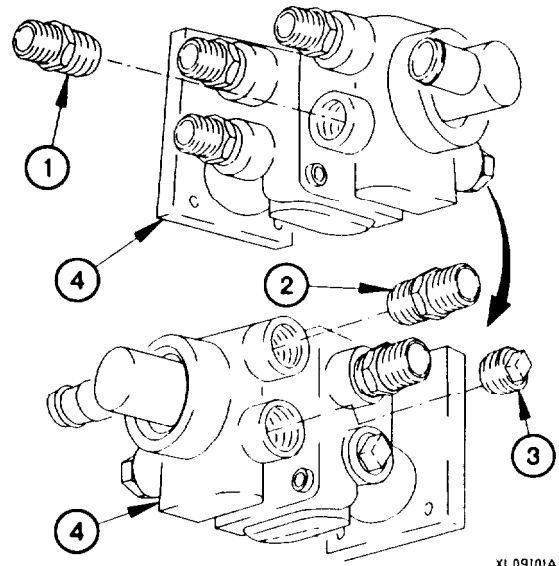
11-9 FOOT CONTROL VALVE AND BRAKE FOOT PEDAL REPLACEMENT (CONT)

b. Installation.

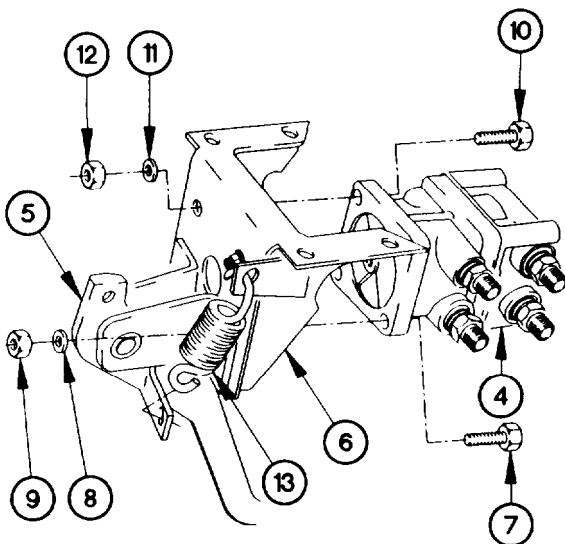
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of four adapters (1), two adapters (2), and plugs (3).
- (2) Install four adapters (1) in foot control valve (4).
- (3) Install two adapters (2) in foot control valve (4).
- (4) Install two plugs (3) in foot control valve (4).



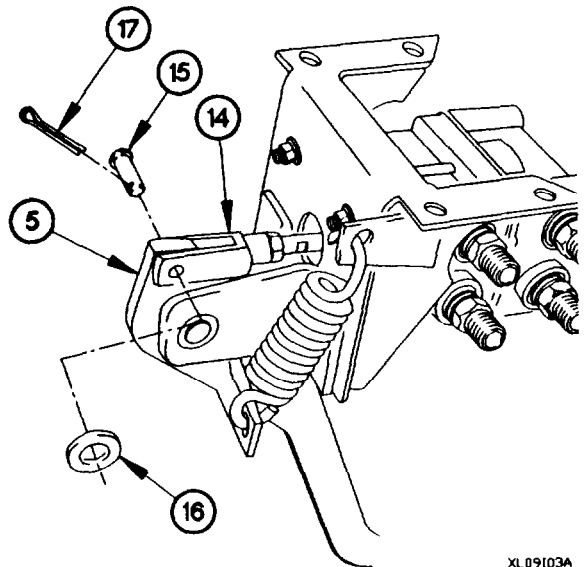
XL 09101A



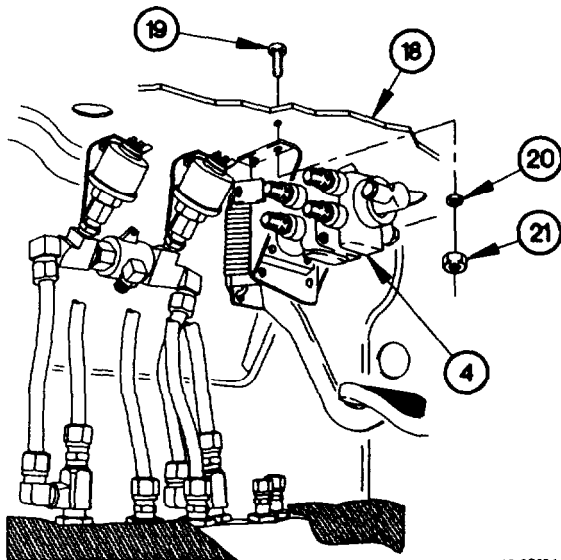
XL 09102A

- (5) Position brake foot pedal (5) and foot control valve (4) on bracket (6) with two screws (7), washers (8), and self-locking nuts (9).
- (6) Position two screws (10), washers (11), and self-locking nuts (12) in foot control Valve (4).
- (7) Install spring (13) on bracket (6) and brake foot pedal (5).
- (8) Tighten two self-locking nuts (9 and 12) to 18 lb-ft (24 N•m).

- (9) Install foot control linkage (14), on brake foot pedal (5) with pin (15), washer (16), and cotter pin (17).



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XL 09104A

NOTE

Steps (10) through (12) require the aid of an assistant.

- (10) Position foot control valve (4) beneath dashboard (18).
- (11) Position four screws (19), washers (20), and self-locking nuts (21) in foot control valve (4).
- (12) Tighten four self-locking nuts (21) to 18 lb-ft 124 N•m).

11-9. FOOT CONTROL VALVE AND BRAKE FOOT PEDAL REPLACEMENT (CONT)

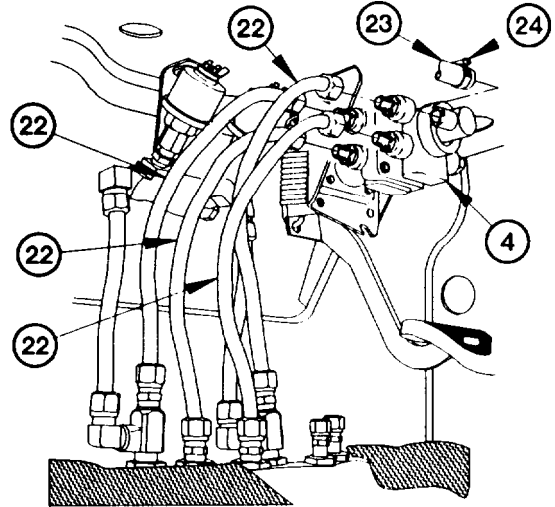
WARNING

Ensure air hoses are connected to correct fittings. Failure to comply may result in serious injury or death to personnel.

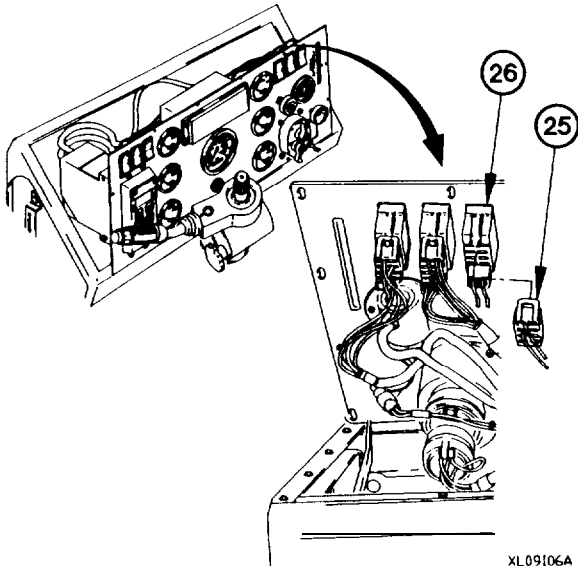
NOTE

Install plastic cable ties as required.

- (13) Connect four air hoses (22) to foot control valve (4).
- (14) Install exhaust hose (23) on foot control valve (4) with clamp (24).



XL09105A



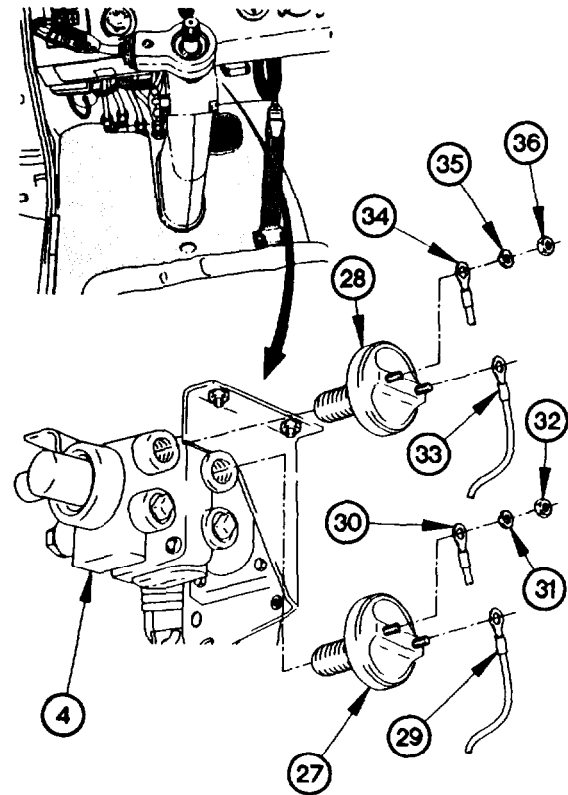
XL09106A

- (15) Connect connector PX17 (25) to master power switch (26).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (16) Apply antiseize compound to threads of stoplight switches (27 and 28).
- (17) Install stoplight switches (27 and 28) in foot control valve (4).
- (18) Install terminal lugs TL155 (29) and TL154 (30) on front stoplight switch (27) with two lockwashers (31) and nuts (32).
- (19) Install terminal lugs TL153 (33) and TL152 (34) on rear stoplight switch (28) with two lockwashers (35) and nuts (36).



XL09107A

c. Follow-On Maintenance.

- (1) Install instrument panel assembly (para 7-15).
- (2) Start engine (TM 9-2320-366-10-1).
- (3) Check around foot control valve and hoses for air leaks.
- (4) Shut down engine (TM 9-2320-366-10-1).
- (5) Open secondary air tank drain valve (TM 9-2320-366-10-1).
- (6) Push in SYSTEM PARK control (TM 9-2320-366-10-1).

11-9. FOOT CONTROL VALVE AND BRAKE FOOT PEDAL REPLACEMENT (CONT)

NOTE

- Audible alarm will sound during performance of steps (7) through (9). FRONT BRAKE light in lighted indicator display will illuminate and FRONT BRAKE AIR pressure gage will read "0" psi.
- Complete steps (7) through (9) before air pressure builds up in secondary air tank.

(7) Start engine (TM 9-2320-366-10-1).

(8) Position main light switch to SERVICE DRIVE (TM 9-2320-366-10-1).

NOTE

Rear brakes should lock up and brake lights should illuminate during step (9).

(9) Set transmission to first gear, accelerate to approximately 5 mph, and apply maximum foot brake pedal.

(10) Pull out SYSTEM PARK control (TM 9-2320-366-10-1).

(11) Close secondary air tank drain valve (TM 9-2320-366-10-1).

(12) Run engine until audible alarm no longer sounds.

(13) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-10. LOAD SENSING VALVE AND CONTROL CABLE REPLACEMENT/ADJUSTMENT

This task covers:

- | | |
|--|------------------------------------|
| a. Load Sensing Valve Control Cable Removal | d. Load Sensing Valve Installation |
| b. Load Sensing Valve Control Cable Installation | e. Load Sensing Valve Adjustment |
| c. Load Sensing Valve Removal | f. Follow-On Maintenance |

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Gage, Pressure, 0-150 psi (Item 20, Appendix B)
- Hose Assembly, Nonmetallic (Item 19, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Antiseize Compound (Item 13, Appendix D)
- Adhesive (Item 3, Appendix D)
- Nipple, Pipe (Item 11, Appendix D)
- Nut, Self-Locking (2) (Item 167, Appendix G)

Personnel Required

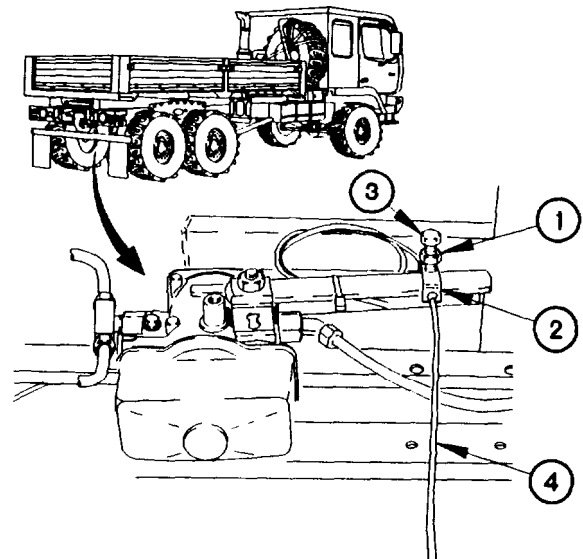
(2)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Load Sensing Valve Control Cable Removal.

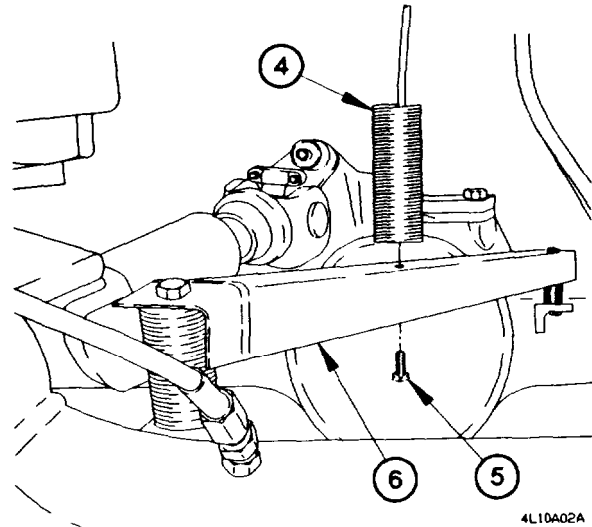
- (1) Loosen jam nut (1) on cable clamp (2).
- (2) Loosen screw (3) on cable clamp (2).
- (3) Remove load sensing valve control cable (4) from cable clamp (2).



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**11-10. LOAD SENSING VALVE AND CONTROL CABLE REPLACEMENT/ADJUSTMENT
(CONT)**

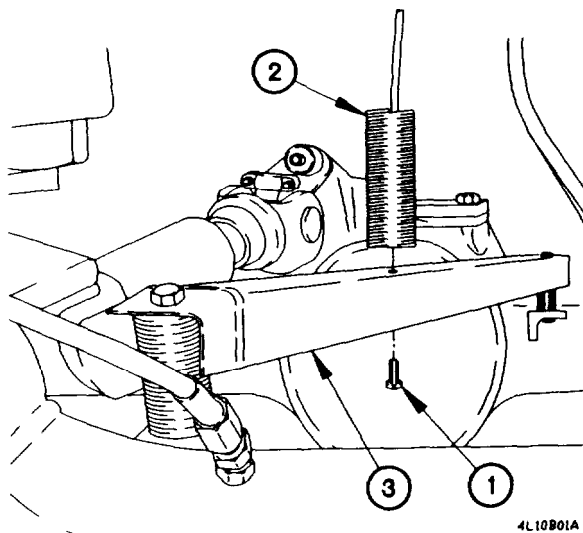
- (4) Remove screw (5) and load sensing valve control cable (4) from load averaging channel (6).



b. Load Sensing Valve Control Cable Installation.

WARNING

Adhesive Sealant MIL-S-46163 can damage your eyes. Wear safety goggles/glasses when using; avoid contact with eyes. If sealant contacts eyes, flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.

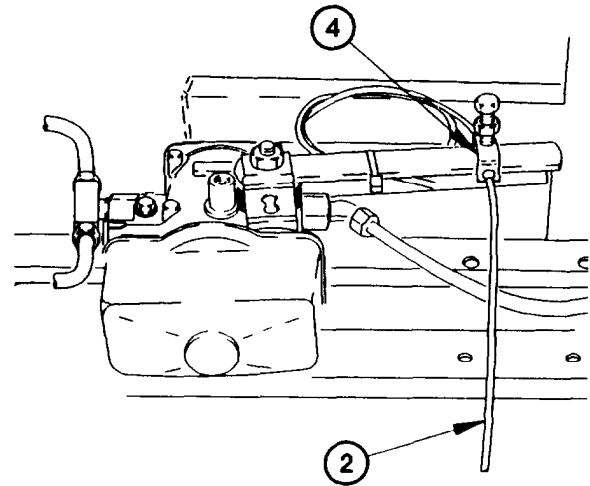


- (1) Apply adhesive to threads of screw (1).
- (2) Position load sensing valve control cable (2) on load averaging channel (3) with screw (1).
- (3) Tighten screw (1) to 35-43 lb-ft (48-58 N•m).

CAUTION

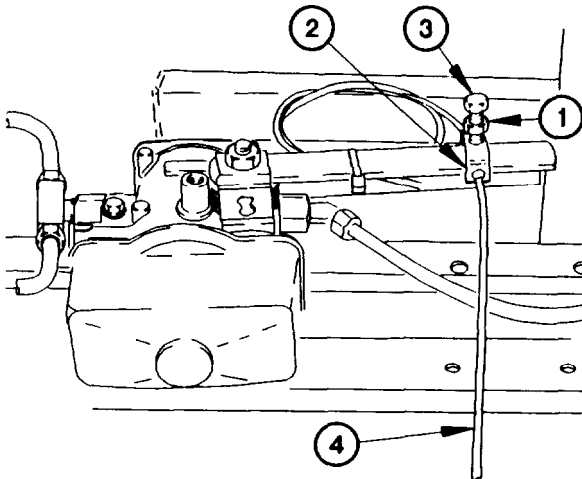
Load sensing valve control cable must be installed in cable clamp on back side of control lever, opposite cable clamp screw. Failure to comply may result in damage to load sensing valve control cable.

- (4) Install load sensing valve control cable (2) in cable clamp (4).
- (5) Perform load sensing valve adjustment.



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c. Load Sensing Valve Removal.



4L10C01A

- (1) Loosen jam nut (1) on cable clamp (2).
- (2) Loosen screw (3) on cable clamp (2).
- (3) Remove load sensing valve control cable (4) from cable clamp (2).

**11-10. LOAD SENSING VALVE AND CONTROL CABLE REPLACEMENT/ADJUSTMENT
(CONT)**

NOTE

Tag air hoses and connection points prior to disconnecting.

- (4) Disconnect air hose (5) from load sensing valve (6).

NOTE

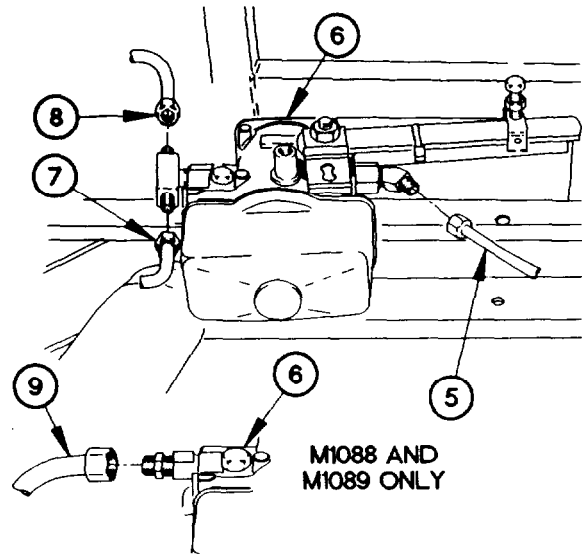
Perform step (5) on all models except M1088 and M1089.

- (5) Disconnect air hoses (7 and 8) from load sensing valve (6).

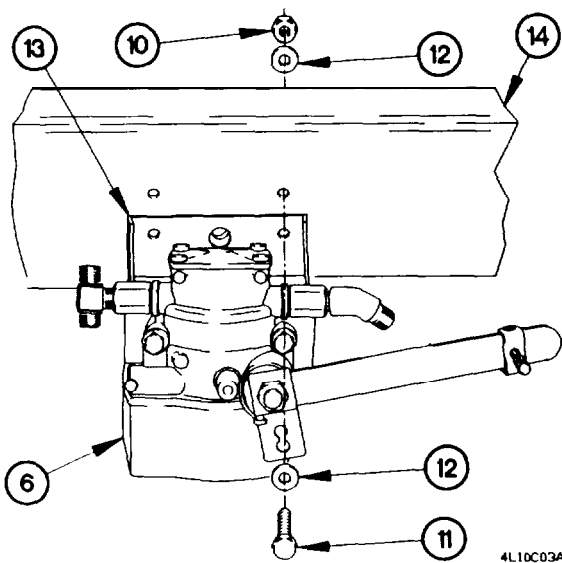
NOTE

Perform step (6) on M1088 and M1089.

- (6) Disconnect air hose (9) from load sensing valve (6).



4L10C02A



NOTE

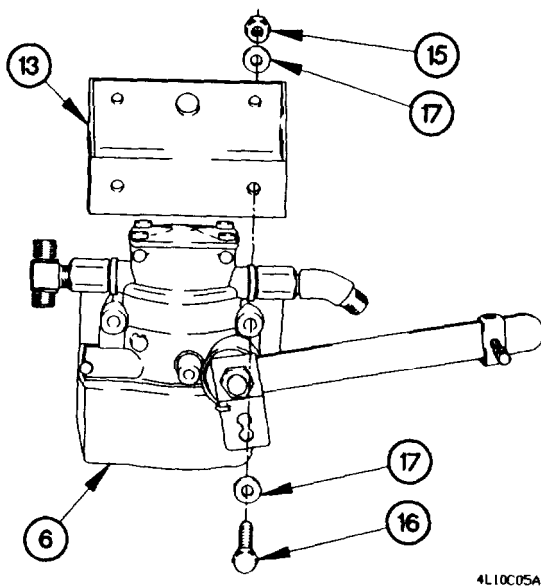
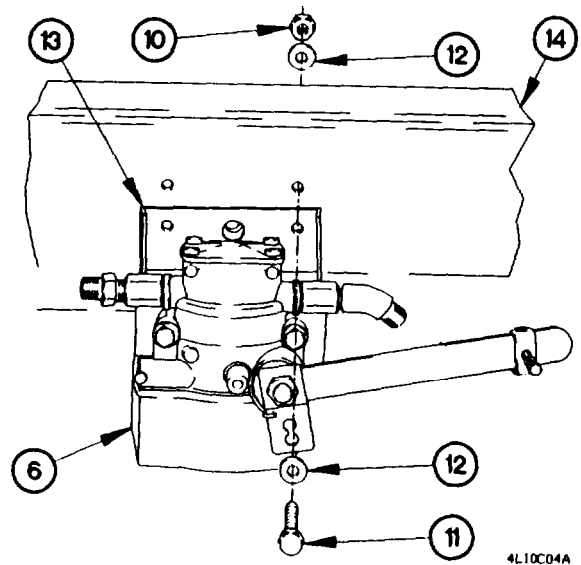
Perform step (7) on all models except M1088.

- (7) Remove two self-locking nuts (10), screws (11), four spacers (12), load sensing valve (6) and bracket (13) from crossmember (14). Discard self-locking nuts.

NOTE

Perform step (8) on M1088.

- (8) Remove two self-locking nuts (10), screws (11), four washers (12), load sensing valve (6) and bracket (13) from crossmember (14). Discard self-locking nuts.



- (9) Remove two self-locking nuts (15), screws (16), four washers (17), and bracket (13) from load sensing valve (6). Discard self-locking nuts.

NOTE

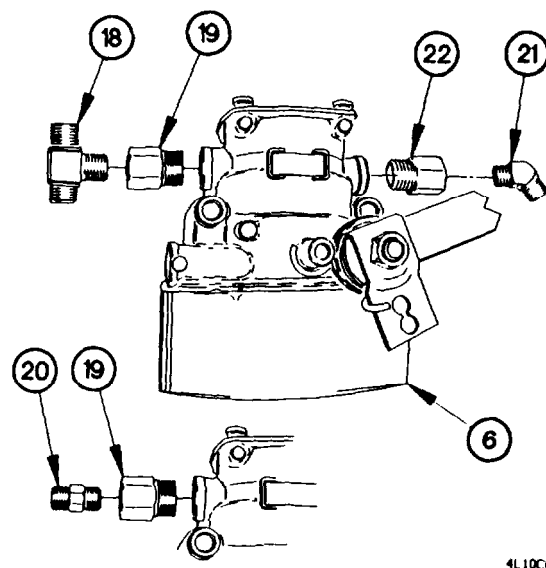
Perform step (10) on all models except M1088 and M1089.

- (10) Remove tee fitting (18) from adapter (19).

NOTE

Perform step (11) on M1088 and M1089.

- (11) Remove reducer adapter (20) from adapter (19).
 (12) Remove adapter (19) from load sensing valve (6).
 (13) Remove 45-degree fitting (21) from adapter (22).
 (14) Remove adapter (22) from load sensing valve (6).



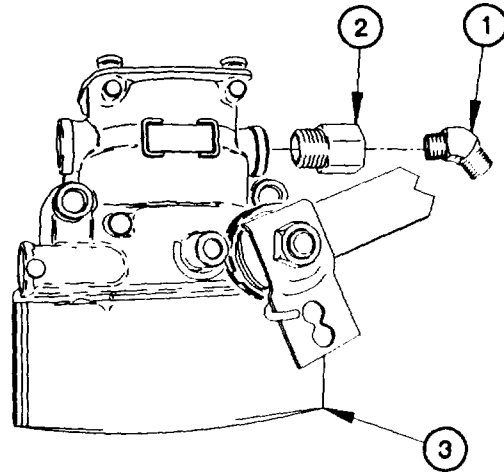
11-10. LOAD SENSING VALVE AND CONTROL CABLE REPLACEMENT/ADJUSTMENT (CONT)

d. Load Sensing Valve Installation.

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of 45-degree fitting (1).
- (2) Install 45-degree fitting (1) in adapter (2).
- (3) Install adapter (2) in load sensing valve (3).



4L10D01A

NOTE

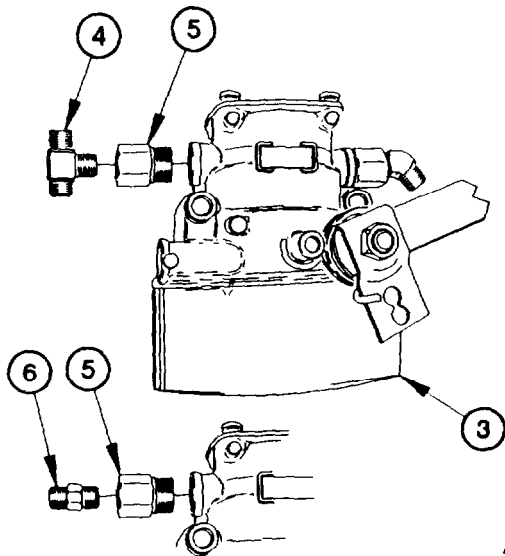
Perform steps (4) and (5) on all models except M1088 and M1089.

- (4) Apply antiseize compound to threads of tee fitting (4).
- (5) Install tee fitting (4) in adapter (5).
- (6) Install adapter (5) in load sensing valve (3).

NOTE

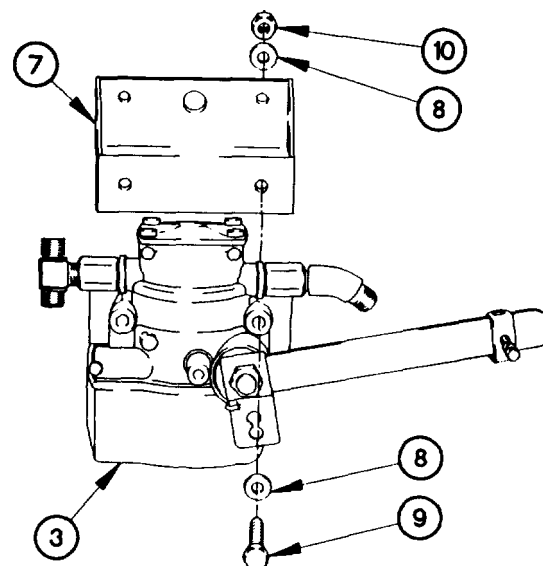
Perform steps (7) and (8) on M1088 and M1089.

- (7) Apply antiseize compound to threads of reducer adapter (6).
- (8) Install reducer adapter (6) in adapter (5).
- (9) Install adapter (5) in load sensing valve (3).

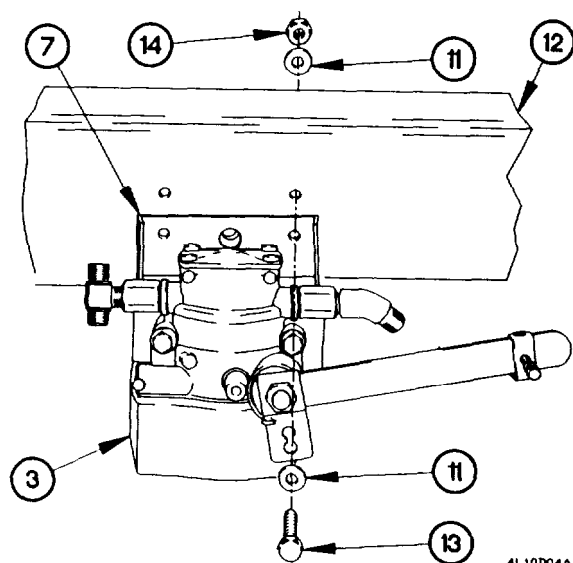


4L10D02A

- (10) Position load sensing valve (3) on bracket (7) with four washers (8), screws (9) and self-locking nuts (10).
- (11) Tighten two self-locking nuts (10) to 14-18 lb-ft (20-24 N•m).



4L10D03A



4L10D04A

NOTE

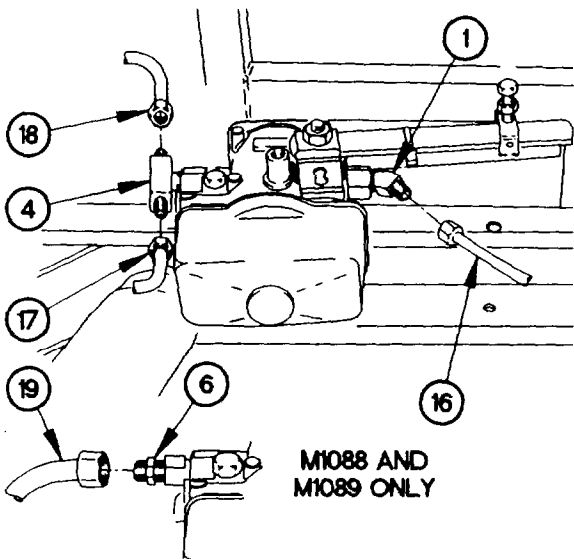
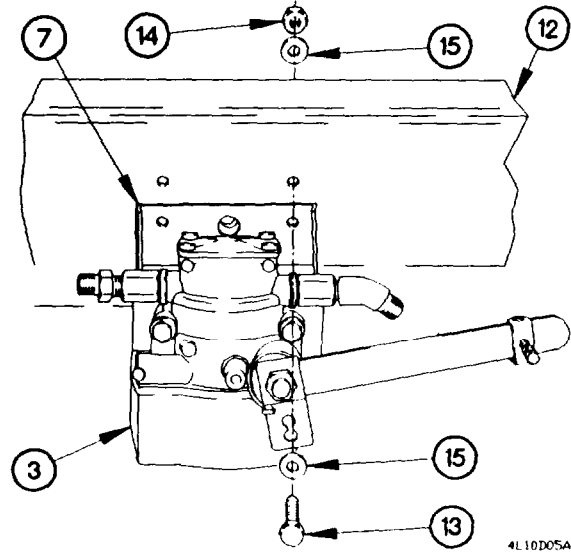
- Perform step (12) on all models except M1088.
 - Begin by using holes furthest left on crossmember. Final position will be determined during load sensing valve adjustment.
- (12) Position load sensing valve (3), bracket (7), and four spacers (11) on crossmember (12) with two screws (13) and self-locking nuts (14).

**11-10. LOAD SENSING VALVE AND CONTROL CABLE REPLACEMENT/
ADJUSTMENT (CONT)**

NOTE

- Perform step (13) on M1088.
- Begin by using holes furthest left on crossmember. Final position will be determined during load sensing valve adjustment.

(13) Position load sensing valve (3) and bracket (7) on crossmember (12) with four washers (15), two screws (13), and self-locking nuts (14).



(14) Connect air hose (16) to 45-degree fitting (1).

NOTE

Perform step (15) on all models except M1088.

(15) Connect air hoses (17 and 18) to tee fitting (4).

NOTE

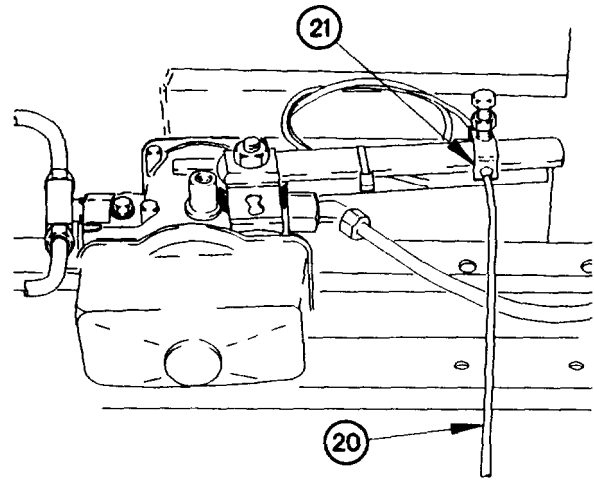
Perform step (16) on M1088.

(16) Connect air hose (19) to reducer adapter (6).

CAUTION

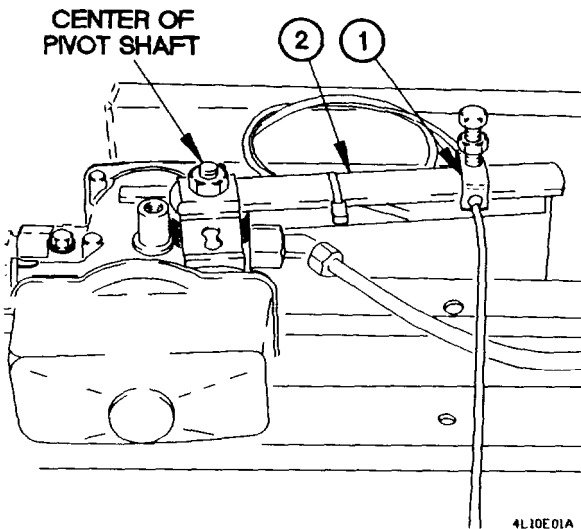
Load sensing valve control cable must be installed in cable clamp on back side of control lever, opposite cable clamp screw. Failure to comply may result in damage to load sensing valve control cable.

- (17) Install load sensing valve control cable (20) in cable clamp (21).
- (18) Perform load sensing valve adjustment.



4L10MVA

e. Load Sensing Valve Adjustment.



WARNING

Proper adjustment of load sensing valve may only be accomplished with vehicle unloaded. Failure to comply may result in injury to personnel or damage to equipment.

- (1) Position cable clamp (1) on control lever (2) in accordance with Table 11-1. **Load Sensing Valve Cable Clamp Dimensions.**

NOTE

Dimensions in Table 11-1. **Load Sensing Valve Cable Clamp Dimensions** are measured from center of pivot shaft to center of cable clamp.

Table 11-1. Load Sensing Valve Cable Clamp Dimensions

Model Number	Dimension
M1083, M1089, M1093	6-13/16 - 7-1/16 in. (173-179 mm)
M1084, M1086	5-7/8 - 6-1/8 in. (149-155 mm)
M1085, M1088, M1090, M1094	6-1/2 - 6-3/4 in. (165-171 mm)

11-10. LOAD SENSING VALVE AND CONTROL CABLE REPLACEMENT/ADJUSTMENT (CONT)

(2) Position control lever (2) so that it is level.

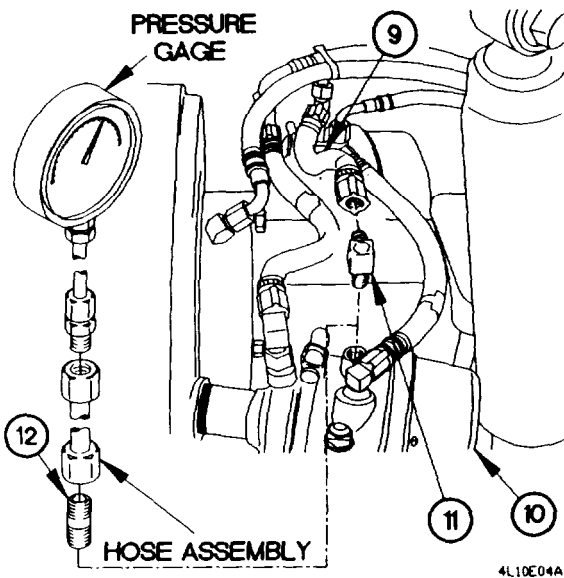
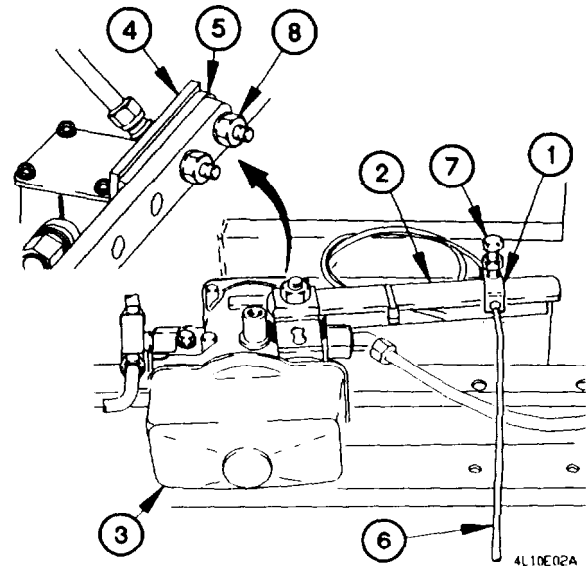
NOTE

It may be necessary to change location of load sensing valve, bracket, and spacer on crossmember in order to accomplish step (3).

(3) Position load sensing valve (3), bracket (4), and spacer (5) so that load sensing valve control cable (6) is in vertical position.

(4) Tighten screw (7) in cable clamp (1).

(5) Tighten two self-locking nuts (8) to 71-87 lb-ft (96-118 N•m).



(6) Disconnect center air hose (9) from left rear service brake air chamber (10).

(7) Remove 90-degree fitting (11) from left rear service brake air chamber (10).

(8) Install pipe nipple (12) in hole from which 90-degree fitting (11) was removed in step (7).

(9) Connect hose assembly to pipe nipple (12).

(10) Connect pressure gage to hose assembly.

CAUTION

Full system air pressure is required before calibrating load sensing valve. Failure to comply may result in incorrect calibration of load sensing valve.

NOTE

Hold engine speed at high idle for at least one minute after air pressure stabilizes.

- (11) Start engine (TM 9-2320-366-10-1) and increase engine speed to high idle.

NOTE

REAR BRAKE AIR pressure gage should read approximately 120 psi. If REAR BRAKE AIR pressure gage reads less than 115 psi shut down engine and perform step (15) again.

- (12) Decrease engine speed to low idle.
- (13) Depress brake pedal (TM 9-2320-366-10-1).

NOTE

Pressure gage attached to rear service brake air chamber should indicate air pressure within limits shown in **Table 11-2. Air Chamber Pressure Limits.**

- (14) Note reading on pressure gage while brake pedal is depressed.

Table 11-2. Air Chamber Pressure Limits

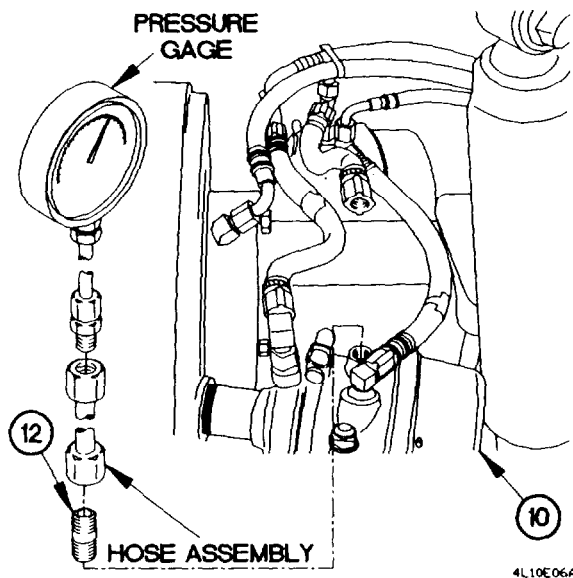
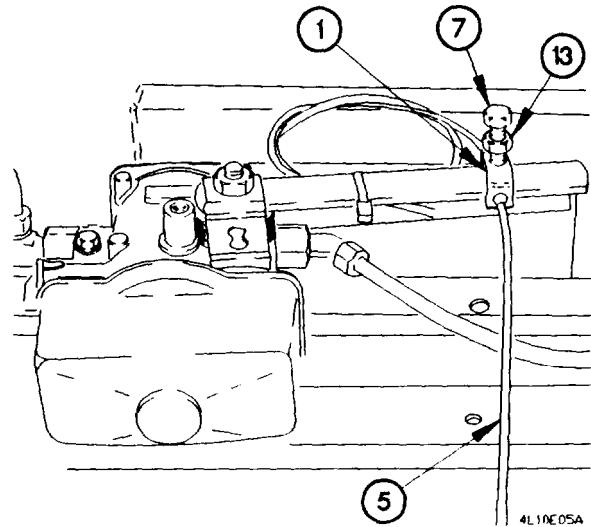
Model Number	Air Pressure Limits
M1083, M1093	40-50 psi (276-345 Kpa)
M1084, M1085, M1086, M1090, M1094	50-60 psi (345-414 Kpa)
M1088	30-40 psi (207-276 Kpa)
M1089	65-71 psi (448-490 Kpa)

11-10. LOAD SENSING VALVE AND CONTROL CABLE REPLACEMENT/ADJUSTMENT (CONT)

NOTE

- If air chamber pressure is not within limits shown in **Table 11-2. Air Chamber Pressure Limits** perform steps (15) through (17), depress brake pedal several times, shut down engine, and perform steps (11) through (14) again.
- Lengthening load sensing valve control cable will increase pressure reading, shortening cable will decrease pressure reading.

- (15) Loosen screw (7) in cable clamp (1).
- (16) Adjust length of load sensing valve control cable (5).
- (17) Tighten screw (7) in cable clamp (1).
- (18) Tighten jam nut (13) on screw (7).

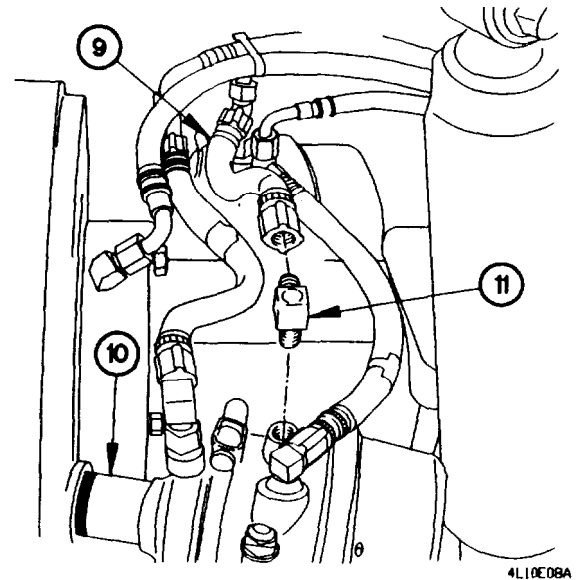


- (19) Shut down engine (TM 9-2320-366-10-1).
- (20) Drain air from primary air tank (TM 9-2320-366-10-1).
- (21) Remove pressure gage, hose assembly, and pipe nipple (12) from rear service brake air chamber (10).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (22) Apply antiseize compound to threads of 90-degree fitting (11).
- (23) Install 90-degree fitting (11) in left rear service brake air chamber (10).
- (24) Connect center air hose (9) to 90-degree fitting (11).



4L10EDBA

f. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1) and allow time for air pressure to build to normal operating pressure.
- (2) Shut down engine (TM 9-2320-366-10-1).
- (3) Check around load sensing valve, air hoses and fittings for air leaks.
- (4) Start engine (TM 9-2320-366-10-1).
- (5) Road test vehicle and check for proper brake operation.
- (6) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-11. LOAD AVERAGING CHANNEL REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Materials/Parts

- Adhesive (Item 4, Appendix D)

Tools and Special Tools

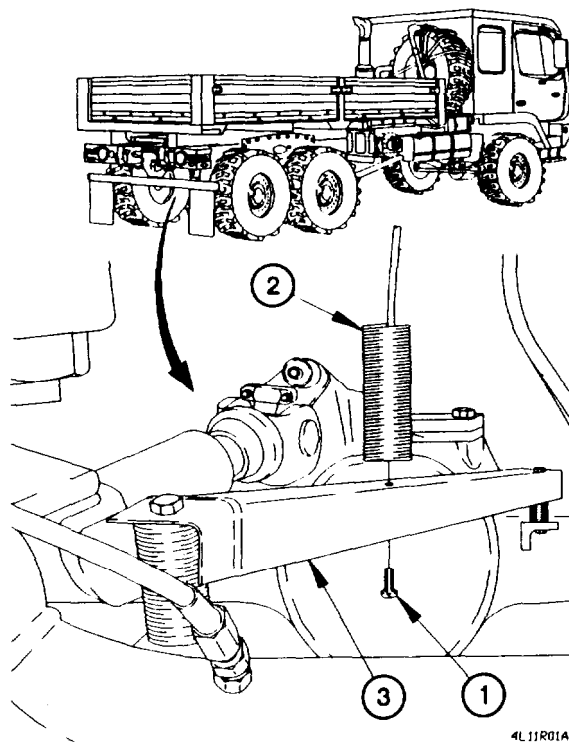
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

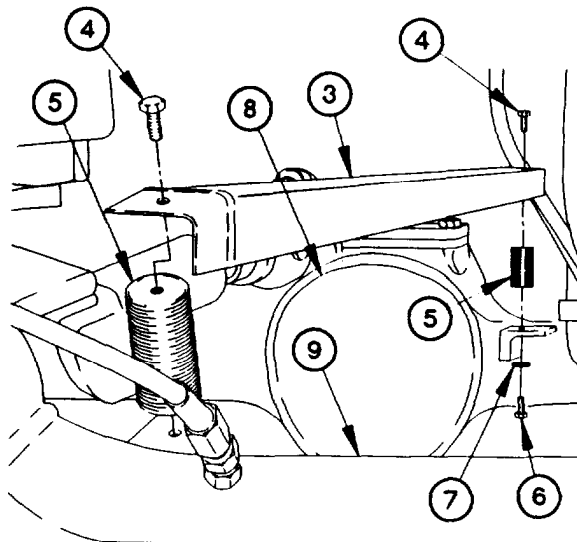
a. Removal.

- (1) Remove screw (1) and load sensing valve control cable (2) from load averaging channel (3).



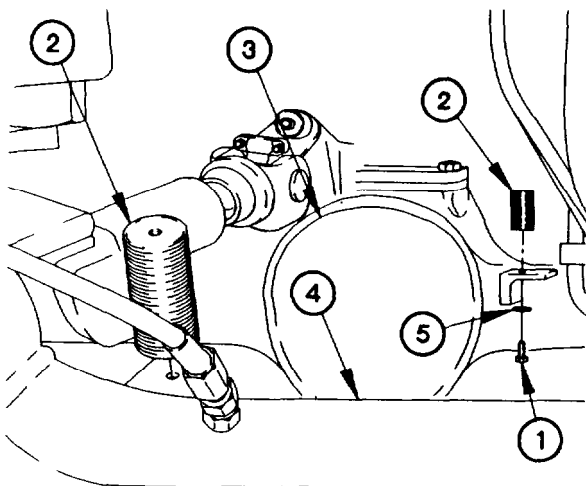
4L11R01A

- (2) Loosen two screws (4) on load averaging channel mounting springs (5).
- (3) Remove two screws (4) and load averaging channel (3) from load averaging channel mounting springs (5).
- (4) Remove two screws (6), washers (7), and load averaging channel mounting springs (5) from intermediate axle (8) and rear axle (9).



4L11R02-

b. Installation.



4L11101-

WARNING

Adhesive Sealant MIL-S46163 can damage your eyes. Wear safety goggles/glasses when using; avoid contact with eyes. If sealant contacts eyes, flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.

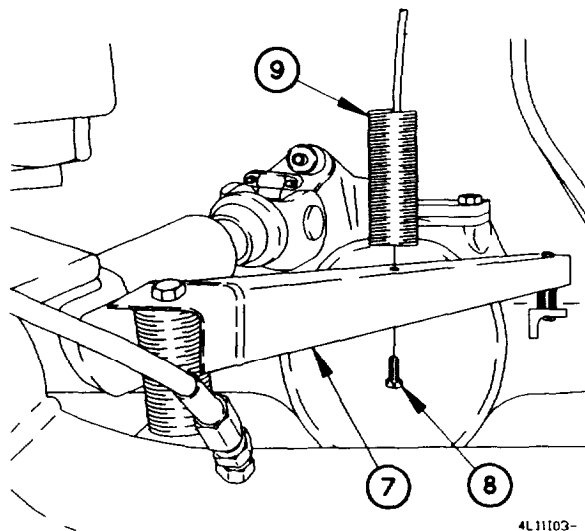
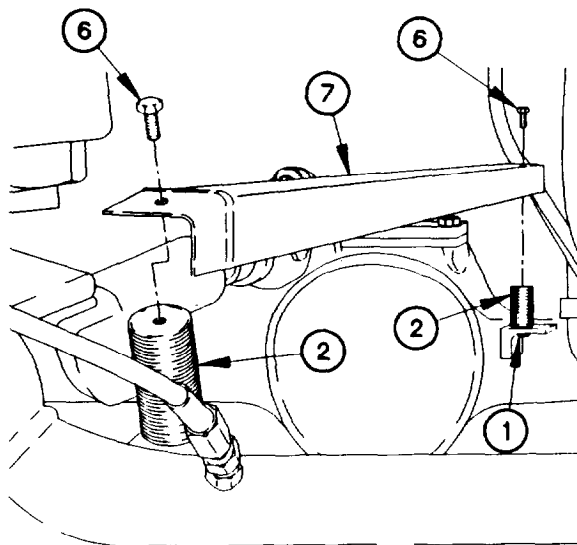
- (1) Apply adhesive to threads of two screws (1).
- (2) Position two load averaging channel mounting springs (2) on intermediate axle (3) and rear axle (4) with two washers (5) and screws (1).

11-11. LOAD AVERAGING CHANNEL REPLACEMENT (CONT)

WARNING

Adhesive Sealant ML-S-46163 can damage your eyes. Wear safety goggles/glasses when using; avoid contact with eyes. If sealant contacts eyes, flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.

- (3) Apply adhesive to threads of two screws (6).
- (4) Position load averaging channel (7) on two load averaging channel mounting springs (2) with screws (6).
- (5) Tighten two screws (1 and 6) to 35-43 lb-ft (48-58 N•m).



4L11103-

- (6) Apply adhesive to threads of screw (8).
- (7) Position load sensing valve control cable (9) on load averaging channel (7) with screw (8).
- (8) Tighten screw (8) to 35-43 lb-ft (48-58 N•m).

c. Follow-On Maintenance.

Perform load sensing valve adjustment (para 11-10).

End of Task.

11-12. ANTI-COMPOUNDING RELAY VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Antiseize Compound (Item 13, Appendix D)
- Nut, Self-Locking (2) (Item 167, Appendix G)

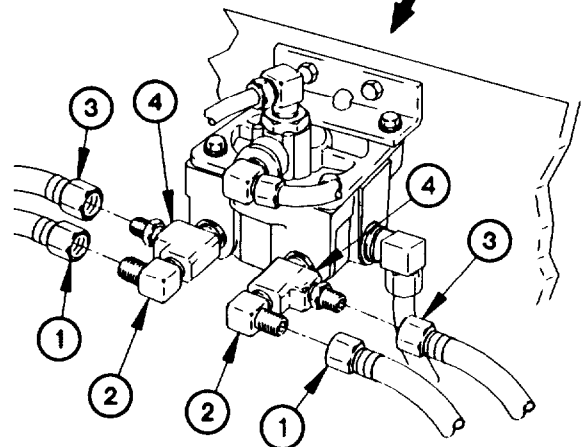
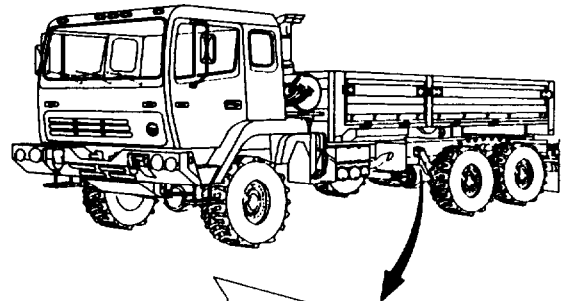
WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

- On M1089 the panel is located directly below main winches.
 - Tag air hoses and connection points prior to disconnecting.
- (1) Disconnect two air hoses (1) from 90-degree fittings (2).
 - (2) Disconnect two air hoses (3) from tee fittings (4).

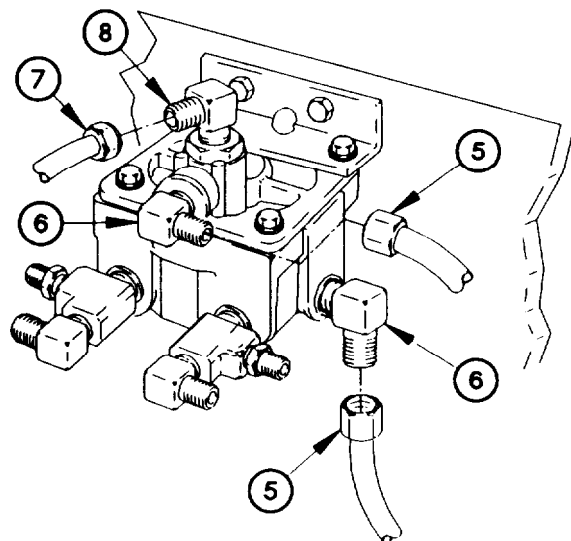


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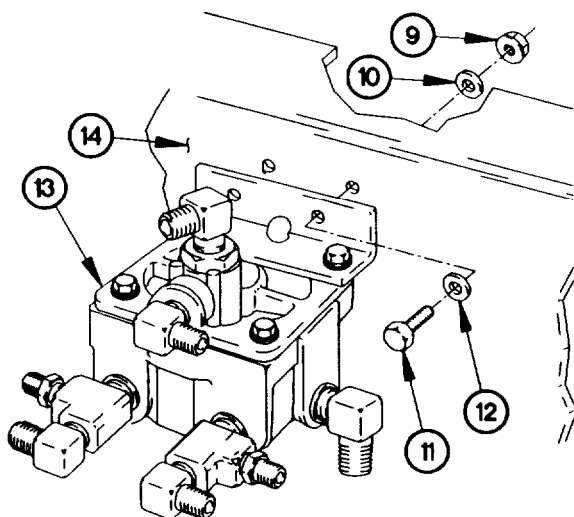
11-12. ANTI-COMPOUNDING RELAY VALVE REPLACEMENT (CONT)

(3) Disconnect two air hoses (5) from 90-degree fittings (6).

(4) Disconnect air hose (7) from 90-degree fitting (8).



4L12R02A



4L12R03A

(5) Remove two self-locking nuts (9), washers (10), screws (11), washers (12), and anti-compounding relay valve (13) from panel (14). Discard self-locking nuts.

NOTE

Note orientation of fittings prior to removal.

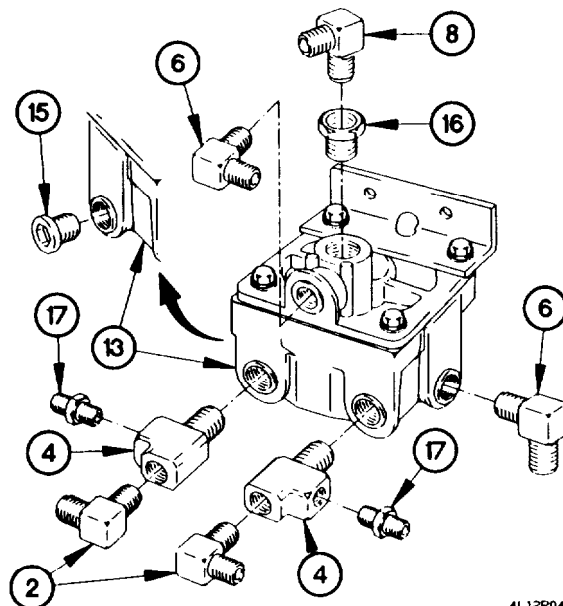
(6) Remove plug (15) from anti-compounding relay valve (13).

(7) Remove two 90-degree fittings (6) from anti-compounding relay valve (13).

(8) Remove 90-degree fitting (8) from bushing (16).

(9) Remove bushing (16) from anti-compounding relay valve (13).

(10) Remove two fittings (17), 90-degree fittings (2) and tee fittings (4) from anti-compounding relay valve (13).



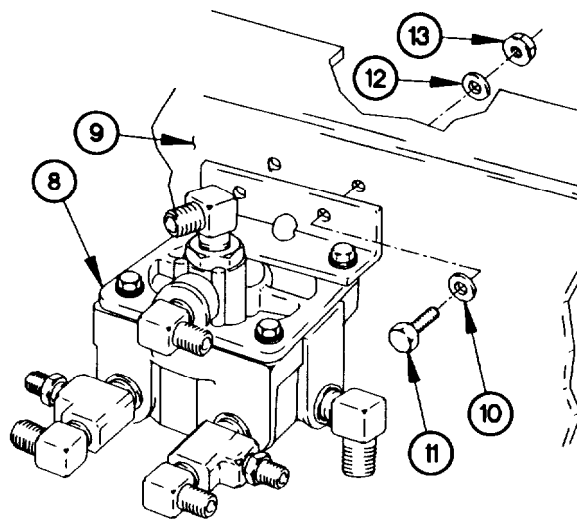
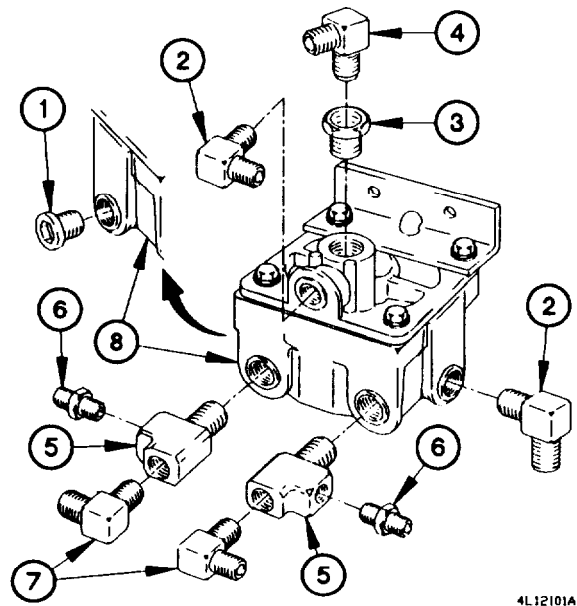
4L12R04A

b. Installation.

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of plug (1), two 90-degree fittings (2), bushing (3), 90-degree fitting (4), two tee fittings (5), fittings (6), and 90-degree fittings (7).
- (2) Install plug (1) in anti-compounding relay valve (8).
- (3) Install two 90-degree fittings (2) in anti-compounding relay valve (8).
- (4) Install bushing (3) in anti-compounding relay valve (8).
- (5) Install 90-degree fitting (4) in bushing (3).
- (6) Install two tee fittings (5), fittings (6) and 90-degree fittings (7) in anti-compounding relay valve (8).

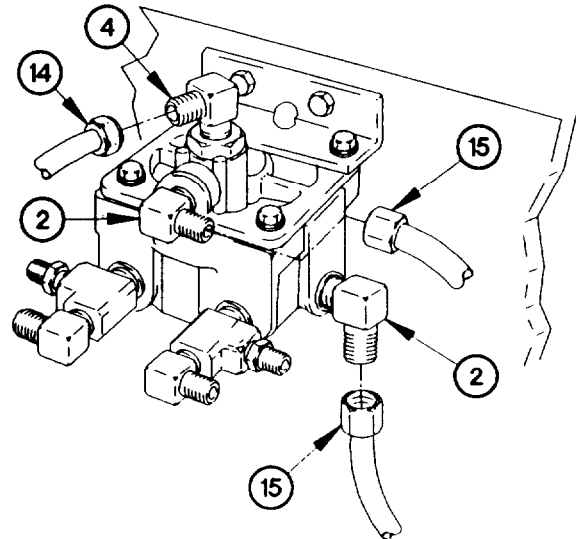


- (7) Position anti-compounding relay valve (8) on panel (9) with two washers (10), screws (11), washers (12), and self-locking nuts (13).
- (8) Tighten two self-locking nuts (13) to 14-18 lb-ft (20-24 N•m).

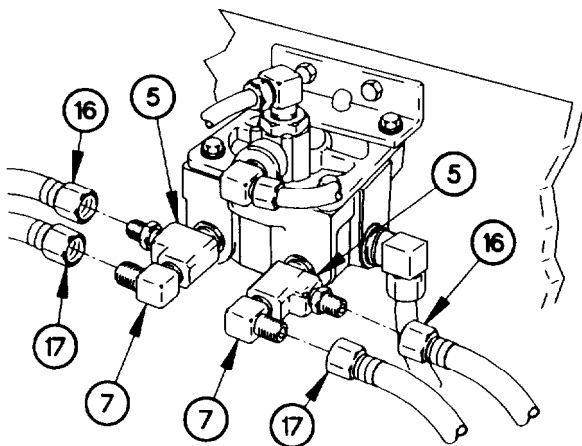
11-12. ANTI-COMPOUNDING RELAY VALVE REPLACEMENT (CONT)

(9) Connect air hose (14) to 90-degree fitting (4).

(10) Connect two air hoses (15) to 90-degree fittings (2).



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4L12104A

(11) Connect two air hoses (16) to tee fittings (5).

(12) Connect two air hoses (17) to 90-degree fittings (7).

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1) and allow time for air pressure to reach normal operating air pressure.
- (2) Shut down engine (TM 9-2320-366-10-1).
- (3) Check around anti-compounding relay valve and hoses for air leaks.
- (4) Start engine (TM 9-2320-366-10-1).
- (5) Road test vehicle and check for proper brake operation.
- (6) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-13. INVERSION VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Antiseize Compound (Item 13, Appendix D)
- Nut, Self-Locking (2) (Item 167, Appendix G)

WARNING

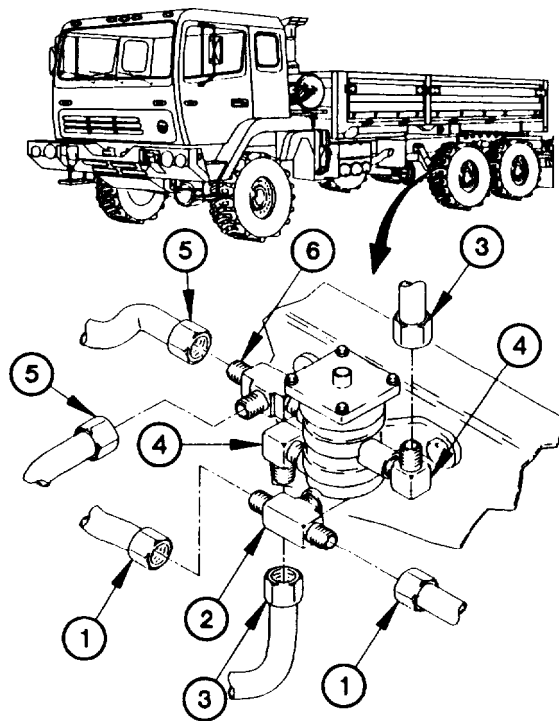
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

Tag air hoses and connection points prior to disconnecting.

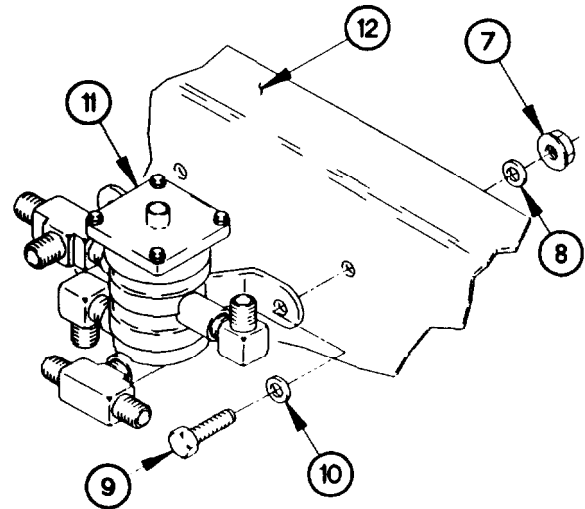
- (1) Disconnect two air hoses (1) from branch tee fitting (2).
- (2) Disconnect two air hoses (3) from 90-degree fittings (4).
- (3) Disconnect two air hoses (5) from run tee fitting (6).



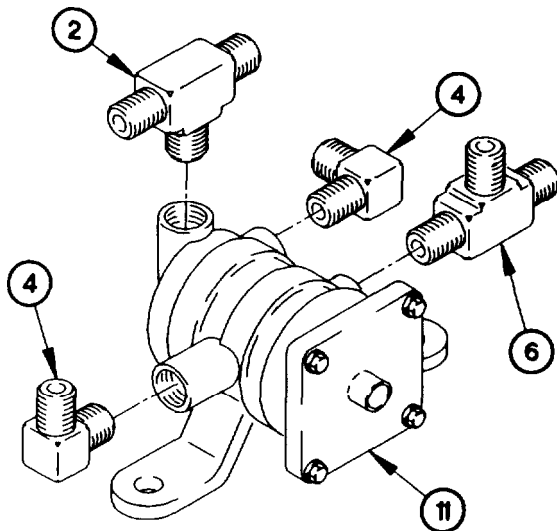
4L13ROIA

11-13. INVERSION VALVE REPLACEMENT (CONT)

- (4) Remove two self-locking nuts (7), washers (8), screws (9), washers (10), and inversion valve (11) from panel (12). Discard self-locking nuts.



YL13ROPa



XL13R03A

NOTE

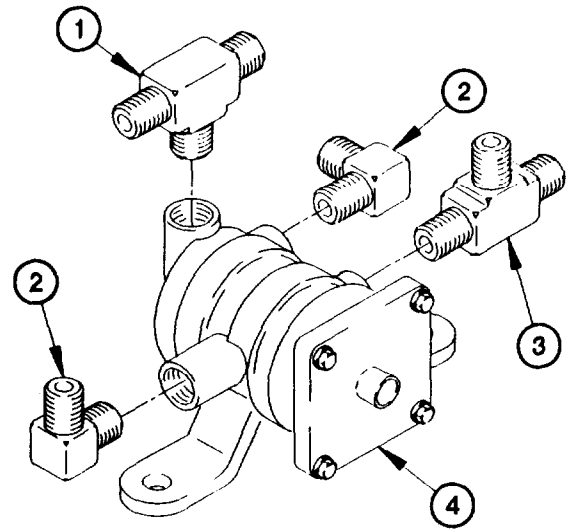
Note orientation of fittings prior to removal.

- (5) Remove run tee fitting (6) from inversion valve (11).
- (6) Remove two 90-degree fittings (4) from inversion valve (11).
- (7) Remove branch tee fitting (2) from inversion valve (11).

b. Installation.

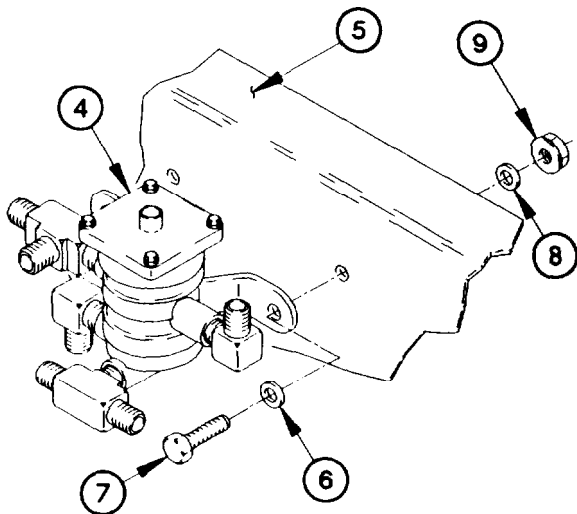
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



XL13101A

- (1) Apply antiseize compound to threads of branch tee fitting (1), two 90-degree fittings (2), and run tee fitting (3).
- (2) Install branch tee fitting (1) in inversion valve (4).
- (3) Install two 90-degree fittings (2) in inversion valve (4).
- (4) Install run tee fitting (3) in inversion valve (4).



YL13102A

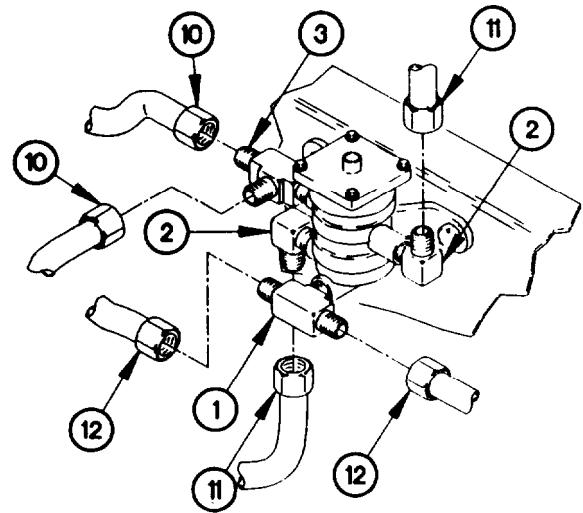
- (5) Position inversion valve (4) on panel (5) with two washers (6), screws (7), washers (8), and self-locking nuts (9).
- (6) Tighten two self-locking nuts (9) to 24-30 lb-ft (33-41 N•m).

11-13. INVERSION VALVE REPLACEMENT (CONT)

- (7) Connect two air hoses (10) to run tee fitting (3).
- (8) Connect two air hoses (11) to 90-degree fittings (2).
- (9) Connect two air hoses (12) to branch tee fitting (1).

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1) and allow time for air pressure to reach normal operating air pressure.
- (2) Shut down engine (TM 9-2320-366-10-1).
- (3) Check around inversion valve and air hoses for air leaks.
- (4) Start engine (TM 9-2320-366-10-1).
- (5) Road test vehicle and check for proper brake operation.
- (6) Shut down engine (TM 9-2320-366-10-1).



XL13103A

End of Task.

11-14. RELAY VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Antiseize Compound (Item 13, Appendix D)
- Nut, Self-Locking (2) (Item 167, Appendix G)

WARNING

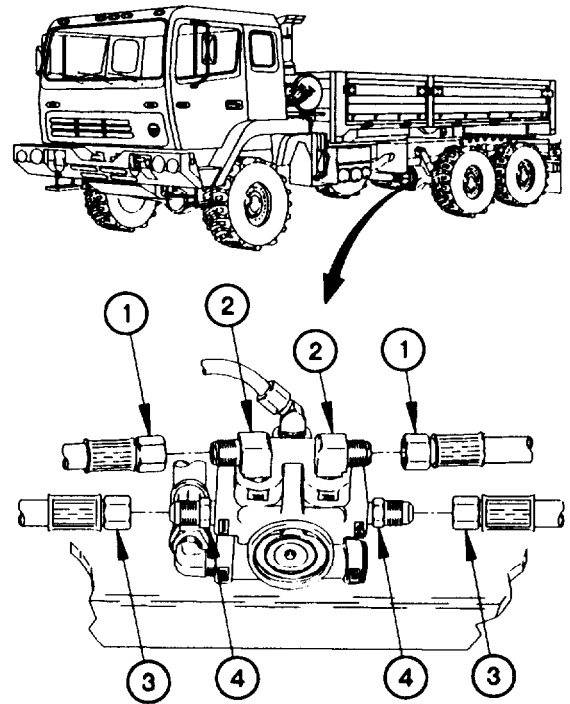
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

Tag air hoses and connection points prior to disconnecting.

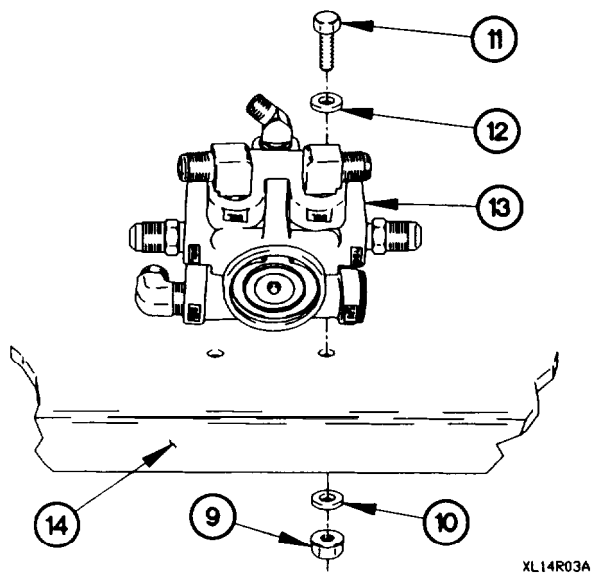
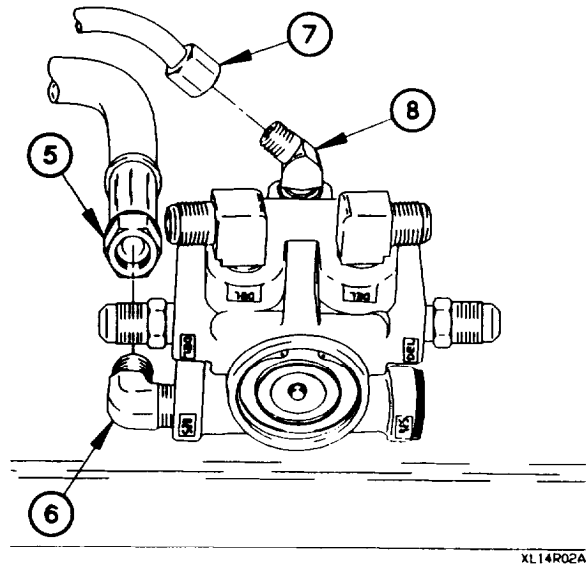
- (1) Disconnect two air hoses (1) from 90-degree fittings (2).
- (2) Disconnect two air hoses (3) from fittings (4).



4L14R01A

11-14. RELAY VALVE REPLACEMENT (CONT)

- (3) Disconnect air hose (5) from 90-degree fitting (6).
- (4) Disconnect air hose (7) from 45-degree fitting (8).

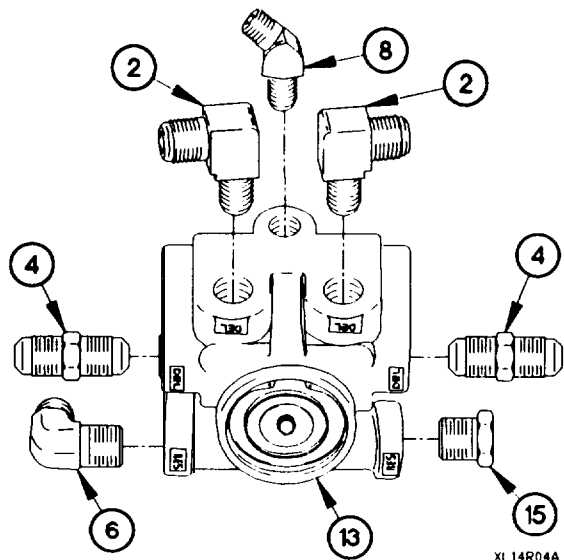


- (5) Remove two self-locking nuts (9), washers (10), screws (11), washers (12) and relay valve (13) from panel (14). Discard self-locking nuts.

NOTE

Note orientation of fittings prior to removal.

- (6) Remove 45-degree fitting (8) from relay valve (13).
- (7) Remove two fittings (4) from relay valve (13).
- (8) Remove 90-degree fitting (6) from relay valve (13).
- (9) Remove two 90-degree fittings (2) from relay valve (13).
- (10) Remove plug (15) from relay valve (13).

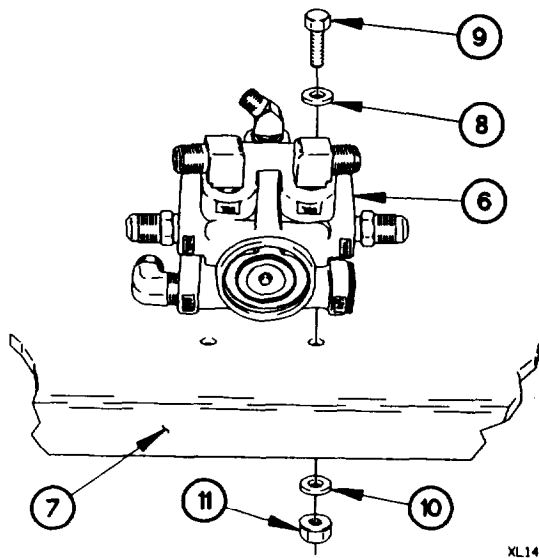
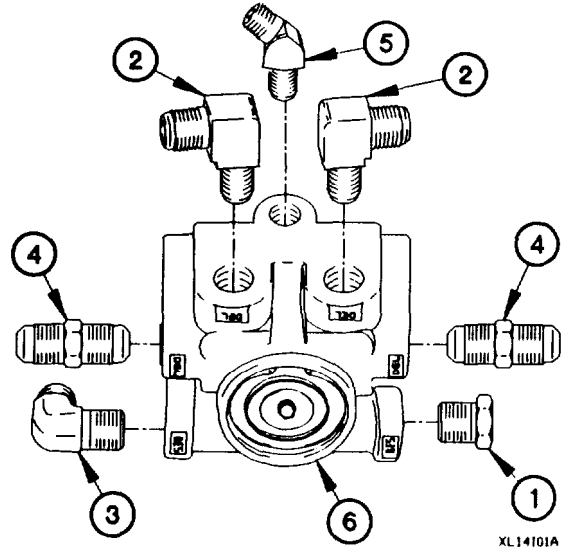


b. Installation.

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of plug (1), two 90-degree fittings (2), 90-degree fitting (3), two fittings (4), and 45-degree fitting (5).
- (2) Install plug (1) in relay valve (6).
- (3) Install two 90-degree fittings (2) in relay valve (6).
- (4) Install 90-degree fitting (3) in relay valve (6).
- (5) Install two fittings (4) in relay valve (6).
- (6) Install 45-degree fitting (5) in relay valve (6).

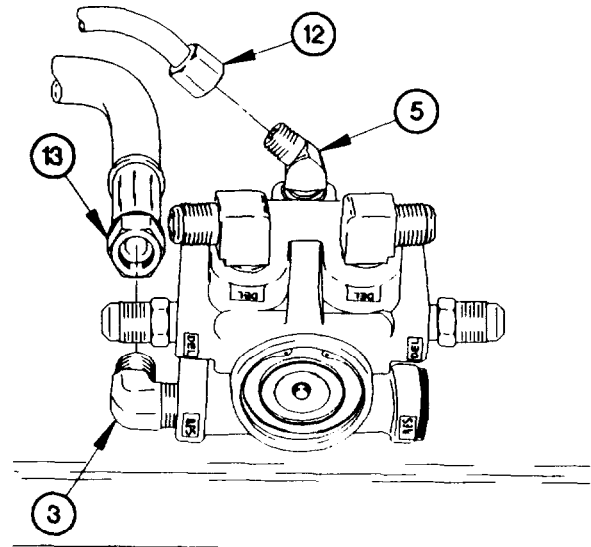


- (7) Position relay valve (6) on panel (7) with two washers (8), screws (9), washers (10), and self-locking nuts (11).
- (8) Tighten two self-locking nuts (11) to 24-30 lb-ft (33-41 N•m).

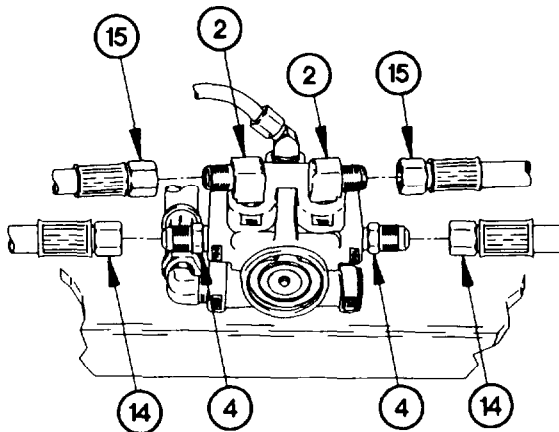
11-14. RELAY VALVE REPLACEMENT (CONT)

(9) Connect air hose (12) to 45-degree fitting (5).

(10) Connect air hose (13) to 90-degree fitting (3).



XL14103A



XL14104A

(11) Connect two air hoses (14) to fittings (4).

(12) Connect two air hoses (15) to 90-degree fittings (2).

c. Follow-On Maintenance.

(1) Start engine (TM 9-2320-366-10-1) and allow time for air pressure to reach normal operating air pressure.

(2) Shut down engine (TM 9-2320-366-10-1).

(3) Check around relay valve and hoses for air leaks.

(4) Start engine (TM 9-2320-366-10-1).

(5) Road test vehicle and check for proper brake operation.

(6) Shut down engine (TM 9-2320-366-10-1.)

End of Task.

11-15. BOOSTER VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Antiseize Compound (Item 13, Appendix D)
- Nut, Self-Locking (2) (Item 167, Appendix G)
- Nut, Self-Locking (2) (Item 168, Appendix G)

Personnel Required

(2)

WARNING

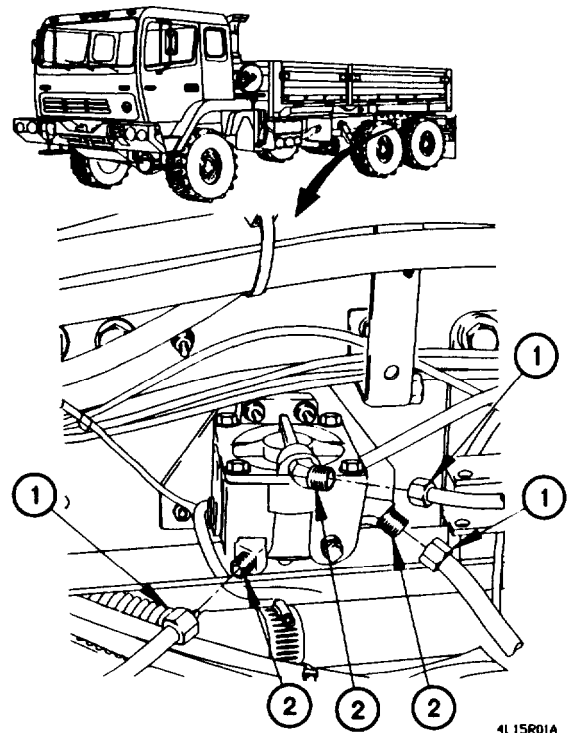
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

Tag hoses and connection points prior to disconnecting.

- (1) Disconnect three air hoses (1) from 45-degree fittings (2).



11-15. BOOSTER VALVE REPLACEMENT (CONT)

NOTE

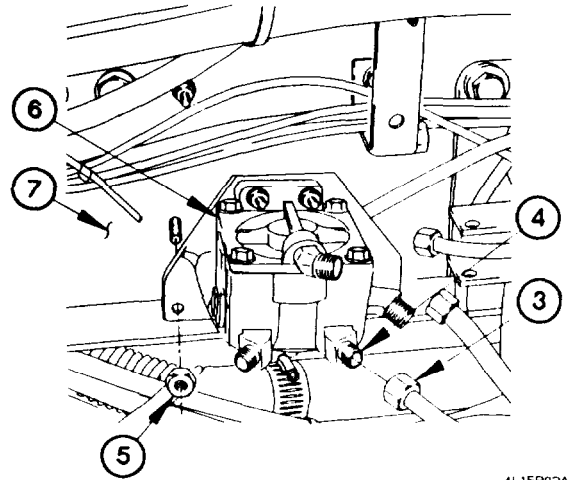
Perform step (2) on M1088 and M1089.

- (2) Disconnect air hose (3) from 45-degree fitting (4).

NOTE

Step (3) requires the aid of an assistant.

- (3) Remove two self-locking nuts (5) and booster valve (6) from frame (7). Discard self-locking nuts.



4L15R02A

NOTE

Note orientation of fittings and plug prior to removal.

- (4) Remove three 45-degree fittings (2) from booster valve (6).
- (5) Remove plug (8) from booster valve (6).

NOTE

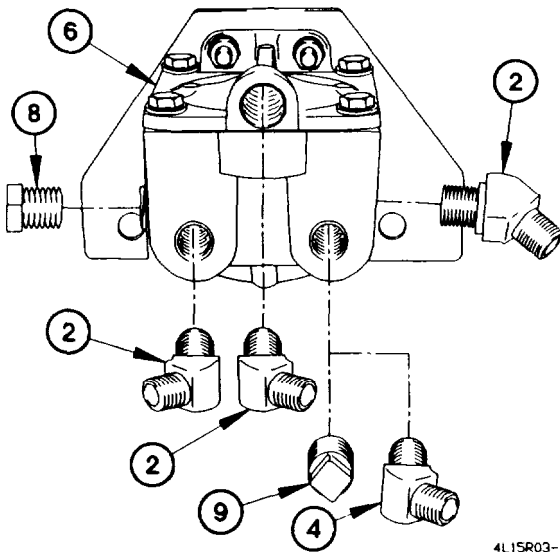
Perform step (6) on M1088 and M1089.

- (6) Remove 45-degree fitting (4) from booster valve (6).

NOTE

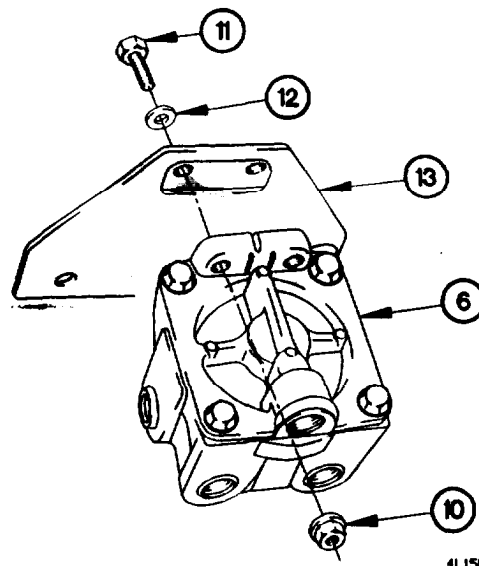
Perform step (7) on all models except M1088 and M1089.

- (7) Remove plug (9) from booster valve (6).



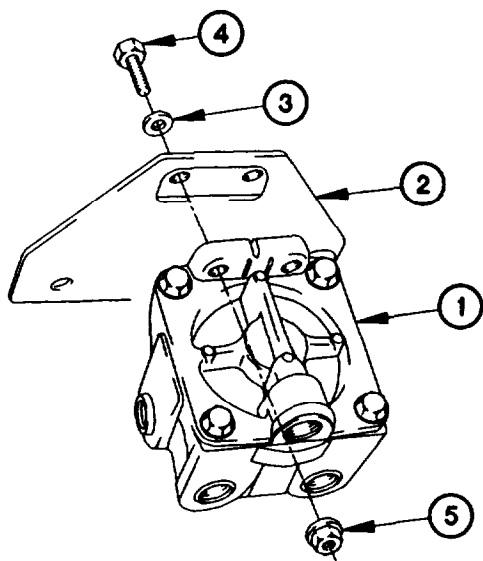
4L15R03-

- (8) Remove two self-locking nuts (10), screws (11), washers (12), and booster valve (6) from bracket (13). Discard self-locking nuts.



4L15R04-

b. Installation.

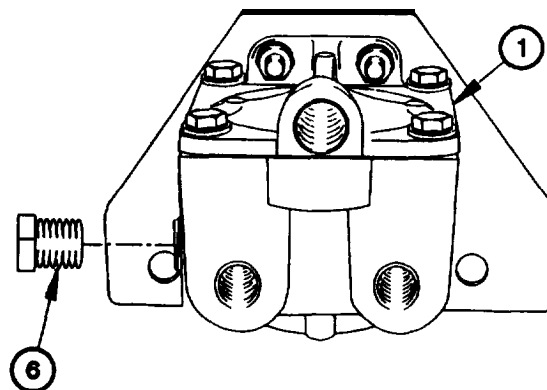


4L15101-

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Position booster valve (1) on bracket (2) with two washers (3), screws (4), and self-locking nuts (5).
- (2) Tighten two self-locking nuts (5) to 14-18 lb-ft (20-24 N•m).



4L15102A

- (3) Apply antiseize compound to threads of plug (6).
- (4) Install plug (6) in booster valve (1).

11-15. BOOSTER VALVE REPLACEMENT (CONT)

WARNING

Adhesives, solvents, and reeling compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

NOTE

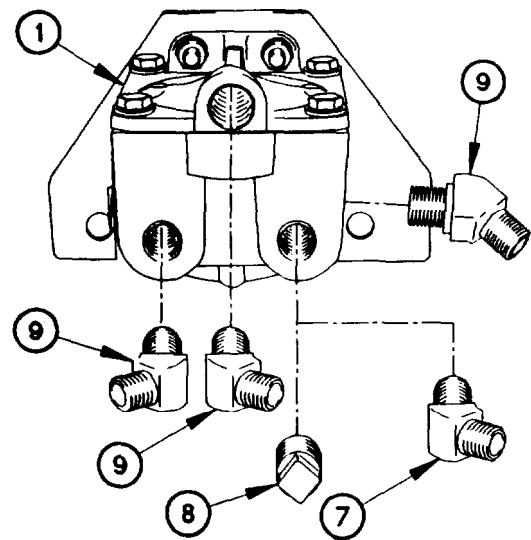
Perform steps (5) and (6) on M1088 and M1089.

- (5) Apply antiseize compound to threads of 45-degree fitting (7).
- (6) Install 45-degree fitting (7) in booster valve (1).

NOTE

Perform steps (7) and (8) on all models except M1088 and M1089.

- (7) Apply antiseize compound to threads of plug (8).
- (8) Install plug (8) in booster valve (1).
- (9) Apply antiseize compound to threads of three 45-degree fittings (9).
- (10) Install three 45-degree fittings (9) in booster valve (1).



4L15103A

- (11) Position booster valve (1) on frame (10) with two self-locking nuts (11).

NOTE

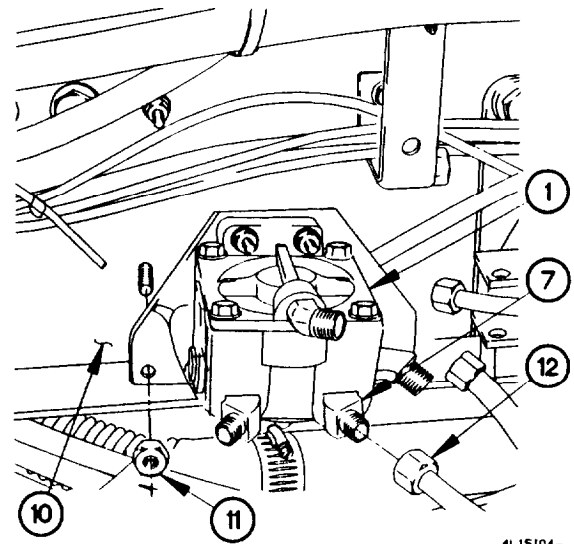
Step (12) requires the aid of an assistant.

- (12) Tighten two self-locking nuts (11) to 25-31 lb-ft (34-42 N•m).

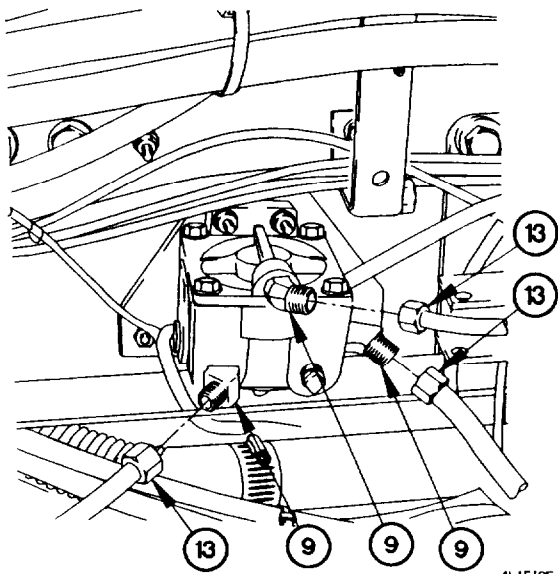
NOTE

Perform step (13) on M1088 and M1089.

- (13) Connect air hose (12) to 45-degree fitting (7).



4L15104-



4L15105-

- (14) Connect three air hoses (13) to 45-degree fittings (9).

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Shut down engine (TM 9-2320-366-10-1).
- (3) Check booster valve and air hoses for air leaks.
- (4) Start engine (TM 9-2320-366-10-1).
- (5) Road test vehicle and check for proper brake operation.
- (6) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-16. TWO-WAY CHECK VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Antiseize Compound (Item 13, Appendix D)
- Nut, Self-Locking (Item 167, Appendix G)

a. Removal.

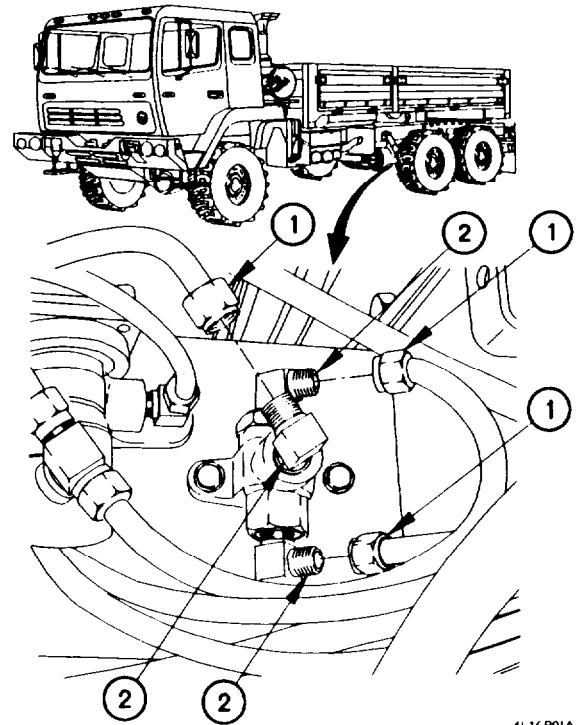
WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

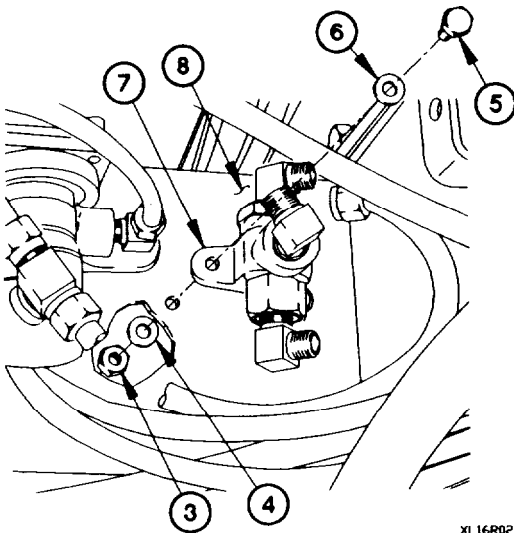
NOTE

Tag air hoses and connection points prior to disconnecting.

- (1) Disconnect three air hoses (1) from 90-degree fittings (2).



4L16R01A



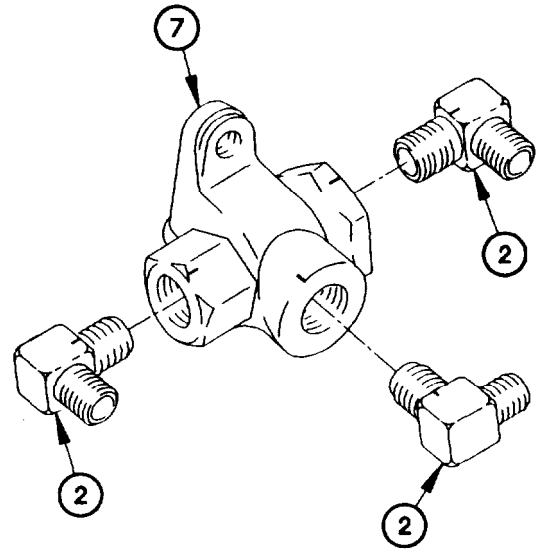
XL16R02A

- (2) Remove self-locking nut (3), washer (4), screw (5), washer (6), and two-way check valve (7) from panel (8). Discard self-locking nut.

NOTE

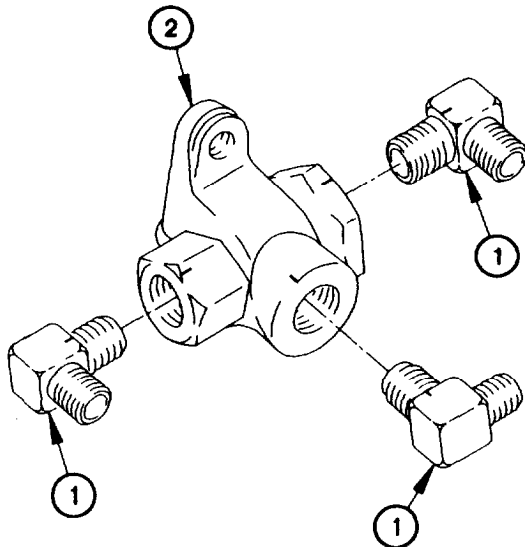
Note orientation of fittings prior to removal.

- (3) Remove three 90-degree fittings (2) from two-way check valve (7).



XL16R03A

b. Installation.



XL16101A

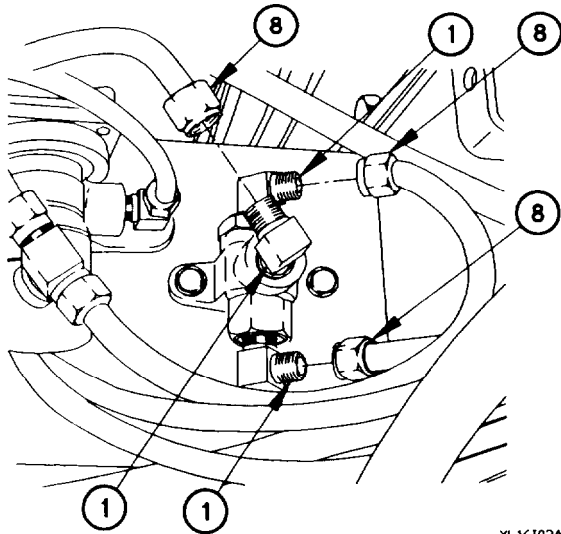
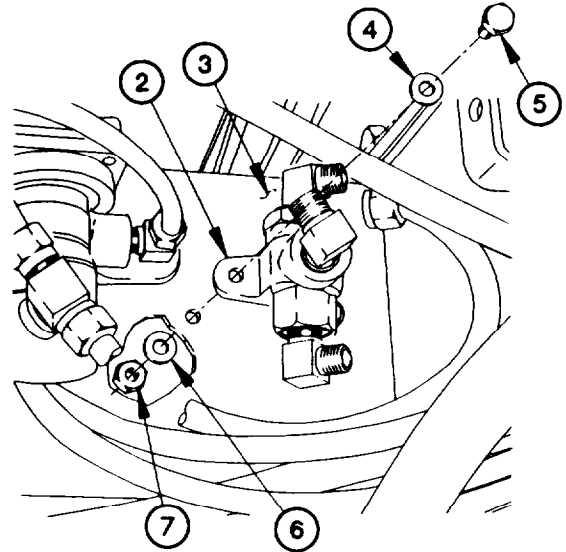
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of three 90-degree fittings (1).
- (2) Install three 90-degree fittings (1) in two-way check valve (2).

11-16. TWO-WAY CHECK VALVE REPLACEMENT (CONT)

- (3) Position two-way check valve (2) on panel (3) with washer (4), screw (5), washer (6), and self-locking nut (7).
- (4) Tighten self-locking nut (7) to 14-18 lb-ft (20-24 N•m).



- (5) Connect three air hoses (8) to 90-degree fittings (1).

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Check for air leaks around two-way check valve fittings and air hoses.
- (3) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-17. FRONT AXLE QUICK RELEASE VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP**Equipment Conditions**

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

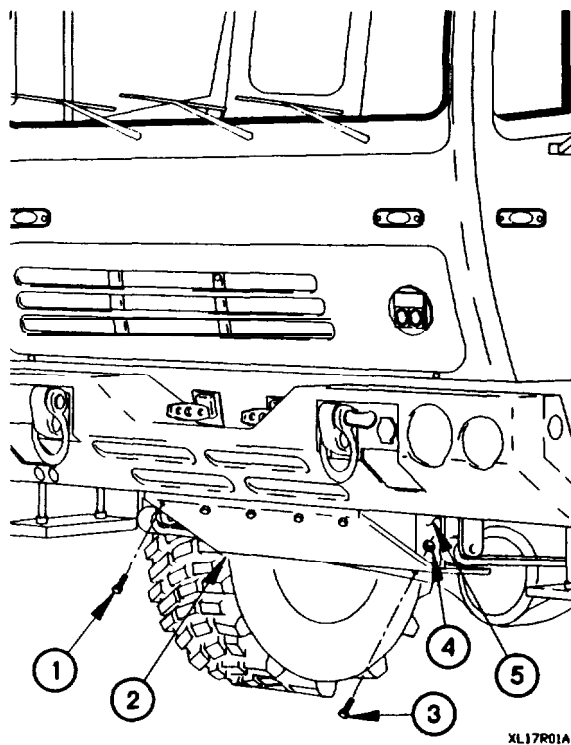
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Antiseize Compound (Item 13, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Nut, Self-Locking (2) (Item 167, Appendix G)
- Nut, Self-Locking (5) (Item 158, Appendix G)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

- (1) Remove five screws (1) from top edge of gravel deflector (2).
- (2) Remove five self-locking nuts (3), screws (4) and gravel deflector (2) from two brackets (5). Discard self-locking nuts.



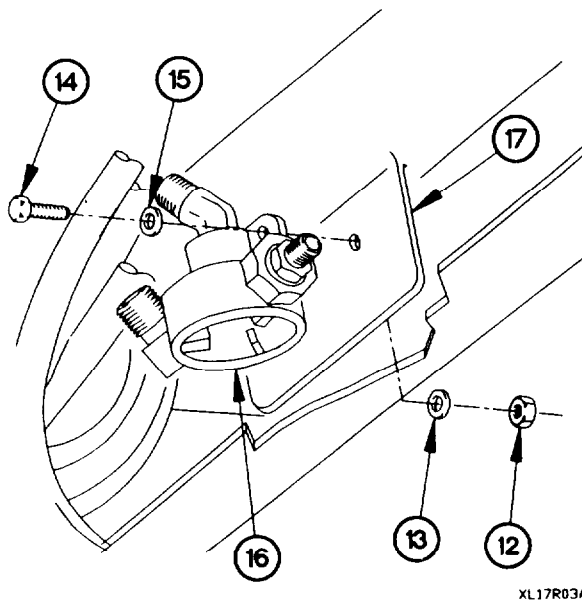
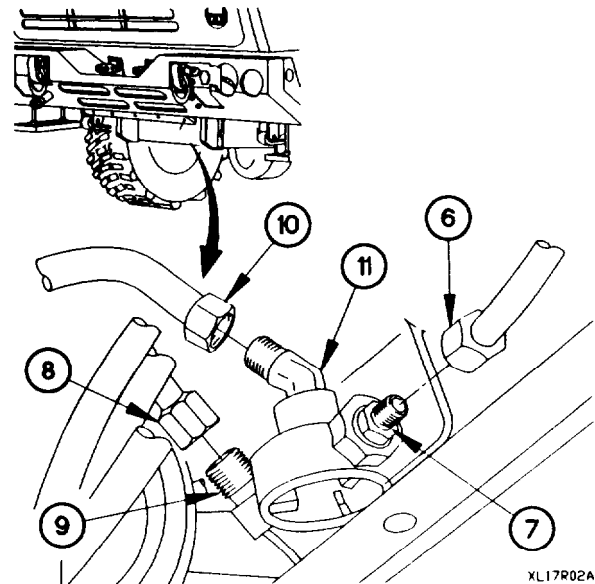
XL17R01A

11-17. FRONT AXLE QUICK RELEASE VALVE REPLACEMENT (CONT)

NOTE

- Remove plastic cable ties as required.
- Tag air hoses and connection points prior to disconnecting.

- (3) Disconnect air hose (6) from fitting (7).
 (4) Disconnect air hose (8) from 90-degree fitting (9).
 (5) Disconnect air hose (10) from 45-degree fitting (11).

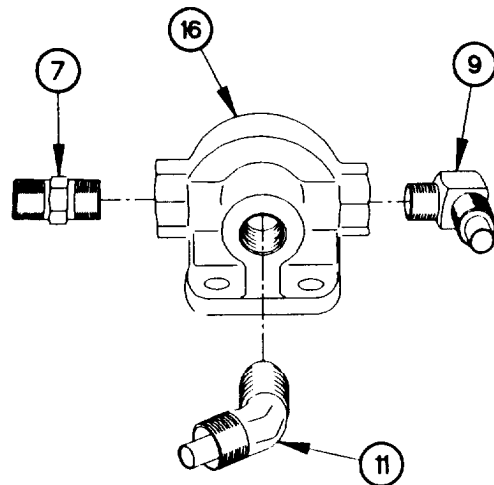


- (6) Remove two self-locking nuts (12), washers (13), screws (14), washers (15) and quick release valve (16) from bracket (17). Discard self-locking nuts.

NOTE

Note orientation of fittings prior to removal.

- (7) Remove fitting (7) from quick release valve (16).
 (8) Remove 90-degree fitting (9) from quick release valve (16).
 (9) Remove 45-degree fitting (11) from quick release valve (16).

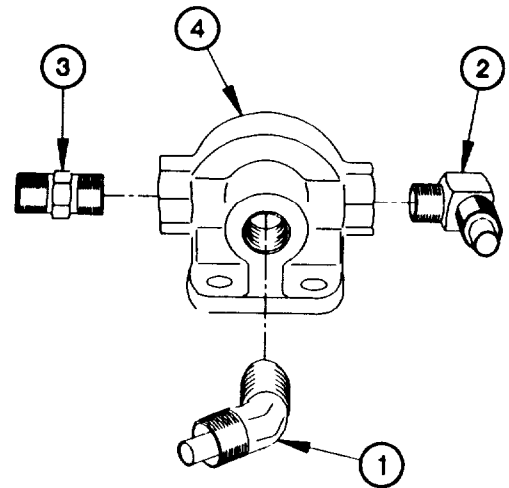


b. Installation.

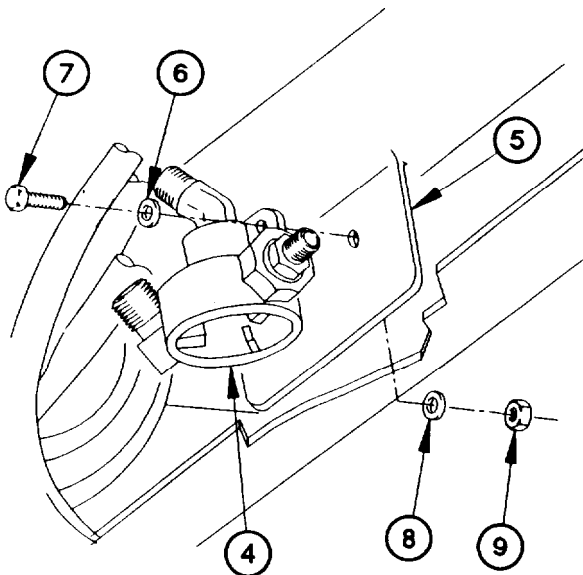
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply sealing compound to threads of 45-degree fitting (1), 90-degree fitting (2), and fitting (3).
- (2) Install 45-degree fitting (1) in quick release valve (4).
- (3) Install 90-degree fitting (2) in quick release valve (4).
- (4) Install fitting (3) in quick release valve (4).



XL17101A

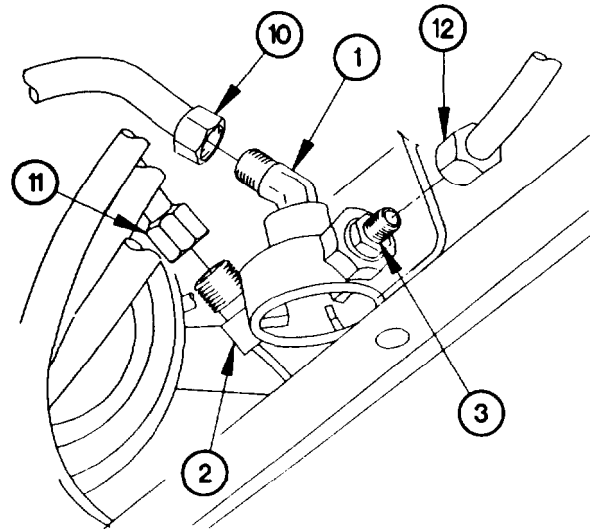


XL17102A

- (5) Position quick release valve (4) on bracket (5) with two washers (6), screws (7), washers (8), and self-locking nuts (9).
- (6) Tighten two self-locking nuts (9) to 14-18 lb-ft (20-24 N•m).

11-17. FRONT AXLE QUICK RELEASE VALVE REPLACEMENT (CONT)

- (7) Connect air hose (10) to 45-degree fitting (1).
- (8) Connect air hose (11) to 90-degree fitting (2).
- (9) Connect air hose (12) to fitting (3).

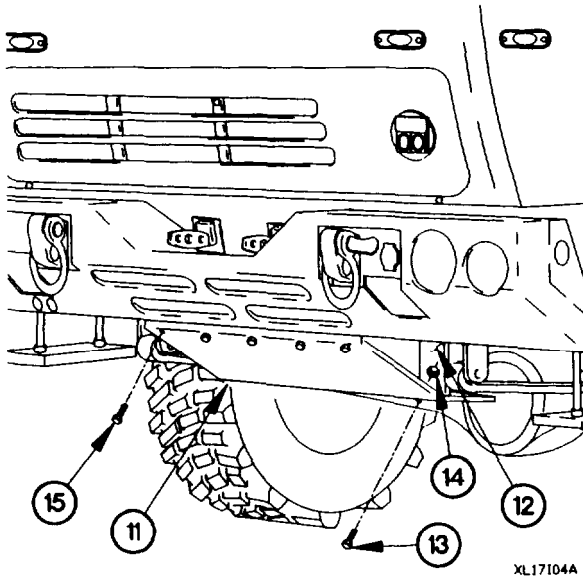


XL17103A

NOTE

Install plastic cable ties as required.

- (10) Position gravel deflector (11) on two brackets (12) with five screws (13) and self-locking nuts (14).
- (11) Tighten five self-locking nuts (14) to 76-94 lb-ft (103-127 N•m).
- (12) Position five screws (15) in top edge of gravel deflector (11).
- (13) Tighten five screws (15) to 43-52 lb-ft (58-70 N•m).



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c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Check quick release valve and air hoses for air leaks.
- (3) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-18. AIR BRAKE PROTECTING VALVE REPLACEMENT

This task covers:

- | | |
|--|---|
| <ul style="list-style-type: none"> a. Air Brake Protecting Valve Removal (All models except M1088) b. Air Brake Protecting Valve Installation (All models except M1088) c. M1088 Air Brake Protecting Valve Removal (Without Gladhand Selector Valves) d. M1088 Air Brake Protecting Valve Installation (Without Gladhand Selector Valves) | <ul style="list-style-type: none"> e. M1088 Air Brake Protecting Valve Removal (With Gladhand Selector Valves) f. M1088 Air Brake Protecting Valve Installation (With Gladhand Selector Valves) g. Follow-On Maintenance |
|--|---|

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Antiseize Compound (Item 13, Appendix D)
Nut, Self-Locking (2) (Item 167, Appendix G)

WARNING

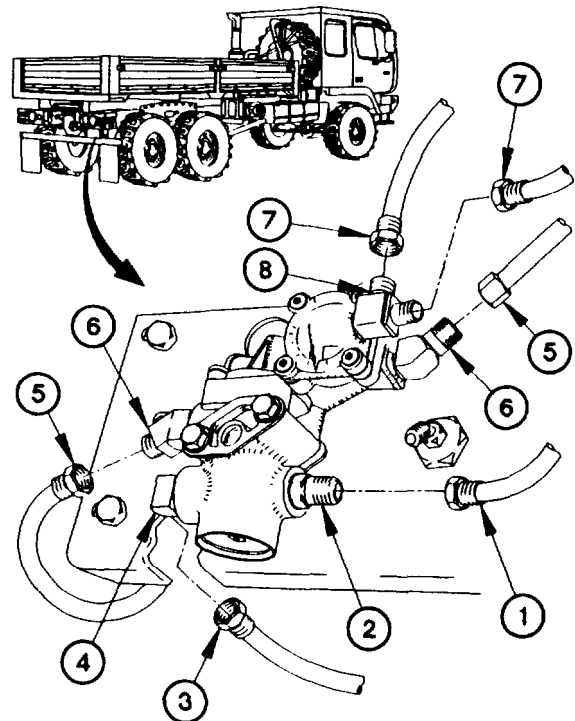
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

- a. Air Brake Protecting Valve Removal (All models except M1088).

NOTE

Tag air hoses and connection points prior to disconnecting.

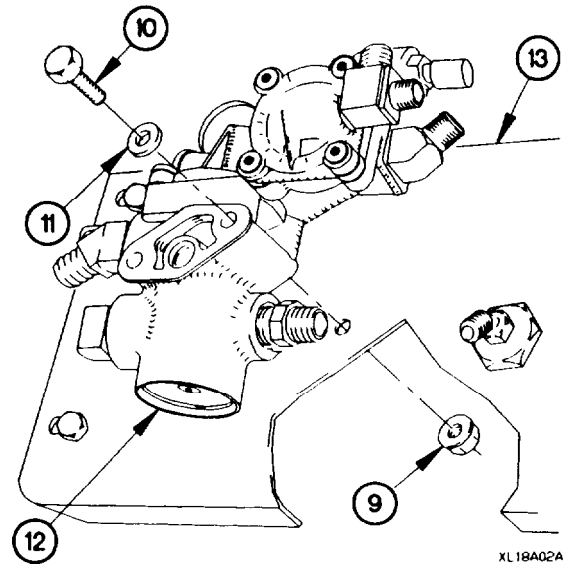
- (1) Disconnect air hose (1) from fitting (2).
- (2) Disconnect air hose (3) from 90-degree fitting (4).
- (3) Disconnect two air hoses (5) from 45-degree fittings (6).
- (4) Disconnect two air hoses (7) from run tee fitting (8).



4L18A01A

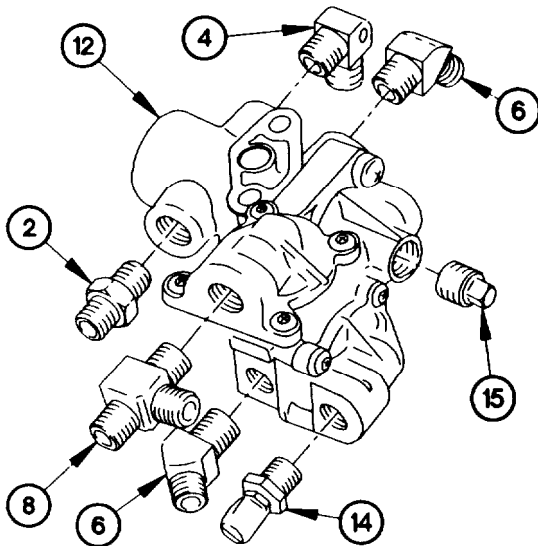
11-18. AIR BRAKE PROTECTING VALVE REPLACEMENT (CONT)

- (5) Remove two self-locking nuts (9), screws (10), washers (11), and air brake protecting valve (12) from panel (13). Discard self-locking nuts.



NOTE

Note orientation of fittings and plug prior to removal.



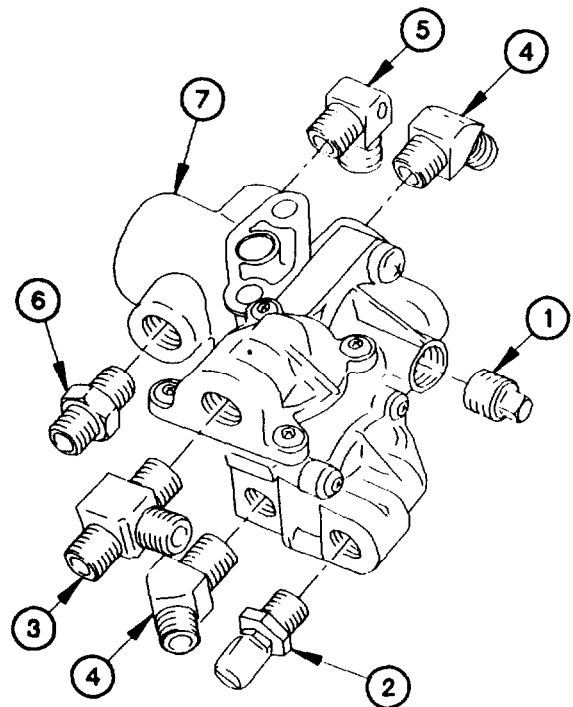
- (6) Remove fitting (2) from air brake protecting valve (12).
 (7) Remove 90-degree fitting (4) from air brake protecting valve (12).
 (8) Remove two 45-degree fittings (6) from air brake protecting valve (12).
 (9) Remove run tee fitting (8) from air brake protecting valve (12).
 (10) Remove relief valve (14) from air brake protecting valve (12).
 (11) Remove plug (15) from air brake protecting valve (12).

b. Air Brake Protecting Valve Installation (All models except M1088).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

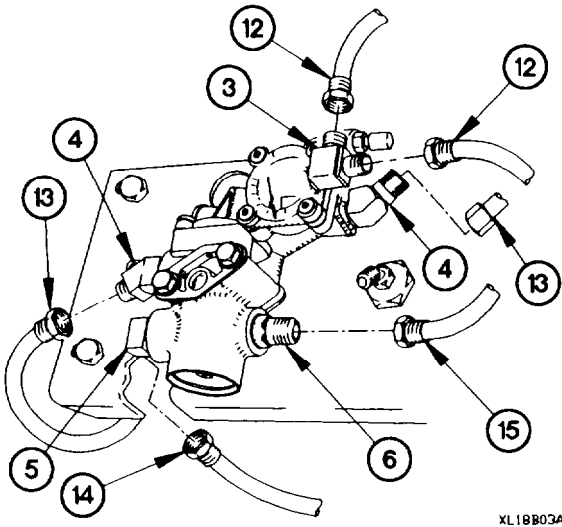
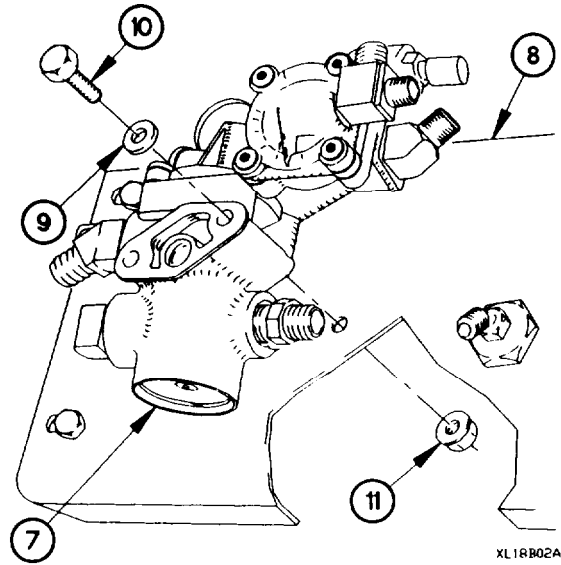
- (1) Apply antiseize compound to threads of plug (1), relief valve (2), run tee fitting (3), two 45-degree fittings (4), 90-degree fitting (5) and fitting (6).
- (2) Install plug (1) in air brake protecting valve (7).
- (3) Install relief valve (2) in air brake protecting valve (7).
- (4) Install run tee fitting (3) in air brake protecting valve (7).
- (5) Install two 45-degree fittings (4) in air brake protecting valve (7).
- (6) Install 90-degree fitting (5) in air brake protecting valve (7).
- (7) Install fitting (6) in air brake protecting valve (7).



XL18B01A

11-18. AIR BRAKE PROTECTING VALVE REPLACEMENT (CONT)

- (8) Position air brake protecting valve (7) on panel (8) with two washers (9), screws (10) and self-locking nuts (11).
- (9) Tighten two self-locking nuts (11) to 14-18 lb-ft (20-24 N•m).



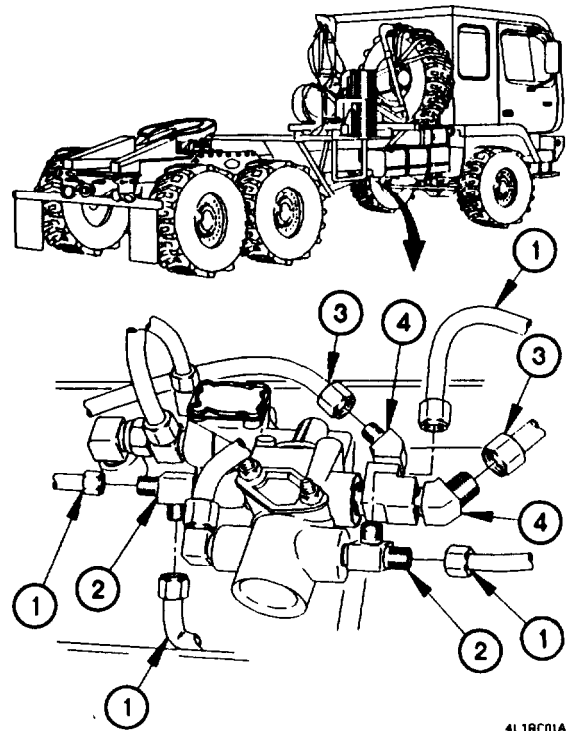
- (10) Connect two air hoses (12) to run tee fitting (3).
- (11) Connect two air hoses (13) to 45-degree fittings (4).
- (12) Connect air hose (14) to 90-degree fitting (5).
- (13) Connect air hose (15) to fitting (6).

c. M1096 Air Brake Protecting Valve Removal (Without Gladhand Selector Valves).

NOTE

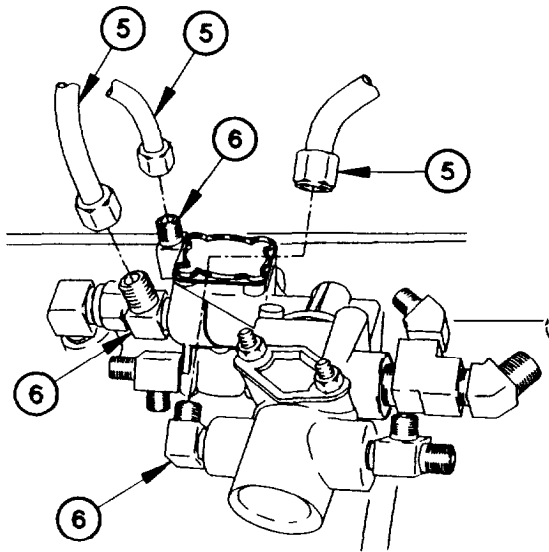
Tag air hoses and connection points prior to disconnecting.

- (1) Disconnect four air hoses (1) from two run tee fittings (2).
- (2) Disconnect two air hoses (3) from 45-degree fittings (4).



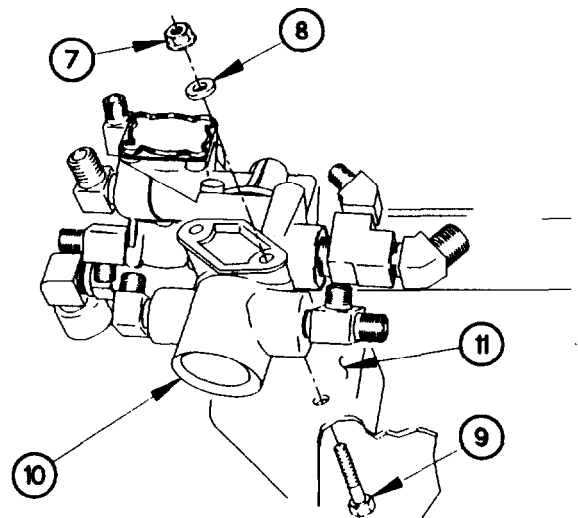
4L18C01A

- (3) Disconnect three air hoses (5) from 90-degree fittings (6).



4L18C02A

- (4) Remove two self-locking nuts (7), washers (8), screws (9), and air brake protecting valve (10) from bracket (11). Discard self-locking nuts.



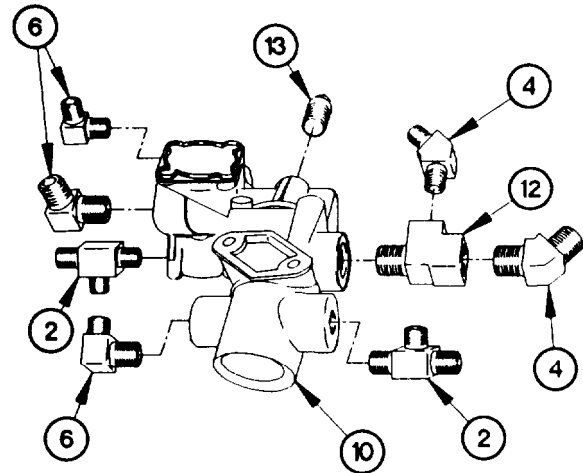
4L18C03A

11-18. AIR BRAKE PROTECTING VALVE REPLACEMENT (CONT)

NOTE

Note orientation of fittings and plug prior to removal.

- (5) Remove two run tee fittings (2) from air brake protecting valve (10).
- (6) Remove two 45-degree fittings (4) from tee fitting (12).
- (7) Remove tee fitting (12) from air brake protecting valve (10).
- (8) Remove three 45-degree fittings (6) from air brake protecting valve (10).
- (9) Remove plug (13) from air brake protecting valve (10).

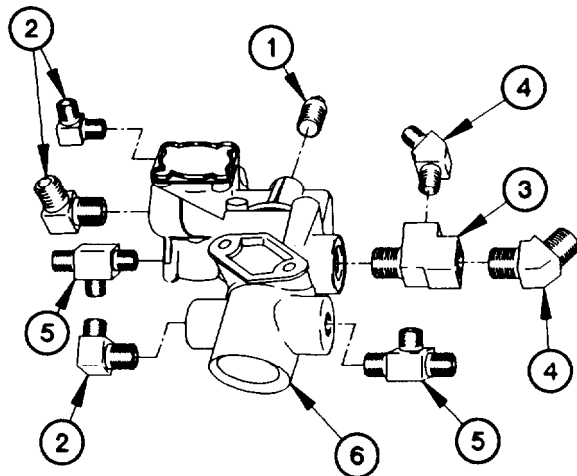


4L18C04A

d. M1088 Air Brake Protecting Valve Installation (Without Gladhand Selector Valves).

WARNING

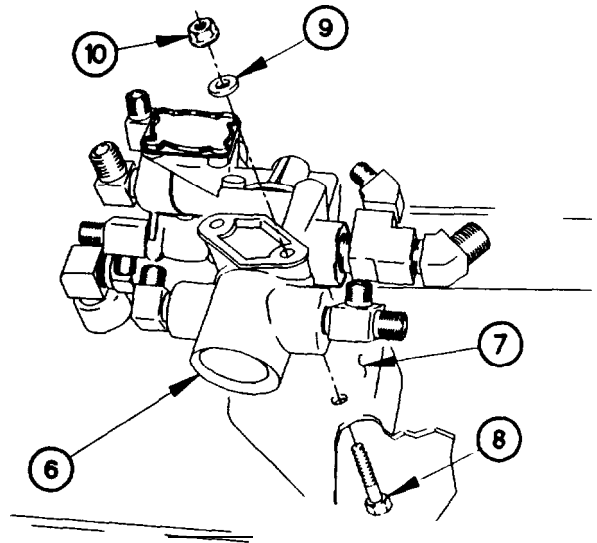
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



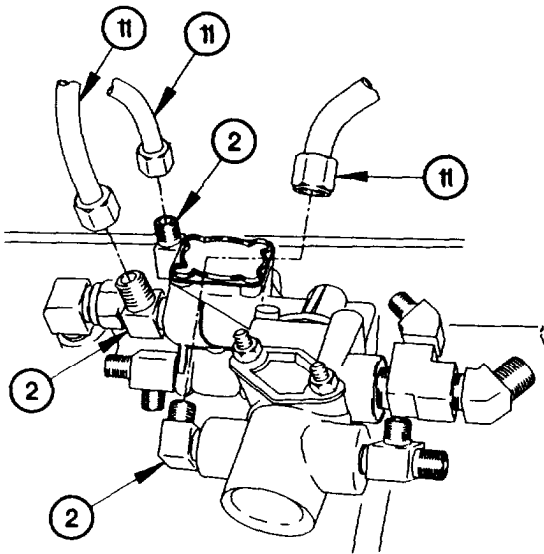
4L18D01A

- (1) Apply antiseize compound to threads of plug (1) three 90-degree fittings (2), tee fitting (3), two 45-degree fittings (4), and run tee fittings (5).
- (2) Install plug (1) in air brake protecting valve (6).
- (3) Install three 90-degree fittings (2) in air brake protecting valve (6).
- (4) Install tee fitting (3) in air brake protecting valve (6).
- (5) Install two 45-degree fittings (4) in tee fitting (3).
- (6) Install two run tee fittings (5) in air brake protecting valve (6).

- (7) Position air brake protecting valve (6) on bracket (7) with two screws (8), washers (9), and self-locking nuts (10).
- (8) Tighten two self-locking nuts (10) to 14-18 lb-ft (20-24 N•m).



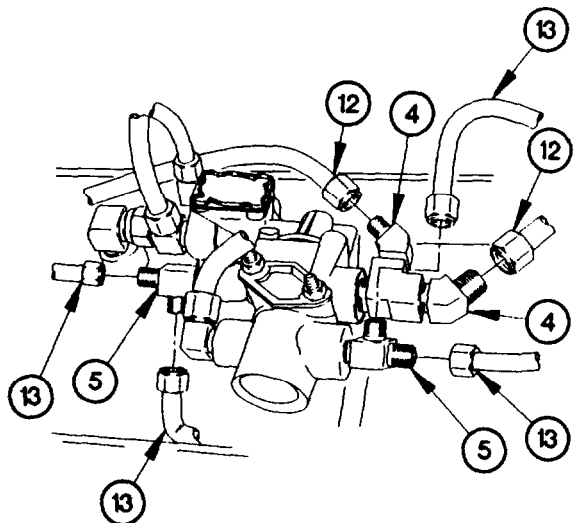
4L18D02A



4L18D03A

- (9) Connect three air hoses (11) to 90-degree fittings (2).

- (10) Connect two air hoses (12) to 45-degree fittings (4).
- (11) Connect four air hoses (13) to two run tee fittings (5).



4L18D04A

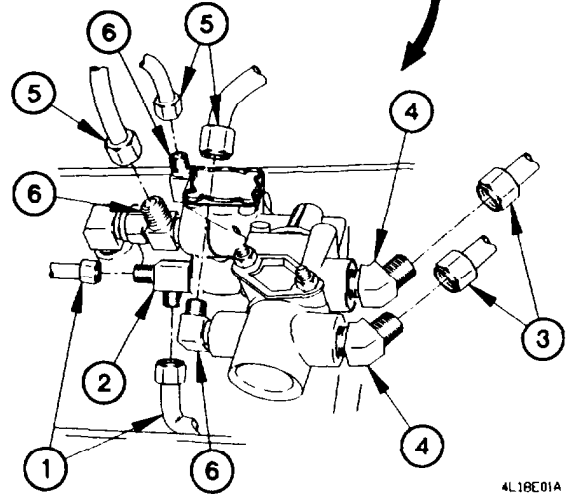
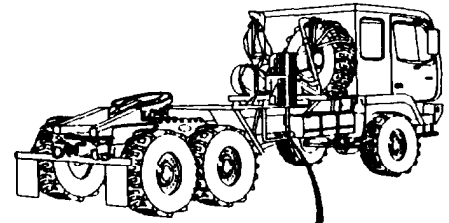
11-18. AIR BRAKE PROTECTING VALVE REPLACEMENT (CONT)

e. M1088 Air Brake Protecting Valve Removal (With Gladhand Selector Valves).

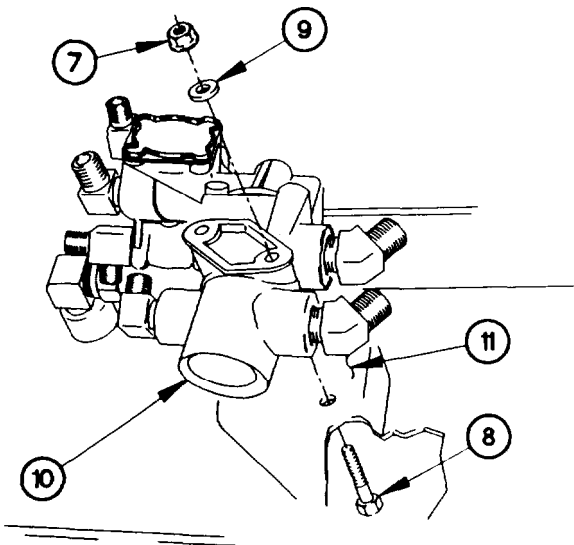
NOTE

Tag air hoses and connection points prior to disconnecting.

- (1) Disconnect two air hoses (1) from run tee fitting (2).
- (2) Disconnect two air hoses (3) from 45-degree fittings (4).
- (3) Disconnect three air hoses (5) from 90-degree fittings (6).



4L18E01A



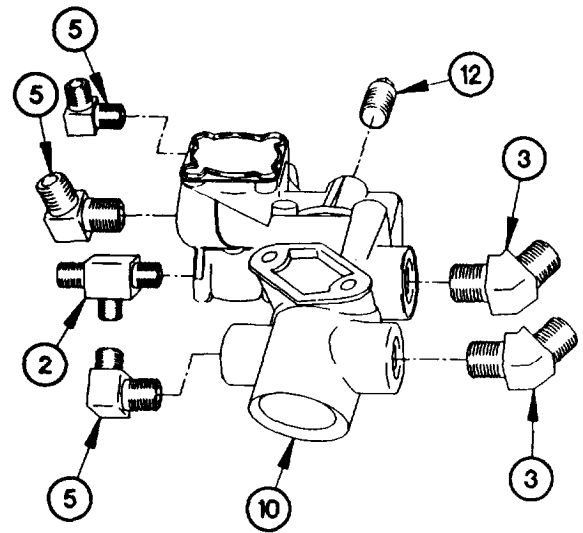
4L18E02A

- (4) Remove two self-locking nuts (7), screws (8), washers (9), and air brake protecting valve (10) from bracket (11). Discard self-locking nuts.

NOTE

Note orientation of fittings and plug prior to removal.

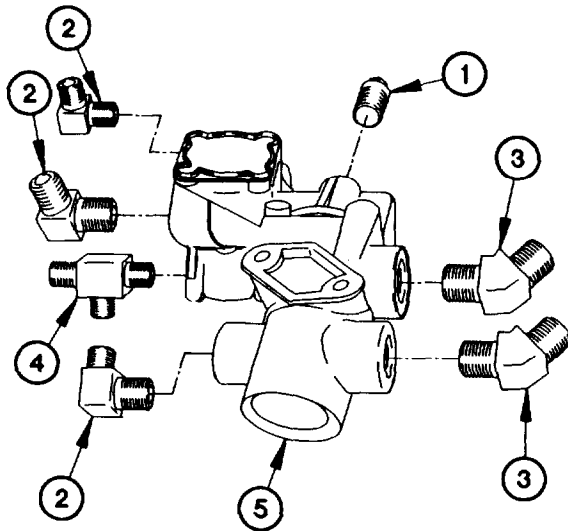
- (5) Remove run tee fitting (2) from air brake protecting valve (10).
- (6) Remove two 45-degree fittings (3) from air brake protecting valve (10).
- (7) Remove three 90-degree fittings (5) from air brake protecting valve (10).
- (8) Remove plug (12) from air brake protecting valve (10).



f. M1088 Air Brake Protecting Valve Installation (With Gladhand Selector Valves).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

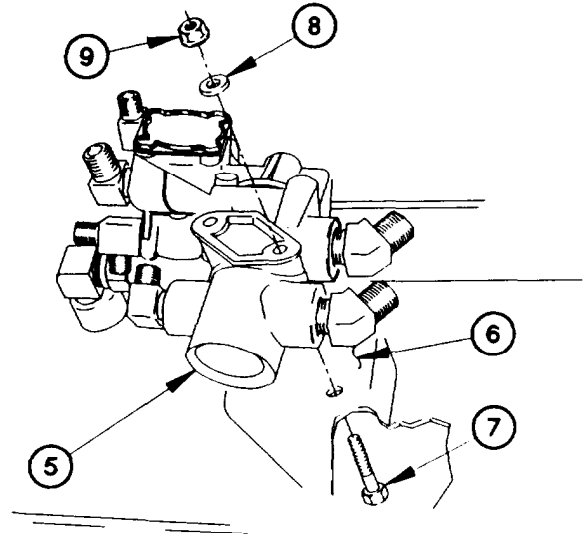


4L18F01A

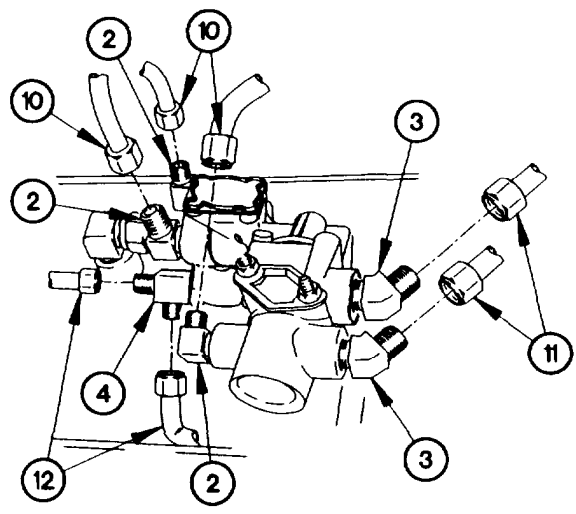
- (1) Apply antiseize compound to threads of plug (1), three 90-degree fittings (2), two 45-degree fittings (3), and run tee fitting (4).
- (2) Install plug (1) in air brake protecting valve (5).
- (3) Install three 90-degree fittings (2) in air brake protecting valve (5).
- (4) Install two 45-degree fittings (3) in air brake protecting valve (5).
- (5) Install run tee fitting (4) in air brake protecting valve (5).

11-18. AIR BRAKE PROTECTING VALVE REPLACEMENT (CONT)

- (6) Position air brake protecting valve (5) on bracket (6) with two screws (7), washers (8), and self-locking nuts (9).
- (7) Tighten two self-locking nuts (9) to 14-18 lb-ft (20-24 N•m).



4L18F02A



4L18F03A

- (8) Connect three air hoses (10) to 90-degree fittings (2).
- (9) Connect two air hoses (11) to 45-degree fittings (3).
- (10) Connect two air hoses (12) to run tee fitting (4).

g. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1) and allow time for air pressure to reach operating air pressure.
- (2) Shut down engine (TM 9-2320-366-10-1).
- (3) Check around air brake protecting valve and air hoses for air leaks.
- (4) Start engine (TM 9-2320-366-10-1).
- (5) Road test vehicle and check for proper brake operation.
- (6) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-19. PARK CONTROL TWO-WAY CHECK VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

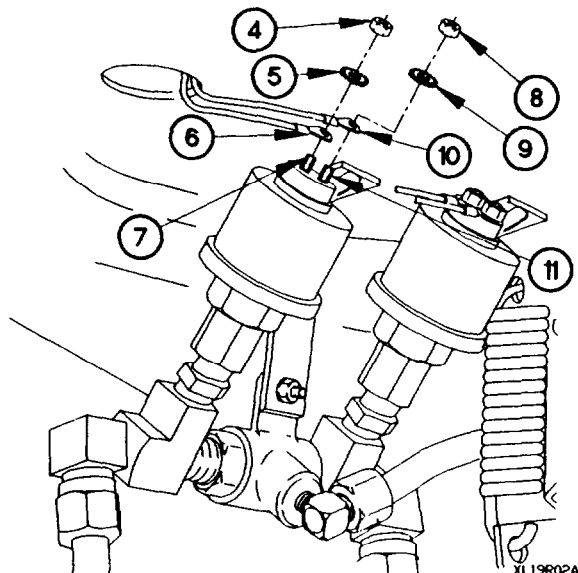
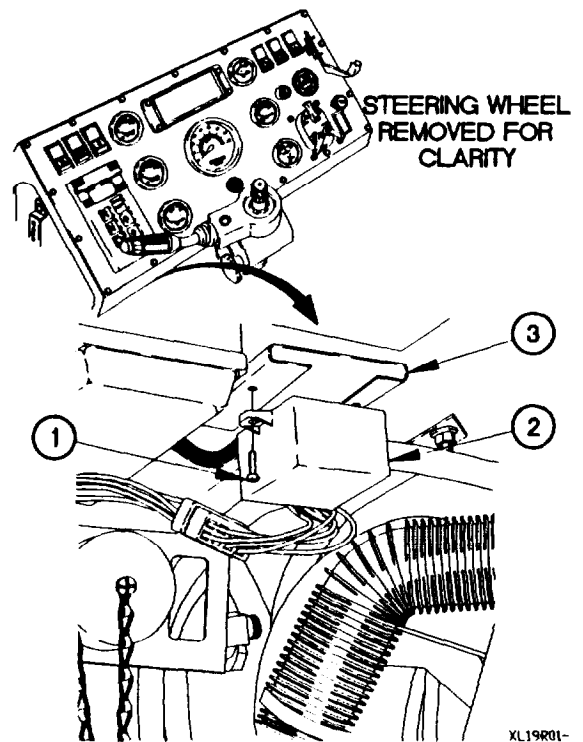
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Antiseize Compound (Item 13, Appendix D)
- Nut, Self-Locking (Item 167, Appendix G)
- Lockwasher (4) (Item 93, Appendix G)

a. Removal.

- (1) Remove two screws (1) and frequency ECU (2) from bracket (3).



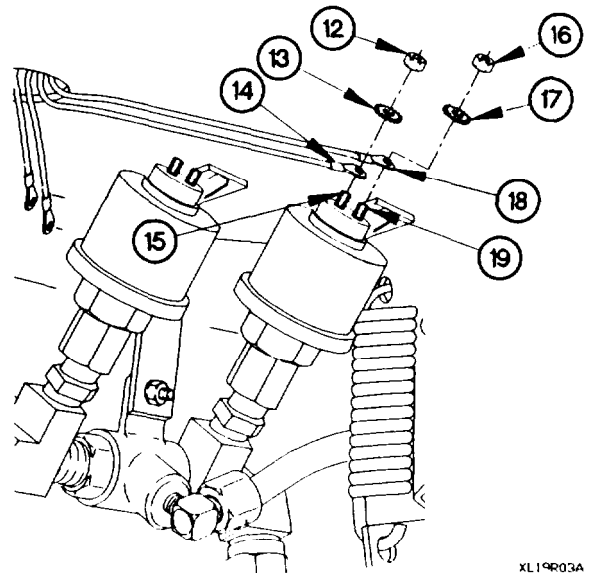
NOTE

Tag terminal lugs and connection points prior to disconnecting.

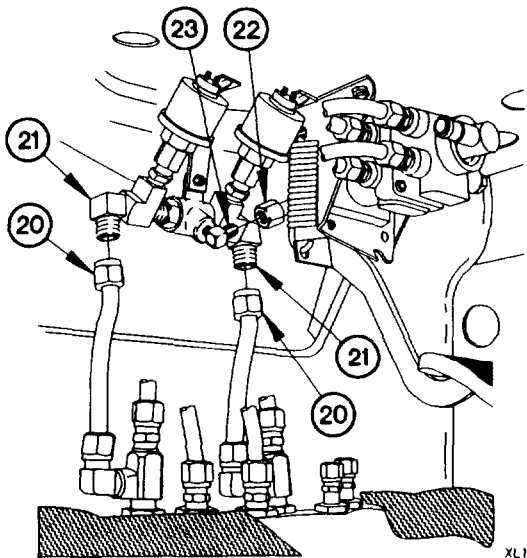
- (2) Remove nut (4), lockwasher (5), and terminal lug TL150 (6) from front brake air pressure transmitter terminal WK (7). Discard lockwasher.
- (3) Remove nut (8), lockwasher (9), and terminal lug TL156 (10) from front brake air pressure transmitter terminal G (11). Discard lockwasher.

11-19. PARK CONTROL TWO-WAY CHECK VALVE REPLACEMENT (CONT)

- (4) Remove nut (12), lockwasher (13), and terminal lug TL151 (14) from rear brake air pressure transmitter terminal WK (15). Discard lockwasher.
- (5) Remove nut (16), lockwasher (17), and terminal lug TL157 (18) from rear brake air pressure transmitter terminal G (19). Discard lockwasher.



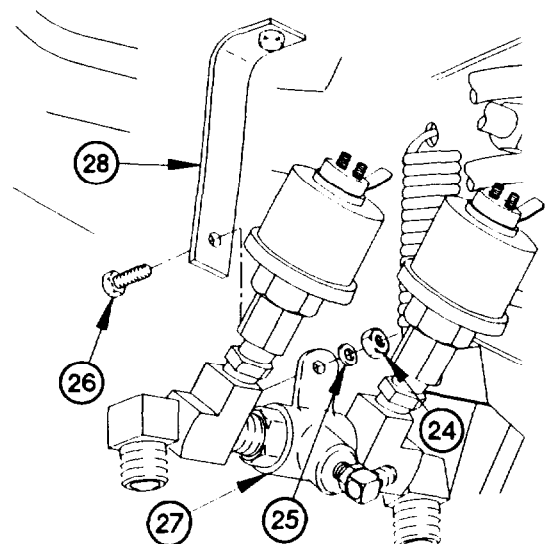
XL19R03A



XL19R04A

- (6) Disconnect two air hoses (20) from 90-degree fittings (21).
- (7) Disconnect air hose (22) from 90-degree fitting (23).

- (8) Remove self-locking nut (24), washer (25), screw (26), and park control two-way check valve (27) from bracket (28). Discard self-locking nut.



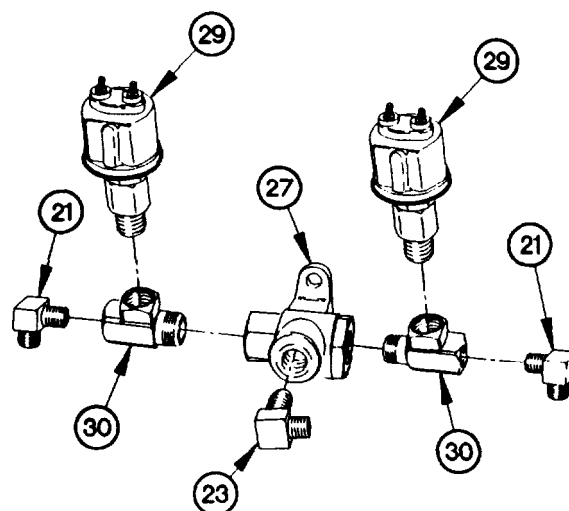
XL19R05A

- (9) Remove two air pressure transmitters (29) from tee fittings (30).

NOTE

Note orientation of fittings prior to removal.

- (10) Remove two 90-degree fittings (21) from tee fittings (30).
- (11) Remove two tee fittings (30) from park control two-way check valve (27).
- (12) Remove 90-degree fitting (23) from park control two-way check valve (27).

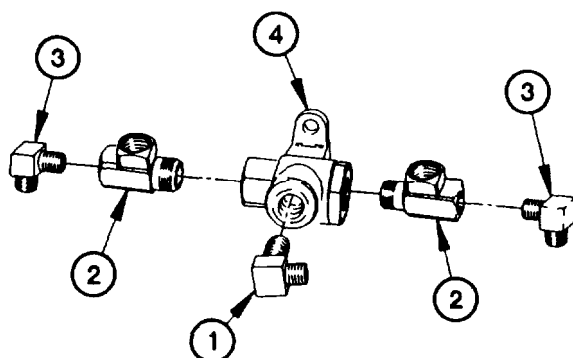


XL19R06A

b. Installation

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



XL19I01A

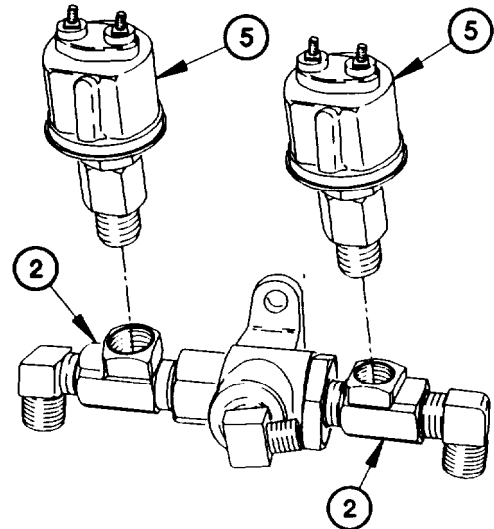
- (1) Apply antiseize compound to threads of 90-degree fitting (1), two tee fittings (2), and 90-degree fittings (3).
- (2) Install 90-degree fitting (1) in park control two-way check valve (4).
- (3) Install two tee fittings (2) in park control two-way check valve (4).
- (4) Install two 90-degree fittings (3) in tee fittings (2).

11-19. PARK CONTROL TWO-WAY CHECK VALVE REPLACEMENT (CONT)

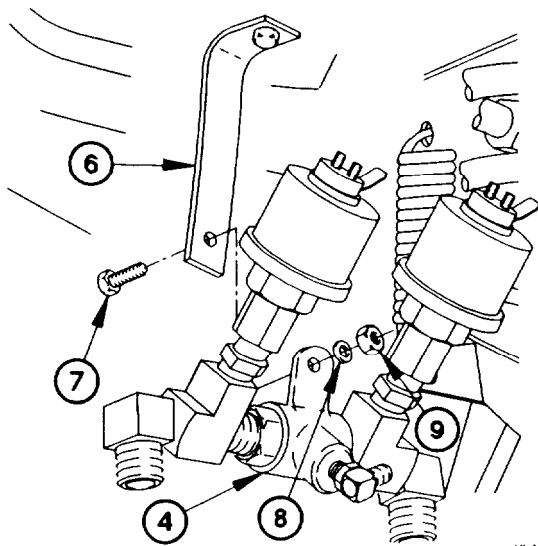
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (5) Apply antiseize compound to threads of two air pressure transmitters (5).
- (6) Install two air pressure transmitters (5) in tee fittings (2).



XL19102A

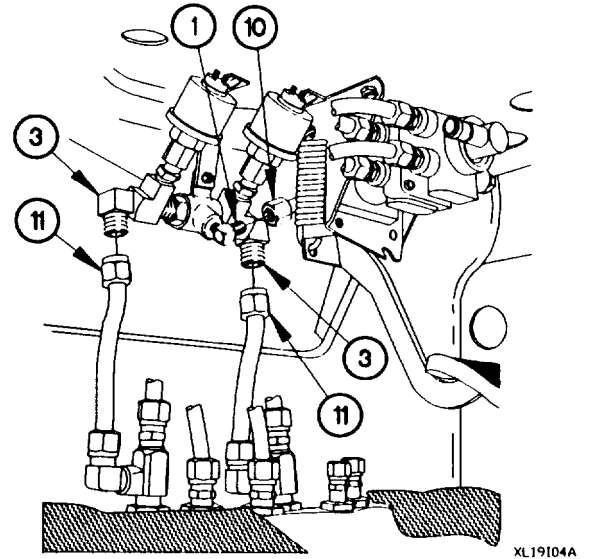


XL19103A

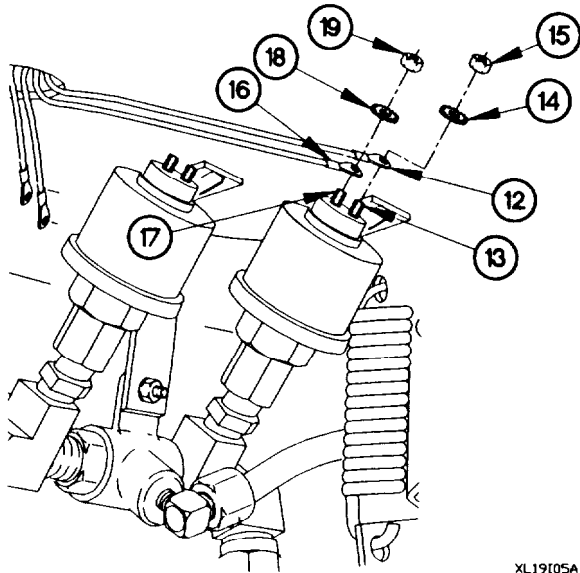
- (7) Position park control two-way check valve (4) on bracket (6) with screw (7), washer (8), and self-locking nut (9).
- (8) Tighten self-locking nut (9) to 13-16 lb-ft (18-22 N•m).

(9) Connect air hose (10) to 90-degree fitting (1).

(10) Connect two air hoses (11) to 90-degree fittings (3).



XL19104A



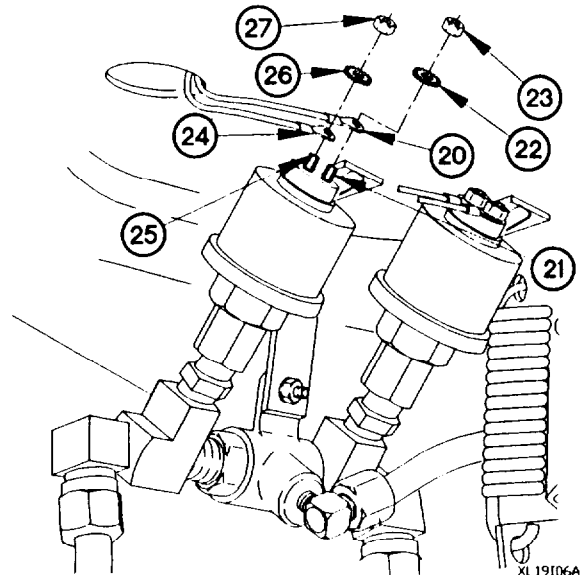
XL19105A

(11) Install terminal lug TL157 (12) on rear brake air pressure transmitter terminal G (13) with lockwasher (14) and nut (15).

(12) Install terminal lug TL151 (16) on rear brake air pressure transmitter terminal WK (17) with lockwasher (18) and nut (19).

(13) Install terminal lug TL156 (20) on front brake air pressure transmitter terminal G (21) with lockwasher (22) and nut (23).

(14) Install terminal lug TL150 (24) on front brake air pressure transmitter terminal WK (25) with lockwasher (26) and nut (27).



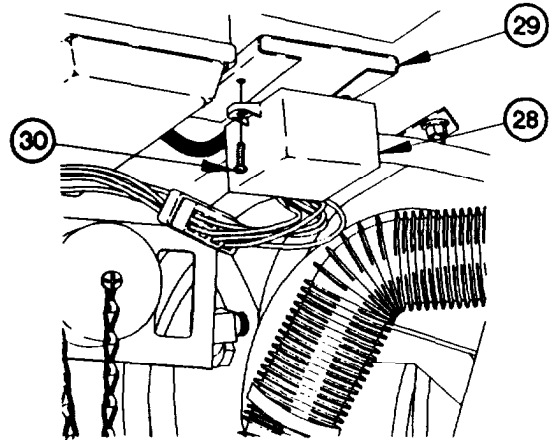
XL19106A

11-19. PARK CONTROL TWO-WAY CHECK VALVE REPLACEMENT (CONT)

- (15) Install frequency ECU (28) on bracket (29) with two screws (30).

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Check park control two-way check valve and air hoses for air leaks and proper operation.
- (3) Check operation of FRONT BRAKE AIR and REAR BRAKE AIR pressure gages.
- (4) Shut down engine (TM 9-2320-366-10-1).



XL19107A

End of Task.

11-20. SYSTEM PARK AND TRAILER AIR SUPPLY VALVES REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

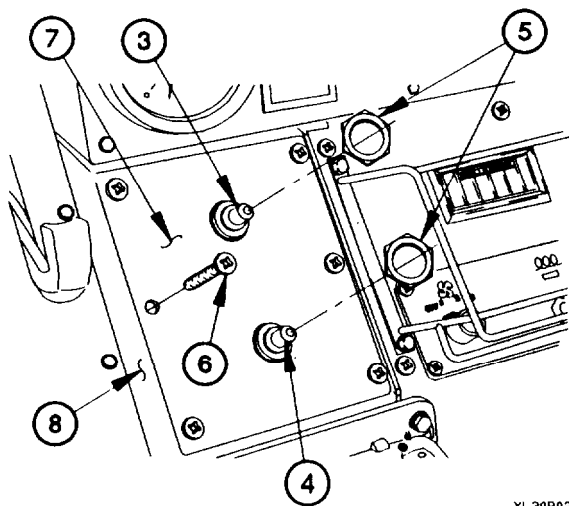
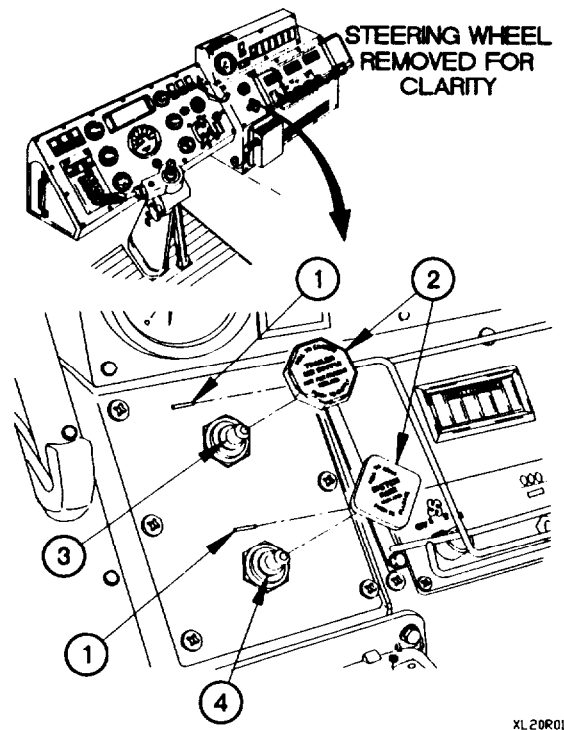
Tool Kit, Genl Mech (Item 46, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Antiseize Compound (Item 13, Appendix D)

a. Removal.

- (1) Remove two roll pins (1) and knobs (2) from TRAILER AIR SUPPLY valve (3) and SYSTEM PARK valve (4).



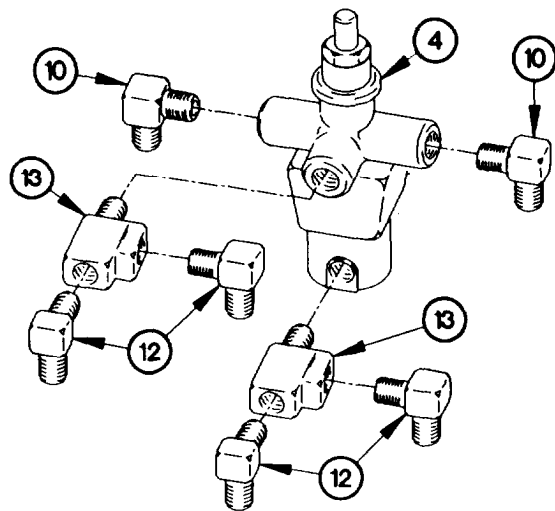
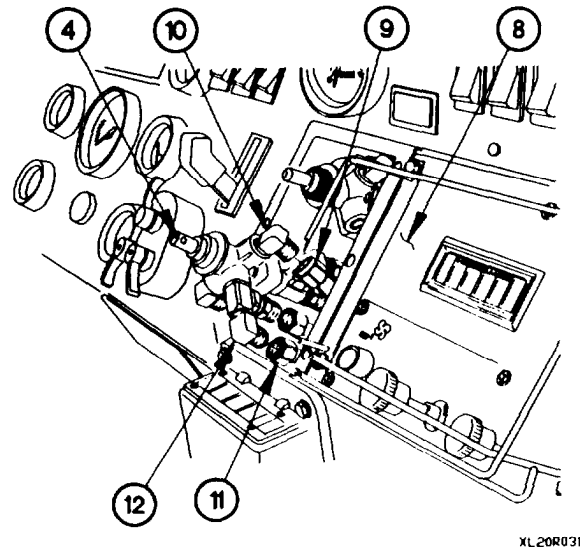
- (2) Remove two nuts (5) from TRAILER AIR SUPPLY valve (3) and SYSTEM PARK valve (4).
- (3) Remove six screws (6) and panel (7) from personnel heater assembly (8).

11-20. SYSTEM PARK AND TRAILER AIR SUPPLY VALVES REPLACEMENT (CONT)

NOTE

Tag air hoses and connection points prior to disconnecting.

- (4) Disconnect two air hoses (9) from 90-degree fittings (10).
- (5) Disconnect four air hoses (11) from 90-degree fittings (12).
- (6) Remove SYSTEM PARK valve (4) from personnel heater assembly (8).

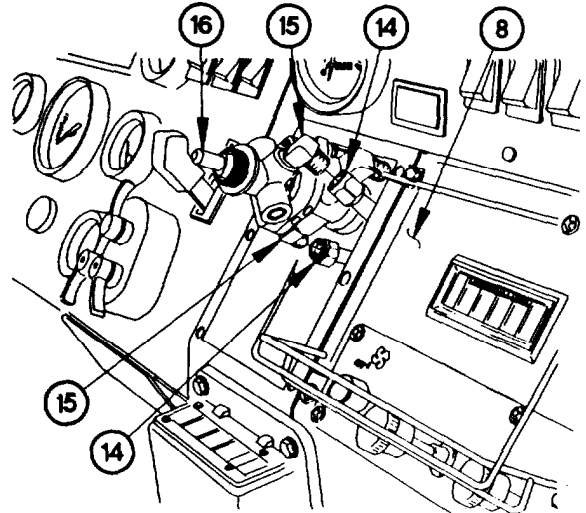


NOTE

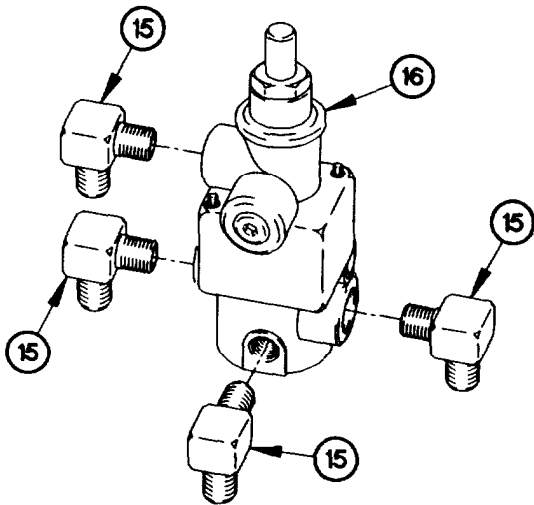
Note orientation of fittings prior to removal.

- (7) Remove two 90-degree fittings (10) from SYSTEM PARK valve (4).
- (8) Remove two run tee fittings (13) from SYSTEM PARK valve (4).
- (9) Remove four 90-degree fittings (12) from two run tee fittings (13).

- (10) Disconnect four air hoses (14) from 90-degree fittings (15).
- (11) Remove TRAILER AIR SUPPLY valve (16) from personnel heater assembly (8).



XL20R05I



XL20R06A

NOTE

Note orientation of fittings prior to removal.

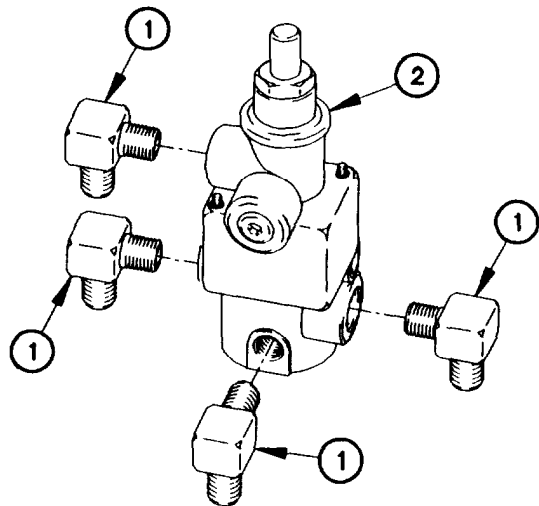
- (12) Remove four 90-degree fittings (15) from TRAILER AIR SUPPLY valve (16).

b. Installation.

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

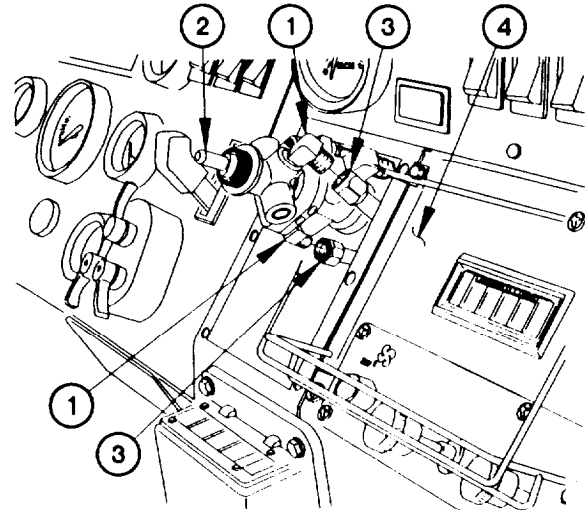
- (1) Apply antiseize compound to threads of four 90-degree fittings (1).
- (2) Install four 90-degree fittings (1) in TRAILER AIR SUPPLY valve (2).



XL20I01A

11-20. SYSTEM PARK AND TRAILER AIR SUPPLY VALVES REPLACEMENT (CONT)

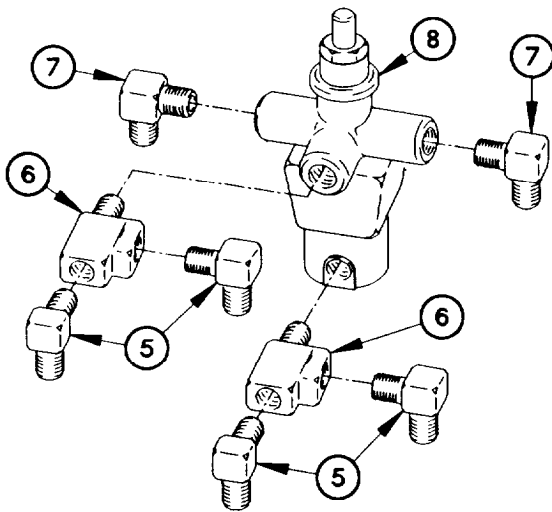
- (3) Connect four air hoses (3) to 90-degree fittings (1).
- (4) Position TRAILER AIR SUPPLY valve (2) in personnel heater assembly (4).



XL201021

WARNING

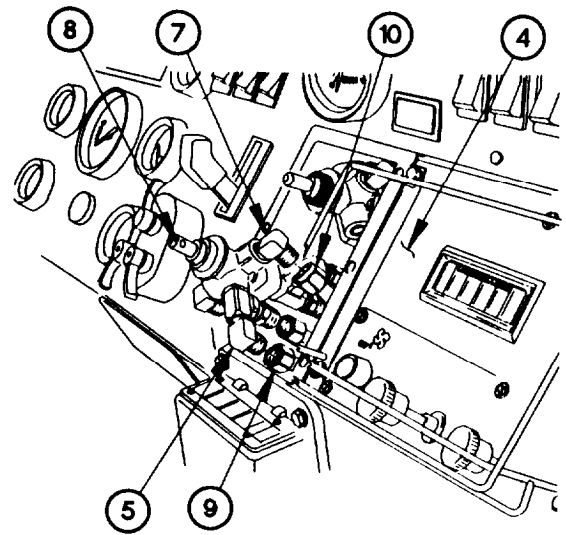
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



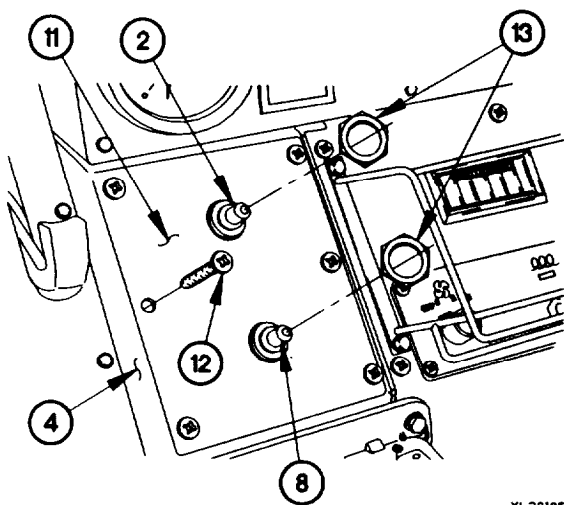
XL201031

- (5) Apply antiseize compound to threads of four 90-degree fittings (5), two run tee fittings (6), and 90-degree fittings (7).
- (6) Install four 90-degree fittings (5) in two run tee fittings (6).
- (7) Install two run tee fittings (6) in SYSTEM PARK valve (8).
- (8) Install two 90-degree fittings (8) in SYSTEM PARK valve (7).

- (9) Connect four air hoses (9) to 90-degree fittings (5).
- (10) Connect two air hoses (10) to 90-degree fittings (7).
- (11) Install SYSTEM PARK valve (8) in personnel heater assembly (4).



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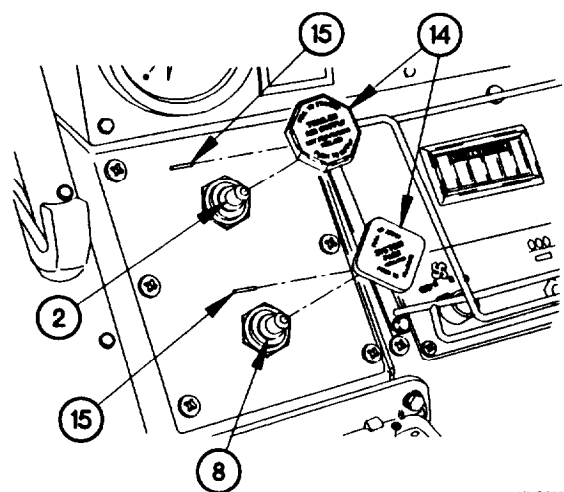
- (12) Install panel (11) on personnel heater assembly (4) with six screws (12).
- (13) Install two nuts (13) on TRAILER AIR SUPPLY valve (2) and SYSTEM PARK valve (8).

- (14) Install two knobs (14) on TRAILER AIR SUPPLY valve (2) and SYSTEM PARK valve (8) with two roll pins (15).

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Check SYSTEM PARK valve for air leaks.
- (3) Check TRAILER AIR SUPPLY valve for air leaks.
- (4) Shut down engine (TM 9-2320-366-10-1).

End of Task.



XL201061

11-21. BRAKE AIR HOSES REPLACEMENT

This task covers:

a. Brake Air Hose Locations

b. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Cap and Plug Set (Item 14, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)

a. Brake Air Hose Locations

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

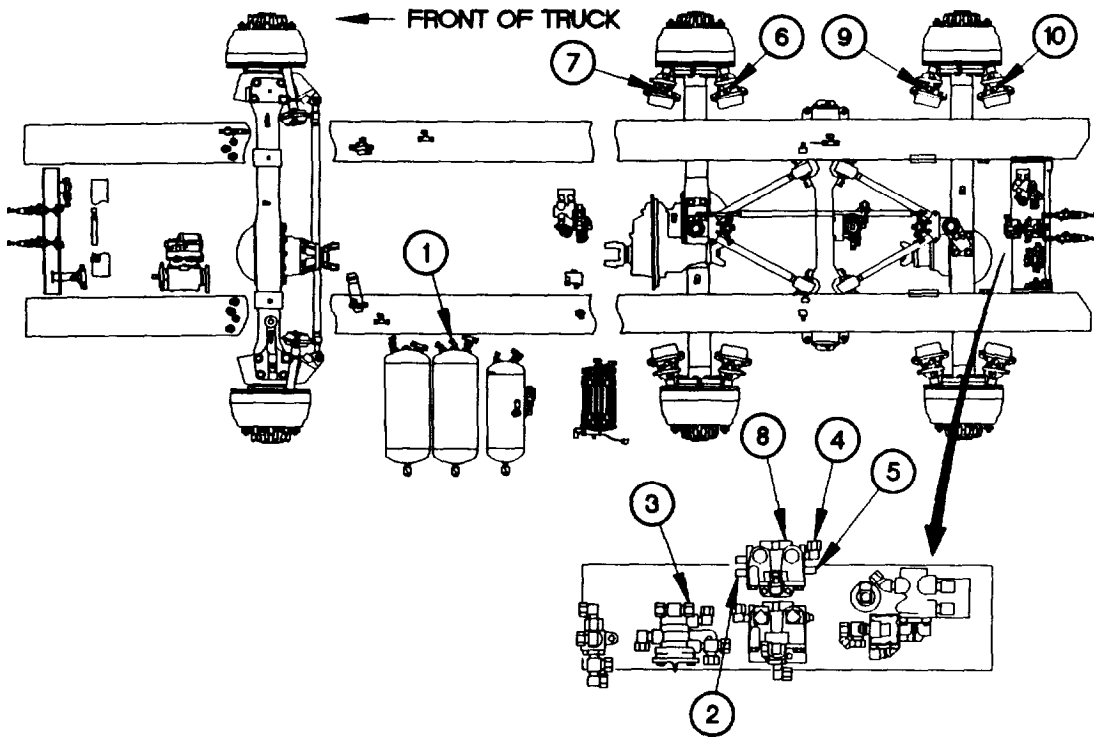
CAUTION

Cap or plug hose connections to prevent contamination. Failure to comply may result in damage to equipment.

NOTE

- This task shows locations of hoses on the vehicle. It may not be necessary to remove all hoses at one time.
- Tag hoses and connection points prior to removal.
- Note location of plastic cable ties prior to removal.
- Remove plastic cable ties as required.
- Inspect hoses and fittings for cracks, kinks, nicks, stripped threads, and cuts. Replace damaged parts.

Figure 11-3. Rear Brake Air Hose Locations



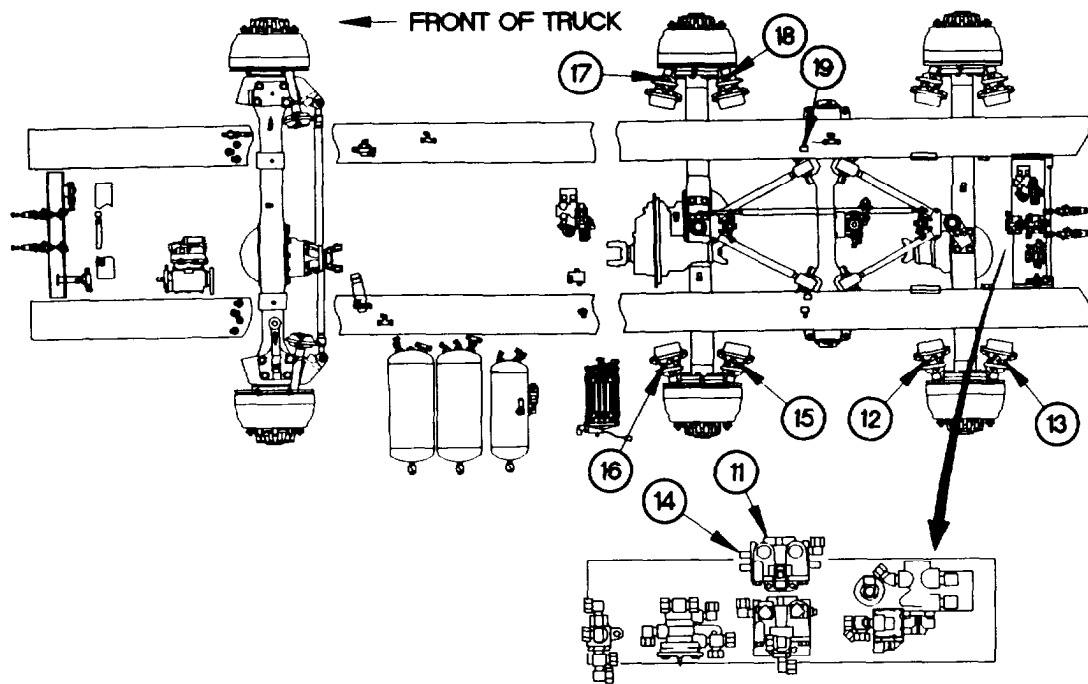
4L21H01-

Table 11-3. Rear Brake Air Hose Locations

HOSE NAME	FROM	TO
Rear brake air supply	Primary tank fitting (1)	Relay valve fitting (2)
Rear brake air tie	Inversion valve fitting (3)	Relay valve input fitting (4)
Right intermediate brake supply	Relay valve output A (5)	Right intermediate brake cylinder #1 (6)
Right intermediate brake tie	Right intermediate brake cylinder #1 (6)	Right intermediate brake cylinder #2 (7)
Right rear brake supply	Relay valve output B (8)	Right rear brake cylinder #1 (9)
Right rear brake tie	Right rear brake cylinder #1 (9)	Right rear brake cylinder #2 (10)

11-21. BRAKE AIR HOSES REPLACEMENT (CONT)

Figure 11-3. Rear Brake Air Hose Locations (Cont)

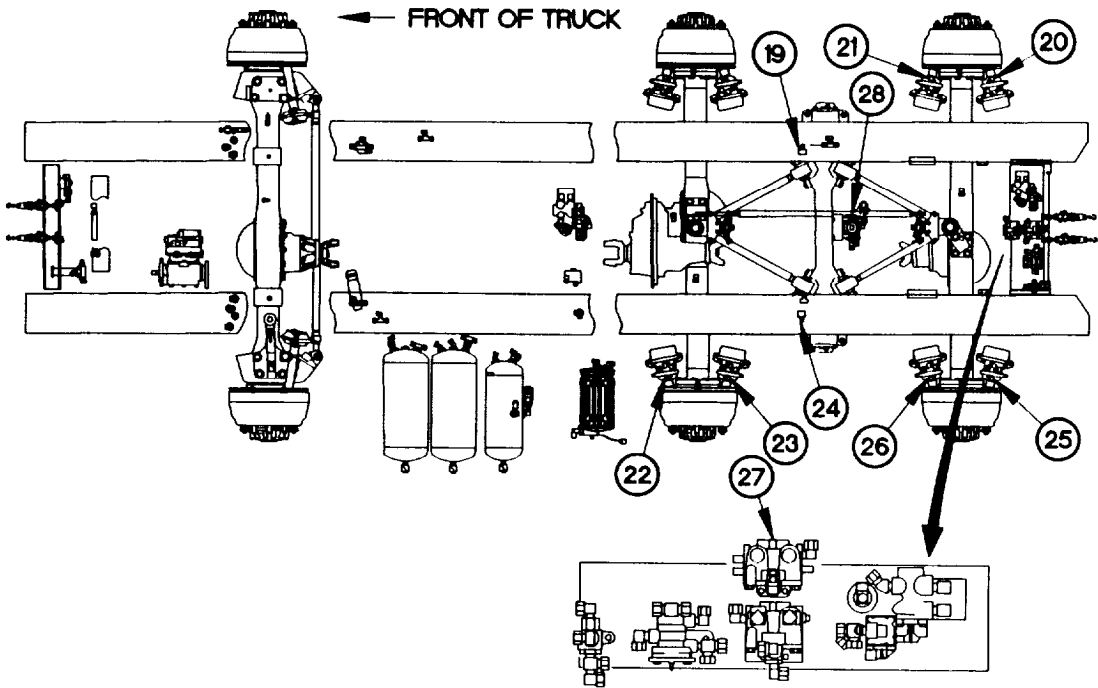


4L21402-

Table 11-3. Rear Brake Air Hose Locations (Cont)

HOSE NAME	FROM	TO
Left rear brake supply	Relay valve output C (11)	Left rear brake cylinder #1 (12)
Left rear brake tie	Left rear brake cylinder #1 (12)	Left rear brake cylinder #2 (13)
Left rear intermediate brake supply	Relay valve output D (14)	Left intermediate brake cylinder #1 (15)
Left intermediate break tie	Left intermediate cylinder #1 (15)	Left intermediate break cylinder #2 (16)
Right intermediate brake vent tie	Right intermediate brake cylinder #2 vent fitting (17)	Right intermediate brake cylinder #1 vent fitting (18)
Right intermediate brake vent	Right intermediate brake cylinder #1 vent fitting (18)	Vent fitting (19)

Figure 11-3. Rear Brake Air Hose Locations (Cont)



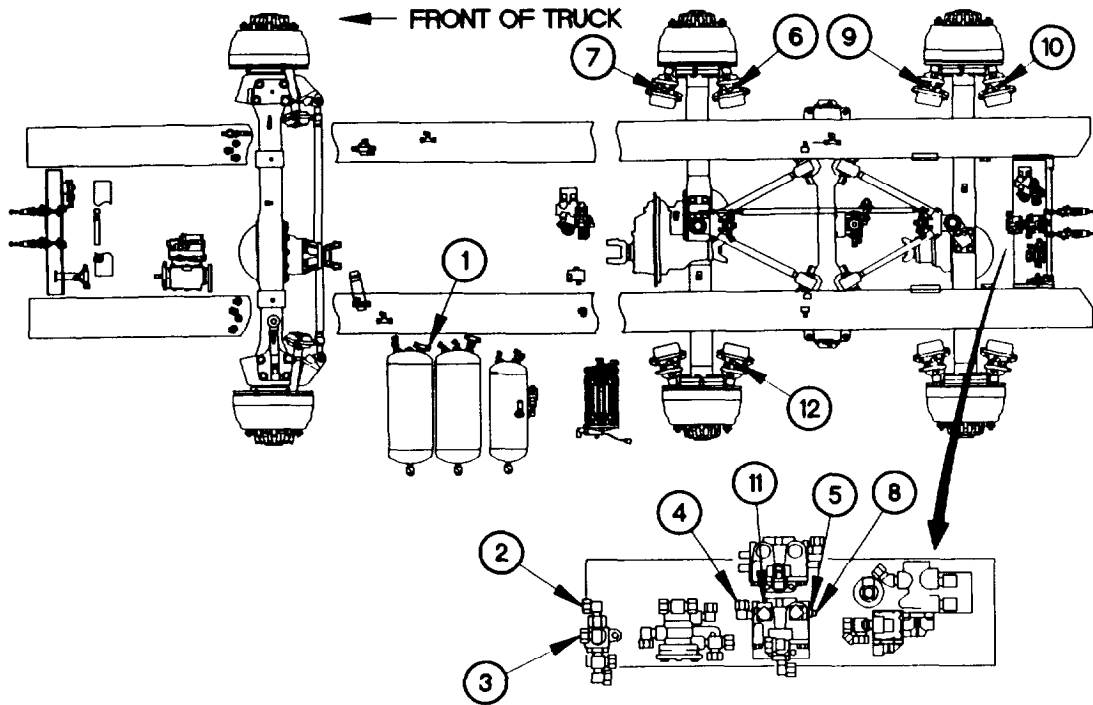
4L21H03-

Table 11-3. Rear Brake Air Hose Locations (Cont)

HOSE NAME	FROM	TO
Right rear brake tie	Right rear brake cylinder #2 vent fitting (20)	Right rear brake cylinder #1 vent fitting (21)
Right rear brake vent	Right rear brake cylinder #1 vent fitting (21)	Vent fitting (19)
Left intermediate brake vent tie	Left intermediate brake cylinder #2 vent fitting (22)	Left intermediate brake cylinder #1 vent fitting (23)
Left intermediate brake vent	Left intermediate brake cylinder #1 vent fitting (23)	Vent fitting (24)
Left rear brake vent tie	Left rear brake cylinder #2 vent fitting (25)	Left rear brake cylinder #1 vent fitting (26)
Left rear brake vent	Left rear brake cylinder #1 vent fitting (26)	Vent fitting (24)
Load sensing pilot	Relay valve fitting (27)	Load sensing valve output (28)

11-21. BRAKE AIR HOSES REPLACEMENT (CONT)

Figure 11-4. Cargo/Dump Rear Brake Control Air Hose Locations



4L21404-

Table 11-4. Cargo/Dump Rear Brake Control Air Hose Locations

AIR HOSE NAME	FROM	TO
Rear wheel valve supply	Secondary tank fitting (1)	Two way valve input fitting (2)
Anti-compound valve	Two way valve output fitting (3)	Anti-compound valve input fitting (4)
Right intermediate anti-compound supply	Anti-compound valve output fitting (5)	Right intermediate cylinder #1 fitting (6)
Right intermediate anti-compound supply tie	Right intermediate cylinder #1 fitting (6)	Right intermediate cylinder #2 fitting (7)
Right rear supply	Anti-compound valve output fitting (8)	Right rear cylinder #1 fitting (9)
Right rear supply tie	Right rear cylinder #1 fitting (9)	Right rear cylinder #2 fitting (10)
Left intermediate anti-compound supply	Anti-compound valve output fitting (11)	Left intermediate cylinder #1 fitting (12)

Figure 11-4. Cargo/Dump Rear Brake Control Air Hose Locations (Cont)

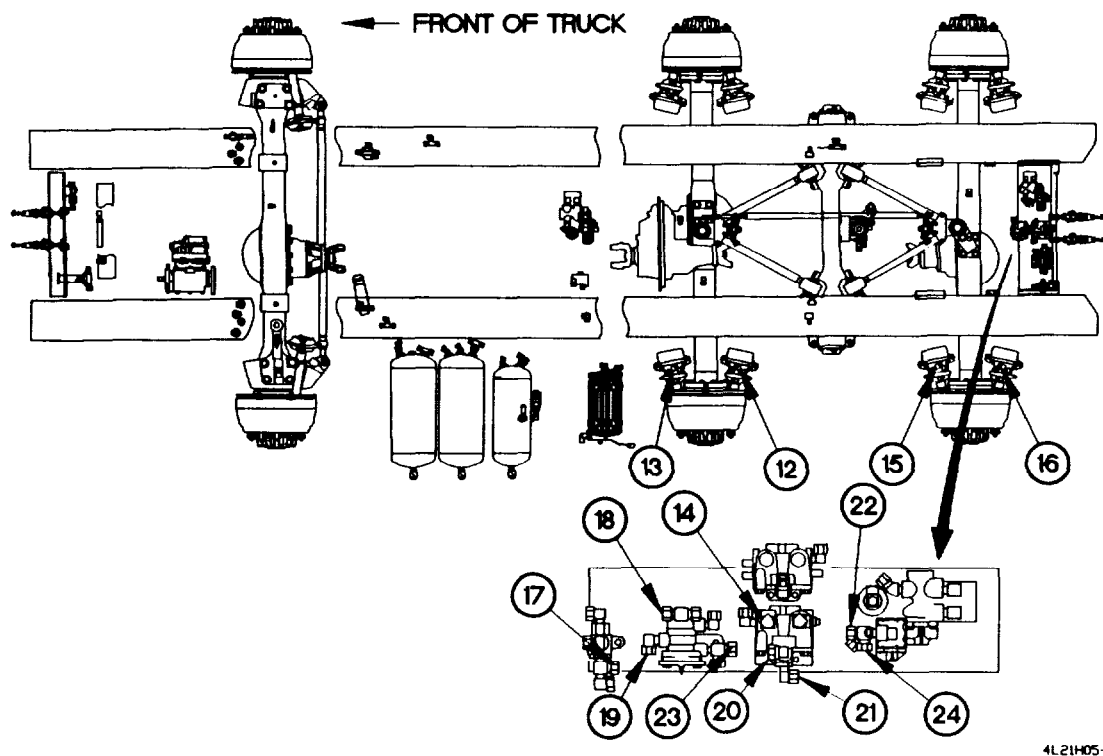


Table 11-4. Cargo/Dump Rear Brake Control Air Hose Locations (Cont)

AIR HOSE NAME	FROM	TO
Left intermediate anti-compound supply tie	Left intermediate cylinder #1 fitting (12)	Left intermediate cylinder #2 fitting (13)
Left rear supply	Anti-compound valve output fitting (14)	Left rear cylinder #1 fitting (15)
Left rear supply tie	Left rear cylinder #1 fitting (15)	Left rear cylinder #2 fitting (16)
Inversion valve input	Two way valve fitting (17)	Inversion valve input fitting (18)
Anti-compound valve pilot	Inversion valve output fitting (19)	Anti-compound valve output pilot (20)
Anti-compound pilot	Anti-compound pilot input fitting (21)	Air brake protecting valve input fitting (22)
Inversion valve pilot	Inversion valve pilot input (23)	Air brake protecting valve input fitting (24)

11-21. BRAKE AIR HOSES REPLACEMENT (CONT)

Figure 11-4. Cargo/Dump Rear Brake Control Air Hose Locations (Cont)

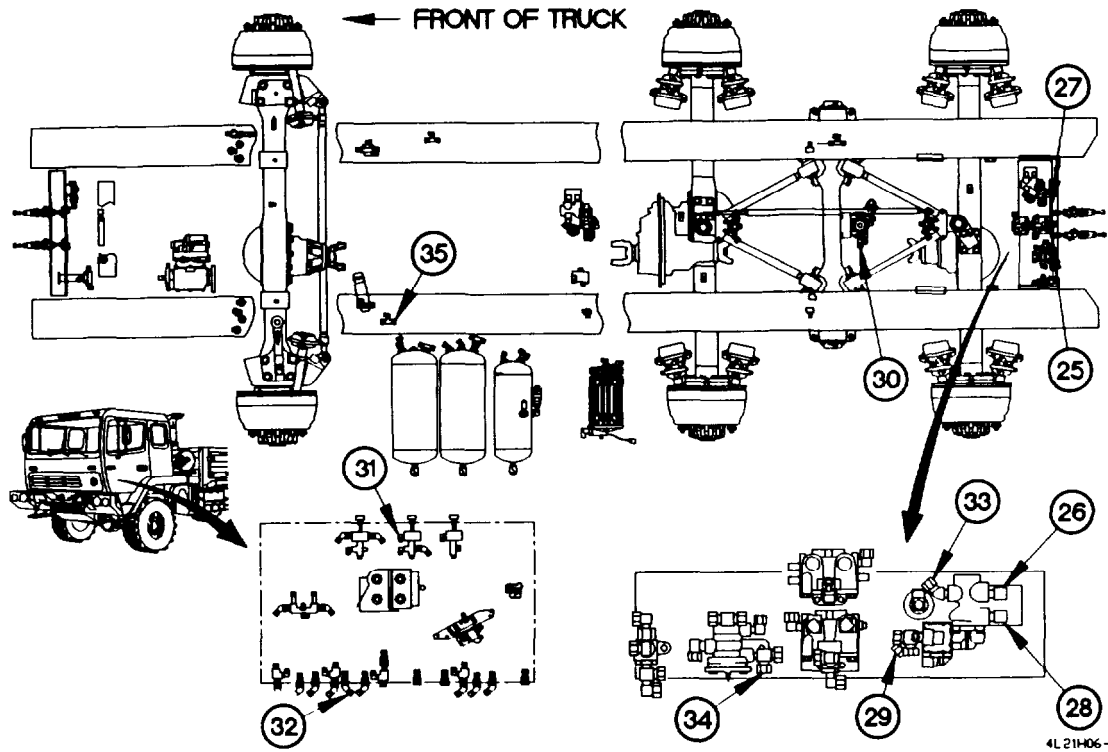
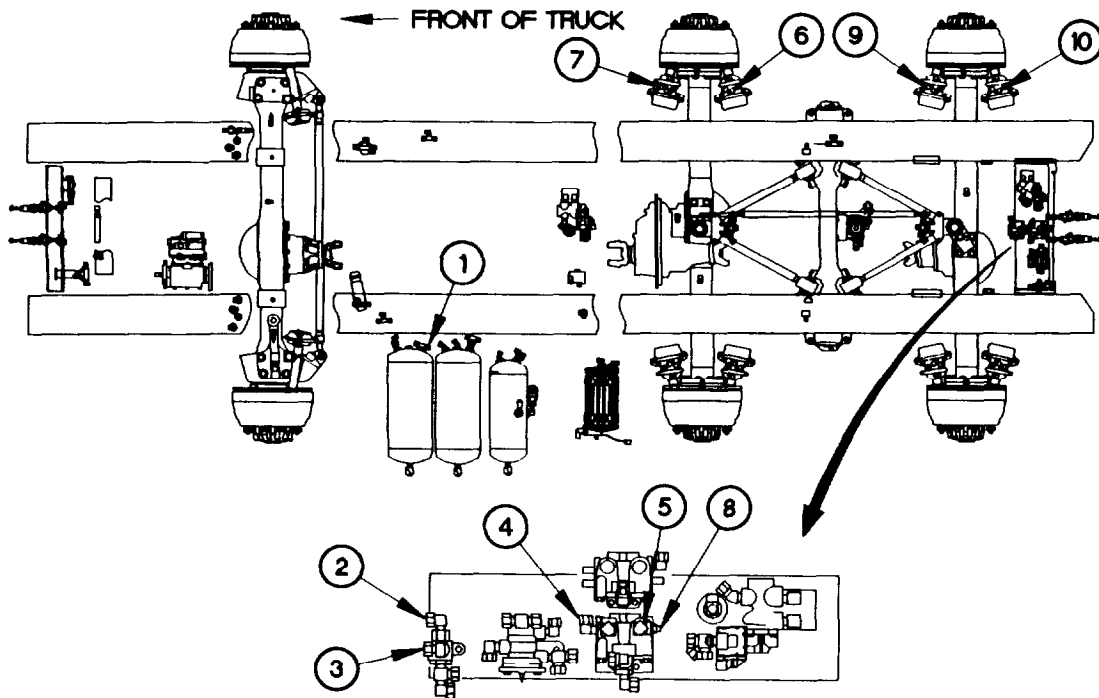


Table 11-4. Cargo/Dump Rear Brake Control Air Hose Locations (Cont)

AIR HOSE NAME	FROM	TO
Rear gladhand emergency	Rear gladhand emergency fitting (25)	Air brake protecting valve pilot input fitting (26)
Rear gladhand service	Rear gladhand service fitting (27)	Air brake protecting valve output fitting (28)
Load sensing supply tie	Load sensing supply tee (29)	Air brake protecting valve fitting (30)
Trailer supply	Trailer supply output fitting (31)	Bulkhead fitting (32)
Trailer supply tie	Bulkhead fitting (32)	Air brake protecting input fitting (33)
Foot valve brake supply	Tee fitting (34)	Inversion valve fitting (35)

Figure 11-5. Tractor Rear Brake Control Air Hose Locations



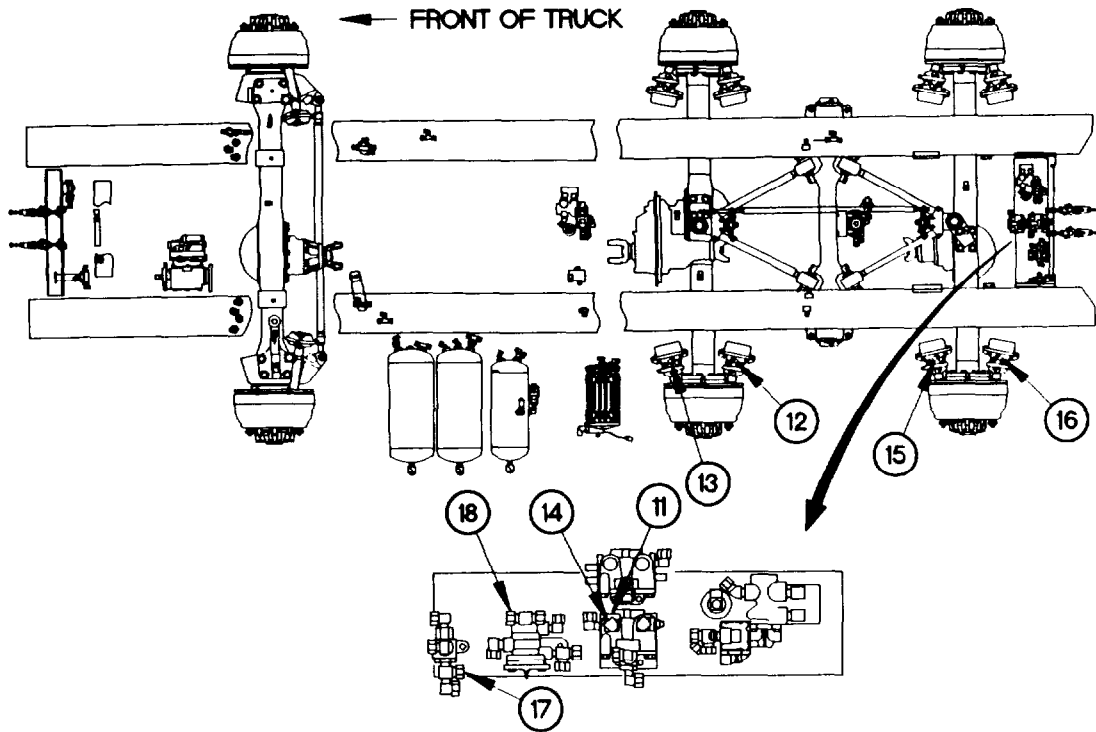
4L21407-

Table 11-5. Tractor Rear Brake Control Air Hose Locations

AIR HOSE NAME	FROM	TO
Rear wheel valve supply	Secondary tank fitting (1)	Two way valve input fitting (2)
Anti-compound valve supply	Two way valve output fitting (3)	Anti-compound valve input fitting (4)
Right intermediate anti-compound supply	Anti-compound valve output fitting (5)	Right intermediate cylinder #1 fitting (6)
Right intermediate anti-compound supply tie	Right intermediate cylinder #1 fitting (6)	Right intermediate cylinder #2 fitting (7)
Right rear supply	Anti-compound valve output fitting (8)	Right rear cylinder #1 fitting (9)
Right rear supply tie	Right rear cylinder #1 fitting (9)	Right rear cylinder #2 fitting (10)

11-21. BRAKE AIR HOSES REPLACEMENT (CONT)

Figure 11-5. Tractor Rear Brake Control Air Hose Locations (Cont)

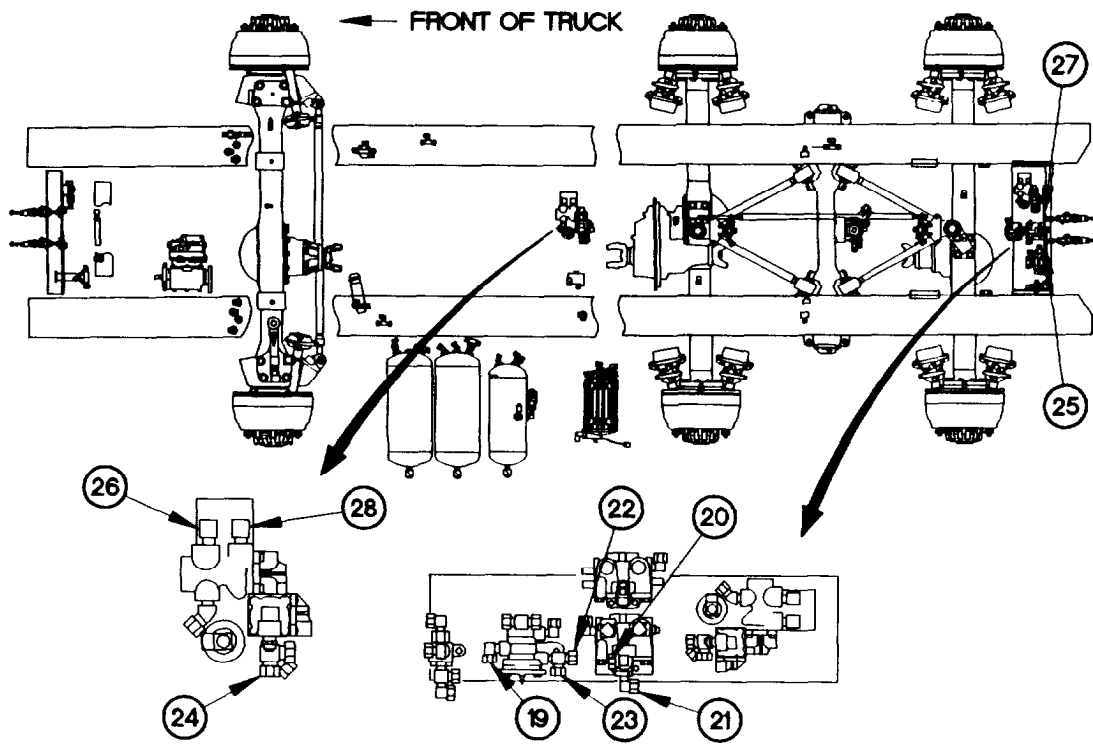


4L21408-

Table 11-5. Tractor Rear Brake Control Air Hose Locations (Cont)

AIR HOSE NAME	FROM	TO
Left intermediate anti-compound supply	Anti-compound valve output fitting (11)	Left intermediate cylinder #1 fitting (12)
Left intermediate anti-compound supply tie	Left intermediate cylinder #1 fitting (12)	Left intermediate cylinder #2 fitting (13)
Left rear supply	Anti-compound valve output fitting (14)	Left rear cylinder #1 fitting (15)
Left rear supply tie	Left rear cylinder #1 fitting (15)	Left rear cylinder #2 fitting (16)
Inversion valve input	Two way valve fitting (17)	Inversion valve input fitting (18)

Figure 11-5. Tractor Rear Brake Control Air Hose Locations (Cont)



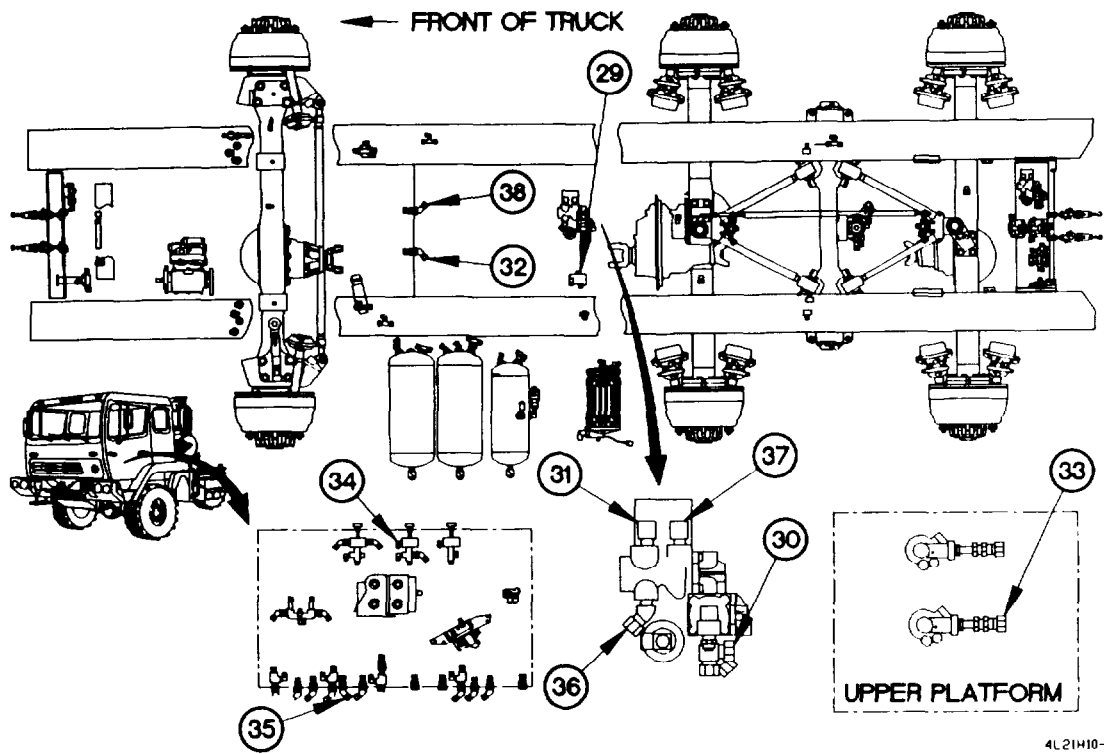
4L21H09-

Table 11-5. Tractor Rear Brake Control Air Hose Locations (Cont)

AIR HOSE NAME	FROM	TO
Anti-compound valve pilot	Inversion valve output fitting (19)	Anti-compound valve output pilot (20)
Anti-compound pilot	Anti-compound pilot input fitting (21)	Inversion valve pilot fitting (22)
Inversion valve pilot	Inversion valve pilot input (23)	Air brake protecting valve input fitting (24)
Rear gladhand emergency	Rear gladhand emergency fitting (25)	Air brake protecting valve pilot input fitting (26)
Rear gladhand service	Rear gladhand service fitting (27)	Air brake protecting valve output fitting (28)

11-21. BRAKE AIR HOSES REPLACEMENT (CONT)

Figure 11-5. Tractor Rear Brake Control Air Hose Locations (Cont)

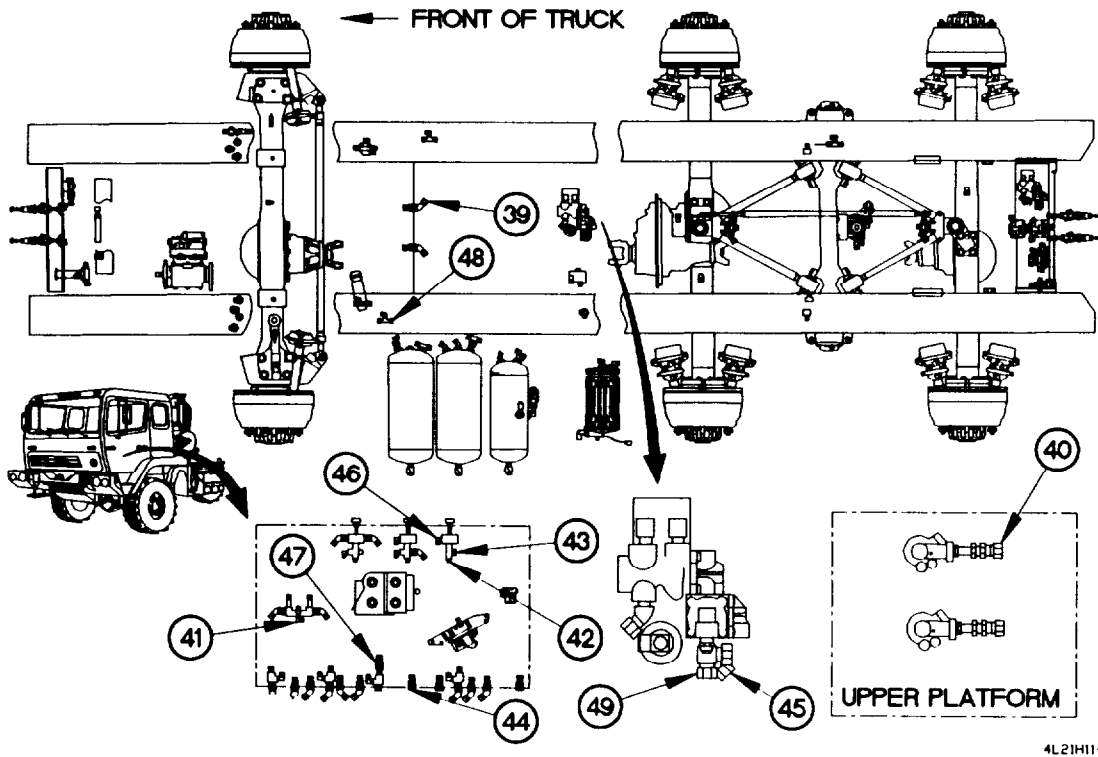


4L21H10-

Table 11-5. Tractor Rear Brake Control Air Hose Locations (Cont)

AIR HOSE NAME	FROM	TO
Booster supply	Booster pump fitting (29)	Air brake protecting input fitting (30)
Emergency service input	Air brake protecting output fitting (31)	Platform emergency service fitting (32)
Platform emergency input	Platform service fitting (32)	Platform gladhand emergency fitting (33).
Trailer supply	Trailer supply output fitting (34)	Bulkhead fitting (35)
Trailer supply tie	Bulkhead fitting (35)	Air brake protecting input fitting (36)
Service supply	Air brake protecting output fitting (37)	Bulkhead fitting (38)

Figure 11-5. Tractor Rear Brake Control Air Hose Locations (Cont)



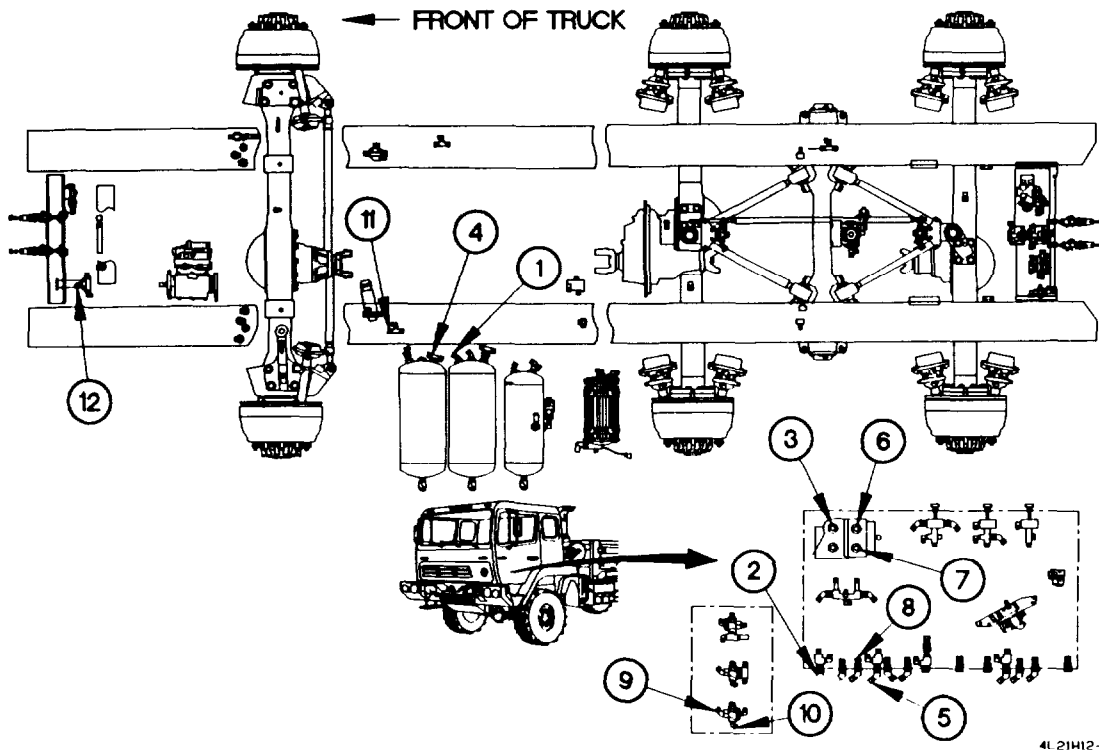
4L21H11-

Table 11-5. Tractor Rear Brake Control Air Hose Locations (Cont)

AIR HOSE NAME	FROM	TO
Platform service supply	Bulkhead fitting (39)	Gladhand service fitting (40)
Hand brake supply	Two way valve fitting (41)	Hand brake valve input (42)
Hand brake output	Hand brake output fitting (43)	Bulkhead fitting (44)
Hand brake output tie	Bulkhead fitting (44)	Air brake protecting input fitting (45)
Hand brake vent	Hand brake vent fitting (46)	Vent fitting (47)
Foot valve brake supply	Tee fitting (48)	Air brake protecting fitting (49)

11-21. BRAKE AIR HOSES REPLACEMENT (CONT)

Figure 11-6. Front Brake Air Hose Locations

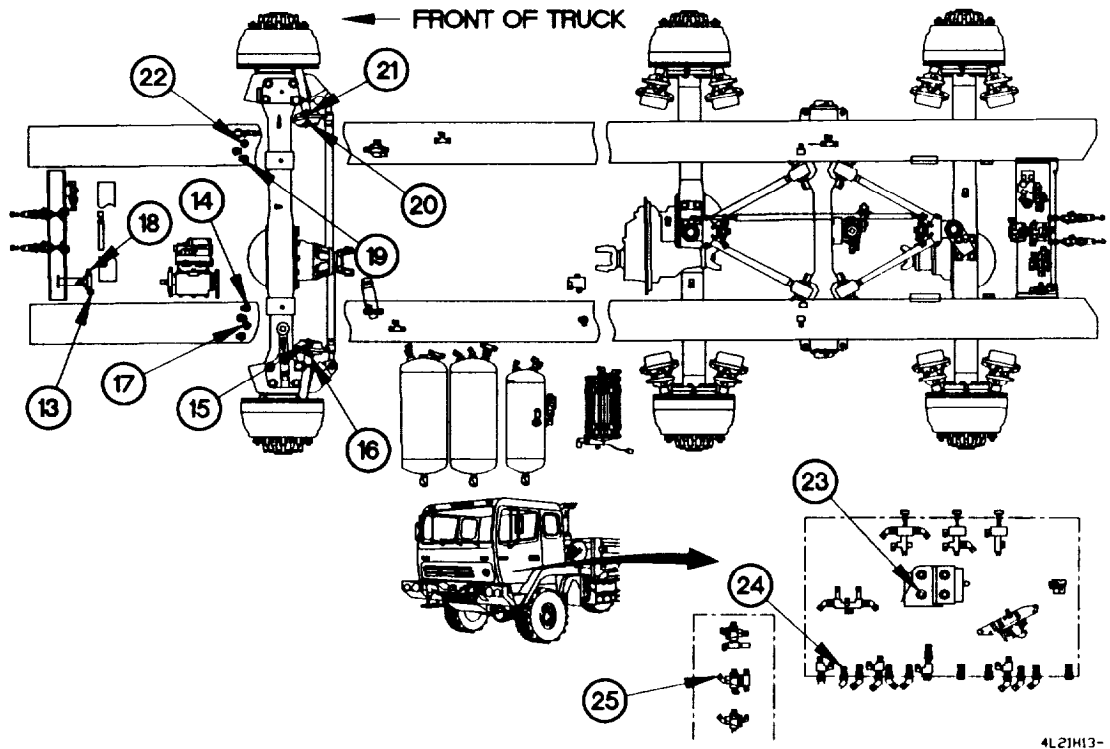


4L 21H12-

Table 11-6. Front Brake Air Hose Locations

AIR HOSE NAME	FROM	TO
Primary tank foot valve supply	Primary tank output fitting (1)	Cab bulkhead fitting (2)
Primary tank foot valve supply tie	Cab bulkhead fitting (2)	Foot valve input fitting (3)
Secondary tank foot valve supply	Secondary tank output fitting (4)	Cab bulkhead fitting (5)
Secondary tank foot valve tie	Cab bulkhead fitting (5)	Foot valve input fitting (6)
Foot valve front brake supply	Foot valve front brake output (7)	Bulkhead fitting (8)
Foot valve front brake supply tie #1	Cab bulkhead fitting (8)	Two way valve fitting (9)
Foot valve front brake supply tie #2	Two way valve fitting (10)	Tee fitting (11)
Foot valve front brake supply tie #3	Tee fitting (11)	Quick release valve input fitting (12)

Figure 11-6. Front Brake Air Hose Locations (Cont)



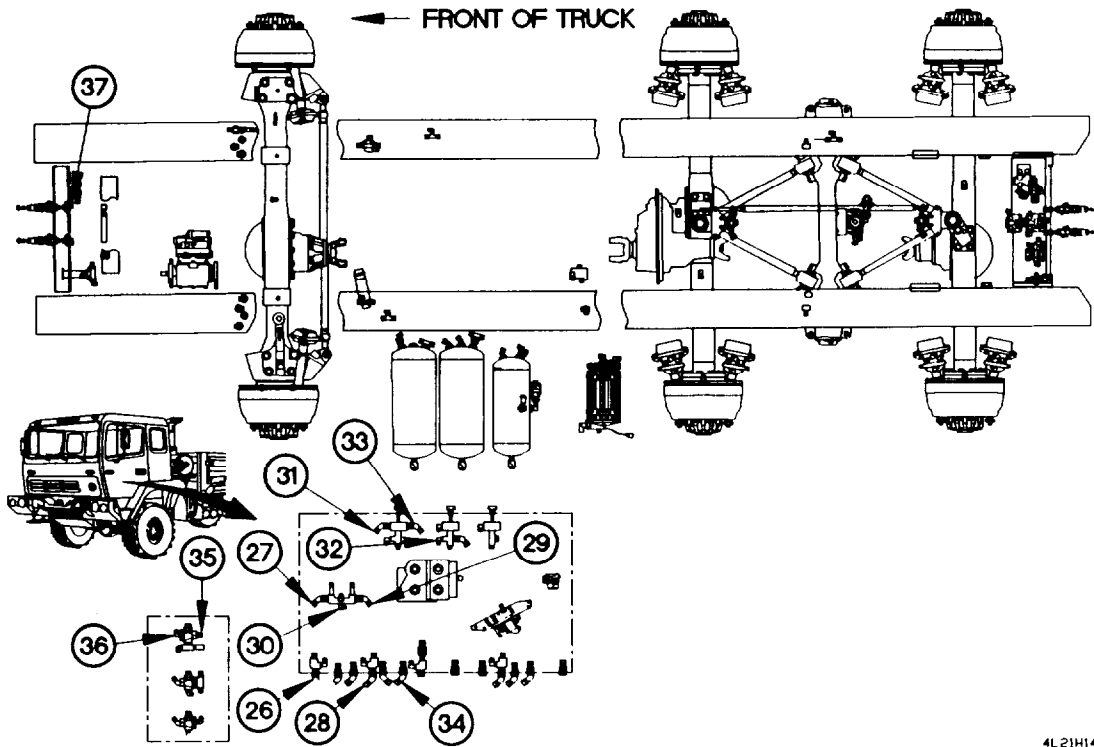
4L21H13-

Table 11-6. Front Brake Air Hose Locations (Cont)

AIR HOSE NAME	FROM	TO
Left front brake supply	Quick release valve output fitting (13)	Bulkhead fitting (14)
Left front brake supply tie	Bulkhead fitting (14)	Left front brake cylinder fitting (15)
Left front brake vent	Left front cylinder vent fitting (16)	Bulkhead vent fitting (17)
Right front brake supply	Quick release valve output fitting (18)	Bulkhead fitting (19)
Right front brake supply tie	Bulkhead fitting (19)	Right front brake cylinder fitting (20)
Right front brake vent	Right front cylinder vent fitting (21)	Bulkhead vent fitting (22)
Foot valve output	Foot valve load sensing output fitting (23)	Bulkhead fitting (24)
Foot valve output	Bulkhead fitting (24)	Two way valve input fitting (25)

11-21. BRAKE AIR HOSES REPLACEMENT (CONT)

Figure 11-6. Front Brake Hose Locators (Cont)

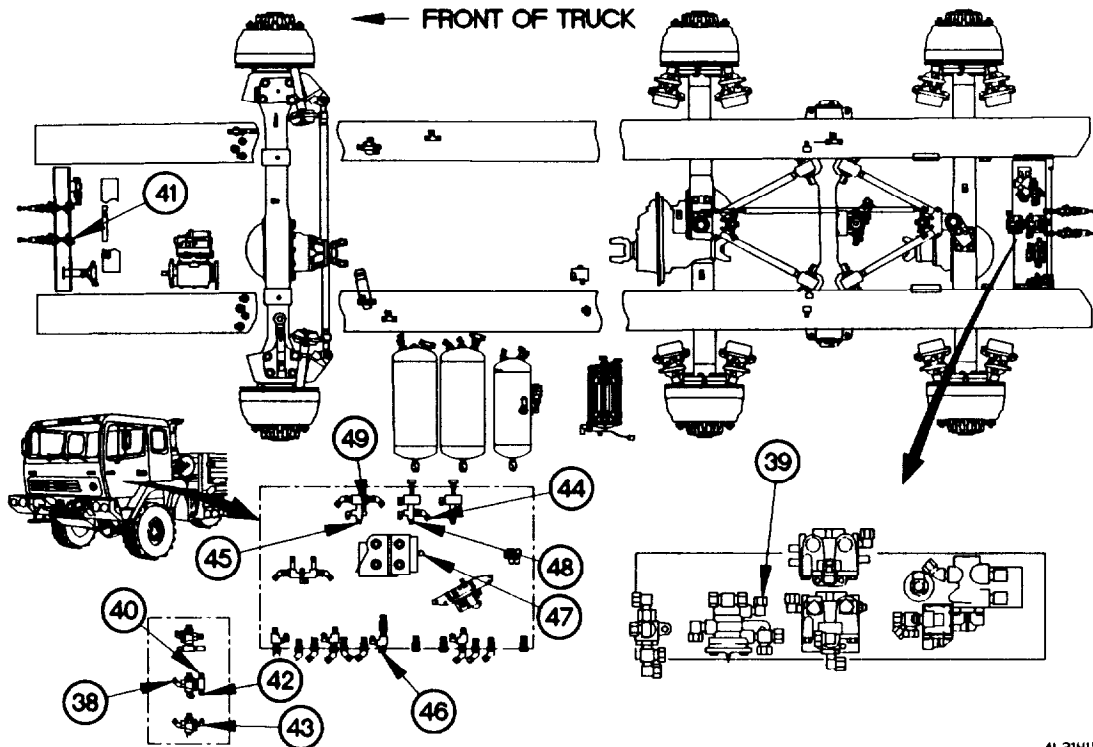


4L21H14-

Table 11-6. Front Brake Air Hose Locations (Cont)

AIR HOSE NAME	FROM	TO
Primary supply	Primary supply tee fitting (26)	Check valve fitting (27)
Secondary supply	Secondary tee fitting (28)	Check valve fitting (29)
Park control input	Check valve output (30)	Park control input fitting (31)
Trailer pilot input	Park control input fitting (31)	Trailer supply pilot fitting (32)
Park control output	Park control valve output fitting (33)	Bulkhead fitting (34)
Two way valve input #1	Bulkhead fitting (34)	Two way valve input #1 fitting (35)
Two way valve input #2	Two way valve input #2 fitting (36)	Gladhand emergency supply fitting (37)

Figure 11-6. Front Brake Hose Locators (Cont)



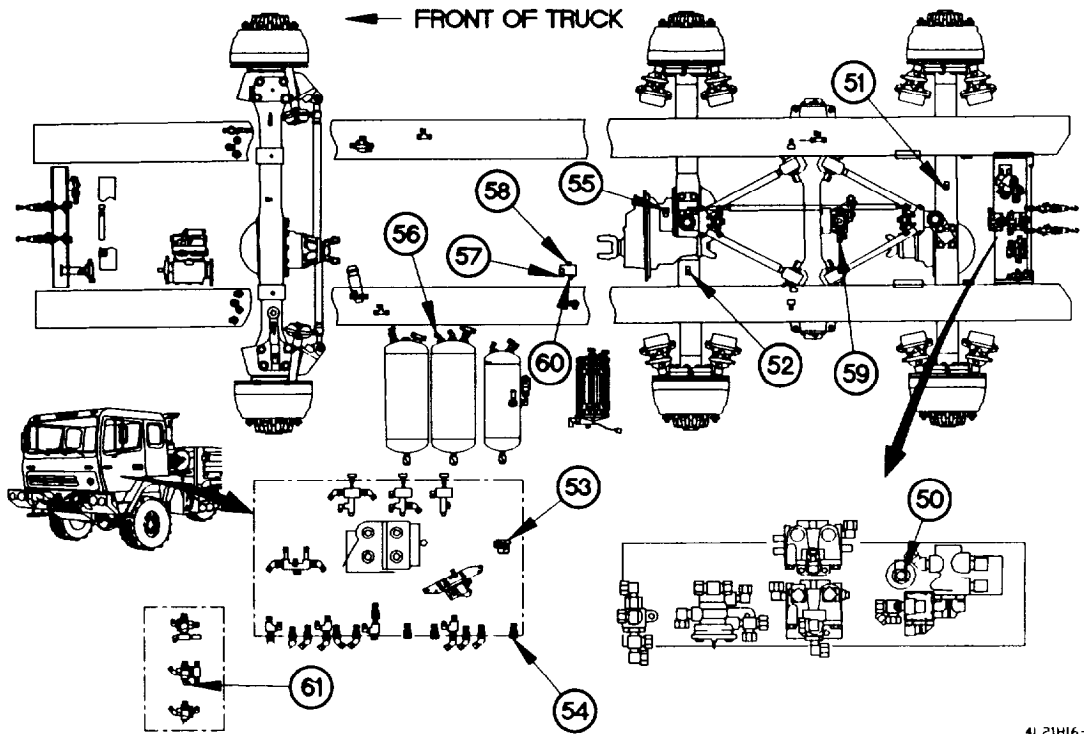
4L21H15-

Table 11-6. Front Brake Air Hose Locations (Cont)

AIR HOSE NAME	FROM	TO
Inversion valve supply	Two way valve output fitting (38)	Inversion valve input supply fitting (39)
Gladhand service	Gladhand valve service fitting (40)	Two way valve input tee (41)
Gladhand service tie	Two way valve input tee (42)	Two way valve input fitting (43)
Trailer supply vent	Trailer supply vent (44)	Park control vent tee (45)
Park control vent	Park control vent tee (45)	Vent tee (46)
Foot control vent	Park control vent fitting (47)	Vent tee (46)
Interconnect	Trailer fitting (48)	Park control fitting (49)

11-21. BRAKE AIR HOSES REPLACEMENT (CONT)

Figure 11-6. Front Brake Hose Locators (Cont)



4L21H16-

Table 11-6. Front Brake Air Hose Locations (Cont)

AIR HOSE NAME	FROM	TO
Rear axle vent	Trailer protection vent fitting (50)	Rear axle vent fitting (51)
Intermediate axle vent	Trailer protection vent fitting (50)	Intermediate axle vent (52)
Differential axle supply	MTV solenoid valve fitting (53)	Bulkhead fitting (54)
Differential axle supply tie	Bulkhead fitting (54)	Differential axle fitting (55)
Primary tank output	Primary tank output fitting (56)	Booster valve input fitting (57)
Load sensing	Booster valve output fitting (58)	Load sensing input fitting (59)
Booster pilot	Booster valve pilot fitting (60)	Two way valve output (61)

b. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Check around air hoses and fittings for air leaks.
- (3) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-22. SECONDARY AND PRIMARY AIR TANKS REPLACEMENT

This task covers:

- | | |
|---|---|
| <ul style="list-style-type: none"> a. Secondary Air Tank Removal (All Models Except M1088H1089) b. Secondary Air Tank Installation (All Models Except M1088/M1089) c. Secondary Air Tank Removal (M1088/M1089) d. Secondary Air Tank Installation (M1088/M1089) | <ul style="list-style-type: none"> e. Primary Air Tank Removal f. Primary Air Tank Installation g. Follow-On Maintenance |
|---|---|

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Goggles, Industrial (Item 15, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive
Tape (Item 20, Appendix D)
Antiseize Compound (Item 13, Appendix D)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

- a. Secondary Air Tank Removal (All Models Except M1088/M1089).

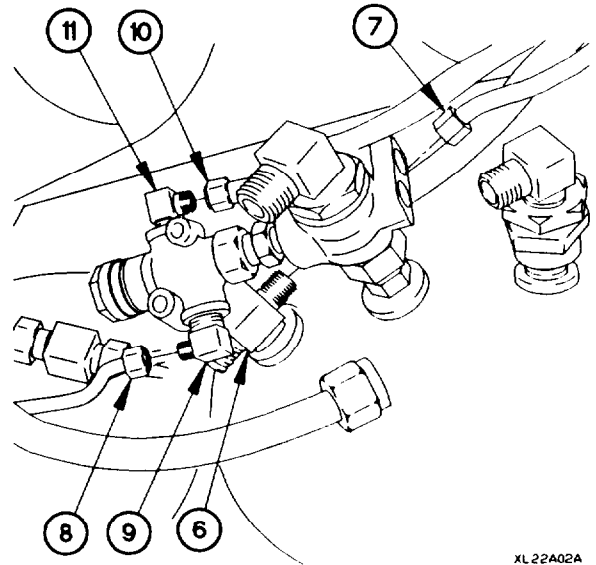
NOTE

Tag air hoses and connection points prior to disconnecting.

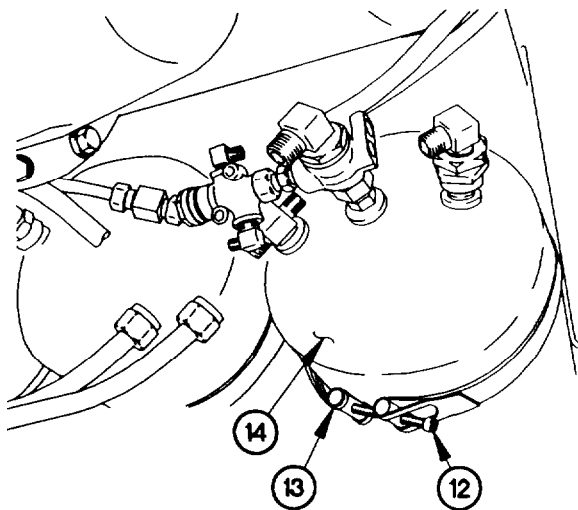
- (1) Disconnect air hose (1) from 90-degree fitting (2).
- (2) Disconnect air hose (3) from 90-degree fitting (4).
- (3) Disconnect air hose (5) from branch tee fitting (6).

11-22. SECONDARY AND PRIMARY AIR TANKS REPLACEMENT (CONT)

- (4) Disconnect air hose (7) from branch tee fitting (6).
- (5) Disconnect air hose (8) from 90-degree fitting (9).
- (6) Disconnect air hose (10) from 90-degree fitting (11).



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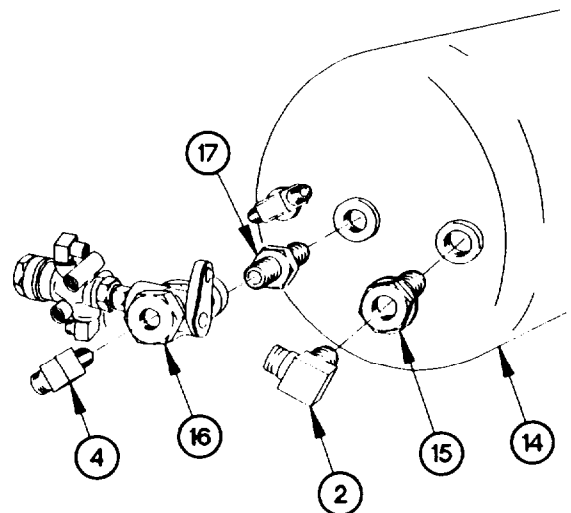
XL 22A03A

- (7) Loosen two screws (12) on clamps (13).
- (8) Remove secondary air tank (14) from clamps (13).

NOTE

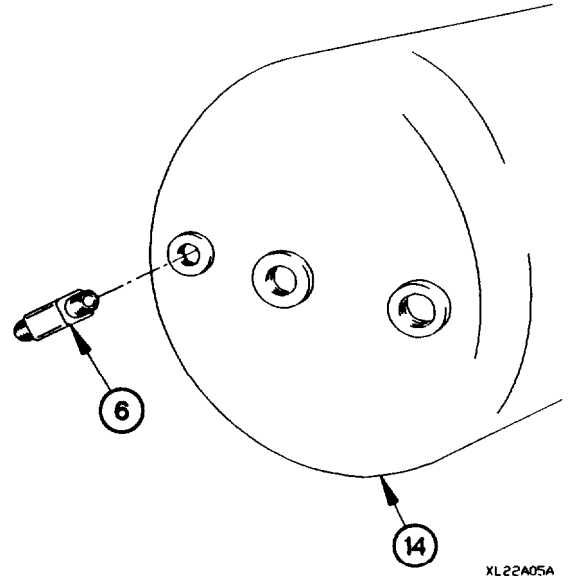
Note orientation of fittings prior to removal.

- (9) Remove 90-degree fitting (2) from one-way check valve (15).
- (10) Remove one-way check valve (15) from secondary air tank (14).
- (11) Remove 90-degree fitting (4) from two-way check valve (16).
- (12) Remove two-way check valve (16) from reducer fitting (17).
- (13) Remove reducer fitting (17) from secondary air tank (14).

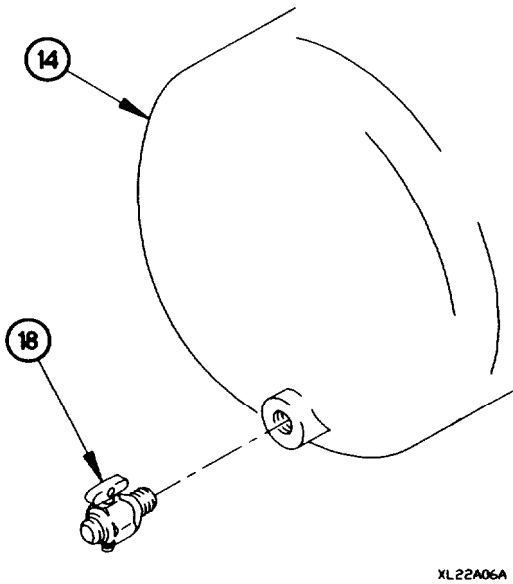


XL 22A04A

(14) Remove branch tee fitting (6) from secondary air tank (14).



XL22A05A



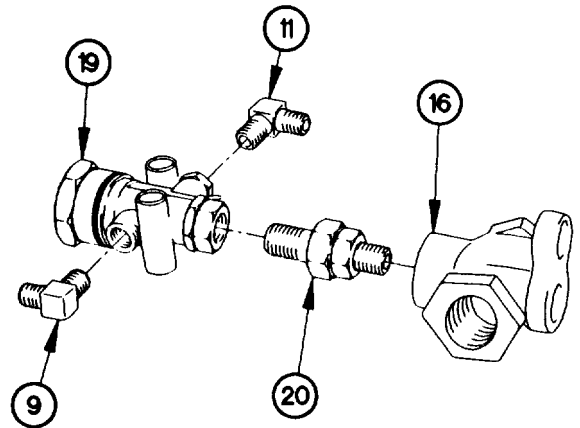
XL22A06A

(15) Remove drain valve (18) from secondary air tank (14).

(16) Remove inversion valve (19) from reducer fitting (20).

(17) Remove reducer fitting (20) from two-way check valve (16).

(18) Remove 90-degree fittings (9 and 11) from inversion valve (19).



XL22A07A

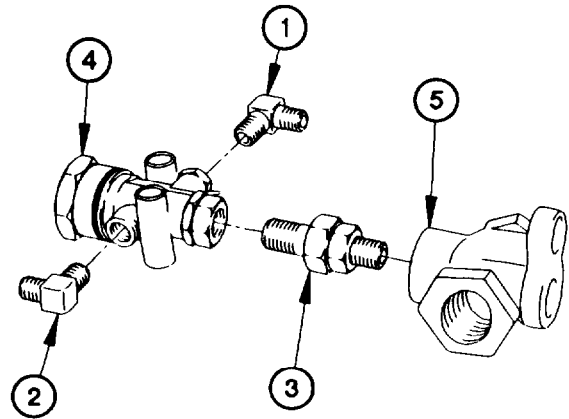
11-22. SECONDARY AND PRIMARY AIR TANKS REPLACEMENT (CONT)

b. Secondary Air Tank Installation (All Models Except M1088/M1089).

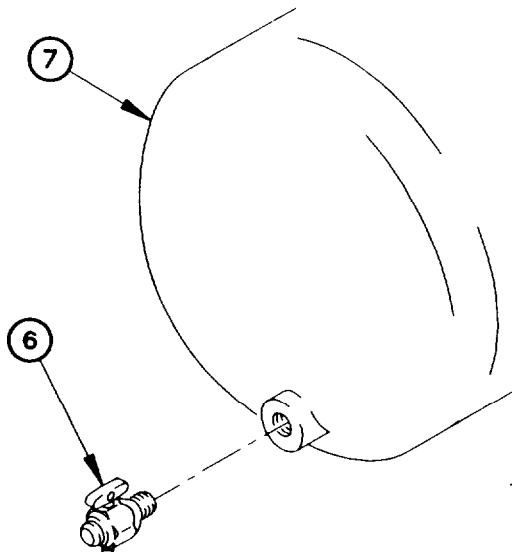
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of 90-degree fittings (1 and 2), and threads on both sides of reducer fitting (3).
- (2) Install 90-degree fittings (1 and 2) in inversion valve (4).
- (3) Install reducer fitting (3) in two-way check valve (5).
- (4) Install inversion valve (4) on reducer fitting (3).



XL 22B01A

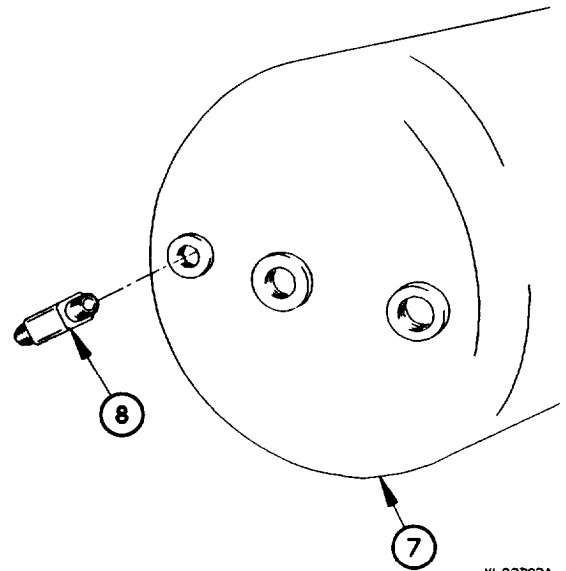


XL 22B02A

- (5) Apply antiseize compound to threads of drain valve (6).
- (6) Install drain valve (6) in secondary air tank (7).

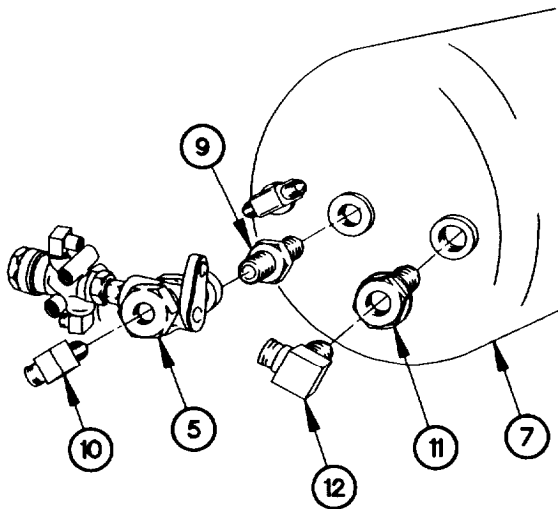
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



XL22B03A

- (7) Apply antiseize compound to threads of branch tee fitting (8).
- (8) Install branch tee fitting (8) in secondary air tank (7).

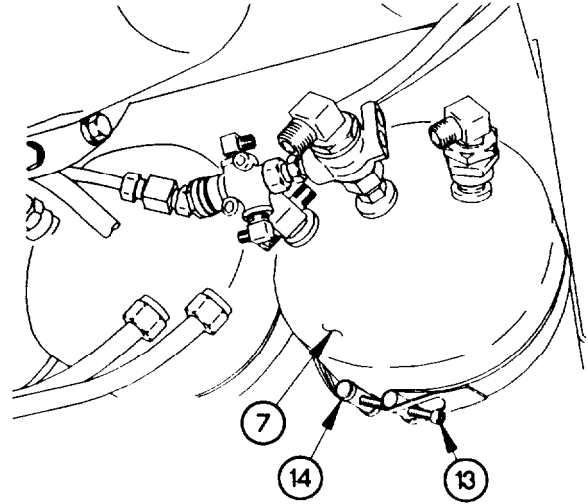


XL22B04A

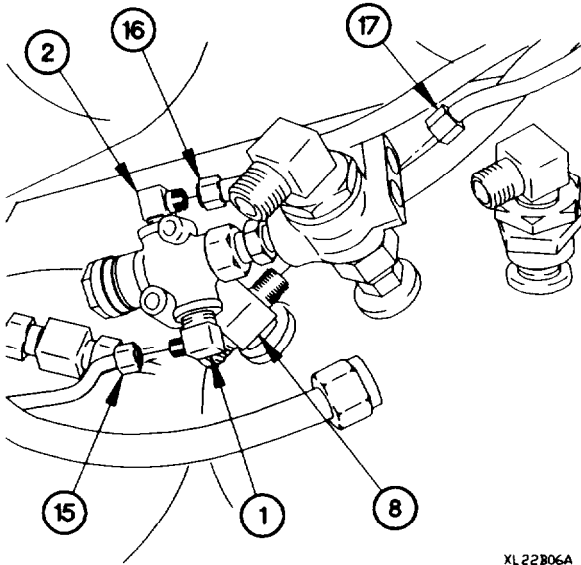
- (9) Apply antiseize compound to threads on both sides of reducer fitting (9), and threads of 90-degree fitting (10), one-way check valve (11), and 90-degree fitting (12).
- (10) Install reducer fitting (9) in secondary air tank (7).
- (11) Install two-way check valve (5) on reducer fitting (9).
- (12) Install 90-degree fitting (10) in two-way check valve (5).
- (13) Install one-way check valve (11) in secondary air tank (7).
- (14) Install 90-degree fitting (12) in one-way check valve (11).

11-22. SECONDARY AND PRIMARY AIR TANKS REPLACEMENT (CONT)

- (15) Position secondary air tank (7) in two clamps (13).
- (16) Tighten two screws (14) in clamps (13) to 23 lb-ft (31 N•m).



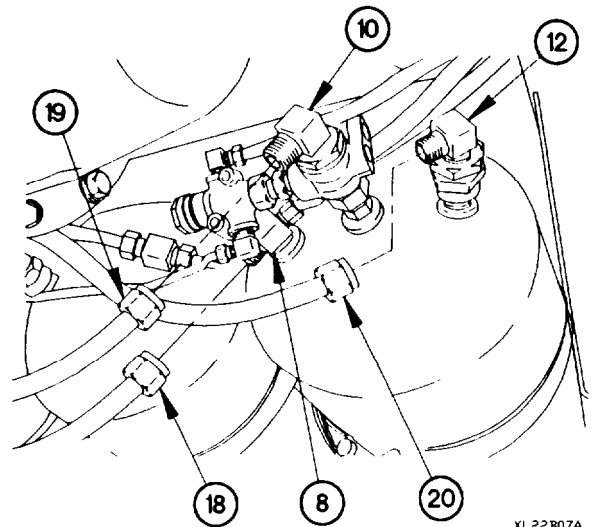
XL22B05A



XL22B06A

- (17) Connect air hose (15) to 90-degree fitting (1).
- (18) Connect air hose (16) to 90-degree fitting (2).
- (19) Connect air hose (17) to branch tee fitting (8).

- (20) Connect air hose (18) to branch tee fitting (8).
- (21) Connect air hose (19) to 90-degree fitting (10).
- (22) Connect air hose (20) to 90-degree fitting (12).



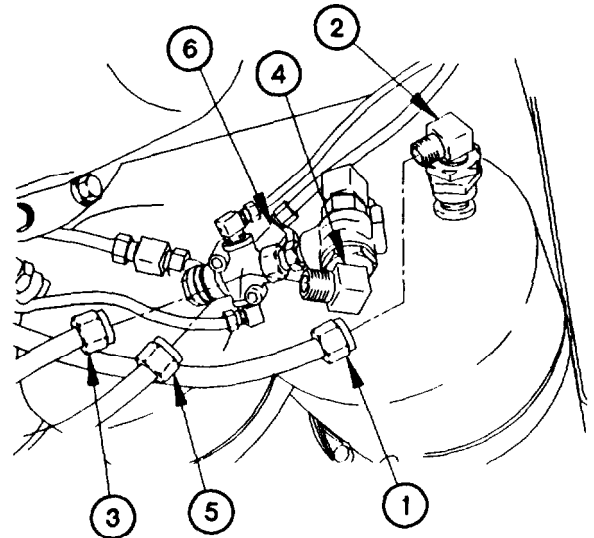
XL22B07A

c. Secondary Air Tank Removal (M1088/M1089).

NOTE

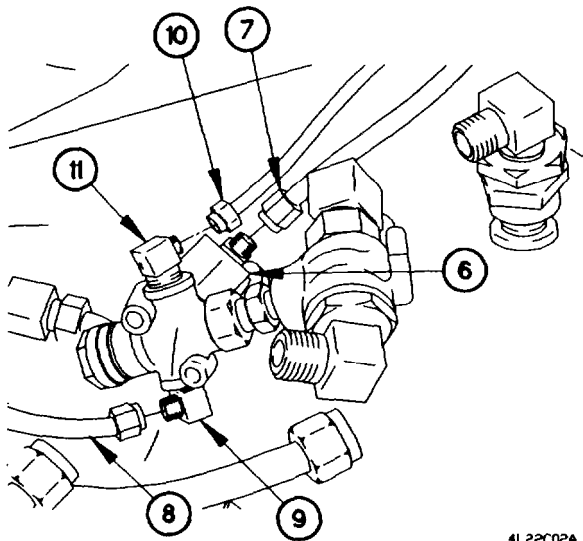
Tag air hoses and connection points prior to disconnecting.

- (1) Disconnect air hose (1) from 90-degree fitting (2).
- (2) Disconnect air hose (3) from 90-degree fitting (4).
- (3) Disconnect air hose (5) from branch tee fitting (6).



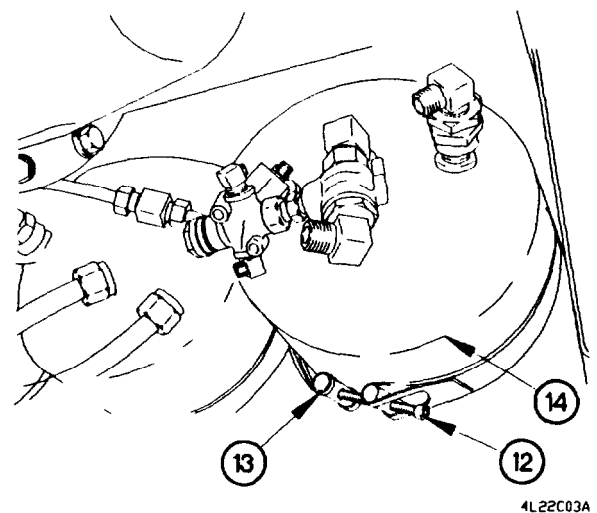
4L22C01A

- (4) Disconnect air hose (7) from branch tee fitting (6).
- (5) Disconnect air hose (8) from 90-degree fitting (9).
- (6) Disconnect air hose (10) from 90-degree fitting (11).



4L22C02A

- (7) Loosen two screws (12) on clamps (13).
- (8) Remove secondary air tank (14) from clamps (13).



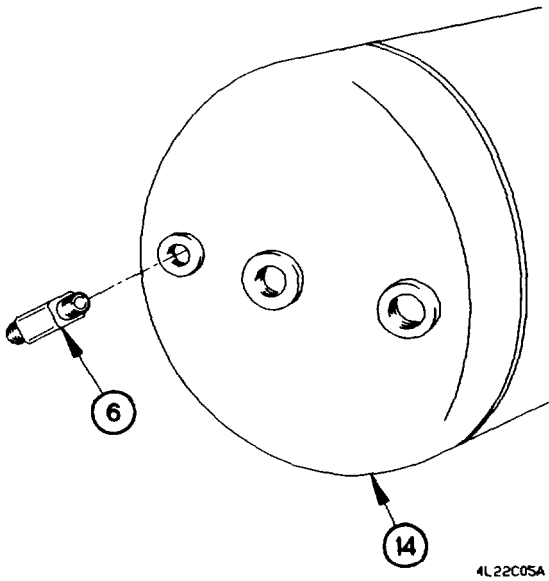
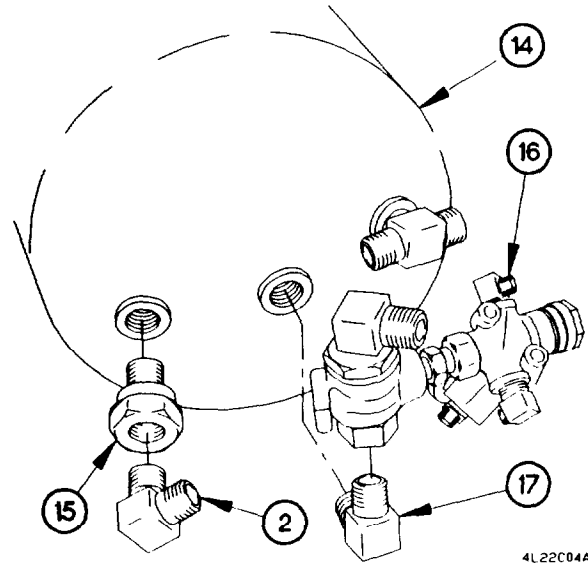
4L22C03A

11-22. SECONDARY AND PRIMARY AIR TANKS REPLACEMENT (CONT)

NOTE

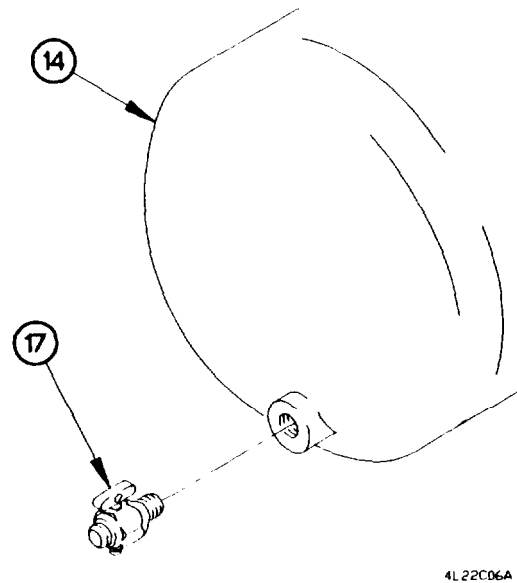
Note orientation of fittings prior to removal.

- (9) Remove 90-degree fitting (2) from one-way check valve (15).
- (10) Remove one-way check valve (15) from secondary air tank (14).
- (11) Remove 90-degree fitting (16) from secondary air tank (14).

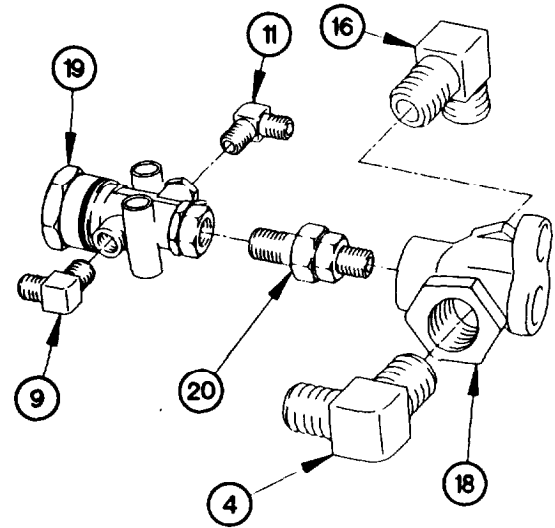


- (12) Remove branch tee fitting (6) from secondary air tank (14).

- (13) Remove drain valve (17) from secondary air tank (14).



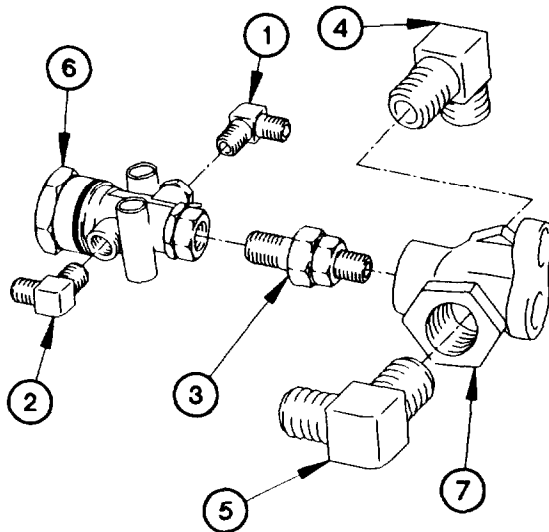
- (14) Remove 90-degree fitting (4) from two-way check valve (18).
- (15) Remove 90-degree fitting (16) from two-way check valve (18).
- (16) Remove inversion valve (19) from reducer fitting (20).
- (17) Remove reducer fitting (20) from two-way check valve (18).
- (18) Remove 90-degree fittings (9 and 11) from inversion valve (19).



d. Secondary Air Tank Installation (M1088/M1089).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



4L22D01A

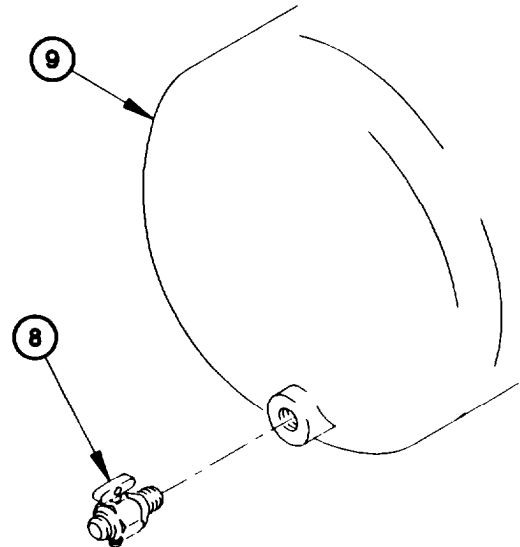
- (1) Apply antiseize compound to threads of 90-degree fittings (1 and 2), threads on both sides of reducer fitting (3), 90-degree fitting (4), and 90-degree fitting (5).
- (2) Install 90-degree fittings (1 and 2) in inversion valve (6).
- (3) Install reducer fitting (3) in two-way check valve (7).
- (4) Install inversion valve (6) on reducer fitting (3).
- (5) Install 90-degree fitting (4) in two-way check valve (7).
- (6) Install 90-degree fitting (5) in two-way check valve (7).

11-22. SECONDARY AND PRIMARY AIR TANKS REPLACEMENT (CONT)

WARNING

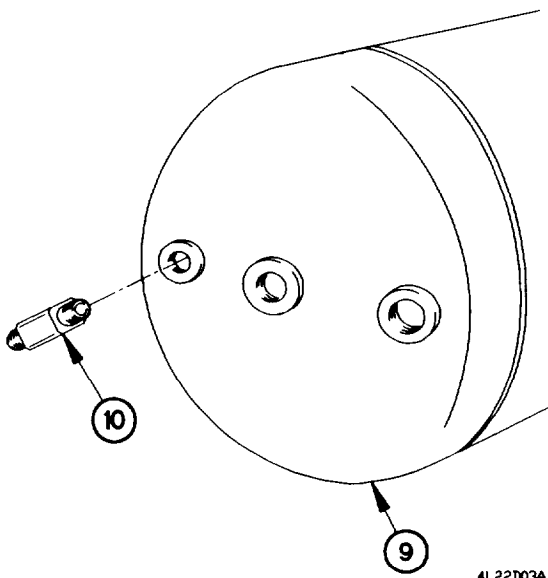
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (7) Apply antiseize compound to threads of drain valve (8).
- (8) Install drain valve (8) in secondary air tank (9).



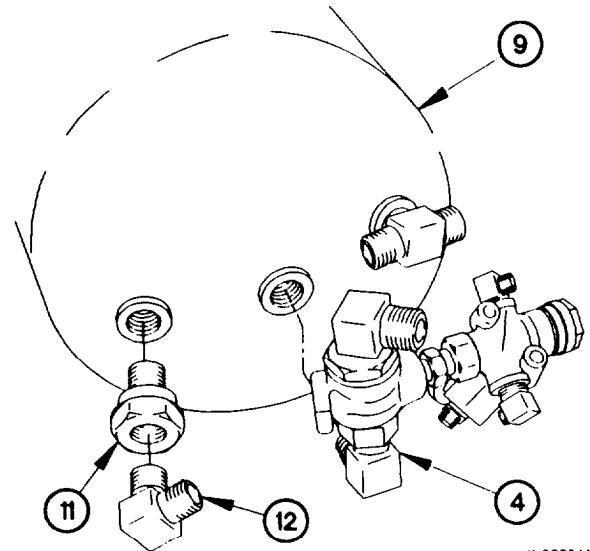
4L22D02A

- (9) Apply antiseize compound to threads of branch tee fitting (10).
- (10) Install branch tee fitting (10) in secondary air tank (9).



4L22D03A

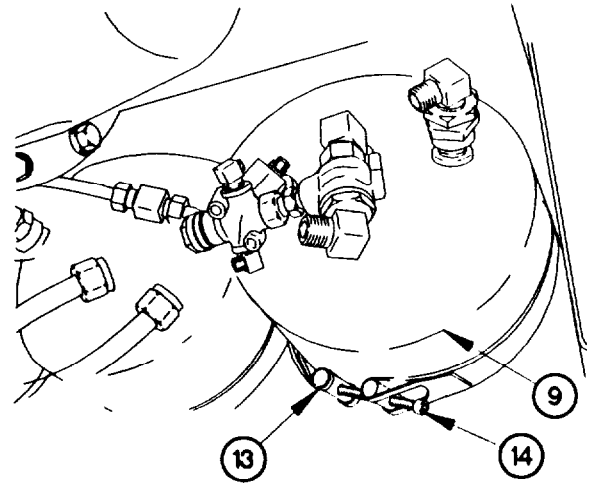
- (11) Apply antiseize compound to threads of 90-degree fitting (4), one-way check valve (11), and 90-degree fitting (12).
- (12) Install 90-degree fitting (4) in secondary air tank (9).
- (13) Install one-way check valve (11) in secondary air tank (9).
- (14) Install 90-degree fitting (12) in one-way check valve (11).



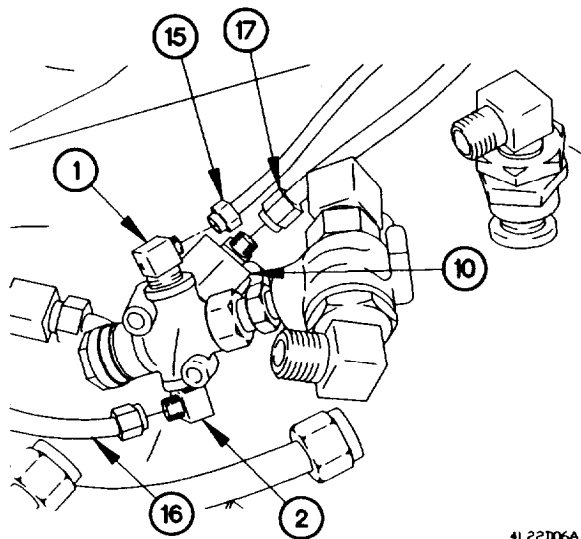
4L22D04A

(15) Position secondary air tank (9) in two clamps (13).

(16) Tighten two screws (14) in clamps (13) to 23 lb-ft (31 N•m).



4L22D05A



4L22D06A

(17) Connect air hose (15) to 90-degree fitting (1).

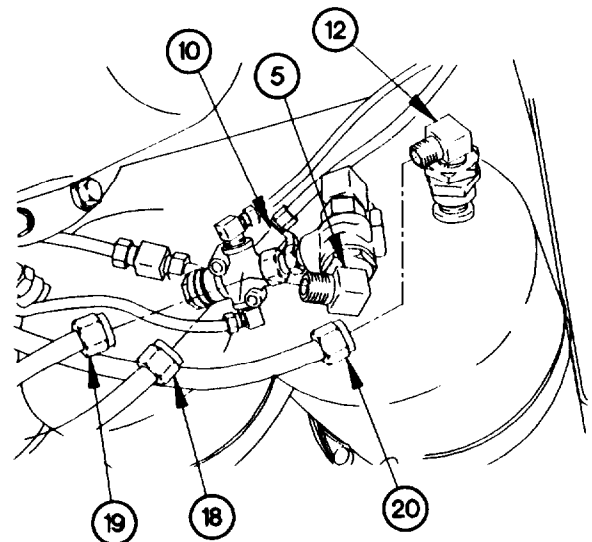
(18) Connect air hose (16) to 90-degree fitting (2).

(19) Connect air hose (17) to branch tee fitting (10).

(20) Connect air hose (18) to branch tee fitting (10).

(21) Connect air hose (19) to 90-degree fitting (5).

(22) Connect air hose (20) to 90-degree fitting (12).



4L22D07A

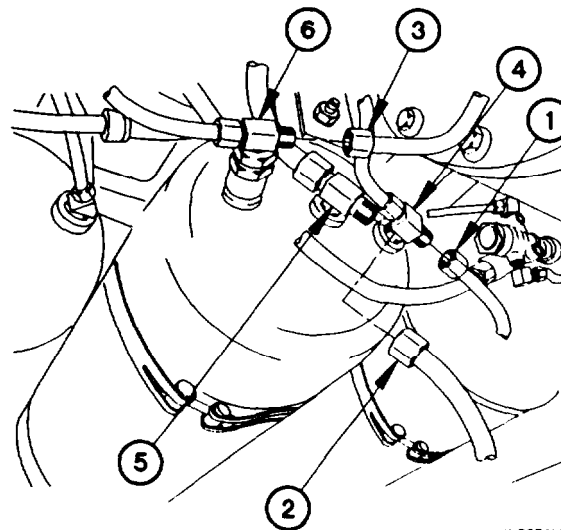
11-22. SECONDARY AND PRIMARY AIR TANKS REPLACEMENT (CONT)

e. Primary Air Tank Removal.

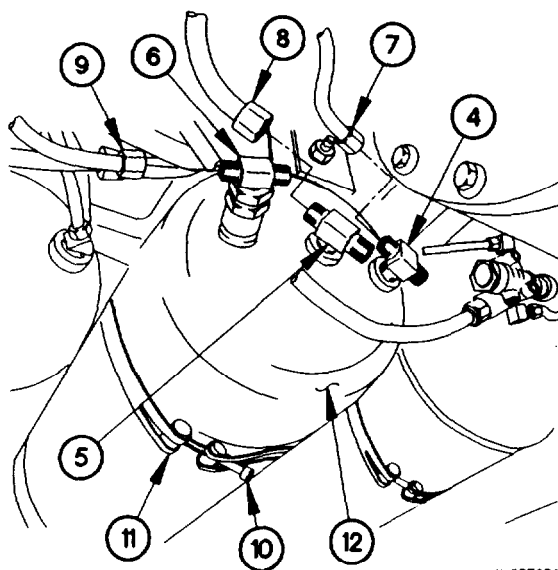
NOTE

Tag air hoses and connection points prior to disconnecting.

- (1) Disconnect air hoses (1, 2, and 3) from branch tee fittings (4, 5, and 6).



4L22E01A



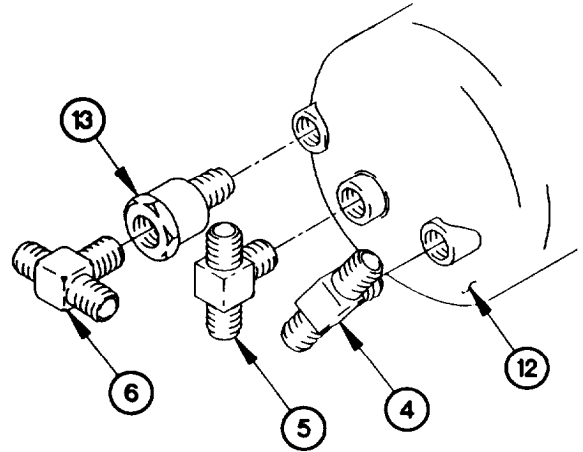
4L22E02A

- (2) Disconnect air hoses (7, 8, and 9) from branch tee fittings (4, 5, and 6).
- (3) Loosen two screws (10) on clamps (11).
- (4) Remove primary air tank (12) from clamps (11).

NOTE

Note orientation of fittings prior to removal.

- (5) Remove branch tee fitting (4) from primary air tank (12).
- (6) Remove branch tee fitting (5) from primary air tank (12).

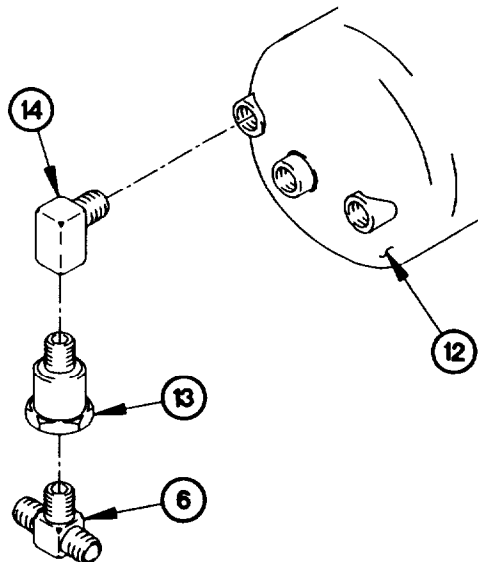


4L22E03A

NOTE

Perform steps (7) and (8) on all models except M1088/M1089.

- (7) Remove branch tee fitting (6) from one-way check valve (13).
- (8) Remove one-way check valve (13) from primary air tank (12).



4L22E04A

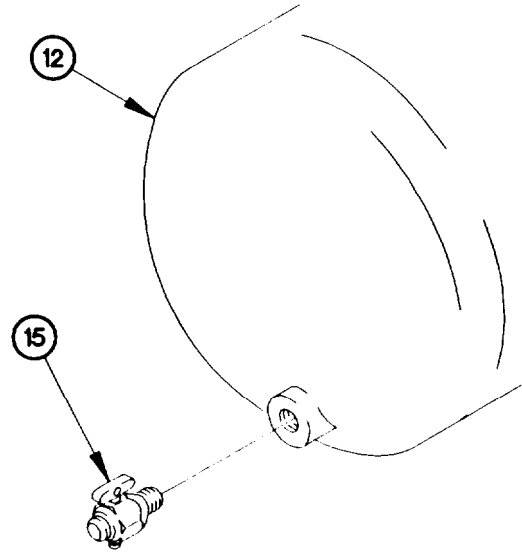
NOTE

- Perform steps (9) through (11) on M1088/M1089.
- Note orientation of fittings prior to removal.

- (9) Remove branch tee fitting (6) from one-way check valve (13).
- (10) Remove one-way check valve (13) from 90-degree fitting (14).
- (11) Remove 90-degree fitting (14) from primary air tank (12).

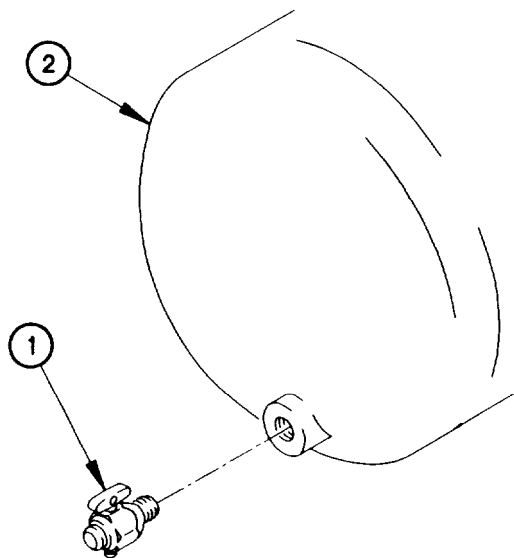
11-22. SECONDARY AND PRIMARY AIR TANKS REPLACEMENT (CONT)

(12) Remove drain valve (15) from primary air tank (12).



4L22E05A

f. Primary Air Tank Installation.



4L22F01A

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of drain valve (1).
- (2) Install drain valve (1) in primary air tank (2).

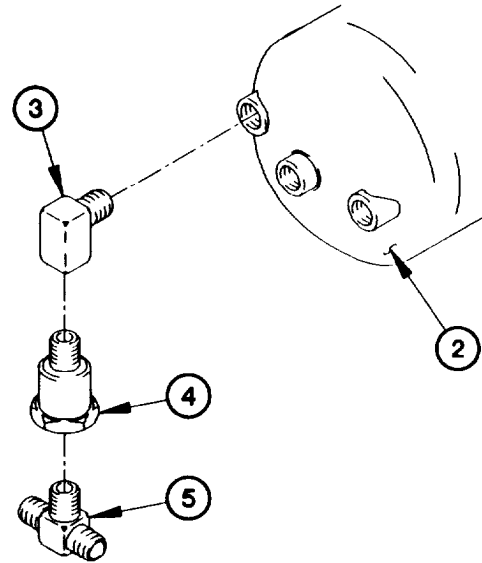
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

NOTE

Perform steps (3) through (6) on M1088/M1089.

- (3) Apply antiseize compound to threads of 90-degree fitting (3), one-way check valve (4), and branch tee fitting (5).
- (4) Install 90-degree fitting (3) in primary air tank (2).
- (5) Install one-way check valve (4) in 90-degree fitting
- (6) Install branch tee fitting (5) in one-way check valve (4).

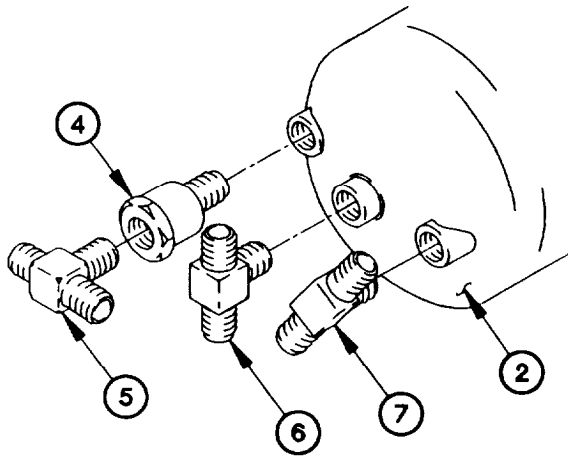


4L22F02A

NOTE

Perform steps (7) through (9) on all models except M1088/M1089.

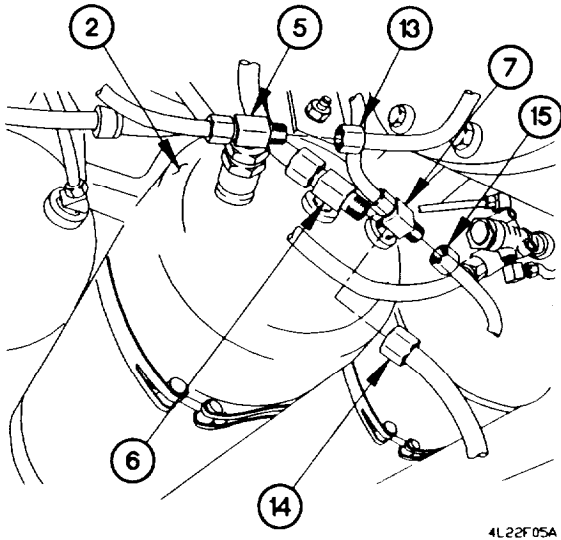
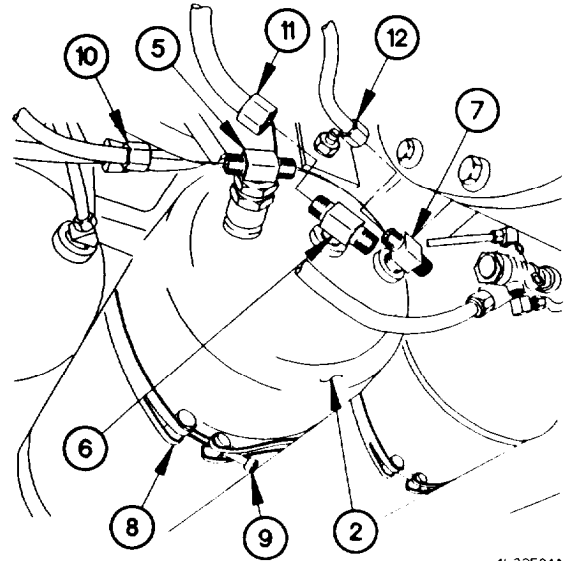
- (7) Apply antiseize compound to threads of one-way check valve (4) and branch tee fitting (5).
- (8) Install one-way check valve (4) in primary air tank (2).
- (9) Install branch tee fitting (5) in one-way check valve (4).
- (10) Apply antiseize compound to threads of branch tee fittings (6 and 7).
- (11) Install branch tee fitting (6) in primary air tank (2).
- (12) Install tee fitting (7) in primary air tank (2).



4L22F03A

11-22. SECONDARY AND PRIMARY AIR TANKS REPLACEMENT (CONT)

- (13) Position primary air tank (2) in two clamps (8).
- (14) Tighten two screws (9) in clamps (8) to 23 lb-ft (31 N•m).
- (15) Connect air hoses (10, 11, and 12) to branch tee fittings (5, 6, and 7).



- (16) Connect air hoses (13, 14, and 15) to branch tee fittings (5, 6, and 7).

g. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1) and allow time for air pressure to reach normal operating pressure.
- (2) Shut down engine (TM 9-2320-366-10-1).
- (3) Check around air hoses, fittings, and valves for air leaks.
- (4) Start engine (TM 9-2320-366-10-1).
- (5) Road test vehicle and check for proper brake operation.
- (6) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-23. FRONT GLADHAND REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)

Materials/Parts

- Antiseize Compound (Item 13, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Damping Fluid (Item 19, Appendix D)
- Filter Element (Item 15, Appendix G)
- Packing, Preformed (Item 192, Appendix G)
- Lockwasher (Item 70, Appendix G)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

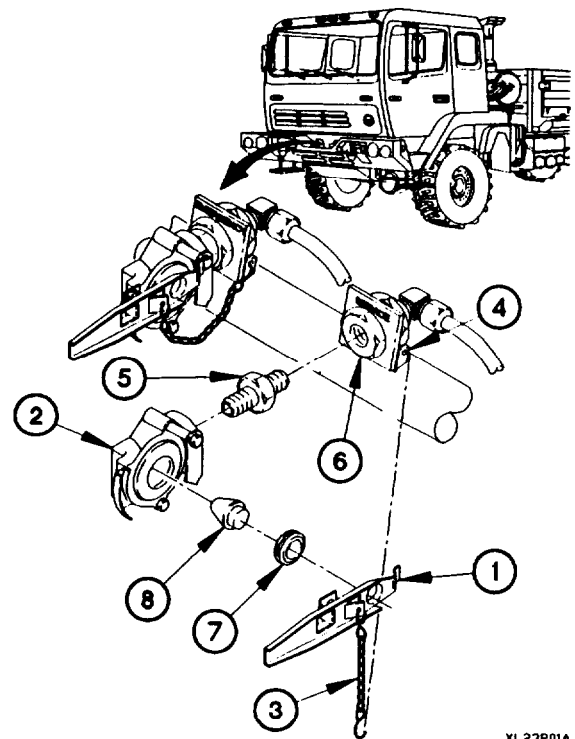
- Both front gladhands are removed the same way. Service gladhand shown.
- Remove plastic cable ties as required.

- (1) Remove dummy coupling (1) from gladhand (2).
- (2) Remove dummy coupling chain (3) from mounting bracket (4).
- (3) Remove gladhand (2) and reducer fitting (5) from adapter (6).

NOTE

Note orientation of preformed packing and filter prior to removal.

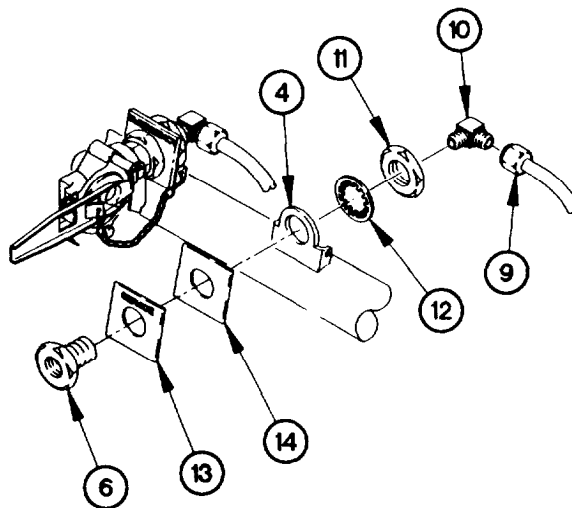
- (4) Remove reducer (5), preformed packing (7), and filter (8) from gladhand (2). Discard filter and preformed packing.



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11-23. FRONT GLADHAND REPLACEMENT (CONT)

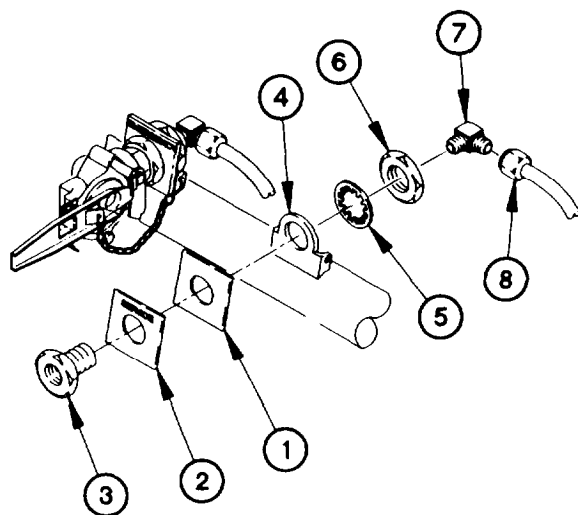
- (5) Disconnect air hose (9) from 90-degree fitting (10).
- (6) Remove 90-degree fitting (10) from adapter (6).
- (7) Remove nut (11), lockwasher (12), adapter (6), identification plate (13), and plate (14) from mounting bracket (4). Discard lockwasher.



b. Installation.

NOTE

- Both front gladhands are installed the same way. Service gladhand shown.
 - Install plastic cable ties as required.
- (1) Install plate (1), identification plate (2), and adapter (3) on mounting bracket (4) with lockwasher (5), and nut (6).



XL23J011

WARNING

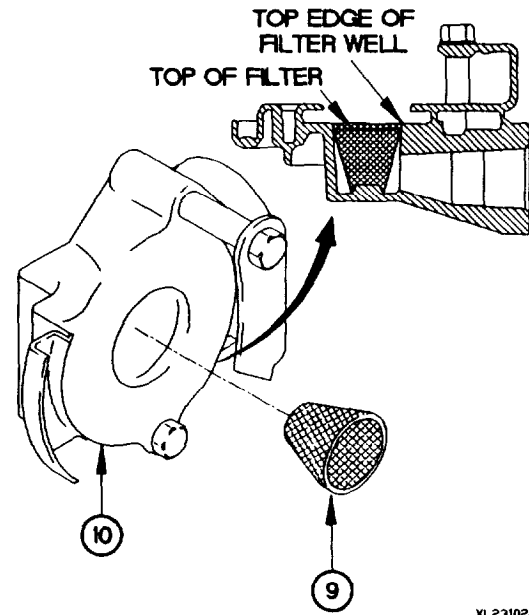
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (2) Apply antiseize compound to threads of 90-degree fitting (7).
- (3) Install 90-degree fitting (7) in adapter (3).
- (4) Connect air hose (8) to 90-degree fitting (7).

CAUTION

Ensure that filter is firmly seated in gladhand and that top edge of filter does not extend above top edge of filter well. Failure to comply may result in gladhands that leak when pressurized.

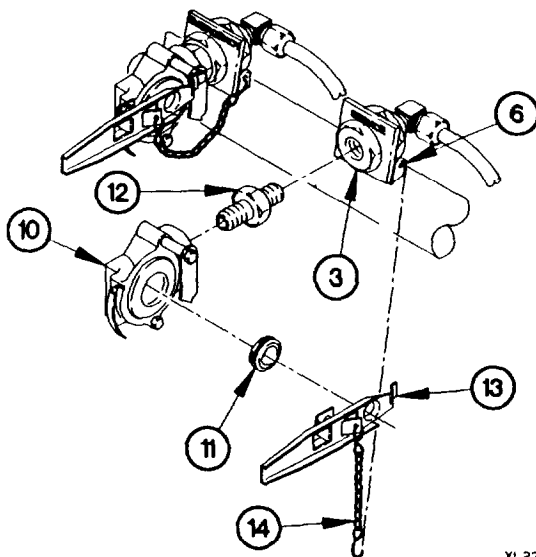
- (5) Install filter (9) in gladhand (10).



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WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



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- (6) Apply damping fluid to preformed packing (11).
- (7) Install preformed packing (11) in gladhand (10).
- (8) Install reducer fitting (12) in gladhand (10).
- (9) Install reducer fitting (12) with gladhand (10) in adapter (3).
- (10) Install dummy coupling (13) on gladhand (10).
- (11) Install dummy coupling chain (14) on mounting bracket (6).

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Check gladhand for air leaks.
- (3) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-24. REAR GLADHAND REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Vise, Machinist (Item 48, Appendix C)
- Socket Set, Impact (Item 33, Appendix C)

Materials/Parts

- Antiseize Compound (Item 13, Appendix D)
- Damping Fluid (Item 19, Appendix D)
- Filter Element (Item 15, Appendix G)
- Packing, Preformed (Item 192, Appendix G)
- Lockwasher (Item 69, Appendix G)

Personnel Required

(2)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

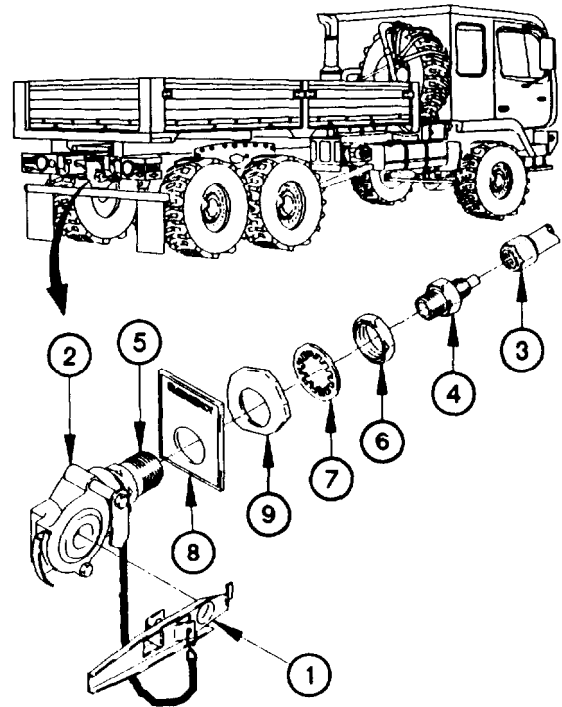
Both rear gladhands are removed the same way. EMERGENCY gladhand shown.

- (1) Remove dummy coupling (1) from gladhand (2).
- (2) Disconnect air hose (3) from reducer fitting (4).

NOTE

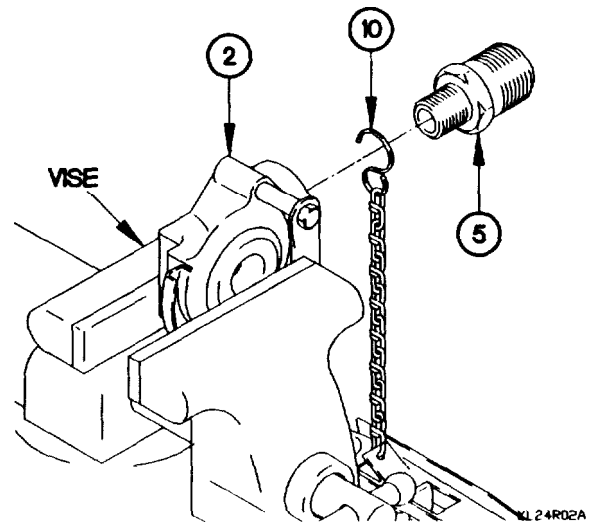
Steps (3) and (4) require the aid of an assistant.

- (3) Remove reducer fitting (4) from adapter fitting (5).
- (4) Remove nut (6), lockwasher (7), gladhand (2), and identification plate (8) from rear crossmember (9). Discard lockwasher.



4L24R01A

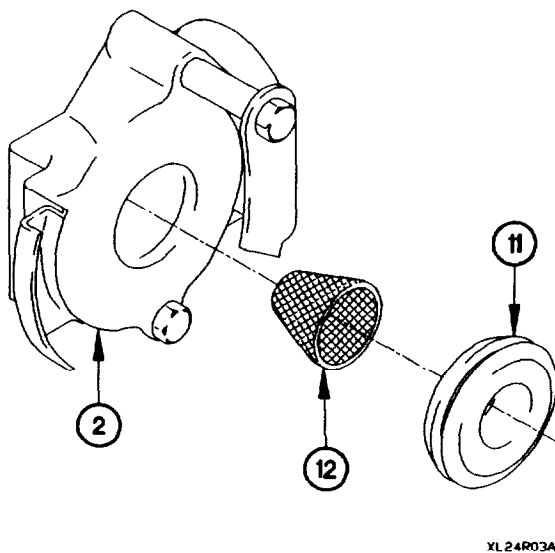
- (5) Position gladhand (2) in vise.
- (6) Remove dummy coupling chain (10) from adapter fitting (5).
- (7) Remove adapter fitting (5) from gladhand (2).



NOTE

Note orientation of preformed packing and filter prior to removal.

- (8) Remove preformed packing (11) and filter (12) from gladhand (2). Discard preformed packing and filter.

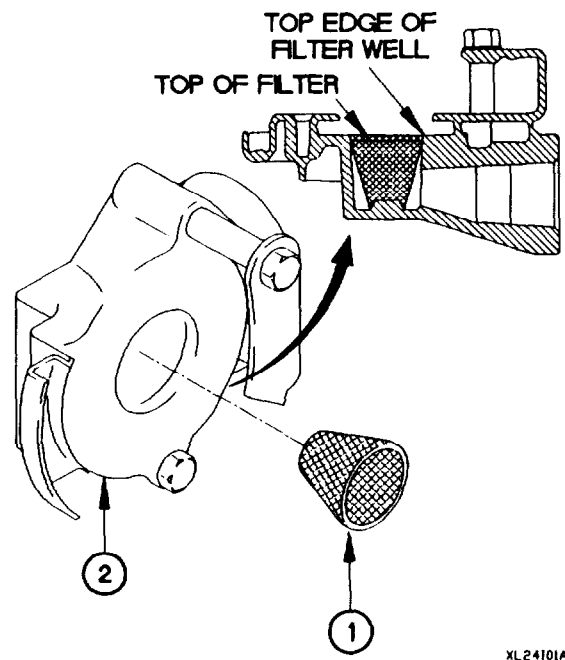


b. Installation.

CAUTION

Ensure that filter is firmly seated in gladhand and that top edge of filter does not extend above top edge of filter well. Failure to comply may result in gladhands that leak when pressurized.

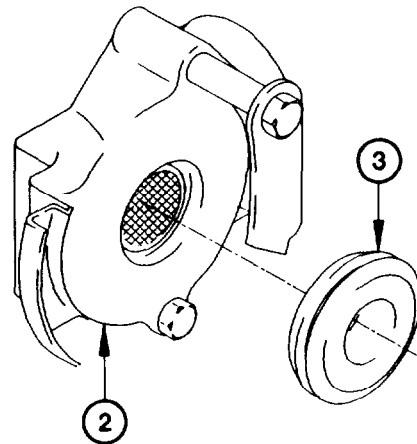
- (1) Install filter (1) in gladhand (2).



11-24. REAR GLADHAND REPLACEMENT (CONT)

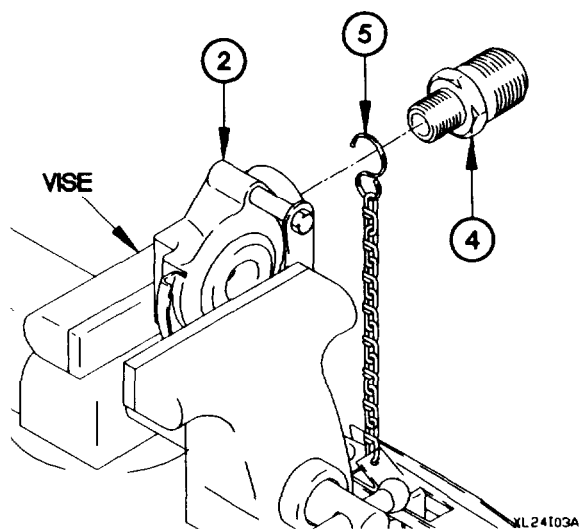
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



- (2) Apply damping fluid to preformed packing (3).
- (3) Install preformed packing (3) in gladhand (2).

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- (4) Position gladhand (2) in vise.
- (5) Apply antiseize compound to threads of adapter fitting (4).
- (6) Install adapter fitting (4) in gladhand (2).
- (7) Install dummy coupling chain (5) on adapter fitting (4).
- (8) Remove gladhand (2) from vise.

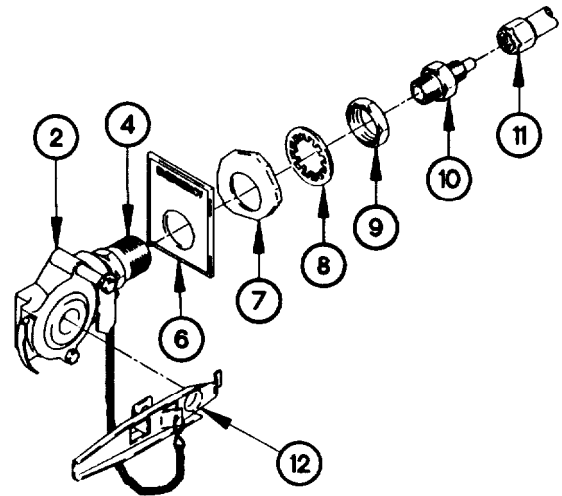
NOTE

Steps (9) through (11) require the aid of an assistant.

- (9) Install identification plate (6) and gladhand (2) in rear crossmember (7) with lockwasher (8) and nut (9).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



XL24104A

- (10) Apply antiseize compound to threads of reducer fitting (10).
- (11) Install reducer fitting (10) in adapter fitting (4).
- (12) Connect air hose (11) to reducer fitting (10).
- (13) Install dummy coupling (12) on gladhand (2).

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Release TRAILER AIR SUPPLY and SYSTEM PARK valves (TM 9-2320-366-10-1).
- (3) Check gladhand for air leaks.
- (4) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-25. SERVICE GLADHAND TWO-WAY CHECK VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Windshield washer reservoir and pump removed (para 18-2).
 Air tanks drained (TM 9-2320-366-10-1).
 Cab raised (TM 9-2320-366-10-1).

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
 Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Antiseize Compound (Item 13, Appendix D)
 Nut, Self-Locking (Item 167, Appendix G)

WARNING

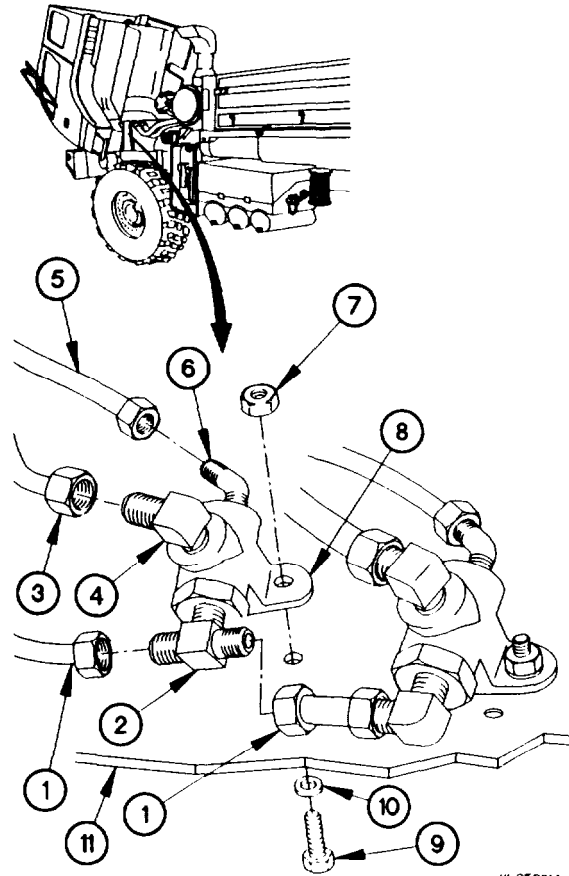
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

Tag air hoses and connection points prior to disconnecting.

- (1) Disconnect two air hoses (1) from branch tee fitting (2).
- (2) Disconnect air hose (3) from 90-degree fitting (4).
- (3) Disconnect air hose (5) from 45-degree fitting (6).
- (4) Remove self-locking nut (7), service gladhand two-way check valve (8), screw (9), and washer (10) from front fender (11). Discard self-locking nut.

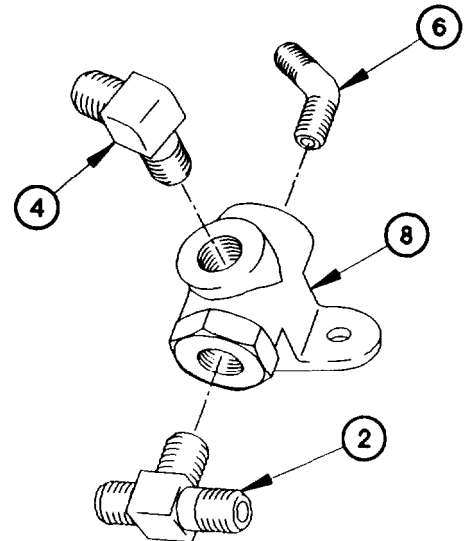


XL25R01A

NOTE

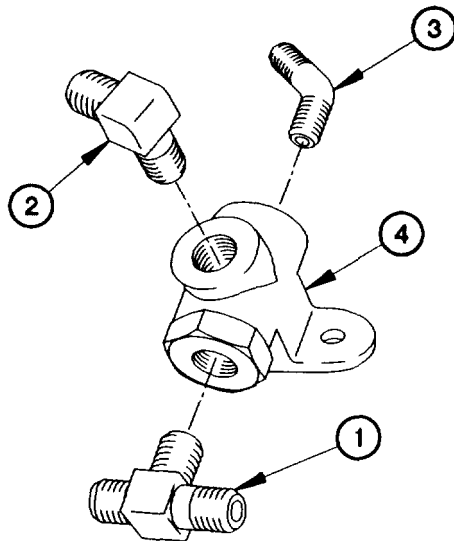
Note orientation of fittings prior to removal.

- (5) Remove 45-degree fitting (6) from service gladhand two-way check valve (8).
- (6) Remove 90-degree fitting (4) from service gladhand two-way check valve (8).
- (7) Remove branch tee fitting (2) from service gladhand two-way check valve (8).



XL25R02A

b. Installation.



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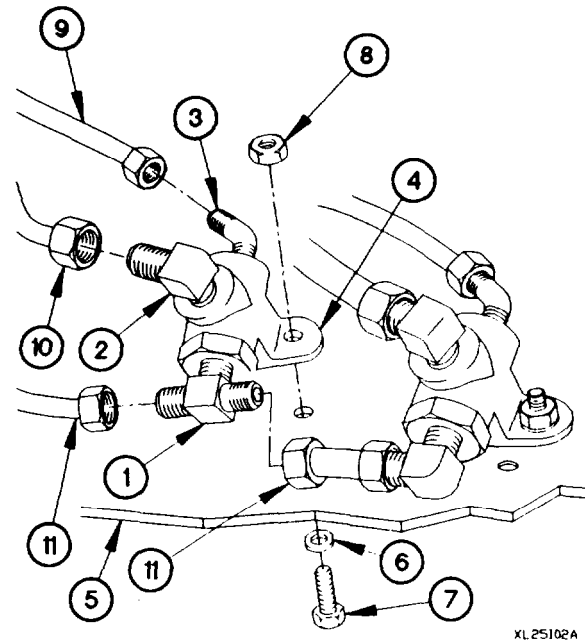
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of branch tee fitting (1), 90-degree fitting (2), and 45-degree fitting (3).
- (2) Install branch tee fitting (1) in service gladhand two-way check valve (4).
- (3) Install 90-degree fitting (2) in service gladhand two-way check valve (4).
- (4) Install 45-degree fitting (3) in service gladhand two-way check valve (4).

11-25. SERVICE GLADHAND TWO-WAY CHECK VALVE REPLACEMENT (CONT)

- (5) Position service gladhand two-way check valve (4) on front fender (5) with washer (6), screw (7), and self-locking nut (8).
- (6) Tighten self-locking nut (8) to 13-16 lb-ft (18-22 N•m).
- (7) Connect air hose (9) to 45-degree fitting (3).
- (8) Connect air hose (10) to 90-degree fitting (2).
- (9) Connect two air hoses (11) to branch tee fitting (1).



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c. Follow-On Maintenance.

- (1) Lower cab (TM 9-2320-366-10-1).
- (2) Install windshield washer reservoir and pump (para 18-2).
- (3) Start engine (TM 9-2320-366-10-1) and allow air pressure to build to normal operating pressure.
- (4) Check around service gladhand two-way check valve for air leaks.
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-26. EMERGENCY GLADHAND TWO-WAY CHECK VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Windshield washer reservoir and pump removed (para 18-2).
 Air tanks drained (TM 9-2320-366-10-1).
 Cab raised (TM 9-2320-366-10-1).

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Antiseize Compound (Item 13, Appendix D)
 Nut, Self-Locking (Item 167, Appendix G)

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
 Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque. 0-175 lb-ft (Item 58, Appendix C)

WARNING

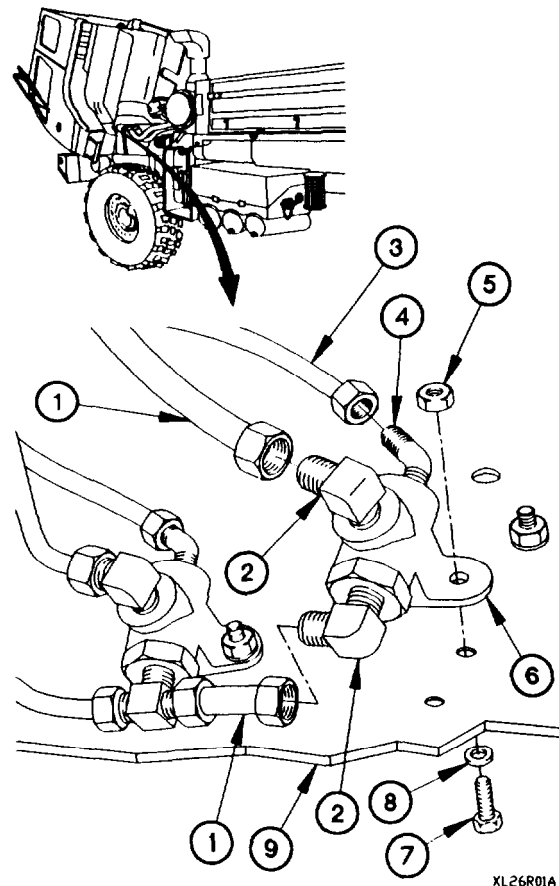
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

Tag air hoses and connection points prior to disconnecting.

- (1) Disconnect two air hoses (1) from 90-degree fittings (2).
- (2) Disconnect air hose (3) from 45-degree fitting (4).
- (3) Remove self-locking nut (5), emergency gladhand two-way check valve (6), screw (7), and washer (8) from front fender (9). Discard self-locking nut.



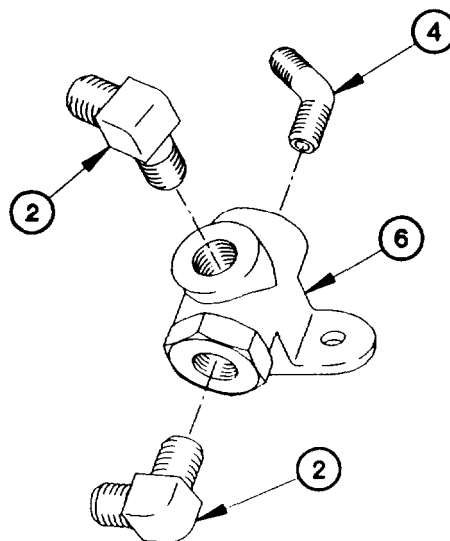
XL26R01A

11-26. EMERGENCY GLADHAND TWO-WAY CHECK VALVE REPLACEMENT (CONT)

NOTE

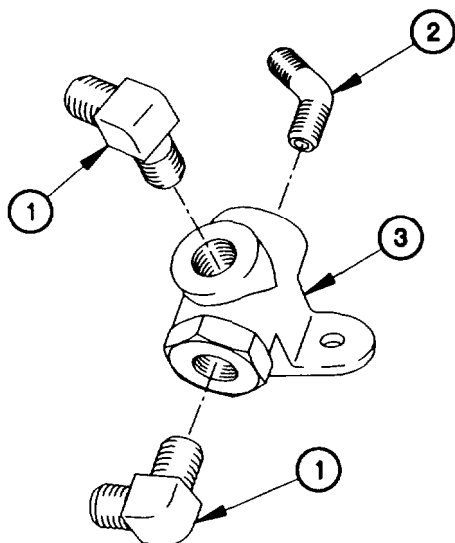
Note orientation of fittings prior to removal.

- (4) Remove 45-degree fitting (4) from emergency gladhand two-way check valve (6).
- (5) Remove two 90-degree fittings (2) from emergency gladhand two-way check valve (6).



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b. Installation.



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WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

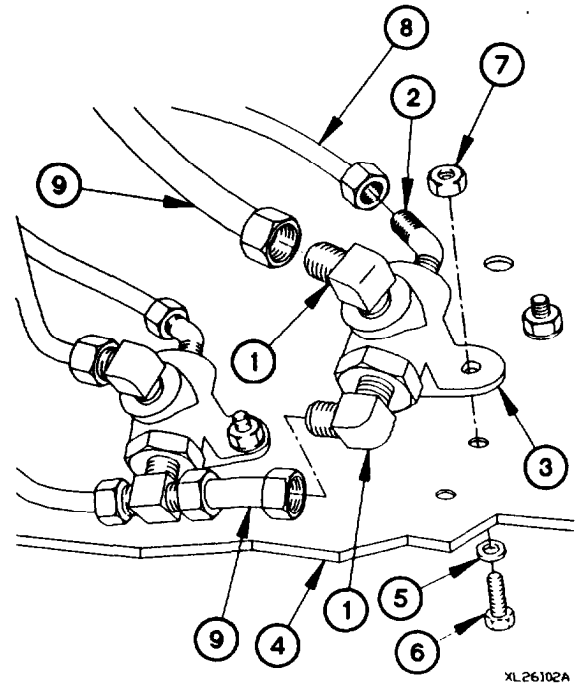
- (1) Apply antiseize compound to threads of two 90-degree fittings (1) and 45-degree fitting (2).
- (2) Install two 90-degree fittings (1) in emergency gladhand two-way check valve (3).
- (3) Install 45-degree fitting (2) in emergency gladhand two-way check valve (3).

- (4) Position emergency gladhand two-way check valve (3) on front fender (4) with washer (5), screw (6), and self-locking nut (7).
- (5) Tighten self-locking nut (7) to 13-16 lb-ft (11-22 N•m).
- (8) Connect air hose (8) to 45-degree fitting (2).
- (7) Connect two air hoses (9) to 90-degree fittings (1).

c. Follow-On Maintenance.

- (1) Lower cab (TM 9-2320-366-10-1).
- (2) Install windshield washer reservoir and pump (para 18-2).
- (3) Start engine (TM 9-2320-366-10-1) and allow air pressure to build to normal operating pressure.
- (4) Check around emergency gladhand two-way check valve for air leaks.
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.



XL26102A

11-27. STOPLIGHT SWITCH REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Batteries disconnected (para 7-57).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)

Materials/Parts

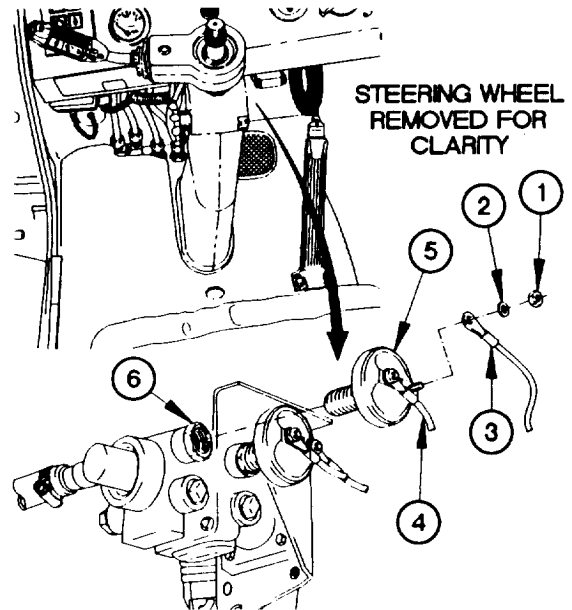
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Antiseize Compound (Item 13, Appendix D)
- Lockwasher (2) (Item 93, Appendix G)

a. Removal.

NOTE

- Both stoplight switches are removed the same way. Rear stoplight switch shown.
- Tag wires and connection points prior to removal.
- Terminal lugs on front stoplight switch are TL154 and TL155.

- (1) Remove two nuts (1), lockwashers (2), and terminal lugs TL152 (3) and TL153 (4) from stoplight switch (5). Discard lockwashers.
- (2) Remove stoplight switch (5) from fitting (6).



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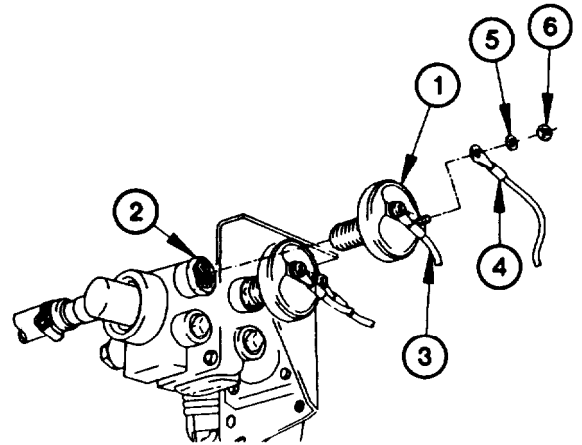
b. Installation.

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

NOTE

- Both stoplight switches are installed the same way. Rear stoplight switch shown.
- Terminal lugs on front stoplight switch are TL154 and TL155.



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- (1) Apply antiseize compound to threads of stoplight switch (1) and fitting (2).
- (2) Install stoplight switch (1) in fitting (2).
- (3) Install terminal lugs TL153 (3) and TL152 (4) on stoplight switch (1) with two lockwashers (5) and nuts (6).

c. Follow-On Maintenance.

- (1) Connect batteries (para 7-57).
- (2) Check operation of stoplights (TM 9-2320-366-10-1).

End of Task.

11-28. FRONT GLADHAND ONE-WAY CHECK VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Wrench, Box and Open End (Item 55, Appendix C)

Materials/Parts

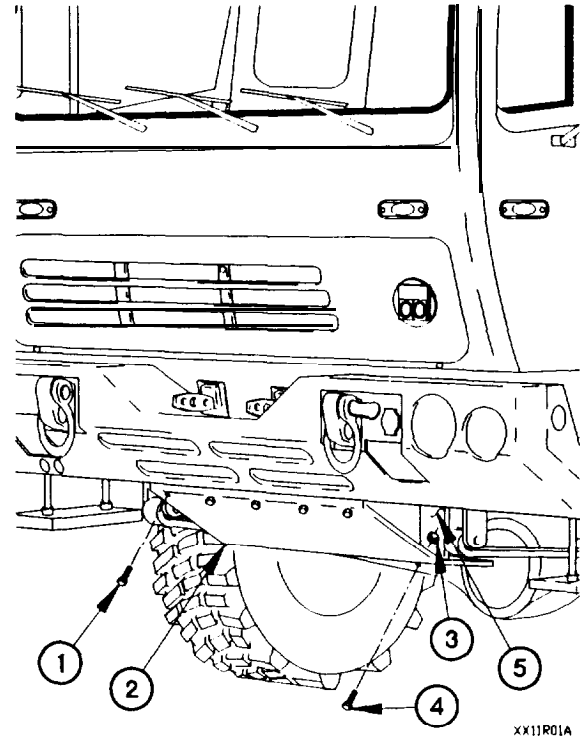
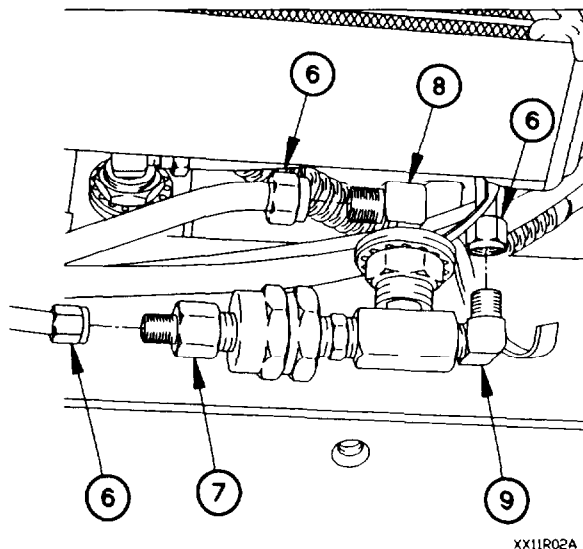
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Antiseize Compound (Item 13, Appendix D)
- Nut, Self-Locking (5) (Item 158, Appendix G)

a. Removal.

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

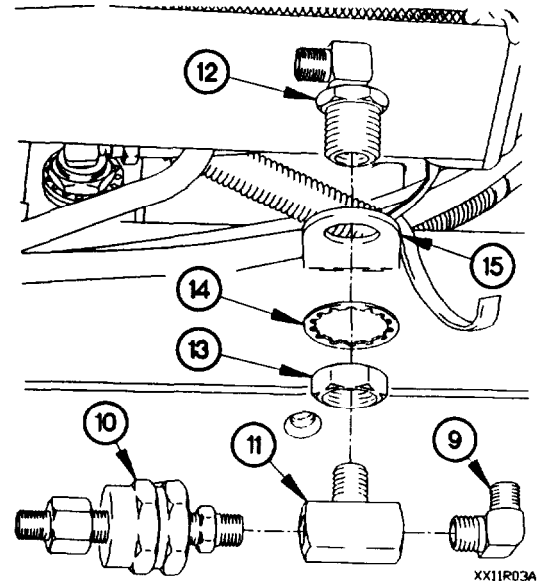
- (1) Remove five screws (1) from top edge of gravel deflector (2).
- (2) Remove five self-locking nuts (3), screws (4), and gravel deflector (2) from two brackets (5). Discard self-locking nuts.



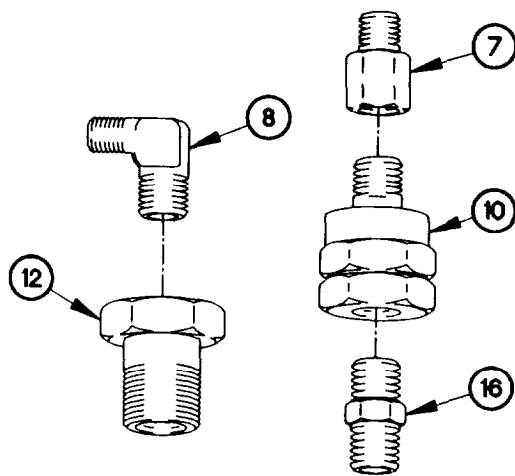
NOTE

- Tag air hoses and connection points prior to removal.
 - Remove plastic cable ties as required.
- (3) Disconnect three air hoses (6) from adapter (7), 90-degree fitting (8), and 90-degree fitting (9).

- (4) Remove one-way check valve (10) and 90-degree fitting (9) from tee fitting (11).
- (5) Remove tee fitting (11) from fitting (12).
- (6) Remove nut (13), lockwasher (14), and fitting (12) from bracket (15). Discard lockwasher.



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- (7) Remove adapter (7) and fitting (16) from one-way check valve (10).
- (8) Remove 90-degree fitting (8) from fitting (12).

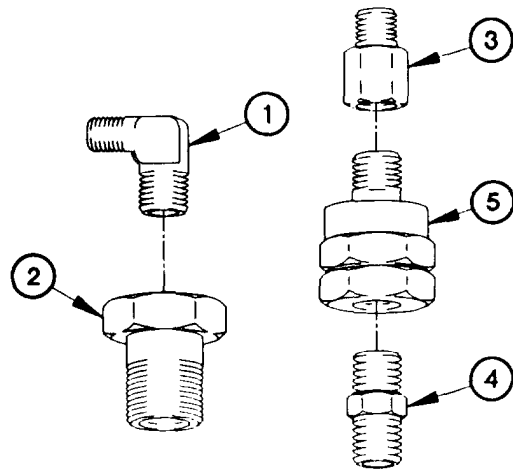
11-28. FRONT GLADHAND ONE-WAY CHECK VALVE REPLACEMENT (CONT)

b. Installation.

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of 90-degree fitting (1).
- (2) Install 90-degree fitting (1) in fitting (2).
- (3) Apply antiseize compound to threads of adapter (3) and fitting (4).
- (4) Install adapter (3) and fitting (4) in one-way check valve (5).

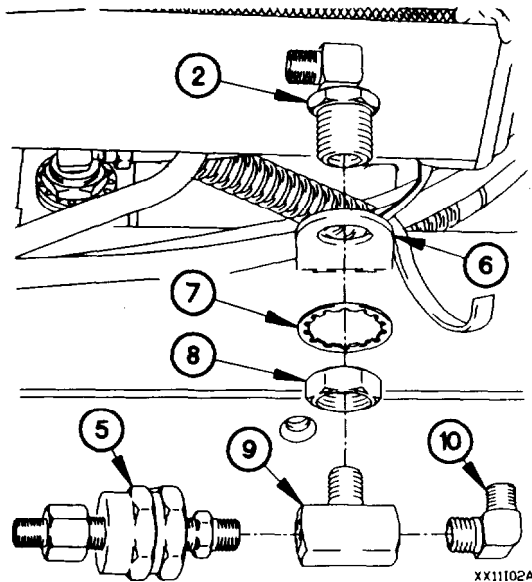


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NOTE

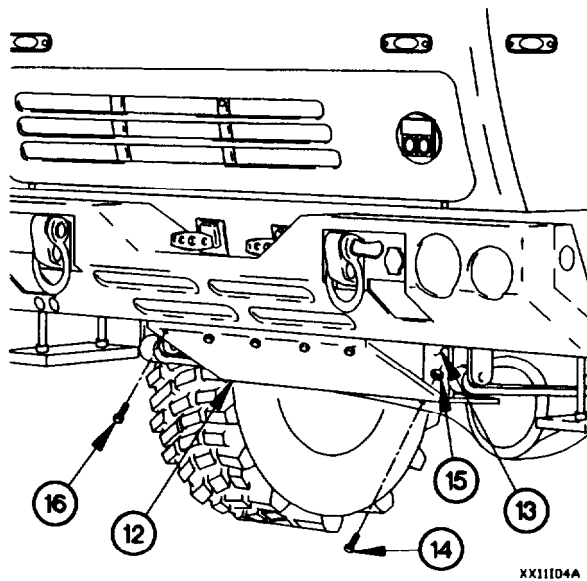
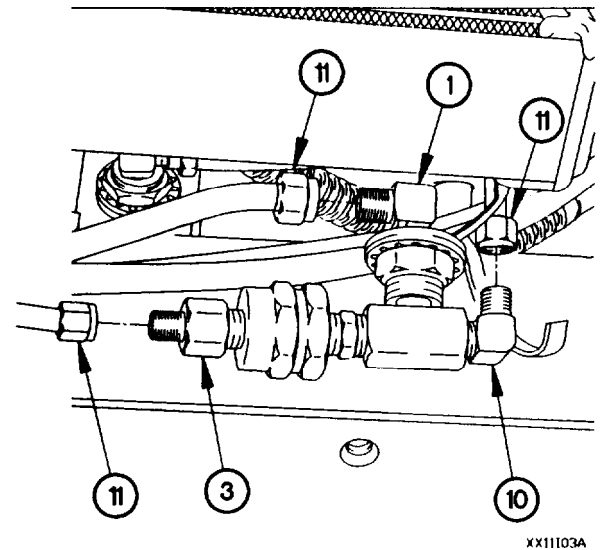
Install plastic cable ties as required.

- (5) Install fitting (2) on bracket (6) with lockwasher (7) and nut (8).
- (6) Install tee fitting (9) in fitting (2).
- (7) Apply antiseize compound to threads of 90-degree fitting (10) and one-way check valve (5).
- (8) Install 90-degree fitting (10) and one-way check valve (5) in tee fitting (9).



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- (9) Connect three air hoses (11) to 90-degree fitting (10), 90-degree fitting (1), and adapter (3).



- (10) Position gravel deflector (12) on two brackets (13) with five screws (14) and self-locking nuts (15).
- (11) Position five screws (16) in gravel deflector (12).
- (12) Tighten five screws (16) to 42-52 lb-ft (59-71 N•m).
- (13) Tighten five self-locking nuts (15) to 75-93 lb-ft (103-127 N•m).

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Check for air leaks around check valve.
- (3) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-29. PRESSURE PROTECTION VALVE REPLACEMENT

This task covers:

- a. Pressure Protection Valve Removal (All Models Except M1089/M1090/M1094)
- b. Pressure Protection Valve Installation (All Models Except M1089/M1090/M1094)
- c. M1089 Pressure Protection Valve Removal
- d. M1089 Pressure Protection Valve Installation
- e. M1090/M1094 Pressure Protection Valve Removal
- f. M1090/M1094 Pressure Protection Valve Installation
- g. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)

Materials/Parts

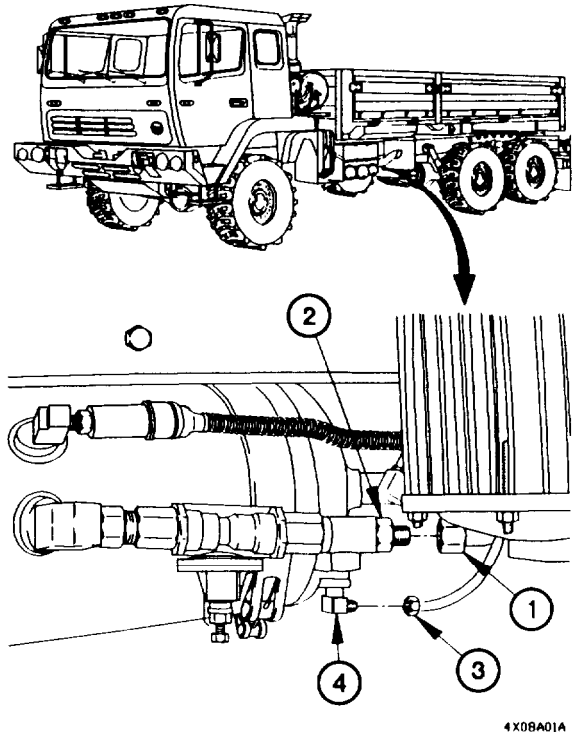
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Antiseize Compound (Item 13, Appendix D)

a. Pressure Protection Valve Removal (All Models Except M1089/M1090/M1094).

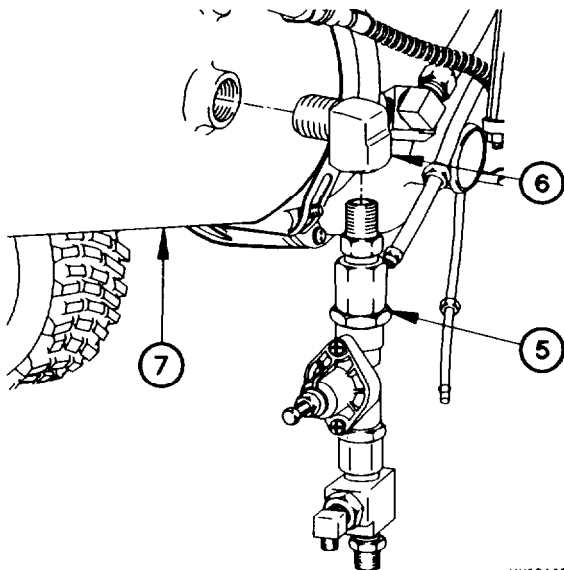
NOTE

Tag air hoses and connection points prior to disconnecting.

- (1) Disconnect air hose (1) from fitting (2).
- (2) Disconnect air hose (3) from 90-degree fitting (4).



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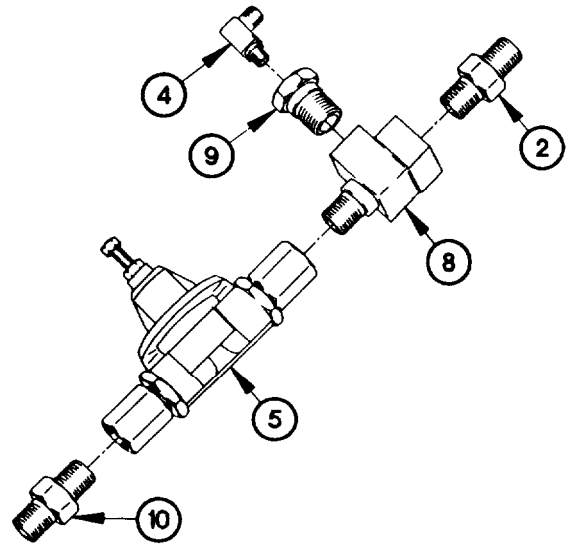
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- (3) Rotate pressure protection valve (5) to vertical position.
- (4) Remove pressure protection valve (5) from 90-degree fitting (6).
- (5) Remove 90-degree fitting (6) from air tank (7).

NOTE

Note position and orientation of fittings prior to removal.

- (6) Remove fitting (2) from tee fitting (8).
- (7) Remove 90-degree fitting (4) from bushing (9).
- (8) Remove bushing (9) from tee fitting (8).
- (9) Remove tee fitting (8) from pressure protection valve (5).
- (10) Remove pipe nipple (10) from pressure protection valve (5).

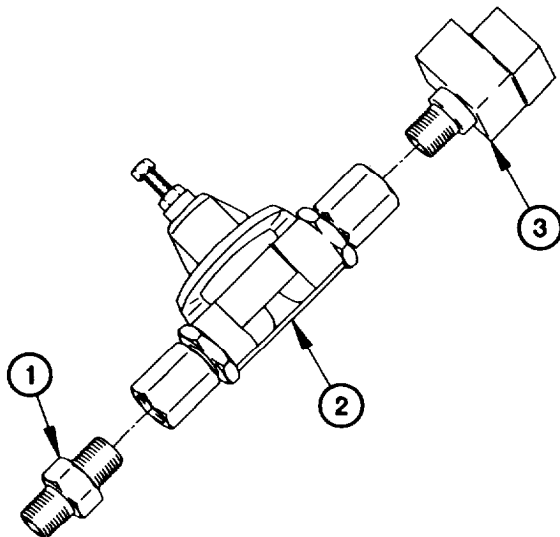


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b. Pressure Protection Valve Installation (All Models Except M1089/M1090/M1094).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



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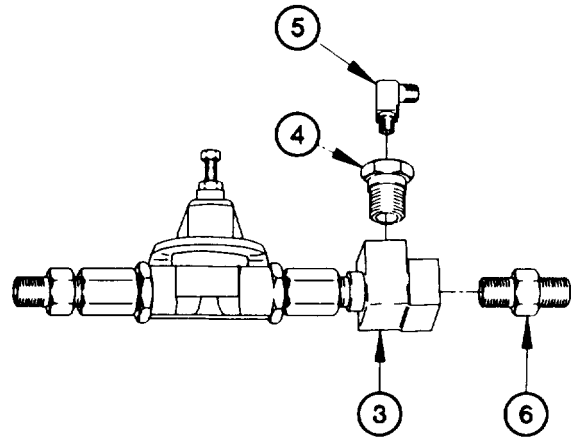
- (1) Apply antiseize compound to threads of pipe nipple (1).
- (2) Install pipe nipple (1) in pressure protection valve (2).
- (3) Apply antiseize compound to threads of tee fitting (3).
- (4) Install tee fitting (3) in pressure protection valve (2).

11-29. PRESSURE PROTECTION VALVE REPLACEMENT (CONT)

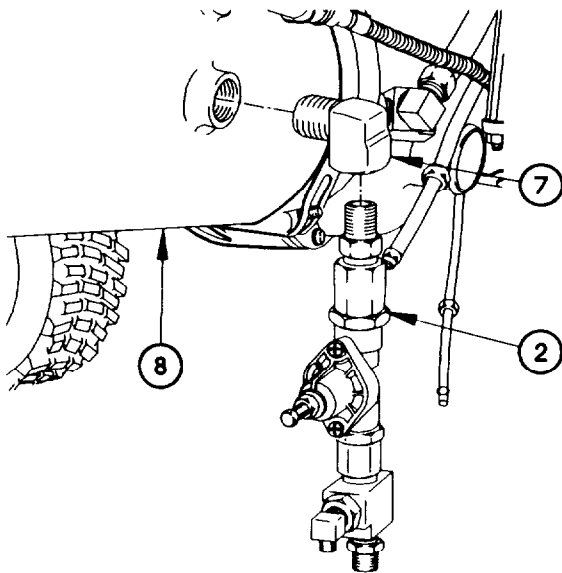
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (5) Apply antiseize compound to threads of bushing (4).
- (6) Install bushing (4) in tee fitting (3).
- (7) Apply antiseize compound to threads of 90-degree fitting (5).
- (8) Install 90-degree fitting (5) in bushing (4).
- (9) Apply antiseize compound to threads of fitting (6).
- (10) Install fitting (6) in tee fitting (3).



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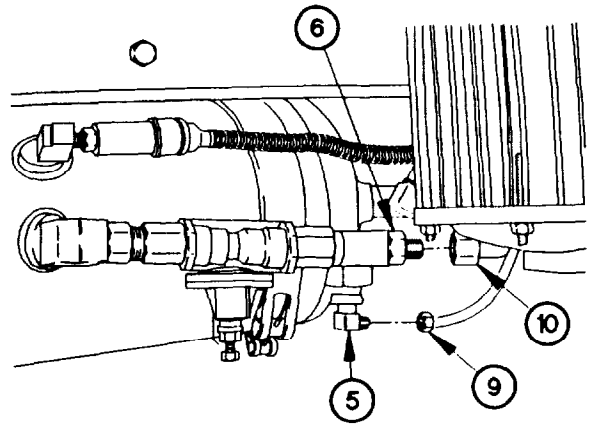


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- (11) Apply antiseize compound to threads of 90-degree fitting (7).
- (12) Install 90-degree fitting (7) in air tank (8).
- (13) Install pressure protection valve (2) in 90-degree fitting (7).
- (14) Rotate pressure protection valve (2) to horizontal position.

- (15) Connect air hose (9) to 90-degree fitting (5).
- (16) Connect air hose (10) to fitting (6).

c. M1089 Pressure Protection Valve Removal.

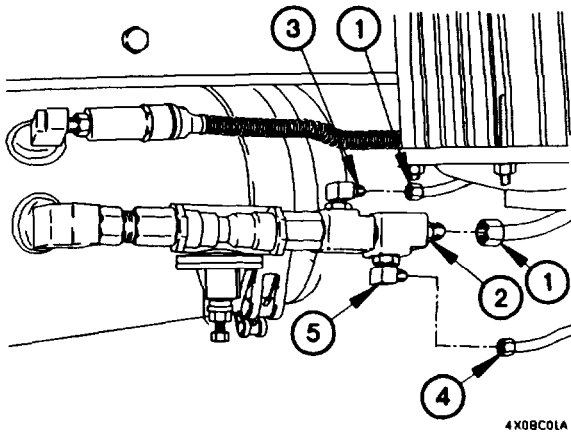
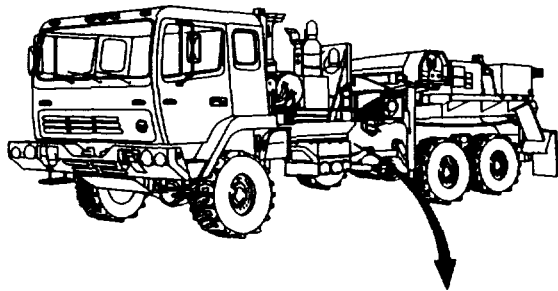


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NOTE

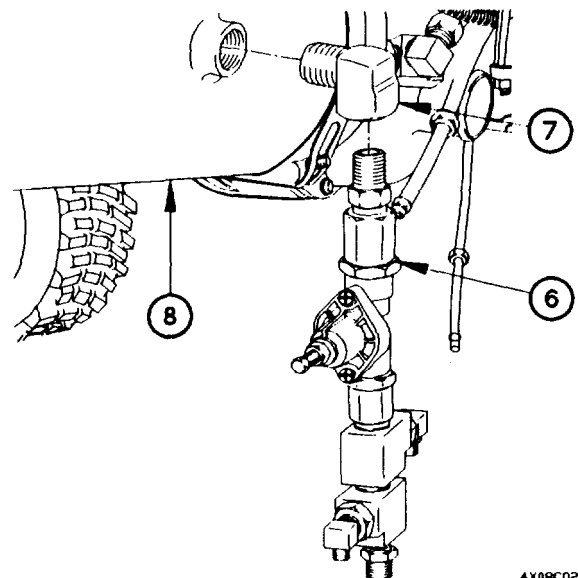
Tag air hoses and connection points prior to disconnecting.

- (1) Disconnect two air hoses (1) from fittings (2 and 3).
- (2) Disconnect air hose (4) from 90-degree fitting (5).



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- (3) Rotate pressure protection valve (6) to vertical position.
- (4) Remove pressure protection valve (6) from 90-degree fitting (7).
- (5) Remove 90-degree fitting (7) from air tank (8).



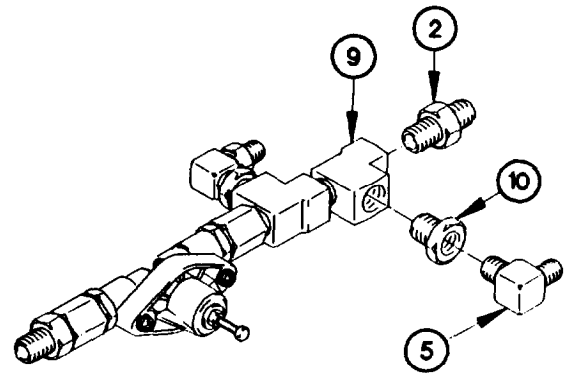
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11-29. PRESSURE PROTECTION VALVE REPLACEMENT (CONT)

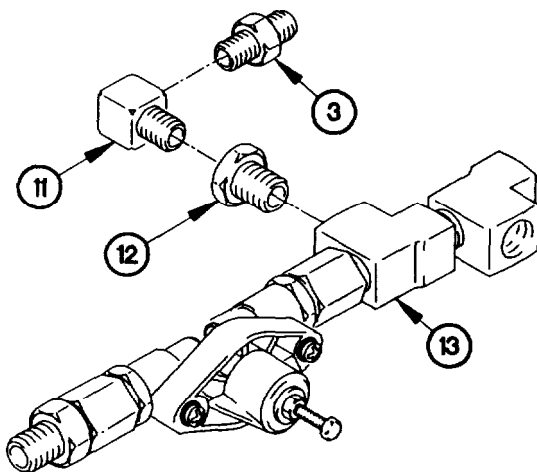
NOTE

Note position and orientation of fittings prior to removal.

- (6) Remove fitting (2) from tee fitting (9).
- (7) Remove 90-degree fitting (5) from bushing (10).
- (8) Remove bushing (10) from tee fitting (9).



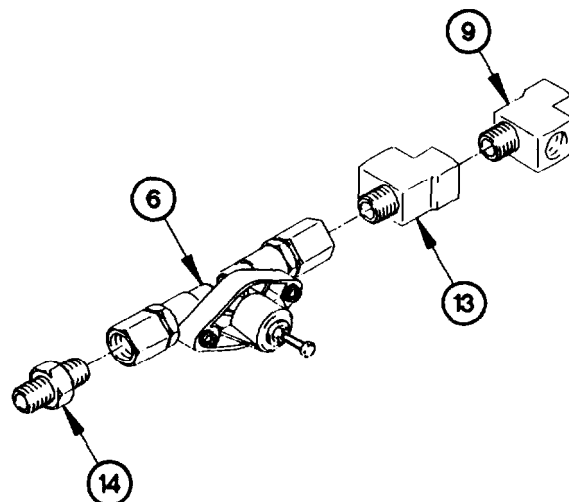
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- (9) Remove fitting (3) from 90-degree fitting (11).
- (10) Remove 90-degree fitting (11) from bushing (12).
- (11) Remove bushing (12) from tee fitting (13).

- (12) Remove tee fitting (9) from tee fitting (13).
- (13) Remove tee fitting (13) from pressure protection valve (6).
- (14) Remove pipe nipple (14) from pressure protection valve (6).



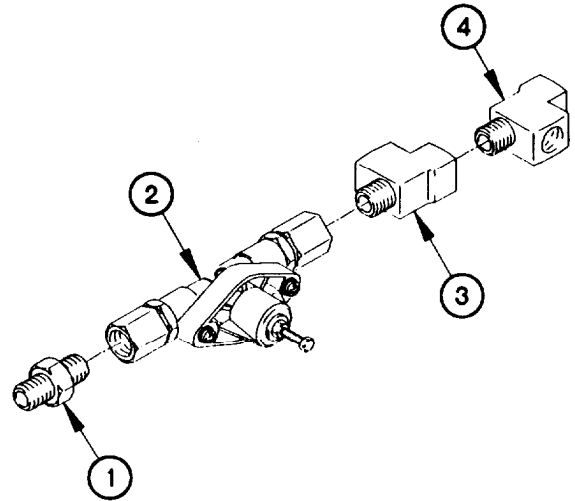
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d. M1089 Pressure Protection Valve Installation.

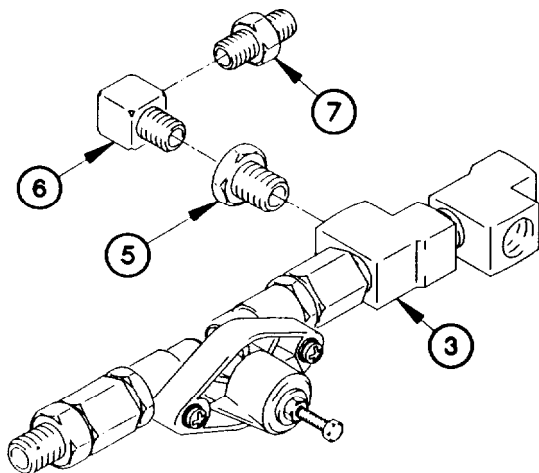
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of pipe nipple (1).
- (2) Install pipe nipple (1) in pressure protection valve (2).
- (3) Apply antiseize compound to threads of tee fitting (3).
- (4) Install tee fitting (3) in pressure protection valve (2).
- (5) Apply antiseize compound to threads of tee fitting (4).
- (6) Install tee fitting (4) in tee fitting (3).



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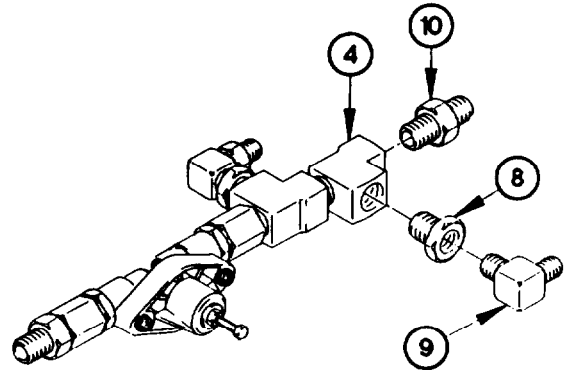
4X08D02A

- (7) Apply antiseize compound to threads of bushing (5).
- (8) Install bushing (5) in tee fitting (3).
- (9) Apply antiseize compound to threads of 90-degree fitting (6).
- (10) Install 90-degree fitting (6) in bushing (5).
- (11) Apply antiseize compound to threads of fitting (7).
- (12) Install fitting (7) in 90-degree fitting (6).

11-29. PRESSURE PROTECTION VALVE REPLACEMENT (CONT)

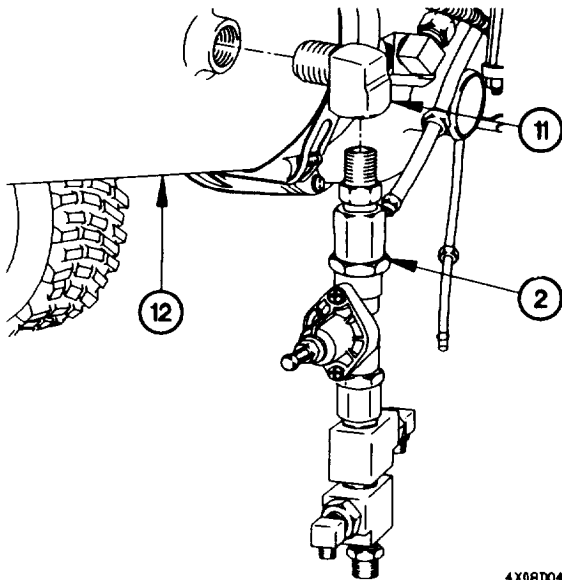
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



4X08D03A

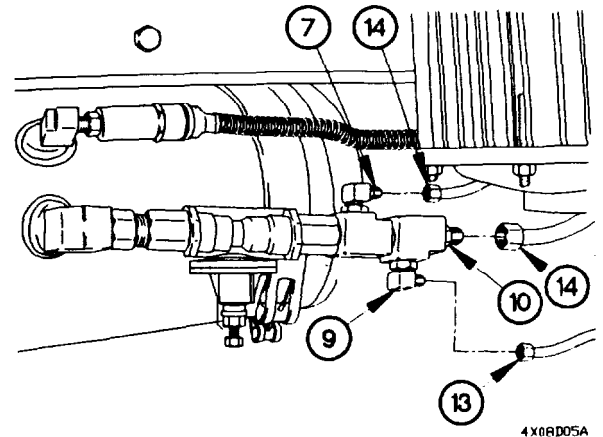
- (13) Apply antiseize compound to threads of bushing (8).
- (14) Install bushing (8) in tee fitting (4).
- (15) Apply antiseize compound to threads of 90-degree fitting (9).
- (16) Install 90-degree fitting (9) in bushing (8).
- (17) Apply antiseize compound to threads of fitting (10).
- (18) Install fitting (10) in tee fitting (4).



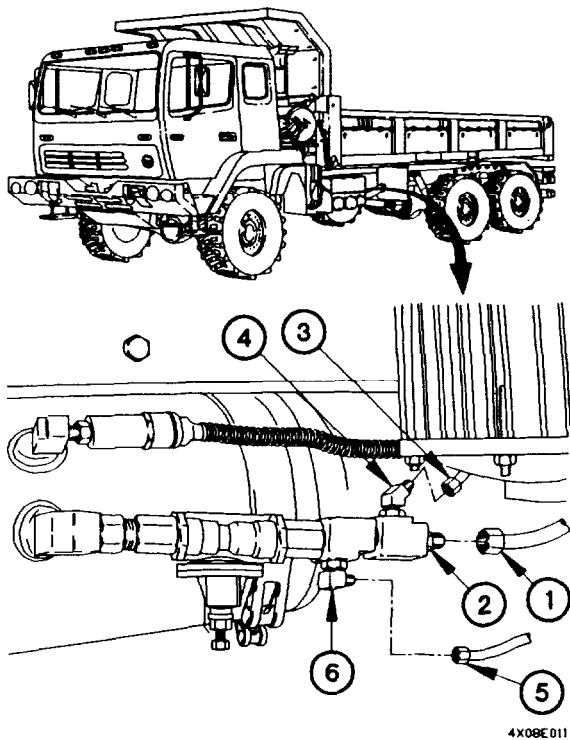
4X08D04A

- (19) Apply antiseize compound to threads of 90-degree fitting (11).
- (20) Install 90-degree fitting (11) in air tank (12).
- (21) Install pressure protection valve (2) in 90-degree fitting (11).
- (22) Rotate pressure protection valve (2) to horizontal position.

- (23) Connect air hose (13) to 90-degree fitting (9).
- (24) Connect two air hoses (14) to fittings (7 and 10).



e. M1090/M1094 Pressure Protection Valve Removal.

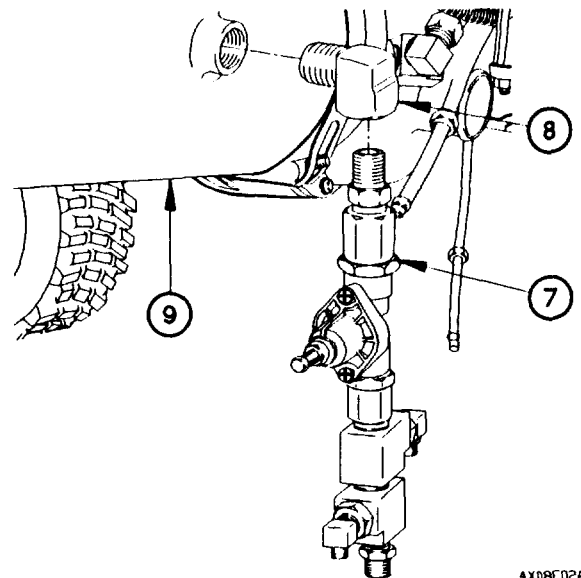


- (4) Rotate pressure protection valve (7) to vertical position.
- (5) Remove pressure protection valve (7) from 90-degree fitting (8).
- (6) Remove 90-degree fitting (8) from air tank (9).

NOTE

Tag air hoses and connection points prior to disconnecting.

- (1) Disconnect air hose (1) from fitting (2).
- (2) Disconnect air hose (3) from 45-degree fitting (4).
- (3) Disconnect air hose (5) from 90-degree fitting (6).

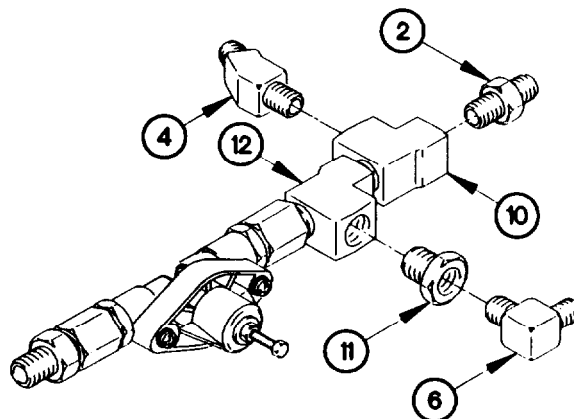


11-29. PRESSURE PROTECTION VALVE REPLACEMENT (CONT)

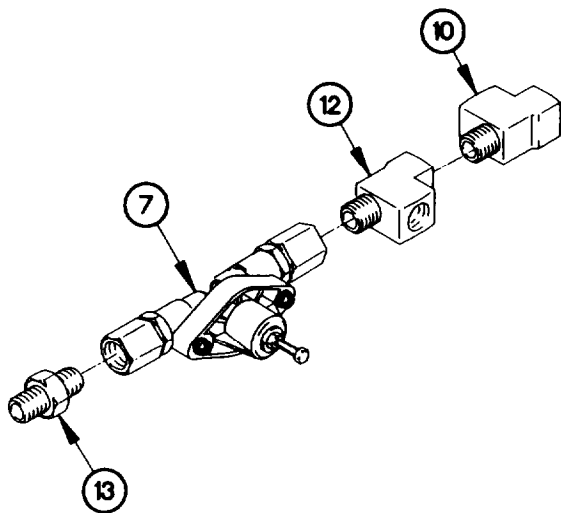
NOTE

Note position and orientation of fittings prior to removal.

- (7) Remove fitting (2) from tee fitting (10).
- (8) Remove 45-degree fitting (4) from tee fitting (10).
- (9) Remove 90-degree fitting (6) from bushing (11).
- (10) Remove bushing (11) from tee fitting (12).



4X08E03A



4X08E04A

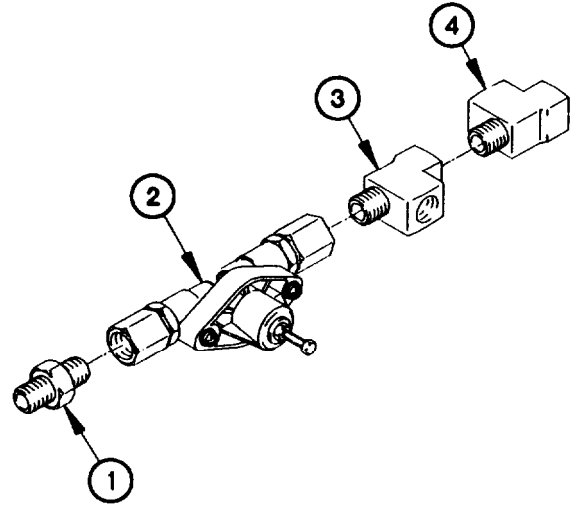
- (11) Remove tee fitting (10) from tee fitting (12).
- (12) Remove tee fitting (12) from pressure protection valve (7).
- (13) Remove pipe nipple (13) from pressure protection valve (7).

f. M1090/M1094 Pressure Protection Valve Installation.

WARNING

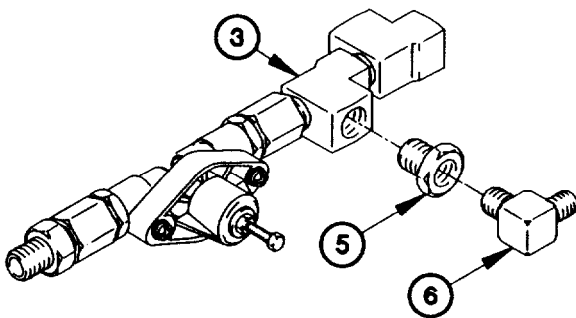
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of pipe nipple (1).
- (2) Install pipe nipple (1) in pressure protection valve (2).
- (3) Apply antiseize compound to threads of tee fitting (3).
- (4) Install tee fitting (3) in pressure protection valve (2).
- (5) Apply antiseize compound to threads of tee fitting (4).
- (6) Install tee fitting (4) in tee fitting (3).



4X08F01A

- (7) Apply antiseize compound to threads of bushing (5).
- (8) Install bushing (5) in tee fitting (3).
- (9) Apply antiseize compound to threads of 90-degree fitting (6).
- (10) Install 90-degree fitting (6) in bushing (5).

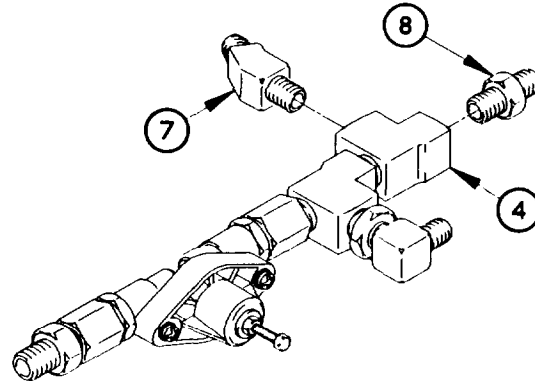


4X08F02A

11-29. PRESSURE PROTECTION VALVE REPLACEMENT (CONT)

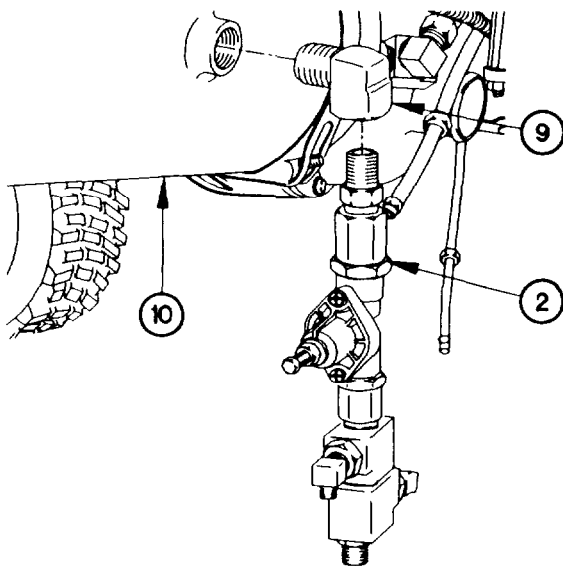
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



- (11) Apply antiseize compound to threads of 45-degree fitting (7).
- (12) Install 45-degree fitting (7) in tee fitting (4).
- (13) Apply antiseize compound to threads of fitting (8).
- (14) Install fitting (8) in tee fitting (4).

4X08F03A



- (15) Apply antiseize compound to threads of 90-degree fitting (9).
- (16) Install 90-degree fitting (9) in air tank (10).
- (17) Install pressure protection valve (2) in 90-degree fitting (9).
- (18) Rotate pressure protection valve (2) to horizontal position.

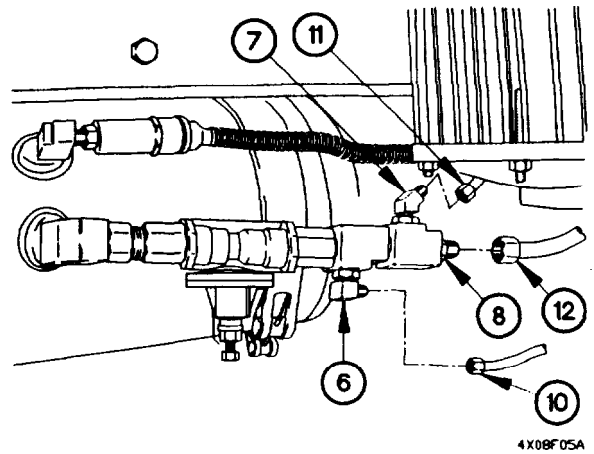
4X08F04A

- (19) Connect air hose (10) to 90-degree fitting (6).
- (20) Connect air hose (11) to 45-degree fitting (7).
- (21) Connect air hose (12) to fitting (8).

g. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Check pressure protection valve for air leaks.
- (3) Shut down engine (TM 9-2320-366-10-1).

End of Task.



11-30. LOW PRESSURE TRANSMITTER TWO-WAY CHECK VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Cab raised (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)

Materials/Parts

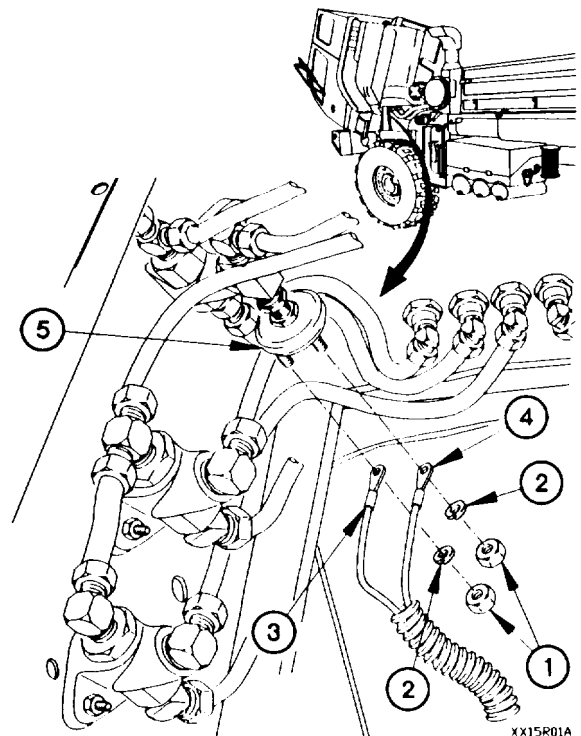
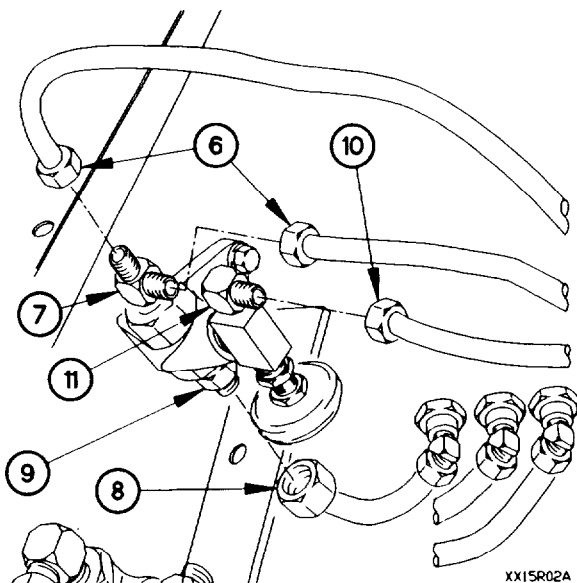
- Antiseize Compound (Item 13, Appendix D)
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Adhesive (Item 8, Appendix D)
- Lockwasher (2) (Item 93, Appendix G)

a. Removal.

NOTE

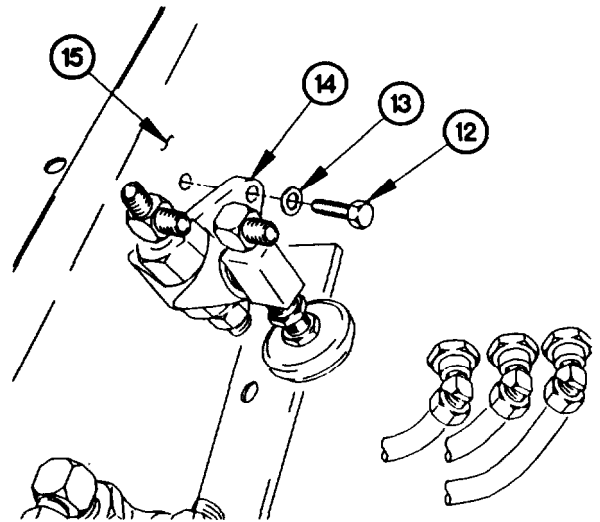
Tag wires, air hoses, and connection points prior to removal.

- (1) Remove adhesive, two nuts (1), lockwashers (2), and terminal lugs TL201 (3) and TL202 (4) from air pressure transmitter (5). Discard lockwashers.

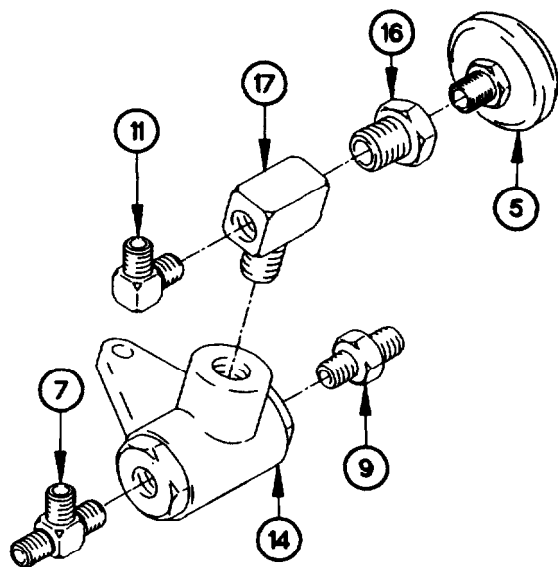


- (2) Disconnect two air hoses (6) from tee fitting (7).
- (3) Disconnect air hose (8) from fitting (9).
- (4) Disconnect air hose (10) from 90-degree fitting (11).

- (5) Remove screw (12), washer (13) and two-way check valve (14) from cab (15).



XX15R03A



XX15R04A

- (6) Remove air pressure transmitter (5) from reducer bushing (16).
- (7) Remove reducer bushing (16) from branch tee fitting (17).
- (8) Remove 90-degree fitting (11) from branch tee fitting (17).
- (9) Remove tee fitting (17) from two-way check valve (14).
- (10) Remove run tee fitting (7) from two-way check valve (14).
- (11) Remove fitting (9) from two-way check valve (14).

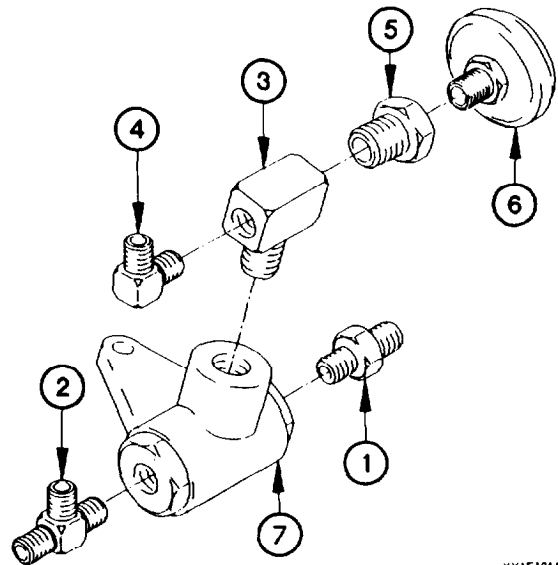
11-30. LOW PRESSURE TRANSMITTER TWO-WAY CHECK VALVE REPLACEMENT (CONT)

b. Installation

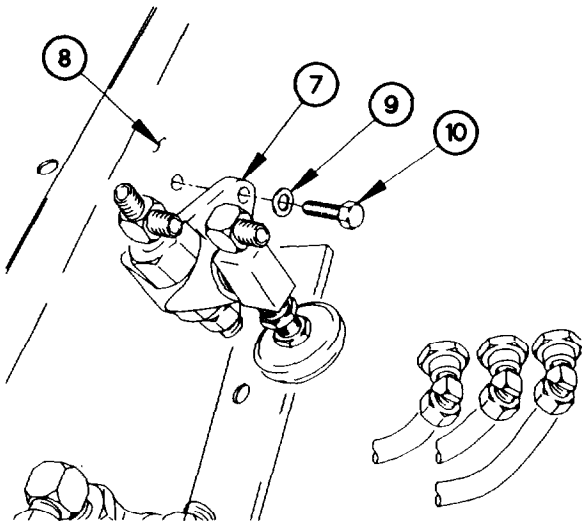
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of fitting (1), run tee fitting (2), branch tee fitting (3), 90-degree fitting (4), reducer bushing (5), and air pressure transmitter (6).
- (2) Install fitting (1) in two-way check valve (7).
- (3) Install run tee fitting (2) in two-way check valve (7).
- (4) Install branch tee fitting (3) in two-way check valve (7).
- (5) Install 90-degree fitting (4) in branch tee fitting (3).
- (6) Install reducer bushing (5) in branch tee fitting (3).
- (7) Install air pressure transmitter (6) in reducer bushing (5).



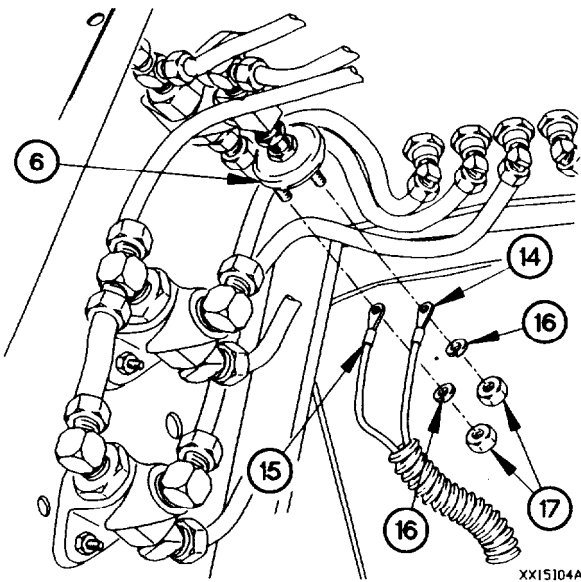
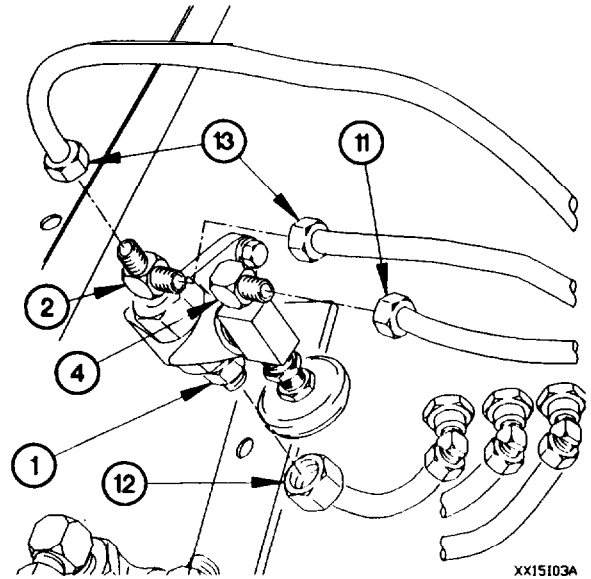
XX15101A



- (8) Install two-way check valve (7) on cab (8) with washer (9) and screw (10).

XX15102A

- (9) Connect air hose (11) to 90-degree fitting (4).
- (10) Connect air hose (12) to fitting (1).
- (11) Connect two air hoses (13) to run tee fitting (2).



- (12) Install terminal lugs TL202 (14) and TL201 (15) on air pressure transmitter (6) with two lockwashers (16) and nuts (17).

WARNING

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- (13) Apply adhesive to terminal lugs TL202 (14) and TL201 (15).

c. Follow-On Maintenance.

- (1) Lower cab (TM 9-2320-366-10-1).
- (2) Start engine (TM 9-2320-366-10-1).
- (3) Check low pressure transmitter two-way check valve for leaks.
- (4) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-31. AIR COMPRESSOR GOVERNOR ADJUSTMENT

This task covers:

a. Adjustment

b. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
STE/ICE-R (Item 41, Appendix C)

Materials/Parts

Antiseize Compound (Item 13, Appendix D)

References

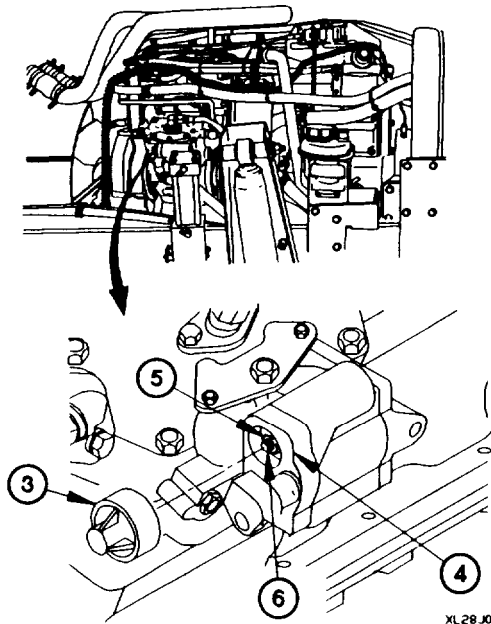
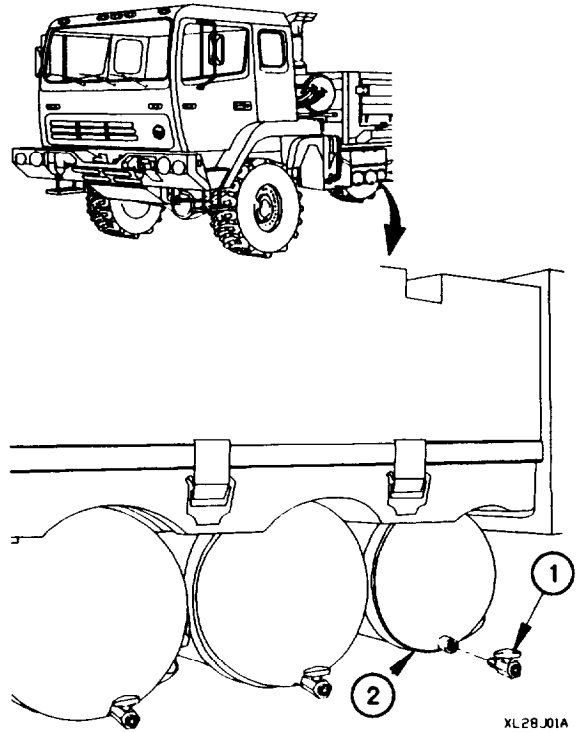
TM 9-4910-571-12&P

Personnel Required

(2)

a. Adjustment.

- (1) Remove drain valve (1) from wet tank (2).
- (2) Prepare STE/ICE-R Test #50 (TM 9-4910-571-12&P).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Raise cab (TM 9-2320-366-10-1).



- (5) Remove cover (3) from governor (4).
- (6) Loosen nut (5) on adjustment screw (6).

(7) Perform STE/ICE-R Test #50 (TM 9-4910-571-12&P).

NOTE

Turning adjustment screw to the left will increase wet tank pressure. Turning adjustment screw to the right will decrease wet tank pressure.

(8) Turn adjustment screw (6) until 120-130 psi is observed on STE/ICE-R.

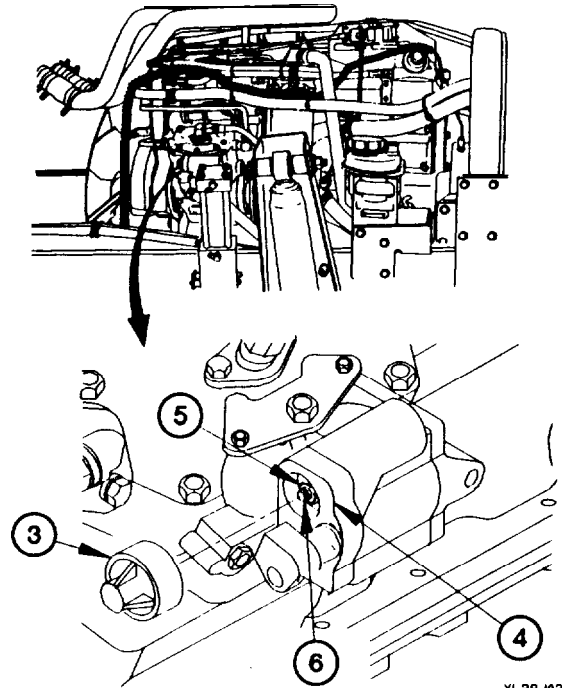
(9) Tighten nut (5) on adjustment screw (6).

(10) Install cover (3) on governor (4).

(11) Lower cab (TM 9-2320-366-10-1).

(12) Shut down engine (TM 9-2320-366-10-1).

(13) Drain air tanks (TM 9-2320-366-10-1).



XL28J02-

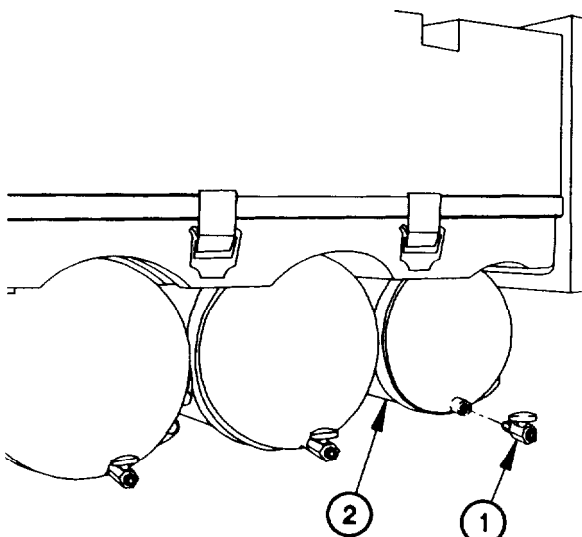
(14) Remove STE/ICE-R fitting from wet tank (2).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

(15) Apply antiseize compound to threads of drain valve

(16) Install drain valve (1) in wet tank (2).



XL28J03-

11-31. AIR COMPRESSOR GOVERNOR ADJUSTMENT (CONT)

b. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Check around wet tank drain valve for air leaks.
- (3) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-32. M1088 TRAILER SERVICE BRAKE VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
 Air tanks drained (TM 9-2320-366-10-1).
 Instrument panel assembly removed for access (para 7-15).

Materials/Parts

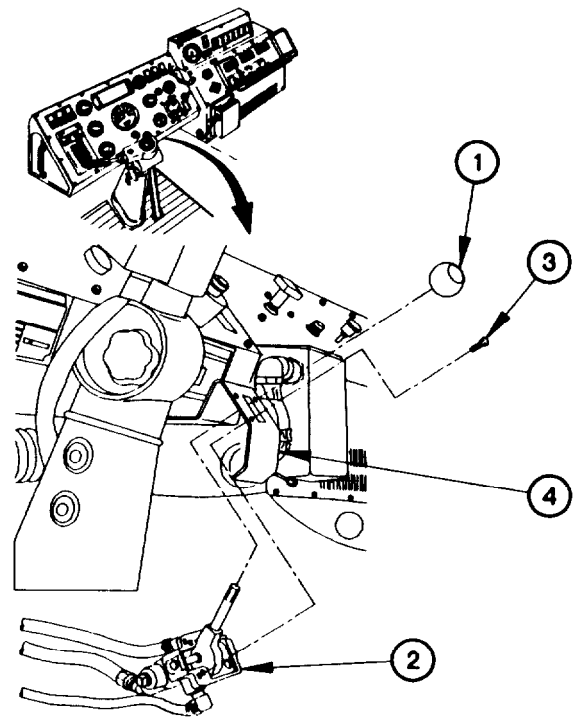
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Antiseize Compound (Item 13, Appendix D)
 Nut, Self-Locking (2) (Item 167, Appendix G)

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

a. Removal.

- (1) Remove knob (1) from trailer service brake valve (2).
- (2) Remove three screws (3) and trailer service brake valve (2) from bracket (4).

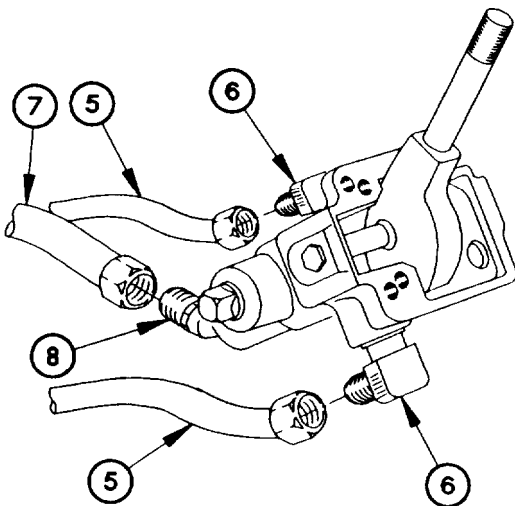


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NOTE

Tag air hoses and connection points prior to disconnecting.

- (3) Disconnect two air hoses (5) from 90-degree fittings (6).
- (4) Disconnect air hose (7) from 45-degree fitting (8).



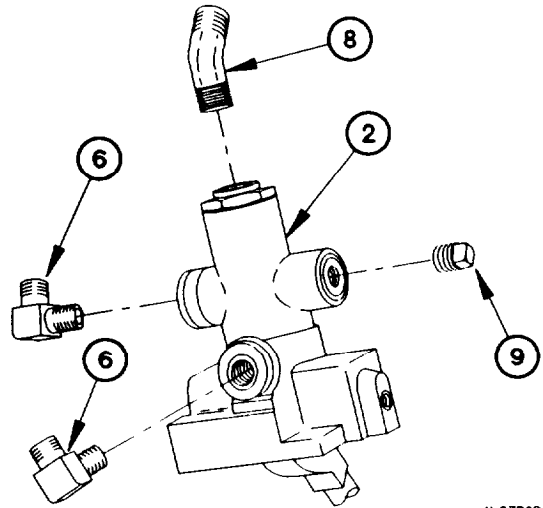
4L27R021

11-32. M1088 TRAILER SERVICE BRAKE VALVE REPLACEMENT (CONT)

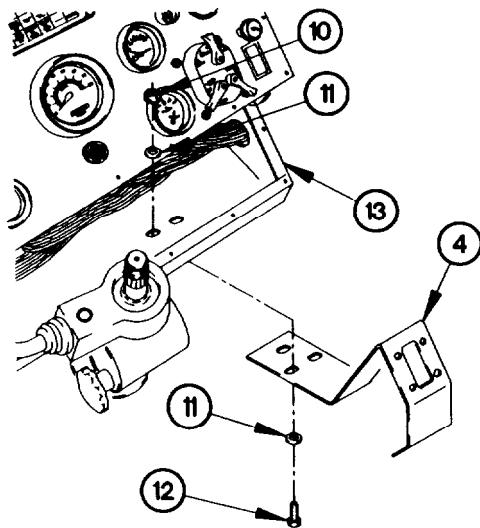
NOTE

Note orientation of fittings prior to removal.

- (5) Remove two 90-degree fittings (6) from trailer service brake valve (2).
- (6) Remove 45-degree fitting (8) from trailer service brake valve (2).
- (7) Remove plug (9) from trailer service brake valve (2).



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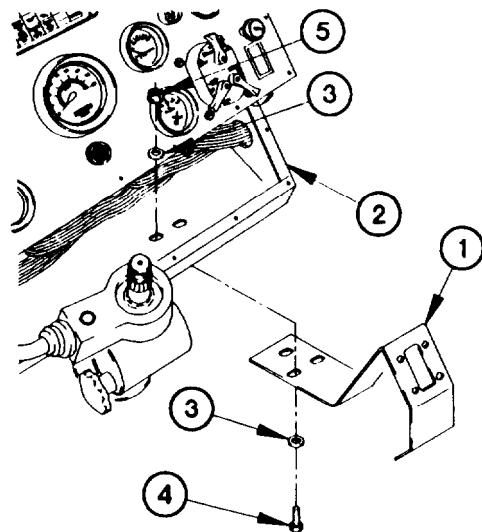


4L27R05A

- (8) Remove two self-locking nuts (10), four washers (11), two screws (12), and bracket (4) from dashboard (13). Discard self-locking nuts.

b. Installation.

- (1) Position bracket (1) on dashboard (2) with four washers (3), two screws (4), and self-locking nuts (5).
- (2) Tighten two self-locking nuts (5) to 13-16 lb-ft (18-22 N•m).

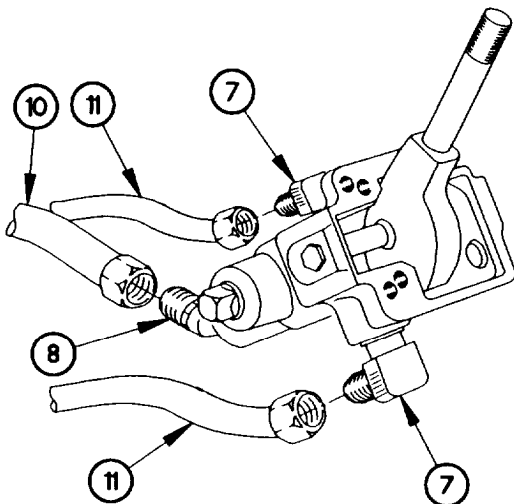


4L27101A

WARNING

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- (3) Apply sealing compound to threads of plug (6), two 90-degree fittings (7), and 45-degree fitting (8).
- (4) Install plug (6) in trailer service brake valve (9).
- (5) Install two 90-degree fittings (7) in trailer service brake valve (9).
- (6) Install 45-degree fitting (8) in trailer service brake valve (9).

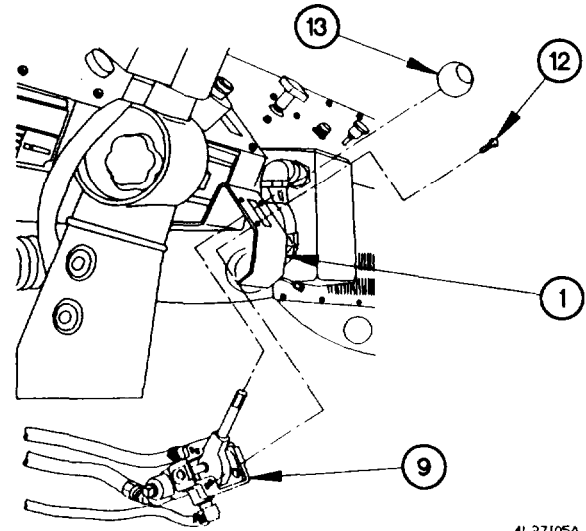


(7) Connect air hose (10) to 45-degree fitting (8).

(8) Connect two air hoses (11) to 90-degree fittings (7).

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11-32. M1088 TRAILER SERVICE BRAKE. VALVE REPLACEMENT (CONT)



4L27105A

(9) Install trailer service brake valve (9) in bracket (1) with three screws (12).

(10) Install knob (13) on trailer service brake valve (9).

c. Follow-On Maintenance.

(1) Install instrument panel assembly (para 7-15).

(2) Start engine (TM 9-2320-366-10-1).

(3) Connect tractor to trailer (TM 9-2320-366-10-1).

(4) Set trailer brakes with trailer service brake valve (TM 9-2320-366-10-1).

(5) Attempt to move trailer (TM 9-2320-366-10-1).

(6) Disconnect tractor from trailer (TM 9-2320-366-10-1).

(7) Shut down engine (TM 9-2320-366-10-1).

End of Task.

11-33. M1088 GLADHAND SELECTOR VALVE REPLACEMENT

This task covers:

- a. Service Gladhand Selector Valve Removal
- b. Service Gladhand Selector Valve Installation
- c. Emergency Gladhand Selector Valve Removal
- d. Emergency Gladhand Selector Valve Installation
- e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Antiseize Compound (Item 13, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)

Personnel Required

(2)

NOTE

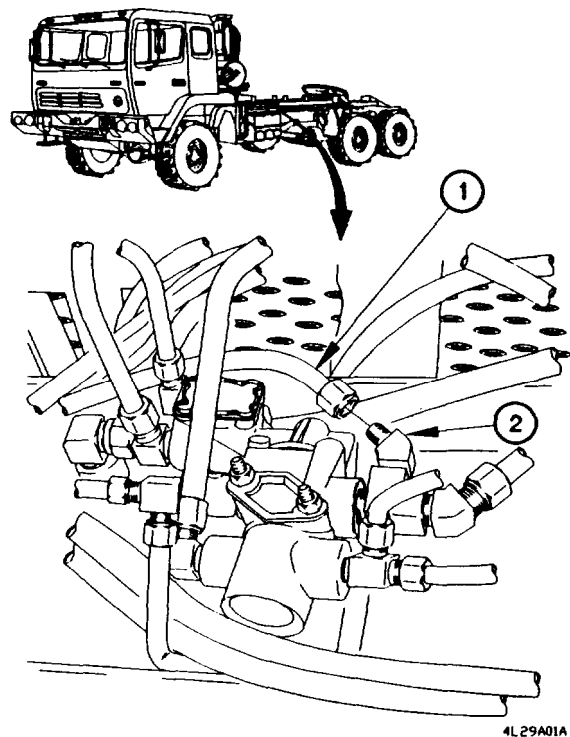
Vehicle serial numbers 0001 through 2359 were not originally equipped with gladhand selector valves. When installing gladhand selector valves for the first time, install service and emergency gladhand selector valves.

a. Service Gladhand Selector Valve Removal.

NOTE

- Tag air hoses and connection points prior to disconnecting.
- Perform steps (1) through (6) on vehicles not equipped with gladhand selector valves.

- (1) Disconnect service gladhand air hose (1) from 45-degree fitting (2).

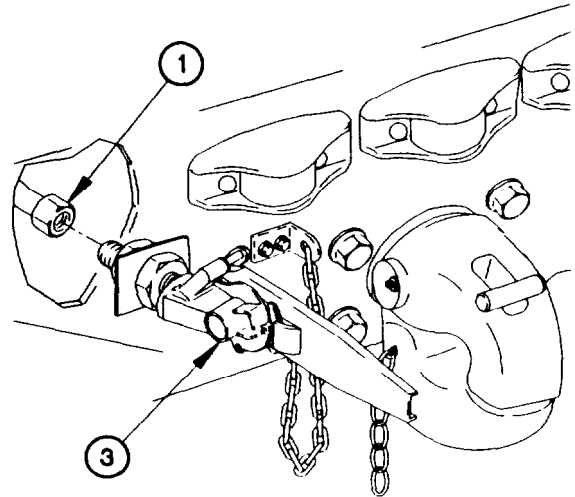


11-33. M1088 GLADHAND SELECTOR VALVE REPLACEMENT (CONT)

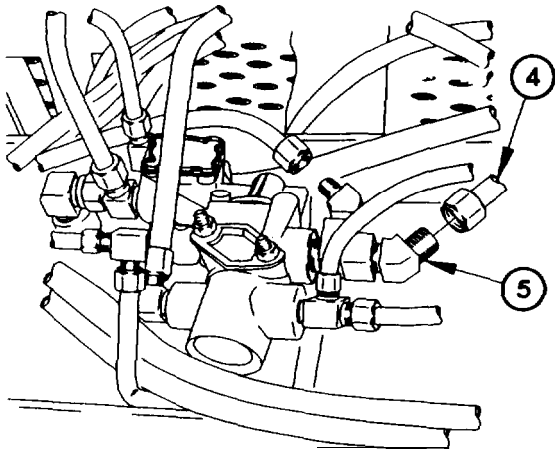
NOTE

Remove plastic cable ties as required.

- (2) Remove service gladhand air hose (1) from rear SERVICE gladhand (3). Discard service gladhand air hose.



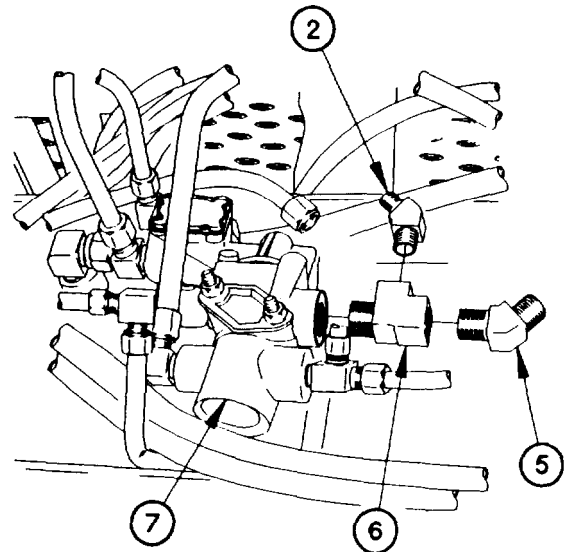
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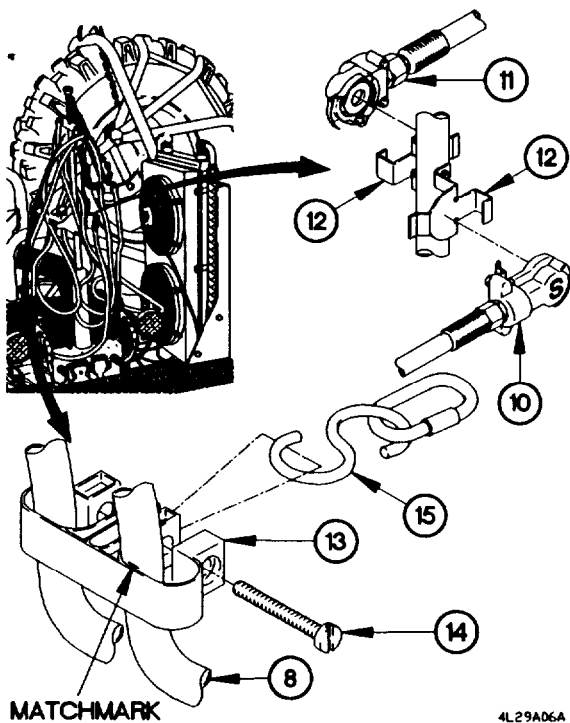
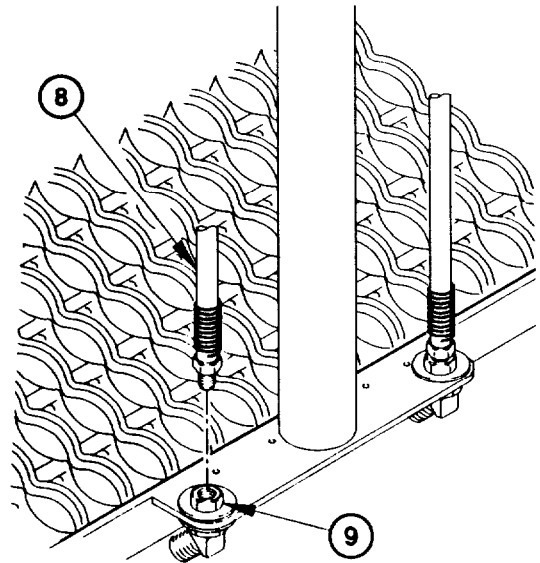
- (3) Disconnect air hose (4) from 45-degree fitting (5).

- (4) Remove 45-degree fittings (2 and 5) from street tee fitting (6). Discard one 45-degree fitting.
- (5) Remove street tee fitting (6) from air brake protecting valve (7). Discard street tee fitting.



4L29A04A

- (6) Disconnect trailer service gladhand air hose (8) from tubing connector (9).

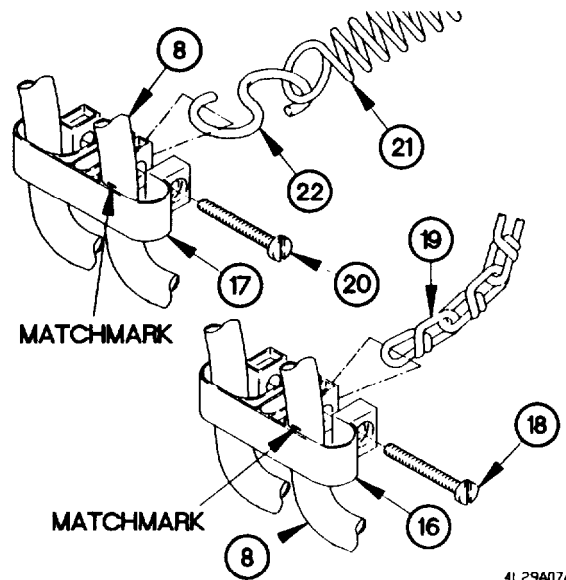


- (7) Disconnect trailer service gladhand (10) and trailer emergency gladhand (11) from two dummy connectors (12).

- (8) Match mark trailer service gladhand air hose (8) to clamp (13).

- (9) Remove screw (14) and S-hook (15) from clamp (13).

- (10) Remove trailer service gladhand air hose (8) from clamp (13).



- (11) Match mark trailer service gladhand air hose (8) to clamps (16 and 17).

- (12) Remove screw (18) and chain (19) from clamp (16).

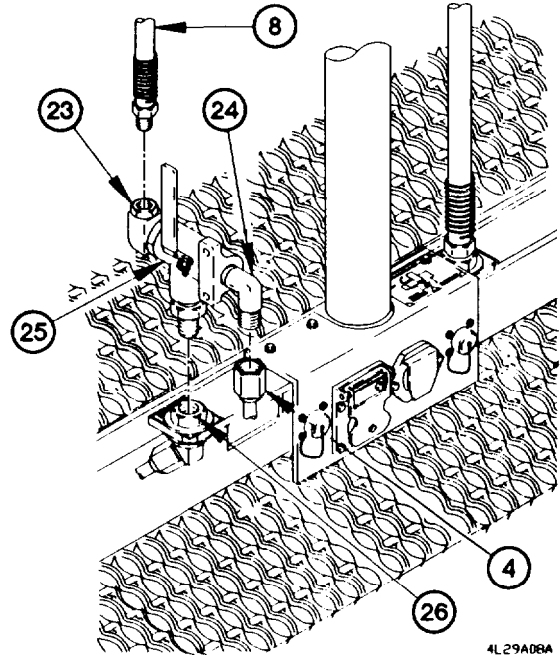
- (13) Remove trailer service gladhand air hose (8) from clamp (16).

- (14) Remove screw (20), spring (21), and S-hook (22) from clamp (17).

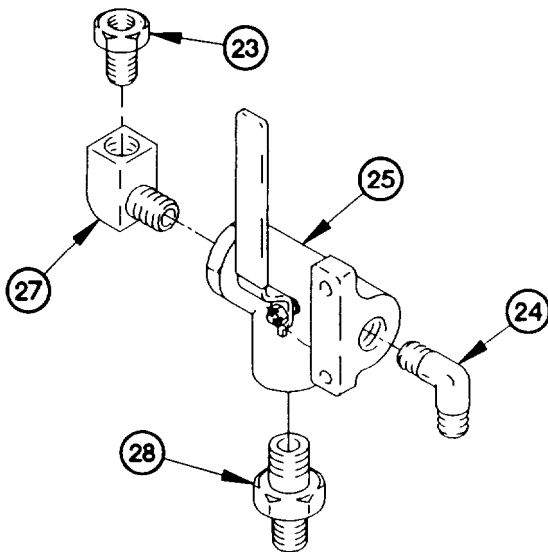
- (15) Remove trailer service gladhand air hose (8) from clamp (17).

11-33. M1088 GLADHAND SELECTOR VALVE REPLACEMENT (CONT)

- (16) Disconnect trailer service gladhand air hose (8) from bushing (23).
- (17) Disconnect air hose (4) from 90-degree fitting (24).
- (18) Remove service gladhand selector valve (25) from tubing connector (26).



4L29A08A



4L29A09A

NOTE

Note orientation of fittings prior to removal.

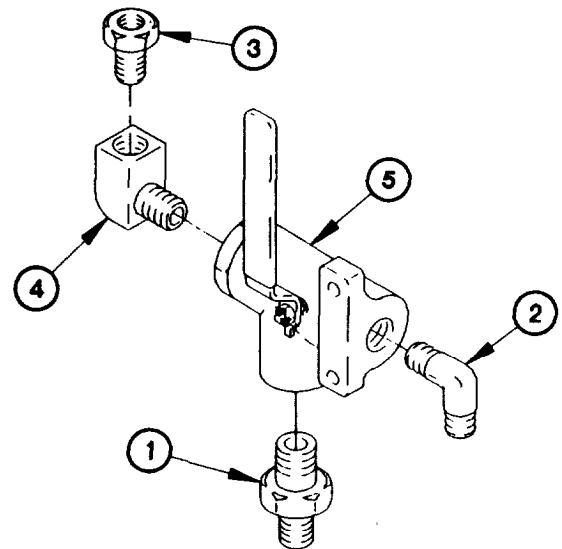
- (19) Remove 90-degree fitting (24) from service gladhand selector valve (25).
- (20) Remove bushing (23) from 90-degree fitting (27).
- (21) Remove 90-degree fitting (27) from service gladhand selector valve (25).
- (22) Remove reducer fitting (28) from service gladhand selector valve (25).

b. Service Gladhand Selector Valve Installation.

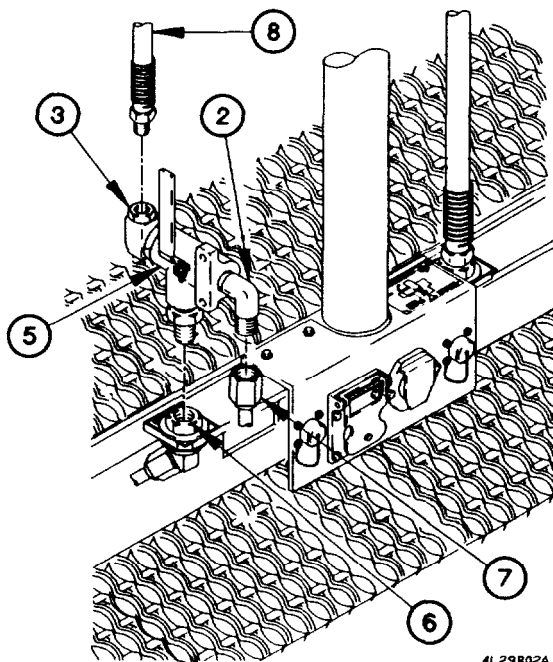
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of reducer fitting (1), 90-degree fitting (2), bushing (3), and 90-degree fitting (4).
- (2) Install reducer fitting (1) in service gladhand selector valve (5).
- (3) Install 90-degree fitting (2) in service gladhand selector valve (5).
- (4) Install 90-degree fitting (4) in service gladhand selector valve (5).
- (5) Install bushing (3) in 90-degree fitting (4).



4L29B01A

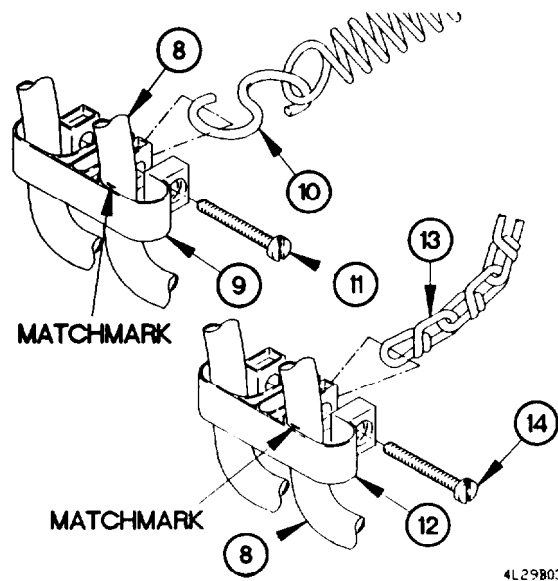


4L29B02A

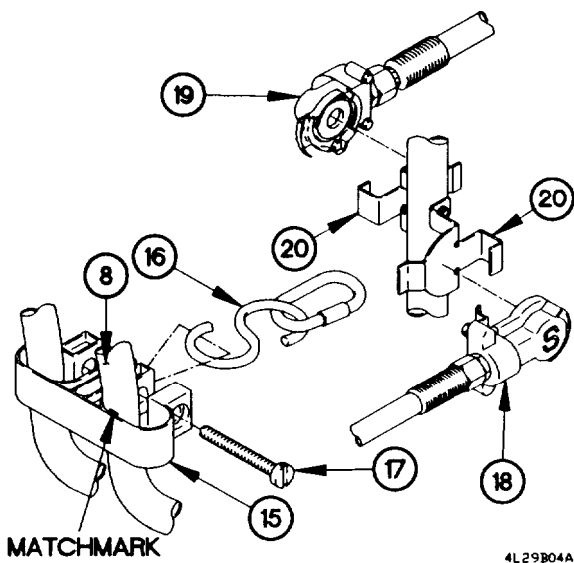
- (6) Install service gladhand selector valve (5) in tubing connector (6).
- (7) Connect service gladhand air hose (7) to 90-degree fitting (2).
- (8) Connect trailer service gladhand air hose (8) to bushing (3).

11-33. M1088 GLADHAND SELECTOR VALVE REPLACEMENT (CONT)

- (9) Position trailer service gladhand air hose (8) in clamp (9) with matchmarks aligned.
- (10) Install S-hook (10) in clamp (9) with screw (11).
- (11) Position trailer service gladhand air hose (8) in clamp (12) with matchmarks aligned.
- (12) Install chain (13) in clamp (12) with screw (14).



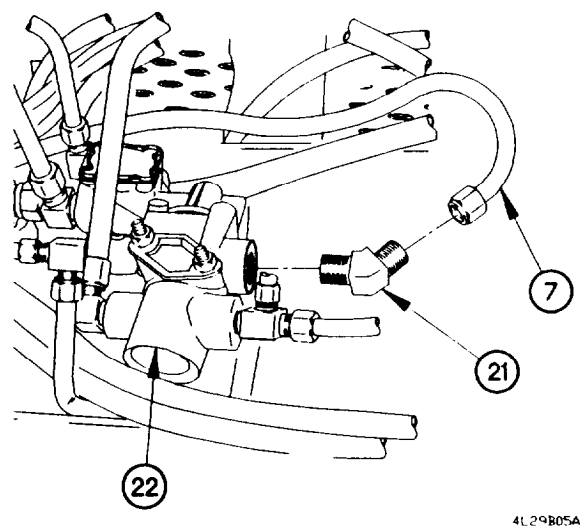
- (13) Position trailer service gladhand air hose (8) in clamp (15) with matchmarks aligned.
- (14) Install S-hook (16) in clamp (15) with screw (17).
- (15) Connect trailer service gladhand (18) and trailer emergency gladhand (19) to two dummy connectors (20).



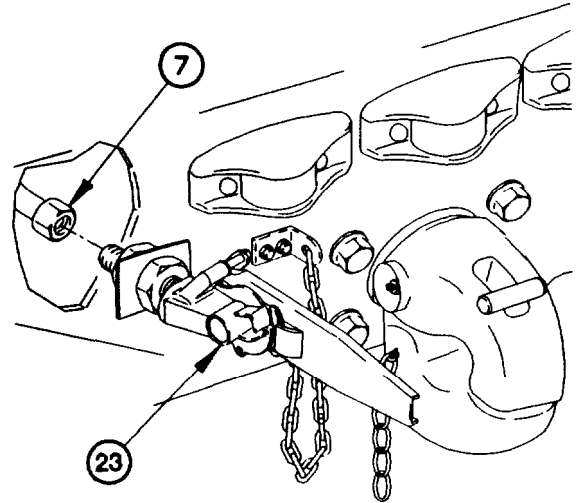
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (16) Apply antiseize compound to threads of 45-degree fitting (21).
- (17) Install 45-degree fitting (21) in air brake protecting valve (22).
- (18) Connect service gladhand air hose (7) to 45-degree fitting (21).

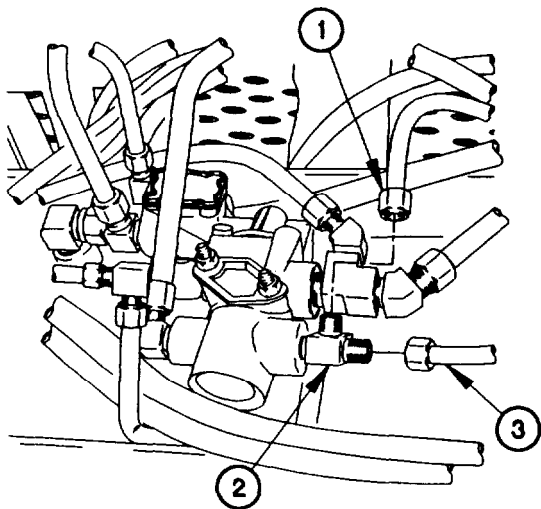


(19) Connect service gladhand air hose (7) on rear SERVICE gladhand (23).



4L29B06A

c. Emergency Gladhand Selector Valve Removal.



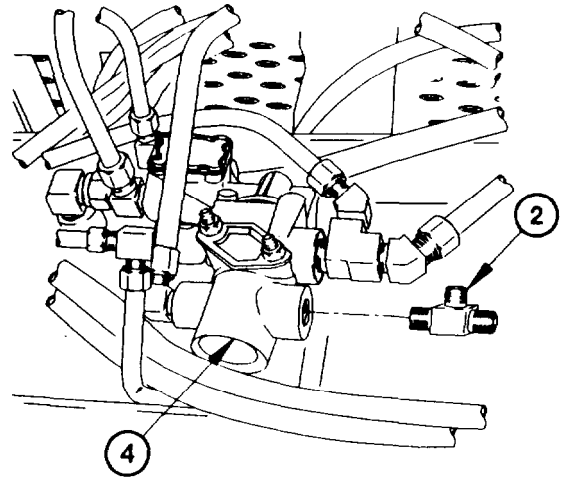
4L29C01A

NOTE

- Tag air hoses and connection points prior to disconnecting.
 - Perform steps (1) through (5) on vehicles not equipped with gladhand selector valves.
- (1) Disconnect emergency gladhand air hose (1) from run tee fitting (2).
 - (2) Position emergency gladhand air hose (1) to right side of vehicle.
 - (3) Disconnect air hose (3) from run tee fitting (2).

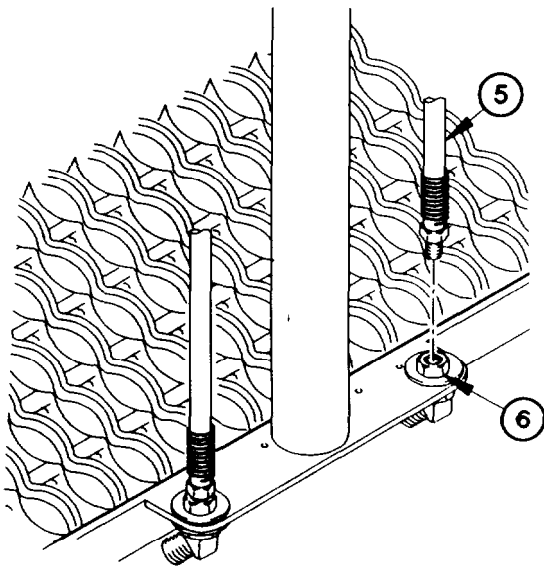
11-33. M1088 GLADHAND SELECTOR VALVE REPLACEMENT (CONT)

- (4) Remove run tee fitting (2) from air brake protecting valve (4). Discard run tee fitting.



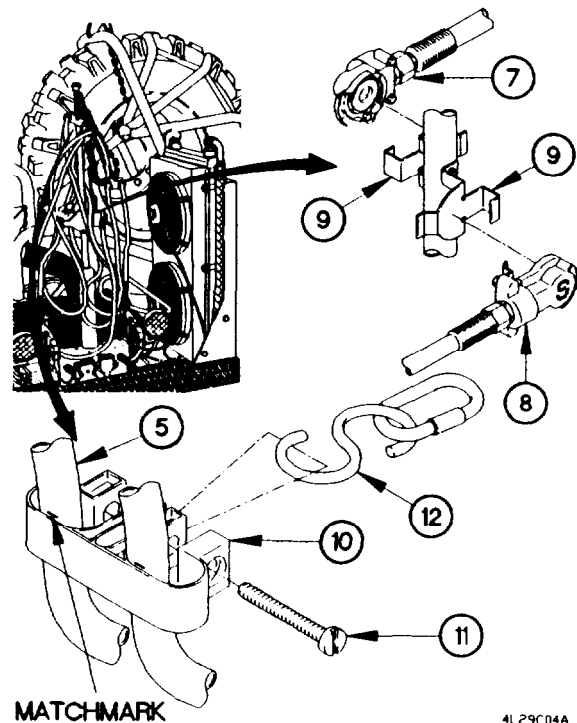
4L29C02A

- (5) Disconnect trailer emergency gladhand air hose (5) from tubing connector (6).



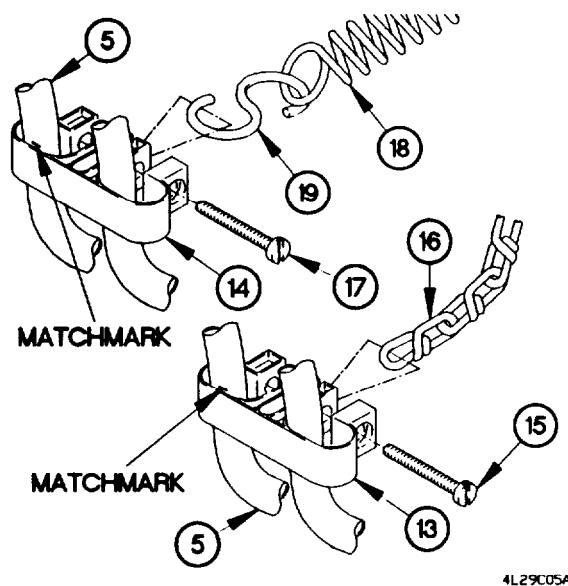
4L29C03A

- (6) Disconnect trailer emergency gladhand (7) and trailer service gladhand (8) from two dummy connectors (9).
- (7) Match mark trailer emergency gladhand air hose (5) to clamp (10).
- (8) Remove screw (11) and S-hook (12) from clamp (10).
- (9) Remove trailer emergency gladhand air hose (5) from clamp (10).



4L29C04A

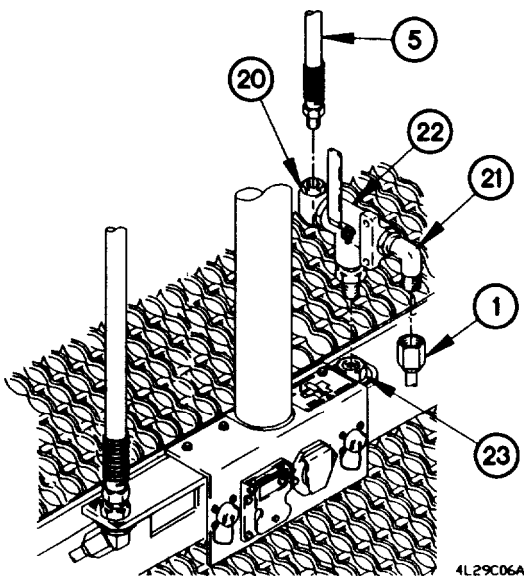
- (10) Match mark trailer emergency gladhand air hose (5) to clamps (13 and 14).
- (11) Remove screw (15) and chain (16) from clamp (13).
- (12) Remove trailer emergency gladhand air hose (5) from clamp (13).
- (13) Remove screw (17), spring (18), and S-hook (19) from clamp (14).
- (14) Remove trailer emergency gladhand air hose (5) from clamp (14).



NOTE

Tag air hoses and connection points prior to disconnecting.

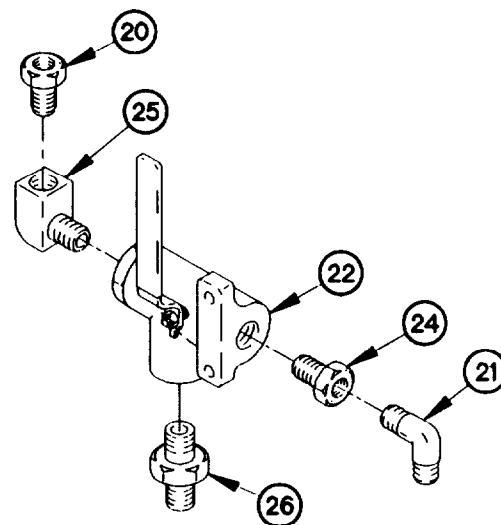
- (15) Disconnect trailer emergency gladhand air hose (5) from bushing (20).
- (16) Disconnect emergency gladhand air hose (1) from 90-degree fitting (21).
- (17) Remove emergency gladhand selector valve (22) from tubing connector (23).



NOTE

Note orientation of fittings prior to removal.

- (18) Remove 90-degree fitting (21) from bushing (24).
- (19) Remove bushing (24) from emergency gladhand selector valve (22).
- (20) Remove bushing (20) from 90-degree fitting (25).
- (21) Remove 90-degree fitting (25) from emergency gladhand selector valve (22).
- (22) Remove reducer fitting (26) from emergency gladhand selector valve (22).



4L29C07A

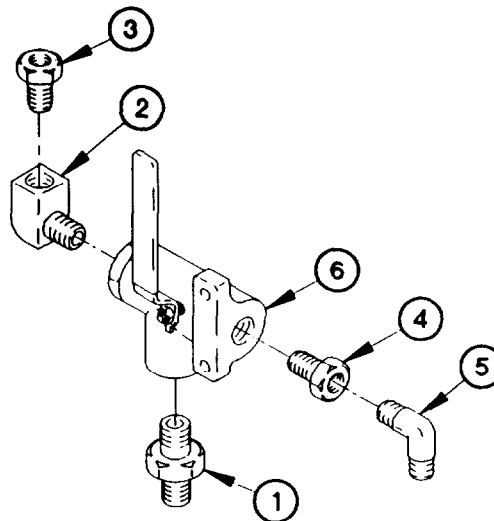
11-33. M1088 GLADHAND SELECTOR VALVE REPLACEMENT (CONT)

d. Emergency Gladhand Selector Valve Installation.

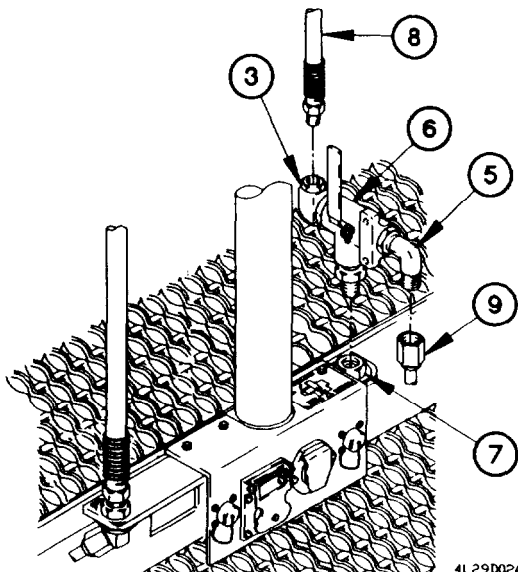
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of reducer fitting (1), 90-degree fitting (2), bushing (3), bushing (4), and 90-degree fitting (5).
- (2) Install reducer fitting (1) in emergency gladhand selector valve (6).
- (3) Install 90-degree fitting (2) in emergency gladhand selector valve (6).
- (4) Install bushing (3) in 90-degree fitting (2).
- (5) Install bushing (4) in emergency gladhand selector valve (6).
- (6) Install 90-degree fitting (5) in bushing (4).



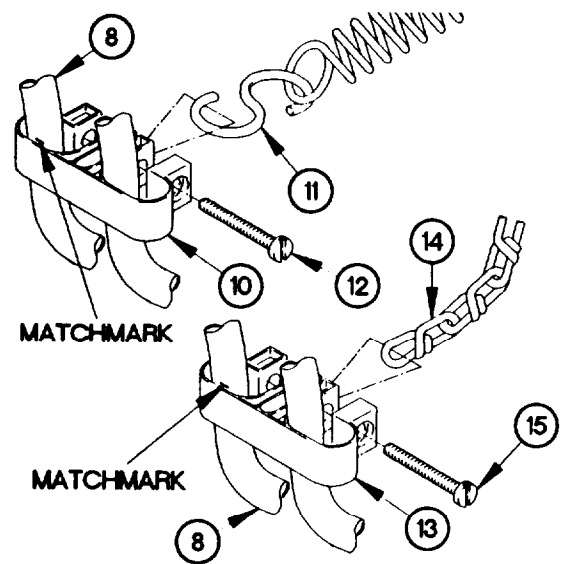
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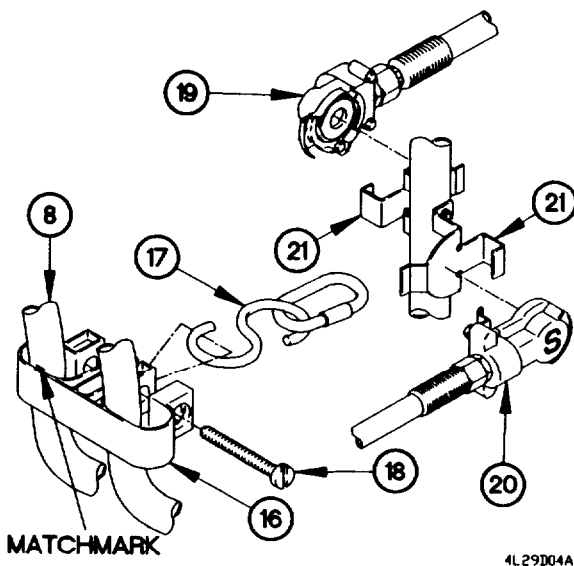
- (7) Install emergency gladhand selector valve (6) in tubing connector (7).
- (8) Connect trailer emergency gladhand air hose (8) to bushing (3).
- (9) Connect emergency gladhand air hose (9) to 90-degree fitting (5).

- (10) Position trailer emergency gladhand air hose (8) in clamp (10) with matchmarks aligned.
- (11) Install S-hook (11) in hose clamp (10) with screw (12).
- (12) Position trailer emergency gladhand air hose (8) in clamp (13) with matchmarks aligned.
- (13) Install chain (14) in clamp (13) with screw (15).



4L29D03A

- (14) Position trailer emergency gladhand air hose (8) in clamp (16) with matchmarks aligned.
- (15) Install S-hook (17) in clamp (16) with screw (18).
- (16) Connect trailer emergency gladhand (19) and trailer service gladhand (20) to two dummy connectors (21).

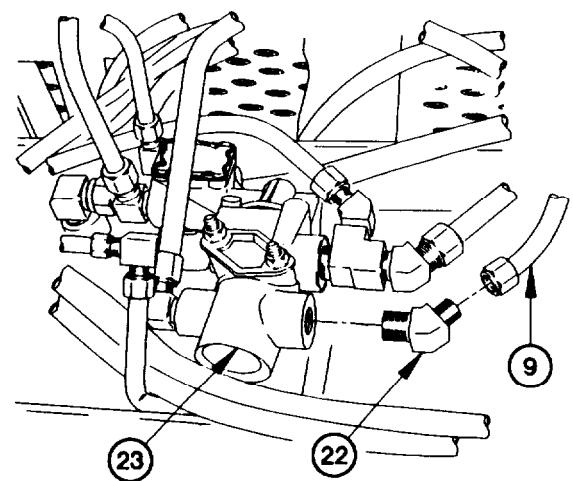


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WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (17) Apply antiseize compound to threads of 45-degree fitting (22).
- (18) Install 45-degree fitting (22) in air brake protecting valve (23).
- (19) Connect emergency gladhand air hose (9) to 45-degree fitting (22).



4L29D05A

11-33. M1088 GLADHAND SELECTOR VALVE REPLACEMENT (CONT)

e. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1) and allow time for air pressure to reach operating air pressure.
- (2) Shut down engine (TM 9-2320-366-10-1).
- (3) Check service and emergency gladhand selector valves for air leaks.
- (4) Shift position of service and emergency gladhand selector valves and check for air leaks (TM 9-2320-366-10-1).
- (5) Check air brake protecting valve for air leaks.
- (6) Perform M1088 Tractor and Trailer coupling/uncoupling (TM 9-2320-366-10-1).

End of Task.

11-34. M1088 TRAILER STOPLIGHT SWITCH REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Batteries disconnected (para 7-57).
- Kick panel removed (para 16-3).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)

Material/Parts

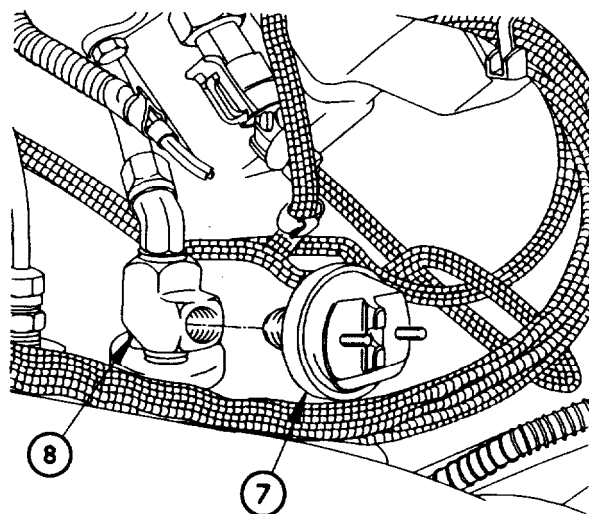
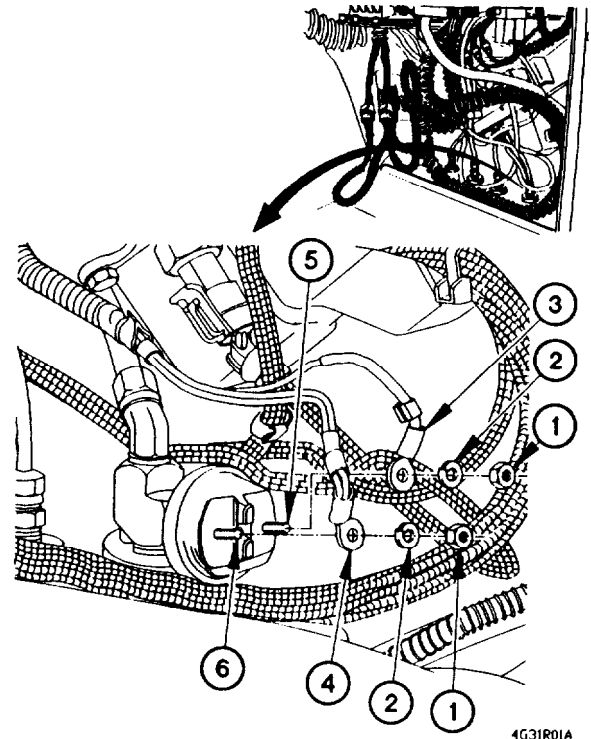
- Antiseize Compound (Item 13, Appendix D)
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Lockwasher (2) (Item 93, Appendix G)

a. Removal.

NOTE

Tag wires and connection points prior to removal.

- (1) Remove two nuts (1), lockwashers (2), and terminal lugs TL501 (3) and TL502 (4) from terminal studs (5 and 6). Discard lockwashers.



- (2) Remove trailer stoplight switch (7) from tee fitting (8).

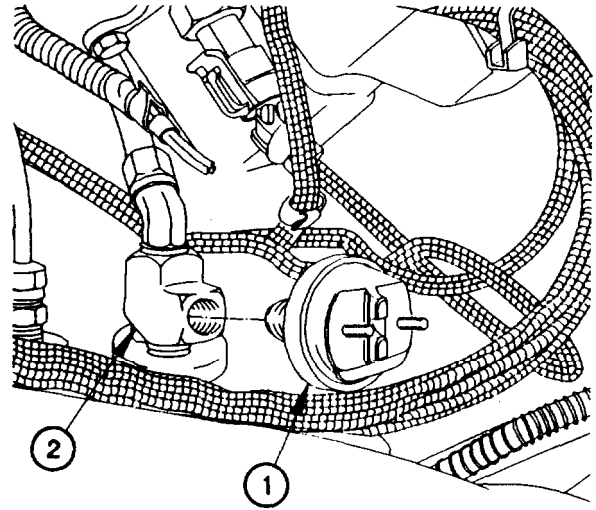
11-34. M1088 TRAILER STOPLIGHT SWITCH REPLACEMENT (CONT)

b. Installation.

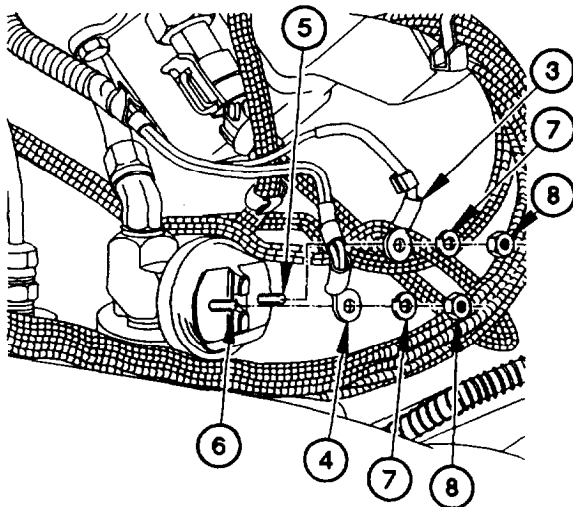
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of trailer stoplight switch (1).
- (2) Install trailer stoplight switch (1) in tee fitting (2).



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4G31102-

- (3) Install terminal lugs TL501 (3) and TL502 (4) on terminal studs (5 and 6) with two lockwashers (7) and nuts (8).

c. Follow-On Maintenance.

- (1) Install kick panel (para 16-3).
- (2) Connect batteries (para 7-57).
- (3) Start engine and allow air pressure to raise to normal levels (TM 9-2320-366- 10- 1).
- (4) Operate trailer brake and check for proper operation and for air leaks (TM 9-2320-366-10-1).

End of Task.

CHAPTER 12 WHEELS, TIRES, AND HUBS MAINTENANCE

Section I. INTRODUCTION	12-1
12-1. INTRODUCTION	12-1
Section II. MAINTENANCE PROCEDURES	12-2
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12-3. WHEEL STUD REPLACEMENT	12-5
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12-5. CENTRAL TIRE INFLATION SYSTEM (CTIS) HOSE ASSEMBLIES, MANIFOLD VALVE, KNEELING VALVE AND BRACKET REPLACEMENT	12-8
12-6. CENTRAL TIRE INFLATION SYSTEM (CTIS) ECU REPLACEMENT	12-15
12-7. MANIFOLD VALVE ASSEMBLY REPLACEMENT	12-16
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Section I. INTRODUCTION

12-1. INTRODUCTION

This chapter contains maintenance instructions for replacing wheels, tires, and hubs authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.



Section II. MAINTENANCE PROCEDURES

12-2. WHEEL REPAIR

This task covers:

- | | |
|--|---------------------------------|
| <p>a. Disassembly</p> <p>b. Assembly</p> | <p>c. Follow-On Maintenance</p> |
|--|---------------------------------|

INITIAL SETUP

Equipment Conditions

Tire removed (TM 9-2320-366-10-2).
 CTIS hose assemblies, manifold valve, kneeling valve and bracket removed (para 12-5).

Materials/Part,

Packing, Preformed (Item 190, Appendix G)
 Nut, Self-Locking (20) (Item 145, Appendix G)
 Nut, Self-Locking (4) (Item 171, Appendix G)

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Iron, Tire (Item 20, Appendix C)
 Wrench, Torque, 0-600 lb-ft (Item 60, Appendix C)
 Wrench Set, Socket (Item 50, Appendix C)

Personnel Required

(2)

References

TM 9-26 10-200-14

WARNING

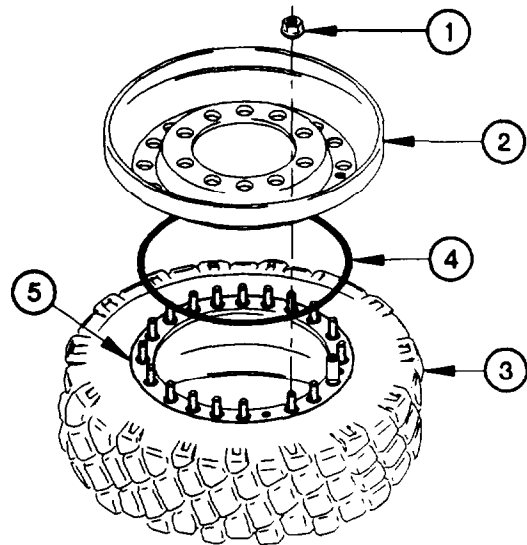
- Ensure that tire is totally deflated before removing self-locking nuts. Failure to comply may result in serious injury or death to personnel.
- Always use an inflation safety cage to inflate tires mounted on multipiece rims, and tire/rim assemblies not mounted on a tire changing machine that has a positive lock down device designed to hold the assembly during inflation (TM 9-2610-200-14). When using a tire changing machine, always follow manufacturer's mounting and safety instructions. Failure to comply may result in serious injury or death to personnel. Always inflate tires that are mounted on rims with demountable side ring flanges or lockrings in an inflation safety cage or serious injury or death may result.

a. Disassembly.

CAUTION

Loosen self-locking nuts no more than 1/2 inch (1.27 cm) at a time. Failure to comply may result in damage to equipment.

- (1) Loosen 20 self-locking nuts (1) approximately 1/2 in. (1.27 cm) at a time.
- (2) Remove 20 self-locking nuts (1) from outside wheel section (2). Discard self-locking nuts.
- (3) Remove outside wheel section (2) from tire (3).
- (4) Remove preformed packing (4) from inside wheel section (5). Discard preformed packing.



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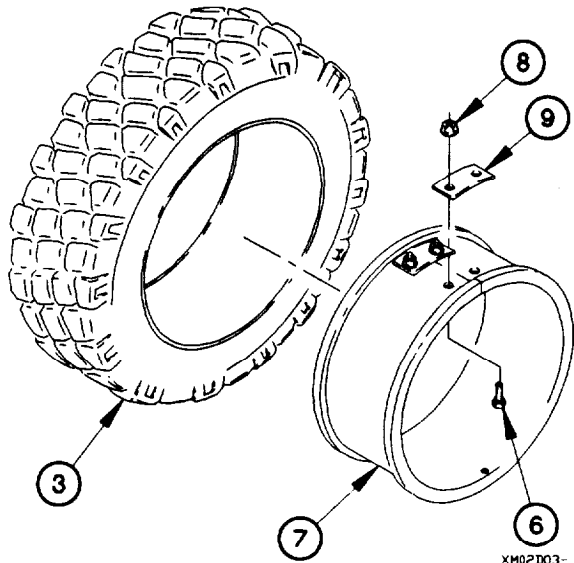
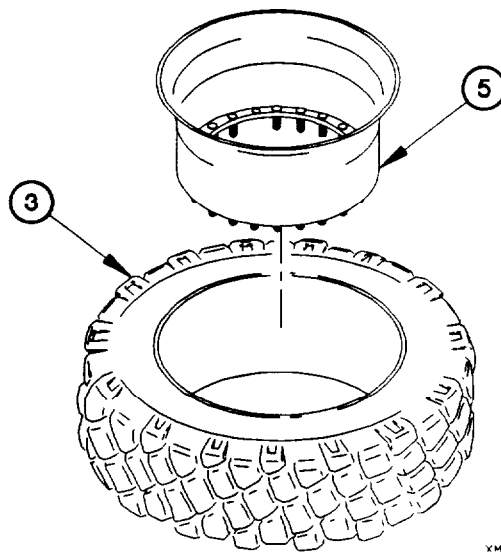
WARNING

Tire weighs approximately 350 lbs (159 Kgs). Use extreme care when handling tire. Failure to comply may result in injury to personnel.

NOTE

Steps (5) through (10) require the aid of an assistant.

- (5) Turn tire (3) over to gain access to inside wheel section (5).
- (6) Remove inside wheel section (5) from tire (3).



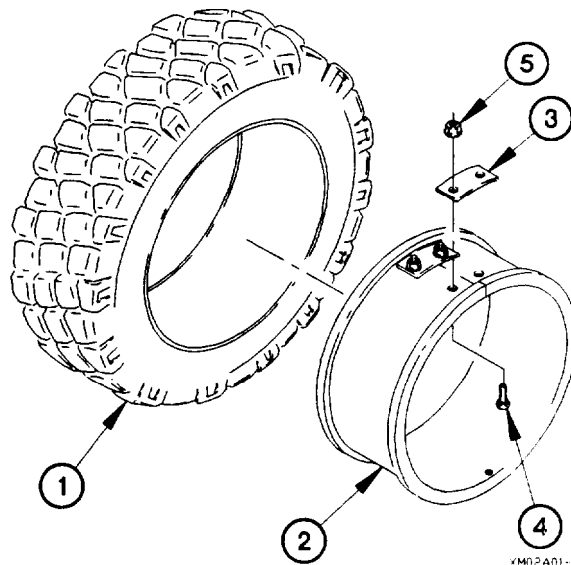
- (7) Stand tire (3) on end with beadlock bolts (6) facing up.
- (8) Push down on beadlock (7) to gain access to four self-locking nuts (8).
- (9) Remove four self-locking nuts (8), bolts (6) and two clips (9) from beadlock (7). Discard self-locking nuts.
- (10) Remove beadlock (7) from tire (3).

b. Assembly.

NOTE

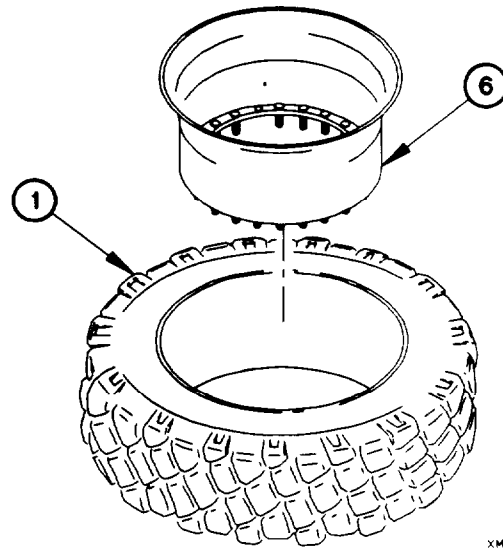
Steps (1) through (6) require the aid of an assistant.

- (1) Open tire (1) and install beadlock (2) inside tire.
- (2) Install two clips (3) in beadlock (2) with four screws (4) and self-locking nuts (5).
- (3) Center beadlock (2) in tire (1).



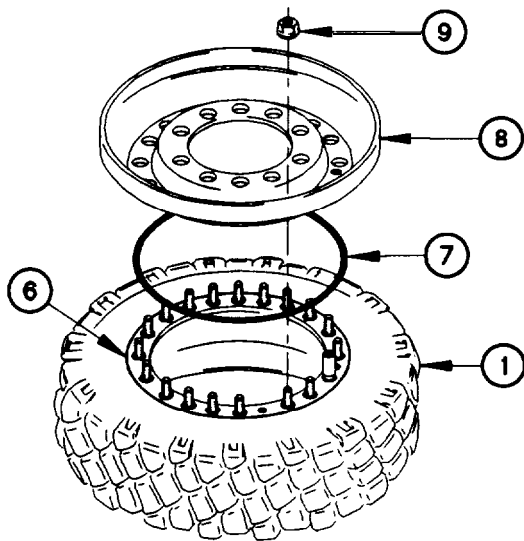
12-2. WHEEL REPAIR (CONT)

- (4) Lay tire (1) on its side.
- (5) Install inside wheel section (6) in tire (1).



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- (6) Turn tire (1) over.
- (7) Install preformed packing (7) on inside wheel section (6).
- (8) Install outside wheel section (8) on inside wheel section (6).
- (9) Position 20 nuts (9) on wheel section (8).

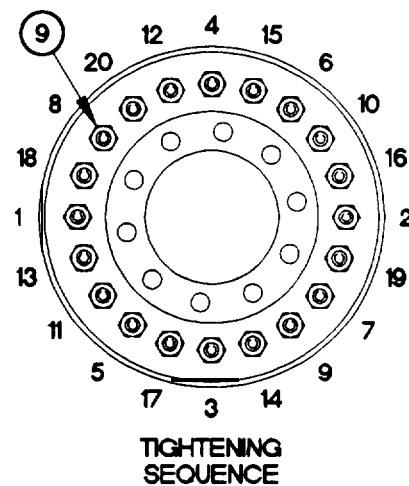


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- (10) Tighten 20 nuts (9) to 210-240 lb-ft (285-325 N•m) in sequence shown.

c. Follow-On Maintenance.

- (1) Inflate tire to 55 psi (379 kPa) (TM 9-2610-200-14).
- (2) Install tire (TM 9-2320-366-10-2).
- (3) Tighten wheel studs (para 12-4).
- (4) Install CTIS hose assemblies, manifold valve, kneeling valve and bracket (para 12-5).



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End of Task.

12-3. WHEEL STUD REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Tire removed (TM 9-2320-366-10-2).
Rear spring brakes caged (para 11-6).

Tools and Special Tools (Cont)

Respirator, Air Filter (Item 29, Appendix C)

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)

Personnel Required

(2)

a. Removal.

WARNING

- **Spring brakes must be caged before attempting replacement of a rear axle wheel stud. Failure to comply may result in severe injury to personnel.**
- **Wheel drum weighs approximately 92 lbs 142 kgs). Use the aid of an assistant to help remove wheel drum from axle. Failure to comply may result in injury to personnel.**
- **Brake shoes may be covered with dust. Breathing this dust may be harmful to your health. Do not use compressed air to clean brake shoes. Wear a filter mask approved for use against brake dust. Failure to comply may result in injury to personnel.**

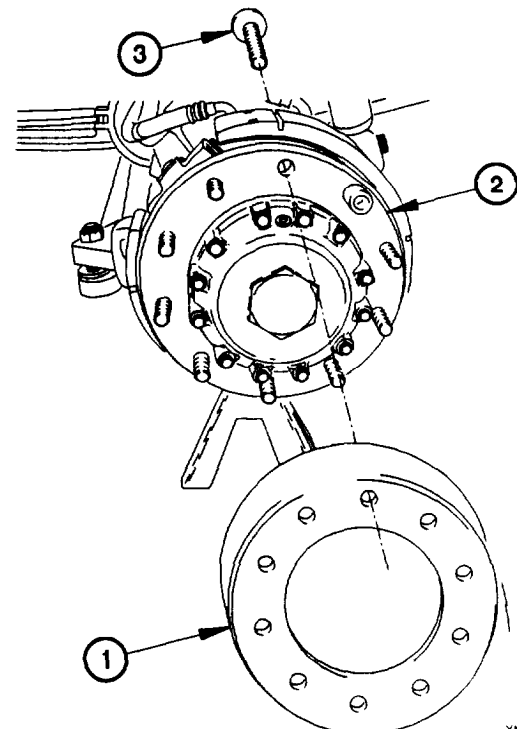
CAUTION

Wheel studs and nuts on left side of vehicle have left hand threads. Nuts must be turned to the right to loosen. Wheel studs and nuts on right side of vehicles have right hand threads. Nuts must be turned to the left to loosen. Failure to comply may result in damage to equipment.

NOTE

Step (1) requires the aid of an assistant.

- (1) Remove wheel drum (1) from wheel hub (2).
- (2) Turn hub to position stud (3), to be replaced, at top or bottom position.
- (3) Knock stud (3) out through back side of wheel hub (2).



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12-3. WHEEL STUD REPLACEMENT (CONT)

b. Installation.

- (1) Install wheel stud (1) in wheel hub (2).

NOTE

Use a nut that was removed during wheel removal to perform step (2).

- (2) Install nut (3) on wheel stud (1) with flat side of nut (3) toward wheel hub (2).
- (3) Tighten nut (3) until wheel stud (1) is seated in wheel hub (2) as far as threads will allow.
- (4) Remove nut (3) from wheel hub (2).
- (5) Install nut (3) on wheel stud (1) with beveled side of nut (3) toward wheel hub (2).
- (6) Tighten nut (3) until wheel stud (1) is seated in wheel hub (2).
- (7) Remove nut (3) from wheel hub (2).

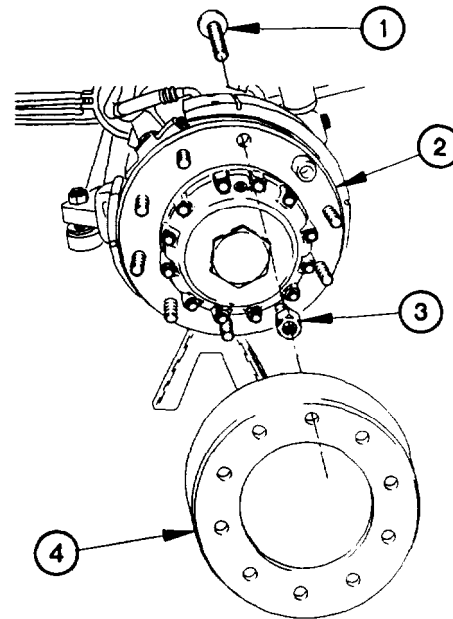
WARNING

Wheel drum weighs approximately 92 lbs (42 kgs). Use the aid of an assistant to help install wheel drum on axle. Failure to comply may result in injury to personnel.

NOTE

Step (8) requires the aid of an assistant.

- (8) Install wheel drum (4) on wheel hub (2).



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c. Follow-On Maintenance.

- (1) Uncage rear spring brakes (para 11-6).
- (2) Install tire (TM 9-2320-366-10-2).

End of Task.

12-4. WHEEL STUD TIGHTENING SEQUENCE

This task covers:

Tightening Sequence

INITIAL SETUP

Equipment Conditions

Tire installed (TM 9-2320-366-10-2).

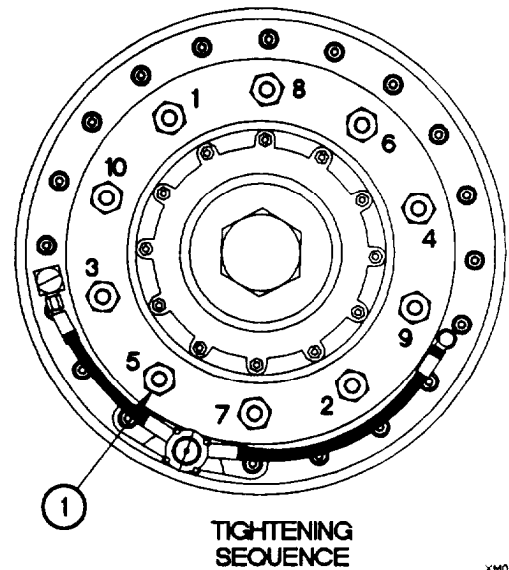
Tools and Special Tools

Wrench, Torque, 0-600 lb-ft (Item 60, Appendix C)
 Tool Kit, Genl Mech (Item 46, Appendix C)
 Multiplier, Torque Wrench (Item 23, Appendix C)
 Wrench Set, Socket (Item 50, Appendix C)

Tightening Sequence.

Tighten ten nuts (1) to 415-475 lb-ft (563-644 N•m) in sequence shown.

End of Task.



XM04 T01A

12-5. CENTRAL TIRE INFLATION SYSTEM (CTIS) HOSE ASSEMBLIES, MANIFOLD VALVE, KNEELING VALVE AND BRACKET REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Fishing Tool, Pneumatic Tire Valve (Item 9, Appendix C)
- Socket, Socket Wrench (Item 70, Appendix B)
- Socket, Socket Wrench (Item 37, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Wrench Set, Socket (Item 50, Appendix C)

Tools and Special Tools (Cont)

- Adapter, Socket Wrench (Item 2, Appendix B)

Materials/Parts

- Sealing Compound (Item 61, Appendix D)
- Packing, Preformed (Item 180, Appendix G)
- Packing, Preformed (Item 211, Appendix G)
- Packing, Preformed (2) (Item 212, Appendix G)
- Packing, Preformed (Item 213, Appendix G)
- Seal, Nonmetallic (2) (Item 271, Appendix G)
- Filter Element, Fluid (Item 19, Appendix G)

a. Removal.

WARNING

The sudden release of high pressure air can cause damage to eyes. Wear appropriate eye protection when working near pressurized air. Failure to comply may result in injury to personnel.

- (1) Remove valve cap (1) from CTIS manifold valve (2).
- (2) Remove valve core (3) from CTIS manifold valve (2) and allow time for tire to deflate.

NOTE

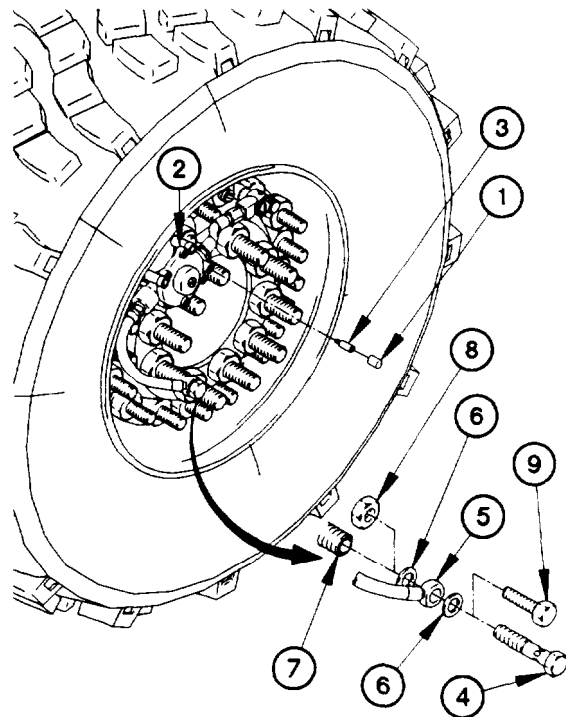
Perform step (3) if wheel is mounted on vehicle.

- (3) Remove banjo bolt (4), CTIS hose (5), and two seals (6) from hollow wheel stud (7). Discard seals.

NOTE

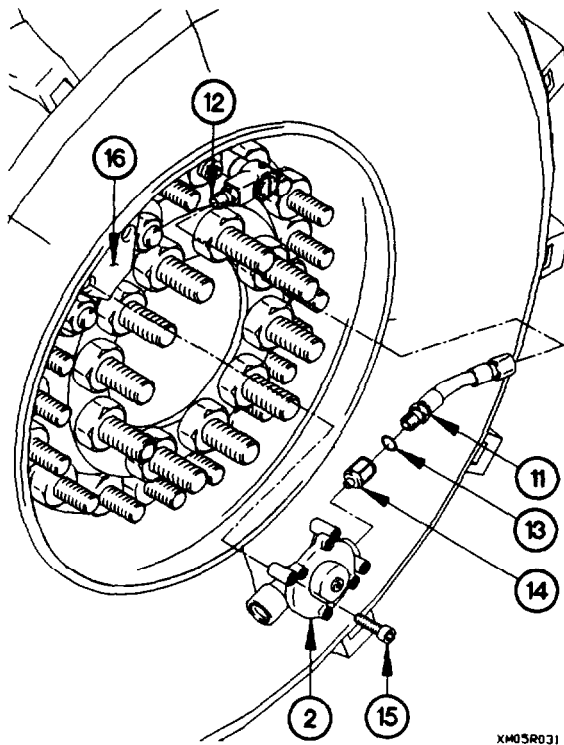
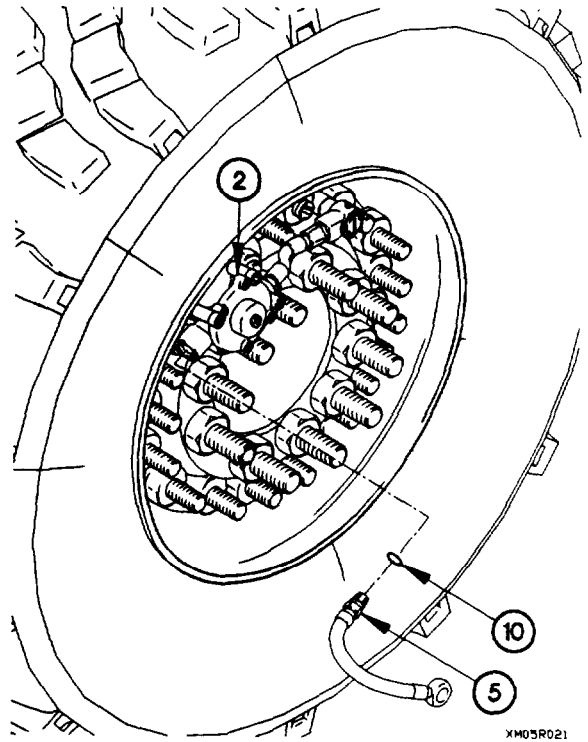
Perform step (4) if wheel was removed from spare tire retainer.

- (4) Remove nut (8), screw (9), and two seals (6) from CTIS hose (5). Discard seals.



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- (5) Remove CTIS hose (5) from CTIS manifold valve (2).
- (6) Remove preformed packing (10) from CTIS hose assembly (5). Discard preformed packing.



- (7) Disconnect CTIS hose (11) from adapter (12).
- (8) Remove CTIS hose (11) from CTIS manifold valve (2).
- (9) Remove preformed packing (13) from CTIS hose (11). Discard preformed packing.
- (10) Remove filter (14) from CTIS manifold valve (2). Discard filter.
- (11) Remove two screws (15) and CTIS manifold valve (2) from mounting bracket (16).

12-5. CENTRAL TIRE INFLATION SYSTEM (CTIS) HOSE ASSEMBLIES, MANIFOLD VALVE, KNEELING VALVE AND BRACKET REPLACEMENT (CONT)

NOTE

Perform step (12) on front wheels.

- (12) Remove adapter (12) from kneeling valve (17).

NOTE

Perform step (13) on rear wheels.

- (13) Remove adapter (12) from hose adapter (18).
- (14) Remove preformed packing (19) from adapter (12). Discard preformed packing.

NOTE

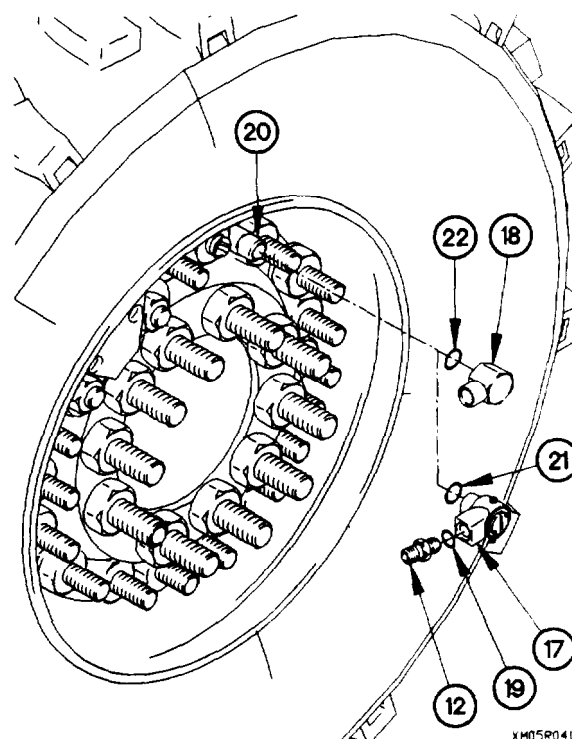
Perform steps (15) and (16) on front wheels.

- (15) Remove kneeling valve (17) from auxiliary valve (20).
- (16) Remove preformed packing (21) from kneeling valve (17). Discard preformed packing.

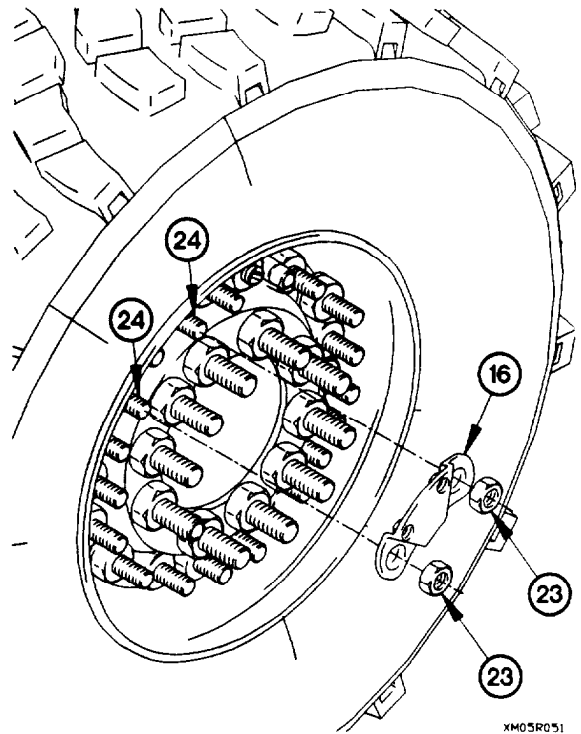
NOTE

Perform steps (17) and (18) on rear wheels.

- (17) Remove hose adapter (18) from auxiliary valve (20).
- (18) Remove preformed packing (22) from hose adapter (18). Discard preformed packing.

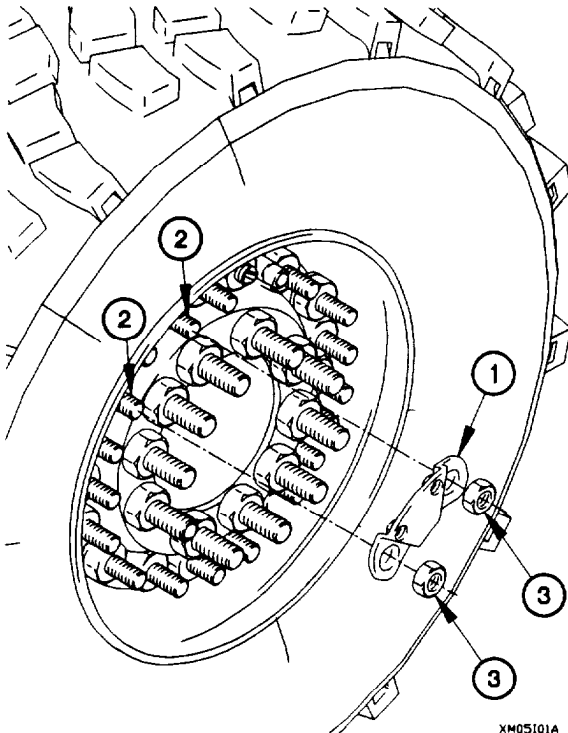


- (19) Remove two nuts (23) from wheel studs (24).
- (20) Remove mounting bracket (16) from wheel studs (24).



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b. Installation.



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- (1) Position mounting bracket (1) on two wheel studs (2) with nuts (3).
- (2) Tighten two nuts (3) to 45-55 lb-ft (61-75 N•m).

12-5. CENTRAL TIRE INFLATION SYSTEM (CTIS) HOSE ASSEMBLIES, MANIFOLD VALVE, KNEELING VALVE AND BRACKET REPLACEMENT (CONT)

NOTE

Perform steps (3) and (4) on front wheels.

(3) Install preformed packing (4) on kneeling valve (5).

(4) Install kneeling valve (5) on auxiliary valve (6).

NOTE

Perform steps (5) and (6) on rear wheels.

(5) Install preformed packing (7) on hose adapter (8).

(6) Install hose adapter (8) on auxiliary valve (6).

(7) Install preformed packing (9) on adapter (10).

NOTE

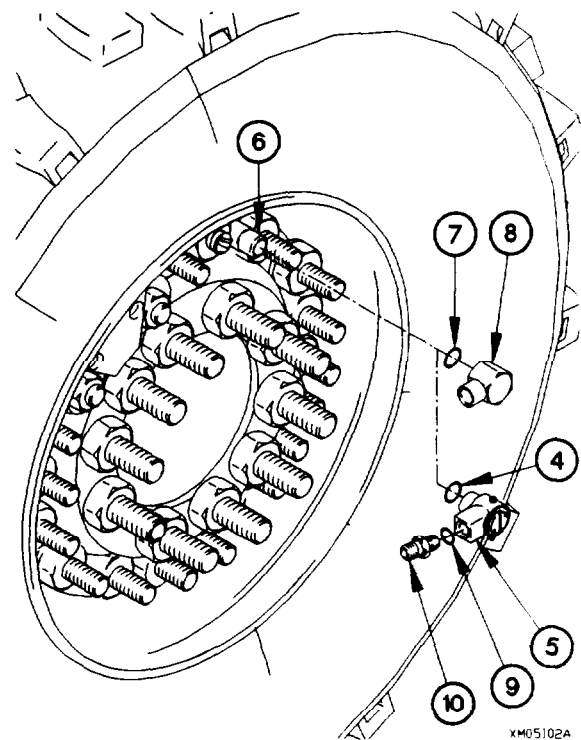
Perform step (8) on front wheels.

(8) Install adapter (10) on kneeling valve (5).

NOTE

Perform step (9) on rear wheels.

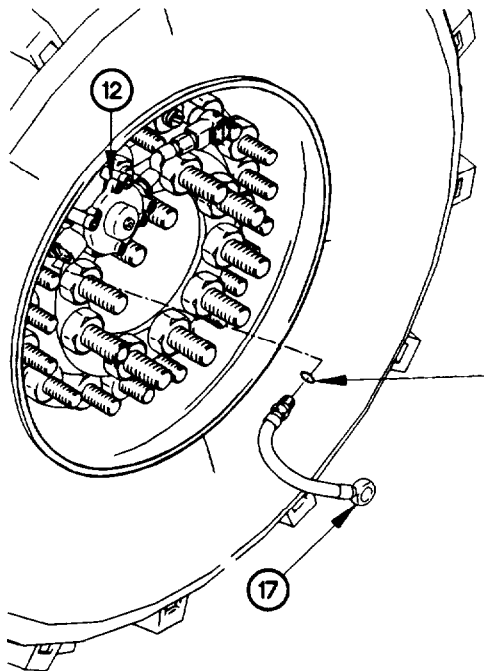
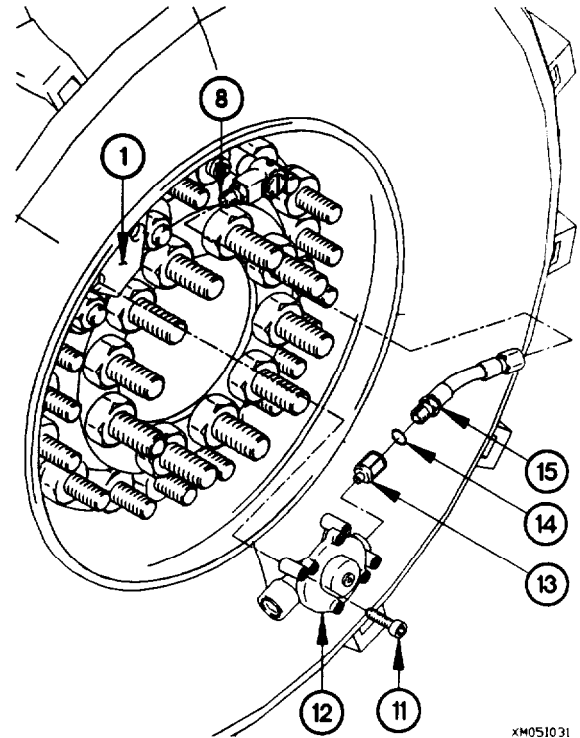
(9) Install adapter (10) on hose adapter (8).



WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvents, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (10) Apply sealing compound to threads of two screws (11).
- (11) Position CTIS manifold valve (12) on mounting bracket (1) with two screws (11).
- (12) Tighten two screws (11) to 15-17 lb-ft (20-23 N•m).
- (13) Install filter (13) in CTIS manifold valve (12).
- (14) Install preformed packing (14) on CTIS hose (15).
- (15) Install CTIS hose assembly (15) on CTIS manifold valve (12).
- (16) Install CTIS hose (15) on adapter (8).



- (17) Install preformed packing (16) on CTIS hose (17).
- (18) Install CTIS hose (17) on CTIS manifold valve (12).

12-5. CENTRAL TIRE INFLATION SYSTEM (CTIS) HOSE ASSEMBLIES, MANIFOLD

NOTE

Perform steps (19) and (20) if wheel is mounted on vehicle.

- (19) Position CTIS hose (17) on hollow wheel stud (18) with two seals (19) and banjo bolt (20).

NOTE

Place a screwdriver behind CTIS hose assembly while tightening banjo bolt to keep CTIS hose assembly from contacting wheel studs.

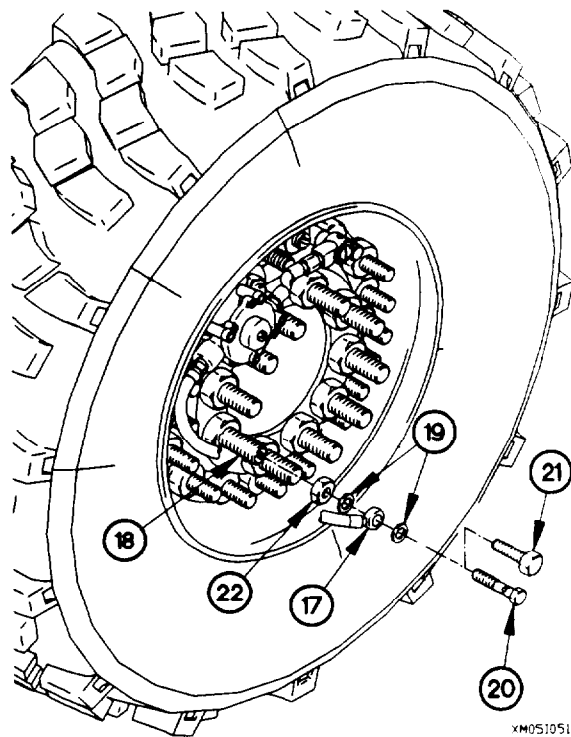
- (20) Tighten banjo bolt (20) to 22-28 lb-ft (30-38 N•m).

NOTE

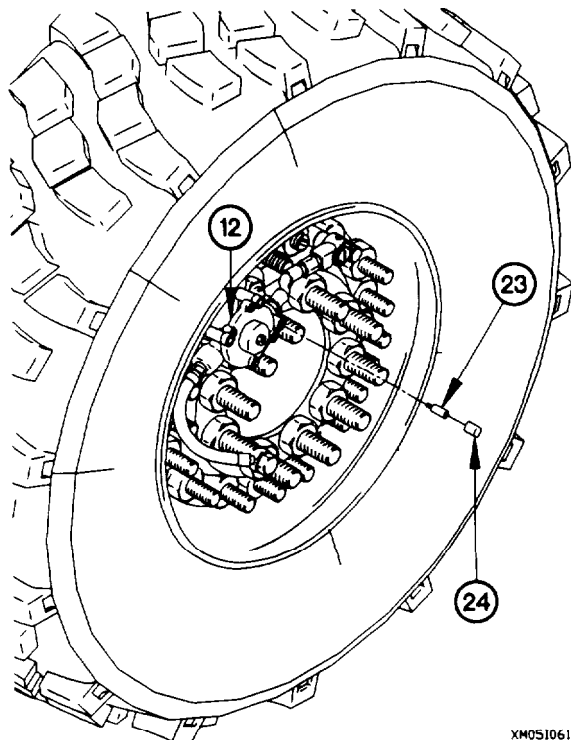
Perform steps (21) and (22) if wheel will be installed in spare tire retainer.

- (21) Position two seals (19), screw (21), and nut (22) on CTIS hose (17).

- (22) Tighten nut (22) to 22-28 lb-ft (30-38 N•m).



XM051051



XM051061

- (23) Install valve core (23) in CTIS manifold valve (12).

- (24) Install valve cap (24) on CTIS manifold valve (12).

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1) and allow time for CTIS to inflate tire.
- (2) Shut down engine (TM 9-2320-366-10-1).
- (3) Check for air leaks around CTIS hoses, CTIS manifold valve assembly, and kneeling valve or hose adapter.

End of Task.

12-6. CENTRAL TIRE INFLATION SYSTEM (CTIS) ECU REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)

a. Removal.

- (1) Disconnect connector P110 (1) from CTIS ECU (2).
- (2) Remove screw (3), washer (4), and terminal lug TL50 (5) from CTIS ECU (2).
- (3) Remove two screws (6), washers (7), and CTIS ECU (2) from personnel heater (8).

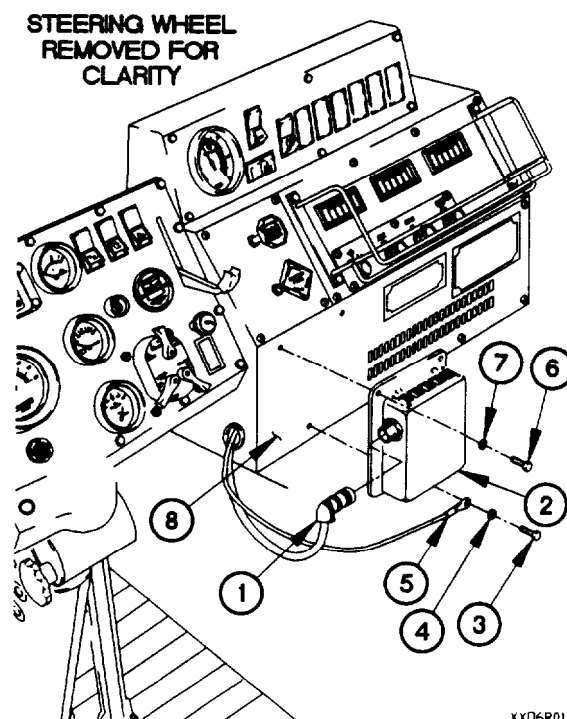
b. Installation.

- (1) Install CTIS ECU (2) on personnel heater (8) with terminal lug TL50 (5), washer (4), and screw (3).
- (2) Install two washers (7) and screws (6) in CTIS ECU
- (3) Connect connector P110 (1) to CTIS ECU (2).

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Operate CTIS and check for proper operation (TM 9-2320-366-10-1).
- (3) Shut down engine (TM 9-2320-366-10-1).

End of Task.



12-7. MANIFOLD VALVE ASSEMBLY REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).
- Kick panel removed (para 16-3).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Socket Set, Socket Wrench (Item 34, Appendix C)

Materials/Parts

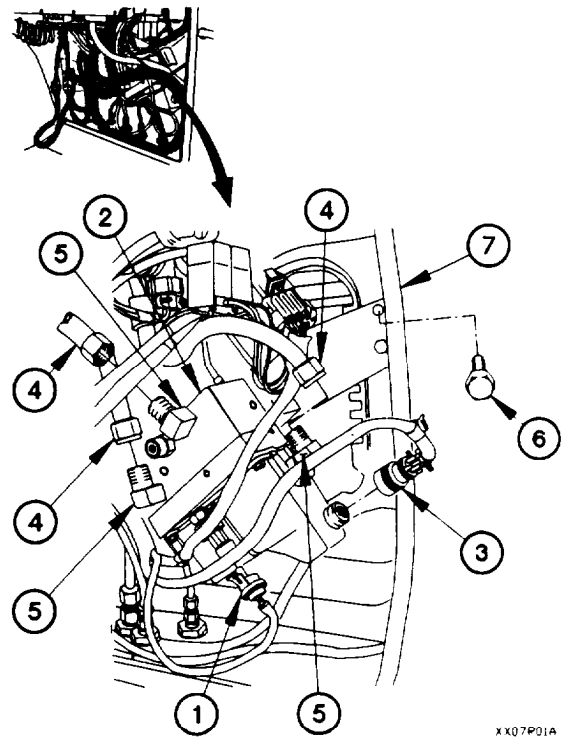
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Antiseize Compound (Item 13, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)

a. Removal.

NOTE

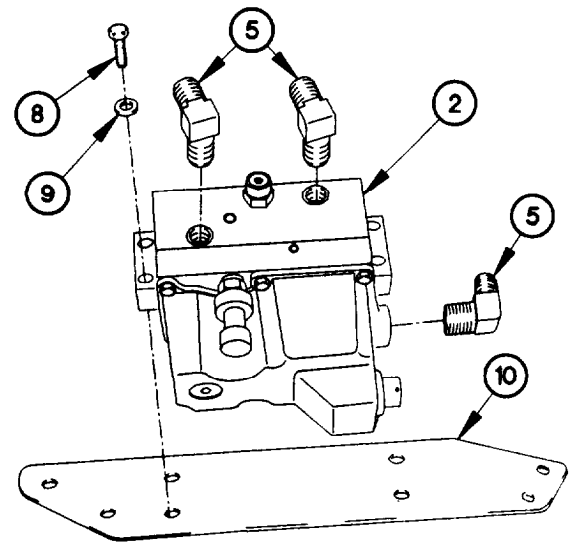
Tag air hoses and connection points prior to disconnecting.

- (1) Disconnect connector P113 (1) from manifold valve assembly (2).
- (2) Disconnect connector P112 (3) from manifold valve assembly (2).
- (3) Disconnect three air hoses (4) from 90-degree fittings (5).
- (4) Remove four screws (6) and manifold valve assembly (2) from cab (7).



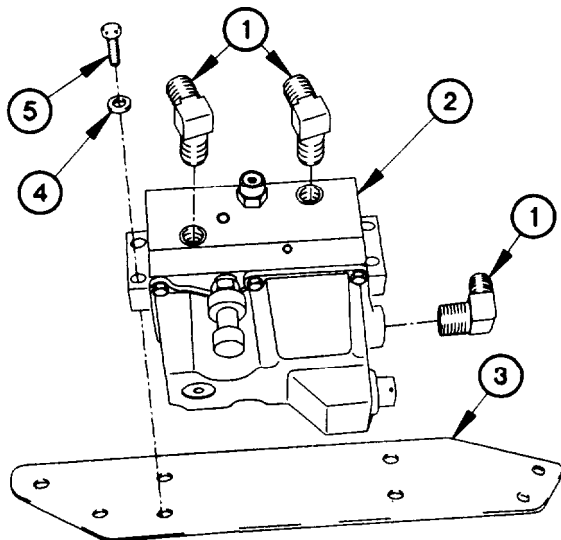
XX07P01A

- (5) Remove three 90-degree fittings (5) from manifold valve assembly (2).
- (6) Remove four screws (8), washers (9), and bracket (10) from manifold valve assembly (2).



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b. Installation.



XX07101-

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound to threads of three 90-degree fittings (1).

CAUTION

Do not overtighten fittings. Failure to comply may result in damage to equipment.

- (2) Install three 90-degree fittings (1) in manifold valve assembly (2).
- (3) Install bracket (3) on manifold valve assembly (2) with four washers (4) and screws (5).

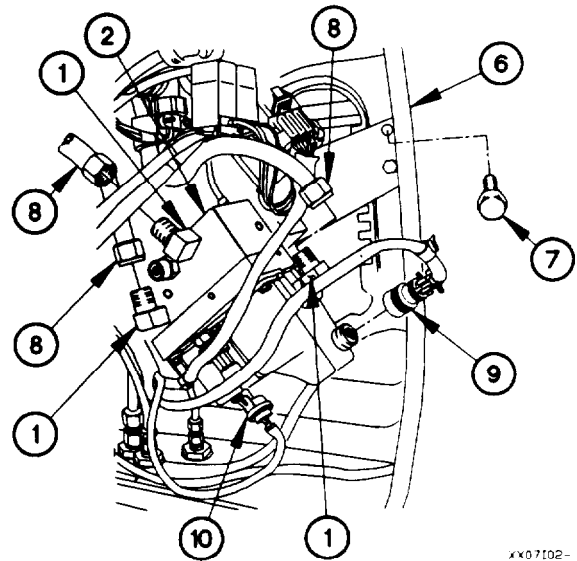
12-7. MANIFOLD VALVE ASSEMBLY REPLACEMENT (CONT)

- (4) Position manifold valve assembly (2) on cab (6) with four screws (7).
- (5) Tighten four screws (7) to 120 lb-in. (14 N•m).

NOTE

Install plastic cable ties as required.

- (6) Install three air hoses (8) on 90-degree fittings (1).
- (7) Connect connector P112 (9) to manifold valve assembly (2).
- (8) Connect connector P113 (10) to manifold valve assembly (2).



xx07t02-

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Check operation of CTIS (TM 9-2320-366-10-1).
- (3) Check air hoses and fittings for air leaks.
- (4) Shut down engine (TM 9-2320-366-10-1).
- (5) Install kick panel (para 16-3).

End of Task.

12-8. FRONT AXLE CENTRAL TIRE INFLATION SYSTEM (CTIS) QUICK RELEASE VALVE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1),
Air tanks drained (TM 9-2320-366-10-1)

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
Antiseize Compound (Item 13, Appendix D)
Nut, Self-Locking (2) (Item 167, Appendix G)

WARNING

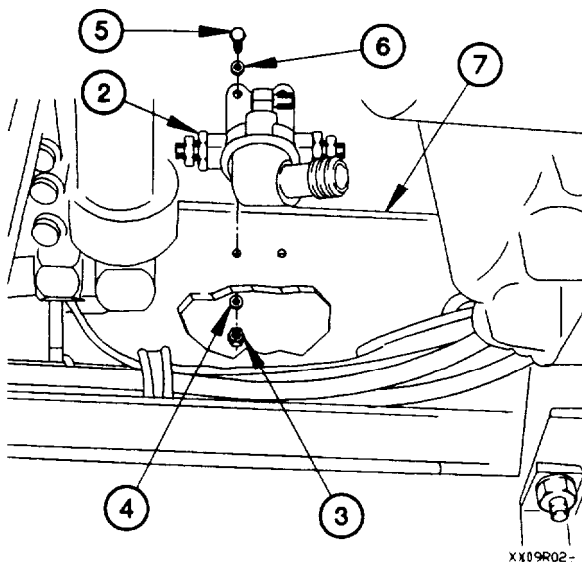
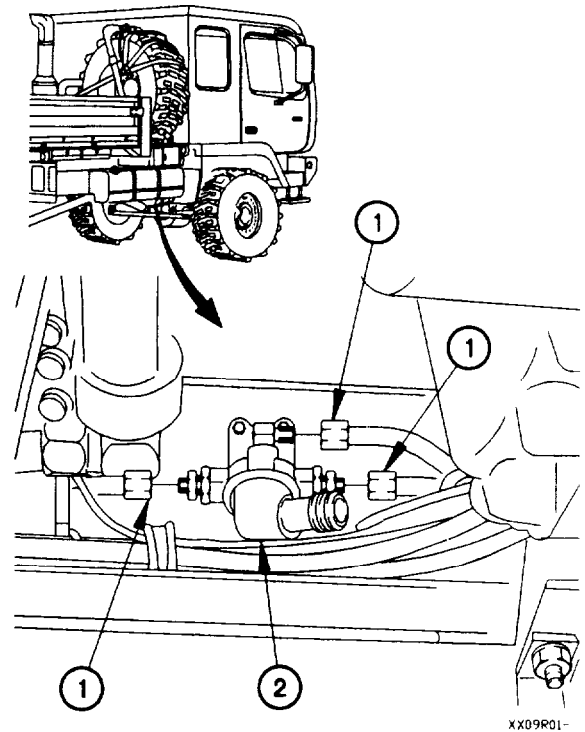
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

Tag air hoses and connection points before disconnecting.

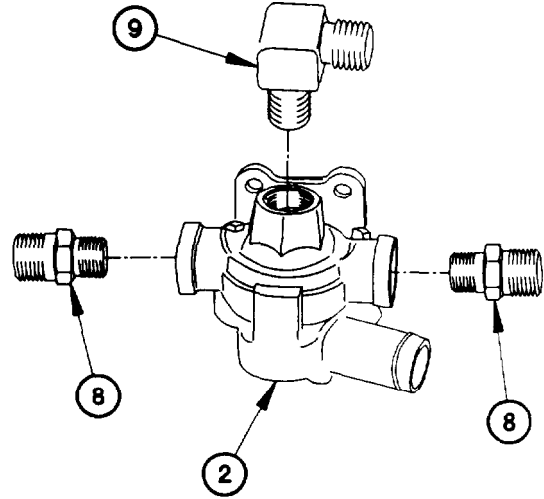
- (1) Disconnect three air hoses (1) from quick release valve



- (2) Remove two self-locking nuts (3) and washers (4) from screws (5). Discard self-locking nuts.
- (3) Remove two screws (5), washers (6), and quick release valve (2) from frame (7).

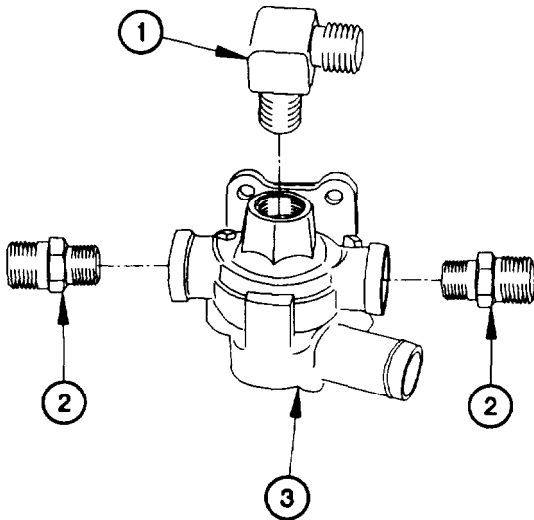
12-8. FRONT AXLE CENTRAL TIRE INFLATION SYSTEM (CTIS) QUICK RELEASE VALVE REPLACEMENT (CONT)

- (4) Remove two fittings (8) from quick release valve (2).
- (5) Remove 90-degree fitting (9) from quick release valve (2).



xx09P03-

b. Installation.



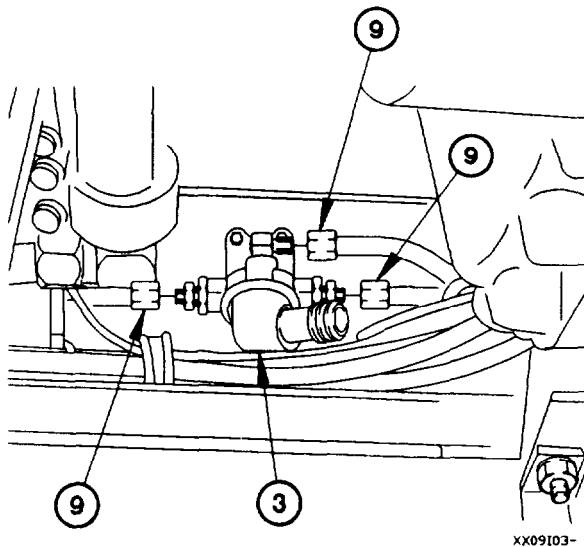
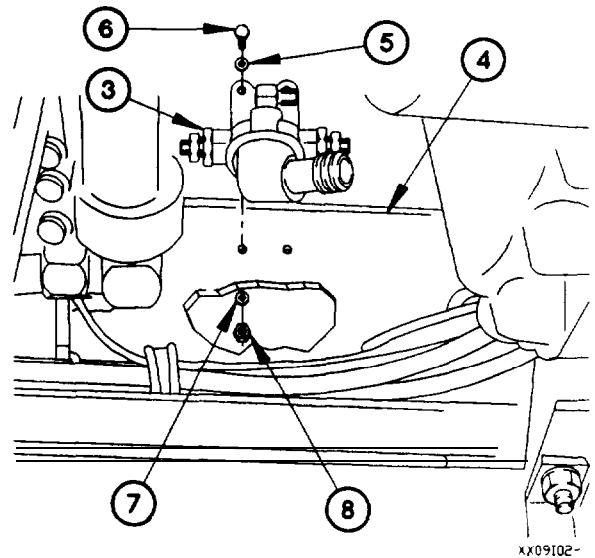
xx09I01-

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply antiseize compound on threads of 90-degree fitting (1) and two fittings (2).
- (2) Install 90-degree fitting (1) in quick release valve (3).
- (3) Install two fittings (2) in quick release valve (3).

- (4) Position quick release valve (3) on frame (4) with two washers (5) and screws (6).
- (5) Install two washers (7) and self-locking nuts (8) on screws (6).



- (6) Connect three air hoses (9) to quick release valve (3).

c. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-386-10-1) and allow enough time for air pressure to reach normal operating pressure.
- (2) Check quick release valve for air leaks.
- (3) Shut down engine (TM 9-2320-366-10-1).

End of Task.

12-9. INTERMEDIATE AND REAR AXLE CENTRAL TIRE INFLATION SYSTEM (CTIS) QUICK RELEASE VALVE AND BRACKET REPLACEMENT

This task covers:

- | | |
|---------------------------------------|---------------------------------|
| <p>a. Removal
b. Installation</p> | <p>c. Follow-On Maintenance</p> |
|---------------------------------------|---------------------------------|

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Materials/Parts

- Antiseize Compound (Item 13, Appendix D)

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)

WARNING

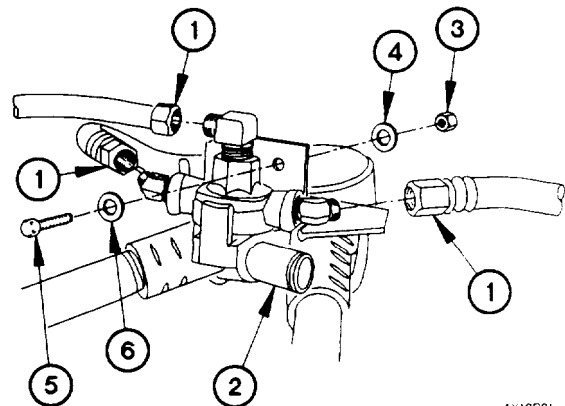
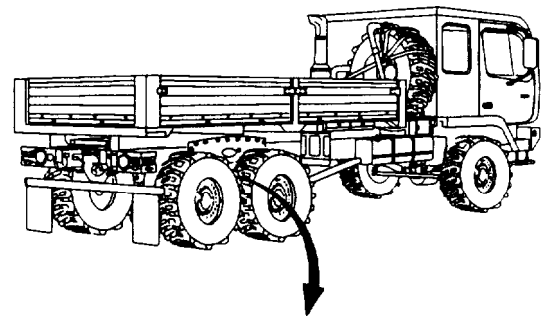
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

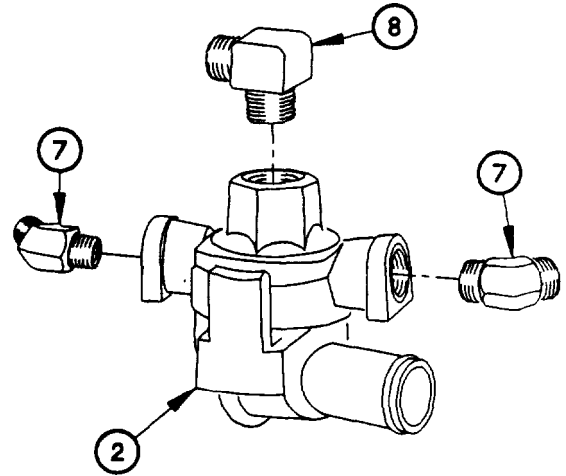
- Intermediate and rear axle quick release valves are removed the same way. Intermediate axle quick release valve shown.
- Tag air hoses and connection points before disconnecting.

- (1) Disconnect three air hoses (1) from quick release valve (2).
- (2) Remove two nuts (3), washers (4), screws (5), washers (6), and quick release valve (2) from vehicle.



4x10P01-

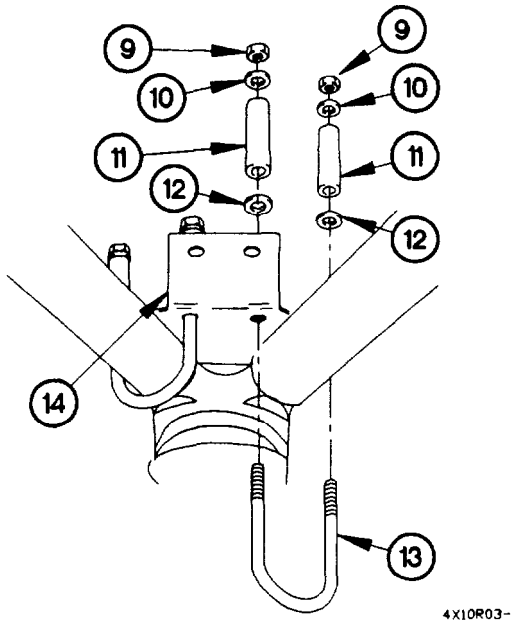
- (3) Remove two 45-degree fittings (7) and 90-degree fitting (8) from quick release valve (2).



4X10P02-

- (4) Remove four nuts (9), washers (10), spacers (11), washers (12), and two U-bolts (13) from vehicle.

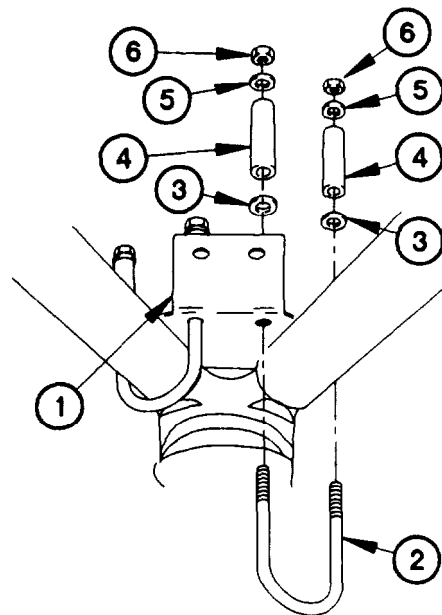
- (5) Remove bracket (14) from vehicle.



4X10R03-

b. Installation.

- (1) Install bracket (1) on vehicle with two U-bolts (2), four washers (3), spacers (4), washers (5), and nuts (8).



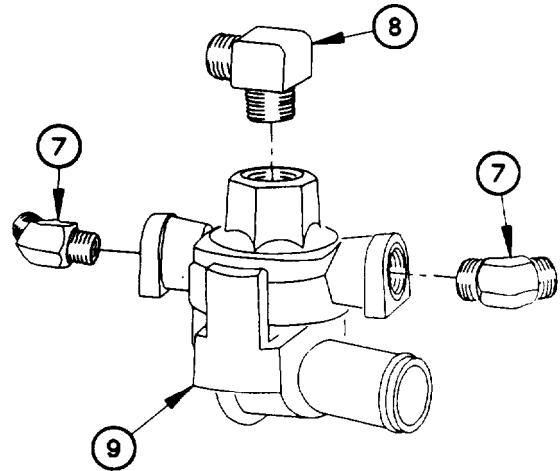
4X10I01-

**12-9. INTERMEDIATE AND REAR AXLE CENTRAL TIRE INFLATION SYSTEM (CTIS)
QUICK RELEASE VALVE AND BRACKET REPLACEMENT (CONT)**

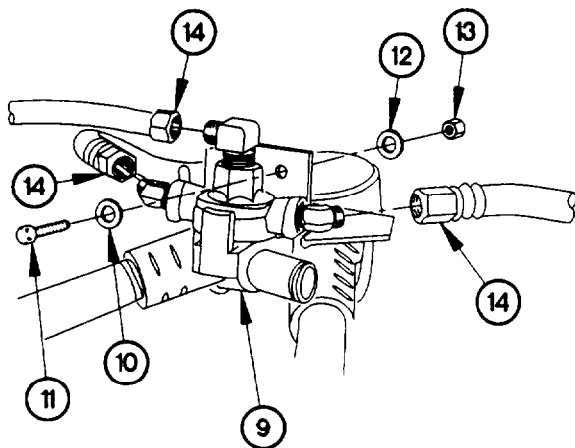
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (2) Apply antiseize compound to threads of two 45-degree fittings (7) and 90-degree fitting (8).
- (3) Install two 45-degree fittings (7) and 90-degree fitting (8) in quick release valve (9).



4x10102



4x10103-

- (4) Install quick release valve (9) on vehicle with two washers (10), screws (11), washers (12), and nuts (13).
- (5) Connect three air hoses (14) to quick release valve (9).

c. Follow-On Maintenance.

- (1) Start engine and allow enough time for air pressure to reach normal operating pressure (TM 9-2320-366-10-1).
- (2) Check quick release valve for air leaks.
- (3) Shut down engine (TM 9-2320-366-10-1).

End of Task.

CHAPTER 13 STEERING SYSTEM MAINTENANCE

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13-1. INTRODUCTION	13-1
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Section I. INTRODUCTION

13-1. INTRODUCTION

This chapter contains maintenance instructions for replacing and adjusting steering system components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.



Section II. MAINTENANCE PROCEDURES

13-2. STEERING WHEEL REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools (Cont)

Puller Kit, Mechanical (Item 27, Appendix C)

Tools and Special Tools

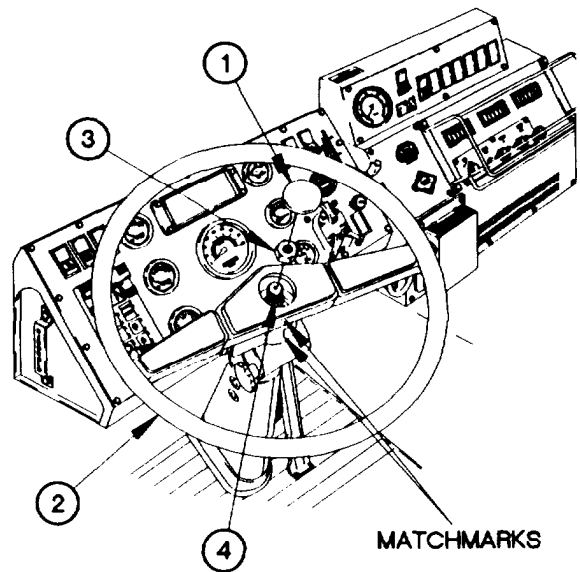
Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

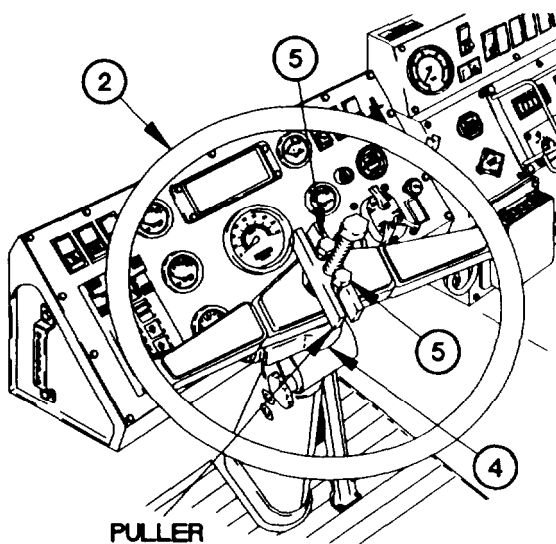
Screw, Cap, Socket Head (2) (Item 54, Appendix D)

a. Removal.

- (1) Remove steering wheel nut cover (1) from steering wheel (2).
- (2) Remove nut (3) from steering column (4).
- (3) Match mark steering wheel (2) to steering column (4).



XN02R01A



XN02R02A

- (4) Install two screws (5) and puller on steering wheel (2).
- (5) Remove steering wheel (2) from steering column (4).
- (6) Remove two screws (5) and puller from steering wheel (2).

b. Installation.**CAUTION**

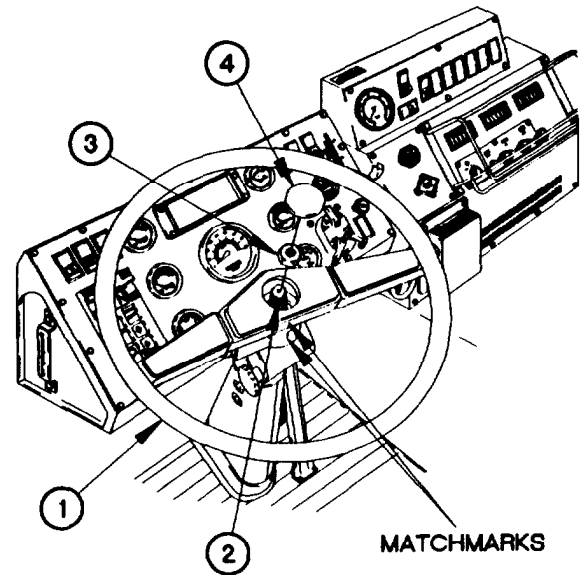
Ensure turn signal lever is in the center position prior to installing steering wheel. Failure to comply may result in damage to equipment.

NOTE

If new steering wheel is to be installed, transfer matchmark to new steering wheel.

- (1) Install steering wheel (1) on steering column (2) with matchmarks aligned.
- (2) Position nut (3) on steering column (2).
- (3) Tighten nut (3) to 30-37 lb-ft (41-50 N•m).
- (4) Install steering wheel nut cover (4).

End of Task.



XN02101A

13-3. DRAG LINK REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Cab raised (TM 9-2320-366-10-1).
- Steering wheel turned fully left (TM 9-2320-366-10-1).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-600 lb-ft (Item 60, Appendix C)

Tools and Special Tools (Cont)

- Separator, Ball Joint (Item 44, Appendix B)
- Wrench Set, Socket (Item 50, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

- Pin, Cotter (2) (Item 228, Appendix G)

Personnel Required

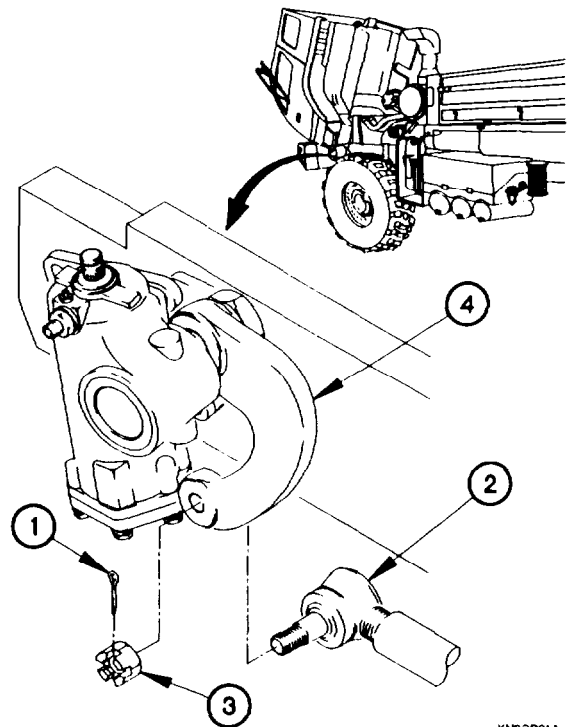
- (2)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

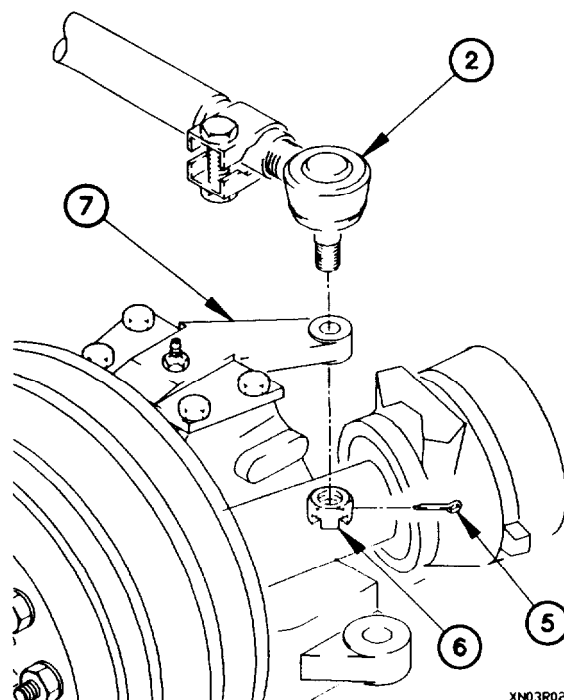
a. Removal.

- (1) Remove cotter pin (1) from drag link (2). Discard cotter pin.
- (2) Remove slotted nut (3) from drag link (2).
- (3) Remove drag link (2) from pitman arm (4).

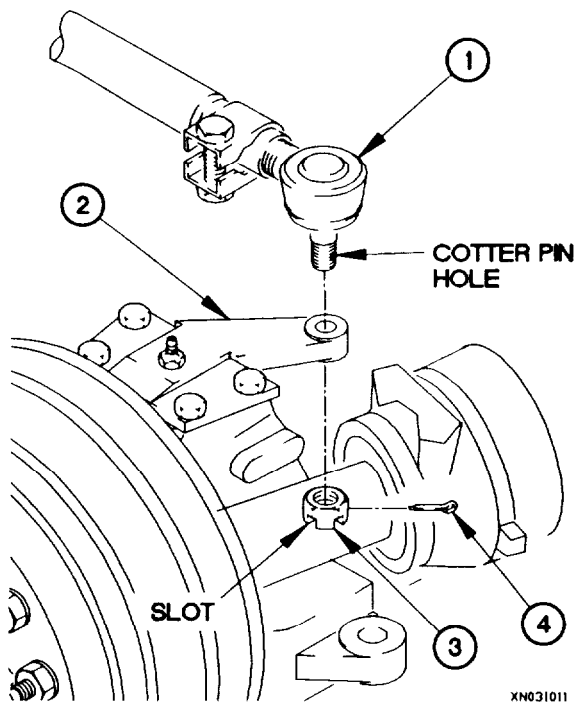


XN03R01A

- (4) Remove cotter pin (5) from drag link (2). Discard cotter pin.
- (5) Remove slotted nut (6) from drag link (2).
- (6) Remove drag link (2) from steering knuckle arm (7).



b. Installation.



CAUTION

Drag link must be installed with adjustable threaded rod end toward rear of vehicle. Failure to comply may result in damage to equipment.

- (1) Install drag link (1) in steering knuckle arm (2).
- (2) Position slotted nut (3) on drag link (1).
- (3) Tighten slotted nut (3) to 138-178 lb-ft (187-241 N•m).

NOTE

If slots in slotted nut do not line up with cotter pin hole in drag link, tighten slotted nut until slots and cotter pin hole are aligned.

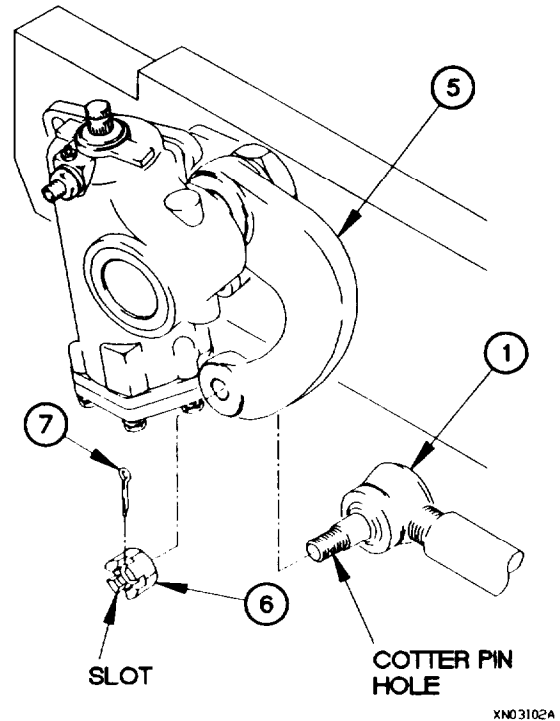
- (4) Install cotter pin (4) in drag link (1).

13-3. DRAG LINK REPLACEMENT (CONT)

- (5) Install drag link (1) in pitman arm (5).
- (6) Position slotted nut (6) on drag link (1).
- (7) Lower cab (TM 9-2320-366-10-1).
- (8) Start engine (TM 9-2320-366-10-1).
- (9) Turn steering wheel until wheels are straight (TM 9 2320-366-10-1).
- (10) Shut down engine (TM 9-2320-366-10-1).
- (11) Raise cab (TM 9-2320-366-10-1).
- (12) Tighten slotted nut (6) to 138-178 lb-ft (187-241 N•m).

NOTE

If slots in slotted nut do not line up with cotter pin hole in drag link, tighten slotted nut until slots and cotter pin hole are aligned.



- (13) Install cotter pin (7) in drag link (1).

c. Follow-On Maintenance.

- (1) Lower cab (TM 9-2320-366-10-1).
- (2) Start engine (TM 9-2320-366-10-1).
- (3) Check steering system for smooth operation.
- (4) Shut down engine (TM 9-2320-366-10-1).

End of Task.

13-4. TIE-ROD REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Cab raised (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-600 lb-ft (Item 90,
Appendix C)

Tools and Special Tools (Cont)

Socket, Socket Wrench (Item 38, Appendix C)
Wrench Set, Socket (Item 50, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

Pin, Cotter (2) (Item 223, Appendix G)

WARNING

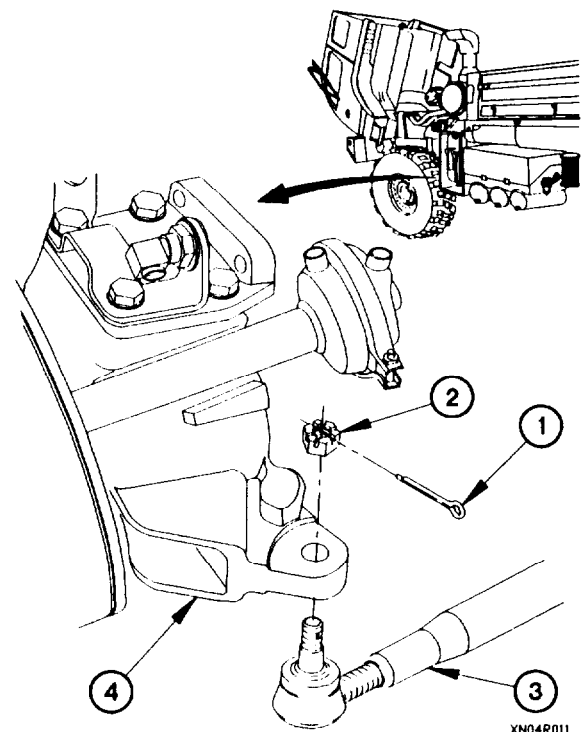
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

Left and right tie rod ends are removed the same way. Left side shown.

- (1) Remove cotter pin (1) and slotted nut (2) from each end of tie rod (3). Discard cotter pins.
- (2) Remove tie rod (3) from two steering knuckle arms (4).



XN04R011

13-4. TIE-ROD REPLACEMENT (CONT)

b. Installation.

NOTE

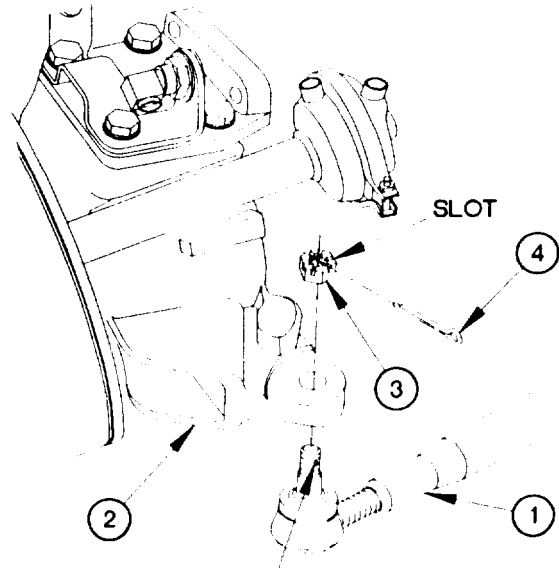
Left and right tie rod ends are installed the same way. Left side shown.

- (1) Install tie rod (1) in two steering knuckle arms (2).
- (2) Install slotted nut (3) on each end of tie rod (1).
- (3) Tighten two slotted nuts (3) to 140-180 lb-ft (190-244 N•m).

NOTE

If slots in slotted nuts do not line up with cotter pin holes in tie rod ends, tighten slotted nut until slots and cotter pin holes are aligned.

- (4) Install cotter pin (4) in each end of tie rod (1).



c. Follow-On Maintenance.

- (1) Lower cab (TM 9-2320-366-10-1).
- (2) Perform front wheel toe-in alignment (para 13-5).

End of Task.

13-5. FRONT WHEEL TOE-IN ALIGNMENT/ADJUSTMENT (CONT)

NOTE

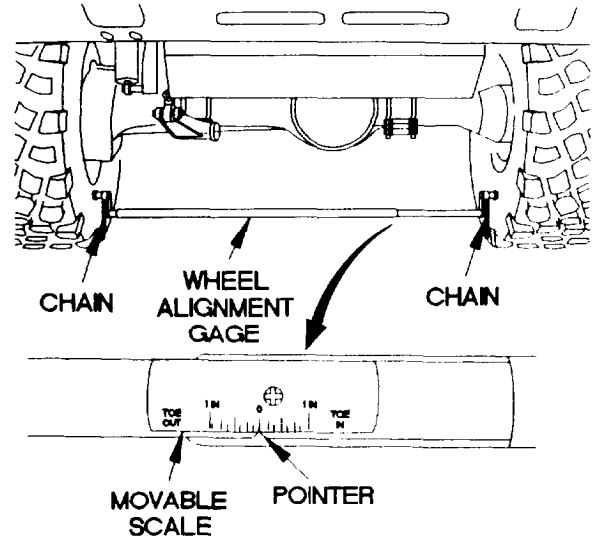
Chains may not be equal distance from flat surface. High end of gage may require adjustment to level out chains.

- (4) Adjust wheel alignment gage until both chains are touching flat surface.

NOTE

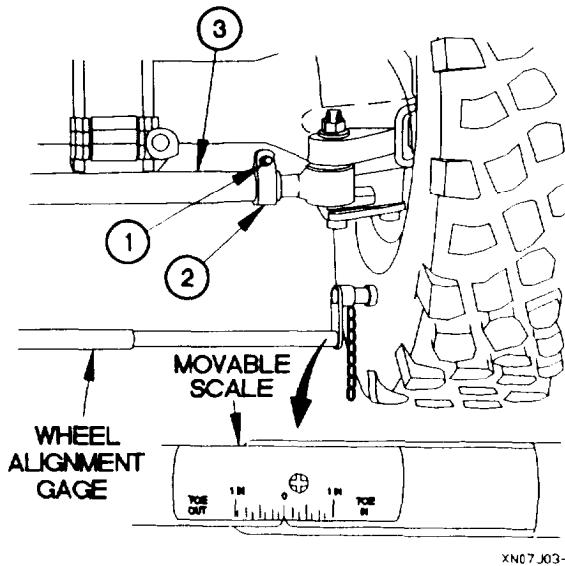
If toe-in is out of alignment perform Toe-In Adjustment.

- (5) Wheel alignment gage pointer should read 0 to 1/8 in.



XN07 J02-

b. Toe-In Adjustment.



XN07 J03-

- (1) Loosen nuts (1) on tie rod clamps (2).

NOTE

Proper toe-in is 0 to 1/8 in.

- (2) Observe movable scale and rotate tie rod (3) to obtain proper toe-in measurement.
- (3) Tighten nuts (1) on tie rod clamps (2).
- (4) Remove wheel alignment gage from front tires.

End of Task.

13-6. STEERING COLUMN REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Turn signal switch removed (para 7-26).
- Cab raised (TM 9-2320-366-10-1).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Tools and Special Tools (Cont)

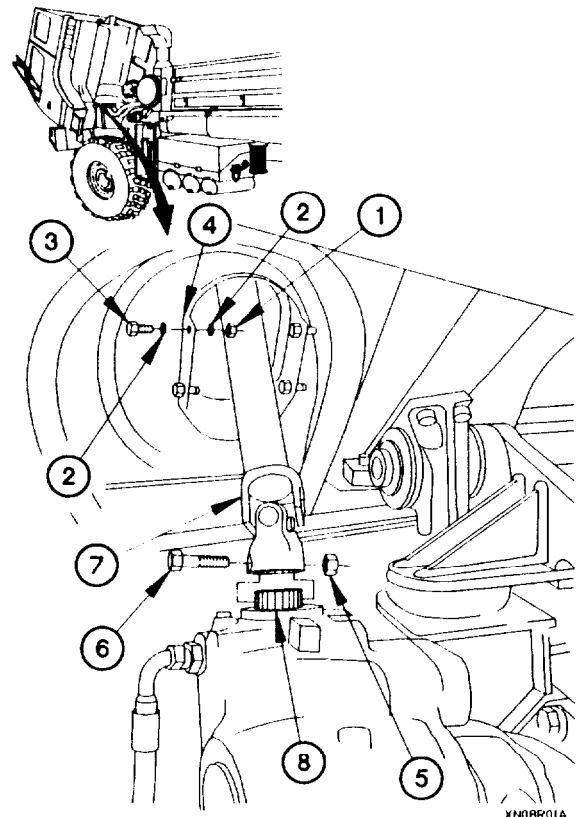
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Wrench Set, Socket (Item 49, Appendix C)
- Gloves, Rubber (Item 13, Appendix C)

Materials/Parts

- Adhesive (Item 10, Appendix D)
- Washer, Spring (2) (Item 292, Appendix G)
- Locknut (Item 68, Appendix G)
- Nut, Self-Locking (4) (Item 128, Appendix G)

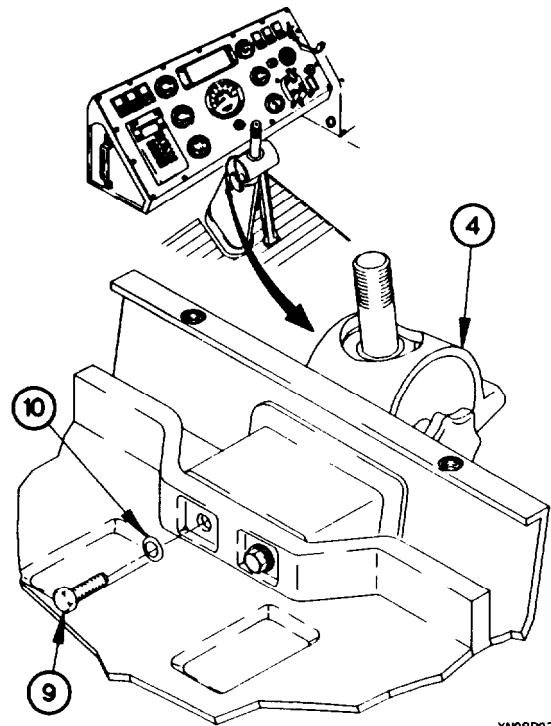
a. Removal.

- (1) Remove four self-locking nuts (1), eight washers (2), and four screws (3) from steering column assembly (4). Discard self-locking nuts.
- (2) Remove locknut (5) and bolt (6) from steering gear arm universal joint (7). Discard locknut.
- (3) Disconnect steering gear arm universal joint (7) from steering gear input shaft (8).
- (4) Lower cab (TM 9-2320-366-10-1).

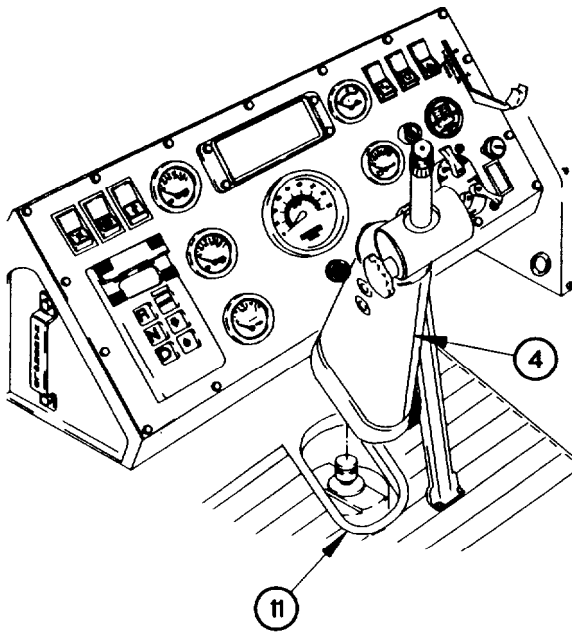


13-6. STEERING COLUMN REPLACEMENT (CONT)

- (5) Remove two screws (9) and spring washers (10) from steering column assembly (4). Discard spring washers.



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XN08R03A

- (6) Remove steering column assembly (4) from cab.

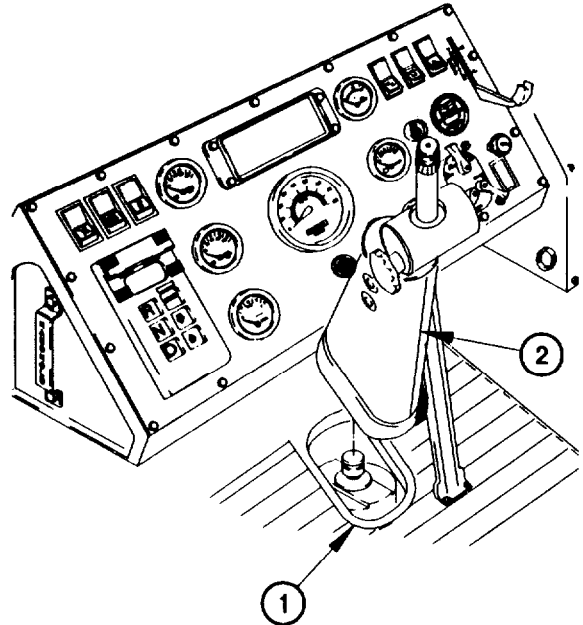
- (7) Remove adhesive around opening in cab floor (11).

b. Installation.

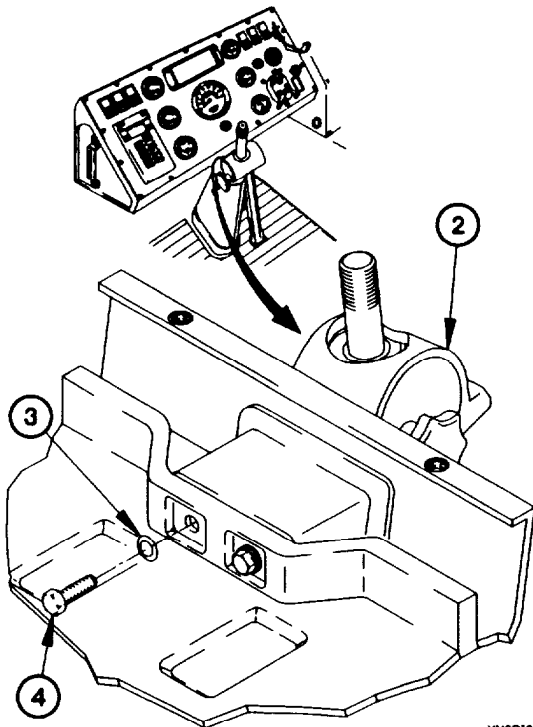
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (1) Apply a thick bead of adhesive around opening in cab floor (1).
- (2) Install steering column assembly (2) in cab.



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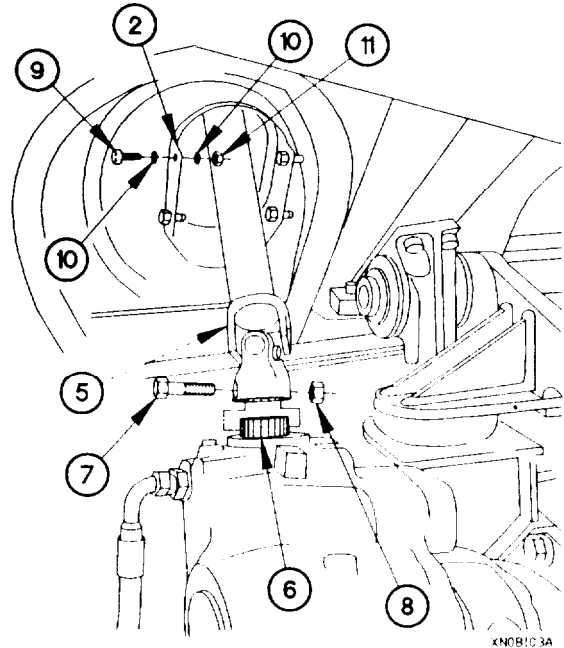


XN081021

- (3) Position two spring washers (3) and screws (4) in steering column assembly (2).
- (4) Tighten two screws (4) to 18-20 lb-ft (24-27 N•m).
- (5) Raise cab (TM 9-2320-366-10-1).

13-6. STEERING COLUMN REPLACEMENT (CONT)

- (6) Connect steering gear universal joint (5) to steering gear input shaft (6).
- (7) Position bolt (7) and locknut (8) on steering gear arm universal joint (5).
- (8) Tighten locknut (8) to 32-39 lb-ft (43-53 N•m).
- (9) Position four screws (9), eight washers (10), and four self-locking nuts (11) in steering column assembly (2).
- (10) Tighten four self-locking nuts (11) to 71-88 lb-in. (8-10 N•m).
- (11) Lower cab (TM 9-2320-366-10-1).



c. Follow-On Maintenance.

- (1) Install turn signal arm assembly (para 7-26).
- (2) Start engine (TM 9-2320-366-10-1).
- (3) Operate vehicle and check for proper operation of steering and turn signal assemblies (TM 9-2320-366-10-1).
- (4) Shut down engine (TM 9-2320-366-10-1).

End of Task.

13-7. POWER STEERING HOSES AND TUBE REPLACEMENT

This task covers:

- | | |
|-------------------------------|---------------------------------------|
| a. Return Hose Removal | e. Suction Hose and Tube Removal |
| b. Return Hose Installation | f. Suction Hose and Tube Installation |
| c. Pressure Hose Removal | g. Follow-On Maintenance |
| d. Pressure Hose Installation | |

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Cab raised (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Goggles, Industrial (Item 15, Appendix C)
Pan, Drain (Item 24, Appendix C)
Dispensing Pump, Hand Driven (Item 5, Appendix C)

Tools and Special Tools (Cont)

Wrench, Torque, 0-75 lb-in. (Item 90, Appendix B)

Materials/Parts

Cap and Plug Set (Item 13, Appendix D)
Ties, Cable, Plastic (Item 69, Appendix D)
Oil, Lubricating, OE/HDO 10 (Item 42, Appendix D)
Nut, Self-Locking (2) (Item 150, Appendix G)
Clamp (Item 8, Appendix G)
Clamp (Item 9, Appendix G)

WARNING

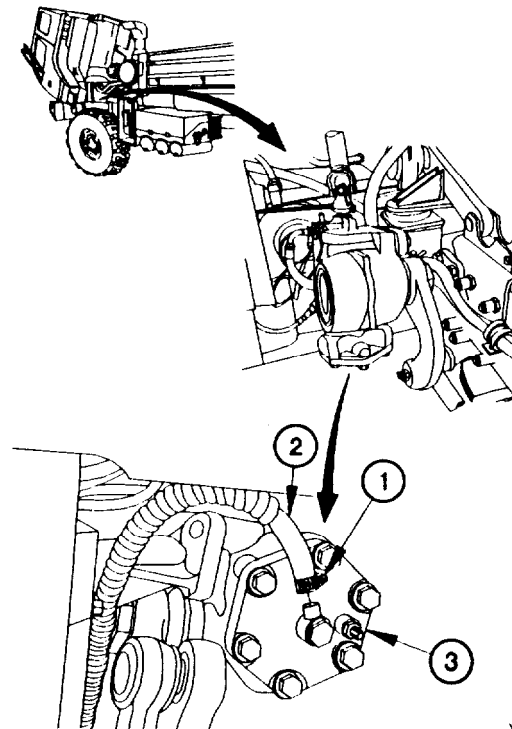
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Return Hose Removal.

CAUTION

Cap or plug hydraulic connections to prevent contamination of power steering system. Failure to comply may result in damage to equipment.

- (1) Loosen hose clamp (1) on return hose (2).
- (2) Disconnect return hose (2) from steering gear box (3).



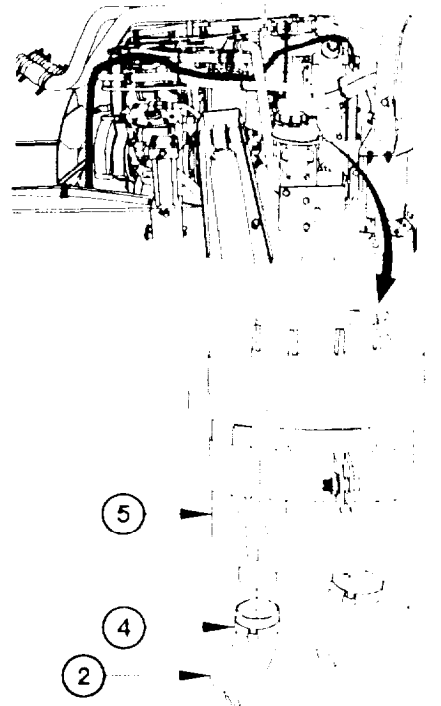
XN05A01A

13-7. POWER STEERING HOSES AND TUBE REPLACEMENT (CONT)

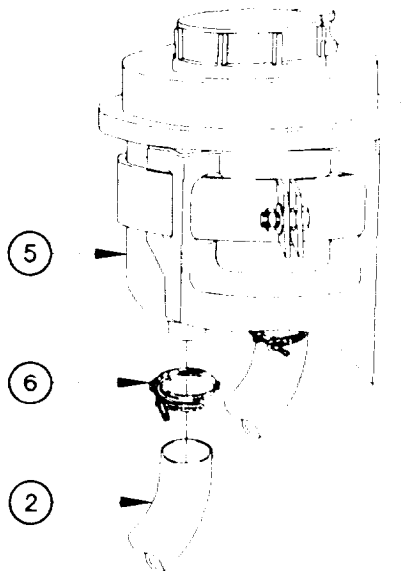
NOTE

Perform steps (3) through (5) on vehicles that have not previously had a power steering return hose or power steering reservoir replaced.

- (3) Pry hose clamp end (4) open.
- (4) Remove hose clamp (4) on return hose (2). Discard clamp.
- (5) Disconnect return hose (2) from power steering reservoir (5).



INST 483, A



INST 483, A

NOTE

Perform steps (6) through (8) on vehicles which have previously had a power steering return hose or power steering reservoir replaced.

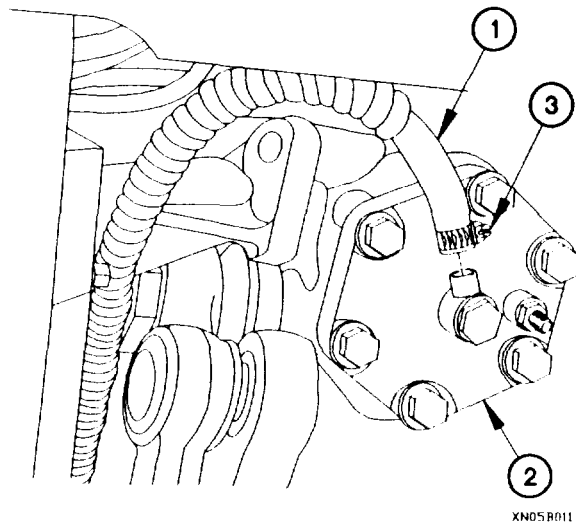
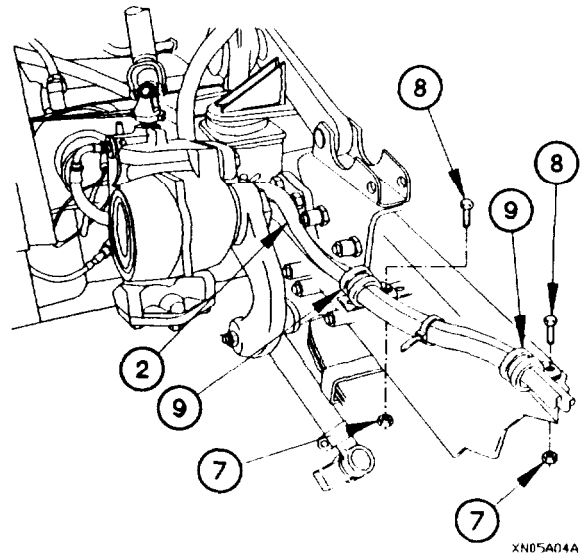
- (6) Loosen clamp (6) on return hose (2)
- (7) Disconnect return hose (2) from power steering reservoir (5).
- (8) Remove clamp (6) from return hose (2)

NOTE

Remove plastic cable ties as required.

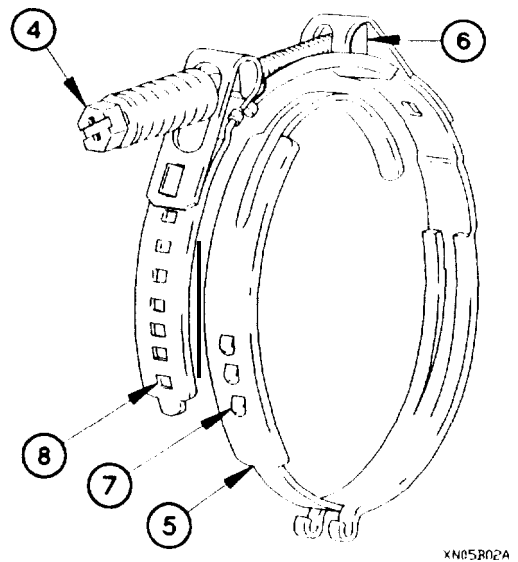
- (9) Remove two self-locking nuts (7), screws (8), and clamps (9) from return hose (2). Discard Self-locking nuts.
- (10) Remove return hose (2) from vehicle.

b. Return Hose Installation.



- (1) Install return hose (1) on steering gear box (2) with hose clamp (3).

- (2) Loosen screw (4) in clamp (5) as far as possible without disengaging screw from D-nut (6).
- (3) Unhook clamp tabs (7) from tab windows (8).

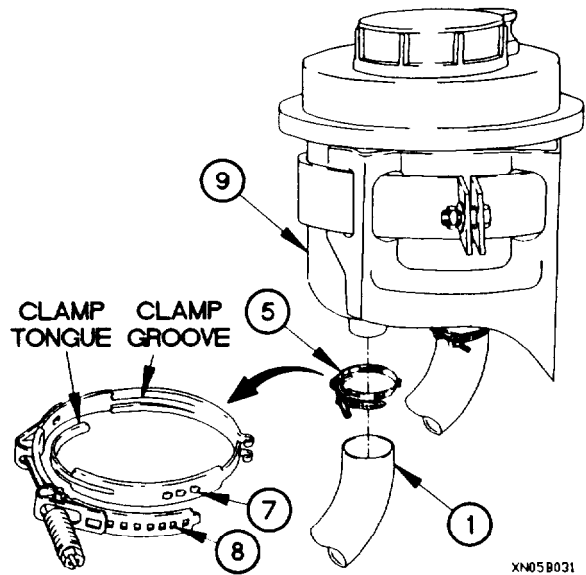


13-7. POWER STEERING HOSES AND TUBE REPLACEMENT (CONT)

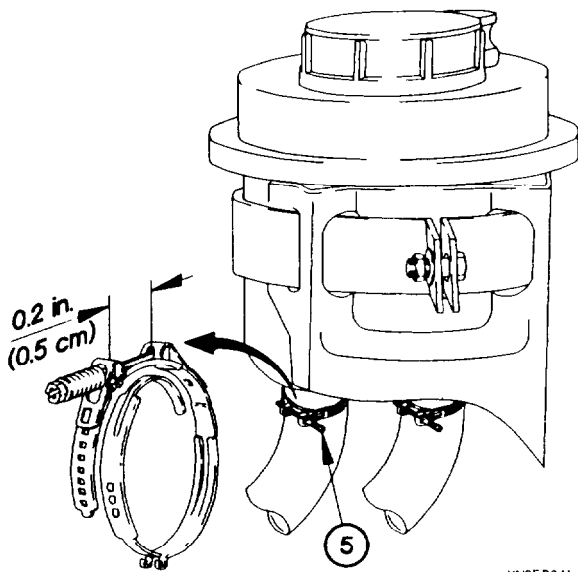
CAUTION

Clamp tongue must be started in clamp groove. Failure to comply may result in damage to equipment.

- (4) Position clamp (5) on return hose (1).
- (5) Install return hose (1) on power steering reservoir (9).
- (6) Engage as many clamp tabs (7) as possible in tab windows (8) allowing little or no play between clamp (5) and return hose (1).
- (7) Tighten clamp (5) to 12-18 lb-in. (1-2 N•m).



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XN05B041

NOTE

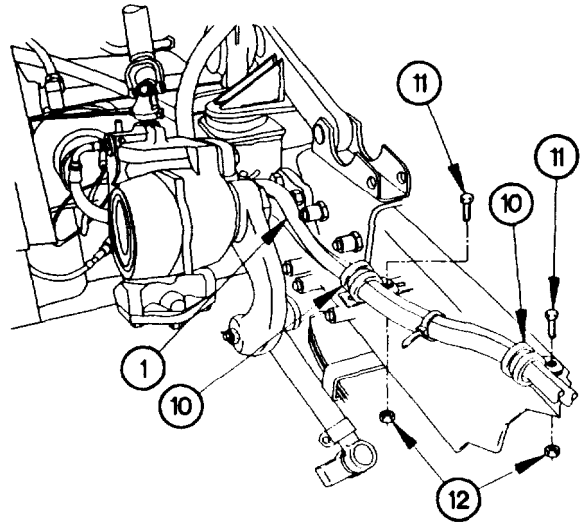
Minimum allowable gap on clamp is 0.2 in. (0.5 cm). If gap is less than 0.2 in. (0.5 cm), remove and re-install clamp.

- (8) Measure gap on clamp (5).

NOTE

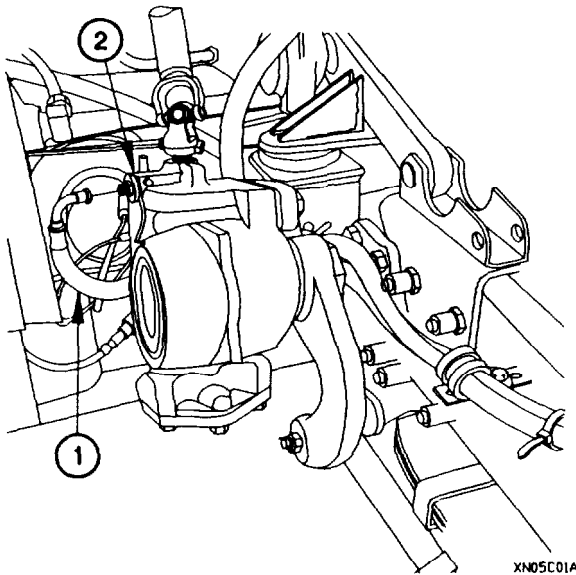
Install plastic cable ties as required.

- (9) Install two clamps (10), screws (11), and self-locking nuts (12) on return hose (1).



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c. Pressure Hose Removal.



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WARNING

Prolonged contact with lubricating oil (MIL-L-2104) may cause a skin rash. Skin and clothing that come in contact with lubricating oil should be thoroughly washed immediately. Saturated clothing should be removed immediately. Areas in which lubricating oil is used should be well ventilated to keep fumes to a minimum. Failure to comply may result in injury to personnel.

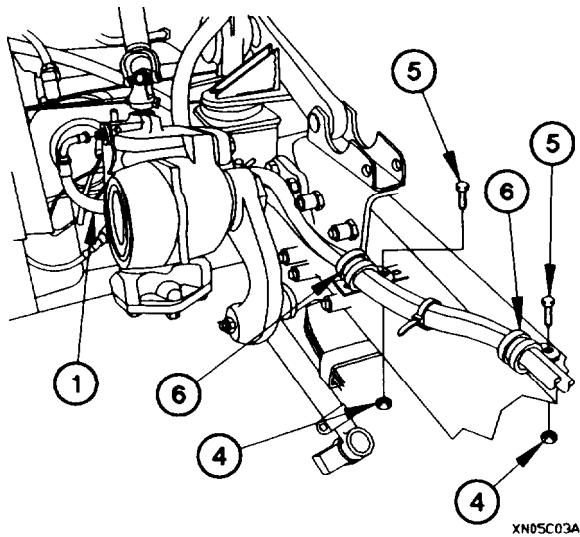
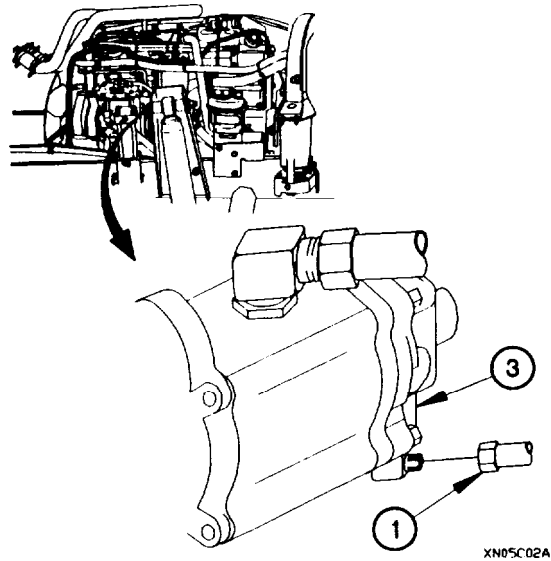
CAUTION

Cap or plug hydraulic connections to prevent contamination of power steering system. Failure to comply may result in damage to equipment.

- (1) Remove pressure hose (1) from steering gear box (2).

13-7. POWER STEERING HOSES AND TUBE REPLACEMENT (CONT)

(2) Remove pressure hose (1) from power steering pump (3).



NOTE

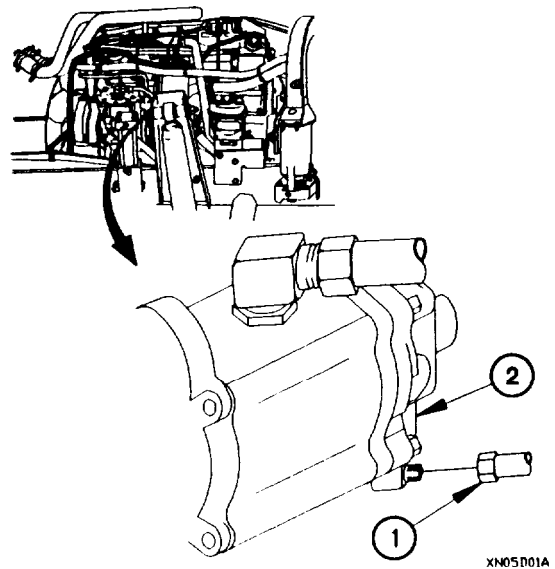
Remove plastic cable ties as required.

(3) Remove two self-locking nuts (4), screws (5), and clamps (6) from pressure hose (1).

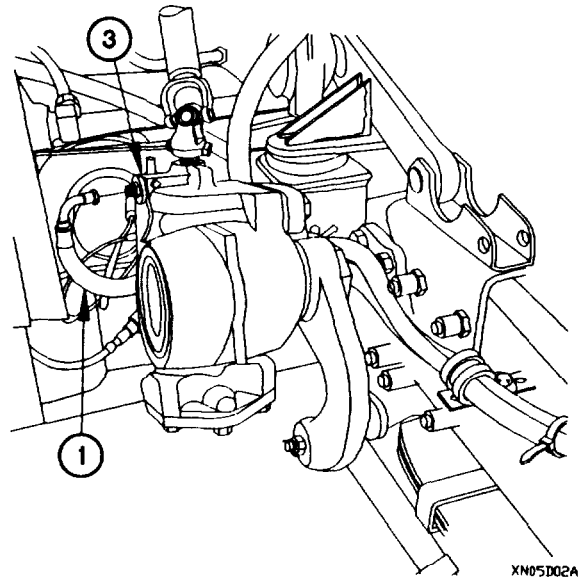
(4) Remove pressure hose (1) from vehicle.

d. Pressure Hose Installation.

(1) Install pressure hose (1) on power steering pump (2).



(2) Install pressure hose (1) on steering gear box (3).

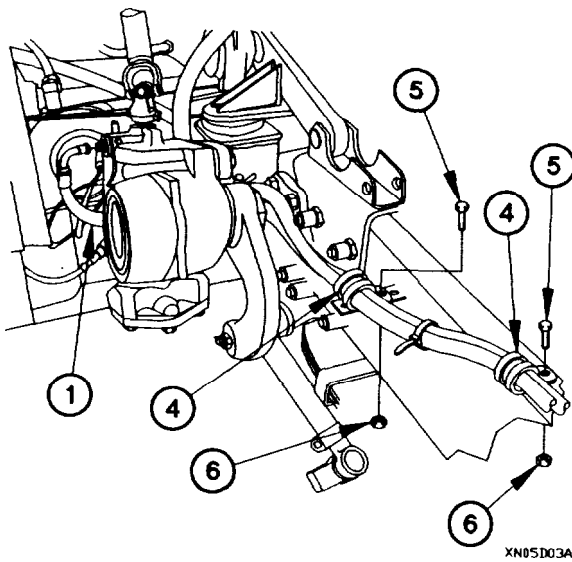


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NOTE

Install plastic cable ties as required.

(3) Install two clamps (4), screws (5), and self-locking nuts (6) on pressure hose (1).



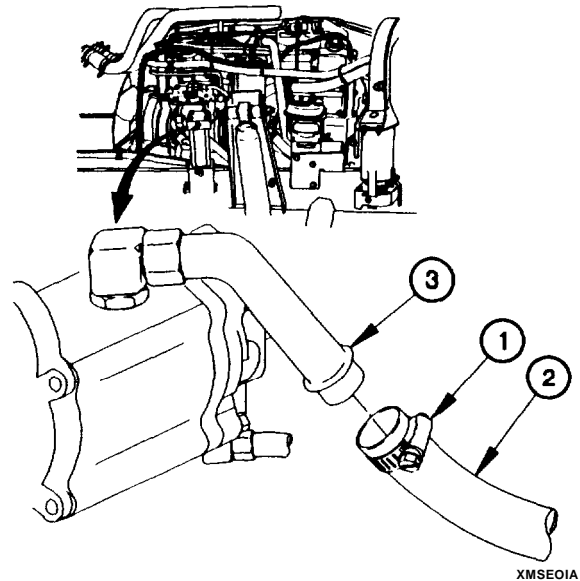
XN05D03A

e. Suction Hose and Tube Removal.

CAUTION

Cap or plug hydraulic connections to prevent contamination of power steering system. Failure to comply may result in damage to equipment.

- (1) Loosen hose clamp (1) on suction hose (2).
- (2) Remove suction hose (2) from suction tube (3).



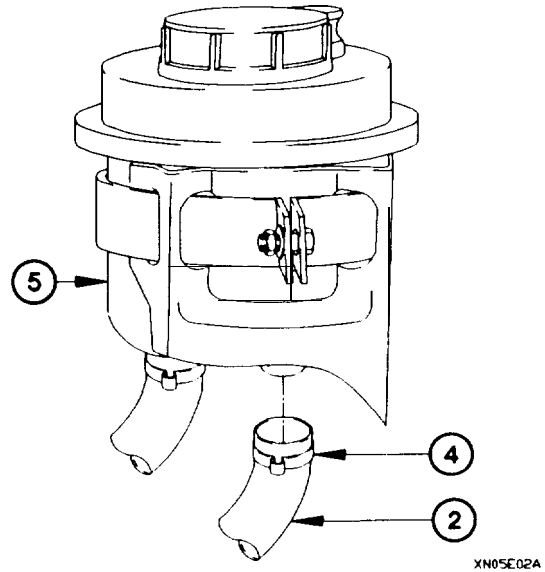
XMSE01A

13-7. POWER STEERING HOSES AND TUBE REPLACEMENT (CONT)

NOTE

Perform steps (3) through (5) on vehicles that have not previously had a power steering suction hose or power steering reservoir replaced.

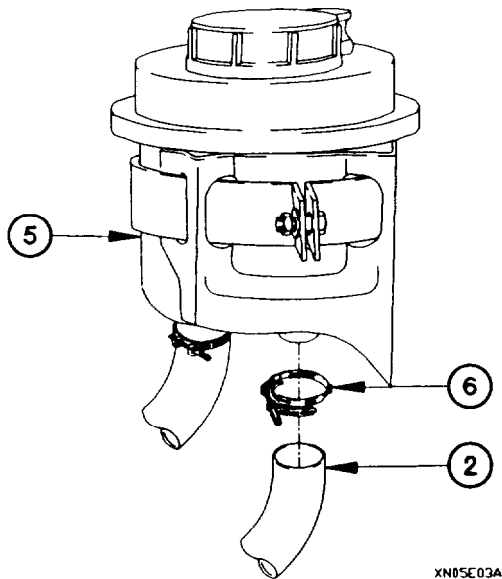
- (3) Pry hose clamp end (4) open.
- (4) Remove hose clamp (4) on suction hose (2). Discard clamp.
- (5) Remove suction hose (2) from power steering reservoir (5).



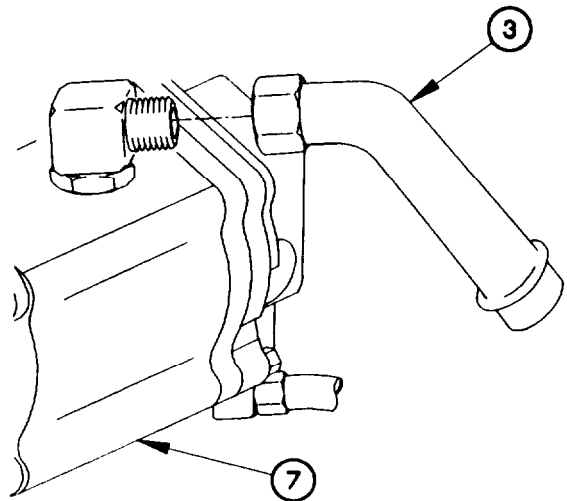
NOTE

Perform steps (6) through (8) on vehicles that have previously had a power steering suction hose or power steering reservoir replaced.

- (6) Loosen clamp (6) on suction hose (2).
- (7) Remove suction hose (2) from power steering reservoir (5).
- (8) Remove clamp (6) from suction hose (2).

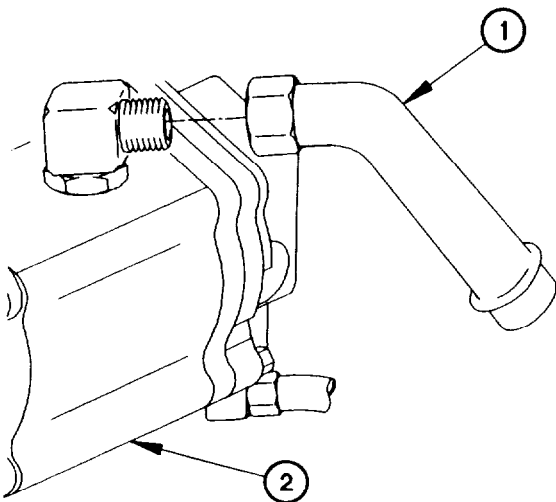


(9) Remove suction tube (3) from power steering pump



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f. Suction Hose and Tube Installation.

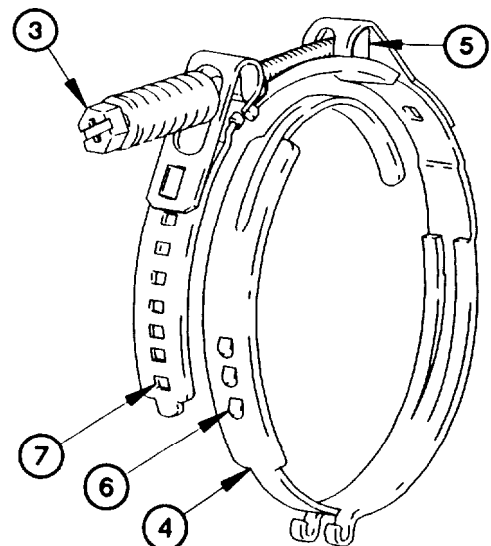


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(1) Install suction tube (1) on power steering pump (2).

(2) Loosen screw (3) in clamp (4) as far as possible without disengaging screw from D-nut (5).

(3) Unhook clamp tabs (6) from tab windows (7).



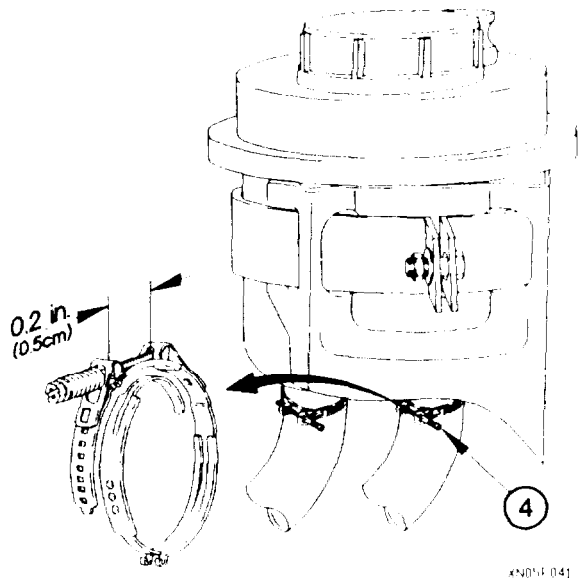
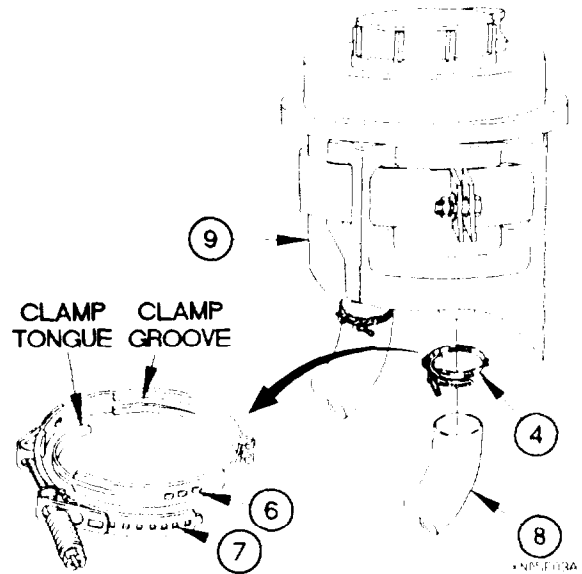
XN0Y02A

13-7. POWER STEERING HOSES AND TUBE REPLACEMENT (CONT)

CAUTION

Clamp tongue must be started in clamp groove. Failure to comply may result in damage to equipment.

- (4) Position clamp (4) on suction hose (8).
- (5) Install suction hose (8) on power steering reservoir (9).
- (6) Engage as many clamp tabs (6) as possible in tab windows (7) allowing little or no play between clamp (4) and suction hose (8).
- (7) Tighten clamp (4) to 12-18 lb-in. (1-2 N•m).



NOTE

Minimum allowable gap on clamp is 0.2 in. (0.5 cm). If gap is less than 0.2 in. (0.5 cm), remove and re-install clamp.

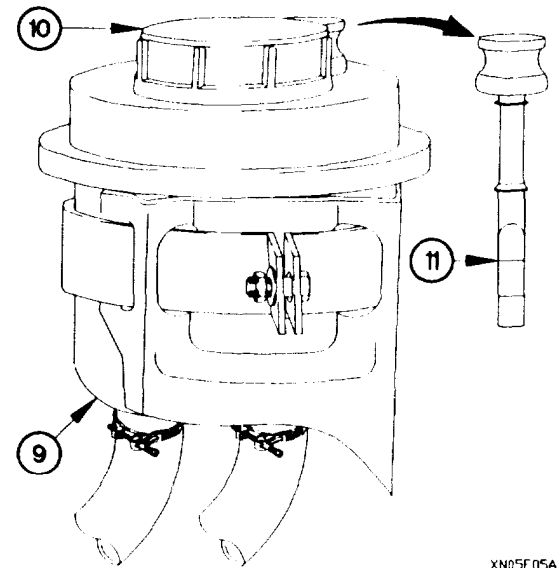
- (8) Measure gap on clamp (4).

- (9) Remove power steering reservoir cap (10) from power steering reservoir (9).
- (10) Fill power steering reservoir (9) to TOP mark on dip stick (11).
- (11) Install power steering reservoir cap (10) on power steering reservoir (9).

g. Follow-On Maintenance.

- (1) Lower cab (TM 9-2320-366-10-1).
- (2) Start engine (TM 9-2320-366-10-1).
- (3) Raise cab (TM 9-2320-366-10-1).
- (4) Check power steering reservoir, hoses, and tube for oil leaks.
- (5) Lower cab (TM 9-2320-366-10-1).
- (6) Shut down engine (TM 9-2320-366-10-1).
- (7) Raise cab (TM 9-2320-366-10-1).
- (8) Check fluid level in power steering reservoir (Appendix H).
- (9) Lower cab (TM 9-2320-366-10-1).

End of Task.



13-8. POWER STEERING PUMP RESERVOIR AND BRACKET REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Auxiliary starter solenoid removed (para 7-6).
 Power steering pump reservoir drained (Appendix H).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Dispensing Pump, Hand Driven (Item 5, Appendix C)
 Wrench, Torque, 0-75 lb-in. (Item 90, Appendix B)

Materials/Parts

Cap and Plug Set (Item 14, Appendix D)
 Oil, Lubricating, OE/HDO 10 (Item 42, Appendix D)
 Nut, Self-Locking (2) (Item 156, Appendix G)
 Clamp (Item 8, Appendix G)
 Clamp (Item 9, Appendix G)

a. Removal.

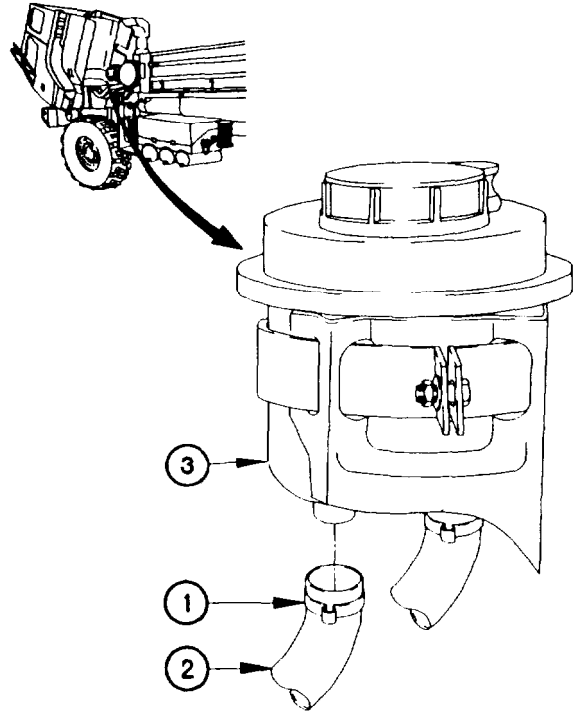
CAUTION

Cap or plug hydraulic connections to prevent contamination of power steering system. Failure to comply may result in damage to equipment.

NOTE

Perform steps (1) through (3) on vehicles that have not previously had a power steering pump reservoir or power steering return hose replaced.

- (1) Pry hose clamp end (1) open.
- (2) Remove return hose (2) from power steering pump reservoir (3).
- (3) Remove hose clamp (1) from return hose (2). Discard hose clamp.

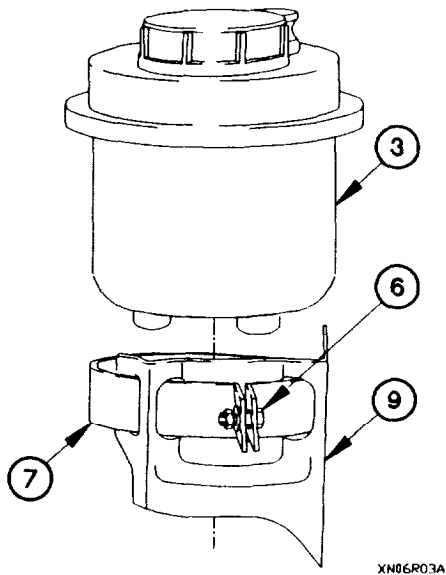
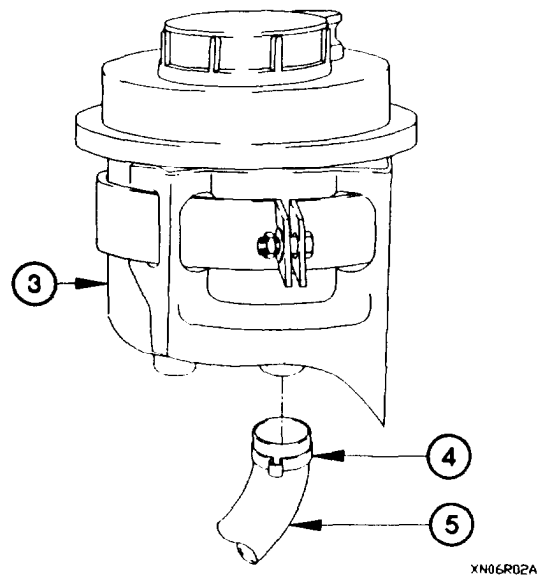


XN06R01A

NOTE

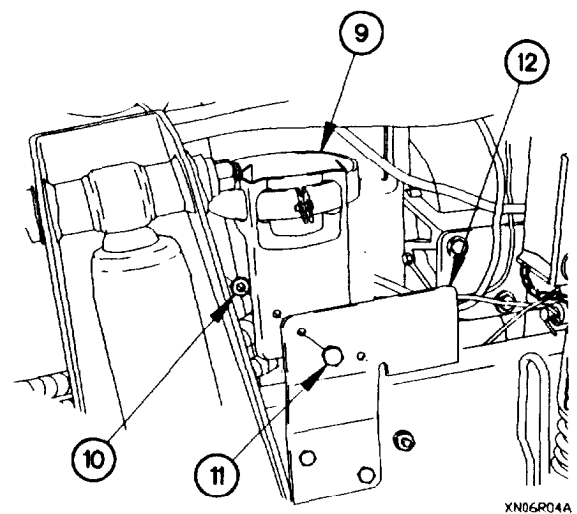
Perform steps (4) through (6) on vehicles that have not previously had a power steering pump reservoir or power steering suction hose replaced.

- (4) Pry hose clamp end (4) open.
- (5) Remove return hose (5) from power steering pump reservoir (3).
- (6) Remove hose clamp (4) from suction hose (5). Discard hose clamp.



- (7) Loosen screw (6) on clamp (7).
- (8) Remove power steering pump reservoir (3) from bracket (9).

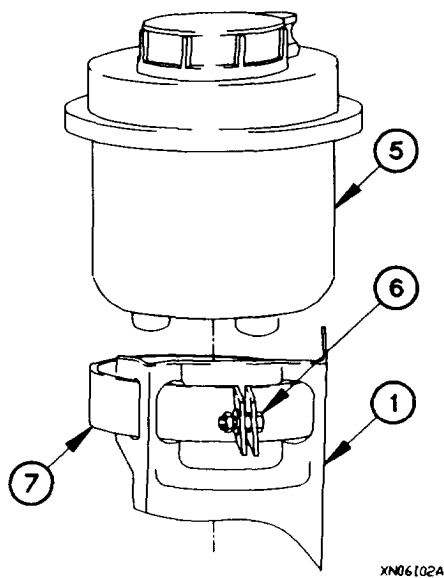
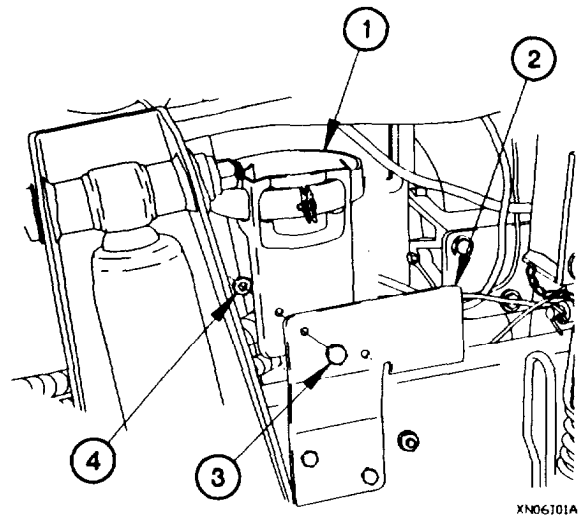
- (9) Remove two self-locking nuts (10), screws (11), and bracket (9) from frame bracket (12). Discard self-locking nuts.



13-8. POWER STEERING PUMP RESERVOIR AND BRACKET REPLACEMENT (CONT)

b. Installation.

- (1) Install bracket (1) on frame bracket (2) with two screws (3) and nuts (4).

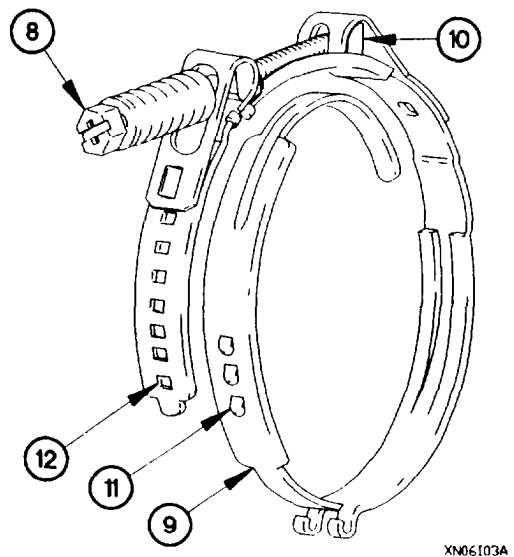


- (2) Position power steering pump reservoir (5) in bracket (1).

- (3) Tighten screw (6) on clamp (7).

- (4) Loosen screw (8) in clamp (9) as far as possible without disengaging screw from D-nut (10).

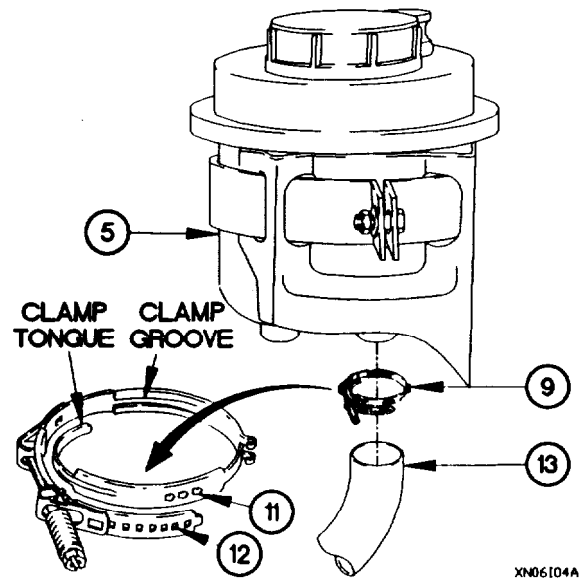
- (5) Unhook clamp tabs (11) from tab windows (12).



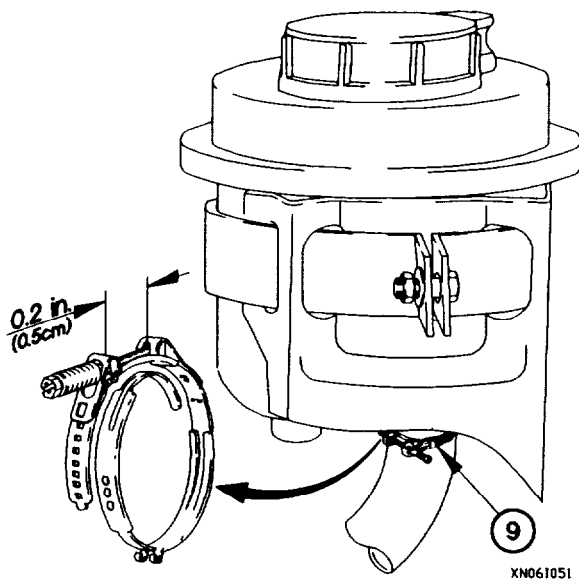
CAUTION

Clamp tongue must be started in clamp groove. Failure to comply may result in damage to equipment.

- (6) Position clamp (9) on suction hose (13).
- (7) Install suction hose (13) on power steering pump reservoir (5).
- (8) Engage as many clamp tabs (11) as possible in tab windows (12) allowing little or no play between clamp (9) and suction hose (13).
- (9) Tighten clamp (9) to 12-18 lb-in. (1-2 N•m).



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XN061051

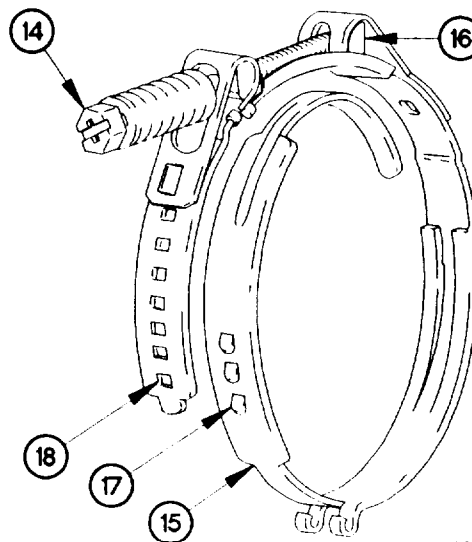
NOTE

Minimum allowable gap on clamp is 0.2 in. (0.5 cm). If gap is less than 0.2 in. (0.5 cm), remove and re-install clamp.

- (10) Measure gap on clamp (9).

13-8. POWER STEERING PUMP RESERVOIR AND BRACKET REPLACEMENT (CONT)

- (11) Loosen screw (14) in clamp (15) as far as possible without disengaging screw from D-nut (16).
- (12) Unhook clamp tabs (17) from tab windows (18).

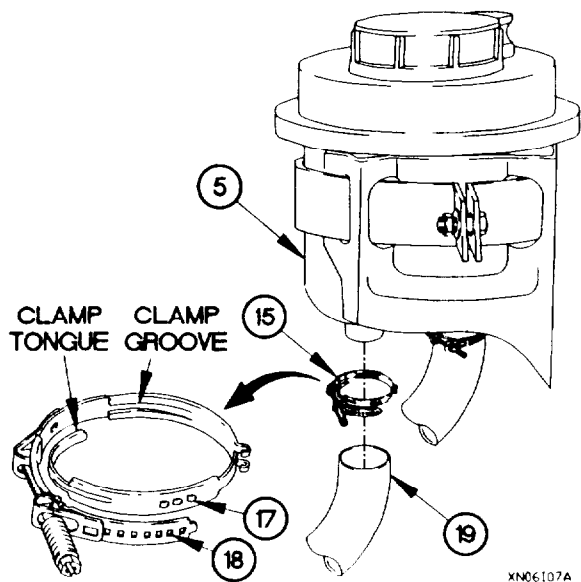


XN06106-A

CAUTION

Clamp tongue must be started in clamp groove. Failure to comply may result in damage to equipment.

- (13) Position clamp (15) on return hose (19).
- (14) Install return hose (19) on power steering pump reservoir (5).
- (15) Engage as many clamp tabs (17) as possible in tab windows (18) allowing little or no play between clamp (15) and return hose (19).
- (16) Tighten clamp (15) to 12-18 lb-in. (1-2 N•m).

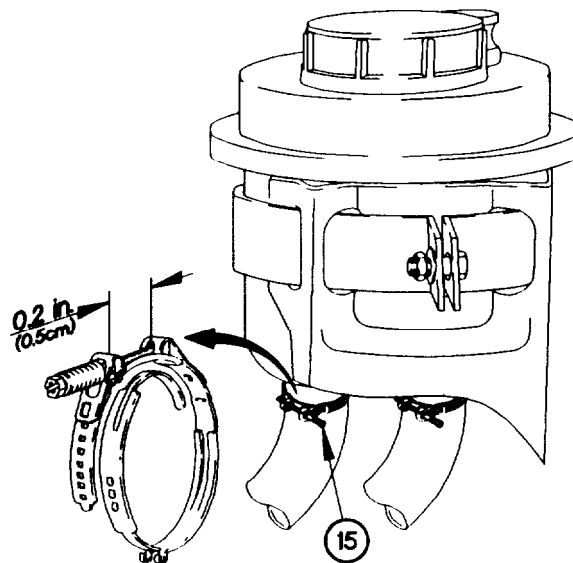


XN06107A

NOTE

Minimum allowable gap on clamp is 0.2 in. (0.5 cm). If gap is less than 0.2 in. (0.5 cm), remove and re-install clamp.

- (17) Measure gap on clamp (15).



XN061081

c. Follow-On Maintenance.

- (1) Install auxiliary starter solenoid (para 7-6).
- (2) Fill power steering pump reservoir (Appendix H).
- (3) Lower cab (TM 9-2320-366-10-1).
- (4) Start engine (TM 9-2320-366-10-1).
- (5) Check power steering system for smooth operation of steering wheel and wheels.
- (6) Shut down engine (TM 9-2320-366-10-1).
- (7) Raise cab (TM 9-2320-366-10-1).
- (8) Check fluid level in power steering pump reservoir (Appendix H).
- (9) Lower cab (TM 9-2320-366-10-1).

End of Task.

CHAPTER 14

FRAME, TOWING ATTACHMENTS, AND DRAWBARS MAINTENANCE

Section I. INTRODUCTION	14-1
14-1. INTRODUCTION	14-1
Section II. MAINTENANCE PROCEDURES	14-2
14-2. FRONT BUMPER AND GRAVEL DEFLECTOR REPLACEMENT	14-2
14-3. M1093/M1094 AIR DROP EXTRACTION ASSEMBLY, PARACHUTE SUSPENSION SLIDES, AND TIEDOWN RINGS REPLACEMENT	14-6
14-4. M1089 CATWALKS REPLACEMENT	14-12
14-5. TAILLIGHT CARRIER REPLACEMENT	14-31
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Section I. INTRODUCTION

14-1. INTRODUCTION

This chapter contains maintenance instructions for replacing, repairing, and adjusting frame mounted accessories authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.

Section II. MAINTENANCE PROCEDURES

14-2. FRONT BUMPER AND GRAVEL DEFLECTOR REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Blackout drive light removed (para 7-37).
 Composite front light assemblies removed (para 7-40).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
 Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
 Socket Set, Socket Wrench (Item 36, Appendix C)

Materials/Parts

Nut, Self-Locking (4) (Item 165, Appendix G)
 Nut, Self-Locking (2) (Item 128, Appendix G)
 Nut, Self-Locking (5) (Item 158, Appendix G)
 Lockwasher (2) (Item 113, Appendix G)

Personnel Required

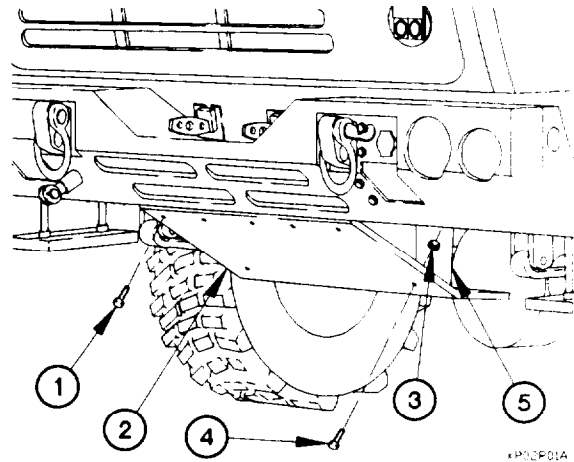
(2)

a. Removal.



- Leave shackles installed in front bumper to support front bumper until ready to remove. Failure to comply may result in injury to personnel.
- Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

- (1) Remove five screws (1) from gravel deflector (2).
- (2) Remove five self-locking nuts (3), screws (4), and gravel deflector (2) from two brackets (5). Discard self-locking nuts.



(3) Disconnect connector P52F (6) from connector J52 (7).

(4) Remove eight screws (8) from front bumper (9).

NOTE

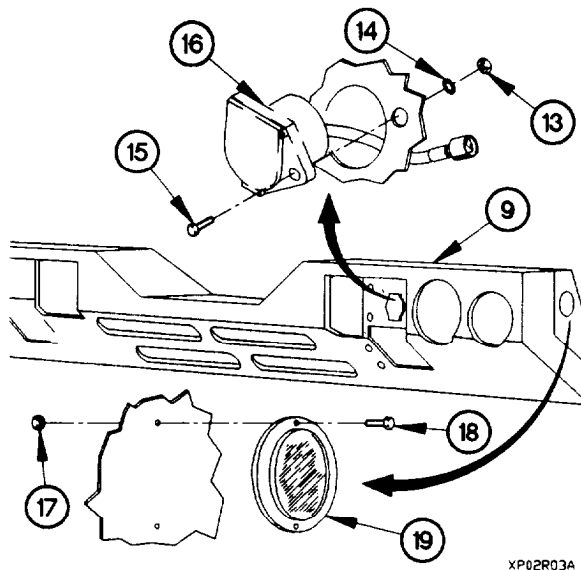
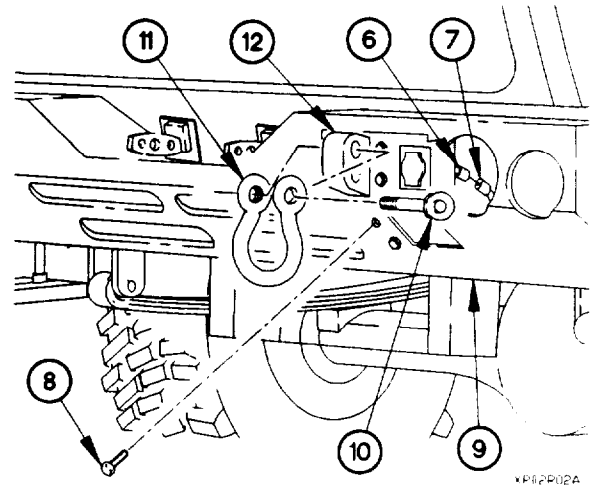
Steps (5) and (6) require the aid of an assistant.

(5) Remove two pins (10) and shackles (11) from supports (12).

WARNING

Front bumper weighs approximately 100 lbs (45 kgs). Use the aid of an assistant to remove front bumper. Failure to comply may result in injury to personnel.

(6) Remove front bumper (9) from vehicle.



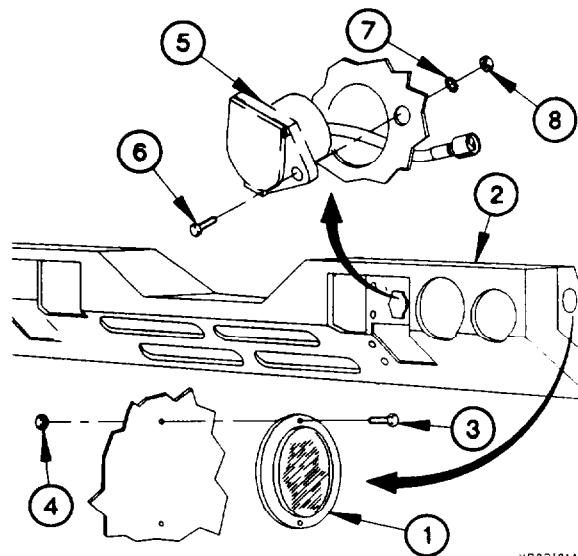
(7) Remove two self-locking nuts (13), lockwashers (14), screws (15), and trailer receptacle (16) from front bumper (9). Discard self-locking nuts and lockwashers.

(8) Remove four self-locking nuts (17), screws (18), and two side markers (19) from front bumper (9). Discard self-locking nuts.

14-2. FRONT BUMPER AND GRAVEL DEFLECTOR REPLACEMENT (CONT)

b. Installation.

- (1) Position two side markers (1) on front bumper (2) with four screws (3) and self-locking nuts (4).
- (2) Tighten four self-locking nuts (4) to 18-22 lb-in. (2 N•m).
- (3) Position trailer receptacle (5) on front bumper (2) with two screws (6), lockwashers (7), and self-locking nuts (8).
- (4) Tighten two self-locking nuts (8) to 31-36 lb-in. (4 N•m).



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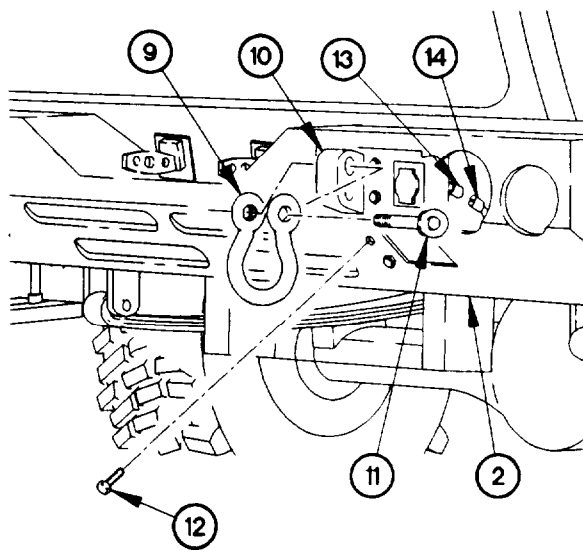
WARNING

Front bumper weighs approximately 100 lbs (45 kgs). Use the aid of an assistant to install front bumper. Failure to comply may result in injury to personnel.

NOTE

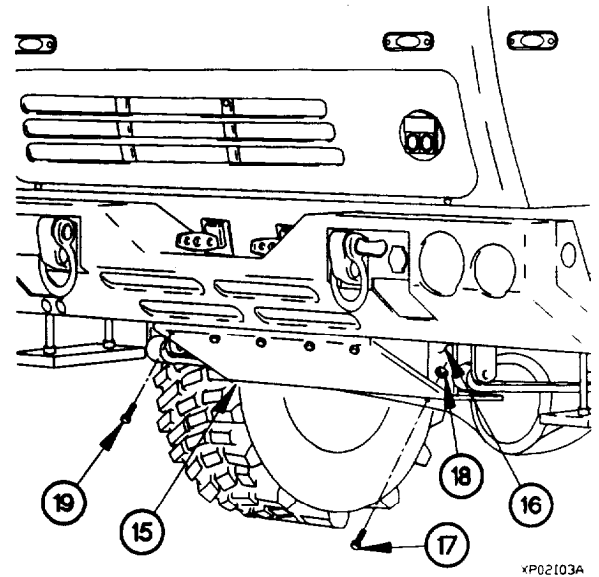
Steps (5) and (6) require the aid of an assistant.

- (5) Install front bumper (2) on vehicle.
- (6) Install two shackles (9) on supports (10) with pins (11).
- (7) Install eight screws (12) on front bumper (2).
- (8) Connect connector P52F (13) to connector J52 (14).



XP02102A

- (9) Position gravel deflector (15) on two brackets (16) with five screws (17) and self-locking nuts (18).
- (10) Tighten five self-locking nuts (18) to 76-94 lb-ft (103-127 N•m).
- (11) Position five screws (19) in top edge of gravel deflector (15).
- (12) Tighten five screws (19) to 43-52 lb-ft (58-70 N•m).



c. Follow-On Maintenance.

- (1) Install composite front light assemblies (para 7-40).
- (2) Install blackout drive light (para 7-37).

End of Task.

14-3. M1093/M1094 AIR DROP EXTRACTION ASSEMBLY, PARACHUTE SUSPENSION SLIDES, AND TIEDOWN RINGS REPLACEMENT

This task covers:

- | | |
|---|--|
| a. Air Drop Extraction Stabilizer Bar Removal | e. M1093 Parachute Suspension Slide Removal |
| b. Air Drop Extraction Stabilizer Installation | f. M1093 Parachute Suspension Slide Installation |
| c. Air Drop Extraction Tension Bar Removal | g. Air Drop Tiedown Ring Removal |
| d. Air Drop Extraction Tension Bar Installation | h. Air Drop Tiedown Ring Installation |

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Materials/Parts

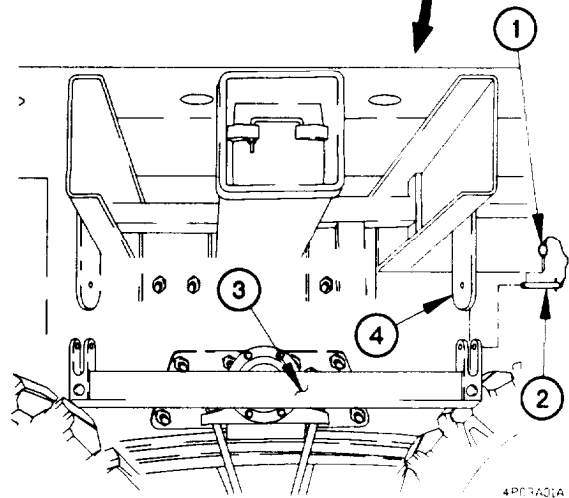
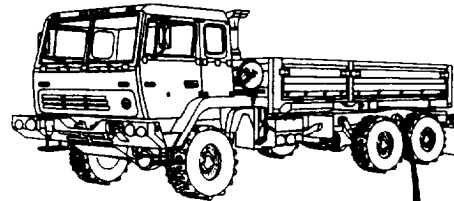
Nut, Self-Locking (2) (Item 132, Appendix G)

Tools and Special Tools

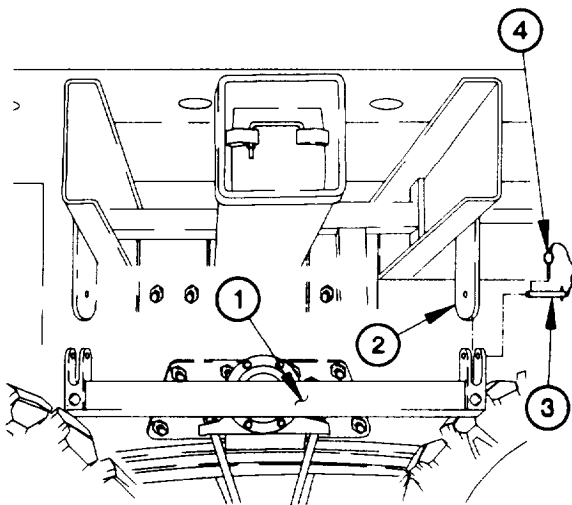
Tool Kit, Genl Mech (Item 46, Appendix C)

a. Air Drop Extraction Stabilizer Bar Removal.

- (1) Remove two lynch pins (1) from pins (2).
- (2) Remove two pins (2) and air drop extraction stabilizer bar (3) from mounting brackets (4).



b. Air Drop Extraction Stabilizer Bar Installation.

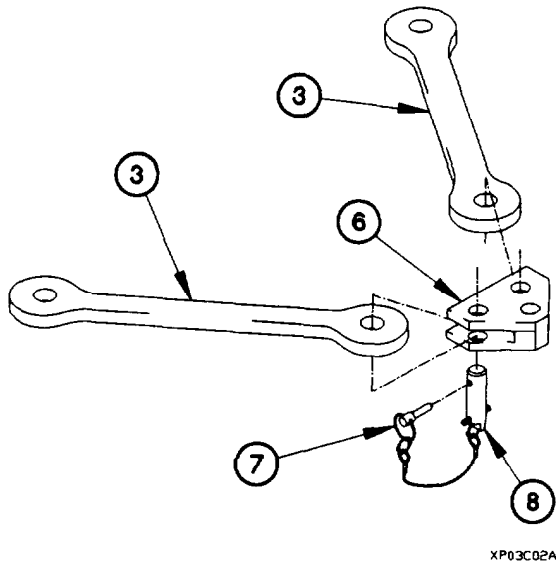
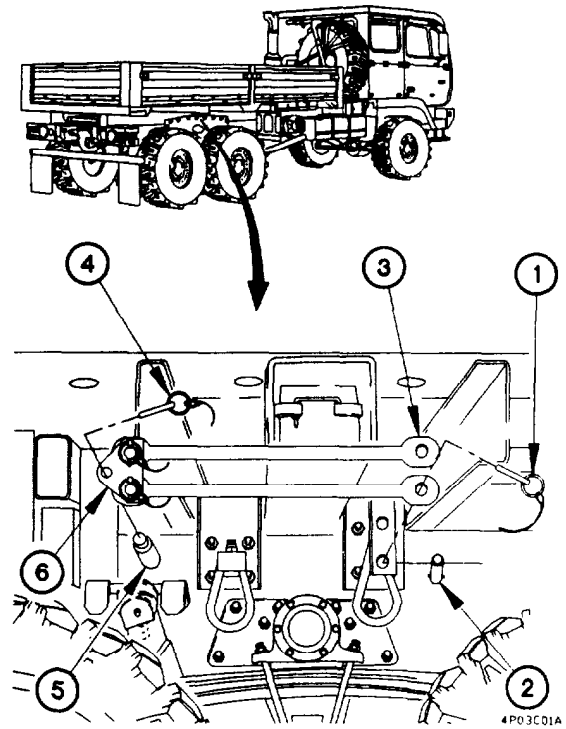


4P03B01A

- (1) Install air drop extraction stabilizer bar (1) on two mounting brackets (2) with pins (3).
- (2) Install two lynch pins (4) in pins (3).

c. Air Drop Extraction Tension Bar Removal.

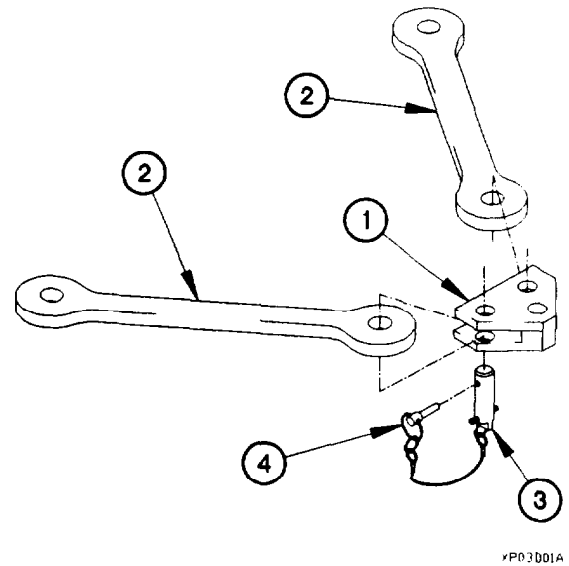
- (1) Remove two lynch pins (1) from pins (2).
- (2) Remove two pins (2) from tension bars (3).
- (3) Remove lynch pin (4) from mounting stud (5).
- (4) Remove tension bar bracket (6) from mounting stud (5).



- (5) Remove two lynch pins (7) from pins (8).
- (6) Remove two pins (8) and tension bar bracket (6) from two tension bars (3).

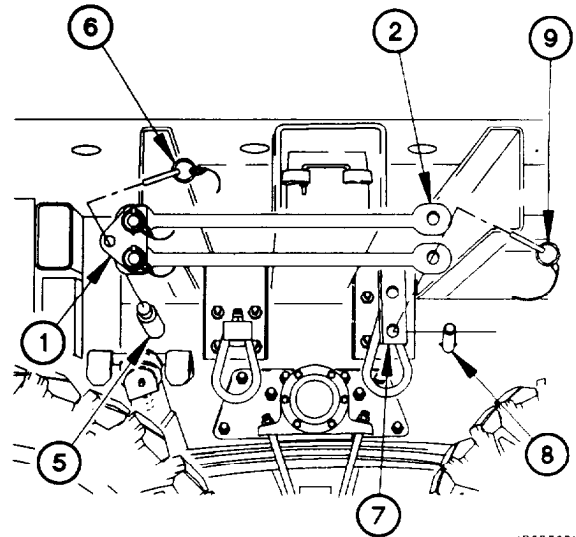
d. Air Drop Extraction Tension Bar Installation.

- (1) Install tension bar bracket (1) on two tension bars (2) with two pins (3).
- (2) Install two lynch pins (4) in pins (3).



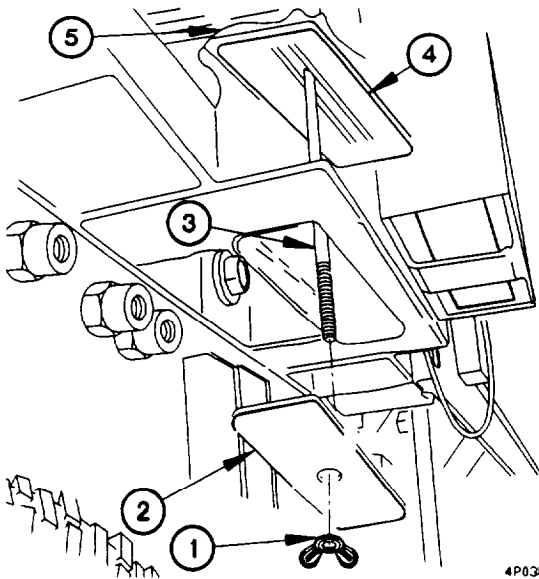
14-3. M1093/M1094 AIR DROP EXTRACTION ASSEMBLY, PARACHUTE SUSPENSION SLIDES, AND TIEDOWN RINGS REPLACEMENT (CONT)

- (3) Install tension bar bracket (1) on mounting stud (5).
- (4) Install lynch pin (6) in mounting stud (5).
- (5) Install two tension bars (2) on mounting bracket (7) with two pins (8).
- (6) Install two lynch pins (9) in pins (8).



4P030021

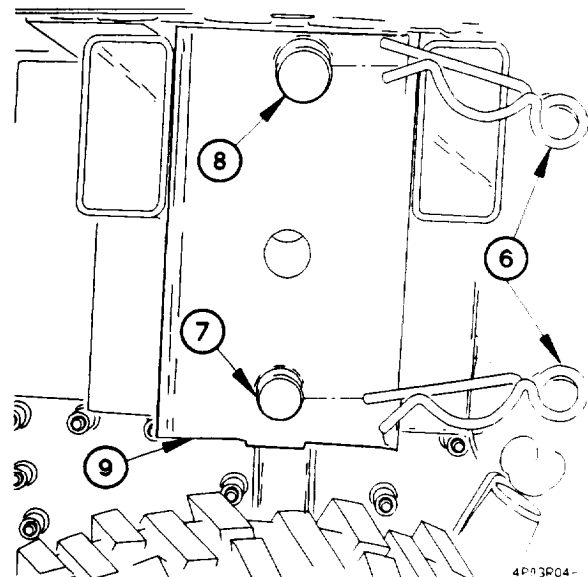
e. M1093 Parachute Suspension Slide Removal.



4P03R03-

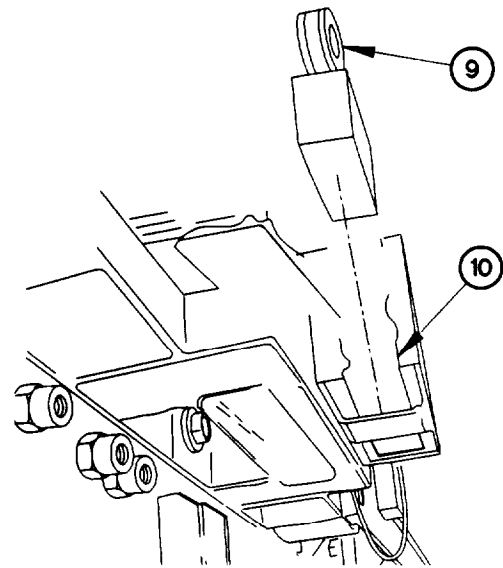
- (1) Remove wingnut (1) and retainer (2) from rod (3).
- (2) Remove plate (4) from cargo bed (5).

- (3) Remove two spring pins (6) from small pin (7) and large pin (8).
- (4) Remove small pin (7) and large pin (8) from parachute suspension slide (9).



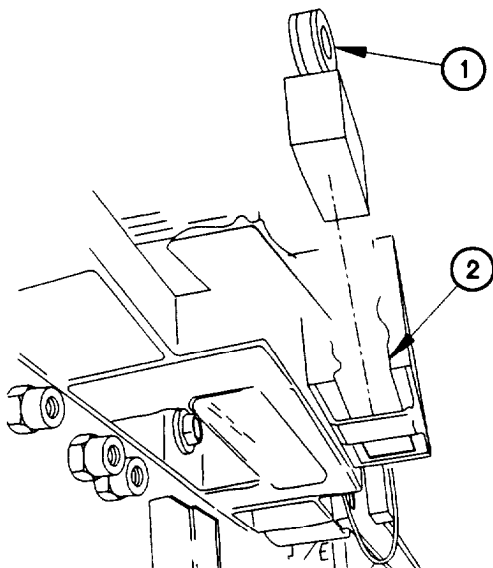
4P03R04-

- (5) Remove parachute suspension slide (9) from receptacle (10).



4P03P05-

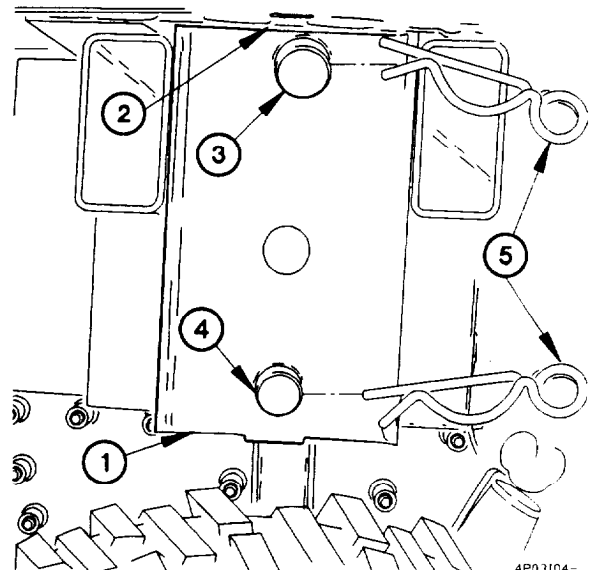
f. M1093 Parachute Suspension Slide Installation.



4P03I03-

- (1) Install parachute suspension slide (1) in receptacle (2).

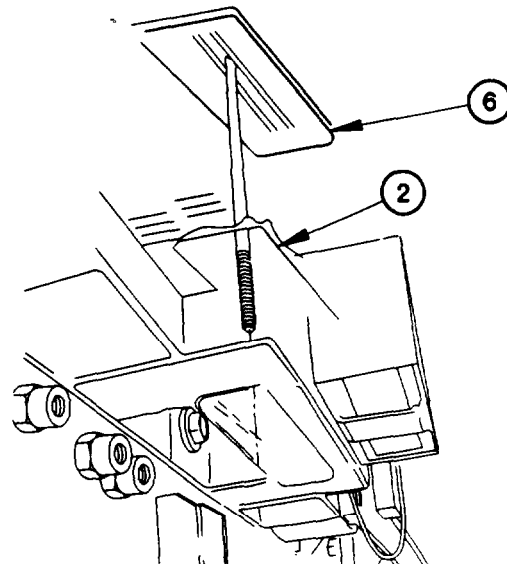
- (2) Install large pin (3) in upper hole of receptacle (2) and parachute suspension slide (1).
 (3) Install small pin (4) in lower hole of receptacle (2) and parachute suspension slide (1).
 (4) Install two spring pins (5) in large pin (3) and small pin (4).



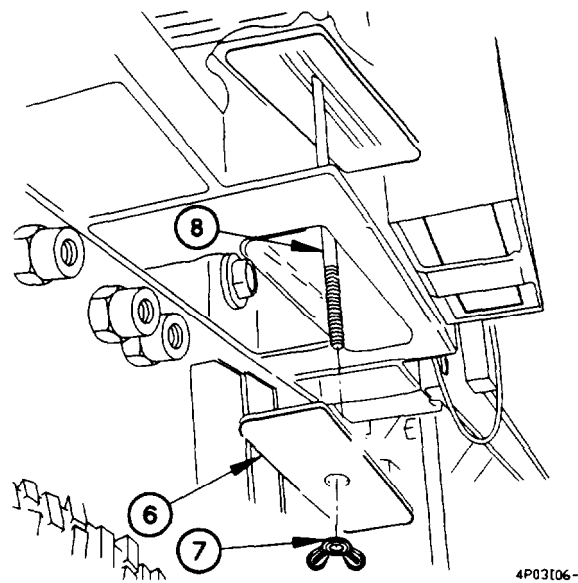
4P03I04-

14-3. M1093/M1094 AIR DROP EXTRACTION ASSEMBLY, PARACHUTE SUSPENSION SLIDES, AND TIEDOWN RINGS REPLACEMENT (CONT)

(5) Install plate (6) in receptacle (2).



4P03105-



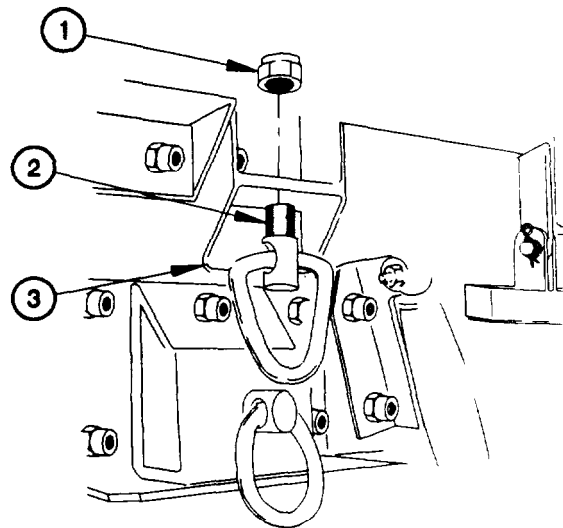
4P03106-

(6) Install retainer (6) and wingnut (7) on rod (8).

g. Air Drop Tiedown Ring Removal.

(1) Remove self-locking nut (1) from air drop tiedown ring (2). Discard self-locking nut.

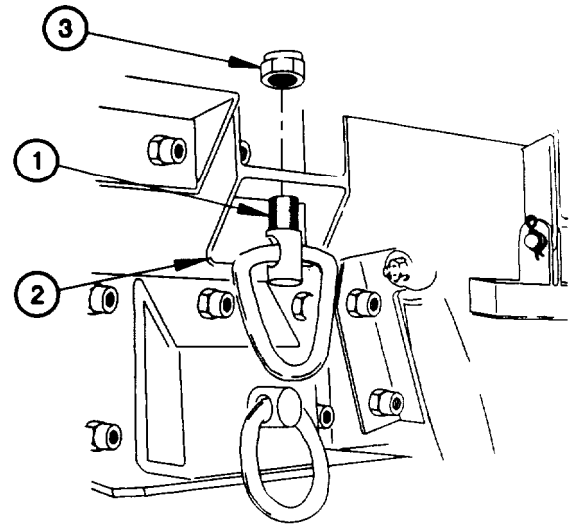
(2) Remove air drop tiedown ring (2) from bracket (3).



4P13P02-

h. Air Drop Tiedown Ring Installation.

- (1) Position air drop tiedown ring (1) in bracket (2).
- (2) Install self-locking nut (3) on air drop tiedown ring (1).



4P03102-

End of Task.

14-4. M1089 CATWALKS REPLACEMENT

This task covers:

- | | |
|---|--|
| <ul style="list-style-type: none"> a. 30K Winch Frame Catwalk Removal b. 30K Winch Frame Catwalk Installation c. Center Catwalk Removal d. Center Catwalk Installation e. Left Catwalk Removal f. Left Catwalk Installation | <ul style="list-style-type: none"> g. Control Panel/Hand Rail Catwalk Removal h. Control Panel/Hand Rail Catwalk Installation i. Right Catwalk Removal j. Right Catwalk Installation |
|---|--|

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-175 lb ft (Item 58, Appendix C)
 Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

Sealing Compound (Item 57, Appendix D)
 Nut, Self-Locking (2) (Item 147, Appendix G)

Materials/Parts (Cont)

Nut, Self-Locking (50) (Item 146, Appendix G)
 Nut, Self-Locking (2) (Item 149, Appendix G)
 Nut, Self-Locking (2) (Item 148, Appendix G)
 Lockwasher (2) (Item 96, Appendix G)
 Lockwasher (8) (Item 100, Appendix G)
 Lockwasher (6) (Item 102, Appendix G)
 Pin, Cotter (2) (Item 235, Appendix G)

Personnel Required

(2)

a. 30K Winch Frame Catwalk Removal.

NOTE

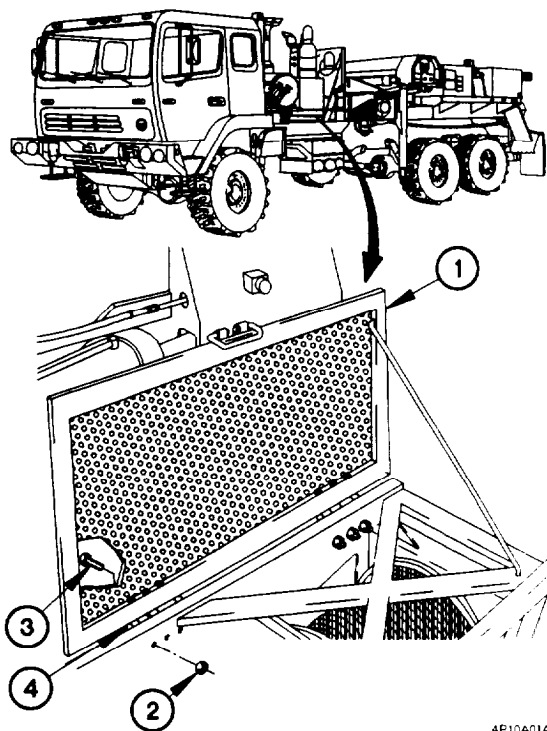
Left and right side 30K winch catwalks are removed the same way. Left side shown.

- (1) Open catwalk (1) to gain access,

NOTE

Step (2) requires the aid of an assistant.

- (2) Remove three self-locking nuts (2), and screws (3) from hinge (4). Discard self-locking nuts.



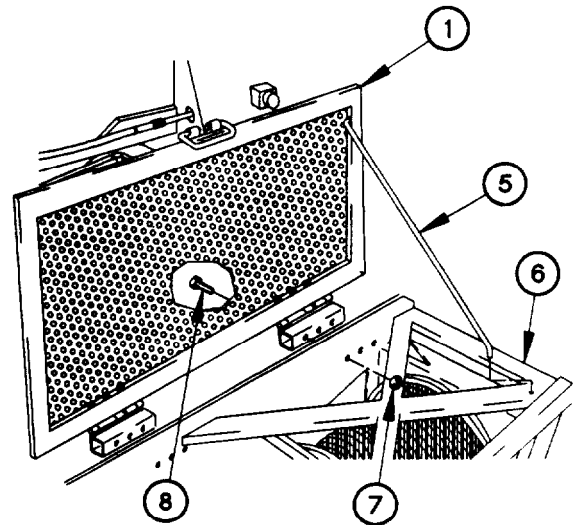
4P10A01A

- (3) Remove rod (5) from 30K winch frame (6).

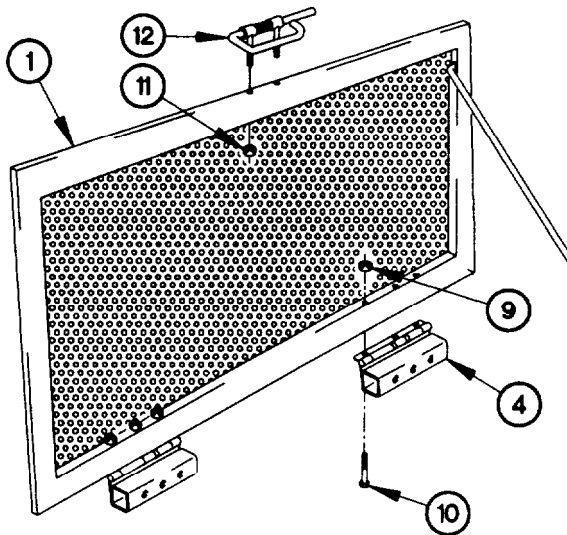
NOTE

Step (4) requires the aid of an assistant.

- (4) Remove three self-locking nuts (7), screws (8), and catwalk (1) from 30K winch frame (6). Discard self-locking nuts.



4P10A02A

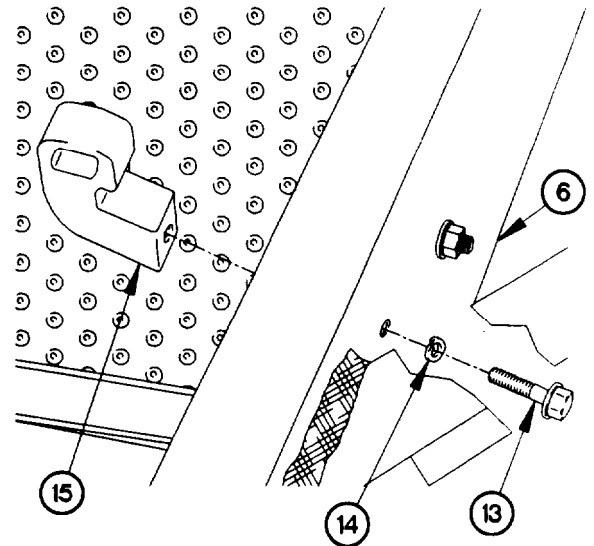


4P10A03A

- (5) Remove six self-locking nuts (9), screws (10), and two hinges (4) from catwalk (11). Discard self-locking nuts.

- (6) Remove two self-locking nuts (11), and handle (12) from catwalk (1). Discard self-locking nuts.

- (7) Remove screw (13), lockwasher (14), and latch (15) from 30K winch frame (6). Discard lockwasher.



4P10A04A

14-4. M1089 CATWALKS REPLACEMENT (CONT)

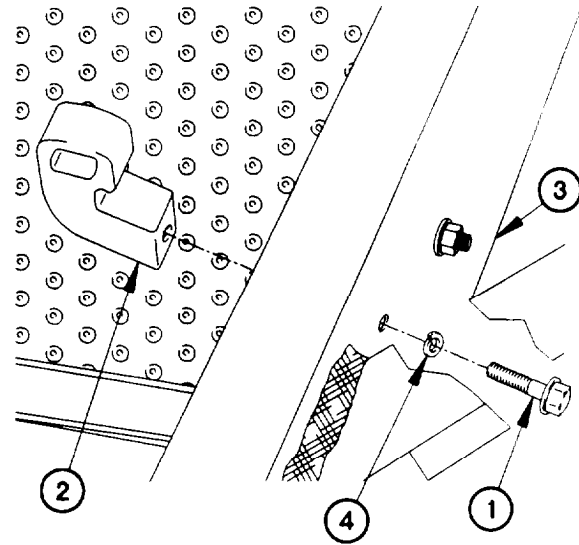
b. 30K Winch Frame Catwalk Installation.

WARNING

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

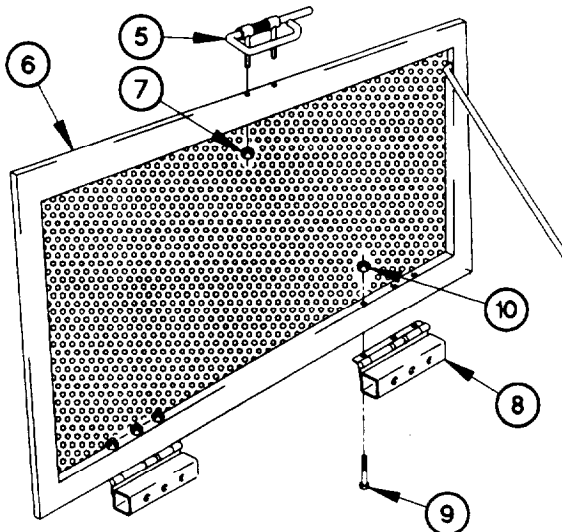
NOTE

Left and right side 30K winch catwalks are installed the same way. Left side shown.



4P10B011

- (1) Apply sealing compound to threads of screw (1).
- (2) Position latch (2) on 30K winch frame (3) with lockwasher (4) and screw (1).
- (3) Tighten screw (1) to 33-37 lb-ft (45-50 N•m).



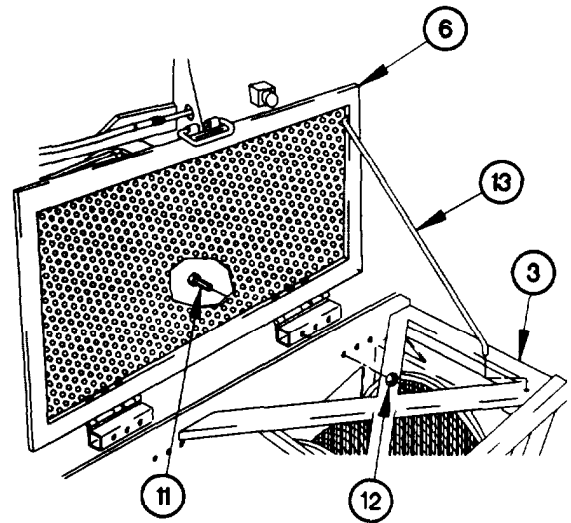
4P10B02A

- (4) Position handle (5) on catwalk (6) with two self-locking nuts (7).
- (5) Tighten two self-locking nuts (7) to 33-37 lb-ft (45-50 N•m).
- (6) Position two hinges (8) on catwalk (6) with six screws (9) and self-locking nuts (10).
- (7) Tighten six self-locking nuts (10) to 33-37 lb-ft (45-50 N•m).

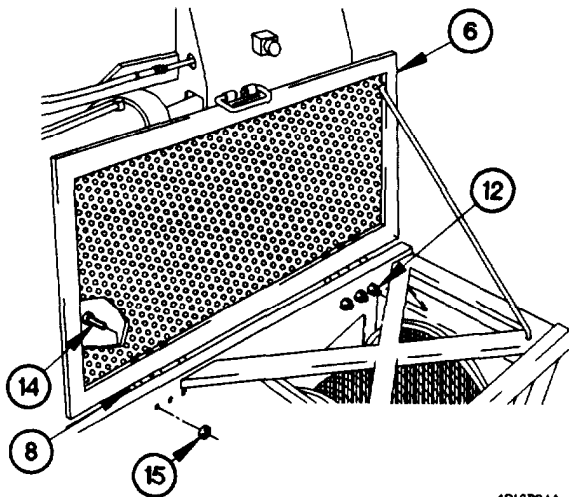
NOTE

Step (8) requires the aid of an assistant,

- (8) Position catwalk (6) on 30K winch frame (3) with three screws (11) and self-locking nuts (12).
- (9) Install rod (13) on 30K winch frame (3).



4P10B03

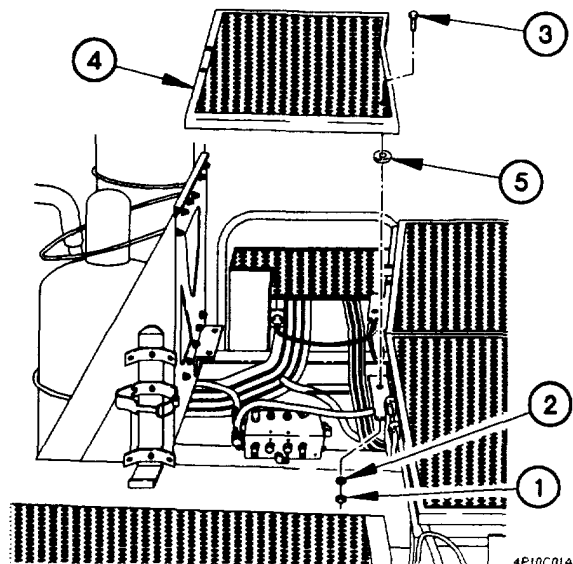


4P10B04A

- (10) Position three screws (14) in hinge (8) with three self-locking nuts (15).
- (11) Tighten three self-locking nuts (12 and 15) to 33-37 lb-ft (45-50 N•m).
- (12) Close catwalk (6).

c. Center Catwalk Removal.

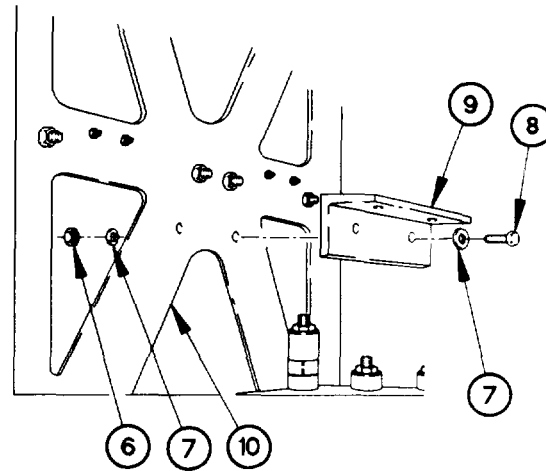
- (1) Remove four self-locking nuts (1), washers (2), screws (3), catwalk (4), and four mounts (5) from vehicle. Discard self-locking nuts.



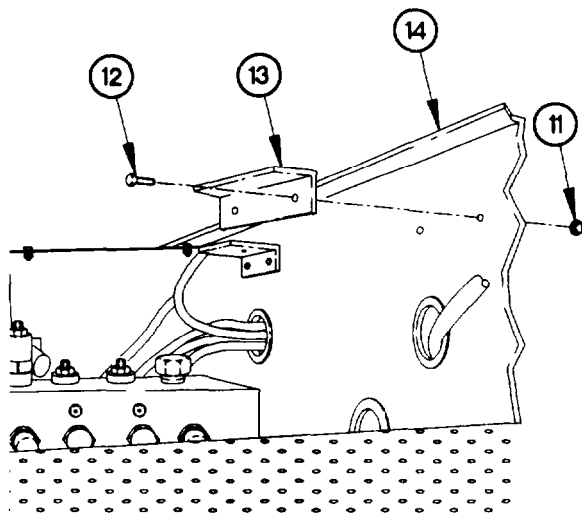
4P10C01A

14-4. M1089 CATWALKS REPLACEMENT (CONT)

(2) Remove two self-locking nuts (6), four washers (7), two screws (8), and bracket (9) from boom support (10). Discard self-locking nuts.



4P10C021

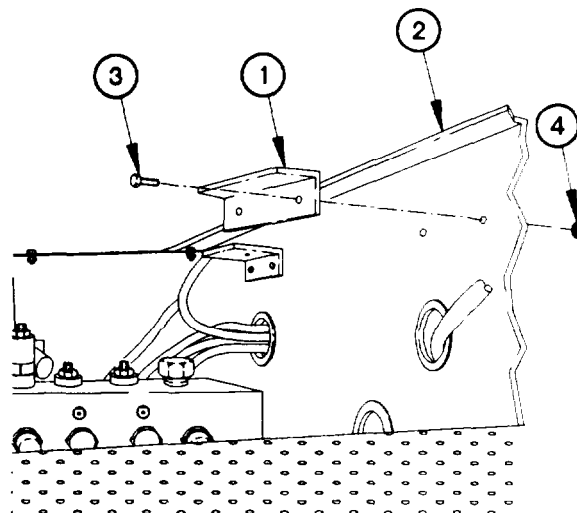


4P10C031

(3) Remove four self-locking nuts (11), screws (12), and two brackets (13) from 30K winch frame (14). Discard self-locking nuts.

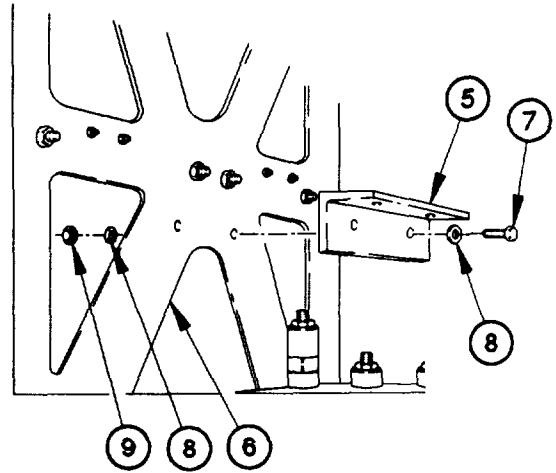
d. Center Catwalk Installation.

- (1) Position two brackets (1) on 30K winch frame (2) with four screws (3), and self-locking nuts (4).
- (2) Tighten four self-locking nuts (4) to 33-37 lb-ft (45-50 N•m).

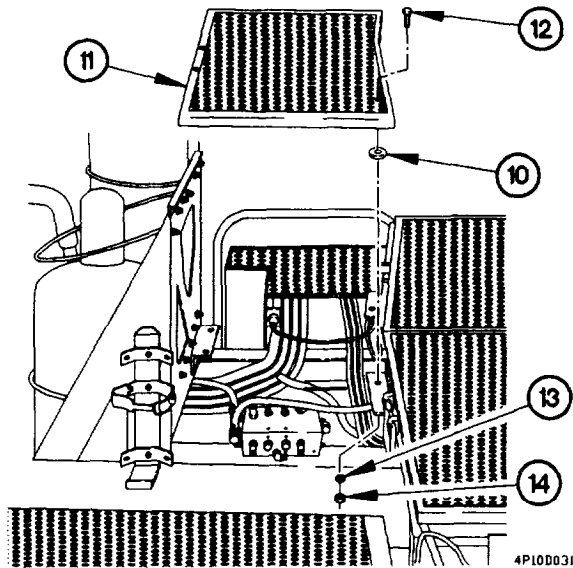


4P10D011

- (3) Position bracket (5) on boom support (6) with two screws (7), four washers (8), and two self-locking nuts (9).
- (4) Tighten two self-locking nuts (9) to 33-37 lb-ft (45-50 N•m).



4P10D021

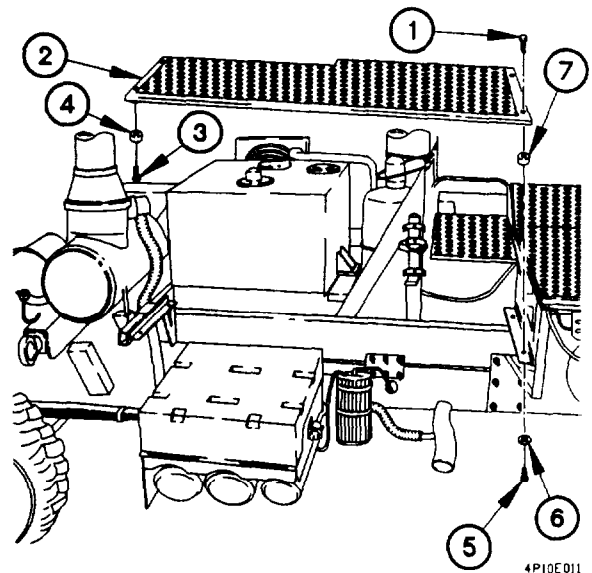


4P10D031

- (5) Position four mounts (10) and catwalk (11) on vehicle with four screws (12), washers (13), and self-locking nuts (14).
- (6) Tighten four self-locking nuts (14) to 33-37 lb-ft (45-50 N•m).

e. Left Catwalk Removal.

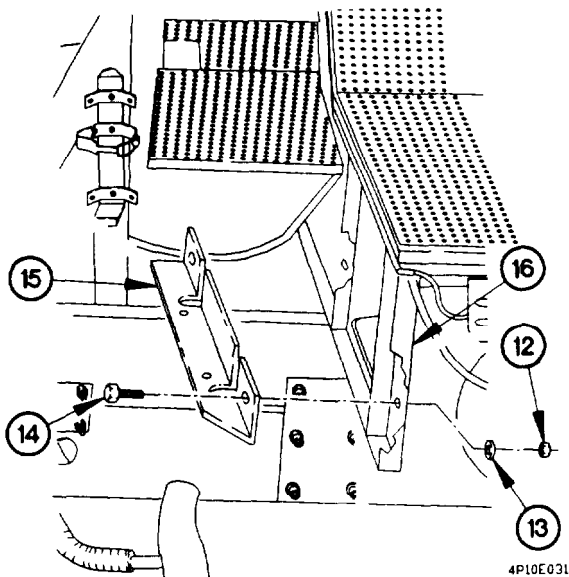
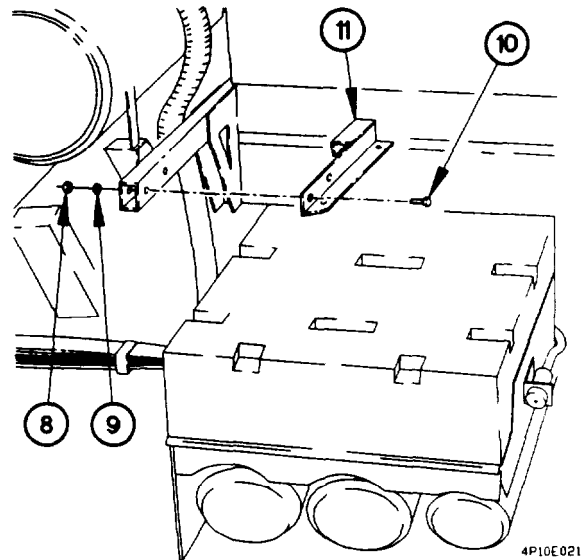
- (1) Remove four screws (1) and catwalk (2) from vehicle.
- (2) Remove two screws (3) and isolators (4) from catwalk (2).
- (3) Remove two screws (5), washers (6) and isolators (7) from catwalk (2).



4P10E011

14-4. M1089 CATWALKS REPLACEMENT (CONT)

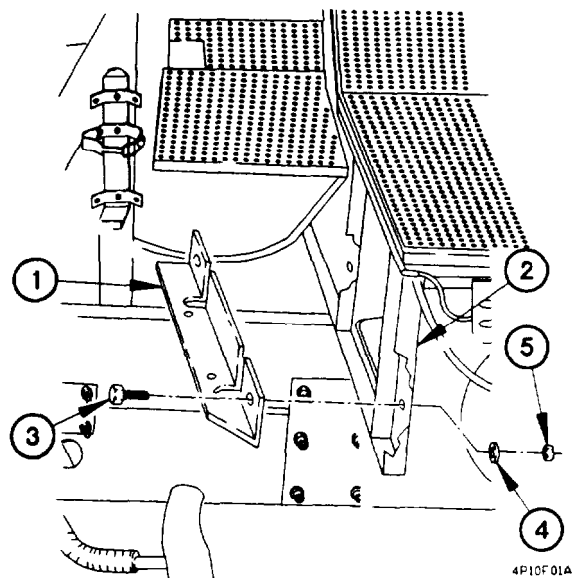
- (4) Remove two self-locking nuts (8), washers (9), screws (10), and bracket (11) from vehicle. Discard self-locking nuts.



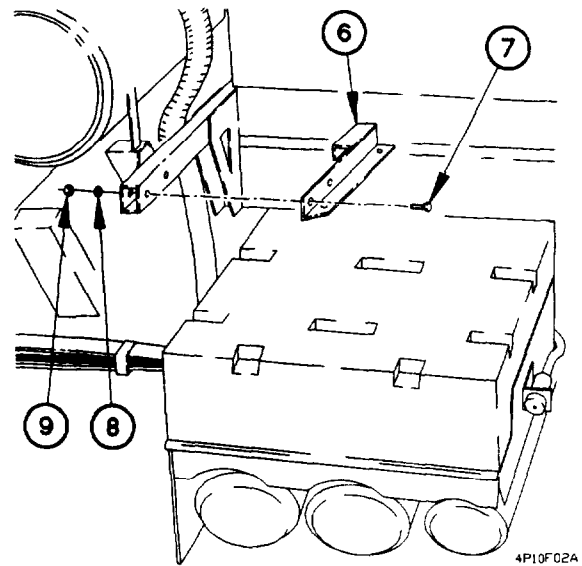
- (5) Remove two self-locking nuts (12), washers (13), screws (14), and bracket (15) from 30K winch frame (16). Discard self-locking nuts.

f. Left Catwalk Installation.

- (1) Position bracket (1) on 30K winch frame (2) with two screws (3), washers (4), and self-locking nuts (5).
- (2) Tighten two self-locking nuts (5) to 152-168 lb-ft (206-228 N•m).

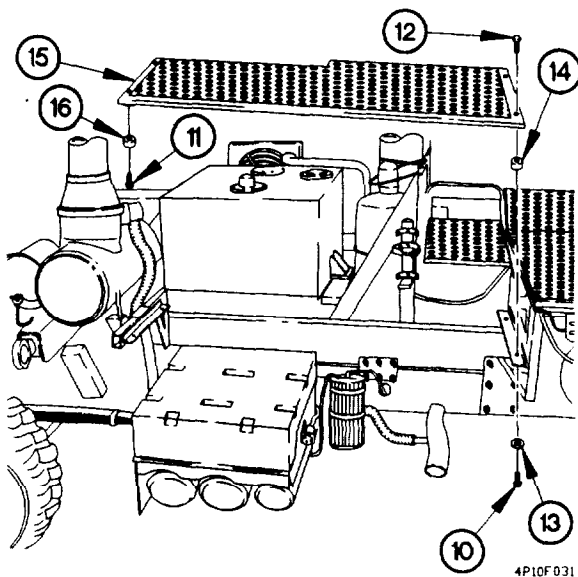


- (3) Position bracket (6) on vehicle with two screws (7), washers (8) and self-locking nuts (9).
- (4) Tighten two self-locking nuts (9) to 33-37 lb-ft (45-50 N•m).



WARNING

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

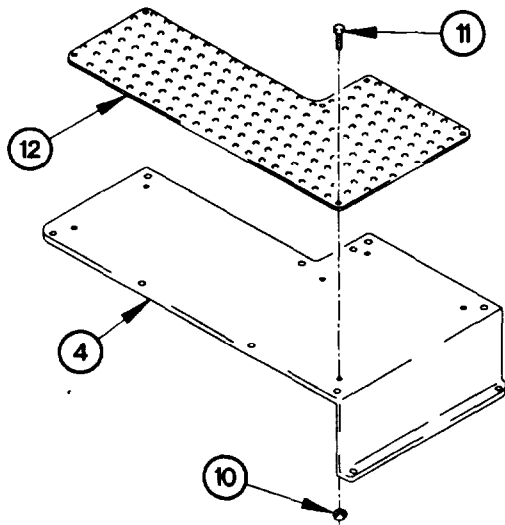
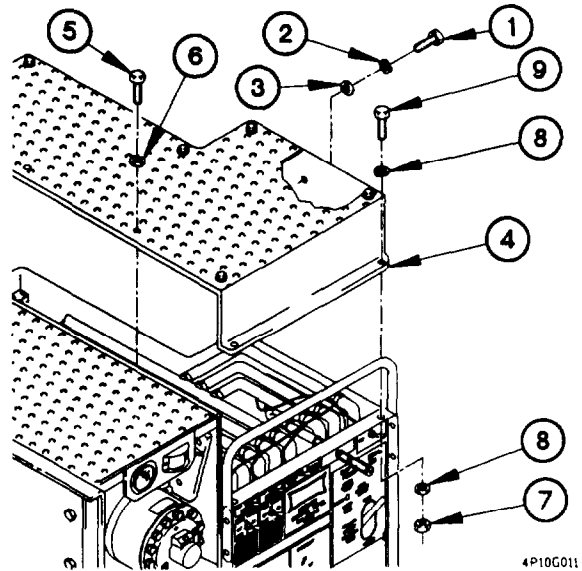


- (5) Apply sealing compound to threads of two screws (10), screws (11), and four screws (12).
- (6) Position two washers (13), screws (10) and isolators (14) on catwalk (15).
- (7) Position two isolators (16) on catwalk (15) with two screws (11).
- (8) Position catwalk (15) on vehicle with four screws (12).
- (9) Tighten screws (10 and 11) to 33-47 lb-ft (45-64 N•m).
- (10) Tighten four screws (12) to 33-37 lb-ft (45-50 N•m).

14-4. M1089 CATWALKS REPLACEMENT (CONT)

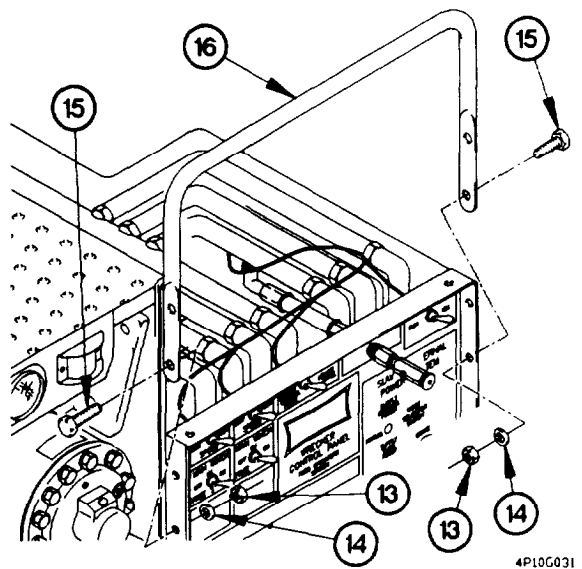
g. Control Panel/Hand Rail Catwalk Removal.

- (1) Remove four screws (1), lockwashers (2), and washers (3) from control panel top cover (4). Discard lockwashers.
- (2) Remove four screws (5) and washers (6) from control panel top cover (4).
- (3) Remove two self-locking nuts (7), four washers (8), two screws (9), and control panel top cover (4) from vehicle. Discard self-locking nuts.



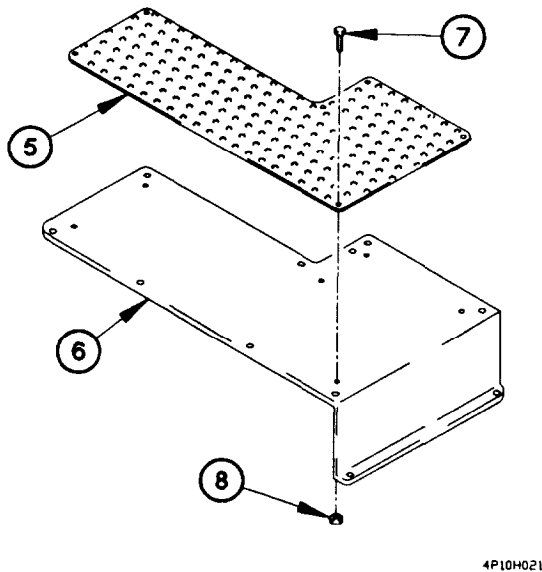
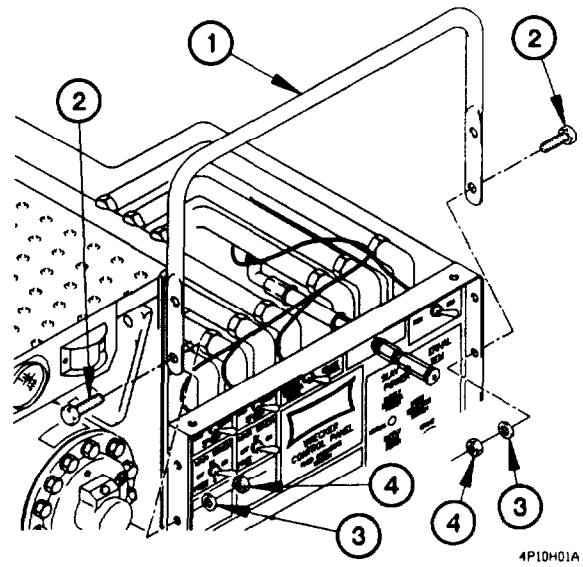
- (4) Remove six self-locking nuts (10), screws (11), and catwalk plate (12) from control panel top cover (4). Discard self-locking nuts.

- (5) Remove four self-locking nuts (13), washers (14), screws (15), and hand rail (16) from vehicle. Discard self-locking nuts.



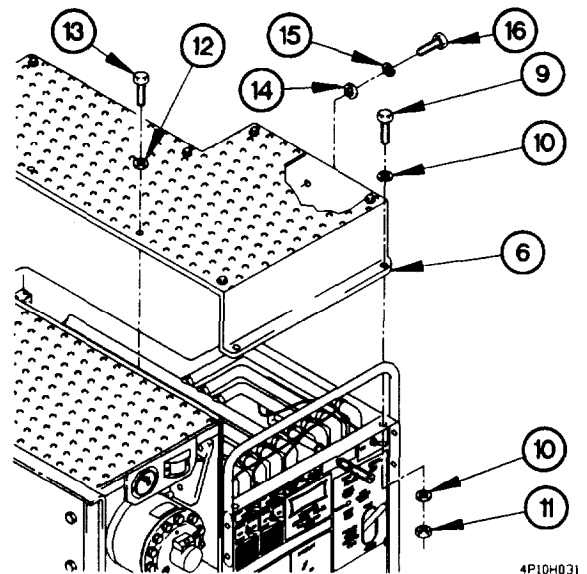
h. Control Panel/Hand Rail Catwalk Installation.

- (1) Position hand rail (1) on vehicle with four screws (2), washers (3) and self-locking nuts (4).
- (2) Tighten four self-locking nuts (4) to 33-37 lb-ft (45-50 N•m).



- (3) Position catwalk plate (5) on control panel top cover (6) with six screws (7), and self-locking nuts (8).
- (4) Tighten six self-locking nuts (8) to 8-10 lb-ft (11-14 N•m).

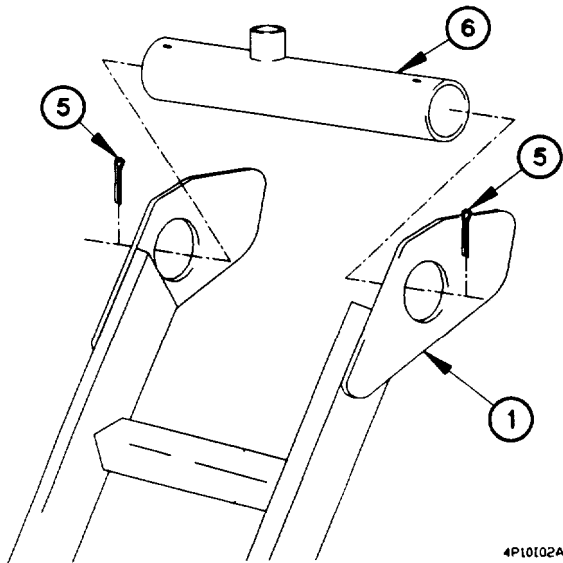
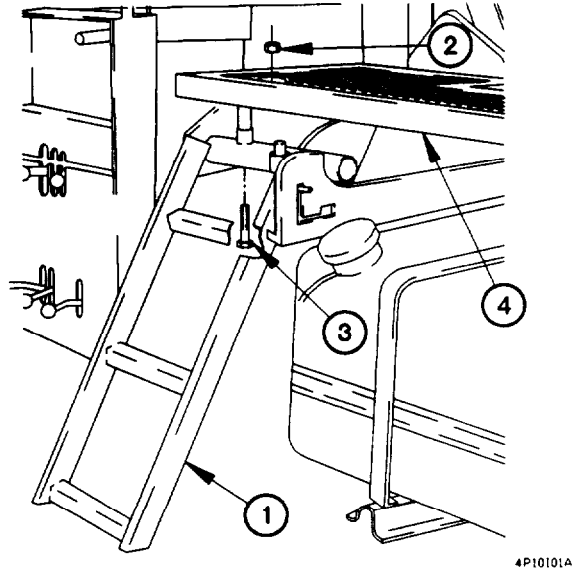
- (5) Position control panel top cover (6) on vehicle with two screws (9), four washers (10), and two self-locking nuts (11).
- (6) Tighten two self-locking nuts (11) to 8-10 lb-ft (11-14 N•m).
- (7) Position four washers (12) and screws (13) in control panel top cover (6).
- (8) Position four washers (14), lockwashers (15), and screws (16) in control panel top cover (6).
- (9) Tighten screws (13 and 16) to 8-10 lb-ft (11-14 N•m).



14-4. M1089 CATWALKS REPLACEMENT (CONT)

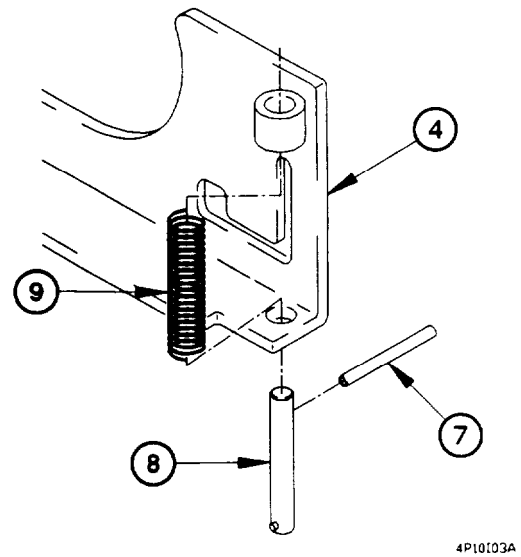
i. Right Catwalk Removal.

- (1) Place ladder (1) in lowered position.
- (2) Remove self-locking nut (2), screw (3), and ladder (1) from catwalk (4). Discard self-locking nut.

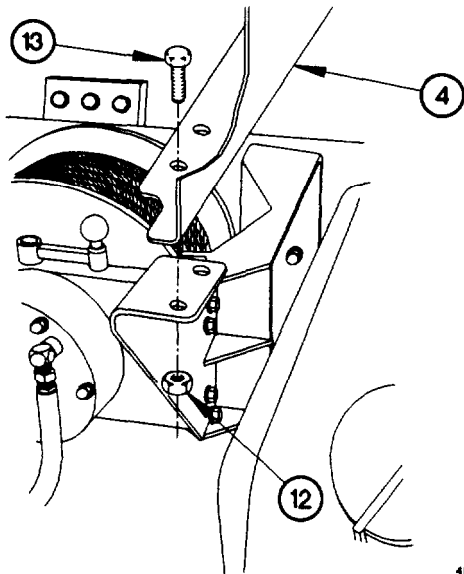
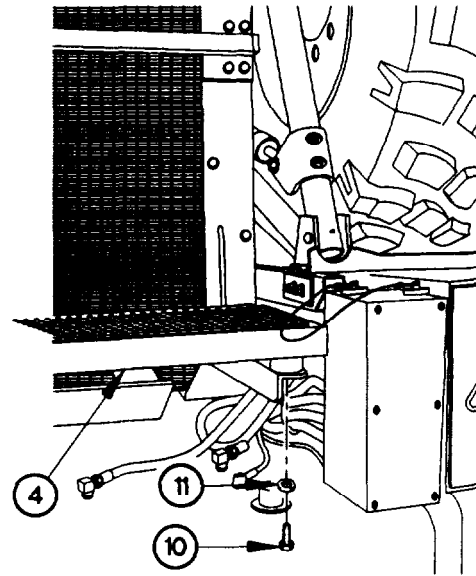


- (3) Remove two cotter pins (5) and tube (6) from ladder (1). Discard cotter pins.

- (4) Remove pin (7) from shaft (8).
- (5) Remove shaft (8) and spring (9) from catwalk (4).

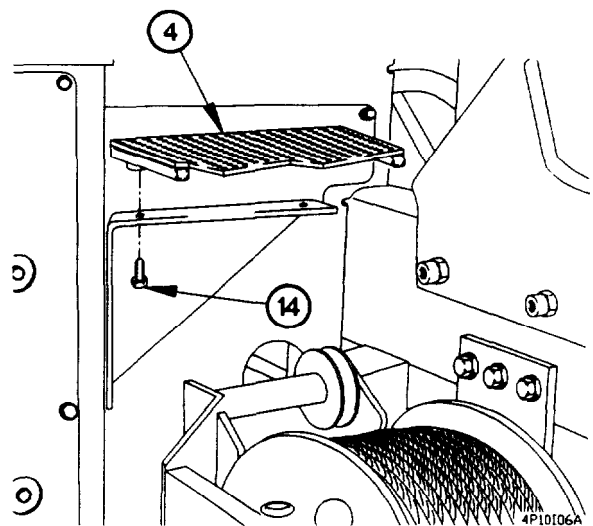


(6) Remove two screws (10) and washers (11) from catwalk (4).



(7) Remove two self-locking nuts (12) and screws (13) from catwalk (4). Discard self-locking nuts.

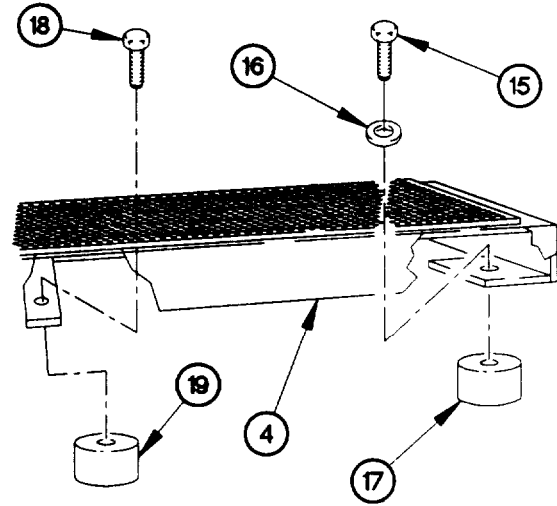
(8) Remove two screws (14) and catwalk (4) from vehicle.



14-4. M1089 CATWALKS REPLACEMENT (CONT)

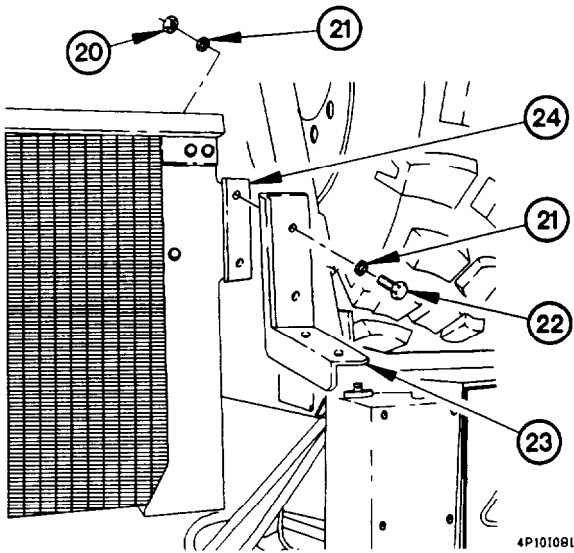
(9) Remove two screws (15), washers (16) and isolators (17) from catwalk (4).

(10) Remove two screws (18) and isolators (19) from catwalk (4).



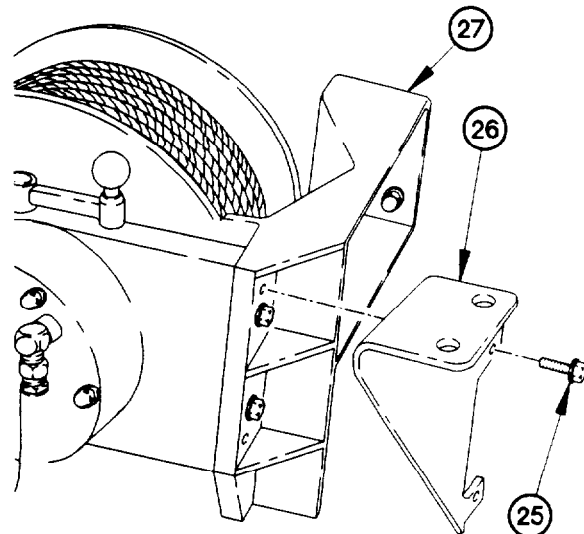
4P101071

(11) Remove two self-locking nuts (20), four washers (21), two screws (22), and bracket (23) from front cooler bracket (24). Discard self-locking nuts.



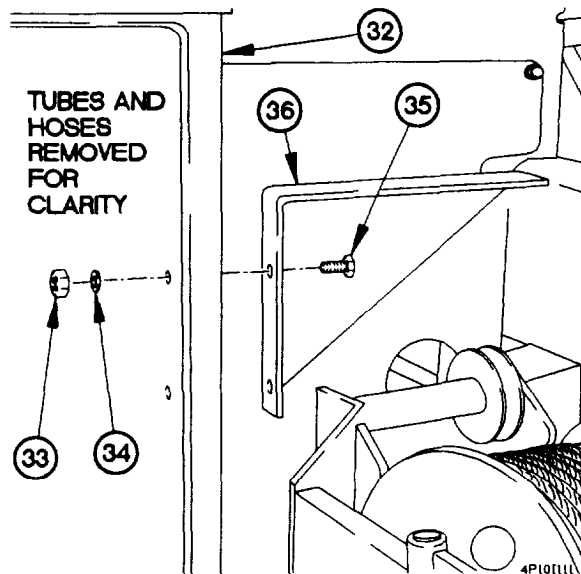
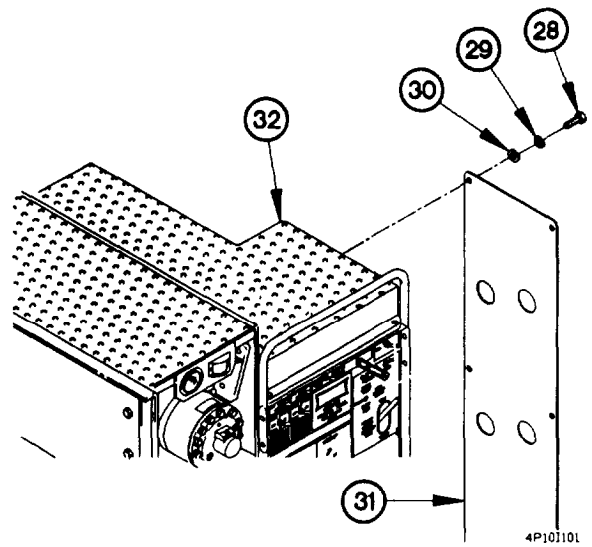
4P101081

(12) Remove two screws (25), and bracket (26) from 15K Self-Recovery Winch (SRW) (27).



4P101091

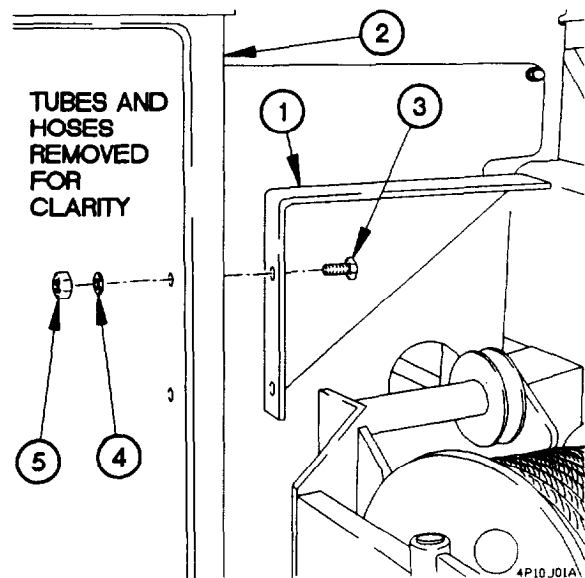
- (13) Remove six screws (28), lockwashers (29), washers (30), and cover (31) from control panel (32). Discard lockwashers.



- (14) Remove two self-locking nuts (33), washers (34), screws (35), and bracket (36) from control panel (32). Discard self-locking nuts.

j. Right Catwalk Installation.

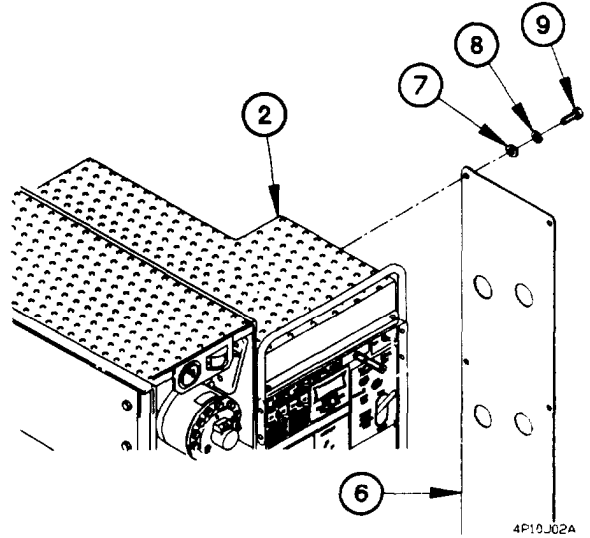
- (1) Position bracket (1) on control panel (2) with two screws (3), washers (4), and self-locking nuts (5).
- (2) Tighten two self-locking nuts (5) to 33-37 lb-ft (45-50 N•m).



14-4. M1089 CATWALKS REPLACEMENT (CONT)

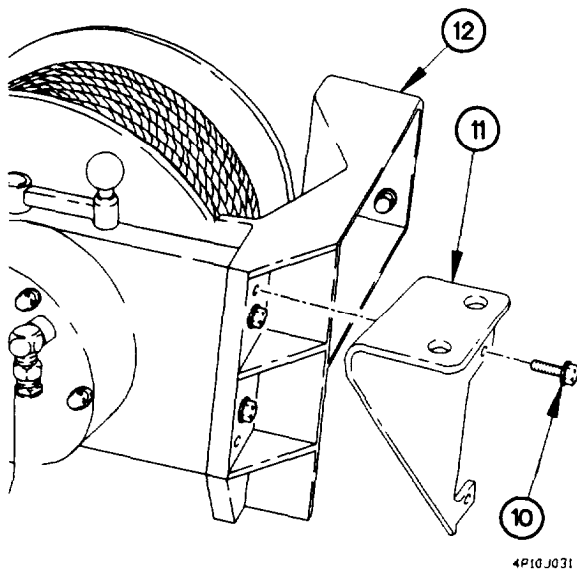
(3) Position cover (6) on control panel (2) with six washers (7), lockwashers (8), and screws (9).

(4) Tighten six screws (9) to 8-10 lb-ft (11-14 N•m).



WARNING

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

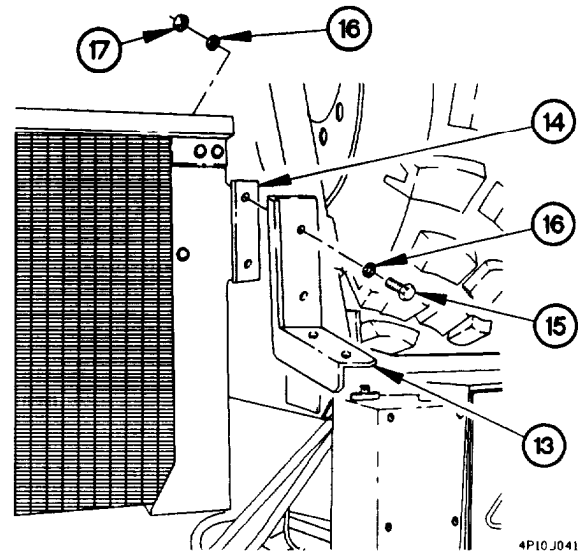


(5) Apply sealing compound to threads of two screws (10).

(6) Position bracket (11) on 15K SRW (12) with two screws (10).

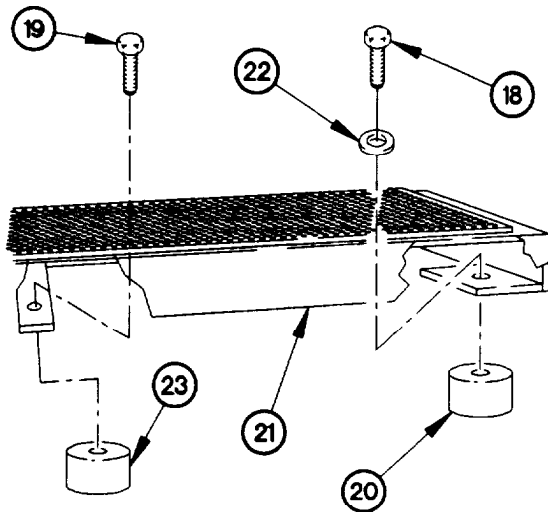
(7) Tighten two screws (10) to 76-84 lb-ft (103-114 N•m).

- (8) Position bracket (13) on front cooler bracket (14) with two screws (15), four washers (16), and two self-locking nuts (17).
- (9) Tighten two self-locking nuts (17) to 33-37 lb-ft (45-50 N•m).



WARNING

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



- (10) Apply sealing compound to threads of two screws (18 and 19).

NOTE

Step (11) requires the aid of an assistant.

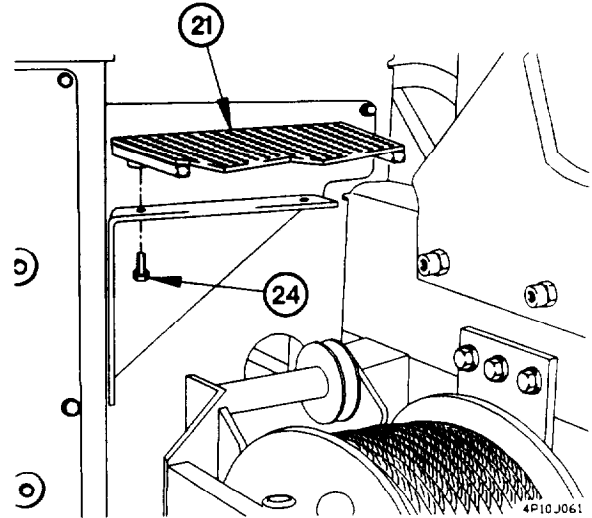
- (11) Position two isolators (20) on catwalk (21) with two washers (22) and screws (18).
- (12) Position two isolators (23) on catwalk (21) with two screws (19).
- (13) Tighten two screws (18 and 19) to 33-47 lb-ft (45-64 N•m).

14-4. M1089 CATWALKS REPLACEMENT (CONT)

WARNING

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

- (14) Apply sealing compound to threads of two screws (24).
- (15) Position catwalk (21) on vehicle with two screws (24).
- (16) Tighten two screws (24) to 33-47 lb-ft (45-64 N•m).

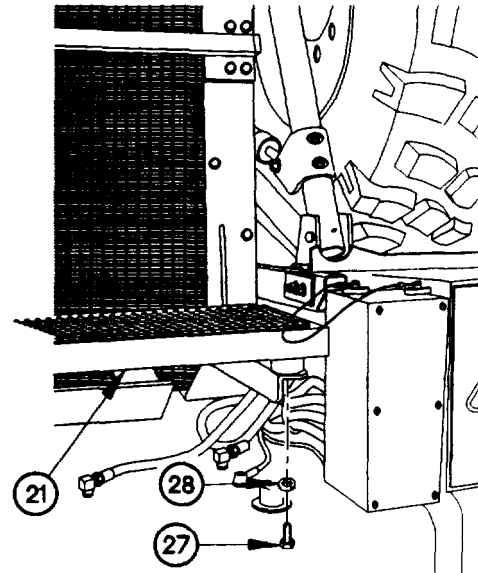


- (17) Position two screws (25) and self-locking nuts (26) in catwalk (21).
- (18) Tighten two self-locking nuts (26) to 76-84 lb-ft (103-114 N•m).

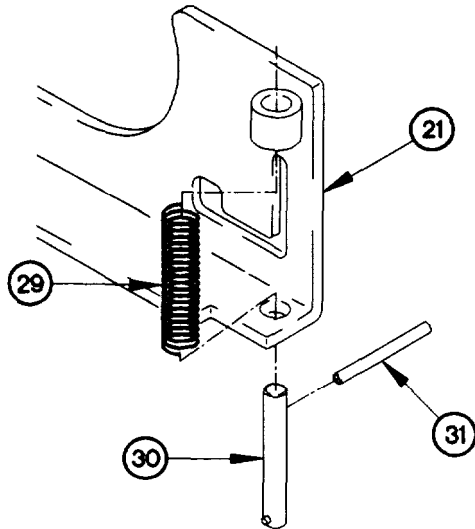
WARNING

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

- (19) Apply sealing compound to threads of two screws (27).
- (20) Position two washers (28) and screws (27) in catwalk (21).
- (21) Tighten two screws (27) to 33-47 lb-ft (45-64 N•m).



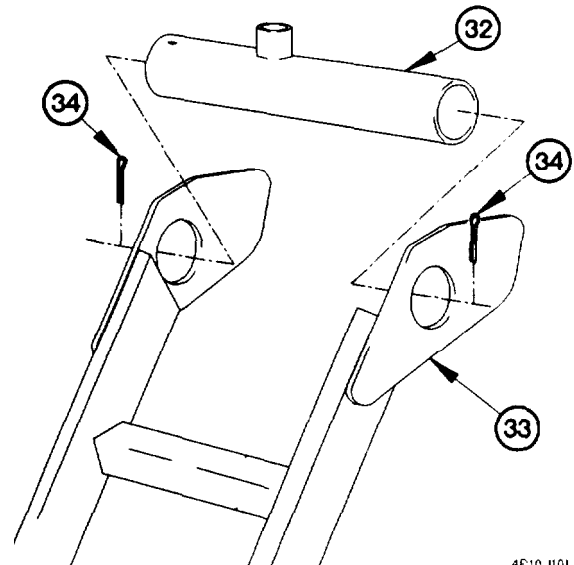
4P10 J081



4P10 J091

- (22) Position spring (29) and shaft (30) in catwalk (21).
- (23) Install pin (31) in shaft (30).
- (24) Place shaft (30) in open position.

- (25) Install tube (32) in ladder (33) with two cotter pins (34).

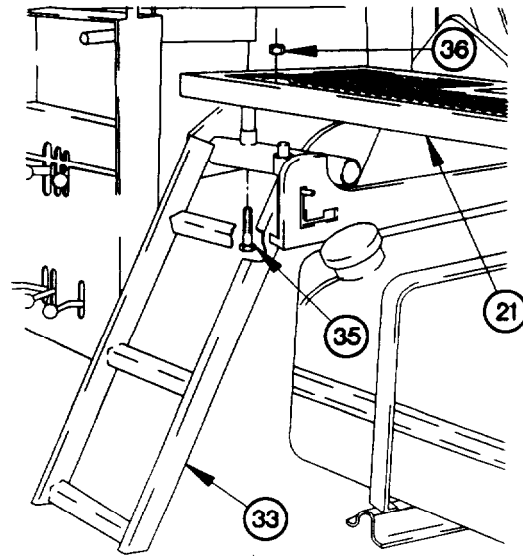


4P10 J101

14-4. M1089 CATWALKS REPLACEMENT (CONT)

- (26) Position ladder (33) on catwalk (21) with screw (35) and self-locking nut (36).
- (27) Tighten self-locking nut (36) to 33-40 lb-ft (45-54 N•m).
- (28) Raise and secure catwalk ladder (TM 9-2320-366-10-1).

End of Task.



4P10 J111

14-5. TAILLIGHT CARRIER REPLACEMENT

This task covers:

- | | |
|---|---|
| <ul style="list-style-type: none"> a. Left Taillight Carrier Removal b. Left Taillight Carrier Installation c. Right Taillight Carrier Removal | <ul style="list-style-type: none"> d. Right Taillight Carrier Installation e. Follow-On Maintenance |
|---|---|

INITIAL SETUP

Equipment Conditions

Composite taillight assembly removed (para 7-39).
 Backup light assembly removed (para 7-36).
 Marker light assemblies removed (para 7-38).
 Splash guards removed (M1083/M1093) (para 16-11).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench Set, Socket (Item 51, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
 Wrench Set, Socket (Item 49, Appendix C)
 Wrench, Torque, 0-600 lb-ft (Item 60, Appendix C)
 Wrench Set, Socket (Item 50, Appendix C)
 Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)

Materials/Parts

Nut, Self-Locking (6) (Item 156, Appendix G)
 Nut, Self-Locking (2) (Item 150, Appendix G)
 Nut, Self-Locking (2) (Item 161, Appendix G)
 Washer, Spring (Item 269, Appendix G)
 Washer, Spring (Item 296, Appendix G)

Personnel Required

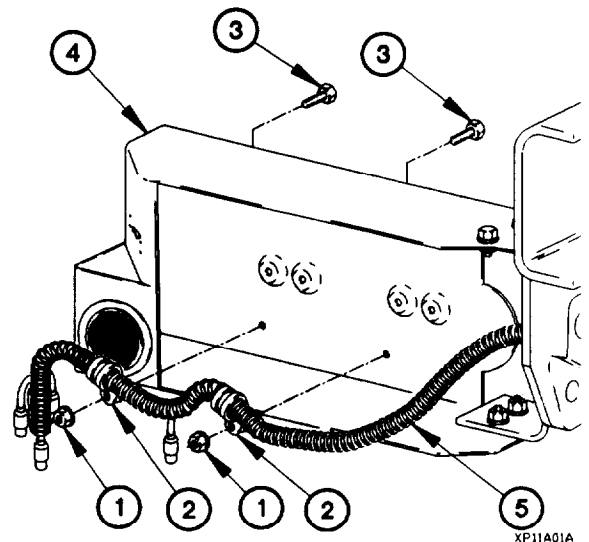
(2)

a. Left Taillight Carrier Removal.

NOTE

Perform steps (1) and (2) on M1083 and M1085, and on M1084, M1086, M1090, and M1094 with vehicle serial numbers 3465 and higher.

- (1) Remove two self-locking nuts (1), clamps (2), and screws (3) from left taillight carrier (4). Discard self-locking nuts.
- (2) Remove two clamps (2) from rear lights cable assembly (5).



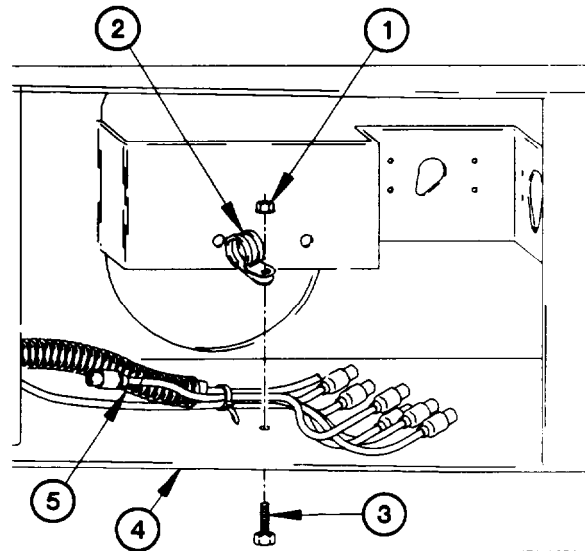
14-5. TAILLIGHT CARRIER REPLACEMENT (CONT)

NOTE

Perform steps (3) and (4) on M1084, M1086, M1090, and M1094 with vehicle serial numbers 0001 through 3464.

(3) Remove self-locking nut (1), clamp (2), and screw (3) from left taillight carrier (4). Discard self-locking nut.

(4) Remove clamp (2) from rear lights cable assembly (5).



4P11A02A

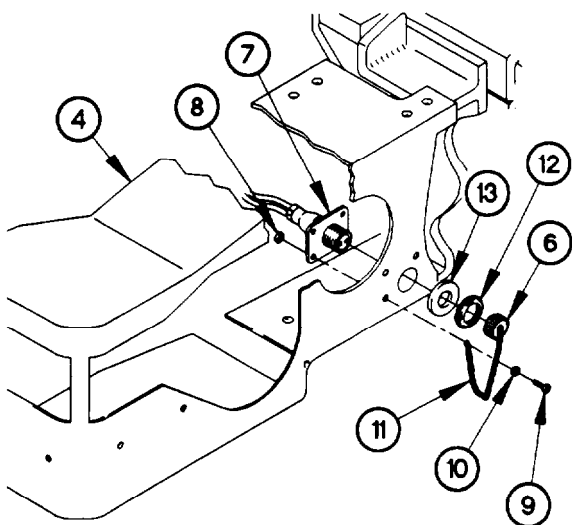
NOTE

Perform steps (5) through (7) on M1084 and M1086.

(5) Remove dust cap (6) from connector P135 (7).

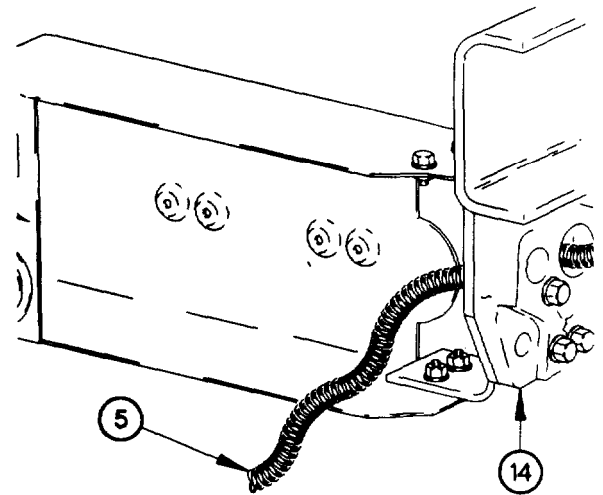
(6) Remove nut (8), screw (9), spring washer (10), and lanyard (11) from left taillight carrier (4). Discard spring washer.

(7) Remove nut (12), spring washer (13), and connector P135 (7) from left tail light carrier (4). Discard spring washer.



4P11A03A

- (8) Pull rear lights cable assembly (5) through left frame rail (14).

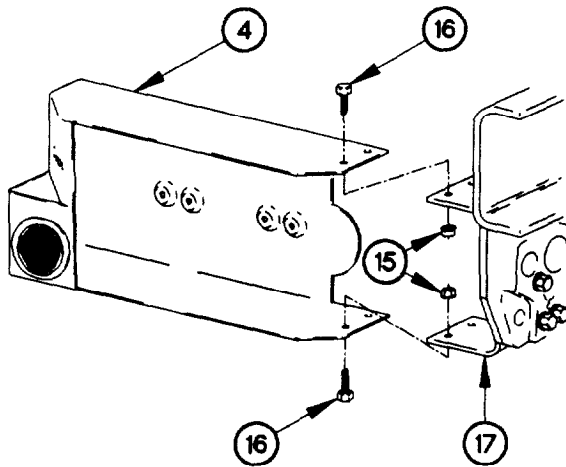


4P11A04A

NOTE

Perform step (9) on all models except M1093 and M1094.

- (9) Remove four self-locking nuts (15), bolts (16), and left taillight carrier (4) from bracket (17). Discard self-locking nuts.

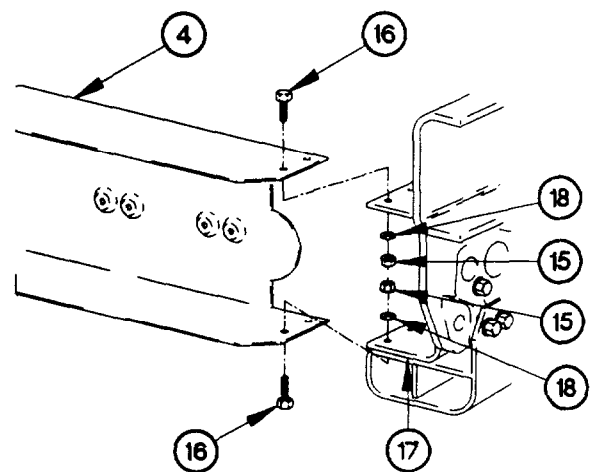


4P11A05A

NOTE

Perform step (10) on M1093 and M1094.

- (10) Remove four self-locking nuts (15), washers (18), bolts (16), and left taillight carrier (4) from bracket (17). Discard self-locking nuts.



4P11A06A

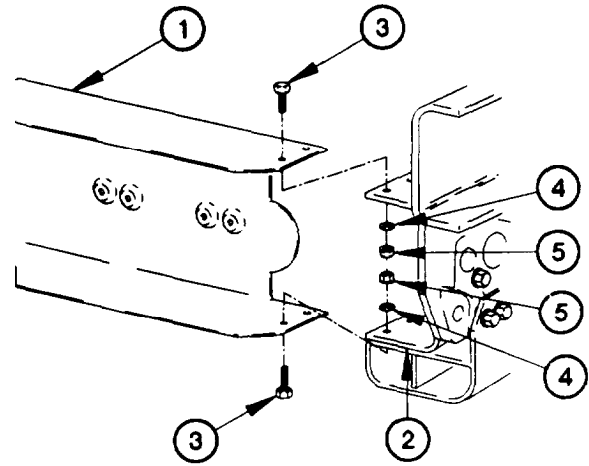
14-5. TAILLIGHT CARRIER REPLACEMENT (CONT)

b. Left Taillight Carrier Installation.

NOTE

Perform steps (1) and (2) on M1093 and M1094.

- (1) Position left taillight carrier (1) on bracket (2) with four screws (3), washers (4) and self-locking nuts (5).
- (2) Tighten four self-locking nuts (5) to 39-55 lb-ft (59-69 N•m).

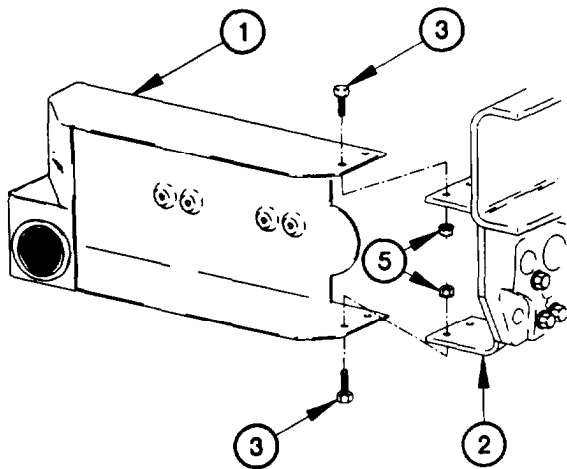


XP11B01A

NOTE

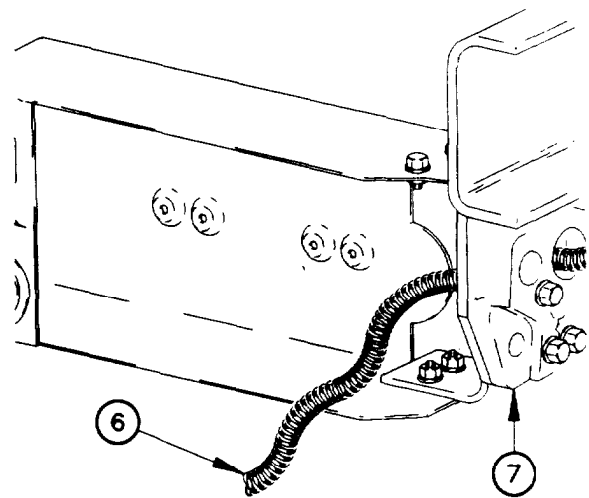
Perform steps (3) and (4) on all models except M1093 and M1094.

- (3) Position left taillight carrier (1) on bracket (2) with four screws (3) and self-locking nuts (5).
- (4) Tighten four self-locking nuts (5) to 39-55 lb-ft (59-69 N•m).



XP11B02A

- (5) Route rear lights cable (6) through left frame rail (7).

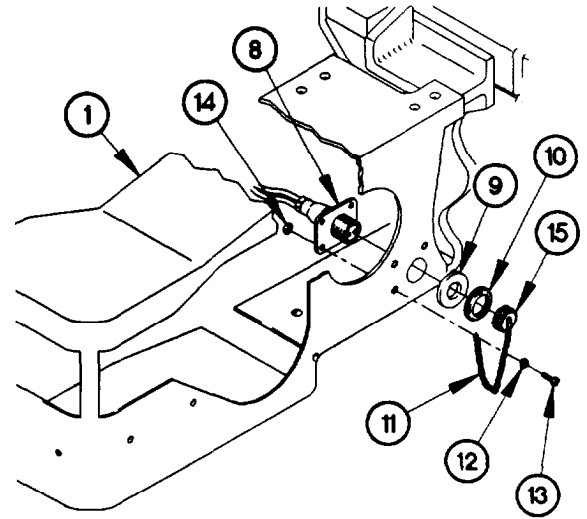


XP11B03A

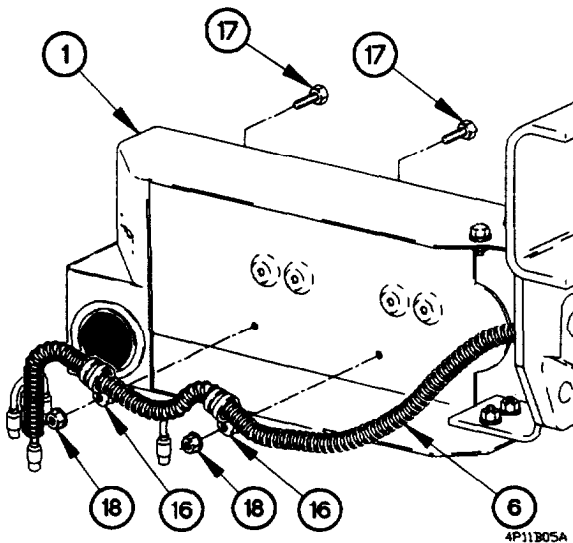
NOTE

Perform steps (6) through (8) on M1084 and M1086.

- (6) Install connector P135 (8) in left taillight carrier (1) with spring washer (9) and nut (10).
- (7) Install lanyard (11) on left taillight carrier (1) with spring washer (12), screw (13), and nut (14).
- (8) Install dust cap (15) on connector P135 (8).



4P11B04A



4P11B05A

NOTE

Perform steps (9) through (11) on M1083 and M1085, and on M1084, M1090, and M1094 with vehicle serial numbers 3465 and higher.

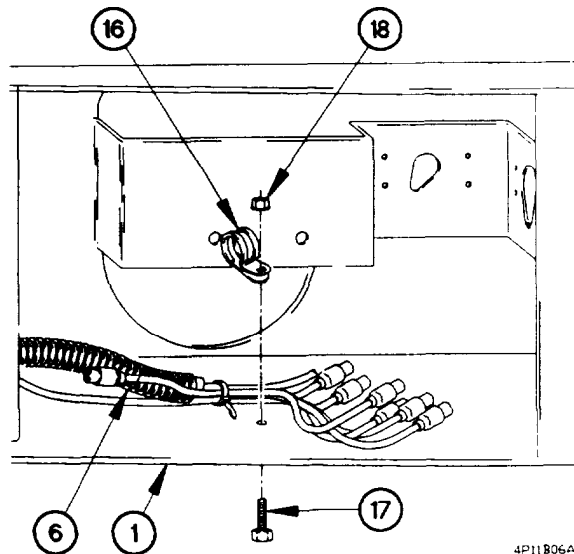
- (9) Position two clamps (16) on rear lights cable assembly (6).
- (10) Position two clamps (16) on left taillight carrier (1) with two screws (17) and self-locking nuts (18).
- (11) Tighten two self-locking nuts (18) to 84-108 lb-in (10-12 N•m).

14-5. TAILLIGHT CARRIER REPLACEMENT (CONT)

NOTE

Perform steps (12) through (14) on M1084, M1090, and M1094 with vehicle serial numbers 0001 through 3464.

- (12) Position clamp (16) on rear lights cable assembly (6).
- (13) Position clamp (16) on left taillight carrier (1) with screw (17) and self-locking nut (18).
- (14) Tighten self-locking nut (18) to 84-108 lb-in. (10-12 N•m).



c. Right Taillight Carrier Removal.

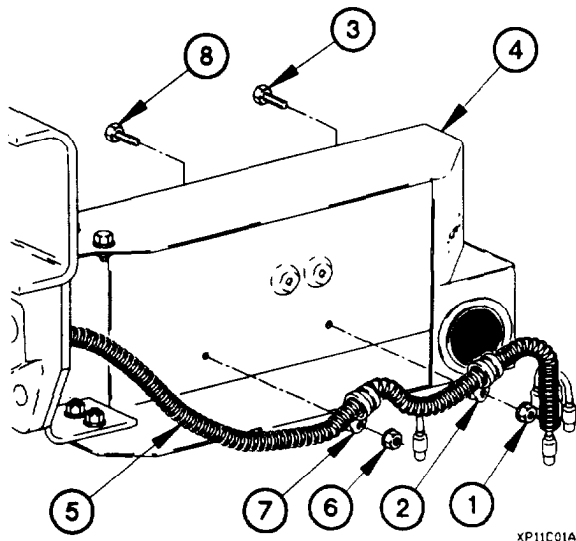
NOTE

Perform steps (1) and (2) on M1083 and M1085, and on M1084, M1086, M1090, and M1094 with vehicle serial numbers 3465 and higher.

- (1) Remove self-locking nut (1), clamp (2), and screw (3) from right taillight carrier (4). Discard self-locking nut.
- (2) Remove clamp (2) from rear lights cable assembly (5).

NOTE

- Perform steps (3) and (4) on M1083 and M1085 not equipped with self-recovery winch.
- Perform steps (3) and (4) on M1090 and M1094 with vehicle serial numbers 3465 and higher not equipped with self-recovery winch.
- Perform steps (3) and (4) on M1084 and M1086 with vehicle serial numbers 3465 and higher.

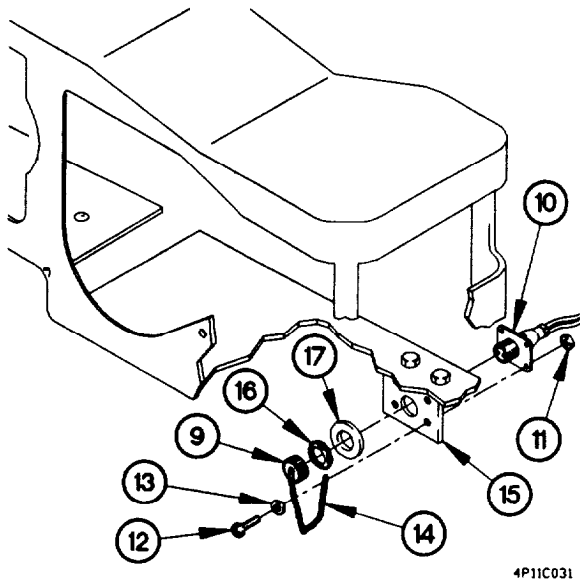
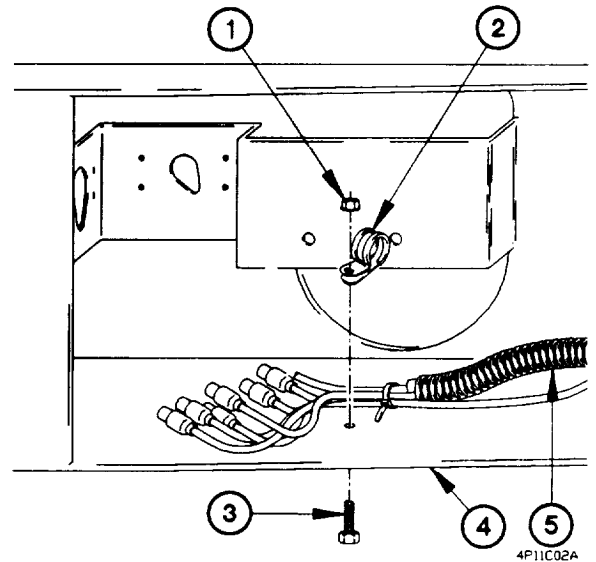


- (3) Remove self-locking nut (6), clamp (7) and screw (8) from right taillight carrier (4). Discard self-locking nut.
- (4) Remove clamp (7) from rear lights cable assembly (5).

NOTE

Perform steps (5) and (6) on M1084, M1086, M1090, and M1094 with vehicle serial numbers 0001 through 3464.

- (5) Remove self-locking nut (1), clamp (2), and screw (3) from right taillight carrier (4). Discard self-locking nut,
- (6) Remove clamp (2) from rear lights cable assembly (5).



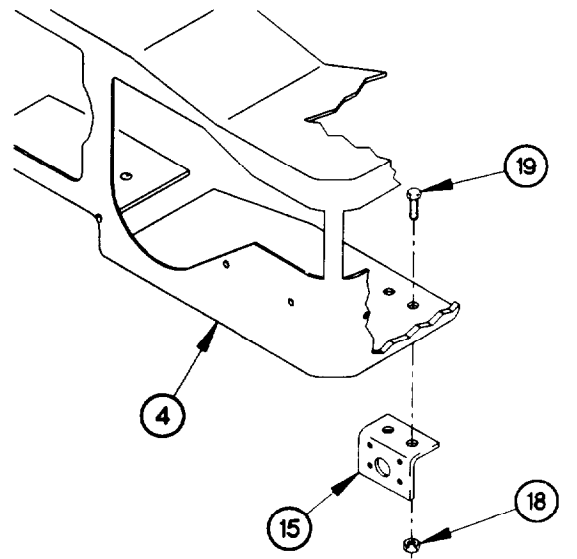
NOTE

Perform steps (7) through (10) on M1084 and M1086.

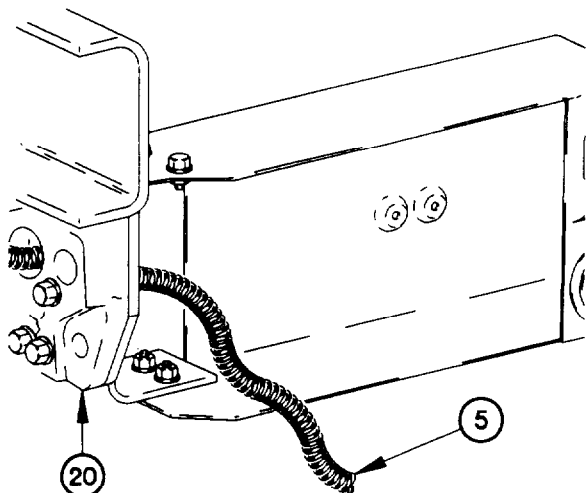
- (7) Remove dust cap (9) from connector P136 (10).
- (8) Remove nut (11), screw (12), spring washer (13), and lanyard (14) from worklight connector bracket (15). Discard spring washer.
- (9) Remove nut (16), spring washer (17), and connector P136 (10) from worklight connector bracket (15). Discard spring washer.

14-5. TAILLIGHT CARRIER REPLACEMENT (CONT)

(10) Remove two self-locking nuts (18), screws (19) and worklight connector bracket (15) from right taillight carrier (4). Discard self-locking nuts.



4P11104A



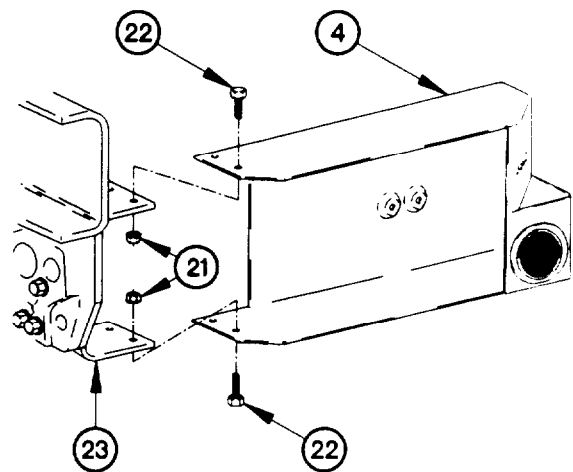
4P11C05A

(11) Pull rear lights cable assembly (5) through right frame rail (20).

NOTE

- Perform step (12) on M1083, M1085, and M1090 not equipped with self-recovery winch.
- Perform step (12) on M1084 and M1086.

(12) Remove four self-locking nuts (21), screws (22), and right taillight carrier (4) from bracket (23). Discard self-locking nuts.

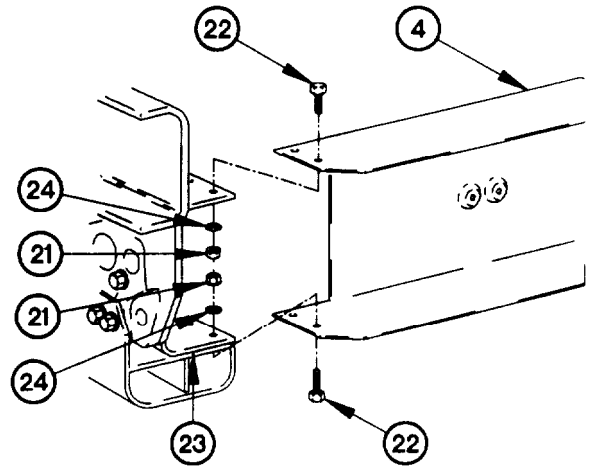


4P11C06A

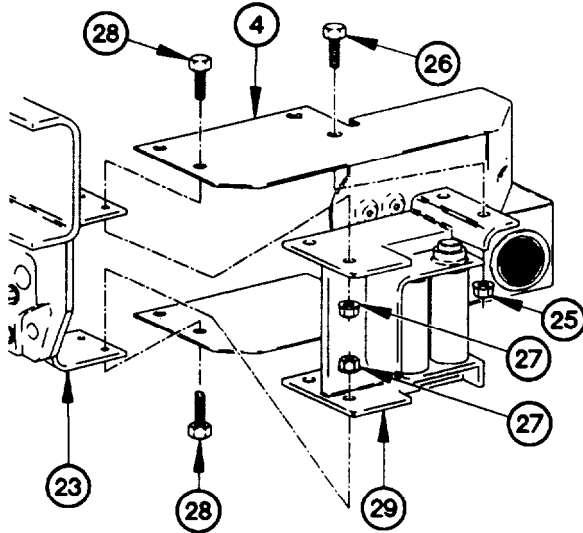
NOTE

Perform step (13) on M1093 and M1094 not equipped with self-recovery winch.

- (13) Remove four self-locking nuts (21), washers (24), screws (22) and right taillight carrier (4) from bracket (23). Discard self-locking nuts.



4P11C07A



4P11C08A

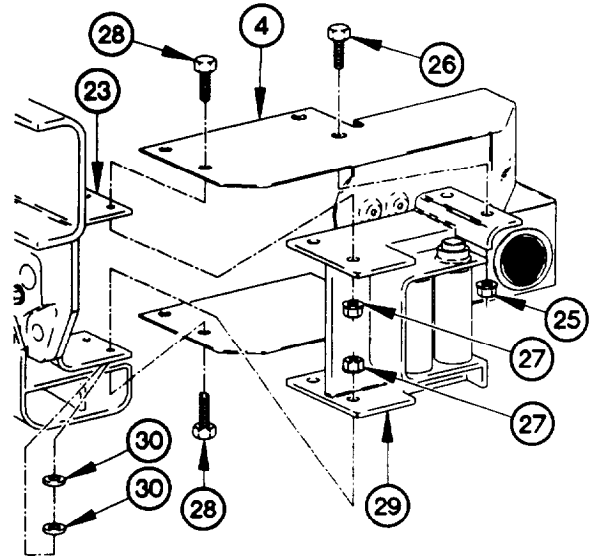
NOTE

- Perform steps (14) and (15) on M1083, M1085, and M1090 equipped with self-recovery winch.
 - Steps (14) and (15) require the aid of an assistant.
- (14) Remove two self-locking nuts (25) and screws (26) from right taillight carrier (4). Discard self-locking nuts.
- (15) Remove four self-locking nuts (27), screws (28), self-recovery winch rear roller fairlead bracket (29) and right taillight carrier (4) from bracket (23). Discard self-locking nuts.

14-5. TAILLIGHT CARRIER REPLACEMENT (CONT)

NOTE

- Perform steps (16) and (17) on M1093 and M1094 equipped with self-recovery winch.
 - Steps (16) and (17) require the aid of an assistant.
- (16) Remove two self-locking nuts (25) and screws (26) from right taillight carrier (4). Discard self-locking nuts.
- (17) Remove four self-locking nuts (27), washers (30), screws (28), self-recovery winch rear roller fairlead bracket (29), and right taillight carrier (4) from bracket (23). Discard self-locking nuts.

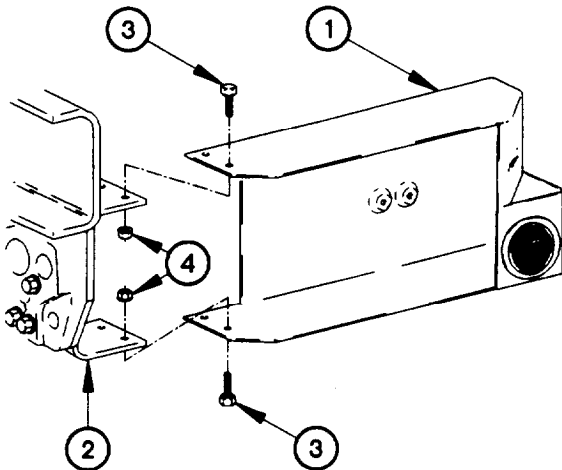


4P11C09A

d. Right Taillight Carrier Installation.

NOTE

- Perform steps (1) and (2) on M1083, M1085, and M1090 not equipped with self-recovery winch.
 - Steps (1) through (12) require the aid of an assistant.
- (1) Position right taillight carrier (1) on bracket (2) with four screws (3) and self-locking nuts (4).
- (2) Tighten four self-locking nuts (4) to 39-55 lb-ft (59-69 N•m).

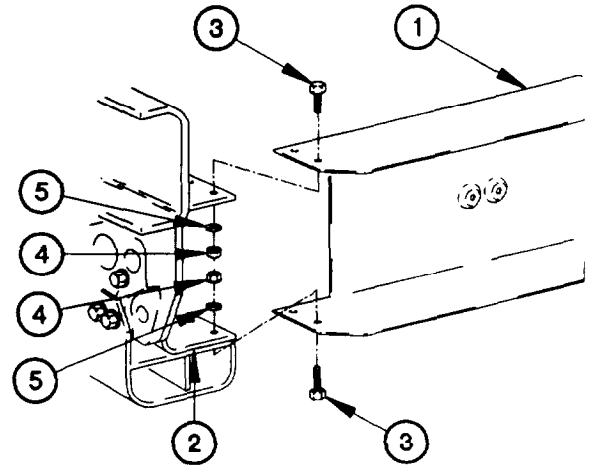


XP11D01A

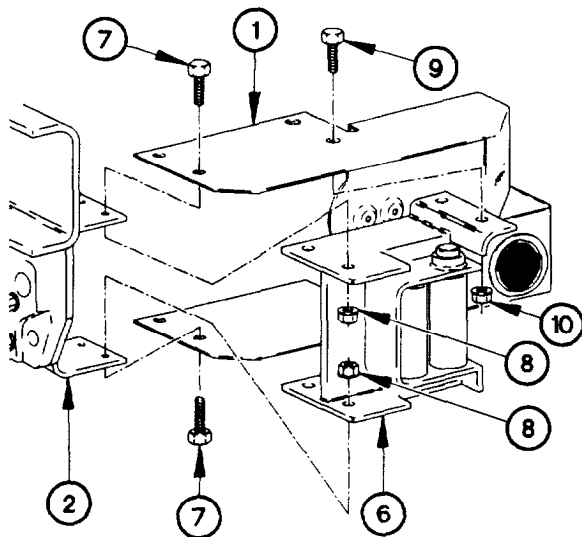
NOTE

Perform steps (3) and (4) on M1093 and M1094 not equipped with self-recovery winch.

- (3) Position right taillight carrier (1) on bracket (2) with four screws (3), washers (5) and self-locking nuts (4).
- (4) Tighten four self-locking nuts (4) to 149-182 lb-ft (202-247 N•m).



XP11D02A



XP11D03A

NOTE

Perform steps (5) through (8) on M1083, M1085, and M1090 equipped with self-recovery winch.

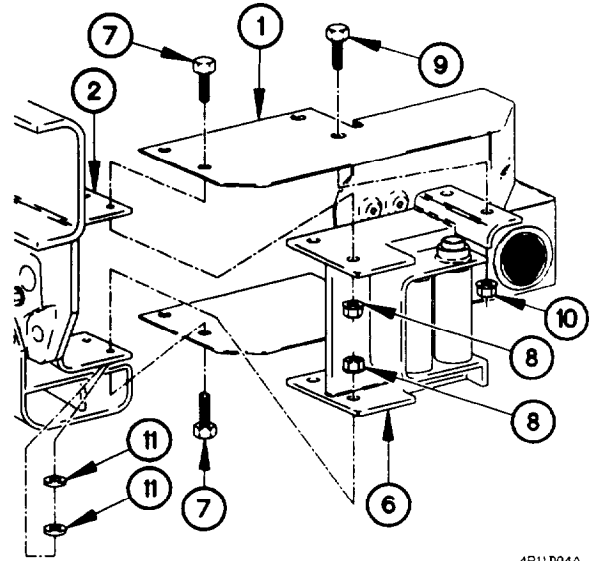
- (5) Position self-recovery winch rear roller fairlead bracket (6) and right taillight carrier (1) on bracket (2) with four screws (7) and self-locking nuts (8).
- (6) Position two screws (9) and self-locking nuts (10) in right taillight carrier (1).
- (7) Tighten four self-locking nuts (8) to 149-182 lb-ft (202-247 N•m).
- (8) Tighten two self-locking nuts (10) to 26-32 lb-ft (35-43 N•m).

14-5. TAILLIGHT CARRIER REPLACEMENT (CONT)

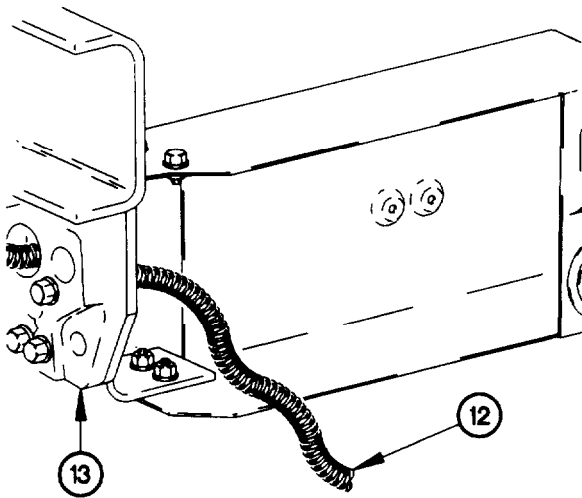
NOTE

Perform steps (9) through (12) on M1093 and M1094 equipped with self-recovery winch.

- (9) Position self-recovery winch rear roller fairlead bracket (6) and right taillight carrier (1) on bracket (2) with four screws (7), washers (11) and self-locking nuts (8).
- (10) Position two screws (9) and self-locking nuts (10) in right taillight carrier (1).
- (11) Tighten four self-locking nuts (8) to 149-182 lb-ft (202-247 N•m).
- (12) Tighten two self-locking nuts (10) to 26-32 lb-ft (35-43 N•m).



4P11D04A



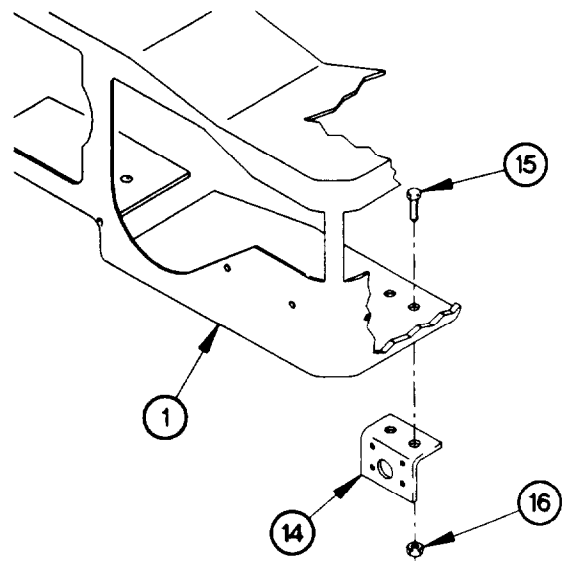
XP11D05A

- (13) Route rear lights cable assembly (12) through right frame rail (13).

NOTE

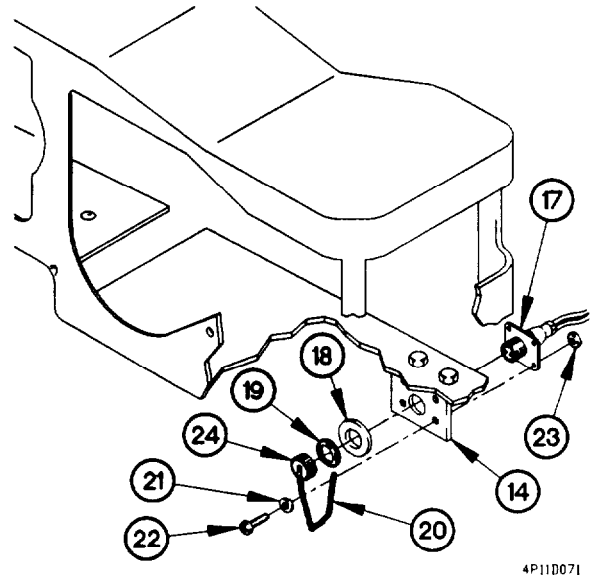
Perform steps (14) through (18) on M1084 and M1086.

- (14) Position worklight connector bracket (14) on right taillight carrier (1) with two screws (15) and self-locking nuts (16).
- (15) Tighten two self-locking nuts (16) to 39-55 lb-ft (59-69 N•m).



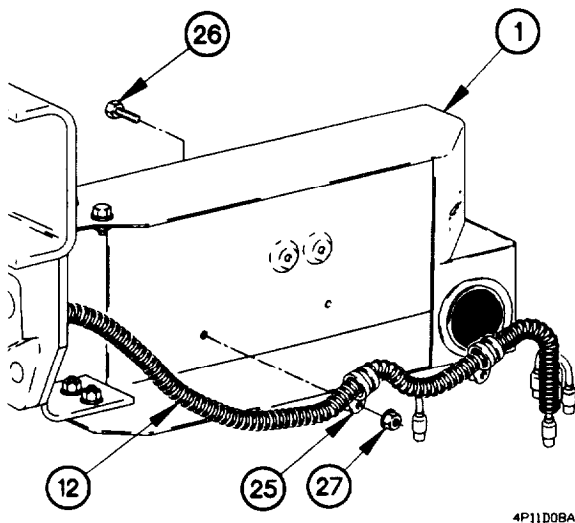
4P11D06A

- (16) Install connector P136 (17) in worklight connector bracket (14) with spring washer (18) and nut (19).
- (17) Install lanyard (20) on worklight connector bracket (14) with spring washer (21), screw (22), and nut (23).
- (18) Install dust cap (24) on connector P136 (17).



NOTE

- Perform steps (19) through (21) on M1083 and M1085 not equipped with self-recovery winch.
- Perform steps (19) through (21) on M1090 and M1094 with vehicle serial numbers 3465 and higher not equipped with self-recovery winch.
- Perform steps (19) through (21) on M1084 and M1088 with vehicle serial numbers 3465 and higher.



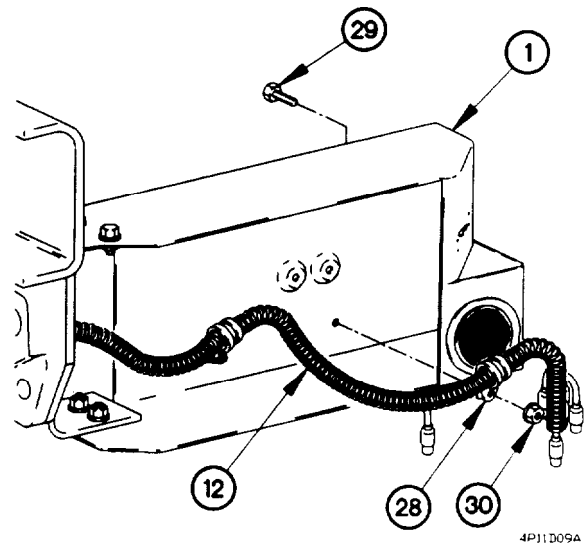
- (19) Position clamp (25) on rear lights cable assembly (12).
- (20) Position clamp (25) on right taillight carrier (1) with screw (26) and self-locking nut (27).
- (21) Tighten self-locking nut (27) to 84-108 lb-in. (10-12 N•m).

14-5. TAILLIGHT CARRIER REPLACEMENT (CONT)

NOTE

Perform steps (22) through (24) on M1083 and M1085, and on M1084, M1086, M1090, and M1094 with vehicle serial numbers 3465 and higher.

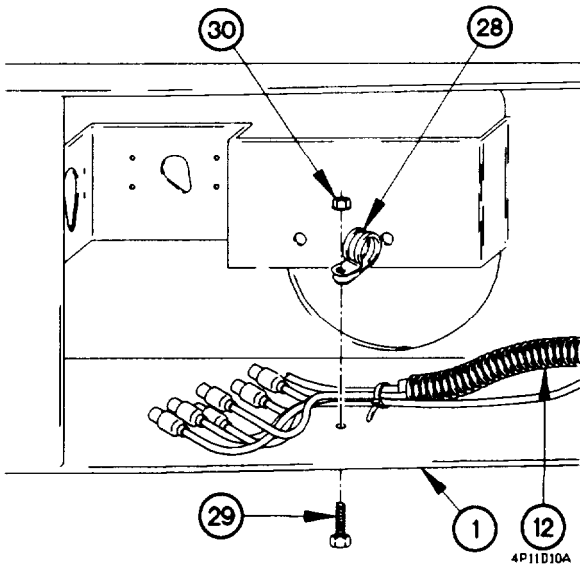
- (22) Position clamp (28) on rear lights cable assembly (12).
- (23) Position clamp (28) on right taillight carrier (1) with screw (29) and self-locking nut (30).
- (24) Tighten self-locking nut (30) to 84-108 lb-in. (10-12 N•m).



NOTE

Perform steps (25) through (27) on M1084, M1086, M1090, and M1094 with vehicle serial numbers 0001 through 3464.

- (25) Position clamp (28) on rear lights cable assembly (12).
- (26) Position clamp (28) on right taillight carrier (1) with screw (29) and self-locking nut (30).
- (27) Tighten self-locking nut (30) to 84-108 lb-in. (10-12 N•m).



e. Follow-On Maintenance.

- (1) Install splash guards (M1083/M1093) (para 16-11).
- (2) Install marker light assemblies (para 7-38).
- (3) Install backup light assembly (para 7-36).
- (4) Install composite taillight assembly (para 7-39).

End of Task.

14-6. M1088 MOUNTING BRACKET REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Batteries disconnected (para 7-57).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
 Wrench Set, Socket (Item 51, Appendix C)

Material/Parts

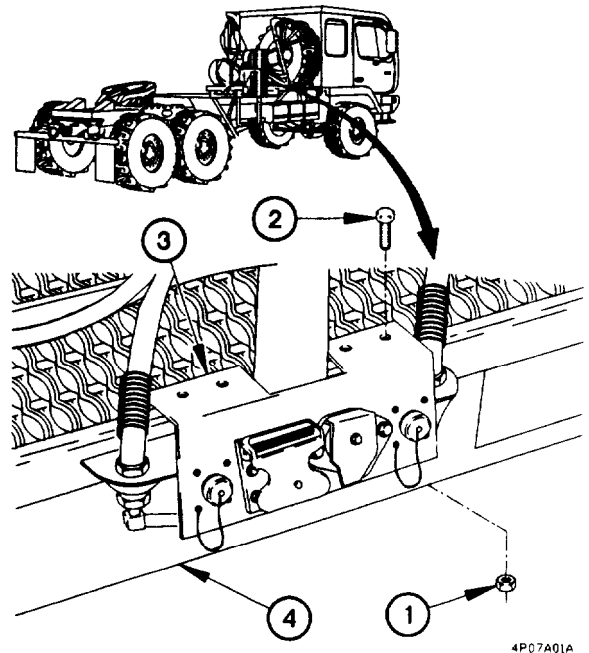
Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Nut, Self-Locking (4) (Item 154, Appendix G)
 Washer, Spring (2) (Item 289, Appendix G)
 Washer, Spring (2) (Item 296, Appendix G)
 Nut, Self-Locking (6) (Item 128, Appendix G)

NOTE

Vehicle serial numbers 0001 through 2359 were not originally equipped with gladhand selector valves. Vehicle serial numbers 2360 and higher are equipped with gladhand selector valves. M1088 without gladhand selector valves shown.

a. Removal.

- (1) Remove four self-locking nuts (1), screws (2) and mounting bracket (3) from platform (4). Discard self-locking nuts.

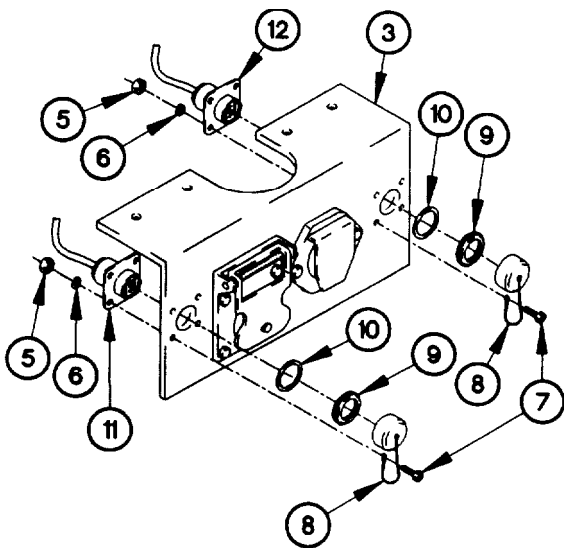


4P07A01A

NOTE

Tag wires and connection points prior to disconnecting.

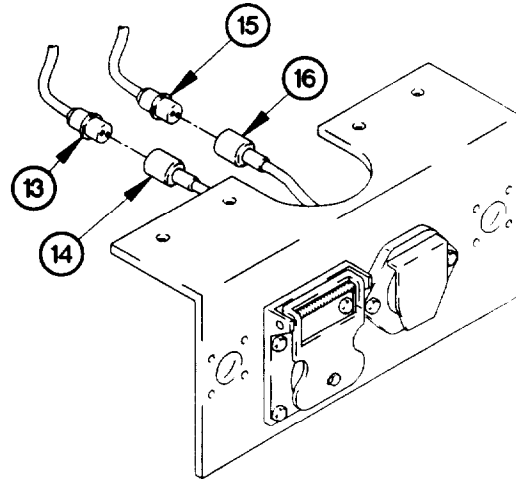
- (2) Remove two nuts (5), spring washers (6), screws (7), and dust cap lanyards (8) from mounting bracket (3). Discard spring washers.
- (3) Remove two nuts (9), spring washers (10), and connectors P134 (11) and P133 (12) from mounting bracket (3). Discard spring washers.



4P07A02A

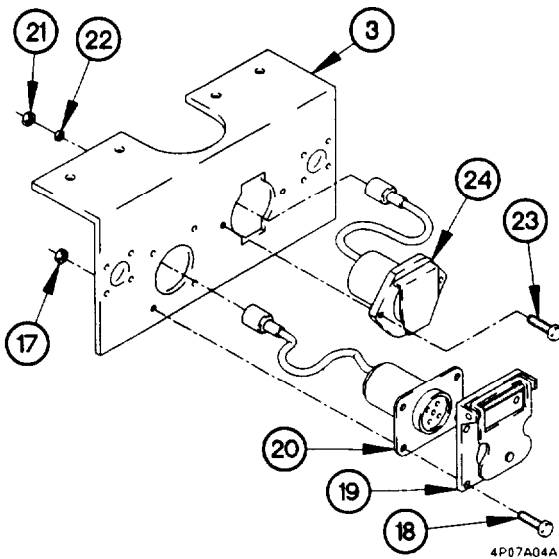
14-6. M1088 MOUNTING BRACKET REPLACEMENT (CONT)

- (4) Disconnect connector P53 (13) from connector J53 (14).
- (5) Disconnect connector P52 (15) from connector J52 (16).



4P07A03A

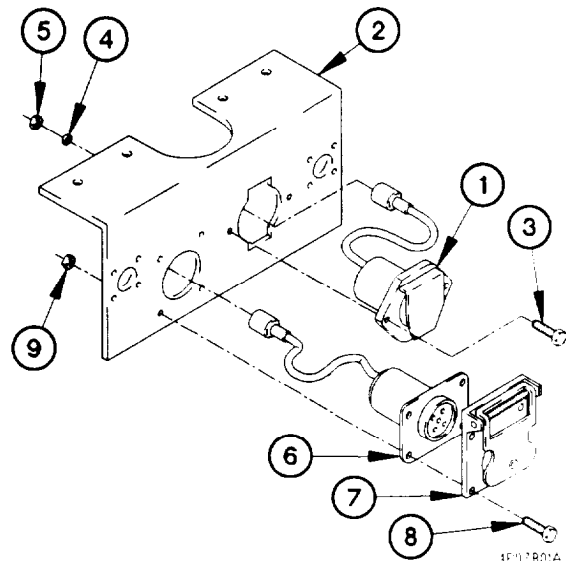
- (6) Remove four self-locking nuts (17), screws (18), cover (19), and rear intervehicular 24 vdc cable (20) from mounting bracket (3). Discard self-locking nuts.
- (7) Remove two self-locking nuts (21), washers (22), screws (23), and rear intervehicular 12 vdc cable (24) from mounting bracket (3). Discard self-locking nuts.



4P07A04A

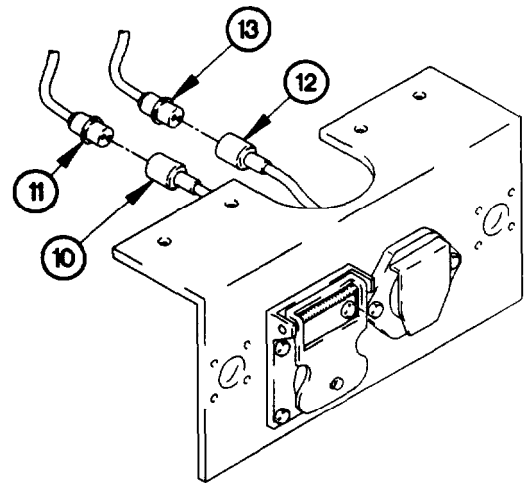
b. Installation.

- (1) Position rear intervehicular 12 vdc cable (1) on mounting bracket (2) with two screws (3), washers (4), and self-locking nuts (5).
- (2) Tighten two self-locking nuts (5) to 97-123 lb-in. (11-14 N•m).
- (3) Position rear intervehicular 24 vdc cable (6) on mounting bracket (2) with cover (7), four screws (8) and self-locking nuts (9).
- (4) Tighten four self-locking nuts (9) to 97-123 lb-in. (11-14 N•m).

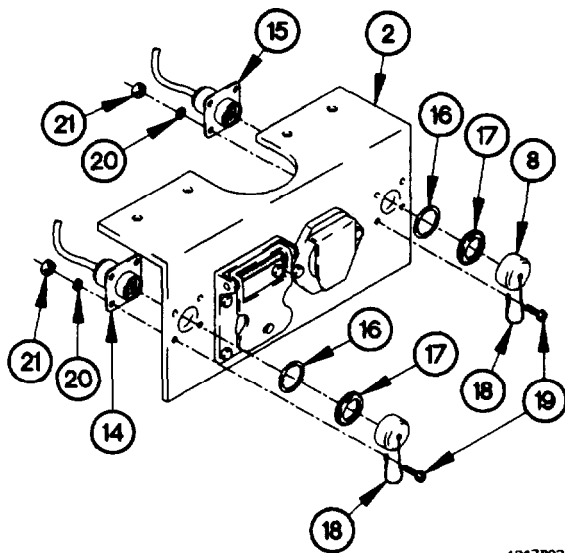


4P07B01A

- (5) Connect connector J53 (10) to connector P53 (11).
- (6) Connect connector J52 (12) to connector P52 (13).



4P07B02A



4P07B03A

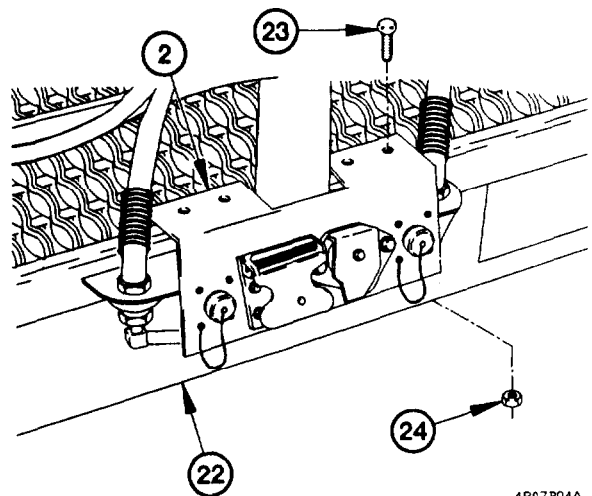
- (7) Install connectors P133 (14) and P134 (15) in mounting bracket (2) with two spring washers (16) and nuts (17).
- (8) Install two dust cap lanyards (18) on mounting bracket (2) with two screws (19), spring washers (20), and nuts (21).

- (9) Install mounting bracket (2) on platform (22) with four screws (23) and self-locking nuts (24).

c. Follow-On Maintenance.

Connect batteries (para 7-57).

End of Task.



4P07B04A

14-7. M1088 UPPER PLATFORM REPLACEMENT

This task covers:

- | | |
|----------------|--------------------------|
| a. Removal | d. Installation |
| b. Disassembly | e. Follow-On Maintenance |
| c. Assembly | |

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Air tanks drained (TM 9-2320-366-10-1).
- Worklight assembly removed (para 7-42).
- M1088 mounting bracket removed (para 14-6).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Wrench, Torque, 0-75 lb-in. (Item 90, Appendix B)
- Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

- Washer, Spring (8) (Item 296, Appendix G)
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Antiseize Compound (Item 13, Appendix D)
- Nut, Self-Locking (2) (Item 156, Appendix G)
- Nut, Self-Locking (2) (Item 169, Appendix G)
- Nut, Self-Locking (2) (Item 154, Appendix G)
- Nut, Self-Locking (3) (Item 155, Appendix G)
- Lockwasher (Item 89, Appendix G)

Personnel Required

(2)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal

NOTE

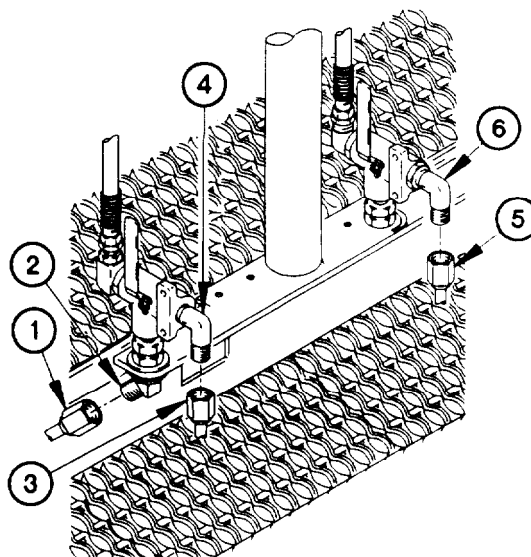
- Vehicle serial numbers 0001 through 2359 were not originally equipped with gladhand selector valves. Vehicle serial numbers 2360 and higher are equipped with gladhand selector valves. M1088 with gladhand selector valves shown.
- Tag hoses and connection points prior to disconnecting.

- (1) Disconnect two air hoses (1) from 45-degree fittings (2).

NOTE

Perform steps (2) and (3) on vehicles equipped with gladhand selector valves.

- (2) Disconnect hose (3) from 90-degree fitting (4).
- (3) Disconnect hose (5) from 90-degree fitting (6).

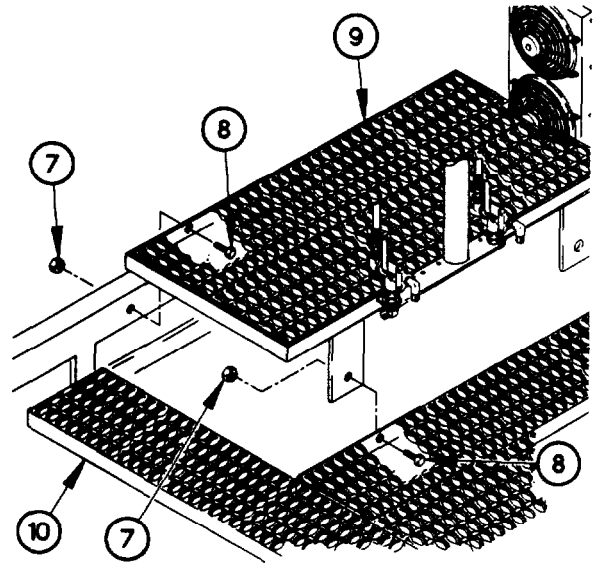


4P08A011

NOTE

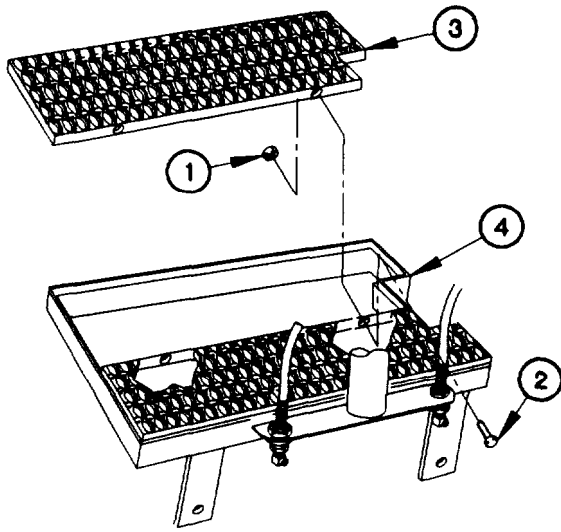
Step (4) requires the aid of an assistant.

- (4) Remove four self-locking nuts (7), screws (8) and upper platform (9) from platform (10). Discard self-locking nuts.



4P08A031

b. Disassembly



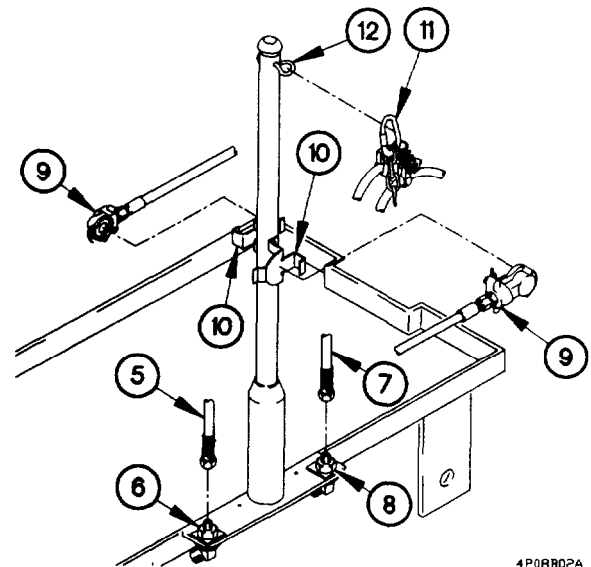
4P08B01A

NOTE

Perform steps (1) through (11) on vehicles not equipped with gladhand selector valves.

- (1) Remove two self-locking nuts (1), screws (2) and metal floor plates (3) from platform (4). Discard self-locking nuts.

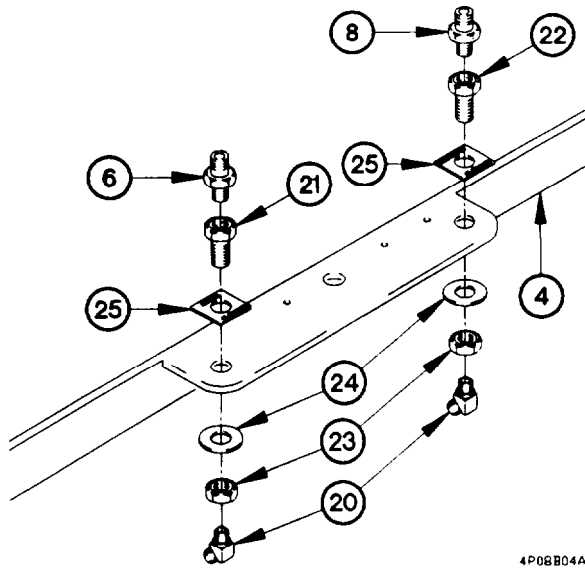
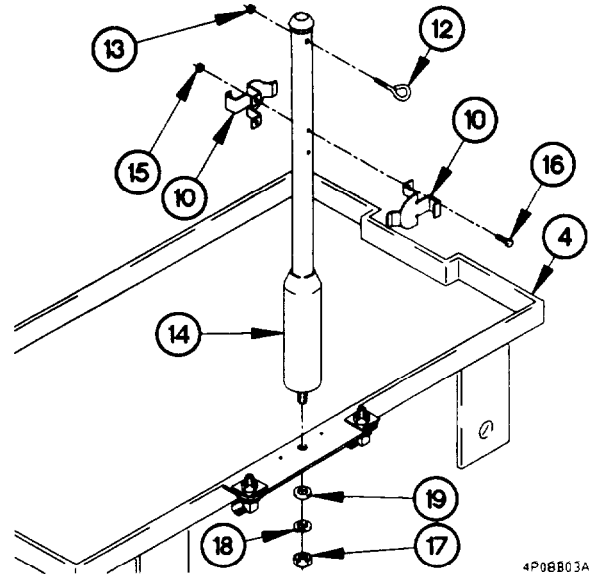
- (2) Disconnect hose (5) from fitting (6).
- (3) Disconnect hose (7) from fitting (8).
- (4) Disconnect two gladhands (9) from dummy connectors (10).
- (5) Disconnect mounting ring (11) from eye ring (12).



4P08B02A

14-7. M1088 UPPER PLATFORM REPLACEMENT (CONT)

- (6) Remove self-locking nut (13) and eye ring (12) from pedestal (14). Discard self-locking nut.
- (7) Remove two self-locking nuts (15), screws (16) and dummy connectors (10) from pedestal (14). Discard self-locking nuts.
- (8) Remove nut (17), lockwasher (18), washer (19) and pedestal (14) from platform (4). Discard lockwasher.

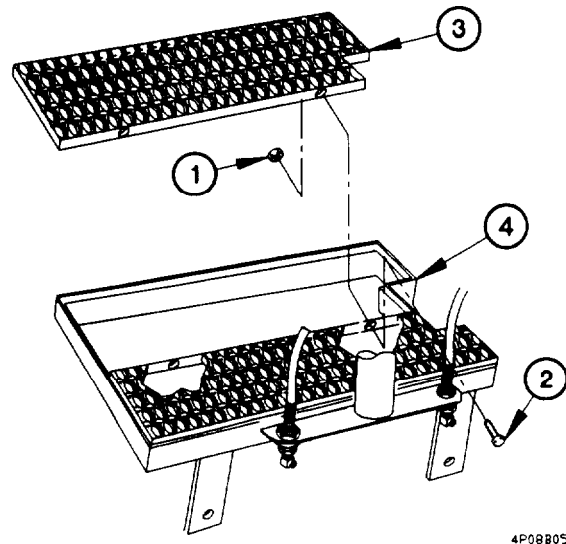


- (9) Remove two 45-degree fittings (20) from fittings (21 and 22).
- (10) Remove two nuts (23), washers (24), fittings (21 and 22) and labels (25) from platform (4).
- (11) Remove fittings (6 and 8) from fittings (21 and 22).

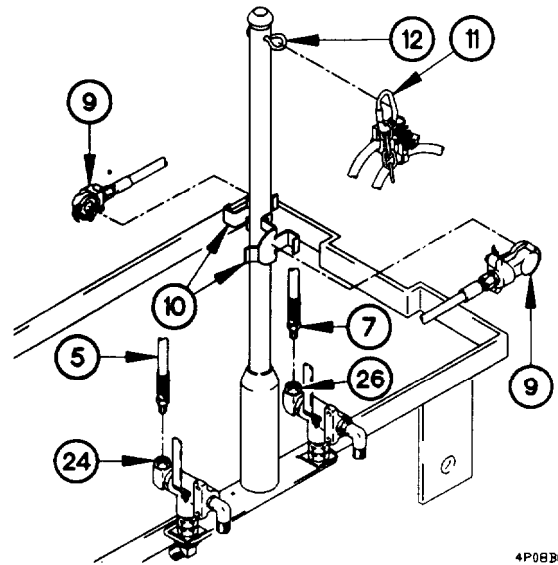
NOTE

Perform steps (12) through (22) on vehicles equipped with gladhand selector valves.

- (12) Remove two self-locking nuts (1), screws (2) and metal floor plates (3) from platform (4). Discard self-locking nuts.

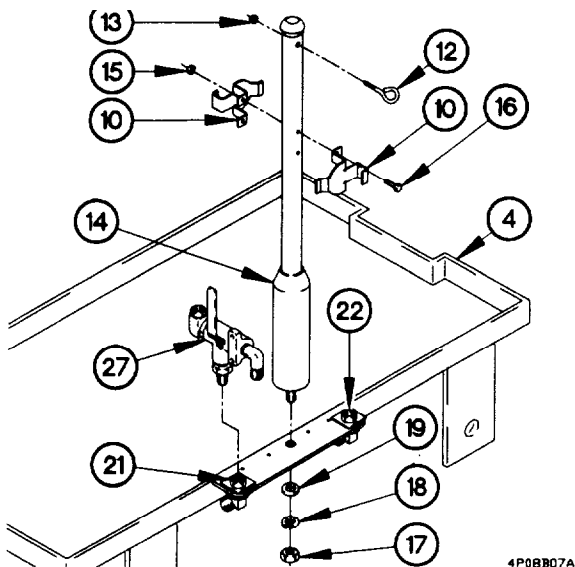


- (13) Disconnect hose (5) from bushing (24).
- (14) Disconnect hose (7) from bushing (26).
- (15) Disconnect two gladhands (9) from dummy connectors (10).
- (16) Disconnect mounting ring (11) from eye ring (12).



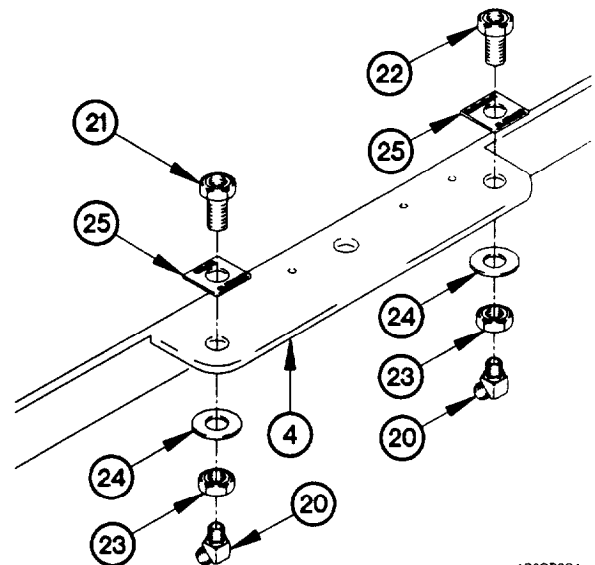
4P08B06A

- (17) Remove self-locking nut (13) and eye ring (12) from pedestal (14). Discard self-locking nut.
- (18) Remove two self-locking nuts (15), screws (16) and dummy connectors (10) from pedestal (14). Discard self-locking nuts.
- (19) Remove nut (17), lockwasher (18), washer (19) and pedestal (14) from platform (4). Discard lockwasher.
- (20) Remove two gladhand selector valves (27) from fittings (21 and 22).



4P08B07A

- (21) Remove two 45-degree fittings (20) from fittings (21 and 22).
- (22) Remove two nuts (23), washers (24), fittings (21 and 22) and labels (25) from platform (4).



4P08B08A

14-7. M1088 UPPER PLATFORM REPLACEMENT (CONT)

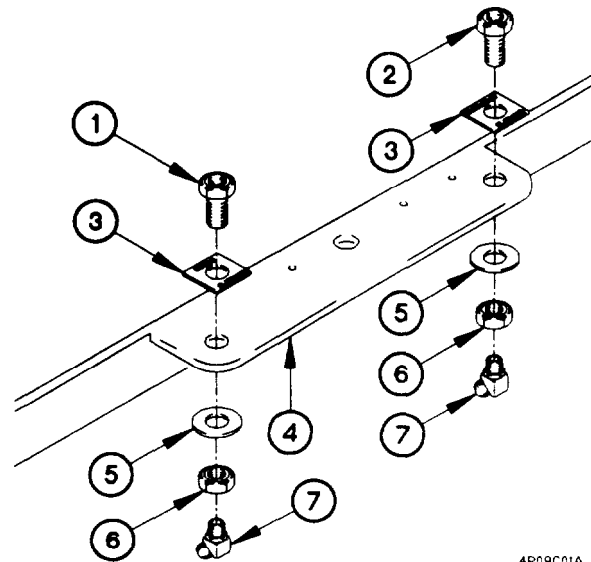
c. Assembly

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. Failure to comply may result in injury to personnel. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

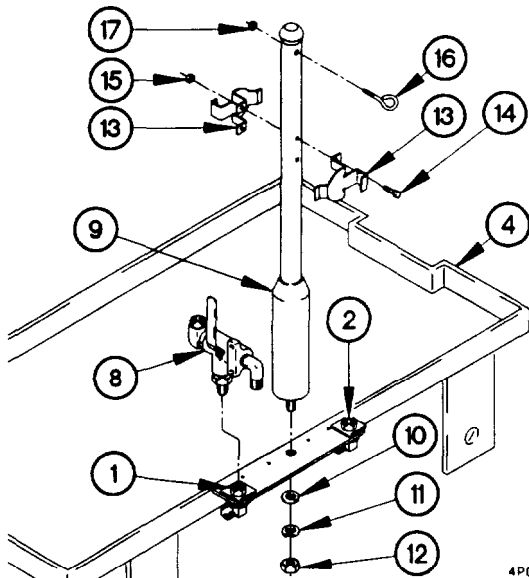
NOTE

Perform steps (1) through (14) on vehicles equipped with gladhand selector valves.



4P08C01A

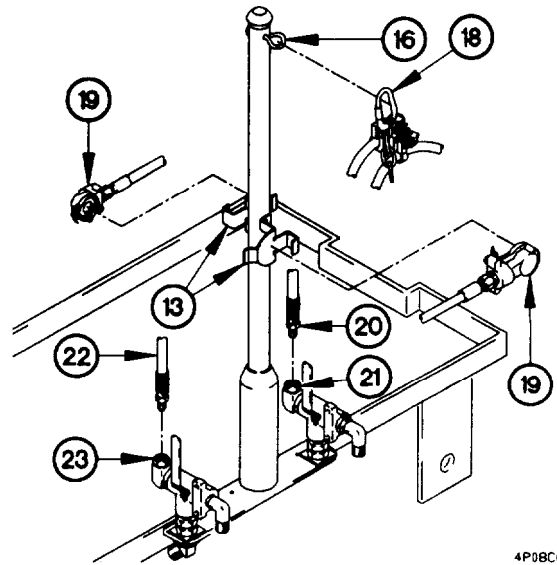
- (1) Apply antiseize compound to inside threads of fittings (1 and 2).
- (2) Install two labels (3) and fittings (1 and 2) in platform (4) with two washers (5) and nuts (6).
- (3) Apply antiseize compound to threads of two 45-degree fittings (7).
- (4) Install two 45-degree fittings (7) in fittings (1 and 2).



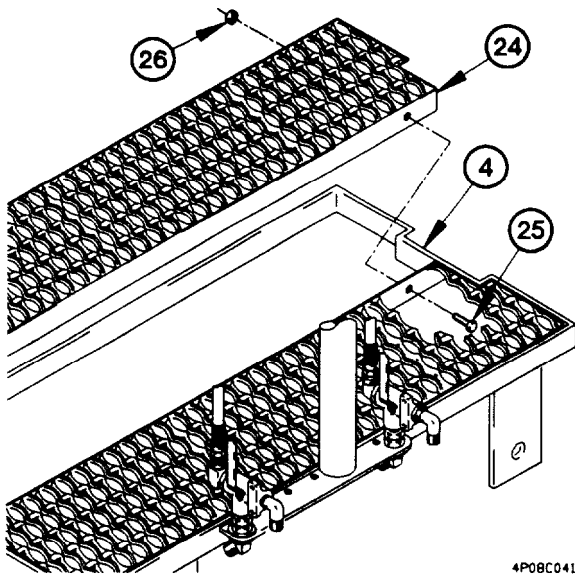
4P08C02A

- (5) Install two gladhand selector valves (8) in fittings (1 and 2).
- (6) Install pedestal (9) on platform (4) with washer (10), lockwasher (11) and nut (12).
- (7) Install two dummy connectors (13) on pedestal (9) with two screws (14) and self-locking nuts (15).
- (8) Install eye ring (16) in pedestal (9) with self-locking nut (17).

- (9) Connect mounting ring (18) to eye ring (16).
- (10) Connect two gladhands (19) to dummy connectors (13).
- (11) Connect hose (20) to bushing (21).
- (12) Connect hose (22) to bushing (23).



4P08C03A



4P08C041

- (13) Position two floor plates (24) on platform (4) with two screws (25) and self-locking nuts (26).
- (14) Tighten two self-locking nuts (26) to 22-28 lb-ft (30-38 N•m).

14-7. M1088 UPPER PLATFORM REPLACEMENT (CONT)

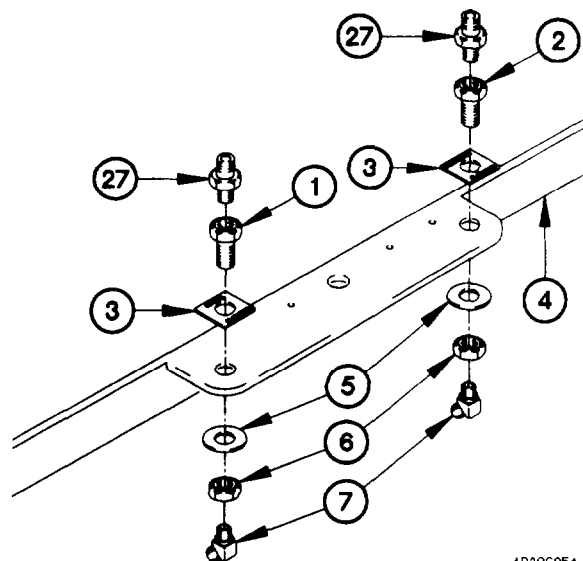
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

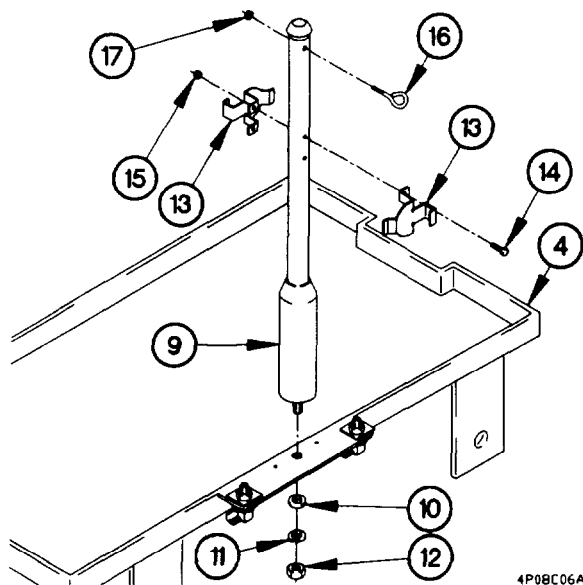
NOTE

Perform steps (15) through (28) on vehicles not equipped with gladhand selector valves.

- (15) Apply antiseize compound to threads of fittings (1 and 2).
- (16) Install two fittings (27) in fittings (1 and 2).
- (17) Install two labels (3) and fittings (1 and 2) on platform (4) with two washers (5) and nuts (6).
- (18) Apply antiseize compound to threads of two 45-degree fittings (7).
- (19) Install two 45-degree fittings (7) in fittings (1 and 2).



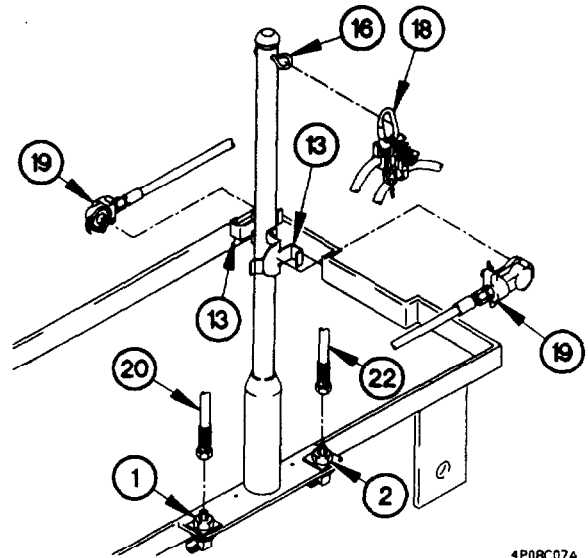
4P08C05A



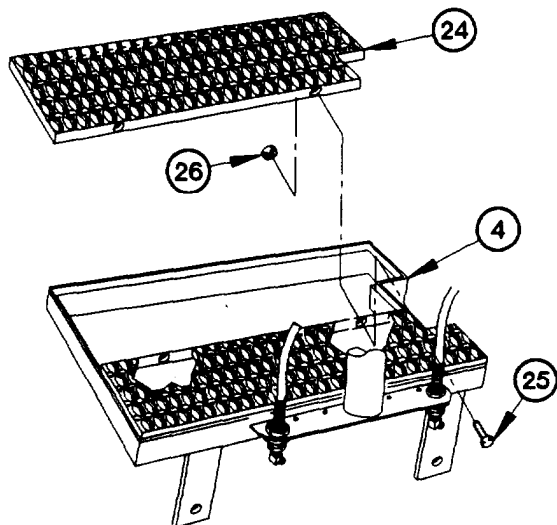
4P08C06A

- (20) Install pedestal (9) on platform (4) with washer (10), lockwasher (11) and nut (12).
- (21) Install two dummy connectors (13) on pedestal (9) with two screws (14) and self-locking nuts (15).
- (22) Install eye ring (16) in pedestal (9) with self-locking nut (17).

- (23) Connect mounting ring (18) to eye ring (16).
- (24) Connect two gladhands (19) to dummy connectors (13).
- (25) Connect hose (20) to fitting (1).
- (26) Connect hose (22) to fitting (2).



4P08C07A



4P08C081

- (27) Position two floor plates (24) on platform (4) with two screws (25) and self-locking nuts (26).
- (28) Tighten two self-locking nuts (26) to 22-28 lb-ft (30-38 N•m).

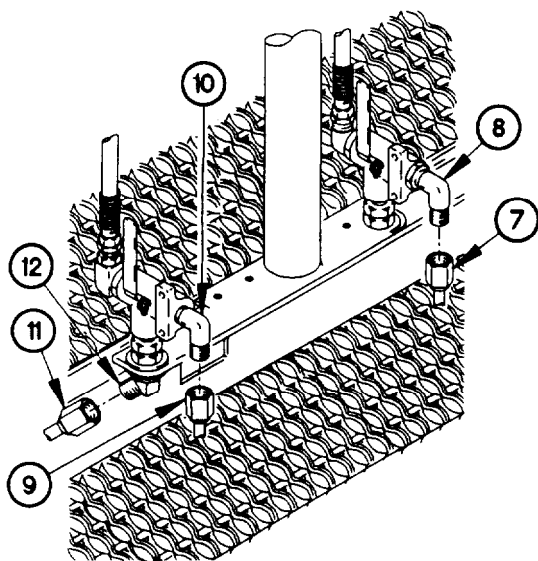
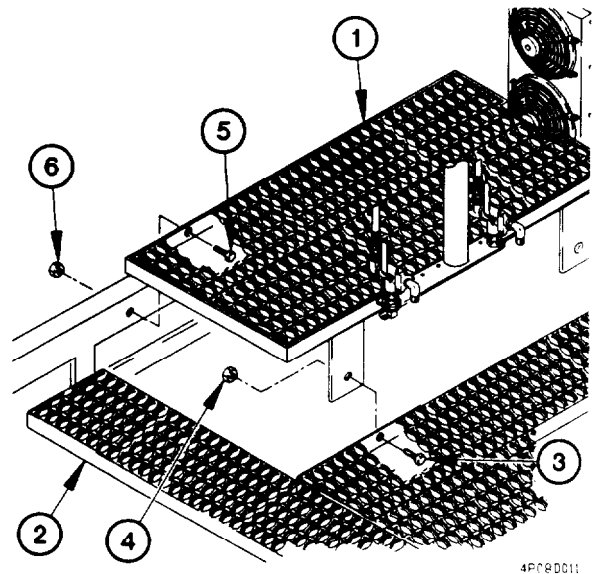
14-7. M1088 UPPER PLATFORM REPLACEMENT (CONT)

d. Installation

NOTE

- Vehicle serial numbers 0001 through 2359 were not originally equipped with gladhand selector valves. Vehicle serial numbers 2360 and higher are equipped with gladhand selector valves. M1088 with gladhand selector valves shown.
- Step (1) requires the aid of an assistant.

- (1) Position upper platform (1) on platform (2) with two screws (3) and self-locking nuts (4).
- (2) Position two screws (5) and self-locking nuts (6) in upper platform (1).
- (3) Tighten two self-locking nuts (4) to 45-55 lb-ft (61-75 N•m).
- (4) Tighten two self-locking nuts (6) to 75-91 lb-ft (102-123 N•m).



NOTE

Perform steps (5) and (7) on vehicles equipped with gladhand selector valves.

- (5) Connect hose (7) to 90-degree fitting (8).
- (6) Connect hose (9) to 90-degree fitting (10).
- (7) Connect two air hoses (11) to 45-degree fittings (12).

e. Follow-On Maintenance.

- (1) Install M1088 mounting bracket (para 14-6).
- (2) Install worklight assembly (para 7-42).
- (3) Start engine (TM 9-2320-366-10-1).
- (4) Check for air leaks.
- (5) Shut down engine (TM 9-2320-366-10-1).

End of Task.

14-8. M1088 PLATFORM AND BRACKETS REPLACEMENT/REPAIR

This task covers:

- | | |
|--------------------------|--------------------------|
| a. Platform Removal | e. Bracket Removal |
| b. Platform Installation | f. Bracket Installation |
| c. Platform Disassembly | g. Follow-On Maintenance |
| d. Platform Assembly | |

INITIAL SETUP

Equipment Conditions

Upper platform removed (para 14-7).

Tools and Special Tools

Tool Kit, Gent Mech (Item 46, Appendix C)
 Sling, Cargo (Item 31, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
 Goggles, industrial (Item 15, Appendix C)
 Wrench, Torque, 0-600 lb-ft (Item 60, Appendix C)
 Wrench Set, Socket (Item 50, Appendix C)

Material/Parts

Nut, Self-Locking (8) (item 156, Appendix G)
 Nut, Self-Locking (4) (item 169, Appendix G)
 Nut, Self-Locking (7) (item 154, Appendix G)
 Nut, Self-Locking (6) (item 158, Appendix G)

Personnel Required

(3)



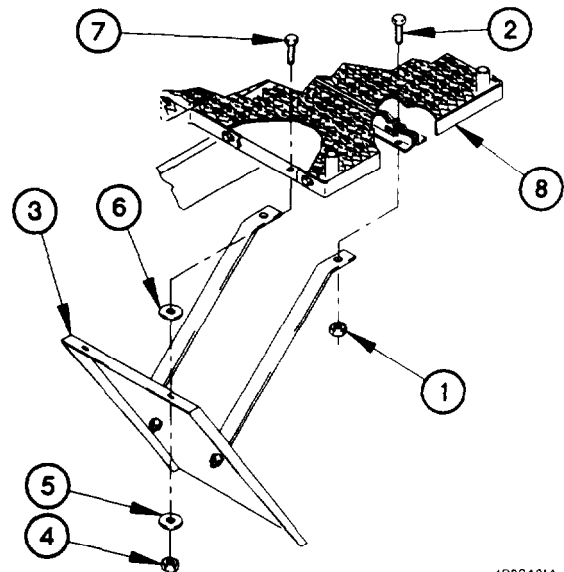
WARNING
 Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Platform Removal.

NOTE

Left and right side fenders are removed the same way. Right side shown.

- (1) Remove two self-locking nuts (1) and screws (2) from fender (3). Discard self-locking nuts.
- (2) Remove two self-locking nuts (4), insulation washers (5), washers (6), screws (7) and fender (3) from platform (8). Discard self-locking nuts.

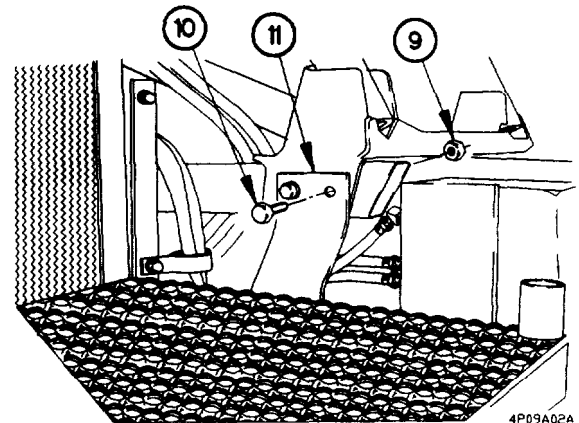
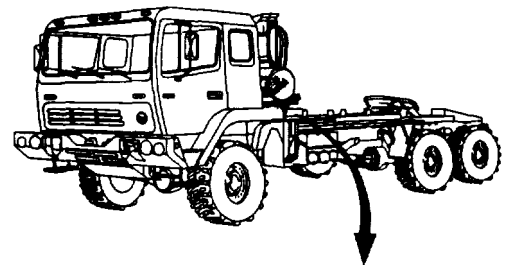


4P09401A

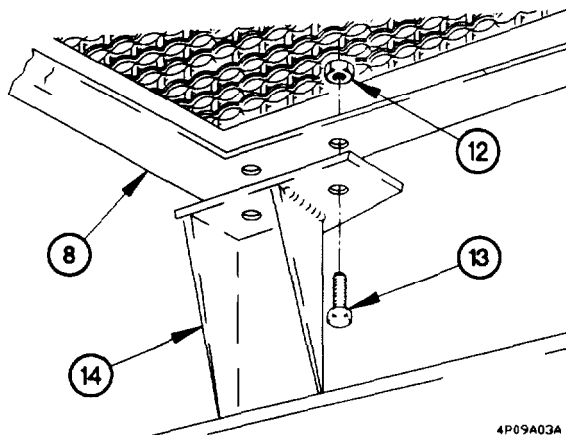
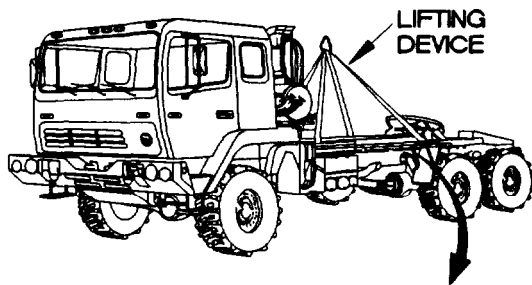
NOTE

Steps (3) and (4) require the aid of two assistants.

- (3) Remove four self-locking nuts (9) and screws (10) from forward mounts (11).



4P09A02A



4P09A03A

WARNING

Tractor platform weighs approximately 550 lbs (250 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

- (4) Remove six self-locking nuts (12), screws (13), and platform (8) from brackets (14).

14-8. M1088 PLATFORM AND BRACKETS REPLACEMENT/REPAIR (CONT)

b. Platform Installation.

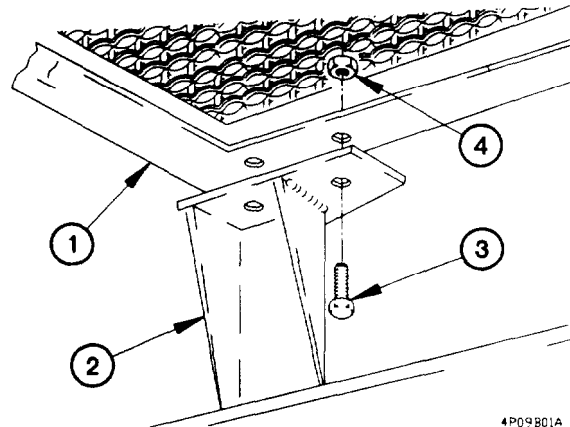
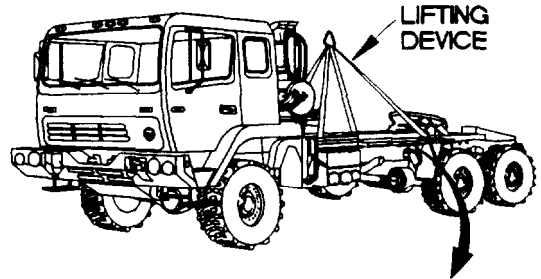
WARNING

Tractor platform weighs approximately 550 lbs (250 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

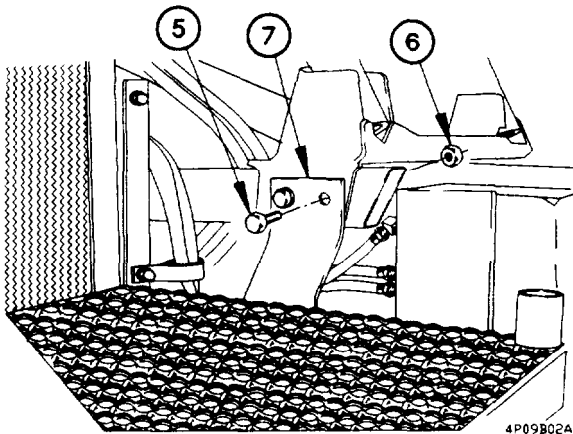
NOTE

Steps (1) through (3) require the aid of two assistants.

- (1) Position platform (1) on brackets (2).
- (2) Position six screws (3) and self-locking nuts (4) in brackets (2).
- (3) Tighten six self-locking nuts (4) to 75-91 lb-ft (102-123 N•m).



4P09B01A



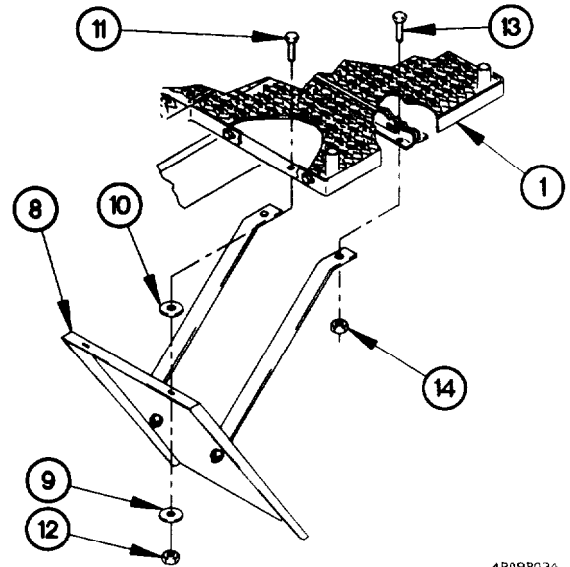
4P09B02A

- (4) Position four screws (5) and self-locking nuts (6) in forward mounts (7).
- (5) Tighten four self-locking nuts (6) to 45-55 lb-ft (61-75 N•m).

NOTE

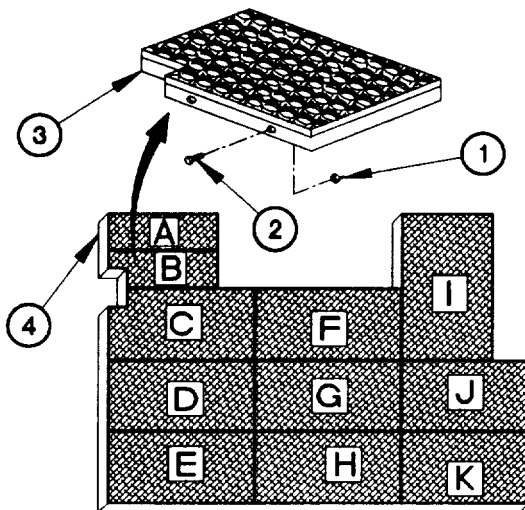
Left and right side fenders are installed the same way. Right side shown.

- (6) Position fender (8) on platform (1) with two washers (9), insulation washers (10), screws (11), and self-locking nuts (12).
- (7) Position two screws (13) and self-locking nuts (14) in fender (8).
- (8) Tighten self-locking nuts (12 and 14) to 18-22 lb-ft (24-30 N•m).



4P09B03A

c. Platform Disassembly.



NOTE

Number of fasteners will vary from floor plate to floor plate. Refer to **Table 14-1. M1088 Platform Attaching Hardware** for number of fasteners required. Floor plate B shown.

- (1) Remove three self-locking nuts (1), screws (2) and floor plate (3) from platform (4). Discard self-locking nuts.

Table 14-1. M1088 Platform Attaching Hardware

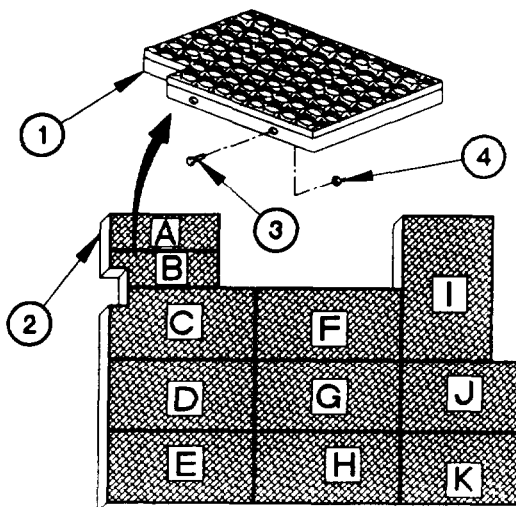
PLATE	A	B	C	D	E	F	G	H	I	J	K
NUMBER OF SELF-LOCKING NUTS	4	3	4	4	4	4	4	4	5	4	4
NUMBER OF SCREWS	4	3	4	4	4	4	4	4	5	4	4

14-8. M1088 PLATFORM AND BRACKETS REPLACEMENT/REPAIR (CONT)

d. Platform Assembly.

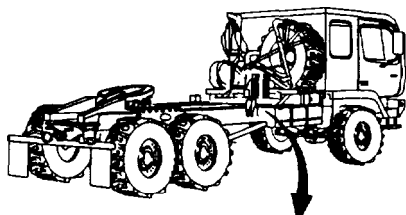
NOTE

Number of fasteners will vary from floor plate to floor plate. Refer to **Table 14-1. M1088 Platform Attaching Hardware** for number of fasteners required. Floor plate B shown.

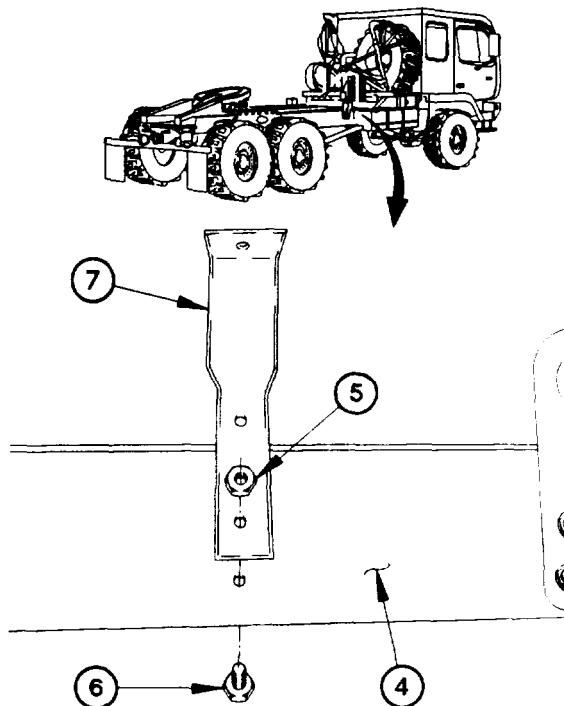
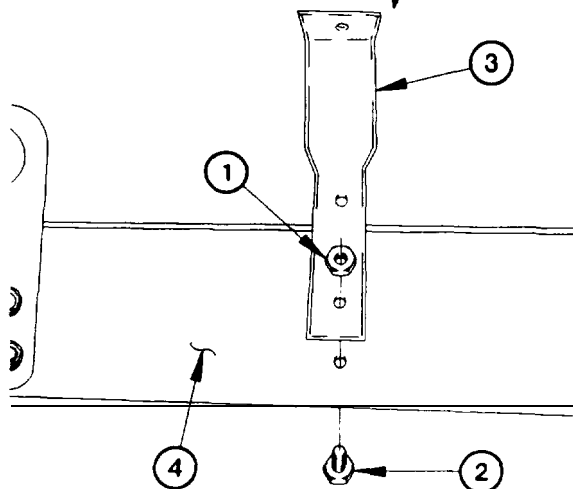


- (1) Position floor plate (1) on platform (2) with three screws (3) and self-locking nuts (4).
- (2) Tighten self-locking nuts (4) to 20-30 lb-ft (27-N•m).

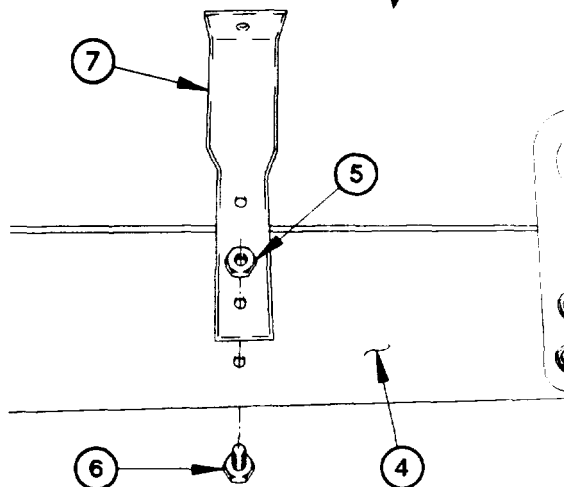
e. Bracket Removal.



- (1) Remove four self-locking nuts (1), screws (2), and two front brackets (3) from frame (4). Discard self-locking nuts.

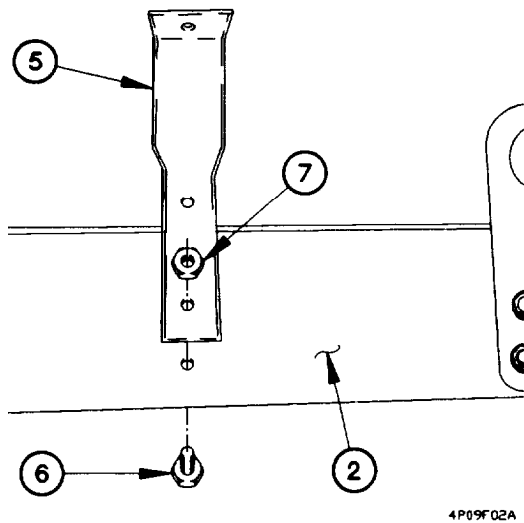
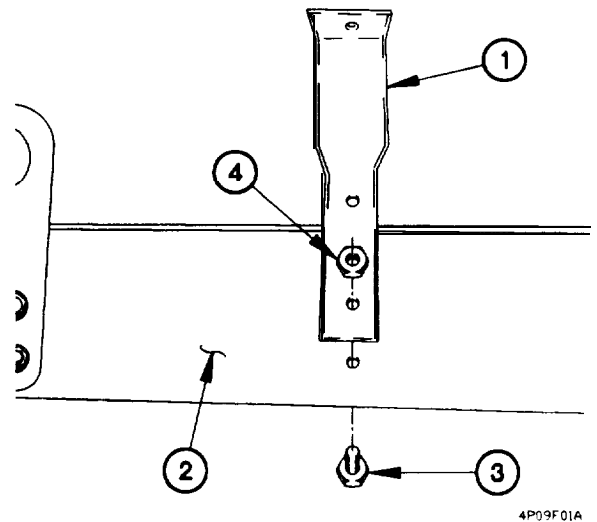


- (2) Remove four self-locking nuts (5), screws (6) and two rear brackets (7) from frame (4). Discard self-locking nuts.



f. Bracket Installation.

- (1) Position two brackets (1) on frame (2) with four screws (3) and self-locking nuts (4).
- (2) Tighten four self-locking nuts (4) to 75-91 lb-ft (102-123 N•m).



- (3) Position two rear brackets (5) on frame (2) with four screws (6) and self-locking nuts (7).
- (4) Tighten four self-locking nuts (7) to 150-182 lb-ft (200-250 N•m).

g. Follow-On Maintenance.

Install upper platform (para 14-7).

End of Task.

4-9. M1083/M1084/M1085/M1086/M1093 SPARE TIRE RETAINER REPLACEMENT/ REPAIR

This task covers:

- | | |
|----------------|--------------------------|
| a. Removal | d. Installation |
| b. Disassembly | e. Follow-On Maintenance |
| c. Assembly | |

INITIAL SETUP

Equipment Conditions

- Spare tire removed (TM 9-2320-366-10-2).
- Cab raised (TM 9-2320-366-10-1).
- Hydraulic manifold removed (para 19-4).
- Tool box removed (para 16-17).
- Cab leveling valve removed (para 16-8).
- Air/hydraulic power unit and bracket removed (para 19-3).
- Ether starting aid removed (para 4-15).
- Shunt removed (para 7-29).
- 100 amp reverse polarity relay removed, if equipped (para 7-30).
- 200 amp reverse polarity relay removed, if equipped (M1093) (para 20-47).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Pan, Drain (Item 24, Appendix C)
- Gloves, Rubber (Item 13, Appendix C)

Tools and Special Tools (Cont)

- Goggles, Industrial (Item 15, Appendix C)
- Socket Set, Socket Wrench (Item 36, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Cap and Plug Set (Item 14, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Nut, Self-Locking (12) (Item 156, Appendix G)
- Nut, Self-Locking (4) (Item 128, Appendix G)
- Pin, Cotter (2) (Item 231, Appendix G)

Personnel Required

(3)

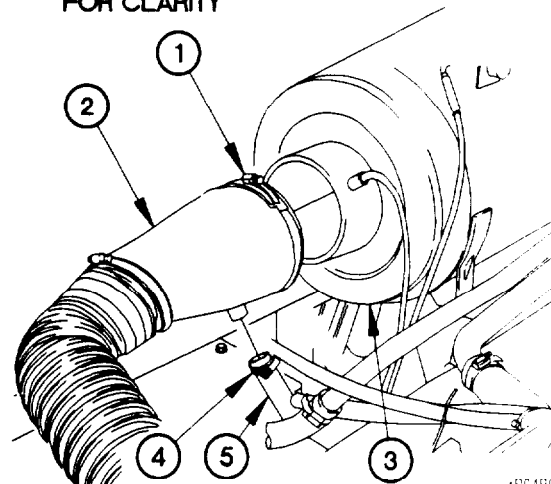
a. Removal.

CAUTION

Cap or plug intake air cleaner hoses to prevent contamination of turbocharger. Failure to comply may result in damage to turbocharger and engine.

- (1) Loosen clamp (1) on intake air cleaner boot (2).
- (2) Disconnect intake air cleaner boot (2) from intake air cleaner housing (3).
- (3) Loosen clamp (4) on air compressor intake hose (5).
- (4) Disconnect air compressor intake hose (5) from intake air cleaner boot (2).

SPARE TIRE
RETAINER REMOVED
FOR CLARITY

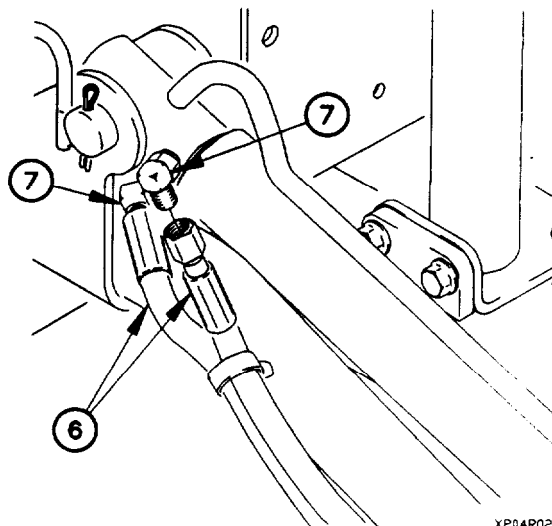


WARNING

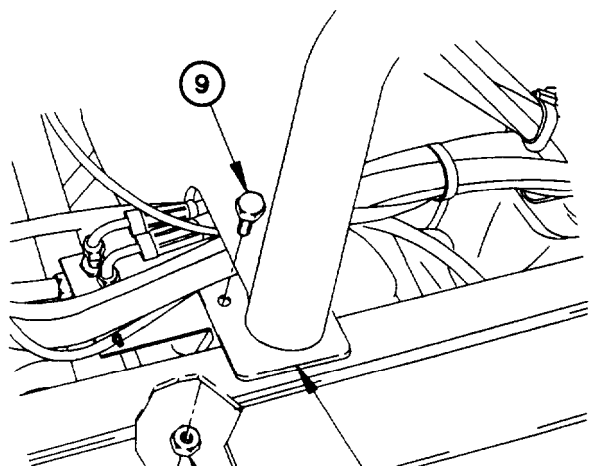
Hydraulic fluid (MIL-H-5606) is TOXIC. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes. Skin and clothing that come in contact with hydraulic oil should be washed immediately. Saturated clothing should be removed immediately. Failure to comply may result in injury to personnel.

NOTE

- Remove plastic cable ties as required.
 - Tag hoses and connection points prior to disconnecting.
- (5) Disconnect two hydraulic hoses (6) from 90-degree fittings (7).



XP04P02-



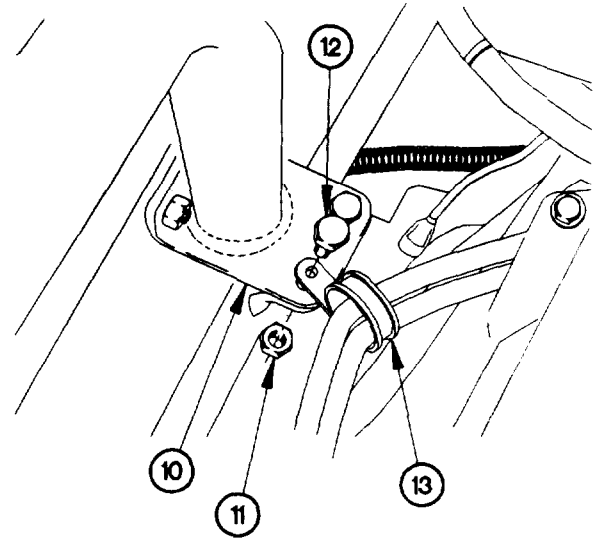
- (6) Remove two self-locking nuts (8) and screws (9) from spare tire retainer (10). Discard self-locking nuts.

14-9. M1083/M1094/M1085/M1086/M1093 SPARE TIRE RETAINER REPLACEMENT/REPAIR (CONT)

NOTE

Perform step (7) on vehicle serial number 3092 and higher, and vehicle serial numbers 0001 through 3091 that have previously had a spare tire retainer or fuel hose replaced.

- (7) Remove self-locking nut (11), screw (12), and clamp (13) from spare tire retainer (10). Discard self-locking nut.

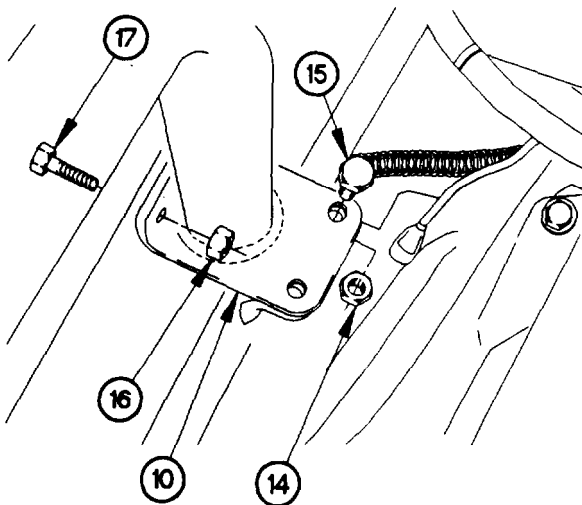


XP040041

NOTE

Perform step (8) on vehicle serial numbers 0001 through 3091 that have not previously had a spare tire retainer or fuel hose replaced.

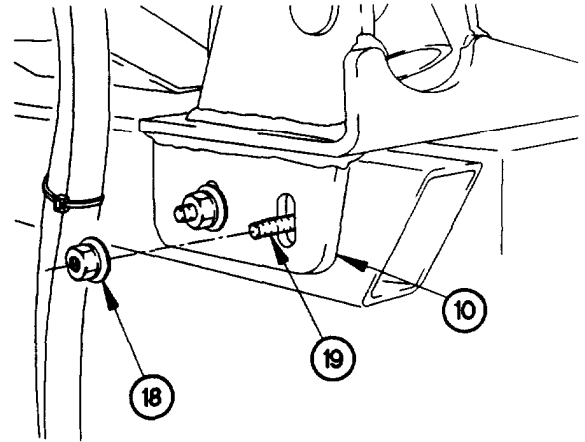
- (8) Remove self-locking nut (11) and screw (12) from spare tire retainer (10). Discard self-locking nut.



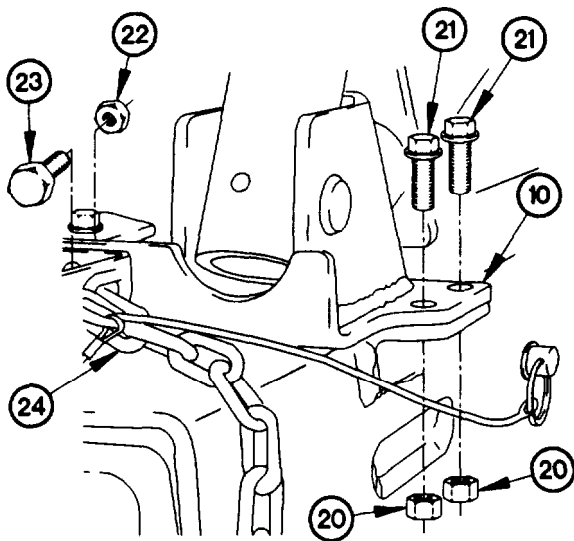
XP04R051

- (9) Remove self-locking nut (14) and screw (15) from spare tire retainer (10). Discard self-locking nut.
- (10) Remove two self-locking nuts (16) and screws (17) from spare tire retainer (10). Discard self-locking nuts.

- (11) Remove two self-locking nuts (18) and screws (19) from spare tire retainer (10). Discard self-locking nuts.



XP04R061

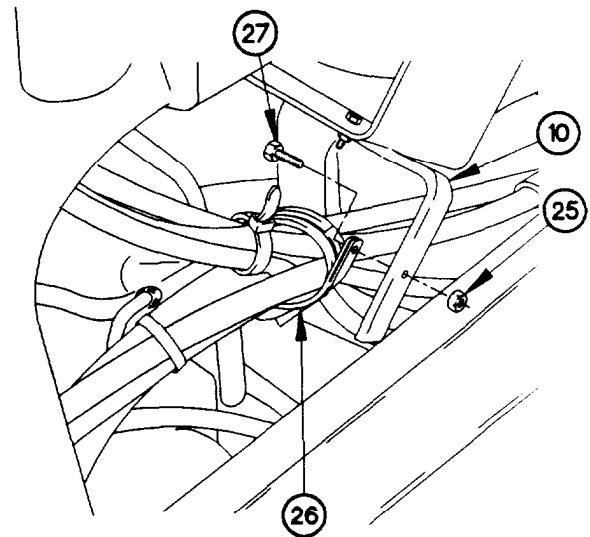


XP04R071

- (12) Remove two self-locking nuts (20) and screws (21) from spare tire retainer (10). Discard self-locking nuts.

- (13) Remove self-locking nut (22), screw (23), and chain (24) from spare tire retainer (10). Discard self-locking nut.

- (14) Remove self-locking nut (25), clamp (26), and screw (27) from spare tire retainer (10). Discard self-locking nut.



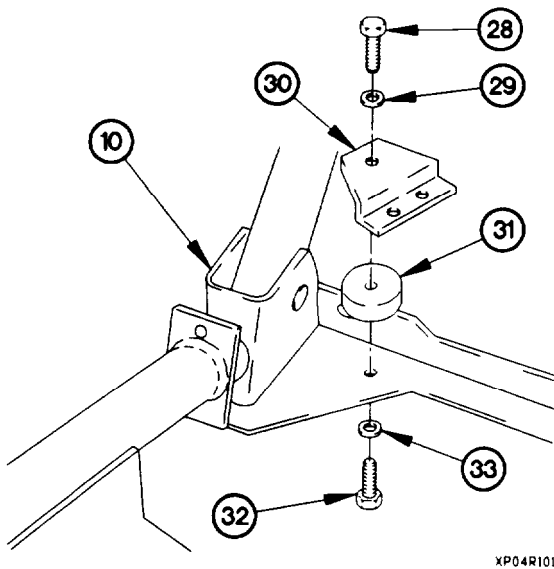
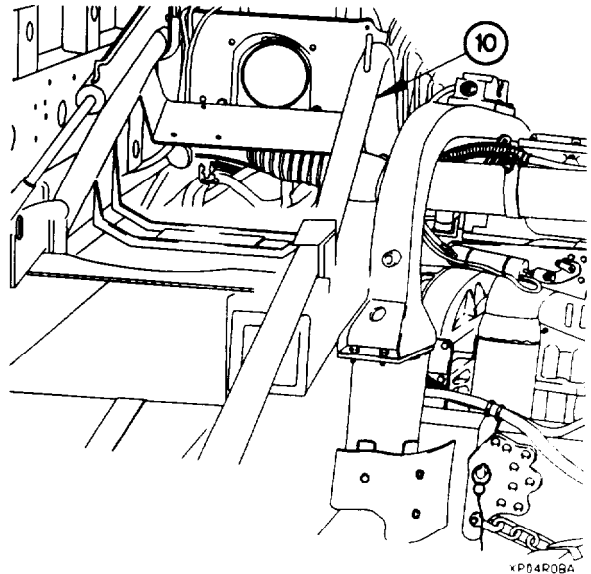
XP04R081

14-9. M1083/M1084/M1085/M1086/M1093 SPARE TIRE RETAINER REPLACEMENT/REPAIR (CONT)

WARNING

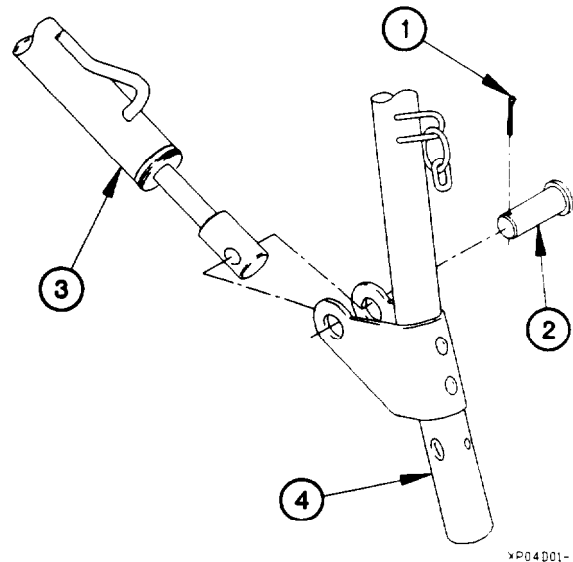
Spare tire retainer weighs approximately 150 lbs (68 kgs). The aid of two assistants is required to remove spare tire retainer from vehicle. Failure to comply may result in injury to personnel.

(15) Remove spare tire retainer (10) from vehicle.



(16) Remove screw (28), washer (29), and bracket (30) from resilient mount (31).

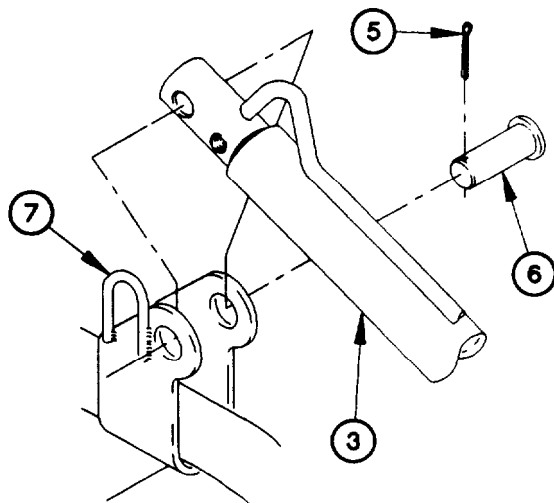
(17) Remove screw (32), washer (33), and resilient mount (31) from spare tire retainer (10).



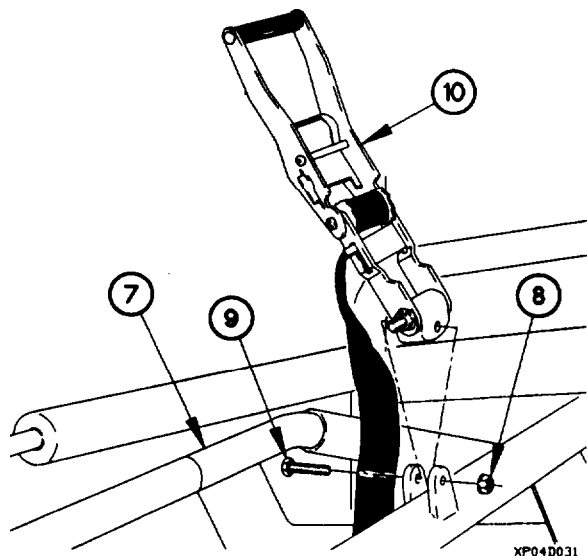
b. Disassembly.

(1) Remove cotter pin (1), pin (2), and hydraulic cylinder (3) from lift arm assembly (4). Discard cotter pin.

- (2) Remove cotter pin (5), pin (6), and hydraulic cylinder (3) from spare tire retainer (7). Discard cotter pin.



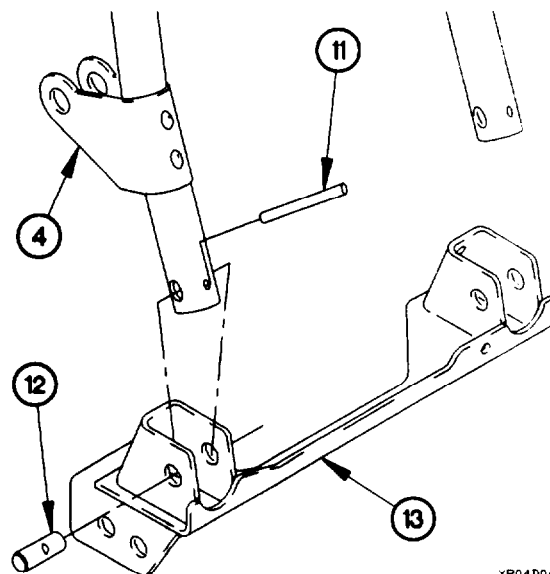
XP04D021



XP04D031

- (3) Remove self-locking nut (8), screw (9), and ratchet (10) from spare tire retainer (7). Discard self-locking nut.

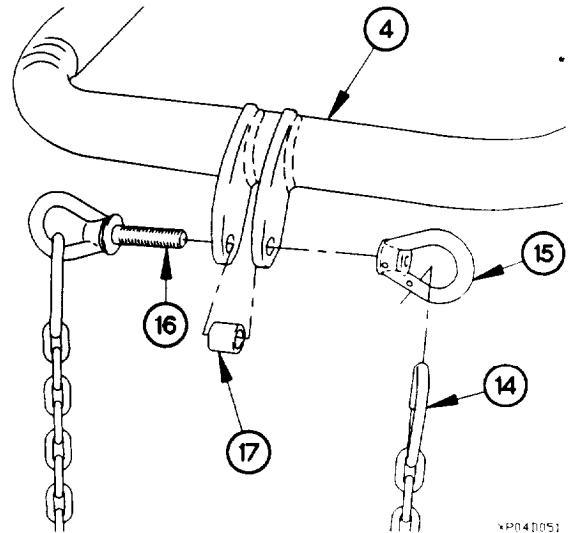
- (4) Remove two straight pins (11), spring pins (12), and lift arm assembly (4) from support assembly (13).



XP04D041

14-9. M1083/M1084/M1085/M1086/M1093 SPARE TIRE RETAINER REPLACEMENT/ REPAIR (CONT)

- (5) Remove chain (14) from ring (15).
- (6) Remove ring (15), stud (16), and sleeve (17) from lift arm assembly (4).

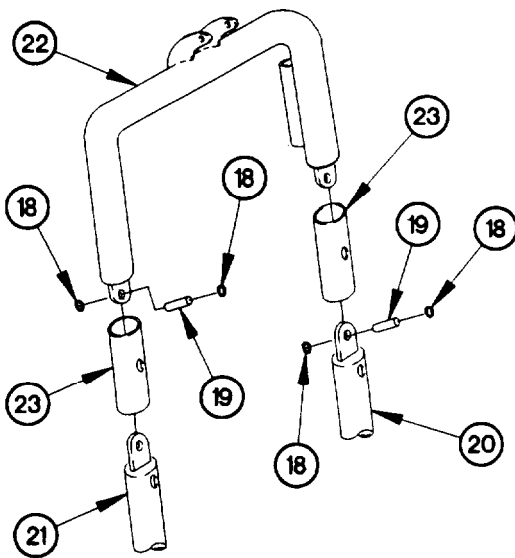


XP04D051

NOTE

Perform steps (7) through (9) on M1093.

- (7) Remove four retaining clips (18) and two grooved pins (19) from front arm (20) and rear arm (21).
- (8) Remove upper arm (22) from two couplers (23).
- (9) Remove two couplers (23) from front arm (20) and rear arm (21).



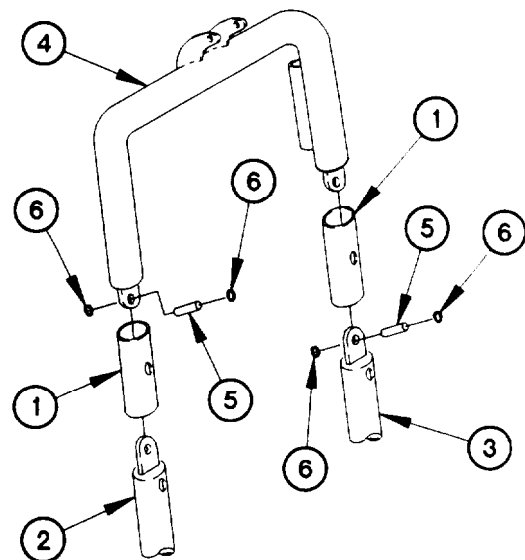
XP04D061

c. Assembly.

NOTE

Perform steps (1) through (3) on M1093.

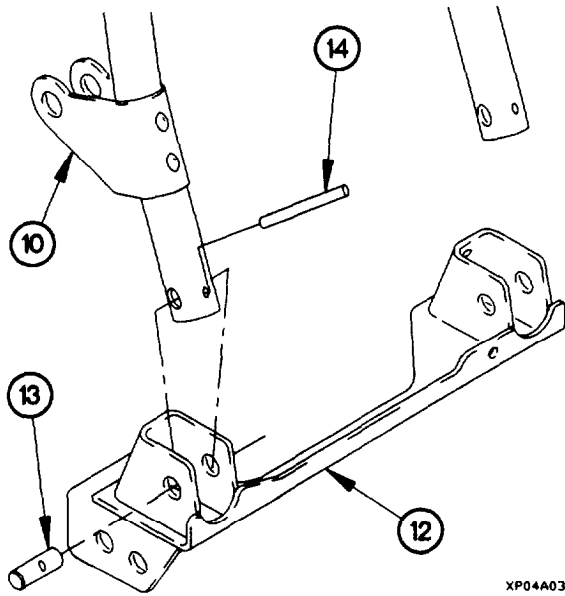
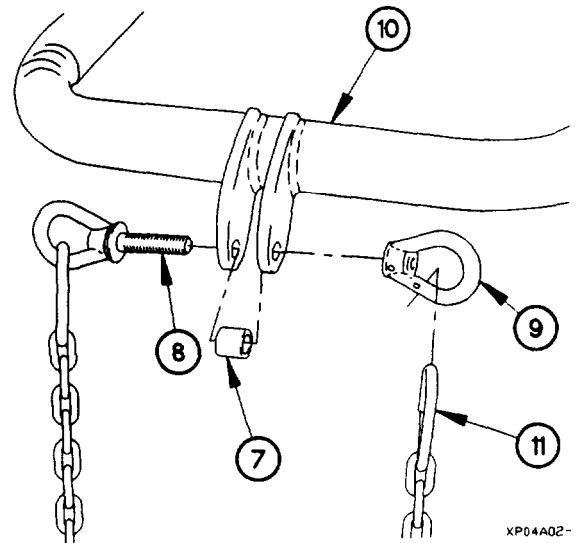
- (1) Position two couplers (1) on rear arm (2) and front arm (3).
- (2) Position upper arm (4) in two couplers (1).
- (3) Install two grooved pins (5) and four retaining clips (6) in rear arm (2) and front arm (3).



XP04A01

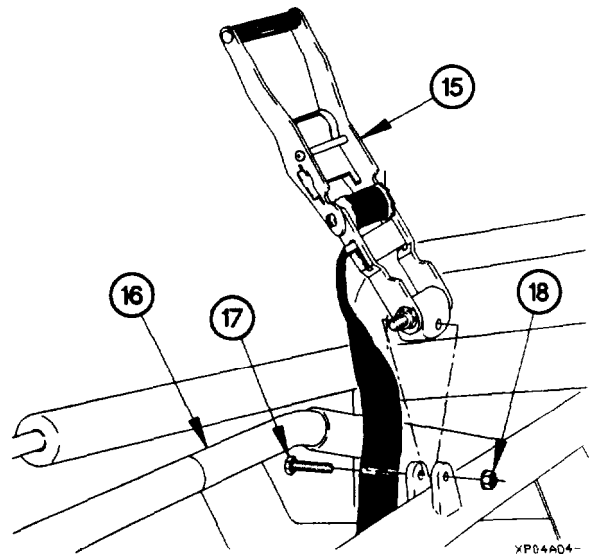
(4) Install sleeve (7), stud (8), ring (9) in lift arm assembly (10).

(5) Install chain (11) on ring (9).



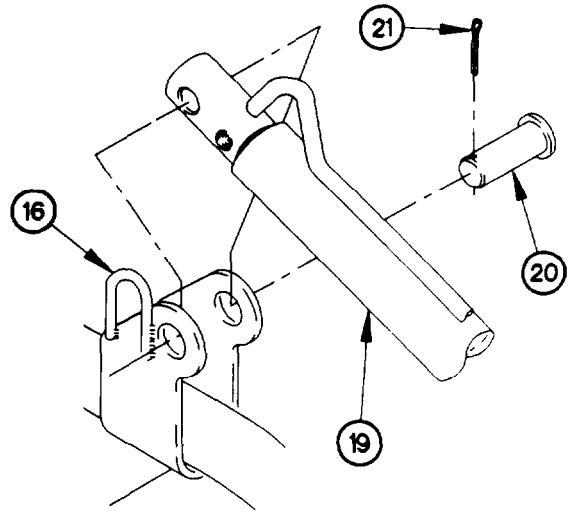
(6) Install lift arm assembly (10) on support assembly (12) with two spring pins (13) and straight pins (14).

(7) Install ratchet (15) on spare tire retainer (16) with screw (17) and self-locking nut (18).

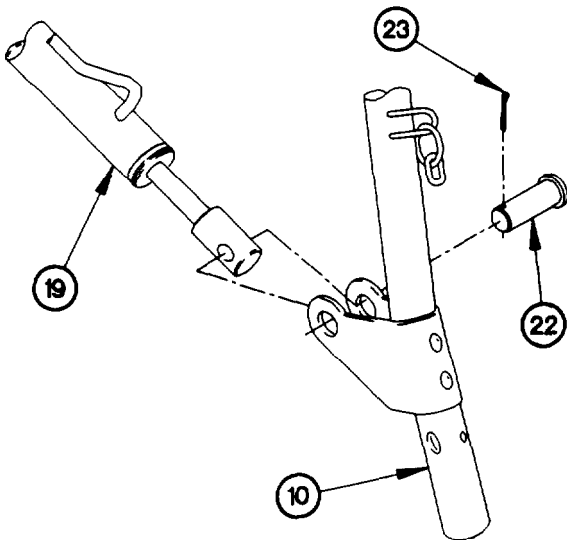


14-9. M1083/M1084/M1085/M1086/M1093 SPARE TIRE RETAINER REPLACEMENT/REPAIR (CONT)

(8) Install hydraulic cylinder (19) on spare tire retainer (16) with pin (20) and cotter pin (21).



XP04A05-

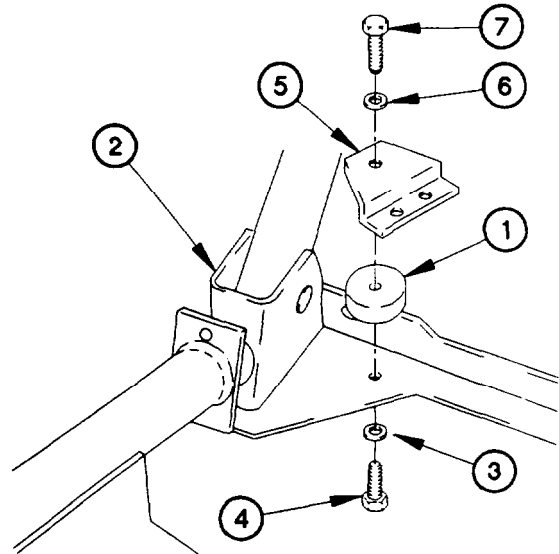


XP04A06-

(9) Install hydraulic cylinder (19) on lift arm assembly (10) with pin (22) and cotter pin (23).

d. Installation.

- (1) Install resilient mount (1) on spare tire retainer (2) with washer (3) and screw (4).
- (2) Install bracket (5) on resilient mount (1) with washer (6) and screw (7).

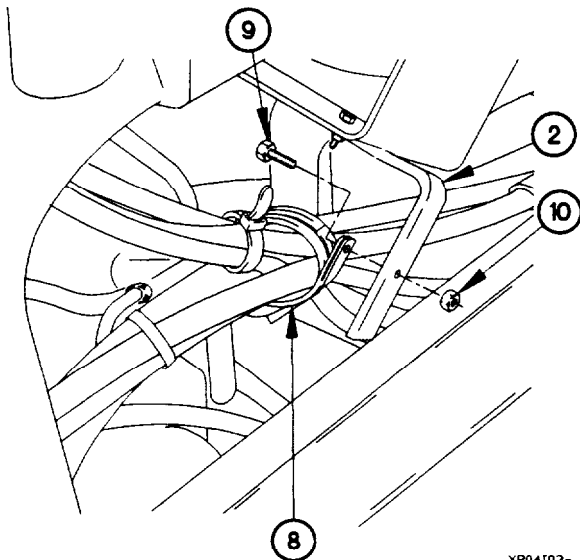
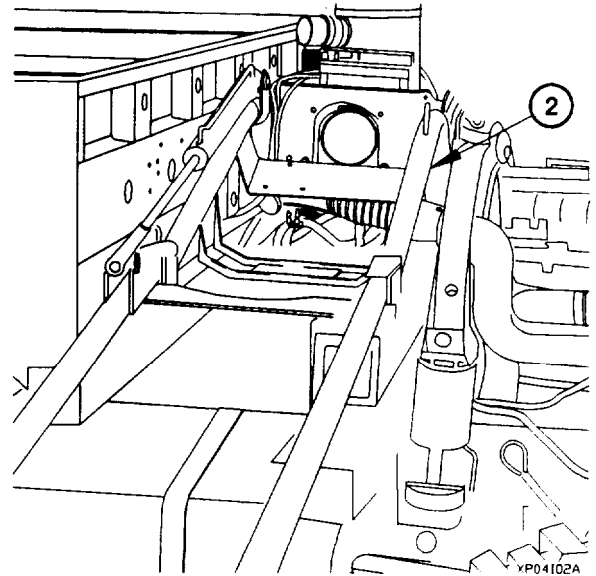


XP04101-

WARNING

Spare tire retainer weighs approximately 150 lbs (68 kgs). The aid of two assistants is required to install spare tire retainer on vehicle. Failure to comply may result in injury to personnel.

- (3) Position spare tire retainer (2) on vehicle.



- (4) Position clamp (8) on spare tire retainer (2) with screw (9) and self-locking nut (10).

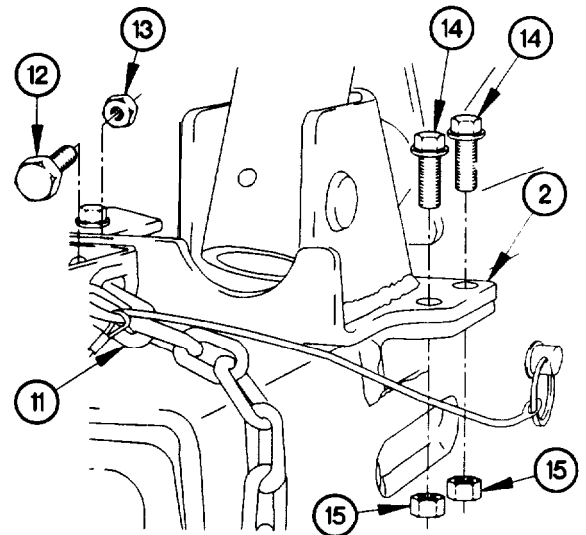
- (5) Tighten self-locking nut (10) to 87-107 lb-in. (10-12 N•m).

- (6) Position chain (11) on spare tire retainer (2) with screw (12) and self-locking nut (13).

- (7) Tighten self-locking nut (13) to 43-52 lb-ft (58-71 N•m).

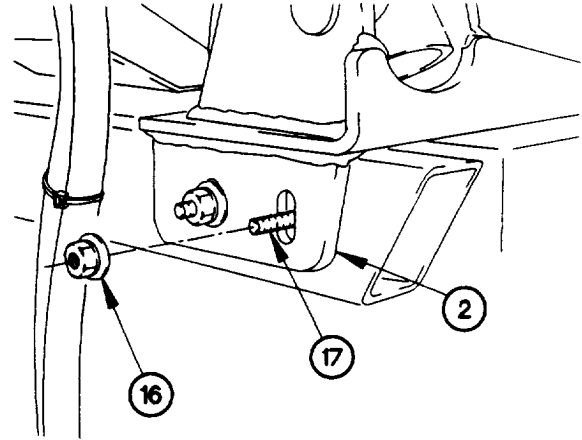
- (8) Position two screws (14) and self-locking nuts (15) in spare tire retainer (2).

- (9) Tighten two self-locking nuts (15) to 43-52 lb-ft (58-71 N•m).



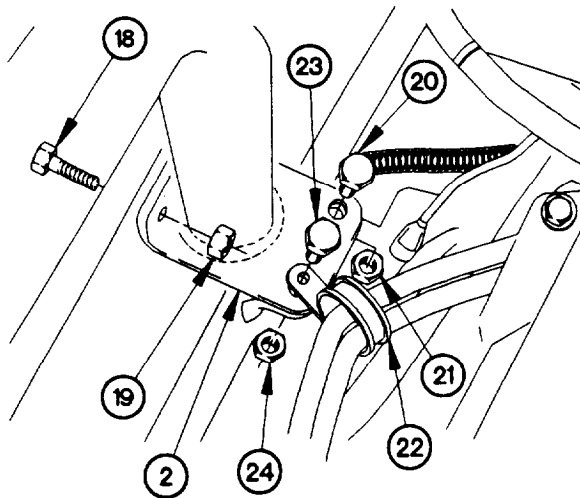
14-9. M1083/M1084/M1085/M1086/M1093 SPARE TIRE RETAINER REPLACEMENT/ REPAIR (CONT)

- (10) Position two self-locking nuts (16) and screws (17) in spare tire retainer (2).
- (11) Tighten two self-locking nuts (16) to 43-52 lb-ft (58-71 N•m).



XP04105-

- (12) Position two screws (18) and self-locking nuts (19) in spare tire retainer (2).
- (13) Tighten two self-locking nuts (19) to 43-52 lb-ft (58-71 N•m).
- (14) Position screw (20) and self-locking nut (21) in spare tire retainer (2).



XP041061

NOTE

Perform step (15) on vehicle serial number 3092 and higher, and vehicle serial numbers 0001 through 3091 that have previously had a spare tire retainer or fuel hose replaced.

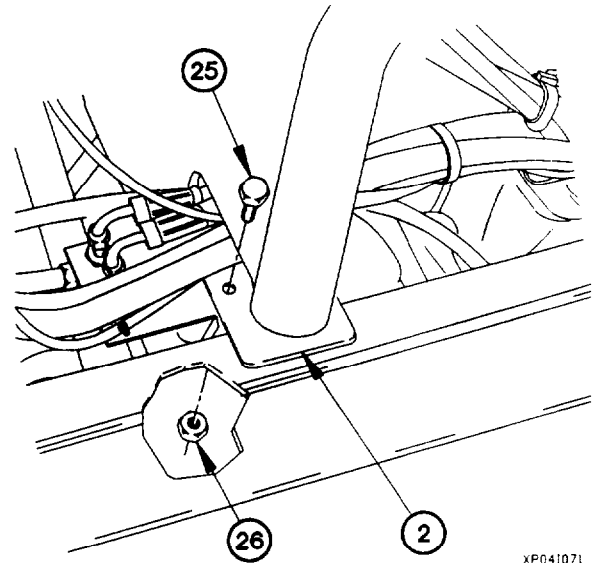
- (15) Position clamp (22) on spare tire retainer (2) with screw (23) and self-locking nut (24).

NOTE

Perform step (16) on vehicle serial numbers 0001 through 3091 that have not previously had a spare tire retainer or fuel hose replaced.

- (16) Position screw (23) and self-locking nut (24) in spare tire retainer (2).
- (17) Tighten self-locking nuts (21 and 24) to 43-52 lb-ft (58-71 N•m).

- (18) Position two screws (25) and self-locking nuts (26) in spare tire retainer (2).
- (19) Tighten two self-locking nuts (26) to 43-52 lb-ft (58-71 N•m).



XP041071

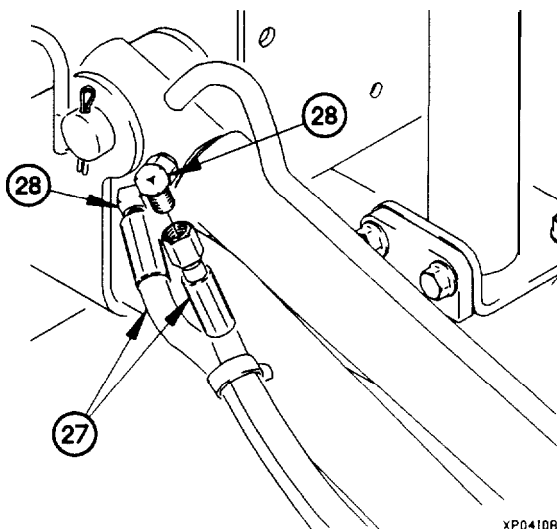
WARNING

Hydraulic fluid (ML-H-5606) is TOXIC. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes. Skin and clothing that come in contact with hydraulic oil should be washed immediately. Saturated clothing should be removed immediately. Failure to comply may result in injury to personnel.

NOTE

Install plastic cable ties as required.

- (20) Connect two hydraulic hoses (27) to 90-degree fittings (28).



XP041081

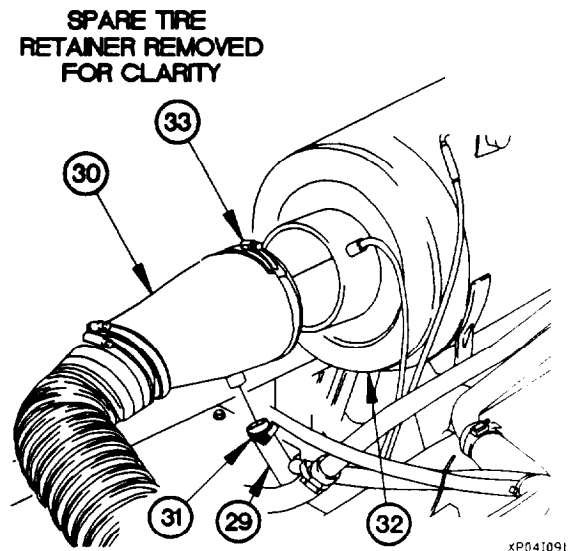
14-9. M1083/M1084/M1085/M1086/M1093 SPARE TIRE RETAINER REPLACEMENT/REPAIR (CONT)

- (21) Position air compressor intake hose (29) on intake air cleaner boot (30) with clamp (31).
- (22) Position intake air cleaner boot (30) on intake air cleaner housing (32) with clamp (33).
- (23) Tighten clamps (31 and 33) to 36-48 lb-in. (4-5 N•m).

e. Follow-On Maintenance.

- (1) Install 200 amp reverse polarity relay, if equipped (M1093) (para 20-47).
- (2) Install 100 amp reverse polarity relay, if equipped (para 7-30).
- (3) Install shunt (para 7-29).
- (4) Install ether starting aid (para 4-15).
- (5) Install air hydraulic power unit and bracket (para 19-3).
- (6) Install cab leveling valve (para 16-8).
- (7) Install tool box (para 16-17).
- (8) Install hydraulic manifold (para 19-4).
- (9) Lower cab (TM 9-2320-366-10-1).
- (10) Install spare tire (TM 9-2320-366-10-2).

End of Task.



14-10. M1088/M1089/M1090/M1094 SPARE TIRE RETAINER REPLACEMENT/REPAIR

This task covers:

- a. Removal
- b. Disassembly
- c. Assembly
- d. Installation
- e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Spare tire removed (TM 9-2320-366-10-2).
- Cab raised (TM 9-2320-366-10-1).
- Cab leveling valve removed (para 16-8).
- Air/hydraulic power unit and bracket removed (para 19-3).
- Ether starting aid removed (para 4-15).
- Shunt removed (para 7-29).
- 100 amp reverse polarity relay removed, if equipped (para 7-30).
- 200 amp reverse polarity relay removed, if equipped (M1094) (para 20-47).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Pan, Drain (Item 24, Appendix C)

Tools and Special Tools (Cont)

- Gloves, Rubber (Item 13, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Socket Set, Socket Wrench (Item 36, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)

Materials/Parts

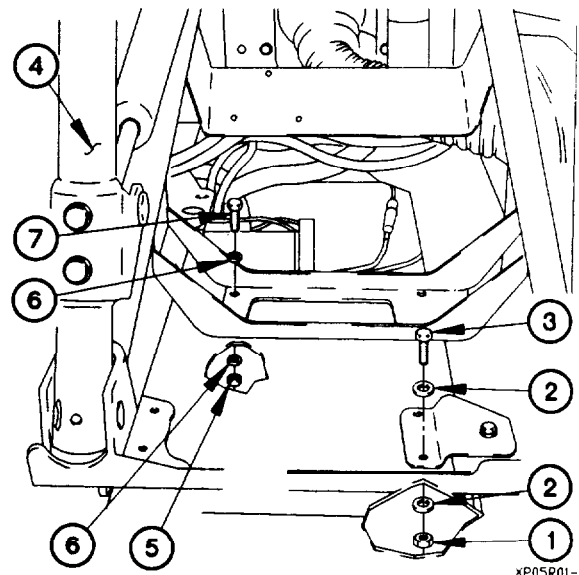
- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Cap and Plug Set (Item 14, Appendix D)
- Ties, Cable, Plastic (Item 69, Appendix D)
- Nut, Self-Locking (8) (Item 167, Appendix G)
- Nut, Self-Locking (12) (Item 156, Appendix G)
- Nut, Self-Locking (Item 128, Appendix G)
- Pin, Cotter (2) (Item 231, Appendix G)

Personnel Required

(3)

a. Removal.

- (1) Remove four self-locking nuts (1), eight washers (2), and four screws (3) from spare tire retainer (4). Discard self-locking nuts.
- (2) Remove four self-locking nuts (5), eight washers (6), and four screws (7) from spare tire retainer (4). Discard self-locking nuts.



XP05P01-

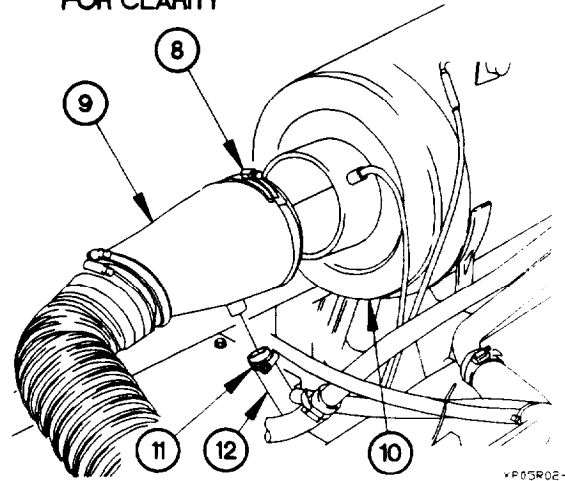
14-10. M1088/M1089/M1090/M1094 SPARE TIRE RETAINER REPLACEMENT/REPAIR (CONT)

CAUTION

Cap or plug air cleaner hoses to prevent contamination of turbocharger. Failure to comply may result in damage to turbocharger and engine.

- (3) Loosen clamp (8) on intake air cleaner boot (9).
- (4) Disconnect intake air cleaner boot (9) from intake air cleaner housing (10).
- (5) Loosen clamp (11) on air compressor intake hose (12).
- (6) Disconnect air compressor intake hose (12) from intake air cleaner boot (9).

SPARE TIRE
RETAINER REMOVED
FOR CLARITY

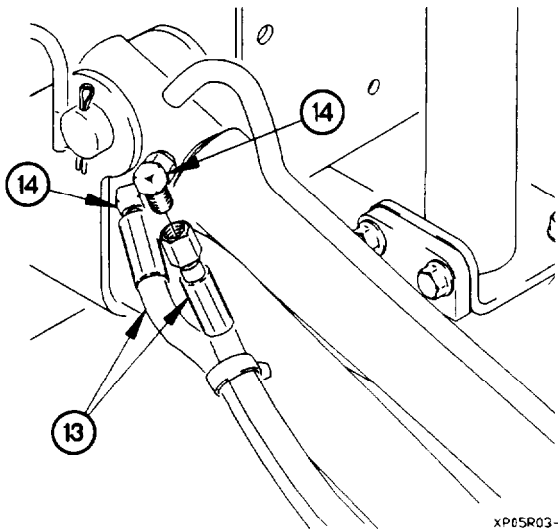


WARNING

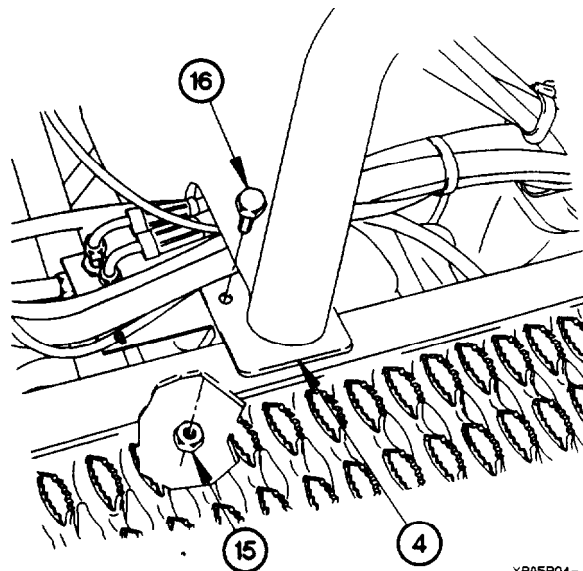
Hydraulic fluid (MIL-H-5606) is TOXIC. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes. Skin and clothing that come in contact with hydraulic oil should be washed immediately. Saturated clothing should be removed immediately. Failure to comply may result in injury to personnel.

NOTE

- Remove plastic cable ties as required.
 - Tag hoses and connection points prior to disconnecting.
- (7) Disconnect two hydraulic hoses (13) from 90-degree fittings (14).



- (8) Remove two self-locking nuts (15) and screws (16) from spare tire retainer (4). Discard self-locking nuts.



XP05R04-

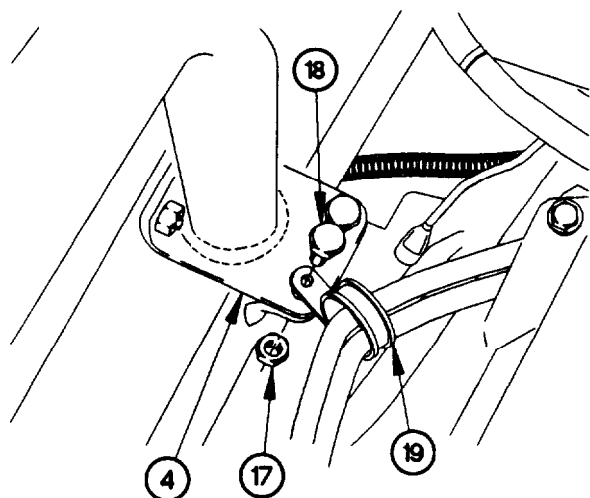
NOTE

Perform step (9) on vehicle serial number 3092 and higher, and vehicle serial numbers 0001 through 3091 that have previously had a spare tire retainer or fuel hose replaced.

- (9) Remove self-locking nut (17), screw (18), and clamp (19) from spare tire retainer (4). Discard self-locking nut.

NOTE

Perform step (10) on vehicle serial numbers 0001 through 3091 that have not previously had a spare tire retainer or fuel hose replaced.

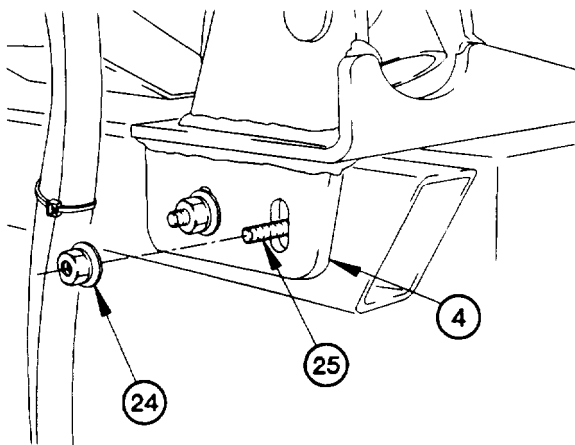
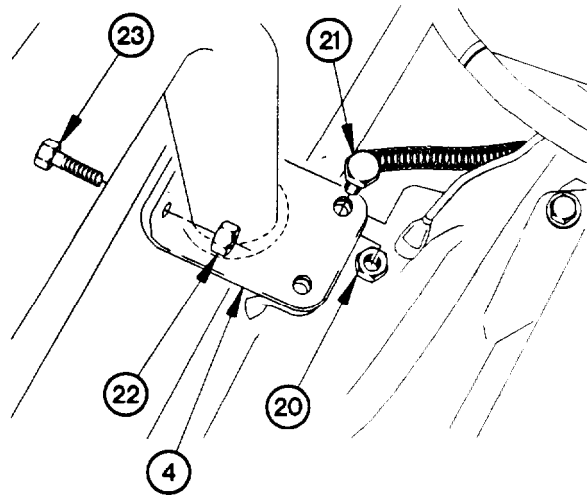


XP05R051

- (10) Remove self-locking nut (17) and screw (18) from spare tire retainer (4). Discard self-locking nut.

14-10. M1088/M1089/M1090/M1094 SPARE TIRE RETAINER REPLACEMENT/REPAIR (CONT)

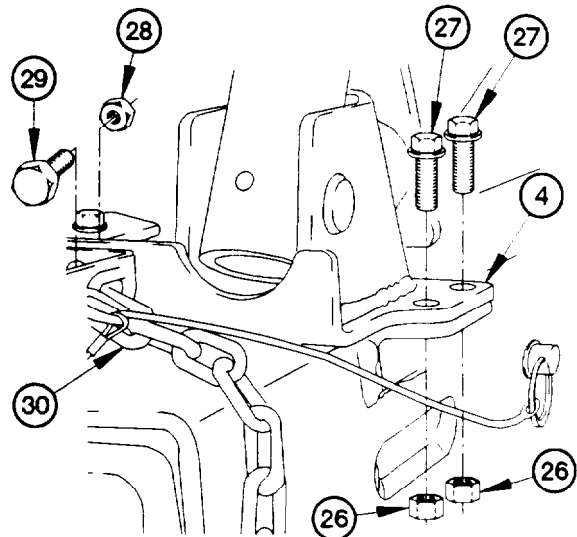
- (11) Remove self-locking nut (20) and screw (21) from spare tire retainer (4). Discard self-locking nut.
- (12) Remove two self-locking nuts (22) and screws (23) from spare tire retainer (4). Discard self-locking nuts.



XP05R071

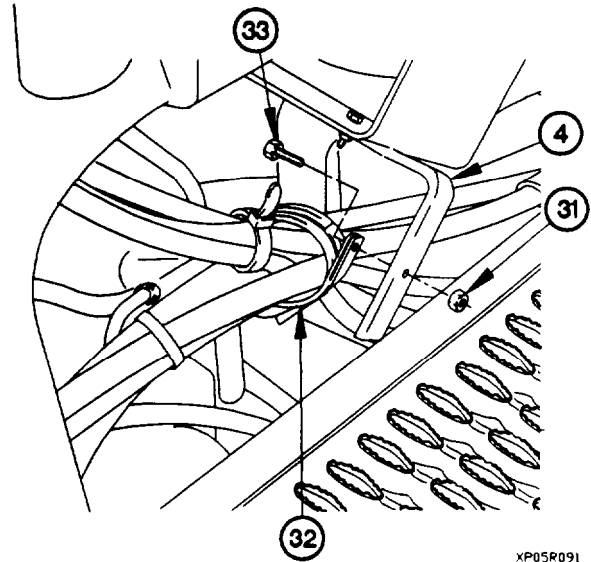
- (13) Remove two self-locking nuts (24) and screws (25) from spare tire retainer (4). Discard self-locking nuts.

- (14) Remove two self-locking nuts (26) and screws (27) from spare tire retainer (4). Discard self-locking nuts.
- (15) Remove self-locking nut (28), screw (29), and chain (30) from spare tire retainer (4). Discard self-locking nut.



F15R081

(16) Remove self-locking nut (30), clamp (32), and screw (33) from spare tire retainer (4). Discard self-locking nut.

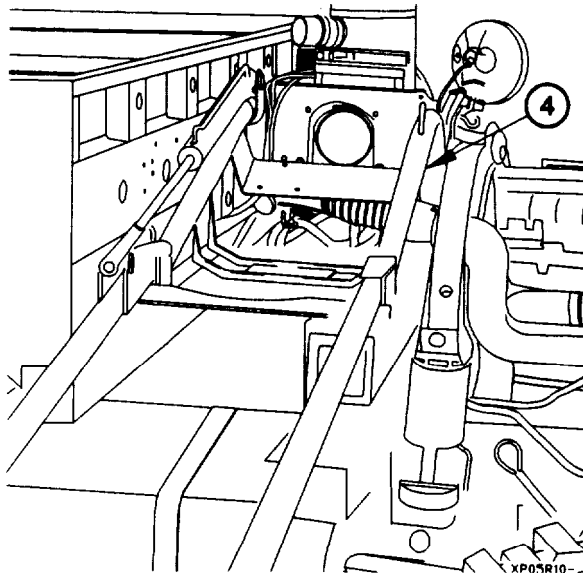


XP05R091

WARNING

Spare tire retainer weighs approximately 150 lbs (68 kgs). The aid of two assistants is required to remove spare tire retainer from vehicle. Failure to comply may result in injury to personnel.

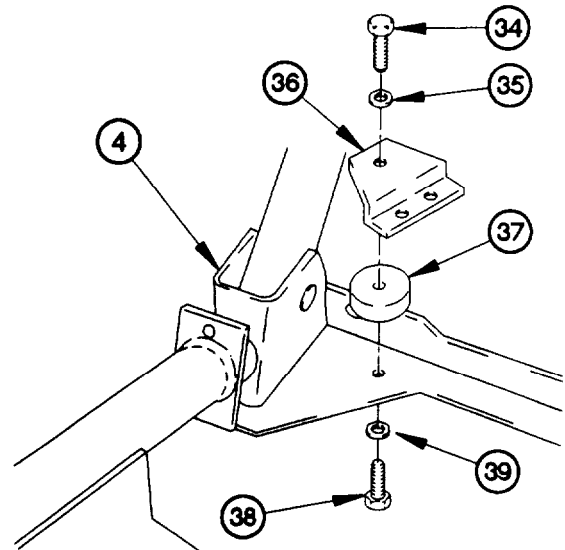
(17) Remove spare tire retainer (4) from vehicle.



XP05R10-

(18) Remove screw (34), washer (35), and bracket (36) from resilient mount (37).

(19) Remove screw (38), washer (39), and resilient mount (37) from spare tire retainer (4).

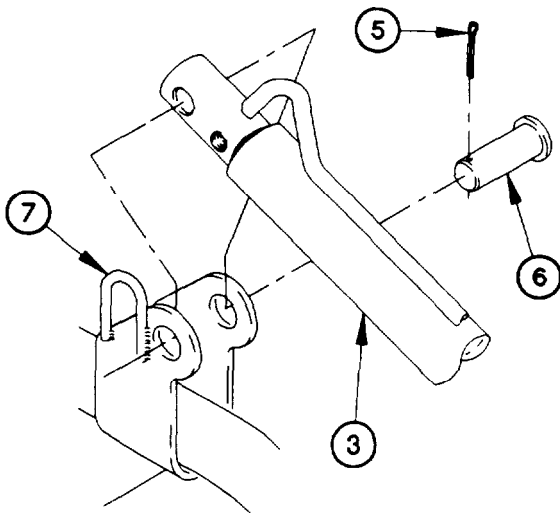
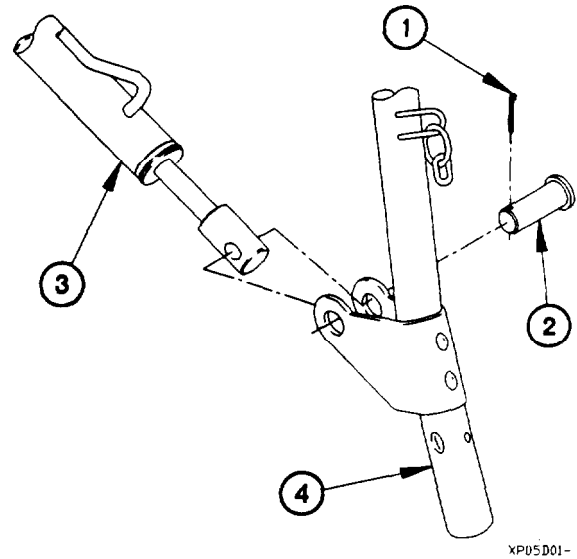


XP05R111

14-10. M1088/M1089/M1090/M1094 SPARE TIRE RETAINER REPLACEMENT/REPAIR (CONT)

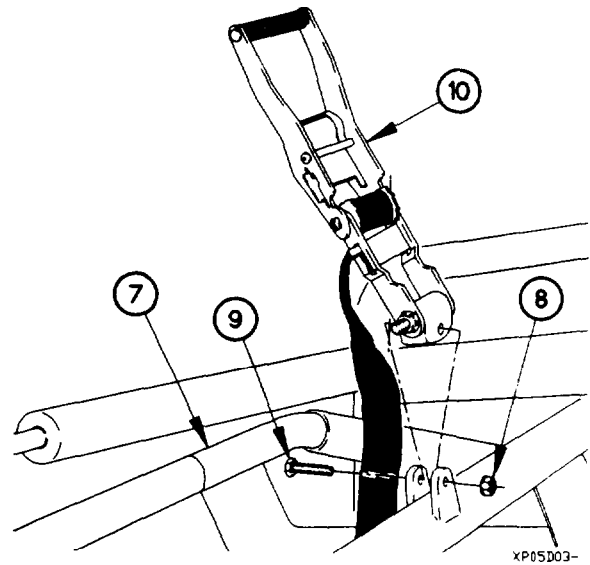
b. Disassembly.

- (1) Remove cotter pin (1), pin (2), and hydraulic cylinder (3) from lift arm assembly (4). Discard cotter pin.

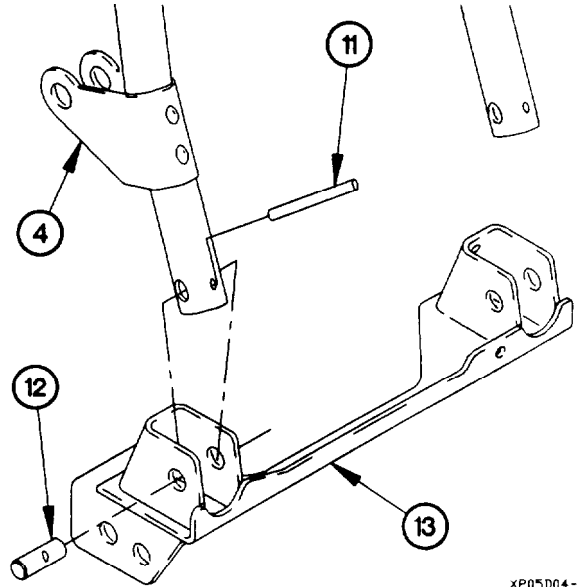


- (2) Remove cotter pin (5), pin (6), and hydraulic cylinder (3) from spare tire retainer (7). Discard cotter pin.

- (3) Remove self-locking nut (8), screw (9), and ratchet (10) from spare tire retainer (7). Discard self-locking nut.



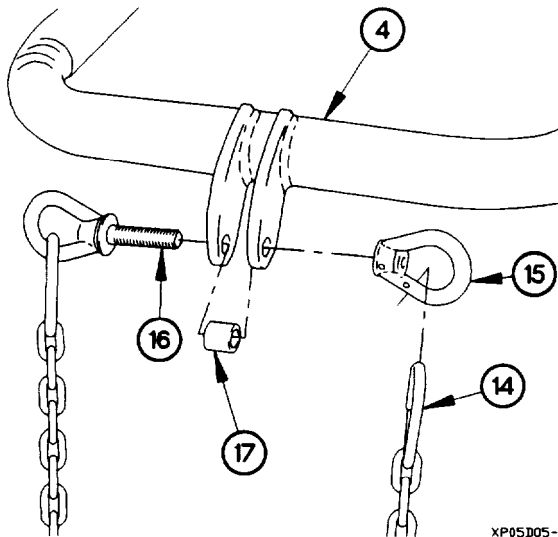
- (4) Remove two straight pins (11), spring pins (12), and lift arm assembly (4) from support assembly (13).



XP05D04-

- (5) Remove chain (14) from ring (15).

- (6) Remove ring (15), stud (16), and sleeve (17) from lift arm assembly (4).

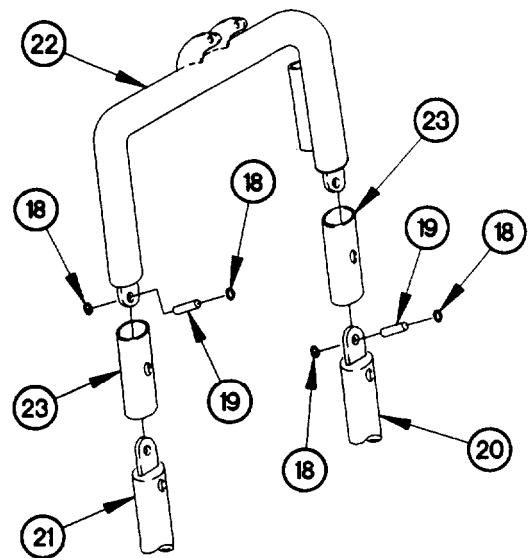


XP05D05-

NOTE

Perform steps (7) through (9) on M1094.

- (7) Remove four retaining clips (18) and two grooved pins (19) from front arm (20) and rear arm (21).
- (8) Remove upper arm (22) from two couplers (23).
- (9) Remove two couplers (23) from front arm (20) and rear arm (21).



XP05D06-

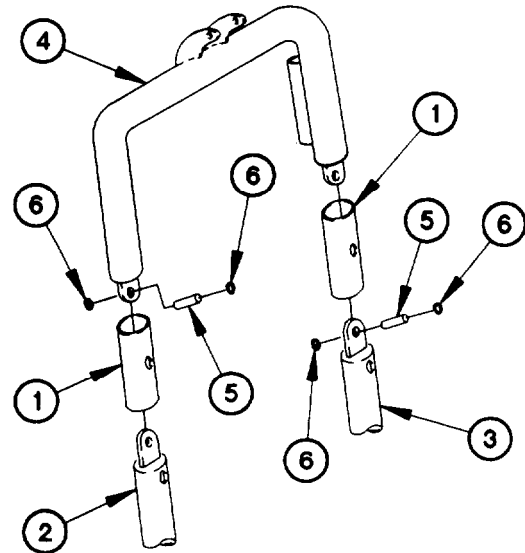
14-10. M1088/M1089/M1090/M1094 SPARE TIRE RETAINER REPLACEMENT/REPAIR (CONT)

c. Assembly.

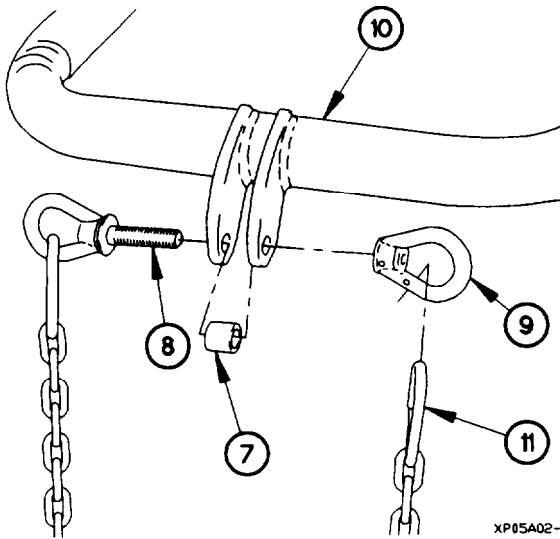
NOTE

Perform steps (1) through (3) on M1094.

- (1) Position two couplers (1) on rear arm (2) and front arm (3).
- (2) Position upper arm (4) in two couplers (1).
- (3) Install two grooved pins (5) and four retaining clips (6) in rear arm (2) and front arm (3).



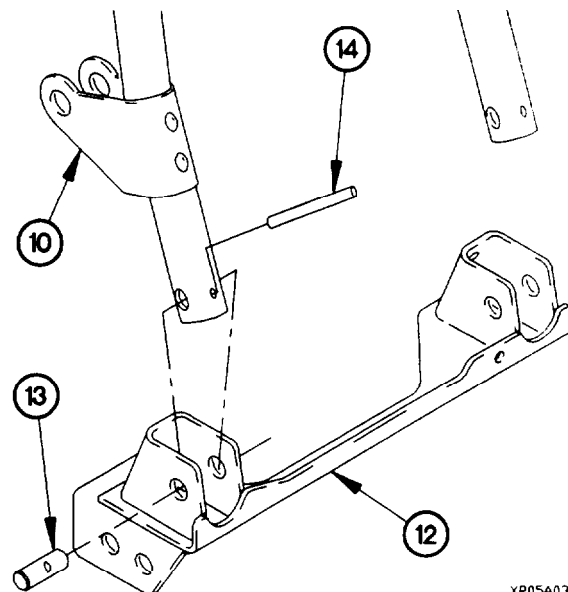
XP05A01-



XP05A02-

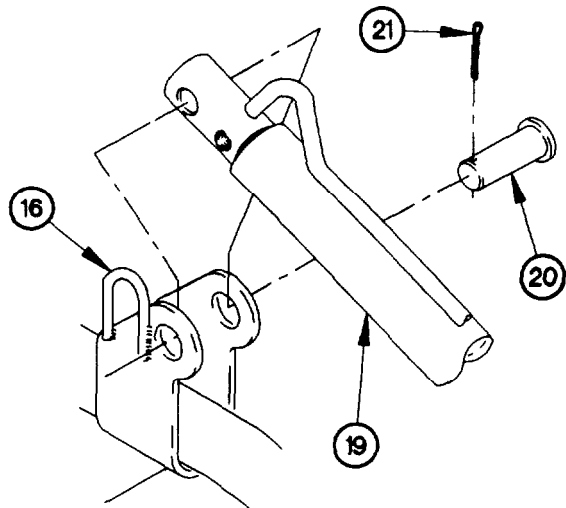
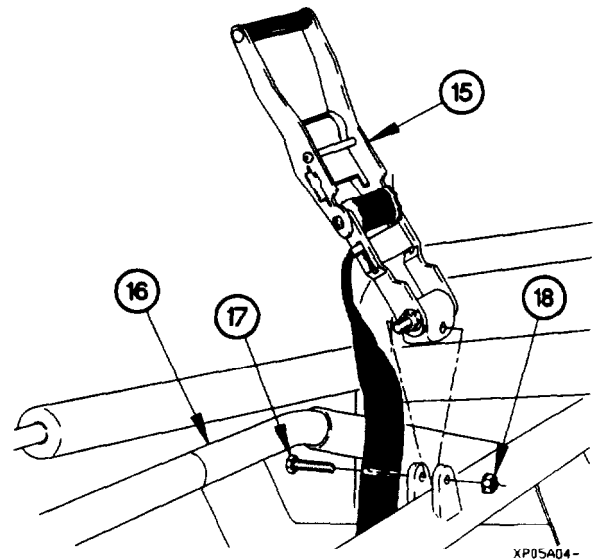
- (4) Install sleeve (7), stud (8), and ring (9) on lift arm assembly (10).
- (5) Install chain (11) on ring (9).

- (6) Install lift arm assembly (10) on support assembly (12) with two spring pins (13) and straight pins (14).



XP05A03-

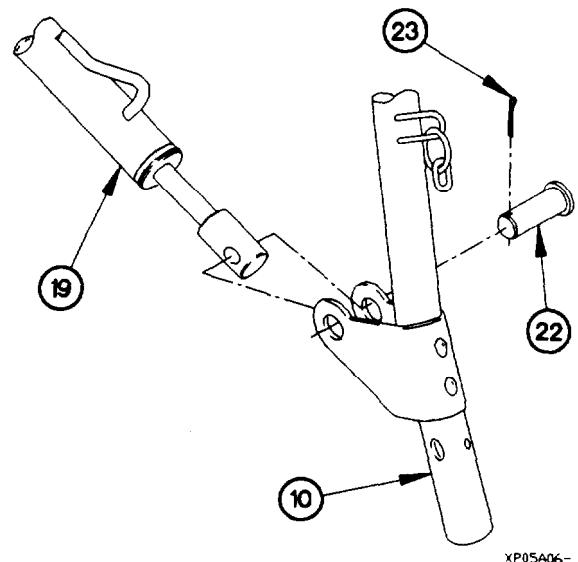
(7) Install ratchet (15) on spare tire retainer (16) with screw (17) and self-locking nut (18).



(8) Install hydraulic cylinder (19) on spare tire retainer (16) with pin (20) and cotter pin (21).

XP05A05-

(9) Install hydraulic cylinder (19) on lift arm assembly (10) with pin (22) and cotter pin (23).

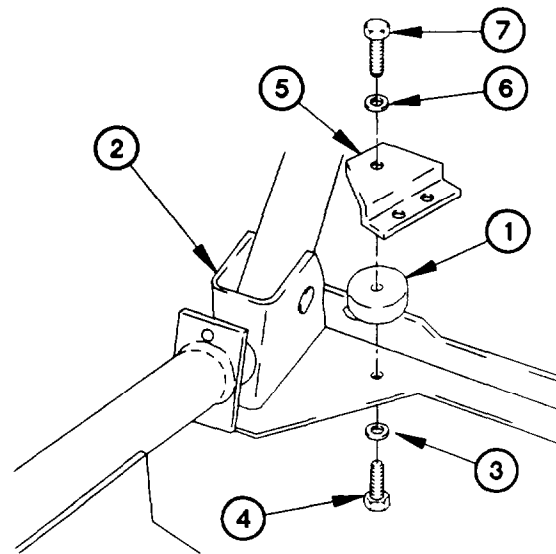


XP05A06-

14-10. M1088/M1089/M1090/M1094 SPARE TIRE RETAINER REPLACEMENT/REPAIR (CONT)

d. Installation.

- (1) Install resilient mount (1) on spare tire retainer (2) with washer (3) and screw (4).
- (2) Install bracket (5) on resilient mount (1) with washer (6) and screw (7).

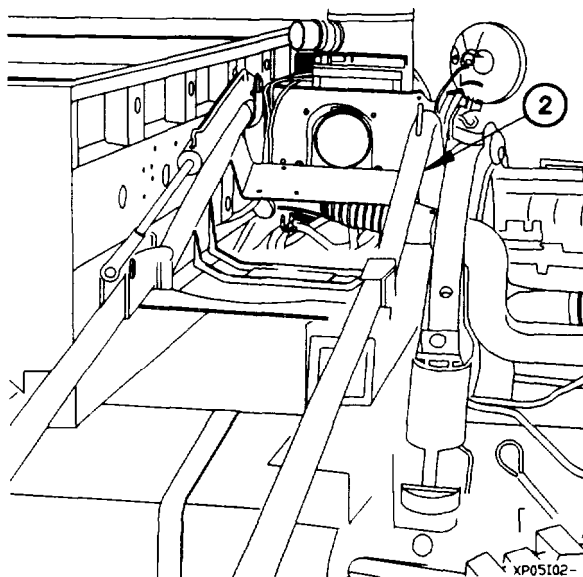


XP05101-

WARNING

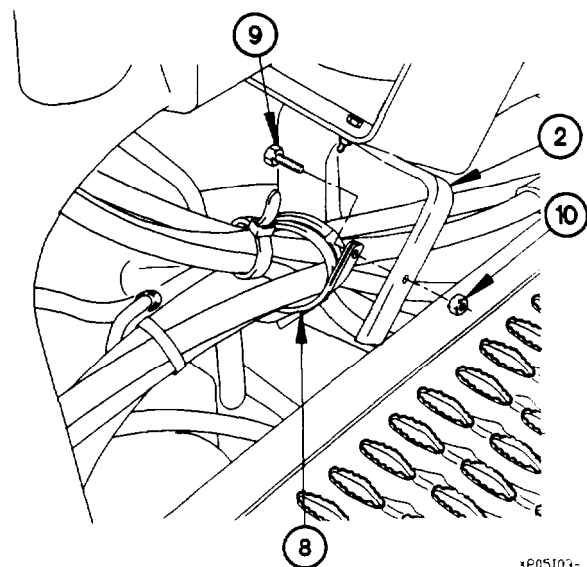
Spare tire retainer weighs approximately 150 lbs (68 kgs). The aid of two assistants is required to install spare tire retainer on vehicle. Failure to comply may result in injury to personnel.

- (3) Position spare tire retainer (2) on vehicle.



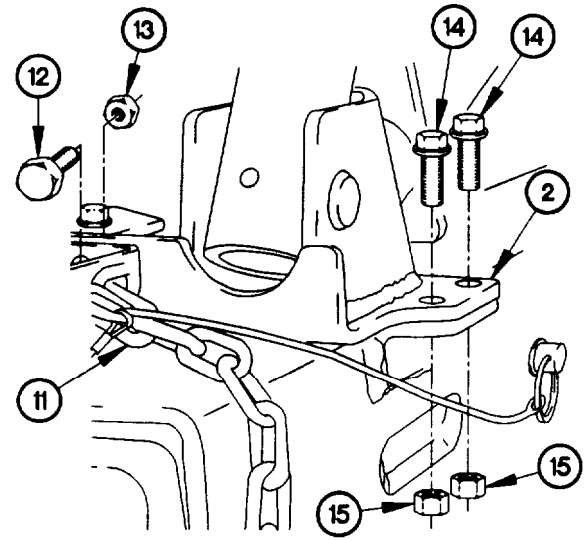
XP05102-

- (4) Position clamp (8) on spare tire retainer (2) with screw (9) and self-locking nut (10).
- (5) Tighten self-locking nut (10) to 87-107 lb-in, (10-12 N•m).

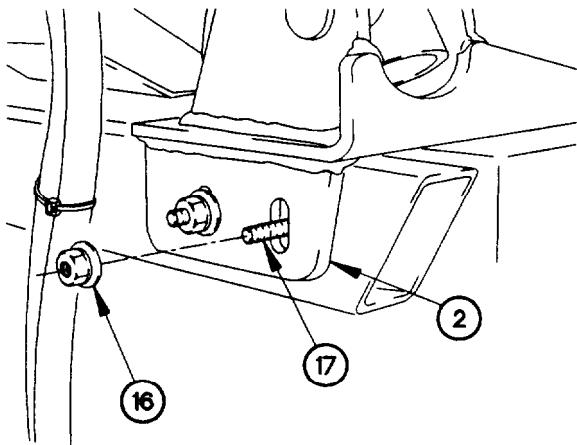


XP05103-

- (6) Position chain (11) on spare tire retainer (2) with screw (12) and self-locking nut (13).
- (7) Tighten self-locking nut (13) to 43-52 lb-ft (58-71 N•m).
- (8) Position two screws (14) and self-locking nuts (15) in spare tire retainer (2).
- (9) Tighten two self-locking nuts (15) to 43-52 lb-ft (58-71 N•m).



XP05104-



XP05105-

- (10) Position two self-locking nuts (16) and screws (17) in spare tire retainer (2).
- (11) Tighten two self-locking nuts (16) to 43-52 lb-ft (58-71 N•m).

14-10. M1088/M1089/M1090/M1094 SPARE TIRE RETAINER REPLACEMENT/REPAIR (CONT)

- (12) Position two screws (18) and self-locking nuts (19) in spare tire retainer (2).
- (13) Tighten two self-locking nuts (19) to 43-52 lb-ft (58-71 N•m).
- (14) Position screw (20) and self-locking nut (21) in spare tire retainer (2).

NOTE

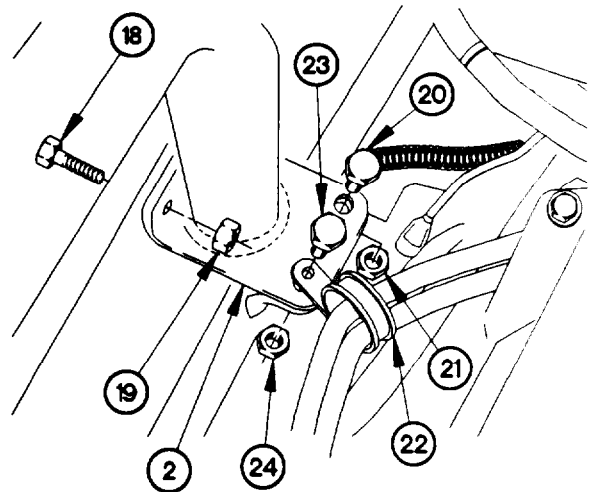
Perform step (15) on vehicle serial number 3092 and higher, and vehicle serial numbers 0001 through 3091 that have previously had a spare tire retainer or fuel hose replaced.

- (15) Position clamp (22) on spare tire retainer (2) with screw (23) and self-locking nut (24).

NOTE

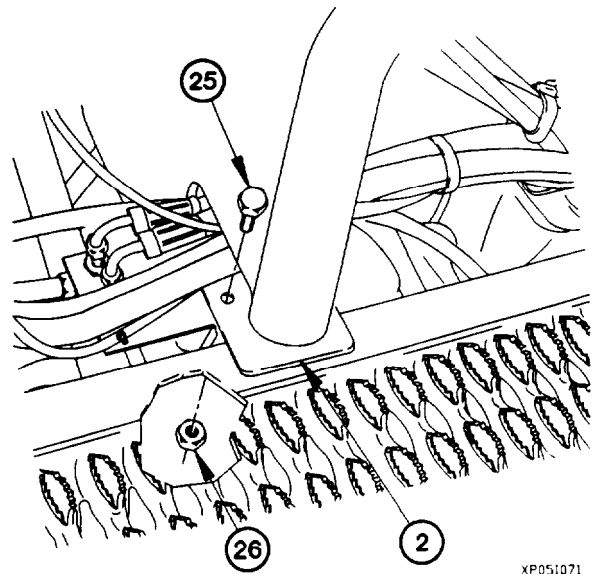
Perform step (16) on vehicle serial numbers 0001 through 3091 that have not previously had a spare tire retainer or fuel hose replaced.

- (16) Position screw (23) and self-locking nut (24) in spare tire retainer (2).
- (17) Tighten self-locking nuts (21 and 24) to 43-52 lb-ft (58-71 N•m).

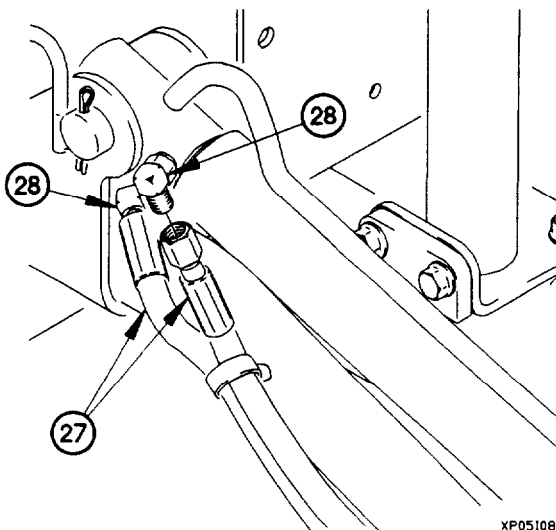


XP051061

- (18) Position two screws (25) and self-locking nuts (26) in spare tire retainer (2).
- (19) Tighten two self-locking nuts (26) to 43-52 lb-ft (58-71 N•m).



XP051071



XP051081

WARNING

Hydraulic fluid (MIL-H-5606) is TOXIC. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes. Skin and clothing that come in contact with hydraulic oil should be washed immediately. Saturated clothing should be removed immediately. Failure to comply may result in injury to personnel.

NOTE

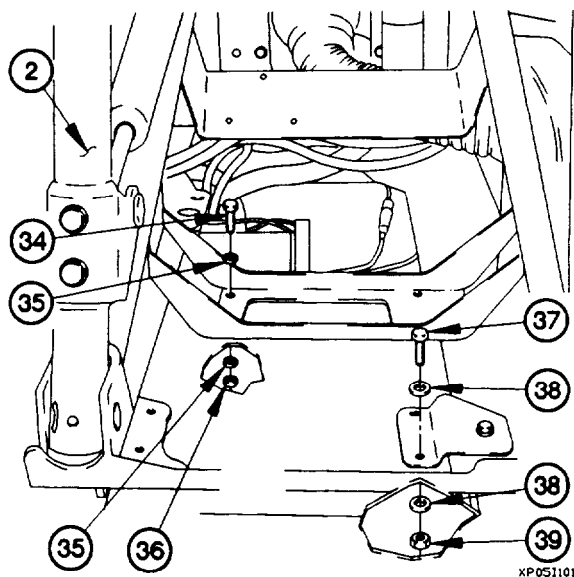
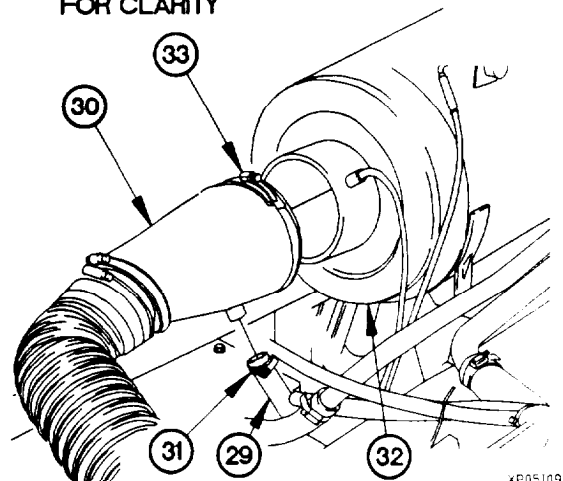
Install plastic cable ties as required.

- (20) Connect two hydraulic hoses (27) to 90-degree fittings (28).

14-10. M1088/M1089/M1090/M1094 SPARE TIRE RETAINER REPLACEMENT/REPAIR (CONT)

- (21) Position air compressor intake hose (29) on intake air cleaner boot (30) with clamp (31).
- (22) Position intake air cleaner boot (30) on intake air cleaner housing (32) with clamp (33).
- (23) Tighten clamps (31 and 33) to 36-48 lb-in. (4-5 N•m).

**SPARE TIRE
RETAINER REMOVED
FOR CLARITY**



- (24) Position four screws (34), eight washers (35), and four self-locking nuts (36) in spare tire retainer (2).
- (25) Position four screws (37), eight washers (38), and four self-locking nuts (39) in spare tire retainer (2).
- (26) Tighten four self-locking nuts (36 and 39) to 18-22 lb-ft (24-30 N•m).

e. Follow-On Maintenance.

- (1) Install 200 amp reverse polarity relay, if equipped (M1094) (para 20-47).
- (2) Install 100 amp reverse polarity relay, if equipped (para 7-30).
- (3) Install shunt (para 7-29).
- (4) Install ether starting aid (para 4-15).
- (5) Install air hydraulic power unit and bracket (para 19-3).
- (6) Install cab leveling valve (para 16-8).
- (7) Lower cab (TM 9-2320-366-10-1).
- (8) Install spare tire (TM 9-2320-366-10-2).

End of Task.

14-11. M1088 FIFTH WHEEL ADJUSTMENT

This task covers:

- | | |
|---|--------------------------|
| a. Top Plate Locking Mechanism Adjustment | c. Follow-On Maintenance |
| b. Sliding Mechanism Adjustment | |

INITIAL SETUP**Equipment Conditions**

Semitrailer uncoupled (TM 9-2320-366-10-1).
Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Gage, Profile (Item 21, Appendix B)

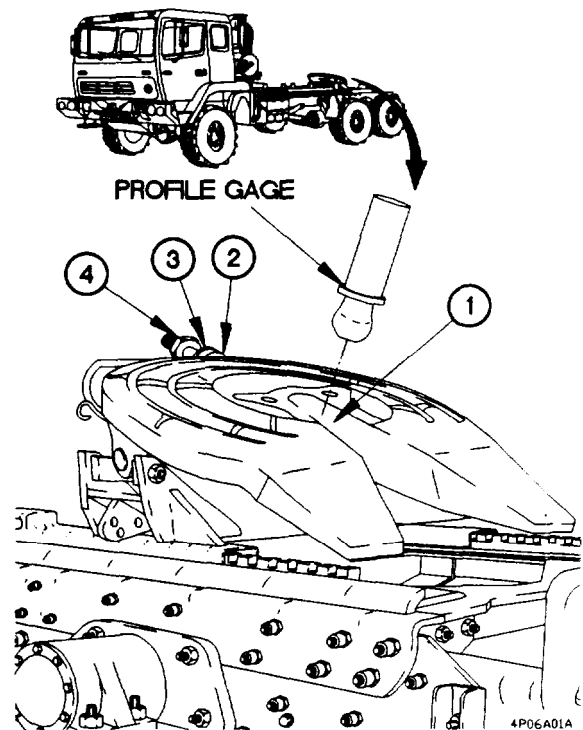
a. Top Plate Locking Mechanism Adjustment.**NOTE**

- Rubber bushing on yoke shaft between top plate casting and adjustment nut should rotate with resistance.
- If unable to rotate rubber bushing, turn adjusting nut to the left.

- (1) Insert profile gage in split locks (1).
- (2) Lock fifth wheel (TM 9-2320-366-10-1).
- (3) Rotate rubber bushing (2) between top plate casting (3) and adjustment nut (4).

NOTE

- Turning adjustment nut to the right will increase split lock pressure on the profile gage. Turning adjustment nut to the left has the opposite effect.
 - When properly adjusted, profile gage can be rotated in split locks with some resistance.
- (4) Turn adjusting nut (4) until profile gage fits snug in split locks (1) but will rotate with resistance.
 - (5) Unlock fifth wheel (TM 9-2320-366-10-1).
 - (6) Remove profile gage from split locks (1).

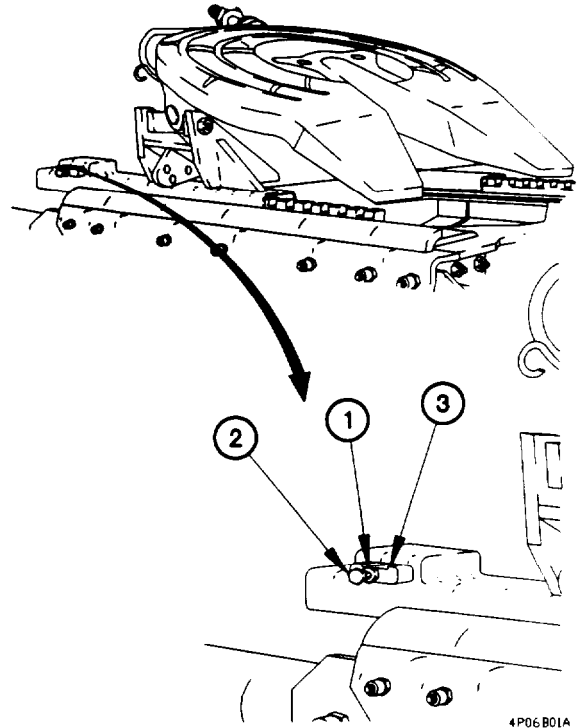


14-11. M1088 FIFTH WHEEL ADJUSTMENT (CONT)

b. Sliding Mechanism Adjustment,

NOTE

- Left and right side plungers are adjusted the same way. Left side shown.
- Loosen adjusting screw by turning to the left.



- (1) Loosen lock nut (1) on adjusting screw (2).
- (2) Loosen adjusting screw (2) on left side plunger (3).
- (3) Unlock and lock fifth wheel sliding mechanism (TM 9-2320-366-10-1) to verify locking plungers are properly sealed.
- (4) Turn adjusting screw (2) to the right until adjusting screw contacts sliding rack (4).
- (5) Tighten adjusting screw (2) 1/2 turn more.
- (6) Tighten lock nut (1) on adjusting screw (2).
- (7) Perform steps (1) through (6) on right side plunger.

c. Follow-On Maintenance.

Perform M1088 tractor and trailer coupling/uncoupling (TM 9-2320-366-10-1).

End of Task.

CHAPTER 15 SUSPENSION SYSTEM MAINTENANCE

Section I. INTRODUCTION..	15-1
15-1. INTRODUCTION	15-1
Section II. MAINTENANCE PROCEDURES	15-2
15-2. RESILIENT MOUNT AND MECHANICAL STOP REPLACEMENT.	15-2
15-3. FRONT AXLE SHOCK ABSORBER REPLACEMENT	15-5
15-4. REAR AXLE SHOCK ABSORBER REPLACEMENT	15-7
15-5. REAR STABILIZER BAR REPLACEMENT/REPAIR	15-10

Section I. INTRODUCTION

15-1. INTRODUCTION

This chapter contains maintenance instructions for replacing and repairing suspension system components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.

Section II. MAINTENANCE PROCEDURES

15-2. RESILIENT MOUNT AND MECHANICAL STOP REPLACEMENT

This task covers:

- | | |
|--|---|
| <ul style="list-style-type: none"> a. Mechanical Stop Removal b. Mechanical Stop Installation c. Resilient Mount Removal d. Resilient Mount Installation | <ul style="list-style-type: none"> e. Front Angle Bracket Resilient Mount Removal f. Front Angle Bracket Resilient Mount Installation g. Follow-On Maintenance |
|--|---|

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
 Cab raised (for front angle bracket resilient mount) (TM 9-2320-366-10-1).

Tools and Special Tools (Cont)

Crowfoot Attachment, Socket Wrench (Item 5, Appendix B)
 Vise, Machinist (Item 48, Appendix C)

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
 Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

Nut, Self-Locking (2) (Item 161, Appendix G)
 Washer, Spring (Item 287, Appendix G)
 Washer, Spring (item 293, Appendix G)

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Mechanical Stop Removal.

NOTE

Both mechanical stops are removed the same way. Right rear side shown.

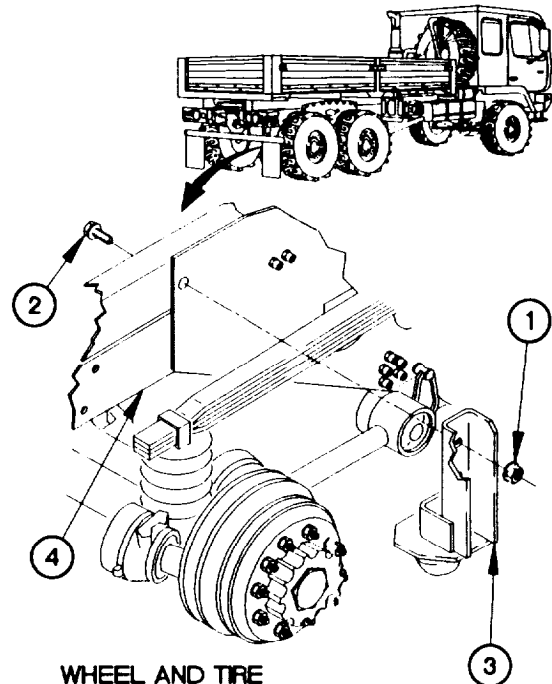
Remove two self-locking nuts (1), bolts (2), and mechanical stop (3) from frame (4). Discard self-locking nuts.

b. Mechanical Stop Installation.

NOTE

Both mechanical stops are installed the same way. Right rear side shown.

- (1) Position mechanical stop (3) on frame (4) with two bolts (2) and self-locking nuts (1).
- (2) Tighten two self-locking nuts (1) to 118-148 lb-ft (160-201 N•m).

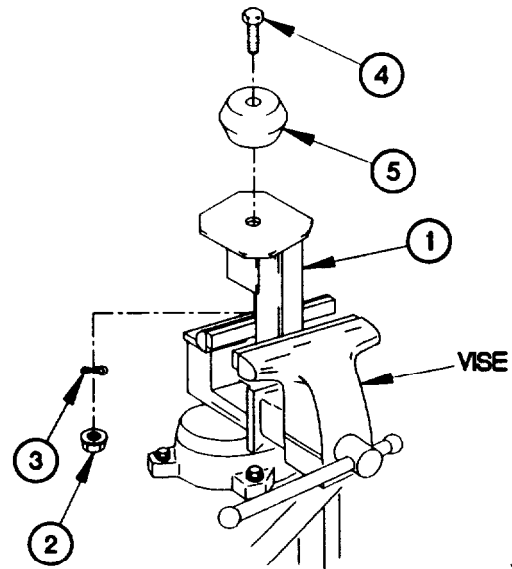


**WHEEL AND TIRE
REMOVED FOR CLARITY**

4002R01A

c. Resilient Mount Removal.

- (1) Position mechanical stop (1) in vise.
- (2) Remove nut (2), spring washer (3), bolt (4), and resilient mount (5) from mechanical stop (1). Discard spring washer.



X002R02-

d. Resilient Mount Installation.

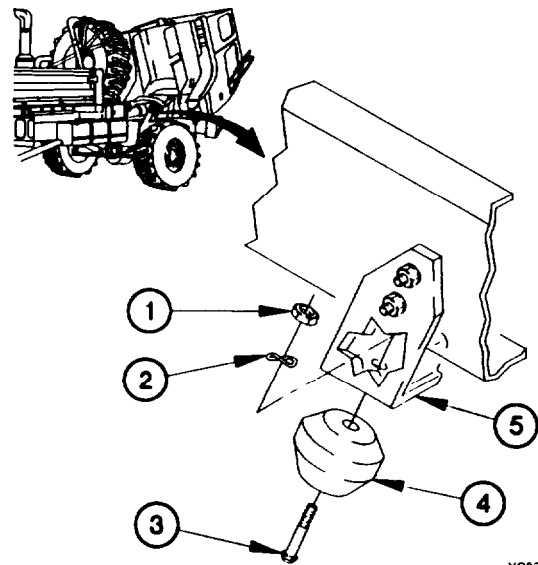
- (1) Position resilient mount (5) on mechanical stop (1) with bolt (4), spring washer (3), and nut (2).
- (2) Tighten nut (2) to 35-46 lb-ft (47-63 N•m).
- (3) Remove mechanical stop (1) from vise.

e. Front Angle Bracket Resilient Mount Removal.

NOTE

Left and right side front angle bracket resilient mounts are removed the same way. Right side shown.

Remove nut (1), spring washer (2), bolt (3), and resilient mount (4) from front angle bracket (5). Discard spring washer.



X002R03A

f. Front Angle Bracket Resilient Mount Installation.

NOTE

Left and right side front angle bracket resilient mounts are installed the same way. Right side shown.

- (1) Position resilient mount (4) on front angle bracket (5) with bolt (3), spring washer (2), and nut (1).
- (2) Tighten nut (1) to 35-46 lb-ft (47-63 N•m).

g. Follow-On Maintenance.

Lower cab (for front angle bracket resilient mount) (TM 9-2320-366-10-1).

End of Task.

15-3. FRONT AXLE SHOCK ABSORBER REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
Cab raised (TM 9-2320-366-10-1).

Tools and Special Tools (Cont)

Goggles, Industrial (Item 15, Appendix C)
Wrench Set, Socket, (Item 50, Appendix C)

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-600 lb-ft (Item 60, Appendix C)

Materials/Parts

Nut, Self-Locking (Item 161, Appendix G)
Nut, Self-Locking (Item 162, Appendix G)



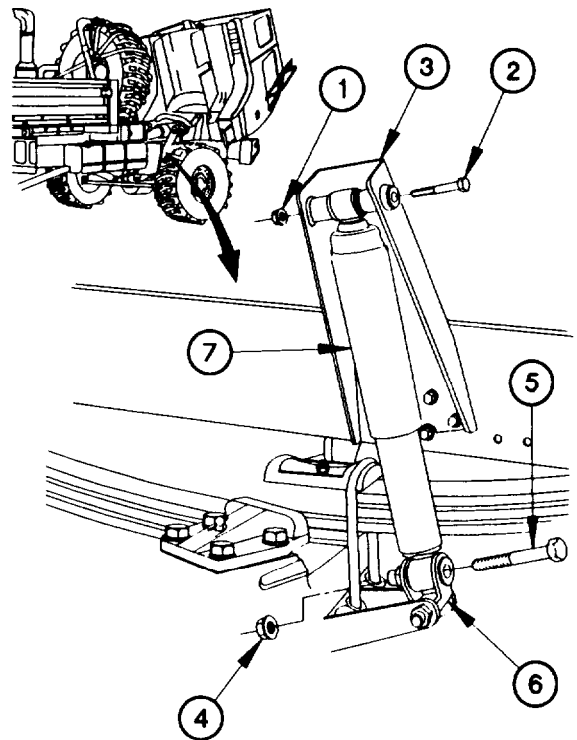
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

- (1) Remove self-locking nut (1) and screw (2) from upper bracket (3). Discard self-locking nut.
- (2) Remove self-locking nut (4) and screw (5) from lower bracket (6). Discard self-locking nut.
- (3) Remove shock absorber (7) from upper bracket (3) and lower bracket (6).

b. Installation.

- (1) Position shock absorber (7) in upper bracket (3) with screw (2) and self-locking nut (1).
- (2) Extend or compress shock absorber (7) length to align with holes in lower bracket (6).
- (3) Position shock absorber (7) in upper bracket (2) with screw (5) and self-locking nut (4).
- (4) Tighten self-locking nut (1) to 200-236 lb-ft (271-320 N•m).
- (5) Tighten screw (5) to 296-370 lb-ft (401-502 N•m).



XQ03R01A

c. Follow-On Maintenance.

Lower cab (TM 9-2320-366-10-1).

End of Task.

15-4. REAR AXLE SHOCK ABSORBER REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-600 lb-ft (Item 60, Appendix C)

Tools and Special Tools (Cont)

Goggles, Industrial (Item 15, Appendix C)
Socket Set, Impact (Item 33, Appendix C)
Wrench Set, Socket (Item 50, Appendix C)

Materials/Parts

Nut, Self-Locking (2) (Item 161, Appendix G)

WARNING

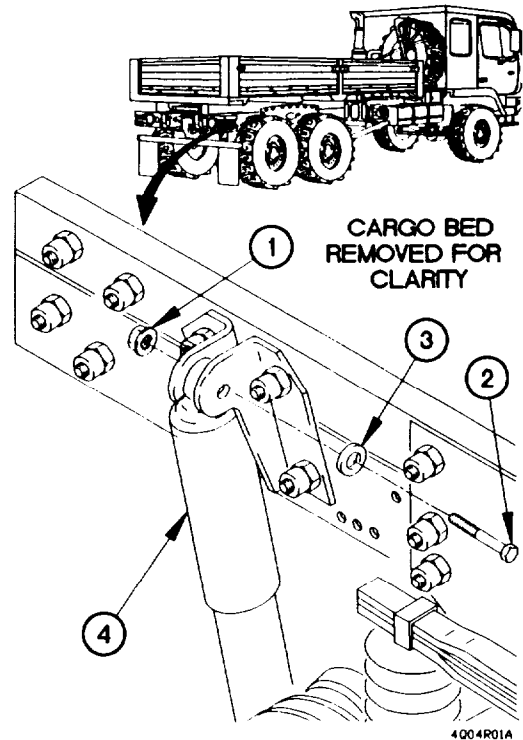
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

- Left and right side rear axle shock absorbers are removed the same way. Right side shown.
- Perform step (1) on vehicle serial numbers 0001 through 1396, and 2988 and higher serial numbers.

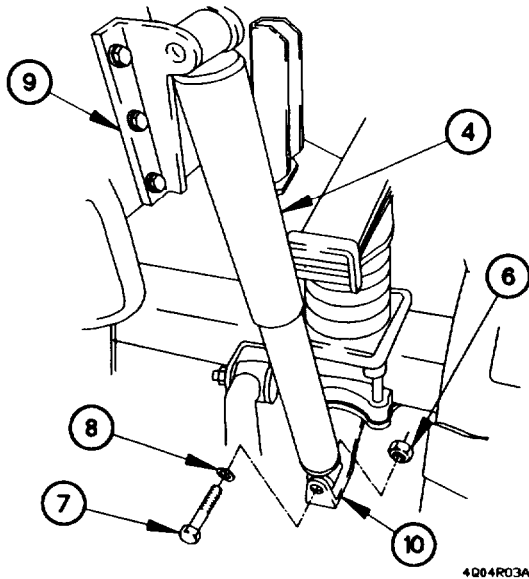
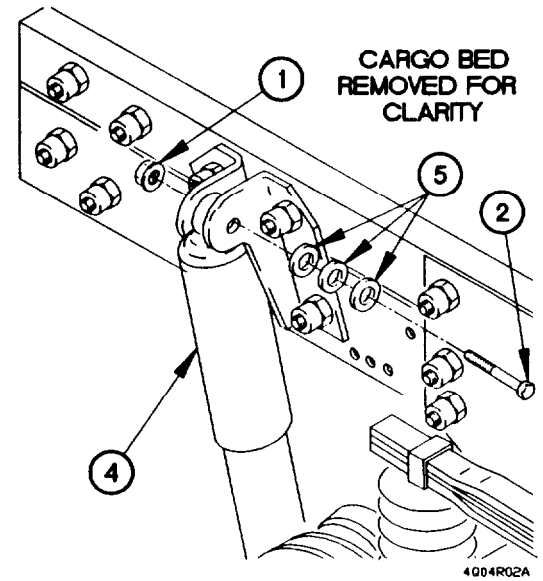
(1) Remove self-locking nut (1), bolt (2), and washer (3) from rear axle shock absorber (4). Discard self-locking nut.



NOTE

Perform step (2) on vehicle serial numbers 1399 through 2987.

- (2) Remove self-locking nut (1), bolt (2), and three washers (5) from rear axle shock absorber (4). Discard self-locking nut.



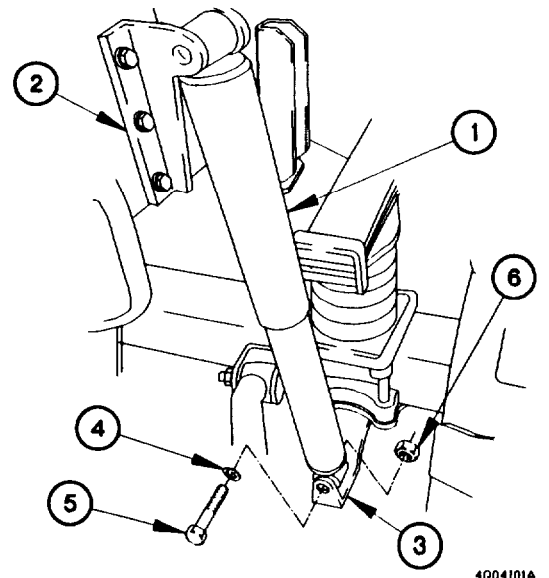
- (3) Remove self-locking nut (6), bolt (7) and washer (8) from rear axle shock absorber (4). Discard self-locking nut.
- (4) Remove rear axle shock absorber (4) from upper bracket (9) and lower bracket (10).

b. Installation.

NOTE

Left and right side rear axle shock absorbers are installed the same way. Right side shown.

- (1) Position rear axle shock absorber (1) in upper bracket (2) and lower bracket (3).
- (2) Position rear axle shock absorber (1) on lower bracket (3) with washer (4), bolt (5), and self-locking nut (6).



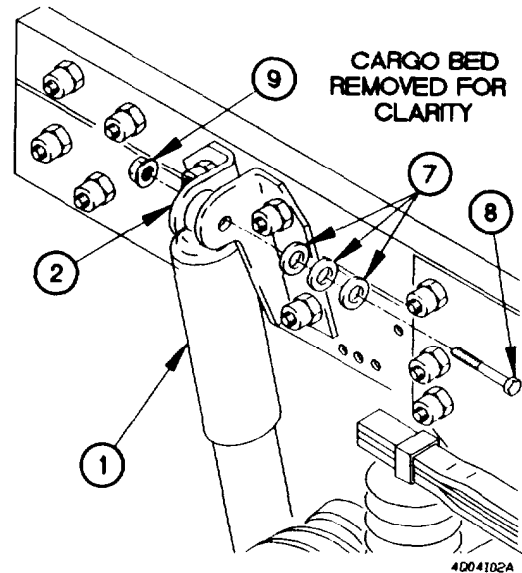
15-4. REAR AXLE SHOCK ABSORBER REPLACEMENT (CONT)

- (3) Extend or compress rear axle shock absorber (1) length to align with holes in upper bracket (2).

NOTE

Perform steps (4) and (5) on vehicle serial numbers 1399 through 2987.

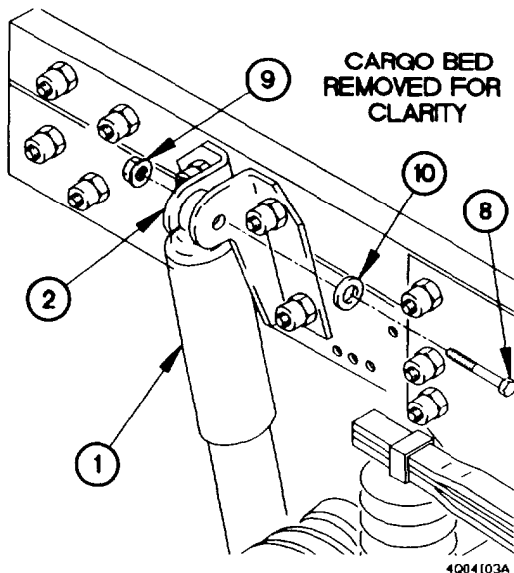
- (4) Position rear axle shock absorber (1) in upper bracket (2) with three washers (7), bolt (8), and self-locking nut (9).
- (5) Tighten self-locking nut (9) to 195-239 lb-ft (264-324 N•m).



NOTE

Perform steps (6) and (7) on vehicle serial numbers 0001 through 1398, and 2988 and higher serial numbers.

- (6) Position rear axle shock absorber (1) in upper bracket (2) with washer (10), bolt (8), and self-locking nut (9).
- (7) Tighten self-locking nut (9) to 195-239 lb-ft (264-324 N•m).



End of Task.

15-5. REAR STABILIZER BAR REPLACEMENT/REPAIR

This task covers:

- | | |
|----------------|--------------------------|
| a. Removal | d. Assembly |
| b. Disassembly | e. Installation |
| c. Inspection | f. Follow-On Maintenance |

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Goggles, Industrial (Item 15, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
 Trestle, Motor Vehicle Maintenance (2) (Item 47, Appendix C)
 Wrench, Torque, 0-600 lb-ft (Item 60, Appendix C)
 Socket, Socket Wrench (Item 70, Appendix B)
 Wrench Set, Socket (Item 50, Appendix C)

Materials/Parts

Solvent, Dry Cleaning (Item 65, Appendix D)
 Grease, Automotive and Artillery (GAA) (Item 22, Appendix D)
 Nut, Self-Locking (4) (Item 162, Appendix G)
 Nut, Self-Locking (8) (Item 154, Appendix G)
 Nut, Self-Locking (8) (Item 156, Appendix G)
 Nut, Self-Locking (2) (Item 160, Appendix G)

Personnel Required

(2)

WARNING

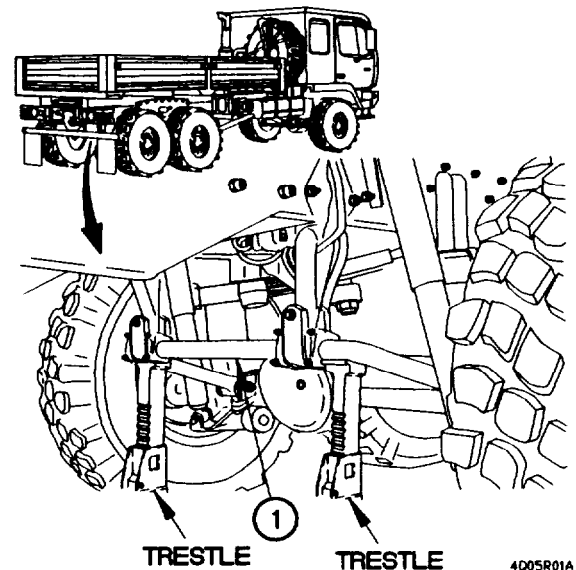
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

NOTE

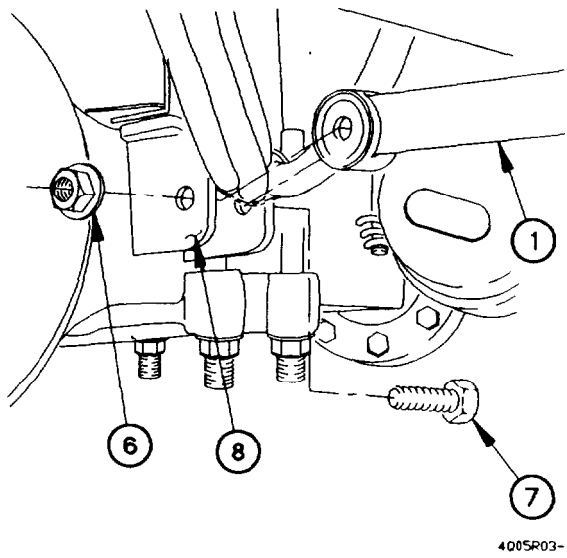
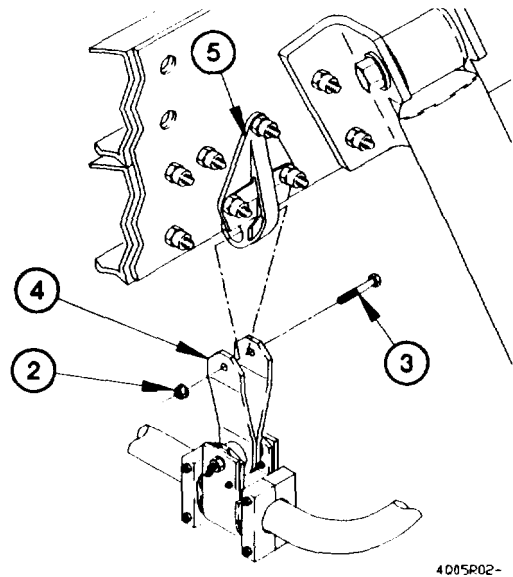
Left and right sides of rear stabilizer bar are disconnected the same way. Right side shown.

- (1) Position trestles under rear stabilizer bar (1).



15-5. REAR STABILIZER BAR REPLACEMENT/REPAIR (CONT)

(2) Remove self-locking nut (2), bolt (3), and bracket assembly (4) from frame bracket (5). Discard self-locking nut.



(3) Remove self-locking nut (6) and bolt (7) from axle bracket (8). Discard self-locking nut.

WARNING

Rear stabilizer bar weighs approximately 50 lbs (22 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

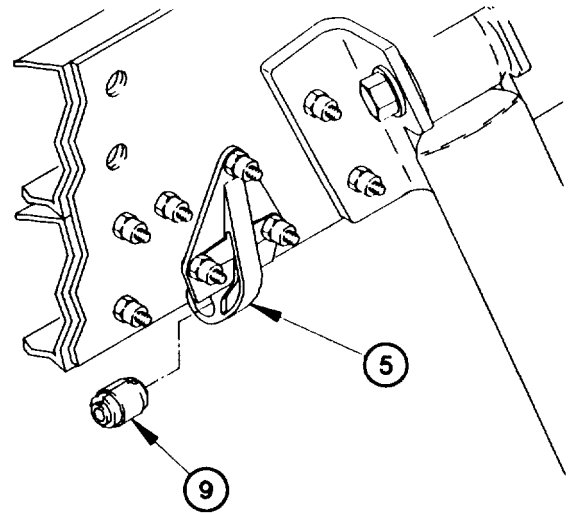
(4) Perform steps (2) and (3) on left side of rear stabilizer bar.

NOTE

Step (5) requires the aid of an assistant.

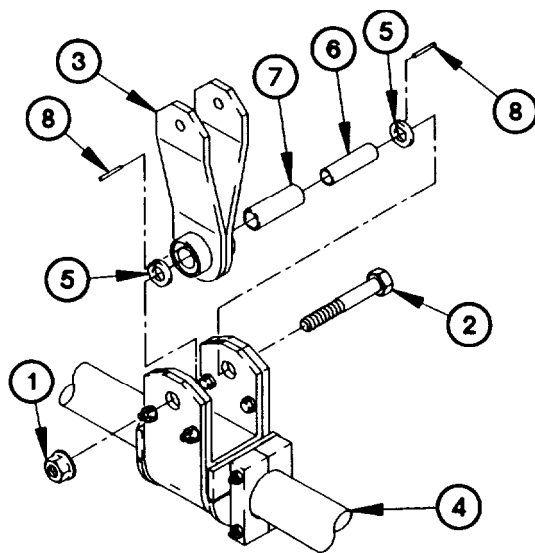
(5) Remove rear stabilizer bar (1) from vehicle.

- (6) Remove bushing (9) from frame bracket (5).
- (7) Perform step (6) on left side frame bracket.



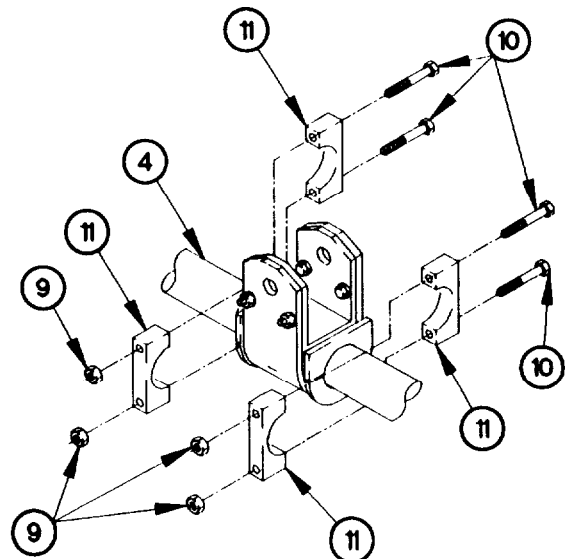
4005R04-

b. Disassembly.



4005D01A

- (3) Remove four self-locking nuts (9), bolts (10), and two clamps (11) from rear stabilizer bar (4). Discard self-locking nuts.



4005D02A

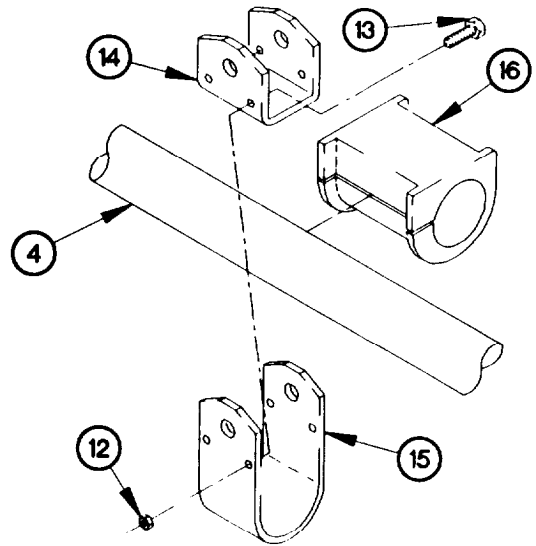
NOTE

Left and right sides of rear stabilizer bar are disassembled the same way. Right side shown.

- (1) Remove self-locking nut (1), bolt (2), and bracket (3) from stabilizer bar (4). Discard self-locking nut.
- (2) Remove two washers (5), spacer (6), bushing (7), and two pins (8) from bracket (3).

15-5. REAR STABILIZER BAR REPLACEMENT/REPAIR (CONT)

- (4) Remove four self-locking nuts (12), bolts (13), and brackets (14 and 15) from rear stabilizer bar (4). Discard self-locking nuts.
- (5) Remove resilient mount (16) from rear stabilizer bar (4).
- (6) Perform steps (1) through (5) on left side of rear stabilizer bar.

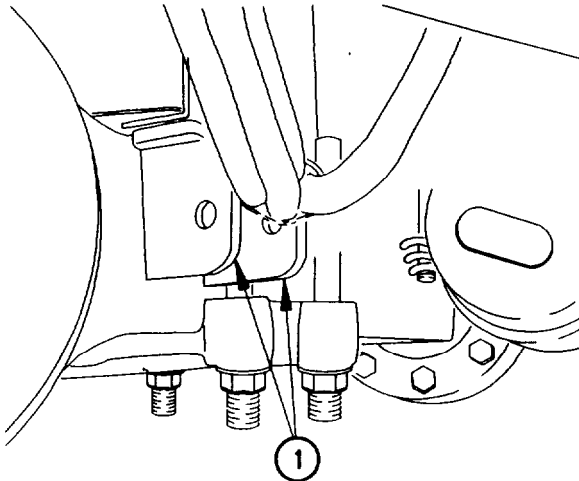


4005D03A

NOTE

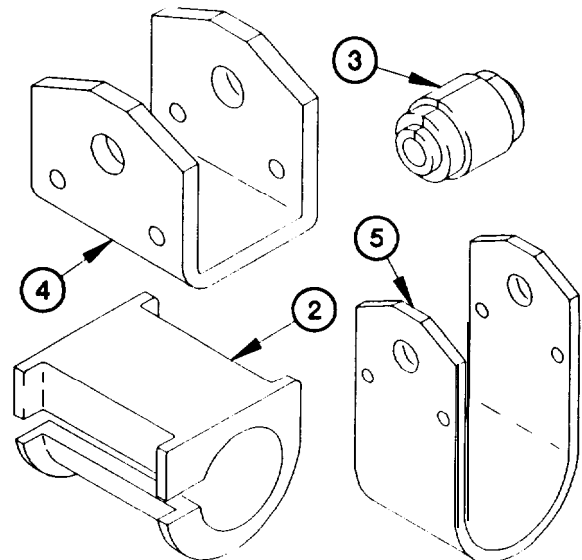
- If axle brackets fail visual inspection, notify DS Maintenance.
- Replace any part that fails visual inspection.
- Perform step (1) on both sides of vehicle.

c. Inspection.



X005N01-

- (2) Inspect two resilient mounts (2) for cracks, breaks, or deterioration.
- (3) Inspect two bushings (3) for cracks, breaks, or deterioration.
- (4) Inspect two brackets (4) for cracks, breaks, or corrosion.
- (5) Inspect two brackets (5) for cracks, breaks, or corrosion.



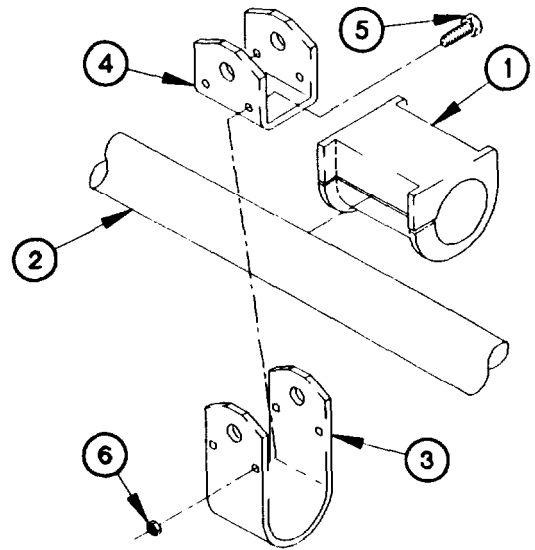
4005N02-

d. Assembly.

NOTE

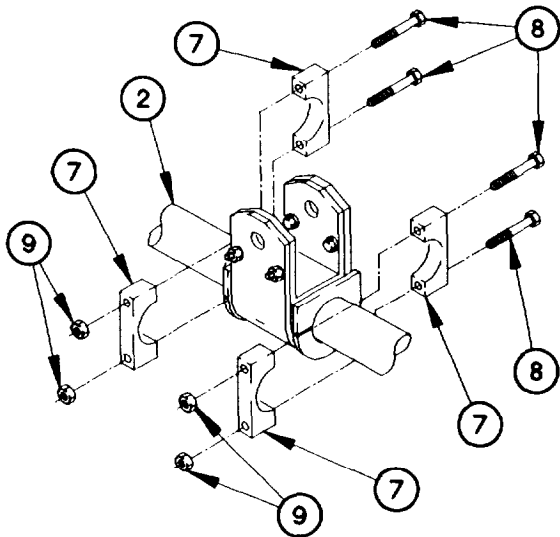
Left and right sides of rear stabilizer bar are assembled the same way. Right side shown.

- (1) Install resilient mount (1) on rear stabilizer bar (2).
- (2) Install bracket (3) on resilient mount (1).
- (3) Position bracket (4) on bracket (3) with four bolts (5) and self-locking nuts (6).



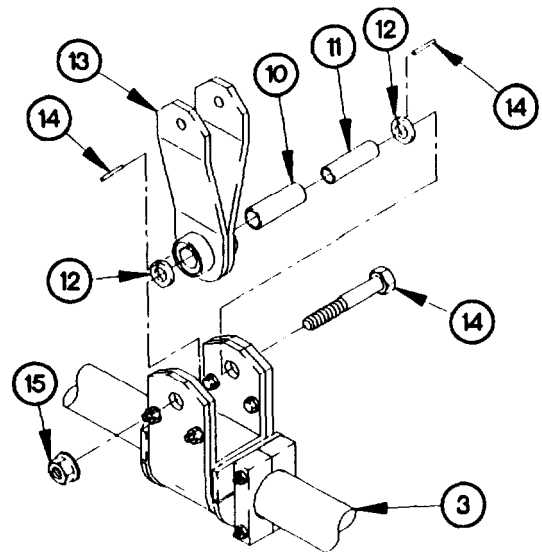
4005A01A

- (4) Position two clamps (7) on rear stabilizer bar (2) with four bolts (8) and self-locking nuts (9).



4005A02-

- (5) Position bushing (10), spacer (11), and two washers (12) in bracket assembly (13).
- (6) Install two pins (14) in washers (12) until flush.
- (7) Position bracket assembly (13) in bracket (3) with bolt (15) and self-locking nut (16).
- (8) Perform steps (1) through (7) on left side of rear stabilizer bar.



4005A03A

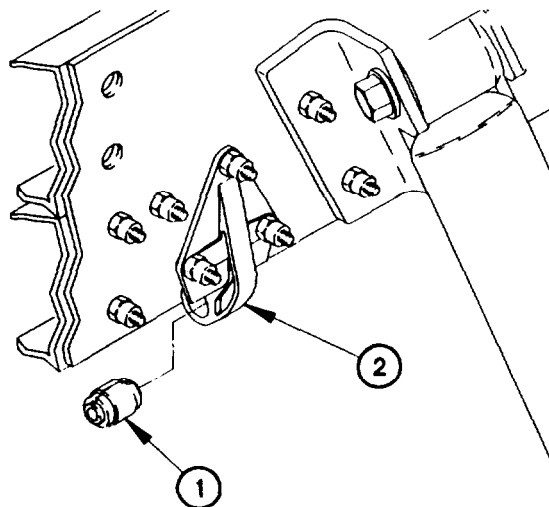
15-5. REAR STABILIZER BAR REPLACEMENT/REPAIR (CONT)

e. Installation.

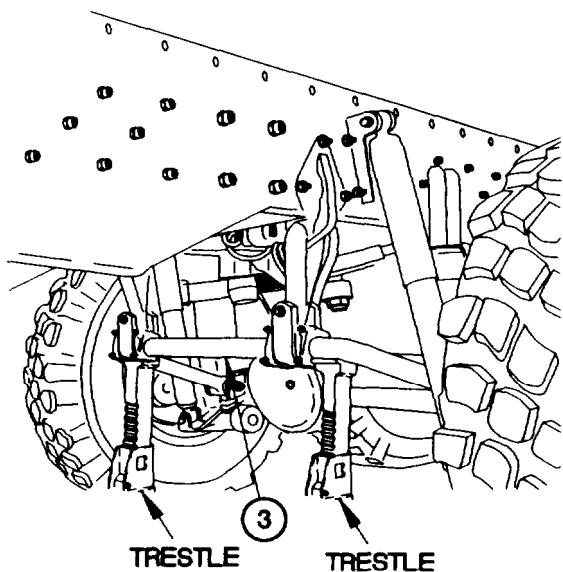
NOTE

Left and right sides of rear stabilizer bar are connected the same way. Right side shown.

- (1) Install bushing (1) in frame bracket (2).



4005101-



4005102-

WARNING

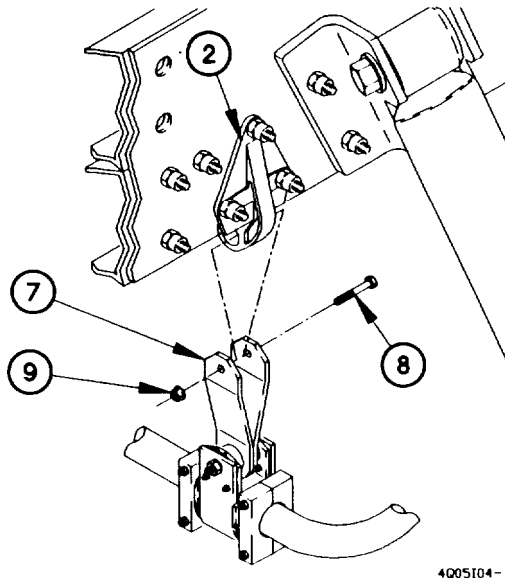
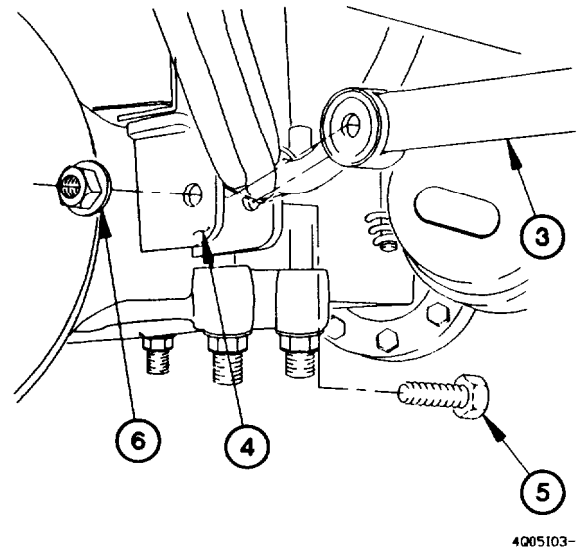
Rear stabilizer bar weighs approximately 50 lbs (22 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

NOTE

Step (2) requires the aid of an assistant.

- (2) Position rear stabilizer bar (3) under vehicle and support with trestles.

- (3) Position rear stabilizer bar (3) in axle bracket (4) with bolt (5) and self-locking nut (6).

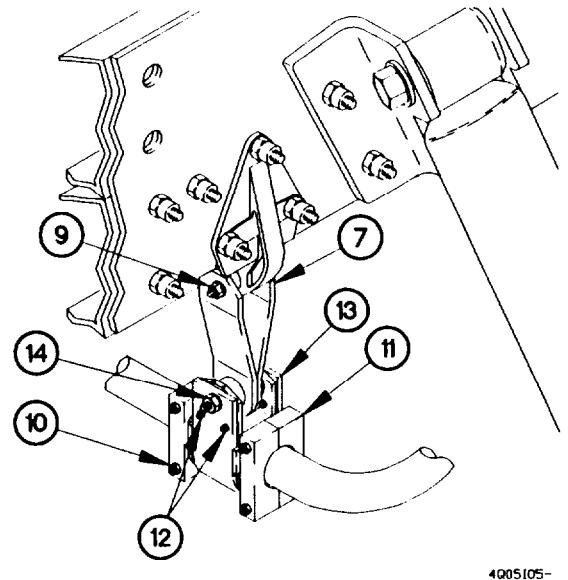


NOTE

Bracket assembly may require adjustment to align with frame bracket.

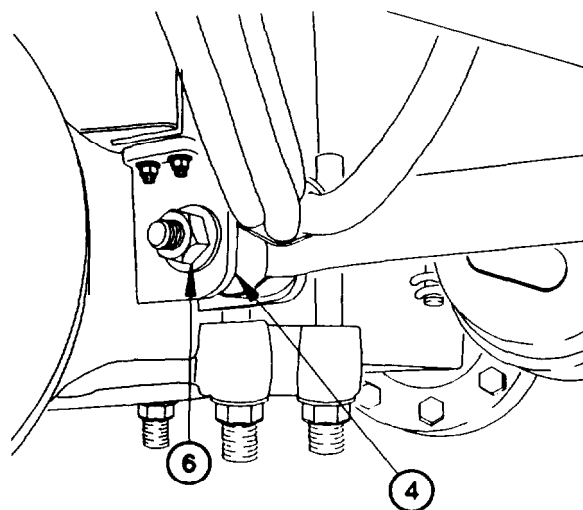
- (4) Position bracket assembly (7) on frame bracket (2) with bolt (8) and self-locking nut (9).

- (5) Tighten four self-locking nuts (10) on clamps (11) to 43-52 lb-ft (58-71 N•m).
- (6) Tighten self-locking nut (9) on bracket assembly (7) to 75-89 lb-ft (101-121 N•m).
- (7) Tighten four self-locking nuts (12) on bracket (13) to 21-26 lb-ft (28-35 N•m).
- (8) Tighten self-locking nut (14) on bracket (13) to 399-487 lb-ft (541-660 N•m).



15-5. REAR STABILIZER BAR REPLACEMENT/REPAIR (CONT)

- (9) Tighten self-locking nut (8) on axle bracket (4) to 70-100 lb-ft (95-136 N•m).
- (10) Perform steps (1) through (9) on left side of rear stabilizer bar.
- (11) Remove trestles from under vehicle.



f. Follow-On Maintenance.

Operate vehicle and check for normal operation (TM 9-2320-366-10-1).

End of Task.

CHAPTER 16 BODY AND CAB MAINTENANCE

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Section I. INTRODUCTION

16-1. INTRODUCTION

This chapter contains instructions for replacing, repairing, and adjusting cab and body components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.

Section II. MAINTENANCE PROCEDURES

16-2. POWER DISTRIBUTION PANEL (PDP) COVER AND LATCH REPLACEMENT/ ADJUSTMENT

This task covers:

- a. Removal
- b. Installation
- c. Latch Adjustment

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Drill, Portable, Electric (Item 7, Appendix C)
 Goggles, Industrial (Item 15, Appendix C)

Tools and Special Tools (Cont)

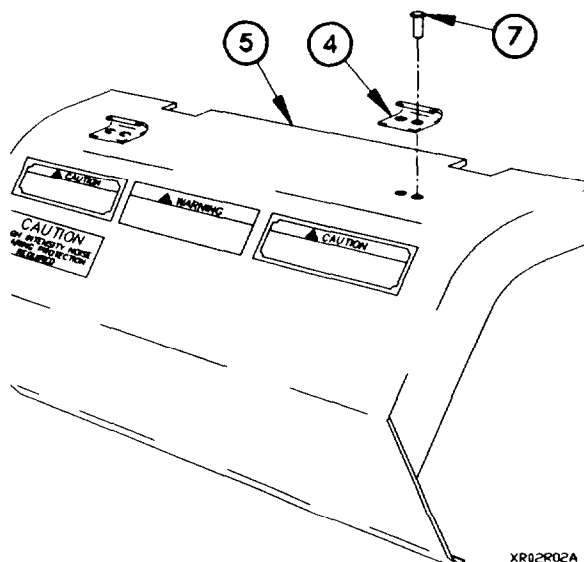
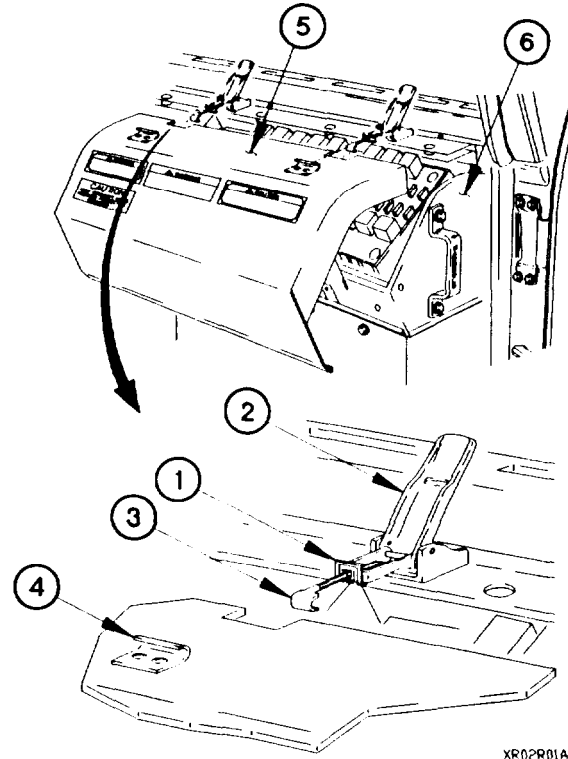
Drill Set, Twist (Item 6, Appendix C)
 Tool Kit, Blind Rivet (Item 44, Appendix C)

Material/Parts

Rivet, Blind (4) (Item 248, Appendix G)

a. Removal.

- (1) Pull two spring catches (1) and lift two latch levers (2).
- (2) Release two latch hooks (3) from two strike plates (4).
- (3) Remove PDP cover (5) from dashboard (6).

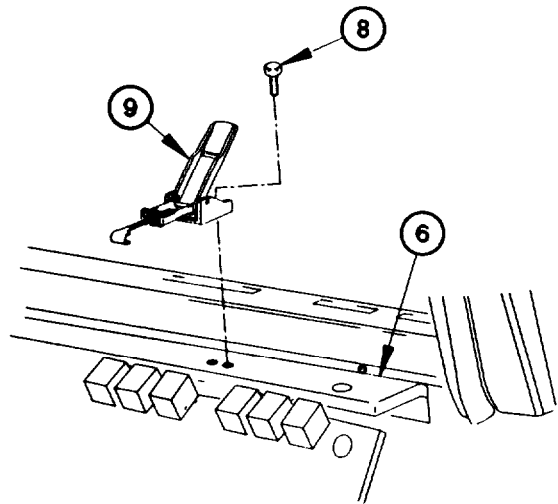


WARNING

Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

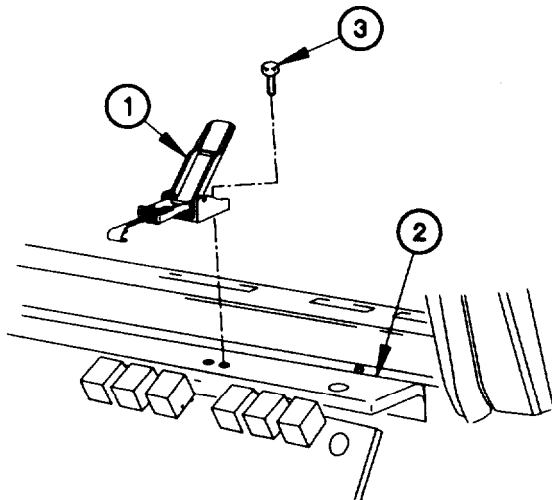
- (4) Remove four rivets (7) and two strike plates (4) from PDP cover (5).

(5) Remove four screws (8) and two latches (9) from dashboard (6).



XR02R03A

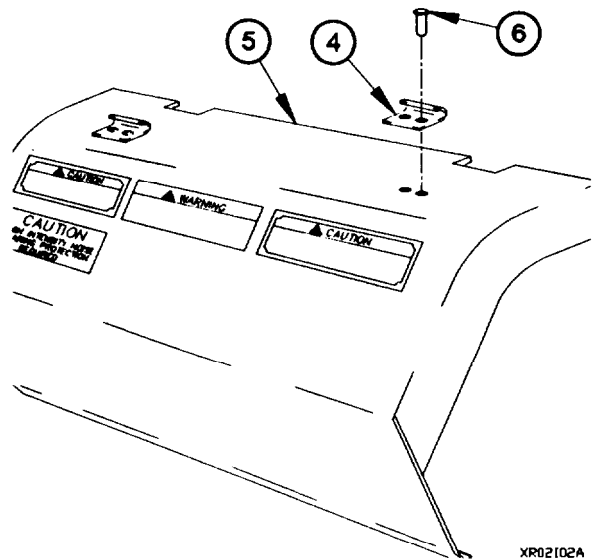
b. Installation.



XROZIOIA

(1) Install two latches (1) on dashboard (2) with four screws (3).

(2) Install two strike plates (4) on PDP cover (5) with four rivets (6).



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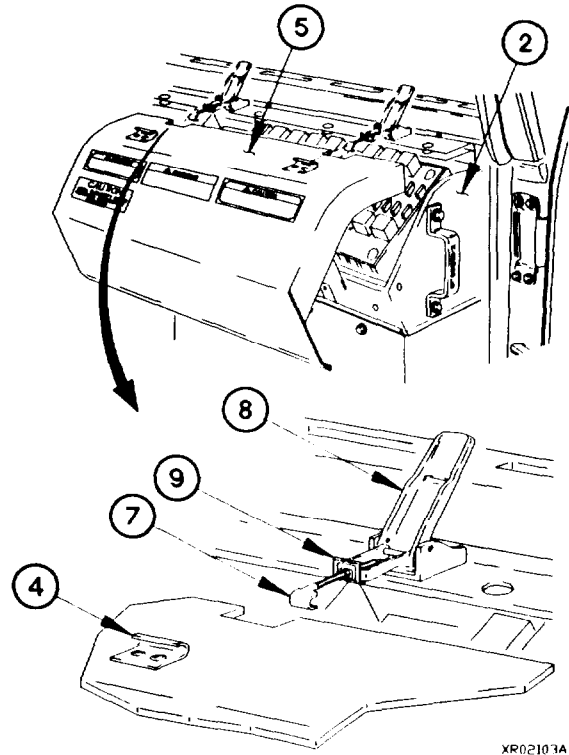
**16-2. POWER DISTRIBUTION PANEL (PDP) COVER AND LATCH REPLACEMENT/
ADJUSTMENT (CONT)**

- (3) Position PDP cover (5) on dashboard (2).
- (4) Fasten two latch hooks (7) on two strike plates (4).

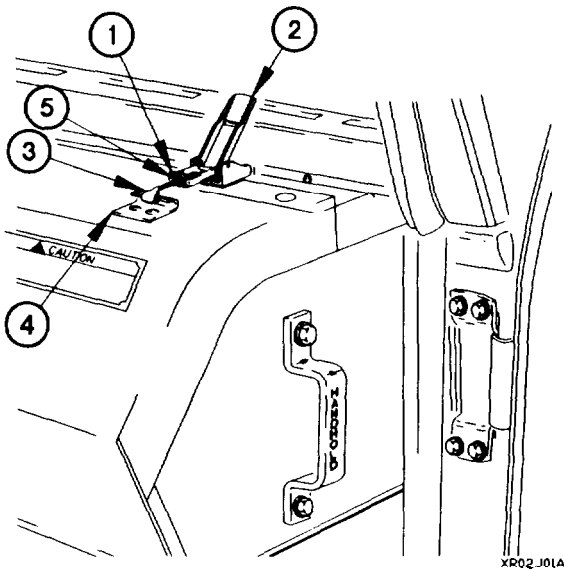
NOTE

PDP cover should be drawn tight against dashboard and some resistance should be felt when closing latches. If PDP cover is loose on dashboard after performing step (5), perform latch adjustment.

- (5) Push down on two latch levers (8) until spring catches (9) are engaged.



c. Latch Adjustment.



- (1) Pull spring catch (1) and lift latch lever (2).
- (2) Release latch hook (3) from strike plate (4).
- (3) Loosen jamnut (5) on latch hook (3).
- (4) Turn latch hook (3) to the right to tighten or to the left to loosen.
- (5) Tighten jamnut (5) on latch hook (3)
- (6) Fasten latch hook (3) on strike plate (4).
- (7) Push down on latch lever (2) until spring catch (1) is engaged.

End of Task.

16-3. KICK PANEL REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)

Tools and Special Tools (Cont)

Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)

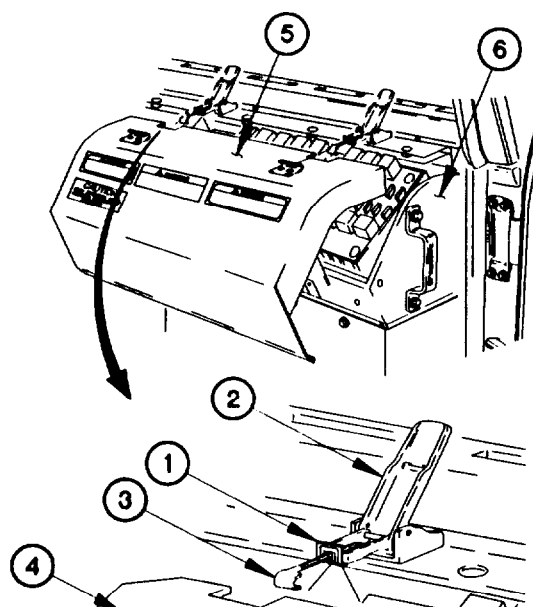
Socket Set, Socket Wrench (Item 36, Appendix C)

Material/Parts

Ties, Cable. Plastic (Item 69, Appendix D)

a. Removal..

- (1) Pull two spring catches (1) and lift two latch levers (2).
- (2) Release two latch hooks (3) from strike plates (4).
- (3) Remove PDP cover (5) from dashboard (6).



- (4) Remove seven screws (7) and washers (8) from kick panel (9).
- (5) Remove kick panel (9) and stiffener (10) from dashboard (6).

NOTE

Remove plastic cable ties as required.

- (6) Disconnect air duct hose (11) from kick panel (9).

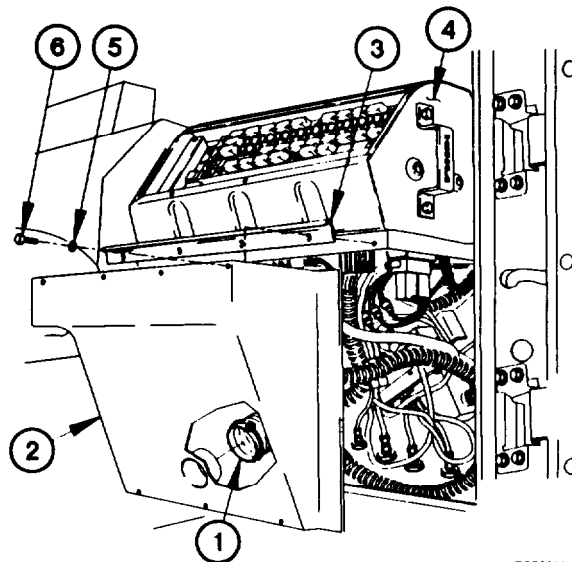
16-3. KICK PANEL REPLACEMENT (CONT)

b. Installation.

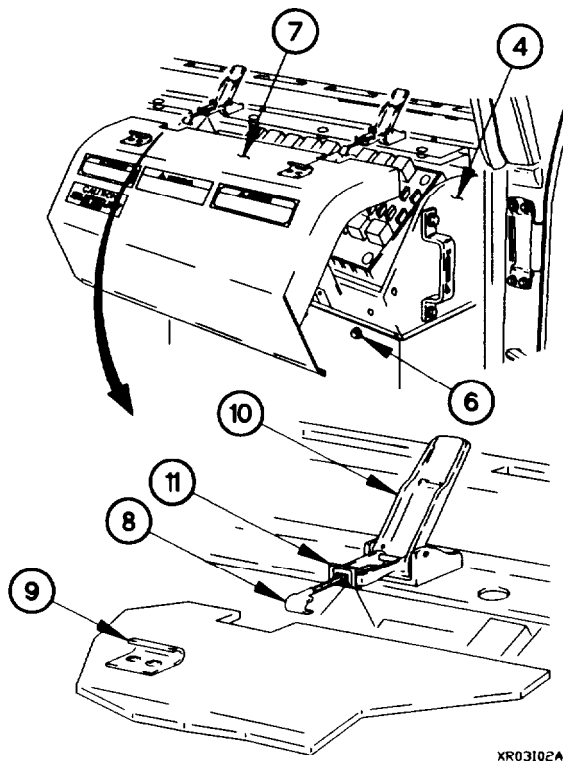
NOTE

Install plastic cable ties as required.

- (1) Connect air duct hose (1) to kick panel (2).
- (2) Position stiffener (3) and kick panel (2) on dashboard (4) with seven washers (5) and screws (6).



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- (3) Position PDP cover (7) on dashboard (4).

- (4) Fasten two latch hooks (8) on strike plates (9).

- (5) Push down on two latch levers (10) until spring catches (11) are engaged.

- (6) Tighten seven screws (6) to 71-88 lb-in. (8-10 N•m).

End of Task.

16-4. M1093/M1094 CAB ROOF REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Cab clearance lights removed (para 7-38).
Spare tire retainer and davit prepared for air drop (TM 9-2320-366-10-2).

Tools and Special Tools

Sling Assembly, Air Drop Roof (TM 9-2320-366-10-2).
Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

Tools and Special Tools (Cont)

Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
Screwdriver Attachment, Socket Wrench (Item 60, Appendix B)
Screwdriver Attachment, Socket Wrench (Item 65, Appendix B)

Material/Parts

Seal (Item 264, Appendix G)

Personnel Required

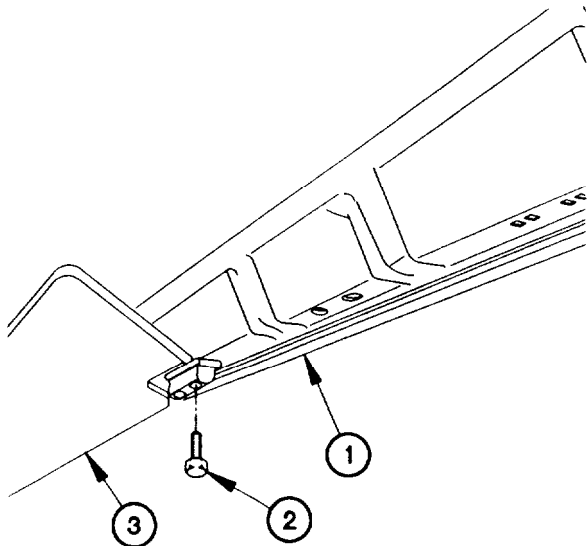
(2)

a. Removal.

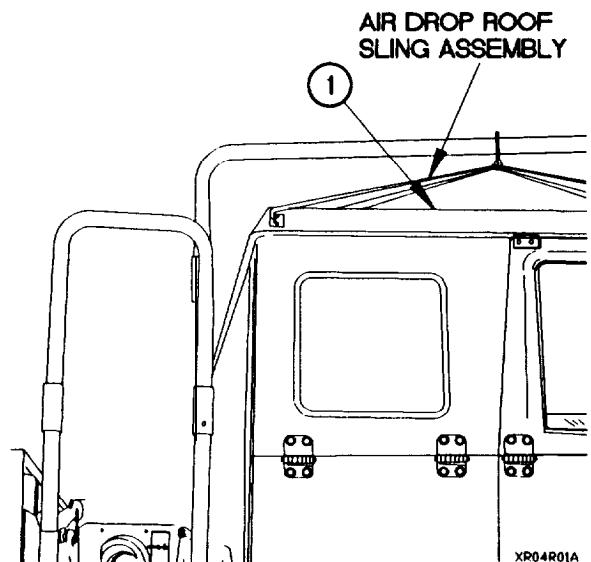
WARNING

Cab roof weighs approximately 110 lbs (50 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel.

- (1) Attach air drop roof sling assembly to cab roof (1).



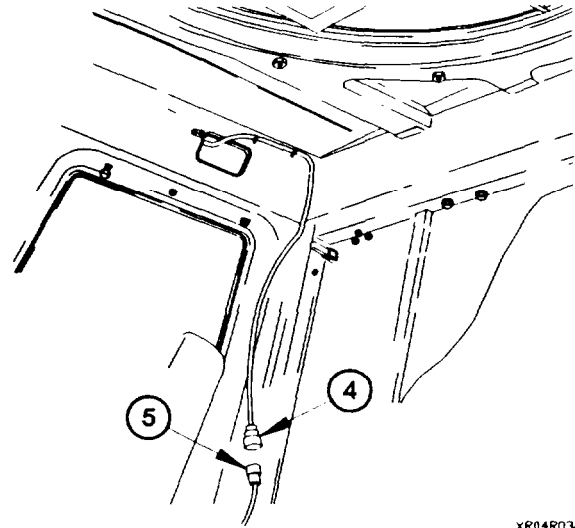
XR04RWA



- (2) Remove four screws (2) and sun visor (3) from cab roof (1).

16-4. M1093/M1094 CAB ROOF REPLACEMENT (CONT)

(3) Disconnect connector P3 (4) from connector J3 (5).

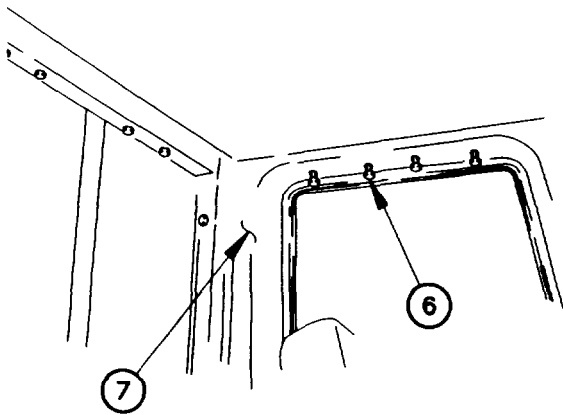


XR04R03A

NOTE

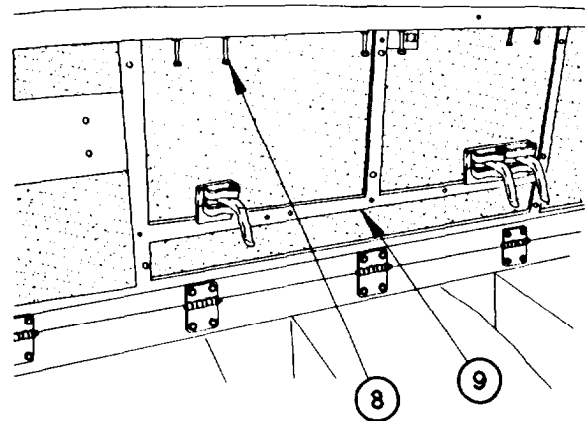
Pull down on captive screws after loosening to disengage from cab roof.

(4) Loosen four captive screws (6) in left side cab wall (7).



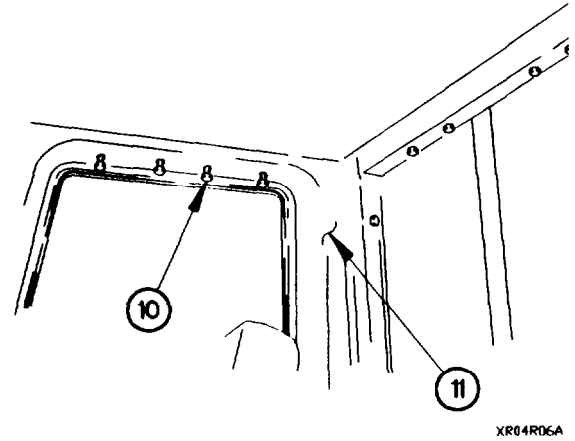
XR04R04A

(5) Loosen ten captive screws (8) in cab rear wall (9).

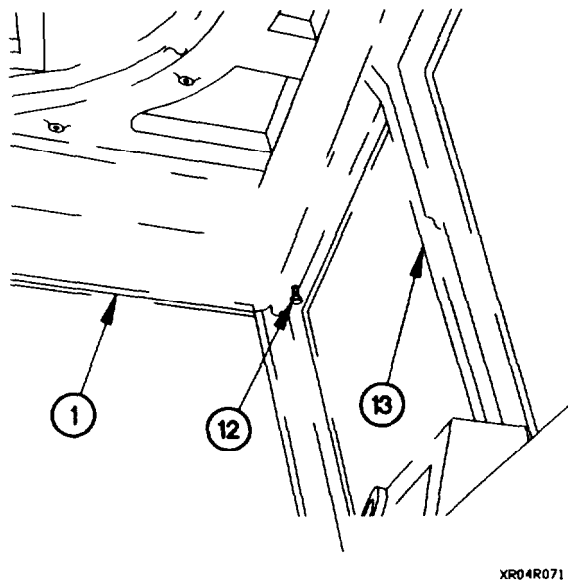


XP04R05A

- (6) Loosen four captive screws (10) in right side cab wall (11).



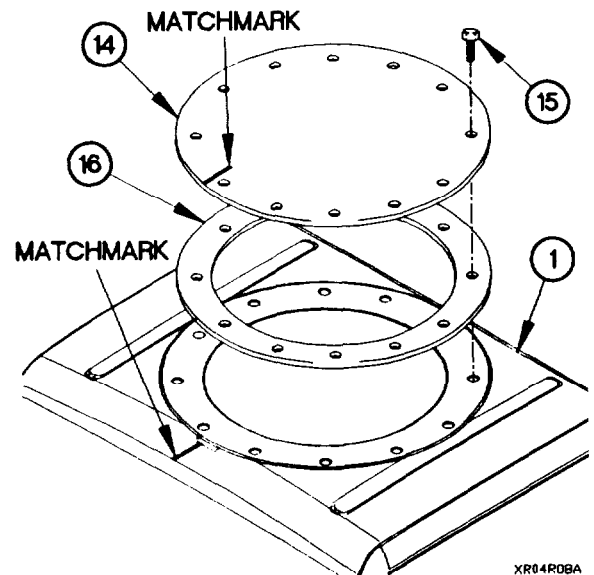
- (7) Loosen ten captive screws (12) in cab windshield frame (13).



NOTE

Steps (8) through (10) require the aid of an assistant.

- (8) Remove cab roof (1) from cab.

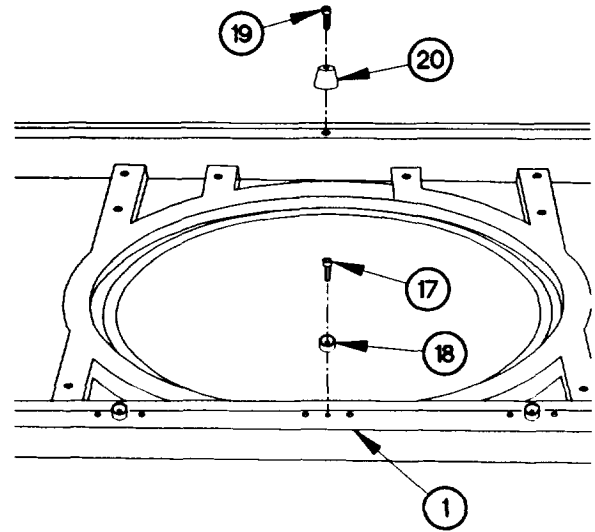


- (9) Match mark roof hatch (14) to cab roof (1).

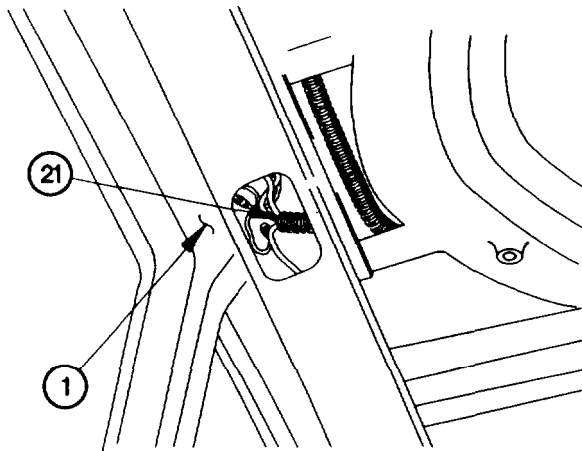
- (10) Remove 12 screws (15), roof hatch (14), and seal (16) from cab roof (1). Discard seal.

16-4. M1093/M1094 CAB ROOF REPLACEMENT (CONT)

- (11) Remove 11 screws (17) and centering cups (18) from cab roof (1).
- (12) Remove five screws (19) and centering cones (20) from cab roof (1).



XR04R09A

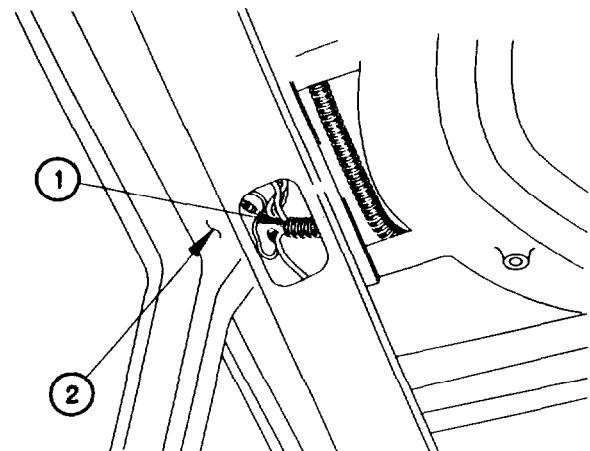


XR04R10L

- (13) Remove cab clearance lights upper cable assembly (21) from cab roof (1).

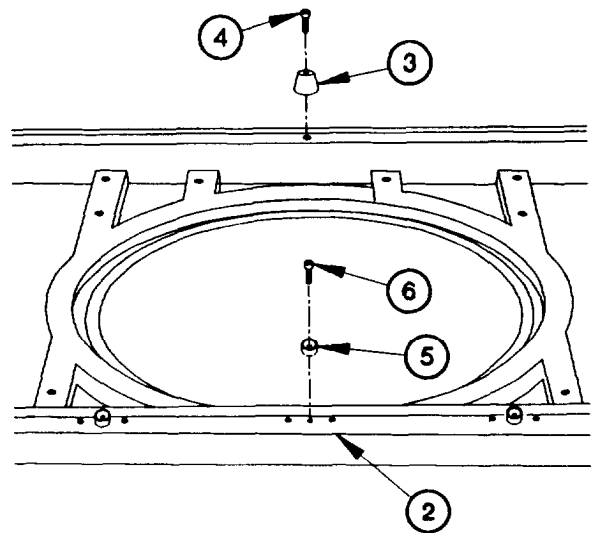
b. Installation.

- (1) Install cab clearance lights upper cable assembly (1) in cab roof (2).



XR04I011

- (2) Position five centering cones (3) on cab roof (2) with five screws (4)
- (3) Position 11 centering cups (5) on cab roof (2) with 11 screws (6).
- (4) Tighten five screws (4) and 11 screws (6) to 62-124 lb-in. (7-14 N•m).



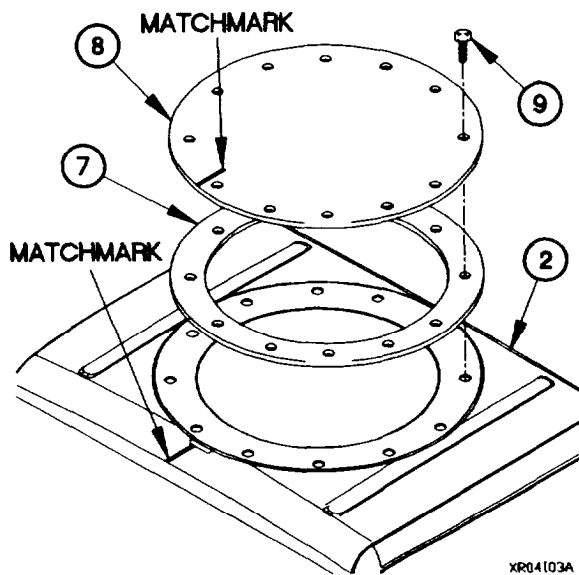
XR04102A

- (5) Position seal (7) on cab roof (2).

NOTE

Steps (6) through (10) require the aid of an assistant.

- (6) Position roof hatch (8) on cab roof (2) with matchmarks aligned.
- (7) Position 12 screws (9) in roof hatch (8).
- (8) Tighten 12 screws (9) to 35-41 lb-ft (48-56 N•m).

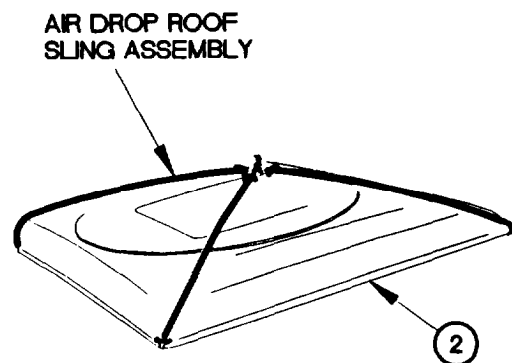


XR04103A

WARNING

Cab roof weighs approximately 110 lbs (50 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel.

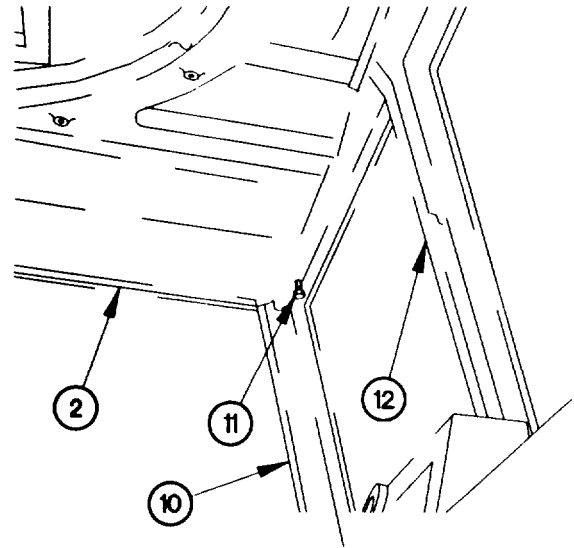
- (9) Attach air drop roof sling assembly to cab roof (2).



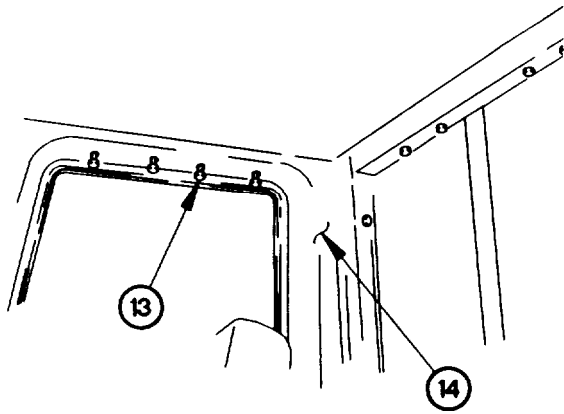
XR04104A

16-4. M1093/M1094 CAB ROOF REPLACEMENT (CONT)

- (10) Position cab roof (2) on cab (10).
- (11) Tighten ten captive screws (11) in cab windshield frame (12).



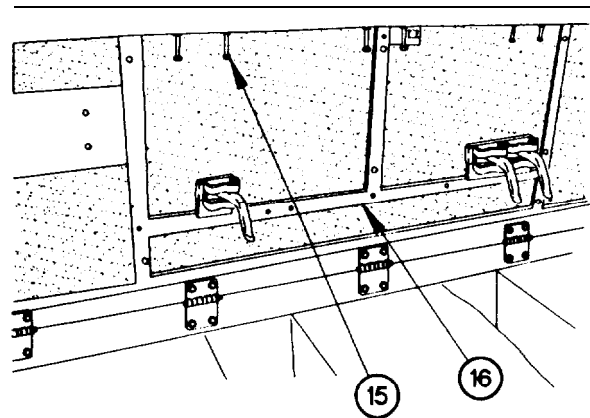
XP04105A



- (12) Tighten four captive screws (13) in right side cab wall (14).

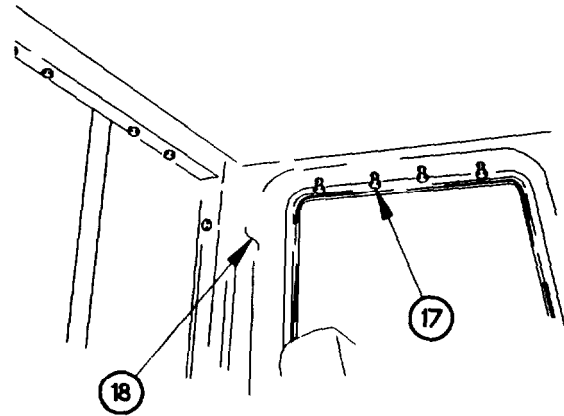
XR04106A

- (13) Tighten ten captive screws (15) in cab rear wall (16).



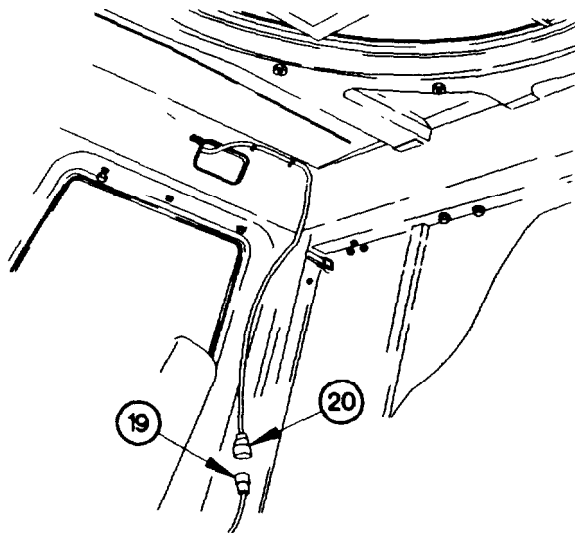
XP04107A

(14) Tighten four captive screws (17) in left side cab wall (18).



XR04108A

(15) Connect connector J3 (19) to connector P3 (20).



XR04109A

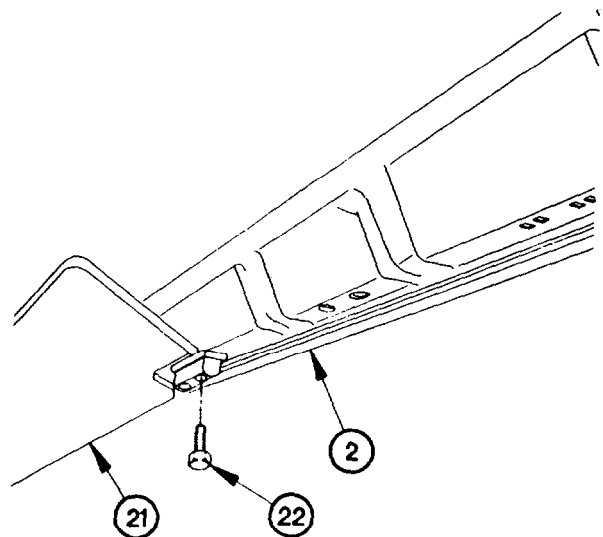
(16) Position sun visor (21) on cab roof (2) with four screws (22).

(17) Tighten four screws (22) to 40-49 lb-in. (4-5 N•m).

c. Follow-On Maintenance.

Install cab clearance lights (para 7-38).

End of Task.



XR04110A

16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1093/M1094)

This task covers:

- | | |
|---|--------------------------|
| a. Window and Window Regulator Removal | e. Door Removal |
| b. Window and Window Regulator Installation | f. Door Installation |
| c. Door Latch/Lock Disassembly | g. Door Adjustment |
| d. Door Latch/Lock Assembly | h. Follow-On Maintenance |

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366- 10-1).
- Marker light removed (para 7-38).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Screwdriver Attachment, Socket Wrench (Item 64, Appendix B)
- Socket Set, Socket Wrench (Item 36, Appendix C)

Materials/Parts

- Soap, Laundry (Item 63, Appendix D)
- Grease, Automotive and Artillery (GAA) (Item 22, Appendix D)
- Sealing Compound (Item 60, Appendix D)
- Rivet, Compression (10) (Item 259, Appendix G)
- Seal, Nonmetallic (Item 270, Appendix G)

Personnel Required

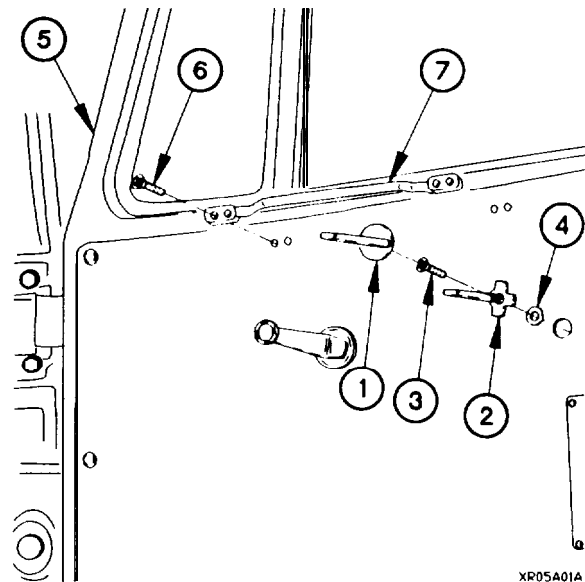
(2)

a. Window and Window Regulator Removal.

NOTE

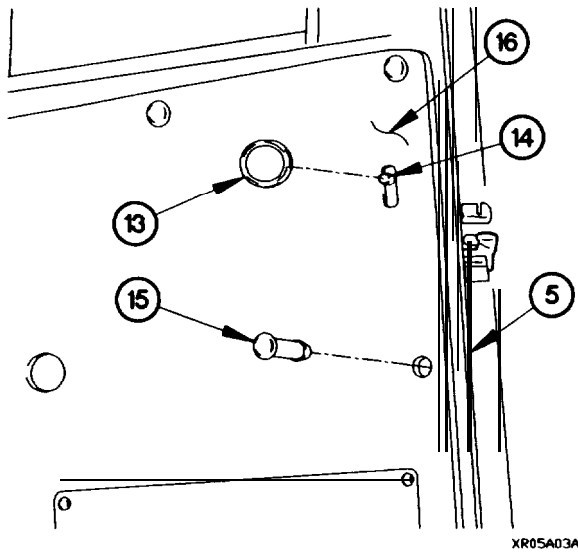
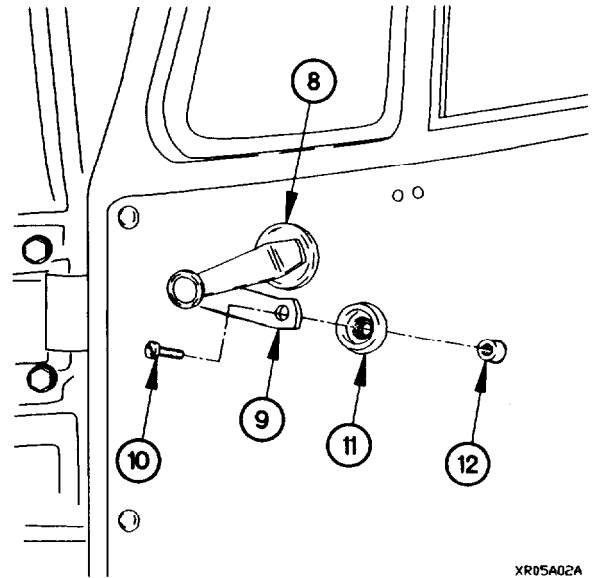
Left and right windows and window regulators are removed the same way. Right side shown.

- (1) Remove cover (10) from door handle (2).
- (2) Remove screw (3), door handle (2), and washer (4) from door (5).
- (3) Remove four screws (6) and door handle (7) from door (5).



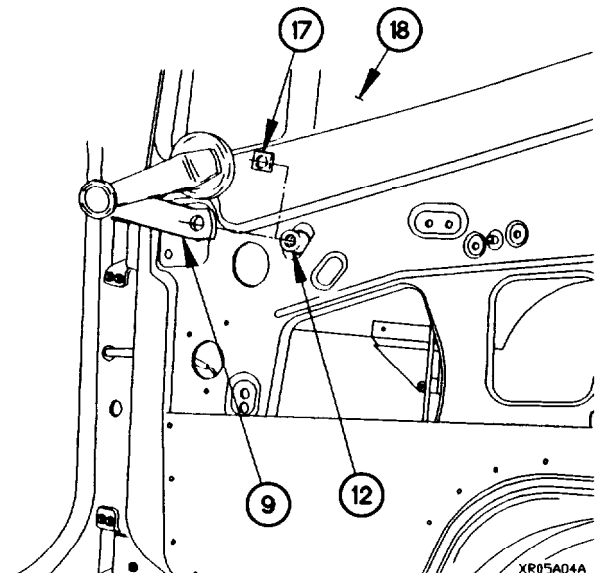
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- (4) Raise cover (8) from window crank (9).
- (5) Remove screw (10), window crank (9), and collar (11) from window regulator (12).



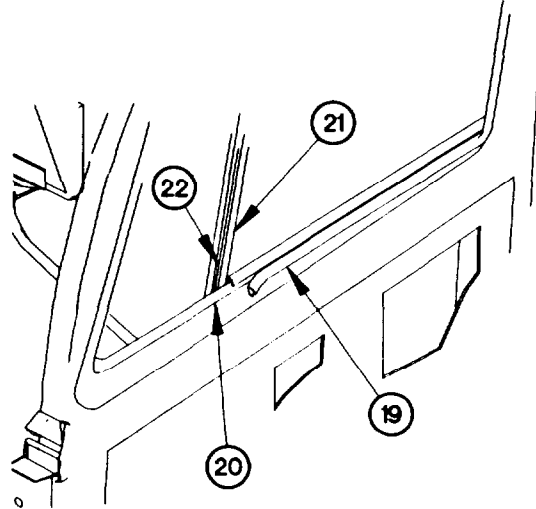
- (6) Remove knob (13) from lock stud (14).
- (7) Remove ten rivets (15) from door lining (16).
- (8) Remove door lining (16) from door (5).

- (9) Remove resilient mount (17) from window regulator (12).
- (10) Install window crank (9) on window regulator (12).
- (11) Lower window (18) completely down.

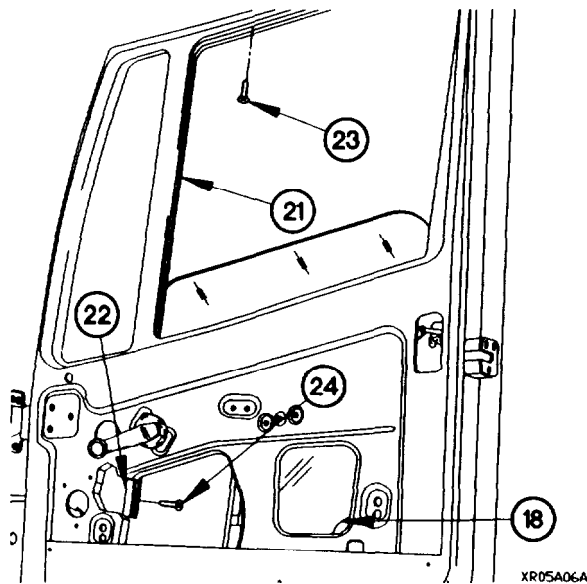


16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1093/M1094) (CONT)

- (12) Remove inner edge seal (19) from window sill (20).
- (13) Remove rubber sealing strip (21) from upper portion of window channel (22).



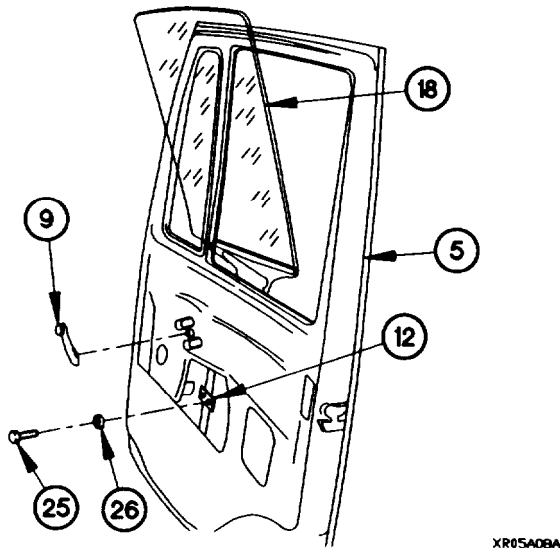
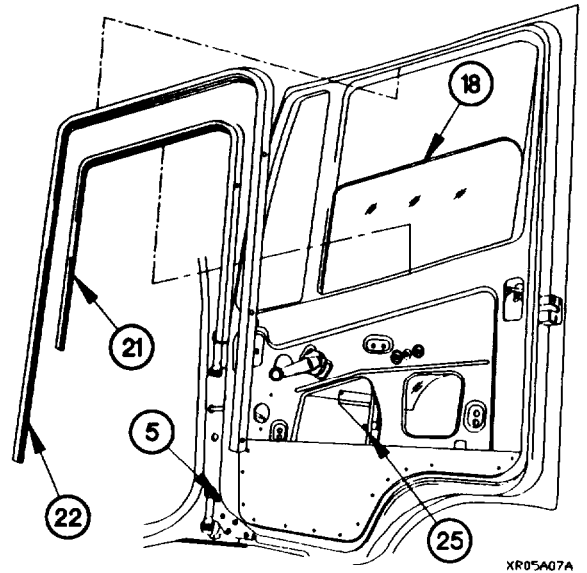
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- (14) Remove six screws (23) from upper portion of window channel (22).
- (15) Install rubber sealing strip (21) so that window (18) can be raised.
- (16) Raise window (18) enough to access two lower screws (24).
- (17) Remove two screws (24) from bottom of window channel (22).

- (18) Lower window (18) completely down.
- (19) Remove window channel (22) and rubber sealing strip (21) from door (5).
- (20) Raise window (18) enough to access two screws (25) at bottom of window.



WARNING

Use care when removing window. Do not force window or window may shatter. Failure to comply may result in injury to personnel or damage to equipment.

NOTE

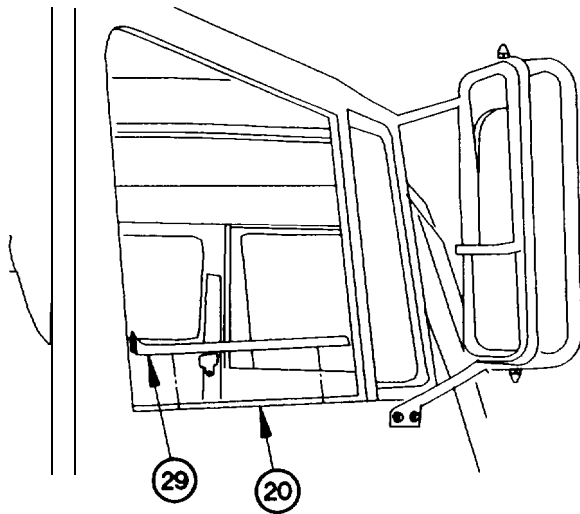
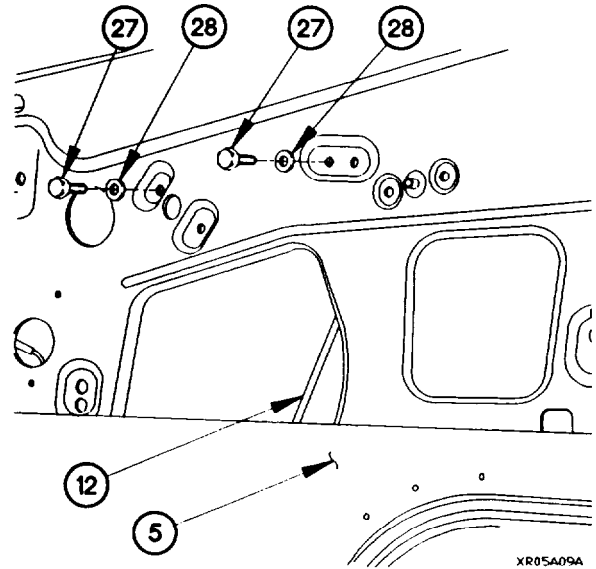
Steps (21) and (22) require the aid of an assistant.

- (21) Support window (18) and remove two screws (25) and washers (26) from window regulator (12).
- (22) Remove window (18) by holding window at a slight angle and lifting upward out of door (5).
- (23) Remove window crank (9) from window regulator (12).

16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1093/M1094) (CONT)

(24) Remove four screws (27) and washers (28) from window regulator (12).

(25) Remove window regulator (12) from door (5).



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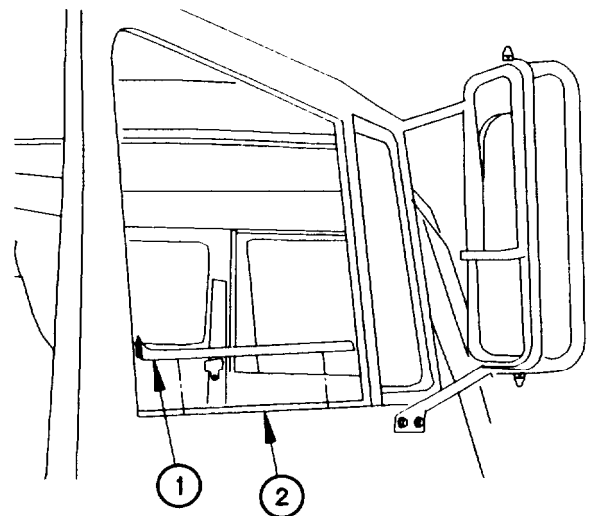
(26) Remove outer edge seal (29) from window sill (20).

b. Window and Window Regulator Installation.

NOTE

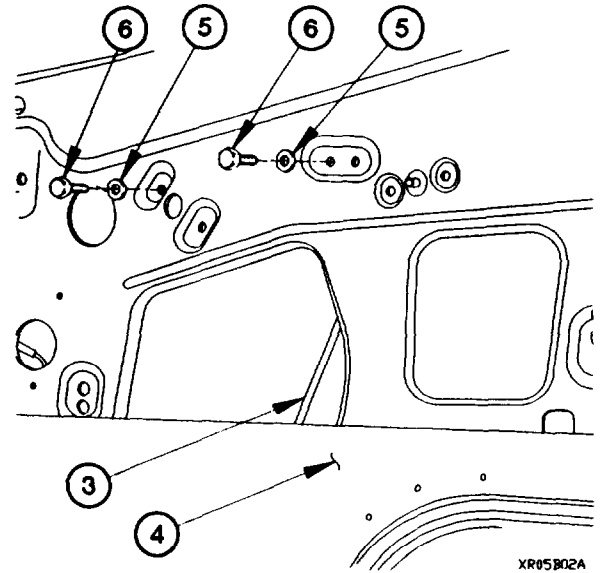
Left and right windows and window regulators are installed the same way. Right side shown.

(1) Install outer edge seal (1) on window sill (2).



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- (2) Position window regulator (3) in door (4).
- (3) Align holes in window regulator (3) and mounting holes of door (4).
- (4) Position four washers (5) and screws (6) in window regulator (3).
- (5) Tighten four screws (6) to 70-85 lb-in (8-10 N•m).



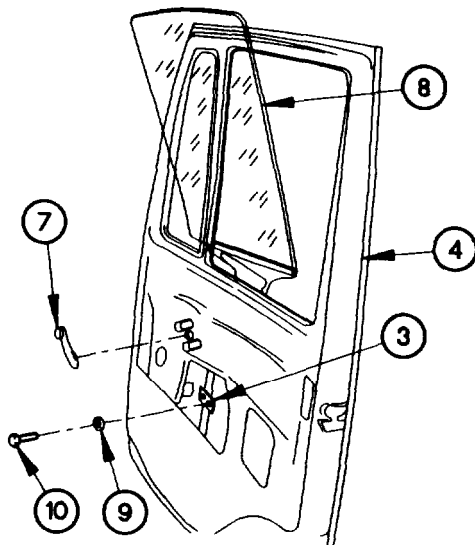
- (6) Position window crank (7) on window regulator (3).

WARNING

Use care when installing window. Do not force window or window may shatter. Failure to comply may result in injury to personnel or damage to equipment.

NOTE

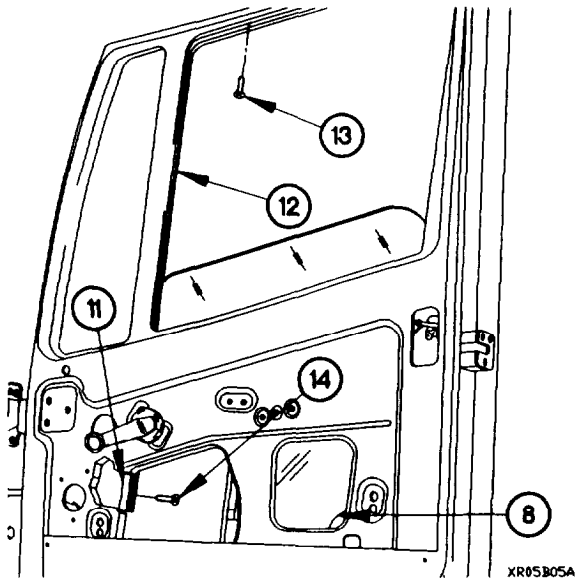
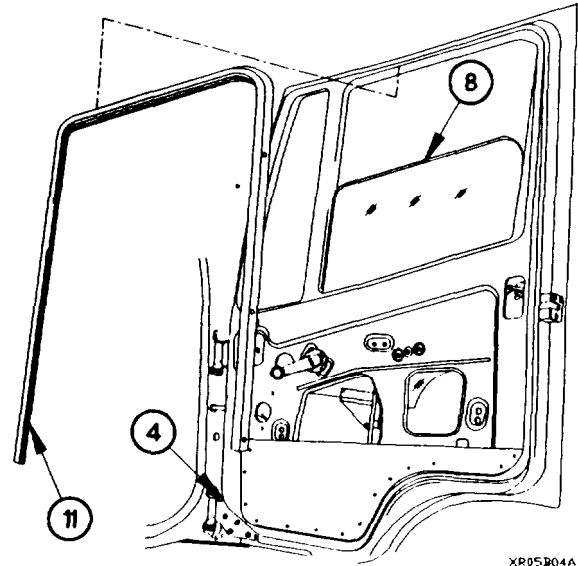
Steps (7) and (8) require the aid of an assistant.



- (7) Position window (8) in door (4) at 8 slight angle.
- (8) Support window (8) and install two washers (9) and screws (10) in window regulator (3).
- (9) Lower window (8) until completely down.

16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1093/M1094) (CONT)

(10) Position window channel (11) over window (8) from inside of door (4).



(11) Install window channel (11) on upper door frame (12) with six screws (13).

(12) Raise window (8) for access to bottom of window channel (11).

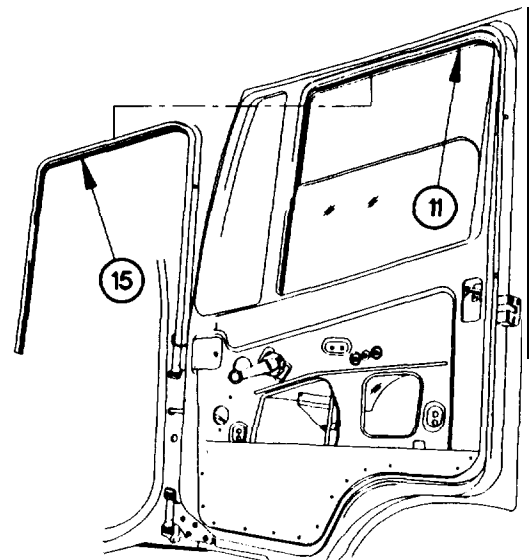
(13) Install two screws (14) in bottom of window channel (11).

(14) Lower window (8) until completely down.

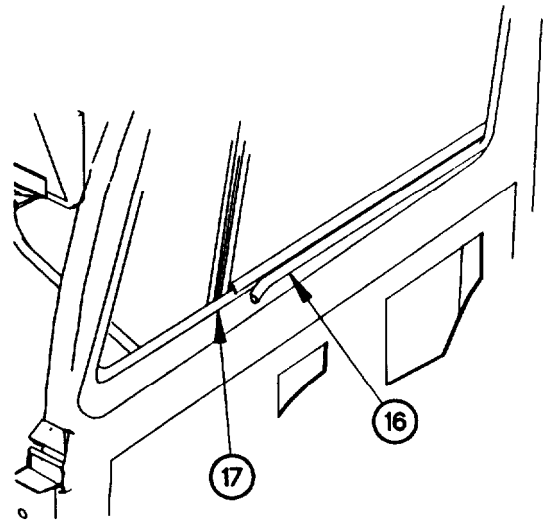
NOTE

- Use a solution of soap and water to ease installation of rubber sealing strip.
- It may be necessary to roll window up and down during installation of rubber sealing strip.

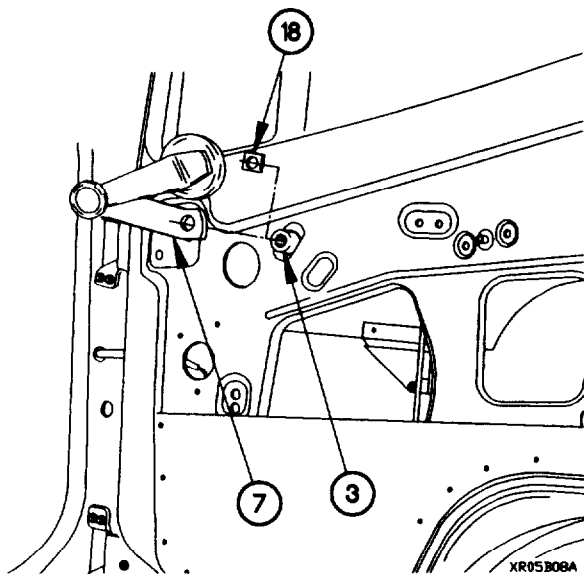
(15) Install rubber sealing strip (15) around upper portion of window channel (11).



(16) Install inner edge seal (16) on window sill (17).



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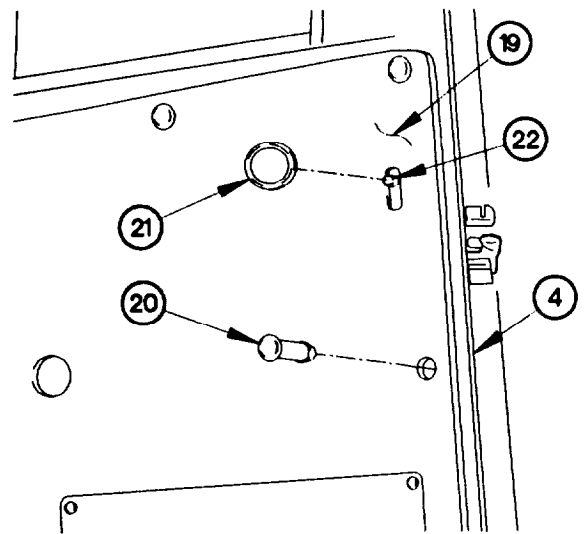


(17) Remove window crank (7) from window regulator (3).

(18) Install resilient mount (18) on window regulator (3).

(19) Install door lining (19) on interior side of door (4) with ten rivets (20).

(20) Install knob (21) on lock stud (22).



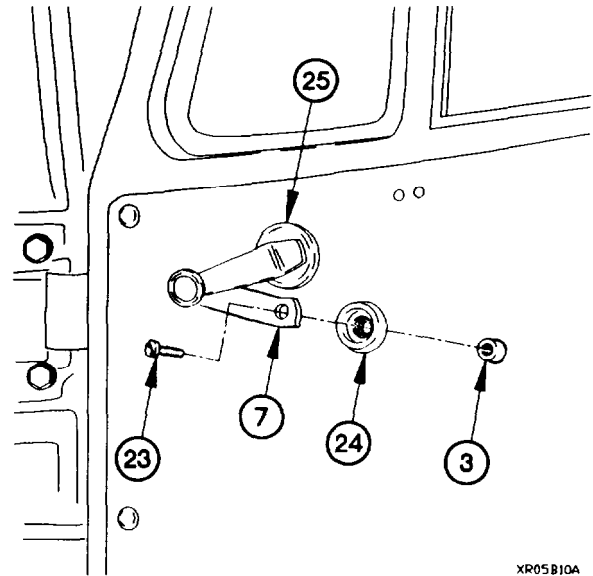
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16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1093/M1094) (CONT)

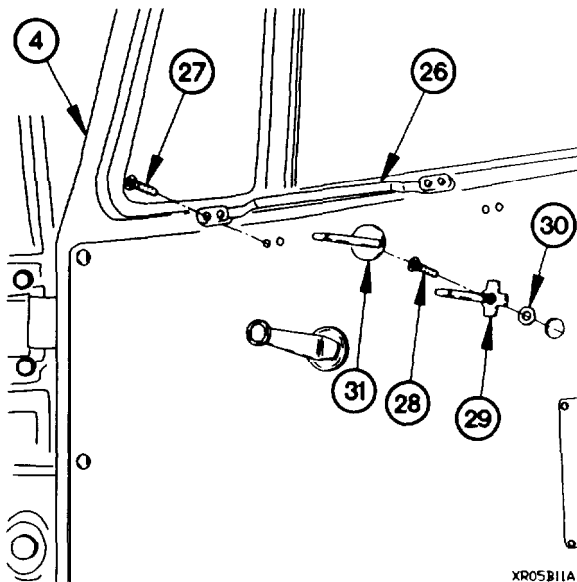
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (21) Apply sealing compound to threads of screw (23).
- (22) Position collar (24) and window crank (7) on window regulator (3) with screw (23).
- (23) Tighten screw (23) to 50-55 lb-in. (6 N•m).
- (24) Install cover (25) on window crank (7).



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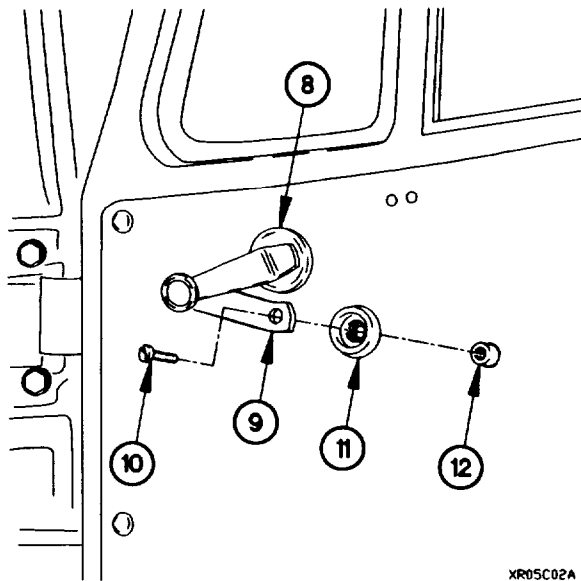
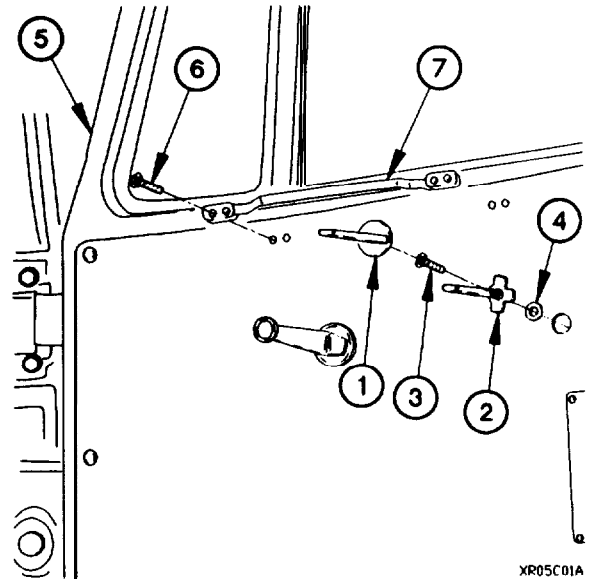
- (25) Position door handle (26) on door (4) with four screws (27).
- (26) Tighten four screws (27) to 22-28 lb-in. (2-3 N•m).
- (27) Apply sealing compound to threads of screw (28).
- (28) Position door handle (29) on door (4) with washer (30) and screw (28).
- (29) Tighten screw (28) to 50-55 lb-in. (6 N•m).
- (30) Install cover (31) on door handle (29).

c. Door Latch/Lock Disassembly.

NOTE

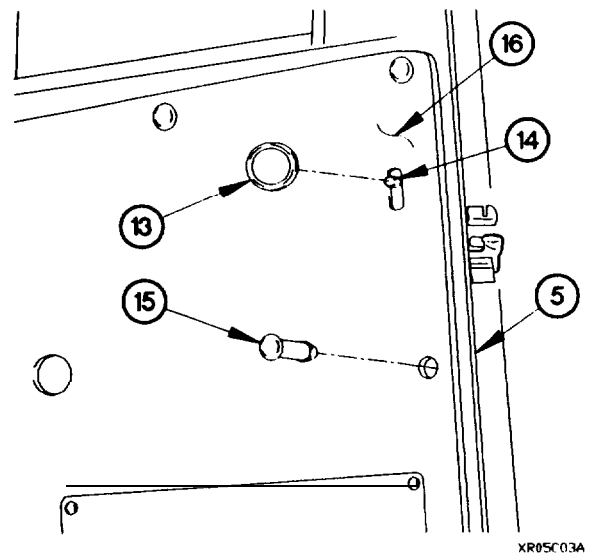
Left and right door latch/lock assemblies are disassembled the same way. Right door latch/lock assembly shown.

- (1) Remove cover (1) from door handle (2).
- (2) Remove screw (3), door handle (2), and washer (4) from door (5).
- (3) Remove four screws (6) and door handle (7) from door (5).



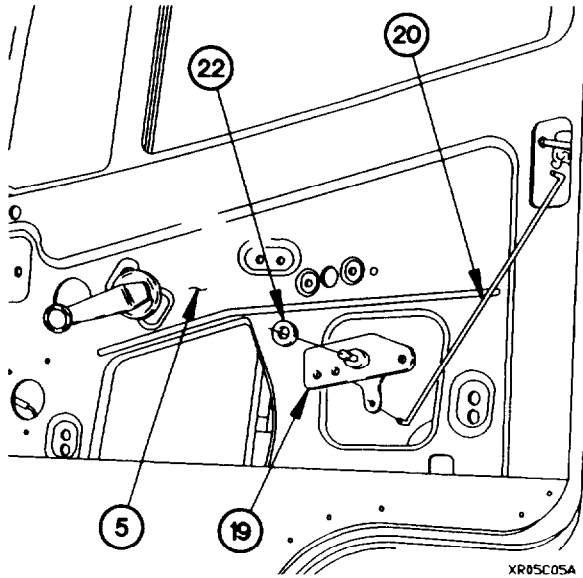
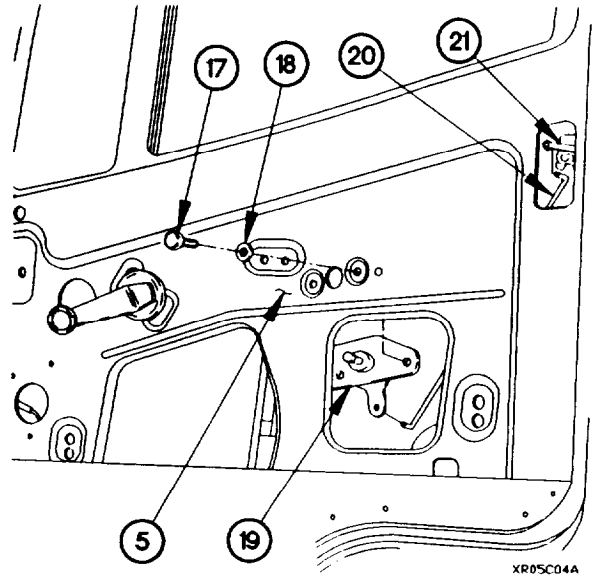
- (4) Raise cover (8) from window crank (9).
- (5) Remove screw (10), window crank (9), and collar (11) from window regulator (12).

- (6) Remove knob (13) from lock stud (14).
- (7) Remove ten rivets (15) from door lining (16).
- (8) Remove door lining (16) from door (5).



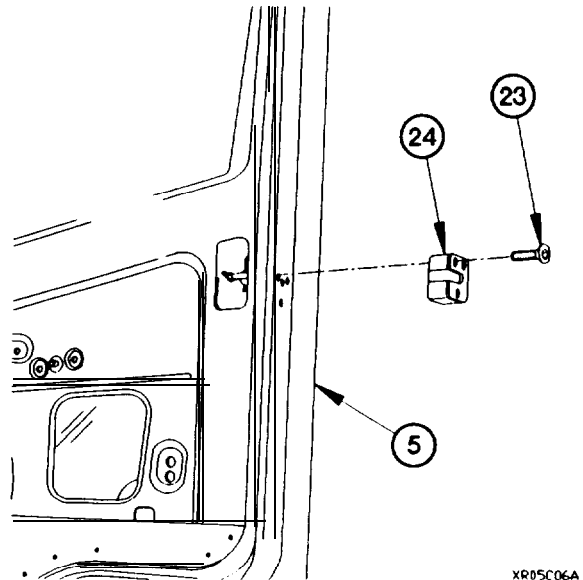
16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1093/M1094) (CONT)

- (9) Remove two screws (17), washers (18), and actuator assembly (19) from door (5).
- (10) Disconnect upper end of actuator control rod (20) from release assembly (21).



- (11) Remove actuator control rod (20), actuator assembly (19), and seal (22) from door (5). Discard seal.

- (12) Remove three screws (23) and latch assembly (24) from door (5).



NOTE

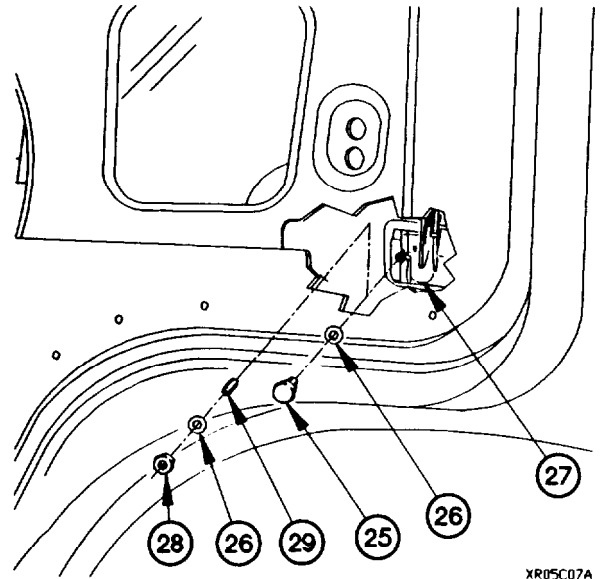
Perform step (13) on vehicle serial numbers 0001 through 3091 that have not had the handle/lock assembly replaced previously.

- (13) Remove screw (25) and washer (26) from handle/lock assembly (27).

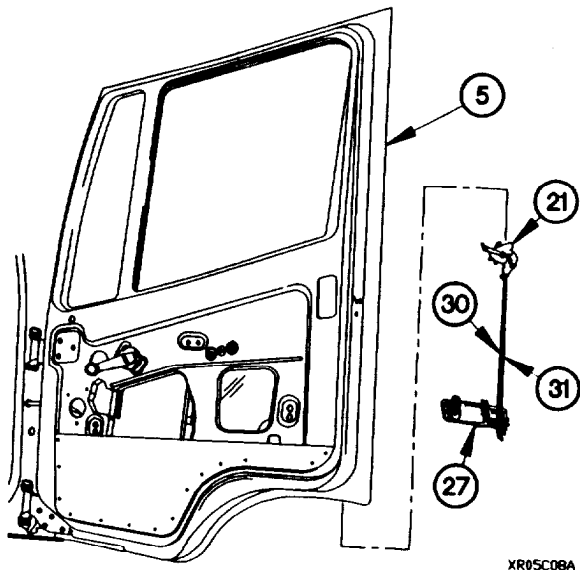
NOTE

Perform step (14) on vehicle serial numbers 3092 and higher serial numbers, and vehicles that have had the handle/lock assembly replaced previously.

- (14) Remove nut (28), washer (26), and setscrew (29) from handle/lock assembly (27).



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- (15) Push handle/lock assembly (27) toward front of vehicle until rear of handle/lock assembly is released from door (5).

- (16) Remove handle/lock assembly (27), control rods (30 and 31) and release assembly (21) from handle/lock opening.

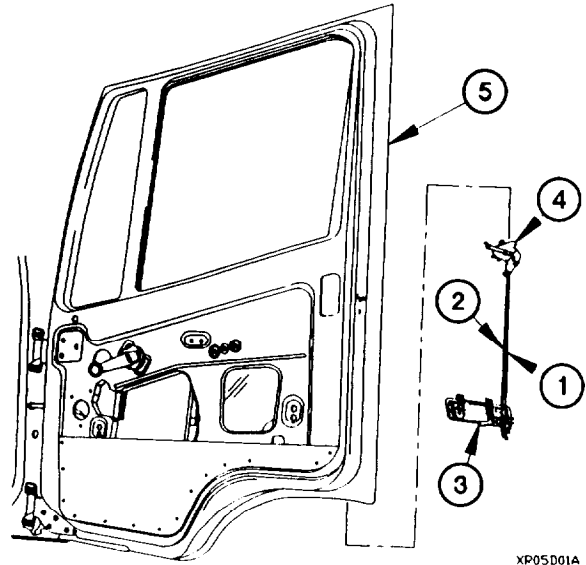
16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1093/M1094) (CONT)

d. Door Latch/Lock Assembly.

NOTE

Left and right door latch/lock assemblies are assembled the same way. Right door latch/lock assembly shown.

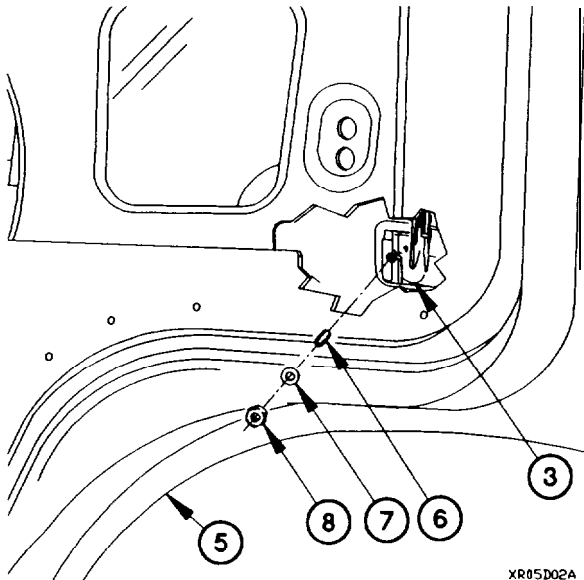
- (1) Attach control rods (1 and 2), between handle/lock assembly (3), and release assembly (4).
- (2) Install release assembly (4) and two control rods (1 and 2), upward through handle/lock assembly opening in door (5).
- (3) Seat handle/lock assembly (3) into door opening by pushing handle/lock assembly toward front of vehicle until rear of handle/lock assembly can enter opening, then push handle/lock assembly toward rear until handle/lock assembly is fully seated.



XP05D01A

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

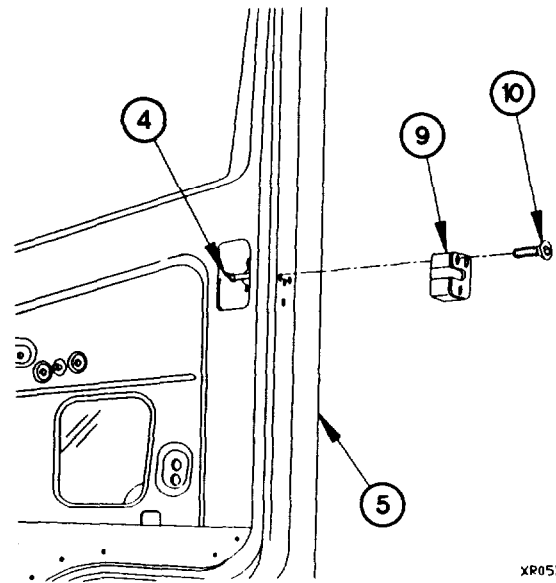


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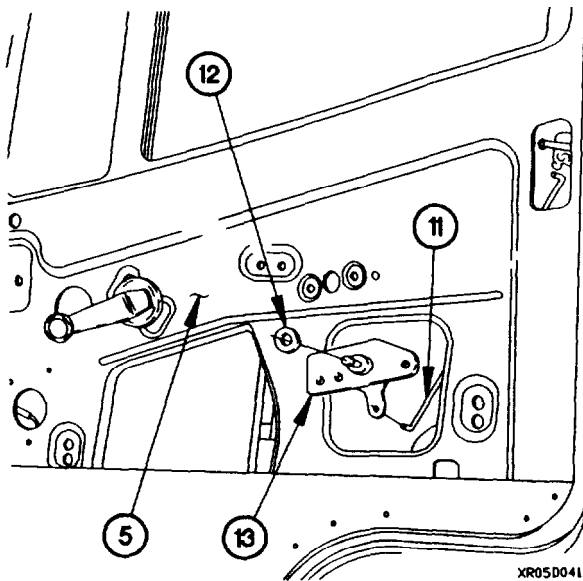
- (4) Apply sealing compound to threads of setscrew (6).
- (5) Position handle/lock assembly (3) on door (5) with setscrew (6).
- (6) Tighten setscrew (6) to 39-59 lb-in. (4-7 N•m).
- (7) Position washer (7) and nut (8) on setscrew (6).
- (8) Tighten nut (8) to 39-59 lb-in. (4-7 N•m).

(9) Position latch assembly (9) and release assembly (4) on door (5) with three screws (10).

(10) Tighten three screws (10) to 70-85 lb-in. (8-10 N•m).



XR05D03A



XR05D041

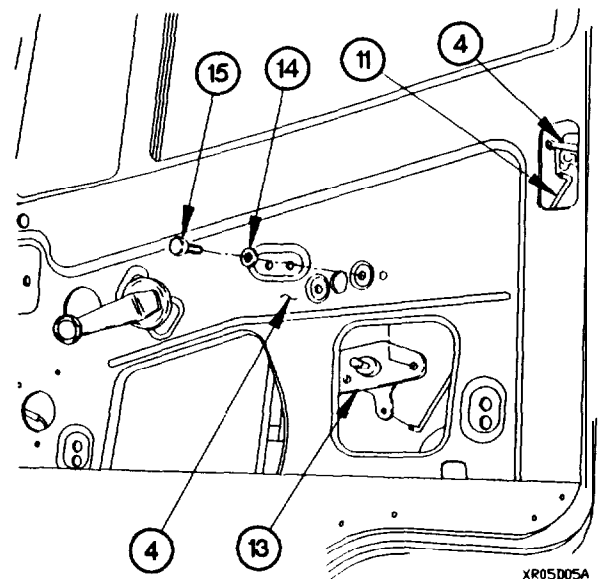
(11) Install actuator control rod (11) and seal (12) on actuator assembly (13).

(12) Install actuator assembly (13) in door (5).

(13) Attach upper end of actuator control rod (11) to release assembly (4).

(14) Position two washers (14) and screws (15) in actuator assembly (13).

(15) Tighten two screws (15) to 49-60 lb-in. (5-7 N•m).

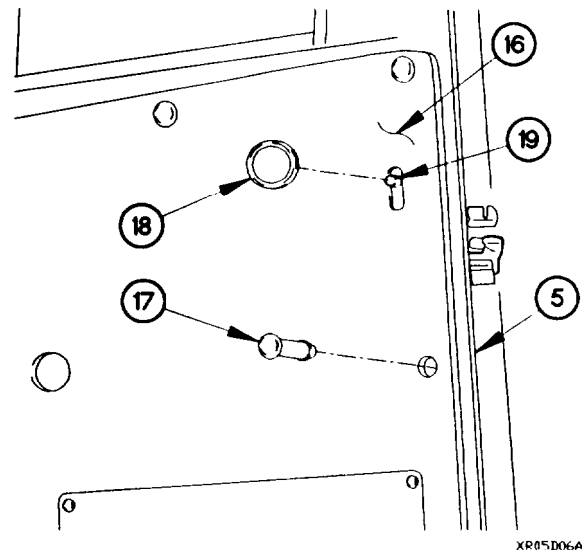


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16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1093/M1094) (CONT)

(16) Install door lining (16) on interior side of door (5) with ten rivets (17).

(17) Install knob (18) on lock stud (19).



WARNING

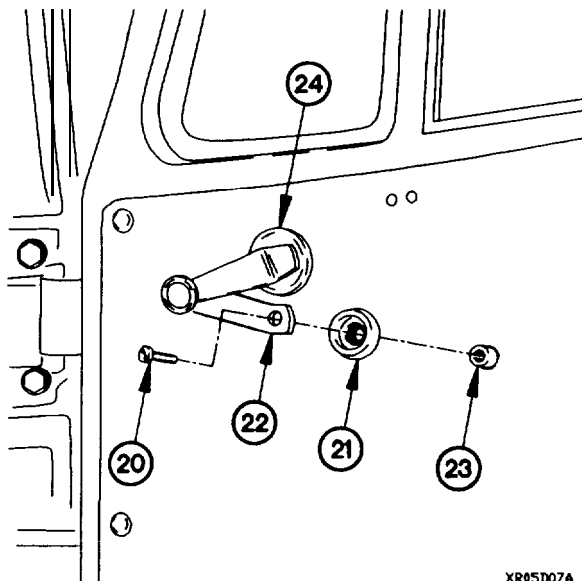
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

(18) Apply sealing compound to threads of screw (20).

(19) Position collar (21) and window crank (22) on window regulator (23) with screw (20).

(20) Tighten screw (20) to 50-55 lb-in. (6 N•m).

(21) Install cover (24) on window crank (22).



(22) Position door handle (25) on door (5) with four screws (26).

(23) Tighten four screws (26) to 22-28 lb-in. (2-3 N•m).

WARNING

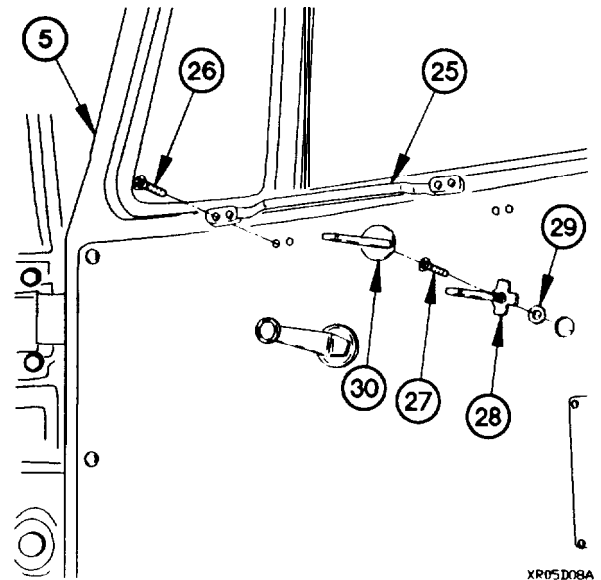
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

(24) Apply sealing compound to threads of screw (27).

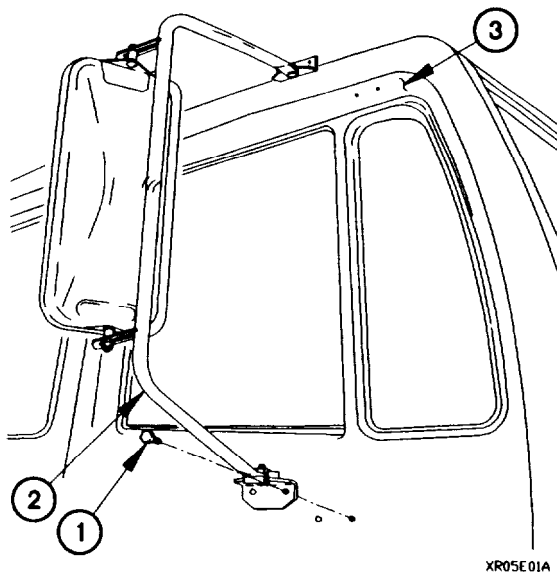
(25) Position door handle (28) on door (5) with washer (29) and screw (27).

(26) Tighten screw (27) to 50-55 lb-in. (6 N•m).

(27) Install cover (30) on door handle (28).



e. Door Removal.



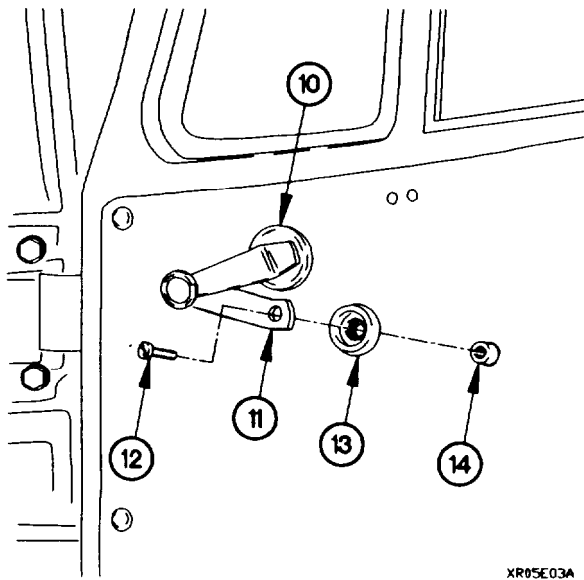
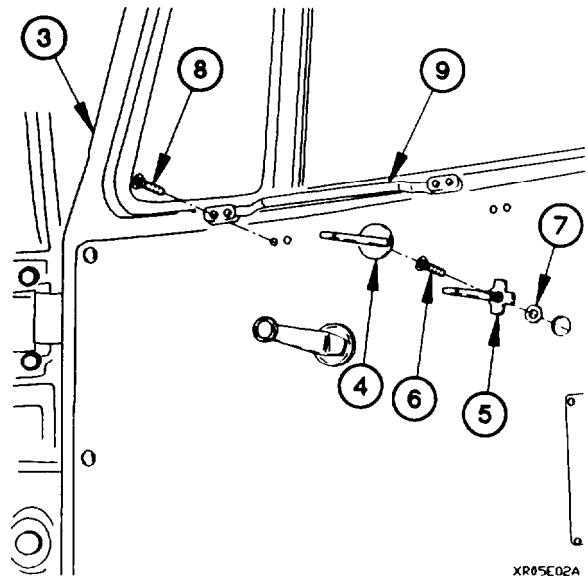
NOTE

Both doors are removed the same way. Right side door shown.

(1) Remove four screws (1) and mirror assembly (2) from door (3).

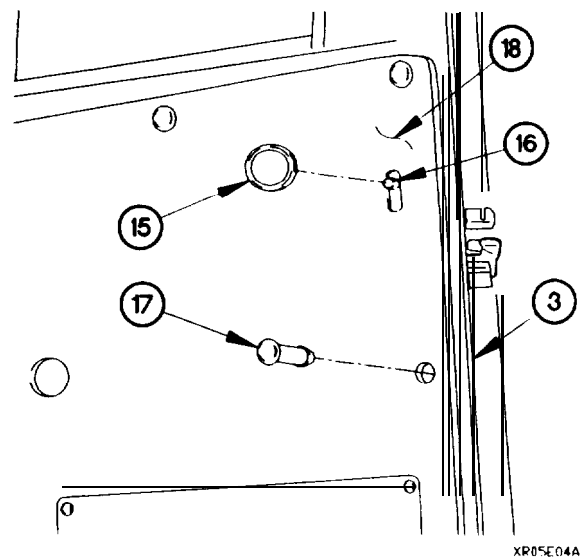
16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1093/M1094) (CONT)

- (2) Remove cover (4) from door handle (5).
- (3) Remove screw (6), door handle (5), and washer (7) from door (3).
- (4) Remove four screws (8) and door handle (9) from door (3).

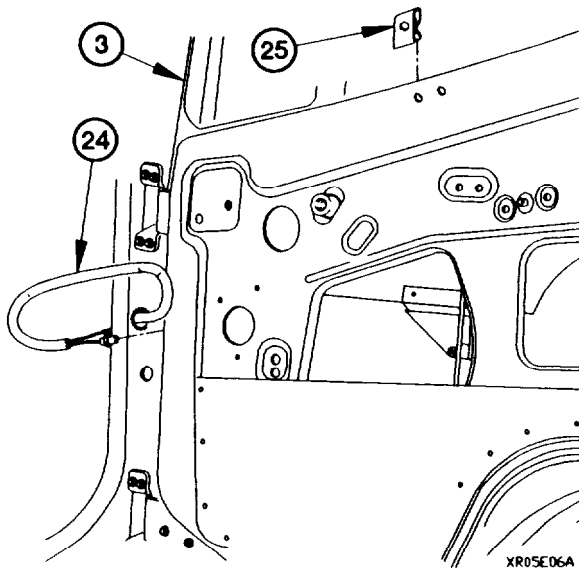
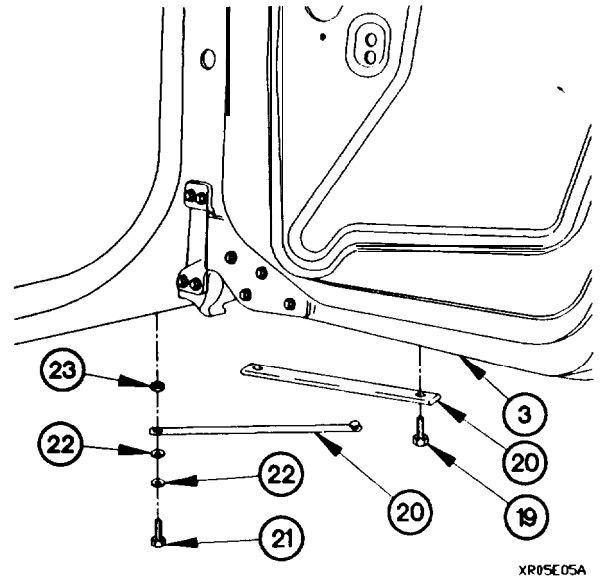


- (5) Raise cover (10) from window crank (11).
- (6) Remove screw (12), window crank (11), and collar (13) from window regulator (14).

- (7) Remove knob (15) from lock stud (16).
- (8) Remove ten rivets (17) from door lining (18).
- (9) Remove door lining (18) from door (3).



- (10) Remove two screws (19) and door arrestor assembly (20) from bottom of door (3).
- (11) Remove screw (21), two spring washers (22), door arrestor assembly (20), and washer (23) from cab.

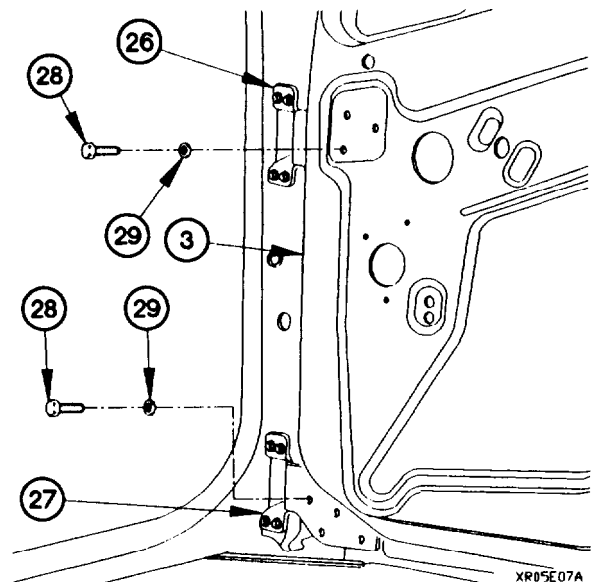


- (12) Remove wiring harness (24) from door (3) by pulling through access hole in forward edge of door (3).
- (13) Remove four clip nuts (25) from door (3).

NOTE

Steps (14) through (16) require the aid of an assistant.

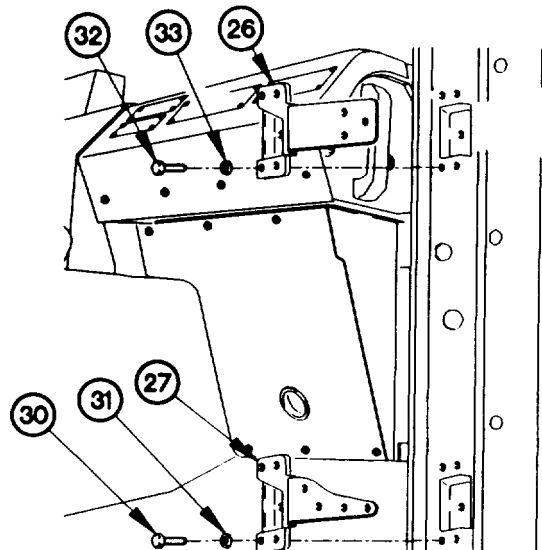
- (14) Lift door (3) enough to take weight off hinges (26 and 27).
- (15) Remove six screws (28) and washers (29) from hinges (26 and 27).
- (16) Remove door (3) from cab.



16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1093/M1094) (CONT)

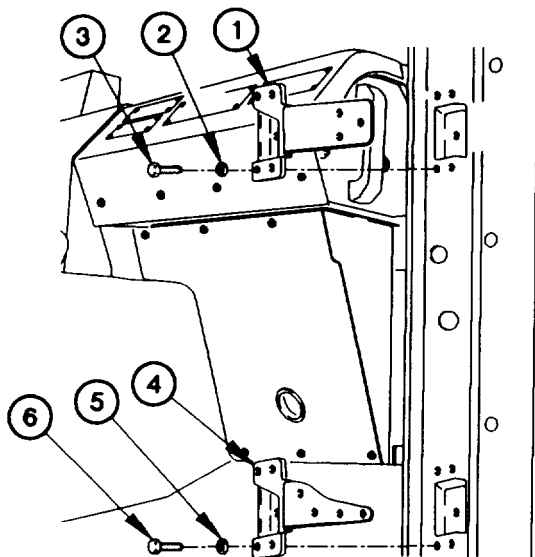
(17) Remove five screws (30), washers (31), and hinge (27) from cab.

(18) Remove five screws (32), washers (33), and hinge (26) from cab.



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f. Door Installation.



XR05F01A

NOTE

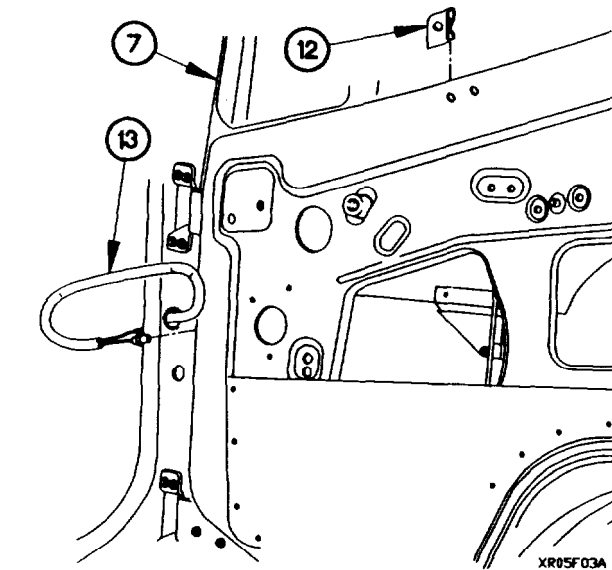
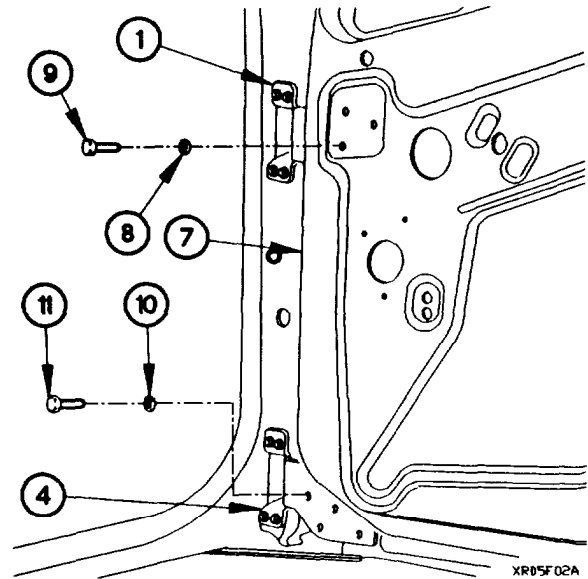
Both doors are installed the same way.
Right side door shown.

- (1) Position hinge (1) on cab with five washers (2) and screws (3).
- (2) Position hinge (4) on cab with five washers (5) and screws (6).

NOTE

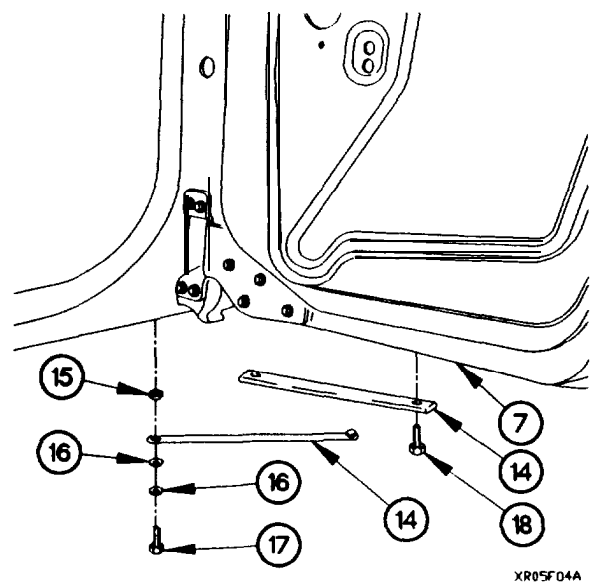
Step (3) requires the aid of an assistant.

- (3) Position door (7) on cab with hinge (1) in slot in forward edge of door and bolt holes aligned with openings in door.
- (4) Position door (7) on hinge (1) with three washers (8) and screws (9).
- (5) Position door (7) on hinge (4) with three washers (10) and screws (11).
- (6) Adjust door (7) so that gap between door and cab is approximately equal all around.
- (7) Tighten three screws (9 and 11) one-half turn.
- (8) Open, close, and open door (7) to ensure correct operation.
- (9) Tighten three screws (9 and 11) to 22-26 lb-ft (30-35 N•m).
- (10) Apply grease to hinges (1 and 4).



- (11) Install four clip nuts (12) in door (7).
- (12) Install wiring harness (13) through access hole in forward edge of door (7).

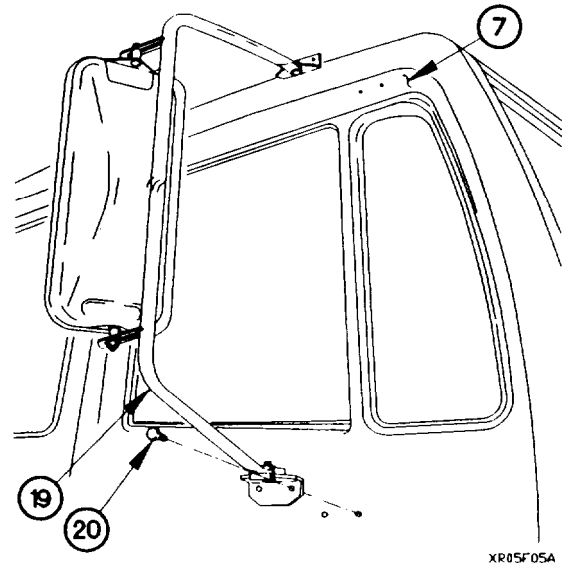
- (13) Install door arrestor assembly (14) on cab with washer (15), two spring washers (16), and screw (17).
- (14) Install door arrestor assembly (14) on bottom of door (7) with two screws (18).



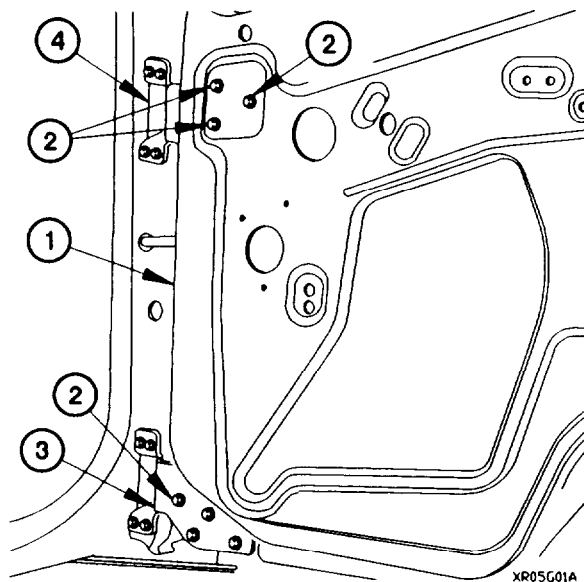
16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1093/M1094) (CONT)

(15) Position mirror assembly (19) on door (7) with four screws (20).

(16) Tighten four screws (20) to 84-96 lb-in. (9-11 N•m).



g. Door Adjustment.

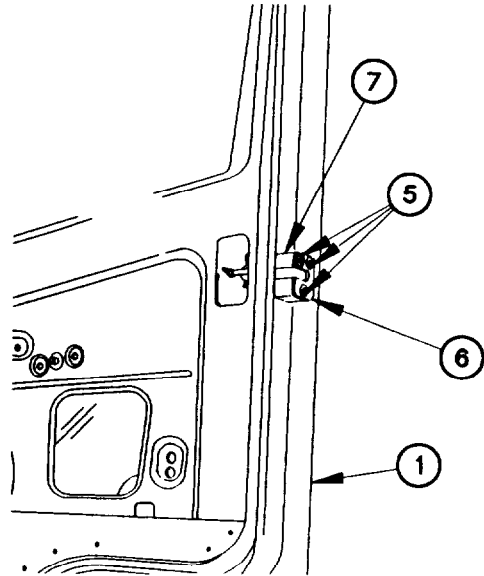


NOTE

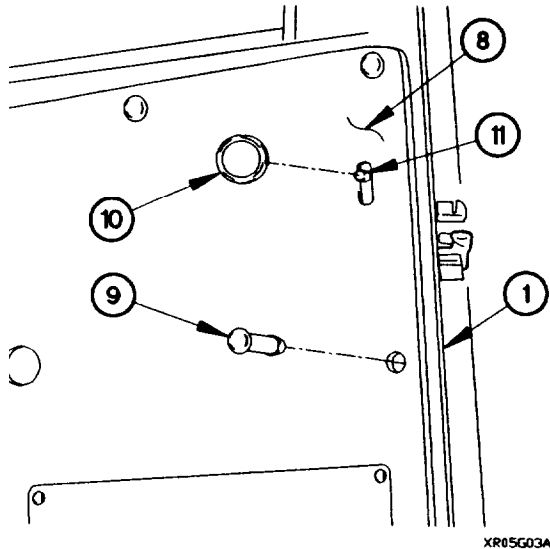
- Steps (1) and (2) require the aid of an assistant.
- Loosen door hinge screws only enough to allow small adjusting movements of door.

- (1) Support door (1) and loosen six screws (2) on bottom hinge (3) and top hinge (4).
- (2) Adjust door (1) so that gap between door (1) and cab is approximately equal all around.
- (3) Open, close, and open door (1) to ensure correct operation.
- (4) Tighten six screws (2) on top hinge (4) and bottom hinge (3) to 22-26 lb-ft (30-35 N•m).

- (5) Loosen three screws (5) on latch assembly (6) and adjust so latch assembly is centered on strike catch (7).
- (6) Tighten three screws (5) to 70-85 lb-in. (8-10 N•m).
- (7) Open and close door (1) to ensure correct operation.



XR05G02A



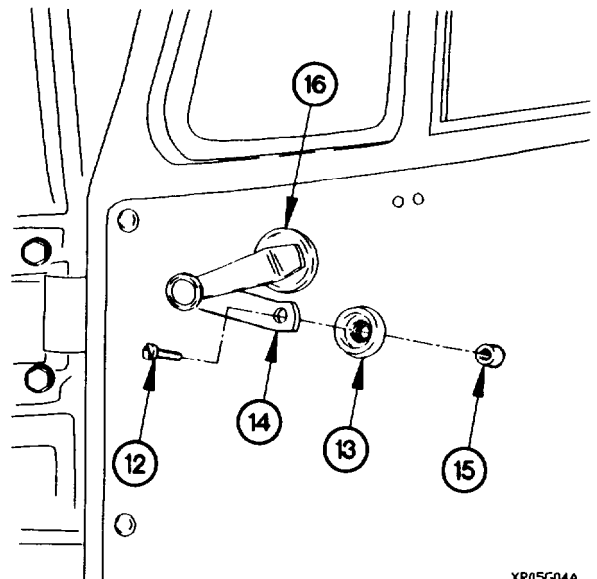
XR05G03A

- (8) Install door lining (8) on interior side of door (1) with ten rivets (9).
- (9) Install knob (10) on lock stud (11).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (10) Apply sealing compound to threads of screw (12).
- (11) Position collar (13) and window crank (14) on window regulator (15) with screw (12).
- (12) Tighten screw (12) to 50-55 lb-in. (6 N•m).
- (13) Install cover (16) on window crank (14).



XR05G04A

16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1093/M1094) (CONT)

(14) Position door handle (17) on door (1) with four screws (18).

(15) Tighten four screws (18) to 22-28 lb-in. (2-3 N•m).

WARNING

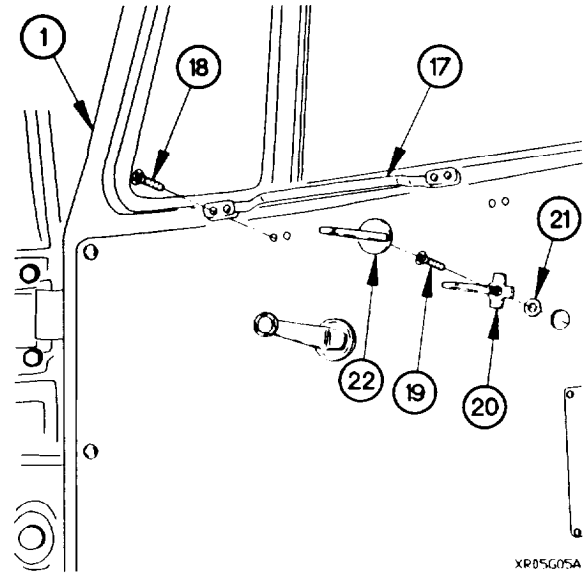
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

(16) Apply sealing compound to threads of screw (19).

(17) Position door handle (20) on door (1) with washer (21) and screw (19).

(18) Tighten screw (19) to 50-55 lb-in. (6 N•m).

(19) Install cover (22) on door handle (20).



h. Follow-On Maintenance.

- (1) Install marker light (para 7-38).
- (2) Clean all grease or oil from door.
- (3) Clean window glass.

End of Task.

16-6. M1093/M1094 DOOR REPAIR/ADJUSTMENT

This task covers:

- a. Window and Window Regulator Removal
- b. Window and Window Regulator Installation
- c. Door Latch/Lock Disassembly
- d. Door Latch/Lock Assembly
- e. Door Upper-Half Removal
- f. Door Upper-Half Installation
- g. Door Lower-Half Removal
- h. Door Lower-Half Installation
- i. Door Adjustment
- j. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 92320-366-10-1)
 Marker light removed (para 7-38).
 Upper door-half removed (for lower door-half removal).

Materials/Parts

Sealing Compound (Item 60, Appendix D)
 Grease, Automotive and Artillery (GAA) (Item 22, Appendix D)
 Seal, Nonmetallic (Item 318, Appendix C)

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
 Screwdriver Attachment, Socket Wrench (Item 64, Appendix B)
 Socket Set, Socket Wrench (Item 36, Appendix C)

Personnel Required

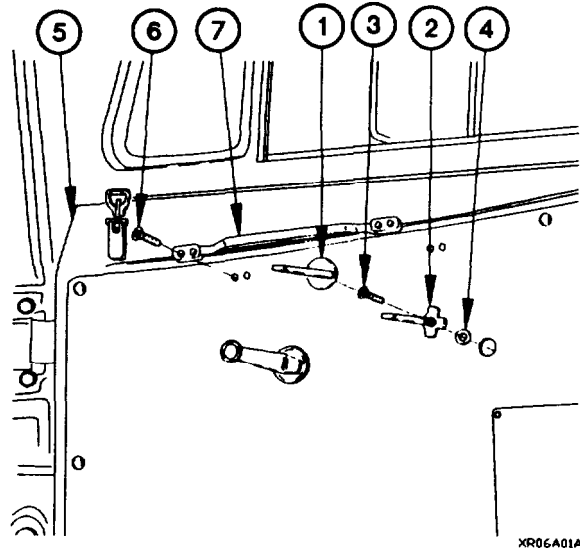
(2)

a. Window and Window Regulator Removal.

NOTE

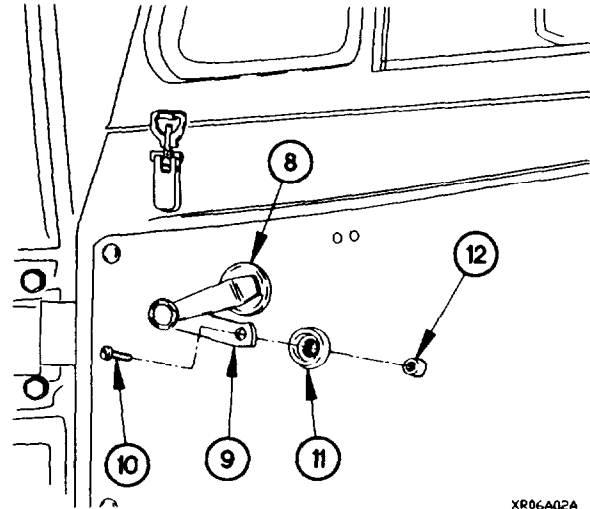
Left and right windows and window regulators are removed the same way. Right side shown.

- (1) Remove cover (1) from door handle (2).
- (2) Remove screw (3), door handle (2), and washer (4) from door (5).
- (3) Remove four screws (6) and handle (7) from door (5).

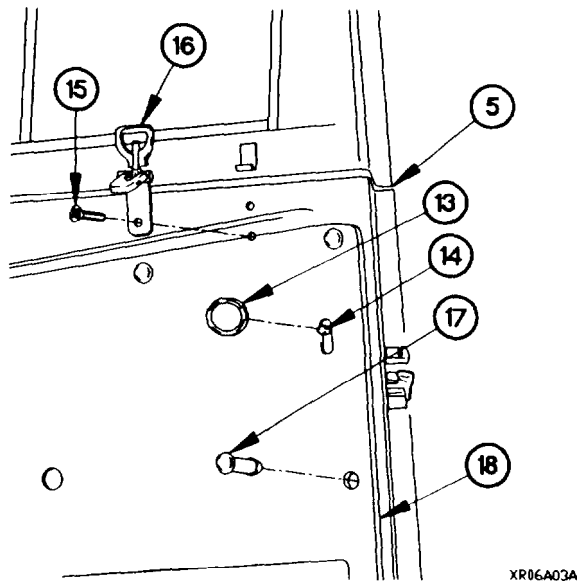


16-6. M1093/M1094 DOOR REPAIR/ADJUSTMENT (CONT)

- (4) Raise cover (8) from window crank (9).
- (5) Remove screw (10), window crank (9), and collar (11) from window regulator (12).



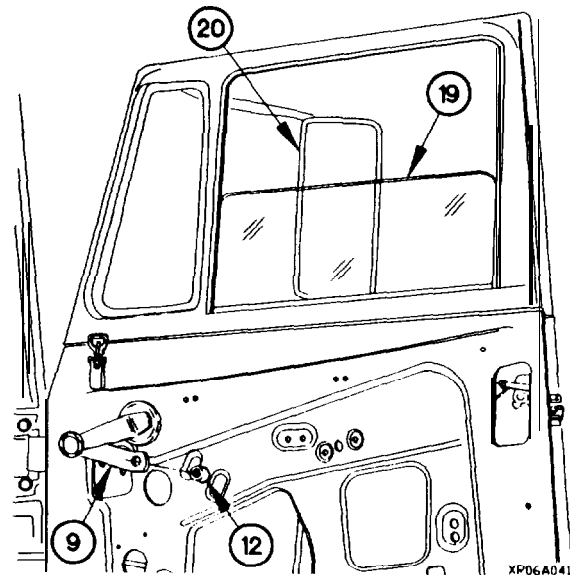
XR06A02A



XR06A03A

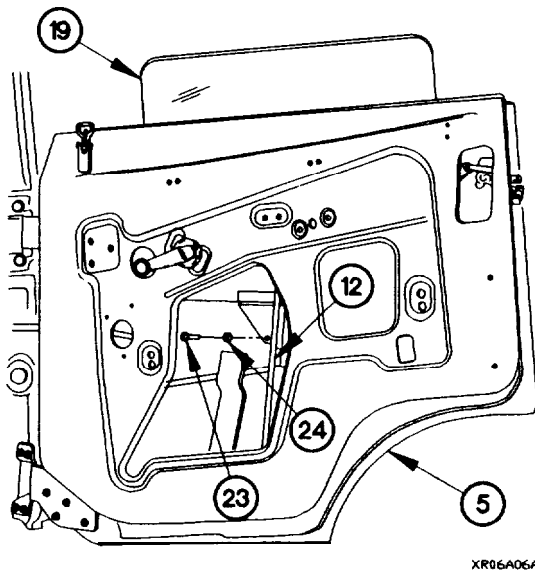
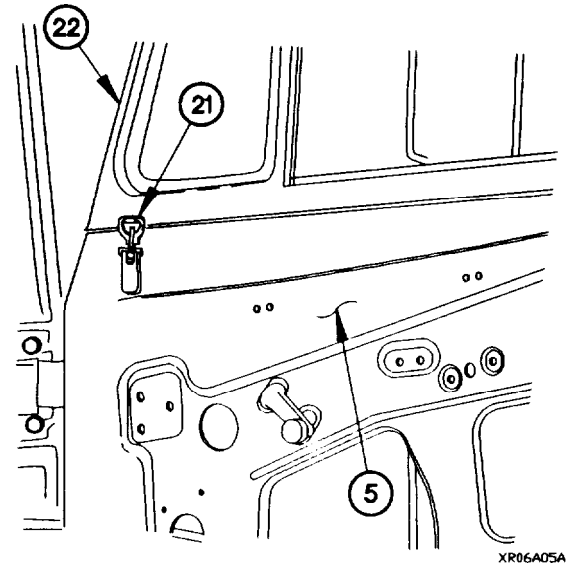
- (6) Remove knob (13) from lock stud (14).
- (7) Remove two screws (15) and latch (16) from door (5).
- (8) Remove 12 rivets (17) from door lining (18).
- (9) Remove door lining (18) from door (5).

- (10) Install window crank (9) on window regulator (12).
- (11) Lower window (19) until completely down,
- (12) Fold in rear view mirror (20).



XR06A041

- (13) Unlatch window frame latch (21) at front of door (5).
- (14) Fold window frame (22) down.



- (15) Raise window (19) enough to access two screws (23) at bottom of window.

WARNING

Use care when removing window. Do not force window or window may shatter. Failure to comply may result in injury to personnel or damage to equipment.

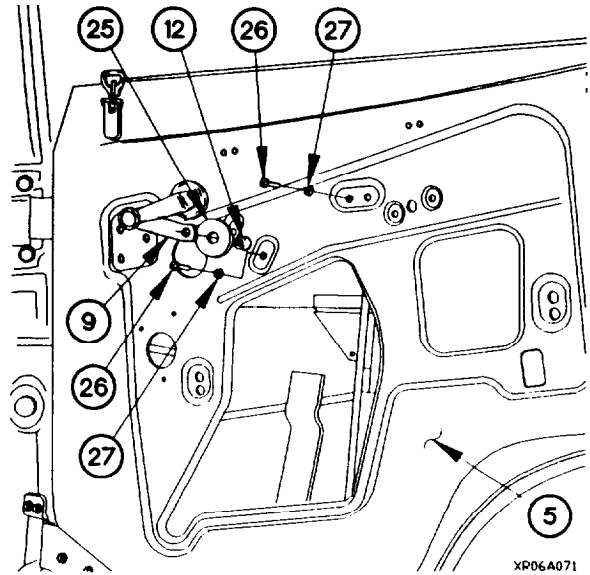
NOTE

Step (16) requires the aid of an assistant.

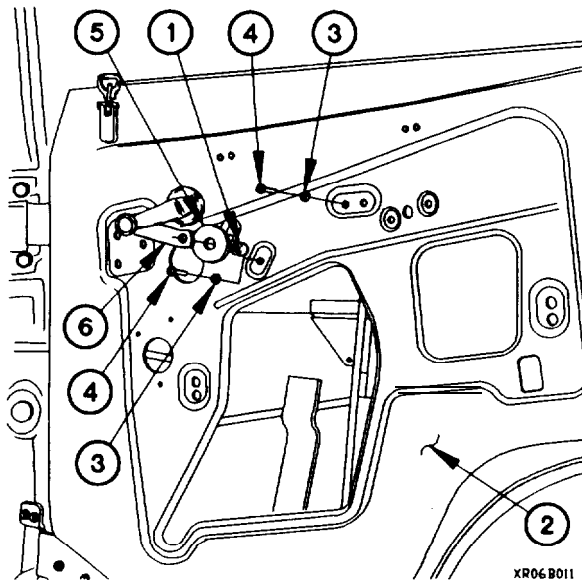
- (16) Support window (19) and remove two screws (23) and washers (24) from window regulator (12).
- (17) Remove window (19) from door (5).

16-6. M1093/M1094 DOOR REPAIR/ADJUSTMENT (CONT)

- (18) Remove window crank (9) and resilient mount (25) from window regulator (12).
- (19) Remove four screws (26) and washers (27) from window regulator (12).
- (20) Remove window regulator (12) from door (5).



b. Window and Window Regulator Installation.



NOTE

Left and right windows and window regulators are installed the same way. Right side shown.

- (1) Position window regulator (1) in door (2).
- (2) Align holes in window regulator (1) and mounting holes in door (2)
- (3) Position four washers (3) and screws (4) in window regulator (1).
- (4) Tighten four screws (4) to 70-85 lb-in. (8-10 N•m).
- (5) Install resilient mount (5) and window crank (6) on window regulator (1).

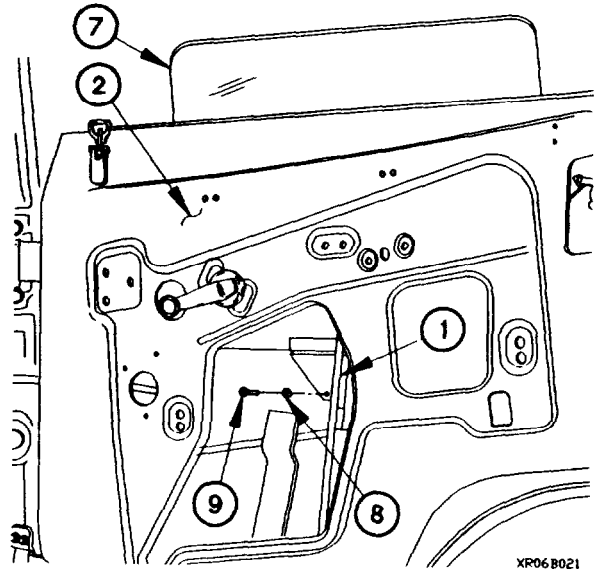
WARNING

Use care when installing window. Do not force window or window may shatter. Failure to comply may result in injury to personnel.

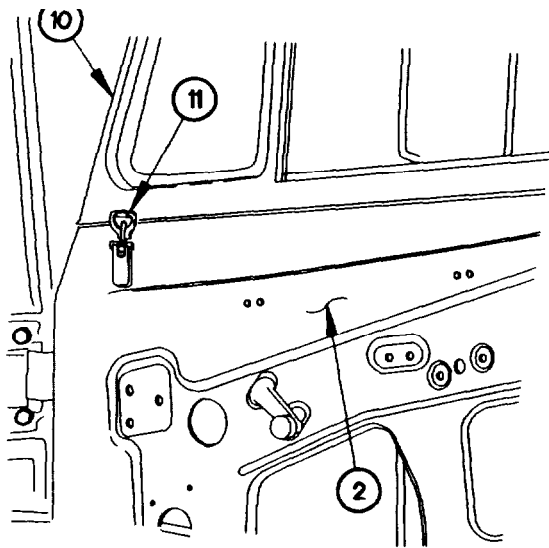
NOTE

Steps (6) and (7) require the aid of an assistant.

- (6) Position window (7) in door (2).
- (7) Support window (7) and install two washers (8) and screws (9) in window regulator (1).
- (8) Lower window (7) until completely down.



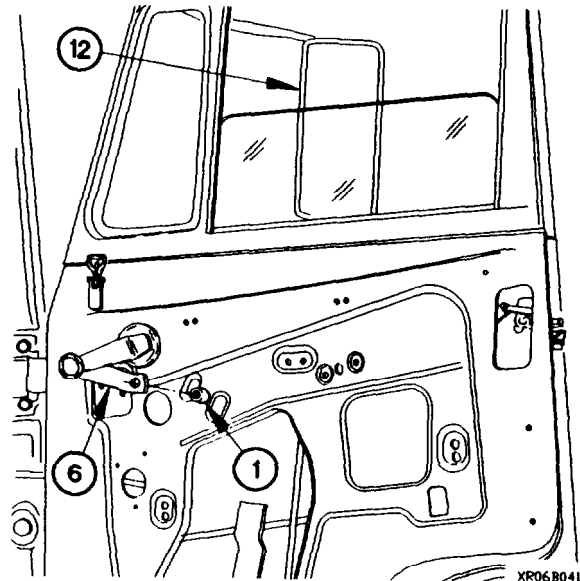
XR06 B021



XR06 B03A

- (9) Raise window frame (10) to vertical position,
- (10) Latch window frame latch (11) at front of door (2).

- (11) Remove window crank (6) from window regulator (1).
- (12) Fold out rear view mirror (12).



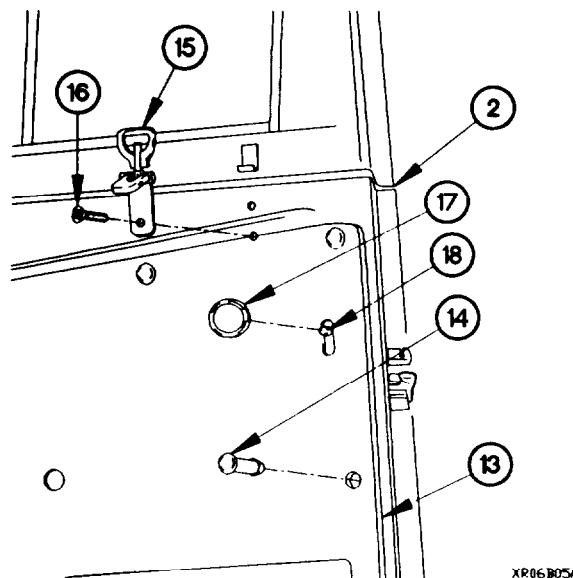
XR06 B041

16-6. M1093/M1094 DOOR REPAIR/ADJUSTMENT (CONT)

NOTE

Position door lining inside of strip at bottom of door.

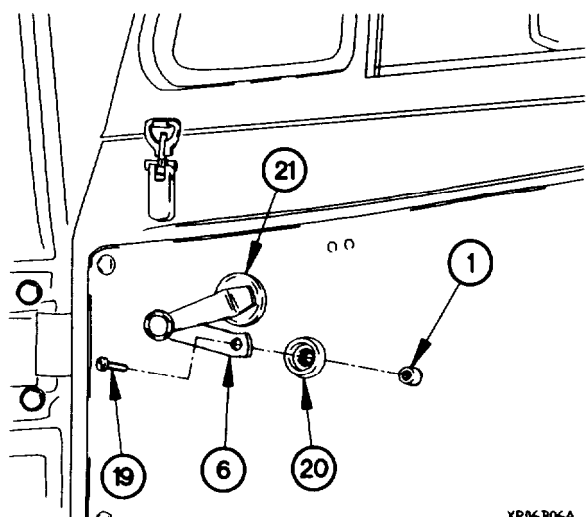
- (13) Position door lining (13) on door (2).
- (14) Install 12 rivets (14) in door lining (13).
- (15) Position latch (15) on door (2) with two screws (16).
- (16) Tighten two screws (16) to 65-121 lb-in. (10-14 N•m).
- (17) Install knob (17) on lock stud (18).



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WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.



XR06B06A

- (18) Apply sealing compound to threads of screw (19).
- (19) Position collar (20) and window crank (6) on window regulator (1) with screw (19).
- (20) Tighten screw (19) to 50-55 lb-in. (6 N•m).
- (21) Install cover (21) on window crank (6).

(22) Position handle (22) on door (2) with four screws (23).

(23) Tighten four screws (23) to 22-28 lb-in. (2-3 N•m).

WARNING

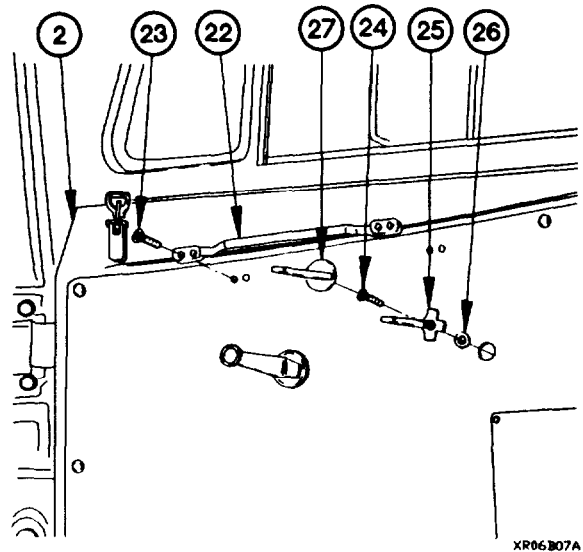
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

(24) Apply sealing compound to threads of screw (24).

(25) Position door handle (25) on door (2) with washer (26) and screw (24).

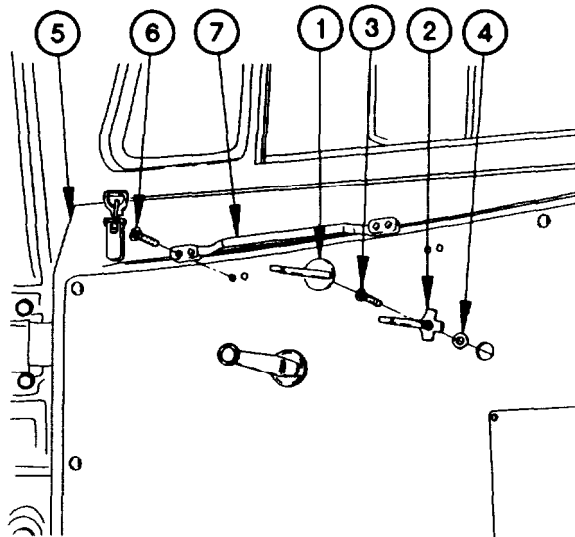
(26) Tighten screw (24) to 50-55 lb-in. (6 N•m).

(27) Install cover (27) on door handle (25).



XR06B07A

c. Door Latch/Lock Disassembly.



XR06C01A

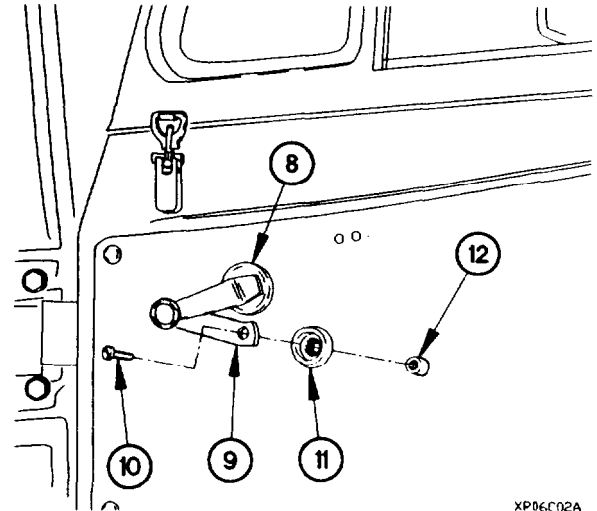
NOTE

Both latch/lock assemblies are removed the same way. Right side shown.

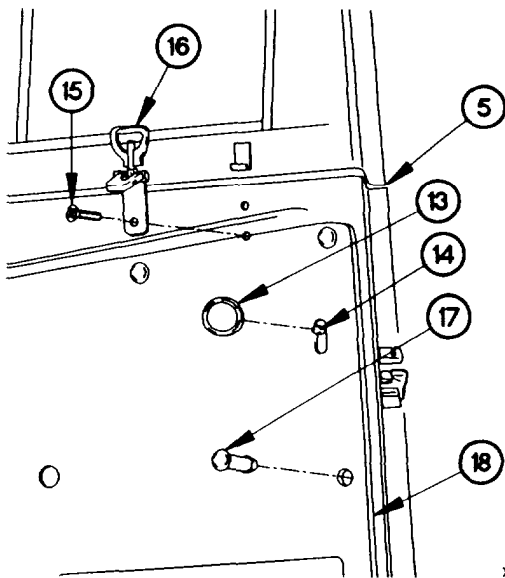
- (1) Remove cover (1) from door handle (2).
- (2) Remove screw (3), door handle (2), and washer (4) from door (5).
- (3) Remove four screws (6) and handle (7) from door (5).

16-6. M1093/M1094 DOOR REPAIR/ADJUSTMENT (CONT)

- (4) Raise cover (8) from window crank (9).
- (5) Remove screw (10), window crank (9), and collar (11) from window regulator (12).



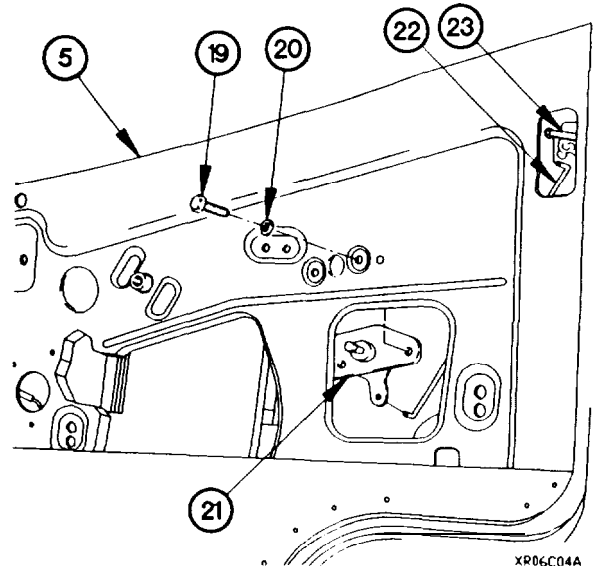
XR06C02A



XR06C03A

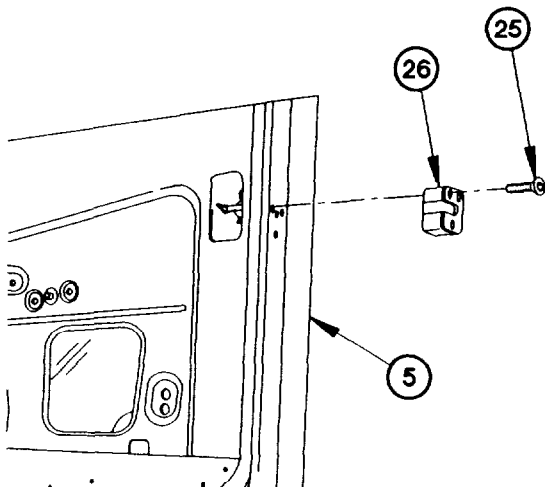
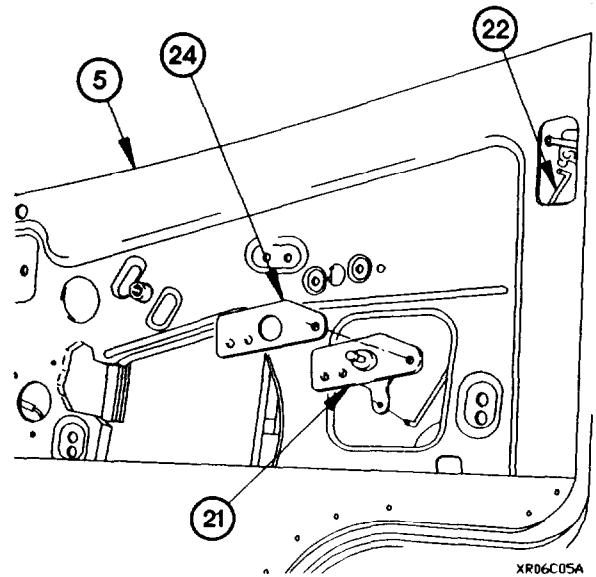
- (6) Remove knob (13) from lock stud (15).
- (7) Remove two screws (15) and latch (16) from door (5).
- (8) Remove 12 rivets (17) from door lining (18).
- (9) Remove door lining (18) from door (5).

- (10) Remove two screws (19), washers (20), and actuator assembly (21) from door (5).
- (11) Disconnect upper end of actuator control rod (22) from release assembly (23).



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- (12) Remove actuator control rod (2-2), actuator assembly (21), and seal (24) from door (5). Discard seal.



- (13) Remove three screws (25) and latch assembly (26) from door (5).

NOTE

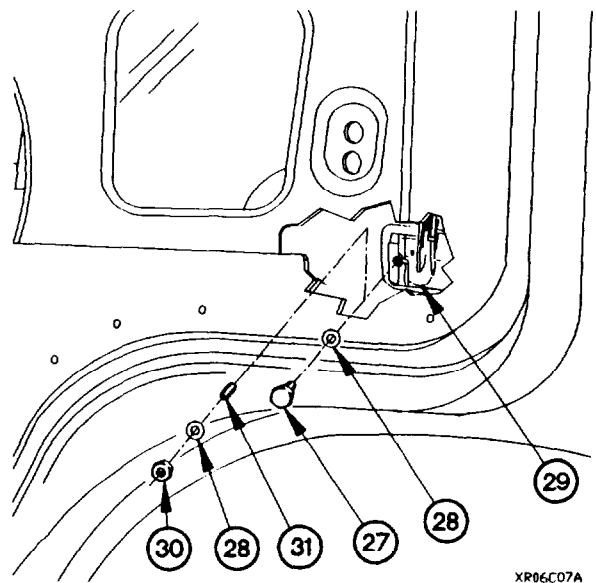
Perform step (14) on vehicle serial numbers 0001 through 3091 that have not had the handle/lock assembly replaced previously.

- (14) Remove screw (27) and washer (28) from handle/lock assembly (29).

NOTE

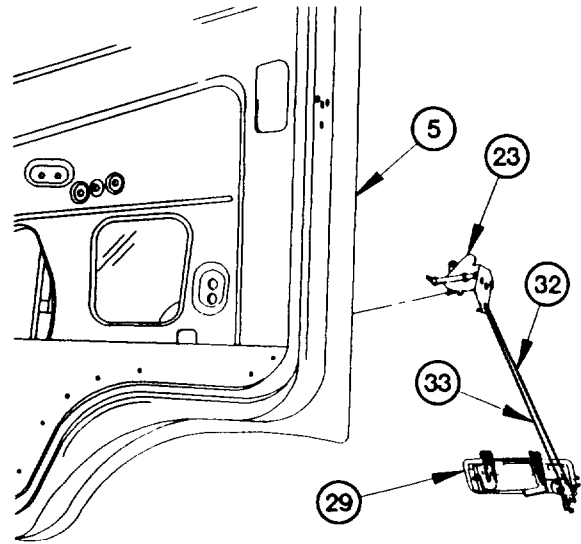
Perform step (15) on vehicle serial numbers 3092 and higher serial numbers, and vehicles that have had the handle/lock assembly replaced previously.

- (15) Remove nut (30), washer (28), and setscrew (31) from handle/lock assembly (29).



16-6. M1093/M1094 DOOR REPAIR/ADJUSTMENT (CONT)

- (16) Push handle/lock (29) toward front of vehicle until rear of handle/lock assembly is released from door (5).
- (17) Remove handle/lock (29), two control rods (32 and 33), and release assembly (23) out through handle/lock opening.



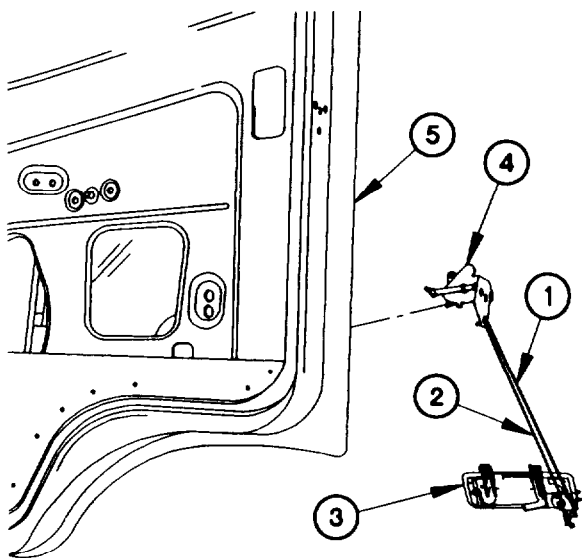
XR06C08A

d. Door Latch/Lock Assembly.

NOTE

Both latch/lock assemblies are installed the same way. Right side shown.

- (1) Attach two control rods (1 and 2) between handle/lock assembly (3) and release assembly (4).
- (2) Insert release assembly (4) and two control rods (1 and 2) upward through handle/lock assembly (3) opening in door (5).
- (3) Seat handle/lock assembly (3) into door opening by pushing handle/lock assembly toward front of vehicle until rear of handle/lock assembly can enter opening, then push handle/lock assembly toward rear until handle/lock assembly is fully seated.

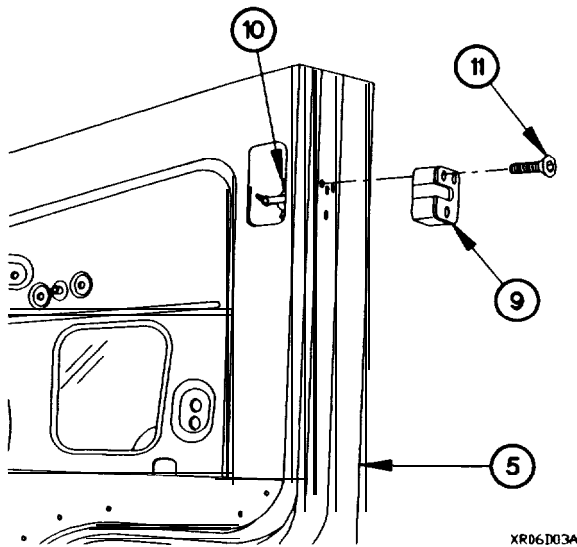
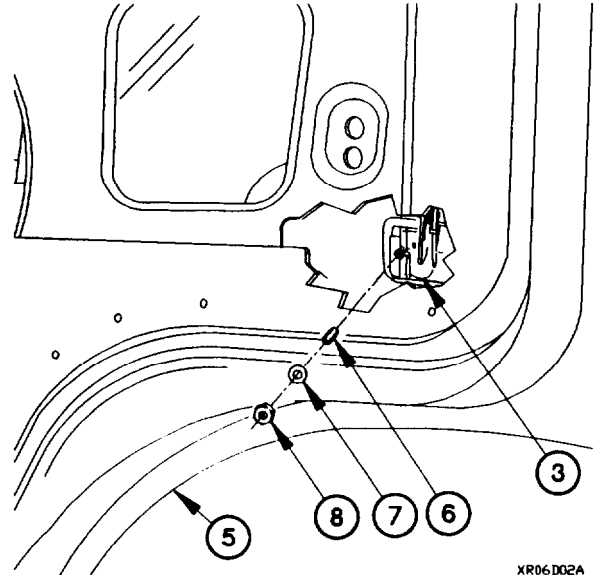


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WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (4) Apply sealing compound to threads of setscrew (6).
- (5) Position handle/lock assembly (3) on door (5) with setscrew (6).
- (6) Tighten setscrew (6) to 70-85 lb-in. (8-10 N•m).
- (7) Position washer (7) and nut (8) on setscrew (6).
- (8) Tighten nut (8) to 70-85 lb-in. (8-10 N•m).

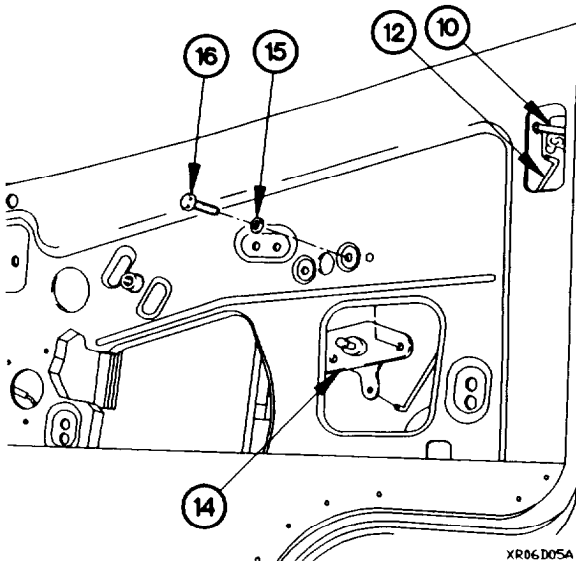
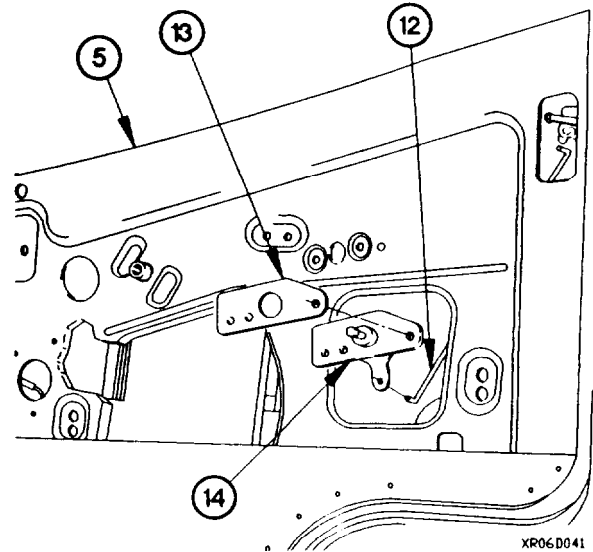


- (9) Position latch assembly (9) and release assembly (10) on door (5) with three screws (11).
- (10) Tighten three screws (11) to 70-85 lb-in. (8-10 N•m).

16-6. M1093/M1094 DOOR REPAIR/ADJUSTMENT (CONT)

(11) Install actuator control rod (12) and seal (13) on actuator assembly (14).

(12) Insert actuator assembly (14) in door (5).



NOTE

Ensure door lining fits inside of strip at bottom of door.

(16) Position door lining (17) on door (5).

(17) Install 12 rivets (18) in door lining (17).

(18) Position latch (19) on door (5) with two screws (20).

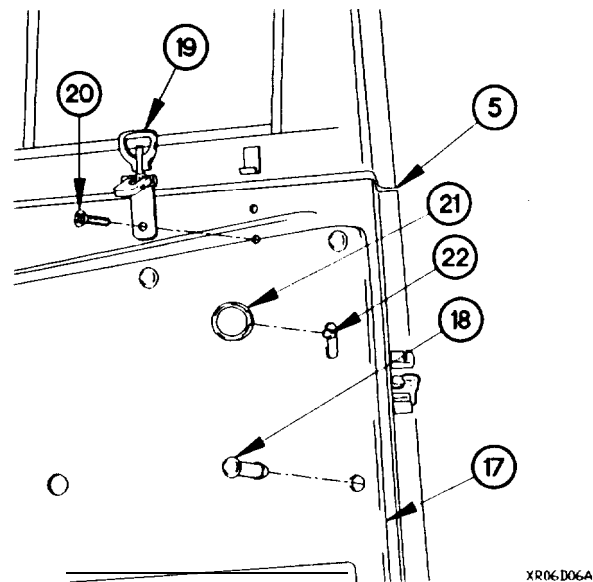
(19) Tighten two screws (20) to 65-121 lb-in. (10-14 N•m).

(20) Install knob (21) on lock stud (22).

(13) Attach upper end of actuator control rod (12) to release assembly (10).

(14) Position two washers (15) and screws (16) in actuator assembly (14).

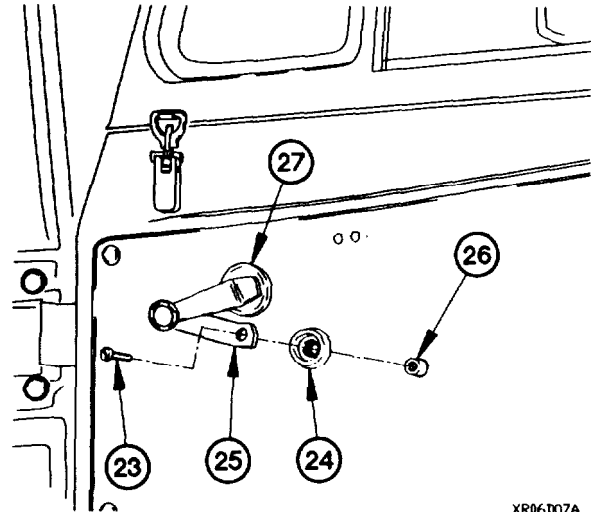
(15) Tighten two screws (16) to 49-60 lb-in. (5-7 N•m).



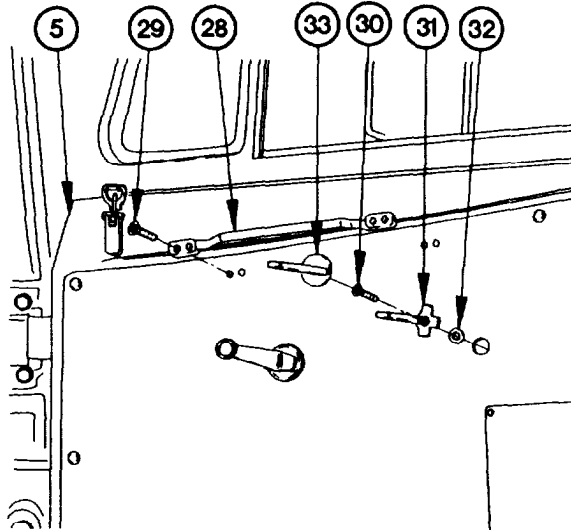
WARNING

Adhesives, solvents, and sealing compounds can burn early, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (21) Apply sealing compound to threads of screw (23).
- (22) Position collar (24) and window crank (25) on window regulator (26) with screw (23).
- (23) Tighten screw (23) to 50-55 lb-in. (6 N•m).
- (24) Install cover (27) on window crank (25).



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- (25) Position handle (28) on door (5) with four screws (29).
- (26) Tighten four screws (29) to 22-28 lb-in. (2-3 N•m).
- (27) Apply sealing compound to threads of screw (30).
- (28) Position door handle (31) on door (5) with washer (32) and screw (30).
- (29) Tighten screw (30) to 50-55 lb-in. (6 N•m).
- (30) Install cover (33) on door handle (31).

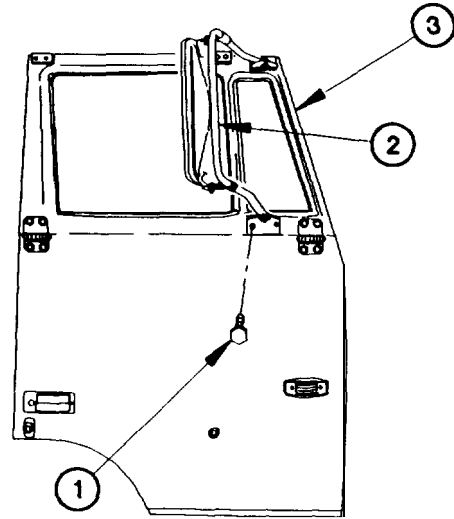
16-6. M1093/M1094 DOOR REPAIR/ADJUSTMENT (CONT)

e. Door Upper-Half Removal.

NOTE

Left and right door upper-halves are removed the same way. Right side shown.

- (1) Remove four screws (1) and mirror assembly (2) from door upper-half (3).

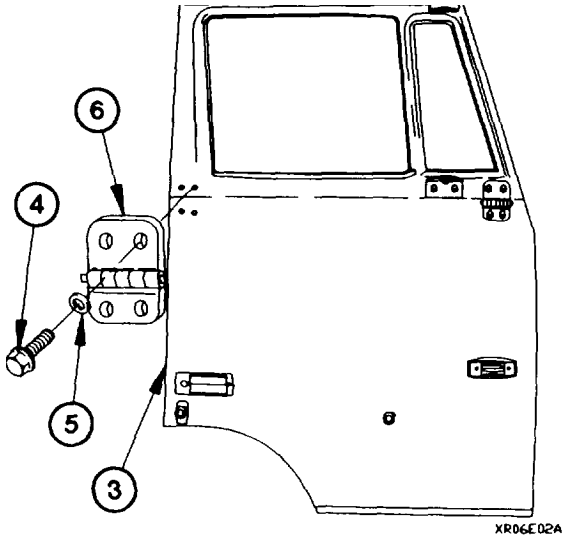


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NOTE

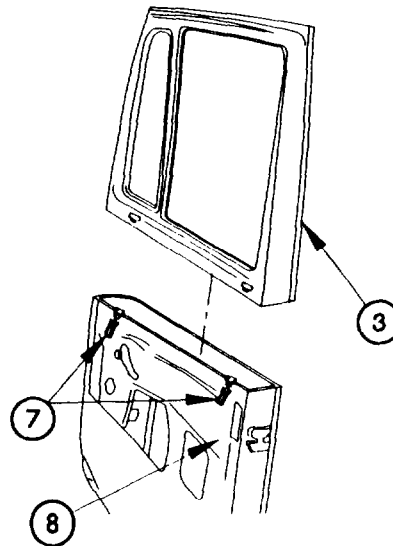
The hinges are different. Note position of each hinge.

- (2) Remove eight bolts (4), washers (5) and two hinges (6) from door (3).



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- (3) Unlatch two latches (7) on inner door lower-half (8) and remove door upper-half (3).



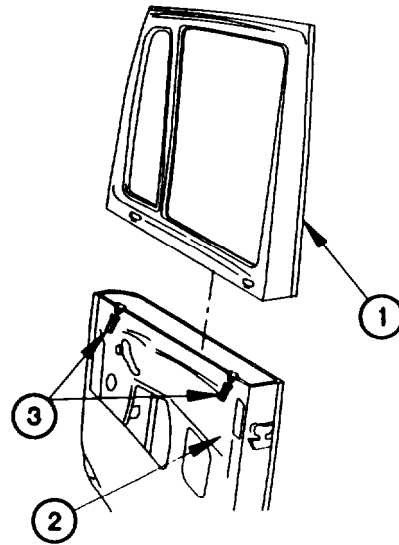
XR06E03A

f. Door Upper-Half Installation.

NOTE

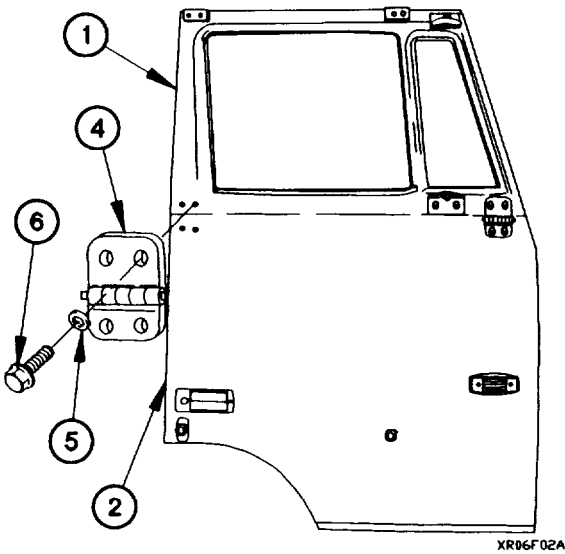
Left and right door upper-halves are installed the same way. Right side shown.

- (1) Install door upper-half (1) on door lower-half (2) with two latches (3).



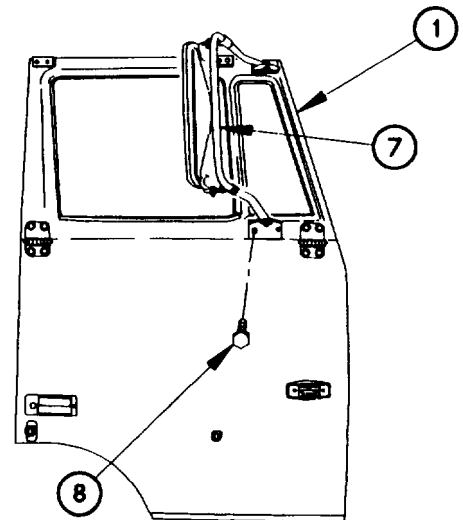
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- (2) Position two hinges (4) on door upper-half (1) and door lower-half (2) with eight washers (5) and screws (6).
- (3) Tighten eight screws (6) to 22-28 lb-ft (30-38 N•m).



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- (4) Position mirror assembly (7) on door upper-half (1) with four screws (8).
- (5) Tighten four screws (8) to 84-96 lb-in. (9-11 N•m).



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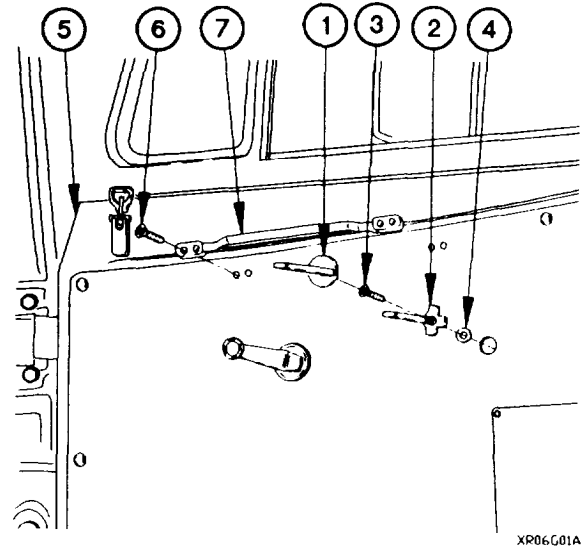
16-6. M1093/M1094 DOOR REPAIR/ADJUSTMENT (CONT)

g. Door Lower-Half Removal.

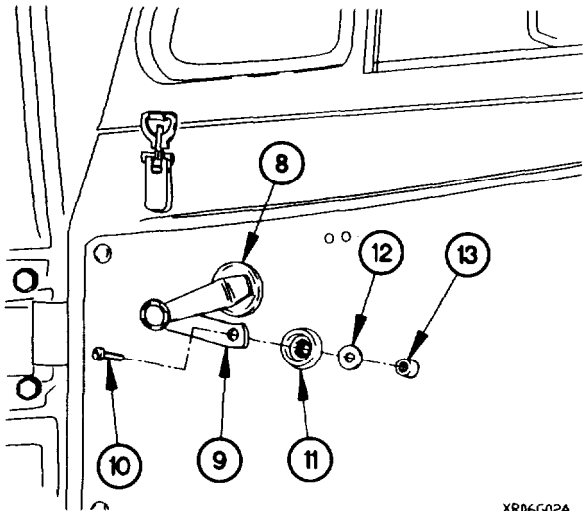
NOTE

Left and right door lower-halves are removed the same way. Right side shown.

- (1) Remove cover (1) from door handle (2).
- (2) Remove screw (3), door handle (2), and washer (4) from door (5).
- (3) Remove four screws (6) and handle (7) from door (5).



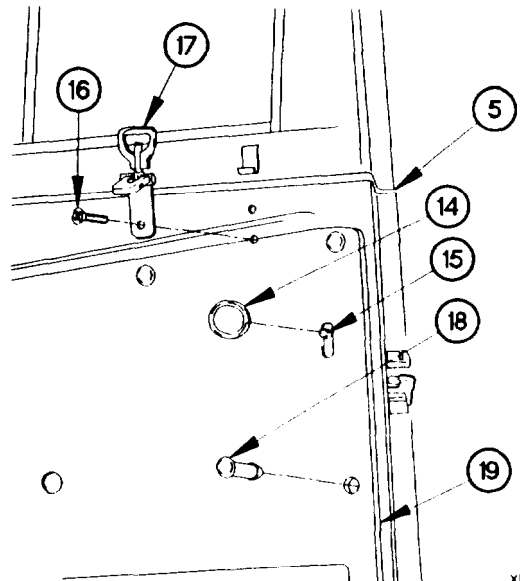
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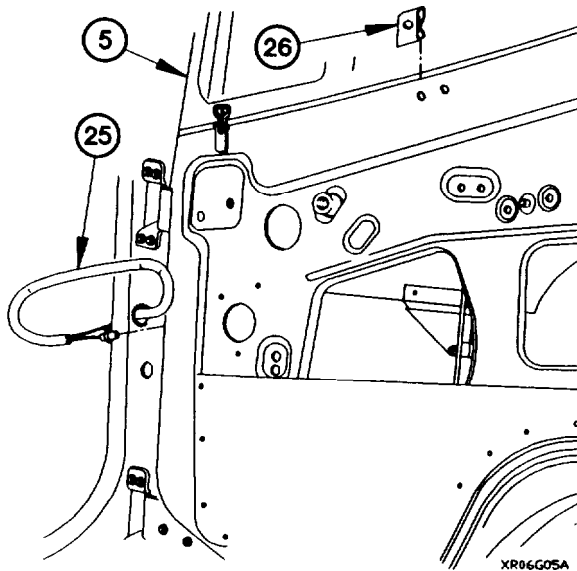
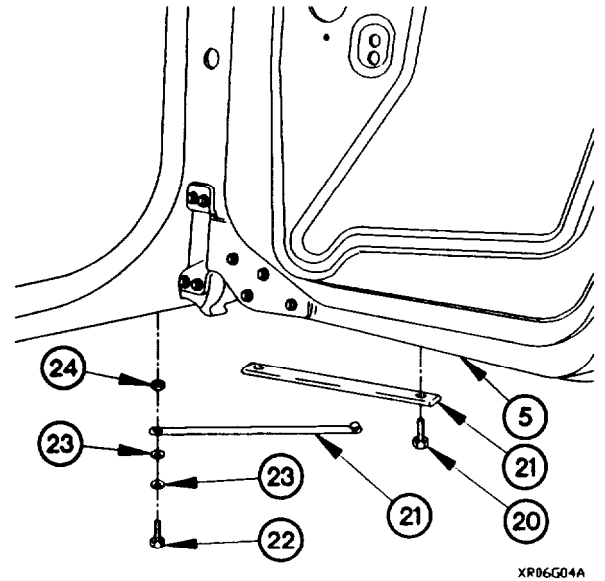
- (4) Raise cover (8) from window crank (9).
- (5) Remove screw (10), window crank (9), collar (11), and resilient mount (12) from window regulator (13).

- (6) Remove knob (14) from lock stud (15).
- (7) Remove two screws (16) and latch (17) from door (5).
- (8) Remove 12 rivets (18) from door lining (19).
- (9) Remove door lining (19) from door (5).



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- (10) Remove two screws (20) and door arrestor assembly (21) from bottom of door (5).
- (11) Remove screw (22), two spring washers (23), door arrestor assembly (21), and washer (24) from cab.

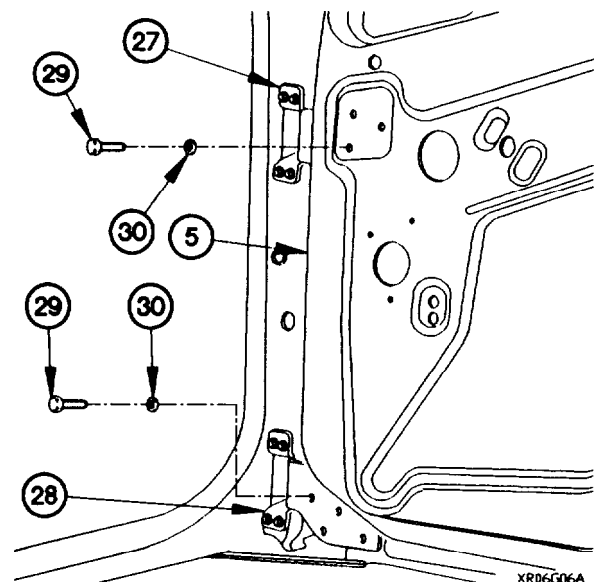


- (12) Remove wiring harness (25) from door (5) by pulling through access hole in forward edge of door (5).
- (13) Remove four clip nuts (26) from door (5).

NOTE

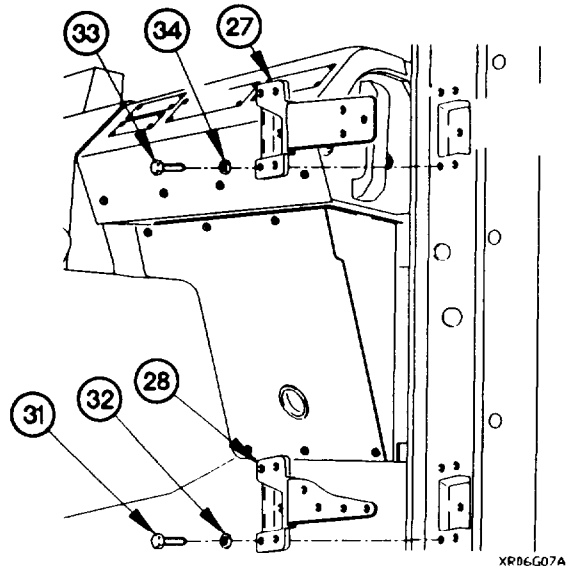
Steps (14) through (16) require the aid of an assistant.

- (14) Lift door (5) enough to take weight off hinges (27 and 28).
- (15) Remove six screws (29) and washers (30) from hinges (27 and 28).
- (16) Remove door (5) from cab.

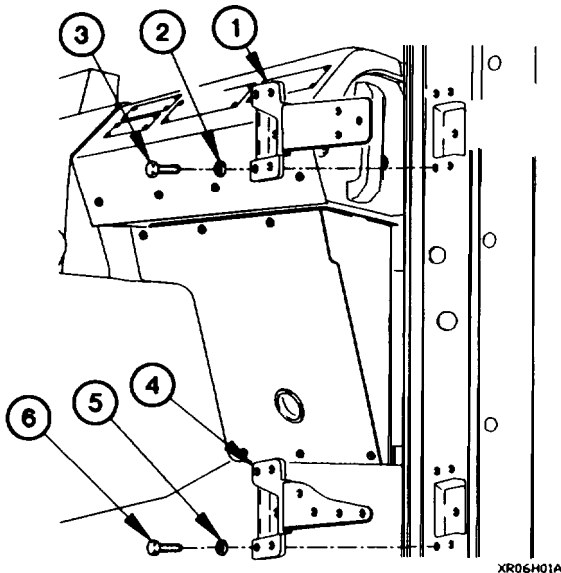


16-6. M1093/M1094 DOOR REPAIR/ADJUSTMENT (CONT)

- (17) Remove five screws (31), washers (32), and hinge (28) from cab.
- (18) Remove five screws (33), washers (34), and hinge (27) from cab.



h. Door Lower-Half Installation.



NOTE

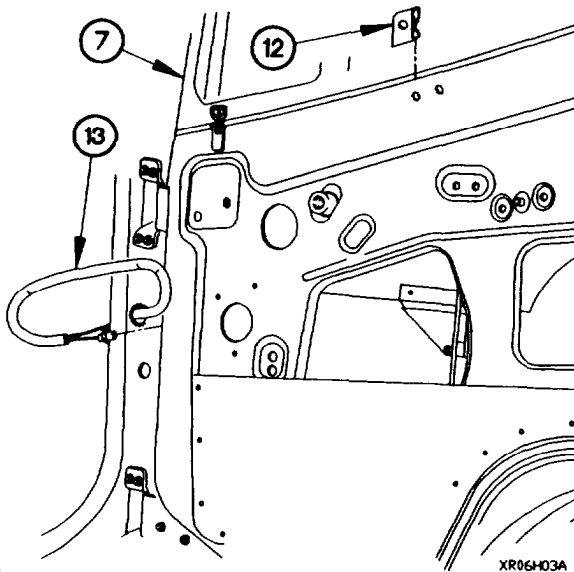
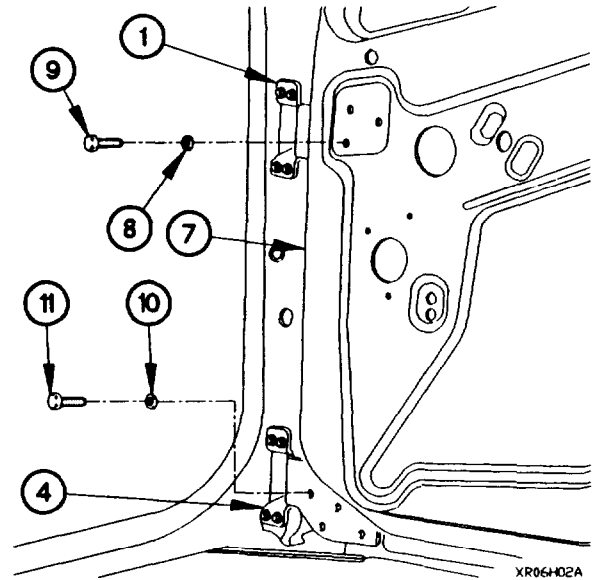
Left and right door lower-halves are installed the same way. Right side shown.

- (1) Position hinge (1) on cab with five washers (2) and screws (3).
- (2) Position hinge (4) on cab with five washers (5) and screws (6).

NOTE

Step (3) requires the aid of an assistant.

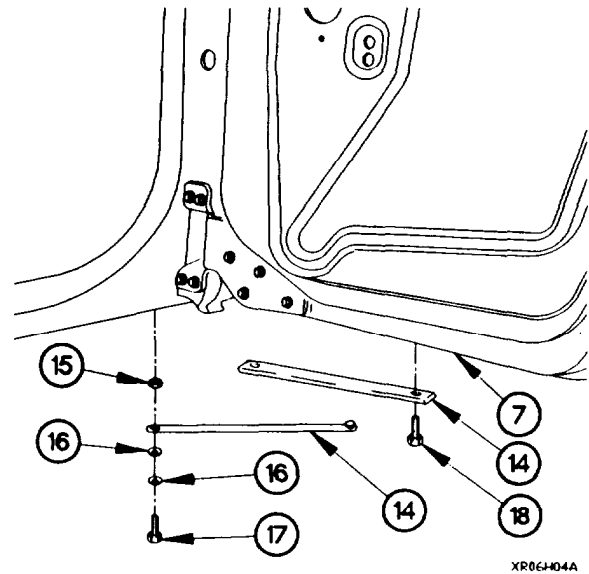
- (3) Position door (7) on cab with hinge (1) in slot in forward edge of door and bolt holes aligned with openings in door.
- (4) Position door (7) on hinge (1) with three washers (8) and screws (9).
- (5) Position door (7) on hinge (4) with three washers (10) and screws (11).
- (6) Adjust door (7) so that gap between door and cab is approximately equal all around.
- (7) Tighten three screws (9) and screws (11) one-half turn.
- (8) Open, close, and open door (7) to ensure correct operation.
- (9) Tighten three screws (9) and screws (11) to 22-26 lb-ft (30-35 N•m).



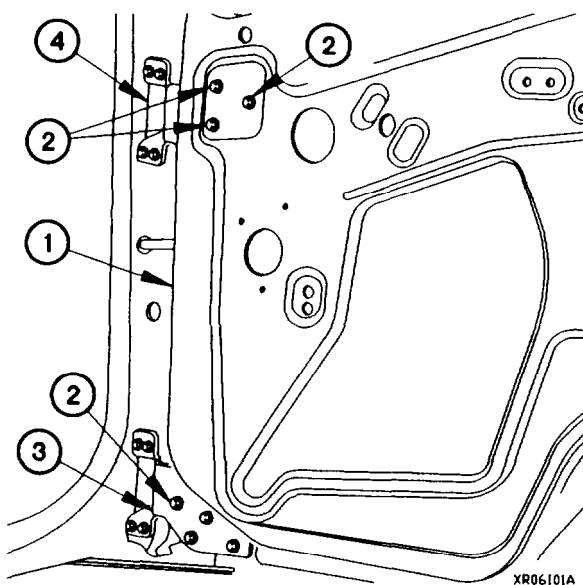
- (10) Install four clip nuts (12) on door (7).
- (11) Install wiring harness (13) through access hole in forward edge of door (7).

16-6. M1093/M1094 DOOR REPAIR/ADJUSTMENT (CONT)

- (12) Install door arrestor assembly (14) on cab with washer (15), two spring washers (16), and screw (17).
- (13) Install door arrestor assembly (14) on bottom of door (7) with two screws (18).



i. Door Adjustment.

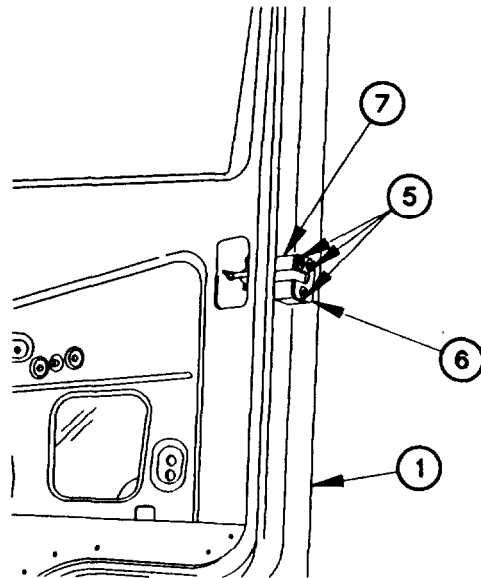


NOTE

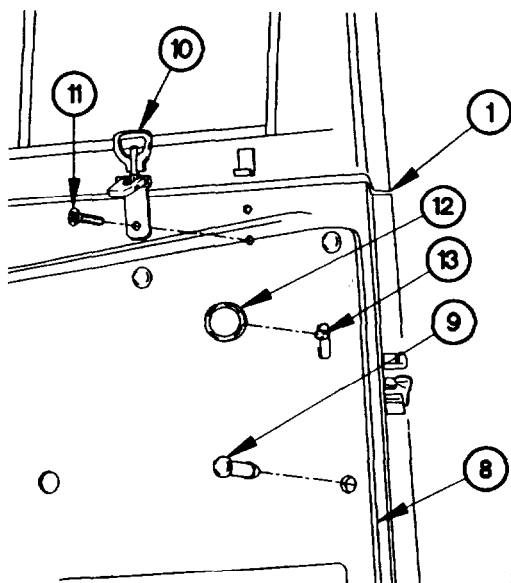
- Steps (1) and (2) require the aid of an assistant.
- Loosen door hinge screws only enough to allow small adjusting movements of door.

- (1) Support door (1) and loosen six screws (2) on bottom hinge (3) and top hinge (4).
- (2) Adjust door (1) so that gap between door (1) and cab is approximately equal all around.
- (3) Open, close, and open door (1) to ensure correct operation.
- (4) Tighten six screws (2) on top hinge (4) and bottom hinge (3) to 22-26 lb-ft (30-35 N•m).

- (5) Loosen three screws (5) on strike catch (6) and adjust so catch is centered in latch assembly (7) slot, as shown.
- (6) Tighten three screws (5) to 70-85 lb-ft (8-10 N•m).
- (7) Open and close door (1) to ensure correct operation.



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NOTE

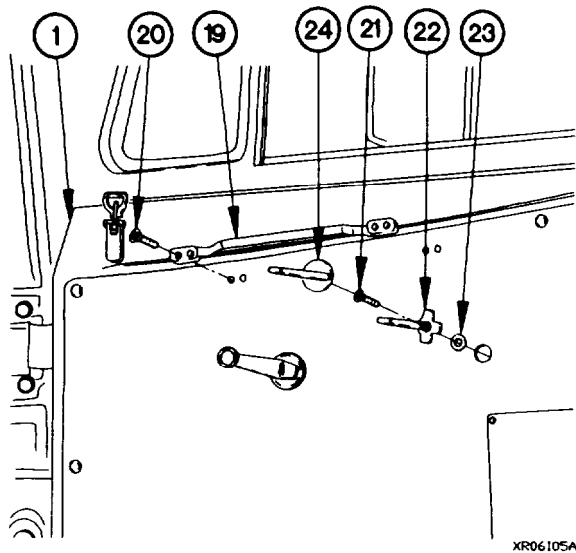
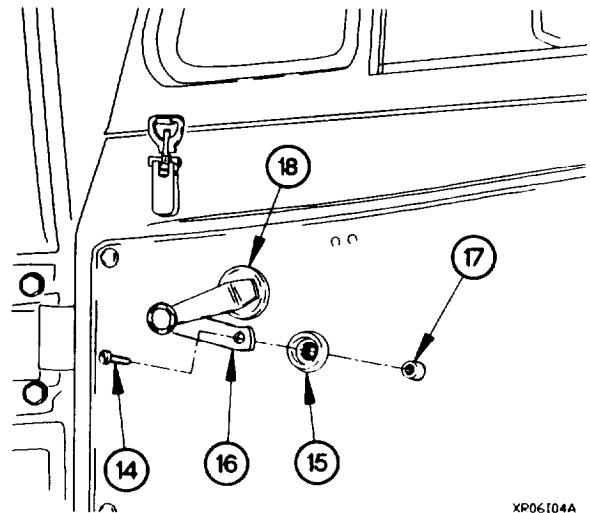
Ensure door lining fits inside of strip at bottom of door.

- (8) Position door lining (8) on door (1).
- (9) Install 12 rivets (9) in door lining (8).
- (10) Position latch (10) on door (1) with two screws (11).
- (11) Tighten two screws (11) to 65-121 lb-in. (10-14 N•m).
- (12) Install knob (12) on lock stud (13).

16-6. M1093/M1094 DOOR REPAIR/ADJUSTMENT (CONT)

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (13) Apply sealing compound to threads of screw (14).
- (14) Position collar (15) and window crank (16) on window regulator (17) with screw (14).
- (15) Tighten screw (14) to 50-55 lb-in. (6 N•m).
- (16) Install cover (18) on window crank (16).



- (17) Position handle (19) on door (1) with four screws (20).
- (18) Tighten four screws (20) to 22-28 lb-in. (2-3 N•m).
- (19) Apply sealing compound to threads of screw (21).
- (20) Position door handle (22) on door (1) with washer (23) and screw (21).
- (21) Tighten screw (21) to 50-55 lb-in. (6 N•m).
- (22) Install cover (24) on door handle (22).

j. Follow-On Maintenance.

- (1) Install upper door-half (for lower door-half removal).
- (2) Install marker lights (para 7-38).
- (3) Clean all grease or oil from door.
- (4) Clean window glass.

End of Task.

16-7. REAR CAB SUPPORT ASSEMBLY REPLACEMENT

This task covers:

- a. Removal
- b. Installation

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Cab air springs deflated (TM 9-2320-366-10-1).
- Spare tire lowered (TM 9-2320-366-10-2).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Socket Set, Socket Wrench (Item 36, Appendix C)

Materials/Parts

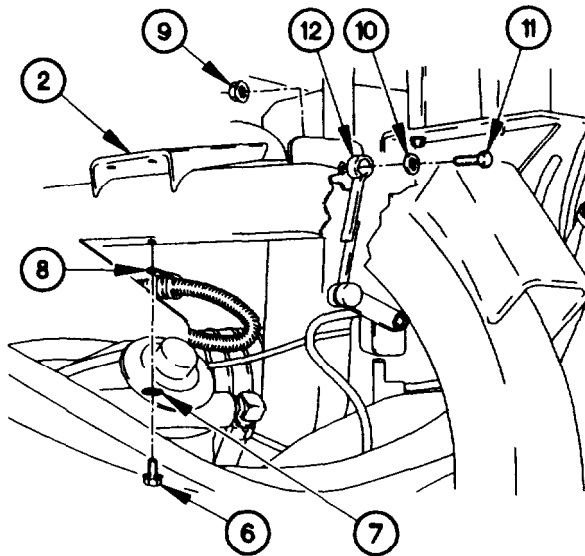
- Nut, Self-Locking (4) (Item 168, Appendix G)
- Nut, Self-Locking (Item 133, Appendix G)
- Nut, Self-Locking (8) (Item 156, Appendix G)

Personnel Required

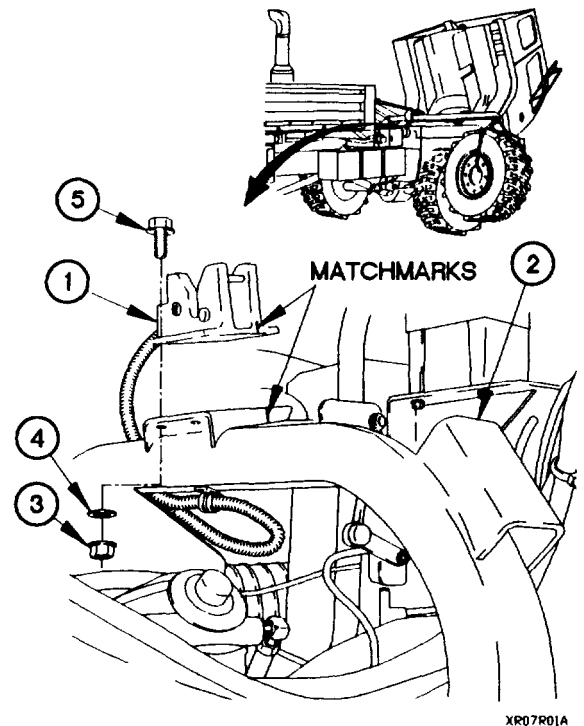
(2)

a. Removal.

- (1) Match mark position of cab hydraulic latch (1) on rear cab support (2).
- (2) Remove four self-locking nuts (3), washers (4), screws (5), and cab hydraulic latch (1) from rear cab support (2). Discard self-locking nuts.



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- (3) Remove two screws (6), washers (7), and cable clamps (8) from rear cab support (2).
- (4) Remove self-locking nut (9), washer (10), screw (11), and cab leveling valve linkage (12) from rear cab support (2). Discard self-locking nut.

16-7. REAR CAB SUPPORT ASSEMBLY REPLACEMENT (CONT)

NOTE

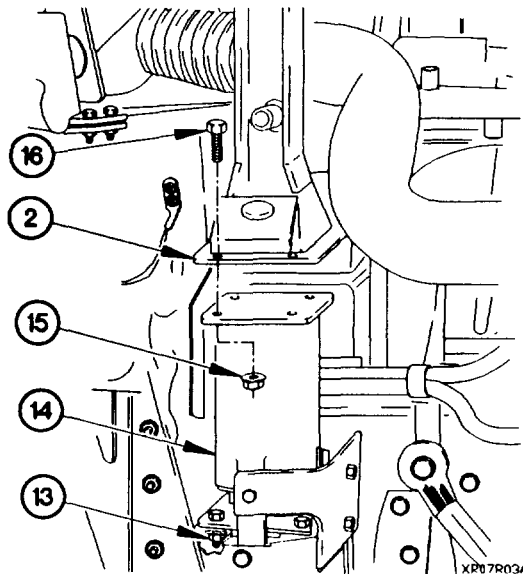
Left and right sides of rear cab support are removed the same way. Right side shown.

- (5) Loosen four self-locking nuts (13) on cab air spring (14).
- (6) Remove four self-locking nuts (15) and screws (16) from rear cab support (2). Discard self-locking nuts.
- (7) Perform steps (5) and (6) on left side rear cab support.

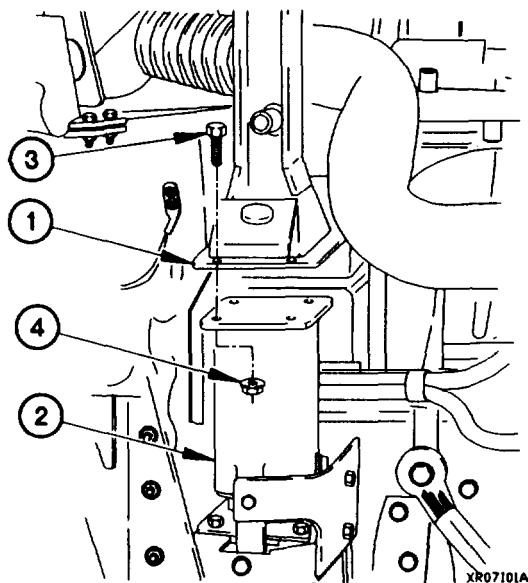
NOTE

Step (8) requires the aid of an assistant.

- (8) Remove rear cab support (2) from vehicle.



b. Installation.



NOTE

Step (1) requires the aid of an assistant.

- (1) Position rear cab support (1) on vehicle.

NOTE

Left and right sides of rear cab support are installed the same way. Right side shown.

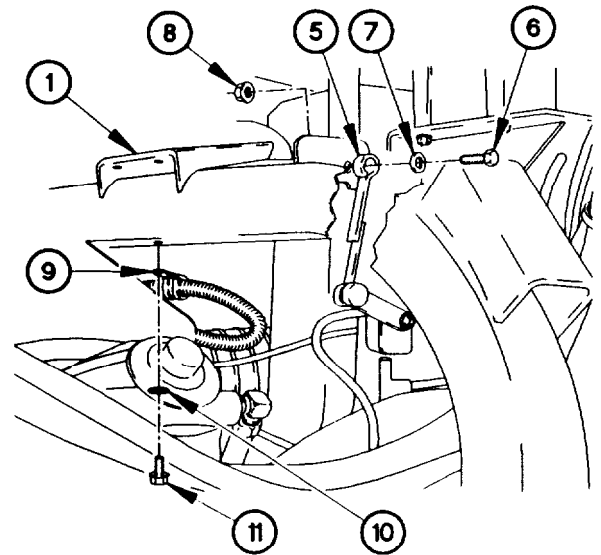
- (2) Position four screws (3) and self-locking nuts (4) in rear cab support (1).

NOTE

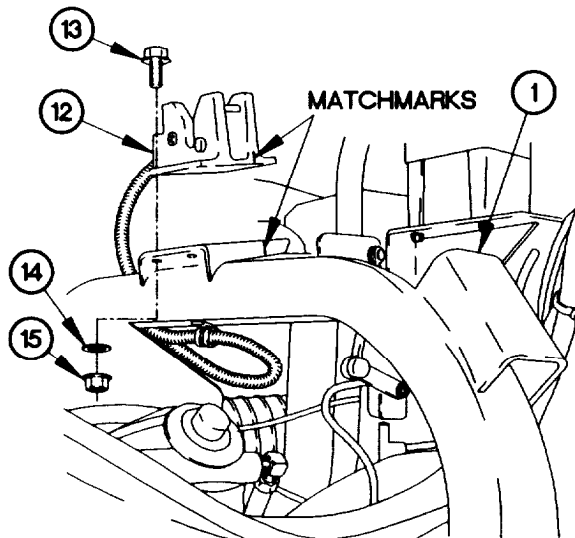
Step (3) requires the aid of an assistant.

- (3) Tighten four self-locking nuts (4) to 48-58 lb-ft (65-79 N•m).
- (4) Perform steps (2) and (3) on left side of rear cab support.

- (5) Position cab leveling valve linkage (5) on rear cab support (1) with screw (6), washer (7) and self-locking nut (8).
- (6) Tighten self-locking nut (8) to 60-72 lb-in. (7-8 N•m).
- (7) Install two cable clamps (9) on cab support (1) with washers (10) and screws (11).



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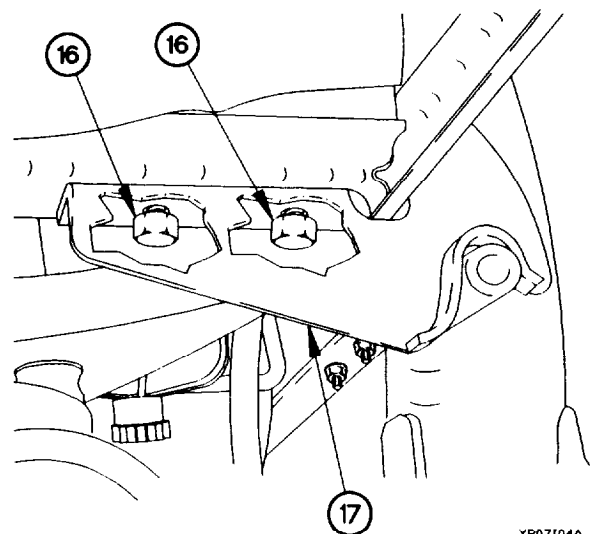
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- (8) Position cab hydraulic latch (12) on rear cab support (1) with matchmarks aligned.
- (9) Position four screws (13), washers (14), and self-locking nuts (15) in cab hydraulic latch (12).
- (10) Tighten four screws (13) to 35-43 lb-ft (47-58 N•m).

NOTE

Loosen screws only enough that latches can be moved with some resistance.

- (11) Loosen four screws (16) in two cab latches (17).



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16-7. REAR CAB SUPPORT ASSEMBLY REPLACEMENT (CONT)

(12) Lower cab (TM 9-2320-366-10-1).

CAUTION

Latches must be adjusted so that they ride squarely on the latch supports and do not contact the welded area of the latch supports. Failure to comply may result in damage to equipment.

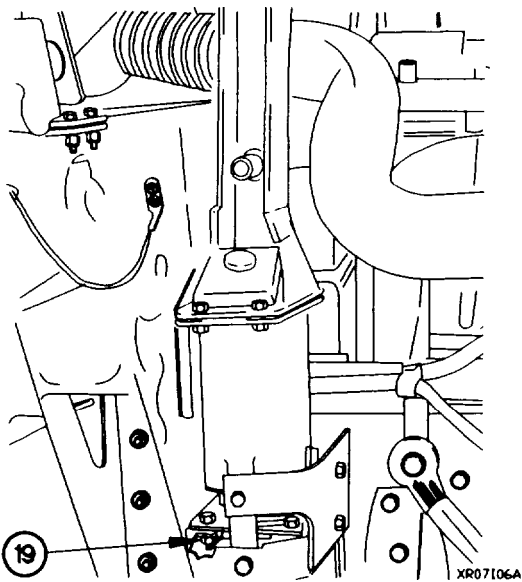
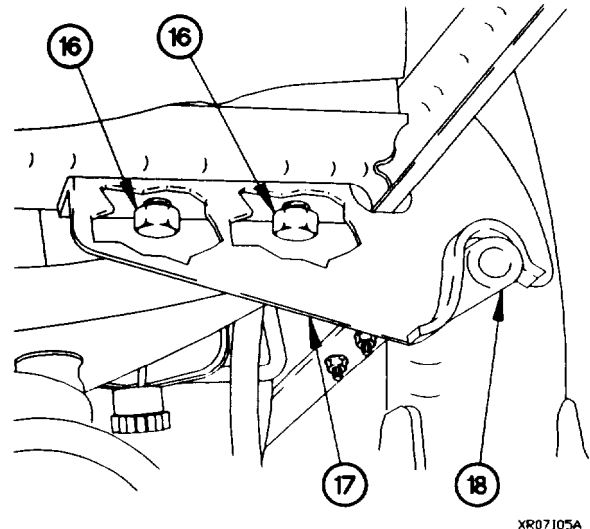
(13) Adjust two latches (17) on latch supports (18).

(14) Raise cab (TM 9-2320-366-10-1).

CAUTION

Do not allow latches to change position while tightening screws. Failure to comply may result in damage to equipment.

(15) Tighten four screws (16) to 35-43 lb-ft (47-58 N•m).



(16) Lower cab (TM 9-2320-366-10-1).

(17) Inflate cab air springs (TM 9-2320-366-10-1).

NOTE

- Perform step (18) on left and right sides of cab rear support.
- Step (18) requires the aid of an assistant.

(18) Tighten four self-locking nuts (19) to 48-58 lb-ft (65-79 N•m).

c. Follow-On Maintenance.

- (1) Adjust cab hydraulic latch (para 19-7).
- (2) Adjust cab leveling valve (para 16-8).

End of Task.

16-8. CAB LEVELING VALVE AND LINKAGE REPLACEMENT/ADJUSTMENT

This task covers:

- a. Removal
- b. Installation
- c. Cab Leveling Valve Adjustment
- d. Follow-On Maintenance

INITIAL SETUP**Equipment Conditions**

- Engine shut down (TM 9-2320-366-10-1).
- Cab air springs deflated (TM 9-2320-386-10-1).
- Cab raised (TM 9-2320-366- 10-1).
- Air tanks drained (TM 9-2320-366-10-1).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Socket Set, Socket Wrench (Item 36, Appendix C)

Materials/Parts

- Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
- Nut, Self-Locking (2) (Item 133, Appendix G)
- Nut, Self-Locking (2) (Item 153, Appendix G)
- Nut, Self-Locking (2) (Item 150, Appendix G)
- Lockwasher (Item 78, Appendix G)

Personnel Required

- (2)

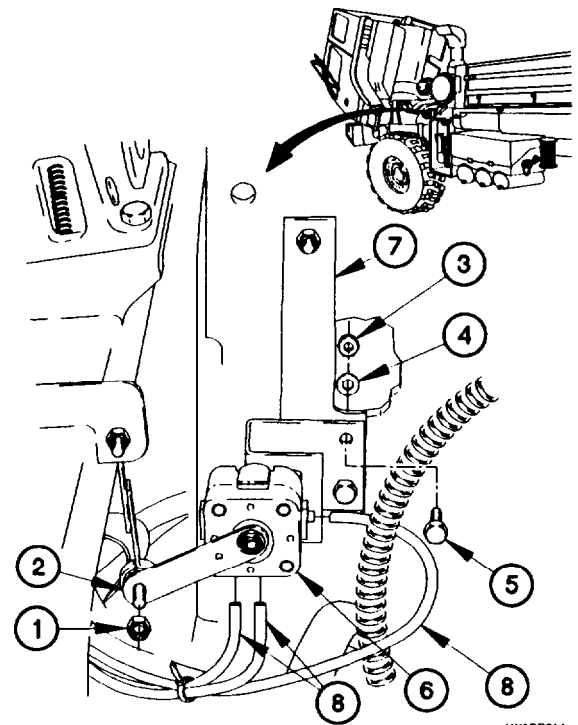
a. Removal.

- (1) Remove self-locking nut (1) from lever (2). Discard self-locking nut.
- (2) Remove two self-locking nuts (3), washers (4), screws (5), and cab leveling valve (6) from bracket (7). Discard self-locking nuts.

NOTE

Tag air tubes and connection points prior to disconnecting.

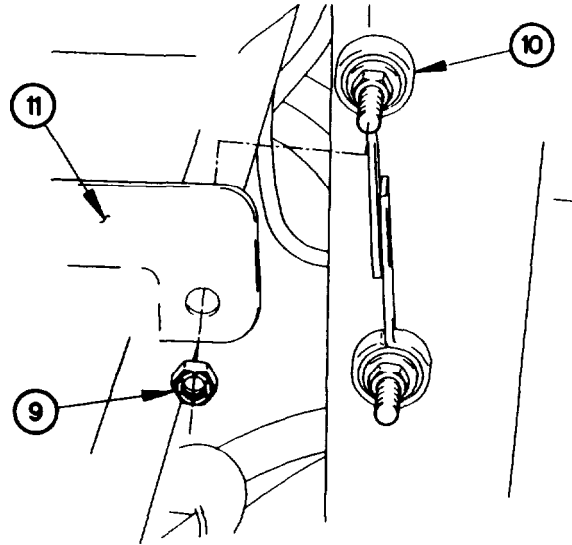
- (3) Disconnect three air tubes (8) from cab leveling valve (6).



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16-8. CAB LEVELING VALVE AND LINKAGE REPLACEMENT/ADJUSTMENT (CONT)

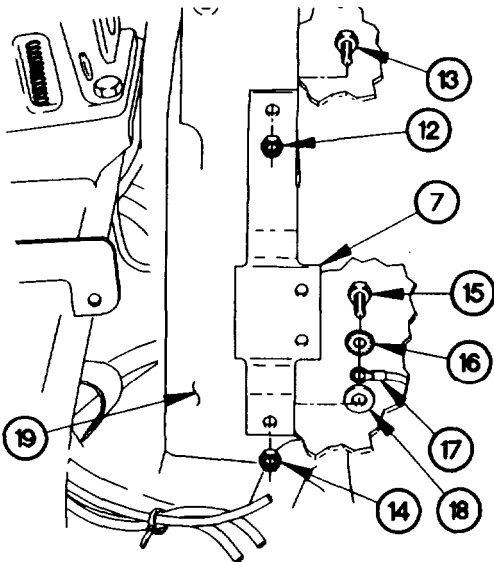
- (4) Remove self-locking nut (9) and linkage (10) from bracket (11). Discard self-locking nut.



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- (5) Remove self-locking nut (12) and screw (13) from bracket (7). Discard self-locking nut.

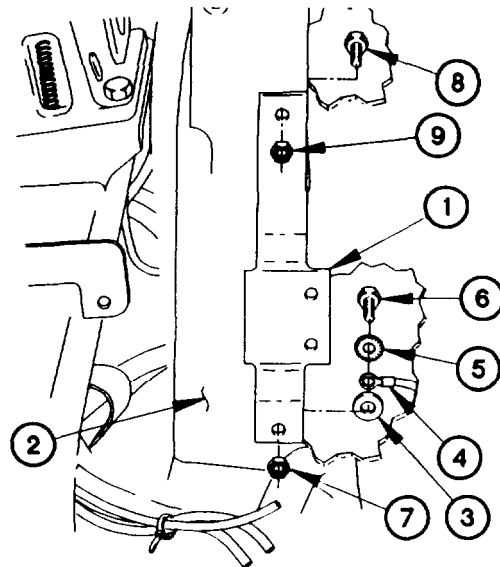
- (6) Remove self-locking nut (14), screw (15), lockwasher (18), terminal lug TL84 (17), washer (18), and bracket (7) from spare tire retainer (19). Discard self-locking nut and lockwasher.



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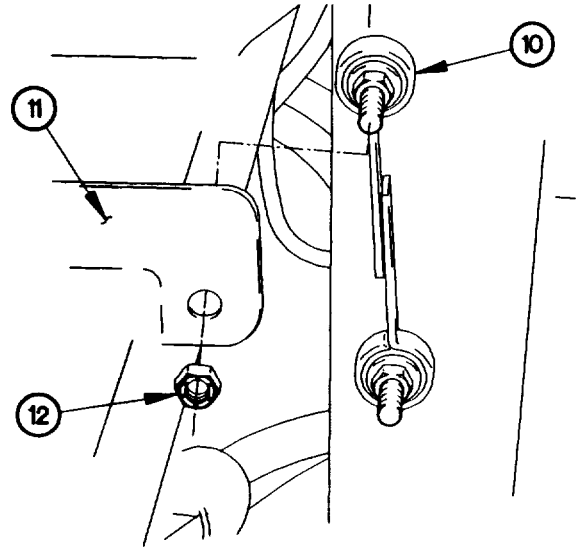
b. Installation.

- (1) Position bracket (1) on spare tire retainer (2) with washer (3), terminal lug TL84 (4), lockwasher (5), screw (6) and self-locking nut (7).
- (2) Position screw (8) and self-locking nut (9) in bracket (1).
- (3) Tighten self-locking nuts (7 and 9) to 25-31 lb-ft (34-42 N•m).

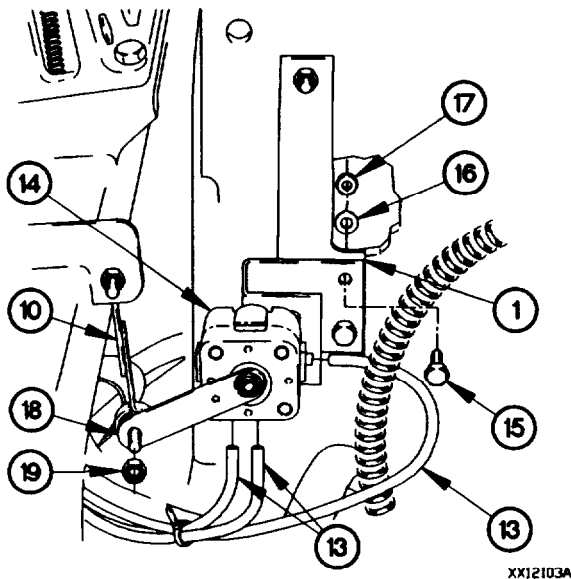


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- (4) Position linkage (10) on bracket (11) with self-locking nut (12).
- (5) Tighten self-locking nut (12) to 60-72 lb-in. (7-8 N•m).



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- (6) Connect three air tubes (13) to cab leveling valve (14).
- (7) Position cab leveling valve (14) on bracket (1) with two screws (15), washers (16), and self-locking nuts (17).
- (8) Tighten two self-locking nuts (17) to 84-108 lb-in. (10-12 N•m).
- (9) Position linkage (10) on lever (18) with self-locking nut (19).
- (10) Tighten Self-IOcking nut (19) to 60-72 lb-in. (7-8 N•m).
- (11) Lower cab (TM 9-2320-366-10-1).
- (12) Start engine (TM 9-2320-366-10-1).
- (13) Inflate cab air springs (TM 9-2320-366-10-1).
- (14) Check for air leaks around cab leveling valve (14).
- (15) Shut down engine (TM 9-2320-366-10-1).
- (16) Perform cab leveling valve adjustment (sub-para c.).

16-8. CAB LEVELING VALVE AND LINKAGE REPLACEMENT/ADJUSTMENT (CONT)

c. Cab Leveling Valve Adjustment.

- (1) Lower spare tire (TM 9-2320-366-10-2).
- (2) Lower cab (TM 9-2320-366-10-1).
- (3) Start engine (TM 9-2320-366-10-1).

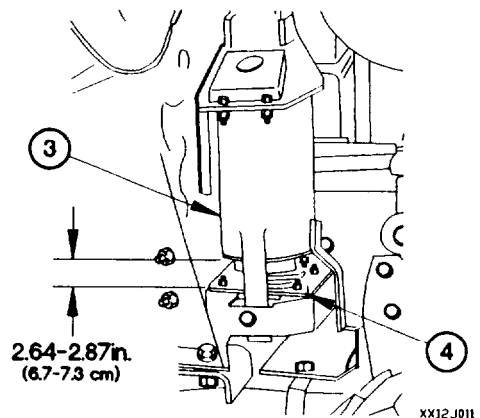
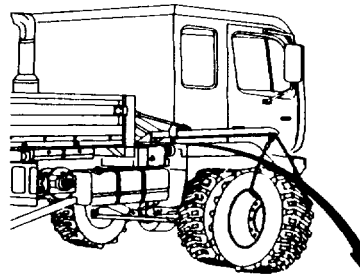
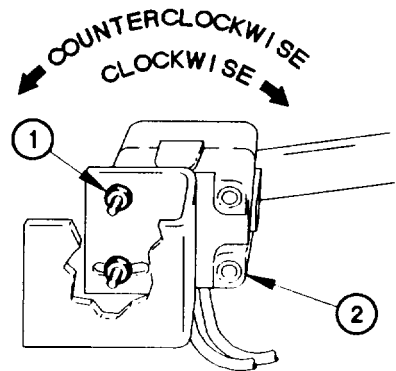
NOTE

Steps (4) through (6) require the aid of an assistant.

- (4) Loosen self-locking nut (1) on cab leveling valve (2).

NOTE

- Rotating cab leveling valve clockwise (to the right), as seen from right side of vehicle, decreases cab height. Rotating cab leveling valve counterclockwise (to the left), as seen from right side of vehicle, increases cab height.
 - Measure air spring to air spring bracket height on both air springs.
 - If air spring to air spring bracket height varies between sides, but is no more than 0.25 in. (0.63 cm) outside of upper or lower limit, adjust cab leveling valve so that average for both sides is 2.64-2.87 in. (6.7-7.3 cm).
- (5) Adjust cab leveling valve (2) until air spring (3) measures 2.64-2.87 in. (6.7-7.3 cm) from bottom edge of air spring to top surface of air spring bracket (4).
 - (6) Tighten self-locking nut (1) to 84-108 lb-in. (10-12 N•m).



d. Follow-On Maintenance.

- (1) Shut down engine (TM 9-2320-366-10-1).
- (2) Raise spare tire (TM 9-2320-366-10-2).

End of Task.

16-9. AIR SPRING AND BRACKET REPLACEMENT

This task covers:

- a. Right Air Spring and Bracket Removal
- b. Right Air Spring and Bracket Installation
- c. Left Air Spring and Bracket Removal
- d. Left Air Spring and Bracket Installation
- e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Cab air springs deflated (TM 9-2320-366-10-1).
Cab raised (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

Materials/Parts

Rope, Fibrous (Item 52, Appendix D)
Antiseize Compound (Item 13, Appendix D)
Nut, Self-Locking (8) (Item 156, Appendix G)
Nut, Self-Locking (4) (Item 159, Appendix G)

Personnel Required

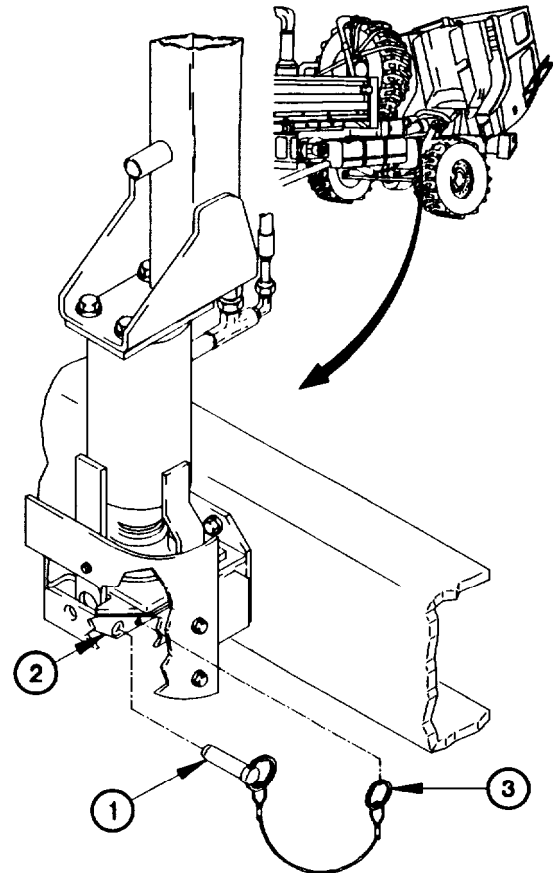
(2)

CAUTION

Vehicle serial numbers 0001 through 3091 were originally equipped with air springs PN 12420795-001/12420795-002. Vehicle serial numbers 3092 and higher are equipped with air springs PN 12421438-001/12421438-002. When air spring replacement is required on a vehicle equipped with air springs PN 12420795-001/12420795-002, both sides must be replaced with air springs PN 12411438-001/12421438-002. Failure to comply may result in damage to equipment.

a. Right Air Spring and Bracket Removal.

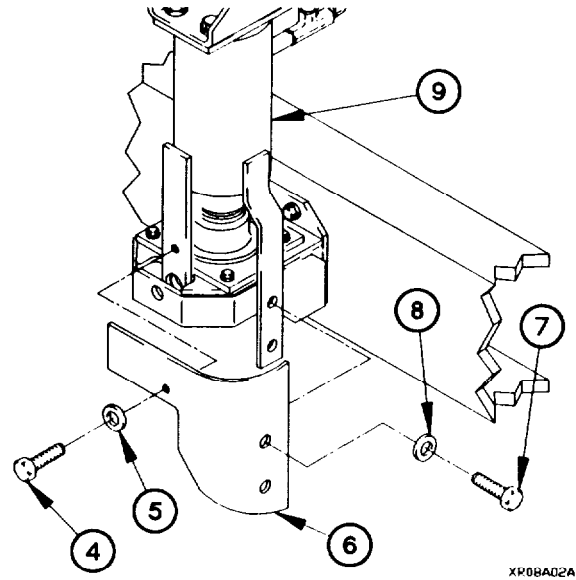
- (1) Remove quick release pin (1) from mounting bracket (2).
- (2) Remove retaining ring (3) from mounting bracket (2).



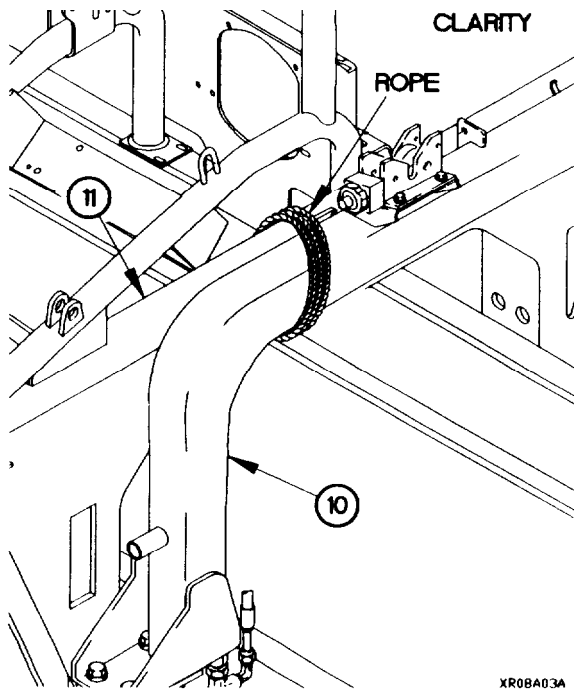
XR08A01A

16-9. AIR SPRING AND BRACKET REPLACEMENT (CONT)

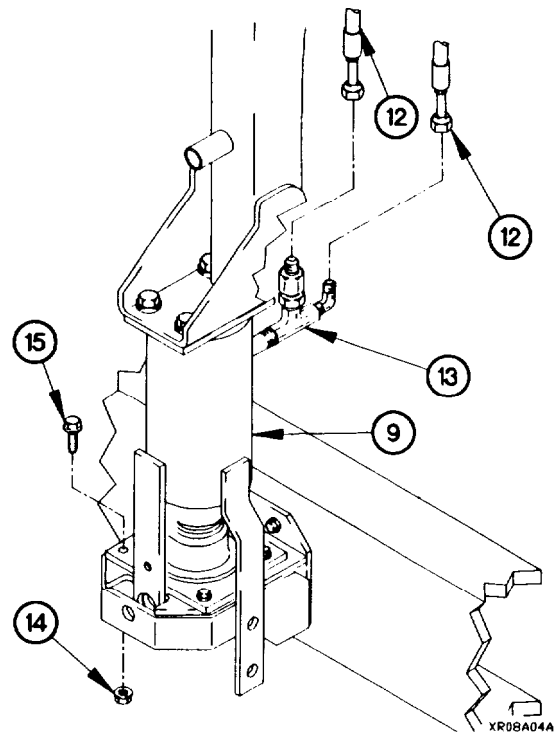
- (3) Remove screw (4) and washer (5) from stoneguard (6).
- (4) Remove two screws (7), washers (8), and stoneguard (6) from air spring (9).



- (5) Secure rear cab support assembly (10) to spare tire retainer (11).



- (6) Disconnect two air hoses (12) from air fitting assembly (13).
- (7) Remove four self-locking nuts (14) and screws (15) from air spring (9). Discard self-locking nuts.

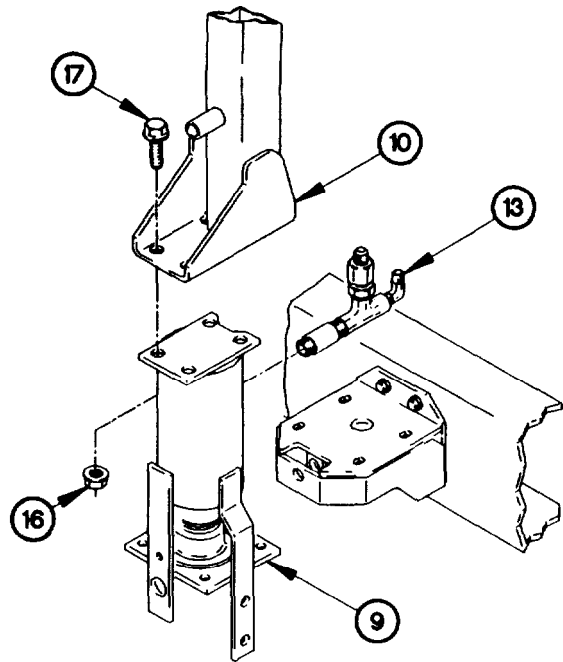


- (8) Remove four self-locking nuts (18), screws (17), and air spring (9) from rear cab support assembly (10). Discard self-locking nuts.

NOTE

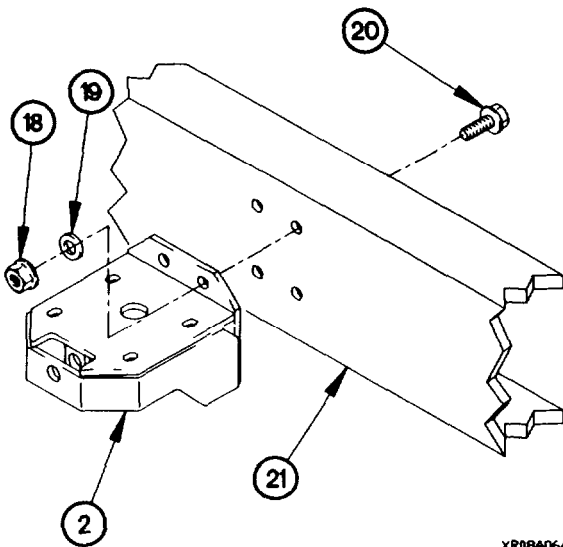
Note orientation of air fitting assembly prior to removal.

- (9) Remove air fitting assembly (13) from air spring (9).



XR08A05A

- (10) Remove four self-locking nuts (18), washers (19), screws (20), and mounting bracket (2) from right frame rail (21). Discard self-locking nuts.



XR08A06A

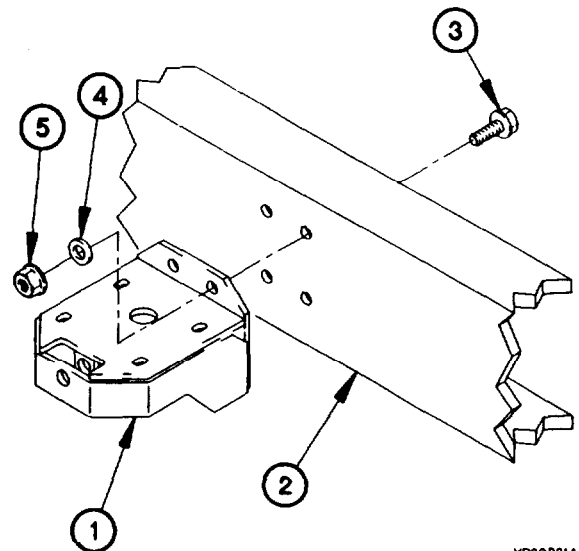
b. Right Air Spring and Bracket Installation.

- (1) Position mounting bracket (1) on right frame rail (2) with four screws (3), washers (4), and self-locking nuts (5).

NOTE

Step (2) requires the aid of an assistant.

- (2) Tighten four self-locking nuts (5) to 60-74 lb-ft (81-100 N•m).



XR08B01A

16-9. AIR SPRING AND BRACKET REPLACEMENT (CONT)

WARNING

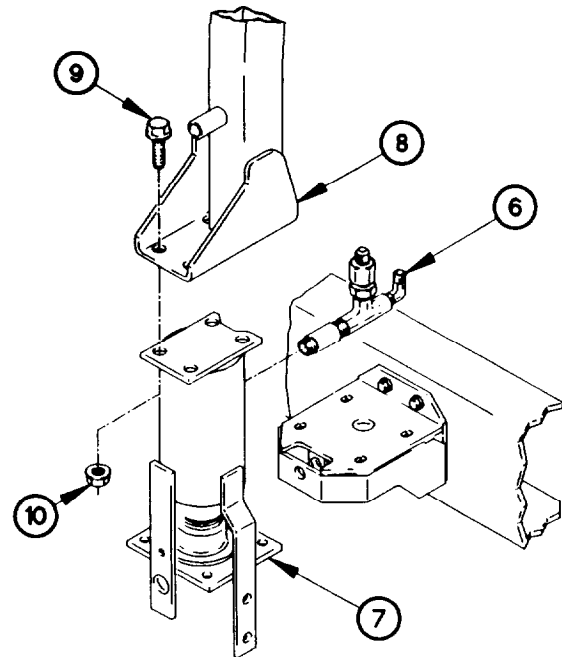
Adhesives, solvents, and reeling compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (3) Apply antiseize compound to threads of air fitting assembly (6).
- (4) Install air fitting assembly (6) in air spring (7).
- (5) Position air spring (7) on rear cab support assembly (8) with four screws (9) and self-locking nuts (10).

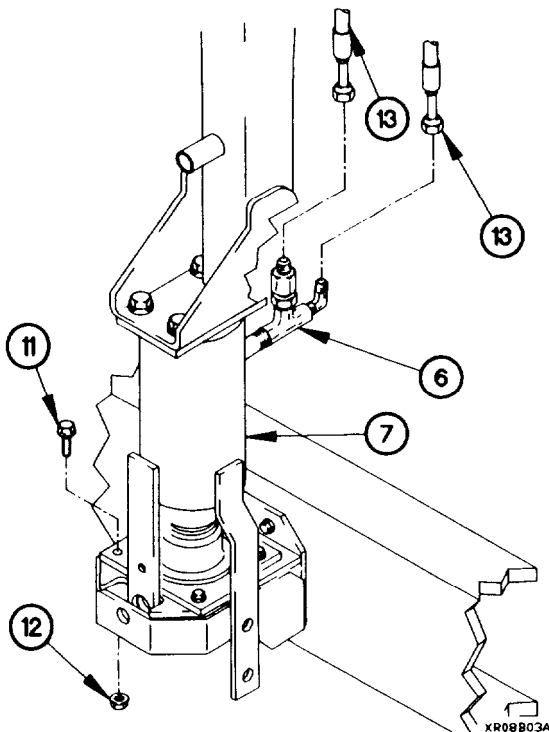
NOTE

Step (6) requires the aid of an assistant.

- (6) Tighten four self-locking nuts (10) to 48-58 lb-ft (65-79 N•m).



XR08B02A



XR08B03A

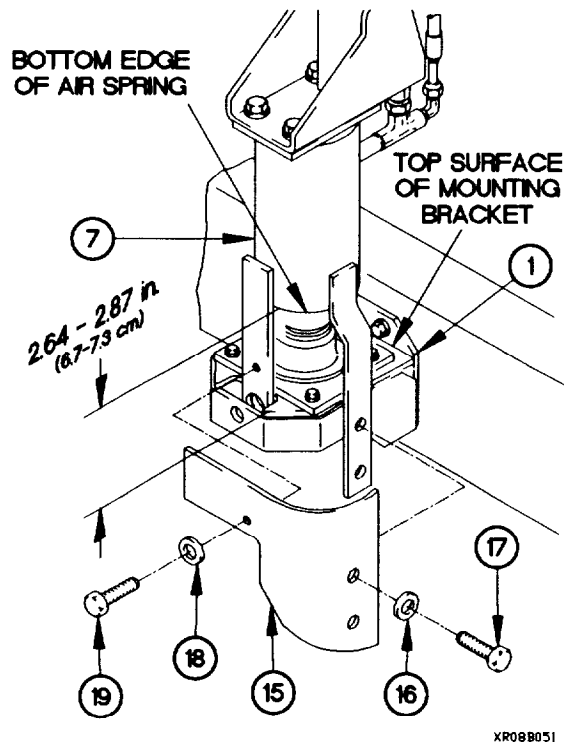
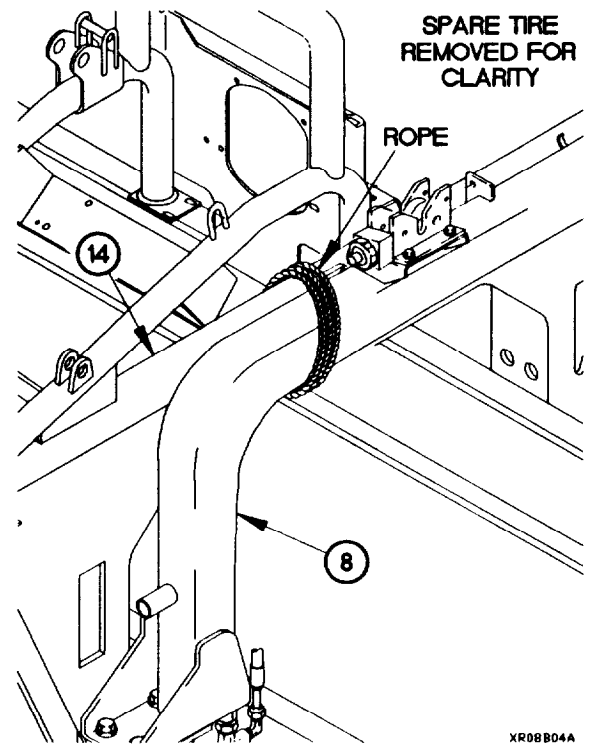
- (7) Position four screws (11) and self-locking nuts (12) in air spring (7).
- (8) Connect two air hoses (13) to air fitting assembly (6).
- (9) Lower cab (TM 9-2320-366-10-1).
- (10) Inflate cab air springs (TM 9-2320-366-10-1).

NOTE

Step (11) requires the aid of an assistant.

- (11) Tighten four self-locking nuts (12) to 48-58 lb-ft (65-79 N•m).

- (12) Remove rear cab support assembly (8) from spare tire retainer (14).



NOTE

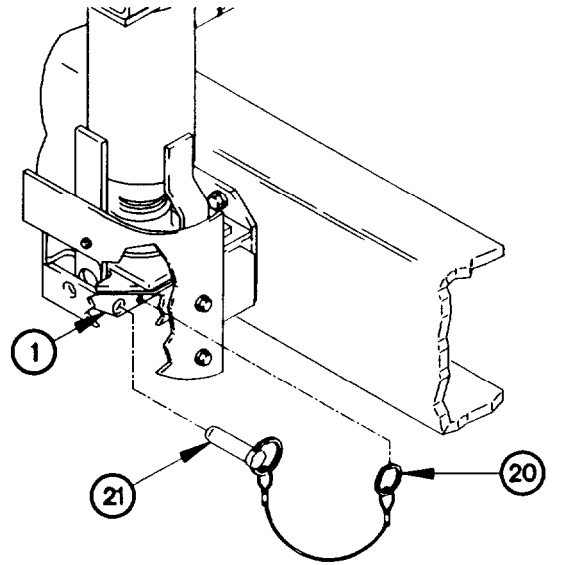
Dimension measured in step (13) should be 2.64-2.87 in. (6.7-7.3 cm). If measurement recorded in step (13) is not within limits, perform cab leveling valve adjustment (para 16-8) prior to installing stoneguard.

- (13) Measure distance from top surface of mounting bracket (1) to bottom edge of air spring (7).
- (14) Position stoneguard (15) on air spring (7) with two washers (16) and screws (17).
- (15) Position washer (18) and screw (19) in stoneguard (15).
- (16) Tighten two screws (17) and screw (19) to 48-60 lb-in. (5-7 N•m).

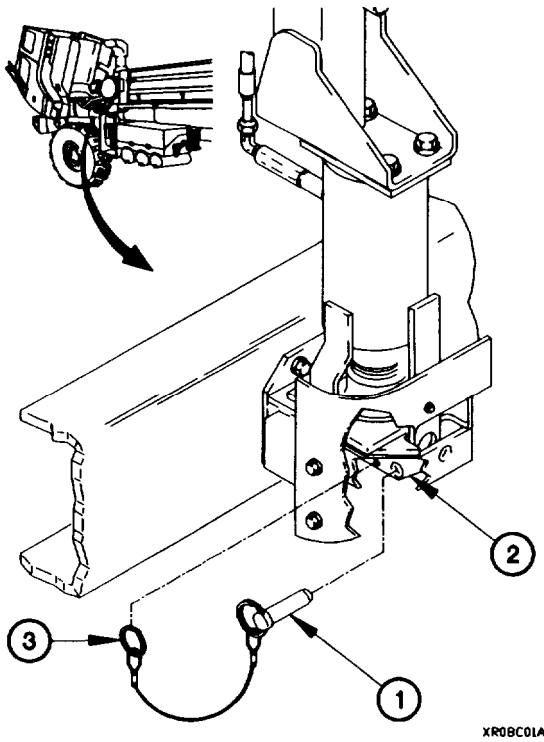
16-9. AIR SPRING AND BRACKET REPLACEMENT (CONT)

- (17) Install retaining ring (20) on mounting bracket (1).
- (18) Install quick release pin (21) in mounting bracket (1).

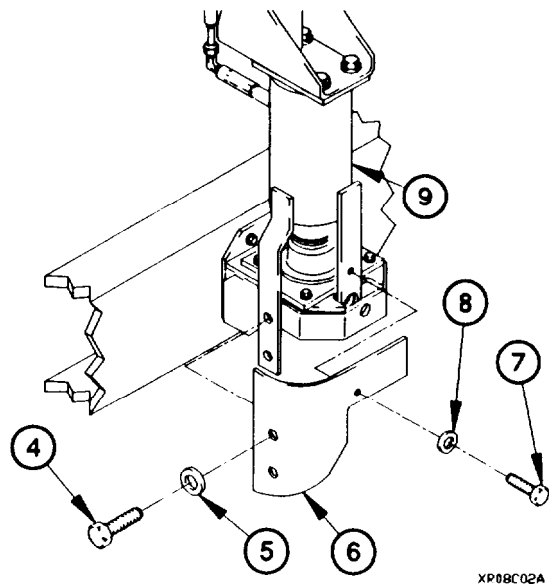
c. Left Air Spring and Bracket Removal.



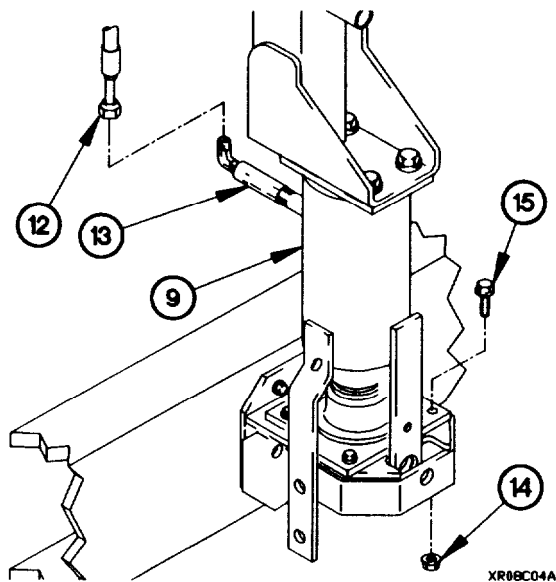
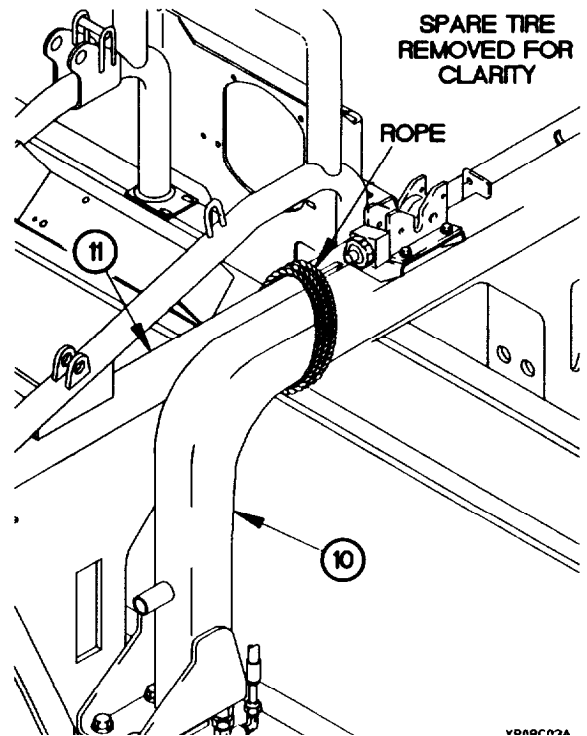
- (1) Remove quick release pin (1) from mounting bracket (2).
- (2) Remove retaining ring (3) from mounting bracket (2).



- (3) Remove screw (4) and washer (5) from stoneguard (6).
- (4) Remove two screws (7), washers (8), and stoneguard (6) from air spring (9).



- (5) Secure rear cab support assembly (10) to spare tire retainer (11).



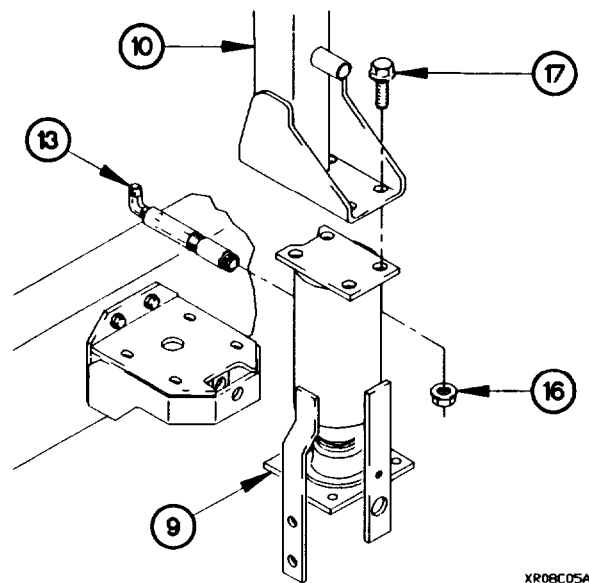
- (6) Disconnect air hose (12) from fitting (13).
- (7) Remove four self-locking nuts (14) and screws (15) from air spring (9). Discard self-locking nuts.

- (8) Remove four self-locking nuts (16), screws (17), and air spring (9) from rear cab support assembly (10). Discard self-locking nuts.

NOTE

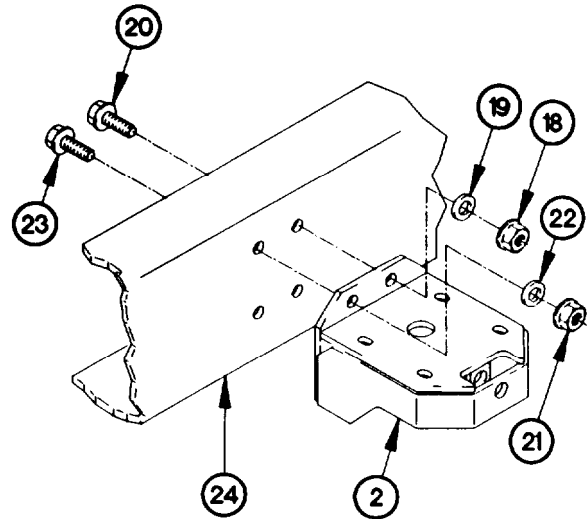
Note orientation of fitting prior to removal.

- (9) Remove fitting (13) from air spring (9).



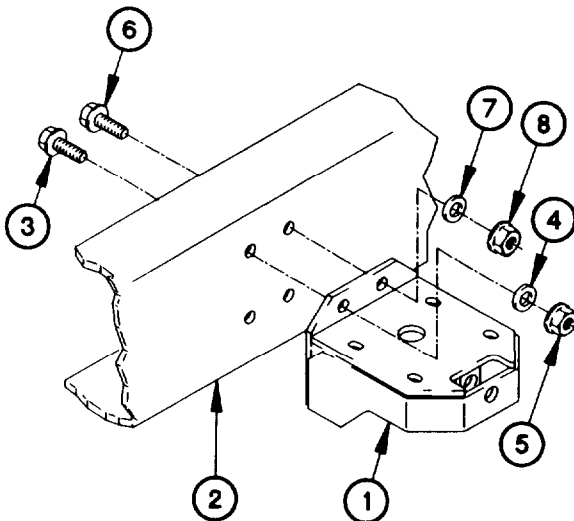
16-9. AIR SPRING AND BRACKET REPLACEMENT (CONT)

- (10) Remove three self-locking nuts (18), washers (19), and screws (20) from mounting bracket (2). Discard self-locking nuts.
- (11) Remove self-locking nut (21), washer (22), screw (23), and mounting bracket (2) from left frame rail (24). Discard self-locking nut.



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d. Left Air Spring and Bracket Installation.



XWJBOOLA

- (1) Position mounting bracket (1) on left frame rail (2) with screw (3), washer (4), and self-locking nut (5).
- (2) Position three screws (6), washers (7), and self-locking nuts (8) in mounting bracket (1).

NOTE

Step (3) requires the aid of an assistant.

- (3) Tighten self-locking nut (5) and three self-locking nuts (8) to 60-74 lb-ft (81-100 N•m).

WARNING

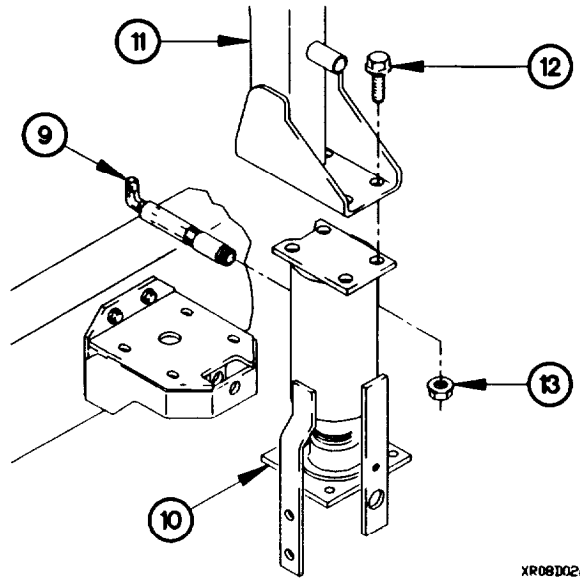
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

- (4) Apply antiseize compound to threads of fitting (9).
- (5) Install fitting (9) in air spring (10).
- (6) Position air spring (10) on rear cab support assembly (11) with four screws (12) and self-locking nuts (13).

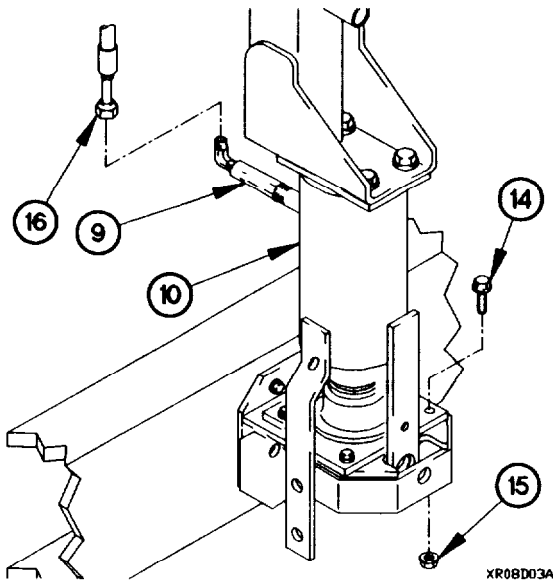
NOTE

Step (7) requires the aid of an assistant.

- (7) Tighten four self-locking nuts (13) to 48-58 lb-ft (65-79 N•m).



XR08D02A



XR08D03A

- (8) Position four screws (14) and self-locking nuts (15) in air spring (10).
- (9) Connect air hose (16) to fitting (9).
- (10) Lower cab (TM 9-2320-366-10-1).
- (11) Inflate cab air springs (TM 9-2320-366-10-1).

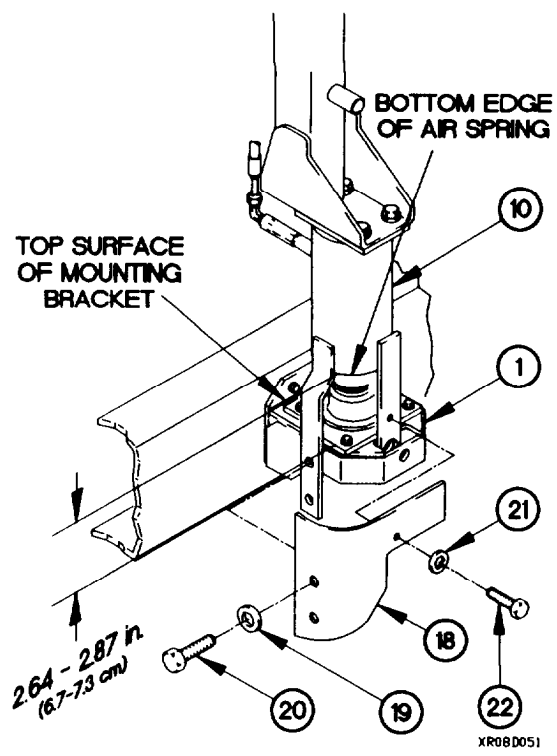
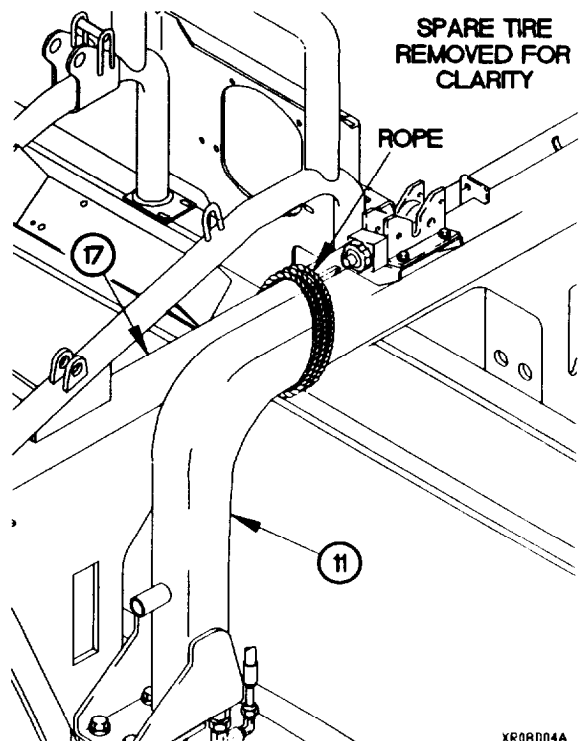
NOTE

Step (12) requires the aid of an assistant.

- (12) Tighten four self-locking nuts (15) to 48-58 lb-ft (65-79 N•m).

16-9. AIR SPRING AND BRACKET REPLACEMENT (CONT)

(13) Remove rear cab support assembly (11) from spare tire retainer (17).



NOTE

Dimension measured in step (14) should be 2.64-2.87 in. (6.7-7.3 cm). If measurement recorded in step (14) is not within limits, perform cab leveling valve adjustment (para 16-8) prior to installing stoneguard.

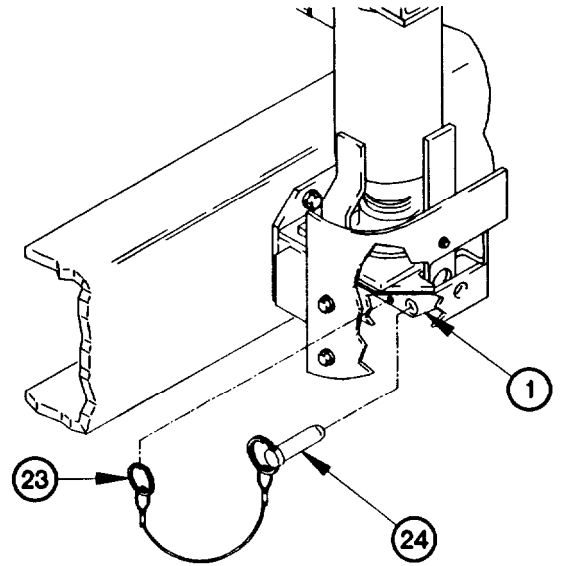
- (14) Measure distance from top surface of mounting bracket (1) to bottom edge of air spring (10).
- (15) Position stoneguard (18) on air spring (10) with two washers (19) and screws (20).
- (16) Position washer (21) and screw (22) in stoneguard (18).
- (17) Tighten two screws (20) and screw (22) to 48-60 lb-in. (5-7 N•m).

- (18) Install retaining ring (23) on mounting bracket (1).
- (19) Install quick release pin (24) in mounting bracket (1).

e. Follow-On Maintenance.

- (1) Start engine (TM 9-2320-366-10-1).
- (2) Check around air springs and fittings for air leaks.
- (3) Shut down engine (TM 9-2320-366-10-1).

End of Task.



XR0BD06A

16-10. M1089 UNDERPLATE, SPLASH GUARD, AND BRACKETS REPLACEMENT

This task covers:

- | | |
|---|---|
| <ul style="list-style-type: none"> a. Underplate Removal b. Underplate Installation c. Left Front/Left Rear Bracket Removal d. Left Front/Left Rear Bracket Installation e. Right Front Bracket Removal f. Right Front Bracket Installation | <ul style="list-style-type: none"> g. Right Rear Bracket Removal h. Right Rear Bracket Installation i. Splash Guard Removal j. Splash Guard Installation k. Upper Bracket Removal l. Upper Bracket Installation |
|---|---|

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-100-1).

Tools and Special Tools

Goggles, Industrial (Item 15, Appendix C)
 Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

Nut, Self-Locking (6) (Item 134, Appendix G)
 Nut, Self-Locking (3) (Item 148, Appendix G)
 Lockwasher (Item 108, Appendix G)
 Lockwasher (Item 109, Appendix G)

Personnel Required

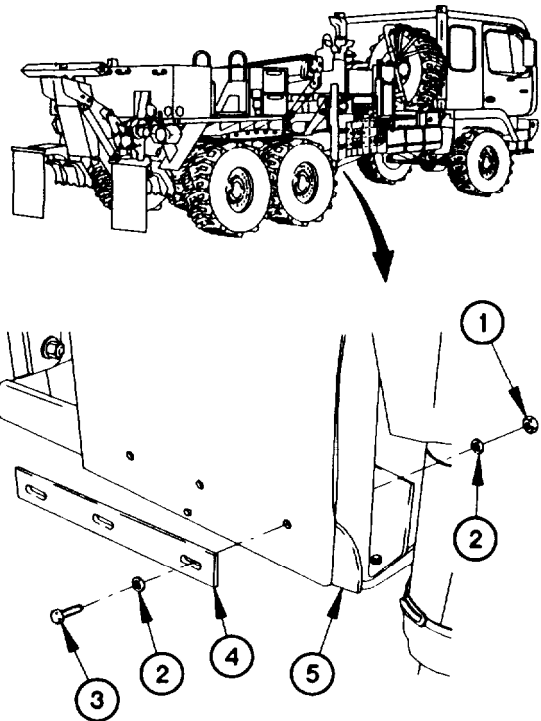
(2)



Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Underplate Removal.

- (1) Remove three self-locking nuts (1), six washers (2), three screws (3), and guard support (4) from underplate (5). Discard self-locking nuts.

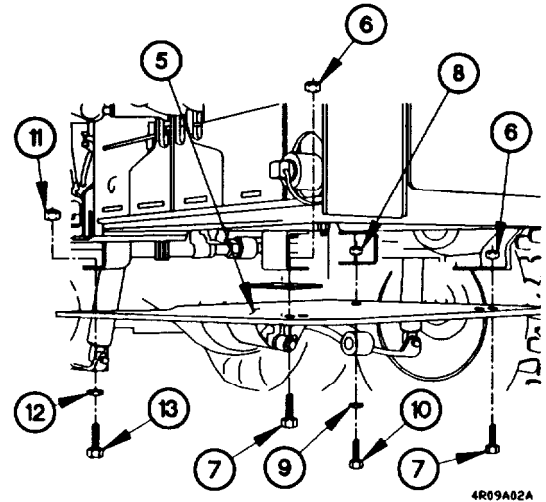


4R09A01A

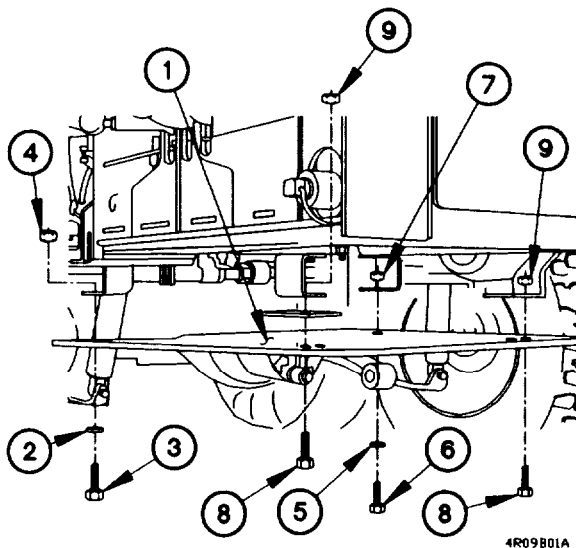
NOTE

Steps (2) through (4) require the aid of an assistant.

- (2) Remove two self-locking nuts (6), and bolts (7) from underplate (5). Discard self-locking nuts.
- (3) Remove nut (8), lockwasher (9), and bolt (10) from underplate (5). Discard lockwasher.
- (4) Remove nut (11), lockwasher (12) and bolt (13) from underplate (5). Discard lockwasher.



b. Underplate Installation.



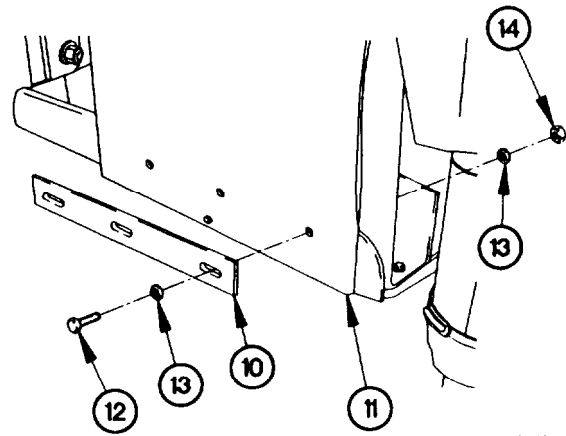
NOTE

Steps (1) through (3) require the aid of an assistant.

- (1) Position underplate (1) on vehicle with lockwasher (2), bolt (3) and nut (4).
- (2) Position lockwasher (5), bolt (6), and nut (7) in underplate (1).
- (3) Position two bolts (8) and self-locking nuts (9) in underplate (1).
- (4) Tighten nuts (4), (7), and two self-locking nuts (9) to 36-43 lb-ft (49-58 N•m).

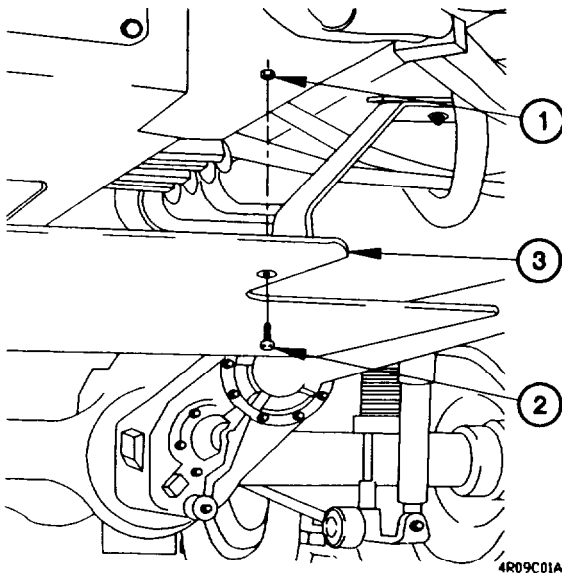
16-10. M1089 UNDERPLATE, SPLASH GUARD, AND BRACKETS REPLACEMENT (CONT)

(5) Install guard support (10) on splash guard (11) with three screws (12), six washers (13), and three self-locking nuts (14).



4R09B02A

c. Left Front/Left Rear Bracket Removal.



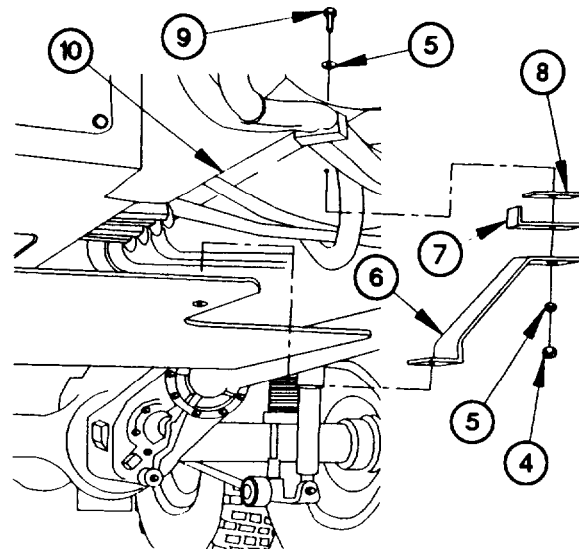
4R09C01A

NOTE

Front and rear brackets are removed the same way. Left front bracket shown.

(1) Remove self-locking nut (1) and screw (2) from underplate (3). Discard self-locking nut.

(2) Remove self-locking nut (4), washer (5), bracket (6), clamping plate (7), top plate (8), screw (9), and washer (5) from frame rail (10). Discard self-locking nut.



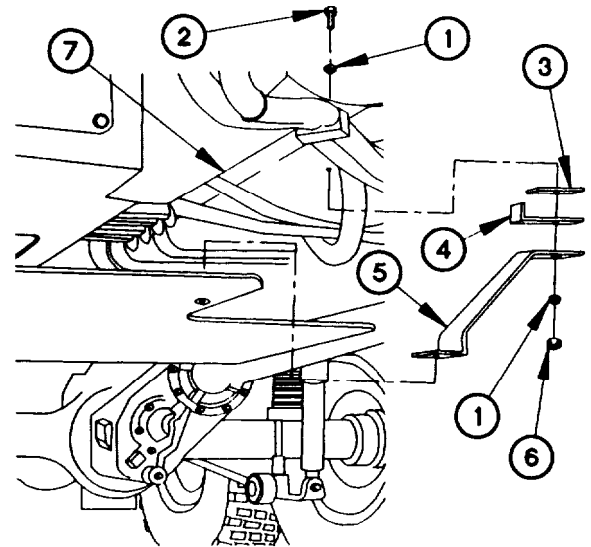
4R09C02A

d. Left Front/Left Rear Bracket Installation.

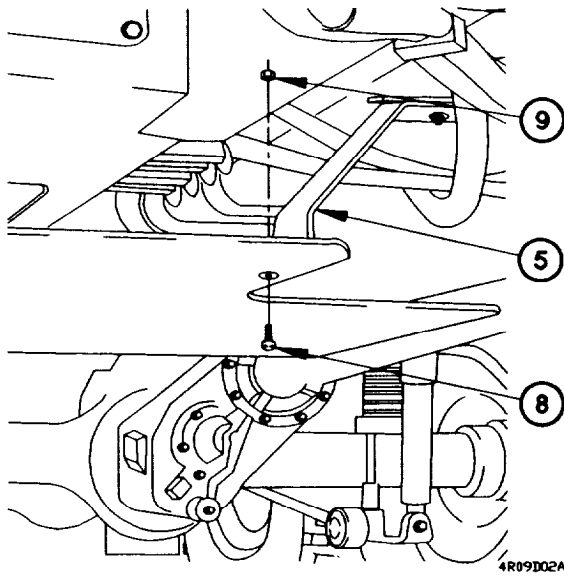
NOTE

Front and rear brackets are installed the same way. Left front bracket shown.

- (1) Install washer (1), screw (2), top plate (3), clamping plate (4), bracket (5), washer (1), and self-locking nut (6) on frame rail (7).



4R09D01A

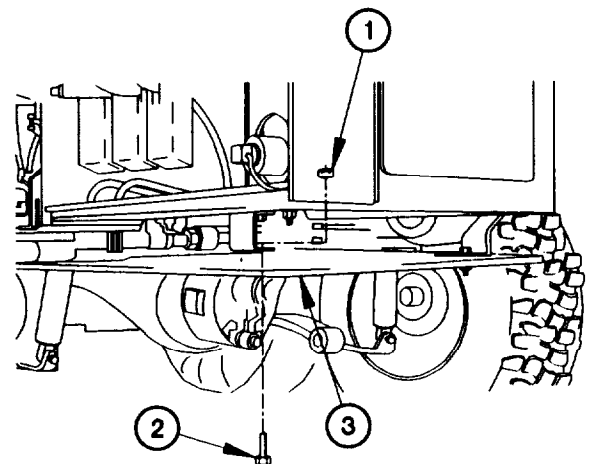


4R09D02A

- (2) Position screw (8) and self-locking nut (9) in bracket (5).
- (3) Tighten self-locking nut (9) to 36-43 lb-ft (49-58 N•m).

e. Right Front Bracket Removal.

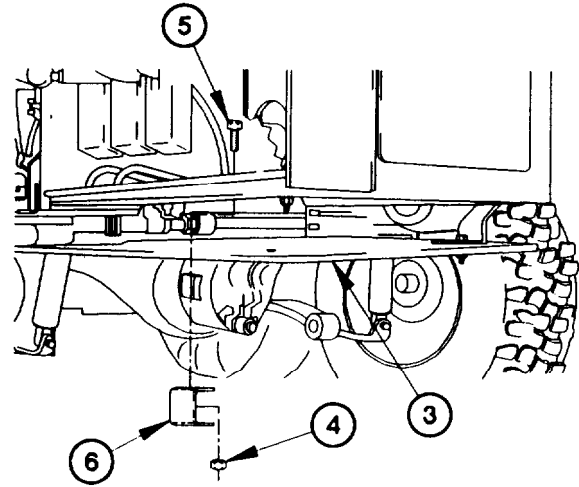
- (1) Control panel covers removed (para 17-20).
- (2) Remove self-locking nut (1) and screw (2) from underplate (3). Discard self-locking nut.



4R09E01A

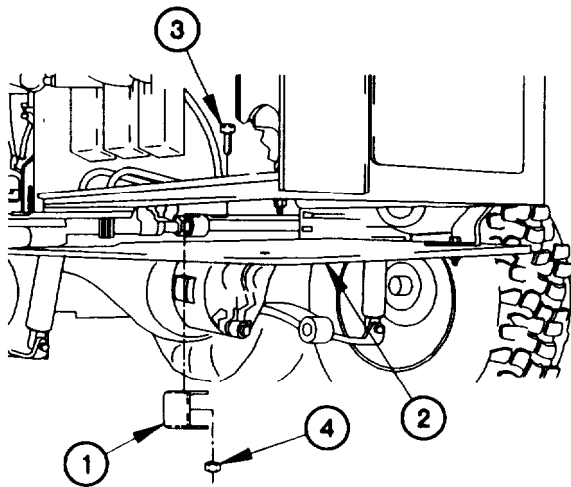
16-10. M1089 UNDERPLATE, SPLASH GUARD, AND BRACKETS REPLACEMENT (CONT)

- (3) Remove self-locking nut (4), screw (5), and bracket (6) from underplate (3). Discard self-locking nut.



4R09E02A

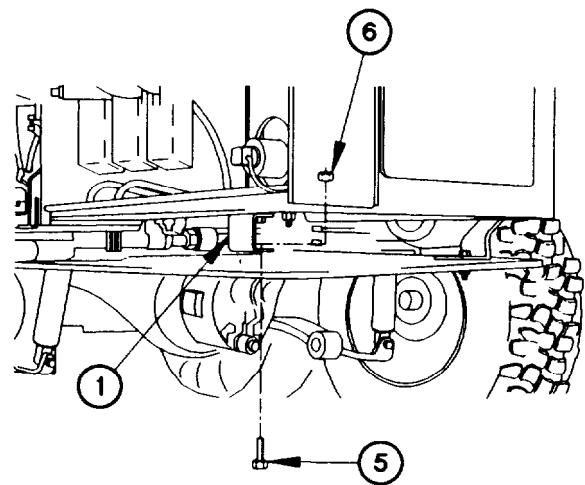
1. Right Front Bracket Installation.



4R09O1A

- (1) Position bracket (1) on underplate (2) with screw (3) and self-locking nut (4).
 (2) Tighten self-locking nut (4) to 36-43 lb-ft (49-58 N•m).

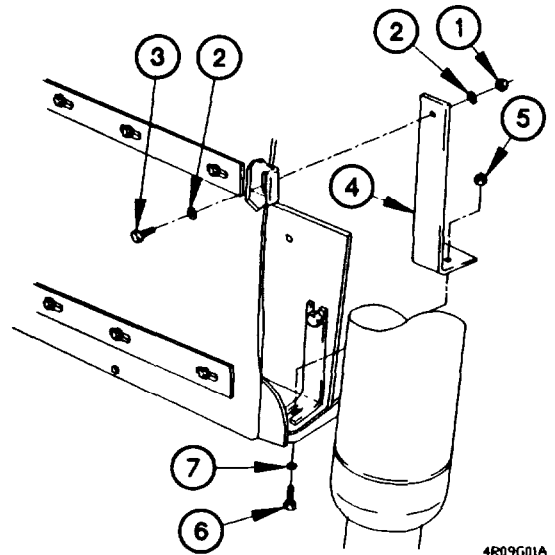
- (3) Position screw (5) and self-locking nut (6) in bracket (1).
 (4) Tighten self-locking nut (6) to 36-43 lb-ft (49-58 N•m).
 (5) Install control panel covers (para 17-20).



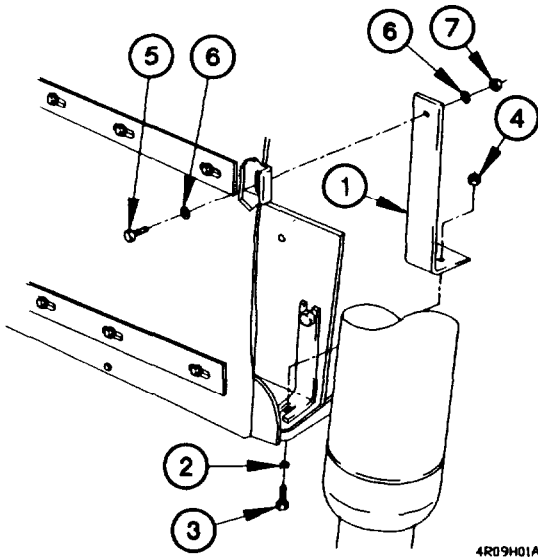
4R09F02A

g. Right Rear Bracket Removal.

- (1) Remove self-locking nut (1), two washers (2), and screw (3) from bracket (4). Discard self-locking nut.
- (2) Remove nut (5), screw (6), and washer (7) and bracket (4) from vehicle. Discard lockwasher.



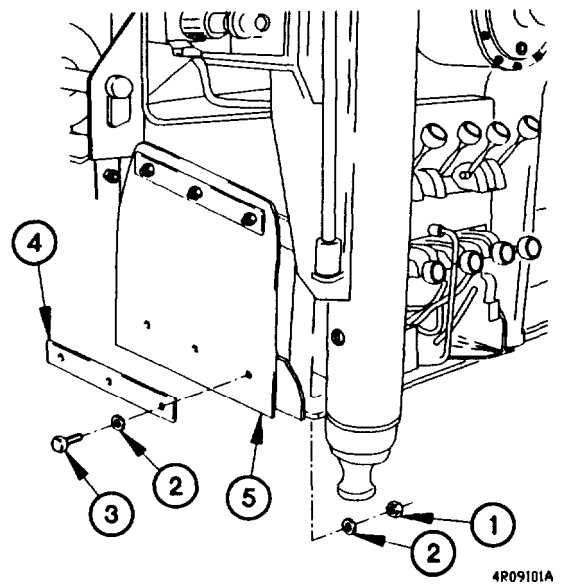
h. Right Rear Bracket Installation.



- (1) Install bracket (1) on vehicle with lockwasher (2), screw (3), and nut (4) in bracket (1).
- (2) Position screw (5), two washers (6), and self-locking nut (7) in bracket (1).
- (3) Tighten self-locking nut (7) to 36-42 lb-ft (49-58 N•m).

i. Splash Guard Removal.

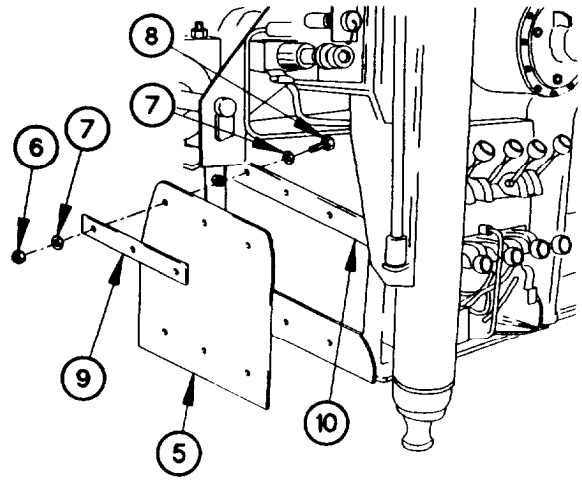
- (1) Remove three self-locking nuts (1), six washers (2), three screws (3), and guard support (4) from splash guard (5). Discard self-locking nuts.



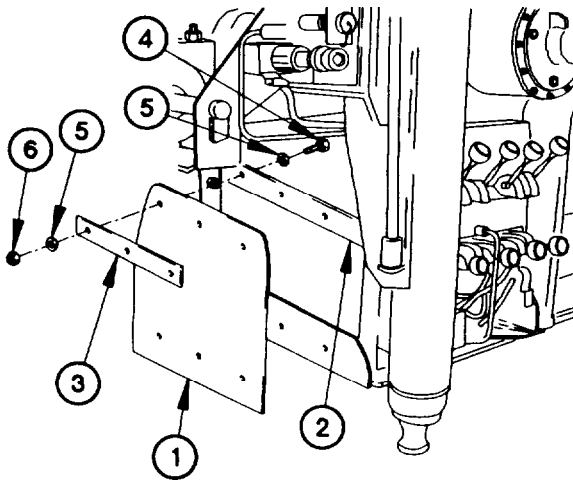
16-10. M1089 UNDERPLATE, SPLASH GUARD, AND BRACKETS REPLACEMENT (CONT)

- (2) Remove three self-locking nuts (6), six washers (7), three screws (8), guard support (9), and splash guard (5) from upper bracket (10). Discard self-locking nuts.

j. Splash Guard Installation.



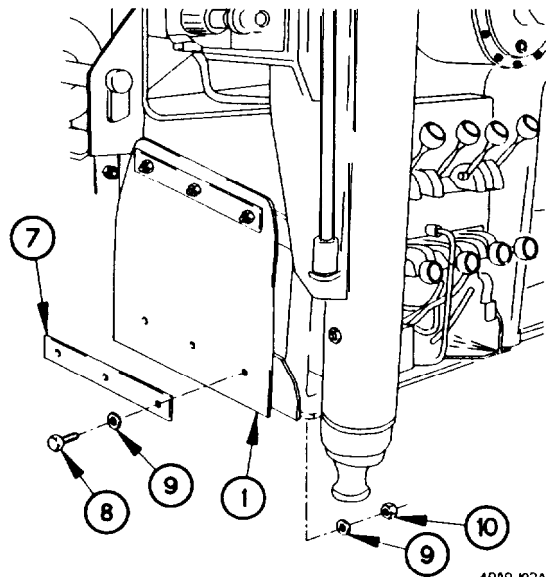
4R09I02A



4R09J01A

- (1) Install splash guard (1) on upper bracket (2) with guard support (3), three screws (4), six washers (5), and three self-locking nuts (6).

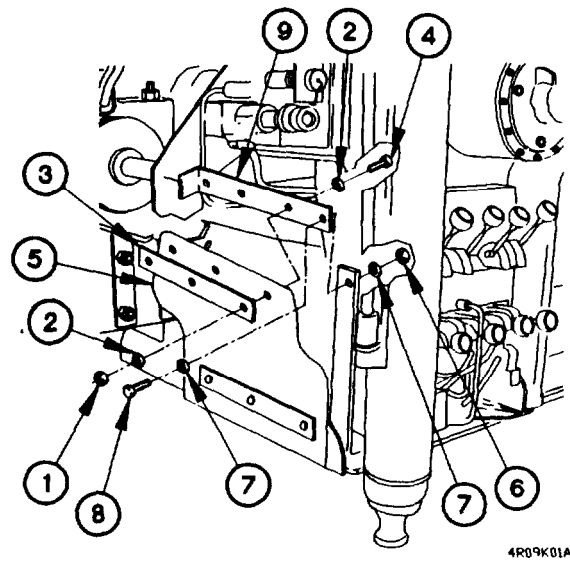
- (2) Install guard support (7) on splash guard (1) with three screws (8), six washers (9), and three self-locking nuts (10).



4R09J02A

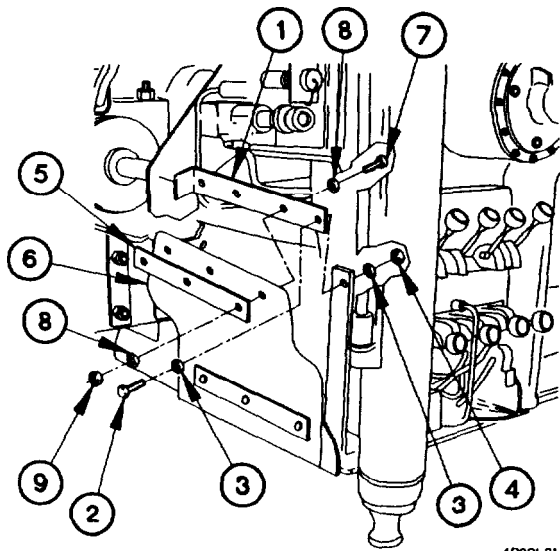
k. Upper Bracket Removal.

- (1) Remove three self-locking nuts (1), six washers (2), guard support (3), and three screws (4) from splash guard (5). Discard self-locking nuts.
- (2) Remove self-locking nut (6), two washers (7), screws (8), and guard support (9) from vehicle. Discard self-locking nuts.



4R09K01A

l. Upper Bracket Installation.



4R09L01A

- (1) Position guard support (1) on vehicle with screw (2), two washers (3), and self-locking nut (4).
- (2) Tighten self-locking nut (4) to 88-106 lb-ft (119-144 N•m).
- (3) Install guard support (5) and splash guard (6) on vehicle with three screws (7), six washers (8), and three self-locking nuts (9).

End of Task.

16-11. FENDER AND SPLASH GUARD REPLACEMENT

This task covers:

- | | |
|---|---|
| <ul style="list-style-type: none"> a. Front Fender Removal (All Models Except M1093/M1094) b. Front Fender Installation (All Models Except M1093/M1094) c. Engine Splash Guard Removal d. Engine Splash Guard Installation e. M1063/M1093 Rear Splash Guard Removal f. M1083/M1093 Rear Splash Guard Installation g. M1064 Rear Splash Guard Removal h. M1084 Rear Splash Guard Installation i. M1084 Rear Fender Removal j. M1084 Rear Fender Installation k. M1085/M1086 Rear Splash Guard Removal l. M1085/M1086 Rear Splash Guard Installation m. M1085/M1086 Rear Fender Removal n. M1085/M1086 Rear Fender Installation o. M1088 Rear Splash Guard and Mounting Bracket Removal p. M1088 Rear Splash Guard and Mounting Bracket Installation q. M1088 Rear Fender Removal r. M1088 Rear Fender Installation | <ul style="list-style-type: none"> s. M1089 Rear Splash Guard Removal t. M1089 Rear Splash Guard Installation u. M1089 Rear Fender Removal v. M1089 Rear Fender Installation w. M1090 Rear Splash Guard Removal x. M1090 Rear Splash Guard Installation y. M1090/M1094 Rear Fender and Bracket Removal t. M1090/M1094 Rear Fender and Bracket Installation aa. M1093/M1094 Front Fender Removal ab. M1093/M1094 Front Fender Installation ac. M1093/M1094 Engine Splash Guard Removal ad. M1093/M1094 Engine Splash Guard Installation ae. M1090/M1094 Splash Guard Removal af. M1090/M1094 Splash Guard Installation ag. M1083/M1084/M1085/M1086 Splash Guard Removal ah. M1083/M1084/M1085/M1086 Splash Guard Installation ai. Follow-On Maintenance |
|---|---|

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).
 Windshield washer reservoir removed (for left front Fender) (para 18-2).
 Warning and Caution placards removed, if required (Chap 2).
 Ladder removed (M1090/M1094) (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Goggles, Industrial (Item 15, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
 Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
 Tool Kit, Blind Rivet (Item 44, Appendix C)

Tools and Special Tools

Drill Set, Twist (Item 6, Appendix C)
 Drill, Portable, Electric (Item 7, Appendix C)
 Socket Set, Socket Wrench (Item 36, Appendix C)

Materials/Parts

Nut, Self-Locking (11) (Item 167, Appendix G)
 Nut, Self-Locking (3) (Item 128, Appendix G)
 Rivet, Blind (17) (Item 252, Appendix G)
 Nut, Self-Locking (7) (Item 154, Appendix G)
 Nut, Self-Locking (2) (Item 161, Appendix G)
 Nut, Self-Locking (5) (Item 134, Appendix G)
 Nut, Self-Locking (4) (Item 146, Appendix G)
 Lockwasher (Item 114, Appendix G)

Personnel Required

(2)

WARNING

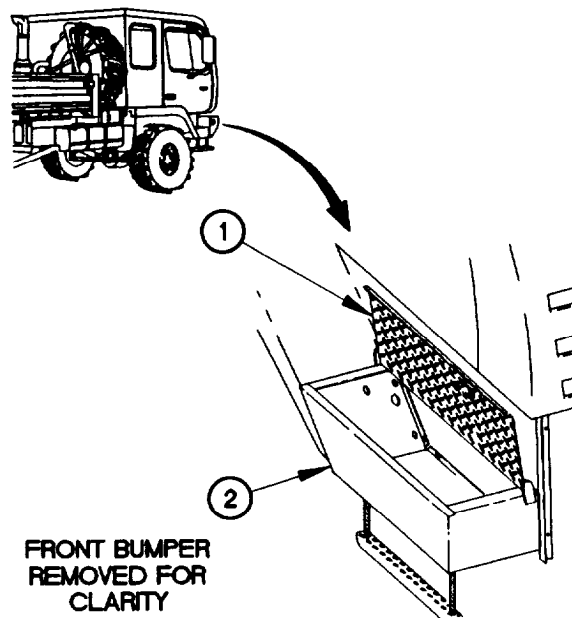
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Front Fender Removal (All Models Except M1093/M1094).

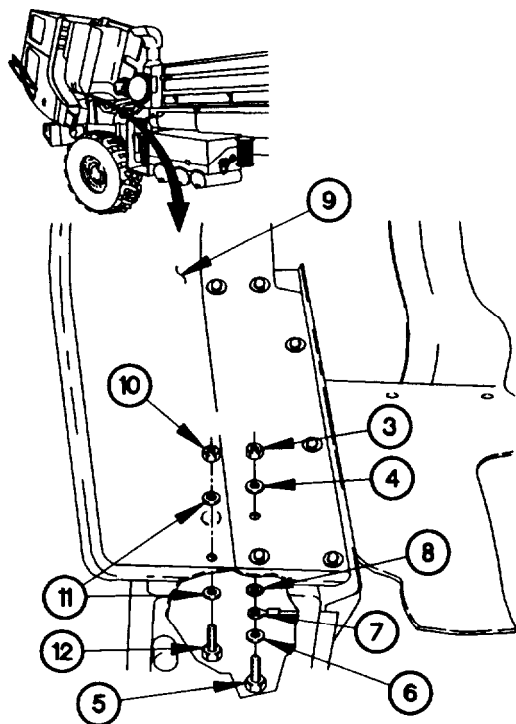
NOTE

Perform step (1) on right side.

- (1) Open cab step tread (1) on cab step (2).
- (2) Raise cab (TM 9-2320-366-10-1).



XR10A011



XR10A021

NOTE

Perform steps (3) and (4) on left side.

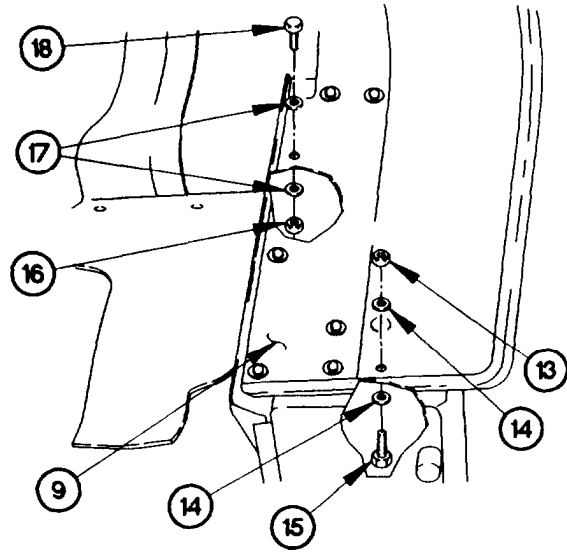
- (3) Remove self-locking nut (3), washer (4), screw (5), washer (6), terminal lug TL94 (7), and lockwasher (8) from front fender (9). Discard self-locking nut and lockwasher.
- (4) Remove three self-locking nuts (10), six washers (11), and three screws (12) from front fender (9). Discard self-locking nuts.

16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

NOTE

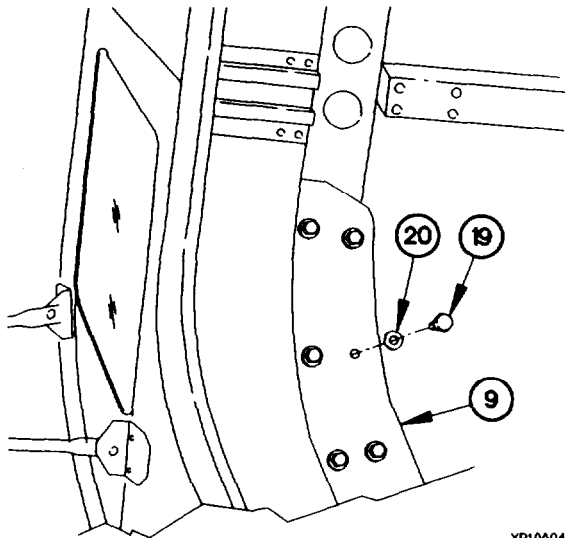
Perform step (5) on right side.

- (5) Remove four self-locking nuts (13), eight washers (14), and four screws (15) from front fender (9). Discard self-locking nuts.
- (6) Remove three self-locking nuts (16), six washers (17), and three screws (18) from front fender (9). Discard self-locking nuts.



XR10A03A

- (7) Remove six screws (19) and washers (20) from front fender (9).

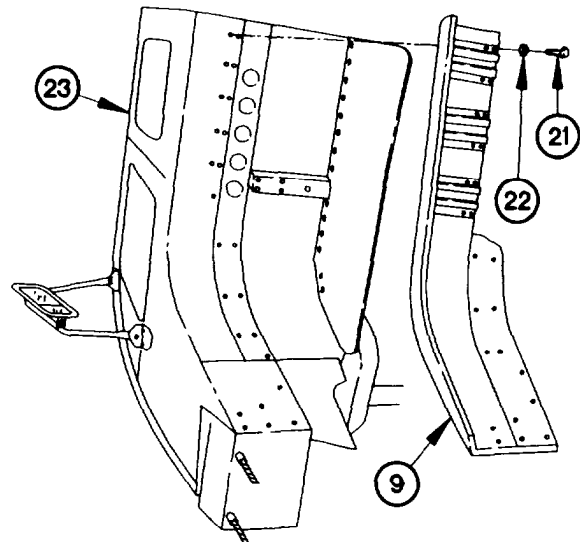


XR10A04A

NOTE

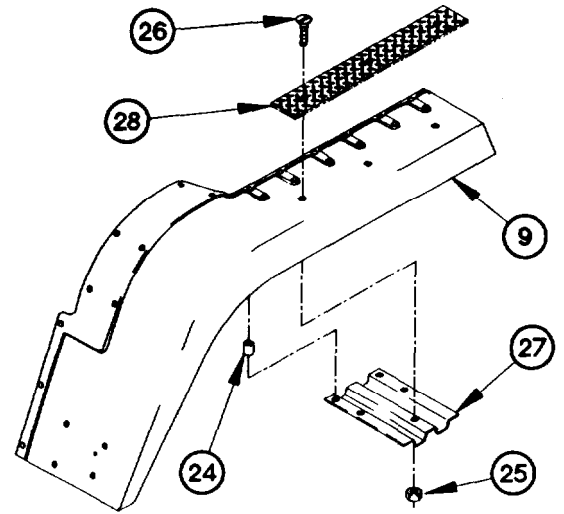
Step (8) requires the aid of an assistant.

- (8) Remove 12 screws (21), washers (22), and front fender (9) from cab (23).



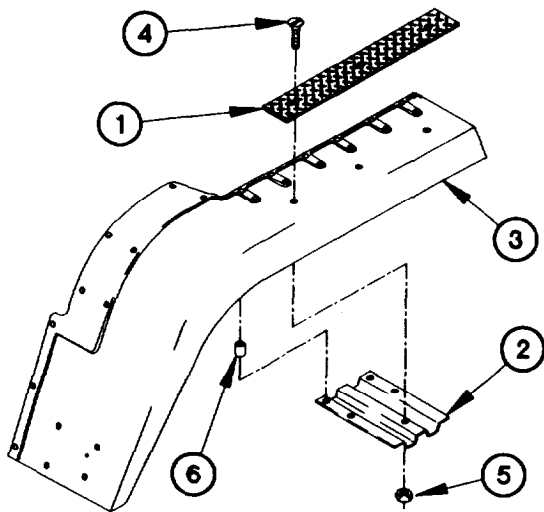
XR10A05A

- (9) Remove 12 spacers (24) from front fender (9).
- (10) Remove three self-locking nuts (25), screws (26), brackets (27) and step (28) from front fender (9). Discard self-locking nuts.



XR10A06A

b. Front Fender Installation (All Models Except M1093/M1094).



XR10B01A

NOTE

Left and right front fenders are installed the same way. Left side shown.

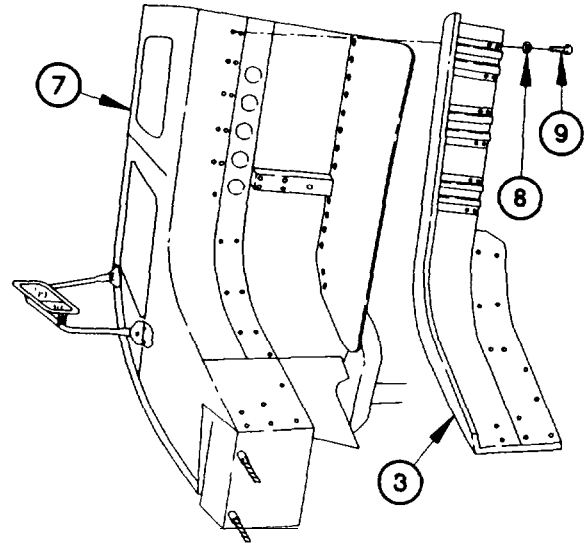
- (1) Position step (1) and three brackets (2) on front fender (3) with three screws (4) and self-locking nuts (5).
- (2) Tighten three self-locking nuts (5) to 18-22 lb-ft (24-30 N•m).
- (3) Install 12 spacers (6) in front fender (3).

16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

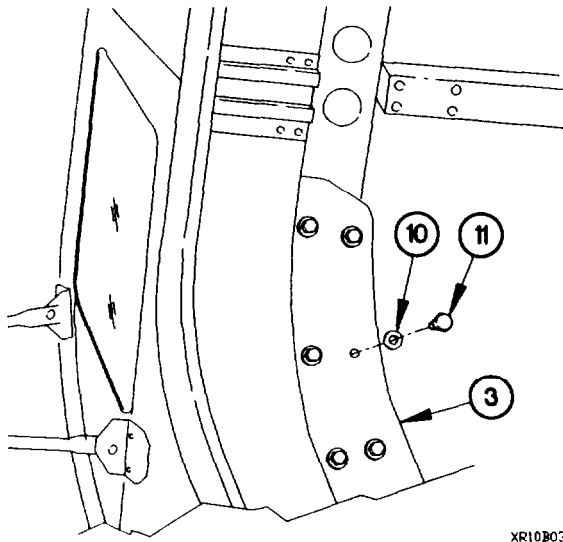
NOTE

Step (4) requires the aid of an assistant.

- (4) Position front fender (3) on cab (7) with 12 washers (8) and screws (9).
- (5) Tighten 12 screws (9) to 18-22 lb-ft (24-30 N•m).



XR10B02A



XR10B03A

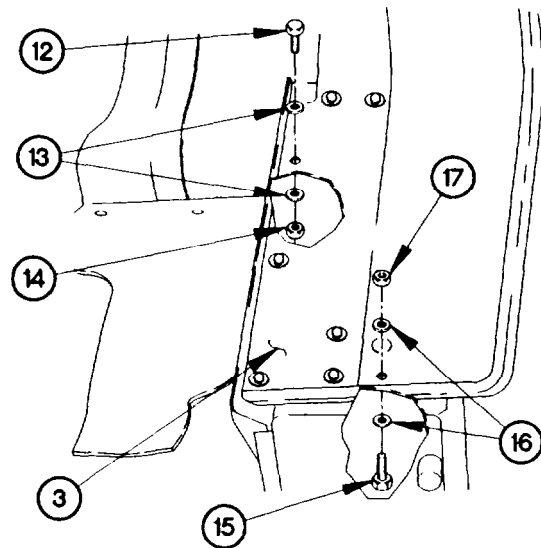
- (6) Position six washers (10) and screws (11) in front fender (3).
- (7) Tighten six screws (11) to 18-22 lb-ft (24-30 N•m).

- (8) Position three screws (12), six washers (13), and three self-locking nuts (14) in front fender (3).
- (9) Tighten three self-locking nuts (14) to 18-22 lb-ft (24-30 N•m).

NOTE

Perform steps (10) and (11) on right side.

- (10) Position four screws (15) eight washers (16) and four self-locking nuts (17) in front fender (3).
- (11) Tighten four self-locking nuts (17) to 18-22 lb-ft (24-30 N•m).

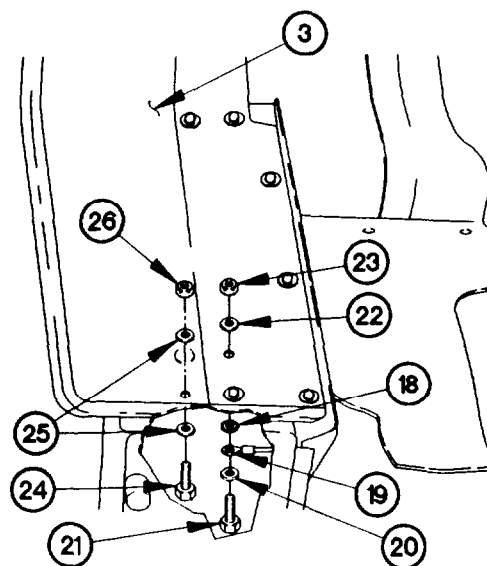


XR10B04A

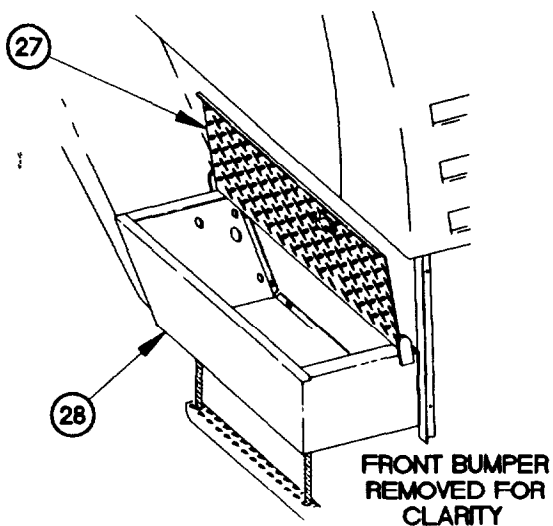
NOTE

Perform steps (12) through (14) on left side.

- (12) Position lockwasher (18) and terminal lug TL94 (19) on front fender (3) with washer (20), screw (21), washer (22), and self-locking nut (23).
- (13) Position three screws (24), six washers (25), and three self-locking nuts (26) in front fender (3).
- (14) Tighten self-locking nut (23) and three self-locking nuts (26) to 18-22 lb-ft (24-30 N•m).



XR10B051



XR10B061

NOTE

Perform step (15) on right side.

- (15) Close cab step tread (27) on cab step (28).
- (16) Lower cab (TM 9-2320-366-10-1).

c. Engine Splash Guard Removal.

- (1) Raise cab (TM 9-2320-366-10-1).

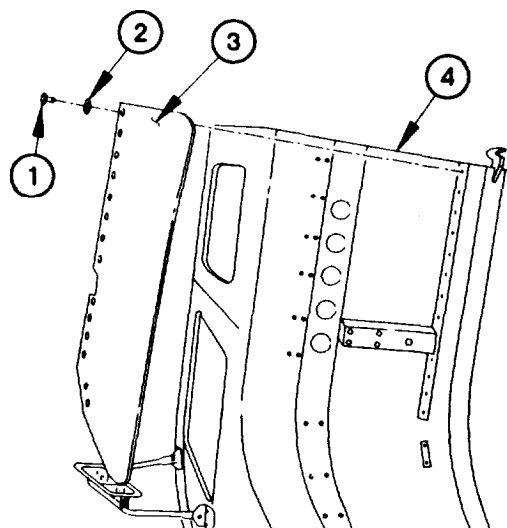


Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

NOTE

Left and right engine splash guards are removed the same way. Left side shown.

- (2) Remove 14 rivets (1), washers (2), and engine splash guard (3) from cab (4).



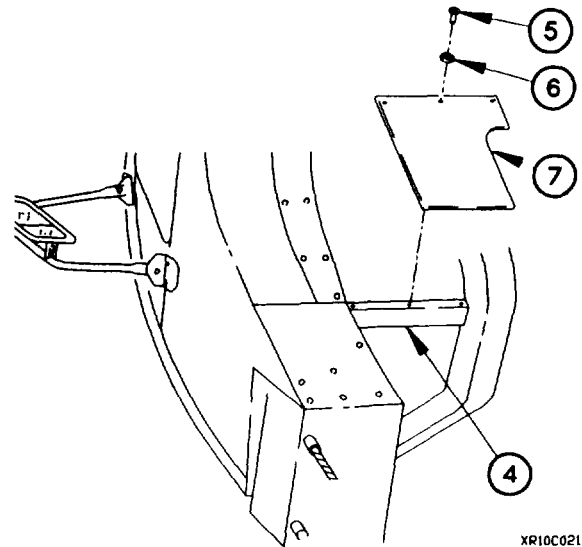
XR10C011

16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

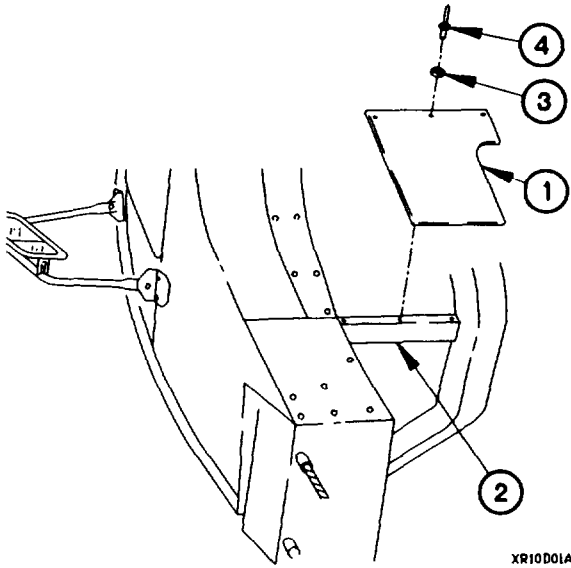
WARNING

Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

- (3) Remove three rivets (5), washers (6), and engine splash guard (7) from cab (4).



d. Engine Splash Guard Installation.



NOTE

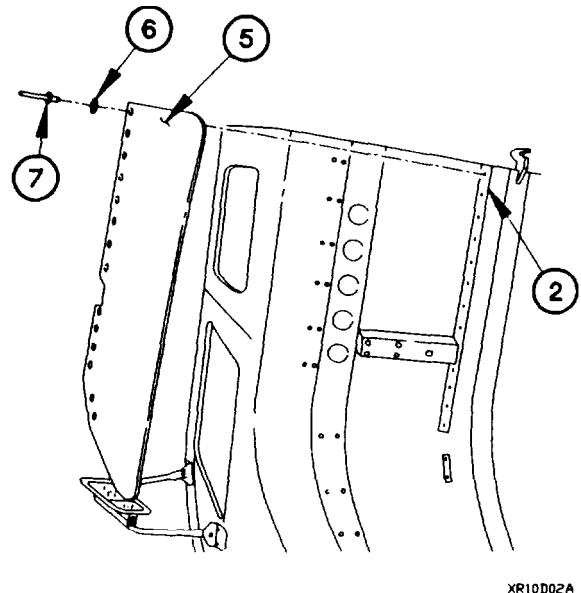
Left and right engine splash guards are installed the same way. Left side shown.

- (1) Install engine splash guard (1) on cab (2) with three washers (3) and rivets (4).

NOTE

Step (2) requires the aid of an assistant.

- (2) Install engine splash guard (5) on cab (2) with 14 washers (6) and rivets (7).
- (3) Lower cab (TM 9-2320-366-10-1).

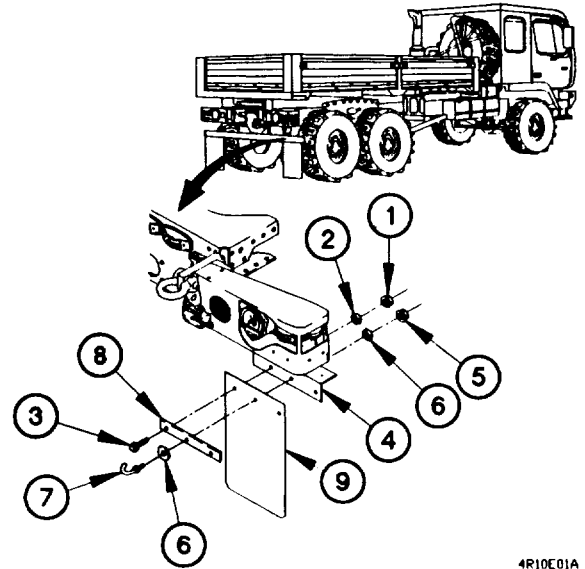


e. M1083/M1093 Rear Splash Guard Removal.

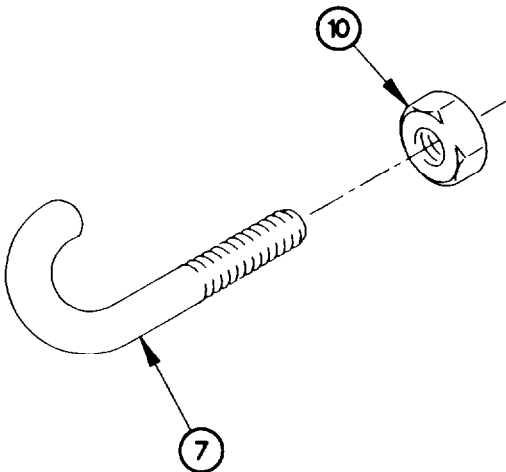
NOTE

Left and right rear splash guards are removed the same way. Right side shown.

- (1) Remove two nuts (1), washers (2) and screws (3) from bracket (4).
- (2) Remove nut (5), two washers (6), hook (7), plate (8), and rear splash guard (9) from bracket (4).



4R10E01A



4R10E02A

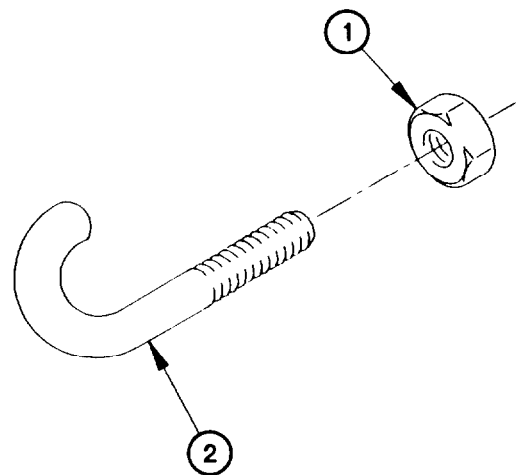
- (3) Remove nut (10) from hook (7).

f. M1083/M1093 Rear Splash Guard Installation.

NOTE

Left and right rear splash guards are installed the same way. Right side shown.

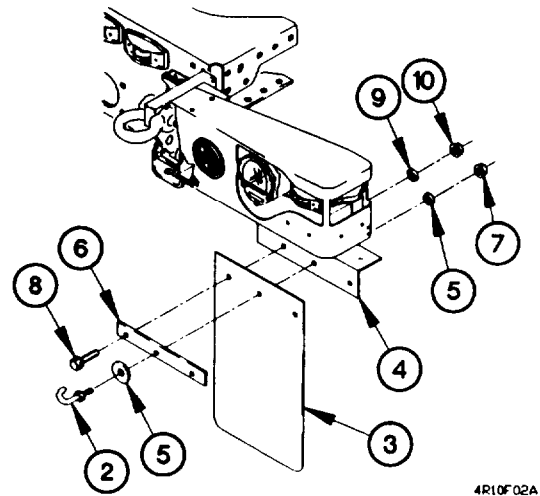
- (1) Install nut (1) on hook (2) to bottom of threads.



4R10F01A

16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

- (2) Position rear splash guard (3) on bracket (4) with hook (2), washer (5), plate (6), washer (5), and nut (7).
- (3) Position two screws (8), washers (9), and nuts (10) on bracket (4).
- (4) Tighten nut (7) and two nuts (10) to 18-22 lb-ft (24-30 N•m).



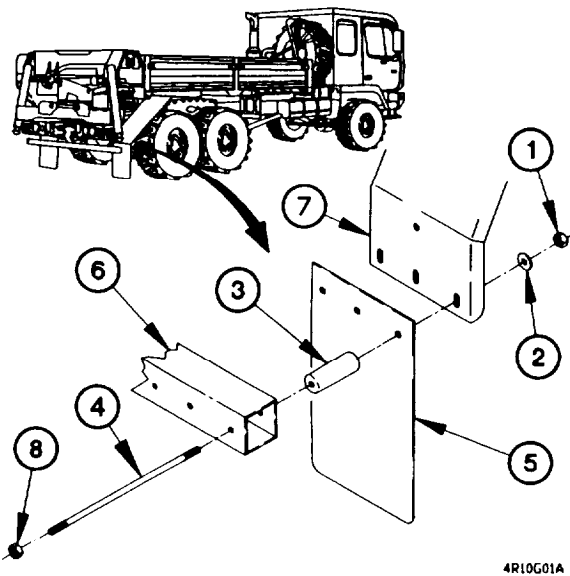
4R10F02A

NOTE

Text right rear splash guards are removed the same way. Right side shown.

- (1) Remove three nuts (1), washers (2), spacers (3), rods (4), and rear splash guard (5) from bumper (6) and fender (7).
- (2) Remove three nuts (8) from rods (4).

g. M1084 Rear Splash Guard Removal.



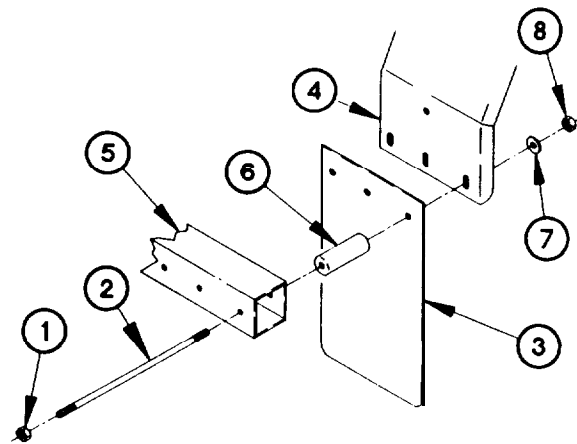
4R10G01A

h. M1094 Rear Splash Guard Installation.

NOTE

Left and right rear splash guards are installed the same way. Right side shown.

- (1) Position three nuts (1) on rods (2).
- (2) Position rear splash guard (3) between fender (4) and bumper (5) with three rods (2), spacers (6), washers (7), and nuts (8).
- (3) Tighten three nuts (8) to 18-22 lb-ft (24-30 N•m).



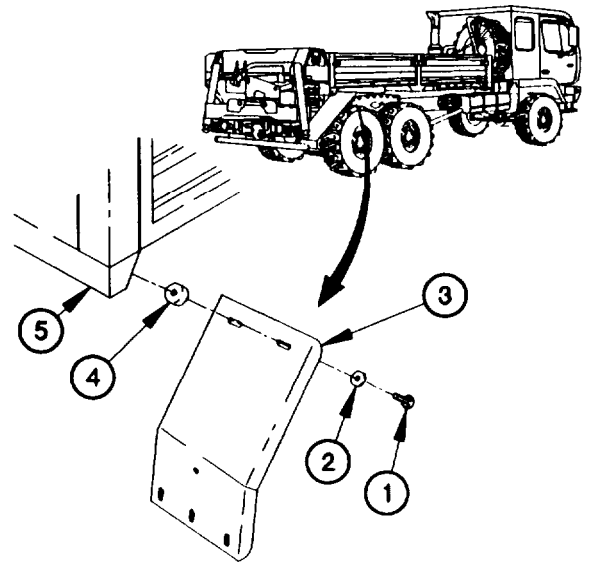
4R10H01A

i. M1084 Rear Fender Removal.

NOTE

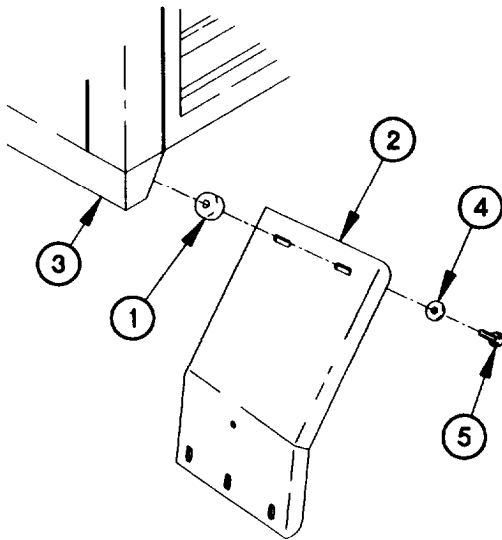
Left and right rear fenders are removed the same way. Right side shown.

Remove two screws (1), washers (2), rear fender (3), and two resilient mounts (4) from mounting plate (5).



4R10101A

j. M1084 Rear Fender Installation.



4R10J01A

NOTE

Left and right rear fenders are installed the same way. Right side shown.

(1) Position two resilient mounts (1) and rear fender (2) on mounting plate (3) with two washers (4) and screws (5).

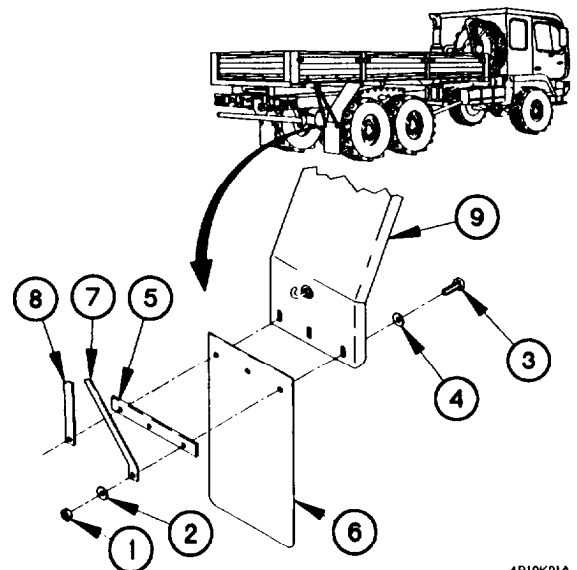
(2) Tighten two screws (5) to 18-22 lb-ft (24-30 N•m).

k. M1085/M1086 Rear Splash Guard Removal.

NOTE

Left and right rear splash guards are removed the same way. Right side shown.

Remove three self-locking nuts (1), washers (2), screws (3), washers (4), plate (5), and rear splash guard (6) from brackets (7 and 8) and rear fender (9). Discard self-locking nuts.



4R10K01A

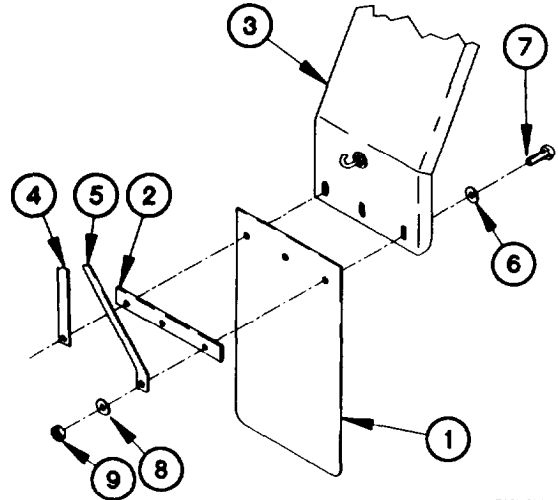
16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

I. M1085/M1086 Rear Splash Guard Installation.

NOTE

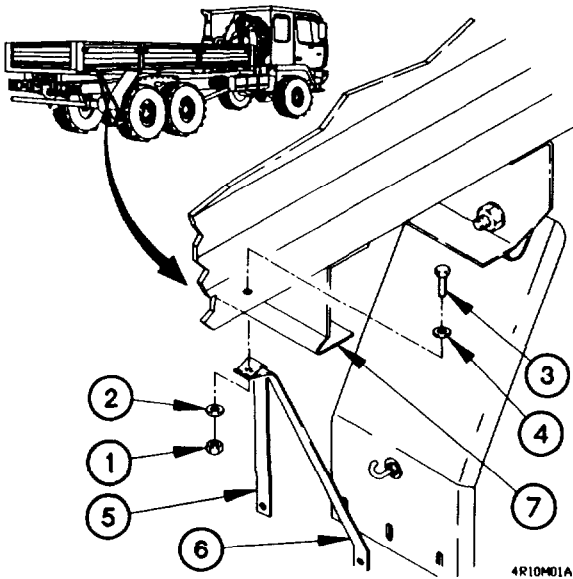
Left and right rear splash guards are installed the same way. Right side shown.

- (1) Position rear splash guard (1) and plate (2) between rear fender (3) and brackets (4 and 5) with three washers (6), screws (7), washers (8), and self-locking nuts (9).
- (2) Tighten three self-locking nuts (9) to 18-22 lb-ft (24-30 N•m).



4R10L01A

m. M1085/M1086 Rear Fender Removal.



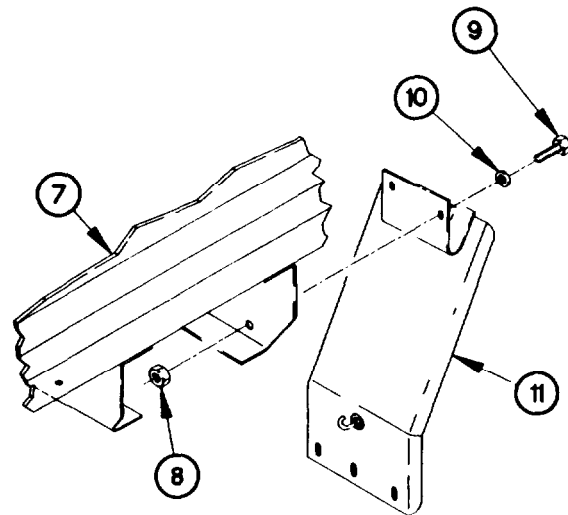
4R10M01A

NOTE

Left and right rear fenders are removed the same way. Right side shown.

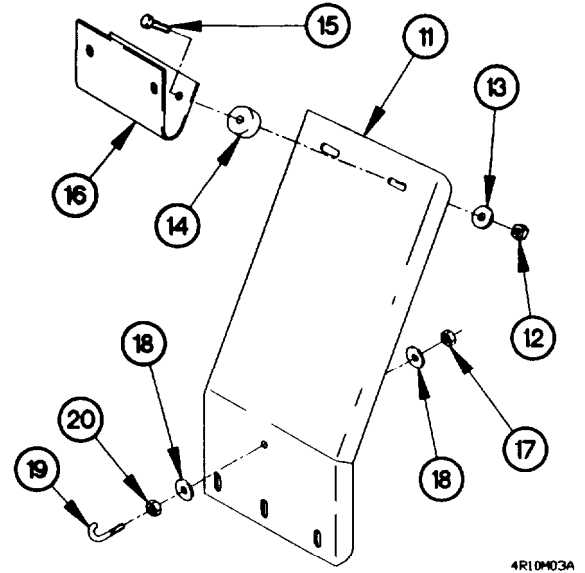
- (1) Remove nut (1), washer (2), screw (3), washer (4), and brackets (5 and 6) from cargo bed (7).

- (2) Remove two self-locking nuts (8), screws (9), washers (10), and rear fender (11) from cargo bed (7). Discard self-locking nuts.



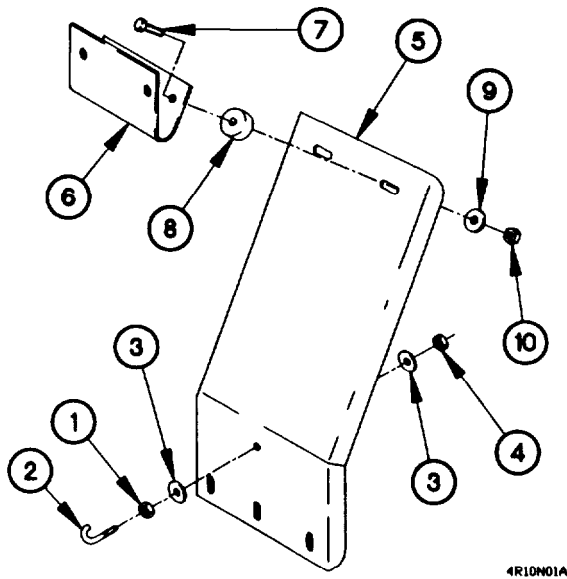
4R10M02A

- (3) Remove two nuts (12), washers (13), resilient mounts (14), screws (15), and bracket (16) from rear fender (11).
- (4) Remove nut (17), two washers (18), and hook (19) from rear fender (11).
- (5) Remove nut (20) from hook (19).



4R10M03A

n. M1085/M1086 Rear Fender Installation.



4R10M01A

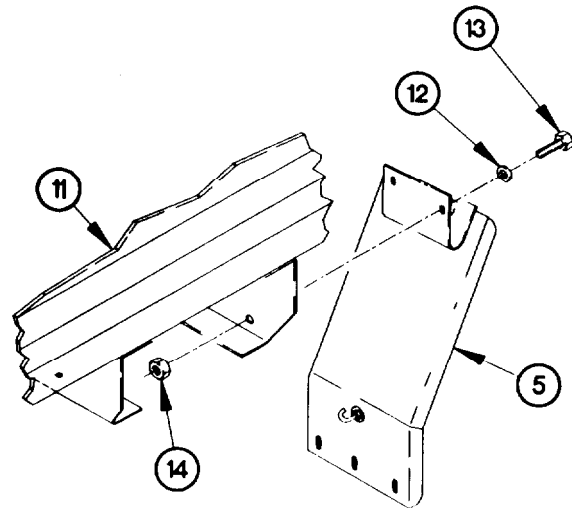
NOTE

Left and right rear fenders are installed the same way. Right side shown.

- (1) Install nut (1) on hook (2) to bottom of threads.
- (2) Position hook (2), two washers (3), and nut (4) on rear fender (5).
- (3) Tighten nut (4) to 18-22 lb-ft (24-30 N•m).
- (4) Position bracket (6) on rear fender (5) with two screws (7), resilient mounts (8), washers (9), and nuts (10).
- (5) Tighten two nuts (10) to 18-22 lb-ft (24-30 N•m).

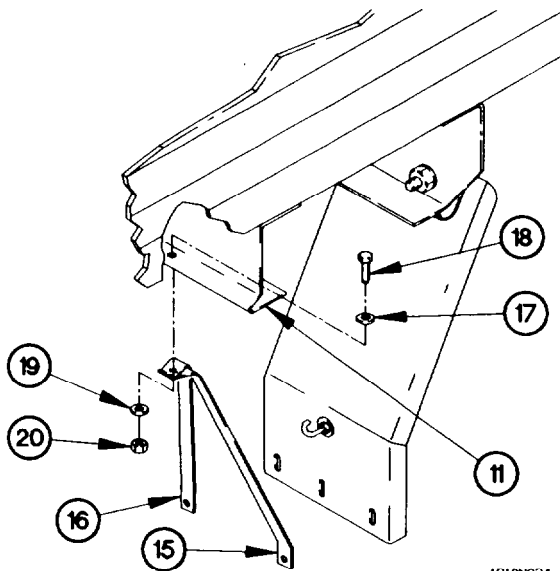
16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

- (6) Position rear fender (5) on cargo bed (11) with two washers (12), screws (13), and self-locking nuts (14).
- (7) Tighten two self-locking nuts (14) to 18-22 lb-ft (24-30 N•m).



4R10N02A

- (8) Position brackets (15 and 16) on cargo bed (11) with washer (17), screw (18), washer (19), and nut (20).
- (9) Tighten nut (20) to 18-22 lb-ft (24-30 N•m).



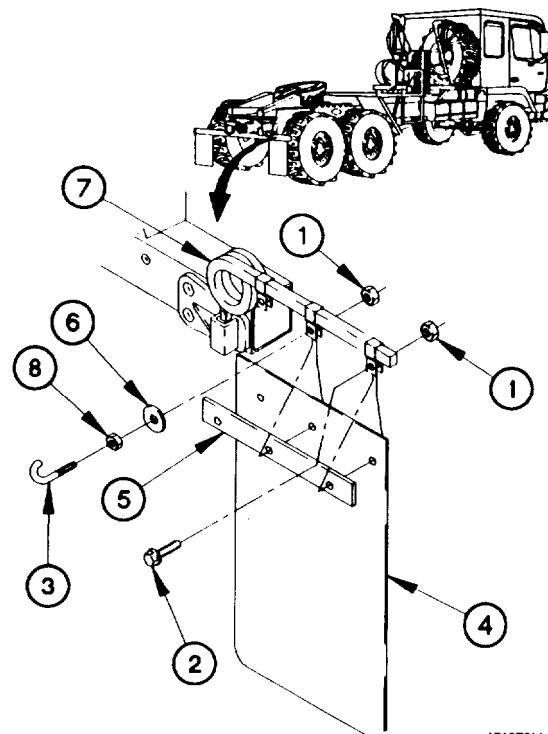
4R10N03A

o. M1088 Rear Splash Guard and Mounting Bracket Removal.

NOTE

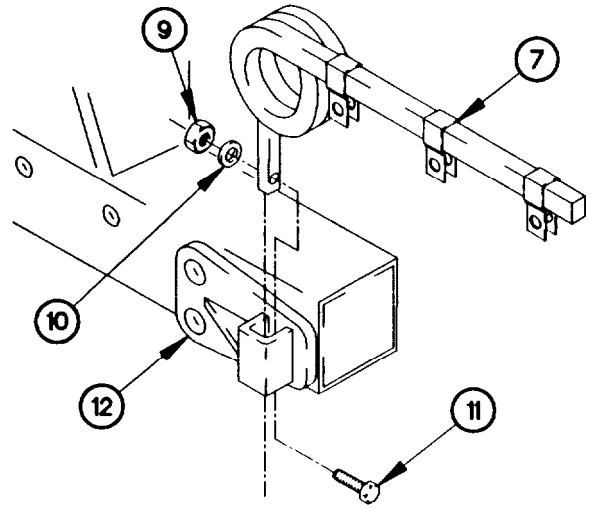
Left and right rear splash guards and mounting brackets are removed the same way. Right side shown.

- (1) Remove three self-locking nuts (1), two screws (2), hook (3), rear splash guard (4), plate (5), and washer (6) from bracket (7). Discard self-locking nuts.
- (2) Remove nut (8) from hook (3).

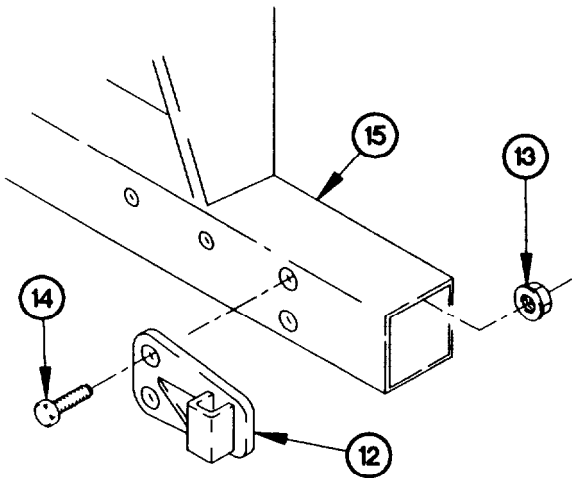


4R10D01A

- (3) Remove self-locking nut (9), washer (10), and screw (11) from bracket (7). Discard self-locking nut.
- (4) Remove bracket (7) from mounting bracket (12).



4R10002A



4R10003A

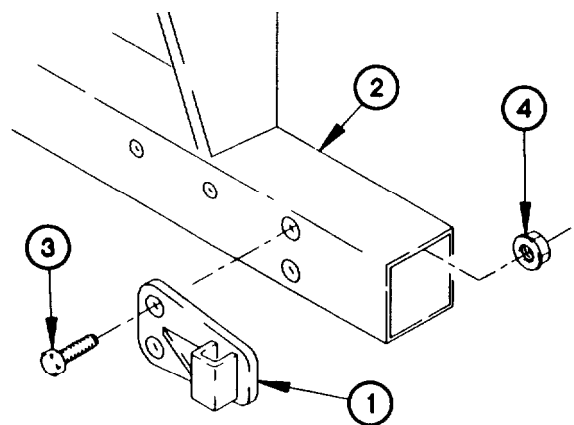
- (5) Remove two self-locking nuts (13), screws (14), and mounting bracket (12) from bumper (15). Discard self-locking nuts.

p. M1088 Rear Splash Guard and Mounting Bracket Installation.

NOTE

Left and right rear splash guards and mounting brackets are installed the same way. Left side shown.

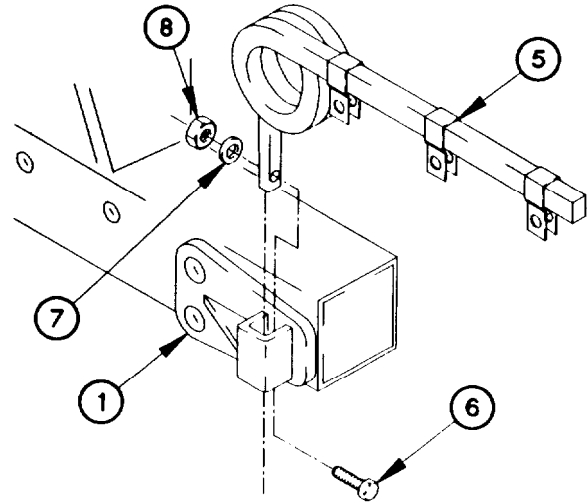
- (1) Position mounting bracket (1) on bumper (2) with two screws (3) and self-locking nuts (4).
- (2) Tighten two self-locking nuts (4) to 149-183 lb-ft (202-248 N•m).



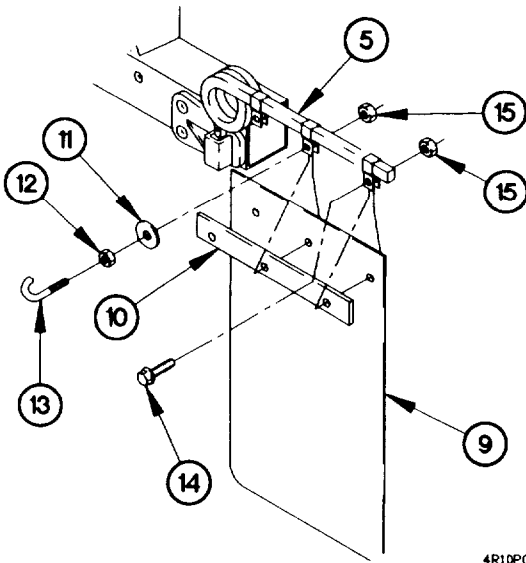
4R10P01A

16-11. FENDER AND SPLASH GUARD REPLACEMENT CONT)

- (3) Position bracket (5) on mounting bracket (1) with screw (6), washer (7), and self-locking nut (8).
- (4) Tighten screw (6) to 84-108 lb-in. (10-12 N•m).



4R10P02A



4R10P03A

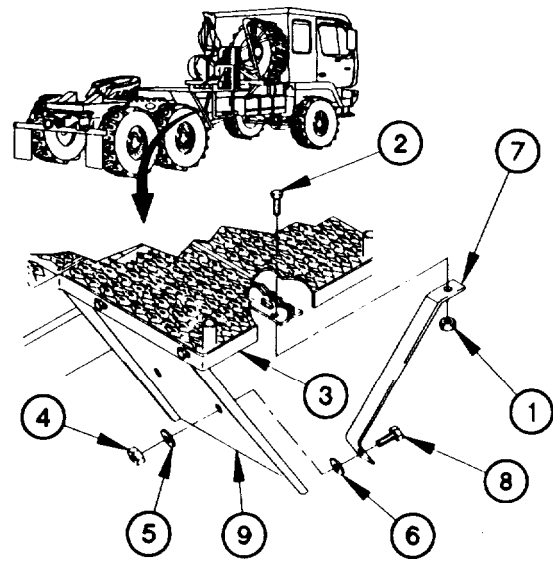
- (5) Position splash guard (9) and plate (10) on bracket (5) with washer (11), nut (12), hook (13), two screws (14), and three self-locking nuts (15).
- (6) Tighten three self-locking nuts (15) to 18-22 lb-ft (24-30 N•m).

q. M1088 Rear Fender Removal.

NOTE

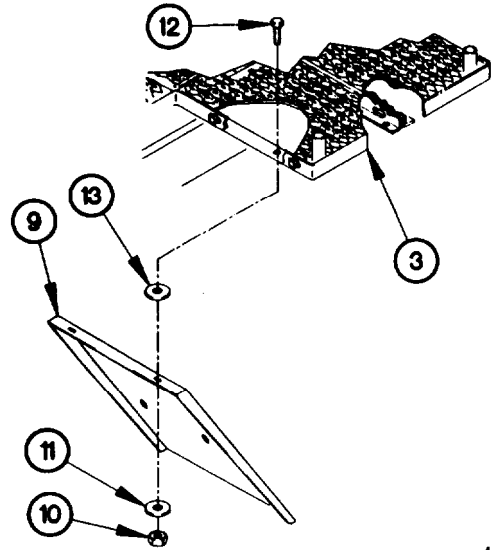
Left and right rear fenders are removed the same way. Right side shown.

- (1) Remove two self-locking nuts (1) and screws (2) from platform (3). Discard self-locking nuts.
- (2) Remove two self-locking nuts (4), washers (5), resilient mounts (6), brackets (7), and screws (8) from rear fender (9). Discard self-locking nuts.



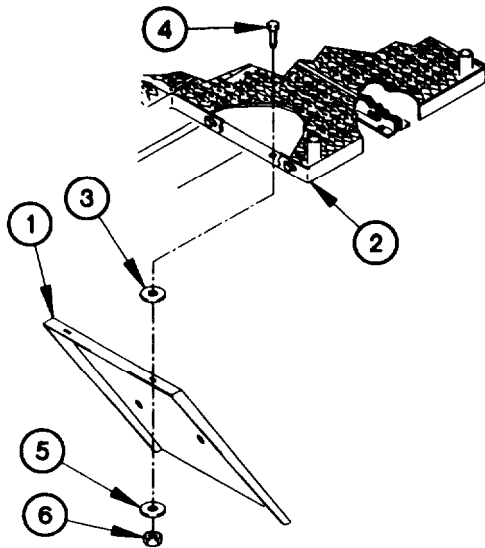
4R10001A

- (3) Remove two self-locking nuts (10), washers (11), screws (12), rear fender (9), and two resilient mounts (13) from platform (3). Discard self-locking nuts.



4R1002A

r. M1066 Rear Fender Installation.



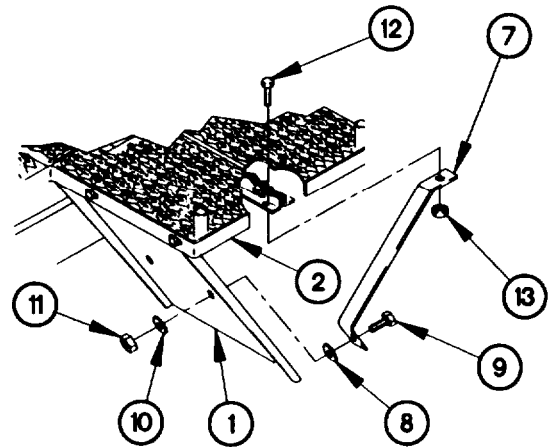
4R10R01A

NOTE

Left and right rear fenders are installed the same way. Right side shown.

- (1) Position rear fender (1) on platform (2) with two resilient mounts (3), screws (4), washers (5), and self-locking nuts (6).
- (2) Tighten two self-locking nuts (6) to 18-22 lb-ft (24-30 N•m).

- (3) Position two brackets (7) on rear fender (1) with two resilient mounts (8), screws (9), washers (10), and self-locking nuts (11).
- (4) Position two screws (12) and self-locking nuts (13) in platform (2).
- (5) Tighten self-locking nuts (11 and 13) to 18-22 lb-ft (24-30 N•m).



4R10R02A

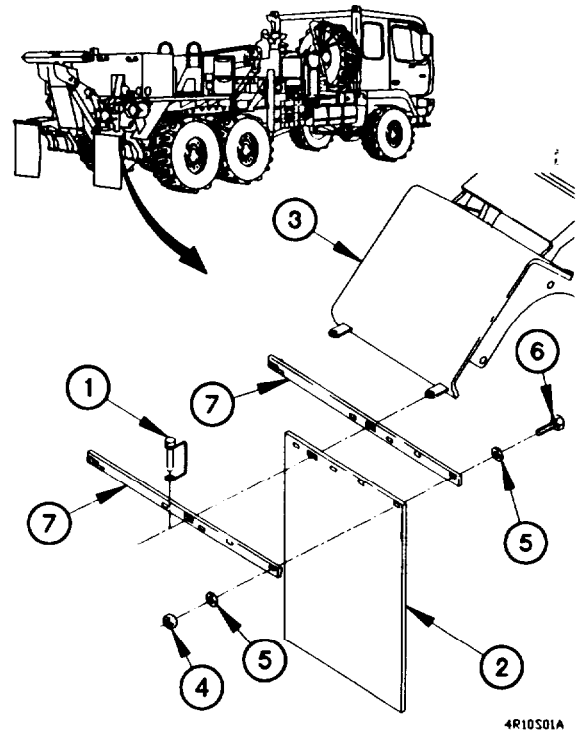
16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

s. M1089 Rear Splash Guard Removal.

NOTE

Left and right rear splash guards are removed the same way. Right side shown.

- (1) Remove two pinlocks (1) and rear splash guard (2) from sandshoe (3).
- (2) Remove five self-locking nuts (4), ten washers (5), five screws (6), and two plates (7) from rear splash guard (2). Discard self-locking nuts.

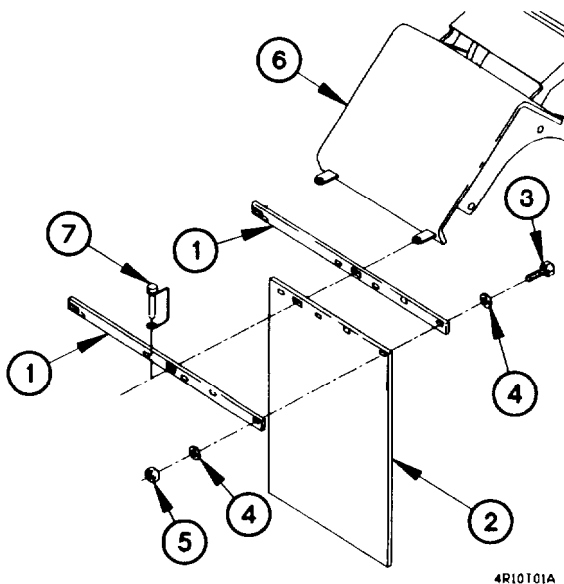


t. M1089 Rear Splash Guard Installation.

NOTE

Left and right rear splash guards are installed the same way. Right side shown.

- (1) Position two plates (1) on rear splash guard (2) with five screws (3), ten washers (4), and five self-locking nuts (5).
- (2) Tighten five self-locking nuts (5) to 18-22 lb-ft (24-30 N•m).
- (3) Install rear splash guard (2) on sandshoe (6) with two pinlocks (7).

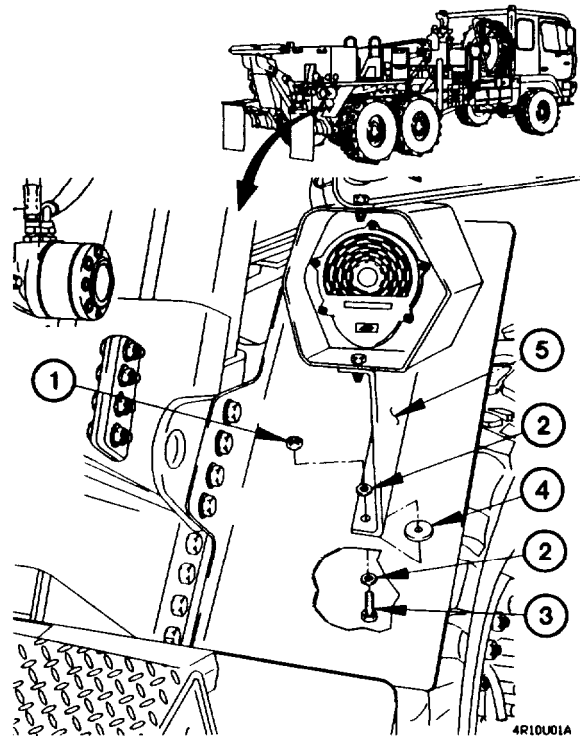
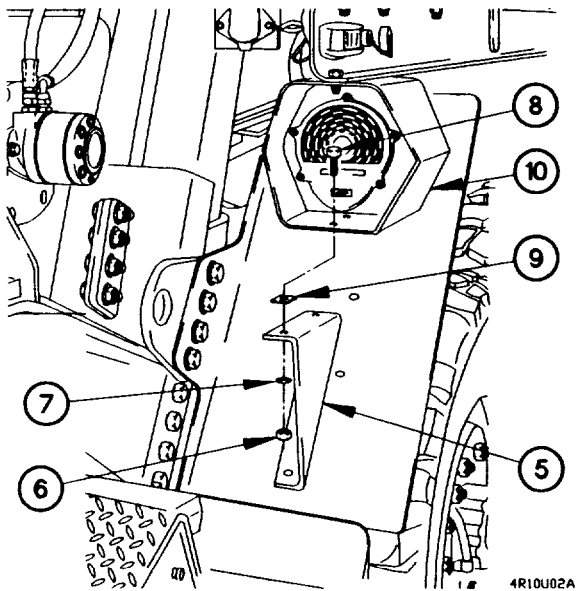


u. M1089 Rear Fender Removal.

NOTE

Left and right rear fenders are removed the same way. Right side shown.

- (1) Remove two self-locking nuts (1), four washers (2), two screws (3), and resilient mounts (4) from brace plate (5). Discard self-locking nuts.

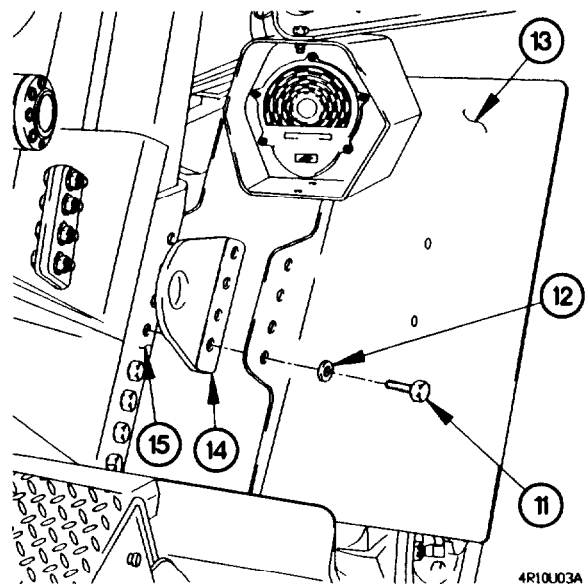


- (2) Remove two self-locking nuts (6), washers (7), screws (8), resilient mounts (9), and brace plate (5) from taillight carrier (10). Discard self-locking nuts.

NOTE

Step (3) requires the aid of an assistant.

- (3) Remove four screws (11), washers (12), rear fender (13), and lug (14) from stiffleg (15).



16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

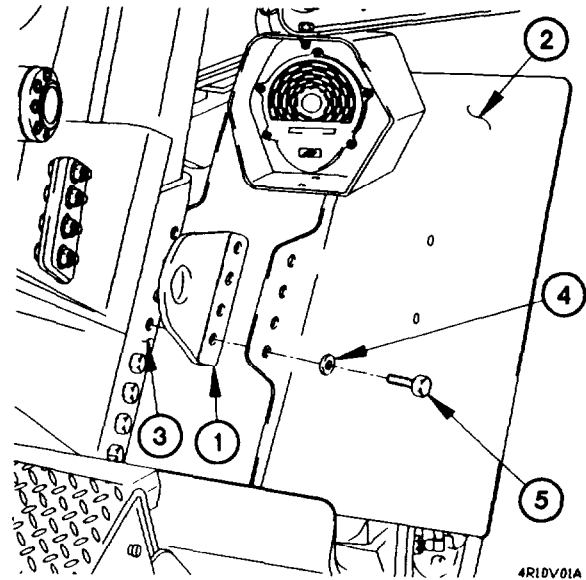
v. M1069 Rear Fender Installation.

NOTE

- Left and right rear fenders are installed the same way. Right side shown.
- Step (1) requires the aid of an assistant.

(1) Position lug (1) and rear fender (2) on stiffleg (3) with four washers (4) and screws (5).

(2) Tighten four screws (5) to 152-168 lb-ft (206-228 N•m).

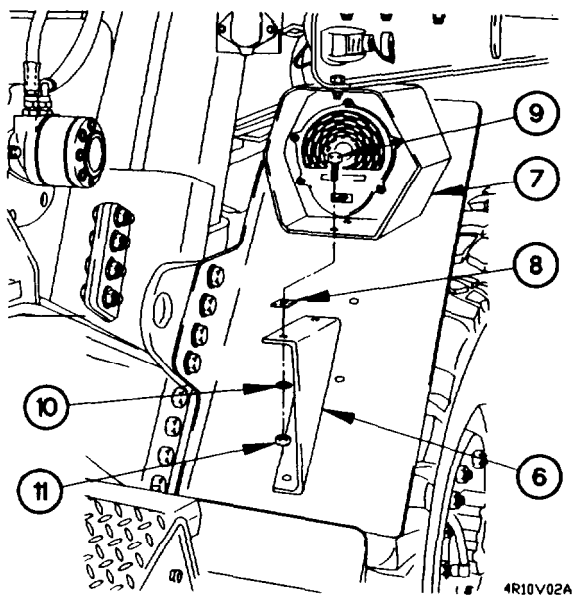


NOTE

Step (3) requires the aid of an assistant.

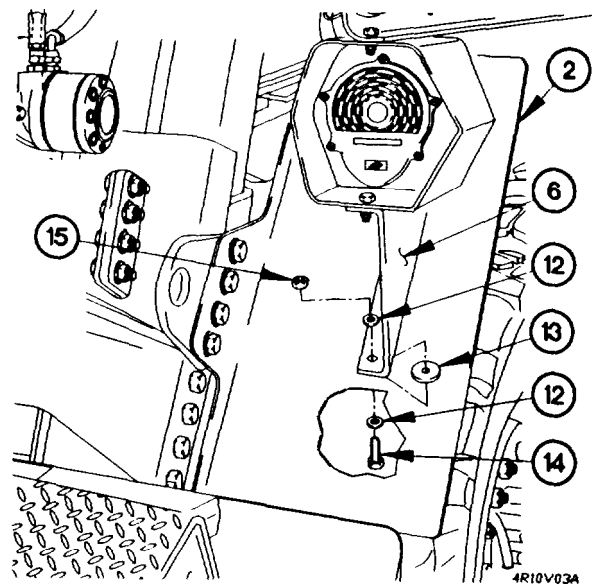
(3) Position brace plate (6) on taillight carrier (7) with two resilient mounts (8), screws (9), washers (10), and self-locking nuts (11).

(4) Tighten two self-locking nuts (11) to 18-22 lb-ft (24-30 N•m).



(5) Position brace plate (6) on rear fender (2) with four washers (12), two resilient mounts (13), screws (14), and self-locking nuts (15).

(6) Tighten two self-locking nuts (15) to 18-22 lb-ft (24-30 N•m).

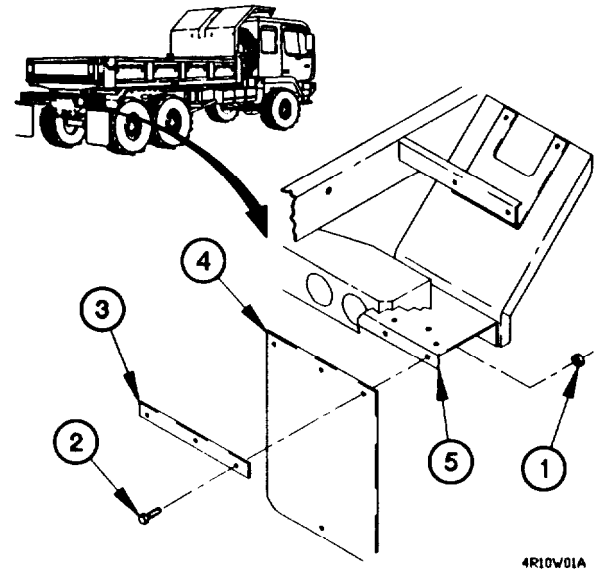


w. M1090 Rear Splash Guard Removal.

NOTE

Left and right rear splash guards are removed the same way. Right side shown.

Remove three self-locking nuts (1), screws (2), plate (3), and rear splash guard (4) from fender bracket (5). Discard self-locking nuts.

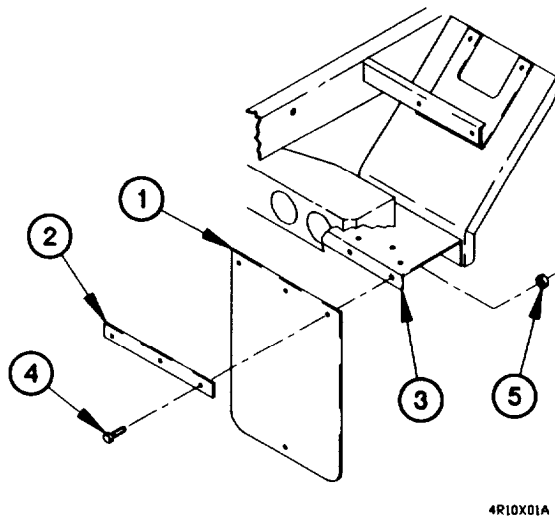


x. M1090 Rear Splash Guard Installation.

NOTE

Left and right rear splash guards are installed the same way. Right side shown.

- (1) Position splash guard (1) and plate (2) on fender bracket (3) with three screws (4) and self-locking nuts (5).
- (2) Tighten three self-locking nuts (5) to 18-22 lb-ft (24-30 N•m).



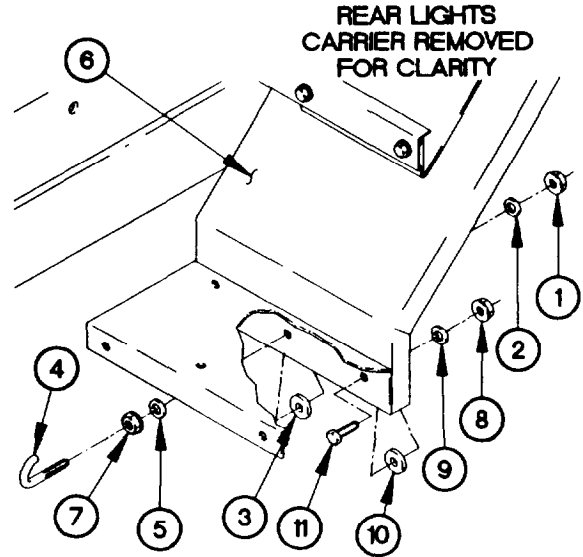
16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

y. M1090/M1094 Rear Fender end Bracket Removal.

NOTE

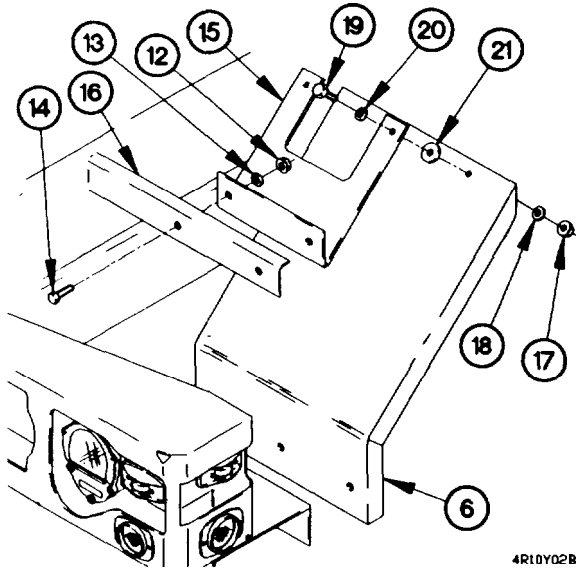
Left and right rear fenders and brackets are removed the same way. Right side shown.

- (1) Remove self-locking nut (1), washer (2), resilient mount (3), hook (4), and washer (5) from rear fender (6). Discard self-locking nut.
- (2) Remove nut (7) from hook (4).
- (3) Remove two self-locking nuts (8), washers (9), resilient mounts (10), and screws (11) from rear fender (6). Discard self-locking nuts.



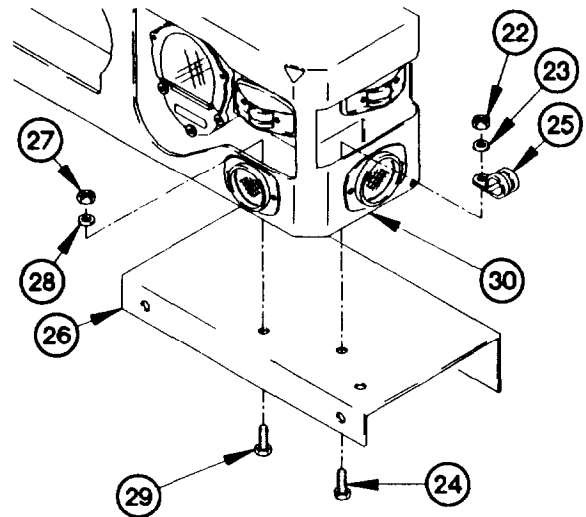
4R10Y01B

- (4) Remove two self-locking nuts (12), washers (13), screws (14), bracket (15), and rear fender (6) from support bracket (16). Discard self-locking nuts.
- (5) Remove two self-locking nuts (17), washers (18), screws (19), washers (20), bracket (15), and two resilient mounts (21) from rear fender (6). Discard self-locking nuts.



4R10Y02B

- (6) Remove nut (22), washer (23), screw (24), and clamp (25) from bracket (26).
- (7) Remove two nuts (27), washers (28), screws (29), and bracket (26) from taillight carrier (30).



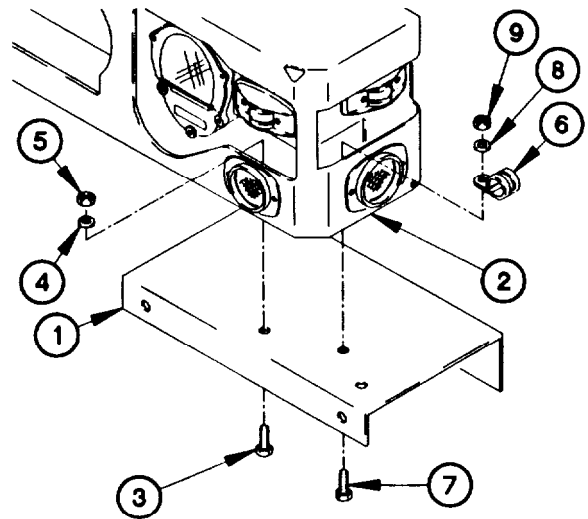
4R10Y03I

z. M1090/M1094 Rear Fender and Bracket Installation.

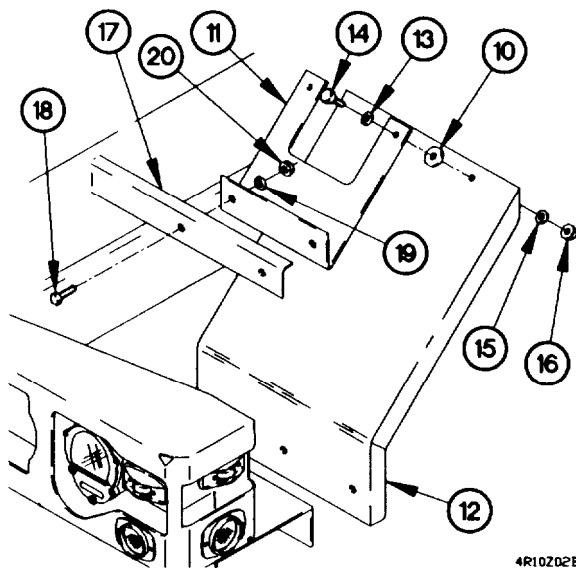
NOTE

Left and right rear fenders and brackets are installed the same way. Right side shown.

- (1) Position bracket (1) on taillight carrier (2) with two screws (3), washers (4), and nuts (5).
- (2) Tighten two nuts (5) to 35-42 lb-ft (47-57 N•m).
- (3) Position clamp (6) on bracket (1) with screw (7), washer (8), and nut (9).
- (4) Tighten nut (9) to 84-96 lb-in. (9-11 N•m).



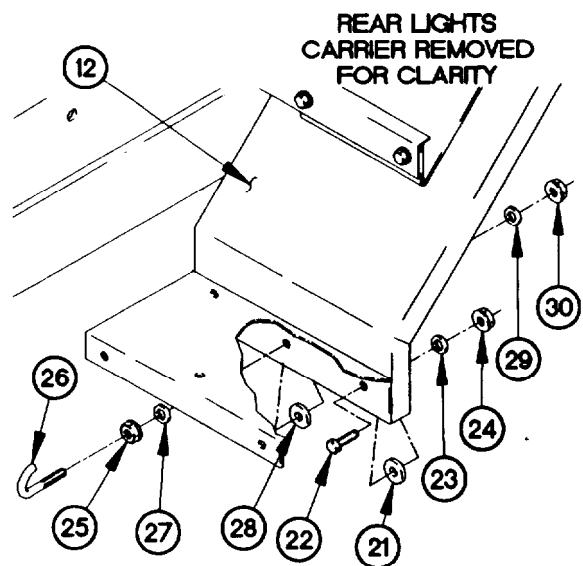
4R10201A



4R10202B

- (5) Position two resilient mounts (10) and bracket (11) on rear fender (12) with two washers (13), screws (14), washers (15), and self-locking nuts (16).
- (6) Tighten two self-locking nuts (16) to 18-22 lb-ft (24-30 N•m).
- (7) Position bracket (11) and rear fender (12) on support bracket (17) with two screws (18), washers (19), and self-locking nuts (20).
- (8) Tighten two self-locking nuts (20) to 18-22 lb-ft (24-30 N•m).

- (9) Position two resilient mounts (21) on rear fender (12) with two screws (22), washers (23), and self-locking nuts (24).
- (10) Install nut (25) on hook (26) to bottom of threads.
- (11) Position washer (27) and hook (26) on rear fender (12) with resilient mount (28), washer (29), and self-locking nut (30).
- (12) Tighten self-locking nuts (24 and 30) to 18-22 lb-ft (24-30 N•m).



4R10203I

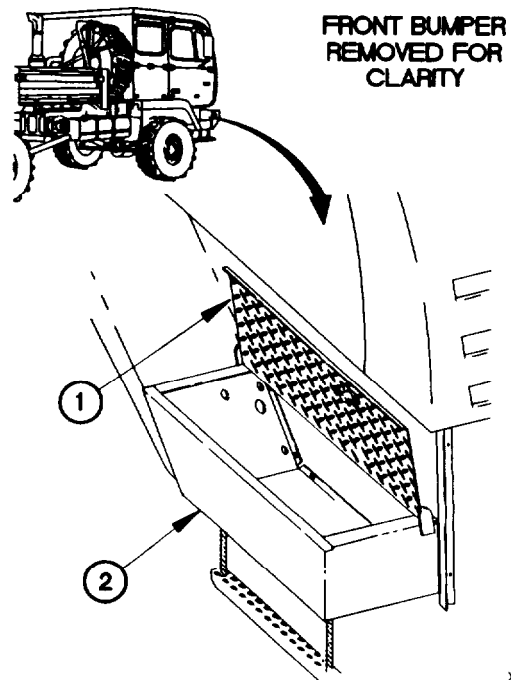
16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

aa. M1093/M1094 Front Fender Removal.

NOTE

Perform step (1) on right side.

- (1) Open cab step tread (1) on cab step (2).
- (2) Raise cab (TM 9-2320-366-10-1).

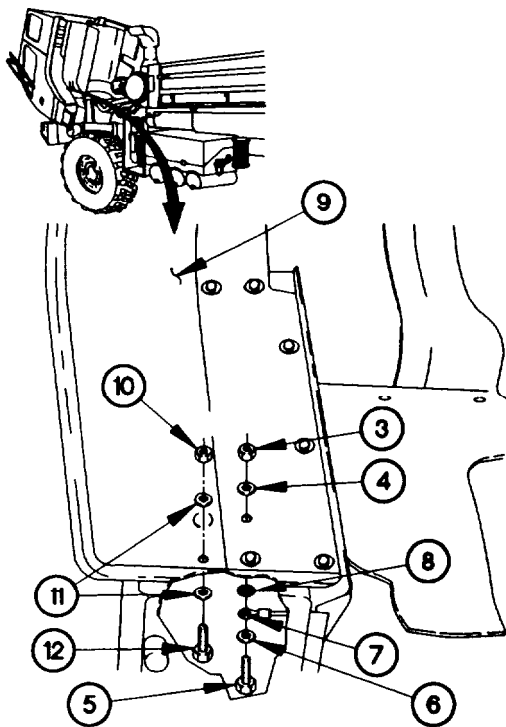


XR10AA1A

NOTE

Perform steps (3) and (4) on left side.

- (3) Remove self-locking nut (3), washer (4), screw (5), washer (6), terminal lug TL94 (7), and lockwasher (8) from front fender (9). Discard self-locking nut and lockwasher.
- (4) Remove three self-locking nuts (10), six washers (11), and three screws (12) from front fender (9). Discard self-locking nuts.

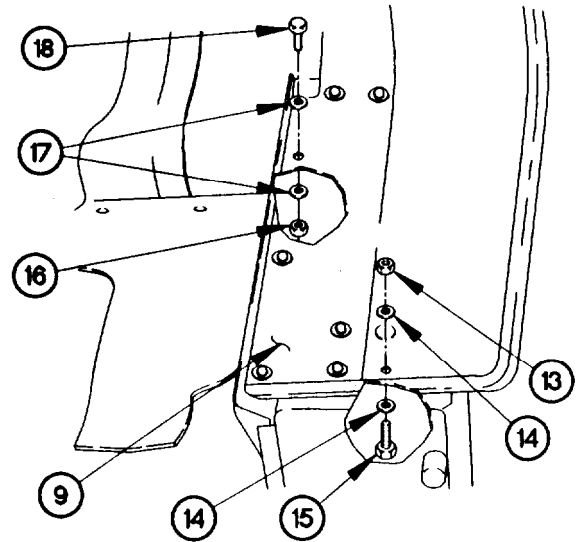


XR10AA21

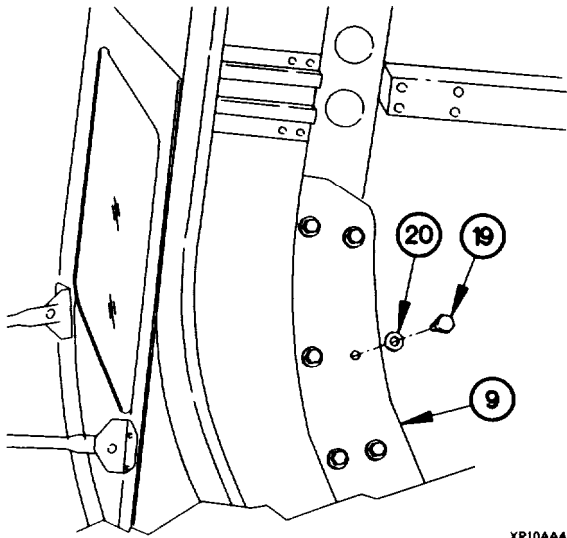
NOTE

Perform step (5) on right side.

- (5) Remove four self-locking nuts (13), eight washers (14), and four screws (15) from front fender (9). Discard self-locking nuts.
- (6) Remove three self-locking nuts (16), six washers (17), and three screws (18) from front fender (9). Discard self-locking nuts.

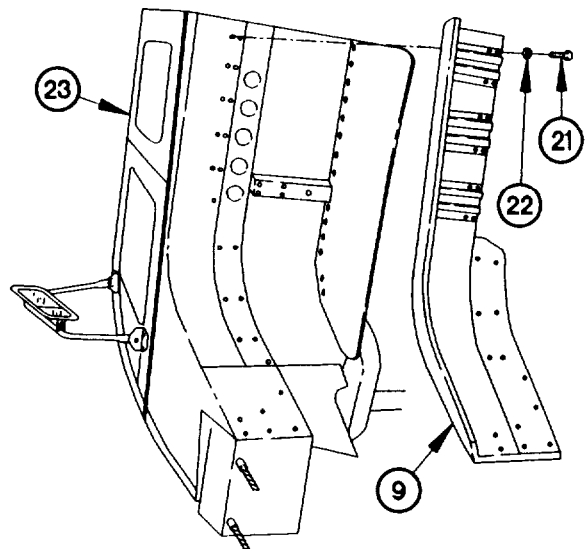


XR10AA3A



XR10AA4A

- (7) Remove three screws (19) and washers (20) from front fender (9).



XR10AA5A

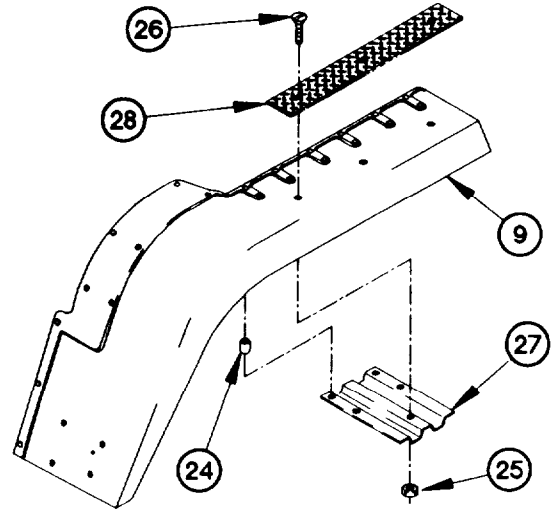
NOTE

Step (8) requires the aid of an assistant.

- (8) Remove 12 screws (21), washers (22), and front fender (9) from cab (23).

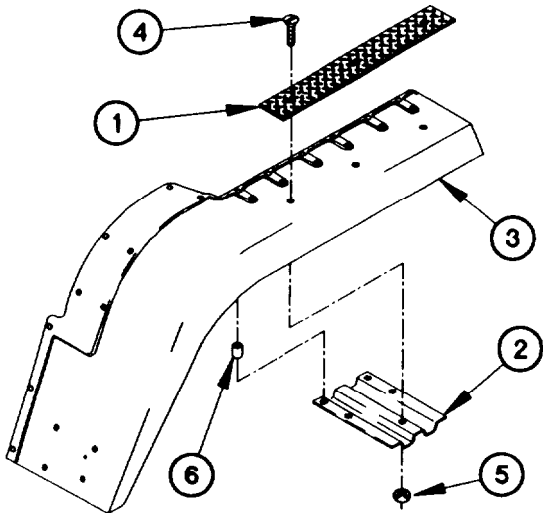
16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

- (9) Remove 12 spacers (24) from front fender (9).
- (10) Remove three self-locking nuts (25), screws (26), brackets (27) and step (28) from front fender (9). Discard self-locking nuts.



XR10AA6A

ab. M1093/M1094 Front Fender Installation.



XR10AB1A

NOTE

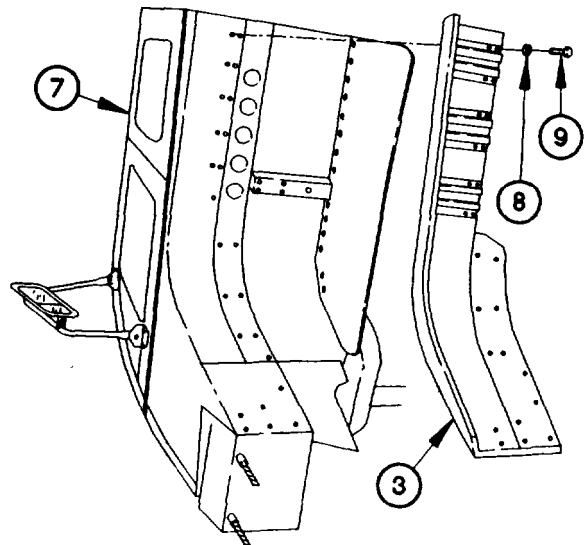
Left and right front fenders are installed the same way. Left side shown.

- (1) Position step (1) and three brackets (2) on front fender (3) with three screws (4) and self-locking nuts (5).
- (2) Tighten three self-locking nuts (5) to 18-22 lb-ft (24-30 N•m).
- (3) Install 12 spacers (6) in front fender (3).

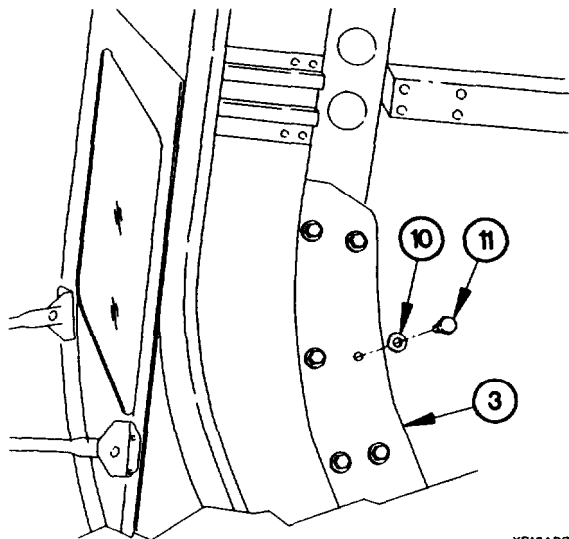
NOTE

Step (4) requires the aid of an assistant.

- (4) Position front fender (3) on cab (7) with 12 washers (8) and screws (9).
- (5) Tighten 12 screws (9) to 18-22 lb-ft (24-30 N•m).



XR10AB2A



XR10AB3A

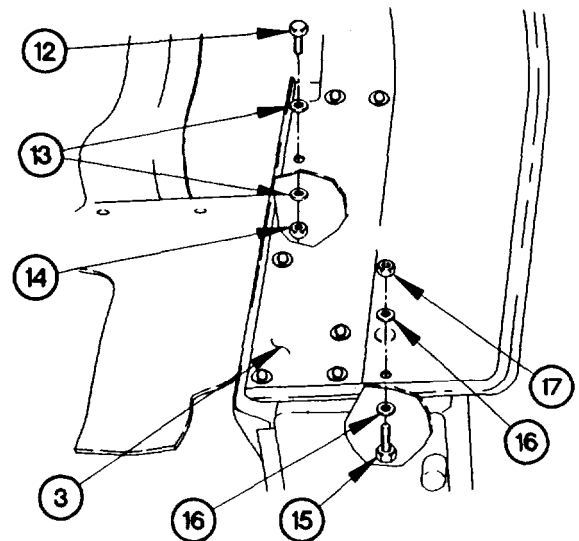
- (6) Position three washers (10) and screws (11) in front fender (3).
- (7) Tighten three screws (11) to 18-22 lb-ft (24-30 N•m).

- (8) Position three screws (12), six washers (13), and three self-locking nuts (14) in front fender (3).
- (9) Tighten three self-locking nuts (14) to 18-22 lb-ft (24-30 N•m).

NOTE

Perform steps (10) and (11) on right side.

- (10) Position four screws (15), eight washers (16), and four self-locking nuts (17) in front fender (3).
- (11) Tighten four self-locking nuts (17) to 18-22 lb-ft (24-30 N•m).



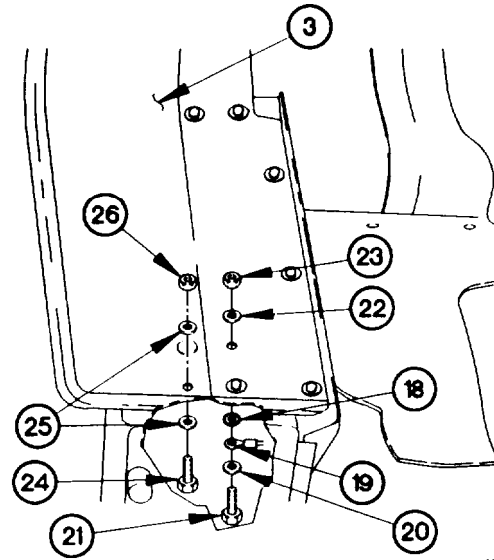
XR10AB4A

16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

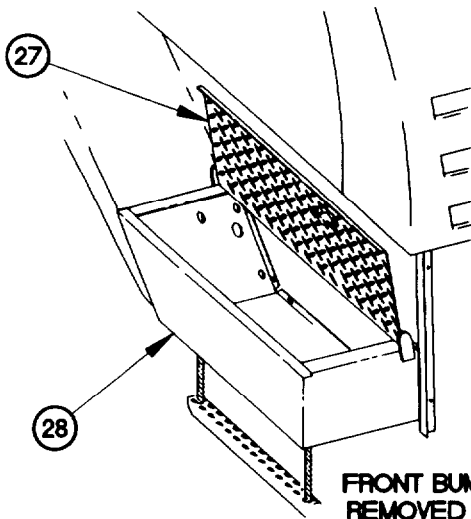
NOTE

Perform steps (12) through (14) on left side.

- (12) Position lockwasher (18) and terminal lug TL94 (19) on front fender (3) with washer (20), screw (21), washer (22), and self-locking nut (23).
- (13) Position three screws (24), six washers (25), and three self-locking nuts (26) in front fender (3).
- (14) Tighten self-locking nut (23) and three self-locking nuts (26) to 18-22 lb-ft (24-30 N•m).



XR10AB51



**FRONT BUMPER
REMOVED FOR
CLARITY**

XR10AB6A

NOTE

Perform step (15) on right side.

- (15) Close cab step tread (27) on cab step (28).
- (16) Lower cab (TM 9-2320-366-10-1).

ac. M1093/M1094 Engine Splash Guard Removal.

NOTE

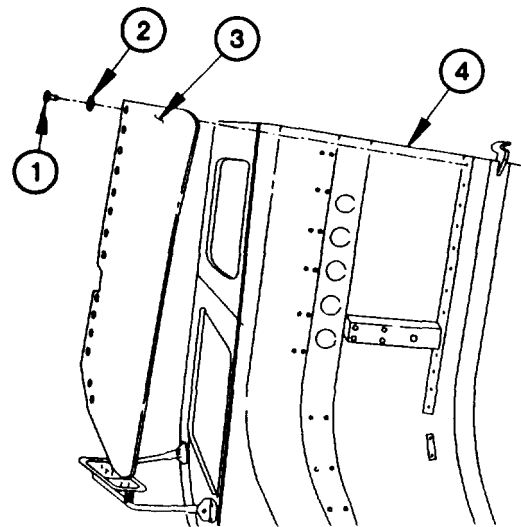
Left and right engine splash guards are removed the same way. Left side shown.

- (1) Raise cab (TM 9-2320-366-10).

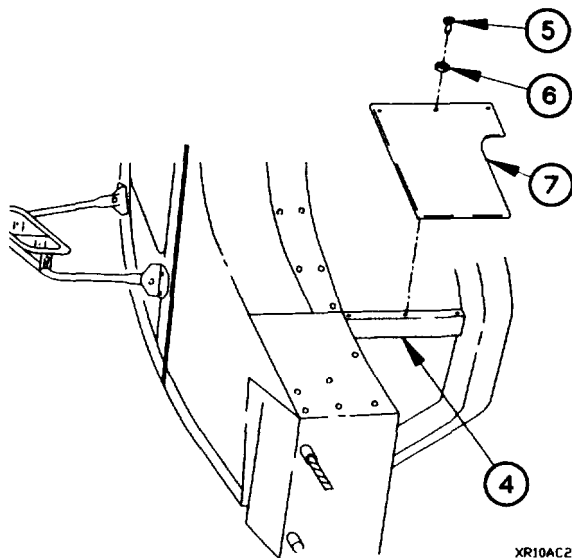


Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

- (2) Remove 14 rivets (1), washers (2), and engine splash guard (3) from cab (4).

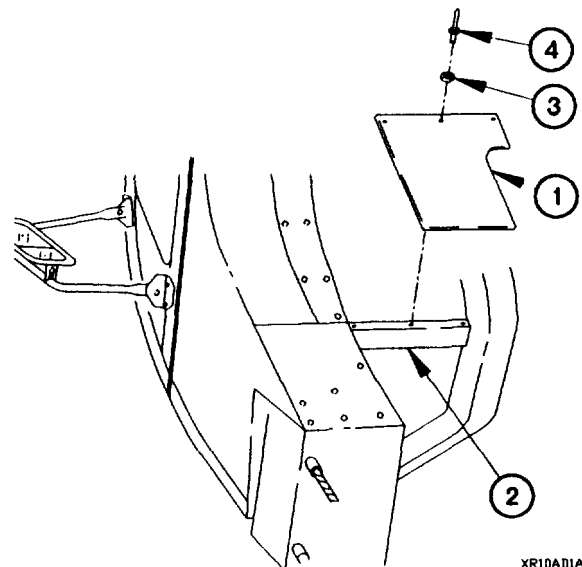


XR10AC11



XR10AC21

- (3) Remove three rivets (5), washers (6), and engine splash guard (7) from cab (4).



XR10AD1A

ad. M1093/M1094 Engine Splash Guard Installation.

NOTE

Left and right engine splash guards are installed the same way. Left side shown.

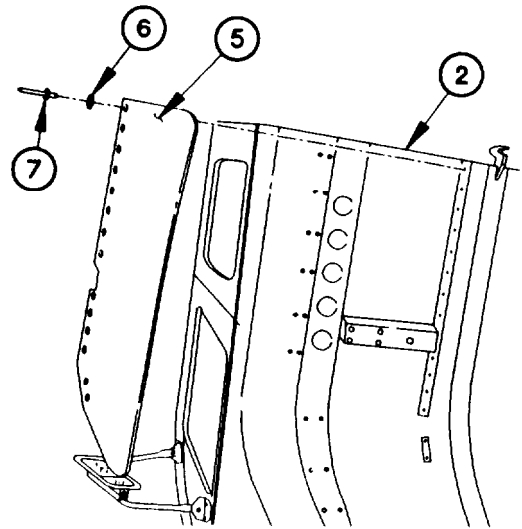
- (1) Install engine splash guard (1) on cab (2) with three washers (3) and rivets (4).

16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

NOTE

Step (2) requires the aid of an assistant.

- (2) Install engine splash guard (5) on cab (2) with 14 washers (6) and rivets (7).
- (3) Lower cab (TM 9-2320-366-10-1).



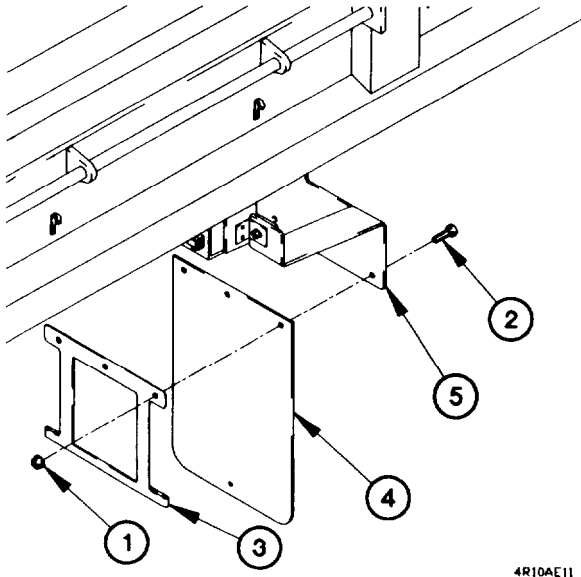
XR10AD2A

NOTE

Right and left splash guards are removed the same way. Right side shown.

- (1) Remove three self-locking nuts (1), screws (2), brace (3), and splash guard (4) from bracket (5). Discard self-locking nuts.
- (2) Remove splash guard (4) from brace (3).

ae. M1090/M1094 Splash Guard Removal.

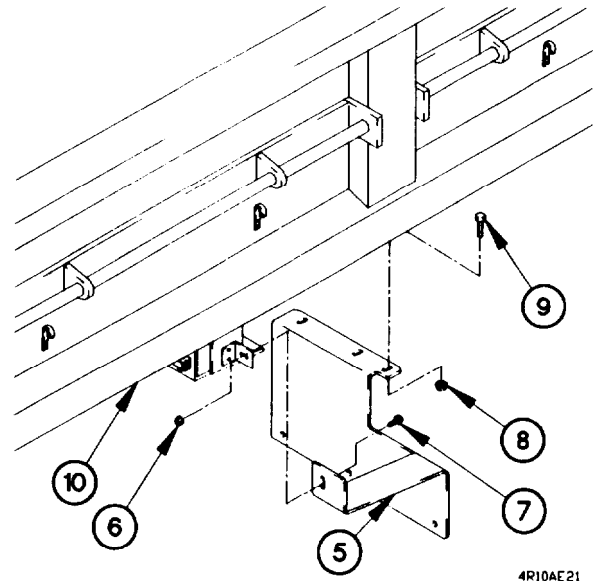


4R10AE11

NOTE

Perform step (3) on right side bracket.

- (3) Remove self-locking nut (6) and screw (7) from bracket (5). Discard self-locking nut.
- (4) Remove two self-locking nuts (8), screws (9), and bracket (5) from dump body (10). Discard self-locking nuts.



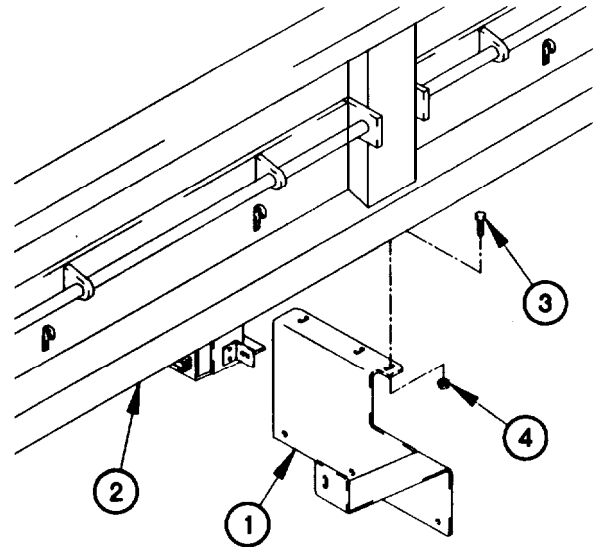
4R10AE21

af. M1090/M1094 Splash Guard Installation.

NOTE

Right and left splash guards are installed the same way. Right side shown.

- (1) Position bracket (1) on dump body (2) with two screws (3) and self-locking nuts (4).
- (2) Tighten two self-locking nuts (4) to 25-31 lb-ft (34-42 N•m).

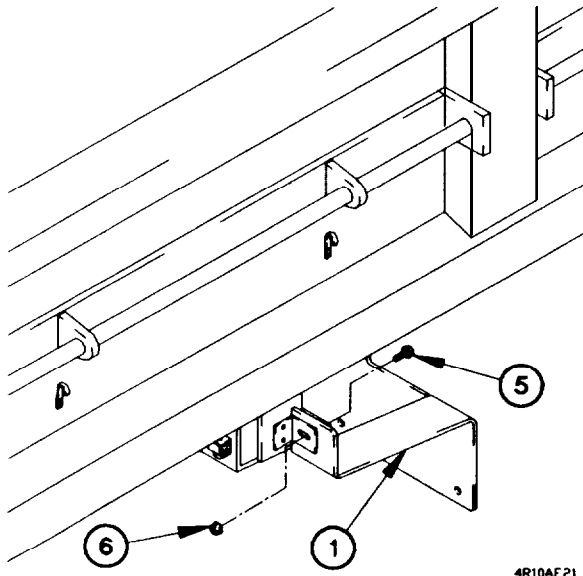


4R10AF11

NOTE

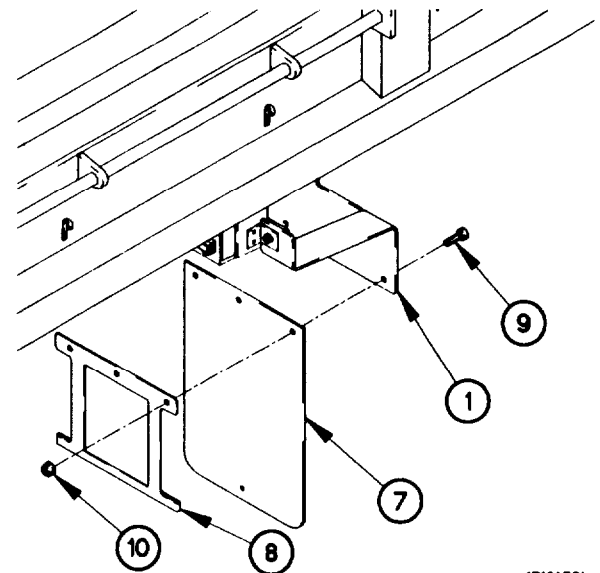
Perform steps (3) and (4) on right side bracket.

- (3) Position screw (5) and self-locking nut (6) in bracket (1).
- (4) Tighten self-locking nut (6) to 18-22 lb-ft (24-30 N•m).



4R10AF21

- (5) Install splash guard (7) in brace (8).
- (6) Install splash guard (7) and brace (8) on bracket (1) with three screws (9) and self-locking nuts (10).



4R10AF31

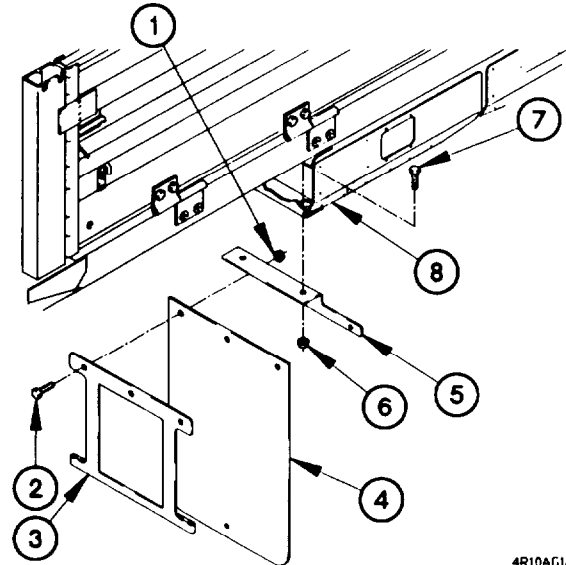
16-11. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

ag. M1083/M1084/M1085/M1086 Splash Guard Removal.

NOTE

Right and left splash guards are removed the same way. Right side shown.

- (1) Remove three self-locking nuts (1), screws (2), brace (3), and splash guard (4) from bracket (5). Discard self-locking nuts.
- (2) Remove splash guard (4) from brace (3).
- (3) Remove two self-locking nuts (6), screws (7), and bracket (5) from cargo bed (8). Discard self-locking nuts.



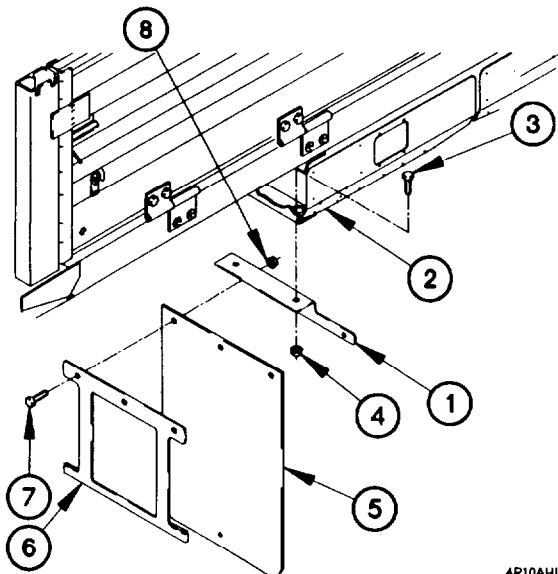
4R10AG1A

ah. M1083/M1084/M1085/M1086 Splash Guard Installation.

NOTE

Right and left splash guards are installed the same way. Right side shown.

- (1) Position bracket (1) on cargo bed (2) with two screws (3) and self-locking nuts (4).
- (2) Tighten two self-locking nuts (4) to 25-31 lb-ft (34-42 N•m).
- (3) Install splash guard (5) in brace (6).
- (4) Install splash guard (5) and brace (6) on bracket (1) with three screws (7) and self-locking nuts (8).



4R10AH1A

ai. Follow-On Maintenance.

- (1) Install windshield washer reservoir (for left front fender) (para 18-2).
- (2) Install Warning and Caution placards if required (Chap 2).
- (3) Install ladder (M1090/M1094) (TM 9-2320-366-10-1).

End of Task.

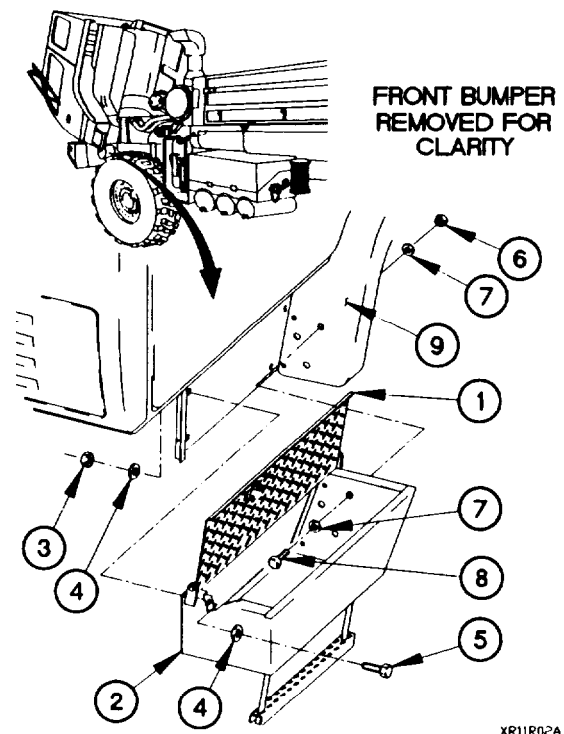
16-12. CAB STEP REPLACEMENT	
This task covers:	
a. Removal b. Installation	c. Follow-On Maintenance
INITIAL SETUP	
Equipment Conditions Windshield washer reservoir and pump removed (for left side) (para 18-2). Cab raised (TM 9-2320-366-10-1).	Materials/Parts Nut, Self-Locking (10) (Item 167, Appendix G) Grommet, Nonmetallic (Item 54, Appendix G) Receptacle (Item 241, Appendix G) Seal, Nonmetallic (Item 269, Appendix G)
Tools and Special Tools Tool Kit, Genl Mech (Item 46, Appendix C) Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)	

a. Removal.

NOTE

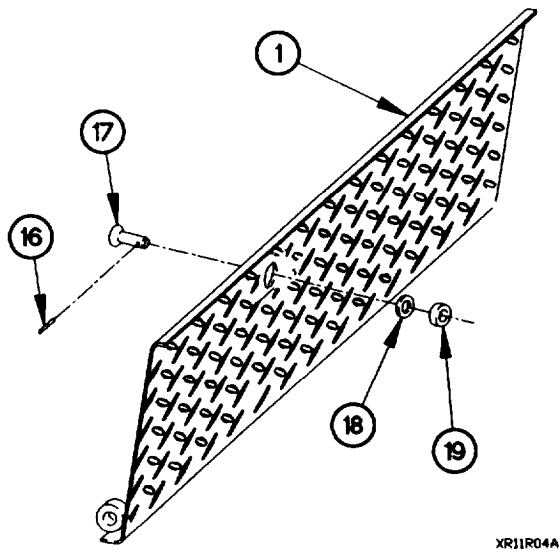
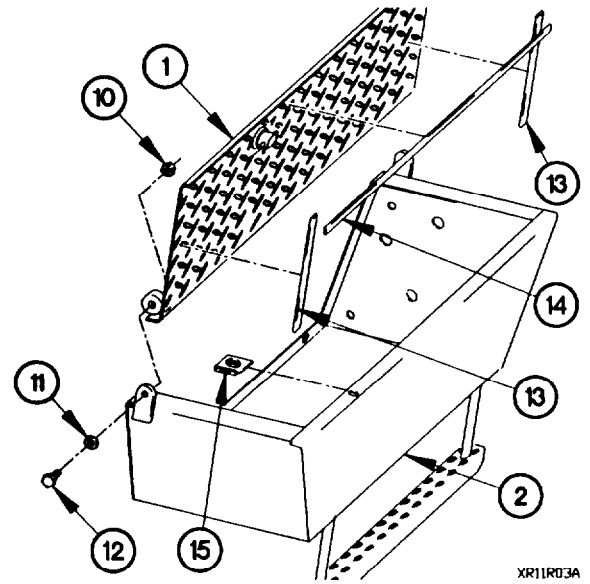
Left and right cab steps are removed the same way. Left cab step shown.

- (1) Open cab step tread (1) on cab step (2).
- (2) Remove four self-locking nuts (3), eight washers (4), and four screws (5) from cab step (2). Discard self-locking nuts.
- (3) Remove four self-locking nuts (6), eight washers (7), four screws (8), and cab step (2) from fender (9). Discard self-locking nuts.



XR11R02A

- (4) Remove two self-locking nuts (10), washers (11), screws (12), and cab step tread (1) from cab step (2). Discard self-locking nuts.
- (5) Remove two seals (13) and seal (14) from cab step tread (1). Discard seals.
- (6) Remove turnlock receptacle (15) from cab step (2). Discard turnlock receptacle.



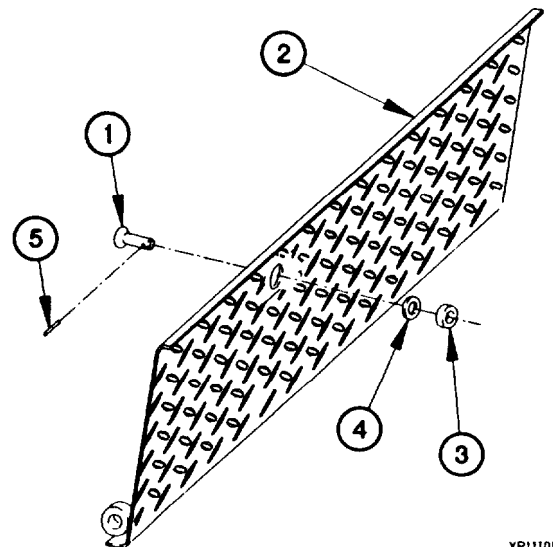
- (7) Remove pin (16) from stud fastener (17).
- (8) Remove stud fastener (17), washer (18), and grommet (19) from cab step tread (1). Discard grommet.

b. Installation.

NOTE

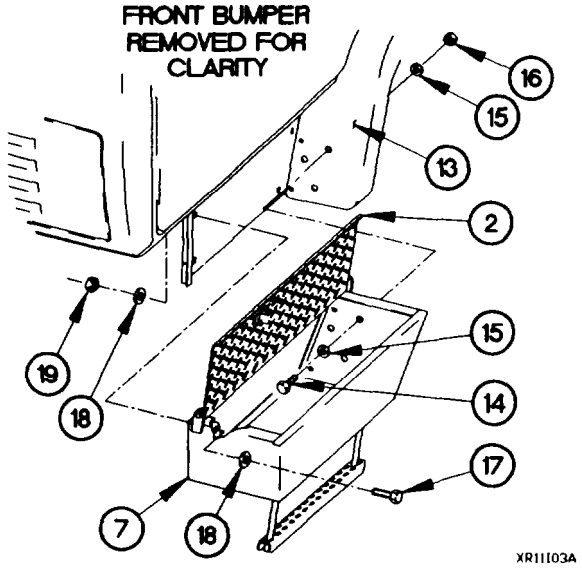
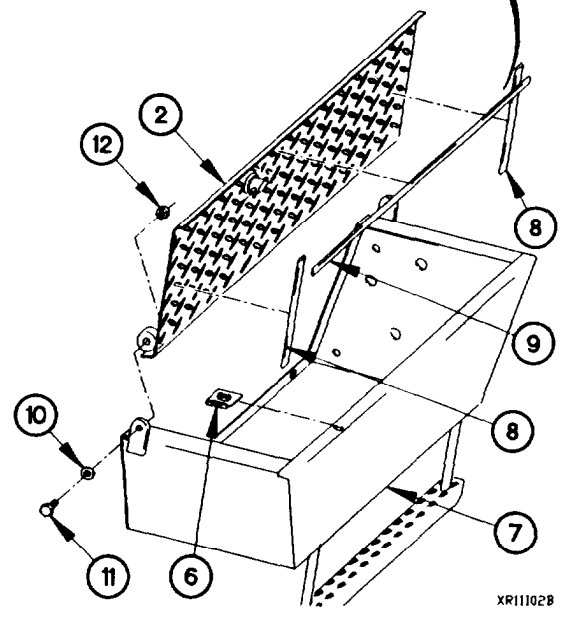
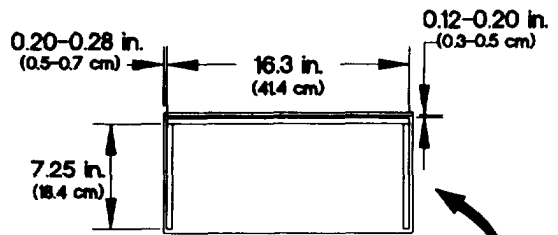
Left and right cab steps are installed the same way. Left cab step shown.

- (1) Position stud fastener (1) in cab step tread (2) with grommet (3) and washer (4).
- (2) Install pin (5) in stud fastener (1).



16-12. CAB STEP REPLACEMENT (CONT)

- (3) Install turnlock receptacle (6) on cab step (7).
- (4) Cut two seals (8) to 7.25 in. (18.4 cm) long.
- (5) Cut one seal (9) to 16.3 in. (41.4 cm) long.
- (6) Install seal (9) on cab step tread (2) as shown.
- (7) Install two seals (8) on cab step tread (2) as shown.
- (8) Position cab step tread (2) on cab step (7) with two washers (10), screws (11), and self-locking nuts (12).
- (9) Tighten two self-locking nuts (12) to 21-27 lb-ft (28-37 N•m).



- (10) Position cab step (7) on fender (13) with four screws (14), eight washers (15), and four self-locking nuts (16).
- (11) Position four screws (17), eight washers (18), and four self-locking nuts (19) in cab step (7).
- (12) Tighten four self-locking nuts (16 and 19) to 21-27 lb-ft (28-37 N•m).
- (13) Close cab step tread (2) on cab step (7).

c. Follow-On Maintenance.

- (1) Lower cab (TM 9-2320-366-10-1).
- (2) Install windshield washer reservoir and pump (for left side) (para 18-2).

End of Task.

16-13. CAB FLOOR COVERING AND DOOR SEAL REPLACEMENT

This task covers:

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Right Cab Floor Covering Removal b. Right Cab Floor Covering Installation c. Left Cab Floor Covering Removal d. Left Cab Floor Covering Installation e. Center Cab Floor Covering Removal f. Center Cab Floor Covering Installation | <ul style="list-style-type: none"> g. Door Seal Removal (All Models Except M1093/M1094) h. Door Seal Installation (All Models Except M1093/M1094) i. M1093/M1094 Door Seal Removal j. M1093/M1094 Door Seal Installation k. Follow-On Maintenance |
|---|--|

INITIAL SETUP

Equipment Conditions

Seats removed (For cab floor covering para 1615).

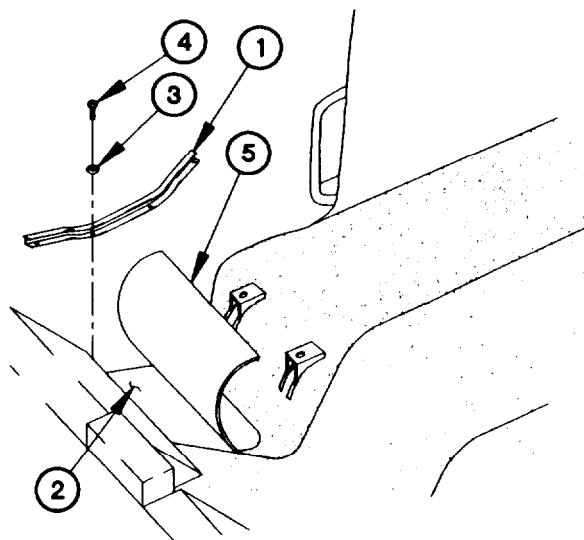
Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
Socket Set, Socket Wrench (Item 36, Appendix C)

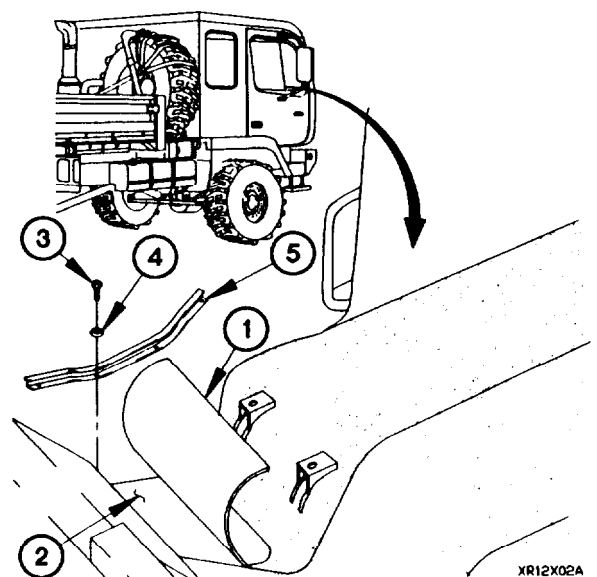
a. Right Cab Floor Covering Removal.

- (1) Remove right floor covering (1) from cab floor (2).
- (2) Remove four screws (3), washers (4), and molding (5) from cab floor (2).

b. Right Cab Floor Covering Installation.



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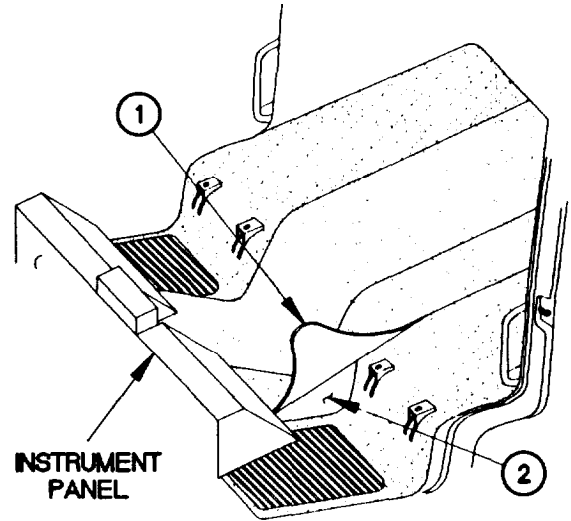


XR12X02A

- (1) Position molding (1) on cab floor (2) with four washers (3) and screws (4).
- (2) Tighten four screws (4) to 22-26 lb-in. (2-3 N•m).
- (3) Install right floor covering (5) on cab floor (2).

f. Center Cab Floor Covering Installation.

Install center floor covering (1) on cab floor (2).



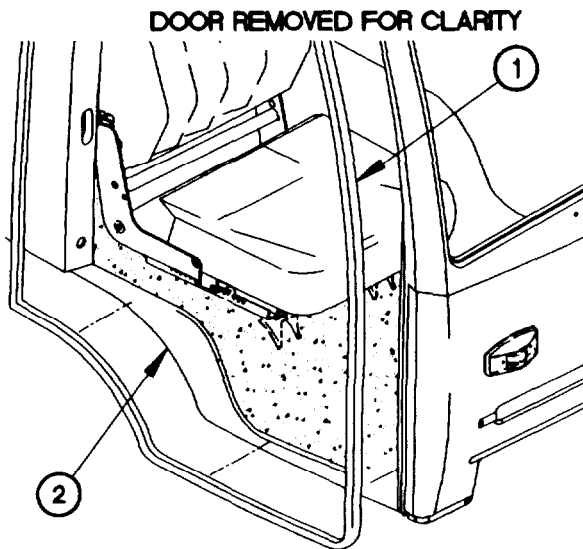
XR12X06A

NOTE

Left and right door seals are removed the same way. Right side shown.

Remove door seal (1) from cab (2).

g. Door Seal Removal (All Except M1093/M1094)



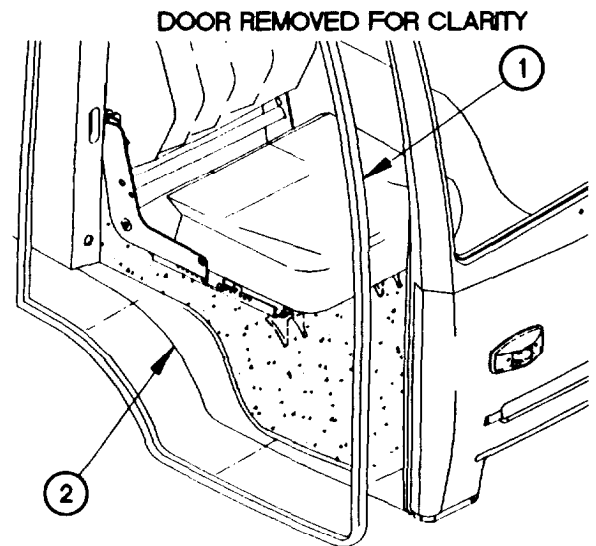
XR12G011

h. Door Seal Installation (All Except M1093/M1094)

NOTE

Left and right door seal are installed the same way. Right side shown.

Install door seal (1) on cab (2).



XR12H011

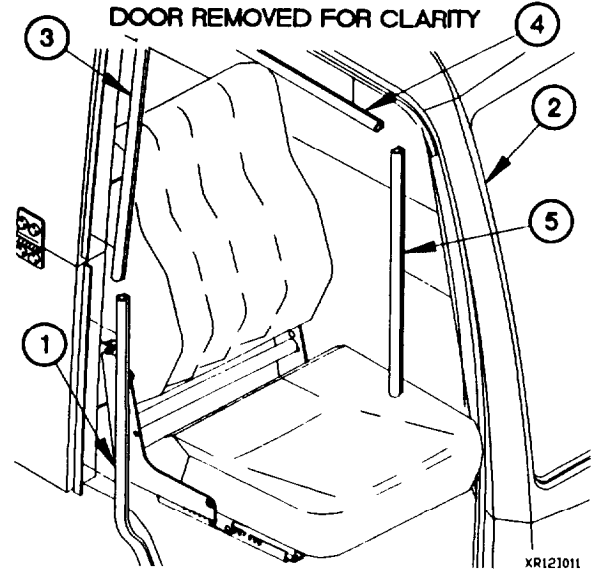
16-13. CAB FLOOR COVERING AND DOOR SEAL REPLACEMENT (CONT)

i. M1093/M1094 Door Seal Removal.

NOTE

Left and right door seals are removed the same way. Right side shown.

- (1) Remove bottom door seal (1) from cab (2).
- (2) Remove top left door seal (3) from cab (2).
- (3) Remove top door seal (4) from cab (2).
- (4) Remove top right door seal (5) from cab (2).

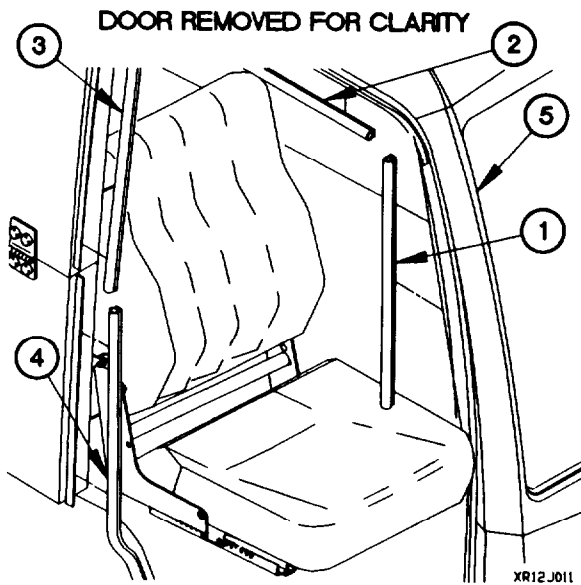


j. M1093/M1094 Door Seal Installation.

NOTE

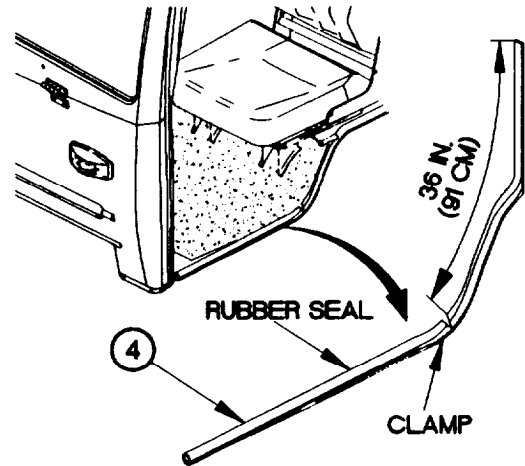
Left and right door seals are installed the same way. Right side shown.

- (1) Cut top right door seal (1) to 25.625 in. (65 cm).
- (2) Cut top door seal (2) to 29.5 in. (74.9 cm).
- (3) Cut top left door seal (3) to 22 in. (55.8 cm).
- (4) Cut bottom door seal (4) to 85 in. (213.3 cm)
- (5) Install top right door seal (1) on cab (5).
- (6) Install top door seal (2) on cab (5).
- (7) Install top left door seal (3) on cab (5).
- (8) Install bottom door seal (4) on cab (5).



(9) Measure from top left of bottom door seal (4) 36 in. (91 cm).

(10) Cut rubber seal to plastic clamp.



k. Follow-On Maintenance.

Install seats (para 16-15).

XR12 J021

End of Task.

16-14. CAB PANEL LINERS REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

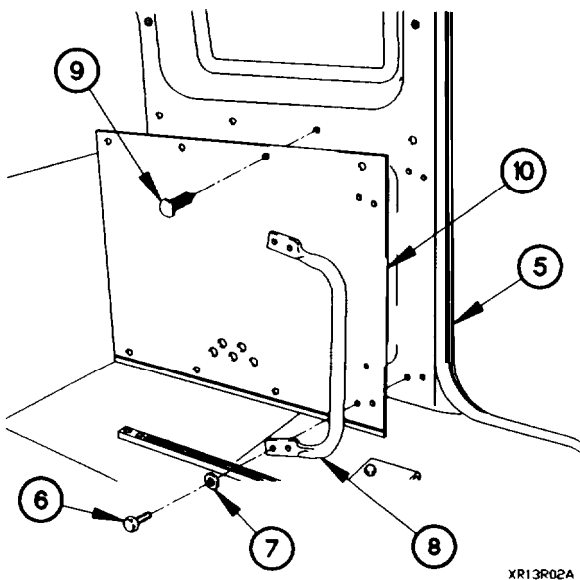
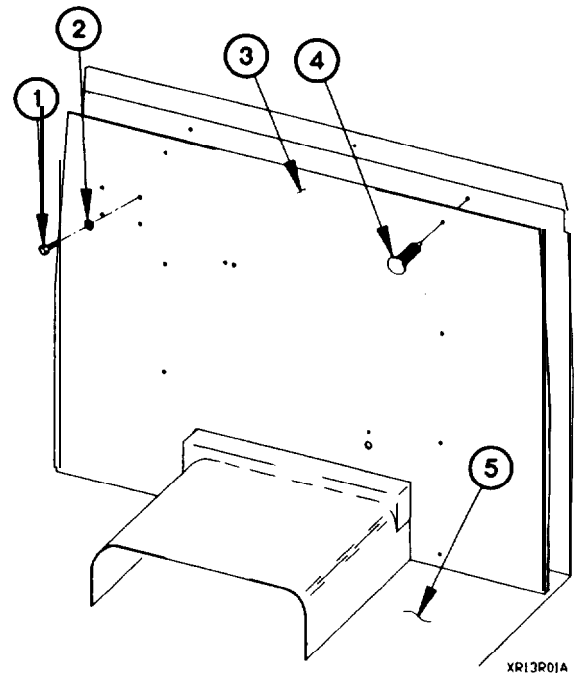
- Cab storage boxes removed (para 16-18).
- Seats removed (16-15).
- Seat belts removed (para 16-16).
- Small arms mounts removed (para 21-7).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)

a. Removal.

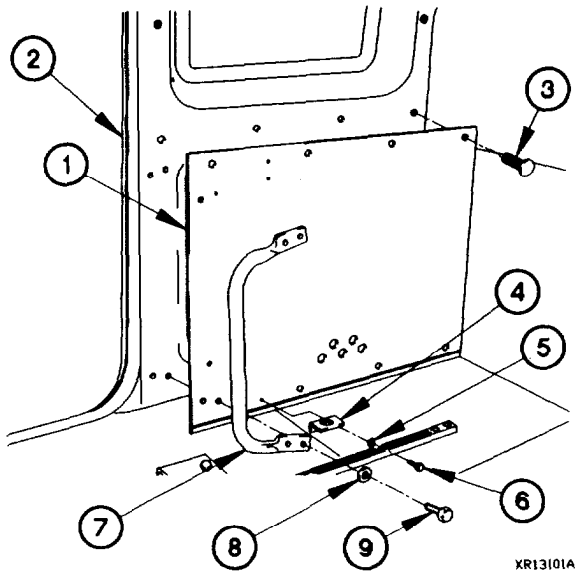
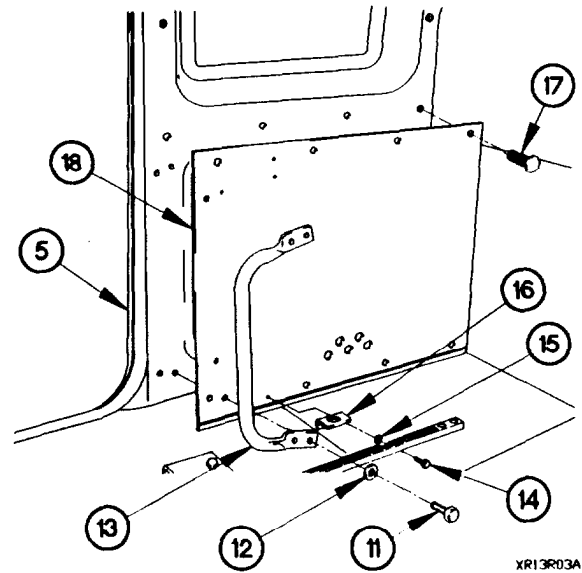
- (1) Remove four screws (1) and washers (2) from rear panel (3).
- (2) Remove nine fasteners (4) and rear panel (3) from cab (5).



- (3) Remove four screws (6), washers (7), and handle (8) from cab (5).
- (4) Remove seven fasteners (9) and left side panel (10) from cab (5).

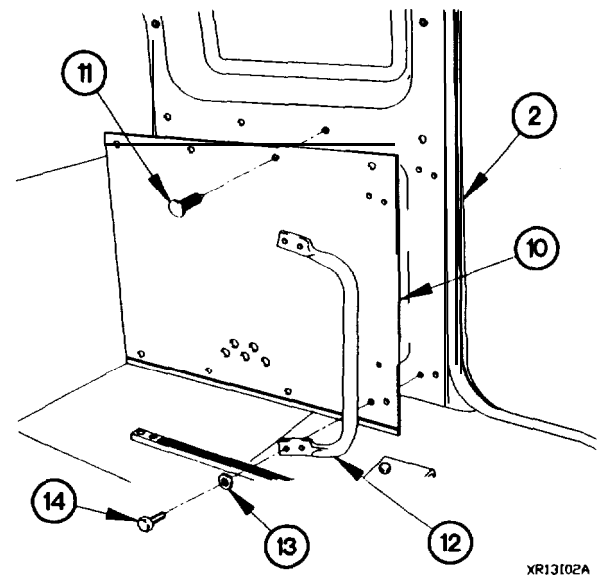
- (5) Remove four screws (11), washers (12), and handle (13) from cab (5).
- (6) Remove two screws (14), washers (15), and clip (16) from cab (5).
- (7) Remove seven fasteners (17) and right side panel (18) from cab (5).

b. Installation.



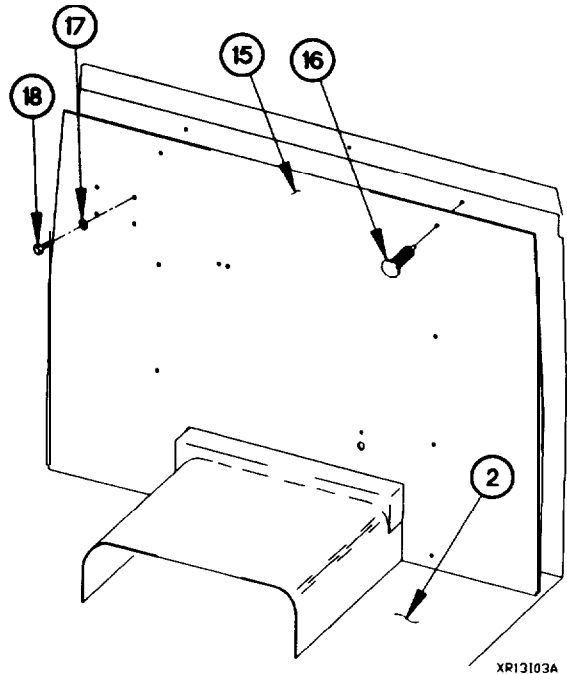
- (1) Install right side panel (1) in cab (2) with seven fasteners (3).
- (2) Install clip (4) in cab (2) with two washers (5) and screws (6).
- (3) Install handle (7) in cab (2) with four washers (8) and screws (9).

- (4) Install left side panel (10) in cab (2) with seven fasteners (11).
- (5) Install handle (12) in cab (2) with four washers (13) and screws (14).



16-14. CAB PANEL LINERS REPLACEMENT (CONT)

- (6) Install rear panel (15) in cab (2) with nine fasteners (16).
- (7) Install four washers (17) and screws (18) in rear panel (15).



c. Follow-On Maintenance.

- (1) Install small arms mounts (para 21-7).
- (2) Install center seat belt (para 16-16).
- (3) Install seat (para 16-15).
- (4) Install cab storage boxes (para 16-18).

End of Task.

16-15. SEATS REPLACEMENT

This task covers:

- | | |
|--|---|
| <ul style="list-style-type: none"> a. Passenger's Seat Removal b. Passenger's Seat Installation c. Center Seat Removal d. Center Seat Installation | <ul style="list-style-type: none"> e. Driver's Seat Removal f. Driver's Seat Installation g. Follow-On Maintenance |
|--|---|

INITIAL SETUP

Equipment Conditions

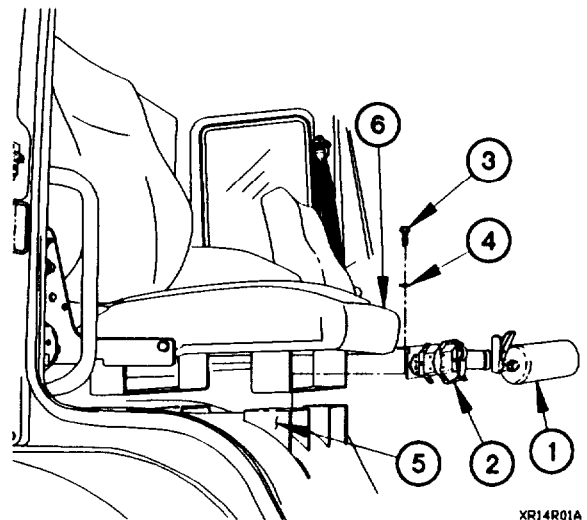
Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)

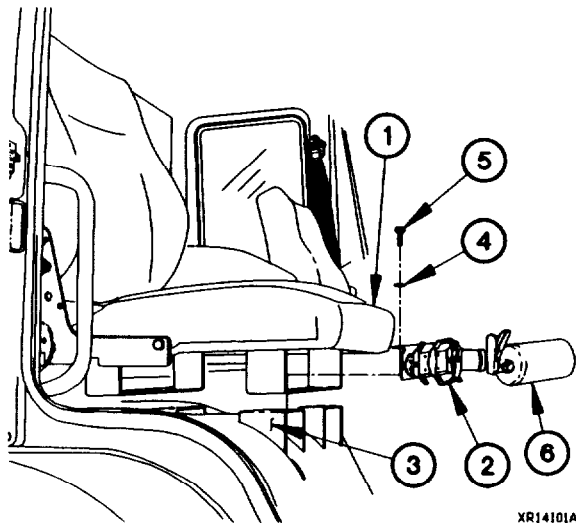
a. Passenger's Seat Removal.

- (1) Remove fire extinguisher (1) from bracket (2).
- (2) Remove four screws (3) and washers (4) from seat mounts (5).
- (3) Remove seat (6) and bracket (2) from seat mounts (5).



b. Passenger's Seat Installation.

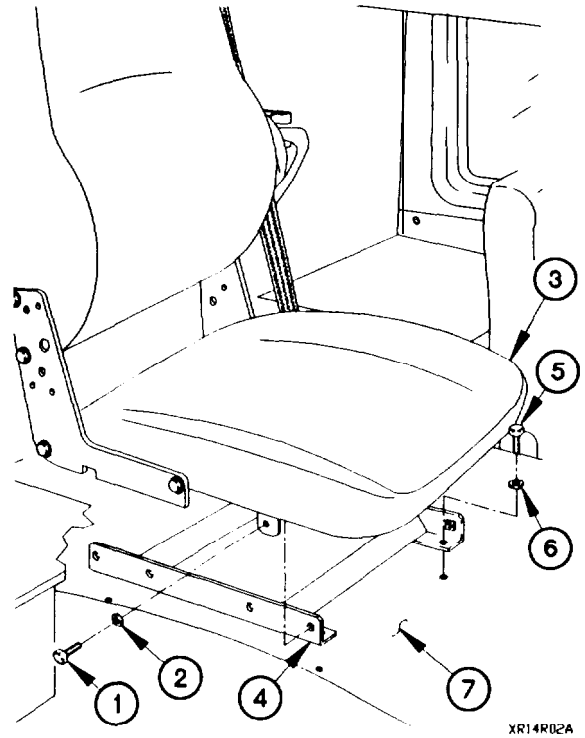
- (1) Install seat (1) and bracket (2) on seat mounts (3) with four washers (4) and screws (5).
- (2) Install fire extinguisher (6) in bracket (2).



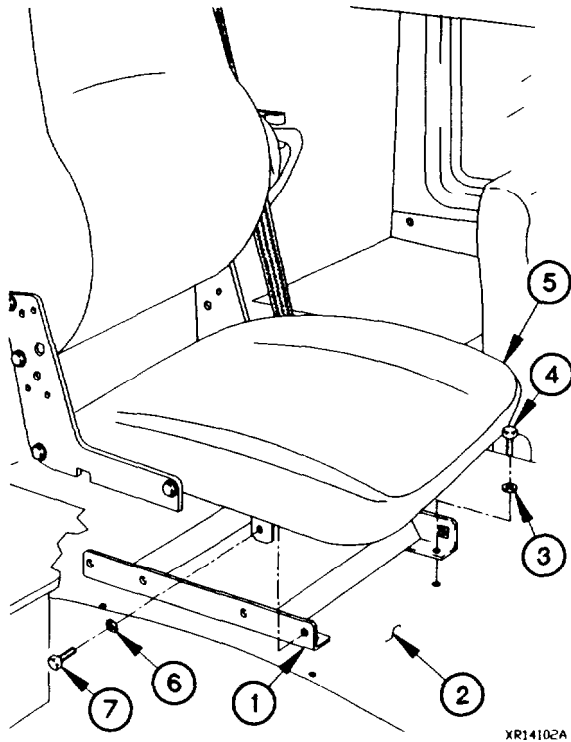
16-15. SEATS REPLACEMENT (CONT)

c. Center Seat Removal.

- (1) Remove four screws (1), washers (2), and seat (3) from bracket (4).
- (2) Remove four screws (5), washers (6), and bracket (4) from cab floor (7).



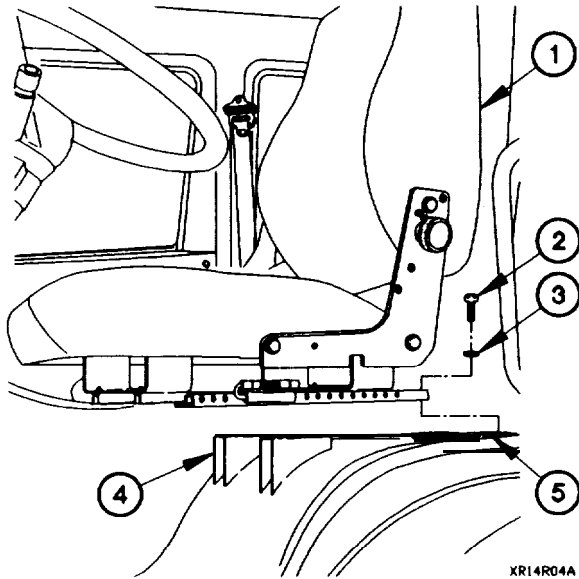
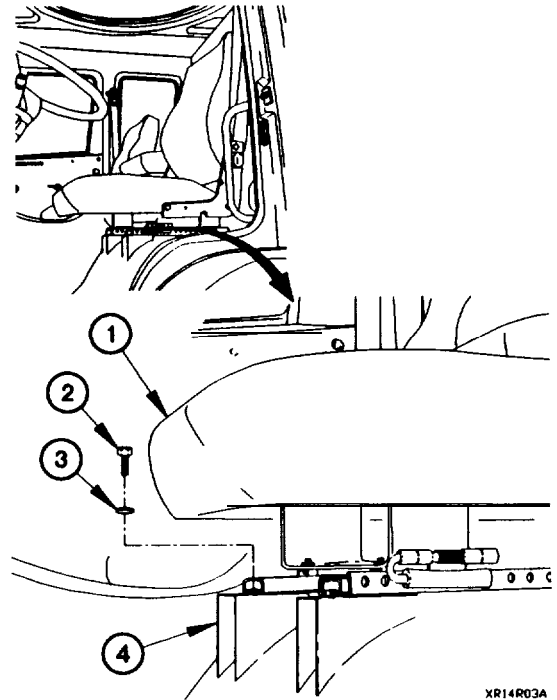
d. Center Seat Installation.



- (1) Install bracket (1) on cab floor (2) with four washers (3) and screws (4).
- (2) Install seat (5) on bracket (1) with four washers (6) and screws (7).

e. Driver's Seat Removal.

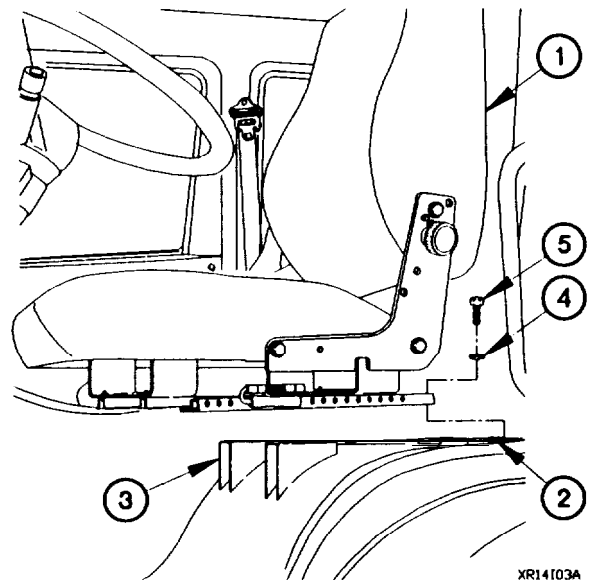
- (1) Slide seat (1) toward back of vehicle (TM 9-2320-366-10-1).
- (2) Remove two screws (2) and washers (3) from front seat mount (4).



- (3) Slide seat (1) toward front of vehicle (TM 9-2320-366-10-1).
- (4) Remove two screws (2) and washers (3) from rear seat mount (5).
- (5) Remove seat (1) from seat mounts (4 and 5).

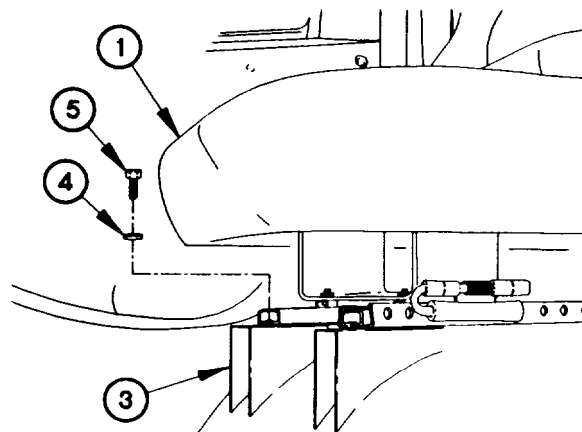
f. Driver's Seat Installation.

- (1) Position seat (1) on seat mounts (2 and 3).
- (2) Slide seat (1) toward front of vehicle (TM 9-2320-366-10-1).
- (3) Install two washers (4) and screws (5) on rear seat mount (2).



16-15. SEATS REPLACEMENT (CONT)

- (4) Slide seat (1) toward rear of vehicle (TM 9-2320-366-10-1).
- (5) Install two washers (4) and screws (5) on front seat mount (3).



g. Follow-On Maintenance.

Operate seat controls (TM 9-2320-366-10-1).

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End of Task.

16-16. SEAT BELT REPLACEMENT

This task covers:

- a. Removal
- b. Installation

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Cab storage boxes removed (para 16-18).

Tools and Special Tools

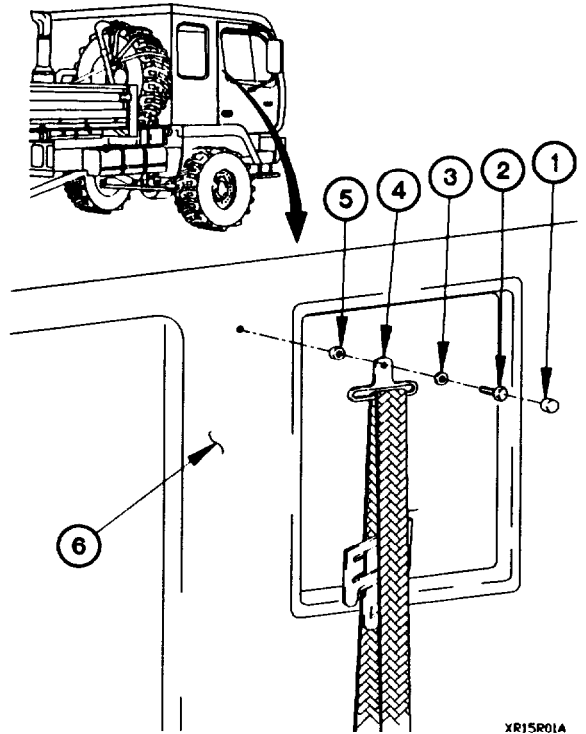
Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

a. Removal.

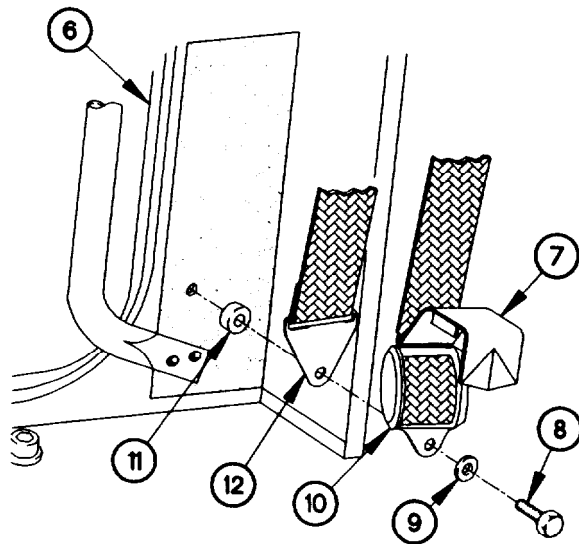
NOTE

Right and left side seat belts are replaced the same way. Right side shown.

- (1) Remove plastic cover (1) from screw (2).
- (2) Remove screw (2), washer (3), mounting bracket (4), and spacer (5) from side of cab (6).



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XR15R02A

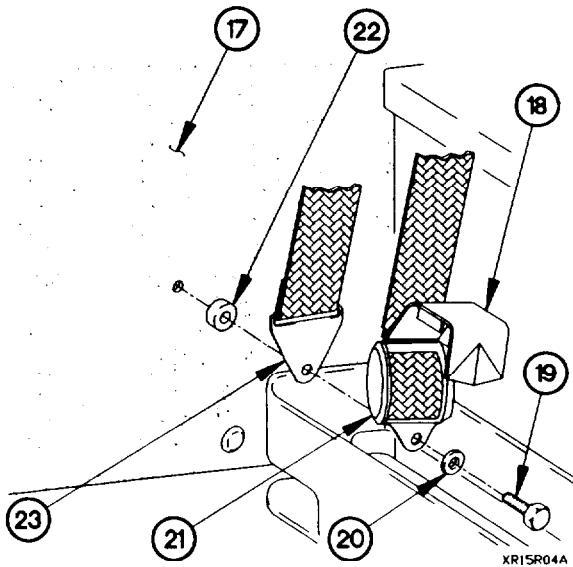
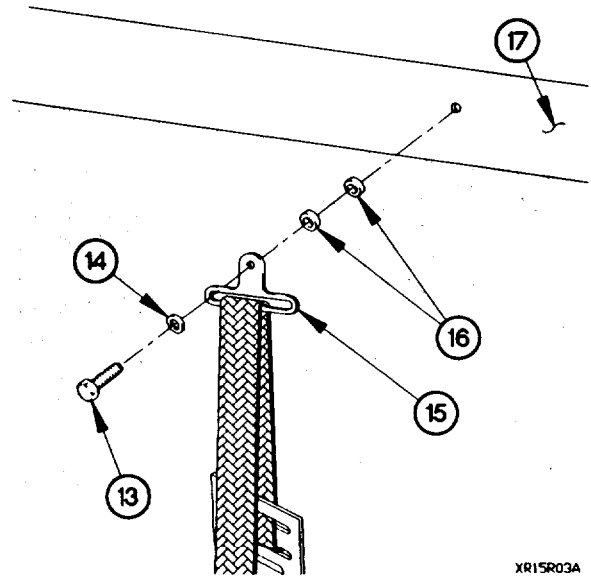
- (3) Open plastic cover (7).
- (4) Remove screw (8), washer (9), seat belt retractor (10), and spacer (11) from side of cab (6).
- (5) Remove seat belt (12) from side of cab (6).

16-16. SEAT BELT REPLACEMENT (CONT)

NOTE

Perform steps (6) through (8) on center seat belt.

- (6) Remove screw (13), washer (14), center seat belt mounting bracket (15), and two spacers (16) from rear bulkhead (17).



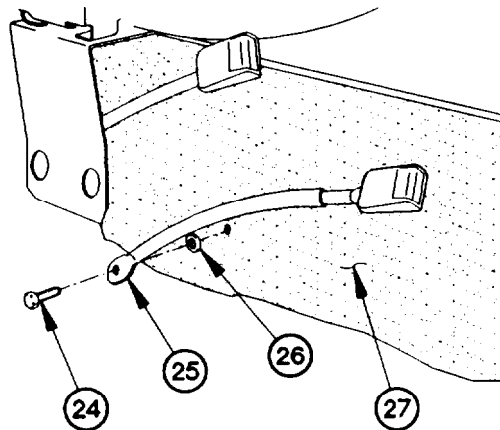
- (7) Open plastic cover (18).

- (8) Remove screw (19), washer (20), center seat belt retractor (21), spacer (22), and center seat belt (23) from rear bulkhead (17).

NOTE

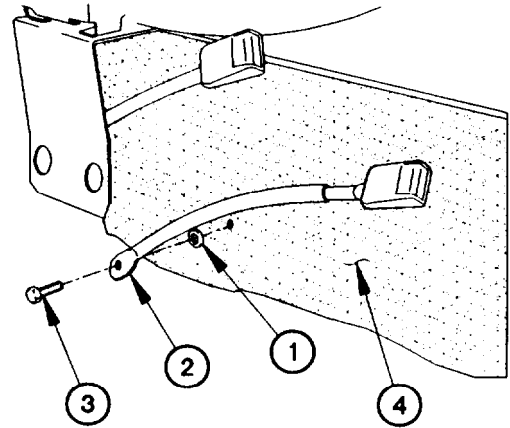
All three seat belt buckles are replaced the same way. Right side shown.

- (9) Remove screw (24), seat belt buckle (25), and spacer (26) from cab floor (27).



b. Installation.

- (1) Position spacer (1) and seat belt buckle (2) with screw (3) on cab floor (4).
- (2) Tighten screw (3) to 30-35 lb-ft (41-47 N•m).

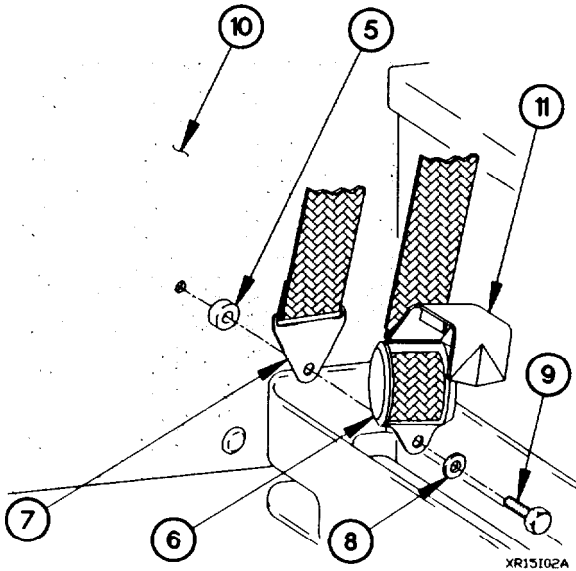


XR15101A

NOTE

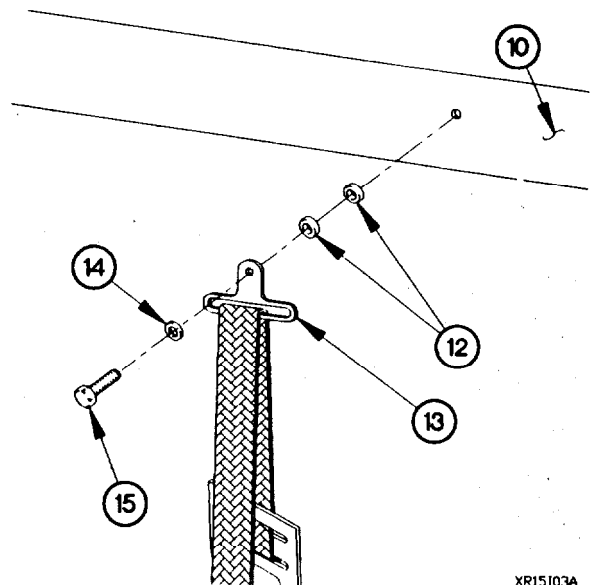
Perform steps (3) through (7) on center seat belt.

- (3) Position spacer (5), center seat belt retractor (6), center seat belt (7), washer (8), and screw (9) on rear bulkhead (10).
- (4) Tighten screw (9) to 30-35 lb-ft (41-47 N•m).
- (5) Close plastic cover (11).



XR15102A

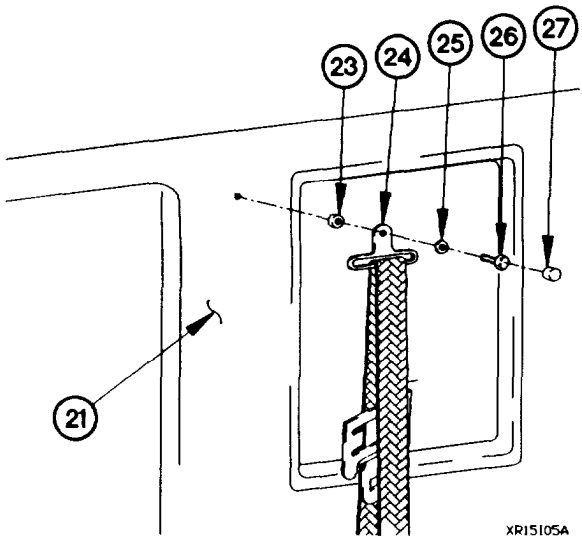
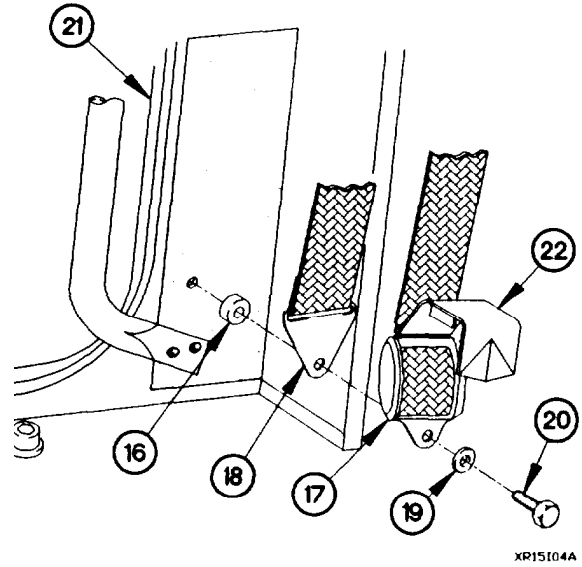
- (6) Position two spacers (12), center seat belt mounting bracket (13), washer (14), and screw (15) on rear bulkhead (10).
- (7) Tighten screw (15) to 30-35 lb-ft (41-47 N•m).



XR15103A

16-16. SEAT BELT REPLACEMENT (CONT)

- (8) Position spacer (16), seat belt retractor (17), seat belt (18), washer (19), and screw (20) on side of cab (21).
- (9) Tighten screw (20) to 30-35 lb-ft (41-47 N•m).
- (10) Close plastic cover (22).



- (11) Position spacer (23), seat belt mounting bracket (24), washer (25), and screw (26) on side of cab (21).
- (12) Tighten screw (26) to 30-35 lb-ft (41-47 N•m).
- (13) Install plastic cover (27) on screw (26).

c. Follow-On Maintenance.

Install cab storage boxes (para 16-12).

End of Task.

16-17. TOOL BOX REPLACEMENT/REPAIR

This task covers:

- a. Removal
- b. Disassembly
- c. Assembly
- d. Installation
- e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Spare tire lowered (TM 9-2320-366-10-2).
- Tools removed from tool box (TM 9-2320-366-10-1).
- Hydraulic manifold removed (para 19-4).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Screwdriver Attachment, Socket Wrench (Item 62, Appendix B)
- Tool Kit, Blind Rivet (Item 44, Appendix C)

Tools and Special Tools (Cont)

- Drill, Electric, Portable (Item 7, Appendix C)
- Drill Set, Twist (Item 6, Appendix C)

Materials/Parts

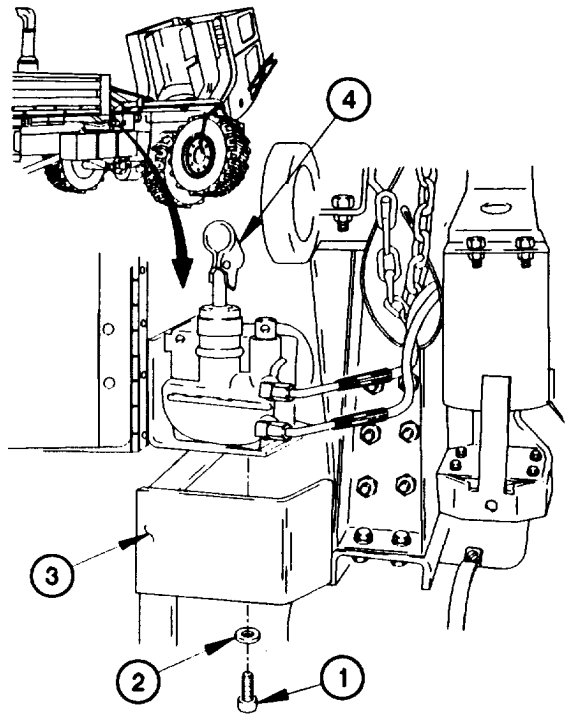
- Latch, Bail Head (Item 87, Appendix G)
- Seal, Nonmetallic (Item 269, Appendix G)
- Rivet, Blind (10) (Item 254, Appendix G)
- Nut, Self-Locking (8) (Item 155, Appendix G)
- Nut, Self-Locking (2) (Item 156, Appendix G)

Personnel Required

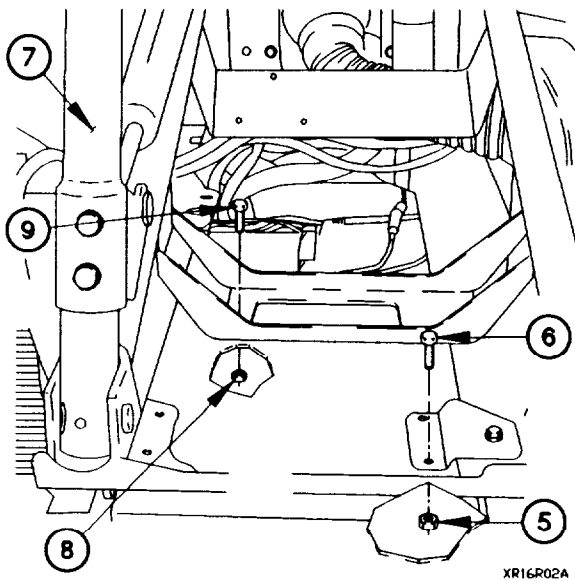
(2)

a. Removal.

- (1) Remove two screws (1), washers (2), and cover (3) from backup hydraulic pump (4).



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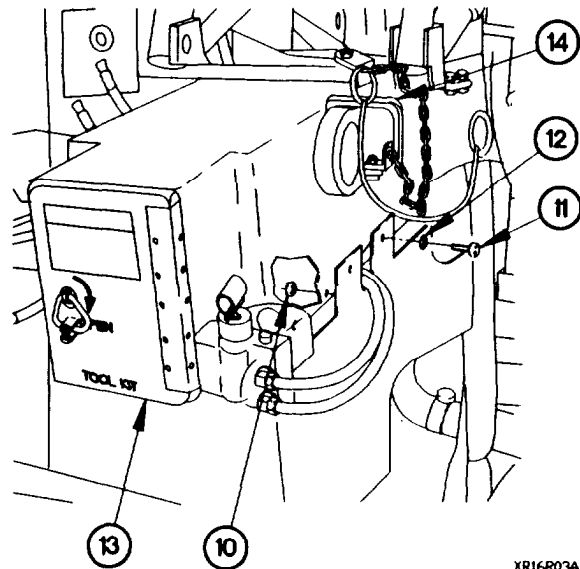


XR16R02A

- (2) Remove four self-locking nuts (5) and screws (6) from spare tire retainer assembly (7). Discard self-locking nuts.
- (3) Remove four self-locking nuts (8) and screws (9) from spare tire retainer assembly (7). Discard self-locking nuts.

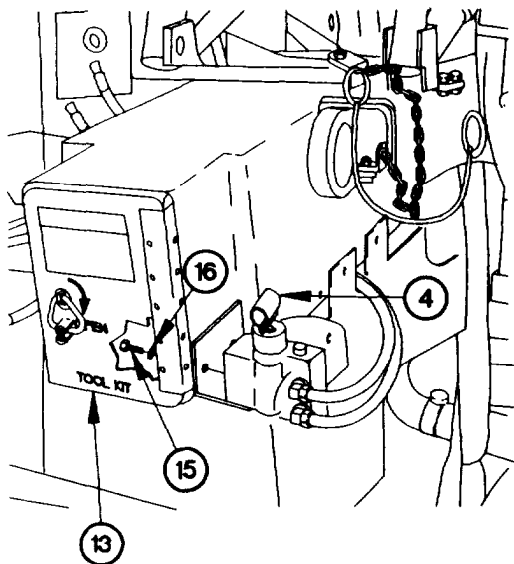
16-17. TOOL BOX REPLACEMENT/REPAIR (CONT)

- (4) Remove two self-locking nuts (10), screws (11), washers (12), and tool box (13) from front lifting beam (14). Discard self-locking nuts.



XR16R03A

- (5) Remove two screws (15), washers (16), and tool box (13) from backup hydraulic pump (4).



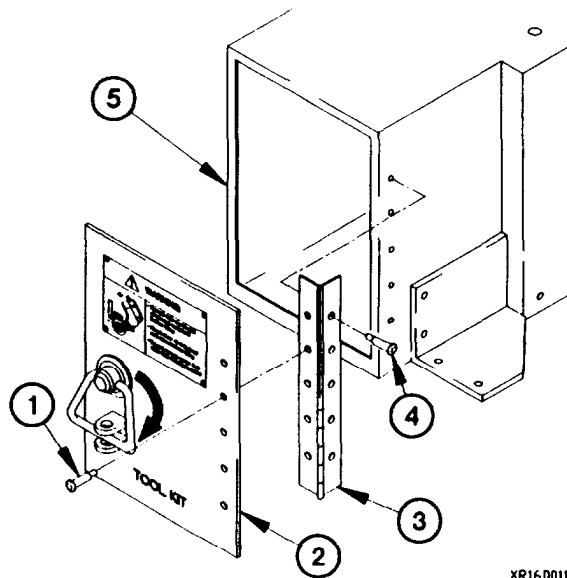
XR16R04A

b. Disassembly.

WARNING

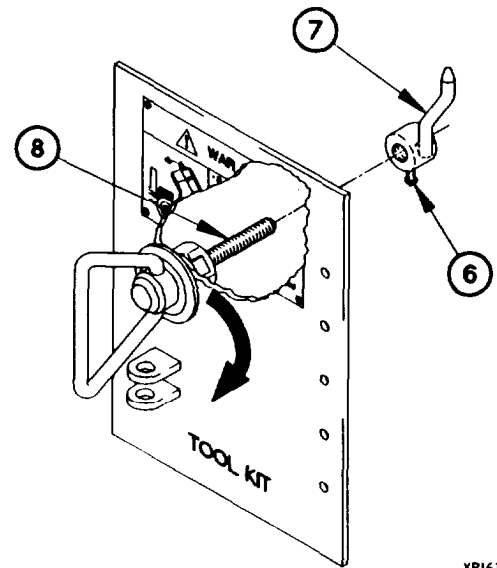
Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

- (1) Remove five rivets (1) and tool box door (2) from hinge (3).
- (2) Remove five rivets (4) and hinge (3) from tool box (5).

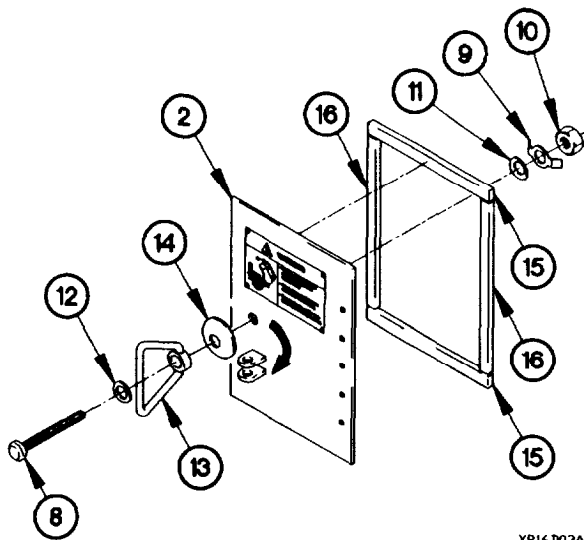


XR16D011

- (3) Loosen setscrew (6) in latch pawl (7).
- (4) Remove latch pawl (7) from shaft (8). Discard latch pawl and setscrew.



XR16D02A



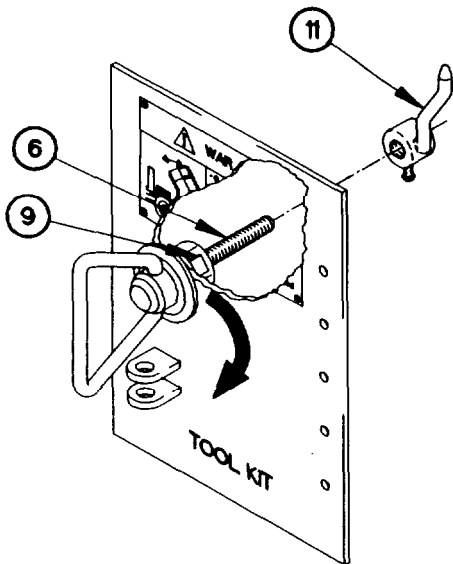
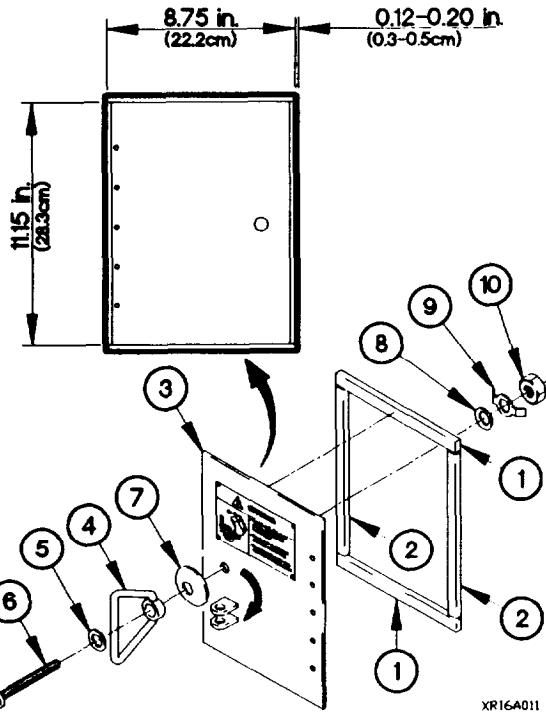
XR16D03A

- (5) Bend down two tabs on key washer (9).
- (6) Remove nut (10), key washer (9), spring washer (11), shaft (8), stop washer (12), bail (13), and plate (14) from tool box door (2). Discard key washer, spring washer, shaft, stop washer, bail, and plate.
- (7) Remove two seals (15) and seals (16) from tool box door (2). Discard seals.

16-17. TOOL BOX REPLACEMENT/REPAIR (CONT)

c. Assembly.

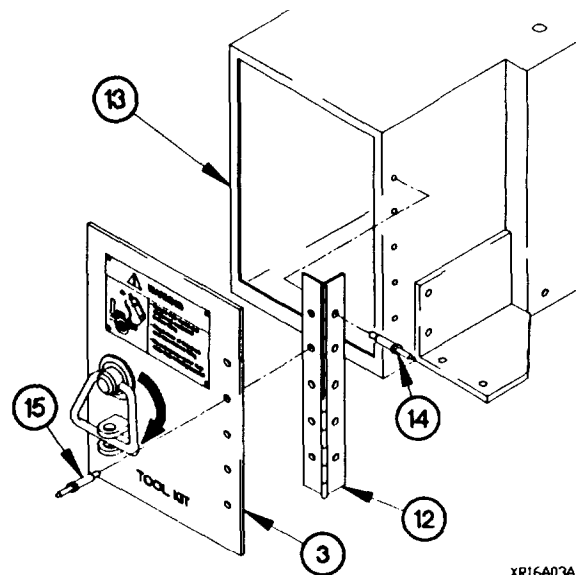
- (1) Cut two seals (1) to 8.75 in. (22.2 cm) long.
- (2) Cut two seals (2) to 11.15 in. (28.3 cm) long.
- (3) Install two seals (1) and seals (2) on tool box door (3) 0.12-0.20 in. (0.3-0.5 cm) offset from edge of tool box door.
- (4) Install bail (4) and stop washer (5) on shaft (6).
- (5) Install plate (7) and shaft (6) on tool box door (3) with spring washer (8), key washer (9), and nut (10).



XR16A02A

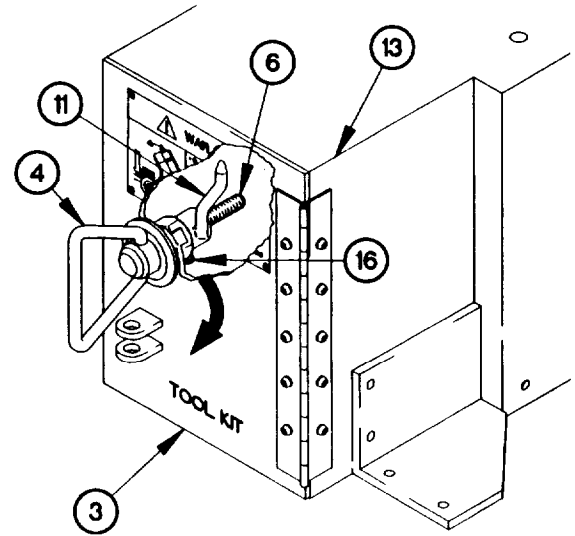
- (6) Bend up two tabs on key washer (9)
- (7) Install latch pawl (11) on shaft (6).

- (8) Install hinge (12) on tool box (13) with five rivets (14).
- (9) Install tool box door (3) on hinge (12) with five rivets (15).



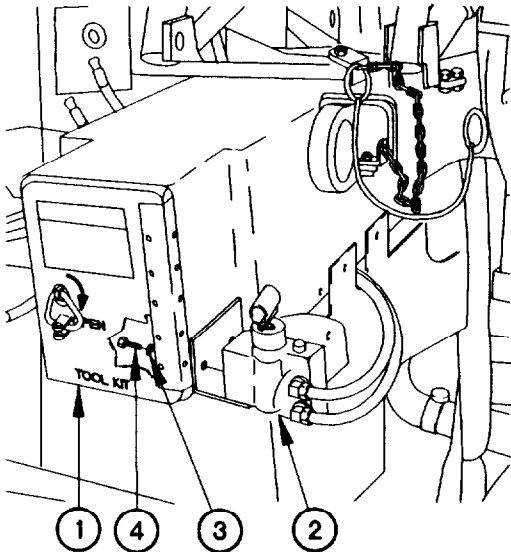
XR16A03A

- (10) Adjust position of latch pawl (11) on shaft (6) so that tool box door (3) is flush against tool box (13) when bail (4) is turned to locked position.
- (11) Tighten setscrew (16) in latch pawl (11).



XR16A04A

d. Installation.



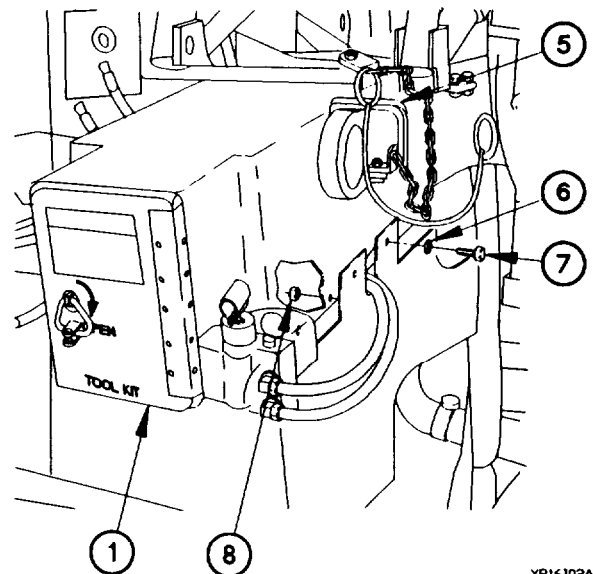
XR16101A

- (1) Position tool box (1) on backup hydraulic pump (2) with two washers (3) and screws (4).
- (2) Tighten two screws (4) to 28-34 lb-ft (38-46 N•m).

NOTE

Step (3) requires the aid of an assistant.

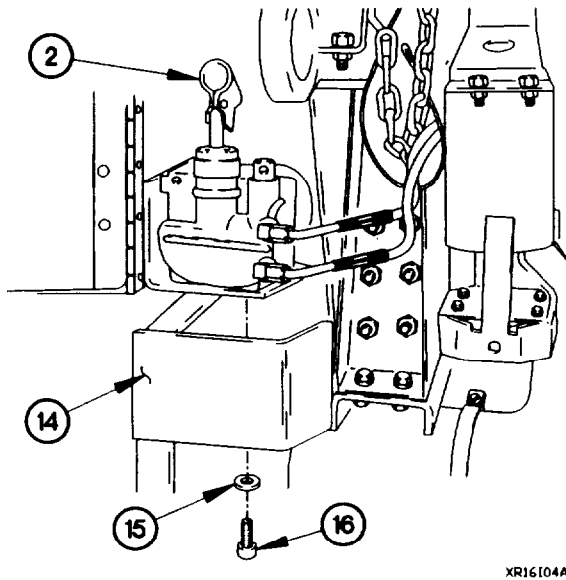
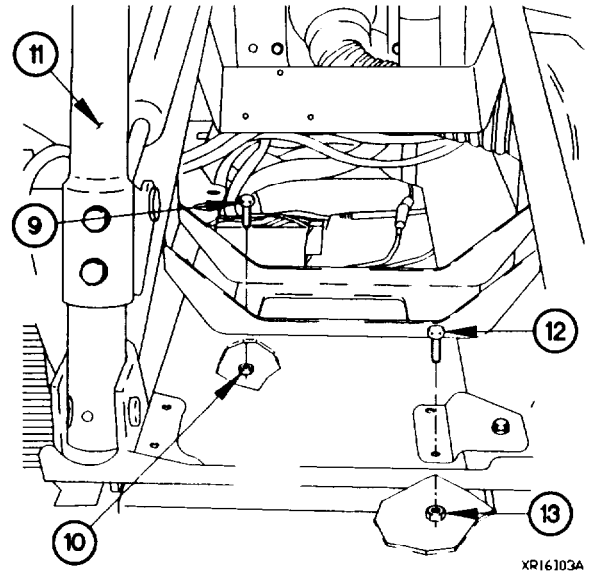
- (3) Position tool box (1) on front lifting beam (5) with two washers (6), screws (7), and self-locking nuts (8).
- (4) Tighten two self-locking nuts (8) to 43-52 lb-ft (58-71 N•m).



XR16102A

16-17. TOOL BOX REPLACEMENT/REPAIR (CONT)

- (5) Position four screws (9) and self-locking nuts (10) in spare tire retainer assembly (11).
- (6) Position four screws (12) and self-locking nuts (13) in spare tire retainer assembly (11).
- (7) Tighten four self-locking nuts (10 and 13) to 24-30 lb-ft (33-41 N•m).



- (8) Position cover (14) on backup hydraulic pump (2) with two washers (15) and screws (16).
- (9) Tighten two screws (16) to 28-34 lb-ft (38-46 N•m).

e. Follow-On Maintenance.

- (1) Place tools in tool box (TM 9-2320-366-10-1).
- (2) Install hydraulic manifold (para 19-4).
- (3) Raise spare tire (TM 9-2320-366-10-2).

End of Task.

16-18. CAB STORAGE BOX REPLACEMENT/REPAIR

This task covers:

- a. Removal
- b. Disassembly
- c. Assembly
- d. Installation

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
 Socket Set, Socket Wrench (Item 36, Appendix C)

Materials/Parts

Adhesive (Item 3, Appendix D)
 Pin, Cotter (Item 236, Appendix G)
 Grommet, Nonmetallic (Item 49, Appendix G)
 Bumper, Rubber (12) (Item 5, Appendix G)
 Channel, Rubber (Item 7, Appendix G)

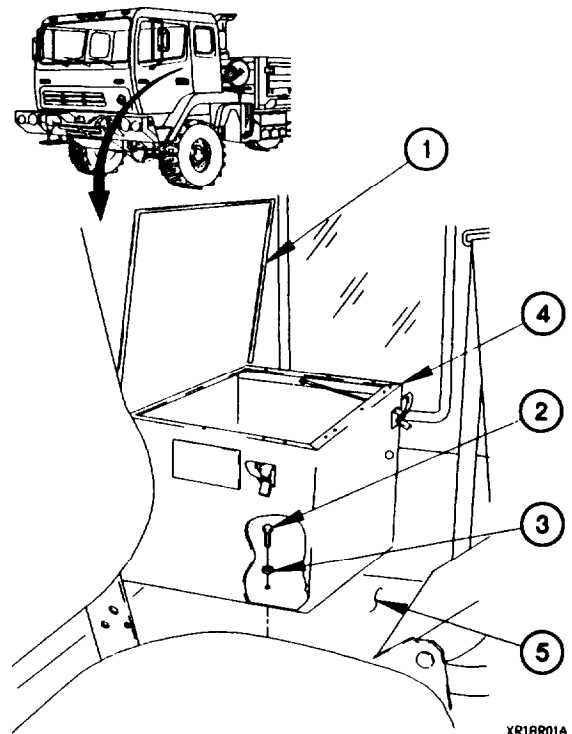
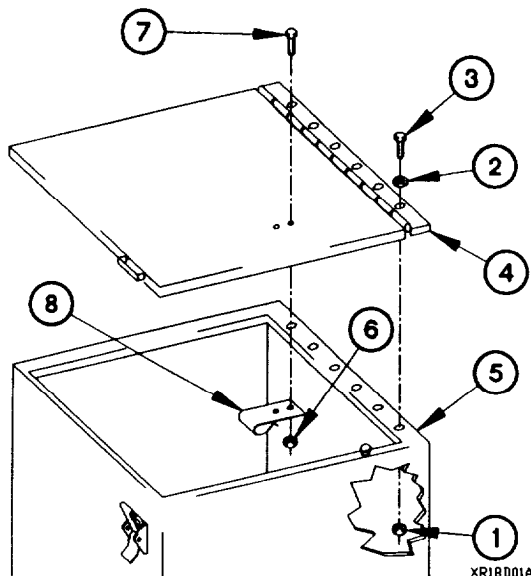
a. Removal.

NOTE

Left and right storage boxes are removed the same way. Left storage box shown.

- (1) Open storage box cover (1).
- (2) Remove six screws (2) and washers (3) from storage box (4).
- (3) Remove storage box (4) from cab floor (5).

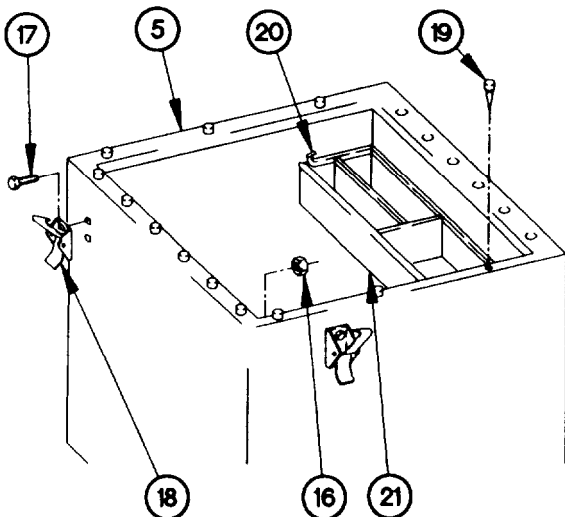
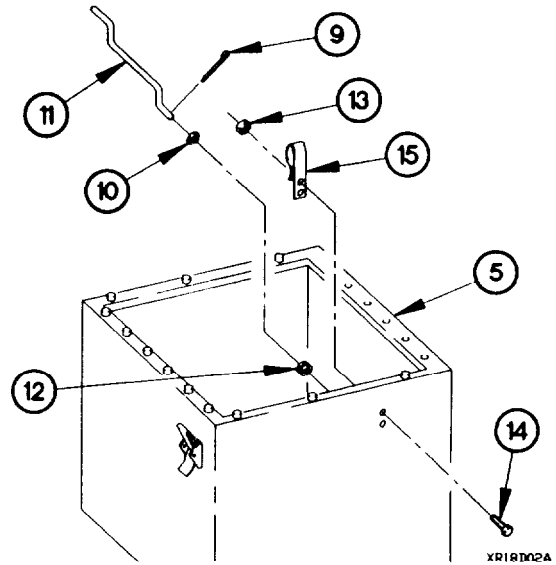
b. Disassembly.



- (1) Remove six nuts (1), washers (2), screws (3), and storage box cover (4) from storage box (5).
- (2) Remove two nuts (6), screws (7) and clamp (8) from storage box cover (4).

16-18. CAB STORAGE BOX REPLACEMENT/REPAIR (CONT)

- (3) Remove cotter pin (9), washer (10), and cover support arm (11) from storage box (5). Discard cotter pin.
- (4) Remove rubber grommet (12) from storage box (5). Discard rubber grommet.
- (5) Remove two nuts (13), screws (14), and clamp (15) from storage box (5).



- (6) Remove four nuts (16), screws (17), and two latches (18) from storage box (5).
- (7) Remove 12 rubber bumpers (19) from storage box (5). Discard rubber bumpers.

NOTE

Right storage box is equipped with a tray.
Perform step (8) on right storage box.

- (8) Remove rubber channel (20) from storage box tray (21). Discard rubber channel.

c. Assembly.

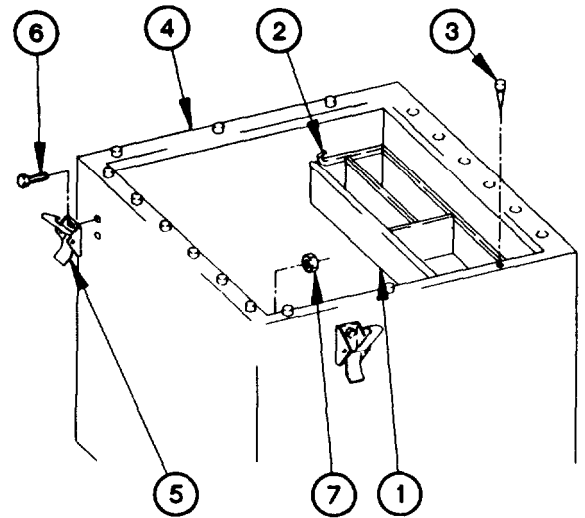
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

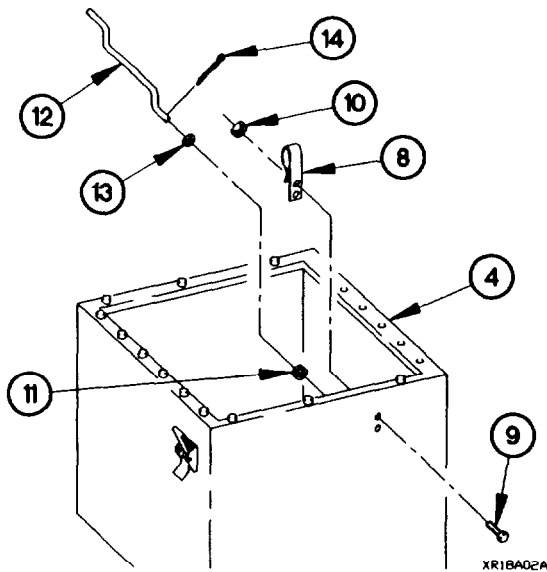
NOTE

Right storage box is equipped with a tray. Perform steps (1) and (2) on right storage box.

- (1) Apply adhesive to top edges of storage box tray (1).
- (2) Install rubber channel (2) on storage box tray (1).
- (3) Install 12 rubber bumpers (3) in storage box (4).
- (4) Install two latches (5) on storage box (4) with four screws (6) and nuts (7).



XR1BA01A



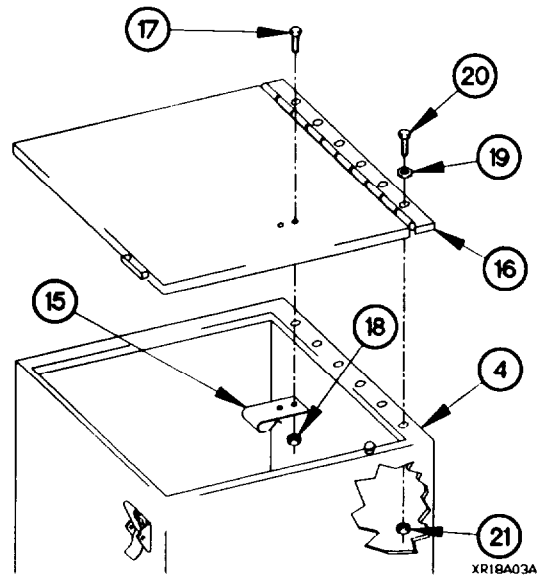
XR1BA02A

- (5) Install clamp (8) on storage box (4) with two screws (9) and nuts (10).
- (6) Install rubber grommet (11) in storage box (4).
- (7) Install cover support arm (12) in storage box (4) with washer (13) and cotter pin (14).

16-18. CAB STORAGE BOX REPLACEMENT/REPAIR (CONT)

(8) Install clamp (15) on storage box cover (16) with two screws (17) and nuts (18).

(9) Install storage box cover (16) on storage box (4) with six washers (19), screws (20), and nuts (21).



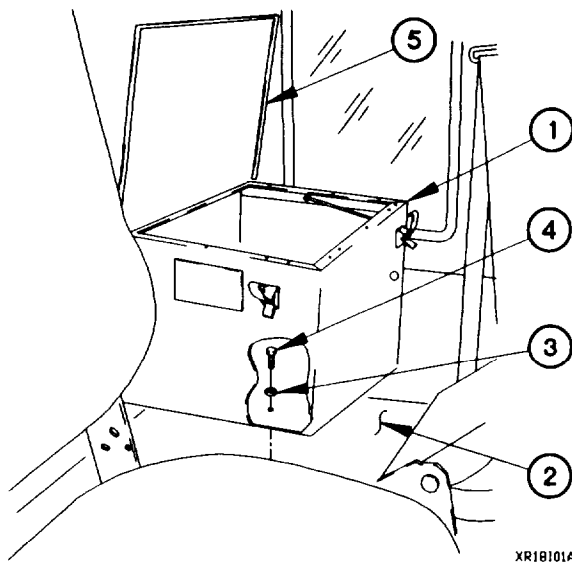
d. Installation.

NOTE

Left and right storage boxes are installed the same way. Left storage box shown.

- (1) Position storage box (1) in mounting location on cab floor (2).
- (2) Position six washers (3) and screws (4) in storage box (1).
- (3) Tighten six screws (4) to 70-85 lb-in. (8-10 N•m).
- (4) Close storage box cover (5).

End of Task.



16-19. PANEL STOWAGE DOOR ASSEMBLY REPAIR

This task covers:

- a. Removal
- b. Disassembly
- c. Assembly
- d. Installation

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Drill Set, Twist (Item 6, Appendix C)
 Drill, Portable, Electric (Item 7, Appendix C)
 Goggles, Industrial (Item 15, Appendix C)

Tools and Special Tools (Cont)

Tool Kit, Blind Rivet (Item 44, Appendix C)

Materials/Parts

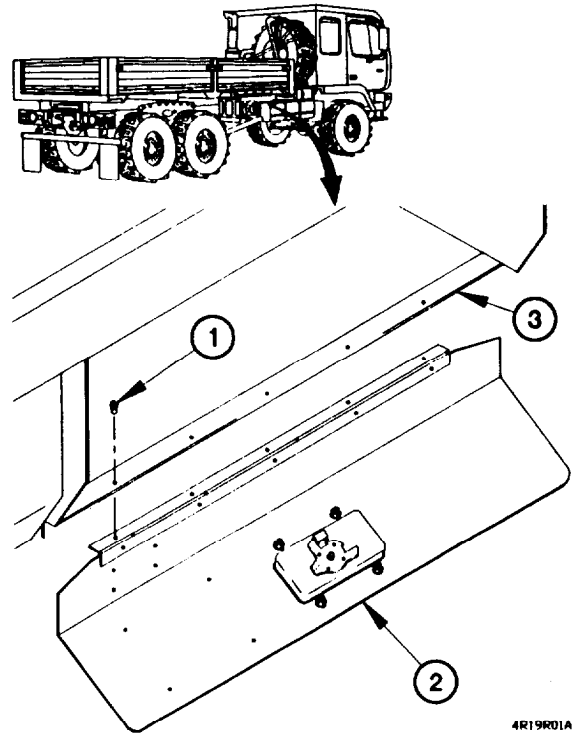
Nut, Self-Locking (4) (Item 131, Appendix G)
 Rivet, Blind (10) (Item 257, Appendix G)
 Rivet, Blind (8) (Item 245, Appendix G)

a. Removal.



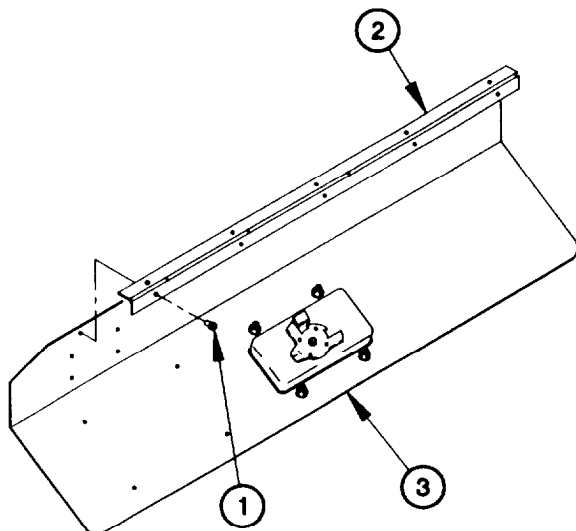
Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

Remove five rivets (1) and door (2) from stowage box (3).



4R19R01A

b. Disassembly.



XR19D01A

(1) Remove five rivets (1) and hinge (2) from door (3).

16-19. PANEL STOWAGE DOOR ASSEMBLY REPAIR (CONT)

(2) Remove four nuts (4), screws (5), and door latch (6) from door (3).

WARNING

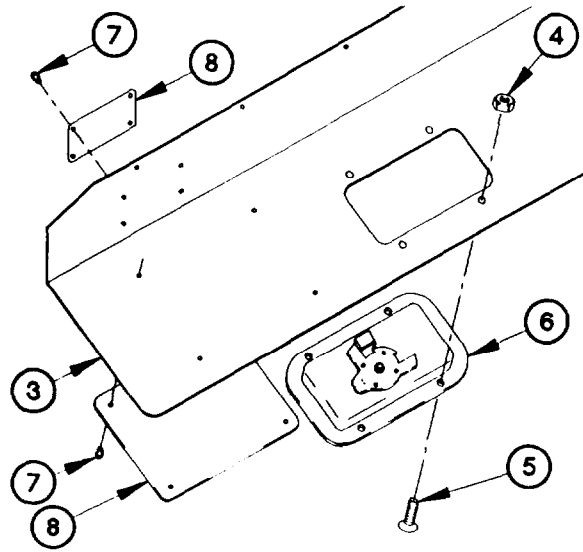
Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

NOTE

Perform step (3) on right side door.

(3) Remove eight rivets (7) and two data plates (8) from door (3).

c. Assembly.

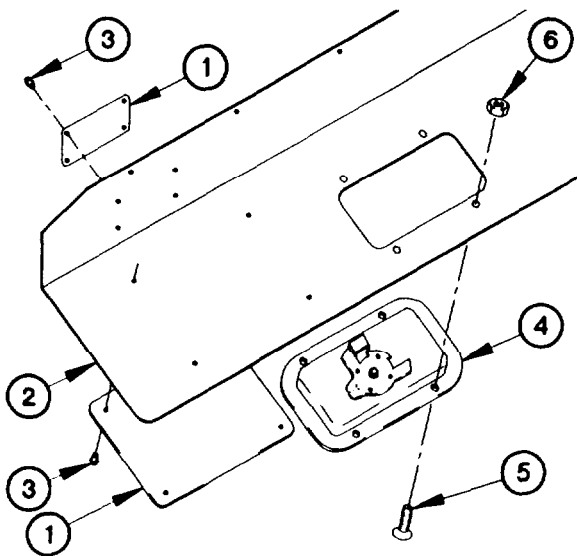


XR19D02A

NOTE

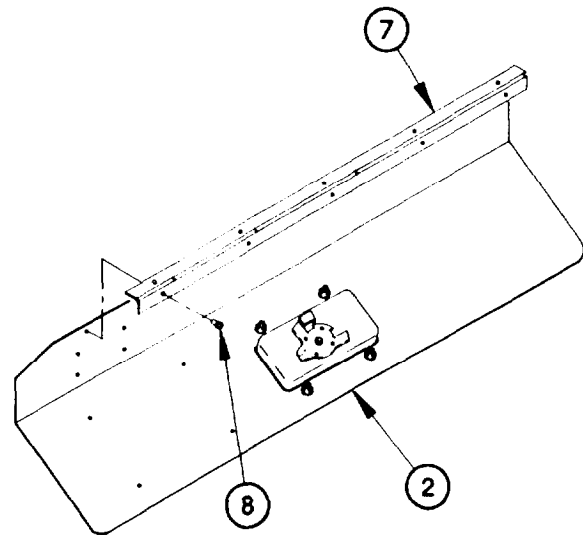
Perform step (1) on right side door.

- (1) Install two data plates (1) on door (2) with eight rivets (3).
- (2) Install door latch (4) on door (2) with four screws (5) and nuts (6).



XR19A01A

(3) Install hinge (7) on door (2) with five rivets (8).

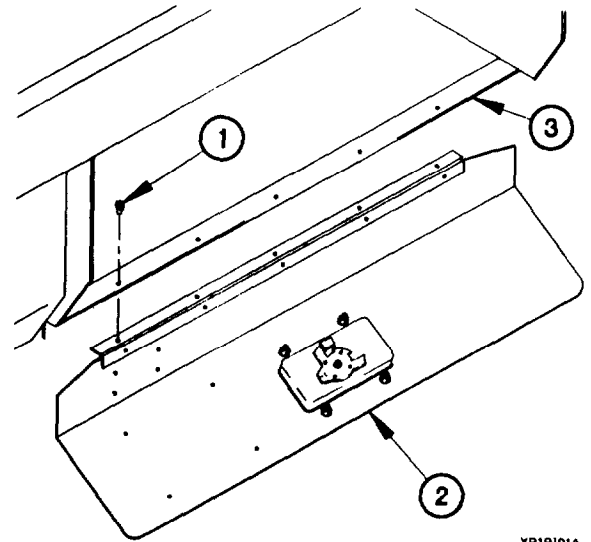


XR19A02A

d. Installation.

Install door (1) on stowage box (2) with five rivets (3).

End of Task.



XR19101A

16-20. M1090/M1094 GUIDE POST ASSEMBLY REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

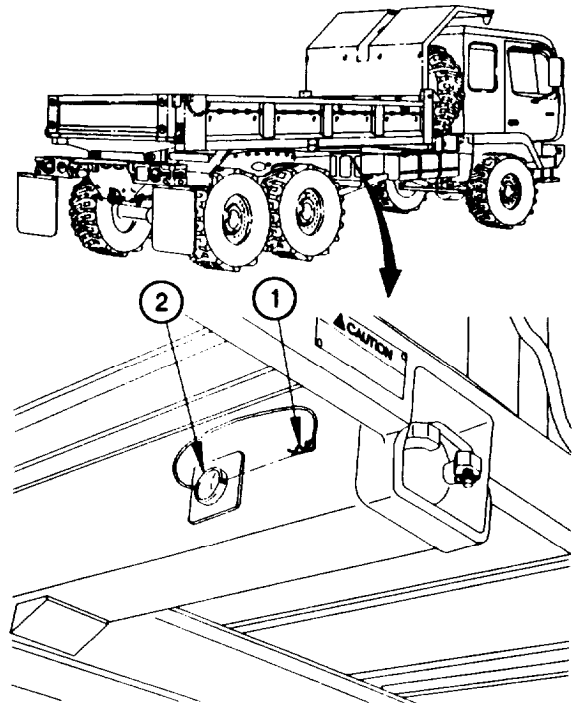
Tool Kit, Genl Mech (Item 46, Appendix C)

a. Removal.

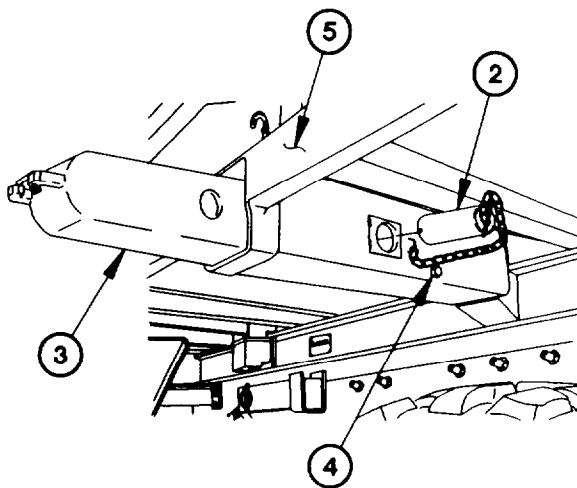
NOTE

Left and right side cable guides are replaced the same way. Right side shown.

(1) Remove lynch pin (1) from top pin (2).



4R20R011



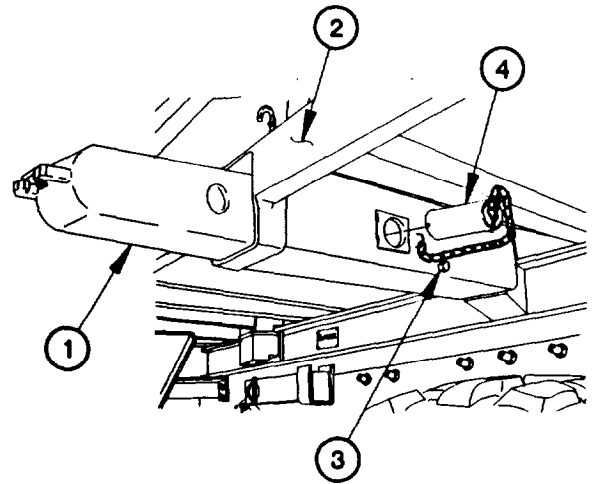
(2) Remove top pin (2) from guide post (3).

(3) Loosen screw (4).

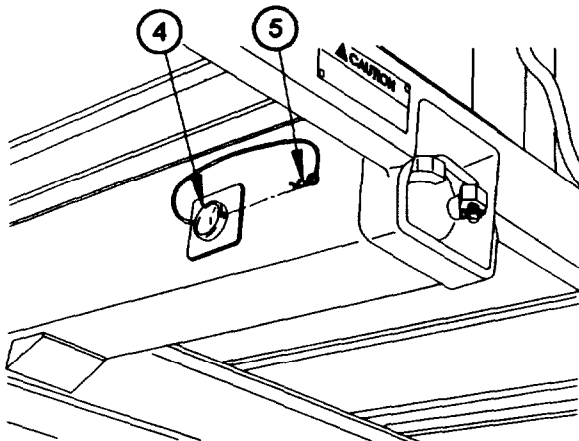
(4) Remove guide post (3) from dump bed (5).

b. Installation.

- (1) Install guide post (1) in dump bed (2).
- (2) Tighten screw (3).
- (3) Install top pin (4) in guide post (1).



4R20K1A



4R20K21

- (4) Install lynch pin (5) in top pin (4).

End of Task.

16-21. M1090/M1094 TAILGATE ASSEMBLY REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (TM 9-2320-366-10-1).
- Tailgate opened (TM 9-2320-366-10-1).

Tools and Special Tools

- Drill, Portable, Electric (Item 7, Appendix C)
- Drill, Set, Twist (Item 6, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Blind Rivet (Item 44, Appendix C)

Tools and Special Tools (Cont)

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Sling, Cargo (Item 69, Appendix C)

Materials/Parts

- Rivet, Blind (2) (Item 246, Appendix G)

Personnel Required

- (2)

a. Removal.

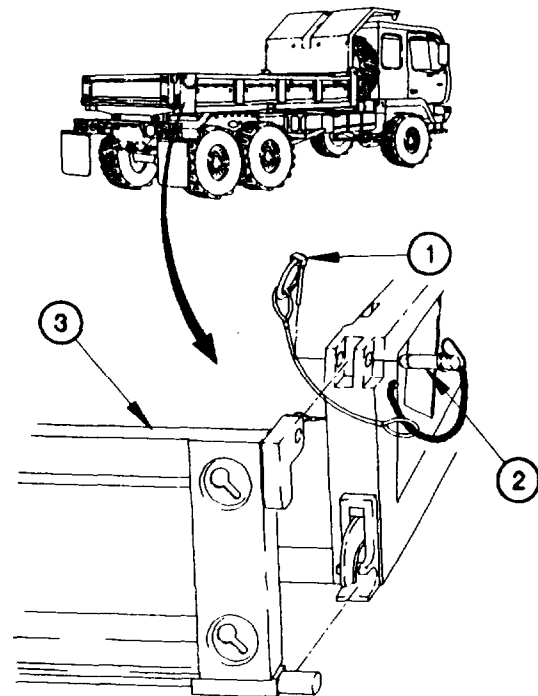


Tailgate assembly weighs approximately 130 lbs (59 Kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

NOTE

Left and right side pins are removed the same way. Right side shown.

- (1) Remove two pins (1) from hitch pins (2).
- (2) Remove two hitch pins (2) from tailgate (3).

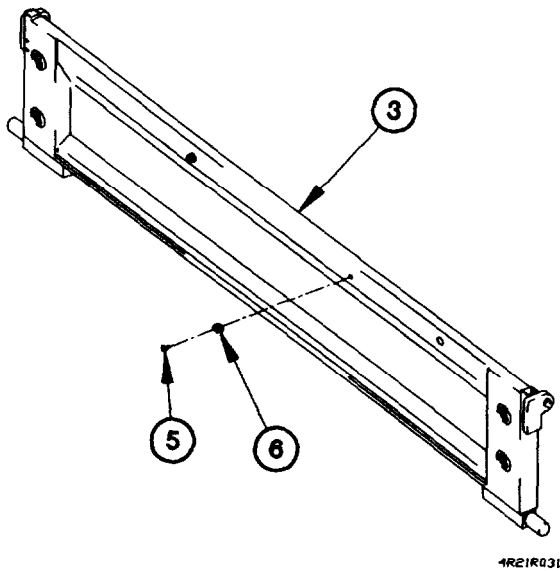
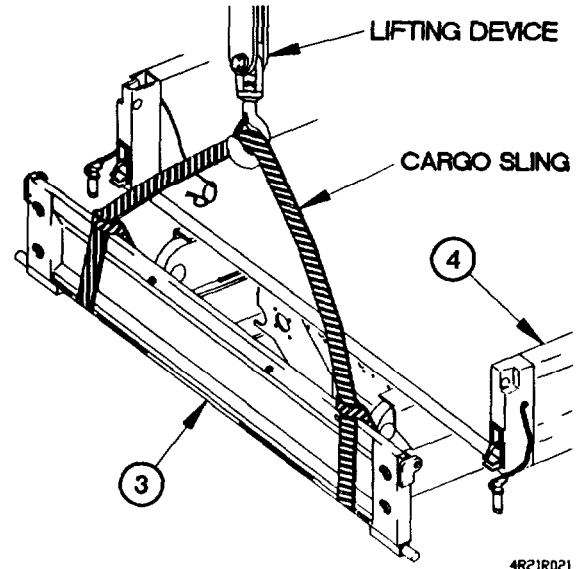


4R21R011

NOTE

Step (3) requires the aid of an assistant.

(3) Lift tailgate (3) from dump body (4).



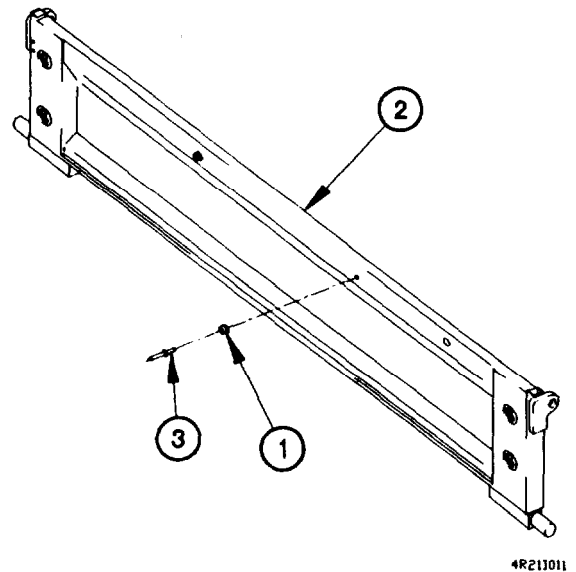
WARNING

Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

(4) Remove two rivets (5) and bumpers (6) from tailgate (3).

b. Installation.

(1) Install two bumpers (1) on tailgate (2) with two rivets (3)



16-21. M1090/M1094 TAILGATE ASSEMBLY REPLACEMENT (CONT)

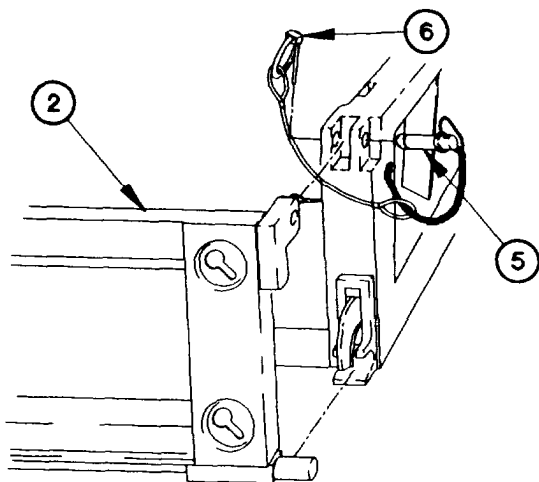
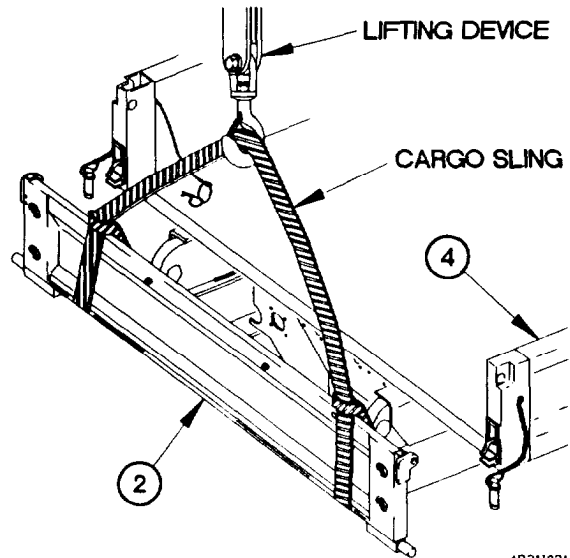
WARNING

Tailgate assembly weighs approximately 130 lbs (59 Kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

NOTE

Step (2) requires the aid of an assistant.

(2) Install tailgate (2) on dump body (4).



NOTE

Left and right side pins are installed the same way. Right side shown.

- (3) Install two hitch pins (5) in tailgate (2).
- (4) Install two pins (6) in hitch pins (5).

c. Follow-On Maintenance.

Close tailgate (TM 9-2320-366-10-1).

End of Task.

16-22. M1090/M1094 LADDER, BRACKETS, AND LATCH REPLACEMENT/REPAIR/ADJUSTMENT

This task covers:

- a. Ladder Disassembly
- b. Ladder Assembly
- c. Front Bracket Removal
- d. Front Bracket Installation
- e. Rear Brackets Removal
- f. Rear Brackets Installation
- g. Latch Adjustment
- h. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Ladder removed (TM 9-2320-366-10-1).

Tools and Special Tools

- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 59, Appendix C)
- Socket Set, Socket Wrench (Item 36, Appendix C)
- Tool Kit, Blind Rivet (Item 44, Appendix C)
- Drill, Portable, Electric (Item 7, Appendix C)
- Drill Set, Twist (item 6, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

- Sealing Compound (Item 60, Appendix D)
- Rivet, Blind (4) (Front Bracket) (Item 247, Appendix G)
- Rivet, Blind (2) (Front Bracket) (Item 249, Appendix G)

Materials/Parts (Cont)

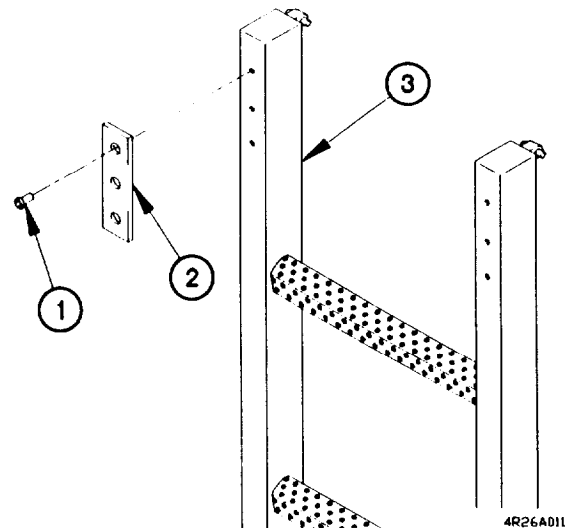
- Rivet, Blind (3) (Front Bracket) (Item 251, Appendix G)
- Nut, Self-Locking (4) (Front Bracket) (Item 151, Appendix G)
- Rivet, Blind (18) (Ladder) (Item 243, Appendix G)
- Rivet, Blind (2) (Right Rear Bracket) (Item 250, Appendix G)
- Rivet, Blind (2) (Right Rear Bracket) (Item 253, Appendix G)
- Rivet, Blind (4) (Right Rear Bracket) (Item 247, Appendix G)
- Nut, Self-Locking (Right Rear Bracket) (Item 150, Appendix G)
- Nut, Self-Locking (4) (Left Rear Bracket) (Item 160, Appendix G)

a. Ladder Disassembly.



Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

- (1) Remove six rivets (1) and two wear pads (2) from ladder (3).



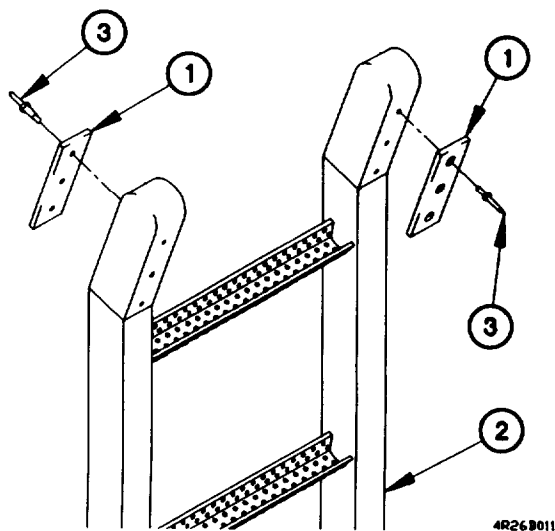
16-22. M1090/M1094 LADDER, BRACKETS, AND LATCH REPLACEMENT/REPAIR/ADJUSTMENT (CONT)

WARNING

Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

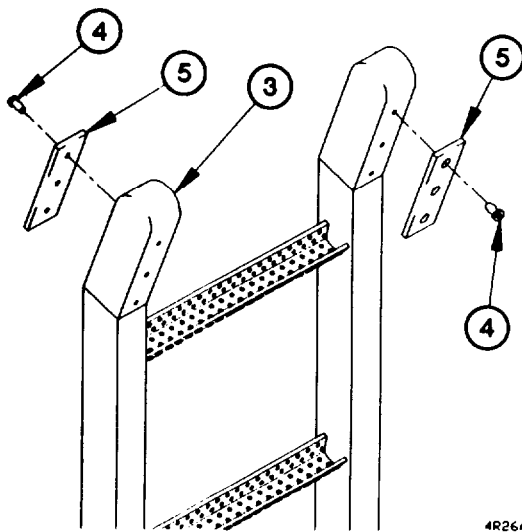
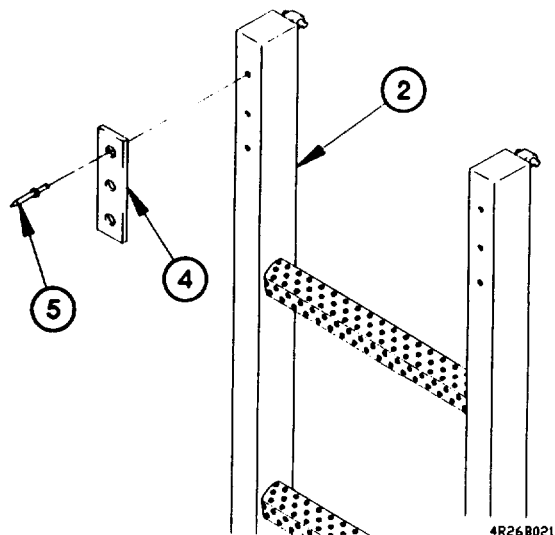
(2) Remove 12 rivets (4) and four wear pads (5) from ladder (3).

b. Ladder Assembly.



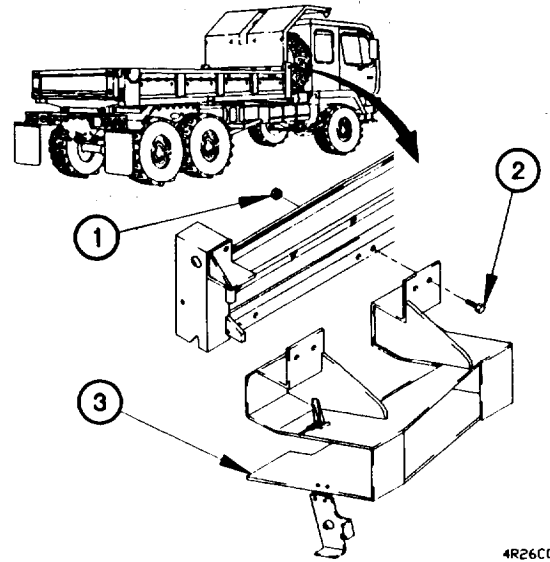
(1) Install four wear pads (1) on ladder (2) with 12 rivets (3).

(2) Install two wear pads (4) on ladder (2) with six rivets (5).



c. Front Bracket Removal.

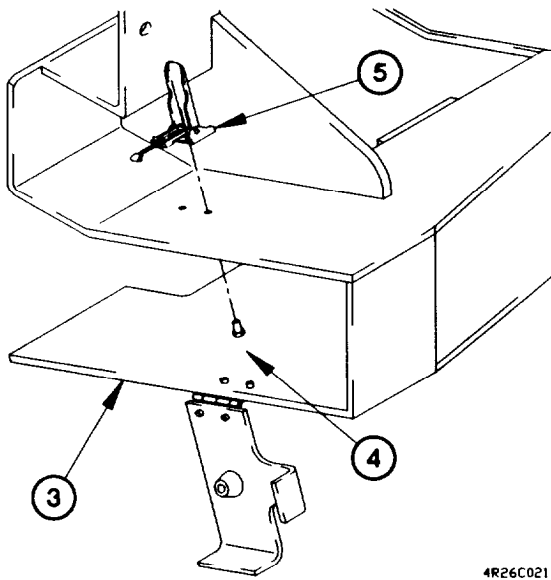
- (1) Remove four self-locking nuts (1), screws (2), and front bracket (3) from vehicle. Discard self-locking nuts.



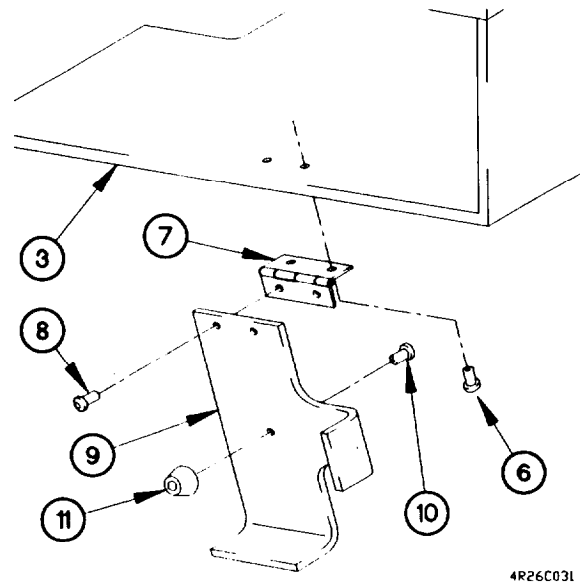
WARNING

Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

- (2) Remove two rivets (4) and latch (5) from front bracket (3).



- (3) Remove two rivets (6) and hinge (7) from front bracket (3).
- (4) Remove two rivets (8) and hinge (7) from door (9).
- (5) Remove rivet (10) and bumper (11) from door (9).



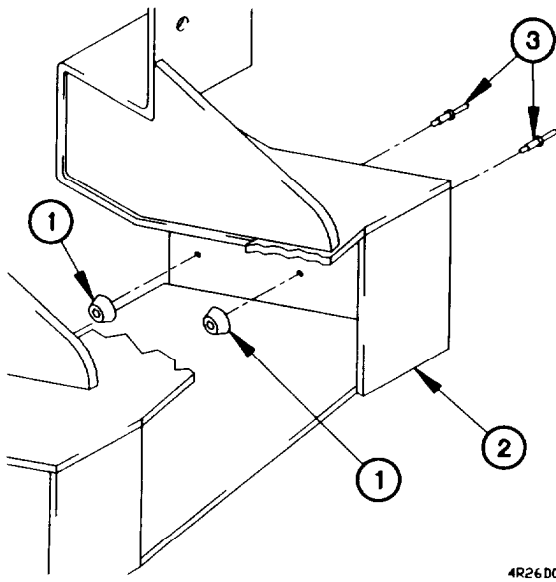
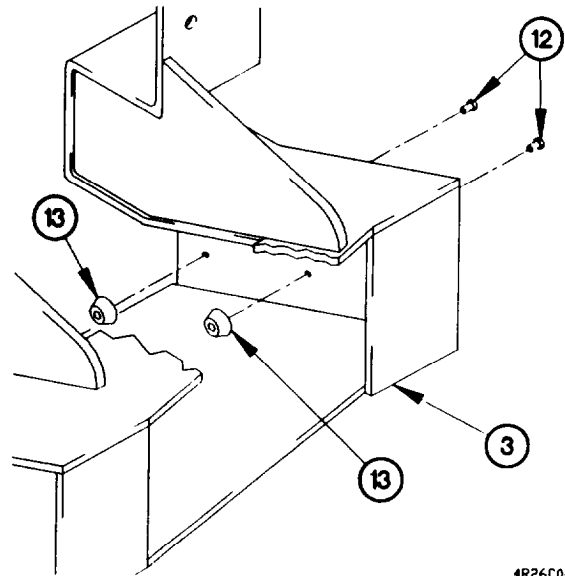
16-22. M1090/M1094 LADDER, BRACKETS, AND LATCH REPLACEMENT/REPAIR/ADJUSTMENT (CONT)

WARNING

Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

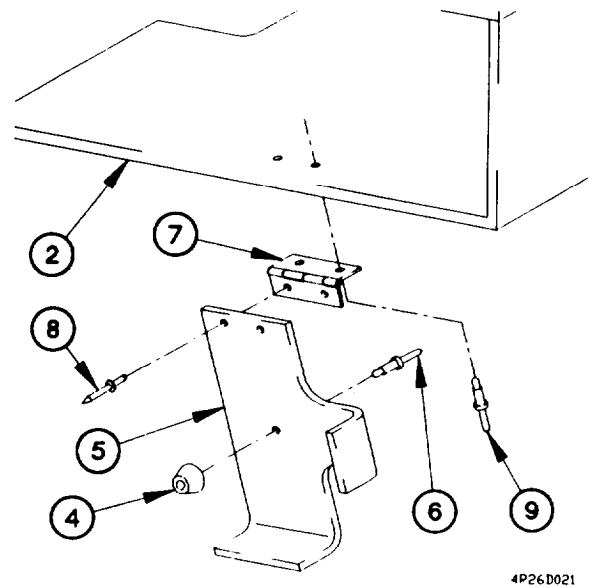
- (6) Remove two rivets (12) and bumpers (13) from front bracket (3).

d. Front Bracket Installation.

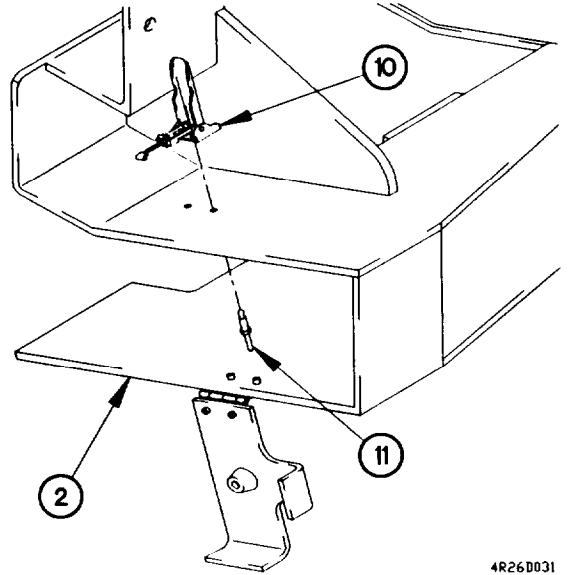


- (1) Install two bumpers (1) on front bracket (2) with rivets (3).

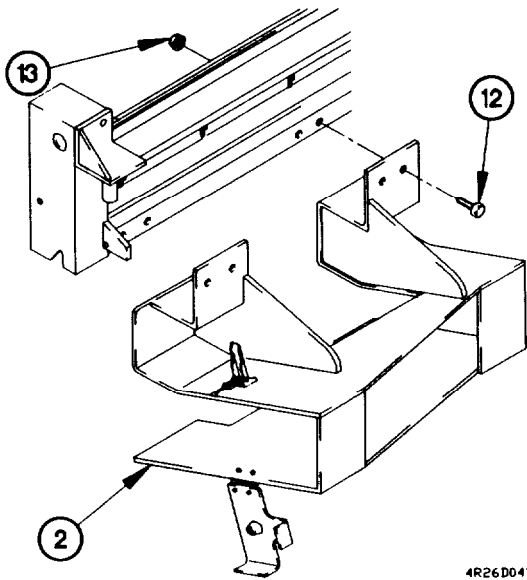
- (2) Install bumper (4) on door (5) with rivet (6).
- (3) Install hinge (7) on door (5) with two rivets (8).
- (4) Install hinge (7) on front bracket (2) with two rivets (9).



- (5) Install latch (10) on front bracket (2) with two rivets (11).



4R26D031



4R26D041

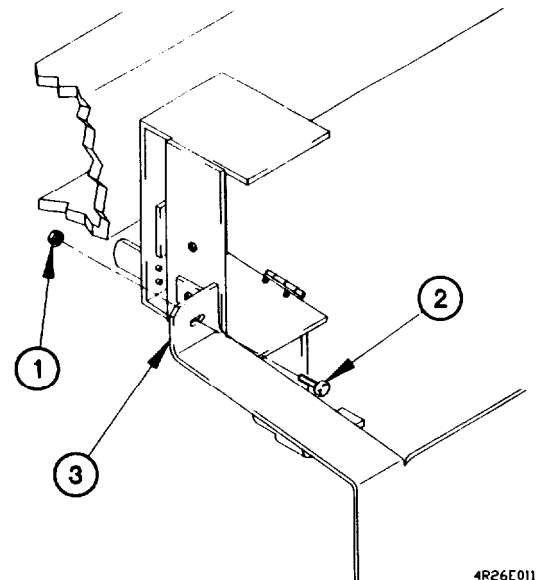
- (6) Position front bracket (2) on vehicle with four screws (12) and self-locking nuts (13).
- (7) Tighten four self-locking nuts (13) to 20-25 lb-ft (27-34 N•m).

e. Rear Brackets Removal.

NOTE

Perform steps (1) through (8) on right rear bracket.

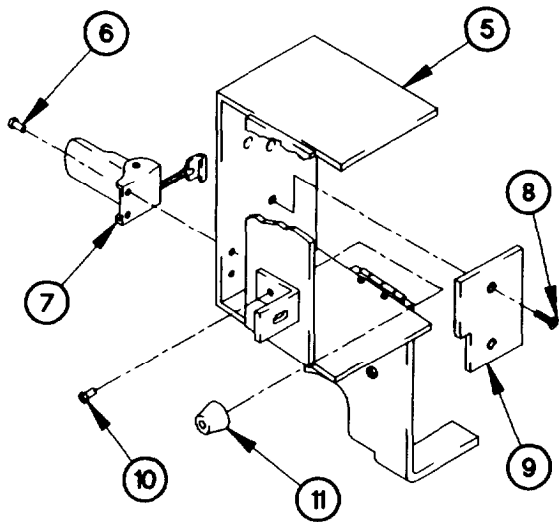
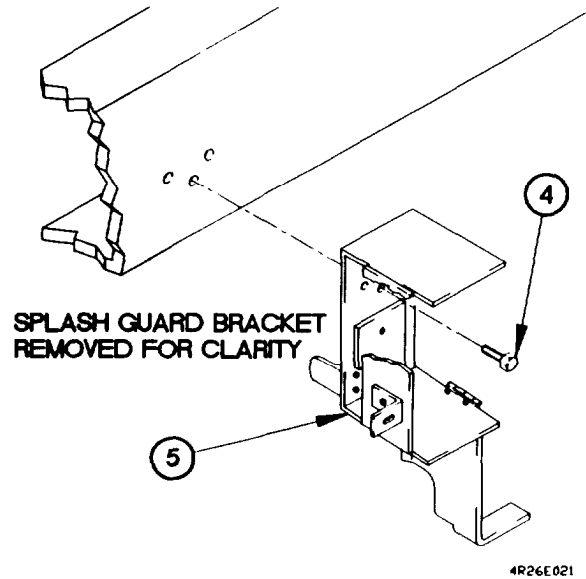
- (1) Remove self-locking nut (1) and screw (2) from splash guard bracket (3).



4R26E011

16-22. M1090/M1094 LADDER, BRACKETS, AND LATCH REPLACEMENT/REPAIR/ADJUSTMENT (CONT)

- (2) Remove three screws (4) and rear bracket (5) from vehicle.



WARNING

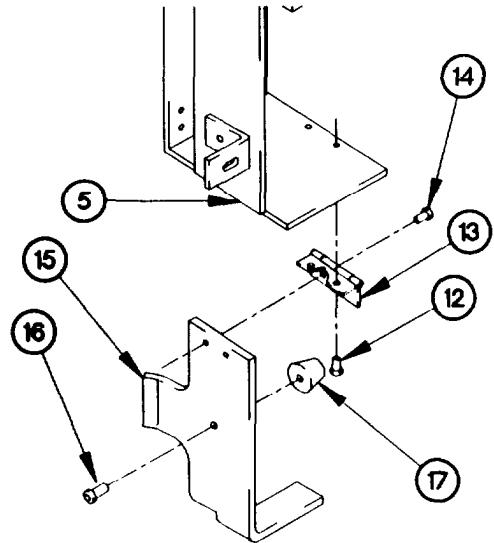
Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

- (3) Remove two rivets (6) and latch (7) from rear bracket (5).
- (4) Remove two screws (8) and wear pad (9) from rear bracket (5).
- (5) Remove rivet (10) and bumper (11) from rear bracket (5).

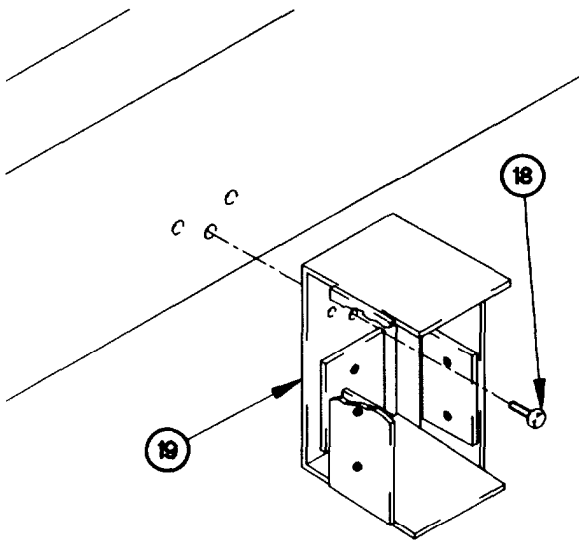
WARNING

Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.

- (6) Remove two rivets (12) and hinge (13) from rear bracket (5).
- (7) Remove two rivets (14) and hinge (13) from door (15).
- (8) Remove rivet (16) and bumper (17) from door (15).



4R26E041



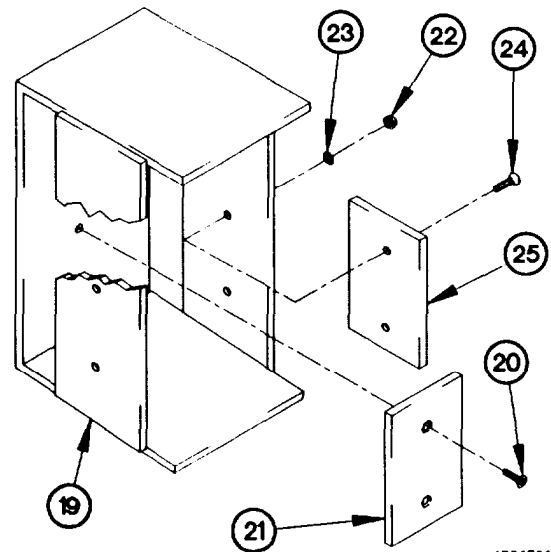
4R26E051

- (10) Remove two screws (20) and wear pad (21) from rear bracket (19).
- (11) Remove four self-locking nuts (22), washers (23), screws (24), and two wear pads (25) from rear bracket (19). Discard self-locking nuts.

NOTE

Perform steps (9) through (11) on left rear bracket.

- (9) Remove three screws (18) and rear bracket (19) from vehicle.



4R26E061

16-22. M1090/M1094 LADDER, BRACKETS, AND LATCH REPLACEMENT/REPAIR/ADJUSTMENT (CONT)

f. Rear Brackets Installation.

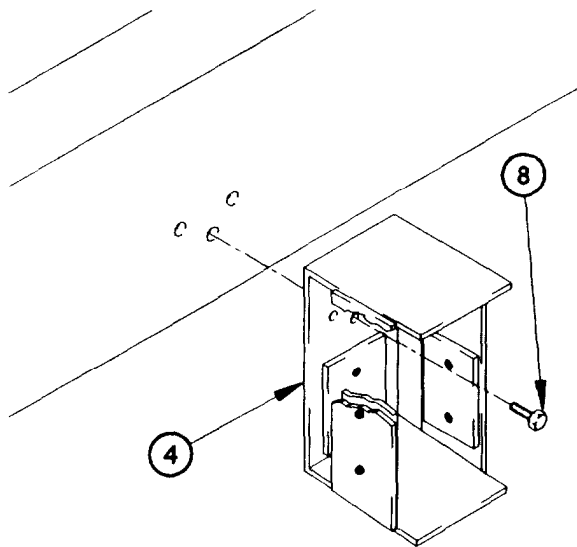
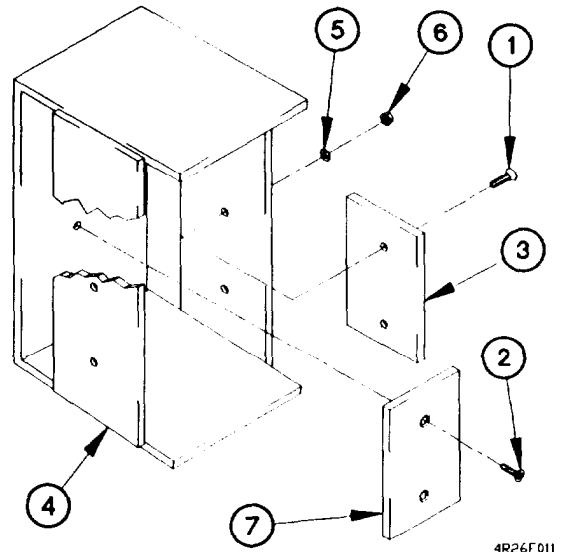
WARNING

Adhesive sealant MIL-S46163 can damage your eyes. Wear safety goggles/glasses when using; avoid contact with eyes. If sealant contacts eyes, flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.

NOTE

Perform steps (1) through (7) on left rear bracket.

- (1) Apply sealing compound to threads of four screws (1) and two screws (2).
- (2) Position two wear pads (3) on rear bracket (4) with four screws (1), washers (5), and self-locking nuts (6).
- (3) Tighten four self-locking nuts (6) to 24-30 lb-in. (3 N•m).
- (4) Install wear pad (7) on rear bracket (4) with two screws (2).

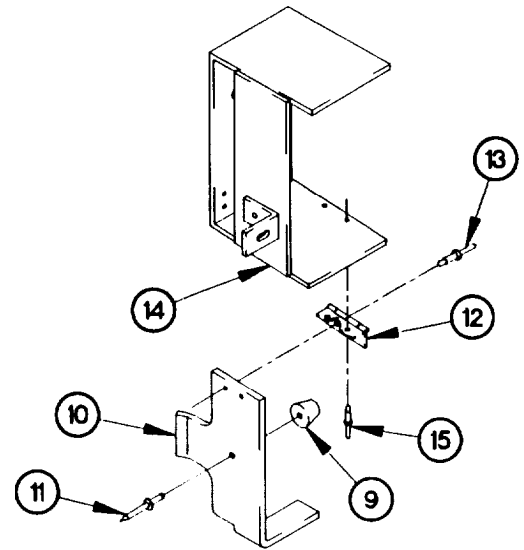


- (5) Apply sealing compound to threads of three screws (8).
- (6) Position rear bracket (4) on vehicle with three screws (8).
- (7) Tighten three screws (8) to 20-25 lb-ft (27-34 N•m).

NOTE

Perform steps (8) through (19) on right rear bracket.

- (8) Install bumper (9) on door (10) with rivet (11).
- (9) Install hinge (12) on door (10) with two rivets (13).
- (10) Install hinge (12) on rear bracket (14) with two rivets (15).



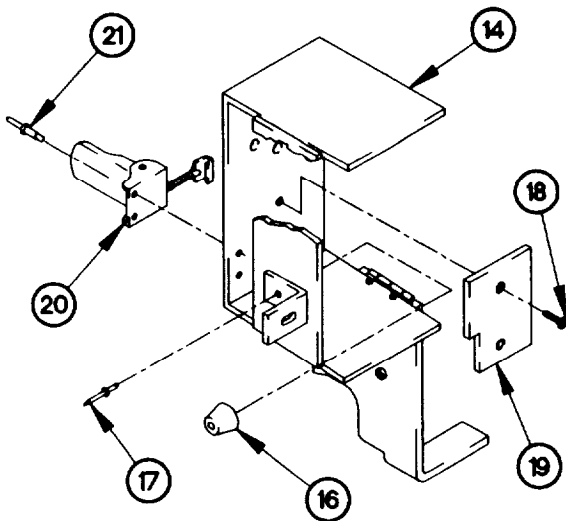
4R26F031

- (11) Install bumper (16) on rear bracket (14) with rivet (17).

WARNING

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

- (12) Apply sealing compound to threads of two screws (18).
- (13) Install wear pad (19) on rear bracket (14) with two screws (18).
- (14) Install latch (20) on rear bracket (14) with two rivets (21).



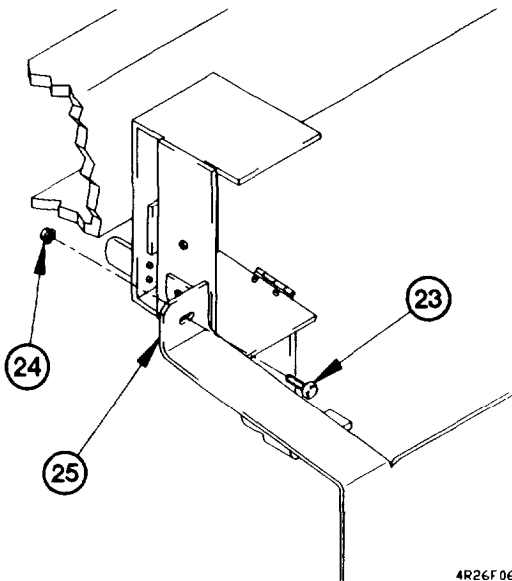
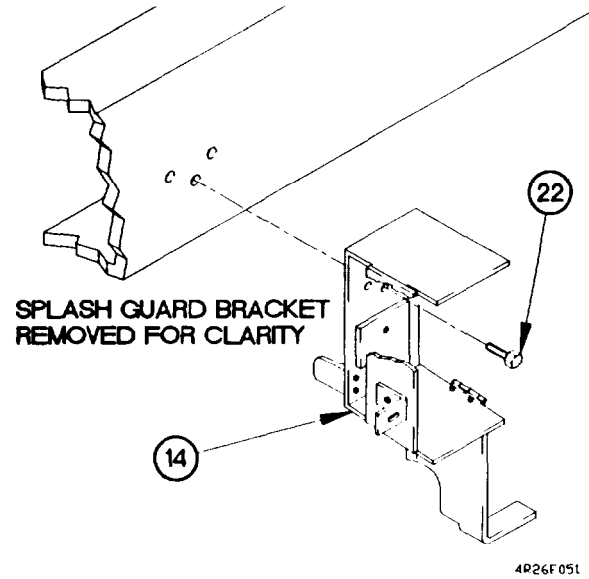
4R26F041

16-22. M1090/M1094 LADDER, BRACKETS, AND LATCH REPLACEMENT/REPAIR/ADJUSTMENT (CONT)

WARNING

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

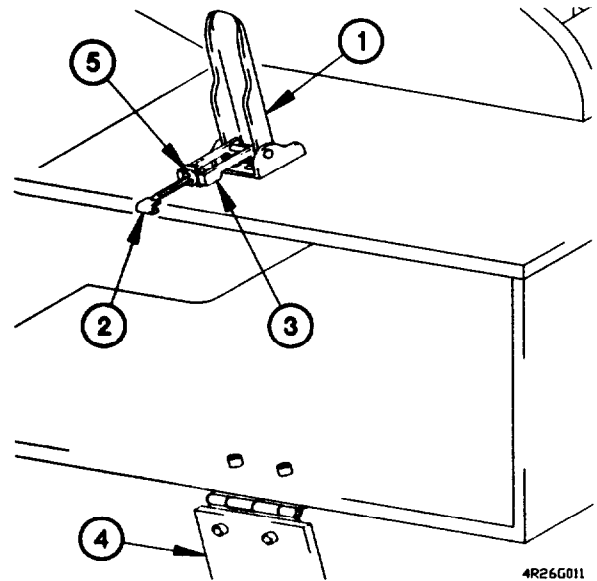
- (15) Apply sealing compound to threads of three screws (22).
- (16) Position rear bracket (14) on vehicle with three screws (22).
- (17) Tighten three screws (22) to 20-25 lb-ft (27-34 N•m).



- (18) Position screw (23) and self-locking nut (24) in splash guard bracket (25).
- (19) Tighten self-locking nut (24) to 18-22 lb-ft (24-30 N•m).

g. Latch Adjustment.

- (1) Pull spring latch (1) and lift latch lever (2).
- (2) Release latch hook (3) from door (4).
- (3) Loosen jamnut (5) on latch hook (3).
- (4) Turn latch hook (3) to the right to tighten or to the left to loosen.
- (5) Tighten jamnut (5) on latch hook (3).
- (6) Fasten latch hook (3) on door (4).
- (7) Push down on latch lever (2) until spring latch (1) is engaged.

**h. Follow-On Maintenance.**

Install ladder (TM 9-2320-366-10-1).

End of Task.

16-23. M1089 TOOL BOX REPLACEMENT/REPAIR

This task covers:

- a. Removal
- b. Disassembly
- c. Assembly
- d. Installation
- e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Tools removed from tool boxes (TM 9-2320-366-10-1).
 Placards removed (para 2-39).
 M1089 ladder lowered (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
 Sling, Cargo (Item 69, Appendix C)
 Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 20, Appendix D)
 Nut, Self-Locking (Item 147, Appendix G)
 Lockwasher (5) (Item 99, Appendix G)

Materials/Parts (Cont)

Nut, Self-Locking (20) (Item 164, Appendix G)
 Bumper Nonmetallic (4) (Item 4, Appendix G)
 Nut, Self-Locking (14) (Item 135, Appendix G)
 Lockwasher (20) (Item 111, Appendix G)
 Nut, Self-Locking (8) (Item 165, Appendix G)
 Lockwasher (8) (Item 112, Appendix G)
 Rubber Strip (Item 260, Appendix G)
 Nut, Self-Locking (14) (Item 133, Appendix G)
 Nut, Self-Locking (8) (Item 136, Appendix G)
 Nut, Self-Locking (12) (Item 150, Appendix G)
 Nut, Self-Locking (24) (Item 149, Appendix G)
 Nut, Self-Locking (2) (Item 176, Appendix G)
 Grommet, Nonmetallic (2) (Item 48, Appendix G)
 Grommet, Nonmetallic (2) (Item 50, Appendix G)

Personnel Required

(2)

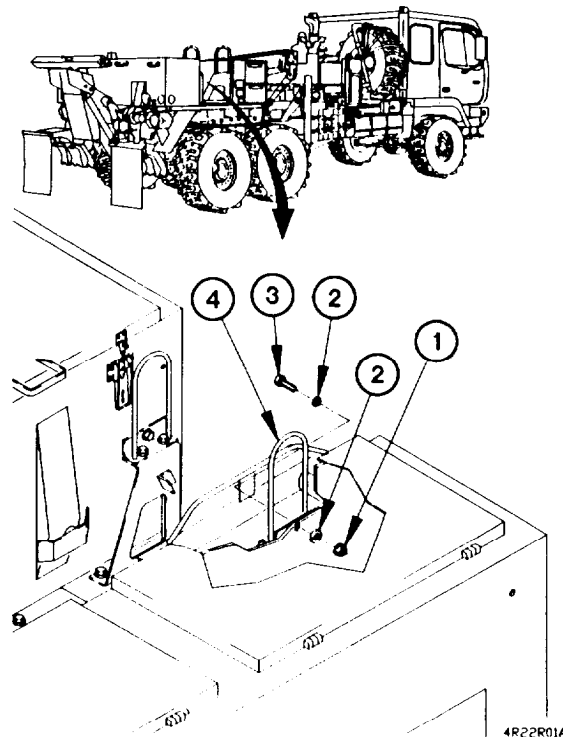
a. Removal.



Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

NOTE

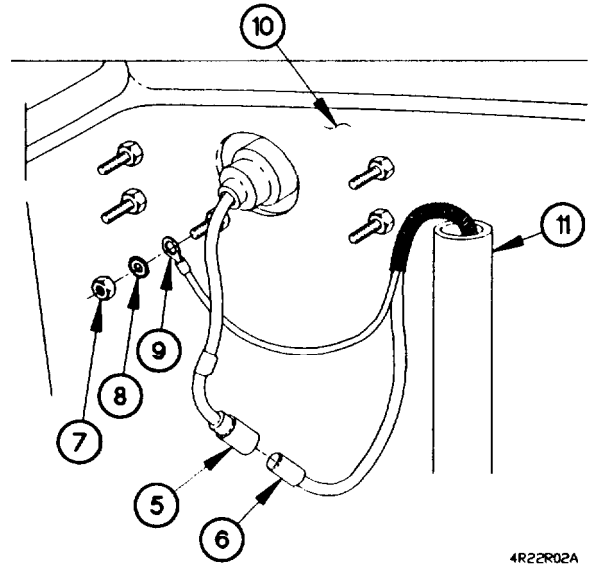
- Step (1) requires the aid of an assistant.
 - Front and rear tool boxes are removed the same way. Rear tool box shown.
- (1) Remove self-locking nut (1), two washers (2), and screw (3) from ladder support hand rail bracket (4). Discard self-locking nut.



NOTE

Tag electrical connections prior to disconnecting.

- (2) Disconnect connector 489 (5) from left hand clearance light connector P86 (6).
- (3) Remove nut (7), lockwasher (8), and terminal lug TL16 (9) from tool box (10). Discard lockwasher.
- (4) Remove clearance light connector P86 (6) and terminal lug TL16 (9) from tube (11).

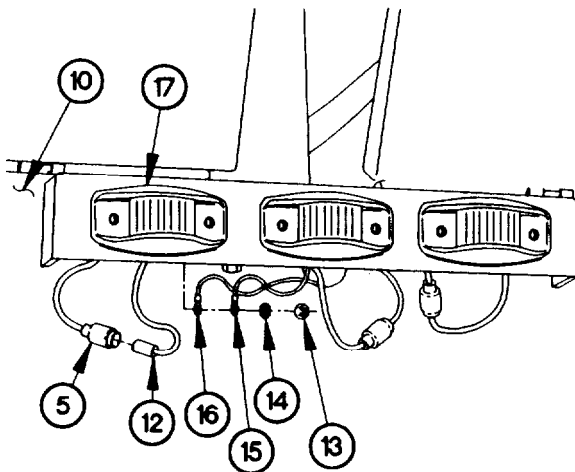


4R22R02A

NOTE

Three center electrical connectors are removed the same. Left hand center connector shown. Refer to **Table 16-1. M1089 Rear Clearance Marker Light Connectors** for combinations of terminal lugs and connectors on each marker light.

- (5) Disconnect connector 489 (5) from left hand center clearance light connector P54 (12).
- (6) Remove nut (13), lockwasher (14), and terminal lugs TL30 (15) and TL7 (16) from left hand clearance light (17). Discard lockwasher.



4R22R03A

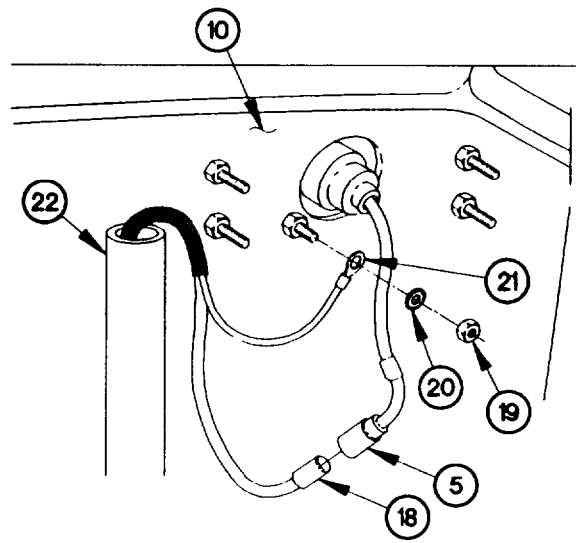
Table 16-1. M1089 Rear Clearance Marker Light Connectors

LIGHT	TERMINAL LUGS	ELECTRICAL CONNECTION
Center	TL7/TL31	P56
Right Hand	TL32	P58

- (7) Remove clearance light connectors P54 (12) and terminal lug TL7 (16) from tool box (10).
- (8) Perform steps (5) through (7) on remaining clearance lights.

16-23. M1089 TOOL BOX REPLACEMENT/REPAIR (CONT)

- (9) Disconnect connector 489 (5) from right hand clearance light connector P89 (18).
- (10) Remove nut (19), lockwasher (20), and terminal lug TL20 (21) from tool box (10). Discard lockwasher.
- (11) Remove clearance light connector P89 (18) and terminal lug TL20 (21) from tube (22).

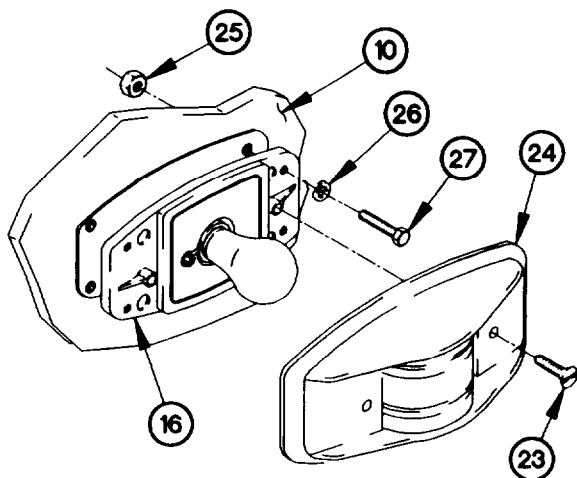


4R2ER04A

NOTE

All five clearance lights are removed the same way. One shown.

- (12) Remove two screws (23) and cover (24) from clearance light (16).
- (13) Remove four self-locking nuts (25), lockwashers (26), screws (27), and clearance light (16) from tool box (10). Discard self-locking nuts and lockwashers.
- (14) Perform steps (12) and (13) on remaining clearance lights.



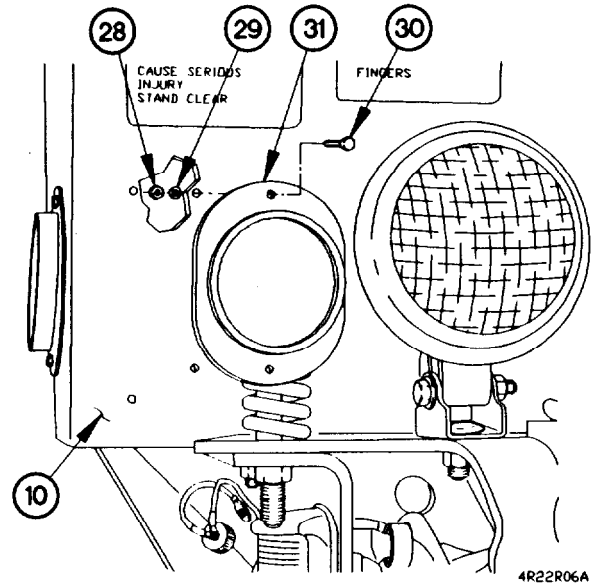
4R22R05A

NOTE

- All four reflectors are removed the same way. One shown.
- Step (15) requires the aid of an assistant.

(15) Remove two self-locking nuts (28), lockwashers (29), screws (30), and reflector (31) from tool box (10). Discard self-locking nuts and lockwashers.

(16) Perform step (15) on remaining reflectors,



4R22R06A

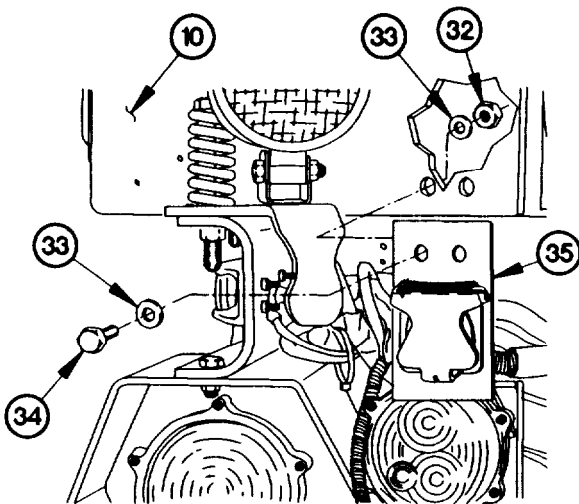
NOTE

- Left and right electrical connector brackets are removed the same way. Left connector bracket shown.

- Step (17) requires the aid of an assistant,

(17) Remove two self-locking nuts (32), four washers (33), two screws (34), and electrical connector bracket (35) from tool box (10). Discard self-locking nuts.

(18) Perform step (17) on right side electrical connector bracket.



4R22R07A

16-23. M1089 TOOL BOX REPLACEMENT/REPAIR (CONT)

NOTE

Perform steps (19) and (20) on front tool box.

(19) Remove nut (36) and bracket (37) from tool box (38).

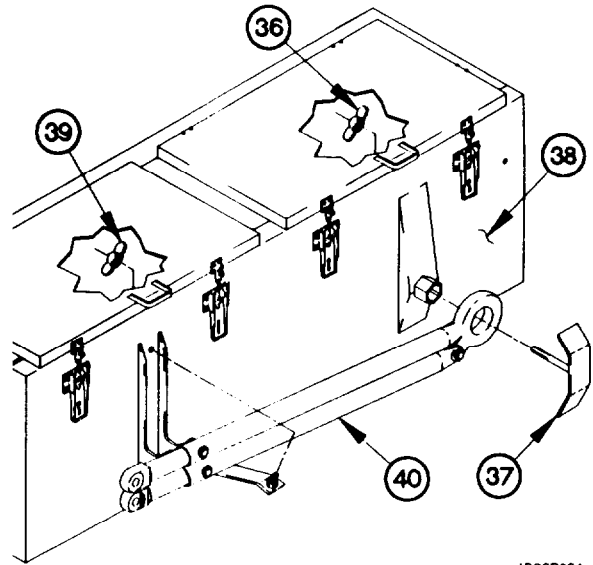
WARNING

Tow bar weighs approximately 150 lbs. Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

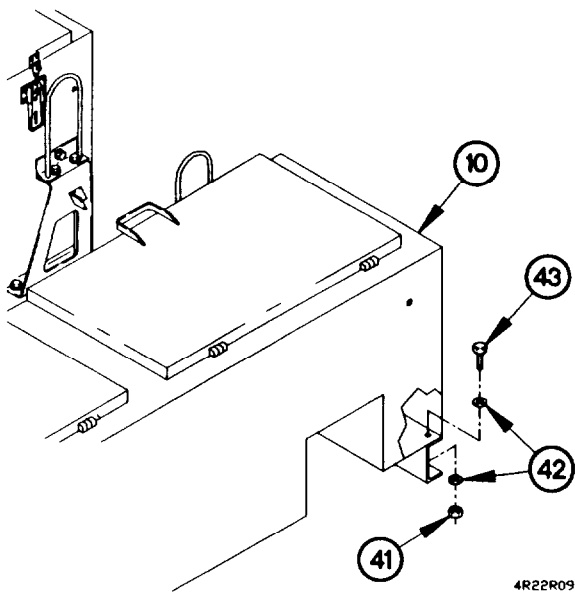
NOTE

Step (20) requires the aid of two assistants.

(20) Remove nut (39) and tow bar (40) from tool box (38).



4R22R08A



4R22R09A

NOTE

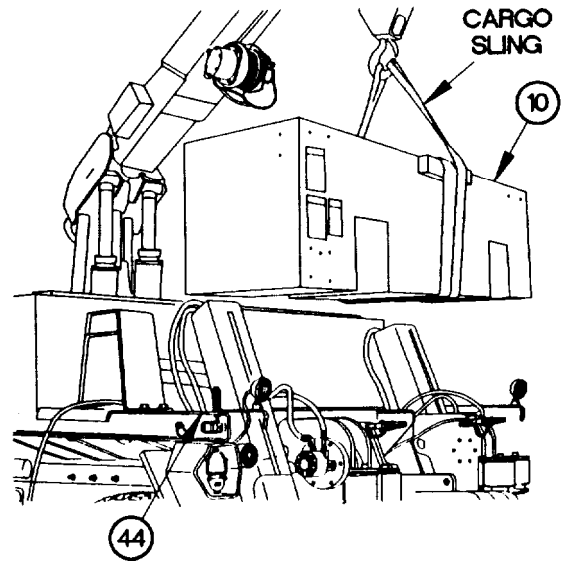
Steps (21) and (22) require the aid of an assistant.

(21) Remove eight self-locking nuts (41), 16 washers (42), and eight screws (43) from tool box (10). Discard self-locking nuts.

WARNING

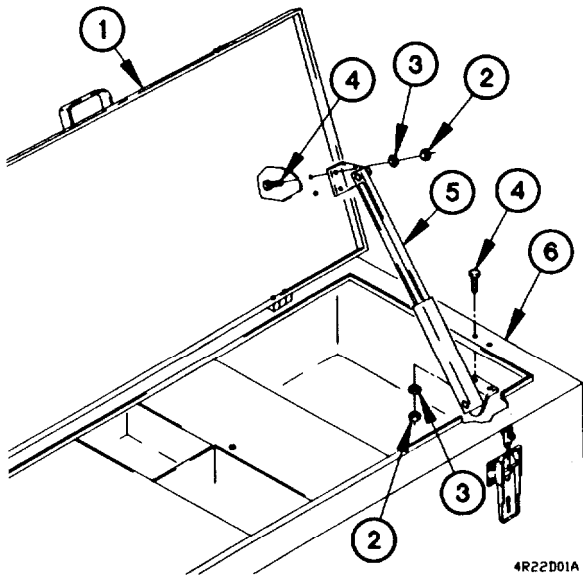
Rear tool box weighs approximately 75 lbs (34 Kgs) empty. Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

(22) Remove tool box (10) from support structure (44).



4R22R10A

b. Disassembly.



4R22D01A

NOTE

All tool box lids, stays, and hasps are disassembled the same way. Left rear shown.

(1) Open tool box lid (1).

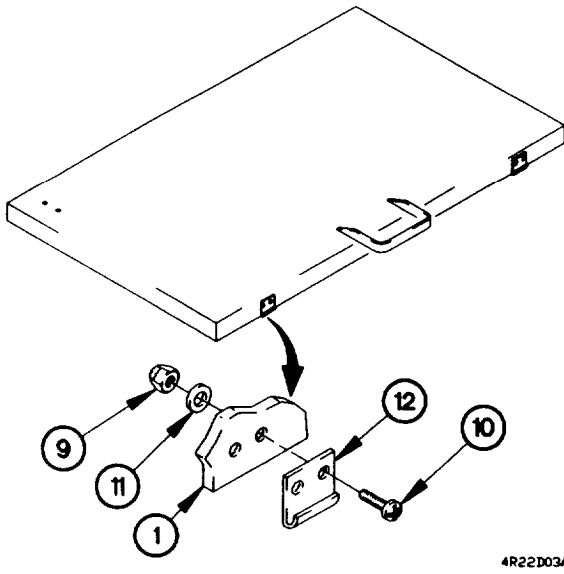
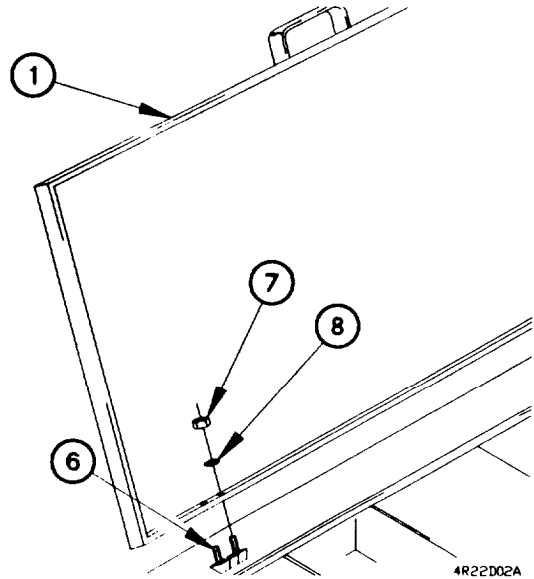
NOTE

Step (2) requires the aid of an assistant.

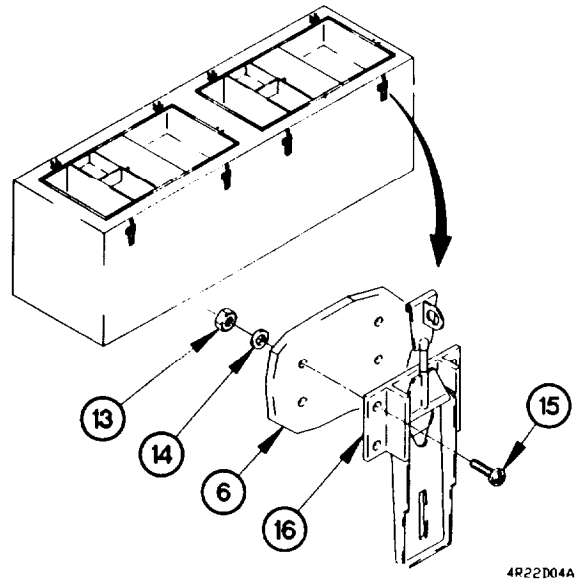
(2) Remove four self-locking nuts (2), washers (3), screws (4), and stay (5) from tool box (6). Discard self-locking nuts.

16-23. M1089 TOOL BOX REPLACEMENT/REPAIR (CONT)

- (3) Remove four self-locking nuts (7), lockwashers (8), and tool box lid (1) from tool box (6). Discard self-locking nuts and lockwashers.

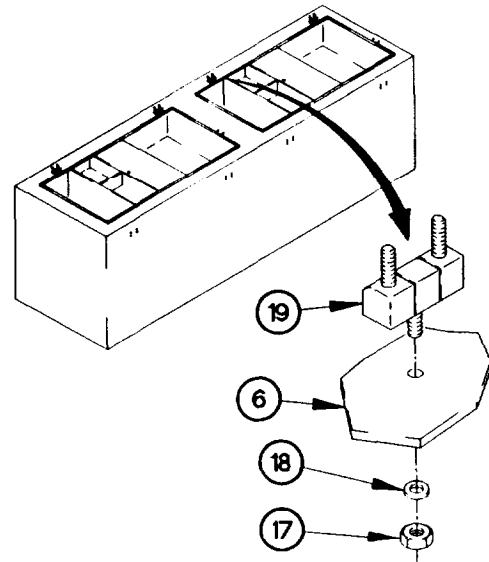


- (4) Remove four self-locking nuts (9), screws (10), washers (11), and two brackets (12) from tool box lid (1). Discard self-locking nuts.



- (5) Remove 16 self-locking nuts (13), washers (14), screws (15), and four hasps (16) from tool box (6). Discard self-locking nuts.

- (6) Remove four self-locking nuts (17), lockwashers (18), and hinges (19) from tool box (6). Discard self-locking nuts and lockwashers.



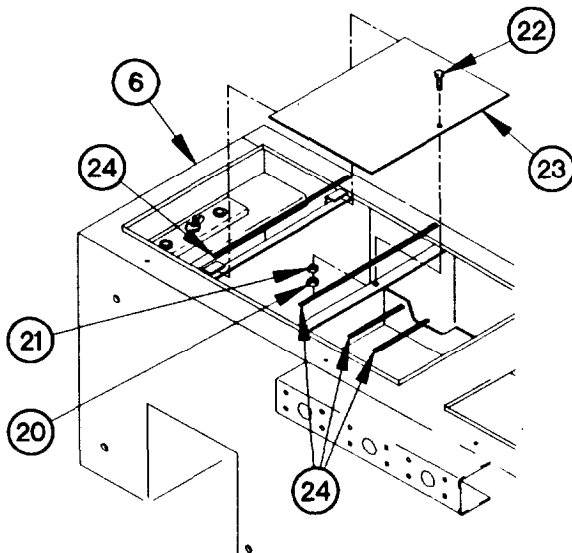
4R22D05A

NOTE

Left and right stiff leg access panels are removed the same way. Left side shown.

- (7) Remove two self-locking nuts (20), washers (21), screws (22), and stiff leg access panels (23) from tool box (6). Discard self-locking nuts.

- (8) Remove rubber strips (24) from tool box (6). Discard rubber strips.

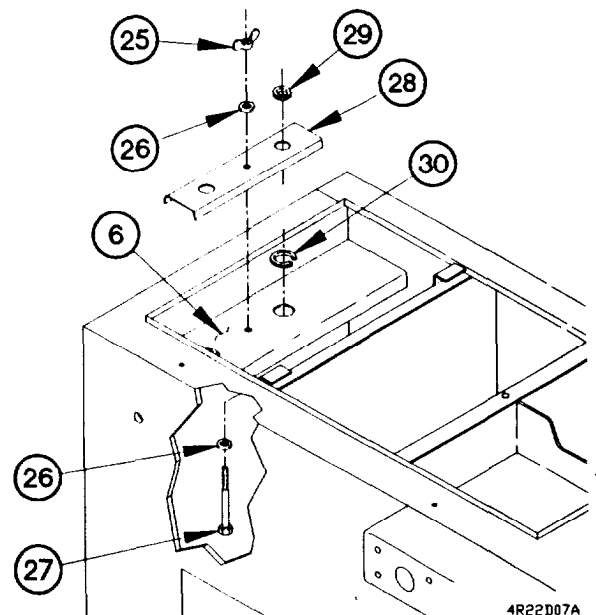


4R22D06A

- (9) Remove nut (25), two washers (26), screw (27), and gage bracket (28) from tool box (6).

- (10) Remove two grommets (29) from gage bracket (28). Discard grommets.

- (11) Remove two grommets (30) from tool box (6). Discard grommets.



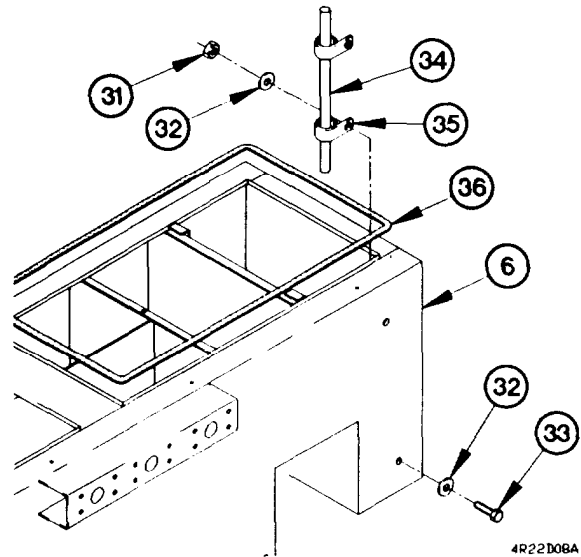
4R22D07A

16-23. M1089 TOOL BOX REPLACEMENT/REPAIR (CONT)

NOTE

Left and right tubes are removed the same way. Right tube shown.

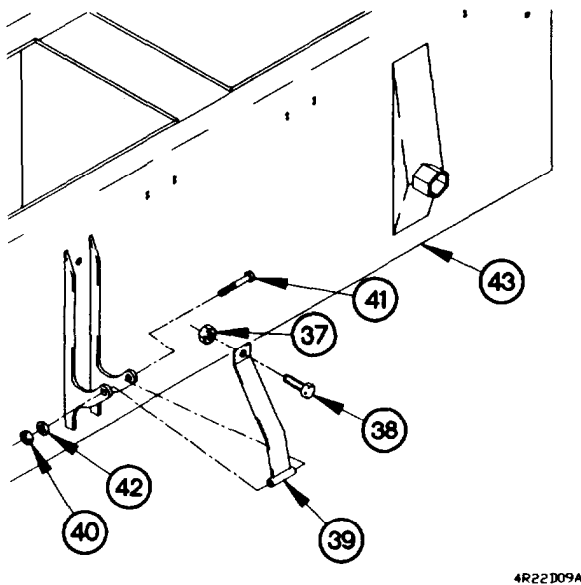
- (12) Remove two self-locking nuts (31), four washers (32), two screws (33), tube (34), and two clamps (35) from tool box (6). Discard self-locking nuts.
- (13) Remove nonmetallic bumper (36) from tool box (6). Discard nonmetallic bumper.



NOTE

Perform steps (14) and (15) on front tool box.

- (14) Remove self-locking nut (37) and screw (38) from bracket (39). Discard self-locking nut.
- (15) Remove self-locking nut (40), screw (41), washer (42), and bracket (39) from front tool box (43). Discard self-locking nut.

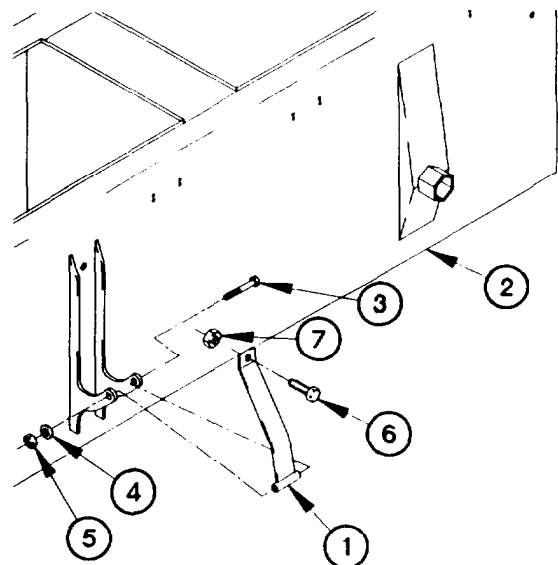


c. Assembly.

NOTE

Perform steps (1) and (2) on front tool box.

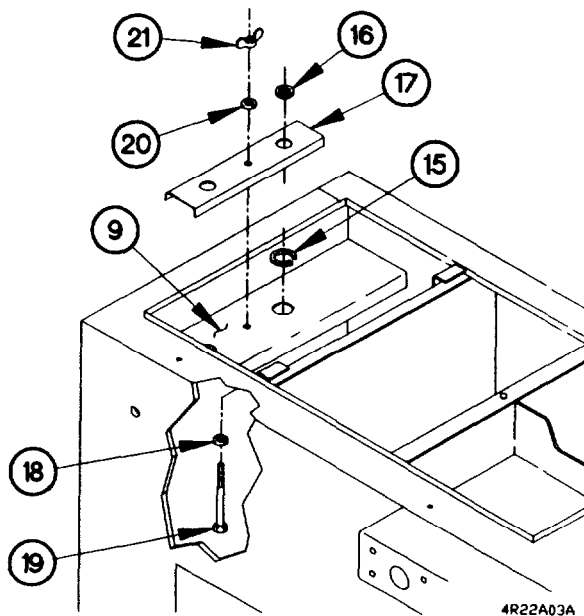
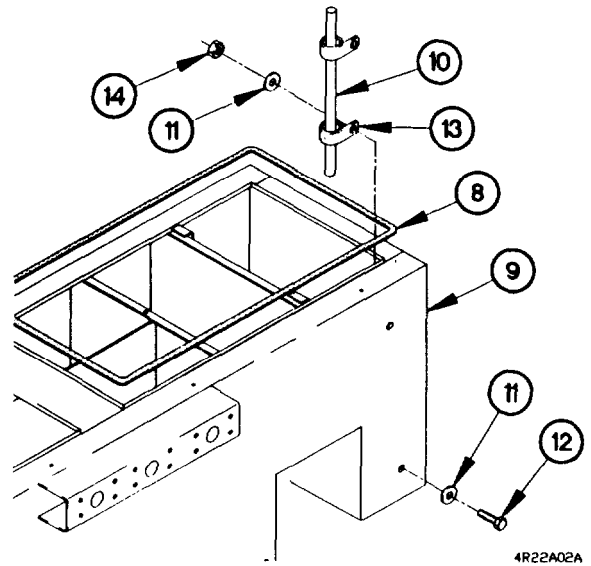
- (1) Position bracket (1) on front tool box (2) with screw (3), washer (4) and self-locking nut (5).
- (2) Tighten screw (3) to 33-37 lb-ft (45-50 N•m).
- (3) Position screw (6) in bracket (1) with self-locking nut (7).
- (4) Tighten screw (6) to 33-37 lb-ft (45-50 N•m).



NOTE

Left and right tubes are installed the same way. Right side shown.

- (5) Install nonmetallic bumper (8) on tool box (9).
- (6) Position tube (10) on tool box (9) with four washers (11), two screws (12), clamps (13), and self-locking nuts (14).
- (7) Tighten two screws (12) to 8-10 lb-ft (11-13 N•m).

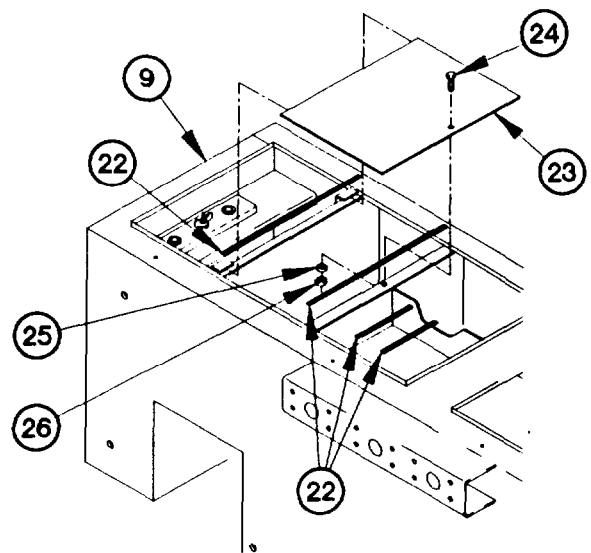


- (8) Install two grommets (15) in tool box (9).
- (9) Install two grommets (16) in gauge bracket (17).
- (10) Position gauge bracket (17) in tool box (9) with washer (18), screw (19), washer (20), and nut (21).
- (11) Tighten screw (19) to 8-10 lb-ft (11-13 N•m).

NOTE

Left and right stiff leg access panels are installed the same way. Left side shown.

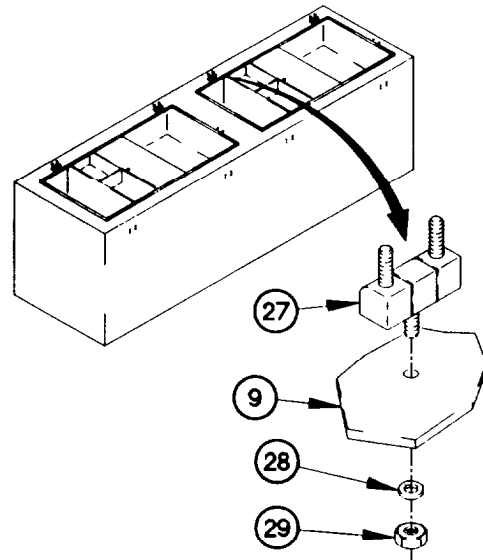
- (12) Install rubber strips (22) in tool box (9).
- (13) Position two stiff leg access panels (23) in tool box (9) with two screws (24), washers (25), and self-locking nuts (26).
- (14) Tighten two self-locking nuts (26) to 8-10 lb-ft (11-13 N•m).



4R22A04A

16-23. M1089 TOOL BOX REPLACEMENT/REPAIR (CONT)

(15) Install four hinges (27) on tool box (9) with four washers (28) and self-locking nuts (29).



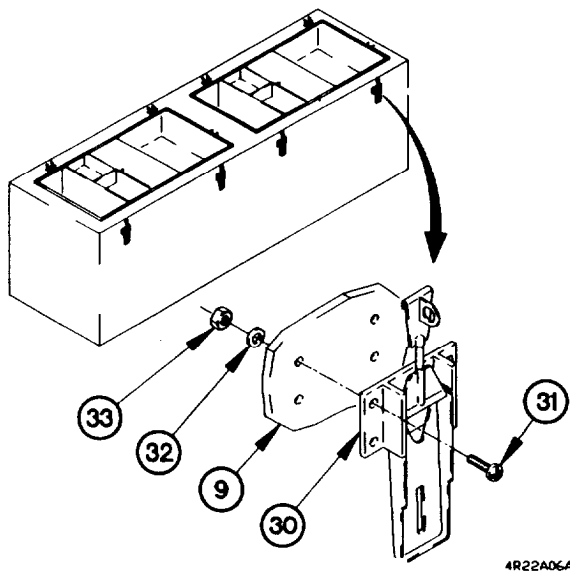
4R22A05A

NOTE

All tool box lids, stays, and hasps are installed the same way. Left rear shown.

(16) Position four hasps (30) on tool box (9) with 16 screws (31), washers (32), and self-locking nuts (33).

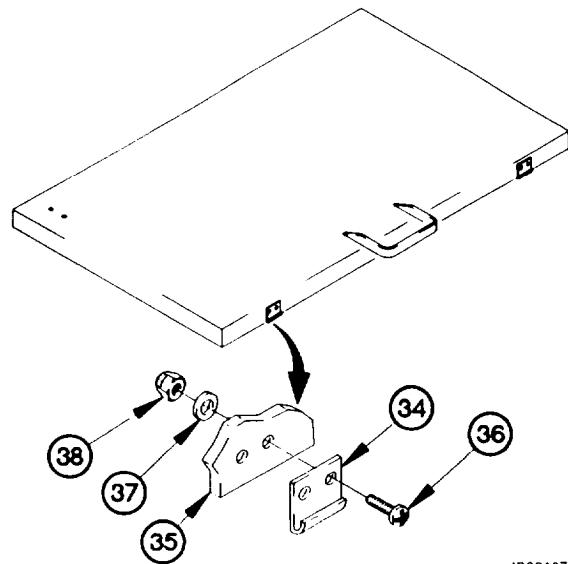
(17) Tighten 16 self-locking nuts (33) to 12-24 lb-in. (1-3 N•m).



4R22A06A

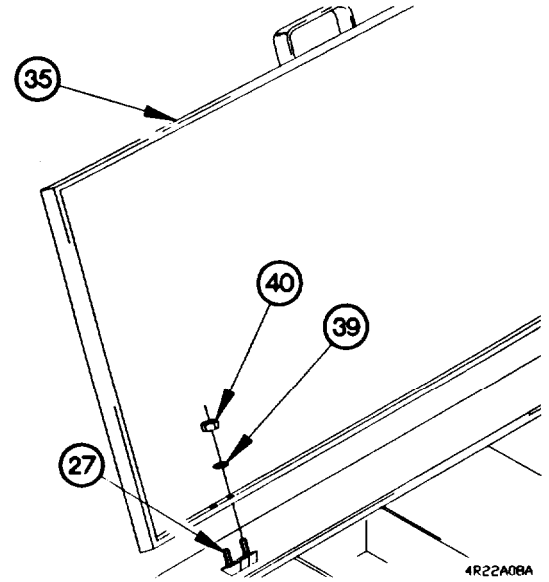
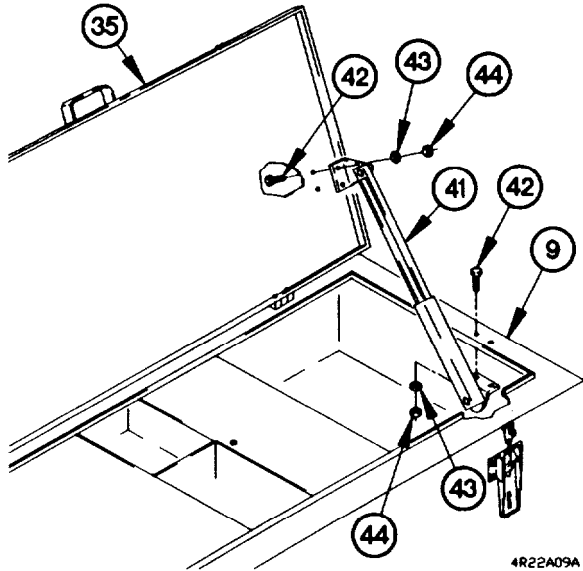
(18) Position two brackets (34) on tool box lid (35) with four screws (36), washers (37), and self-locking nuts (38).

(19) Tighten four self-locking nuts to 12-24 lb-in. (1-3 N•m).



4R22A07A

(20) Install tool box lid (35) in two hinges (27) with four lockwashers (39) and self-locking nuts (40).



NOTE

Step (21) requires the aid of an assistant.

(21) Position stay (41) on tool box (9) with four screws (42), washers (43), and self-locking nuts (44).

(22) Tighten four screws (42) to 8-10 lb-ft (11-13 N•m).

(23) Close tool box lid (35).

d. Installation.

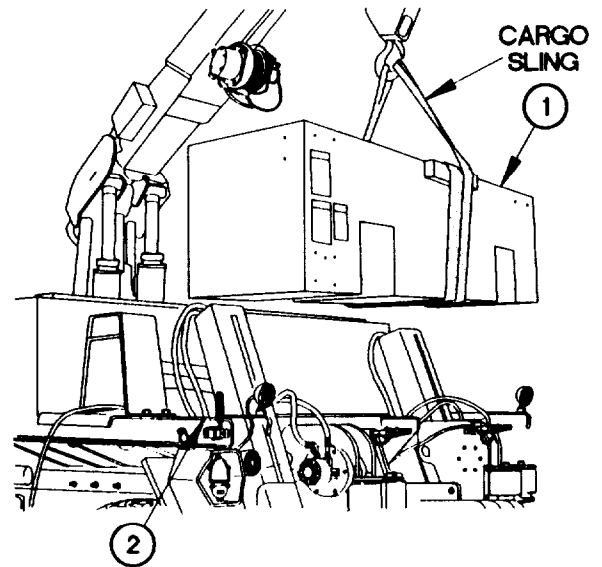


Rear tool box weighs approximately 75 lbs (34 Kgs) empty. Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

NOTE

- Both tool boxes are installed the same way. Rear tool box shown.
- Steps (1) and (2) require the aid of an assistant.

(1) Position tool box (1) on support structure (2).



4R22101A

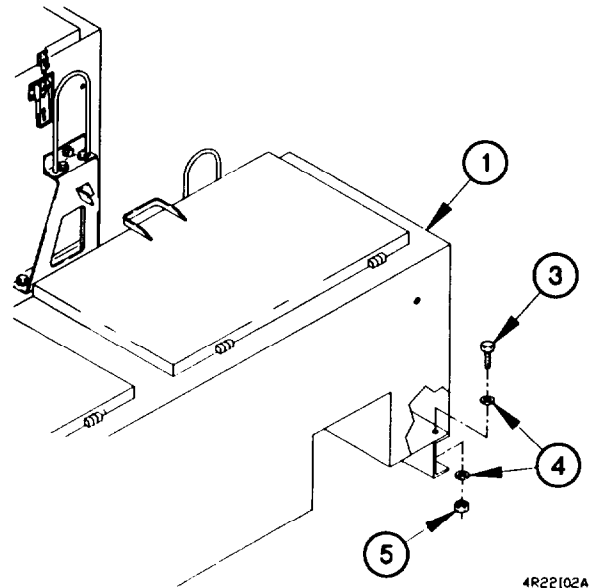
16-23. M1089 TOOL BOX REPLACEMENT/REPAIR (CONT)

- (2) Position eight screws (3), 16 washers (4), and eight self-locking nuts (5) on tool box (1).

NOTE

Step (3) requires the aid of two assistants.

- (3) Tighten eight self-locking nuts (5) to 76-84 lb-ft (103-114 N•m).



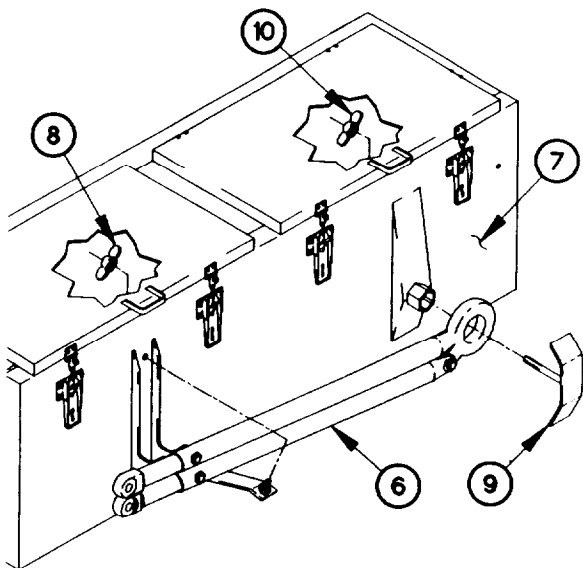
WARNING

Tow bar weighs approximately 150 lbs
Attach a suitable lifting device prior to
removal. Failure to comply may result in
injury to personnel or damage to
equipment.

NOTE

Perform steps (4) and (5) apply to front tool box.

- (4) Install tow bar (6) on tool box (7) with nut (8).
- (5) Install bracket (9) on tool box (7) with nut (10).



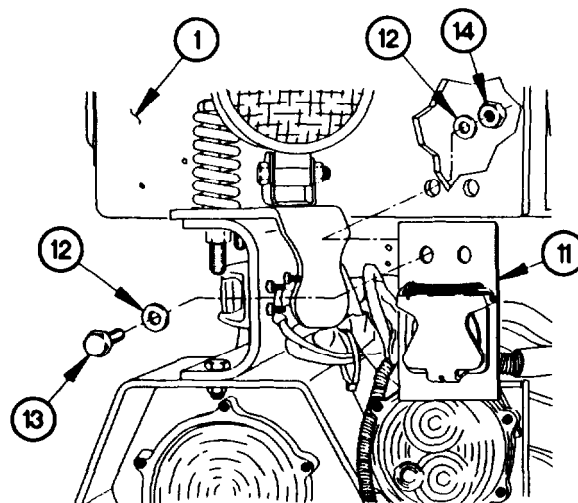
NOTE

- Left and right electrical connector brackets are installed the same way. Left side shown.
- Step (6) and (7) requires the aid of an assistant.

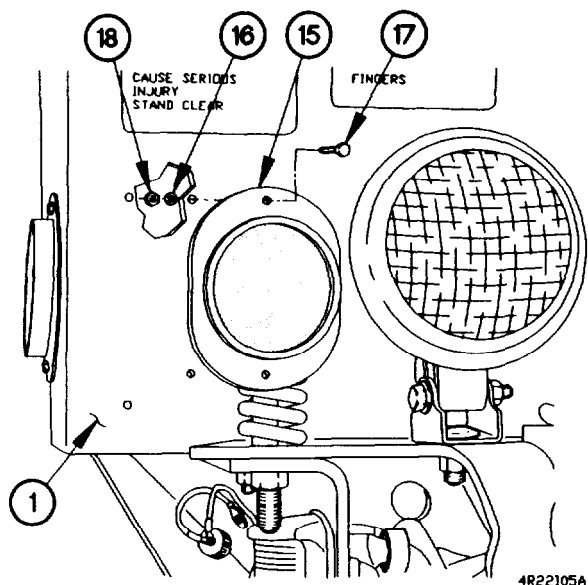
(6) Position electrical connector brackets (11) on tool box (1) with four washers (12), two screws (13), and self-locking nuts (14).

(7) Tighten two self-locking nuts (14) to 8-10 lb-ft (11-13 N•m).

(8) Perform steps (6) and (7) on right side electrical connector bracket.



4R22104A



4R22105A

NOTE

All four reflectors are installed the same way. One shown.

(9) Install reflector (15) on tool box (1) with two lockwashers (16), screws (17), and self-locking nuts (18).

(10) Perform step (9) on remaining reflectors.

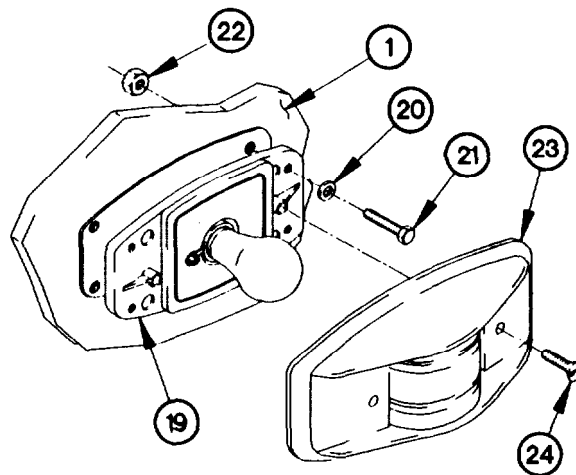
NOTE

All five clearance lights are installed the same way. One shown.

(11) Install clearance light (19) on tool box (1) with four lockwashers (20), screws (21), and self-locking nuts (22).

(12) Install cover (23) in tool box (1) with two screws (24).

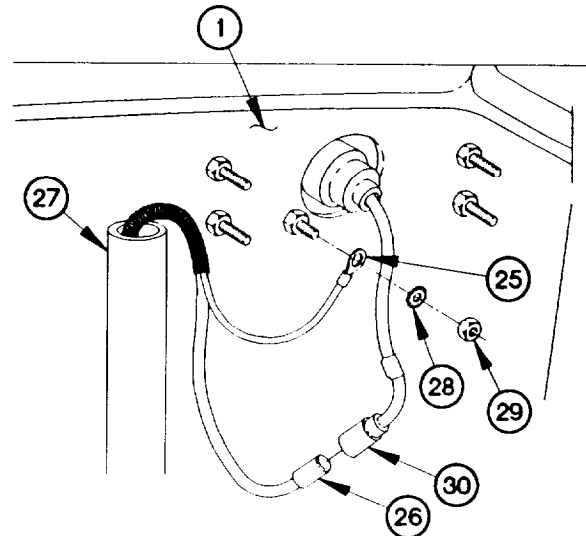
(13) Perform steps (11) and (12) on remaining clearance lights.



4R22106A

16-23. M1089 TOOL BOX REPLACEMENT/REPAIR (CONT)

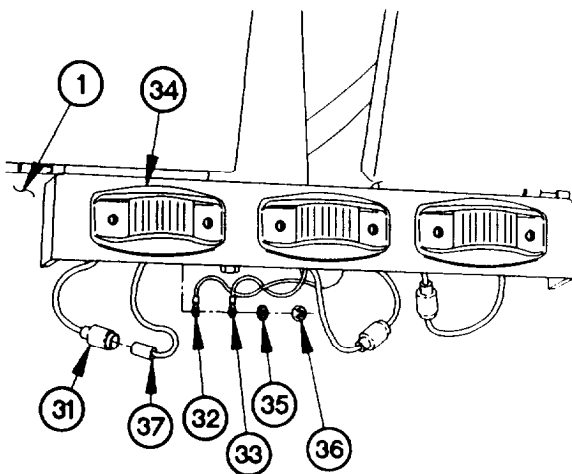
- (14) Route terminal lug TL20 (25) and right hand clearance light connector P89 (26) through tube (27).
- (15) Install terminal lug TL20 (25) on tool box (1) with lockwasher (28) and nut (29).
- (16) Connect clearance light connector P89 (26) to connector 489 (30).



4R22107A

NOTE

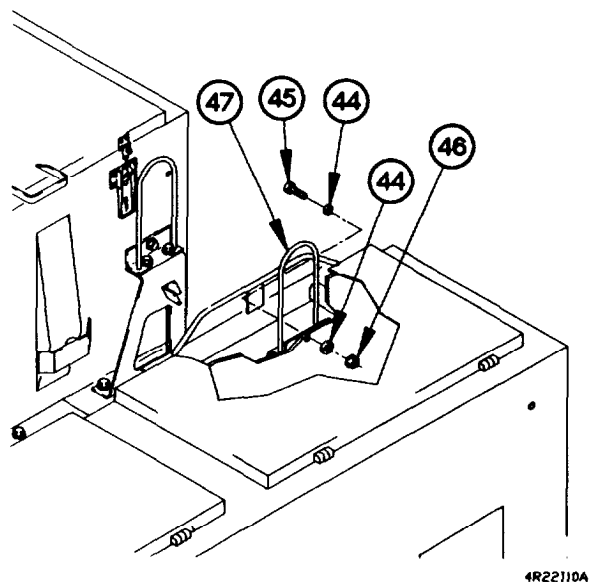
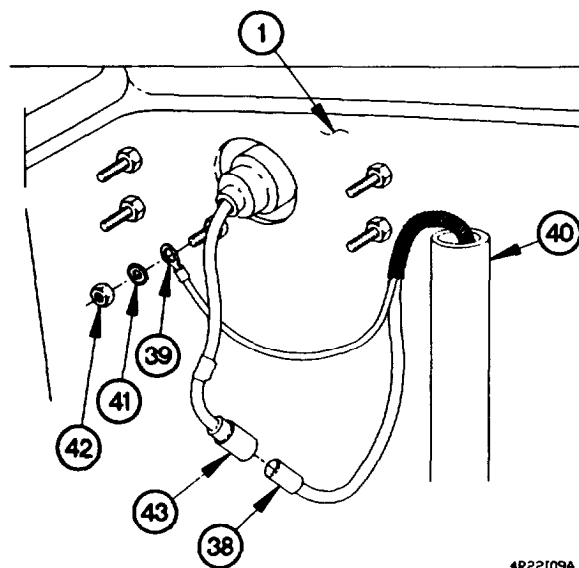
Three center electrical connectors are removed the same. Left hand center connector shown. Refer to **Table 16-1. M1089 Rear Clearance Marker Light Connectors** for combinations of terminal lugs and connectors on each marker light.



4R22108A

- (17) Route clearance light connector 489 (31) and terminal lug TL7 (32) through tool box (1).
- (18) Install terminal lugs TL30 (33) and TL7 (32) on clearance light (34) with lockwasher (35) and nut (36).
- (19) Connect clearance light connector 489 (31) to connector P54 (37).
- (20) Perform steps (17) through (19) on remaining clearance lights.

- (21) Route clearance light connector P86 (38) and terminal lug TL16 (39) through tube (40).
- (22) Install terminal lug TL18 (39) on tool box (1) with lockwasher (41) and nut (42).
- (23) Connect left hand clearance light connector P86 (38) to connector 489 (43).



- (24) Position two washers (44), screw (45), and self-locking nut (46) in ladder support hand rail bracket (47).
- (25) Tighten self-locking nut (46) to 105-115 lb-ft (142-156 N•m).

e. Follow-On Maintenance.

- (1) Stow ladder (TM 9-2320-366-10-1).
- (2) Install placards (para 2-39).
- (3) Place tools in tool boxes (TM 9-2320-366-10-1).

End of Task.

16-24. M1089 LADDERS REPLACEMENT/REPAIR

This task covers:

- | | |
|---------------------------------|--------------------------------|
| a. Tool Box Ladder Removal | e. Catwalk Ladder Removal |
| b. Tool Box Ladder Disassembly | f. Catwalk Ladder Disassembly |
| c. Tool Box Ladder Assembly | g. Catwalk Ladder Assembly |
| d. Tool Box Ladder Installation | h. Catwalk Ladder Installation |

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-366-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
 Wrench, Torque, 0-175 lb ft (Item 58, Appendix C)
 Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

Nut, Self-Locking (10) (Item 136, Appendix G)
 Nut, Self-Locking (4) (Item 141, Appendix G)
 Pin, Cotter (2) (Item 234, Appendix G)
 Nut, Self-Locking (Item 139, Appendix G)

Personnel Required

(2)

a. Tool Box Ladder Removal.

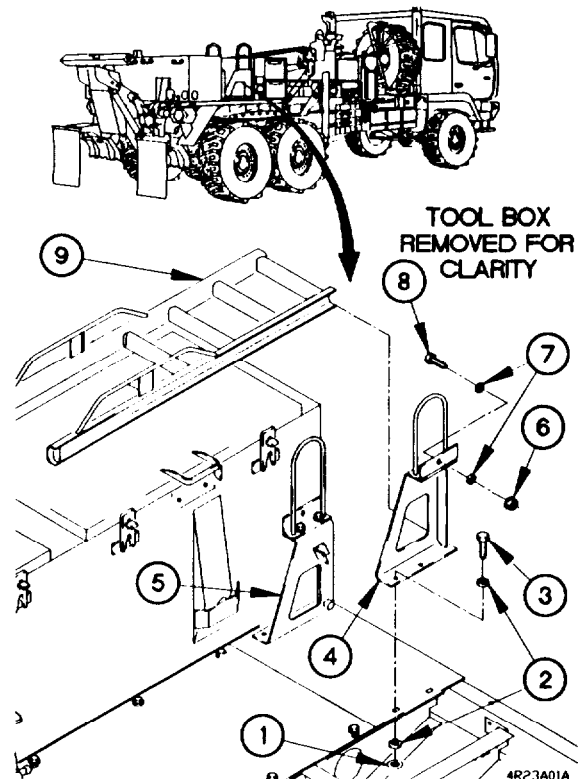


Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

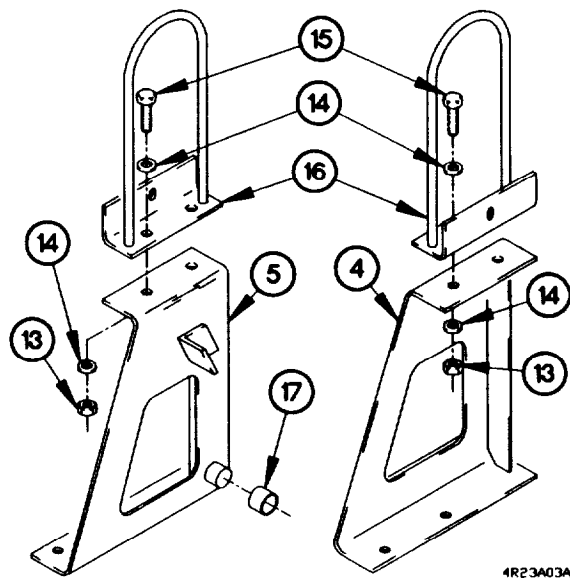
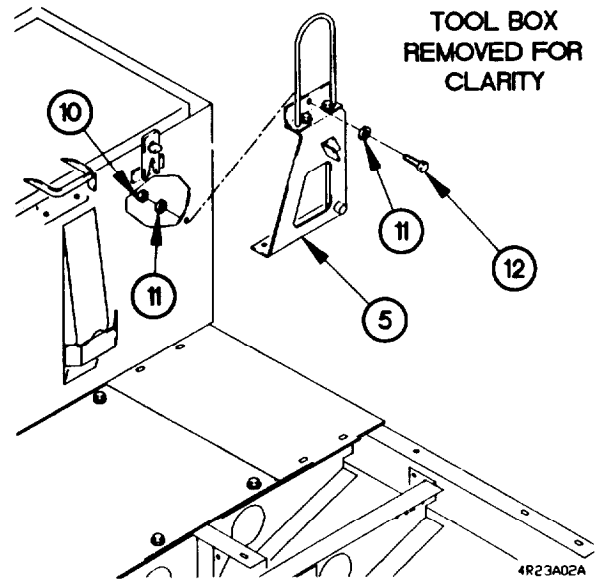
NOTE

Steps (1) through (3) require the aid of an assistant.

- (1) Remove four self-locking nuts (1), eight washers (2), and four screws (3) from ladder support hand rail brackets (4 and 5). Discard self-locking nuts.
- (2) Remove self-locking nut (6), two washers (7), screw (8), rear ladder (9) and front ladder support hand rail bracket (4) from vehicle. Discard self-locking nut.



- (3) Remove self-locking nut (10), two washers (11), screw (12), and rear ladder support hand rail bracket (5) from vehicle. Discard self-locking nut.



- (4) Remove four self-locking nuts (13), eight washers (14), four screws (15), two handrails (16) and bushings (17) from ladder support hand rail brackets (4 and 5). Discard self-locking nuts.

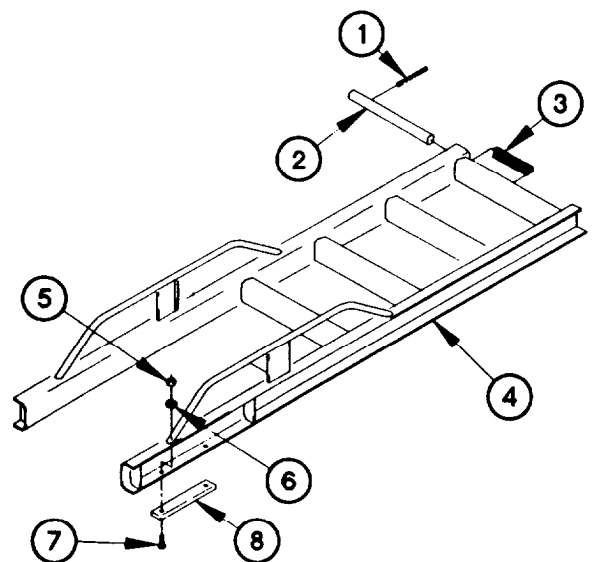
b. Tool Box Ladder Disassembly.

- (1) Remove roll pin (1) from pin (2).
 (2) Remove spring (3) and pin (2) from ladder (4).

NOTE

Note position of skids prior to removal.

- (3) Remove four self-locking nuts (5), washers (6), screws (7), and two skids (8) from ladder (4). Discard self-locking nuts.



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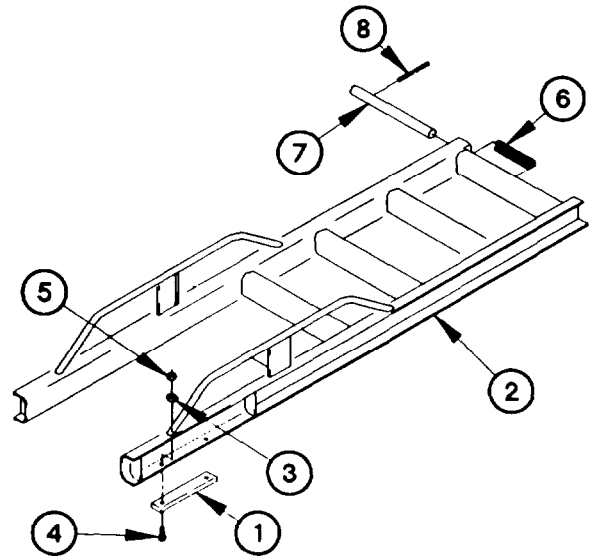
16-24. M1089 LADDERS REPLACEMENT/REPAIR (CONT)

c. Tool Box Ladder Assembly.

NOTE

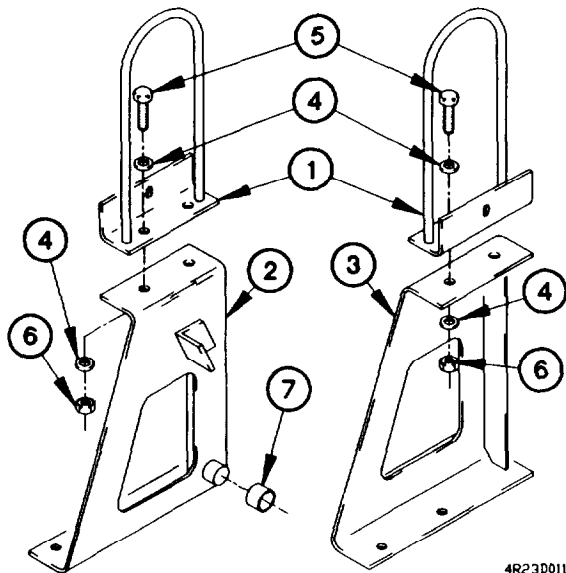
Note position of skids prior to installation.

- (1) Remove two skids (1) on ladder (2) with four washers (3), screws (4), and self-locking nuts (5).
- (2) Tighten four screws (4) to 17-19 lb-ft (23-26 N•m).
- (3) Position spring (6) and pin (7) on ladder (2).
- (4) Install roll pin (8) in pin (7).



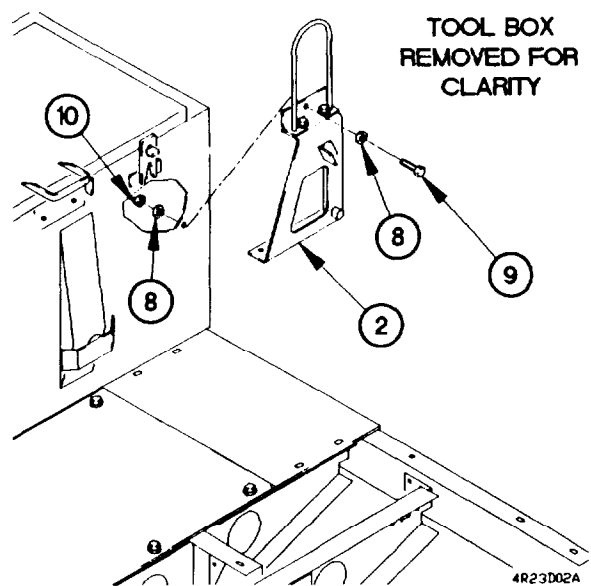
4R23C01A

d. Tool Box Ladder Installation.



4R23D011

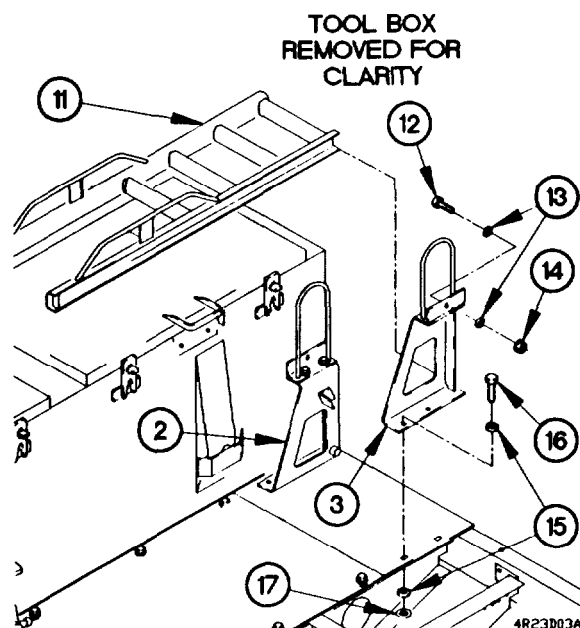
- (1) Position two handrails (1) on ladder support hand rail brackets (2 and 3) with eight washers (4), four screws (5), and self-locking nuts (6).
- (2) Tighten four self-locking nuts (6) to 76-84 lb-ft (103-114 N•m).
- (3) Install two bushings (7) on ladder support hand rail brackets (2 and 3).



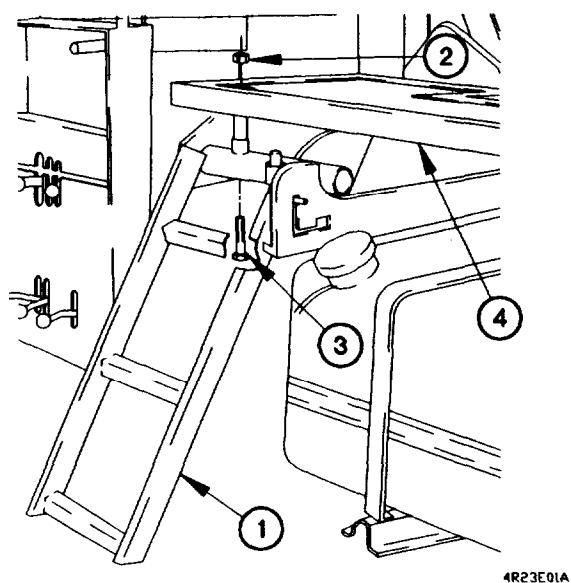
4R23D02A

- (4) Position rear ladder support hand rail bracket (2) on vehicle with two washers (8), screw (9), and self-locking nut (10).
- (5) Tighten self-locking nut (10) to 76-84 lb-ft (103-114 N•m).

- (6) Position ladder (11) and front ladder support hand rail bracket (3) on vehicle with screw (12), two washers (13), and self-locking nut (14).
- (7) Tighten self-locking nut (14) to 76-84 lb-ft (103-114 N•m).
- (8) Position eight washers (15), four screws (16), and self-locking nuts (17) in ladder support hand rail brackets (2 and 3).
- (9) Tighten four self-locking nuts (17) to 76-84 lb-ft (103-114 N•m).



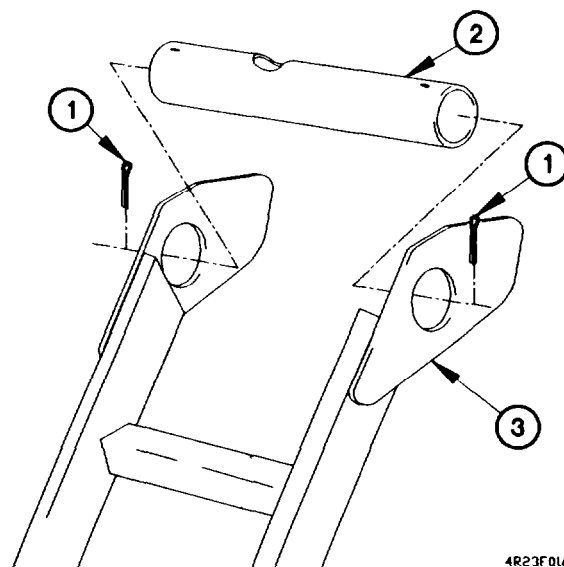
e. Catwalk Ladder Removal



- (1) Position ladder (1) in lowered position.
- (2) Remove self-locking nut (2), screw (3), and ladder (1) from catwalk (4). Discard self-locking nut.

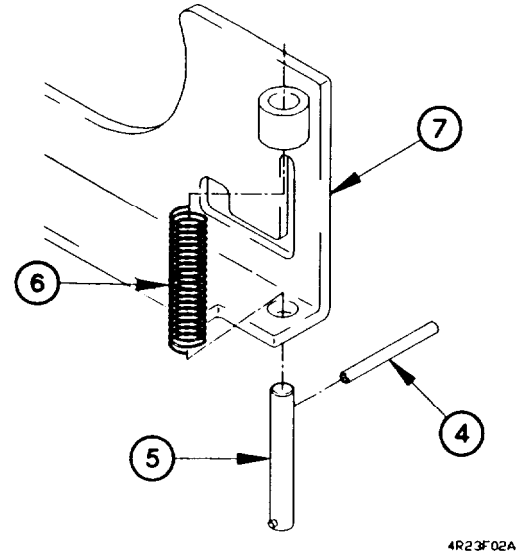
f. Catwalk Ladder Disassembly.

- (1) Remove two cotter pins (1) and tube (2) from ladder (3). Discard cotter pins.

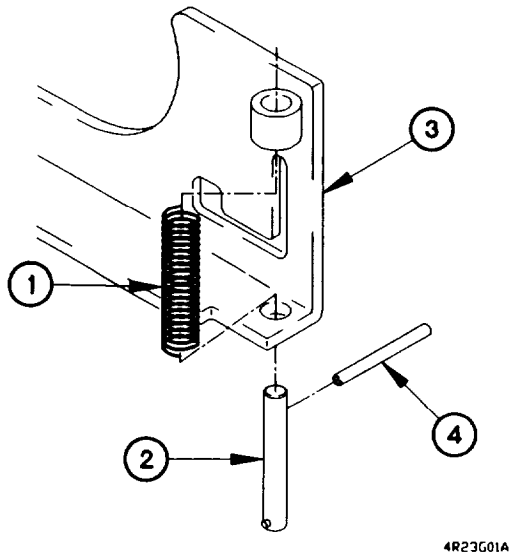


16-24. M1089 LADDERS REPLACEMENT/REPAIR (CONT)

- (2) Remove pin (4) from shaft (5).
- (3) Remove shaft (5) and spring (6) from catwalk (7).

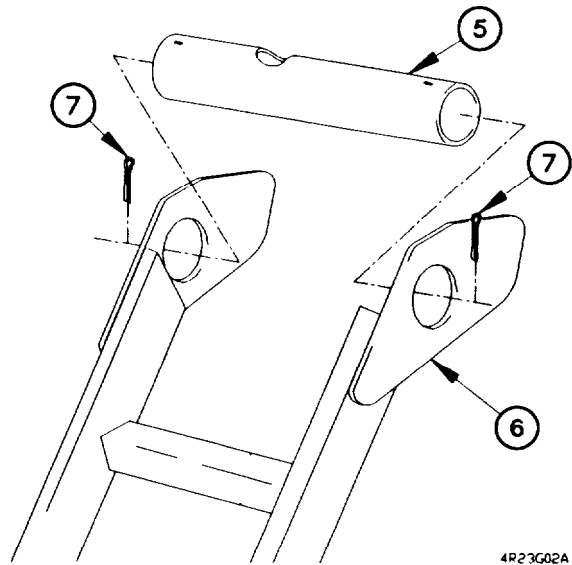


g. Catwalk Ladder Assembly.



- (1) Install spring (1) and shaft (2) in catwalk (3).
- (2) Install pin (4) in shaft (2).

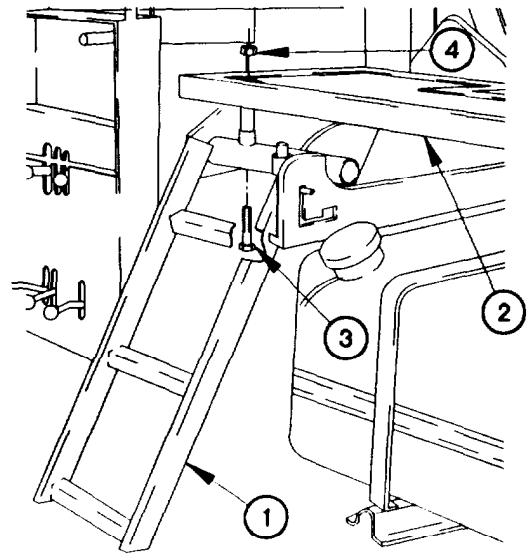
- (3) Install tube (5) in ladder (6) with two cotter pins (7).



h. Catwalk Ladder Installation.

- (1) Install ladder (1) in catwalk (2) with screw (3) and self-locking nut (4).
- (2) Position ladder (1) in stowed position.

End of Task.



4R23H01A

16-25. M1089 VISE MOUNT AND DECK PLATE REPLACEMENT

This task covers:

- a. Removal
- b. Installation
- c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Vise removed (TM 9-2320-366-10-2).

Tools and Special Tools

- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Genl Mech (Item 46, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)

Materials/Parts

Nut, Self-Locking (26) (Item 136, Appendix G)

Personnel Required

(2)

a. Removal.

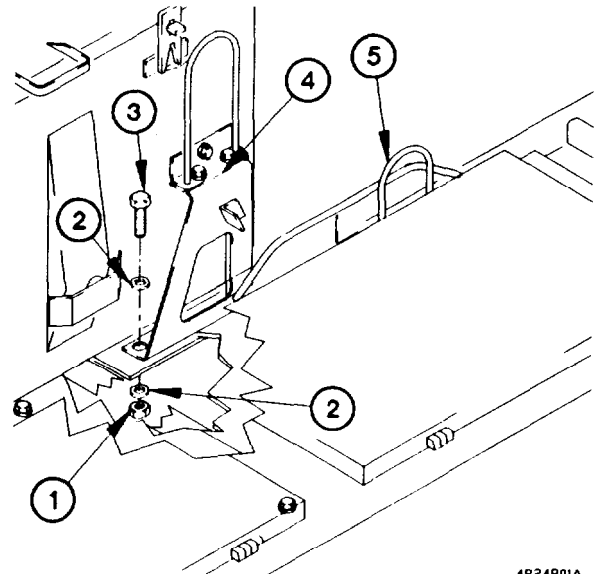


Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

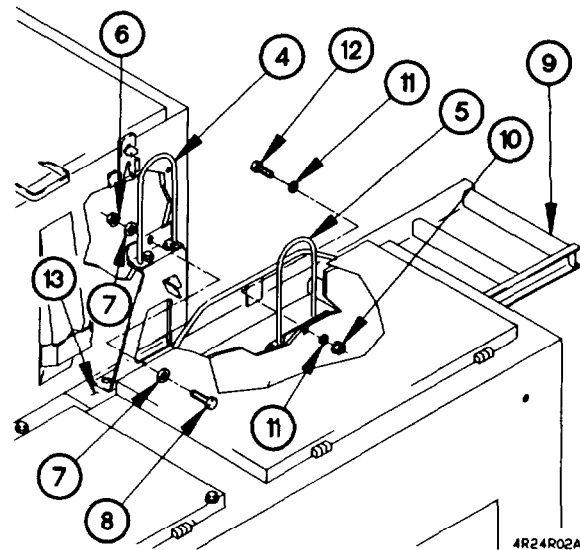
NOTE

Steps (1) through (6) require the aid of an assistant.

- (1) Remove four self-locking nuts (1), eight washers (2), and four screws (3) from ladder support hand rail brackets (4 and 5). Discard self-locking nuts.



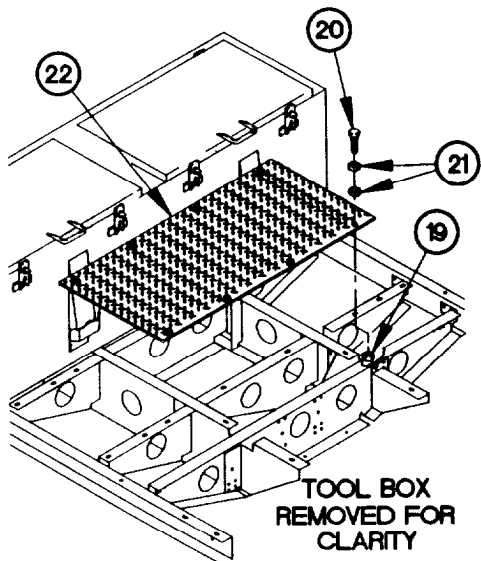
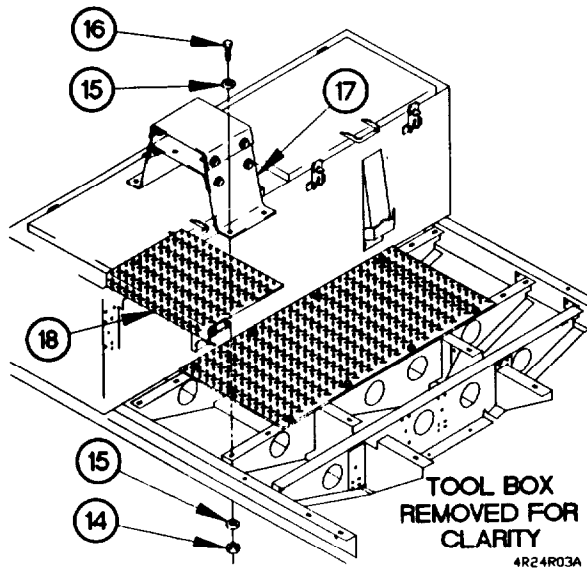
4R24R01A



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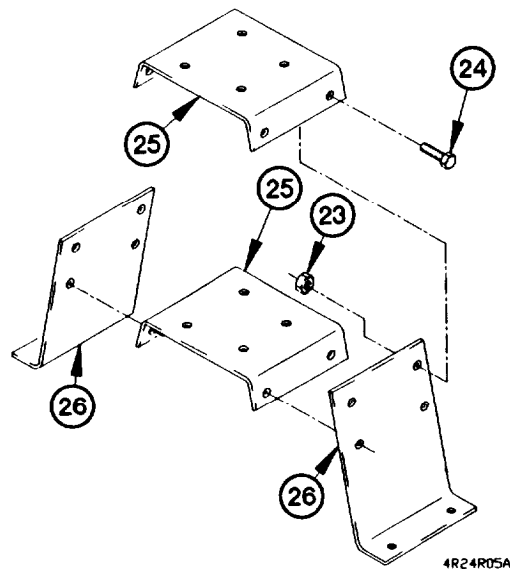
- (2) Remove self-locking nut (6), two washers (7), screw (8), rear ladder (9), and front ladder support hand rail bracket (4) from vehicle. Discard self-locking nut.
- (3) Remove self-locking (10), two washers (11), screw (12), rear ladder support hand rail bracket (5), and deck plate (13) from vehicle. Discard self-locking nut.

- (4) Remove four self-locking nuts (14), eight washers (15), four screws (16), vise mount (17), and deck plate (18) from vehicle. Discard self-locking nuts.



- (5) Remove eight self-locking nuts (19), screws (20), 16 washers (21), and deck plate (22) from vehicle. Discard self-locking nut.

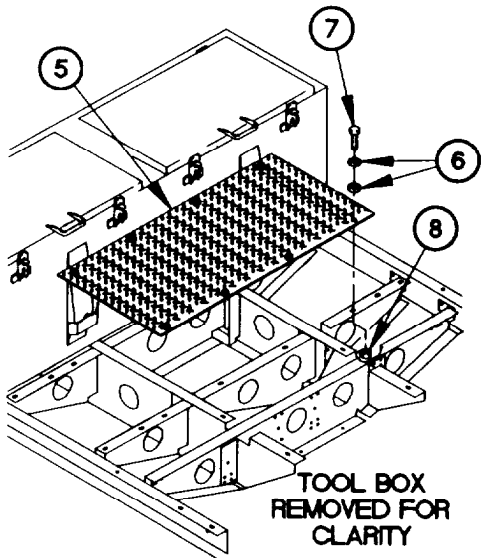
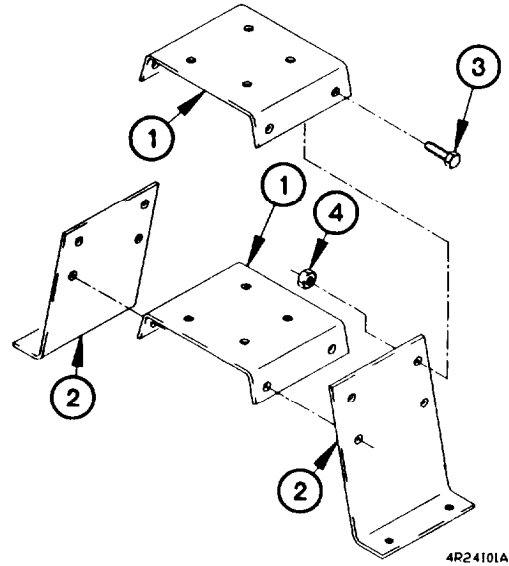
- (6) Remove eight self-locking nuts (23), screws (24), and two anchors (25) from support legs (26). Discard self-locking nuts.



16-25. M1089 VISE MOUNT AND DECK PLATE REPLACEMENT (CONT)

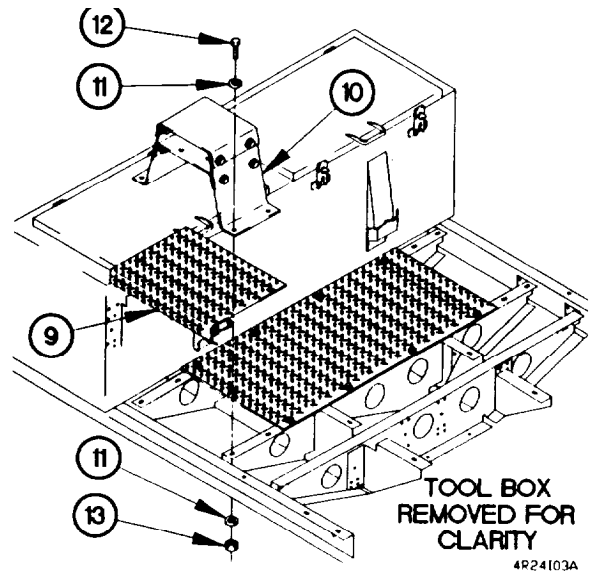
b. Installation.

- (1) Position two anchors (1) on support legs (2) with eight screws (3) and self-locking nuts (4).
- (2) Tighten eight self-locking nuts (4) to 76-84 lb-ft (103-114 N•m).

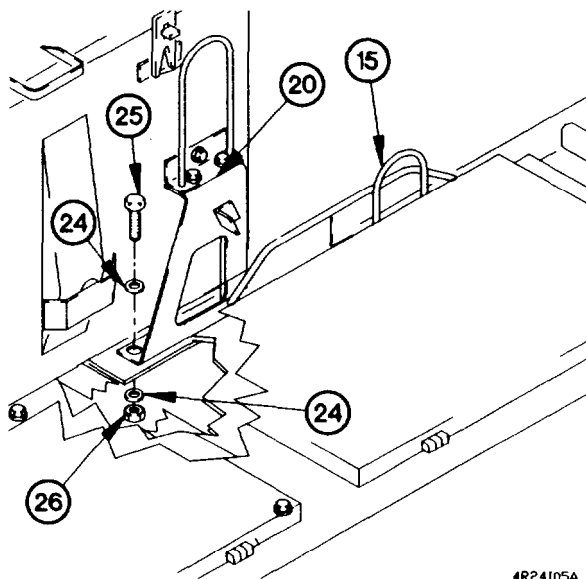
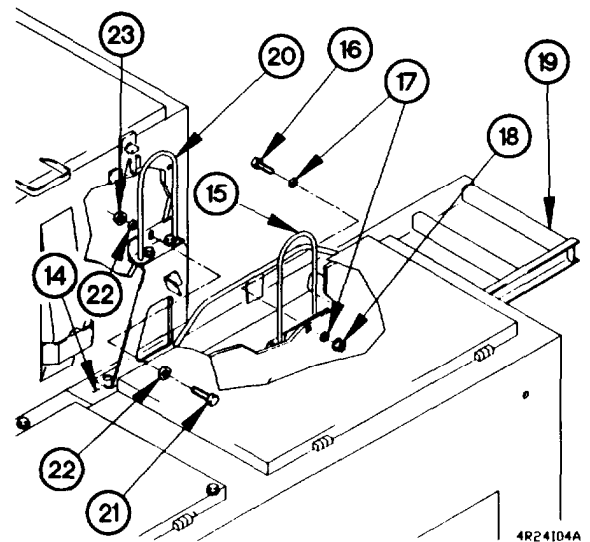


- (3) Position deck plate (5) on vehicle with 16 washers (6), eight screws (7), and self-locking nuts (8).
- (4) Tighten eight self-locking nuts (8) to 105-115 lb-ft (142-156 N•m).

- (5) Position deck plate (9) and vise mount (10) on vehicle with eight washers (11), four screws (12), and self-locking nuts (13).
- (6) Tighten four self-locking nuts (13) to 76-84 lb-ft (103-114 N•m).



- (7) Position deck plate (14) on vehicle.
- (8) Position rear ladder support hand rail bracket (15) on vehicle with screw (16), two washers (17), and self-locking nut (18).
- (9) Tighten self-locking nut (18) to 105-115 lb-ft (142-156 N•m).
- (10) Position ladder (19) and front ladder support hand rail bracket (20) on vehicle with screw (21), two washers (22), and self-locking nut (23).
- (11) Tighten self-locking nut (23) to 105-115 lb-ft (142-156 N•m).



- (12) Position eight washers (24), four screws (25), and self-locking nuts (26) in ladder support hand rail brackets (15 and 20).
- (13) Tighten self-locking nuts (26) to 105-115 lb-ft (142-156 N•m).

c. Follow-On Maintenance.

Install vise (TM 9-2320-366-10-2).

End of Task.

APPENDIX A REFERENCES

A-1. SCOPE

This appendix lists all forms, field manuals, technical manuals, and other publications referenced in this manual. Those publications that should be consulted for additional information about vehicle operations are also listed.

A-2. PUBLICATIONS INDEX

The following index should be consulted frequently for latest changes or revisions and for new publications relating to material covered in this technical manual.

Consolidated Index of Army Publications and Blank Forms DA Pam 25-30

A-3. FORMS

The following forms pertain to this manual. See DA Pam 25-30 for index of blank forms. See DA Pam 738-750, The Army Maintenance Management System (TAMMS), for instructions on the use of maintenance forms pertaining to this material.

Recommended Changes to DA Publications and Blank Forms	DA Form 2028-2
Equipment Inspection and Maintenance Worksheet.	DA Form 2404
Maintenance Request	DA Form 2407
Equipment Control Record	DA Form 2408-9
Processing and Deprocessing Record of Shipping, Storage, and Issue of Vehicles and Spare Engines	DD Form 1397
Packaging Improvement Report	DD Form 6
Report of Item Discrepancy (ROID)	SF 364
Product Quality Deficiency Report	SF 368

A-4. OTHER PUBLICATIONS

The following publications contain information pertinent to the MTV and associated equipment.

a. Safety.

First Aid for Soldiers	FM 21-11
Security of Tactical Wheeled Vehicles	TB 9-2300-422-20
Safety Inspection and Testing of Lifting Devices	TB 43-0142

A-4. OTHER PUBLICATIONS (CONT)

b. MTV.

Direct Support and General Support Maintenance Manual for M1083 Series, 5-Ton, 6x6, Medium Tactical Vehicle (MTV) TM 9-2320-366-34

Hand Receipt Covering Contents of Components of End item (COEI), Basic Issue Items (BII), and Additional Authorization List (AAL), for M1083 Series, 5-Ton, 6x6, Medium Tactical Vehicles (MTV) TM 9-2320-366-10-HR

Operator's Manual for M1083 Series, 5-Ton, 6x6, Medium Tactical Vehicle (MTV) TM 9-2320-366-10

Unit, Direct Support, and General Support Repair Parts and Special Tools List for M1083 Series, 5-Ton, 6x6, Medium Tactical Vehicle (MTV) TM 9-2320-366-24P

Warranty Program for M1083 Series, S-Ton, 6x6, Medium Tactical Vehicle (MTV) TB 9-2300-366-15

c. General Vehicle Operation.

Army Motor Transport Units and Operations FM 55-30

Deepwater Fording of Ordnance Material TM 9-238

Manual for the Wheeled Vehicle Driver FM 21-305

Petroleum Tank Vehicle Operations FM 10-71

Safety Prevention of Motor Vehicle Accidents AR 385-557

Vehicle Recovery Operations FM 20-22

d. General Maintenance and Repair.

Army Oil Analysis Program TB 43-0211

Camouflage Pattern Painting FM 5-20

Charging System Troubleshooting DA Pam 750-33

Color, Marking, and Camouflage Painting of Military Vehicles TB 43-0209

Cooling Systems: Tactical Vehicles TM 750-254

Corrosion Prevention and Control Including Rustproofing Procedures for Tactical Vehicles and Trailers TB 43-0213

Description, Use, Bonding Techniques, and Properties of Adhesives TB ORD 1032

Equipment Improvement Report and Maintenance Digest: TACOM Equipment TB 43-0001-39-1

Equipment Improvement Report and Maintenance Summary TM 43-0143

Installation Instructions for Installation Kit, Electronic Equipment, MK-2700/VRC (NSN 5895-01-421-0814) (EIC: N/A) to Permit Installation of Radio Set AN/VRC-87/88/90 Series into M1078, M1080, M1081, M1083-M1086, M1088-M1094 and M1096 Family of Medium Tactical Vehicles TB 11-5820-890-20-101

Installation Instructions for Installation Kit, Electronic Equipment, MK-2715/VRC (NSN 5895-01-421-0812) (EIC: N/A) to Permit Installation of Radio Set AN/VRC-89/91/92 Series into M1078, M1080, M1081, M1083-M1086, M1088-M1094 and M1096 Family of Medium Tactical Vehicles TB 11-5820-890-20-92

Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel and Related Materials Including Chemicals TM 9-247

Metal Body Repair and Related Operations FM 43-2

Operator's and Organizational Maintenance Manual for Radio Sets TM 11-5820-498-12

Operator's and Organizational Maintenance Manual Including Repair Parts and Special Tools List Simplified Test Equipment for Internal Combustion Engines Reprogrammable (STE/ICE-R) (NSN 4910-01-222-6589) TM 9-4910-571-12&P

Operator's Manual, Radio Set, AN/VRC-46 TM 11-5820-401-10-1

Operator's Manual, Radio Set, AN/VRC-90A TM 11-5820-890-10-1

Operator's, Unit, Direct Support, and General Support Maintenance Manual for Lead-Acid Storage Batteries TM 9-6140-200-14

Ordnance Tracked and Wheeled Vehicle Hull and Chassis Wiring, Repair of	TB ORD 650
Organizational Care, Maintenance, and Repair of Pneumatic Tires and Inner Tubes	TM 9-2610-200-14
Painting Instructions for Field Use	TM 43-0139
Purging, Cleaning, and Coating Interior Ferrous and Terne Sheet Vehicle Fuel Tanks	TB 43-0212
Repair of Tents, Canvas, and Webbing	FM 10-16
Rigging	FM 5-125
Use and Care of Hand Tools and Measuring Tools	TM 9-243
Use of Antifreeze Solutions and Cleaning Compounds in Engine Cooling Systems	TB 750-651
Welding Theory and Application	TM 9-237

e. Cold Weather Operation.

Basic Cold Weather Manual	FM 31-70
Northern Operations	FM 31-71
Operation and Maintenance of Ordnance Materiel in Cold Weather (0° to -65°F)	FM 9-207

f. Decontamination.

Decontamination Operations Facilities & Equipment	TB 700-4
NBC Decontamination	FM 3-5
NBC Protection	FM 3-4

g. Maintenance of Special Purpose Kits.

Operator and Organizational Maintenance Manual for Chemical Alarm	TM 3-6665-225-12
Operator's and Unit Maintenance Manual Including Repair Parts and Special Tools List for Decontaminating Apparatus: M13.	TM 3-4230-214-12&P
Operator, Organizational, Direct Support, and General Support Maintenance Manual Including Repair Parts and Special Tools List for Various Machine Gun Mounts.	TM 9-1005-245-14

h. General.

Operator's Manual (M998 Series)	TM 9-2320-280-10
Operator's Manual (M1008 Series)	TM 9-2320-289-10
Operator's Manual (M35 Series)	TM 9-2320-361-10
Operator's Manual (M939 Series)	TM 9-2320-272-10
Principles of Automotive Vehicles	TM 9-8000
Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use (US Army Tank-automotive and Armaments Command)	TM 750-244-6
Route Reconnaissance and Classification	FM 5-36
Soldier's Manual MOS 88M Motor Transport Operator, Skill Levels 1/2	STP 55-88-M12-SM

i. Land, Sea, and Air Shipment.

Airdrop of Supplies and Equipment: Rigging 5-Ton Trucks	FM 10-526
Containerization of Military Vehicles	MTMCTEA Ref 95-55-23
Lifting and Tiedown of U.S. Military Helicopters	MTMCTEA Ref 95-55-21
Marine Lifting and Lashing Handbook	MTMCTEA Ref 95-55-22
Marine Terminal Lifting Guidance	MTMCTEA Pam 56-1

A-4. OTHER PUBLICATIONS (CONT)

i. Land, Sea, and Air Shipment (Cont).

Multiservice Helicopter External Air Transport: Basic Operations and Equipment. FM 55-450-3
Multiservice Helicopter External Air Transport: Dual-Point Load Rigging Procedures. FM 55-450-5
Multiservice Helicopter External Air Transport: Single-Point Load Rigging Procedures. FM 55-450-4
Standard Characteristics (Dimensions, Weight, and Cube) for Transportability of Military
Vehicles and Other Outsize/Overweight Equipment (in TOE Line Sequence). TB 55-46-1
Tiedown Handbook for Rail Movements. MTMCTEA Pam 55-19
Tiedown Handbook for Truck Movements. MTMCTEA Ref 92-55-20

APPENDIX B MAINTENANCE ALLOCATION CHART (MAC)

SECTION I

INTRODUCTION

B-1. The Army Maintenance System MAC.

a. This introduction (Section I) 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 Section II 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. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. 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, chemicals 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, Measurement, and Diagnostic Equipment (TMDE) used in precision measurement. Consists of comparison 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, or 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 3d position code of the SMR code.

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 material 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.

B-3. Explanation of Columns in the MAC, Section II.

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 the 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 items listed in Column 2. (For detailed explanation of these functions, see Paragraph B-2.)

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 in 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.

¹Services - Inspect, test, service, adjust, align calibrate, and/or replace.

²Fault location/troubleshooting - The process of investigating and detecting the cause of equipment malfunction; 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.

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:

- C Operator or crew maintenance
- O Unit maintenance
- F Direct Support maintenance
- L Specialized Repair Activity (SRA)⁵
- H General Support maintenance
- D Depot maintenance

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 functions. Codes are keyed to tools and test equipment in Section III.

f. Column 6, Remarks. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks contained in Section IV.

B-4. Explanation of Columns in Tool and Test Equipment Requirements, Section III.

a. Column 1, Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, Section II 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 tool or test equipment.

e. Column 5, Tool Number. The manufacturer’s part number, model number, or type number.

B-5. Explanation of Columns in Remarks, Section IV.

a. Column 1, Remarks Code. The code recorded in column 6, Section II.

b. Column 2, Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

⁵This maintenance level is not included in Section II, 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 Section II, Column (4), and an associated reference code is used in the Remarks column (6). This code is keyed to Section IV, Remarks, and the SRA complete repair application is explained there.

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
0100	ENGINE ASSEMBLY	Inspect		0.1				80	
		Test		1.5	0.3			80,81	
		Adjust			3.0			58,62,80, 82	
		Service		0.8				59,61,80	
		Replace			7.0			19,58,61, 63,80,81	
		Repair		0.4	1.6	3.3		19,35,36, 46,58,61, 62,63,80, 81	
0101	CYLINDER HEAD ASSEMBLY	Inspect			0.1			80	
		Replace			2.0			46,58,61, 62,80	
		Repair				2.5		58,61,62, 63,64,80, 83	
0102	CRANKSHAFT	Replace				16.0		58,59,62, 73,80	
		Repair			3.8	16.0		19,35,36, 58,61,62, 63,80	
0103	FLEXPLATE, ENGINE	Replace			6.5			58,61,80	
		Repair			1.0			58,61,80	
0104	PISTON ASSEMBLY	Replace				9.0		58,59,61, 62,64,80, 81	
0105	CAMSHAFT ASSEMBLY	Repair				0.6		80	
		Replace				3.1		17,58,59, 61,62,80	
0105	ROCKER ARM AND PUSH RODS	Repair				1.2		58,80	
		Replace			2.0			46,61,62, 63,80	
0106	COOLER, ENGINE OIL	Replace			1.3			58,80	
		Repair			0.3			58,80	
0108	MANIFOLDS, INLET AND EXHAUST	Replace			1.5			58,62,63, 80,81	
0301	INJECTOR ASSEMBLY, FUEL	Replace			2.1			46,59,80, 82	
		Adjust			1.6			58,80,81, 82	
0304	AIR INTAKE SYSTEM	Service		0.3					
		Repair		0.3				48,59,	

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools and Equipment Ref Code	(6) Remarks Code	
			Unit		Direct Support	General Support			Depot
			C	O	F	H			D
0304	INTAKE AIR CLEANER	Service		0.2					
		Replace		0.8				6,48,59, 80	
0305	TURBOCHARGER	Repair		0.4				59,80	
		Replace			0.8			58,63,80, 81	
0306	FUEL TANK	Inspect	0.1						
0308	GOVERNER, ENGINE SPEED	Replace		1.5				59,61,80	
		Replace			1.0			59,62,78, 80,81	
0309	FILTER, FUEL/WATER SEPARATOR	Repair		0.5	0.7			59,80	
		Inspect	0.2						
0311	ETHER STARTING AID	Service	0.2	0.3				80	
		Replace		0.5				59,80	
0312	ACCELERATOR/HAND THROTTLE	Replace		0.6				59,61,80	
0401	EXHAUST MUFFLERS/PIPES	Replace		0.5				59,80	
		Adjust		0.2					
0501	RADIATOR/CHARGE AIR COOLER	Inspect	0.1	0.2					
		Replace		0.9				59,61,80	
0501	RADIATOR OVERFLOW TANK	Inspect	0.1						
		Replace		2.5				2,31,55, 61,80	
0502	SHROUD, FAN	Service		1.5				61,80	
		Repair		0.6	2.0			2,31,55, 61,80	
0503	HOSES, WATER	Replace		0.5				48,59,80	
0504	PUMP, WATER	Replace		0.3				80	
0505	CLUTCH, ENGINE FAN	Replace		1.0				59,61,80, 90	
		Inspect		1.0				59,61,80, 90	
0505	CLUTCH, ENGINE FAN	Service		0.8				18,59,61, 80,90	
		Replace		0.2				59	
0505	CLUTCH, ENGINE FAN	Replace		1.5				61	
		Repair			1.2			2,55,59, 80	
								58,61,62, 63,80,81	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
0601	ALTERNATOR, 100 AMP	Inspect		0.2					
		Test		0.5	1.5			61,65,80	
		Replace		1.0				61,80	
		Repair		0.2	0.5			40,58,59, 61,65,80, 81	
0603	STARTING MOTOR, ENGINE	Inspect		0.1					
		Test		0.5	0.5			59,65	
		Replace		1.5				2,8,59, 61,80	
		Repair			2.1			54,58,61, 62,78,80	
0606	SOLENOID, FUEL SHUTOFF	Replace			1.0			62,80,82	
0607	CABLE ASSEMBLY, DASHBOARD	Test		0.5				58	
		Replace		2.9				59,61,78, 80	
		Repair		1.0	0.6			58,59,63, 80	
0607	DISPLAY, LIGHTED INDICATOR	Test		0.3					
		Replace		0.5				80,90	
0608	JUNCTION BOX ASSEMBLY, M1084/M1086	Repair		0.3				80	
		Inspect	0.1						
		Replace		1.5				59,61,80, 90	
0608	JUNCTION BOX ASSEMBLY, M1089	Repair		1.5				59,61,65, 80	
		Inspect	0.1						
		Replace		1.5				59,61,80, 90	
0609	LIGHT ASSEMBLY, BACKUP	Repair		1.5				59,61,65, 80	
		Inspect	0.1						
		Replace		0.8				59,80	
0609	LIGHT, BLACKOUT DRIVE	Repair		0.3				80	
		Inspect	0.1						
0609	TALLIGHT ASSEMBLY, COMPOSITE	Replace		0.8				59,61,80	
		Repair		0.5				80	
		Inspect	0.1						
0609	TALLIGHT ASSEMBLY, COMPOSITE	Replace		0.8				59,61,80	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools and Equipment Ref Code	(6) Remarks Code	
			Unit		Direct Support	General Support			Depot
			C	O	F	H			D
0609	LIGHT ASSEMBLY, FRONT TURN SIGNAL AND PARK	Repair		0.5				80	
		Inspect	0.1						
0609	HEADLIGHT	Replace		0.8				59,61,80	
		Repair		0.5				80	
		Inspect	0.1						
		Adjust		0.4					
0609	WORKLIGHT ASSEMBLY, M1088/M1089 STATIONARY	Replace		1.0				59,61,80	
		Inspect	0.1						
		Replace		0.8					80
0610	AUDIBLE ALARM	Repair		0.3				80	
		Inspect	0.1						
0611	HORN, CAB	Replace		0.6				80	
		Inspect	0.1						
0612	BOX ASSEMBLY, BATTERY	Replace		0.4				59,80	
		Inspect	0.1						
		Test		0.5					59,80
		Service		0.3					59
0613	CABLE ASSEMBLY, LH/RH CAB AND DOOR MARKER LIGHTS	Replace		1.0				59,61,80	
		Repair		0.2				65	
		Inspect	0.1						
		Replace		0.8					80
0613	CABLE ASSEMBLY, LOWER, CAB MARKER LIGHTS, M1093/M1094	Repair		0.7				65	
		Inspect	0.1						
0613	CABLE ASSEMBLY, UPPER, CAB CLEARANCE AND MARKER LIGHTS, M1093/M1094	Replace		0.6				80,90	
		Repair		0.5				65	
		Inspect	0.1						
0613	CABLE ASSEMBLY, STE/ICE-R	Replace		0.8				80,90	
		Repair		0.5				65	
		Replace		1.0				80	
		Repair		0.5	0.8			65	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools and Equipment Ref Code	(6) Remarks Code	
			Unit		Direct Support	General Support			Depot
			C	O	F	H			D
0613	CABLE ASSEMBLY, CAB CLEARANCE AND MARKER LIGHTS	Inspect	0.1						
		Replace		1.2				59,80	
0613	CABLE ASSEMBLY, WARNING LIGHT	Repair		0.5	0.8			65	
		Replace		0.5				50,80,90	
0613	CABLE ASSEMBLY, WINDSHIELD WASHER PUMP/EMI	Repair		0.3	0.5			65	
		Replace		0.5				80	
0613	CABLE ASSEMBLY, ARTIC KIT W/PTO	Repair		0.3				65	
		Replace		1.8				59,61,80	
0613	CABLE ASSEMBLY, CRANE POWER	Repair		0.5	0.5			65	
		Inspect	0.1						
0613	BOX ASSEMBLY, CRANE REMOTE CONTROL	Replace		1.2				80	
		Repair		0.5	0.5			65	
0613	CABLE ASSEMBLY, CRANE CONTROL	Test		0.5					
		Repair		0.7				80,90	
0613	CABLE ASSEMBLY, ENGINE CONTROL	Inspect	0.1						
		Replace		2.3				59,80	
0613	CABLE ASSEMBLY, FRONT INTERVEHICULAR, 12 VDC	Repair		0.5	0.5			65	
		Replace		0.8				61,80	
0613	CABLE ASSEMBLY, FRONT LIGHTS	Repair		0.2	1.3			65	
		Replace		2.0				59,61,80, 90	
0613	CABLE ASSEMBLY, REAR LIGHTS	Repair		0.5	0.5			65	
		Replace		2.8				59,61,80	
0613	CABLE, M1084/M1086 BOOM DOWN LOCKOUT SOLENOID	Repair		0.5	0.5			65	
		Replace		2.0				59,80	
0613	CABLE, M1084/M1086 BOOM DOWN SOLENOID	Repair		0.5	0.8			65	
		Replace		2.0				59,80	
		Repair		0.5	0.8			65	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
0613	CABLE, M1084/M1086 BOOM UP LOCKOUT SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 BOOM UP SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 CONTROL LOCKOUT SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 CRANE POWER	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 HOIST DOWN SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 HOIST UP LOCKOUT SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 HOIST UP SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 LEFT JACK CYLINDER PROXIMITY SENSOR	Replace		1.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 OVERLOAD LOCKOUT	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 REMOTE CONTROL	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 SWING CCW SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 SWING CW SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 SYSTEM SHUTDOWN SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
0613	CABLE, M1084/M1086 TELESCOPE IN SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 TELESCOPE OUT LOCKOUT SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1084/M1086 TELESCOPE OUT SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 BOOM DOWN LOCKOUT SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 BOOM DOWN SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 BOOM UP LOCKOUT SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 BOOM UP SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE ASSEMBLY, M1089 CONTROL PANEL POWER	Replace		2.0				80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 CRANE POWER	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 HOIST DOWN SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 HOIST UP LOCKOUT SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 HOIST UP SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 HYDRAULIC SYSTEM SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 LEFT SIDE REMOTE CONTROL	Replace		2.0				59,80	
		Repair		0.5	0.8			65	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
0613	CABLE, M1089 OVERLOAD LOCKOUT	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	WIRING HARNESS, M1089 REMOTE CONTROL	Replace		2.0				80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 RIGHT SIDE REMOTE CONTROL	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 SWING CCW SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 SWING CW SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 TELESCOPE IN SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 TELESCOPE OUT LOCKOUT SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE, M1089 TELESCOPE OUT SOLENOID	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	BOX ASSEMBLY, WRECKER REMOTE CONTRL	Repair		1.6				59,80	
0613	CABLE ASSEMBLY, M1090/M1094 DUMP	Replace		0.8				59,61,80	
		Repair		0.5	0.8			65	
0613	CABLE ASSEMBLY, M1090/M1094 DUMP POWER	Replace		1.2				59,61,80	
		Repair		0.5	0.8			65	
0613	CABLE ASSEMBLY, PTO	Replace		1.6				59,61,80	
		Repair		0.5	0.8			65	
0613	CABLE ASSEMBLY, REAR INTERVEHICULAR, 24 VDC	Replace		0.6				61,80	
		Repair		0.5	0.8			65	
0613	CABLE ASSEMBLY, START AND CHARGING	Replace		2.0				59,80	
		Repair		0.5	0.8			65	
0613	CABLE ASSEMBLY, WINCH CONTROL VALVE	Replace		1.8				59,61,80	
		Repair		0.5	0.8			65	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools and Equipment Ref Code	(6) Remarks Code	
			Unit		Direct Support	General Support			Depot
			C	O	F	H			D
0613	CABLE ASSEMBLY, TRANSMISSION AUXILIARY OIL COOLER FAN	Replace		1.8				59,61,80	
		Repair		0.5				65	
0705	VEHICLE INTERFACE MODULE	Replace		0.6				80	
		Repair		0.8				80	
0708	TORQUE CONVERTER	Adjust			0.9			22,61,62, 80	
		Remove/ Install			0.8			48,61,62, 64,80	
		Repair			1.3			34,58,61, 62,64,80	
0710	TRANSMISSION	Inspect		0.4				80	
		Service		1.5				59,61,80	
		Replace			7.0			58,61,62, 63,80,81, 87	
		Repair		0.4	2.7	1.9		3,22,23, 28,29,31, 43,58,59, 61,62,63, 80,81,87	
0710	MODULE, FRONT SUPPORT	Remove/ Install				2.0		58,59,61, 62,63,80	
		Repair				0.7		34,58,59, 61,62,63, 80	
0710	MODULE, PLANETARY GEAR (P1)	Remove/ Install				2.0		61,62,73, 80	
		Repair				1.5		61,62,73, 80	
0710	MODULE, PLANETARY (P2)	Remove/ Install				2.0		3,58,61, 62,63,80	
		Repair				1.9		3,23,58, 61,62,63, 73,80	
0710	PLANETARY CARRIER (P3)	Remove/ Install				2.0		3,58,62, 80	
		Repair				1.9		3,31,58, 62,80	
0710	MODULE, MAIN SHAFT	Remove/ Install				2.0		61,62,80	
		Repair				0.4		61,62,80	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
0710	MODULE, CONVERTER HOUSING	Remove/ Install Repair				4.3 2.0	3,58,59, 61,62,80 3,23,29, 58,59,61, 62,80		
0713	CLUTCH ASSEMBLY, C3/C4/C5, TRANSMISSION	Remove/ Install Repair				2.0 1.0	58,59,61, 62,80 43,58,59, 61,62,80		
0713	MODULE, ROTATING CLUTCH	Remove/ Install Repair				2.0 2.4	3,58,61, 62,80 3,23,28, 58,61,62, 80		
0714	VALVE ASSEMBLE, CONTROL MODULE	Remove/ Install Repair				2.0 1.0	58,61,62, 63,80,81 61,63,80, 81		
0714	BODY ASSEMBLY, MAIN VALVE	Service Remove/ Install Repair		1.5 1.5		2.0 2.5	59,61,80 58,61,62, 63,80,81 58,61,62, 63,80,81		
0801	MODULE, TRANSFER CASE	Adjust Remove/ Install Repair				1.0 2.0 1.1	25,58,59, 61,62,63, 73,76,80, 81 27,31,37, 52,58,59, 62,80		
0802	HOUSING ASSEMBLY,C6 AND C7 CLUTCH	Remove/ Install Repair				2.0 0.8	58,61,62, 63,80 23,27,30, 31,32,33, 58,61,62, 63,64,73, 80		
0802	CONTROL VALVE ASSEMBLY	Remove/ Install Repair				2.0 1.0	58,61,63, 80,81 58,61,63, 80,81		
0804	PUMP ASSEMBLY, OIL	Replace Repair				1.0 0.8	81 81		
0900	PROPELLER SHAFT	Inspect		0.1					

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
1000	AXLE ASSEMBLY, FRONT	Service		0.5				61	
		Repair		0.6				59,61,80	
		Replace		0.5				59,61,80	
		Inspect	0.1	0.3	0.7			80	
		Adjust			1.0			59,81	
		Service		0.5				61,80	
		Replace			4.5			58,59,61, 62,63,72, 80	
1002	CARRIER ASSEMBLY, DIFFERENTIAL	Repair		2.3	2.2	6.0		58,59,61, 62,63,80	
		Inspect		0.1	0.1	0.1		80,81	
		Service			0.3			80	
1004	STEERING KNUCKLE, AXLE	Replace				4.6		25,58,59, 61,62,80, 81	
		Repair				2.7		58,59,61, 62,80,81	
		Inspect			0.2			81	
		Adjust			2.5			81	
1100	AXLE ASSEMBLY, INTERMEDIATE	Service			0.3			81	
		Replace			5.1			58,59,61, 62,73,90	
		Inspect	0.1	0.4	0.7				
1100	AXLE ASSEMBLY, REAR	Service		0.8				59,61,80	
		Replace			4.5			58,59,61, 62,63,80, 87	
		Repair			1.6	6.0		25,58,59, 61,62,69, 80	
1100	AXLE ASSEMBLY, REAR	Inspect	0.1	0.4	0.7				
		Service		0.8				59,61,80	
		Replace			4.5			38,58,59, 61,62,80, 87	
1102	CARRIER ASSEMBLY, DIFFERENTIAL, INTERMEDIATE AXLE	Repair			0.9	6.0		25,58,59, 61,62,80, 87,88	
		Inspect		0.1	0.1	1.0		80,81	
		Service			0.3			80	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools and Equipment Ref Code	(6) Remarks Code	
			Unit		Direct Support	General Support			Depot
			C	O	F	H			D
1102	CARRIER ASSEMBLY, DIFFERENTIAL, REAR AXLE	Replace				4.6	25,58,59, 61,62,69, 80		
		Repair				2.7	25,58,59, 61,62,63, 69,75,80		
		Inspect	0.1		0.1	1.0	80,81		
		Service Replace			0.3	4.6	80		
		Repair				2.7	25,39,58, 59,61,62, 73,75,80		
1202	BRAKE ASSEMBLY, FRONT AXLE	Inspect		0.1	1.0		61,80,81		
		Adjust Repair		0.4 1.5			59,61,80 59,61,80, 85		
1202	BRAKE ASSEMBLY, INTERMEDIATE AND REAR AXLE	Inspect		0.1	1.0		61,80,81		
		Adjust Repair		0.4 1.5	0.5		59,61,80 59,61,80, 85		
1208	AIR DRYER, BRAKE SYSTEM	Replace		0.5			59,61,80		
1209	AIR COMPRESSOR	Repair		1.0			59,61,80		
		Adjust Replace		0.6	1.2		61,80 58,62,63, 80,81		
1311	WHEEL ASSEMBLY, PNEUMATIC TIRE	Inspect	0.1				59	B	
		Replace	1.0	1.2			59,61		
1313	TIRE, PNEUMATIC	Repair		2.0			59,61		
		Replace		2.0			59,61		
1401	STEERING SYSTEM	Inspect		0.2					
		Adjust			1.0		58,62,80		
		Repair		1.0	1.5		56,58,59, 61,62,63, 80,81		
1407	STEERING GEAR ASSEMBLY	Replace			4.0		58,62,80		
1410	PUMP, POWER STEERING	Replace			1.5		49,58,61, 62,80		

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
1411	HOSES, POWER STEERING	Replace		0.3				59,61,80, 90	
1413	HYDRAULIC RESERVOIR, POWER STEERING	Service	0.1	0.5				80	
1501	FRAME ASSEMBLY	Replace		0.8				61,80,90	
		Inspect	0.1	0.3					
		Repair		0.8	14.0				58,59,61, 62,63,80, 81
1501	BOOM REST ASSEMBLY, CRANE	Inspect	0.1						
		Replace			2.0				58,59,61, 62,80,81, 87
		Repair			0.7				58,59,61, 62,80,81, 87
1504	RETAINER, SPARE TIRE	Inspect	0.1	0.1					
		Replace		3.0					59,61,80
		Repair		0.6					59,61,80
1506	FIFTH WHEEL ASSEMBLY	Inspect	0.1						
		Service		0.5					21,80
		Replace			4.0				58,61,62, 80,81
1601	LEAF SPRING ASSEMBLIES	Repair			2.5				21,58,61, 62,66,80, 81
		Inspect	0.1	0.2					
		Service		0.3					59
1604	SHOCK ABSORBERS	Replace			2.7				58,59,61, 62,80,81
		Inspect	0.1	0.3					
		Replace		0.5					59,61,80
1605	STABILIZER BAR, REAR	Inspect		0.2					
		Replace		2.0					59,61,70, 80
		Repair		1.5					59,80
1801	CAB BODY, STANDARD	Repair	0.1						
		Inspect							
		Replace			60.0				58,59,62, 63,80,81
1801	CAB BODY, AIR DROP	Repair		0.6					59,61,80
		Inspect	0.1						
		Replace			60.0				58,59,62, 63,80,81

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
1801	CAB DOORS, STANDARD	Repair		0.6				59,61,80	
		Inspect	0.1						
		Replace			1.0			57,61,80	
1801	CAB DOORS, AIR DROP	Repair		2.7				51,59,80	
		Inspect	0.1						
		Replace			1.0			57,61,80	
1801	SUPPORT ASSEMBLY, CAB FRONT	Repair		2.7				51,59,80	
		Inspect	0.1						
		Repair		1.1					
1801	SUPPORT ASSEMBLY, CAB REAR	Replace			3.0			7,15,59, 61,62,80, 81	
		Inspect	0.1						
		Replace		1.0				59,61,80	
1802	WINDSHIELD	Repair		0.8				59,80	
		Replace			0.6			57,61,80	
1802	FENDER, VEHICULAR, FRONT	Inspect	0.1						
1803	ROOF, CAB, M1089/M1094	Replace		2.0				59,61,80	
		Repair		0.5				59,80	
		Replace		1.0				47,52,59, 61,80	
1805	STEP ASSEMBLY, CAB	Replace		1.0				59,80	
		Repair		0.7				59,80	
1808	TOOL BOX ASSEMBLY	Inspect	0.1						
		Replace		0.5				49,59,61, 80	
1808	STOWAGE BOX, CAB	Repair		0.5				59,61,80	
		Replace		0.8				59,80	
		Repair		0.5				59,80	
1810	BODY, CARGO, (W/MHC, LWB AND LWB W/MHC)	Inspect	0.1						
		Replace			4.0			58,59,61, 62,80	
1810	DUMP BODY ASSEMBLY	Repair		0.5				59,61,80	
		Inspect	0.1						
		Replace			4.0			58,61,62, 80	
		Repair		0.5	4.0			58,59,61, 62,80	

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
1810	DUMP HYDRAULIC CYLINDER	Inspect	0.1						
		Replace Repair			1.0		2.5	59,62,80 59,61,62, 80,89	
1810	DUMP TAILGATE ASSEMBLY	Inspect	0.1						
		Replace Repair		1.5 0.8				80 80	
1812	BOX ASSEMBLY, TOOL, M1089	Inspect	0.1						
		Remove/ Install Repair		1.0 0.8				59,61,80 59,61,80	
2001	UNDERLIFT ASSEMBLY, M1089	Inspect	0.1						
		Test Service Replace		0.5 0.5	0.1			61 58,59,61, 62,80,87	
		Repair			1.0			54,58,59, 61,62,80, 81,86,87	
		Inspect			0.1				
2001	CROSSBAR ASSEMBLY, M1089	Replace			0.5			58,59,61, 62,80,81, 86	
		Repair			1.0			58,59,61, 62,81,86	
		Inspect			0.1				
2001	LOWER ARM, UNDERLIFT	Replace			2.0			58,59,61, 62,80,87	
		Repair			0.5			58,59,61, 62,80,87	
		Inspect			0.1				
2001	CYLINDER, TELESCOPIC LIFT	Replace			1.5			59,61,80	
		Repair					1.0	61,62,63, 80	
2001	STIFFLEG ASSEMBLY	Inspect			0.1				
		Replace			2.0			59,61,62, 80,87	
		Repair			1.6	1.0		58,59,61, 62,63,68, 80,87	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
2001	BOOM FRAME, FOLDING, UNDERLIFT	Inspect			0.1				
		Repair			2.5			61,80	
2001	ARM ASSEMBLY, UPPER, UNDERLIFT	Repair			2.5			58,59,61, 62,80	
2001	CYLINDER, UNDERLIFT FOLD	Replace			0.5			59,61,80, 87	
		Repair				0.5		59,61,62, 63,80	
2001	CYLINDER, UNDERLIFT STINGER	Replace			0.5			59,61,62, 80,87	
		Repair				0.5		58,61,62, 63,68,80, 81	
2001	WINCH, 15K SELF- RECOVERY	Inspect	0.1	4.0					
		Service		0.2				61	
		Replace			1.0			61,62,80	
		Repair			0.9			61,62,80	
2001	MOTOR, HYDRAULIC, SELF- RECOVERY WINCH	Replace			0.5			59,80	
2001	MATERIAL HANDLING CRANE (MHC), M1089	Inspect	0.1	0.5				80	
		Test	0.2		0.3			59	
		Service		0.5				61	
		Replace			6.0			59,61,62, 80,87	
		Repair		0.5				9,58,59, 61,62,80	
2001	CYLINDER, LIFT, M1089 MHC	Inspect	0.1						
		Test			0.2			61	
		Replace			4.0			58,62,80	
		Repair				2.0		59,61,62, 63,80	
2001	CYLINDER, ERECTION, M1089 MHC	Inspect	0.1						
		Test			0.2			61	
		Replace			4.0			58,62,80	
		Repair				2.0		59,61,62, 63,80,81	
2001	HOIST ASSEMBLY, M1089 MHC	Inspect	0.1						
		Test			0.2			61	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools and Equipment Ref Code	(6) Remarks Code	
			Unit		Direct Support	General Support			Depot
			C	O	F	H			D
2001	HYDRAULIC MOTOR, HOIST, M1089 MHC	Replace			6.0			61,62,80	
		Repair			3.0			59,61,62, 80	
		Inspect	0.1						
		Test			0.1			59,65	
		Replace			2.0			59,80	
2001	GEAR SET, M1089 MHC	Repair				4.2		58,59,61, 62,63,80	
		Inspect		0.2					
		Test			0.2			61	
2001	BOOM ASSEMBLY, M1089 MHC	Repair			1.7			61,62,80	
		Inspect	0.1						
		Test			0.2				
2001	CYLINDER, TELESCOPIC, BOOM, M1089 MHC	Replace			8.0			58,62,80	
		Repair			2.0			58,61,62, 80	
		Inspect	0.1						
		Test			0.2			61	
2001	SWING DRIVE ASSEMBLY, M1089 MHC	Replace			6.0			58,61,62, 80	
		Repair				2.0		59,61,62, 80	
		Inspect	0.1	0.5					
		Test			0.2			61	
2001	MOTOR, ORBIT, HYDRAULIC, M1089 MHC	Service		0.3					
		Replace			4.0			59,61,62, 80	
		Repair			4.0			59,61,62, 80	
		Inspect	0.1						
2001	CYLINDER ASSEMBLY, EXTENSION, OUTRIGGER, M1089 MHC	Test			0.2			61	
		Replace			1.0			59,61,62, 80	
		Repair				3.0		59,61,62, 63,80,81	
2001	CYLINDER ASSEMBLY, EXTENSION, OUTRIGGER, M1089 MHC	Inspect	0.1						
		Test			0.2			61	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
2001	CYLINDER ASSEMBLY, JACK, M1089 MHC	Replace			3.0			80	
		Repair					5.0	61,62,80	
		Inspect	0.1						
2001	VALVE ASSEMBLY, EIGHT-BANK, M1089 MHC	Test			0.2			61	
		Replace			3.0			62,80	
		Repair					5.0	59,61,62,80	
2001	WINCH ASSEMBLY, M1089 (30K)	Inspect	0.1						
		Replace			0.5			58,59,61,80	
		Repair					2.0	58,59,61,80	
2001	MOTOR ASSEMBLY, DRIVE, (30K) WINCH	Inspect	0.1						
		Test		0.5	0.2			63	
		Replace			9.0			20,59,61,62,80,81	
2001	VALVE ASSEMBLY, MAIN, UPPER, M1089	Repair			0.5			59,61,62,63,73,80,81	
		Replace			0.5			59,61,62,63,73,80,81	
		Repair			8.0			59,61,62,63,73,80,81	
2001	VALVE ASSEMBLY, MAIN, LOWER, M1089	Replace			0.5			61,62,80	
2001	VALVE ASSEMBLY, MONO, M1089	Replace			0.5			61,62,80	
2001	MATERIAL HANDLING CRANE (MHC), M1084/M1086	Repair			0.5			61,62,80	
		Inspect	0.1		1.5			59,61,62,80,87	
		Test			1.0			59,61,62,80,87	
2001	MATERIAL HANDLING CRANE (MHC), M1084/M1086	Service		2.0	0.2			81	
		Replace			4.0			61	
		Inspect	0.1					58,59,61,62,80	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools and Equipment Ref Code	(6) Remarks Code	
			Unit		Direct Support	General Support			Depot
			C	O	F	H			D
2001	CYLINDER, LIFT, M1084/M1086 MHC	Repair				0.5	58,59,61, 62,63,73, 80,81		
		Inspect	0.1						
		Test			2.0			65,81	
2001	CYLINDER, ERECTION, M1084/M1086 MHC	Replace			2.0			58,59,62, 80	
		Repair				4.0		58,59,62, 80	
		Inspect	0.1						
2001	HOIST ASSEMBLY, M1084/M1086 MHC	Test			0.2			65,81	
		Replace			4.0			58,62,80	
		Repair				4.0		59,61,63, 80,81	
2001	HOIST ASSEMBLY, M1084/M1086 MHC	Inspect	0.1						
		Test			0.2			65,81	
		Replace			6.0			61,62,80	
2001	MOTOR, HYDRAULIC, HOIST, M1084/M1086 MHC	Repair				3.5		59,61,62, 80	
		Inspect	0.1						
		Test			0.1			65,81	
2001	GEAR SET, M1084/M1086 MHC	Replace			2.0			59,80	
		Repair			4.5			61,62,80	
		Inspect	0.1	0.2					
2001	CYLINDER, TELESCOPIC, BOOM, M1084/M1086 MHC	Test			0.1			65,81	
		Replace			2.0			58,61,62, 80	
		Repair				4.0		59,61,62, 80	
2001	SWING DRIVE ASSEMBLY, M1084/M1086 MHC	Inspect	0.1	0.5				61	
		Test			0.1			65,81	
		Service		0.3					

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
2001	MOTOR, ORBIT, HYDRAULIC, M1084/M1086 MHC	Replace			4.0			59,61,62, 80	
		Repair			3.5	4.2		59,61,62, 80	
		Inspect	0.1					61	
		Test			0.1			65,81	
		Replace			2.0			59,61,80	
2001	VALVE ASSEMBLY, CONTROL, FOUR WAY, M1084/M1086 MHC	Repair				4.2		59,61,63, 73,80,81	
		Replace			0.8			59,61,62, 80	
2001	VALVE ASSEMBLY, CONTROL, THREE WAY, M1084/M1086 MHC	Repair			1.1			59,61,62, 80	
		Replace			0.8			59,61,62, 80,81	
2001	CYLINDER, JACK, M1084/M1086 MHC	Repair			1.1			59,61,62, 80,81	
		Inspect	0.1						
		Test			0.2			81	
2004	POWER TAKEOFF ASSEMBLY (PTO)	Replace			2.0			62,80	
		Repair			4.0			59,61,62, 80	
		Inspect	0.1						
2201	CAB PROTECTOR, M1090/M1094	Replace			1.0			58,59,61, 62,80	
		Repair			0.8			58,59,61, 62,80	
2202	MOTOR, WIPER, WINDSHIELD	Inspect	0.1						
		Replace			2.0			58,80	
2207	HEATER ASSEMBLY, PERSONNEL	Test		0.5					
		Replace		1.0				80	
2210	DECALS	Replace		2.0				59,61,80	
		Repair		1.0				59,61,80	
		Inspect	0.1						
		Replace		1.0				80	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools and Equipment Ref Code	(6) Remarks Code	
			Unit		Direct Support	General Support			Depot
			C	O	F	H			D
2401	POWER UNIT, AIR/HYDRAULIC	Inspect	0.1						
		Test		0.2					
		Service		1.0					
		Replace		3.0				59,61,80	
		Repair			2.0			59,61,62, 71,80,81	
2402	MANIFOLD, HYDRAULIC	Inspect	0.1						
		Test		0.2					
		Replace		1.5				53,59,61, 80	
		Repair		1.0				53,59,61, 80	
2406	FILTER, HYDRAULIC	Service		0.3				61,80	
		Replace		0.2				61,80	
2407	LATCH, HYDRAULIC, CAB	Inspect	0.1						
		Adjust		0.5				59,61,80	
		Replace		0.5				59,61,80	
2408	RESERVIOR, HYDRAULIC	Replace		1.0				59,61,80	
		Repair		0.5				59,61,80	
2408	TANK ASSEMBLY, HYDRAULIC, M1089	Inspect	0.1						
		Service		2.0				59,61,80	
		Replace		2.0				6,9,59, 61,80	
		Repair		0.5				59,61,80	
3303	SWINGFIRE ADAPTER KIT	Inspect	0.2						
		Test		1.0					
		Remove/ Install		3.0				59,61,80, 90	
		Replace		1.0				59,61,80, 90	
		Repair		1.7				59,61,80, 90	
		Inspect	0.2						
3303	CAB ARCTIC KIT	Test		1.0					
		Remove/ Install			6.0			58,59,61, 62,80,81, 90	
		Replace		1.0				59,61,80, 90	
		Repair		1.7				59,61,80, 90	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
3303	CARGO ARTIC KIT	Inspect	0.2						
		Test		1.0					
		Remove/ Install			12.0			58,59,61, 62,80,81, 90	
		Replace		1.0				59,61,80, 90	
3303	FURNACE ASSEMBLY, CARGO	Repair		1.7				59,61,80, 90	
		Replace		3.0				59,61,80, 90	
3303	CABLE ASSEMBLY, FURNACE, CARGO	Repair		0.5				59,61,80, 90	
		Inspect	0.1						
3303	CONTROL UNIT ASSEMBLY, FURNACE	Replace		0.5				59,61,80	
		Repair		0.7				59,61,80	
3303	HEATER ASSEMBLY, VEHICULAR	Replace		1.5				59,61,80	
		Repair		0.5				4,24,26, 41,59,80	
3305	FORDING KIT, DEEP WATER	Inspect	0.1						
		Test		0.5					
		Service		0.5				61,80	
		Replace		1.5				59,80,90	
		Repair		1.5				59,80,90	
3307	ALTERNATOR KIT, 200 AMP	Inspect	0.1	0.2					
		Remove/ Install		4.0				59,61,80	
		Test		0.5					
		Remove/ Install		2.0				59,61,80	
3307	ALTERNATOR, 200 AMP	Replace		1.0				59,61,80	
		Repair			0.5			58,59,62, 63,80	
		Inspect		0.2					
3307	CRANE (LMHC), MATERIAL HANDLING, LIGHT	Test		0.5	1.5			61,65,80	
		Replace		1.0				59,61,80	
		Repair		0.2	0.5			58,59,62, 63,65,80	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools and Equipment Ref Code	(6) Remarks Code	
			Unit		Direct Support	General Support			Depot
			C	O	F	H			D
3307	WEIGHT BLOCK AND WIRE ROPE, LMHC	Replace		0.5				61,78,80	
		Repair		0.5					
		Test		0.5					
		Inspect	0.1						
3307	WINCH, LMHC	Replace		0.1				61,80	
		Repair		0.5				61,80	
		Test			0.5				
		Inspect	0.1						
3307	MAST/SWING ASSEMBLY, LMHC	Replace		0.5				61,80	
		Repair		1.0				61,80	
		Test		0.5					
3307	CONTROL BOX, LMHC	Inspect	0.1						
		Repair		1.0				61,80	
3307	TROOPSEAT KIT	Test		0.5					
		Inspect	0.1						
		Replace		1.0					
		Repair		0.5				78,80	
3307	COVER KIT, CARGO SOFT TOP	Test	0.1	0.5					
		Remove/ Install	1.0						
		Inspect	0.1						
		Replace		1.0					
3307	WARNING LIGHT ASSEMBLY, AMBER	Repair		0.5				80	
		Remove/ Install	1.5						
		Inspect	0.1						
3401	MACHINE GUN RING KIT	Replace		2.0					
		Repair		0.5					
3402	MOUNT, SMALL ARMS	Test	0.1	0.2				80	
		Inspect	0.1						
3901	WARNING LIGHT ASSEMBLY, AMBER, M1089	Remove/ Install			4.0			58,59,62, 80,81,87	
		Repair		1.1				10,59,80	
3901	WARNING LIGHT ASSEMBLY, AMBER, M1089	Inspect	0.1						
		Replace		0.3				80	
		Repair		0.8				59,61,80	

Section II. MAINTENANCE ALLOCATION CHART FOR THE MTV VEHICLE (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools and Equipment Ref Code	(6) Remarks Code	
			Unit		Direct Support	General Support			Depot
			C	O	F	H			D
3903	MAST, WARNING LIGHT, AMBER, M1089	Replace		0.6				59,61,80	
3909	CABLE ASSEMBLY, WARNING LIGHT	Inspect	0.1						
4316	AIR HOSE, CTIS	Replace		0.5				80	
		Inspect	01						
		Replace		0.4				61,80	
4317	VALVE, INVERSION	Replace		0.5				61,80	
4318	CYLINDER, PNEUMATIC, TAILGATE, M1090/M1094	Replace		0.4				61,80	
4321	AIR DRYER	Inspect	0.1	0.1					
		Replace		1.0				59,61,80	
		Repair		0.6				59,61,80	
4702	GUAGE, AIR FILTER RESTRICTION	Replace		0.5				80	

Section III. TOOLS AND TEST EQUIPMENT FOR MTV VEHICLES

Tool or Test Equipment REF Code	Maintenance Level	Nomenclature	National Stock Number	Tool Number
1	O,F	ADAPTER, RADIATOR	4910-01-170-4928	J29003-A
2	O	ADAPTER, SOCKET WRENCH	5120-00-240-8702	11655788-2
3	H	BUSHING DRIVER SET	5120-01-391-3541	J35922
4	O	CRIMPING TOOL, TERMINAL, HAND	5120-00-165-3912	M22520/1-01
5	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-00-078-3809	10935497
6	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-00-293-1010	5120-293-1282
7	F	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-074-7557	FCOM19
8	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-236-9996	FCOM15
9	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-335-1089	FCO28
10	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-335-1091	FCO32
11	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-335-1119	SCO34

Section III. TOOLS AND TEST EQUIPMENT FOR MTV VEHICLES (CONT)

Tool or Test Equipment REF Code	Maintenance Level	Nomenclature	National Stock Number	Tool Number
12	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-335-1122	SCO40
13	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-335-1153	FCO20
14	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-335-1156	FCO26
15	F	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-348-9473	AN8508-19A
16	O	CUTTER, BOLT	5110-00-224-7057	GGG-C-740
17	H	DRIVER KIT, BEARING	4910-01-032-3128	8S062
18	O	GAGE, BELT TENSION	6635-01-092-7462	0755-0101
19	O,F	GAGE, BELT TENSION	6635-01-143-2237	GA-424
20	O,F	GAGE, PRESSURE, 0-150 psi	6685-00-474-5721	111T1D05A01
21	O	GAGE, PROFILE	5220-01-357-4913	TF-0237
22	F,H	GAGE, PROFILE	5220-01-388-1460	J-38548-1
23	H	HANDLE, DRIVE	5120-00-377-2259	J8092
24	O	HEATER, GUN TYPE, ELECTRIC	4940-00-561-1002	500A
25	F,H	HOLDING BAR, PINION	5120-01-166-0573	J3453
26	O	INSERTER AND REMOVER, ELECTRICAL CONTACT	5120-00-915-4588	MS3447-16
27	H	INSERTER AND REMOVER, SPRING	5120-01-388-3660	J38573
28	H	INSERTER AND REMOVER, SPRING	5120-01-388-4436	J35923
29	H	INSERTER, BEARING AND BUSHING	5120-01-388-7841	J-38565
30	H	INSERTER, BEARING AND BUSHING	5120-01-389-0658	J35921-1
31	H	INSERTER, BEARING AND BUSHING	5120-01-390-1104	J 38569
32	H	INSERTER, BEARING AND BUSHING	5120-01-390-1105	J 38568-3
33	H	INSERTER, BEARING AND BUSHING	5120-01-391-5133	J 38579
34	F,H	INSERTER, BEARING AND BUSHING	5120-01-414-7398	J38566
35	F	INSERTER, SEAL	5120-01-362-2026	1U7430
36	F	INSERTER, SEAL	5120-01-362-2027	1U7598
37	F	INSTALLER, SEAL	N/A	J38574
38	F	JACK, LEVELING SUPPORT, VEHICLE	2590-00-231-7418	10876244
39	H	PULLER KIT, UNIVERSAL	5180-00-089-3660	A57QB
40	F	PULLER KIT, UNIVERSAL	5180-01-124-1903	1P3075
41	O	REMOVER, ELECTRICAL CONTACT	5120-00-148-9844	MS3448-001B
42	F	RIVETER, BLIND, HAND	5120-01-289-4310	HP-2
43	H	RIVETER, YOKE, HAND	5120-01-415-3558	J-39354
44	F	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-00-601-6934	LAW120A
45	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-053-4158	FAM5A
46	O,F,H	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-055-1308	ANSIB18.3.2M

Section III. TOOLS AND TEST EQUIPMENT FOR MTV VEHICLES (CONT)

Tool or Test Equipment REF Code	Maintenance Level	Nomenclature	National Stock Number	Tool Number
47	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-079-8032	SAM8A
48	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-160-8862	S 6 HBS
49	O,F	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3462	SA10A
50	O,F	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3497	TMP12A
51	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3519	F23D
52	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3526	FP24
53	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3527	FP32A
54	F,H	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3536	FTX40A
55	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3574	GFA8A
56	O	SEPARATOR, BALL JOINT	5120-01-255-8238	2287
57	F	SETTING TOOL, WINDSHIELD	5120-01-316-4995	CRL216
58	O,F	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-348-7696	SC4910-95CLA02
59	O,F,H	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-754-0650	SC4910-95CLA72
60	O	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-754-0653	SC4910-95CLA73
61	O,F,H	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-754-0654	SC4910-95CLA74
62	F,H	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-754-0705	SC4910-95CLA31
63	F,H	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-754-0706	SC4910-95CLA62
64	O,F,H	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-754-0707	SC4910-95CLA63
65	O,F	SHOP EQUIPMENT, FUEL AND ELECTRICAL	4910-00-754-0714	SC4910-95CLA01
66	F	SLIDER, SPRING COMPRESSOR	4910-01-165-6015	TF-TUN-J500
67	F	SLING, MULTIPLE LEG	3940-00-777-5744	A170
68	H	SOCKET SET, SOCKET WRENCH	5120-01-195-0640	208FA
69	F,H	SOCKET, SOCKET WRENCH	5120-01-068-5643	5555M
70	O	SOCKET, SOCKET WRENCH	5120-01-161-5907	GLDH382
71	F	SOCKET, SOCKET WRENCH	5120-01-335-0784	TW321
72	O	SOCKET, SOCKET WRENCH	5120-01-359-9521	TV940009
73	F	SOLDERING AND BRAZING OUTFIT, RESISTANCE HEATING	3439-00-460-7198	SC4940-95-CLB20
74	O	SOLDERING IRON, ELECTRIC	3439-01-036-3308	3112-S3-40W

Section III. TOOLS AND TEST EQUIPMENT FOR MTV VEHICLES (CONT)

Tool or Test Equipment REF Code	Maintenance Level	Nomenclature	National Stock Number	Tool Number
75	H	STAND, DIFFERENTIAL CARRIER REPAIR	4910-01-085-7729	J3409-D
76	H	STAND, MAINTENANCE, AUTOMOTIVE ENGINE	4910-00-808-3372	J29109
77	O	TESTING APPARATUS	4910-01-426-3974	440.280
78	O,F	TOOL KIT, AUTO FUEL AND ELECTRICAL SYSTEM REPAIR	5180-00-754-0655	SC4910-95CLA50
79	F	TOOL KIT, BODY AND FENDER	5180-00-754-0643	SC5180-90-N34
80	O,F,H	TOOL KIT, GENERAL MECHANIC'S	5180-00-177-7033	SC5180-90-CL-N26
81	F,H	TOOL KIT, GENERAL MECHANIC'S	5180-00-699-5273	SC5180-90-CL-N05
82	F	TOOL KIT, INTERNAL COMBUSTION ENGINE	5180-01-356-8155	1U6680
83	H	TOOL KIT, SLEEVE REPAIR	5180-01-415-5896	4C4462
84	F	TOOL OUTFIT, HYDRAULIC	4940-01-036-5784	SC4940-95-CL-B07
85	O	TOOL, SPRING REMOVAL	5120-01-360-1918	TV940010
86	F	WIRE TWISTER, PLIER	5120-00-542-4171	GGG-W-340
87	F	WRENCH SET, CROWFOOT, RATCHETING	5120-00-293-0013	GGG-W-646
88	F	WRENCH SET, SOCKET	5120-00-148-3706	ANSI-B107.5
89	H	WRENCH SET, SPANNER	5120-00-215-1882	46D7578
90	O	WRENCH, TORQUE, 0-75 LB-IN.	5120-01-112-9532	TQSC6A

Section IV. REMARKS FOR THE MTV VEHICLE

Remarks Code	Remarks
A	Battery service will be in accordance with TM 9-6140-200-14.
B	Repair of tires will be in accordance with TM 9-2610-200-14.

APPENDIX C TOOLS IDENTIFICATION LIST

Section I. INTRODUCTION

C-1. INTRODUCTION

This appendix lists common tools, supplements, and special tools/fixtures that are suggested for maintenance tasks performed at the Unit Maintenance level.

C-2. EXPLANATION OF COLUMNS

- a. Column (1) - Item Number.** This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the item, e.g., "Bar, Pry (Item 1, Appendix C)."
- b. Column (2) - Item Name.** This column contains the nomenclature for the item.
- c. Column (3) - National Stock Number.** This is the national stock number assigned to the item which you can use to requisition it.
- d. Column (4) - Part Number.** This provides the Government, manufacturer, or vendor part number for the item.
- e. Column (5) - Reference.** This column contains the shop catalog (SC), technical manual, or other publication which provides an illustration and description of the item, or lists whether the item is fabricated.

APPENDIX C Section II. TOOLS IDENTIFICATION LIST

(1) ITEM NUMBER	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) REFERENCE
1	ADAPTER, SOCKET WRENCH	5120-00-227-8088	A-A-2172	SC 4910-95-CL-A74
2	ADJUSTING TOOL, BRAKE SHOE	5120-01-154-3029	J34061	SC 4910-95-CL-A74
3	APRON, RUBBER	8145-00-082-6108	MIL-A-41829	SC 4910-95-CL-A74
4	CAPS, VISE JAW	5120-00-221-1506	GGG-C-137	SC 4910-95-CL-A74
5	DISPENSING PUMP, HAND DRIVEN	4930-00-263-9886	43D15069	SC 4910-95-CL-A74
6	DRILL SET, TWIST	5130-00-293-0983	58	SC 4910-95-CL-A74
7	DRILL, PORTABLE, ELECTRIC	5130-00-293-1849	W-D-661	SC 4910-95-CL-A74
8	DRILL, TWIST	5133-01-120-3519		SC 4910-95-CL-A72

Section II. TOOLS IDENTIFICATION LIST (CONT)

(1) Item Number	(2) Item Name	(3) National Stock Number	(4) Part Number	(5) Reference
9	FISHING TOOL, PNEUMATIC TIRE VALVE	5120-00-516-4220	991	SC 4910-95-CL-A74
10	GAGE, DEPTH, MICROMETER	5120-00-619-4045	445BZ-6RL	CTA 50-909
11	GAGE, TIRE PRESSURE	4910-01-117-2994	955	SC 4910-95-CL-A72
12	GAGE, WHEEL ALIGNMENT	5120-00-529-1205	WA361	SC 4910-95-CL-A72
13	GLOVES, RUBBER	8415-00-641-4601	ZZ-G-381	SC 4910-95-CL-A74
14	GLOVES, WELDER'S	8415-00-268-7859	A-A-50022	SC 4910-95-CL-A72
15	GOGGLES, INDUSTRIAL	4240-00-052-3776	A-A-1110	SC 4910-95-CL-A74
16	GUN, LUBRICATING	4930-00-253-2478	1142	SC 4910-95-CL-A74
17	HAMMER, HAND	5120-00-224-4130	A-A-1292	SC 4910-95-CL-A74
18	HAMMER, HAND	5120-01-065-9037	57-533	SC 4910-95-CL-A72
19	HOSE ASSEMBLY, NONMETALLIC	4720-00-356-8557	ZZ-H-461	SC 4910-95-CL-A74
20	IRON, TIRE	5120-00-765-8536	T48A	SC 4910-95-CL-A74
21	JACK, HYDRAULIC, HAND	5120-00-224-7330	D120	SC 4910-95-CL-A74
22	MULTIMETER, DIGITAL	6625-01-139-2512	T00377	SC 4910-95-CL-A74
23	MULTIPLIER, TORQUE WRENCH	5120-00-574-9318	292	SC 4910-95-CL-A72
24	PAN, DRAIN	4910-00-387-9592	450	SC 4910-95-CL-A72
25	PAN, WASH	4940-00-617-9859	5582281	SC 4910-95-CL-A72
26	PRESSURE TESTER, RADIATOR	4910-01-170-4929	J24460-01	SC 4910-95-CL-A74
27	PULLER KIT, MECHANICAL	5120-00-313-9496	1178	SC 4910-95-CL-A74
28	PULLER, BATTERY TERMINAL	5120-00-944-4268	21	SC 4910-95-CL-A74
29	RESPIRATOR, AIR FILTER	4240-00-022-2524	GGG-M-125/6	SC 4910-95-CL-A72
30	SCALE, WEIGHING	6670-00-254-4634	AAA-S-133	SC 4910-95-CL-A72
31	SLING, CARGO	1670-00-823-5043	63J4261-13	CTA 50-970
32	SLING, ENDLESS	3940-00-675-5003	PD101-96	CTA 50-970
33	SOCKET SET, IMPACT	5120-01-117-0466	4151MMY	SC 4910-95-CL-A74
34	SOCKET SET, SOCKET WRENCH	5120-01-073-2821	217FMY	SC 4910-95-CL-A74

Section II. TOOLS IDENTIFICATION LIST (CONT)

(1) Item Number	(2) Item Name	(3) National Stock Number	(4) Part Number	(5) Reference
35	SOCKET SET, SOCKET WRENCH	5120-01-115-1149	315SIMMY	SC 4910-95-CL-A74
36	SOCKET SET, SOCKET WRENCH	5120-01-117-3876	221FSMY	SC 4910-95-CL-A72
37	SOCKET, SOCKET WRENCH	5120-00-181-6813	5530	SC 4910-95-CL-A74
38	SOCKET, SOCKET WRENCH	5120-00-232-5681	1242	SC 4910-95-CL-A74
39	SOCKET, SOCKET WRENCH	5120-00-243-7351	5316	SC 4910-95-CL-A72
40	SOCKET, SOCKET WRENCH	5120-00-112-0581	SIMM190	SC 4910-95-CL-A74
41	STE/ICE-R	4910-01-222-6589	12259266	SC 4910-95-CL-A74
42	TESTER, ANTIFREEZE AND BATTERY	6630-00-105-1418	10425	SC 4910-95-CL-A74
43	TOOL KIT, AUTO FUEL	5780-00-754-0655		SC 5180-95-CL-A50
44	TOOL KIT, BLIND RIVET	5180-01-201-4978	D-100-MIL-1	SC 4910-95-CL-A72
45	TOOL KIT, ELECTRICAL	5180-00-876-9336	7550526	SC 4910-95-CL-A72
46	TOOL KIT, GENERAL MECHANIC'S	5180-00-177-7033		SC 5180-90-N26
47	TRESTLE, MOTOR VEHICLE MAINTENANCE	4910-00-251-8013	306	SC 4910-95-CL-A72
48	WISE, MACHINIST	5120-00-293-1439	504M2	SC 4910-95-CL-A74
49	WRENCH SET, SOCKET	5120-00-081-2305	GGG-W-641	SC 4910-95-CL-A74
50	WRENCH SET, SOCKET	5120-00-204-1999	GGG-W-641	SC 4910-95-CL-A74
51	WRENCH SET, SOCKET	5120-00-322-6231	51200017510	SC 4910-95-CL-A74
52	WRENCH, ADJUSTABLE	5120-00-264-3793	2117080	SC 4910-95-CL-A72
53	WRENCH, ADJUSTABLE, AUTOMOTIVE	5120-00-449-8083	1B7536	SC 4910-95-CL-A74
54	WRENCH, BOX AND OPEN END	5120-00-277-8833	1244	SC 4910-95-CL-A74
55	WRENCH, BOX AND OPEN END	5120-00-277-8834	GGG-W-636	SC 4910-95-CL-A74
56	WRENCH, PIPE	5120-00-277-1485		SC 4910-95-CL-A74
57	WRENCH, STRAP, ADJUSTABLE	5120-00-020-2947	A91C	SC 4910-95-CL-A74
58	WRENCH, TORQUE, 0-175 lb-ft	5120-00-640-6364	1753LDF	SC 4910-95-CL-A74

Section II. TOOLS IDENTIFICATION LIST (CONT)

(1) Item Number	(2) Item Name	(3) National Stock Number	(4) Part Number	(5) Reference
59	WRENCH, TORQUE, 0-200 lb-in.	5120-00-853-4538	F2001	SC 4910-95-CL-A72
60	WRENCH, TORQUE, 0-600 lb-ft	5120-00-221-7983	SW130-301	SC 4910-95-CL-A72

APPENDIX D EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. SCOPE

This appendix lists expendable and durable items that you will need to operate and maintain the MTV vehicle. This listing is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (except medical, class V repair parts, and heraldic items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

D-2. EXPLANATION OF COLUMNS

- a. Column (1) - Item Number.** This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the item, e.g., "Oil, Lubricating (Item 25, Appendix D).
- b. Column (2) - Level.** This column identifies the lowest level of maintenance that requires the item.
- c. Column (3) - National Stock Number.** This is the national stock number assigned to the item which you can use to requisition it.
- d. Column (4) - Item Name, Description, Commercial and Government Entity Code (CAGEC), and Part Number.** This provides the other information you need to identify the item.
- e. Column (5) - Unit of Measure.** This code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1	O	4730-00-248-9340	Adapter, Pipe to Tube (81343) 4-4 010103B	ea
2	O	8040-00-273-8717	Adhesive (81348) MMM-A-121	pt
3	O	8040-00-152-0063	Adhesive (81348) MMM-A-1617 TY3	bt
4	O	8040-01-250-3969	Adhesive (05972) 242	ea
5	O	8040-00-17-8510	Adhesive (71984) 3145 RTV Clear	tu
6	O	8040-00-776-9602	Adhesive (73168) 80055-31	kt
7	O	8040-00-522-3429	Adhesive (81349) (MIL-A-46106)	oz
8	O	8040-00-118-2695	Adhesive (72799) RTV162	kt
9	O	8040-01-331-7473	Adhesive (81349) (MIL-A-46106 GP3TY1)	tu
10	O	8040-01-331-7470	Adhesive (81349) MIL-A-46106 5 oz tube	oz
11	C	6850-00-174-1806	Antifreeze, Arctic Type (81349) (MIL-A-11755) 55 gl drum	dr

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (CONT)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
12	C	6850-00-181-7940	Antifreeze, Ethylene Glycol, Permanent (81349) (MIL-A-46153) 55 gl drum	dr
13	O	8030-00-597-5367	Antiseize Compound (81349) (MIL-A-907)	lb
14	O	5340-00-450-5718	Cap and Plug Set (10207) 10935405	ea
15	O	6850-00-926-2275	Cleaning Compound, Windshield (81349) O-C-1901 16 oz bottle	bt
16	O	7920-00-044-9281	Cloth, Cleaning (81349) (MIL-C-85043)	bx
17	O		Corrosion Preventive Compound (81349) (MIL-C-16173)	
		8030-00-062-6950	Grade 1 - 1 quart can	qt
		8030-01-149-1731	Grade 2 - 1 quart can	qt
		8030-00-837-6557	Grade 3 - 1 pint can	pt
		8030-00-903-0931	Grade 4 - 1 pint can	pt
18	O	8030-00-033-4291	Corrosion Preventive Compound (81349) (MIL-C-82594) 8 ounce can	bt
19	C	9150-00-024-9621	Damping Fluid (81348) VV-D-1078	pt
20	O	7520-01-209-1152	Dispenser, Pressure Sensitive Adhesive Tape (75037) STD-0-9	ea
21	O	5330-01-325-6993	Gasket Forming Compound (05972) 515	ea
22	O		Grease, Automotive and Artillery (GAA) (81349) (MIL-G-10924)	
		9150-01-197-7688	2-1/4 oz tube	tu
		9150-01-197-7690	1.75 lb can	cn
		9150-01-197-7689	6.5 lb can	cn
		9150-01-197-7692	35 lb can	cn
23	O	9150-00-180-6382	Grease, General Purpose (81349) MIL-T-24139 6.5 pound can	lb
24	O	9150-00-935-4018	Grease, Molybenum Disulfide (81349) (MIL-G-21164)	ca
25	C	9150-00-265-9408	Hydraulic Fluid A (81349) (MIL-H-5606A) 55 gl drum	dr
26	O	7510-00-145-0559	Ink, Marking Stencil (81349) (MIL-I-43553)	oz
27	O	7510-01-386-0787	Inking Pad, Rubber Stamp (88001) 0603A	ea
28	O	5970-01-100-4464	Insulating Compound, Electrical (08800) RTV-102WHITE	tu
29	O	5970-00-838-5951	Insulation Sleeving, Electrical (06090) CRN3-16BLACK	ft

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (CONT)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
30	O	1650-00-166-4834	Lockwire (90166) 68A32	ea
31	O	9150-01-360-1905	Lubricant, Solid Film (81349) (MIL-L-46147) 16 oz can	cn
32	O	4730-00-019-0608	Nipple, Pipe (81996) A2303-12-52PC102	ea
33	O	4730-00-825-7304	Nipple, Tube (96906) MS5150B4	ea
34	O	5310-00-059-4265	Nut, Plain, Hex (89346) 98881R1	ea
35	C		Oil, Fuel, Diesel, DF-A Arctic (81348) (VV-F-800)	
		9140-00-286-5283	Bulk	gl
		9140-00-286-5284	55 gl drum, 16 gauge	dr
		8140-00-286-5285	55 gl drum, 18 gauge	dr
36	C		Oil, Fuel, Diesel, DF-1 Winter (81348) (VV-F-800)	
		9140-00-286-5286	Bulk	gl
		9140-00-286-5288	55 gl drum, 16 gauge	dr
		9140-00-286-5289	55 gl drum, 18 gauge	dr
37	C		Oil, Fuel, Diesel, DF-2 Regular (81348) (VV-F-800)	
		9140-00-286-5294	Bulk	gl
		9140-00-286-5296	55 gl drum, 16 gauge	dr
		9140-00-286-5297	55 gl drum, 18 gauge	dr
38	C		Oil, Lubricating, Arctic (81349) (MIL-L-46167)	
		9150-00-402-2372	5 gl can	cn
		9150-00-491-7197	55 gl drum	dr
39	C		Oil, Lubricating, Gear, GO 75W (81349) (MIL-L-2105)	
		9150-01-035-5390	1 qt can	cn
		9150-01-035-5391	5 gl can	cn
40	C		Oil, Lubricating, Gear, 80W-90 (81349) (MIL-L-2105)	
		9150-01-035-5392	1 qt can	qt
		9150-01-035-5393	5 gl can	cn
		9150-01-035-5394	55 gl drum, 16 gauge	dr
41	O		Oil, Lubricating, Gear, 85W-140 (81349) (MIL-L-2105)	
		9150-01-048-4591	1 qt can	qt
		9150-01-035-5395	5 gl can	cn
		9150-01-035-5396	55 gl drum	dr
42	C		Oil, Lubricating, OE/HDO 10 (81349) (MIL-L-2104)	
		9150-00-183-7807	Bulk	gl
		9150-00-186-6668	5 gl can	cn
		9150-00-191-2772	55 gl drum	dr
43	C	9150-00-189-6727	Oil, Lubricating, OE/HDO 10W (81349) (MIL-L-2105)	cn
			1 qt can	

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (CONT)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
44	C		Oil, Lubricating, OE/HDO 15W-40 (81349) (MIL-L-2104)	
		9150-01-152-4117	1 qt can	cn
		9150-01-152-4118	5 gl can	cn
		9150-01-152-4119	55 gl drum	dr
45	C		Oil, Lubricating, OE/HDO 30 (SAE 30) (81349) (MIL-L-2104)	
		9150-00-183-7808	Bulk	gl
		9150-00-186-6681	1 qt can	cn
		9150-00-188-9858	5 gl can	cn
		9150-00-189-6729	55 gl drum, 18 guage	dr
46	C		Oil, Lubricating, OE/HDO 40 (81349) (MIL-L-2104)	
		9150-00-405-2987	Bulk	gl
		9150-00-189-6730	1 qt can	cn
		9150-00-188-9862	5 gl can	cn
47	O	5350-00-067-7639	Paper, Abrasive (28124) 02347 pg contains 100 sheets	pg
48	O	8010-01-146-2650	Polyurethane coating (81349) (MIL-C-46168)	kt
49	O	8030-00-181-8372	Primer, Sealing Compound (05972) 747-56	cn
50	C	7920-00-205-1711	Rag, Wiping (64067) 7920-00-205-1711 50 lb bale	be
51	O	4730-00-021-1788	Reducer, Boss (30780) 4-6F50G5	ea
52	O	4020-00-106-9342	Rope, Nylon (81349) (MIL-R-24050)	ro
53	O	7520-00-634-2442	Rubber Stamp Set, Fixed Type (02663) W-5-3/8-AZ SET	ea
54	O	5305-01-296-0019	Screw, Cap, Socket Head (06888) SHCM75275 50 ct box	bx
55	O	8030-00-111-2762	Sealing Compound (05972) 290-31	bt
56	O	8030-00-133-3164	Sealing Compound (05972) 571-31	bt
57	O	8030-00-148-9833	Sealing Compound (05972) 271-21	bx
58	O	8030-00-204-9149	Sealing Compound (05972) 592-41	tu
59	O	8030-00-656-1426	Sealing Compound (81349) (MIL-S-45180)	pt
60	O	8030-01-025-1692	Sealing Compound (05972) 242-41	bt
61	O	8030-01-088-8140	Sealing Compound (52571) 9001512-0011	bt
62	O	8030-01-155-3238	Sealing Compound (11083) 6V6640	ml
63	C	7930-00-634-3935	Soap Laundry (81348) P-S-1792	lb
64	O	3439-00-006-7764	Solder, Tin Alloy (81348) SN63WRAP3 1 lb spool	sl

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (CONT)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
65	C	6850-00-281-1985 6850-00-664-5685	Solvent, Dry Cleaning SD (P-D-680) 1 gl can 1 qt can	cn cn
66	O	8030-00-889-3534	Tape, Antiseizing (81349) (MIL-T-27730)	ea
67	O	5640-00-103-2254	Tape, Duct (39428) 1791K70	ea
68	O	5970-00-644-3167	Tape, Insulation, Electrical (80063) TL83	ro
69	O	5975-01-379-4997	Ties, Cable, Plastic (06383) PLT 35-C-O	hd
70	O	8010-00-180-6343	Varnish, Oil (23667) 515320	pt
71	O	6145-01-148-2263	Wire, Electrical (80009) 175-0825-00 50 ft	ft
72	O	9505-00-555-8648	Wire, Nonelectrical (96906) MS20995C47 5 lb spool	sl

APPENDIX E ILLUSTRATED LIST OF MANUFACTURED ITEMS

Section I. INTRODUCTION

E-I. INTRODUCTION

This appendix includes complete instructions for manufacturing or fabricating authorized items locally. All bulk materials needed to manufacture an item are listed by part number or specification number. Figures are provided as needed. See standards and specifications DoD-Std-00100D(AR) and ANSI Y14.5M1982 for required details.

Section II. MANUFACTURED ITEMS INDEX

ITEM NAME/PART NUMBER	ITEM DESCRIPTION	PARA NO.
Brake Adjusting Tool Support		E-2
Brake Plunger Seal Driver		E-3
Cab Support Tool		E-4
Dump Body Lifting Bracket		E-5
Headlight Adjustment Screen		E-6
M1089 Main Winch Test Adapter		E-7
M1089 Solenoid Test Adapter		E-8
Relay Test Wire		E-9
Transmission Auxiliary Oil Cooler		
Rubber Seal		E-10
Wheel Bearing Shim Tool Rest		E-11
12414690-001	Pneumatic Tube	E-12
12414690-002	Pneumatic Tube	E-12
12414690-003	Pneumatic Tube	E-12
12414690-004	Pneumatic Tube	E-12
12414690-005	Pneumatic Tube	E-12
12414690-006	Pneumatic Tube	E-12
12414690-007	Pneumatic Tube	E-12
12414690-008	Pneumatic Tube	E-12
12414690-009	Pneumatic Tube	E-12
12414690-010	Pneumatic Tube	E-12
12414690-101	Pneumatic Tube	E-12
12414690-102	Pneumatic Tube	E-12
12414690-103	Pneumatic Tube	E-12
12414690-104	Pneumatic Tube	E-12
12414690-105	Pneumatic Tube	E-12
12414690-106	Pneumatic Tube	E-12
12414690-107	Pneumatic Tube	E-12
12414690-108	Pneumatic Tube	E-12
12414690-109	Pneumatic Tube	E-12
12414690-112	Pneumatic Tube	E-12
12414690-113	Pneumatic Tube	E-12
12414690-115	Pneumatic Tube	E-12
12414690-118	Pneumatic Tube	E-12
12414690-120	Pneumatic Tube	E-12
12414690-125	Pneumatic Tube	E-12
12414690-128	Pneumatic Tube	E-12
12414690-129	Pneumatic Tube	E-12
12414690-130	Pneumatic Tube	E-12

Section II. MANUFACTURED ITEMS INDEX (CONT)

ITEM NAME/PART NUMBER	ITEM DESCRIPTION	PARA NO.
12414690-131	Pneumatic Tube	E-12
12414690-132	Pneumatic Tube	E-12
12414690-133	Pneumatic Tube	E-12
12414690-134	Pneumatic Tube	E-12
12414690-135	Pneumatic Tube	E-12
12414690-136	Pneumatic Tube	E-12
12414690-137	Pneumatic Tube	E-12
12414690-138	Pneumatic Tube	E-12
12414690-139	Pneumatic Tube	E-12
12414690-140	Pneumatic Tube	E-12
12414690-141	Pneumatic Tube	E-12
12414690-142	Pneumatic Tube	E-12
12414690-143	Pneumatic Tube	E-12
12414690-144	Pneumatic Tube	E-12
12414690-145	Pneumatic Tube	E-12
12414690-146	Pneumatic Tube	E-12
12414690-147	Pneumatic Tube	E-12
12414690-148	Pneumatic Tube	E-12
12414690-149	Pneumatic Tube	E-12
12414690-150	Pneumatic Tube	E-12
12414690-151	Pneumatic Tube	E-12
12414690-152	Pneumatic Tube	E-12
12414690-153	Pneumatic Tube	E-12
12414690-154	Pneumatic Tube	E-12
12414690-155	Pneumatic Tube	E-12
12414690-156	Pneumatic Tube	E-12
12414690-157	Pneumatic Tube	E-12
12414690-158	Pneumatic Tube	E-12
12414690-159	Pneumatic Tube	E-12
12414690-160	Pneumatic Tube	E-12
12414690-161	Pneumatic Tube	E-12
12414690-162	Pneumatic Tube	E-12
12414690-163	Pneumatic Tube	E-12
12414690-164	Pneumatic Tube	E-12
12414690-165	Pneumatic Tube	E-12
12414690-166	Pneumatic Tube	E-12
12414690-167	Pneumatic Tube	E-12
12414690-168	Pneumatic Tube	E-12
12414690-169	Pneumatic Tube	E-12
12414690-201	Pneumatic Tube	E-12
12414690-202	Pneumatic Tube	E-12
12414690-203	Pneumatic Tube	E-12
12414690-205	Pneumatic Tube	E-12
12414690-206	Pneumatic Tube	E-12
12414690-207	Pneumatic Tube	E-12
12414690-208	Pneumatic Tube	E-12
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12414690-212	Pneumatic Tube	E-12
12414690-215	Pneumatic Tube	E-12

ITEM NAME/PART NUMBER	ITEM DESCRIPTION	PARA NO.
12414690-216	Pneumatic Tube	E-12
12414690-217	Pneumatic Tube	E-12
12414690-218	Pneumatic Tube	E-12
12414690-219	Pneumatic Tube	E-12
12414690-220	Pneumatic Tube	E-12
12414690-221	Pneumatic Tube	E-12
12414690-222	Pneumatic Tube	E-12
12414690-223	Pneumatic Tube	E-12
12414690-224	Pneumatic Tube	E-12
12414690-225	Pneumatic Tube	E-12
12414690-228	Pneumatic Tube	E-12
12414690-229	Pneumatic Tube	E-12
12414690-230	Pneumatic Tube	E-12
12414690-231	Pneumatic Tube	E-12
12414690-232	Pneumatic Tube	E-12
12414690-233	Pneumatic Tube	E-12
12414690-234	Pneumatic Tube	E-12
12414690-235	Pneumatic Tube	E-12
12414690-236	Pneumatic Tube	E-12
12414690-237	Pneumatic Tube	E-12
12414690-238	Pneumatic Tube	E-12
12414690-239	Pneumatic Tube	E-12
12414690-240	Pneumatic Tube	E-12
12414690-241	Pneumatic Tube	E-12
12414690-242	Pneumatic Tube	E-12
12414690-243	Pneumatic Tube	E-12
12414690-244	Pneumatic Tube	E-12
12414690-245	Pneumatic Tube	E-12
12414690-246	Pneumatic Tube	E-12
12414690-247	Pneumatic Tube	E-12
12414690-248	Pneumatic Tube	E-12
12414690-249	Pneumatic Tube	E-12
12414690-301	Pneumatic Tube	E-12
12414690-302	Pneumatic Tube	E-12
12414690-303	Pneumatic Tube	E-12
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12416381P10	Non-Metallic Electrical Cable Conduit	E-13
12416381P11	Non-Metallic Electrical Cable Conduit	E-13
12416381P12	Non-Metallic Electrical Cable Conduit	E-13
12416381P13	Non-Metallic Electrical Cable Conduit	E-13
12416381P14	Non-Metallic Electrical Cable Conduit	E-13
12416381P15	Non-Metallic Electrical Cable Conduit	E-13
12416381P16	Non-Metallic Electrical Cable Conduit	E-13
12416381P17	Non-Metallic Electrical Cable Conduit	E-13
12416381P2	Non-Metallic Electrical Cable Conduit	E-13
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12416381P21	Non-Metallic Electrical Cable Conduit	E-13
12416381P22	Non-Metallic Electrical Cable Conduit	E-13
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12416381P26	Non-Metallic Electrical Cable Conduit	E-13
12416381P3	Non-Metallic Electrical Cable Conduit	E-13
12416381P30	Non-Metallic Electrical Cable Conduit	E-13
12416381P32	Non-Metallic Electrical Cable Conduit	E-13

Section II. MANUFACTURED ITEMS INDEX (CONT)

ITEM NAME/PART NUMBER	ITEM DESCRIPTION	PARA NO.
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12416381P35	Non-Metallic Electrical Cable Conduit	E-13
12416381P36	Non-Metallic Electrical Cable Conduit	E-13
12416381P37	Non-Metallic Electrical Cable Conduit	E-13
12416381P38	Non-Metallic Electrical Cable Conduit	E-13
12416381P4	Non-Metallic Electrical Cable Conduit	E-13
12416381P5	Non-Metallic Electrical Cable Conduit	E-13
12416381P6	Non-Metallic Electrical Cable Conduit	E-13
12416381P7	Non-Metallic Electrical Cable Conduit	E-13
12416381P8	Non-Metallic Electrical Cable Conduit	E-13
12416381P9	Non-Metallic Electrical Cable Conduit	E-13
12418037	Steering Gear Return Hose	E-14
12418460-001	Transmission Oil Cooler Hose	E-14
12418460-002	Transmission Oil Cooler Hose	E-14
12418763	Lanyard Assembly	E-15
12420196	Lanyard Assembly	E-15
12420197-001	Non-Metallic Vent Air Hose	E-16
12420197-002	Non-Metallic Vent Air Hose	E-16
12420197-003	Non-Metallic Vent Air Hose	E-16
12420197-004	Non-Metallic Vent Air Hose	E-16
12420197-005	Non-Metallic Vent Air Hose	E-16
12420197-006	Non-Metallic Vent Air Hose	E-16
12420198-001	Non-Metallic Vent Air Hose	E-16
12420198-002	Non-Metallic Vent Air Hose	E-16
12420308-457	Personnel Heater Air Duct Hose	E-17
12420308-760	Personnel Heater Air Duct Hose	E-17
12420489	Block Seal	E-18
3256-H-1048	CTIS Seal Driver	E-19
3256-K-1051	Wheel Hub Grease Seal Driver	E-20

Section III. MANUFACTURED ITEMS

E-2. BRAKE ADJUSTING TOOL SUPPORT

Make the brake adjusting tool support from 0.134 in. (3.4 mm) flat steel stock according to the following instructions. Refer to the parts list and **Figure E-1. Brake Adjusting Tool Support** for details.

Item	Part Number	Material Description	Size	Qty
1	N/A	Steel, ASTM A569 Sheet, Hot Rolled	6.0 in. (152.4 mm) x 6.0 in. (152.4 mm) x 0.134 in. (3.4 mm)	2

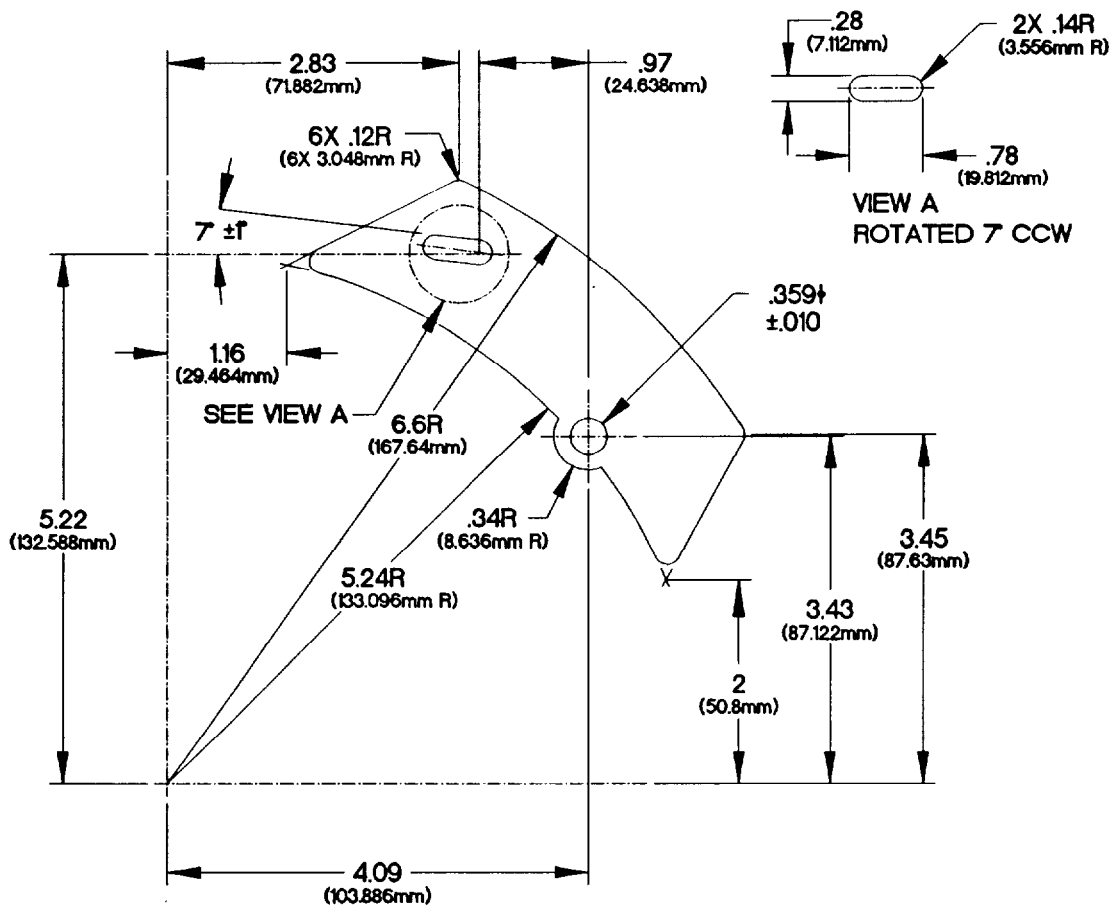
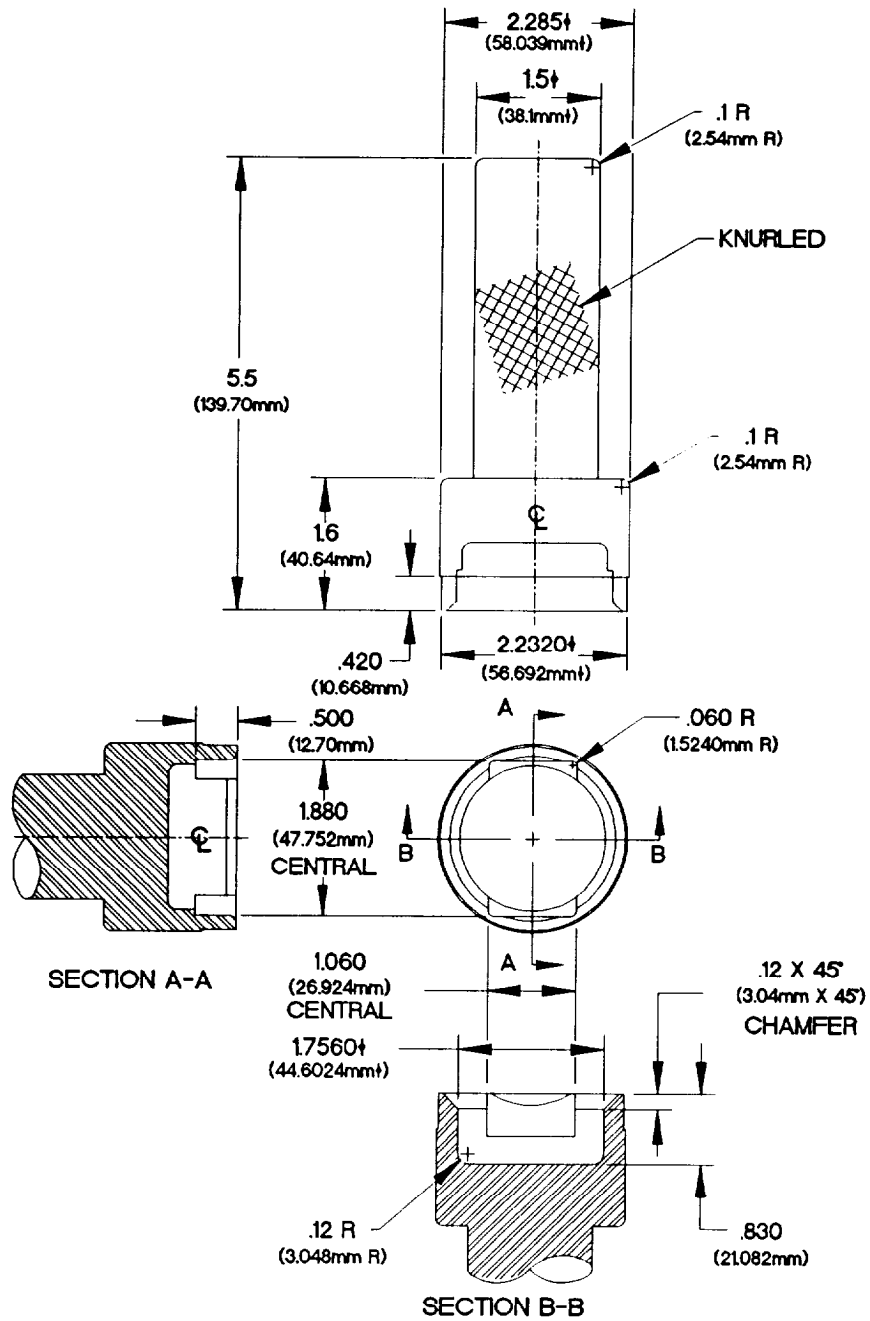


Figure E-1. Brake Adjusting Tool Support

- a. All dimensions are in inches (millimeters).
- b. Cut steel sheet as shown by dimensions on **Figure E-1. Brake Adjusting Tool Support**.
- c. De-burr and remove sharp edges.

E-3. BRAKE PLUNGER SEAL DRIVER



YAPPE09A

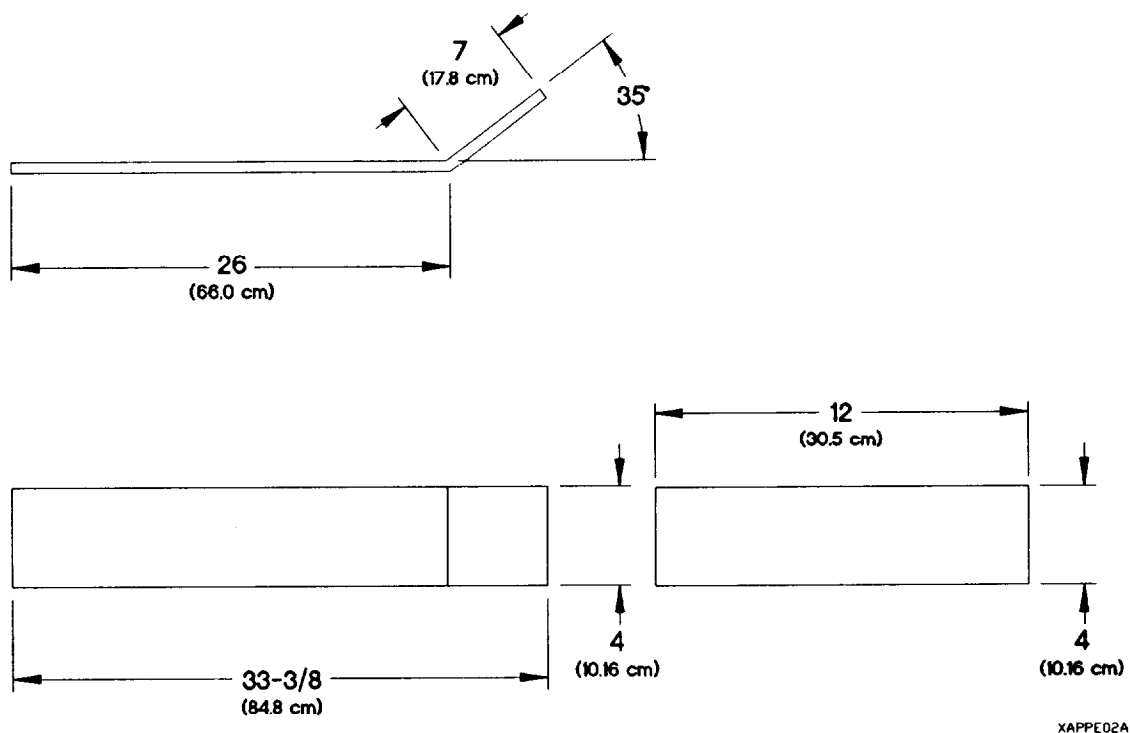
Figure E-2. Brake Plunger Seal Driver

- a. All dimensions are in inches (millimeters).
- b. Manufacture from round steel stock.
- c. De-burr and remove sharp edges.

E-4. CAB SUPPORT TOOL

Make the cab support tool from .38 inch (.96 cm) flat steel stock and angle iron stock according to the following instructions. Refer to the parts list and **Figure E-3. Cab Support Tool Strut and Cab Rest** for details.

Item	Part Number	Material Description	Size	Qty
1	N/A	Steel, Flat Bar	4.0 in. (10.2 cm) X 33.38 in. X (84.8 cm) X 0.38 in. (0.96 cm)	1
2	N/A	Steel, Flat Bar	4.0 in. (10.2 cm) X 12.0 in. (30.5 cm) X 0.38 in. (0.96 cm)	1
3	N/A	Angle Iron	2.0 in. (5.1 cm) X 2.0 in. (5.1 cm) X 3.5 in. (8.9 cm)	2
4	H.S.105VW-1	Insulgrip, CSA 105 C		

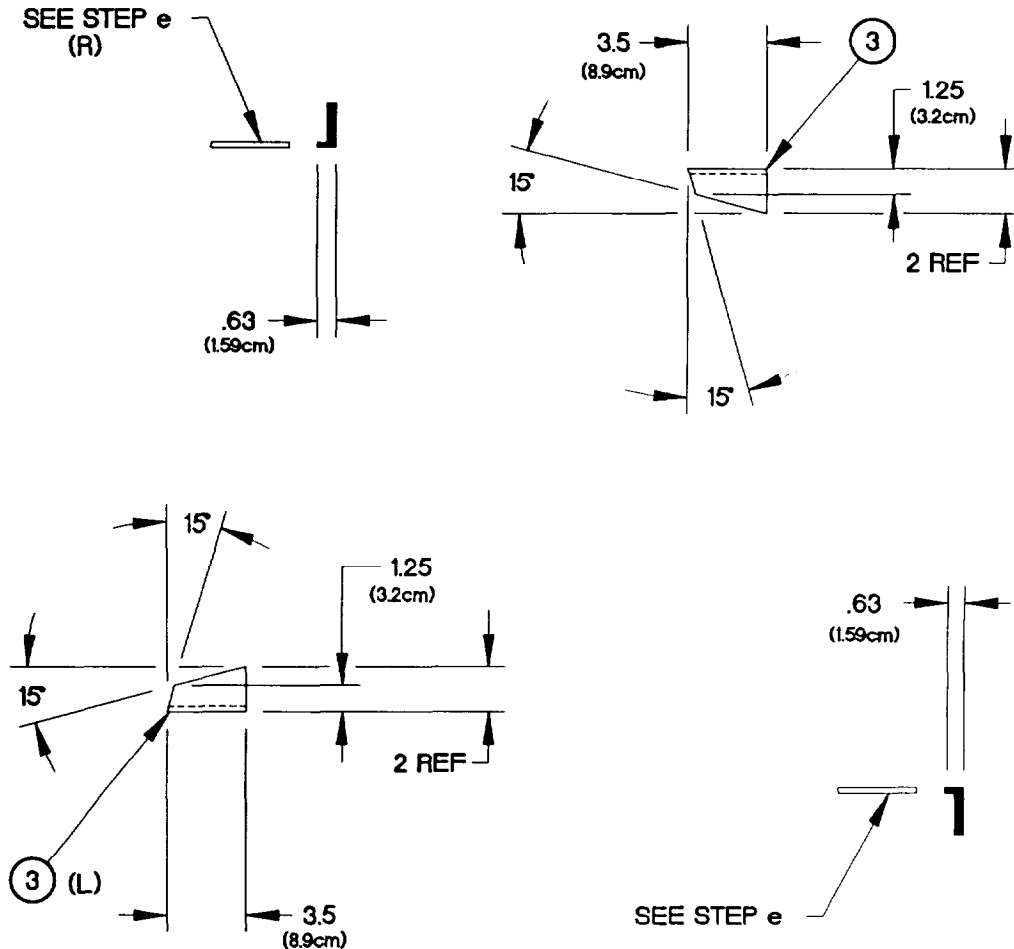


XAPPE02A

Figure E-3. Cab Support Tool Strut and Cab Rest

- All dimensions are in inches (centimeters).
- Cut cab support tool strut (1) from steel flat bar and bend to shape as shown in **Figure E-3. Cab Support Tool Strut and Cab Rest**.
- Cut cab support tool cab rest (2) from steel flat bar.
- De-burr and remove sharp edges.

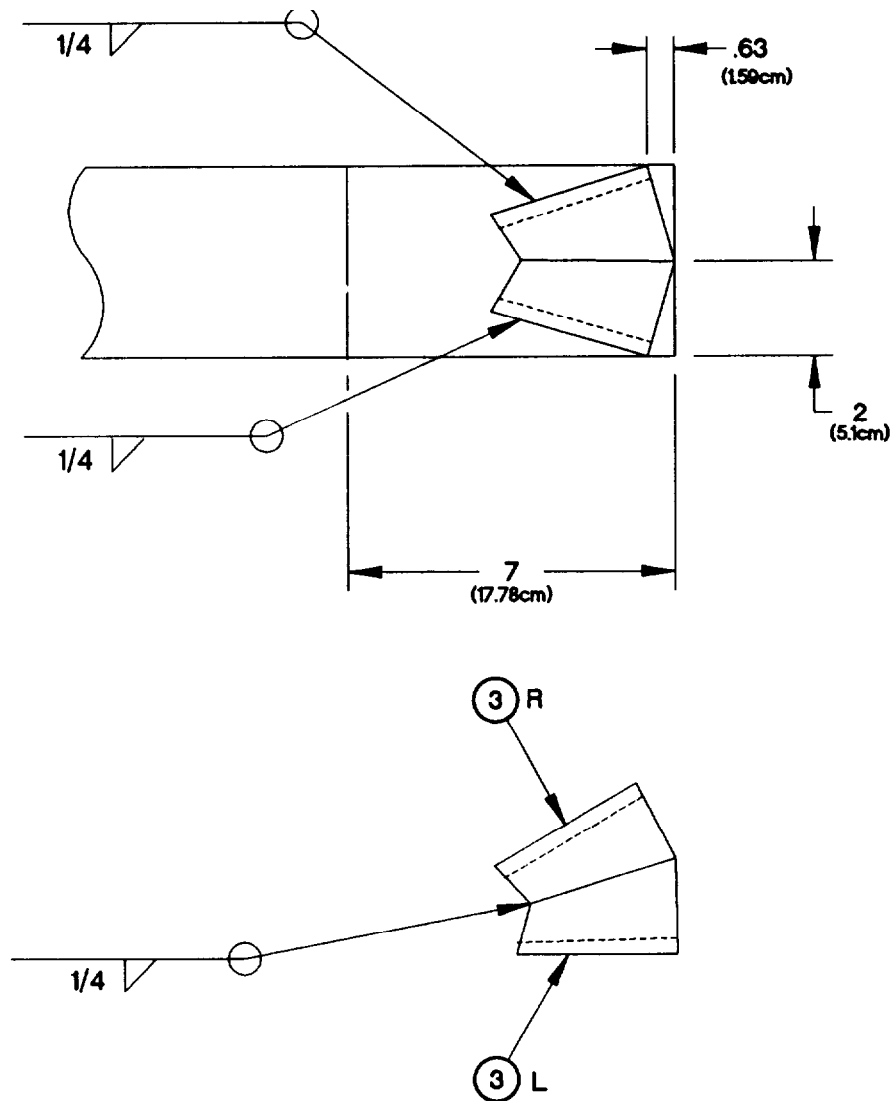
E-4. CAB SUPPORT TOOL (CONT)



XAPPE03A

Figure E-4. Cab Support Tool Seat

- e. Remove flange side of cab support tool seats (3) as shown in **Figure E-4. Cab Support Tool Seat**.
- f. Cut cab support tool seats (3) L and (3) R according to dimensions and left/right orientation shown on **Figure E-4. Cab Support Tool Seat**.
- g. De-burr and remove sharp edges.

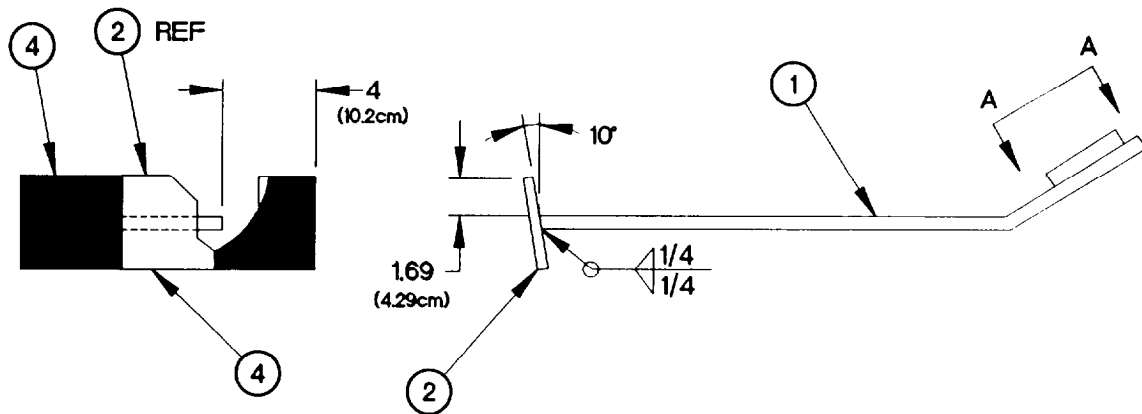


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Figure E-5. Cab Support Tool Seat Layout

- h. Position and clamp cab support tool seats (3) L and (3) R together as shown by dimensions on **Figure E-5. Cab Support Tool Seat Layout.**
- i. Weld cab support tool seat (3) L to cab support tool seat (3) R as identified on assembly table and **Figure E-5. Cab Support Tool Seat Layout.**
- j. Position and clamp cab support tool seats (3) L and (3) R to cab support tool strut (1) as shown by dimensions on **Figure E-5. Cab Support Tool Seat Layout.**
- k. Weld items clamped in step (f) as shown in **Figure E-5. Cab Support Tool Seat Layout.**
- l. De-burr and remove sharp edges.

E-4. CAB SUPPORT TOOL (CONT)



XAPPE05A

Figure E-6. Cab Support Tool Assembly

- m. Position and clamp cab support tool strut (1) to cab support tool cab rest (2) as shown by dimensions on **Figure E-6. Cab Support Tool Assembly**, before insulgrip (4) is applied.
- n. Weld cab support tool strut (1) to cab support tool cab rest (2).
- o. Apply Insulgrip (4) to cab support tool cab rest (2) as described on material container.

E-5. DUMP BODY LIFTING BRACKET

Make the dump body lifting bracket assembly from the front, rear, top, guide, and mount plates according to the following instructions. Refer to the parts list tables and accompanying figures for details.

Item	Part Number	Name/Description	Qty
1	N/A	Rear Plate	1
2	N/A	Top Plate	1
3	N/A </td <td>Front Plate</td> <td>1</td>	Front Plate	1
4	N/A	Guide Brace	1
5	N/A	Plate, Mounting	1

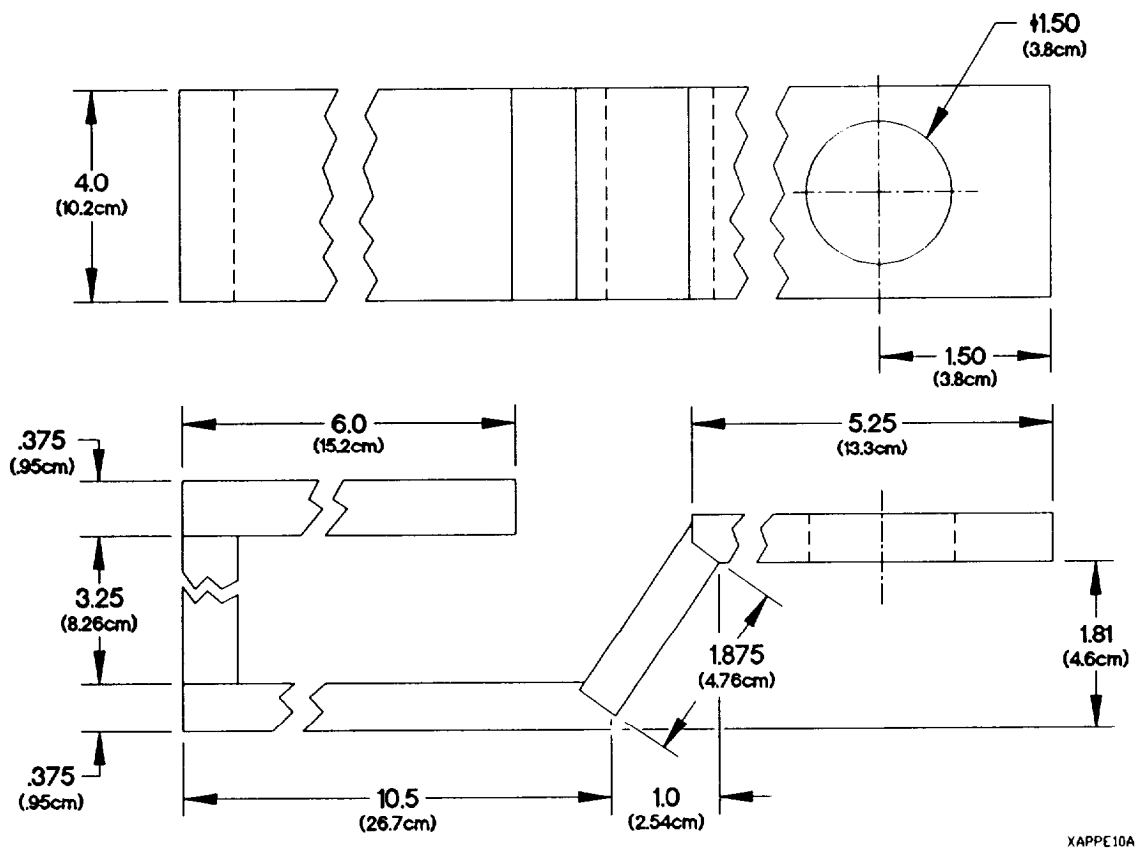
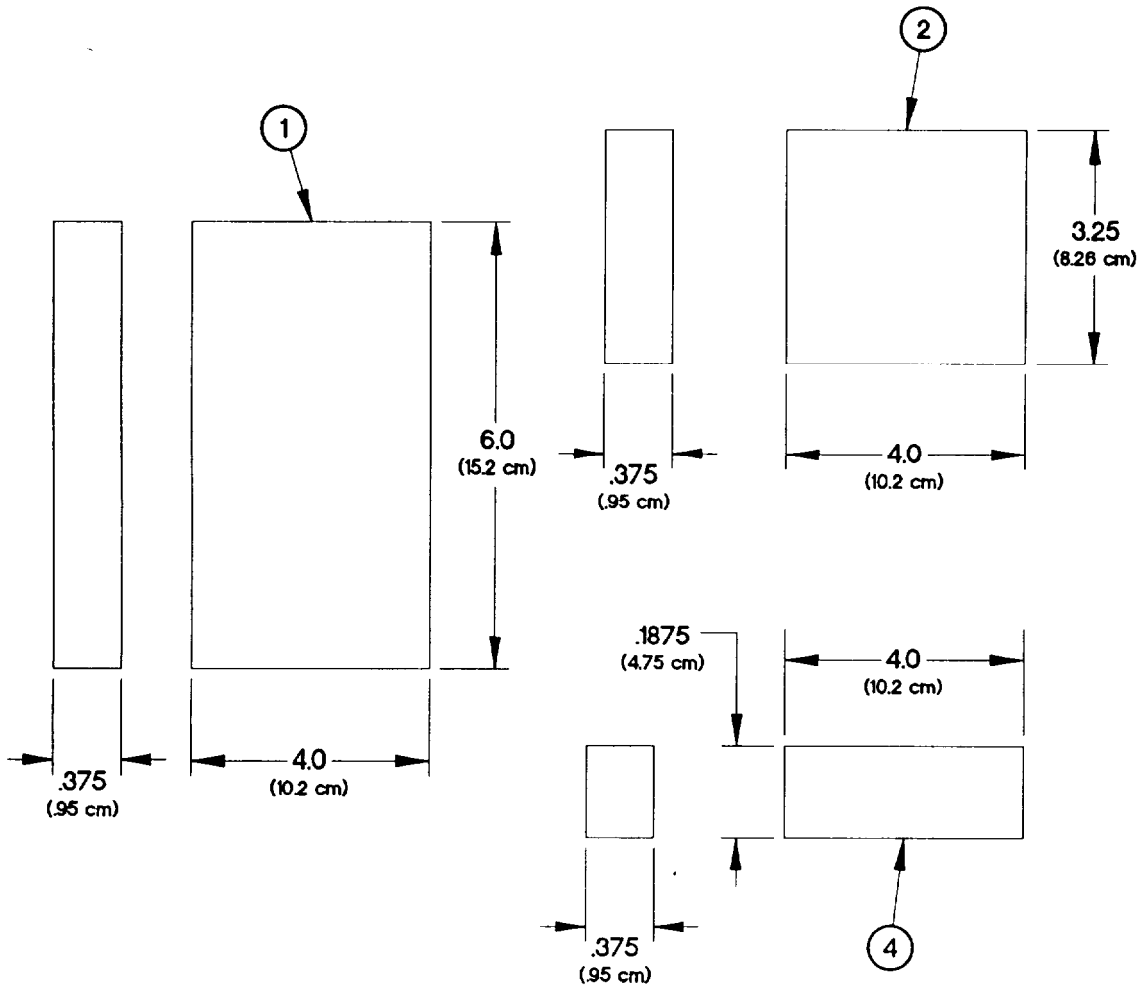


Figure E-7. Dump Body Lifting Bracket

- All dimensions are in inches (centimeters).
- Position and clamp pieces (1 through 5) together as shown by dimensions on **Figure E-7. Dump Body Lifting Bracket**.
- Weld pieces together as shown in **Figure E-7. Dump Body Lifting Bracket**.
- Coat all surfaces with Plastisol.

E-5. DUMP BODY LIFTING BRACKET (CONT)

Item	Part Number	Material Description	Size	Qty
1	N/A	Plate, steel, ASTM A-36	6.0 in. (15.2 cm) X 4.0 in. (10.2 cm) X 0.375 in. (0.95 cm)	1
2	N/A	Plate, steel, ASTM A-36	3.25 in. (8.26 cm) X 4.0 in. (10.2 cm) X 0.375 in. (0.95 cm)	1
4	N/A	Plate, steel, ASTM A-36	1.875 in. (4.75 cm) X 4.0 in. (10.2 cm) X 0.375 in. (0.95 cm)	1

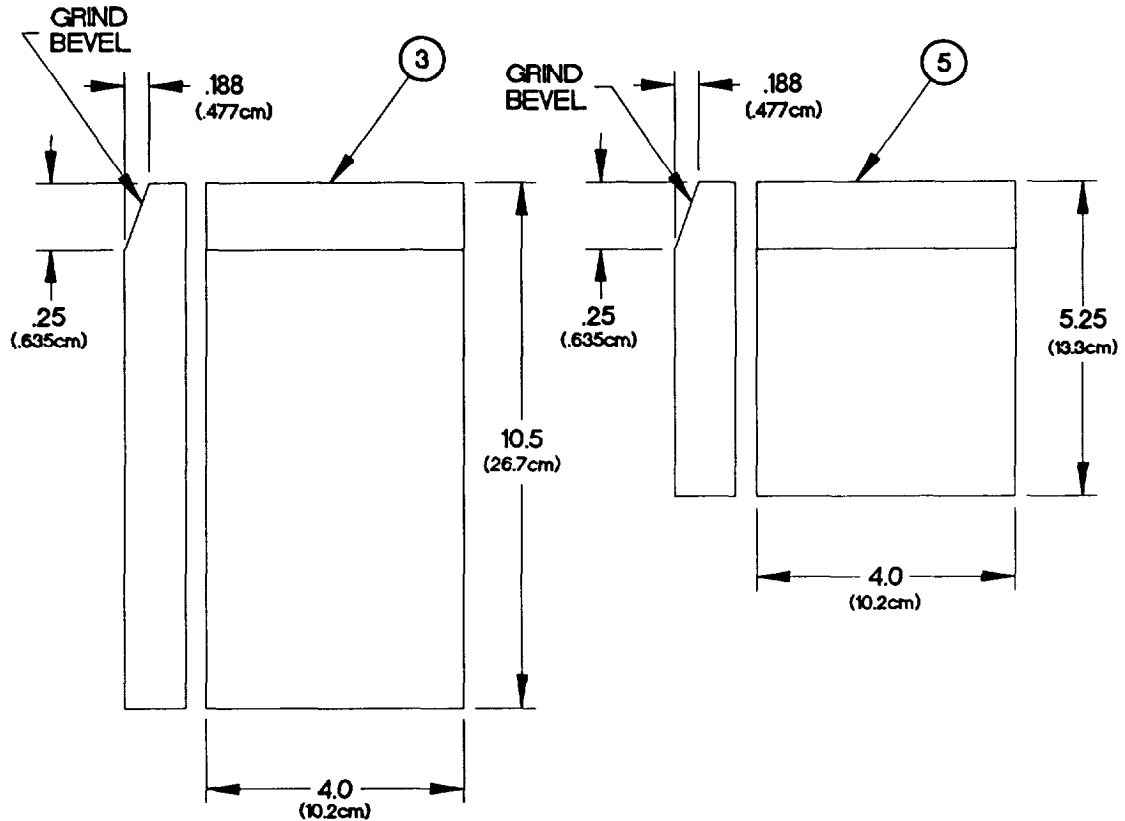


XAPPE11A

Figure E-8. Rear, Top, and Guide Plate

- All dimensions are in inches (centimeters).
- Fabricate (1), (2), and (4) from ASTM A-36 steel plate as shown on **Figure E-8. Rear, Top, and Guide Plate**.
- De-burr and remove sharp edges.

Item	Part Number	Material Description	Size	Qty
3	N/A	Plate steel, ASTM A36	10.5 in. (26.7 cm) X 4.0 in. (10.2 cm) X 0.375 in. (0.95 cm)	1
5	N/A	Plate steel, ASTM A36	5.25 in. (13.3 cm) X 4.0 in. (10.2 cm) X 0.375 in. (0.95 cm)	1



XAPPE12A

Figure E-9. Front and Mounting Plate

- All dimensions are in inches (centimeters).
- Fabricate (3) and (5) from ASTM A-36 steel plate.
- Drill 1-1/2 inch (3.84 cm) diameter hole in (5) as shown on **Figure E-9. Front and Mounting Plate**.
- Grind bevel edge of each plate for weld surface as shown on **Figure E-9. Front and Mounting Plate**.
- De-burr and remove sharp edges.

E-6. HEADLIGHT ADJUSTMENT SCREEN

The headlight adjustment screen may be drawn on any vertical surface at least 50 in. (127 cm) high and 100 in. (254 cm) wide.

- a. Draw two vertical lines (1) 50 in. (127 cm) high and 90.6 in. (230 cm) apart (centered on headlight adjustment screen).
- b. Locate two points 40 in. (101.6 cm) from floor and 13 in. (33 cm) toward the center from each vertical line (1).
- c. Draw vertical line (2) about 3-5 in. (8-13 cm) centered on each of the two points.
- d. Draw horizontal line (3) about 3-5 in. (8-13 cm) centered on each of the two points.
- e. Measure out 4 in. (10 cm) along each vertical line (2) and horizontal line (3) from each of the two points to make 8 in. (20 cm) squares (4).

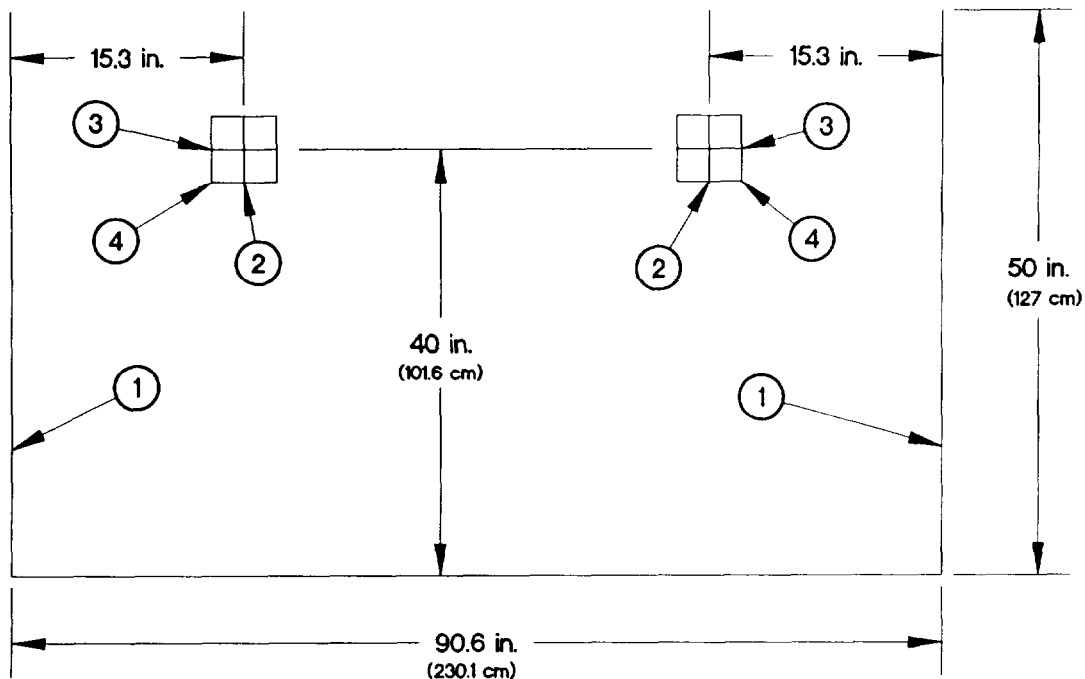
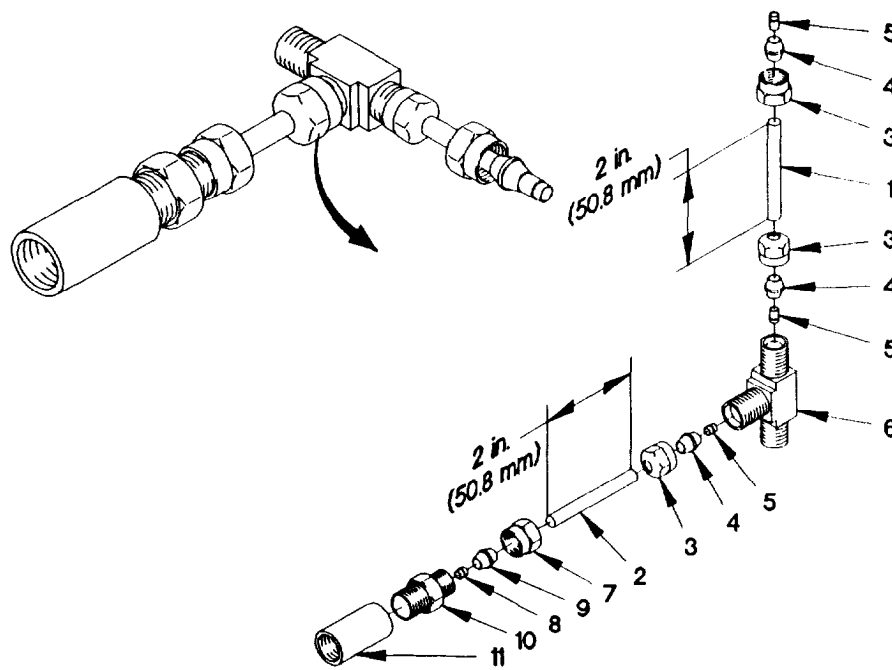


Figure E-10. Headlight Adjustment Screen

E-7. M1089 MAIN WINCH TEST ADAPTER

Assemble the M1089 main winch test adapter according to the following steps. Refer to the following parts list and **Figure E-11. M1089 Main Winch Test Adapter** for details.

Part Number	Material Description	National Stock Number	Qty
4-4-4 100401BA	Tee, Tube	4730-01-095-3430	1
4-6 100102BA	Adapter, Straight, Pipe to Tube	4730-01-096-9398	1
207P-4	Coupling, Pipe	4730-00-881-1161	1
NB-4-035	Tubing, Nonmetallic	4720-01-071-4042	4 in.
MIL-T-27730	Tape, Antiseizing	8030-00-889-3534	1 roll



XAPPE16A

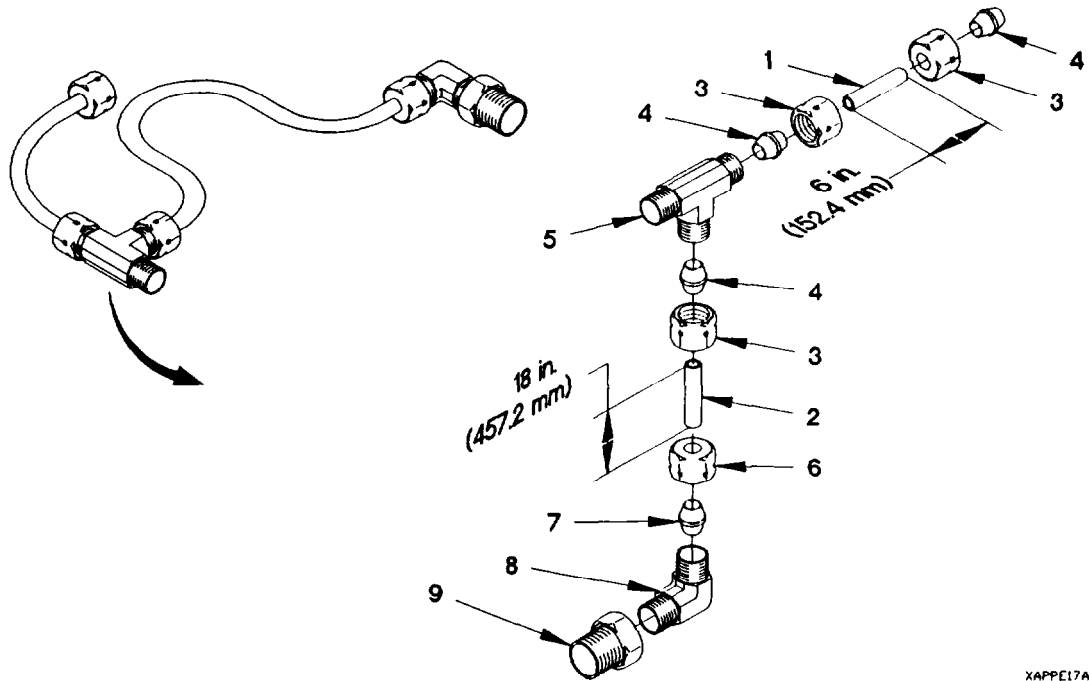
Figure E-11. M1089 Main Winch Test Adapter

- a. All dimensions are in inches (millimeters).
- b. Cut two pieces of nonmetallic tubing (1 and 2) to 2.0 in. (50.8 mm) long.
- c. Remove three nuts (3), sleeves (4), and ferrules (5) from tube tee (6).
- d. Install two nuts (3), sleeves (4), and ferrules (5) on nonmetallic tubing (1).
- e. Install nonmetallic tubing (1) on tube tee (6).
- f. Remove nut (7), sleeve (8), and ferrule (9) from straight adapter (10).
- g. Install two nuts (3 and 7), sleeves (4 and 8), and ferrules (5 and 9) on nonmetallic tubing (2).
- h. Install nonmetallic tubing (2) on tube tee (6).
- i. Install nut (9) on straight adapter (10).
- j. Apply one wrap of antiseizing tape to threads of straight adapter (10).
- k. Install pipe coupling (11) on straight adapter (10).

E-8. M1089 SOLENOID TEST ADAPTER

Assemble the M1089 solenoid test adapter according to the following steps. Refer to the following parts list and Figure E-12. M1089 Solenoid Test Adapter for details.

Part Number	Material Description	National Stock Number	Qty
2-2-2 080401CA	Tee, Tube	4730-01-214-6990	1
2-2 080202CA	Elbow, Pipe to Tube	4730-00-845-5345	1
4-2 130140B	Bushing, Pipe	4730-00-828-0171	1
NB-2-031	Tubing, Nonmetallic	4720-01-287-4499	24 in.



XAPPE17A

Figure E-12. M1089 Solenoid Test Adapter

- a. All dimensions are in inches (millimeters).
- b. Cut one piece of nonmetallic tubing (1) to 6.0 in. (152.4 mm) long.
- c. Cut one piece of nonmetallic tubing (2) to 18.0 in. (457.2 mm) long.
- c. Remove three nuts (3) and ferrule sleeves (4) from tube tee (5).
- d. Install two nuts (3) and ferrule sleeves (4) on nonmetallic tubing (1).
- e. Install nonmetallic tubing (1) on tube tee (5).
- f. Remove nut (6) and ferrule sleeve (7) from pipe to tube elbow (8).
- g. Install two nuts (3 and 6) and ferrule sleeves (4 and 7) on nonmetallic tubing (2).
- h. Install nonmetallic tubing (2) on tube tee (5).
- i. Install nut (6) on pipe to tube elbow (8).
- j. Install pipe bushing (9) on pipe to tube elbow (8).

E-9. RELAY TEST WIRE

Fabricate the relay test wire according to the following steps. Refer to the following parts list for materials.

Material Description	National Stock Number	Cut Length
Wire, Electrical (MIL-W-16878)	6145-00-330-3318	6 in. (152 mm)

- a. Dimensions are in inches (millimeters).
- b. Cut a length of wire six inches (152 mm) long.
- c. Remove approximately 3/4 in. (19 mm) of electrical insulation from each end of wire.

E-10. TRANSMISSION AUXILIARY OIL COOLER RUBBER SEAL

Fabricate the transmission auxiliary oil cooler rubber seals in accordance with the following parts list.

Part Number	Description	National Stock Number	Cut Length	
			inches	cm
MIL-R-6130	Tape, Adhesive, Rubber	9320-00-501-7537	24.7	627

E-11. WHEEL BEARING SHIM TOOL REST

Fabricate the wheel bearing shim tool rest according to the following steps. Refer to the following parts list for materials.

Part Number	National Stock Number	Description
QQ-T-570	9510-00-866-1037	Bar, Metal

- a. Dimensions are in inches (millimeters)
- b. Cut metal bar to 9.0 inches (228.6 mm) long.
- c. De-burr and remove sharp edges from ends of metal bar.

E-12. PNEUMATIC TUBES FABRICATION

Cut pneumatic tubes from bulk tubing stock listed in Table E-1. **Pneumatic Tube Lengths.** Use a fine-toothed hacksaw or suitable cutting device and cut tubing to required length.

Table E-1. Pneumatic Tube Lengths

Tube Part Number	Bulk Tubing Part Number	Cut Length	
		inches	cm
12414690-001	NT-100-4 (79470)	18.1	46.0
12414690-002	NT-100-4 (79470)	16.0	40.6
12414690-003	NT-100-4 (79470)	15.0	38.1
12414690-004	NT-100-4 (79470)	74.8	190.0
12414690-005	NT-100-4 (79470)	69.7	177.0

E-12. PNEUMATIC TUBES FABRICATION (CONT)

Table E1. Pneumatic Tube Lengths (Cont)

Tube Part Number	Bulk Tubing Part Number	cut Length	
		inches	c m
12414690-006	NT-100-4 (79470)	239.0	607.0
12414690-007	NT-100-4 (79470)	254.8	647.0
12414690-008	NT-100-4 (79470)	286.3	727.0
12414690-009	NT-100-4 (79470)	294.1	747.0
12414690-010	NT-100-4 (79470)	180.0	457.2
12414690-101	J844TYBSIZE 3/8 (81343)	18.0	45.7
12414690-102	J844TYBSIZE 3/8 (81343)	35.4	90.0
12414690-103	J844TYBSIZE 3/8 (81343)	20.9	53.0
12414690-104	J844TYBSIZE 3/8 (81343)	13.8	35.0
12414690-105	J844TYBSIZE 3/8 (81343)	11.8	30.0
12414690-106	J844TYBSIZE 3/8 (81343)	20.5	52.0
12414690-107	J844TYBSIZE 3/8 (81343)	39.0	99.0
12414690-108	J844TYBSIZE 3/8 (81343)	15.4	39.0
12414690-109	J844TYBSIZE 3/8 (81343)	23.0	58.4
12414690-112	J844TYBSIZE 3/8 (81343)	80.0	198.0
12414690-113	J844TYBSIZE 3/8 (81343)	11.4	29.0
12414690-115	J844TYBSIZE 3/8 (81343)	82.8	210.2
12414690-118	J844TYBSIZE 3/8 (81343)	11.8	30.0
12414690-120	J844TYBSIZE 3/8 (81343)	11.9	30.2
12414690-125	J844TYBSIZE 3/8 (81343)	10.8	27.3
12414690-128	J844TYBSIZE 3/8 (81343)	180.1	457.5
12414690-129	J844TYBSIZE 3/8 (81343)	39.3	99.7
12414690-130	J844TYBSIZE 3/8 (81343)	164.4	417.5
12414690-131	J844TYBSIZE 3/8 (81343)	180.1	457.5
12414690-132	J844TYBSIZE 3/8 (81343)	219.5	557.5
12414690-133	J844TYBSIZE 3/8 (81343)		
12414690-34	J844TYBSIZE 3/8 (81343)	277.4	704.5
12414690-135	J844TYBSIZE 3/8 (81343)	325.0	825.5
12414690-136	J844TYBSIZE 3/8 (81343)	332.5	844.6
12414690-137	J844TYBSIZE 3/8 (81343)	51.0	129.5
12414690-138	J844TYBSIZE 3/8 (81343)	67.0	170.2
12414690-139	J844TYBSIZE 3/8 (81343)	98.5	250.2
12414690-140	J844TYBSIZE 3/8 (81343)	106.0	269.2
12414690-141	J844TYBSIZE 3/8 (81343)	52.5	133.4
12414690-142	J844TYBSIZE 3/8 (81343)	68.5	174.0
12414690-143	J844TYBSIZE 3/8 (81343)	100.0	254.0
12414690-144	J844TYBSIZE 3/8 (81343)	107.5	273.0

Table E-1. Pneumatic Tube Lengths (Cont)

Tube Part Number	Bulk Tubing Part Number	Cut Length	
		inches	cm
12414690-145	J844TYBSIZE 3/8 (81343)		
12414690-146	J844TYBSIZE 3/8 (81343)	267.3	679.0
12414690-147	J844TYBSIZE 3/8 (81343)	283.1	719.0
12414690-148	J844TYBSIZE 3/8 (81343)	314.6	799.0
12414690-149	J844TYBSIZE 3/8 (81343)	322.4	819.0
12414690-150	J844TYBSIZE 3/8 (81343)	296.1	752.0
12414690-151	J844TYBSIZE 3/8 (81343)	343.5	872.5
12414690-152	J844TYBSIZE 3/8 (81343)	36.0	91.5
12414690-153	J844TYBSIZE 3/8 (81343)	32.0	81.3
12414690-154	J844TYBSIZE 3/8 (81343)	48.0	122.0
12414690-155	J844TYBSIZE 3/8 (81343)	79.5	202.0
12414690-156	J844TYBSIZE 3/8 (81343)	87.0	221.0
12414690-157	J844TYBSIZE 3/8 (81343)	59.5	151.1
12414690-158	J844TYBSIZE 3/8 (81343)	66.5	169.0
12414690-159	J844TYBSIZE 3/8 (81343)	98.0	249.0
12414690-160	J844TYBSIZE 3/8 (81343)	105.5	268.0
12414690-161	J844TYBSIZE 3/8 (81343)	48.0	122.0
12414690-162	J844TYBSIZE 3/8 (81343)	36.0	91.5
12414690-163	J844TYBSIZE 3/8 (81343)	161.5	410.2
12414690-164	J844TYBSIZE 3/8 (81343)	120.0	304.8
12414690-165	J844TYBSIZE 3/8 (81343)	78.0	198.1
12414690-166	J844TYBSIZE 3/8 (81343)	108.0	274.3
12414690-167	J844TYBSIZE 3/8 (81343)	168.0	426.7
12414690-168	J844TYBSIZE 3/8 (81343)	108.0	274.3
12414690-169	J844TYBSIZE 3/8 (81343)	72.0	182.9
12414690-201	C608-100BLK (13174)	14.8	37.5
12414690-202	C608-100BLK (13174)	14.1	35.7
12414690-203	C608-100BLK (13174)	6.5	16.5
12414690-205	C608-100BLK (13174)	14.5	36.8
12414690-206	C608-100BLK (13174)	14.8	37.7
12414690-207	C608-100BLK (13174)	15.6	39.5
12414690-208	C608-100BLK (13174)	6.7	17.0
12414690-209	C608-100BLK (13174)	19.5	49.5
12414690-210	C608-100BLK (13174)	15.5	39.3
12414690-211	C608-100BLK (13174)	8.0	20.3
12414690-212	C608-100BLK (13174)	17.0	43.0
12414690-215	C608-100BLK (13174)	163.0	414.0
12414690-216	C608-100BLK (13174)	160.0	406.4
12414690-217	C608-100BLK (13174)	62.6	159.0

E-12. PNEUMATIC TUBES FABRICATION (CONT)

Table E-I. Pneumatic Tube Lengths (Cont)

Tube Part Number	Bulk Tubing Part Number	Cut Length	
		inches	cm
12414690-218	C608-100BLK (131741	119.8	304.2
12414690-219	C608-100BLK (13174)	69.0	175.3
12414690-220	C608-100BLK (13174)	45.5	115.6
12414690-221	C608-100BLK (13174)	12.6	32.0
12414690-222	C608-100BLK (13174)	5.5	14.0
12414690-223	C608-100BLK (13174)	14.6	37.1
12414690-224	C608-100BLK (13174)	170.0	431.8
12414690-225	C608-100BLK (13174)	174.0	442.0
12414690-228	C608-100BLK (13174)	3.5	8.9
12414690-229	C608-100BLK (13174)	62.2	158.1
12414690-230	C608-100BLK (13174)	14.6	37.0
12414690-231	C608-100BLK (13174)	60.5	153.7
12414690-232	C608-100BLK (13174)	126.4	321 .0
12414690-233	C608-100BLK (13174)	142.1	361 .0
12414690-234	C608-100BLK (13174)		
12414690-235	C608-100BLK (13174)		
12414690-236	C608-100BLK (13174)	131.9	335.0
12414690-237	C608-100BLK (13174)	147.6	375.0
12414690-238	C608-100BLK (13174)	179.5	456.0
12414690-239	C608-100BLK (13174)	187.0	475.0
12414690-240	C608-100BLK (13174)	111.5	283.2
12414690-241	C608-100BLK (13174)	127.5	324.0
12414690-242	C608-100BLK (13174)	159.0	404.0
12414690-243	C608-100BLK (13174)	166.5	423.0
12414690-244	C608-100BLK (13174)	41 .0	104.2
12414690-245	C608-100BLK (13174)	57.0	144.8
12414690-246	C608-100BLK (13174)	88.6	225.0
12414690-247	C608-100BLK (131741	96.0	244.0
12414690-248	C608-100BLK (13174)	48.0	122.0
12414690-249	C608-100BLK (13174)	54.0	137.2
12414690-301	PFT-10B-BLK-100 (61424)	19.0	48.3
12414690-302	PFT-10B-BLK-100 (61424)	56.0	142.2
12414690-303	PFT-10B-BLK-100 (61424)	118.1	300.0

E-13. NON-METALLIC ELECTRICAL CABLE CONDUIT FABRICATION
--

Make conduit to cover electrical cables described on 1241638 from bulk tube stock listed in **Table E-2. Non-Metallic Electrical Cable Conduit Lengths**. Use a fine-toothed hacksaw or suitable cutting device and cut hose/tube to required length.

Table E-2. Non-Metallic Electrical Cable Conduit Lengths

Tube Part Number	Bulk Tube Part Number	Cut Length	
		inch	cm
12416381P1	49008	8.9	22.6
12416381P10	49008	17.8	45.2
12416381P11	49008	29.9	75.9
12416381P12	49008	33.0	83.8
12416381P13	49008	13.9	35.3
12416381P14	49008	4.0	10.2
12416381P15	49008	17.4	44.2
12416381P16	49008	3.2	8.1
12416381P17	49008	4.5	11.4
12416381P2	49008	16.2	41.1
12416381P20	27413	32.8	83.3
12416381P21	27413	9.2	23.4
12416.381P22	27413	8.0	20.3
12416381P23	27413	23.3	59.2
12416381P26	49008	2.5	6.4
12416381P3	27413	7.3	18.5
12416381P30	49007	17.0	43.2
12416381P32	49005	1.7	4.3
12416381P34	49005	20.7	52.6
12416381P35	49005	21.8	55.4
12416381P36	49005	5.5	14.0
12416381P37	49005	8.0	20.3
12416381P38	49008	3.7	9.4
12416381P4	49008	12.0	30.5
12416381P5	49008	26.0	66.0
12416381P6	49008	7.7	19.6
12416381P7	49008	26.7	67.8
12416381P8	49008	5.2	13.2
12416381P9	49008	16.8	42.7

E-14. STEERING GEAR RETURN HOSE AND TRANSMISSION OIL COOLER HOSES FABRICATION

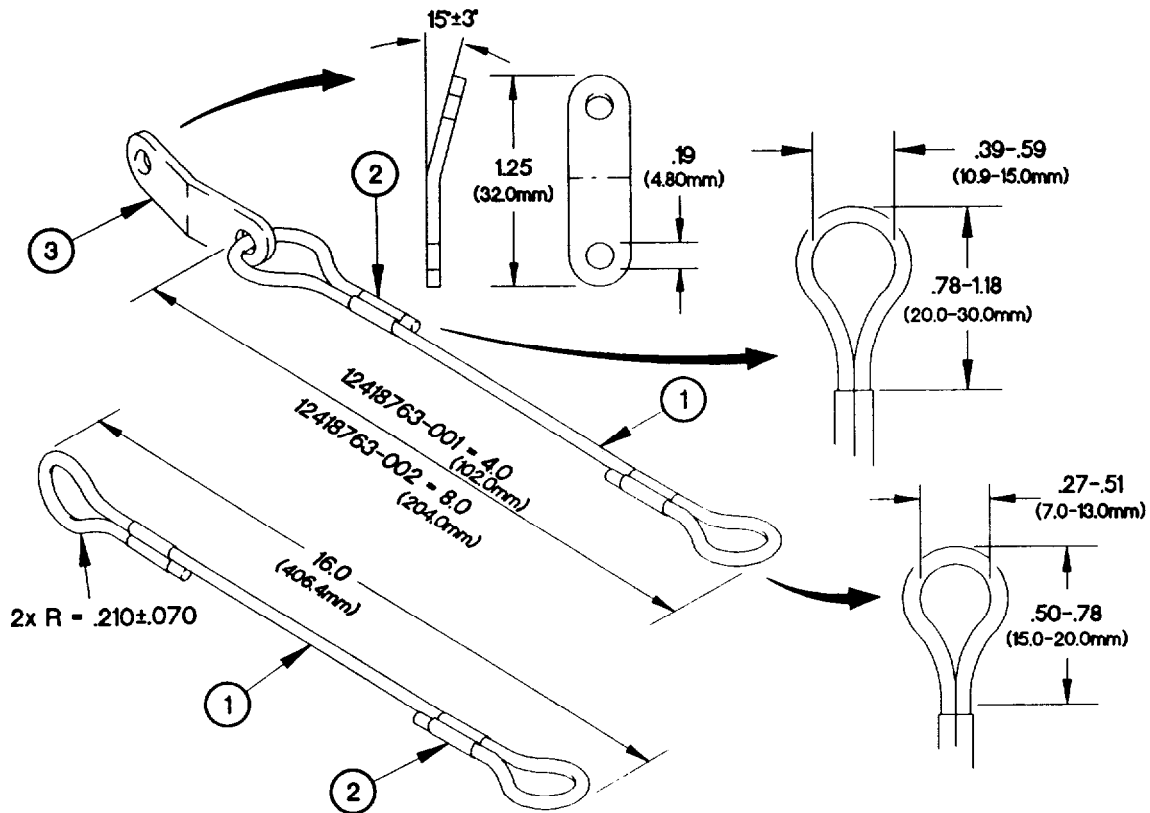
Cut the following hoses from bulk hose using a fine-toothed hacksaw or suitable cutting device.

Hose Part Number	Bulk Hose Part Number	Cut Length	
		inches	cm
12418037	A110 (30327)	75.5	191.7
12418460-001	MS5213026110360 (96906)	17.5	44.4
12418460-002	MS521301A206R (96906)	16.0	40.6

E-15. LANYARD ASSEMBLIES P/N 12418763 AND 12420196 FABRICATION

Make the following lanyard assemblies from bulk cable material, sleeves, and tab material and assemble according to **Figure E-14. Lanyard Assembly**. The following parts list identifies part numbers and lengths of cut pieces.

Item	Part Number	Material Description	Size	Qty
1	MIL-W-83420 Type 1, Comp 6	1/16 in. stranded wire cable	4 in. (102 mm)	1
2	MS51844-22	Sleeve		2
3	N/A	Tab, Stainless Steel ASTM A617	.06 in. (16 mm) X .37 in. (9.5 mm) X 1.25 in. (32 mm)	1



XAPPE09A

Figure E-14. Lanyard Assembly

- All dimensions are in inches (millimeters).
- Make from bulk cable and flat steel material as identified in parts list.
- Drill two 0.19 in. (4.8 mm) diameter holes through tab material as shown on **Figure E-14. Lanyard Assembly**.
- De-burr and remove sharp edges.
- Bend tab as shown on **Figure E-14. Lanyard Assembly**.
- Form loops on cable ends and insert sleeve material over cable on one end of cable and over cable and through sleeve at other end of cable as shown in **Figure E-14. Lanyard Assembly**.
- Crimp two sleeves over cable ends.

E-16. NON-METALLIC VENT AIR HOSES FABRICATION

Cut the following vent air hoses from bulk hose using a fine-toothed hacksaw or suitable cutting device.

Hose Part Number	Bulk Hose Part Number	Cut Length	
		inches	cm
12420197-001	483666 (02280)	180.0	457.2
12420197-002	483666 (02280)	120.0	304.8
12420197-003	483666 (02280)	96.0	243.8
12420197-004	483666 (02280)	36.0	91.4
12420197-005	483666 (02280)	156.0	396.2
12420197-006	483666 (02280)	72.0	182.9
12420198-001	881-16 (98441)	120.0	304.8
12420198-002	11657469	36.0	91.4

E-17. PERSONNEL HEATER AIR DUCT HOSE FABRICATION

Cut the following hoses from bulk hose using a fine-toothed hacksaw or suitable cutting device.

Hose Part Number	Bulk Hose Part Number	Cut Length	
		inches	cm
12420308-457	8711054 (19207)	18.3	46.4
12420308-760	8711054 (19207)	30.4	77.2

E-18. BLOCK SEAL 12420489 FABRICATION

Make block seal from P/N (OVXYS) STN2.38X.5. Use a suitable cutting tool to cut seal to 0.52 inch (1.3 cm) long.

E-19 CTIS SEAL DRIVER 3256-H-1048

Used on Front, Intermediate, and Rear Axle CTIS Seals.

NOTES ON USE OF DRIVER

- 1) SEAL END OF DRIVER TO BE CLEAN OF DEBRIS, DIRT, NICKS AND BURRS
- 2) DO NOT USE A METAL HAMMER ON DRIVER
A RUBBER, PLASTIC, WOOD OR SOME OTHER DEAD BLOW TYPE Mallet IS TO BE USED
- 3) SLIGHTLY GREASE SEAL END OF DRIVER PRIOR TO INSTALLING SEAL

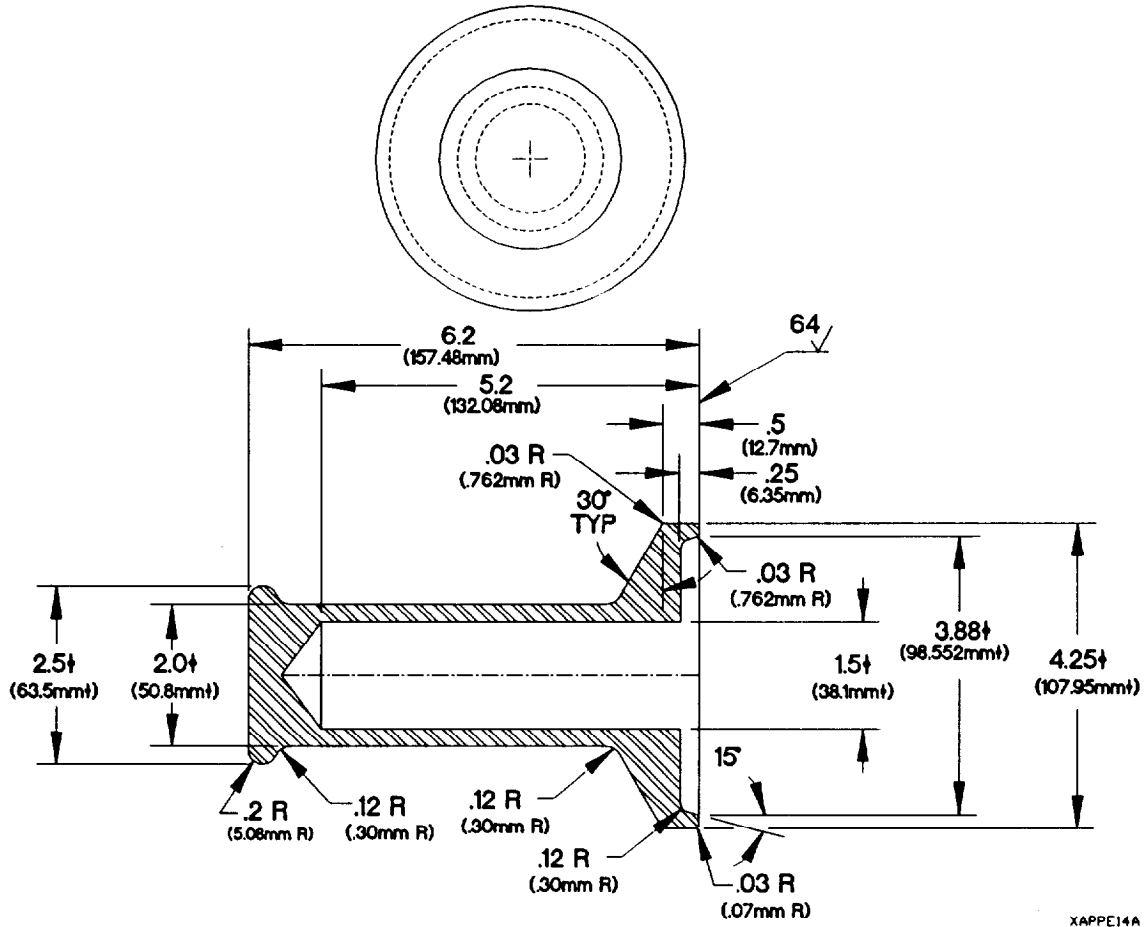


Figure E-15. CTIS Seal Driver

- a. All dimensions are in inches (millimeters).
- b. Manufacture from round steel stock.
- c. De-burr and remove sharp edges.

E-20. WHEEL HUB GREASE SEAL DRIVER 3256-K-1051

NOTES ON USE OF DRIVER

- 1) SEAL END OF DRIVER TO BE CLEAN OF DEBRIS, DIRT, NICKS AND BURRS
- 2) DO NOT USE A METAL HAMMER ON DRIVER
A RUBBER, PLASTIC, WOOD OR SOME OTHER DEAD BLOW TYPE Mallet IS TO BE USED
- 3) SLIGHTLY GREASE SEAL END OF DRIVER PRIOR TO INSTALLING SEAL

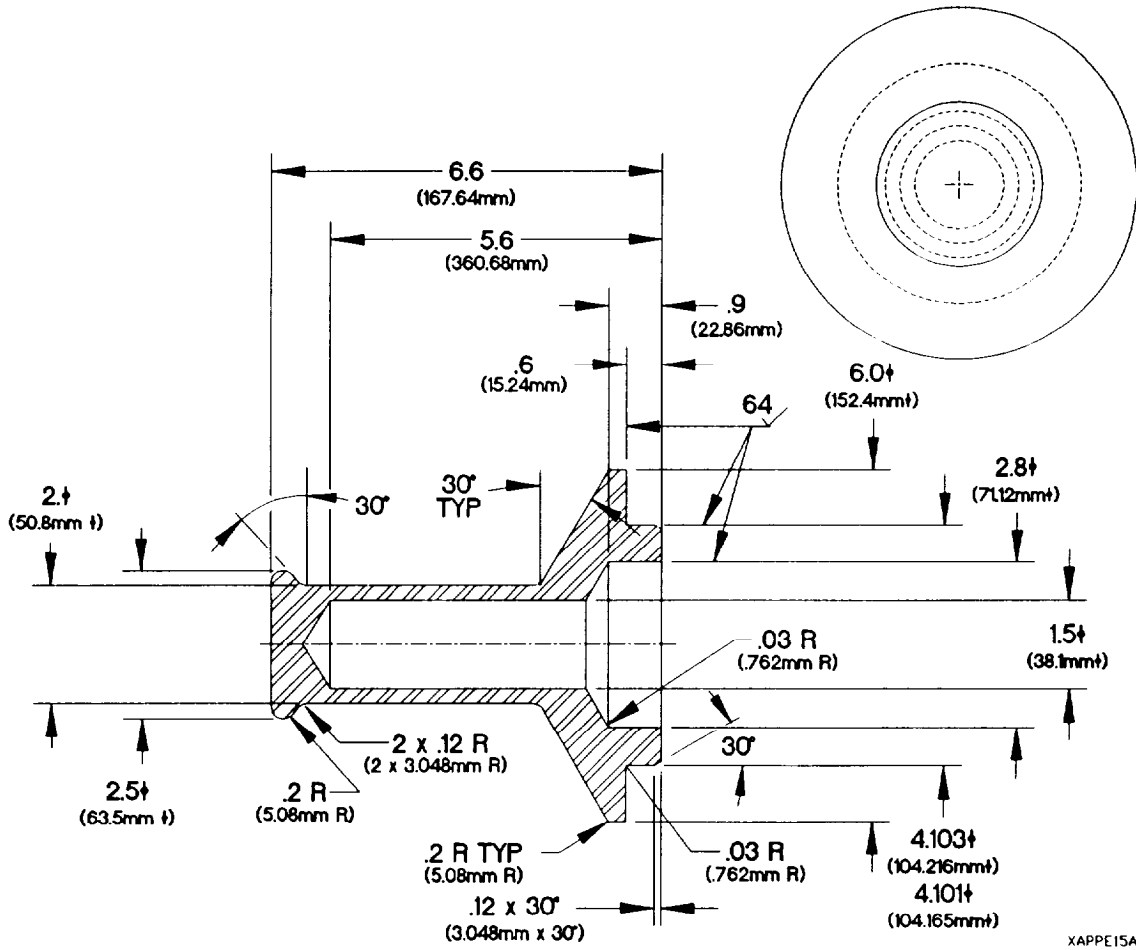


Figure E-16. Wheel Hub Grease Seal Driver

- a. All dimensions are in inches (millimeters).
- b. Manufacture from round steel stock.
- c. De-burr and remove sharp edges.

APPENDIX F TORQUE LIMITS

F-1. GENERAL

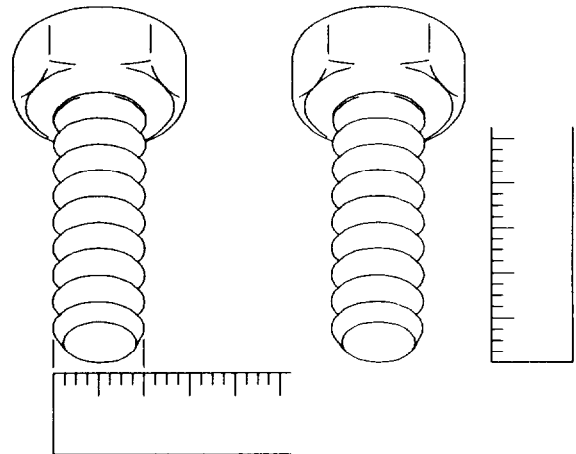
This appendix provides general torque limits for screws and nuts used on the vehicle. Special torque limits are shown in the maintenance procedures for applicable components. Use the general torque limit given in this appendix when specific torque limits are not given in the maintenance procedure. These general torque limits can not be applied to screws that retain rubber components. The rubber components will be damaged before the torque limit is reached. If a special torque limit is not given in the maintenance instructions for a fastener which retains a rubber component, tighten the screw or nut until it touches metal, then tighten one more turn. Whenever possible, the tightening force (torque) should be applied to the nut side of the fastener group.

F-2. TORQUE LIMITS

Refer to **Table F-1. Torque Limits for SAE and ANSI Fasteners** for torque limits on standard (SAE and ANSI) screws and free spinning nuts. Refer to **Table F-2. Torque Limits for SAE and ANSI Prevailing Torque Nuts** for torque limits on standard (SAE and ANSI) self-locking nuts. Refer to **Table F-3. Torque Limits for Metric Screws and Free Spinning Nuts** for torque limits on metric screws and free spinning nuts. Refer to **Table F-4. Torque Limits for Metric Prevailing Torque Nuts** for torque limits on metric self-locking nuts.

F-3. USE OF TORQUE TABLES

- (1) Measure the diameter of the screw to be installed.
- (2) Count the number of threads per inch.
- (3) Under the heading DIAMETER look down the column until the diameter of the screw is found. (There are usually two lines beginning with the same diameter.)
- (4) Under the heading THREADS PER INCH (SAE and ANSI) or THREAD PITCH (metric), find the number of threads per inch that matches the number counted in step (2).
- (5) To find the grade of the screw, match the markings on the head to the correct picture under CAPSCREW HEAD MARKINGS on the torque table.
- (6) Look down the column under the picture found in step (5) until the torque limit (lb-ft or N•m) for the diameter and threads per inch (or thread pitch, in the case of metric fasteners) of the screw are located.



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APPENDIX F
TORQUE LIMITS

Table F-1. Dry Torque Limits for SAE and ANSI Screws and Free Spinning Nuts

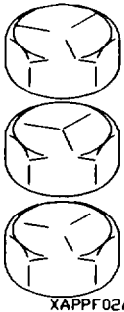
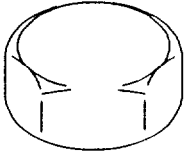
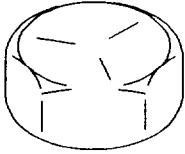
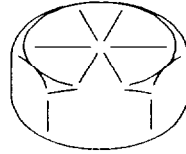
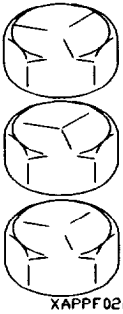

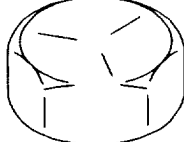

 <p>NOTE Manufacturer's marks may vary. These are all SAE Grade 5.</p>		Material Grade Markings					
		 XAPPF03A SAE Grade 2	 XAPPF04A SAE Grade 5	 XAPPF06A SAE Grade 8	Torque		
Diameter	Threads per inch	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m
inch							
1/4	20	3-5	5-7	5-7	8-10	8-10	10-14
1/4	28	4-6	5-7	6-8	9-11	8-12	12-16
1/4	32	4-6	5-7	7-9	9-11	9-13	12-16
5/16	18	7-9	9-13	11-15	15-21	15-21	21-29
5/16	24	8-10	11-15	12-16	17-23	17-23	24-32
5/16	32	9-11	12-16	14-18	18-24	19-25	27-34
3/8	16	13-17	17-23	20-26	27-35	28-38	38-50
3/8	24	15-19	20-26	22-30	31-41	32-42	43-57
3/8	32	15-21	21-27	24-32	33-43	33-45	55-61
7/16	14	20-28	28-38	32-42	43-57	44-60	61-81
7/16	20	23-31	31-41	35-47	48-64	49-67	68-90
7/16	28	25-33	33-45	37-51	51-69	54-72	73-97
1/2	13	32-42	43-57	49-65	66-88	68-92	93-123
1/2	20	35-47	48-64	55-73	74-98	77-103	105-139
1/2	28	38-50	51-67	58-78	79-105	82-110	111-149
9/16	12	55-61	62-82	70-94	95-127	98-132	134-178
9/16	18	50-68	69-91	78-104	105-141	109-147	149-199
9/16	24	53-71	72-96	82-110	111-149	115-155	158-210
5/8	11	62-84	85-113	95-129	131-175	136-182	184-246
5/8	18	70-94	96-128	108-146	148-198	154-206	209-279
5/8	24	73-99	100-134	114-154	155-207	161-217	219-293

Table F-1. Dry Torque Limits for SAE and ANSI Screws and free Spinning Nuts (Cont)

 Manufacturer's marks may vary. These are all SAE Grade 5		Material Grade Markings					
		 XAPPF03A SAE Grade 2	 XAPPF04A SAE Grade 5	 XAPPF06A SAE Grade 8	Torque		
Diameter	Threads per inch	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m
inch							
11/16	24	99-133	135-181	153-207	209-279	217-291	296-394
3/4	10	110-148	150-200	171-229	232-310	240-324	328-438
3/4	16	123-165	168-224	190-256	259-345	269-361	366-488
3/4	20	127-171	174-232	197-265	268-358	278-374	379-505
13/16	20			252-340	345-459	357-481	487-649
7/8	9			275-369	374-498	387-521	528-704
7/8	14			303-407	413-551	427-575	583-777
7/8	20			319-429	435-579	450-606	614-818
15/16	20			395-531	538-718	558-750	760-1014
1	8			411-553	560-748	581-781	792-1056
1	12			450-606	614-818	636-856	867-1155
1	20			483-649	658-878	681-917	929-1239
1-1/16	18			576-776	782-1044	813-1095	1109-1479
1-1/8	7			507-683	693-923	824-1108	1123-1497
1-1/8	12			570-766	776-1034	923-1241	1258-1678
1-1/8	18			600-806	817-1089	971-1307	1324-1766
1-3/16	18			709-953	966-1288	1149-1545	1566-2088
1-1/4	7			716-964	976-1302	1161-1563	1584-2112
1-1/4	12			793-1067	1081-1441	1286-1730	1754-2338
1-1/4	18			831-1117	1132-1510	1346-1812	1835-2447
1-5/16	18			965-1299	1316-1754	1565-2105	2134-2846
1-3/8	6			939-1263	1281-1707	1523-2049	2076-2768

APPENDIX F TORQUE LIMITS

Table F-2 Dry Torque Limits for SAE and ANSI Prevailing Torque Nuts

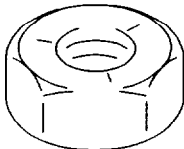
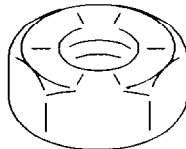
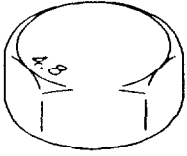
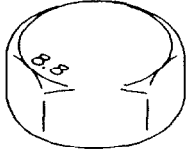
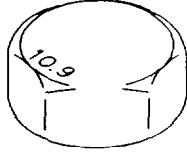
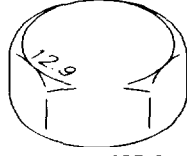
		Material Grade Markings				
		 XAPPF07A SAE Grade 5				 XAPPF08A SAE Grade 8
Hole Diameter	Threads per inch	Torque				
		lb-ft	N•m	lb-ft	N•m	
inch						
1/4	20	10-12	14-16	15-17	20-24	
1/4	28	12-14	16-18	14-18	21-25	
5/16	18	20-24	27-33	26-32	36-44	
5/16	24	22-26	30-36	29-35	40-48	
3/8	16	35-41	47-55	48-58	65-77	
3/8	24	38-46	53-63	53-63	72-86	
7/16	14	55-65	74-88	75-91	103-123	
7/16	20	60-70	81-97	80-98	110-132	
1/2	13	86-102	116-138	113-137	154-184	
1/2	20	92-110	125-149	127-153	177-207	
9/16	12	120-144	162-194	168-202	229-273	
9/16	18	135-161	183-219	179-217	244-294	
5/8	11	165-199	226-270	226-272	306-368	
5/8	18	181-219	246-296	244-296	331-401	
3/4	10	296-354	402-480	395-479	538-648	
3/4	16	310-376	422-508	424-516	576-698	
7/8	9	460-554	625-749	612-746	833-1009	
7/8	14	503-607	684-822	652-800	888-1082	
1	8	686-828	933-1121	941-1141	1280-1544	

Table F-3. Dry Torque Limits for Metric Screws and Free Spinning Nuts

		Material Grade Markings							
									
		XAPPF09A	XAPPF10A	XAPPF11A	XAPPF12A				
		Metric Grade 4.8	Metric Grade 8.8	Metric Grade 10.9	Metric Grade 12.9				
Diameter	Thread Pitch	Torque							
		lb-ft	N•m	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m
6	1	3	4-5	5-7	7-9	7-9	10-13	8-11	11-15
8	1.25	7-9	9-11	13-17	17-23	17-23	23-31	21-27	27-37
8	1	7-9	9-13	14-18	18-24	19-25	25-33	21-29	29-39
10	1.5	13-17	17-23	25-33	33-45	34-46	46-62	40-54	54-72
10	1.25	14-18	18-24	26-34	35-47	36-48	49-65	42-56	57-77
10	0.75	15-19	21-27	29-39	39-53	40-54	54-72	47-63	63-85
12	1.75	22-30	30-40	43-57	58-78	60-80	81-107	69-93	94-126
12	1.5	23-31	32-42	46-60	61-81	63-83	85-113	73-97	99-131
12	1.25	24-32	33-45	47-63	65-85	65-87	88-118	76-102	104-138
12	1	26-34	34-46	49-65	67-89	68-90	93-123	80-106	108-144
14	2	36-48	48-74	69-91	93-125	95-127	129-173	112-148	151-201
14	1.5	39-51	52-70	75-99	99-135	103-137	140-186	120-160	163-217
16	1	61-69	69-93	100-132	135-179	137-183	187-249	160-214	218-290
16	2	55-73	75-99	107-143	145-193	148-198	201-267	173-231	235-313
16	1.5	59-79	80-106	114-152	155-207	158-210	214-286	184-246	250-334
18	1.5			168-222	225-301	230-306	311-415	268-358	364-486
20	2.5			209-279	283-377	289-385	392-522	338-450	458-610
20	1.5			232-308	315-419	321-427	435-579	375-499	508-678
20	1			244-324	330-440	337-449	457-609	394-524	534-712
22	2.5			285-379	387-515	394-524	534-712	461-613	624-832
22	1.5			313-417	424-566	432-576	586-782	664-884	900-1200
24	3			361-481	489-653	499-665	677-903	584-778	791-1055
24	2			394-524	534-712	545-725	738-984	725-965	982-1310
25	1.5			467-621	633-843	645-859	875-1167	754-1004	1023-1363

APPENDIX F TORQUE LIMITS

Table F-4. Dry Torque Limits for Metric Prevailing Torque Nuts

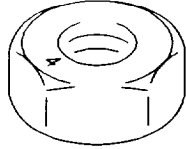
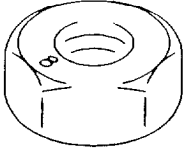
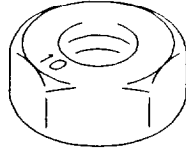
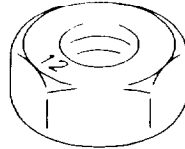
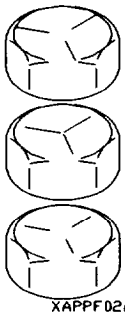
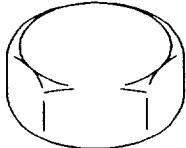
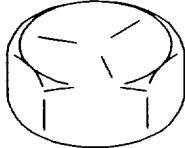
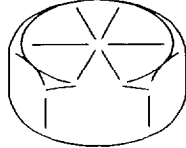
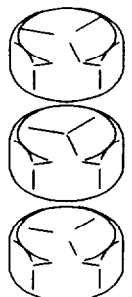


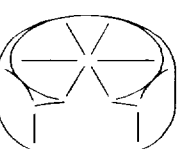
Material Grade Markings								
 XAPPF13A Metric Grade 4.8		 XAPPF14A Metric Grade 8.8		 XAPPF15A Metric Grade 10.9		 XAPPF16A Metric Grade 12.9		
Thread Pitch	Torque							
	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m
1	5-6	7-8	7-9	10-12	10-12	14-17	11-14	15-19
1.25	12-14	16-18	18-22	24-30	24-30	32-40	27-33	36-46
1	12-14	16-20	19-23	25-31	25-31	34-42	28-36	38-48
1.5	21-25	28-34	33-41	44-56	44-56	60-76	50-64	68-86
1.25	21-25	29-35	34-42	46-58	46-58	63-79	53-67	71-91
0.75	23-27	31-37	37-47	49-63	50-64	68-86	57-73	77-99
1.75	33-41	46-56	55-69	74-94	75-95	102-128	85-109	115-147
1.5	35-43	47-57	56-72	77-97	78-98	106-134	89-113	120-152
1.25	36-44	48-60	58-74	79-101	81-103	109-139	91-117	125-159
1	37-45	50-62	61-77	82-104	84-106	114-144	95-121	129-165
2	53-65	72-88	87-109	117-149	118-150	160-204	134-172	182-232
1.5	57-69	76-94	92-116	125-159	126-160	171-217	143-183	194-248
2	79-97	107-131	130-166	177-225	178-228	243-309	204-262	277-355
1.5	82-102	112-138	138-176	187-239	189-241	256-328	215-277	292-376
1.5			197-253	267-343	271-347	367-471	309-399	420-542
2.5			248-318	337-431	342-438	464-594	391-503	530-682
1.5			271-349	369-473	374-480	507-651	428-552	580-750
1			283-365	384-494	390-502	529-681	447-577	606-784
2.5			335-429	455-583	460-592	624-802	526-680	714-922
1.5			363-467	492-634	499-643	676-872	730-950	990-1290
3			420-540	569-733	577-743	783-1009	662-856	897-1161
2			453-583	614-792	622-804	844-1090	803-1043	1088-1416

Table F-5. Wet Torque Limits for SAE and ANSI Screws and Free Spinning Nuts

 NOTE Manufacturer's marks may vary. These are all SAE Grade 5.		Material Grade Markings					
		 XAPPF03A SAE Grade 2	 XAPPF04A SAE Grade 5	 XAPPF06A SAE Grade 8	Torque		
Diameter	Threads per inch	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m
inch							
1/4	20	4	6	6	8	9	12
1/4	28	5	7	7	9	10	14
5/16	18	8	11	13	18	18	24
5/16	24	9	12	14	19	20	27
3/8	16	15	20	23	31	35	47
3/8	24	17	23	25	34	35	47
7/16	14	24	33	35	47	55	75
7/16	20	25	34	40	54	60	81
1/2	13	35	47	55	75	80	108
1/2	20	40	54	65	88	90	122
9/16	12	50	68	80	108	110	149
9/16	18	55	75	90	122	130	176
5/8	11	70	95	110	149	170	231
5/8	18	80	108	130	176	180	244
3/4	10	120	163	200	271	280	380
3/4	16	140	190	220	298	320	434
7/8	9	110	149	300	407	460	624
7/8	14	120	163	320	434	500	678
1	8	160	217	440	597	680	922
1	12	170	231	480	651	740	1003
1-1/8	7	220	298	600	814	960	1302
1-1/8	12	260	353	660	895	1080	1464

APPENDIX F TORQUE LIMITS

Table F-5. Wet Torque Limits for SAE and ANSI Screws and Free Spinning Nuts (Cont)

 <p style="text-align: center; font-size: small;">XAPPF02A</p> <p style="text-align: center;">Manufacturer's marks may vary. These are all SAE Grade 5</p>		Material Grade Markings					
		 <p style="text-align: center; font-size: small;">XAPPF03A</p> <p style="text-align: center;">SAE Grade 2</p>		 <p style="text-align: center; font-size: small;">XAPPF04A</p> <p style="text-align: center;">SAE Grade 5</p>		 <p style="text-align: center; font-size: small;">XAPPF06A</p> <p style="text-align: center;">SAE Grade 8</p>	
		Torque					
Diameter	Threads per inch						
inch		lb-ft	N•m	lb-ft	N•m	lb-ft	N•m
1-1/4	7	320	434	840	1139	1360	1844
1-1/4	12	360	488	920	1248	1500	2034
1-3/8	6	420	570	1100	1492	1780	2414
1-3/8	12	460	624	1260	1709	2040	2766

APPENDIX G MANDATORY REPLACEMENT PARTS

Section I. INTRODUCTION

G-1. SCOPE

This appendix lists mandatory replacement parts you will need to maintain the MTV vehicle.

G-2. EXPLANATION OF COLUMNS

- | | |
|---|---|
| a. Column (1) - Item Number. | This number is assigned to each entry in the listing and is referenced in the Initial Setup of the applicable task under Materials/Parts. |
| b. Column (2) - Nomenclature. | Name or identification of the part. |
| c. Column (3) - Part Number. | The manufacturer's part number. |
| d. Column (4) - National Stock Number. The National stock number of the part. | |

Section II. MANDATORY REPLACEMENT PARTS LIST

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
1	BLADE, WINDSHIELD WIPER	105.384	2540-01-364-1621
2	BOLT, MACHINE	12414307-065	5306-01-382-5054
3	BOOT KIT, EXHAUST	DQ6025	4730-01-417-3197
4	BUMPER, NONMETALLIC	1011-05	5340-01-342-1110
5	BUMPER, RUBBER	12419182	5340-01-410-8397
6	BUSHING, SLEEVE	7-199-002668	3120-01-367-6894
7	CHANNEL, RUBBER	ZZR765/2-001A7	9390-01-420-4560
8	CLAMP	024S9	
9	CLAMP	032S9	
10	COVER, FLUID FILTER	12412628	2590-01-414-1243
11	DECAL	12340917	7690-01-256-4909
12	FASTENER TAPE	MIL-F-21840	8315-00-006-9855
13	FASTENER TAPE	50-534718-19	8315-00-935-6762
14	FILTER ASSEMBLY	75223-11	2940-01-417-9333

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
15	FILTER ELEMENT	1048011	2940-01-385-8931
16	FILTER ELEMENT, FLUID	K05-0104	2910-01-377-3128
17	FILTER ELEMENT, FLUID	R22146	2910-01-360-6366
18	FILTER ELEMENT, FLUID	29507750	2940-01-361-2405
19	FILTER ELEMENT, FLUID	599791	4460-01-284-2344
20	FILTER ELEMENT, FLUID	931558	2940-01-363-4377
21	FILTER ELEMENT, INTAKE AIR CLEANER	P52-7750	2940-01-361-2407
22	FILTER, FUEL	7E9763	2910-01-363-3089
23	FILTER, OIL	1R0739	2940-00-029-0388
24	GASKET	F337576M6	
25	GASKET	M28840/24HA	5935-01-421-9754
26	GASKET	QS-1181	5330-01-058-3788
27	GASKET	10-36675-18	5330-00-298-0190
28	GASKET	119-2940	
29	GASKET	12412394	5330-01-371-6199
30	GASKET	350700	5330-01-295-3053
31	GASKET	350903	5330-00-576-4626
32	GASKET	352200	5330-01-421-6105
33	GASKET	352302	5330-01-421-6107
34	GASKET	353400	5330-01-421-6102
35	GASKET	353806	5330-01-421-6103
36	GASKET	353810	
37	GASKET	355148	5330-01-423-0596
38	GASKET	355175	5330-01-423-0623
39	GASKET	3K3257	5330-01-305-6550
40	GASKET	4P1624	5330-01-360-5934
41	GASKET	4W0549	5330-01-347-3207
42	GASKET	9Y8103	5330-01-360-5931
43	GASKET and PREFORMED PACKING KIT	P4-4	5330-00-122-0624
44	GASKET, FUEL FILTER	7C1159	5330-01-360-5941
45	GASKET, RING	331.406	5330-01-395-4645

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
46	GASKET, THERMOSTAT	2W7212	5330-01-347-3206
47	GROMMET, NONMETALLIC	MS21266-3N	5325-00-926-1394
48	GROMMET, NONMETALLIC	MS35489-109	5325-00-290-0074
49	GROMMET, NONMETALLIC	MS35489-6	5325-00-263-6632
50	GROMMET, NONMETALLIC	12412334-2	
51	GROMMET, NONMETALLIC	12417598	5325-01-375-1299
52	GROMMET, NONMETALLIC	12421402	
53	GROMMET, NONMETALLIC	4082-37634-01	5325-01-194-3076
54	GROMMET, NONMETALLIC	50S12-1-1AA	5325-01-145-0105
55	GROMMET, NONMETALLIC	8741442	5325-00-088-6147
56	INDICATOR, SIGHT, LIQUID	SLT-1214	6680-01-356-8162
57	INSERT, NYLON	12SWS2520	
58	INSERT, NYLON	12SWS2542	
59	INSERT, NYLON	12421463-003	
60	INSULATOR, TANK	A1394J	5970-01-385-7317
61	INSULATOR, TANK	A1394K	5970-01-385-7262
62	KIT, PROPELLER SHAFT	KT-16SB	2520-01-370-1360
63	KIT, FILTER	29526899	
64	KIT, FILTER	29503829	
65	LAMP, INCANDESCENT	CM7-7373	6240-00-270-6824
66	LAMP, INCANDESCENT	CM7376	6240-00-499-6278
67	LATCH, BAIL HEAD	68-20-101-10	2540-01-232-2470
68	LOCKNUT	0770-023-003	5310-01-423-3725
69	LOCKWASHER	ABCH207-LW-1/2	
70	LOCKWASHER	ABCH207-LW-3/8	
71	LOCKWASHER	D70336/1-20	5310-01-110-7933
72	LOCKWASHER	D70336/3-50	5310-01-439-2542
73	LOCKWASHER	D70336/3-52	5310-01-439-2543
74	LOCKWASHER	MS35333-136	5310-01-078-9699
75	LOCKWASHER	MS35333-78	5310-00-261-7156
76	LOCKWASHER	MS35335-30	5310-00-209-0788

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
77	LOCKWASHER	MS35335-31	5310-00-596-7693
78	LOCKWASHER	MS35335-33	5310-00-209-0786
79	LOCKWASHER	MS35335-36	5310-00-550-3503
80	LOCKWASHER	MS35335-37	5310-00-209-5116
81	LOCKWASHER	MS35335-38	5310-00-616-6354
82	LOCKWASHER	MS35335-58	5310-00-209-1366
83	LOCKWASHER	MS35335-61	5310-00-527-3634
84	LOCKWASHER	MS35335-62	5310-00-184-9562
85	LOCKWASHER	MS35337-25	5310-00-012-1637
86	LOCKWASHER	MS35338-100	5310-00-261-8278
87	LOCKWASHER	MS35338-103	5310-00-184-8971
88	LOCKWASHER	MS35338-137	5310-00-933-8119
89	LOCKWASHER	MS35338-138	5310-00-933-8120
90	LOCKWASHER	MS35338-141	5310-00-984-7042
91	LOCKWASHER	MS35338-41	5310-00-045-4007
92	LOCKWASHER	MS35338-42	5310-00-045-3299
93	LOCKWASHER	MS35338-43	5310-00-045-3296
94	LOCKWASHER	MS35338-44	5310-00-582-5965
95	LOCKWASHER	MS35338-45	5310-00-407-9566
96	LOCKWASHER	MS35338-46	5310-01-334-4710
97	LOCKWASHER	MS35338-47	5310-00-209-0965
98	LOCKWASHER	MS35338-51	5310-00-584-7888
99	LOCKWASHER	MS35338-58	5310-00-702-6286
100	LOCKWASHER	MS51414-1	5310-01-235-2057
101	LOCKWASHER	MS51414-2	5310-01-310-1098
102	LOCKWASHER	MS51414-4	5310-01-251-9276
103	LOCKWASHER	N9015	5310-01-046-0186
104	LOCKWASHER	N9459	5310-01-348-8393
105	LOCKWASHER	N9461	5310-01-348-8392
106	LOCKWASHER	114021	5310-01-081-0798
107	LOCKWASHER	1229-S-513-C	5310-01-062-3384

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
108	LOCKWASHER	12412477-14	
109	LOCKWASHER	12412601-02	5310-01-387-1152
110	LOCKWASHER	12414570-005	
111	LOCKWASHER	12414570-011	5310-01-374-3292
112	LOCKWASHER	12414570-013	5310-01-374-4515
113	LOCKWASHER	12414570-015	5310-01-388-2043
114	LOCKWASHER	12414570-021	5310-01-374-4516
115	LOCKWASHER	152.269	5310-01-407-4764
116	LOCKWASHER	152.544	5310-01-395-0823
117	LOCKWASHER	152.552	5310-12-189-1721
118	LOCKWASHER	17298262	5310-00-964-7811
119	LOCKWASHER	488.671	
120	MOUNT, RESILIENT	12413126	
121	MOUNT, RESILIENT	12418476	5340-01-377-0693
122	NUT, CLIP	MS90724-24	5310-01-074-5041
123	NUT, CONDUIT	BL75	5975-00-642-7261
124	NUT, CONDUIT	141	5975-00-152-1075
125	NUT, CONDUIT	143	5975-00-714-8031
126	NUT, PLAIN, BLIND RIVIIT	ALS7-632-80	
127	NUT, PLAIN, HEX	MS35649-282	5310-00-934-9757
128	NUT, SELF-LOCKING	DIN-934STM6	5310-01-342-2739
129	NUT, SELF-LOCKING	MS20500-524	5310-00-208-4023
130	NUT, SELF-LOCKING	MS21042-04	5310-00-811-6419
131	NUT, SELF-LOCKING	MS21083NO8	5310-00-941-6019
132	NUT, SELF-LOCKING	MS21083N6	5310-00-926-1852
133	NUT, SELF-LOCKING	MS51922-1	5310-00-088-1251
134	NUT, SELF-LOCKING	MS51922-17	5310-00-087-4652
135	NUT, SELF-LOCKING	MS51922-2	5310-00-929-1807
136	NUT, SELF-LOCKING	MS51922-33	5310-00-225-6993
137	NUT, SELF-LOCKING	MS51922-49	5310-00-269-4040
138	NUT, SELF-LOCKING	MS51922-5	5310-00-959-7600

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
139	NUT, SELF-LOCKING	MS51922-57	5310-00-067-6356
140	NUT, SELF-LOCKING	MS51922-65	5310-00-225-6992
141	NUT, SELF-LOCKING	MS51922-9	5310-00-984-3806
142	NUT, SELF-LOCKING	N9406	5310-01-362-6171
143	NUT, SELF-LOCKING	N9410	5310-01-348-8398
144	NUT, SELF-LOCKING	N9467	5310-01-350-4257
145	NUT, SELF-LOCKING	12301125	5310-01-210-0199
146	NUT, SELF-LOCKING	12412476-09	
147	NUT, SELF-LOCKING	12412476-11	5310-01-407-7178
148	NUT, SELF-LOCKING	12412476-12	
149	NUT, SELF-LOCKING	12412478-04	
150	NUT, SELF-LOCKING	12414308-002	5310-01-381-9819
151	NUT, SELF-LOCKING	12414308-003	5310-01-377-1549
152	NUT, SELF-LOCKING	12414308-004	5310-01-369-5703
153	NUT, SELF-LOCKING	12414308-007	5310-01-369-6073
154	NUT, SELF-LOCKING	12414308-017	5310-01-381-9830
155	NUT, SELF-LOCKING	12414308-018	5310-01-369-3337
156	NUT, SELF-LOCKING	12414308-019	5310-01-369-9522
157	NUT, SELF-LOCKING	12414308-020	5310-01-381-9849
158	NUT, SELF-LOCKING	12414308-021	5310-01-369-3338
159	NUT, SELF-LOCKING	12414308-022	5310-01-417-1262
160	NUT, SELF-LOCKING	12414308-023	5310-01-369-6705
161	NUT, SELF-LOCKING	12414308-025	5310-01-369-6706
162	NUT, SELF-LOCKING	12414308-027	5310-01-369-3339
163	NUT, SELF-LOCKING	12414308-078	
164	NUT, SELF-LOCKING	12414315-002	5310-01-374-1381
165	NUT, SELF-LOCKING	12414315-003	5310-01-374-1382
166	NUT, SELF-LOCKING	12414315-005	5310-01-372-3023
167	NUT, SELF-LOCKING	12414315-006	5310-01-369-3332
168	NUT, SELF-LOCKING	12414315-009	5310-01-365-7236
169	NUT, SELF-LOCKING	12414315-015	

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
170	NUT, SELF-LOCKING	12414315-017	5310-01-368-8065
171	NUT, SELF-LOCKING	12414420-004	5310-01-370-0010
172	NUT, SELF-LOCKING	12419003	5310-01-376-0773
173	NUT, SELF-LOCKING	29514660	
174	NUT, SELF-LOCKING	7-660-081600	5310-01-390-8487
175	NUT, SELF-LOCKING	7-660-082504	5310-01-354-8734
176	NUT, SELF-LOCKING	7794625	5310-00-579-1031
177	NUT, SELF-LOCKING	7951286	5310-00-789-0398
178	PACKING, PREFORMED	A82777	5330-00-579-6495
179	PACKING, PREFORMED	J515-16-3	
180	PACKING, PREFORMED	MK0012510	
181	PACKING, PREFORMED	MS28775-011	5330-00-582-2133
182	PACKING, PREFORMED	MS28778-10	5330-00-285-9842
183	PACKING, PREFORMED	MS28778-12	5330-00-251-8839
184	PACKING, PREFORMED	MS28778-16	5330-00-804-5694
185	PACKING, PREFORMED	MS28778-20	5330-00-816-3546
186	PACKING, PREFORMED	MS28778-4	5330-00-805-2966
187	PACKING, PREFORMED	MS28778-6	5330-00-804-5695
188	PACKING, PREFORMED	MS9955-113	5330-01-374-2325
189	PACKING, PREFORMED	M25988/1-246	5330-01-189-6351
190	PACKING, PREFORMED	OR420A	5330-01-389-6028
191	PACKING, PREFORMED	11639519-1	5330-00-463-0200
192	PACKING, PREFORMED	1509	5330-00-172-1919
193	PACKING, PREFORMED	2-012N507-90	5330-01-092-5502
194	PACKING, PREFORMED	2-018N507-90	5330-01-092-5503
195	PACKING, PREFORMED	2M4453	5330-00-074-3768
196	PACKING, PREFORMED	22617-16	5330-01-168-0885
197	PACKING, PREFORMED	23043446	5330-01-424-6629
198	PACKING, PREFORMED	29500969	5330-01-360-7852
199	PACKING, PREFORMED	29503383	5330-01-360-6017
200	PACKING, PREFORMED	3-906N552-90	5330-01-104-1093

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
201	PACKING, PREFORMED	3-908N552-90	5330-00-929-8171
202	PACKING, PREFORMED	3D2824	5330-00-944-8281
203	PACKING, PREFORMED	3J1907	5330-01-333-6444
204	PACKING, PREFORMED	3J7354	5330-00-952-8008
205	PACKING, PREFORMED	3K0360	5330-00-948-6482
206	PACKING, PREFORMED	4J5477	5330-00-855-8059
207	PACKING, PREFORMED	4L9564	5330-00-828-8639
208	PACKING, PREFORMED	5-X-1155	5330-01-392-1637
209	PACKING, PREFORMED	5F7054	5330-00-339-6224
210	PACKING, PREFORMED	5P7813	5330-01-335-0042
211	PACKING, PREFORMED	6V8397	5330-00-579-6495
212	PACKING, PREFORMED	673268	
213	PACKING, PREFORMED	673269	5330-01-395-1252
214	PACKING, PREFORMED	7F8267	5330-00-291-7353
215	PACKING, PREFORMED	7320658	5330-00-297-7106
216	PACKING, PREFORMED	9604792-001	5330-01-429-3089
217	PAD, CUSHIONING	12413120	
218	PARTS KIT, DEHYDRATOR	RN-60-A	4440-01-337-7324
219	PARTS KIT, HYDRAULIC PUMP	P1-12RP	4320-00-125-3208
220	PARTS KIT, SEAL REPLACEMENT	SK10-2	5330-01-350-4474
221	PARTS KIT, SEAL REPLACEMENT	SK10-3	5330-01-350-4472
222	PARTS KIT, SEAL REPLACEMENT	SK10-4	5330-01-343-2745
223	PIN, COTTER	K-2412-Z	5315-01-179-9882
224	PIN, COTTER	MS24665-151	5315-00-815-1405
225	PIN, COTTER	MS24665-298	5315-00-234-1861
226	PIN, COTTER	MS24665-385	5315-00-187-9382
227	PIN, COTTER	MS24665-394	5315-00-234-1628
228	PIN, COTTER	MS24665-423	5315-00-013-7228
229	PIN, COTTER	MS24665-455	5315-00-187-9392
230	PIN, COTTER	MS24665-457	5315-00-187-9393
231	PIN, COTTER	MS24665-459	5315-00-187-9394

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
232	PIN, COTTER	MS24665-494	
233	PIN, COTTER	MS24665-498	5315-00-849-9854
234	PIN, COTTER	MS24665-628	5315-00-846-0126
235	PIN, COTTER	MS24665-654	5315-00-187-9413
236	PIN, COTTER	MS24665-69	5315-00-828-8190
237	PIN, COTTER	352.497	5315-01-394-3546
238	PIN, SPRING	MS16562-142	5315-00-058-6115
239	PIN, SPRING	MS16562-146	5315-00-853-3814
240	PLASTIC STRIP	352700	5330-01-396-2190
241	RECEPTACLE	50R4-1-1AA	5325-01-049-2049
242	RING, BUSHING	152.157	
243	RIVET, BLIND	AD66H	5320-01-008-8204
244	RIVET, BLIND	MS20604B3W2	5320-00-721-9075
245	RIVET, BLIND	M24243/1-B302	5320-00-999-0397
246	RIVET, BLIND	M24243/1-B610	5320-00-454-5156
247	RIVET, BLIND	M24243/1-D404	5320-00-865-8994
248	RIVET, BLIND	M24243/1-D502	5320-00-850-3248
249	RIVET, BLIND	M24243/1-D504	5320-01-020-9756
250	RIVET, BLIND	M24243/1-D506	5320-00-850-3225
251	RIVET, BLIND	M24243/1-D604	5320-00-850-3233
252	RIVET, BLIND	M24243/1-D608	5320-00-850-3246
253	RIVET, BLIND	M24243/1-D610	5320-01-030-3218
254	RIVET, BLIND	M24243/1-F402	5320-00-129-9706
255	RIVET, BLIND	M24243/6-A503H	5320-00-490-2238
256	RIVET, BLIND	NAS1398C5A4	5320-00-321-2521
257	RIVET, BLIND	SD64BSLF	5320-01-397-3347
258	RIVET, BLIND	206057	5320-01-411-0081
259	RIVET, COMPRESSION	12418469	5320-01-376-0699
260	RUBBER STRIP	12412581	9320-01-399-4888
261	SCREW, CAP	12414475-131	5303-01-363-0703
262	SCREW, CAP	6V-2315	5306-01-433-4753

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
263	SCREW, SELF-LOCKING	MS16998-61L	5305-01-211-3097
264	SEAL	VC08G1R0B	5330-01-389-6109
265	SEAL	355150	5330-01-423-0689
266	SEAL ASSEMBLY, CTIS	A1205-Q-2435	5330-01-360-7753
267	SEAL ASSEMBLY, HUB	A1205-R-2254	5330-01-360-5252
268	SEAL RING, METAL	29505809	5330-01-360-5329
269	SEAL, NONMETALLIC	CC3350	
270	SEAL, NONMETALLIC	12417725	5330-01-375-2908
271	SEAL, NONMETALLIC	673267	5330-01-395-1251
272	SEAL, URETHANE FOAM	12420420-001	
273	SEAL, URETHANE FOAM	12420420-002	
274	SEAL, URETHANE FOAM	12420420-003	
275	SPLICE, CONDUCTOR	23035	5940-01-210-9261
276	SPLICE, CONDUCTOR	23075	3830-01-210-9260
277	TERMINAL, LUG	MS20659-163	5940-00-113-3145
278	TERMINAL, LUG	MS20659-164	5940-00-113-3148
279	TERMINAL, LUG	MS25036-122	5940-00-113-8190
280	WASHER, FLAT	12417948-004	5365-01-436-8308
281	WASHER, FLAT RUBBER	900.032	5330-01-378-7541
282	WASHER, KEY	TW107	5310-01-014-5136
283	WASHER, NYLON	MS51859-16	5310-01-381-9990
284	WASHER, NYLON	12421464-001	
285	WASHER, NYLON	12421464-002	
286	WASHER, SPRING	063474/1-30	5310-01-413-8475
287	WASHER, SPRING	110 7289	5310-01-246-1387
288	WASHER, SPRING	12414559-021	5310-01-374-4517
289	WASHER, SPRING	12414560-009	5310-01-333-5517
290	WASHER, SPRING	12414560-011	5310-01-421-9556
291	WASHER, SPRING	12414560-017	5310-01-395-0820
292	WASHER, SPRING	12414560-018	5310-01-381-3281
293	WASHER, SPRING	12414560-019	5310-01-369-6074

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
294	WASHER, SPRING	12417503	5310-01-406-6326
295	WASHER, SPRING	12418220	5310-01-372-3495
296	WASHER, SPRING	128BSTM4	5310-01-333-5517

APPENDIX H LUBRICATION ORDER

SECTION I. INTRODUCTION

H-1. GENERAL

The information contained in this appendix provides the lubrication requirements for the MTV vehicle.

- a. Adherence.** Intervals (on-condition or hardtime) and the related man-hour times are based on normal operation. The man-hour time specified is the time needed to do all the services prescribed for a particular interval. On-condition (OC) oil sample intervals will be applied unless changed by the Army Oil Analysis Program (AOAP) laboratory. Change the hardtime interval if the lubricants are contaminated or if operating the equipment under adverse operating conditions, including longer-than-usual operating hours. The calendar interval may be extended during periods of low activity. If extended, adequate preservation precautions must be taken. Hardtime intervals will be applied in the event AOAP laboratory support is not available. Hardtime intervals must be applied during the warranty period.

Intervals shown in this lubrication order are based on mileage/calendar, and in some cases mileage alone. An example of a mileage/calendar interval is: Q, which means every 3,000 miles (4,827 km) or quarterly (every three months). The lubrication is to be performed at whichever interval occurs first for the vehicle. An example of a mileage alone interval is: **6K**, which stands for every 6,000 miles (9,654 km). The lubrication is to be performed at the mileage indicated regardless of the calendar interval.

WARNING

- **Dry Cleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well-ventilated area; avoid contact with skin, eyes, and clothes, and do not breath vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint for Type I Dry Cleaning Solvent is 100°F (38°C) and for Type II is 138°F (50°C). Failure to comply may result in serious injury or death to personnel.**
 - **If personnel become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts skin or clothes, flush with cold water. If solvent contacts eyes, immediately flush eyes with water and get medical attention. Failure to comply may result in injury to personnel.**
- b. Cleaning fittings before lubricating.** Clean parts with dry cleaning solvent (SD P-D-680) (Item 65, Appendix D) or equivalent. Dry before lubricating. Dashed arrows indicate lubrication on both sides of the equipment.
- c. Lubricating after fording.** If fording occurs, lubricate all fittings below fording depth and check submerged gearboxes for presence of water.
- d. Lubricating after high-pressure washing.** After a thorough washing, lubricate all grease fittings and oil can points outside and underneath vehicle.
- e. Level of Maintenance.** The lowest level of maintenance authorized to lubricate a point is Operator/Unit Maintenance (O). Operator/crew (C) may lubricate points authorized for Unit Maintenance (O) when authorized by Unit Maintenance (O).
- f. Localized views.** A reference to the appropriate localized view is given after most lubrication entries. Localized views begin on page H-13.

H-1. GENERAL (CONT)

g. Interval Symbols. The lubrications interval symbols will be used as applicable:

- Q-quarterly/3,000 mi (4,827 km) (whichever occurs first)
- S-semiannually/6,000 mi (9,654 km) (whichever occurs first)
- A-annually/12,000 mi (19,308 km) (whichever occurs first)
- B-biannually/24,000 mi (38,616 km) (whichever occurs first)
- 3K-every 3,000 mi (4,827 km) (no calendar interval)
- 6K-every 6,000 mi (9,654 km) (no calendar interval)
- 12K-every 12,000 mi (19,308 km) (no calendar interval)
- 24K-every 24,000 mi (38,616 km) (no calendar interval)

H-2. OIL FILTERS

Oil filters shall be serviced/changed as applicable, when:

- a. They are known to be contaminated, or clogged;
- b. Service is recommended by AOAP laboratory analysis; or
- c. At prescribed hardtime intervals while vehicle is under warranty, or if AOAP is not available/used as required.

H-3. AOAP SAMPLING INTERVAL

WARNING

- **Engine oil is hot and under pressure. The oil sampling valve releases oil proportionally to the amount of pressure applied to valve. Activate oil sampling valve by pressing in slowly to prevent injury to personnel. Failure to comply may result in injury to personnel.**
- **Wear safety goggles when taking oil sample. Oil is under pressure and could cause injury to personnel. Failure to comply may result in injury to personnel.**

Engine/transmission oil must be sampled every 90 days as prescribed by DA Pam 738-750. Hydraulic fluids must be sampled annually as prescribed by DA Pam 738-750.

H-4. WARRANTY HARDTIME STATEMENT

“For equipment under manufacturer’s warranty, hardtime oil service intervals shall be followed. Intervals shall be shortened if lubricants are known to be contaminated or if operation is under adverse conditions (such as longer than usual operating hours, extended idling periods, extreme dust).”

SECTION II. LUBRICATION CHART

H-5. LUBRICATION KEY

LUBRICANTS	
Specification	Type
MIL-L-2104 (OE/HDO)	Lubricating Oil, Internal Combustion Engine, Combat/Tactical Service
MIL-L-46167 (OEA)	Lubricating Oil, Internal Combustion Engine, Arctic
MIL-L-2105 (GO)	Lubricating Oil, Gear, Multipurpose
MIL-G-10924 (GAA)	Grease, Automotive and Artillery
MIL-G-18458 (GW)	Grease, Wire-Rope and Exposed Gear
MIL-H-5606 (OHA)	Hydraulic Fluid, Petroleum Base, Aircraft, Missile, and Ordnance

DESCRIPTION	CAPACITY	EXPECTED TEMPERATURES		
		Above +40°F (Above +4°C)	+40°F to -15°F (+4°C to -26°C)	-15°F to -50°F (-26°C to -46°C)
Engine crankcase	25 qt (24 L)	OE/HDO-15/40	SAE 10W30 OR OE/HDO-10	OEA
Transmission (total system) (all models except M1088 and M1089)	49.3 qt (46.7 L)	OE/HDO-15/40	OE/HDO-10	OEA
Transmission (at oil change) (all models except M1088 and M1089)	36.8 qt (34.7 L)	OE/HDO-15/40	OE/HDO-10	OEA
Transmission (total system) (M1088 and M1089)	58.6 qt (55.4 L)	OE/HDO-15/40	OE/HDO-10	OEA
Transmission (at oil change) (M1088 and M1089)	31.8 qt (30.0 L)	OE/HDO-15/40	OE/HDO-10	OEA
Transmission (after overhaul)	39.0 qt (37.0 L)	OE/HDO-15/40	OE/HDO-10	OEA
Steering system	5 qt (4.8 L)	OE/HDO-10	OE/HDO-10	OEA
Hydraulic reservoir (except M1089)	27 gal (102.2 L)	OE/HDO-10	OE/HDO-10	OEA
Hydraulic tank (M1089)	74 gal (280 L)	OE/HDO-10	OE/HDO-10	OEA
Front axle differential (maximum capacity)	9.5 qt (9 L)	GO-80/90	GO-80/90	SAE 75W90 OR GO-75
Intermediate axle differential (maximum capacity)	14.7 qt (13.9 L)	GO-80/90	GO-80/90	SAE 75W90 OR GO-75
Rear axle differential (maximum capacity)	12.15 qt (11.5 L)	GO-80/90	GO-80/90	SAE 75W90 OR GO-75
Front axle planetary hubs	11-13 oz (0.33-0.38 L)	GO-80/90	GO-80/90	SAE 75W90 OR GO-75

H-5. LUBRICATION KEY (CONT)

DESCRIPTION	CAPACITY	EXPECTED TEMPERATURES		
		Above +40°F (Above +4°C)	+40°F to -15°F (+4°C to -26°C)	-15°F to -50°F (-26°C to -46°C)
Rear axle bogie	0.5 qt (0.5 L)	GO-85/140	GO-85/140	GO-85/140
15K Self-Recovery Winch (SRW)	As Required	GO-85/140	GO-80/90	GO-75
30K winches	As Required	GO-85/140	GO-80/90	GO-75
Propeller shaft universal and slip joints	As Required	GAA	GAA	GAA
Tie rod ends	As Required	GAA	GAA	GAA
Towing pintle assembly	As Required	GAA	GAA	GAA
Fifth wheel	As Required	GAA	GAA	GAA
Spring bolts and spring shackles	As Required	GAA	GAA	GAA
Front axle shaft U-joints and steering knuckles	As Required	GAA	GAA	GAA
Front axle inner wheel bearing	As Required	GAA	GAA	GAA
Intermediate axle inner wheel bearing	As Required	GAA	GAA	GAA
Rear axle inner wheel bearing	As Required	GAA	GAA	GAA
Front lifting beam	As Required	GAA	GAA	GAA
15K Self-Recovery Winch (SRW) cable	As Required	GW	GW	GW
30K winch cables	As Required	GW	GW	GW
Air/hydraulic power unit	3 pt (1.4 L)	OHA	OHA	OHA
Backup hydraulic pump	19 oz (562 ml)	OHA	OHA	OHA

COOLANT	
Specification	Type
MIL-A-46153	Antifreeze, Ethylene Glycol, Inhibited, Heavy Duty, Single Package
MIL-A-11755	Antifreeze, Arctic-Type

DESCRIPTION	CAPACITY	EXPECTED TEMPERATURES		
		Above +40°F (Above +4°C)	+40°F to -15°F (+4°C to -26°C)	-15°F to -50°F (-26°C to -46°C)
Cooling system (engine only)	14 qt (13 L)	MIL-A-46153	MIL-A-46153	
Cooling system (total system)	50.3 qt (47.6 L)	MIL-A-46153	MIL-A-46153	N/A
Cooling system (total system) (M1088, M1089)	52.8 qt (49.9 L)	MIL-A-46153	MIL-A-46153	N/A
Cooling system, Arctic (total system)	64.8 qt (61.3 L)	N/A	N/A	MIL-A-11755
Cooling system, Arctic (total system) (M1088, M1089)	76.5 qt (72.4 L)	N/A	N/A	MIL-A-11755

CLEANING AGENT	
Specification	Type
P-D-680	Dry Cleaning Solvent, SD-II
O-C-1901	Cleaning Compound, Windshield

DESCRIPTION	CAPACITY	EXPECTED TEMPERATURES		
		Above + 15°F (Above -9°C)	+ 15°F to -15°F (-9°C to -26°C)	-15°F to -50°F (-26°C to -46°C)
All metal parts as required	N/A	SD-II (all temperatures)		
Windshield washer reservoir	7.5 qt (7.1 L)	2/3 water to 1/3 O-C-1901	1/2 water to 1/2 O-C-1901	1/3 water to 2/3 O-C-1901

For arctic operation refer to FM 9-207.

H-6. LUBRICATION INTERVALS

Intervals		Total Man-Hours
Quarterly (Q)	Lubrication performed once every three months or 3,000 mi. (4,827 km).*	2.0
Semi-annually (S)	Lubrication performed once every six months or 6,000 mi. (9,654 km).*	6.0
Annually (A)	Lubrication performed once every year or every 12,000 mi. (19,308 km).*	1.5
Bi-annually (B)	Lubrication performed once every two years or every 24,000 mi. (38,616 km).*	3.5
3K	Lubrication performed once every 3,000 mi. (4,827 km).**	1.0
6K	Lubrication performed once every 6,000 mi. (9,654 km).**	1.0
12K	Lubrication performed once every 12,000 mi. (19,308 km).**	6.5
24K	Lubrication performed once every 24,000 mi. (38,616 km).**	0.5
* Whichever occurs first.		
** No calendar interval.		

H-7. LUBRICATION LOCATOR VIEWS

LUBRICANT INTERVAL

INTERVAL LUBRICANT

Engine Crankcase Breather (O)
(See note 17 and view A)

Fuel Filter (O)
(See note 6 and view A)

Fuel/Water Separator (O)
(See note 5 and view B)

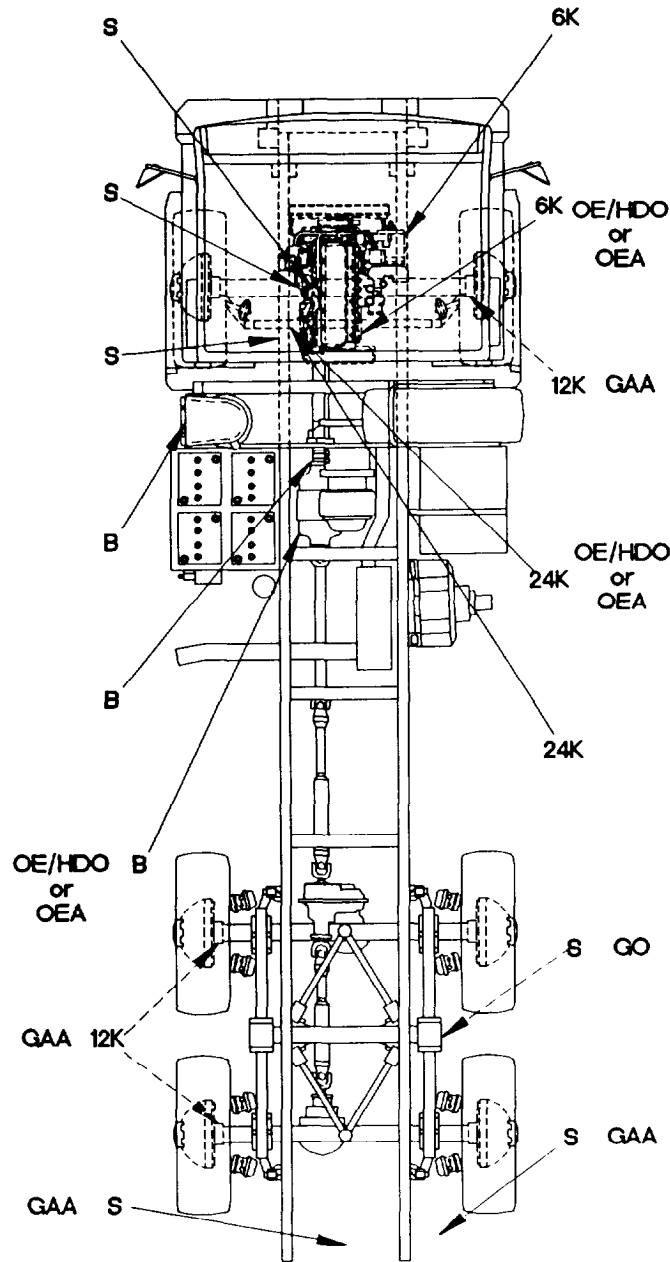
Cooling System (O)
(See note 7)

Transmission Filter (O)
(See note 3 and view F)

Transmission Drain and Fill (O)
(See note 3 and views D, E, and F)

Intermediate Axle and Rear Axle Inner Wheel Bearing Repack (O)
(See note 27)

Towing Pintle Fill (O)
(See note 16 and views J and K)



Engine Oil Filter (O)
(See note 2 and view C)

Crankcase Drain and Fill (O)
(See note 1 and views C and D)

Front Axle Inner Wheel Bearing Repack (O)
(See note 27)

Power Steering Reservoir Drain and Fill (O)
(See note 4 and view G)

Power Steering Filter (O)
(See note 4 and view G)

Rear Axle Bogie Drain and Fill (O)
(See note 28 and view AG)

15K Self-Recovery Winch (SRW) Cable Rear Roller Fairlead Fill (O)
(See note 29 and views AE and AF)

4APPH011

CHASSIS

NOTE: Dashed arrows indicate lubrication on both sides of vehicle.

LUBRICANT INTERVAL

INTERVAL LUBRICANT

Spring Shackles
Fill (O)
(See note 18 and view I)

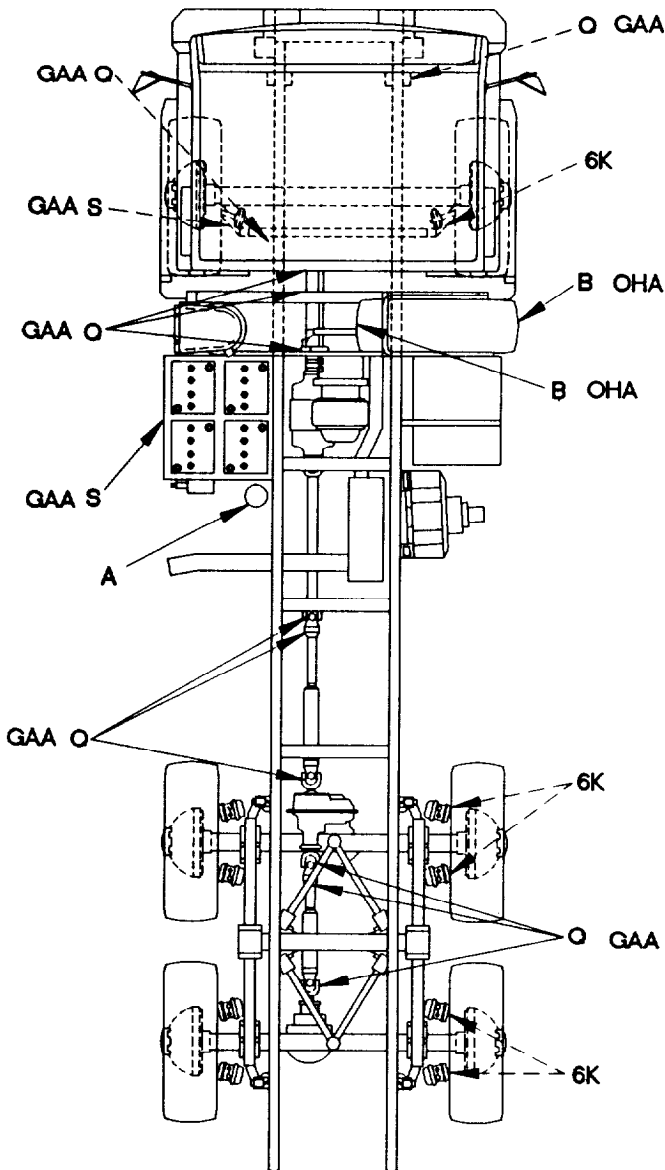
Tie Rod Ends
Fill (O)
(See note 13 and view N)

Universal and Slip Joints
Fill (O)
(See note 9 and view P)

Battery Posts (O)
(See note 19 and view Q)

Air Dryer (O)
(See note 37 and view BB)

Universal and Slip Joints
Fill (O)
(See note 9 and view P)



Spring Bolt
Fill (O)
(See note 18 and view H)

Brake Wedge and Air Chamber (O)
(See note 21 and view L)

Backup Hydraulic Pump Drain and Fill (O)
(See note 10 and view R)

Air/Hydraulic Power Unit Drain and Fill (O)
(See note 10 and view S)

Brake Wedge and Air Chamber (O)
(See note 21 and view M)

Universal Joint and Slip Joints
Fill (O)
(See note 9 and view P)

Brake Wedge and Air Chamber (O)
(See note 21 and view M)

4APPH021

CHASSIS

NOTE: Dashed arrows indicate lubrication on both sides of vehicle.

H-7. LUBRICATION LOCATOR VIEWS (CONT)

LUBRICANT INTERVAL

INTERVAL LUBRICANT

Front Axle
Check and Fill (O)
 (See note 11 and view T)

Axle Shaft U-Joints
Fill (O)
 (See note 20 and view U)

Steering Knuckles
Fill (O)
 (See note 20 and view U)

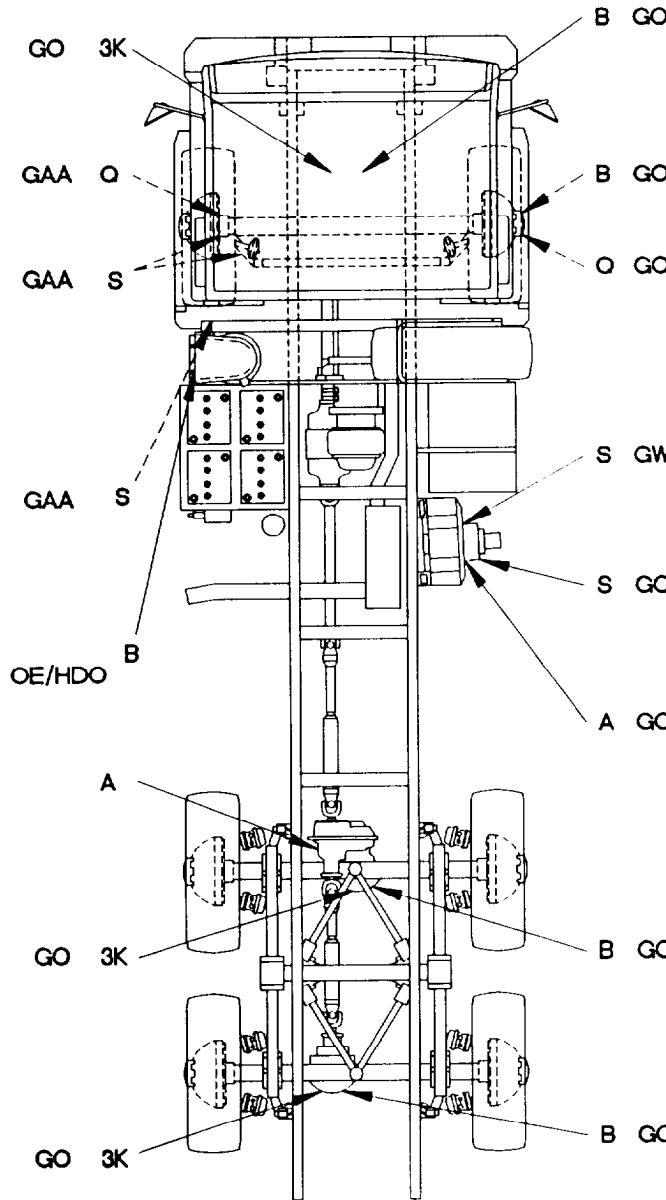
Front Lifting Beam
Clean and Fill (O)
 (See note 36 and view AI)

Hydraulic Reservoir and Filter
Drain and Fill (O)
 (See note 8 and view X)

Intermediate Axle Screen and Plug Oil Filter Assembly
Clean (O)
 (See note 31 and view AH)

Intermediate Axle
Check and Fill (O)
 (See note 11 and view T)

Rear Axle
Check and Fill (O)
 (See note 11 and view T)



Front Axle
Drain and Fill (O)
 (See note 11 and view T)

Wheel End Planetary Hubs
Drain and Fill (O)
 (See note 12 and view V)

Wheel End Planetary Hubs
Check and Fill (O)
 (See note 12 and view V)

15K Self-Recovery Winch (SRW) Cable
Fill (O)
 (See note 14 and view W)

15K Self-Recovery Winch (SRW)
Check and Fill (O)
 (See note 15 and view Y)

15K Self-Recovery Winch (SRW)
Drain and Fill (O)
 (See note 15 and view Y)

Intermediate Axle
Drain and Fill (O)
 (See note 11 and view T)

Rear Axle
Drain and Fill (O)
 (See note 11 and view T)

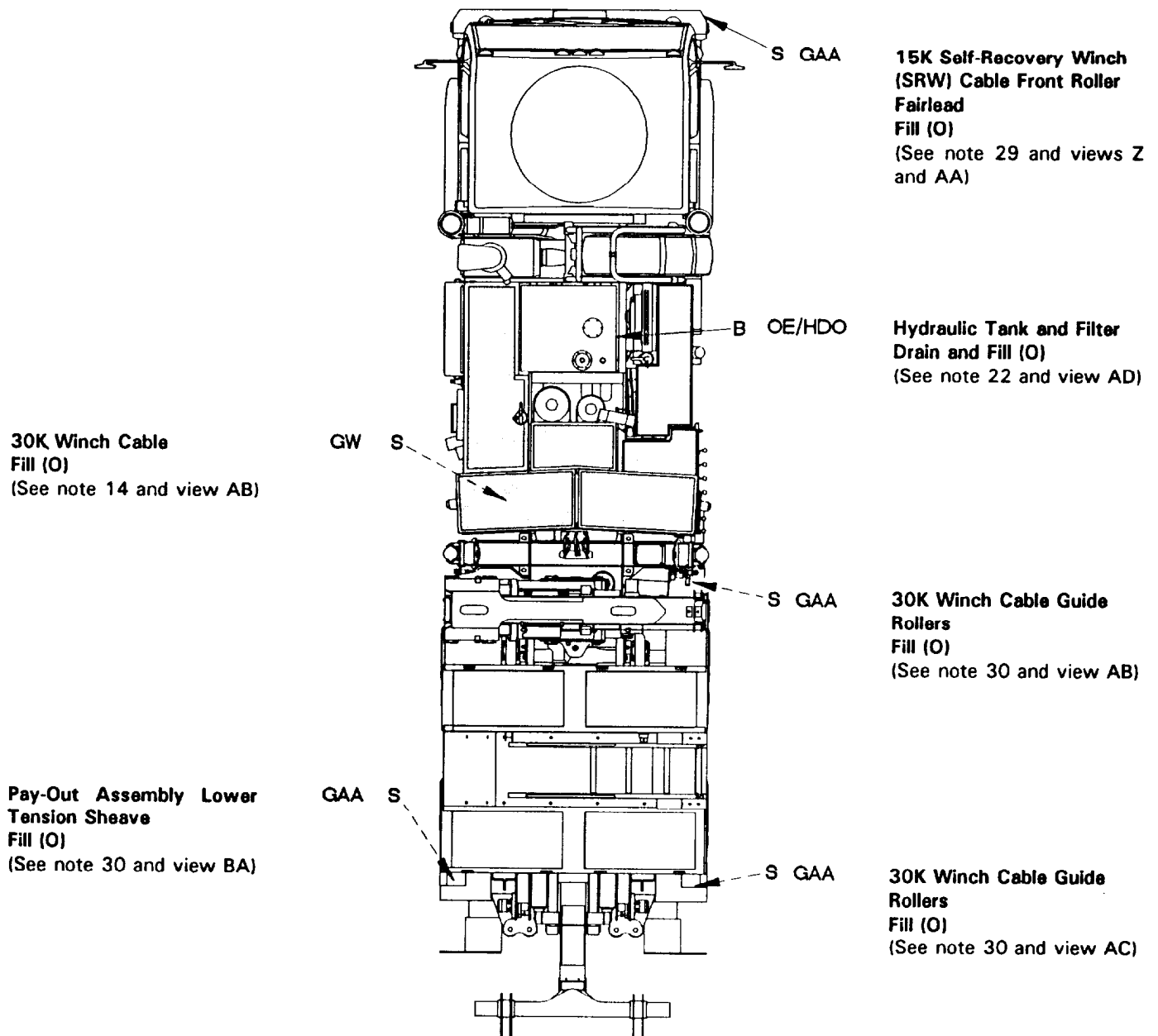
CHASSIS

NOTE: Dashed arrows indicate lubrication on both sides of vehicle.

4APPH031

LUBRICANT INTERVAL

INTERVAL LUBRICANT



4APPH04A

M1089

NOTE: Dashed arrows indicate lubrication on both sides of vehicle.

H-7. LUBRICATION LOCATOR VIEWS (CONT)

LUBRICANT INTERVAL

INTERVAL LUBRICANT

Erection Cylinder and Tension Link Pivots
Fill (O)
(See note 34 and view AL)

Lift Cylinder Pivots
Fill (O)
(See note 34 and view AJ)

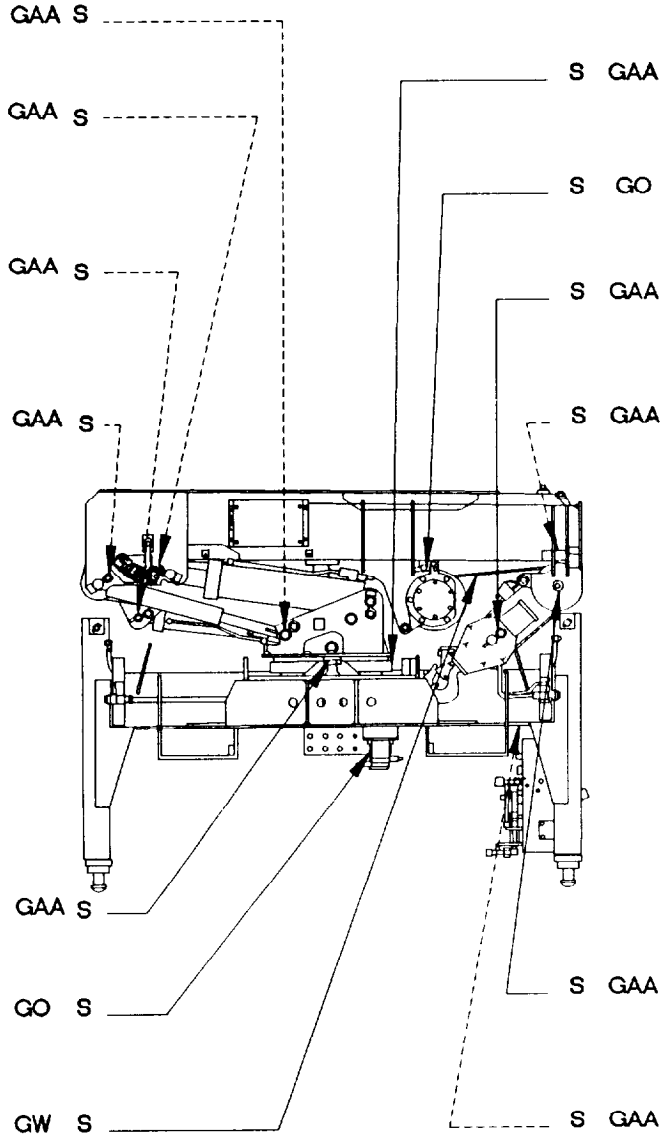
Erection Cylinder Pivots
Fill (O)
(See note 34 and view AK)

Tension Link Pivots
Fill
(See note 34 and view AL)

Turntable Bearing
Fill (O)
(See note 32 and view AP)

Turntable Gearbox
Check and Fill (O)
(See note 25 and view AQ)

Hoist Cable
Fill (O)
(See note 14)



Turntable Bearing and Pinion Gear Teeth
Fill (O)
(See note 26 and view AM)

Hoist Check and Fill (O)
(See note 24 and view AN)

Hook Block Sheave
Fill (O)
(See note 34 and view AO)

Boom Wear Pads
Fill (O)
(See note 23)

Boom Sheave
Fill (O)
(See note 34 and view AR)

Top and Bottom Plate
Fill (O)
(See note 33)

4APP05A

M1089 MATERIAL HANDLING CRANE (MHC)

NOTE: Dashed arrows indicate lubrication on both sides of vehicle.

LUBRICANT INTERVAL

INTERVAL LUBRICANT

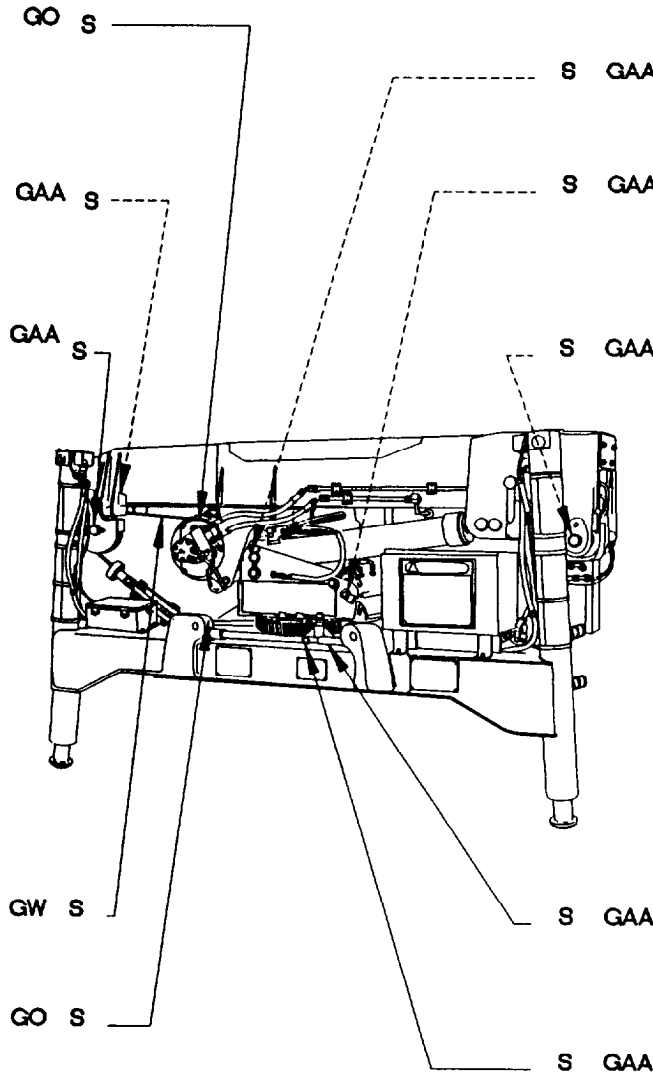
Holst
Check and Fill (O)
 (See note 24 and view AS)

Boom Wear Pads
Fill (O)
 (See note 23)

Boom Sheave
Fill (O)
 (See note 34 and view AT)

Holst Cable
Fill (O)
 (See note 14)

Turntable Gearbox
Check and Fill (O)
 (See note 25 and view AU)



Lift Cylinder Pivots
Fill (O)
 (See note 34 and view AV)

Erection Cylinder and Tension Link Pivots
Fill (O)
 (See note 34 and view AW)

Erection Cylinder and Tension Link Pivots
Fill (O)
 (See note 34 and view AX)

Turntable Bearing and Pinion Gear Teeth
Fill (O)
 (See note 26 and view AY)

Turntable Bearing
Fill (O)
 (See note 32 and view AZ)

4APP06A

M1084/M1086 MATERIAL HANDLING CRANE (MHC)

NOTE: Dashed arrows indicate lubrication on both sides of vehicle.

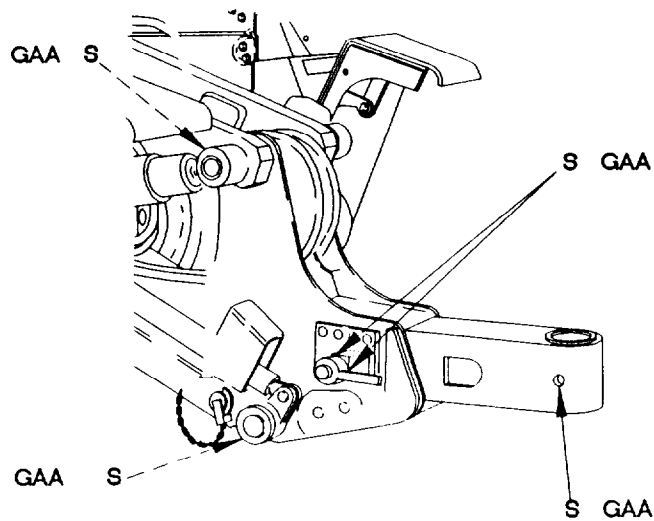
H-7. LUBRICATION LOCATOR VIEWS (CONT)

LUBRICANT INTERVAL

INTERVAL LUBRICANT

**Left and Right Lift Cylinder
Pivots
Fill (O)
(See note 35)**

**Left and Right Lower Arm
Pivots
Fill (O)
(See note 35)**



**Camlock Assembly
Fill (O)
(See note 35)**

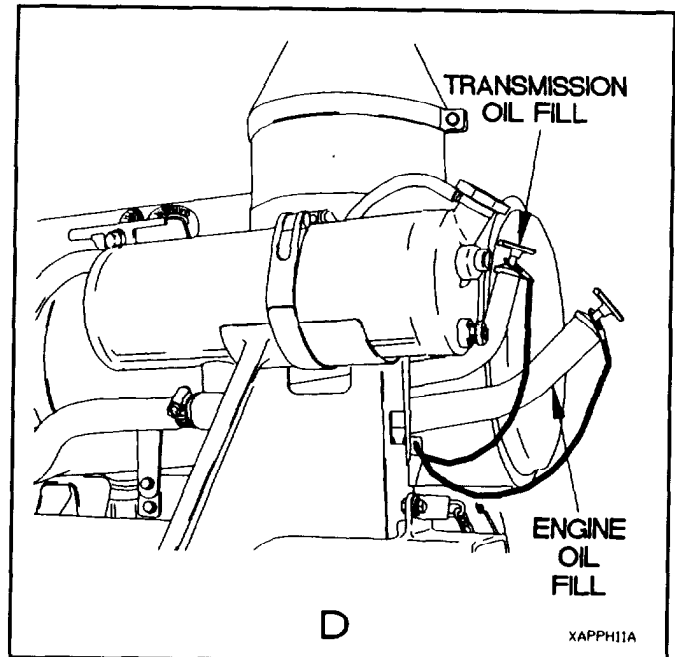
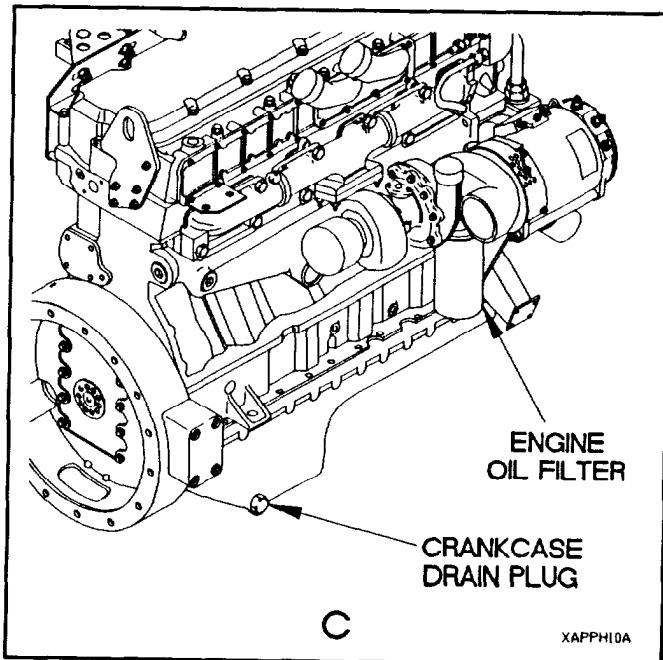
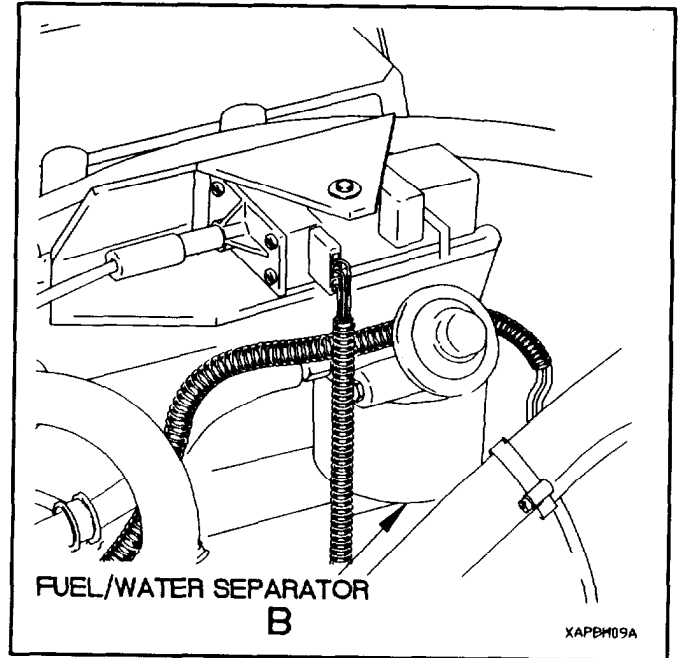
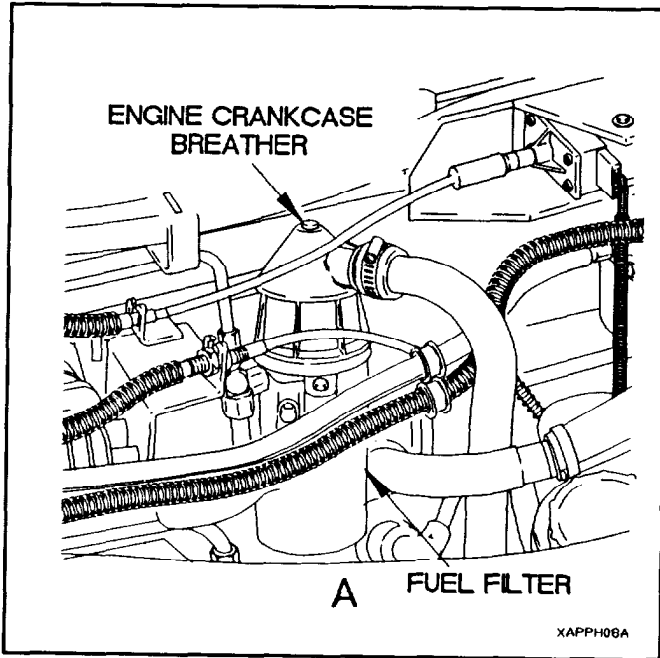
**Crossbar Bushing
Fill (O)
(See note 35)**

4APP407A

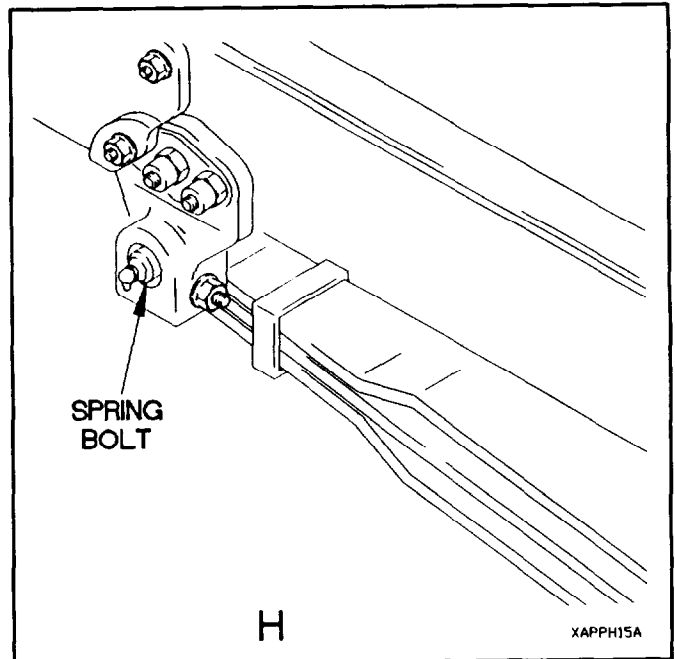
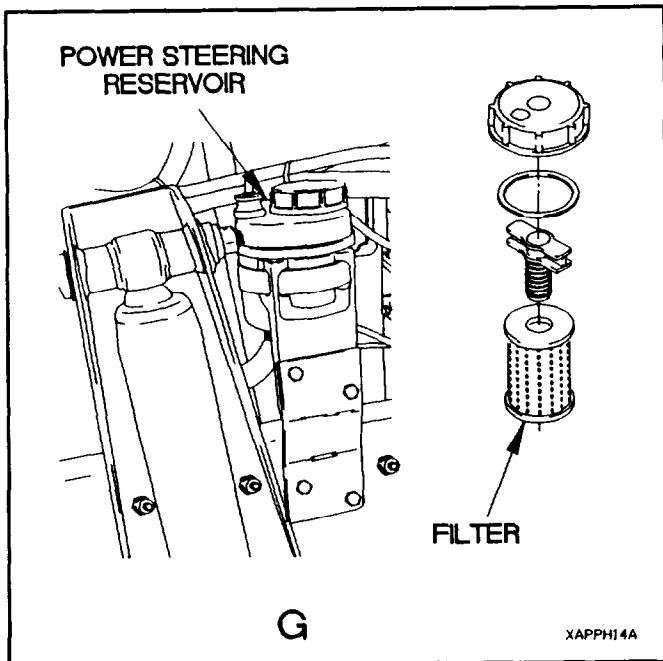
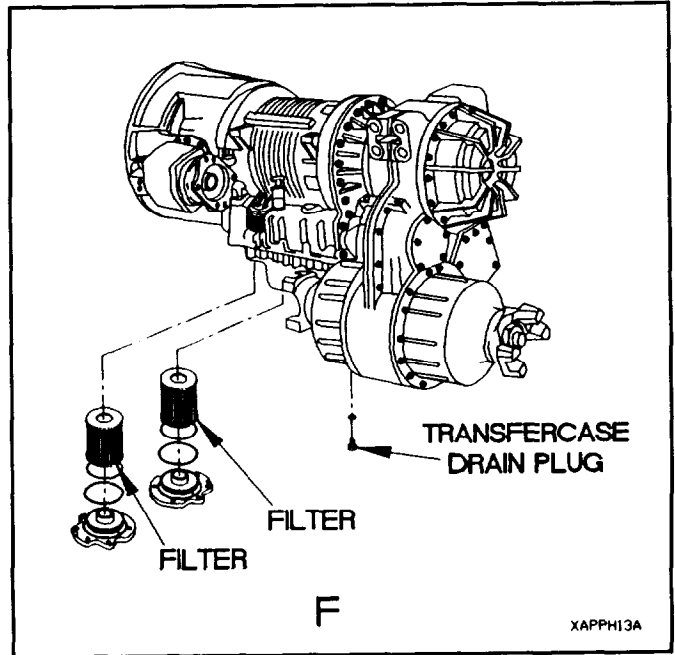
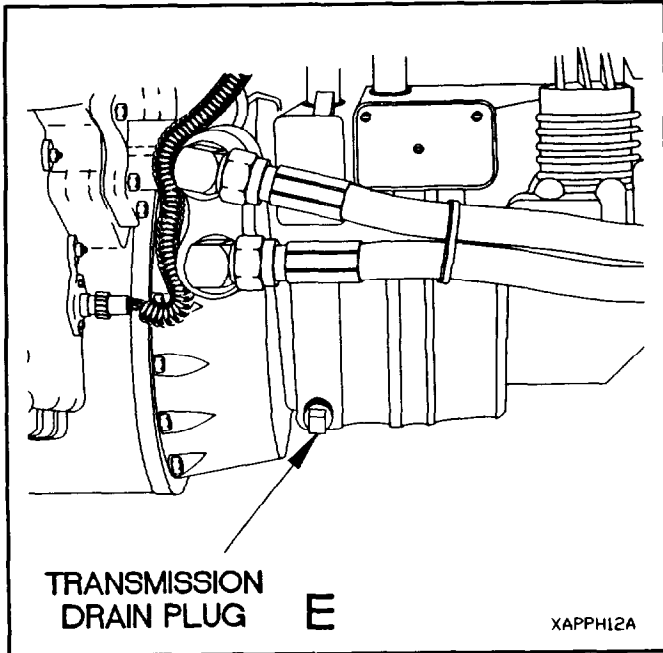
M1089 UNDERLIFT ASSEMBLY

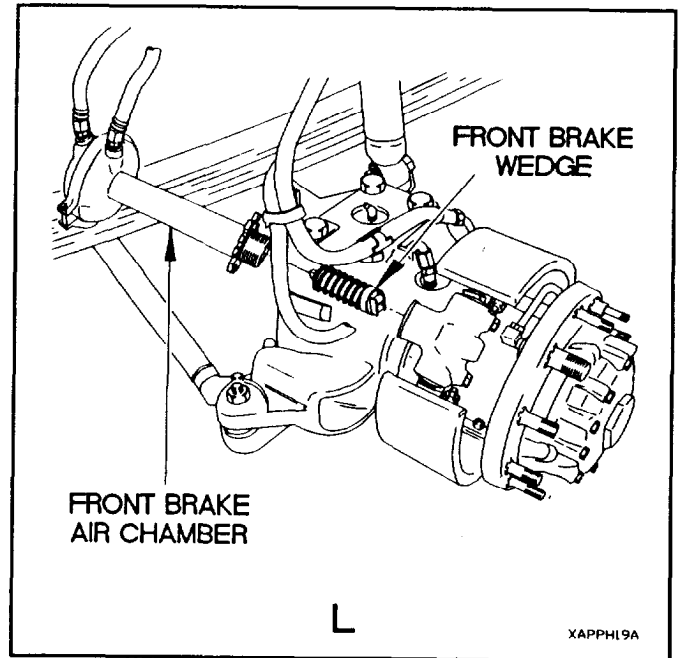
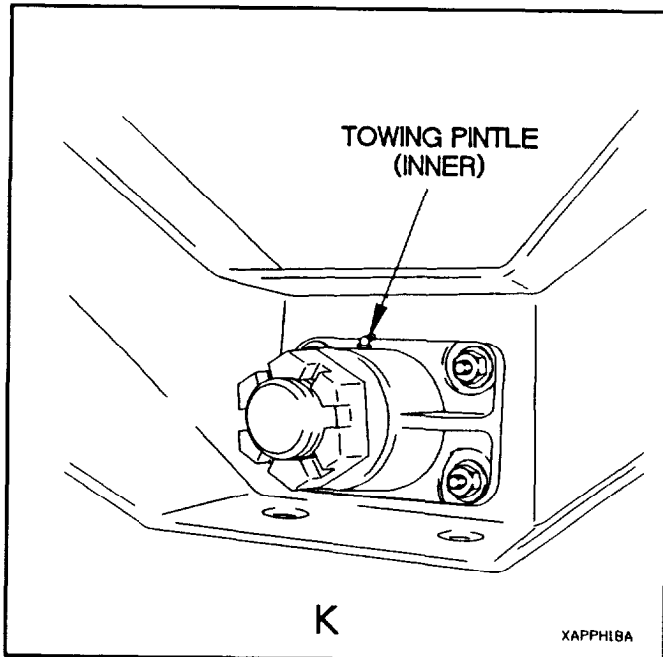
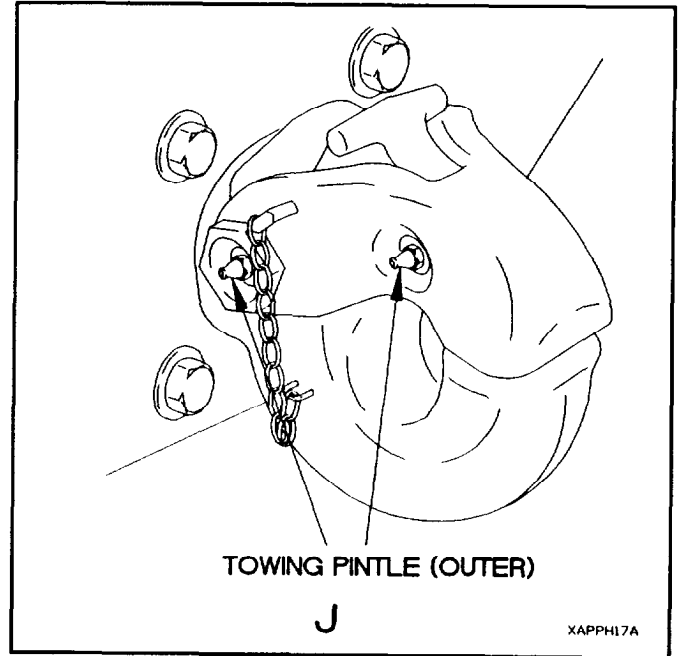
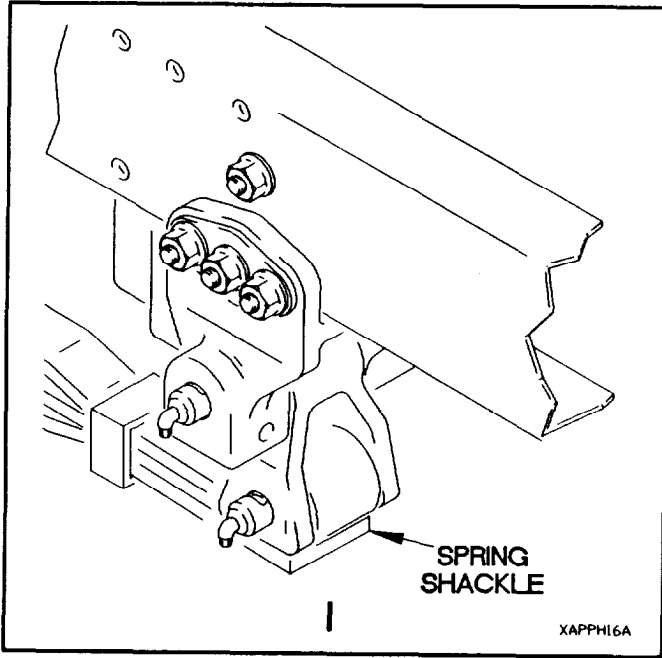
NOTE: Dashed arrows indicate lubrication on both sides of vehicle.

H-8. LUBRICATION LOCAL VIEWS

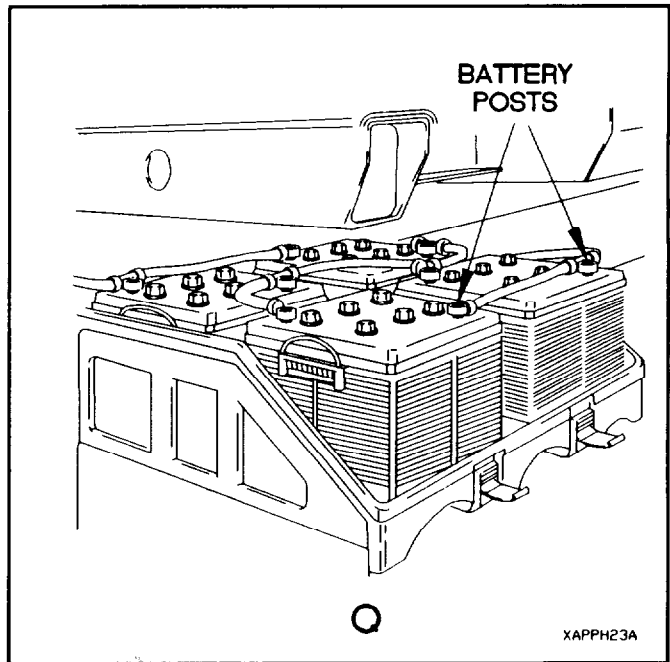
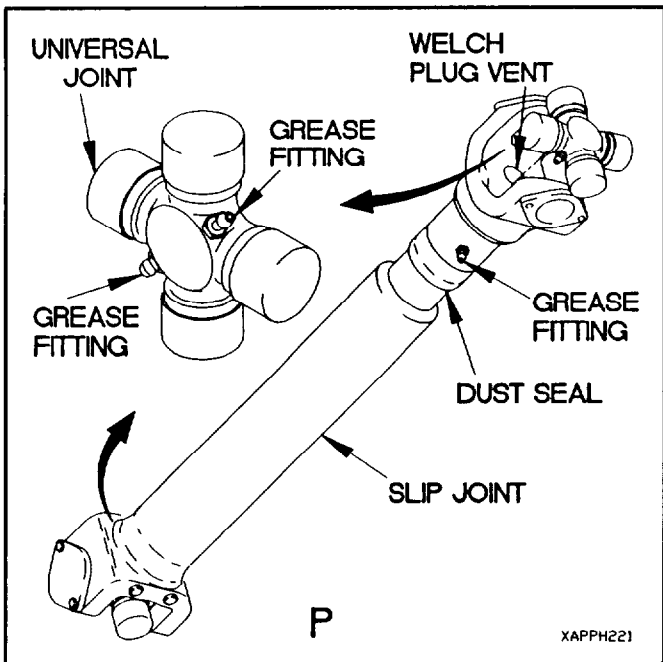
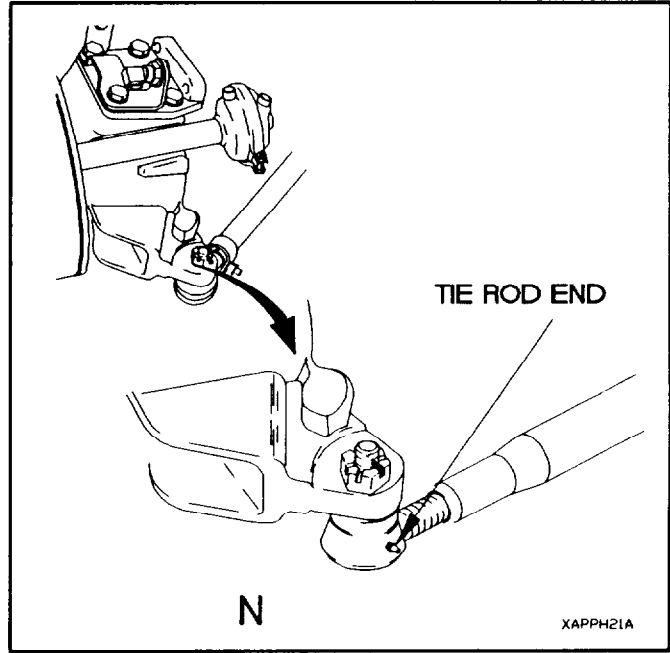
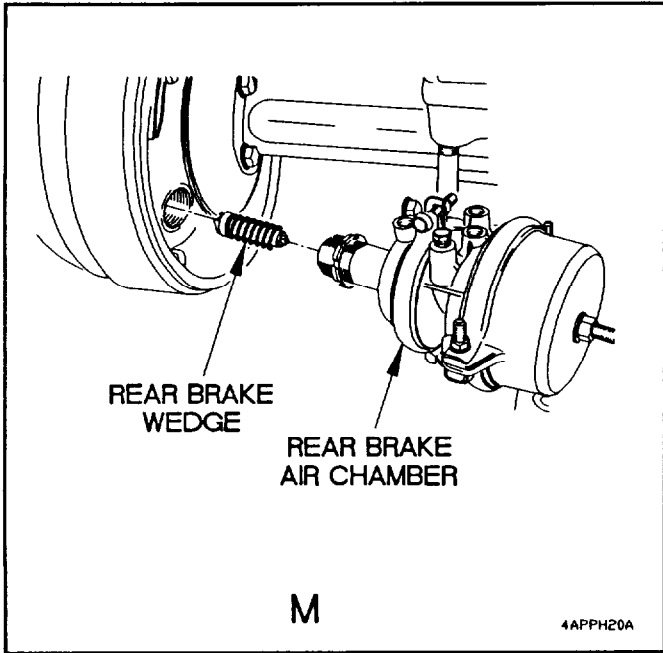


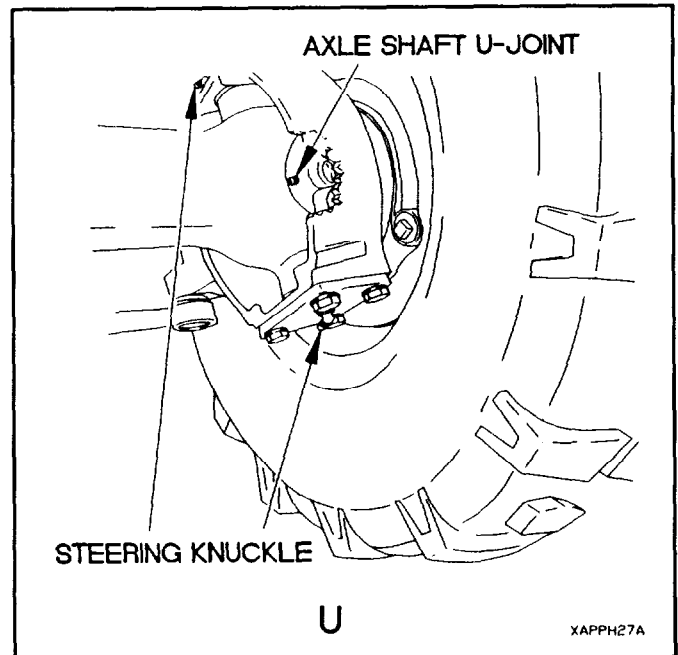
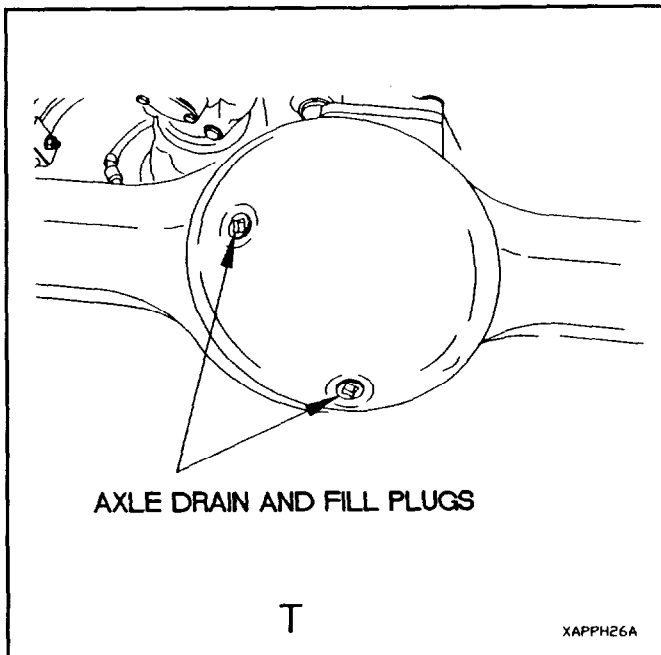
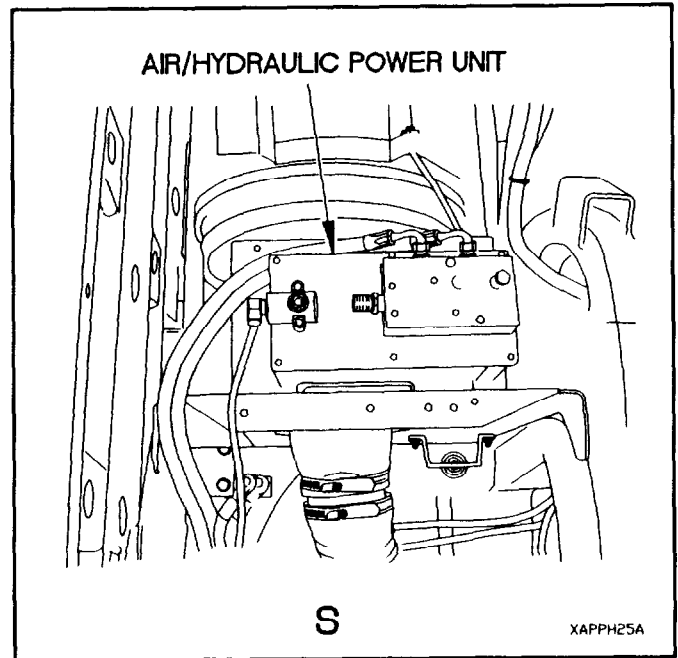
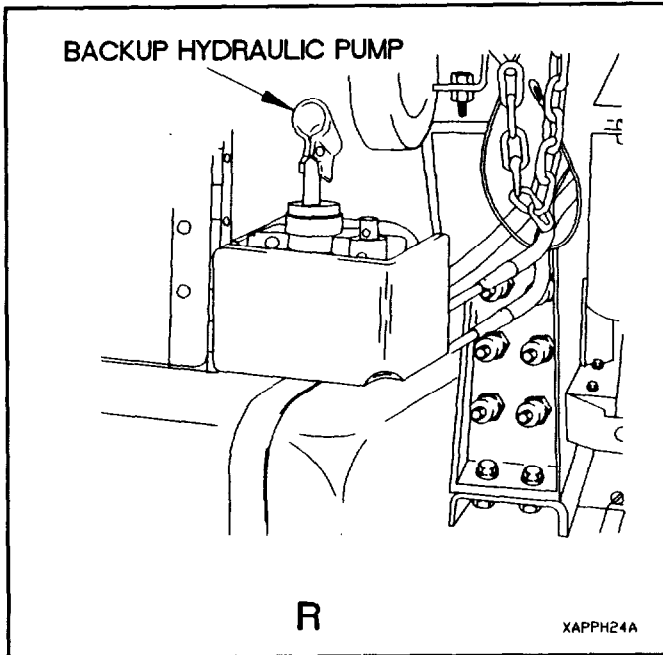
H-8. LUBRICATION LOCAL VIEWS (CONT)



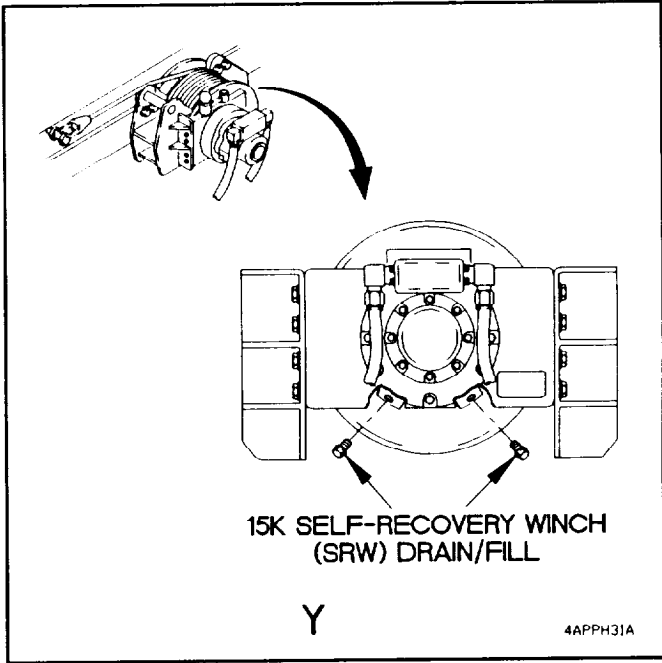
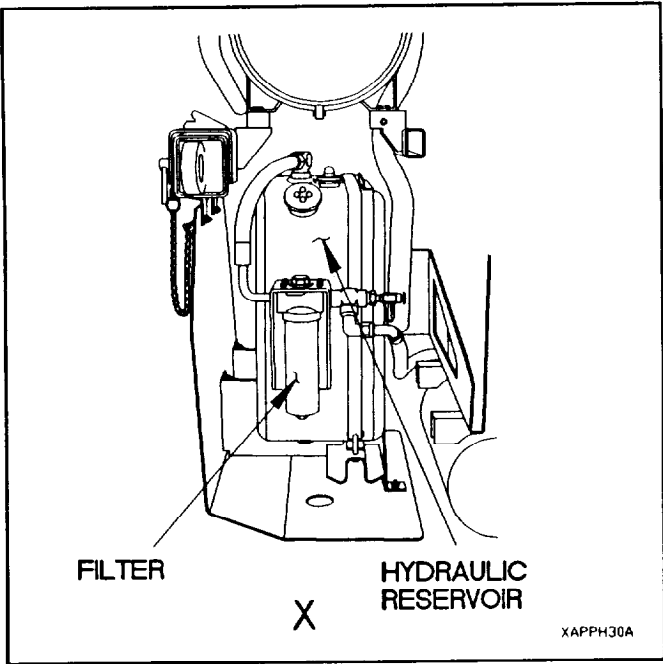
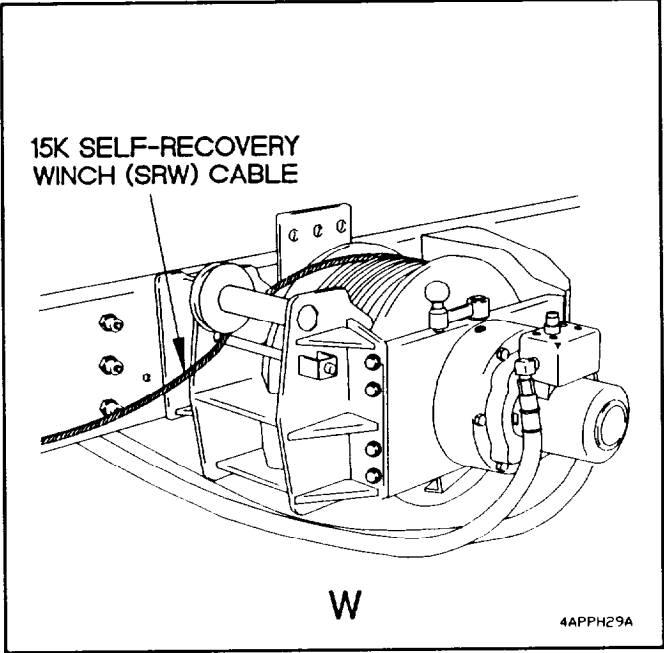
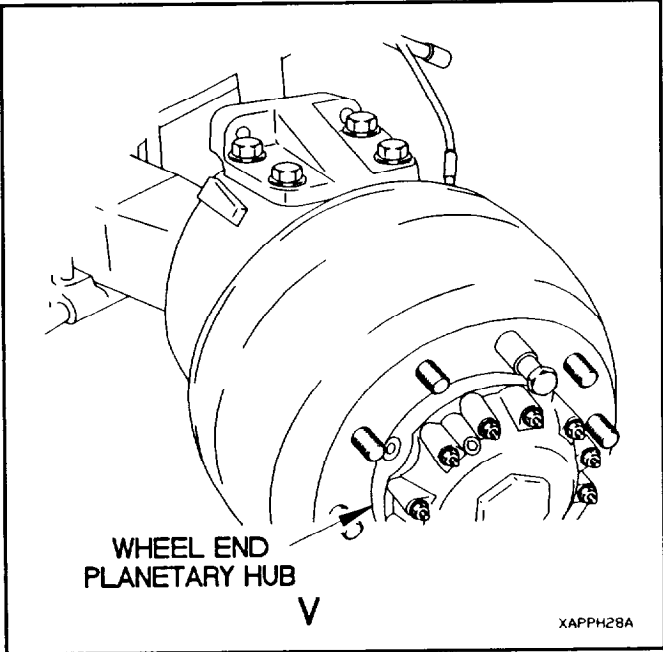


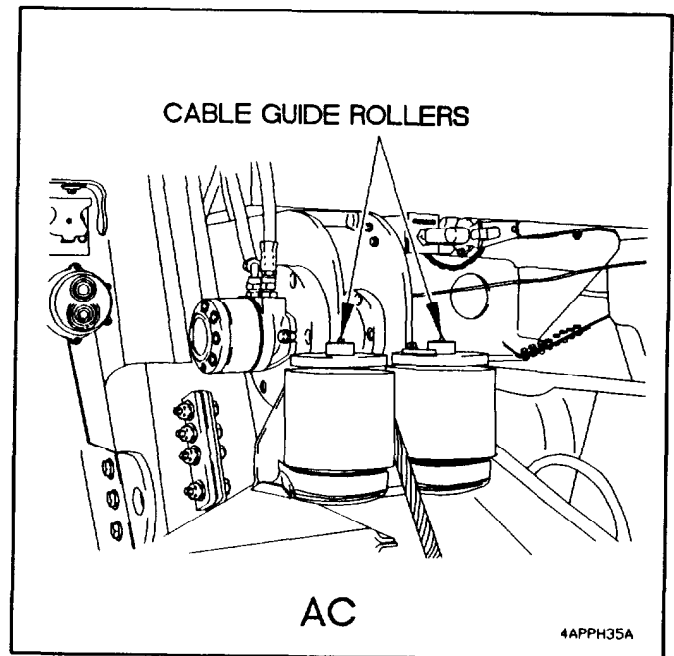
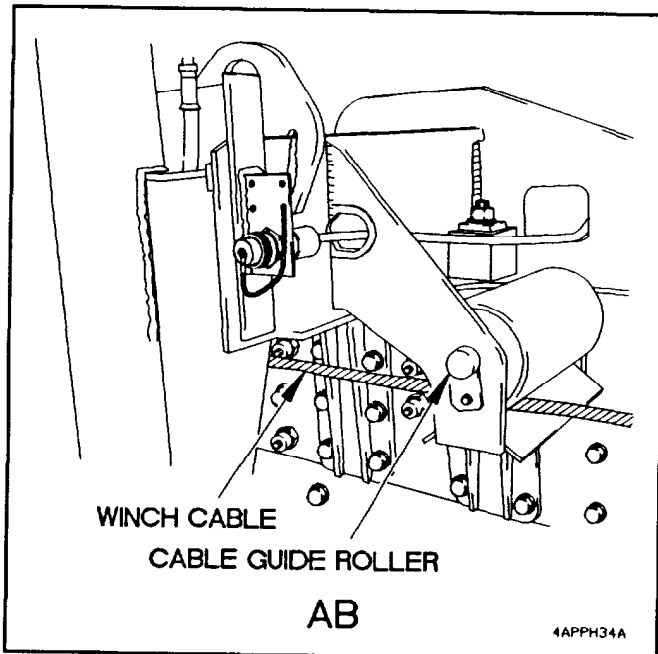
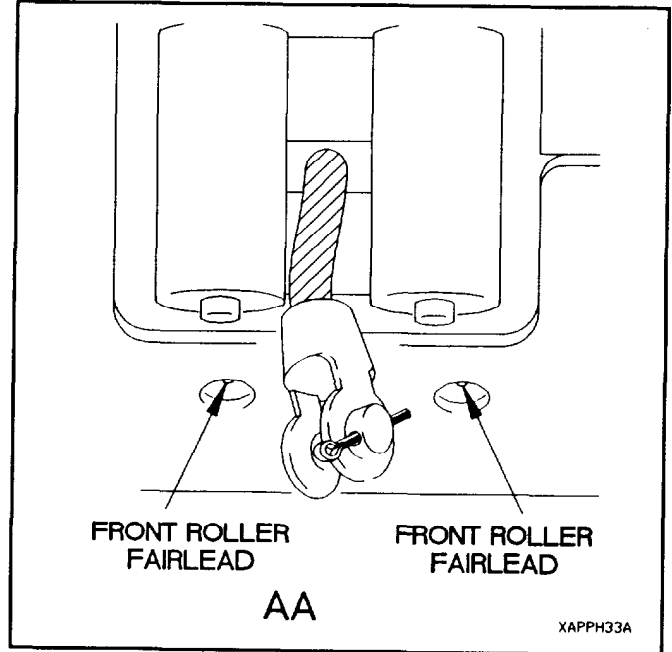
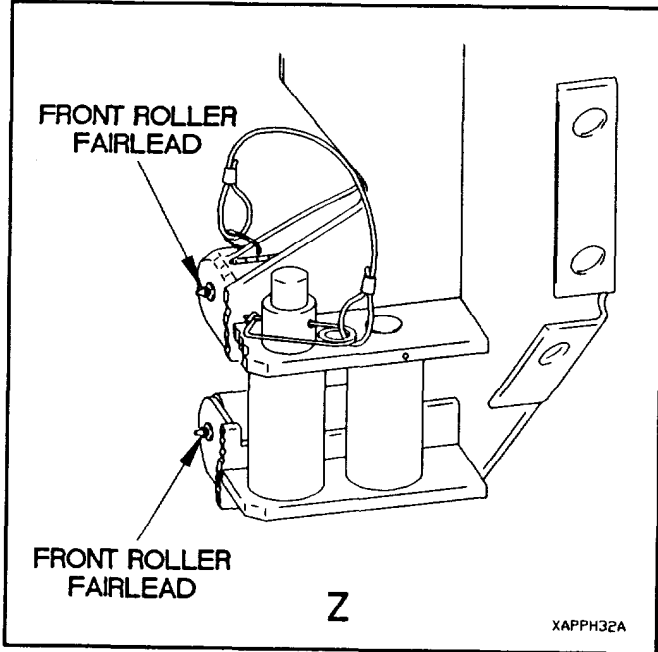
H-8. LUBRICATION LOCAL VIEWS (CONT)



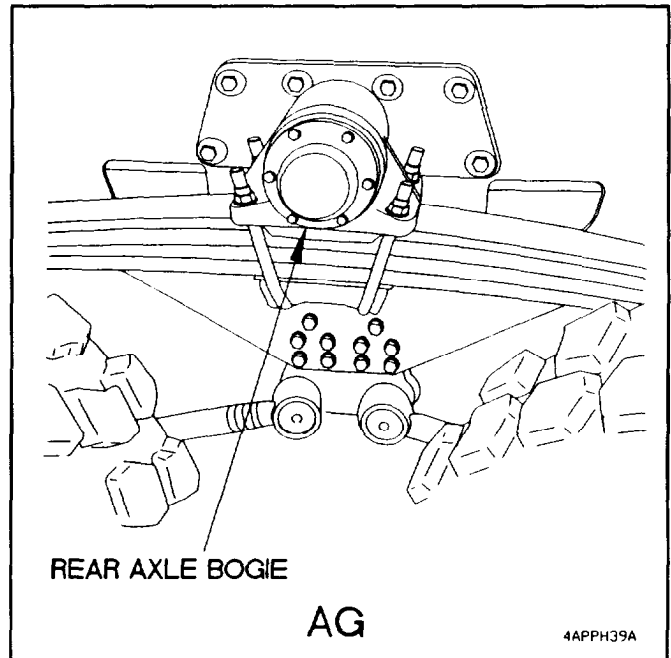
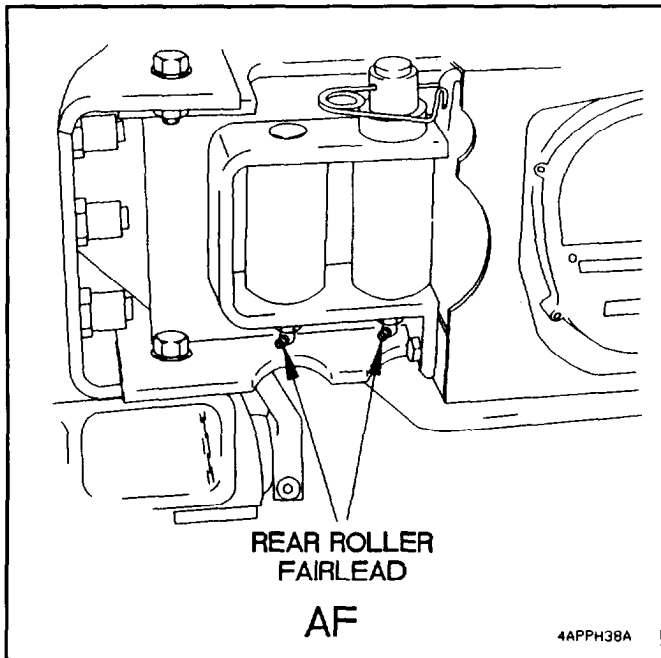
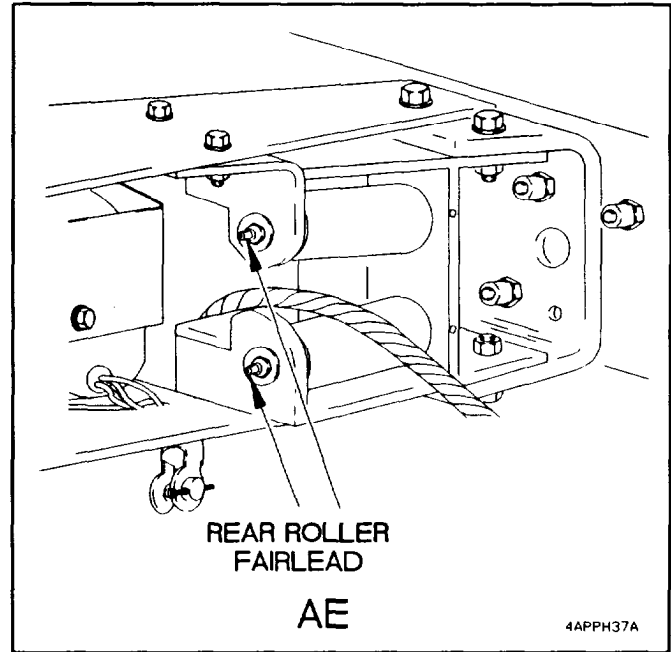
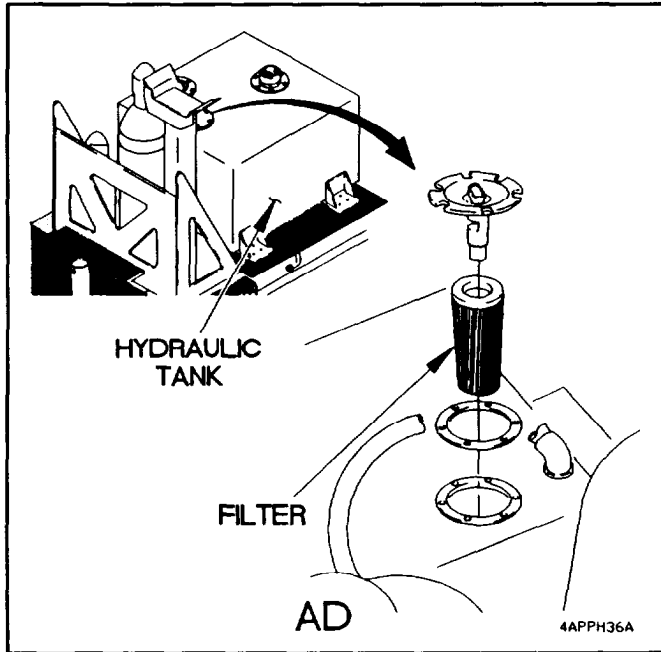


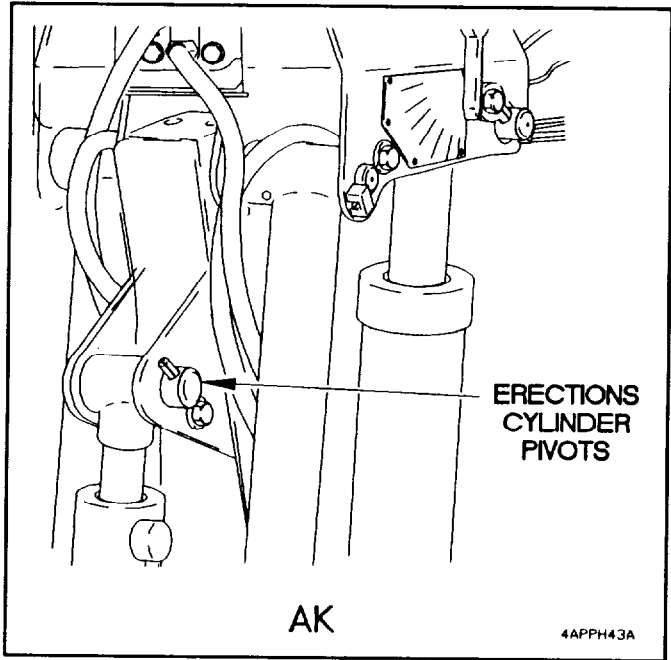
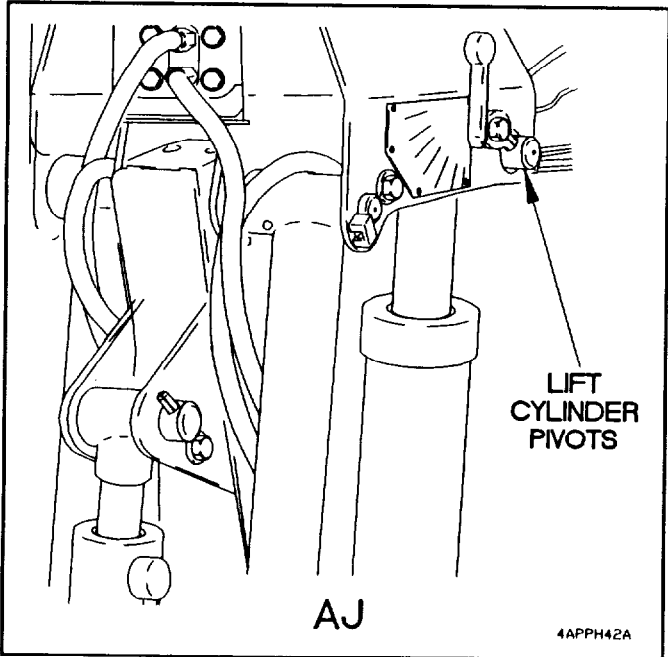
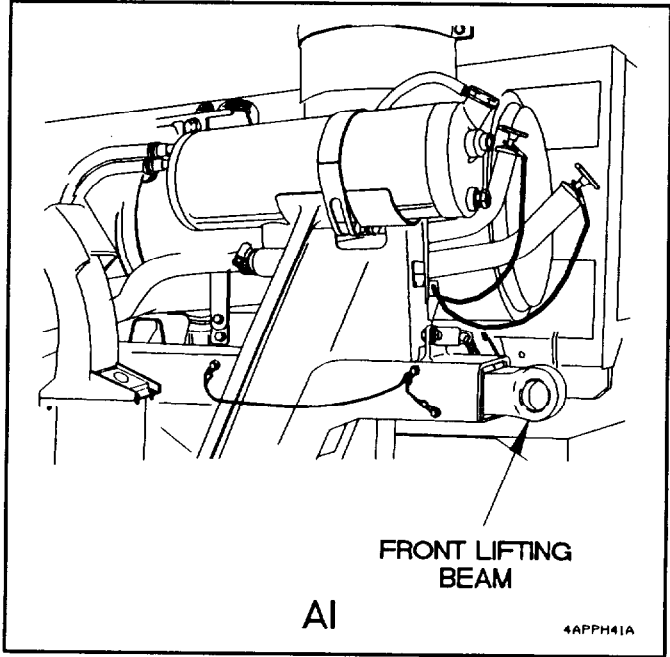
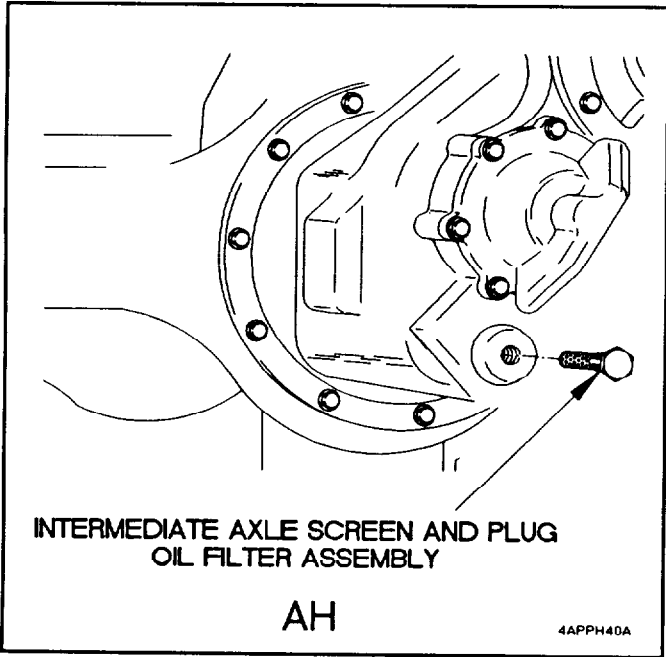
H-8. LUBRICATION LOCAL VIEWS (CONT)



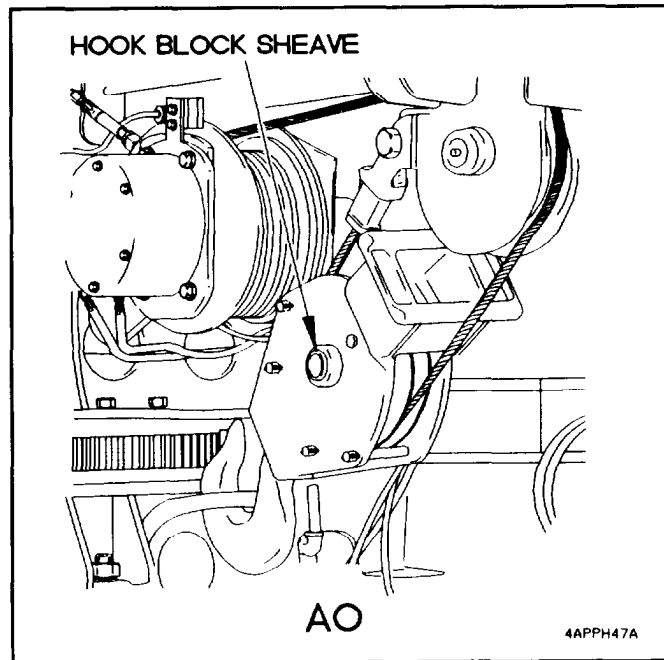
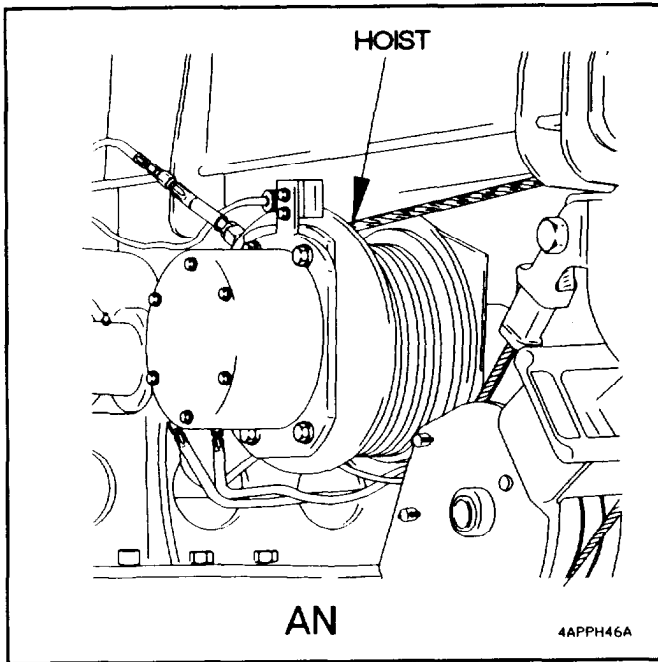
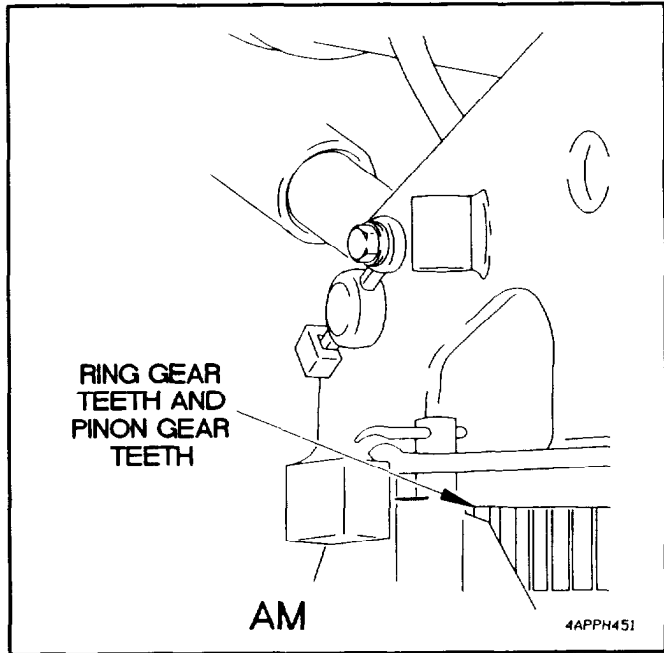
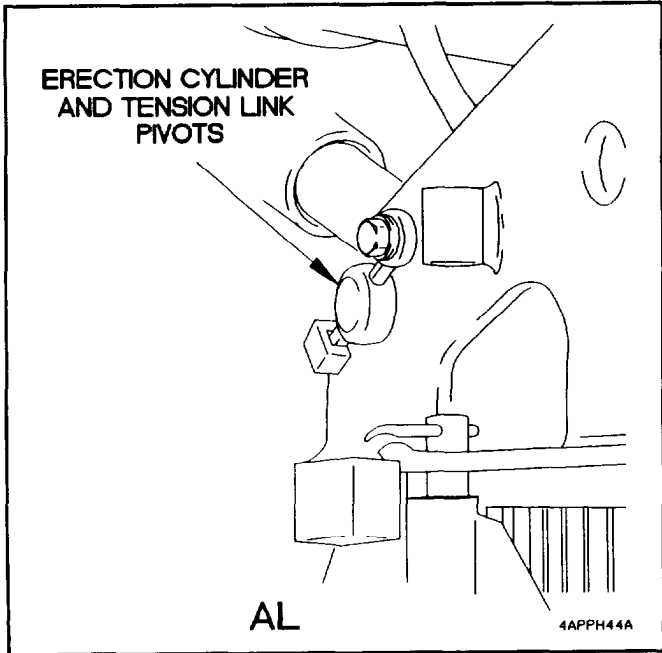


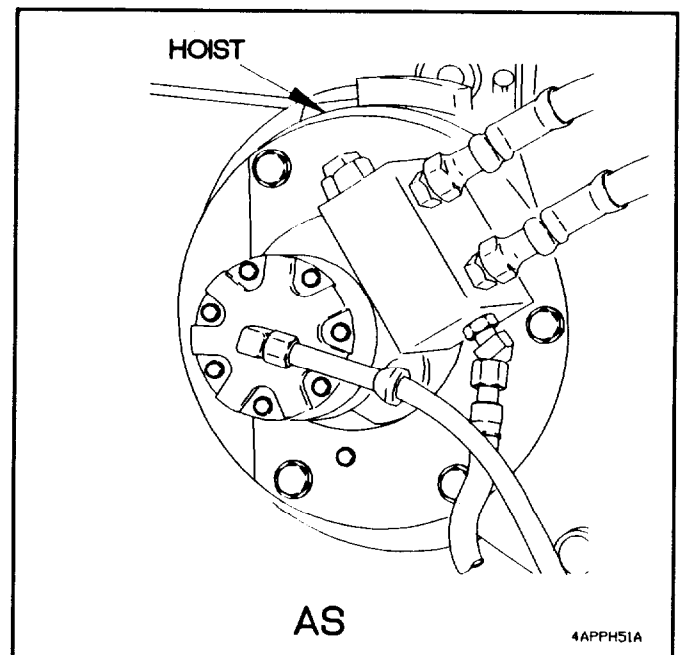
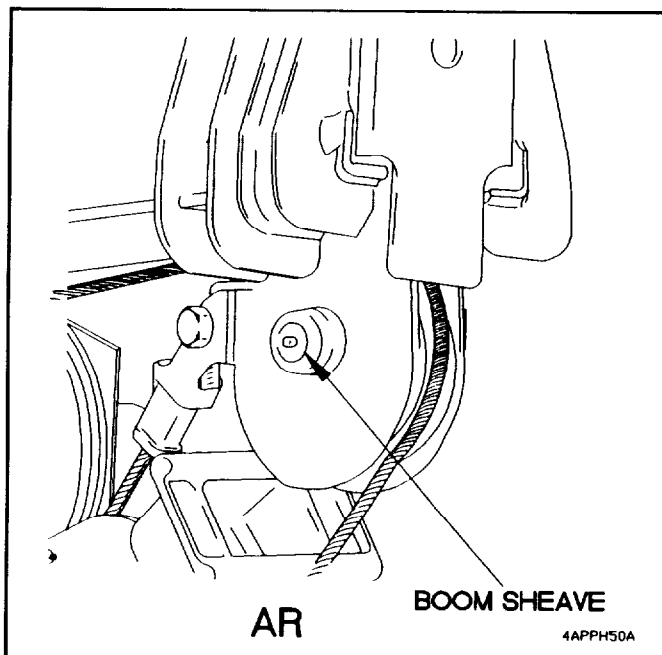
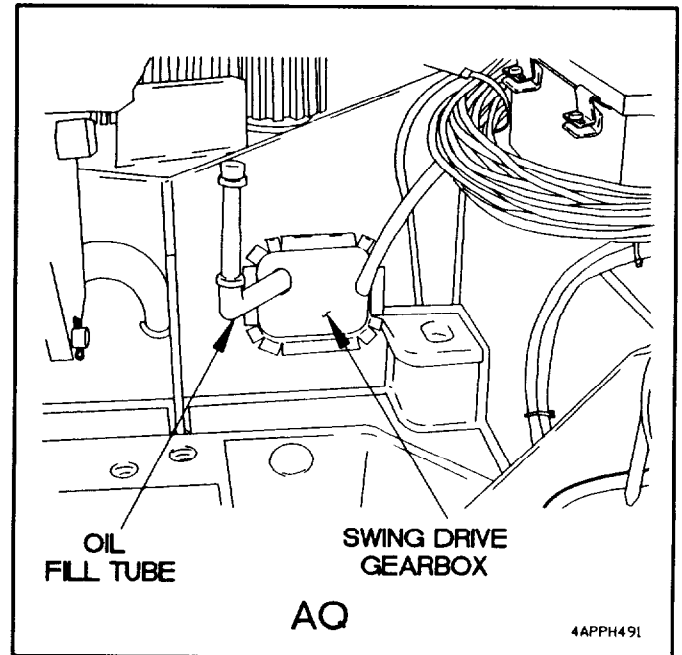
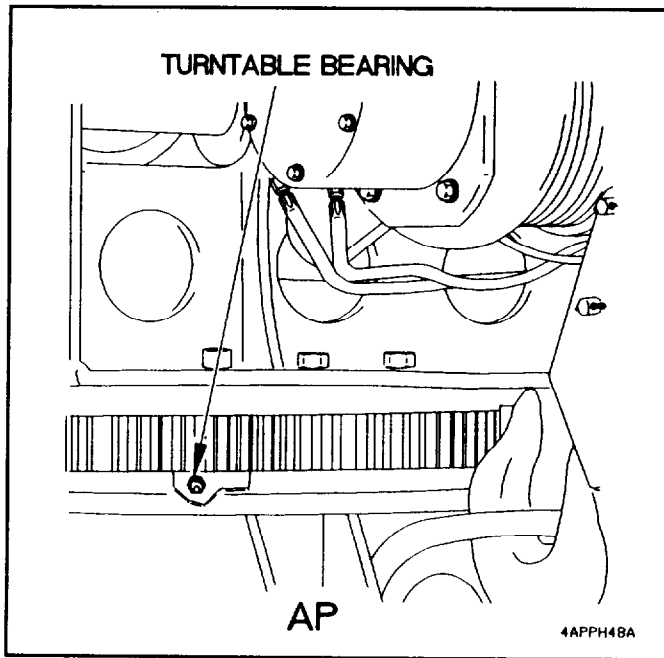
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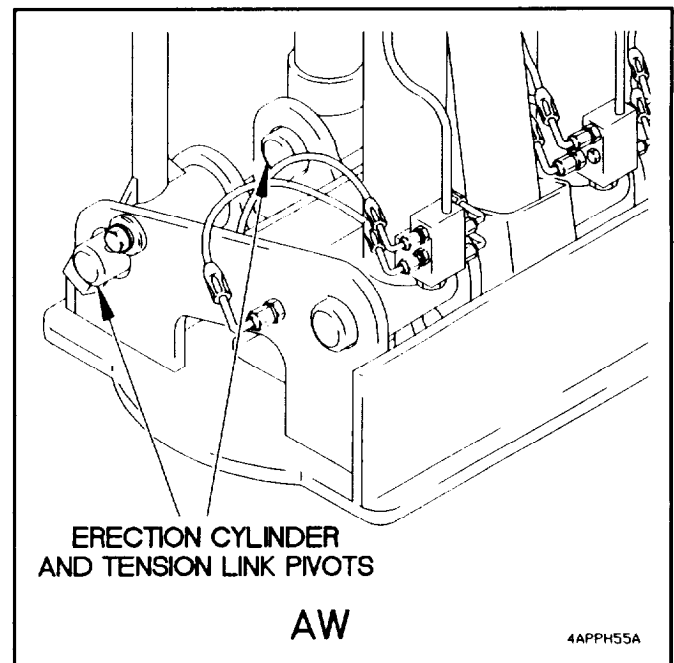
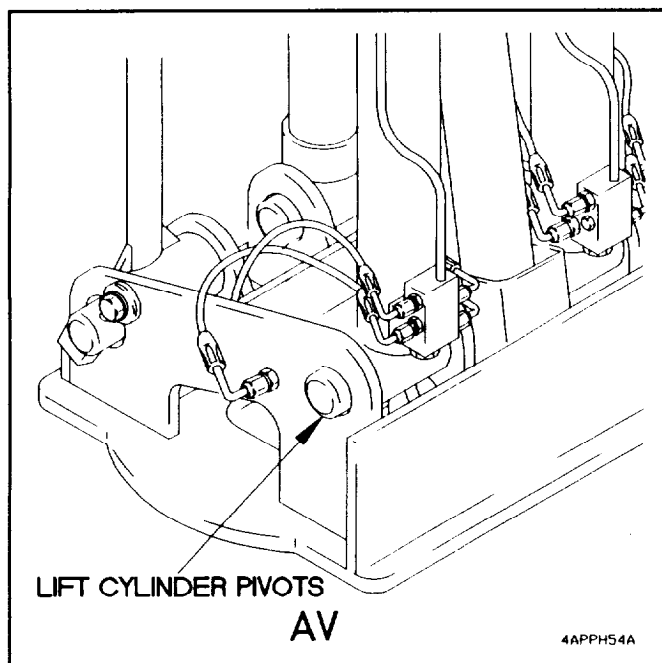
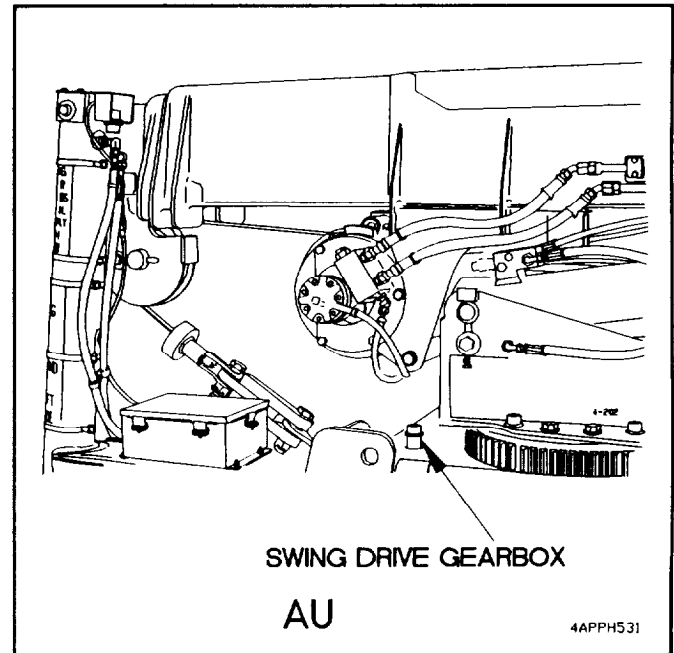
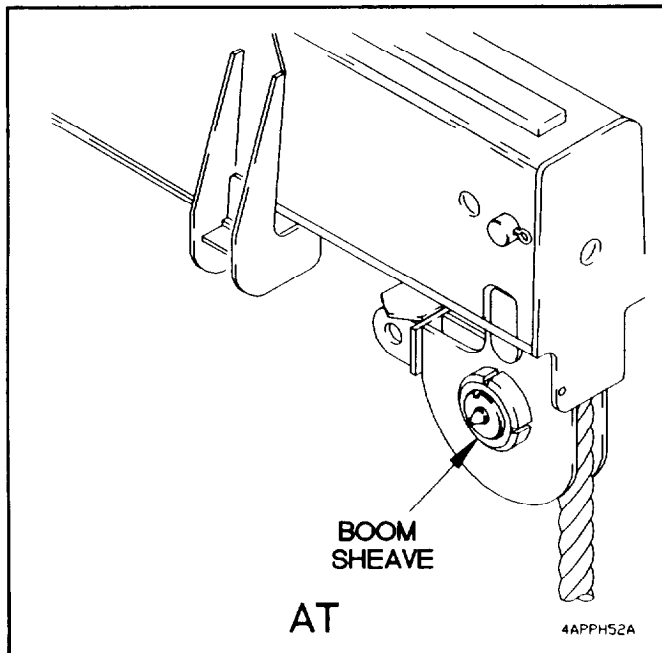


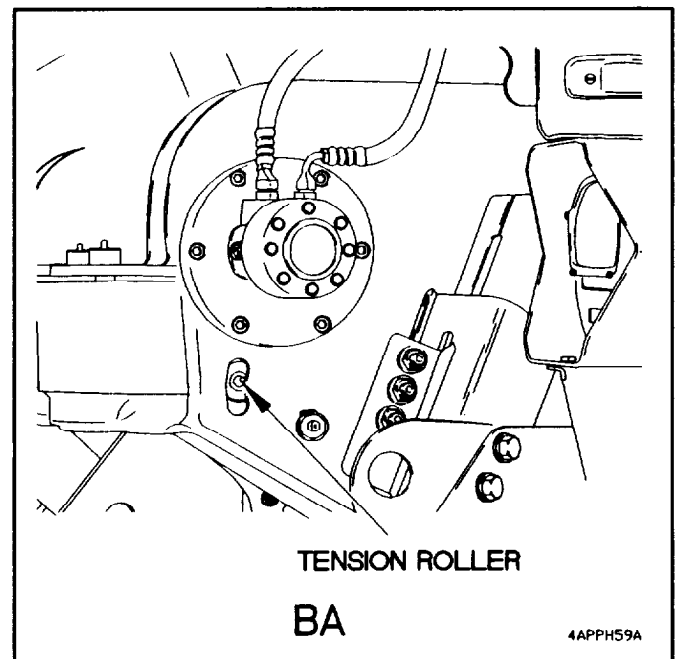
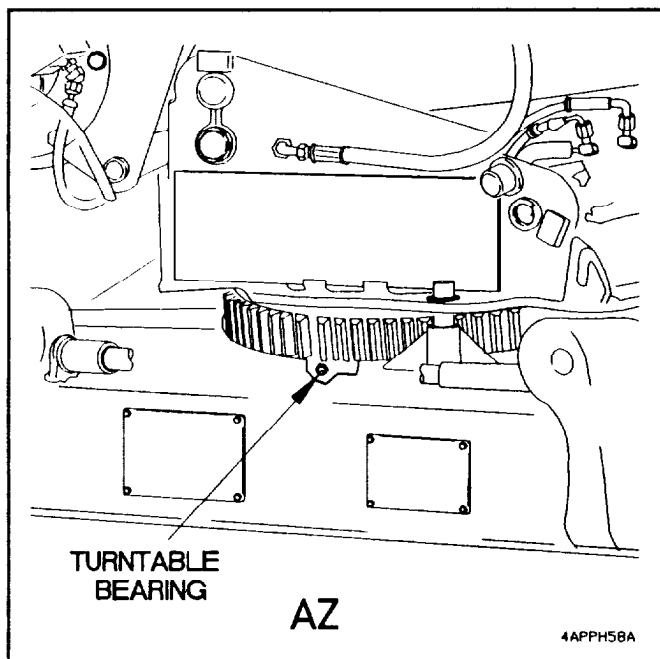
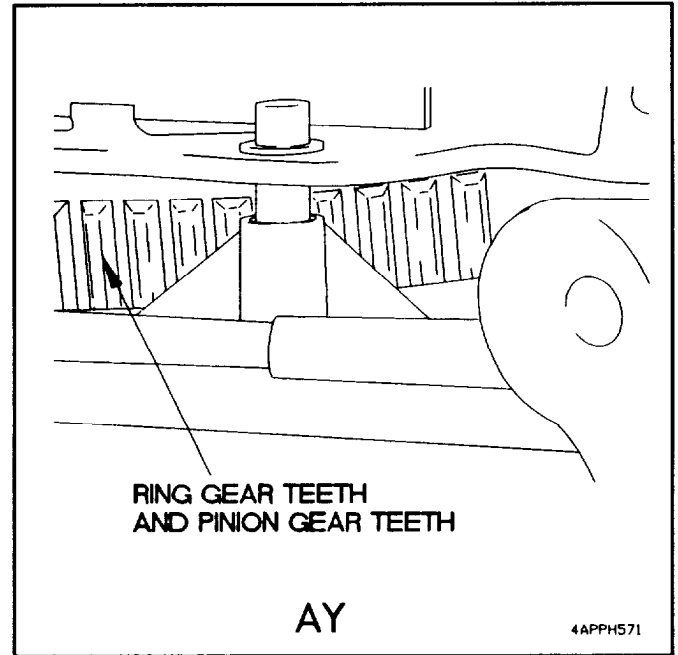
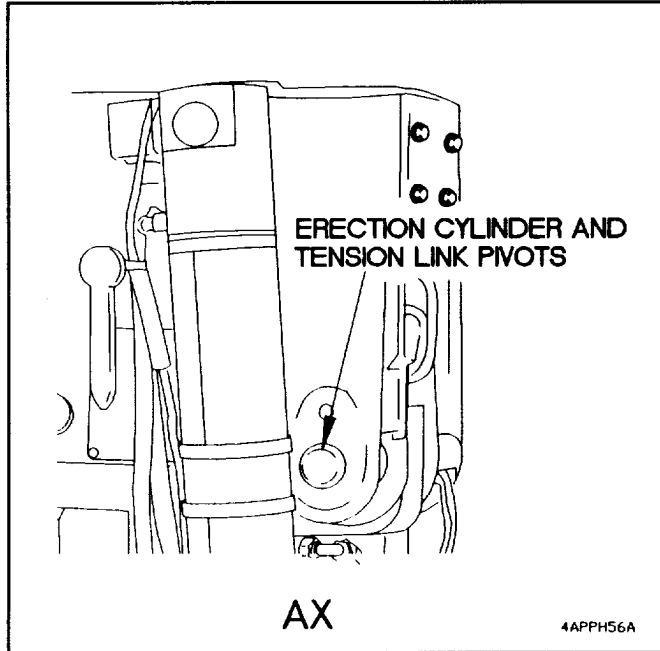
H-8. LUBRICATION LOCAL VIEWS (CONT)



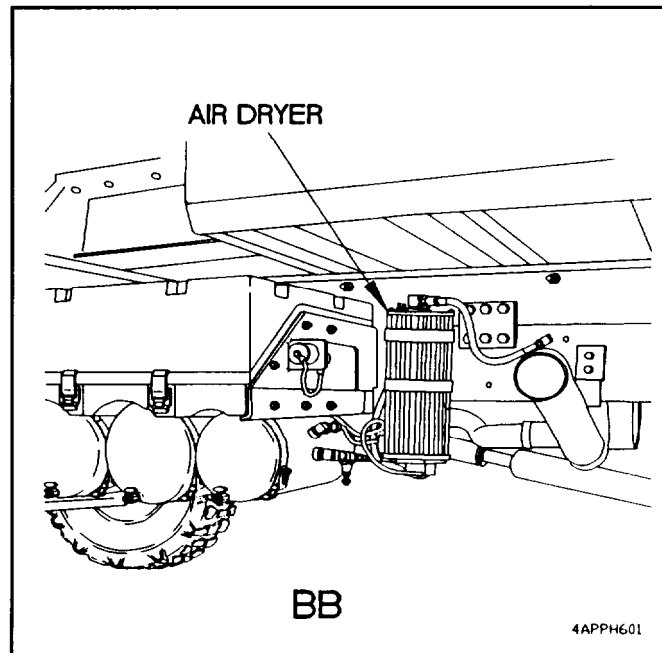


H-8. LUBRICATION LOCAL VIEWS (CONT)





H-8. LUBRICATION LOCAL VIEWS (CONT)



H-9. LUBRICATION NOTES

1. **ENGINE CRANKCASE.** Check engine oil level daily. Change engine oil at initial 5,000 miles (8,045 km). During the remainder of the 12,000 mile (19,308 km)/18 month warranty period, Units participating in AOAP will change engine oil every 6,000 miles (9,654 km). Units not participating in AOAP, will change engine oil every 6,000 miles (9,654 km) or every six months, whichever occurs first. After expiration of engine warranty period, Units participating in AOAP will perform engine oil change as directed by AOAP. Units not participating in AOAP will change engine oil every 6,000 miles (9,654 km) or every six months, whichever occurs first, or when operating in dusty areas or under severe operating conditions, change the oil every 3,000 miles (4,827 km) or every three months, whichever occurs first. Drain engine oil when engine is warm. Refill engine crankcase with OE/HDO specified for the ambient temperature. Engine oil is full when level is within crosshatch marks on the dipstick. Do not overfill.
2. **ENGINE OIL FILTER.** Filter is replaced each time the crankcase is drained. If water or metal particles are detected during oil filter replacement, notify Direct Support Maintenance personnel before refilling crankcase.
3. **TRANSMISSION.** Check transmission oil level daily. Change transmission oil at initial 5,000 miles (8,045 km). During the remainder of the 24 month/unlimited mileage warranty, Units participating in AOAP will perform transmission oil change as directed by AOAP. Units not participating in AOAP will perform transmission oil change every 24,000 miles (38,616 km) or once every two years, whichever occurs first. Drain transmission oil when engine is warm. Refill with OE/HDO specified for ambient temperature. Add oil until the proper level is reached (TM 9-2320-366-10-1). Do not overfill. Replace oil filters each time transmission oil is changed.
4. **POWER STEERING.** Check power steering oil level weekly. Change the oil every 24,000 miles (38,616 km). Disconnect upper and lower hoses from steering gear and drain oil. Refill power steering pump reservoir with OE/HDO specified for the ambient temperature. Reservoir is full when oil is between the two marks on the dipstick. Do not overfill. Remove dipstick, wipe clean and install dipstick fully into reservoir. Remove dipstick and read oil level. Replace oil filter each time power steering oil is changed.

5. FUEL/WATER SEPARATOR. Replace filter element every 6,000 miles (9,654 km) or once every six months, whichever occurs first.

6. FUEL FILTER. The fuel particle filter is replaced when a new fuel/water separator filter element is installed. The normal replacement interval is every 6,000 miles (19,654 km) or once every six months, whichever occurs first.

7. ENGINE COOLANT. Check engine coolant level daily. Change the coolant and flush the cooling system every 24,000 miles (38,616 km) or once every two years, whichever occurs first. Fill radiator overflow tank with an Ethylene Glycol/water mixture as specified in 0-A-548D. Service the cooling system before the specified interval if:

- Coolant is heavily contaminated.
- Engine overheats.
- Oil cooler has failed allowing oil and coolant to mix.

8. HYDRAULIC RESERVOIR AND FILTER (All Models Except M1089). Check oil level weekly and make sure oil level gage reads F (full). Units participating in AOAP will sample oil annually and change oil and filter as directed by AOAP. Units not participating in AOAP will change oil and filter every two years. Drain oil and refill hydraulic reservoir with OE/HDO specified for ambient operating temperature. Fill hydraulic reservoir until oil level gage reads F (full). Do not overfill. Replace oil filter each time oil is changed.

9. PROPELLER SHAFT UNIVERSAL and SLIP JOINTS.

Lubricate propeller shafts with GAA every 3,000 miles (4,827 km) or once every three months, whichever occurs first, using a low pressure lubrication gun. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

- UNIVERSAL JOINT:
 - A. Apply grease to both grease fittings until new grease purges from all four bearing caps.
 - B. If grease does not purge from all four bearing caps, replace the complete U-joint.
- SLIP JOINT:
 - A. Apply grease until grease appears at the vent in the welch plug.
 - B. Place your finger over the welch plug vent and add grease until grease purges from the dust seal.
 - C. If grease does not purge from the dust seal, replace propeller shaft.

10. AIR/HYDRAULIC POWER UNIT and BACKUP HYDRAULIC PUMP. Change OHA oil every 24,000 miles (38,616 km) or once every two years, whichever occurs first. To service air/hydraulic power unit and backup hydraulic pump refer to vehicle paragraph number 19-8. Air Transportability Hydraulic System Service.

11. ALL AXLE DIFFERENTIALS. Check oil level in differentials every 3,000 miles (4,827 km). Check oil level with vehicle parked on level surface and axle differential at ambient temperature, allowing at least one hour to cool down after vehicle operation. If oil is checked when axle differential is hot, it is normal for oil to spill out of the port due to expansion from the heat. Oil level is considered full if it is within one inch of the bottom of the fill port. If oil spills from the fill port when the axle differential is cool, it is overfull. Allow oil to drain until no more drains out. If the oil level is more than one inch below the bottom of the fill port, refill axle differential with GO specified for the ambient temperature until level with bottom of fill port. Change the oil every 24,000 miles (38,616 km) or once every two years, whichever occurs first. Drain oil when hot after operation.

H-9. LUBRICATION NOTES (CONT)

12. FRONT AXLE WHEEL END PLANETARY HUBS. There are two lube intervals for the front axle wheel end planetary hubs.

- a. Check and fill front axle wheel end planetary hubs every 3,000 miles (4,827 km) or once every three months, whichever occurs first, as follows:
 - (1) Position vehicle on a level surface. Allow 15 minutes for vehicle to cool before checking oil levels.
 - (2) Position fill port at 4 o'clock position. If oil flows from fill port when plug is loosened, let oil drain to correct level. If oil level is below fill port, fill hub with GO specified for the ambient temperature until oil is level with fill port.
- b. Drain and fill front axle wheel end planetary hubs every 24,000 miles (38,616 km) or once every two years, whichever occurs first, following the repacking of the inner wheel bearings, or whenever wheel end assemblies are taken apart for other maintenance as follows:
 - (1) Position vehicle on a level surface.
 - (2) Position fill port at the 6 o'clock (down) position.
 - (3) Drain hub oil (allow a minimum of 15 minutes for oil to drain down from vent tubes).
 - (4) Refill hubs with 11-13 ounces of GO specified for the ambient temperature.

13. TIE ROD ENDS. Lubricate tie rod ends with GAA every 6,000 miles (9,654 km) or once every six months, whichever occurs first, using a low pressure lubrication gun, until new grease is seen purging from the boot area. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

14. WINCH CABLES:

CAUTION

Do not use dry cleaning solvent to clean winch cables. Use of dry cleaning solvent will remove lubricant from inner strands of winch cables. Failure to comply may result in damage to equipment.

- a. After each operation:

Clean and lubricate length of winch cable reeled out with new OE/HDO 30.
- b. Infrequently use or in very damp conditions:

Lubricate winch cables with GW.
- c. Dry or dusty conditions:

Do not lubricate winch cables.
- d. Every six months:
 - (1) Unwind entire length of winch cable (TM 9-2320-366-10-1).
 - (2) Soak and clean winch cable with new OE/HDO 30.
 - (3) Wipe off excess OE/HDO 30.
 - (4) Coat winch cable with GW.
 - (5) Rewind winch cable (TM 9-2320-366-10-1).

15. 15K SRW. Check 15K SRW gear oil level every 6,000 miles (9,654 km) or once every six months, whichever occurs first. Refill 15K SRW with GO specified for ambient temperature. Change oil every 12,000 miles (19,308 km) or once every year, whichever occurs first. Use procedure (a) to check and fill oil level; use procedure (b) to change oil.

a. Check and fill oil level as follows:

- (1) Shift the freespool mechanism to the disengage position so the drum can be freely rotated.
- (2) Rotate the drum to where either plug is near the top of the 15K SRW. Remove the plug.
- (3) Rotate the drum 90 degrees in the direction that allows the other plug to be near the top of the 15K SRW. Remove the plug.

NOTE

Oil level is full if a small amount of oil runs out of lower plug.

- (4) Add oil until a small amount of oil runs out of lower plug hole.
- (5) Apply adhesive (Item 3, Appendix D) to plug and position plug in top hole.
- (6) Rotate drum until open hole is at top.
- (7) Apply adhesive (Item 3, Appendix D) to plug and position plug in top hole.
- (8) Tighten plugs to 13-15 lb-ft (18-20 N•m).

b. Change oil as follows:

- (1) Shift the freespool mechanism to the disengage position so the drum can be freely rotated.
- (2) Rotate the drum to where either plug is near the top of the 15K SRW. Remove the plug.
- (3) Rotate the drum 90 degrees in the direction that allows the other plug to be near the top of the 15K SRW. Remove the plug.
- (4) Position drain pan (Item 39, Appendix C) under 15K SRW.
- (5) Rotate the drum until either hole is straight down to the bottom of the 15K SRW. Allow the oil to drain completely.
- (6) Rotate the drum until either hole is at top.

NOTE

Oil level is full if a small amount of oil runs out of lower plug.

- (7) Add oil until a small amount of oil runs out of lower plug hole.
- (8) Apply adhesive (Item 3, Appendix D) to plug and position plug in top hole.
- (9) Rotate drum until open hole is at top.
- (10) Apply adhesive (Item 3, Appendix D) to plug and position plug in top hole.
- (11) Tighten plugs to 13-15 lb-ft (18-20 N•m).

16. TOWING PINTLE. Lubricate towing pintle with GAA every 6,000 miles (9,654 km) or once every six months, whichever occurs first, using a low pressure lubrication gun until new grease is seen purging.

H-9. LUBRICATION NOTES (CONT)

WARNING

- **Dry Cleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well-ventilated area; avoid contact with skin, eyes, and clothes, and do not breath vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint for Type I Dry Cleaning Solvent is 100°F (38°C) and for Type II is 138° (50°C). Failure to comply may result in serious injury or death to personnel.**
- **If personnel become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts skin or clothes, flush with cold water. If solvent contacts eyes, immediately flush eyes with water and get medical attention. Failure to comply may result in injury to personnel.**

17. ENGINE CRANKCASE BREATHER. Remove crankcase breather and clean with Dry Cleaning Solvent (SD P-D-680) (Item 65, Appendix D) or equivalent, and replace o-ring seal every 6,000 miles (9,654 km) or once every six months, whichever occurs first.

18. FRONT AXLE SPRING BOLT and SPRING SHACKLE. Lubricate front axle spring bolt and spring shackle with GAA every 3,000 miles (4,827 km) or once every three months, whichever occurs first, using a low pressure lubrication gun until grease appears between pins and bushings at both ends of spring bolt and spring shackle. If pins do not accept grease, remove pins. Clean and inspect pins and bushings, replace if necessary. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

19. BATTERY POSTS. Service batteries in accordance with TM 9-6140-200-14, every 6,000 miles (9,654 km) or once every six months, whichever occurs first.

20. FRONT AXLE SHAFT UNIVERSAL JOINTS and STEERING KNUCKLES. Lubricate universal joints every 3,000 miles (4,827 km) or once every three months, whichever occurs first. Lubricate steering knuckles with GAA every 6,000 miles (9,654 km) or once every six months, whichever occurs first, using a low pressure lubrication gun. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

21. BRAKE WEDGE and AIR CHAMBER: BRAKE SPIDER, SELF-ADJUSTER MECHANISM, AND WEDGE ASSEMBLY. Clean and lubricate (with GAA) areas of spider and hardware that contact the brake shoes. Disassemble, clean and lubricate the self-adjuster mechanism. Clean and lubricate the wedge head, rollers and ramps in the plungers. Clean and lubricate every 6,000 miles (9,654 km). If operating conditions are severe or abnormal, service at 3,000 miles (4,827 km) or once every three months, whichever occurs first, or when any of the following occur:

- Seals are replaced
- Plungers are removed
- Brakes are relined
- Grease becomes contaminated or hardened

22. HYDRAULIC TANK (M1089). Check oil level weekly and make sure oil level indicates FULL. Units participating in AOAP will sample oil annually and change oil and filter as directed by AOAP. Units not participating in AOAP will change oil and filter every two years. Drain oil and refill hydraulic tank with OE/HDO specified for ambient operating temperature. Fill hydraulic tank until oil level is at the FULL mark on the sight glass. Do not overfill. Clean air breather filter and replace hydraulic oil filter when oil is changed. Check oil level with Material Handling Crane (MHC) in the stowed position.

23. BOOM WEAR PADS (M1084/M1086/M1089). Lubricate every 6,000 miles (9,654 km) or once every six months, whichever occurs first. Coat boom wear pads with GAA while boom is extended, for the lower wear pads, boom must be retracted and access cover removed at rear of base boom to grease the upper wear pads. Extend boom in and out while applying grease. This method assures full lubrication for entire length of boom. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

24. HOIST ASSEMBLY DRUM (M1084/M1086/M1089). Check hoist assembly drum oil level every 6,000 miles (9,654 km) or every six months, whichever occurs first. Check oil level in hoist assembly drum using two pipe plugs (90 degrees apart) on the drum housing. Operate hoist assembly drum so that one pipe plug is positioned at top of drum (fill point) and the other is accessible and level with ground (check level point). Oil level is full if a small quantity of oil runs from check level opening. If oil level is low, add oil at fill opening. To drain, operate drum so that one pipe plug is bottom of drum. Remove plug to drain. Drain and refill with GO specified for the ambient temperature, if oil becomes contaminated.

25. SWING DRIVE GEARBOX (M1084/M1086/M1089). Check swing drive gearbox oil level every 6,000 miles (9,654 km) or once every six months, whichever occurs first. Oil level is checked by removing pipe plug located on side of gear reducer. Oil level is full if a small quantity of oil runs out of opening. Add oil at fill point if necessary. Drain and refill with GO specified for the ambient temperature, if oil becomes contaminated.

26. RING GEAR TEETH and PINION GEAR TEETH (M1084/M1086/M1089). Lubricate every 6,000 miles (9,654 km), after washing, or once every six months, whichever occurs first. Apply a light coat of GAA to ring gear teeth and pinion gear teeth. Operate MHC (TM 9-2320-366-10) to rotate turntable. This will allow grease to be applied to all gear teeth. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

27. FRONT, INTERMEDIATE, and REAR AXLE INNER WHEEL BEARINGS. Repack inner wheel bearings with GAA every 12,000 miles (19,308 km), when semiannual PMCS inspection of service brakes reveals oil leak from inner hub, or whenever wheel end assemblies are taken apart for other maintenance.

28. REAR AXLE BOGIE. Change oil every 6,000 miles (9,654 km) or once every six months, whichever occurs first. Remove six screws and rear axle bogie cover from one side at a time. Raise axle on opposite side of vehicle to allow oil to drain out. Lower axle and repeat on other side of vehicle. Apply thin bead of silicone adhesive sealant 593 to seating surface of housing. Position cover (with fill plug at the 1 o'clock position) and six screws on housing. Tighten six screws to 24 lb-ft (32 N•m). Remove plug from cover and plug from top of rear axle bogie housing. Refill rear axle bogie with GO specified for the ambient temperature, until level with port on housing cover. Install plugs in cover and housing.

29. 15K SELF-RECOVERY WINCH (SRW) CABLE ROLLER FAIRLEADS. Lubricate with GAA every 6,000 miles (9,654 km) or once every six months, whichever occurs first, using a low pressure lubrication gun. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

30. 30K WINCH CABLE GUIDE ROLLERS and PAY-OUT LOWER TENSION SHEAVE. Lubricate with GAA every 6,000 miles (9,654 km) or once every six months, whichever occurs first, using a low pressure lubrication gun. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

H-9. LUBRICATION NOTES (CONT)

WARNING

- **Dry Cleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well-ventilated area; avoid contact with skin, eyes, and clothes, and do not breath vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint for Type I Dry Cleaning Solvent is 100°F (38°C) and for Type II is 138°F (50°C). Failure to comply may result in serious injury or death to personnel.**
- **If personnel become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts skin or clothes, flush with cold water. If solvent contacts eyes, immediately flush eyes with water and get medical attention. Failure to comply may result in injury to personnel.**

31. SCREEN and PLUG OIL FILTER ASSEMBLY (intermediate axle only). Clean the area around the screen and plug oil filter assembly. Remove the screen and plug oil filter assembly. Clean with Dry Cleaning Solvent (Item 65, Appendix D) or equivalent, every 12,000 miles (19,308 km) or once every year, whichever occurs first. Clean filter each time the differential is drained. If screen is crushed or bent, replace with a new one. Clean the screen cavity in the carrier of all debris and particles. If excessive amount of metal particles are detected during oil filter servicing, notify Direct Support Maintenance personnel before refilling differential.

32. TURNTABLE BEARING (M1084/M1086/M1089). Lubricate with GAA every 6,000 miles (9,654 km), after washing or once every six months, whichever occurs first. Use a low pressure lubrication gun. Apply lubrication to grease fitting inside turntable bearing. Operate MHC (TM 9-2320-366-10) to rotate turntable bearing through full range of travel between applications of grease. This method assures full lubrication of the turntable bearing. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

33. TOP and BOTTOM PLATES (M1089). Lubricate every 6,000 miles (9,654 km) or once every six months, whichever occurs first. Coat top and bottom plates with GAA. Extending outriggers in and out while applying grease assures full lubrication for the entire length of top and bottom plates. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

34. CRANE GREASE FITTINGS (M1084/M1086/M1089). Lubricate with GAA every 6,000 miles (9,654), after washing, or once every six months, whichever occurs first. Use a low pressure lubrication gun. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

35. UNDERLIFT ASSEMBLY GREASE FITTINGS. Lubricate with GAA every 6,000 miles (9,654), after washing, or once every six months, whichever occurs first. Use a low pressure lubrication gun. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

36. FRONT LIFTING BEAM. Remove left and right lifting beams and clean with Dry Cleaning Solvent (Item 65, Appendix D) or equivalent, every 6,000 miles (9,654 km) or once every six months, whichever occurs first. Apply a light coat of GAA to lifting beams. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

37. AIR DRYER. Service air dryer (para 23-11) every 12,000 miles (19,308 km) or annually, whichever occurs first.

**APPENDIX J
ADDITIONAL AUTHORIZATION LIST (AAL)**

Section I. INTRODUCTION

J-1. SCOPE

This appendix lists additional items you are authorized for the support of the MTV.

J-2. GENERAL

This list identifies items that do not have to accompany the MTV and that do not have to be turned in with it. These items are all authorized to you by Common Tables of Allowance (CTA), Modification Table of Organization and Equipment (MTOE), Tables of Distribution and Allowances (TDA), or Joint Table of Allowance (JTA).

J-3. EXPLANATION OF LISTING

National Stock Numbers, description, and quantities are provided to help you identify and request the additional items you require to support this equipment.

Section II. ADDITIONAL AUTHORIZATION LIST

(1) National Stock Number	(2) Description (CAGE) Part Number	(3) U/M	(4) Qty Auth
6685-01-193-1733	10,000 PSI Transducer: (19207) 12258956	EA	1

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GLOSSARY ABBREVIATIONS

ANSI	American National Standards Institute
CCW	Counterclockwise
CTIS	.....	Central Tire Inflation System
CW	.....	Clockwise
ECU	.....	Electronic Control Unit
EMI	.....	Electromagnetic Interference
LED	.....	Light Emitting Diode
LH	.....	Left Hand
LMHC	.....	Light Material Handling Crane
MAC	.....	Maintenance Allocation Chart
MHC	.....	Material Handling Crane
NATO	.....	North Atlantic Treaty Organization
NBC	.....	Nuclear, Biological, or Chemical
NO/NC	.....	Normally Open/Normally Closed
O/R	.....	Outrigger
PDP	.....	Power Distribution Panel
PMCS	.....	Preventive Maintenance Checks and Services
PTO	.....	PowerTakeoff
RH	.....	Right Hand
SAE	.....	Society of Automotive Engineers
SRW	.....	Self-Recovery Winch
STE/ICE-R	.....	Simplified Test Equipment/Internal Combustion Engine-Reprogrammable
TEPSS	.....	Transmission ECU Pushbutton Shift Selector
TM	.....	Technical Manual
TPS	.....	Throttle Position Sensor

**GLOSSARY
ABBREVIATIONS (CONT)**

TPSS	Transmission Pushbutton Shift Selector
VDC	Volts Direct Current
VIM	Vehicle Interface Module
WTEC II	World Transmission Electronic Controls (version 2)
WTEC III	World Transmission Electronic Controls (version 3)

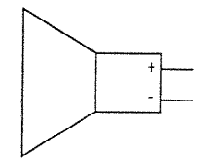
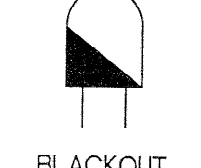
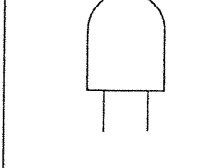


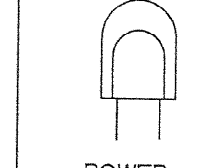
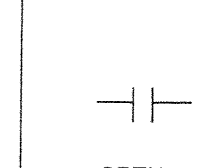
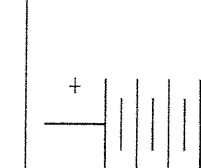
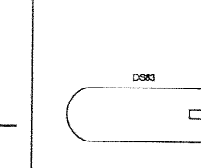
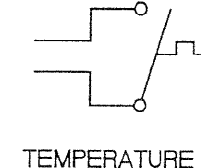
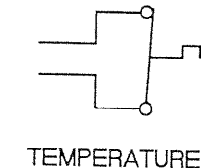
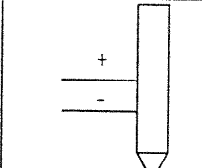
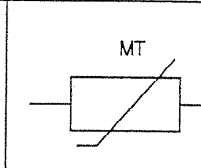
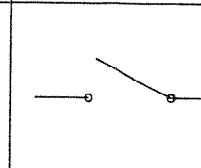
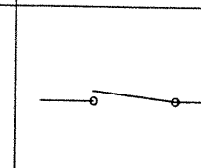
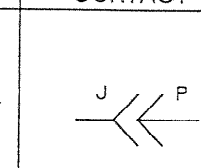
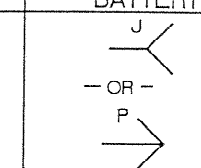
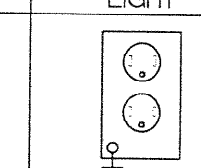
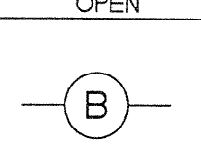
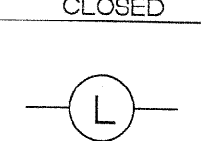
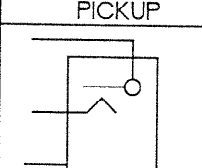
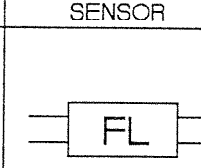
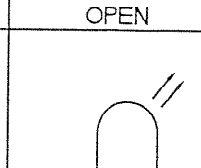
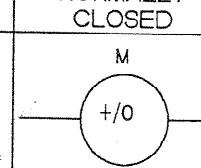
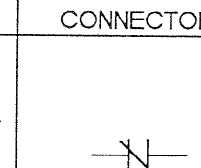
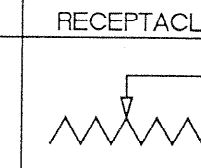
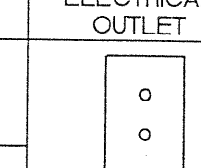
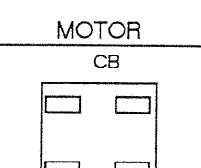
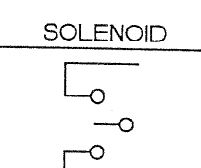
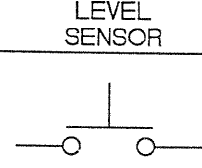
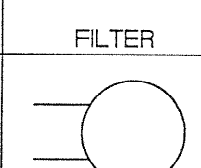
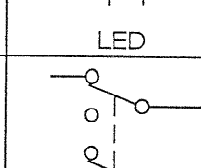
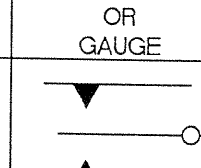
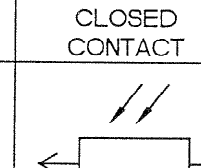
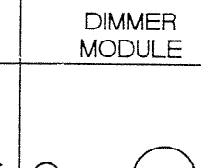
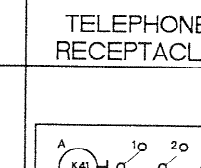
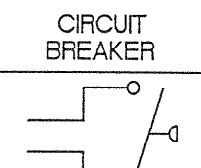
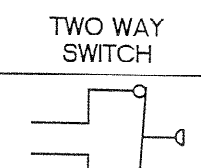
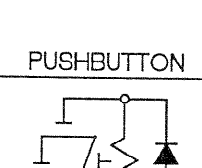
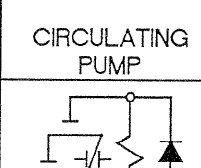
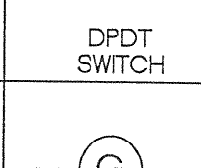
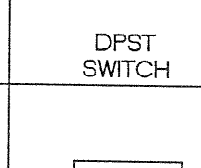
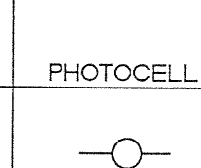
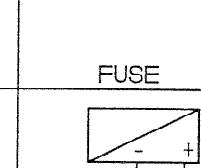
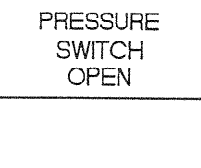
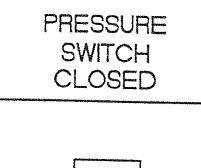
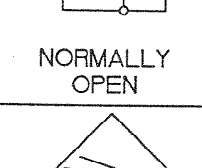
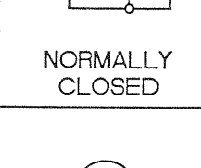
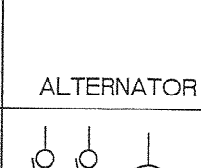
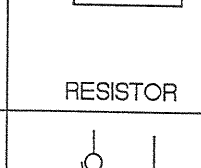
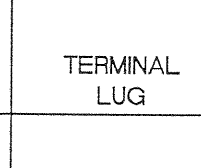
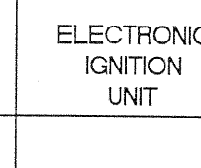
 HORN	 BLACKOUT MARKER	 LAMP	 DUALBEAM LAMP	 GROUND	 POWER LAMP	 OPEN CONTACT	 BATTERY	 FLOURESCENT LIGHT
 TEMPERATURE SWITCH OPEN	 TEMPERATURE SWITCH CLOSED	 MAGNETIC PICKUP	 SENSOR	 NORMALLY OPEN	 NORMALLY CLOSED	 CONNECTOR	 RECEPTACLE	 ELECTRICAL OUTLET
 MOTOR	 SOLENOID	 LEVEL SENSOR	 FILTER	 LED	 METER OR GAUGE	 CLOSED CONTACT	 DIMMER MODULE	 TELEPHONE RECEPTACLE
 CIRCUIT BREAKER	 TWO WAY SWITCH	 PUSHBUTTON	 CIRCULATING PUMP	 DPDT SWITCH	 DPST SWITCH	 PHOTOCELL	 FUSE	 RELAY
 PRESSURE SWITCH OPEN	 PRESSURE SWITCH CLOSED	 NORMALLY OPEN	 NORMALLY CLOSED	 ALTERNATOR	 RESISTOR	 TERMINAL LUG	 ELECTRONIC IGNITION UNIT	
 DIODE	 SPLICE	 SENSING SWITCH	 MOTOR	 GROUND RELAY	 RELAY	 CIRCUIT BREAKER	 FLASHER	

FIGURE FO-1 ELECTRICAL SYSTEM SCHEMATIC
 FOLDOUT 1 OF 34
 SIZE B ILL. NO. 5WDO1L11 FP-1/FP-2 BLANK

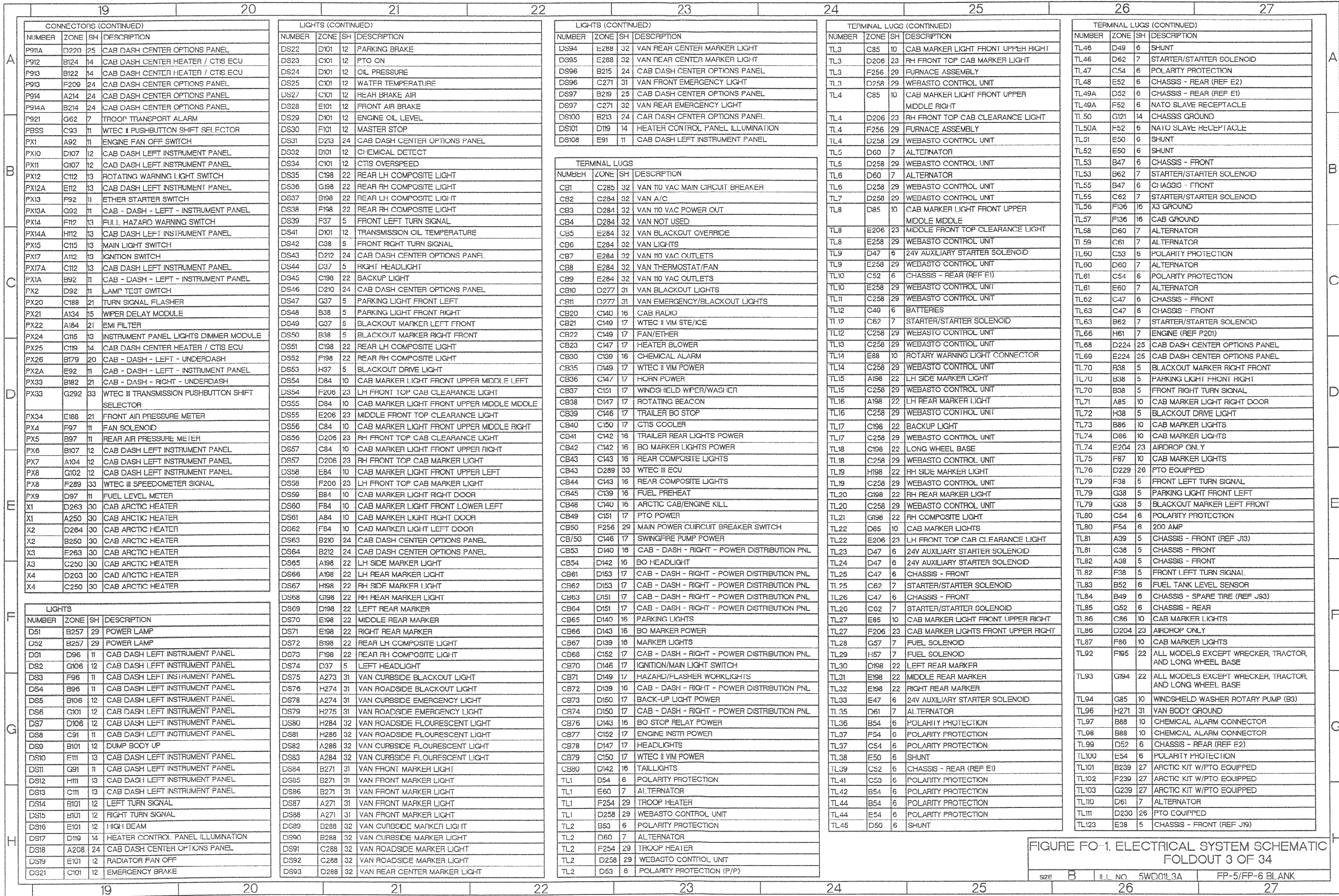


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 3 OF 34
 SIZE B I.L. NO. 5WD01L3A FP-5/FP-6 BLANK

28			29			30			31			32			33			34			35			36						
TERMINAL LUGS (CONTINUED)						SWITCHES (CONTINUED)						SOLENOIDS						MISCELLANEOUS (CONTINUED)						MISCELLANEOUS (CONTINUED)						
NUMBER	ZONE	SH	DESCRIPTION	NUMBER	ZONE	SH	DESCRIPTION	NUMBER	ZONE	SH	DESCRIPTION	NUMBER	ZONE	SH	DESCRIPTION	NUMBER	ZONE	SH	DESCRIPTION	NUMBER	ZONE	SH	DESCRIPTION	NUMBER	ZONE	SH	DESCRIPTION			
TL126	C86	10	WINDSHIELD WASHER ROTARY PUMP (B3)	S27	E59	7	OIL PRESSURE WARNING LIGHT SWITCH	KS	D47	6	24V AUXILIARY STARTER SOLENOID	D26	D138	16	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL	F310A	E262	30	ARTIC CAB HEATER											
TL126	E126	14	PARKING BRAKE SWITCH	S29	G177	20	SWITCH/REAR AIR PRESSURE TRANSMITTER	L1	E189	21	FAN SOLENOID	D3A	E138	16	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL	F210A	E263	30	ARTIC CAB HEATER											
TL130	F35	10	CAB MARKER LIGHTS	S31	A218	24	ARCTIC TROOP HEATER SWITCH	L2	H57	7	FUEL SOLENOID	D3B	E138	16	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL	F110A	E263	30	ARTIC CAB HEATER											
TL131	A85	10	CAB MARKER LIGHTS	S32	F288	32	VAN LIGHTS ON/OFF SWITCH	L3	D269	30	PTO SOLENOID	E1	C52	6	BATTERY	G1	D60	7	ALTERNATOR											
TL133	F35	10	CAB MARKER LIGHTS	S33	E277	31	VAN BLACKOUT SWITCH	L4	E233	26	WINCH IN SOLENOID	E1	D52	6	BATTERY	MPU1	F61	7	ENGINE SPEED MAGNETIC PICKUP											
TL134	B85	10	CAB MARKER LIGHTS	S34	D278	31	VAN BLACKOUT SWITCH	L4	F232	26	SOLENOID	E1	D52	6	BATTERY	MT3	F60	7	ENGINE OIL PRESSURE SENSOR											
TL150	F177	20	SENSOR/FRONT AIR PRESSURE TRANSMITTER	S35	H273	31	VAN BLACKOUT OVERRIDE SWITCH	L4	C242	27	WINCH IN SOLENOID	E2	E52	6	BATTERY	MT4	E177	20	SENSOR/FRONT AIR PRESSURE TRANSMITTER											
TL151	G177	20	SENSOR/REAR AIR PRESSURE TRANSMITTER	S40	F58	7	ETHER SENSOR SWITCH	L4	D241	27	WINCH IN SOLENOID	E2	C43	5	CHASSIS FRONT BUMPER (REF J27)	MT5	G177	20	SENSOR/REAR AIR PRESSURE TRANSMITTER											
TL152	C179	20	STOPLIGHT SWITCH	S45	E62	7	TROOP ALARM SWITCH	L5	D233	26	SOLENOID	E2	C52	6	BATTERY	MT6	B57	7	WATER COOLER TEMPERATURE											
TL153	C179	20	STOPLIGHT SWITCH	S45	G62	31	VAN FAN ON/OFF SWITCH	L5	232	26	SOLENOID	E2	D52	6	BATTERY	MT7	B52	6	FUEL TANK LEVEL SENSOR											
TL154	D179	20	STOPLIGHT SWITCH	S56	A57	7	WATER TEMPERATURE SWITCH	L5	B242	27	WINCH OUT SOLENOID	E2	E52	6	BATTERY	MT11	A63	7	THROTTLE POSITION SENSOR											
TL154	D179	20	STOPLIGHT SWITCH	S57	G77	9	LMHC IN/OUT SWITCH	L5	B241	27	WINCH OUT SOLENOID	E2	E52	6	BATTERY	NS	E183	21	WTEC II VEHICLE INTERFACE MODULE											
TL155	D179	20	STOPLIGHT SWITCH	GAGES						L5	B242	27	WINCH OUT SOLENOID	E2	E52	6	BATTERY	NS	F183	21	WTEC II VEHICLE INTERFACE MODULE									
TL156	F77	20	SWITCH/FRONT AIR PRESSURE TRANSMITTER	NUMBER	ZONE	SH	DESCRIPTION				L5	B241	27	WINCH OUT SOLENOID	E2	E52	6	BATTERY	NS	F183	21	WTEC II VEHICLE INTERFACE MODULE								
TL157	G177	20	SWITCH/REAR AIR PRESSURE TRANSMITTER	M2	D106	12	VOLTMETER				L15	B51	6	CHASSIS - SPARE TIRE	E3	H148	17	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL	P/P	B54	6	POLARITY PROTECTION								
TL158	E37	16	START INHIBIT PUSHBUTTON	M3	B106	12	ENGINE OIL PRESSURE METER				L16	E239	27	WATER SOLENOID	E4	H150	17	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL	P/P	D54	6	POLARITY PROTECTION								
TL159	E36	16	START INHIBIT PUSHBUTTON	M4	F96	11	FRONT AIR PRESSURE METER				L17	D240	27	WATER PUMP	E5	B151	17	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL	R11	D50	6	SHUNT								
TL160	H02	12	AUDIBLE ALARM	M5	B96	11	REAR AIR PRESSURE METER				HORNS AND ALARMS			E14	E194	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE	R1	D79	9	AIR DRYER									
TL161	H02	12	AUDIBLE ALARM	M6	G107	12	WATER TEMPERATURE METER							E15	E197	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE	TB1	B257	29	WEBASTO CONTROL UNIT									
TL162	B114	13	STARTER PUSHBUTTON	M7	D95	11	FUEL LEVEL METER							E16	A197	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE	TB1	C128	15	CAB DASH RIGHT POWER									
TL163	B114	13	STARTER PUSHBUTTON	M8	G102	12	SPEEDOMETER							E17	G195	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE	TB2	F130	15	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL									
TL164	G82	7	ENGINE (REF J921)	M9	A210	24	TACHOMETER							E18	G194	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE	TB2	D257	29	WEBASTO CONTROL UNIT									
TL165	G82	7	ENGINE (REF J921)	RELAYS									E19	F194	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE	X1	C137	16	24 VDC										
TL166	F54	6	TERMINAL BLOCK	NUMBER	ZONE	SH	DESCRIPTION							E20	E194	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE	X11	F52	6	NATO SLAVE RECEPTACLE									
TL167	E54	6	TERMINAL BLOCK	K1	F256	30	GROUND RELAY							E21	D195	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE	X2	D137	16	24 VDC									
TL169	D53	6	POLARITY PROTECTION (P/P)	K1	F149	7	STARTER RELAY							E22	B86	10	CAB MARKER LIGHTS	X3	F157	16	GROUND									
TL170	F248	28	SWINGFIRE HEATER	K1	E259	29	GROUND RELAY							E23	D86	10	CAB MARKER LIGHTS	X5	D137	16	24 VDC									
TL171	F54	6	TERMINAL BLOCK	K2	D259	29	HEATER MOTOR RELAY							E23	D205	23	AIRDROP ONLY	X7	D137	16	24 VDC									
TL172	F54	6	TERMINAL BLOCK	K2	E266	30	HEATER MOTOR RELAY							E24	C85	10	CAB MARKER LIGHTS	PHONE 1	A285	32	VAN PHONE 1									
TL173	E54	6	POLARITY PROTECTION (P/P)	K2	B143	16	CONTROL PANEL RELAY							E24	D205	23	AIRDROP ONLY	PHONE 2	H237	32	VAN PHONE 2									
TL174	D54	6	POLARITY PROTECTION (P/P)	K3	D260	29	CONTROL THERMOSTAT RELAY							E25	F86	10	CAB MARKER LIGHTS	E77	9	LIGHT MATERIAL HANDLING CRANE (LMHC)										
TL190	D290	33	WTEC II PRESSURE SWITCH GROUND	K3	E266	30	CONTROL THERMOSTAT RELAY							E25	B41	31	24 VDC VAN POWER	E77	9	LMHC REMOTE CONTROL BOX										
TL201	E125	14	PARKING BRAKE SWITCH	K4	D260	29	IGNITION RELAY							E26	B41	31	24 VDC VAN POWER	E77	9	LMHC POWER CABLE										
TL202	E125	14	PARKING BRAKE SWITCH	K4	E266	30	IGNITION RELAY							E26	B41	31	24 VDC VAN POWER	E77	9	LMHC REMOTE CONTROL IN/OUT										
TL320	E232	26	PTO EQUIPPED	K5	D261	29	FLAME CONTROL RELAY							E60	B41	31	24 VDC VAN POWER	E77	9	LMHC REMOTE CONTROL IN/OUT										
TL320	C241	27	ARCTIC KIT W/PTO EQUIPPED	K5	E267	30	FLAME CONTROL RELAY							E65	B41	5	CHASSIS - FRONT	E77	9	LMHC REMOTE CONTROL IN/OUT										
SWITCHES																														
NUMBER	ZONE	SH	DESCRIPTION																											
S3	A77	20	COLUMN SWITCH																											
S3	C177	20	COLUMN SWITCH																											
S4	D114	13	MAIN LIGHT SWITCH																											
S5/1	B111	13	IGNITION SWITCH																											
S5/11	A91	11	ENGINE FAN OFF SWITCH																											
S5/14	C213	24	WINCH ON OFF																											
S5/15	B212	24	WINCH IN-OUT																											
S5/16	F91	11	ETHER STARTER SWITCH																											
S5/2	D91	11	LAMP TEST SWITCH																											
S5/2	D111	13	ROTATING WARNING LIGHT SWITCH																											
S5/22	G111	13	FULL HAZARD WARNING SWITCH																											
S5/25	A219	25	SWINGFIRE PUMP SWITCH																											
S5/6	B210	24	PTO ON/OFF SWITCH																											
S5/8	A213	24	BLACKOUT OVERRIDE SWITCH																											
S5/9	A214	24	FUEL PRE-HEAT SWITCH																											
S6	A114	13	STARTER PUSHBUTTON																											
S7	F137	16	START INHIBIT PUSHBUTTON																											
S10A	C179	20	STOPLIGHT SWITCH																											
S10B	D179	20	STOPLIGHT SWITCH																											
S11	A287	32	VAN CURBSIDE WINDOW BLACKOUT SWITCH																											
S12	A287	32	VAN CURBSIDE WINDOW BLACKOUT SWITCH																											
S13	G288	32	VAN ROADSIDE WINDOW BLACKOUT SWITCH																											
S14	G288	32	VAN ROADSIDE WINDOW BLACKOUT SWITCH																											
S15	G288	32	VAN ROADSIDE WINDOW BLACKOUT SWITCH																											
S17	G288	32	VAN DOOR WINDOW BLACKOUT SWITCH (S/N 191 AND HIGHER)																											
S17	G288	32	VAN CURBSIDE WINDOW BLACKOUT SWITCH (S/N 001 THROUGH 190)																											
S18	D269	30	PTO PRESSURE SWITCH																											
S20	E177	20	SWITCH/FRONT AIR PRESSURE TRANSMITTER																											
S23	F52	6	AIR PRESSURE SWITCH FOR CTS																											
S24	E125	14	PARKING BRAKE SWITCH																											
S26	C57	7	WATER TEMPERATURE SENSOR																											

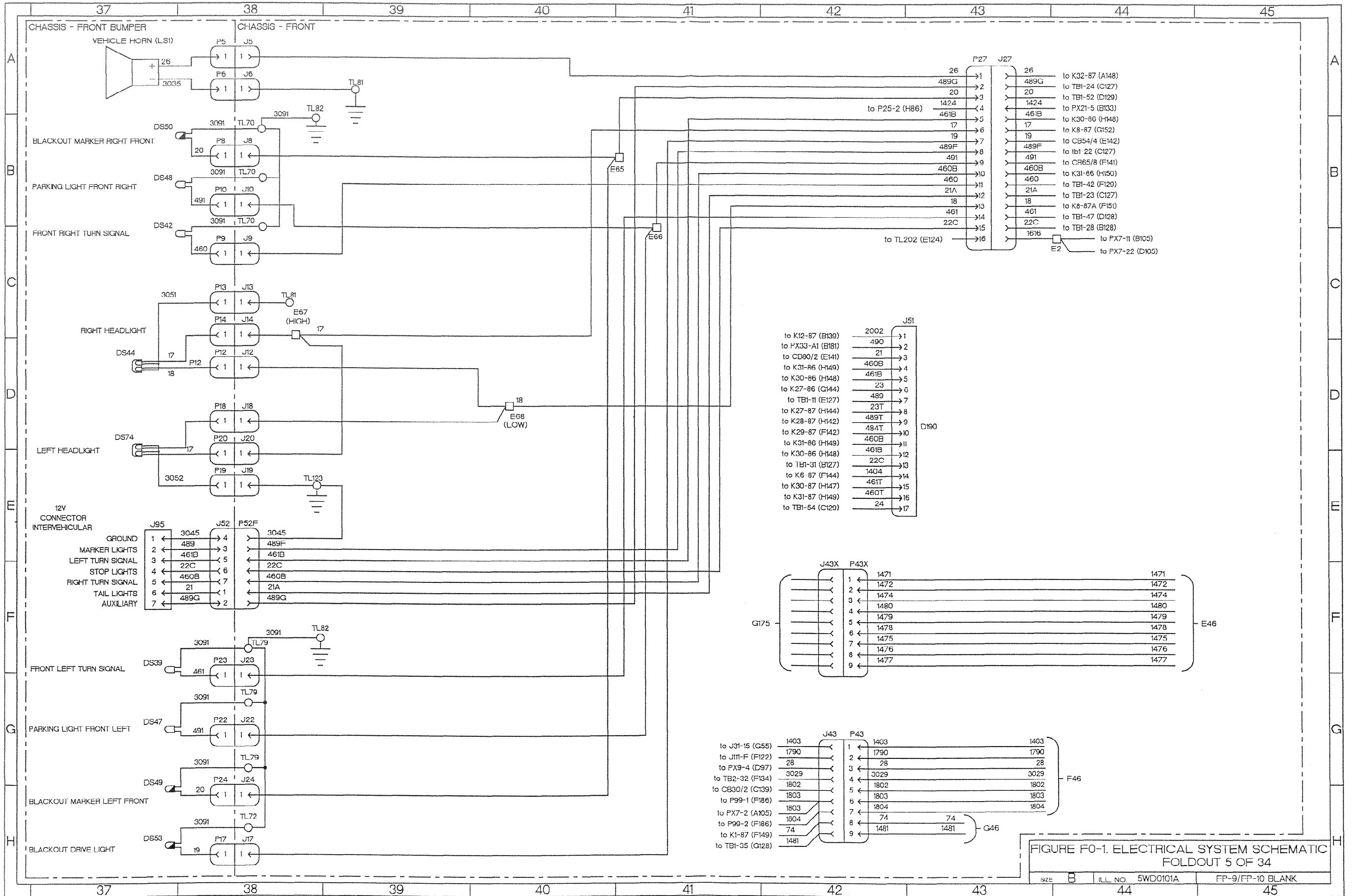


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 5 OF 34

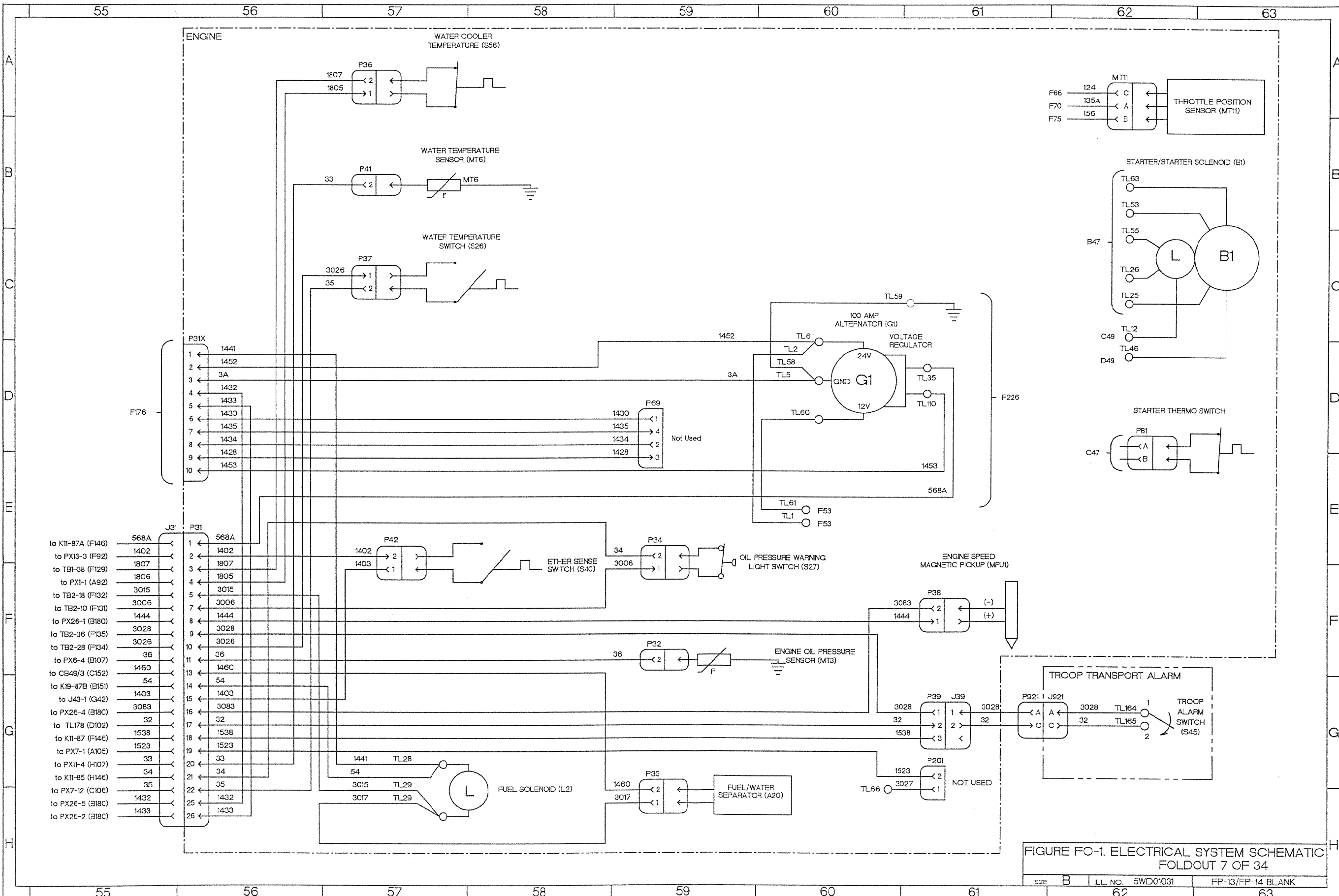


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 7 OF 34

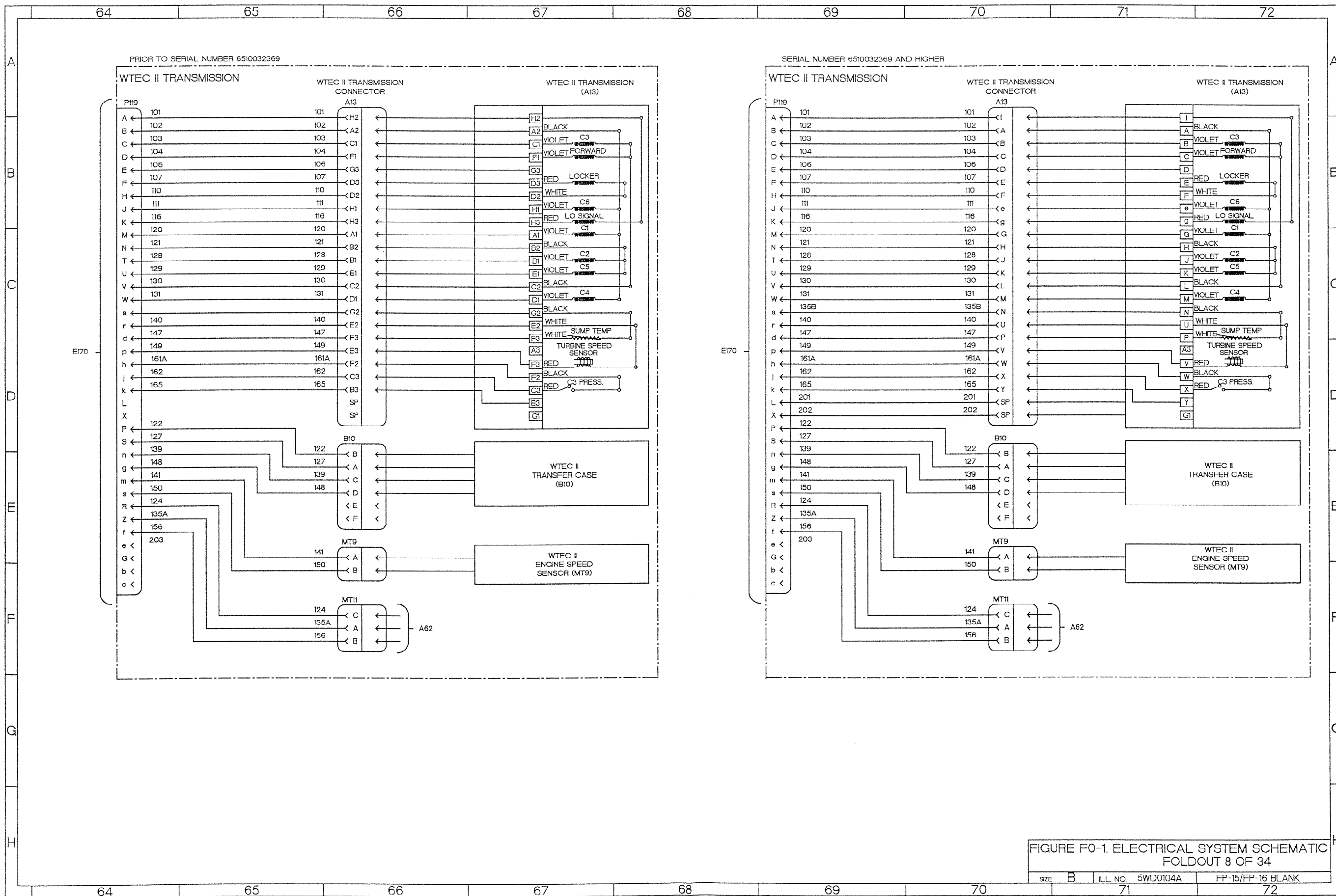


FIGURE F0-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 8 OF 34

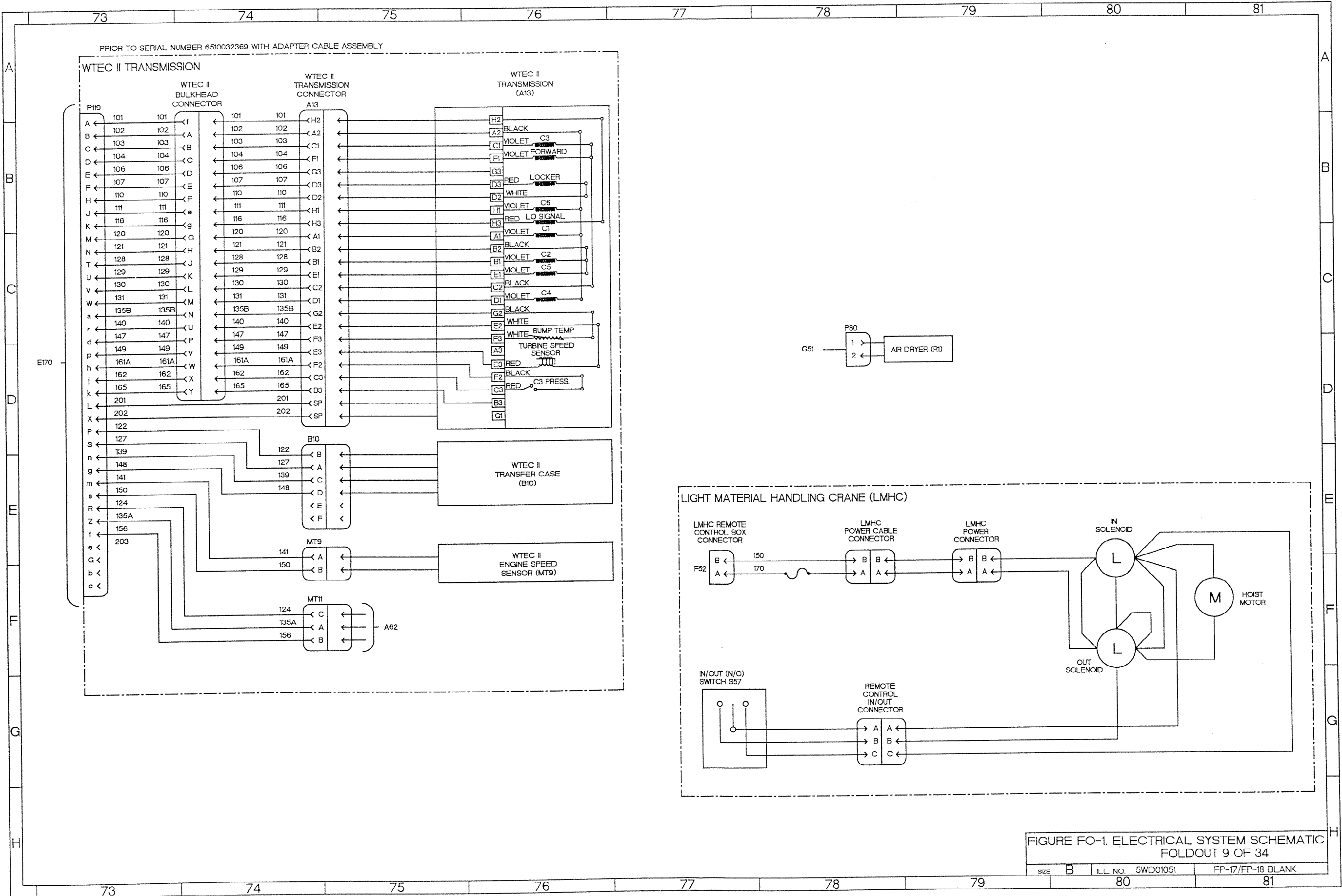


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 9 OF 34

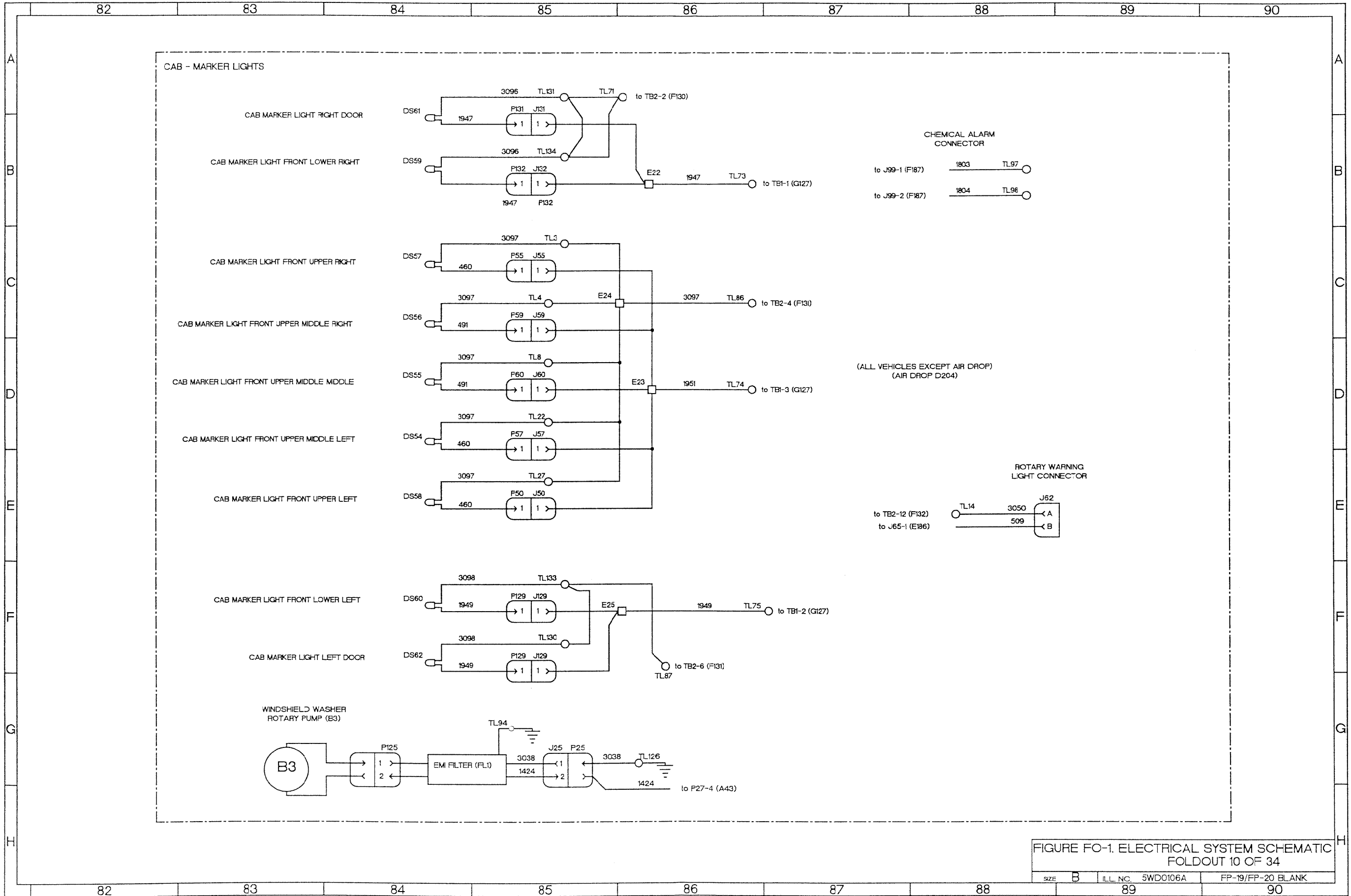


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 10 OF 34

SIZE	B	ILL. NO.	5WD0106A	FP-19/FP-20	BLANK
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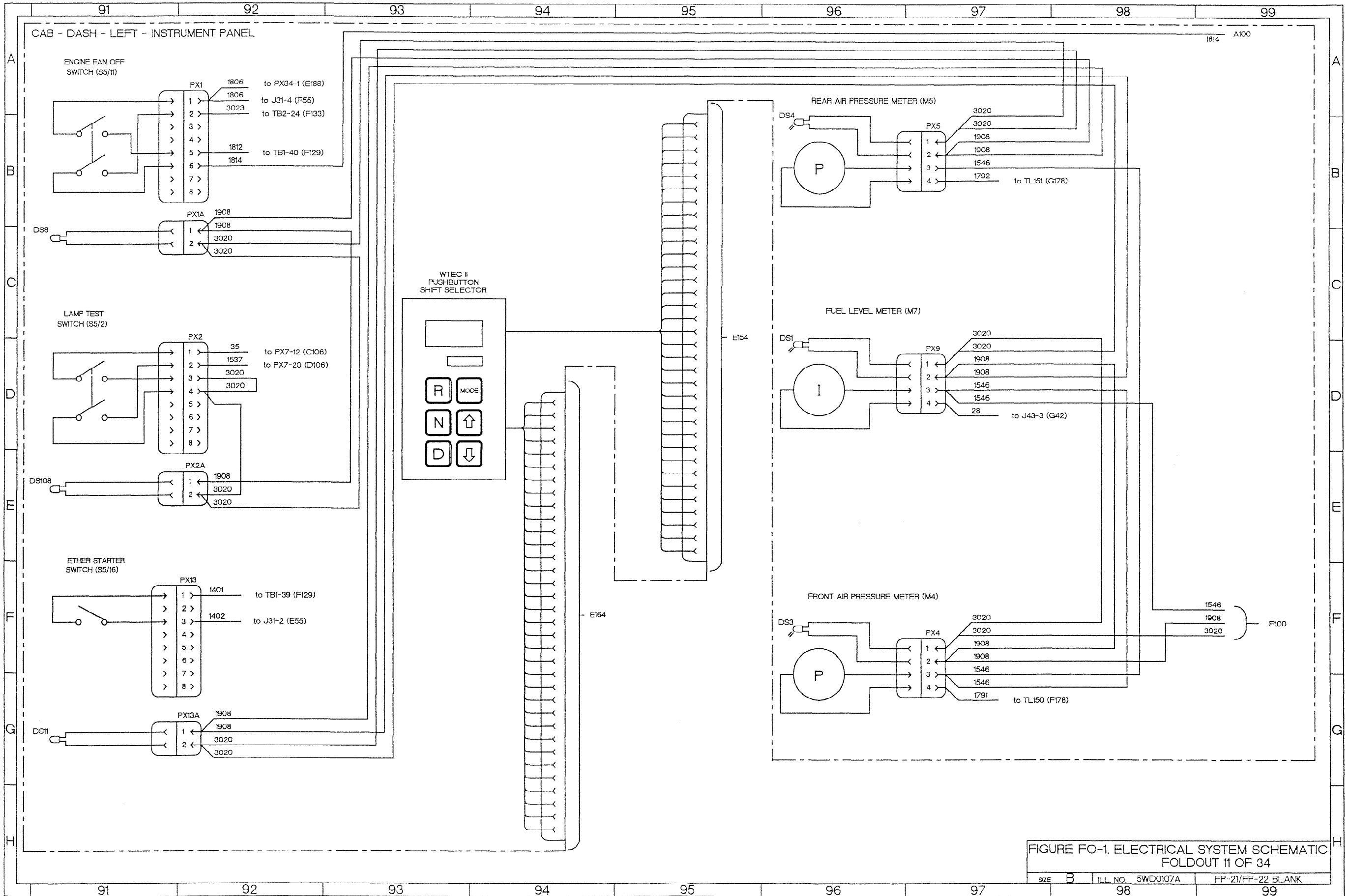


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
 FOLDOUT 11 OF 34

SIZE	B	ILL. NO.	5WD0107A	FP-21/FP-22	BLANK
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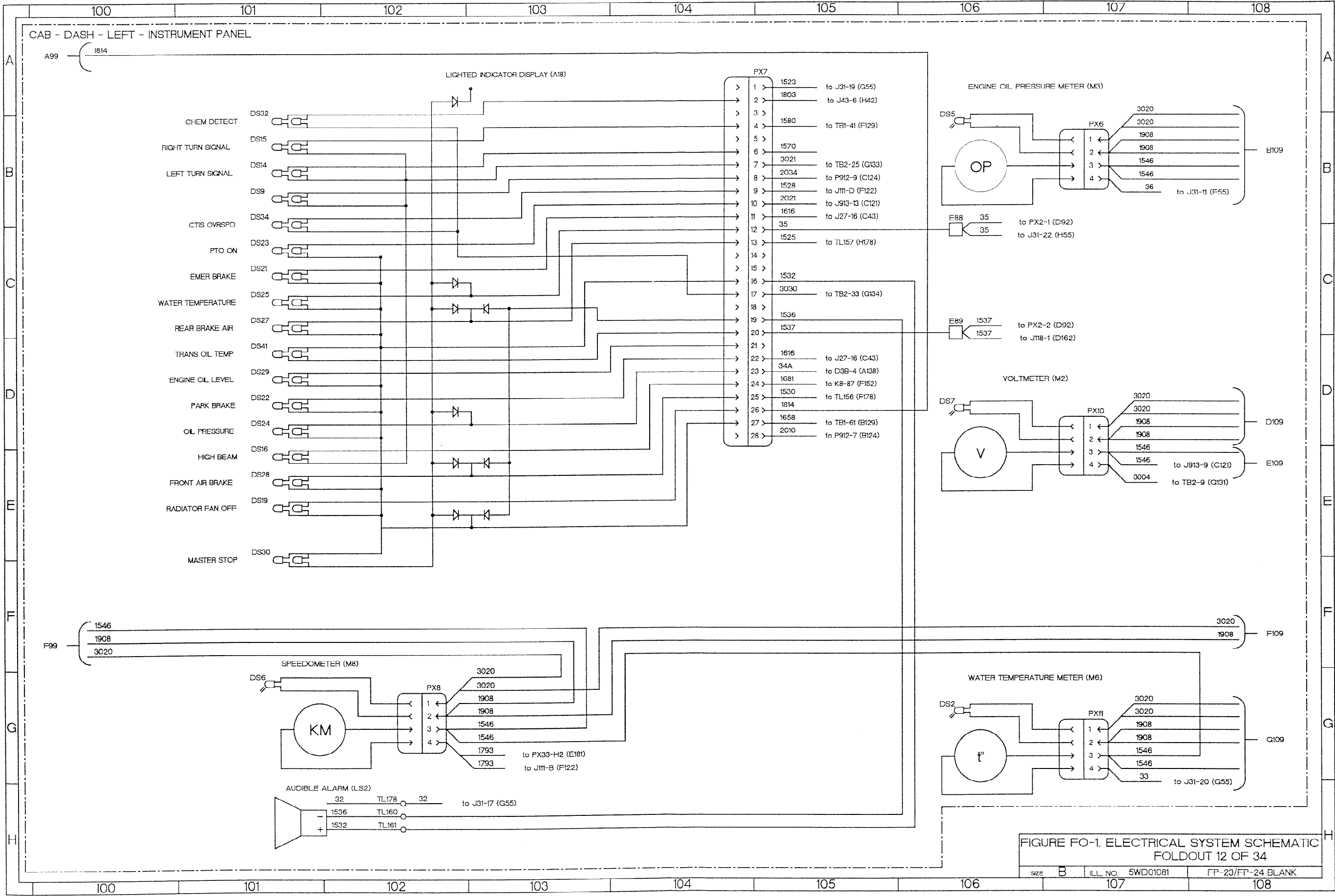


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 12 OF 34

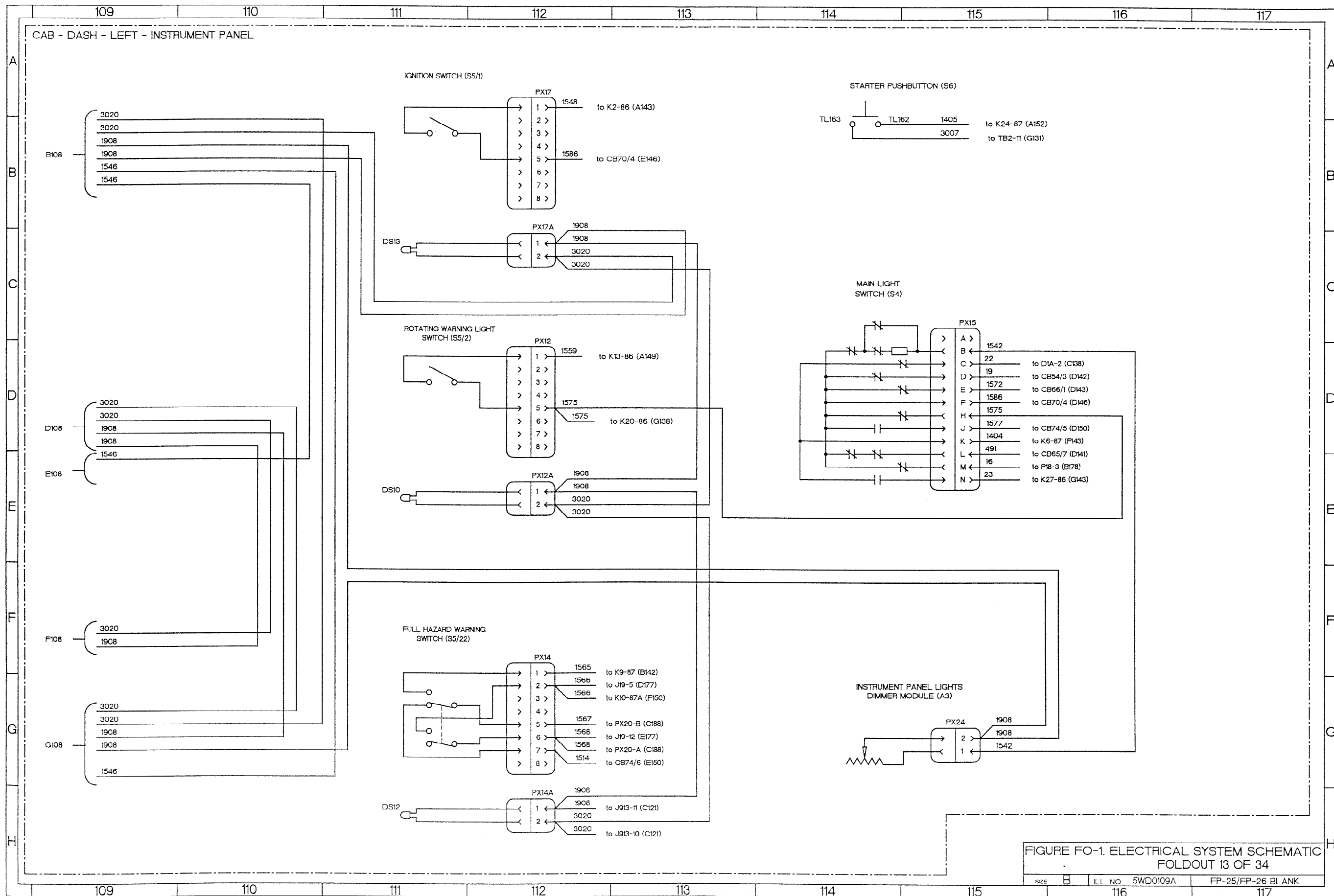


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 13 OF 34

SIZE	B	ILL. NO.	5WD0109A	FP-25/FP-26	BLANK
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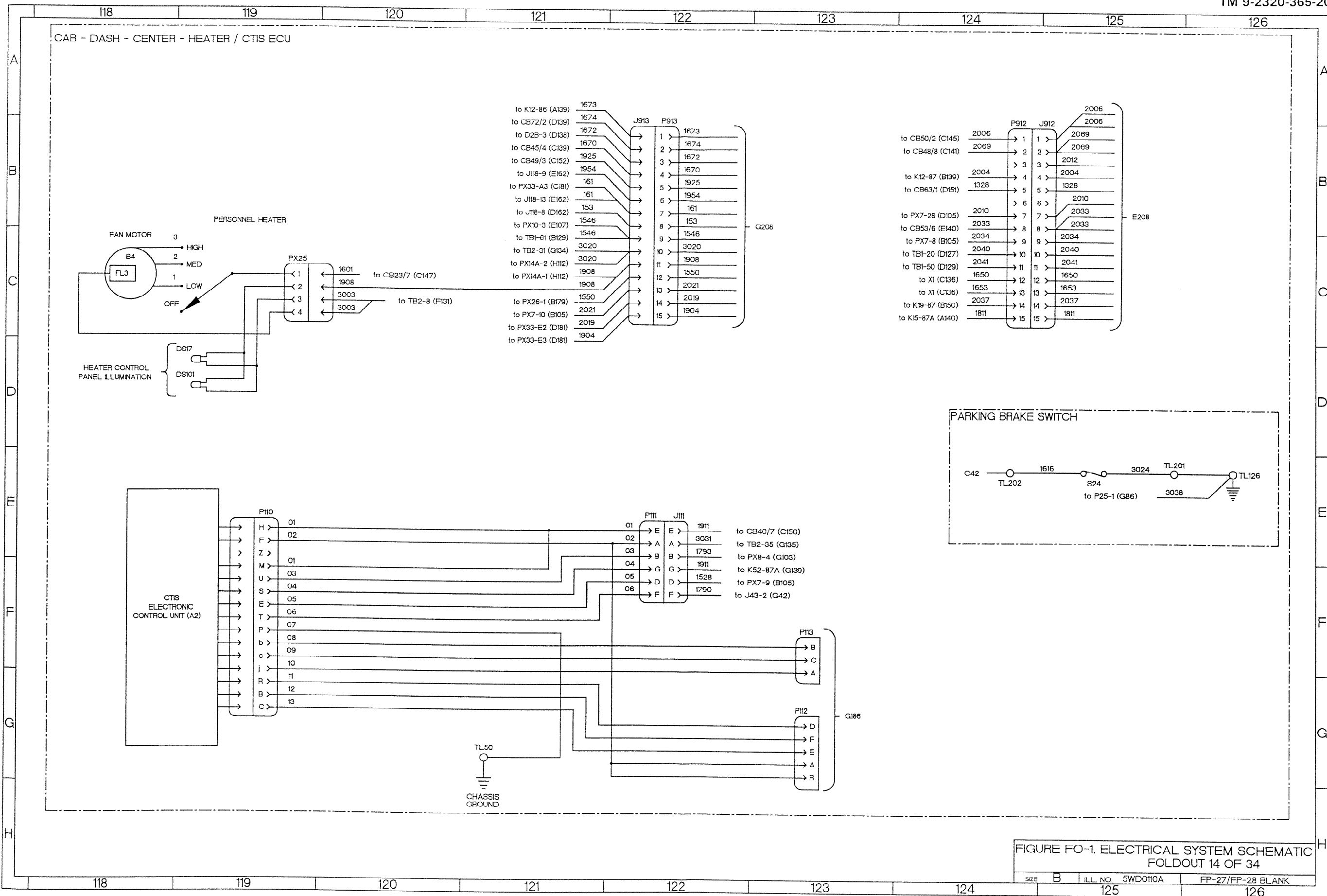


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 14 OF 34

SIZE	B	ILL. NO.	5WD0110A	FP-27/FP-28	BLANK
			125		126

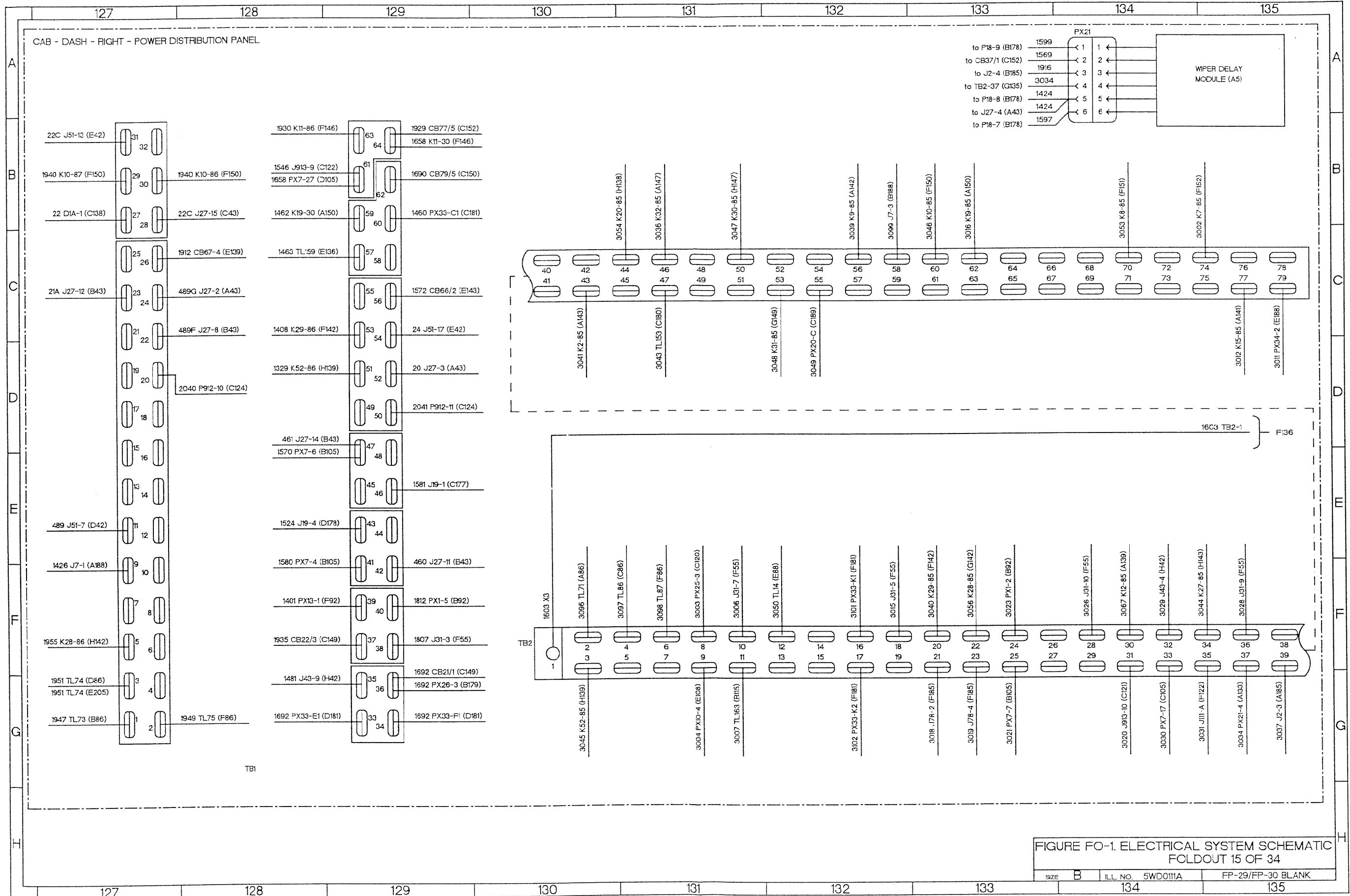


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 15 OF 34

SIZE	B	ILL. NO.	5WD0111A	FP-29/FP-30 BLANK
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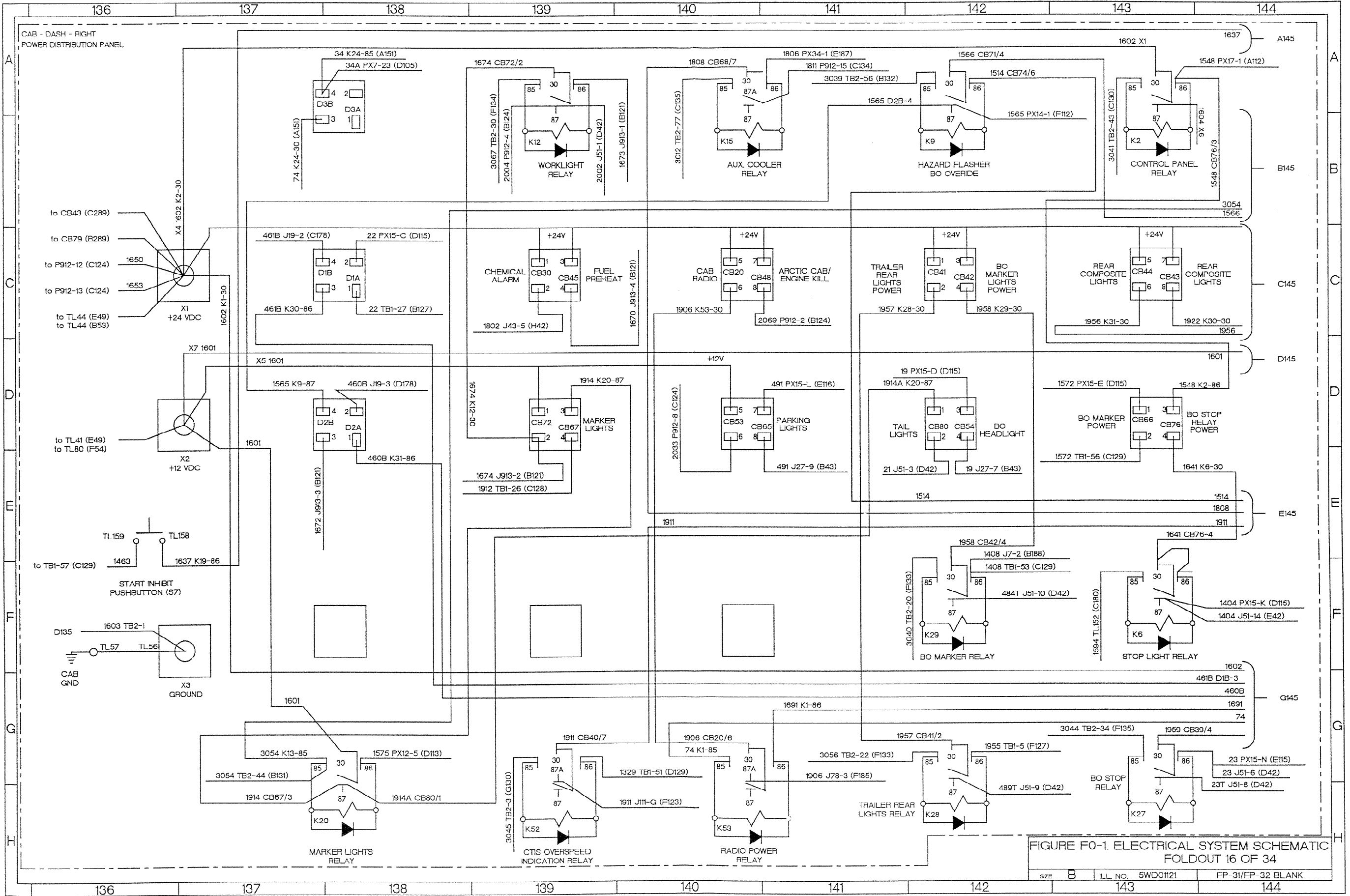


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 16 OF 34

SIZE	B	ILL. NO.	5WD01121	FP-31/FP-32	BLANK
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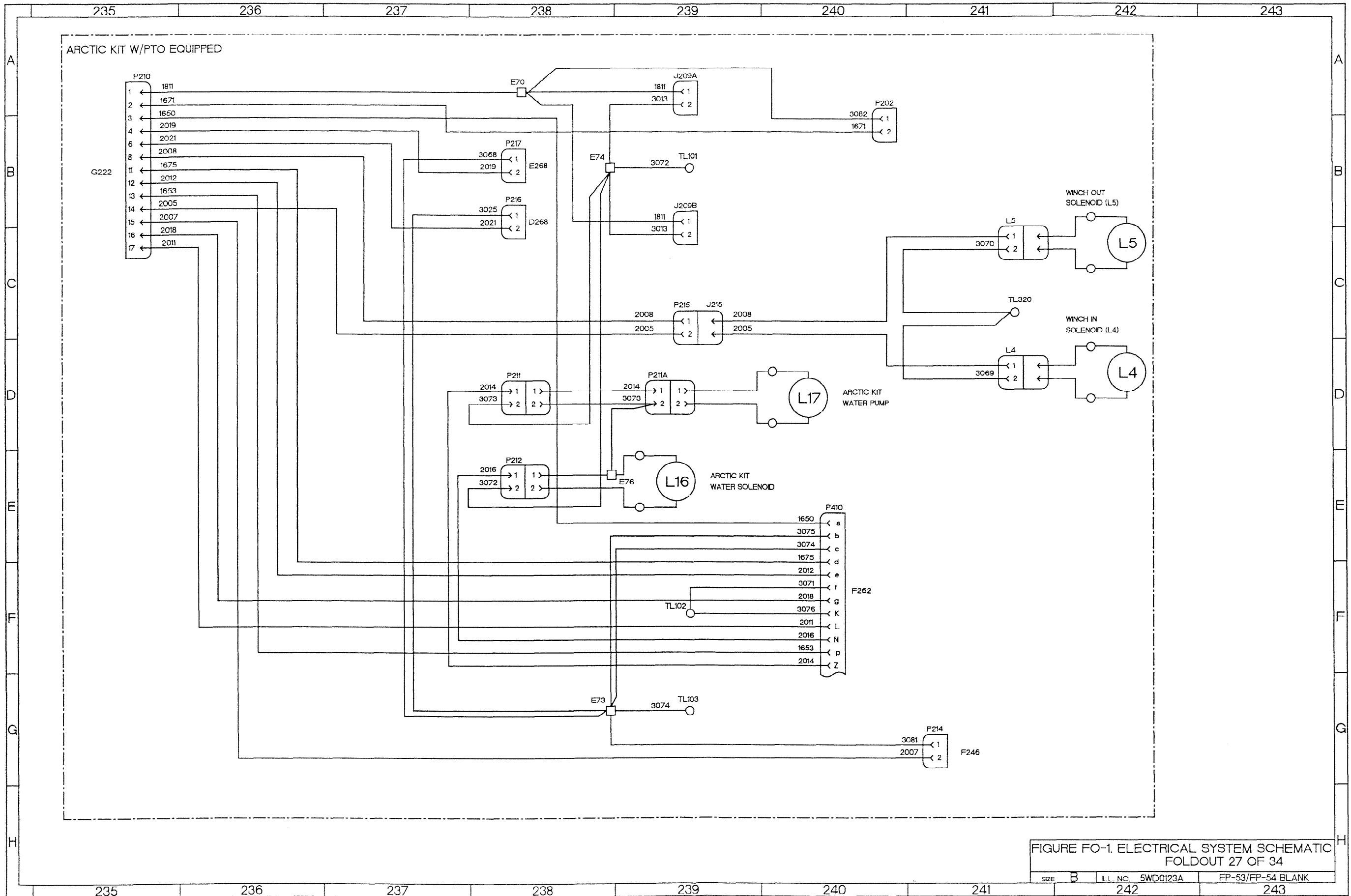


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
 FOLDOUT 27 OF 34

SIZE	B	ILL. NO.	5WD0123A	FP-53/FP-54	BLANK
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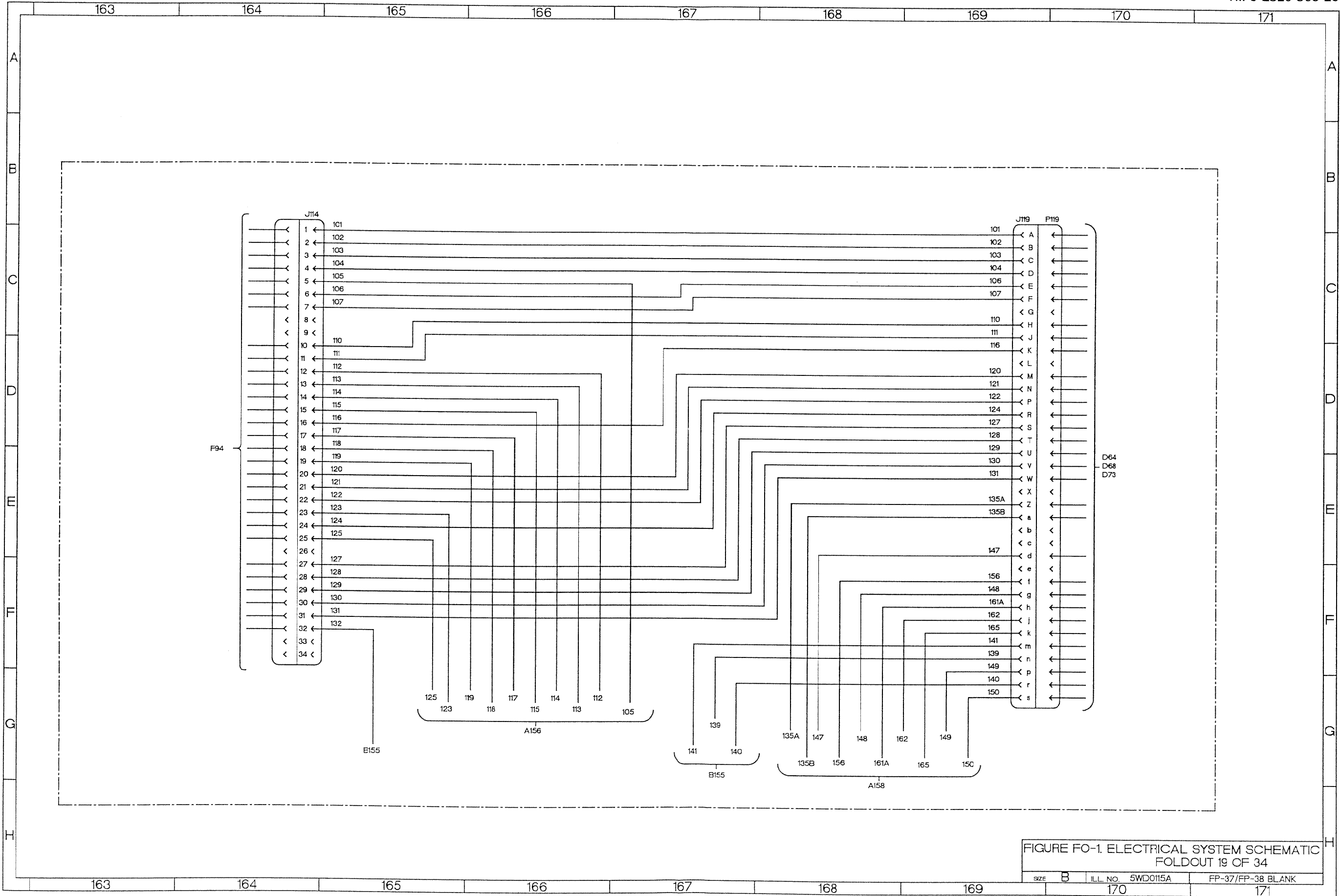


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 19 OF 34

SIZE	B	ILL. NO.	5WD0115A	FP-37/FP-38 BLANK
			170	171

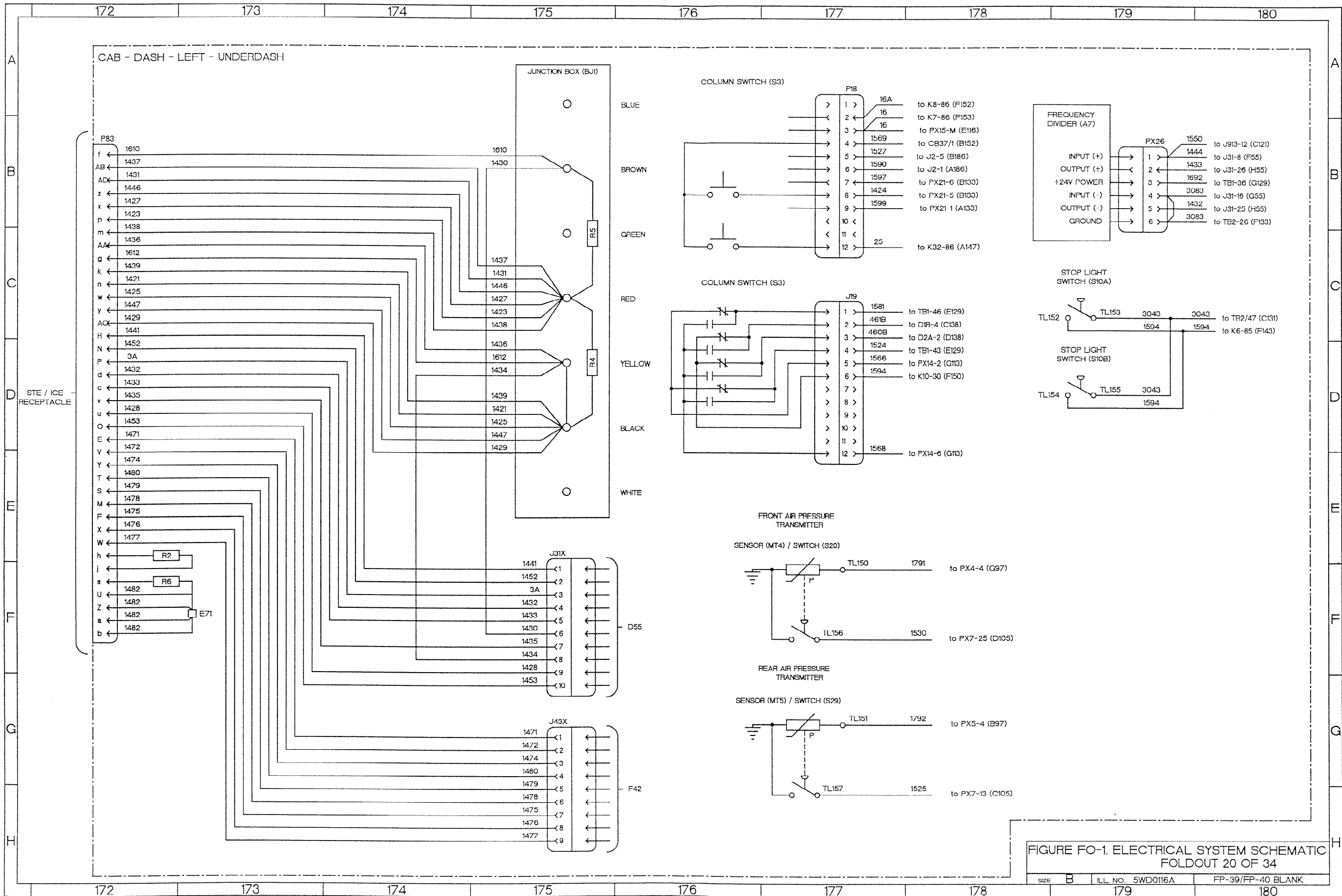


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 20 OF 34

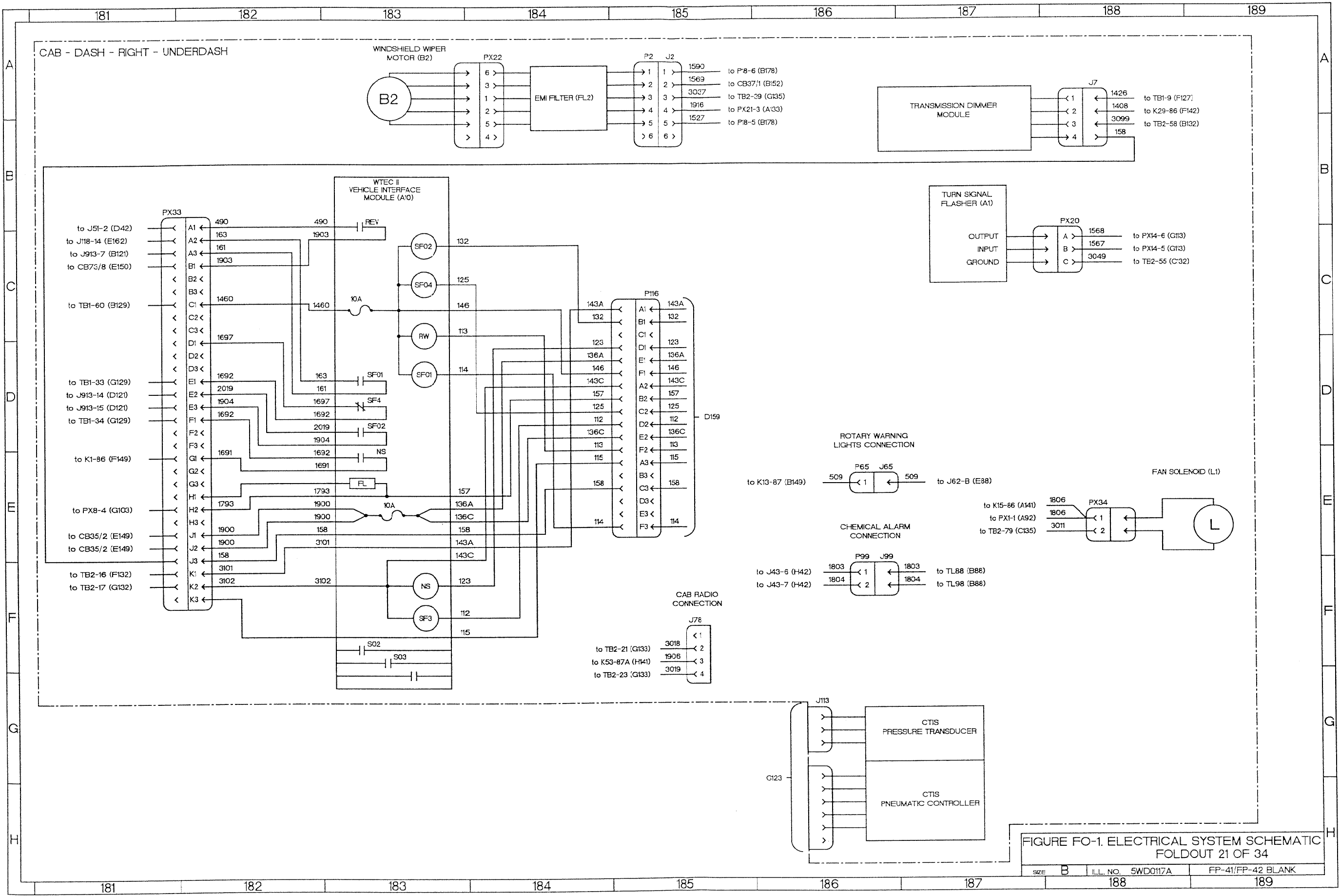


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 21 OF 34

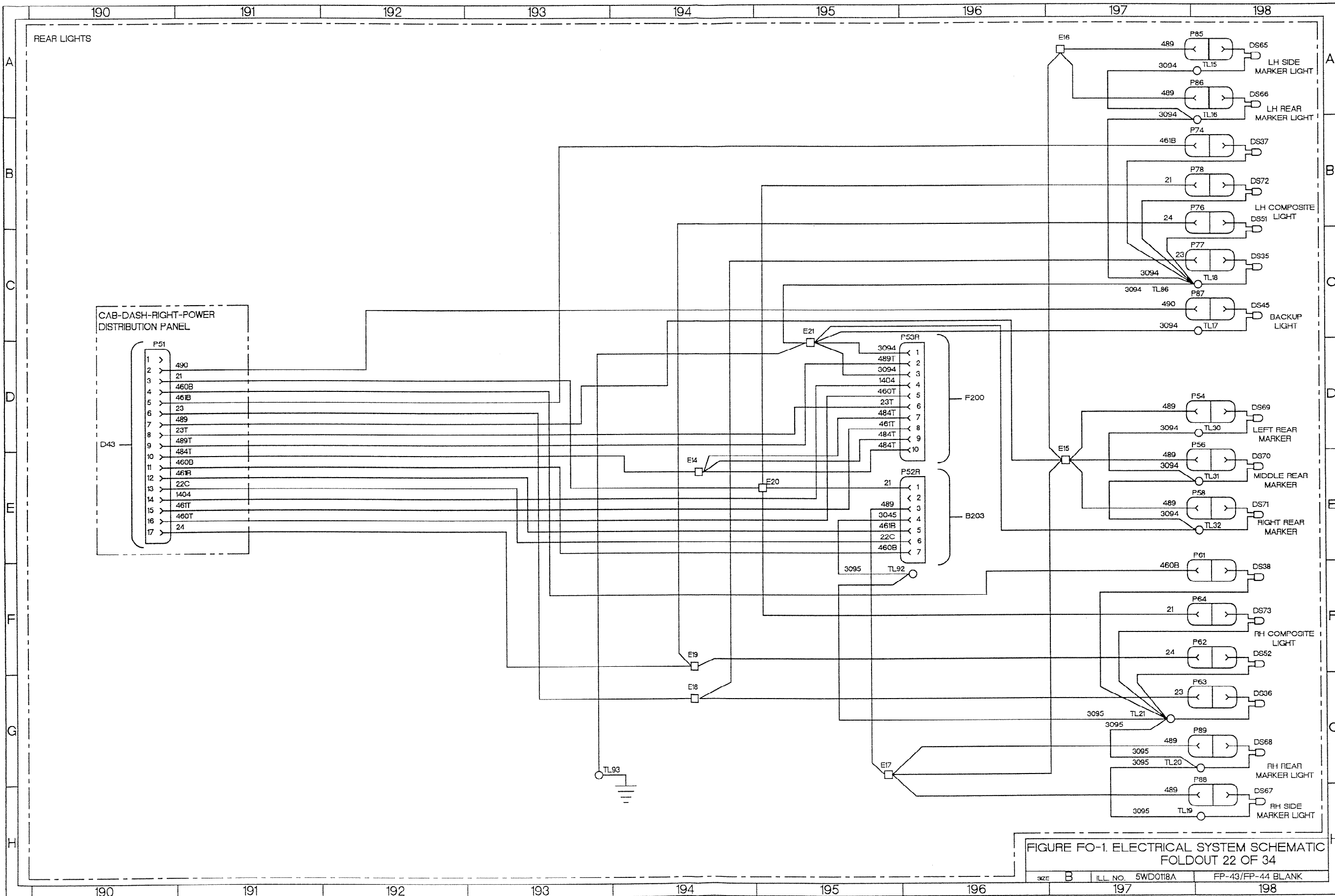


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 22 OF 34
 32E B ILL. NO. 5WD0118A FP-43/FP-44 BLANK

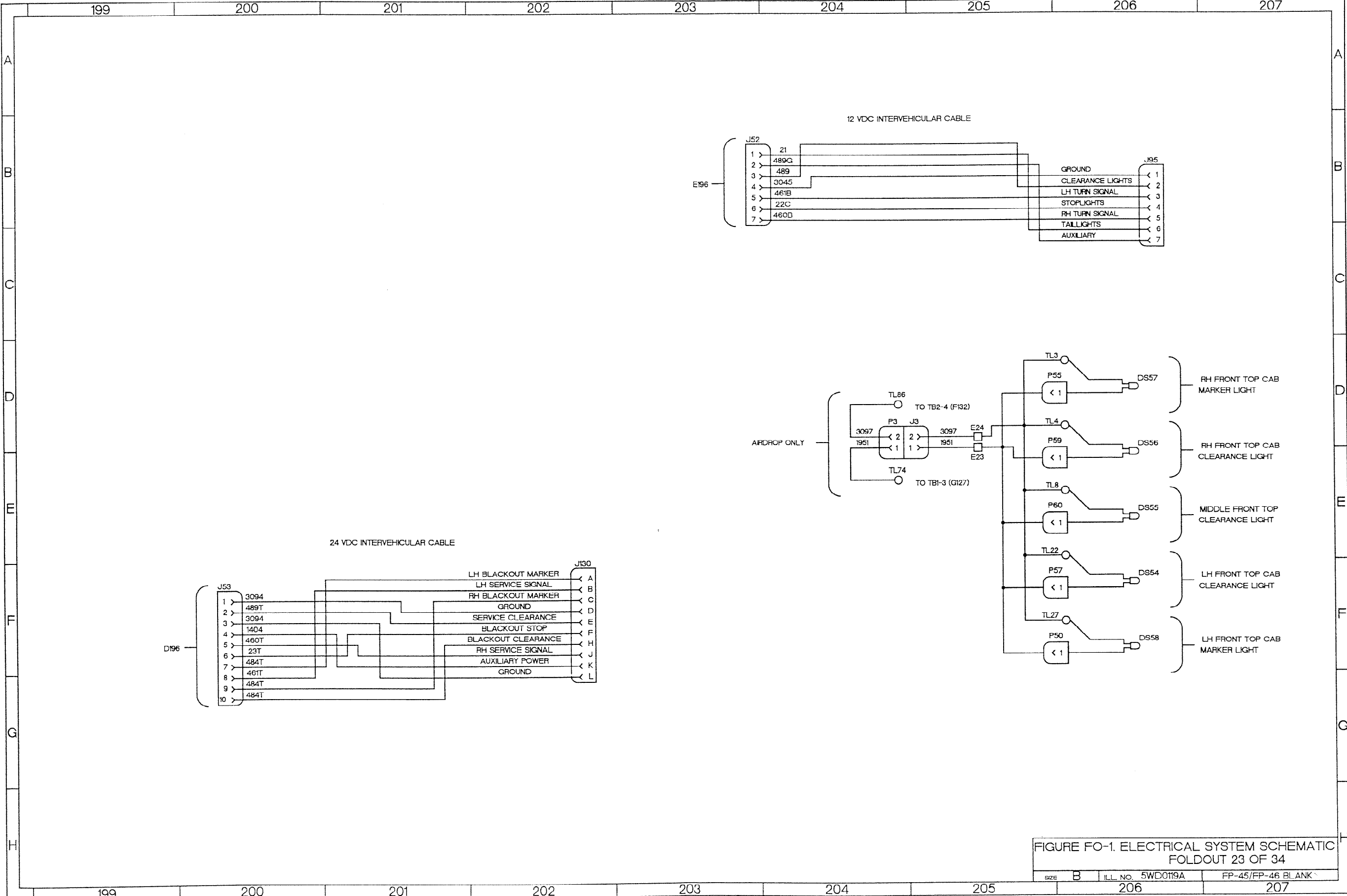


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 23 OF 34

SIZE	B	ILL. NO.	5WD019A	FP-45/FP-46 BLANK
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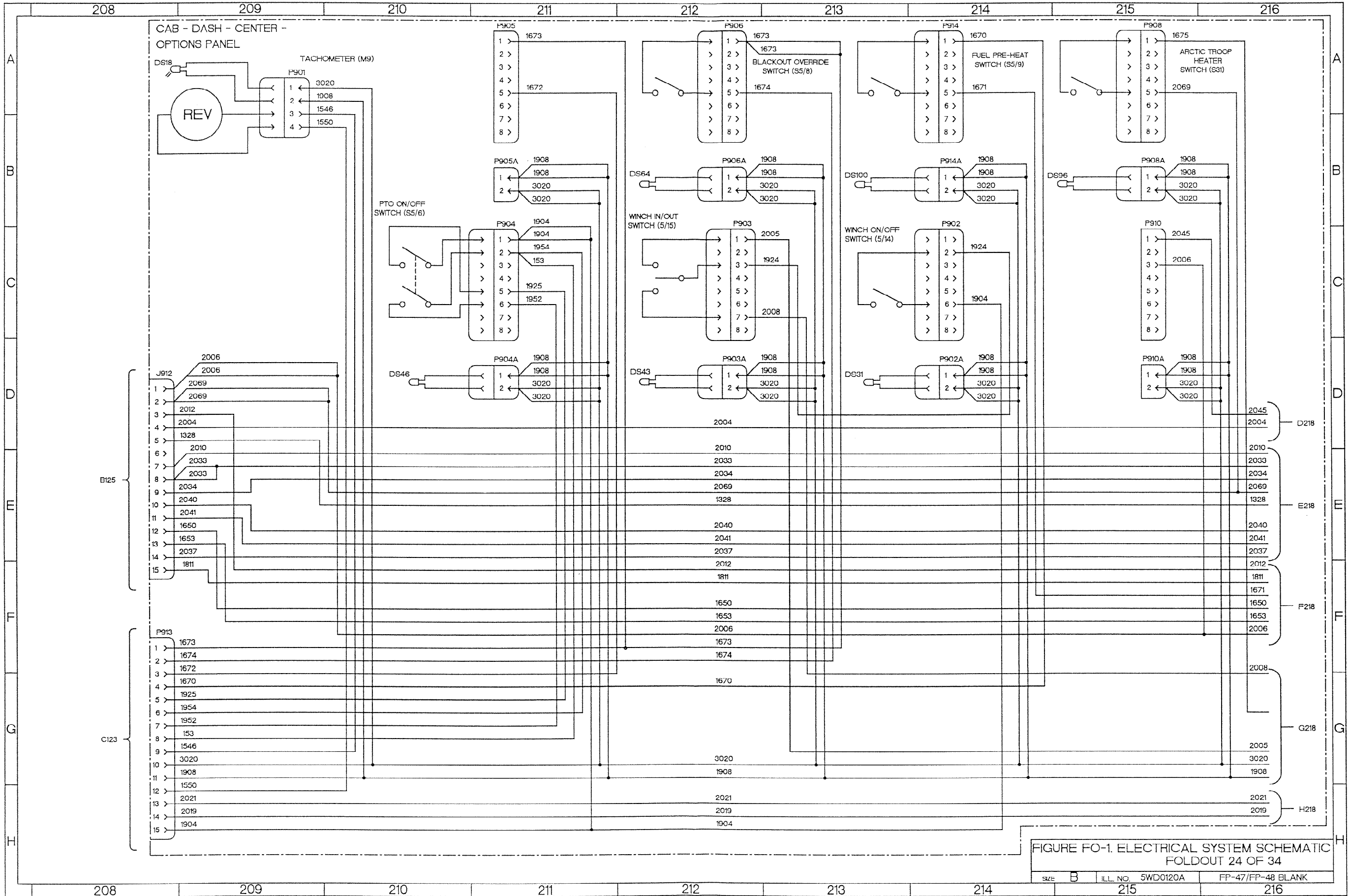


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 24 OF 34

SIZE	B	ILL. NO.	5WD0120A	FP-47/FP-48	BLANK
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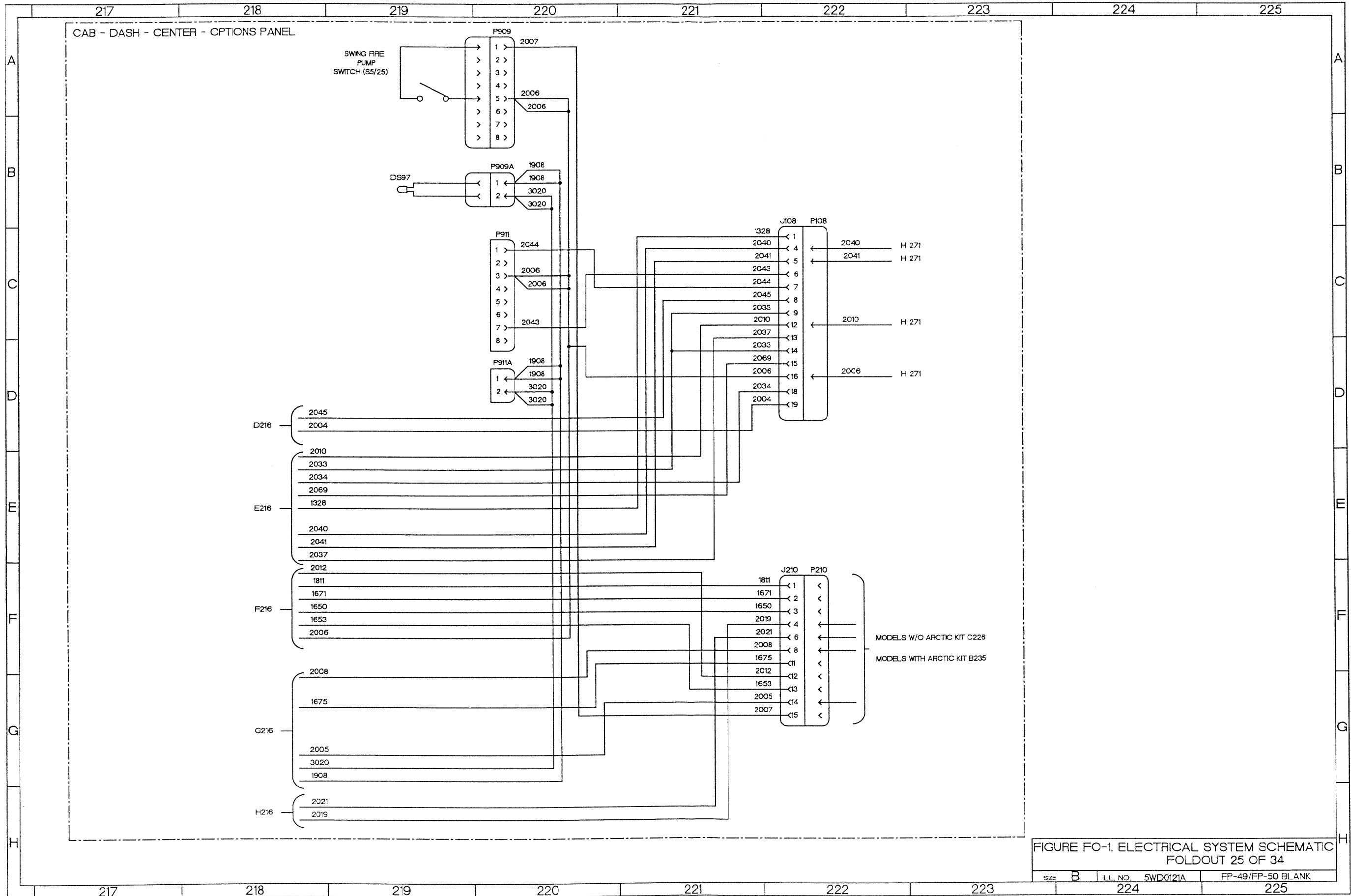


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
 FOLDOUT 25 OF 34

SIZE	B	ILL. NO.	5WD0121A	FP-49/FP-50 BLANK
			224	225

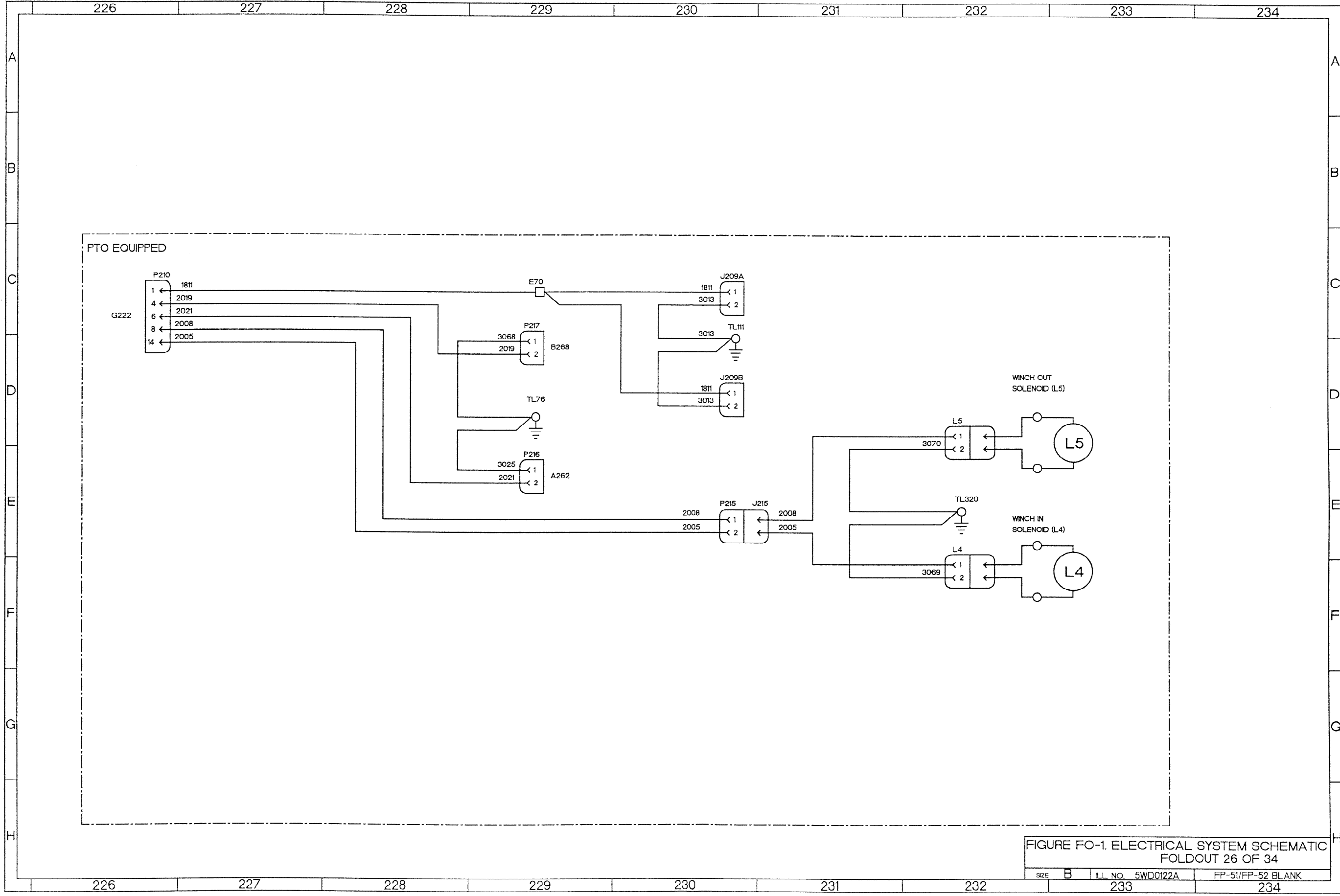


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 26 OF 34

SIZE	B	ILL. NO.	5WD0122A	FP-51/FP-52	BLANK
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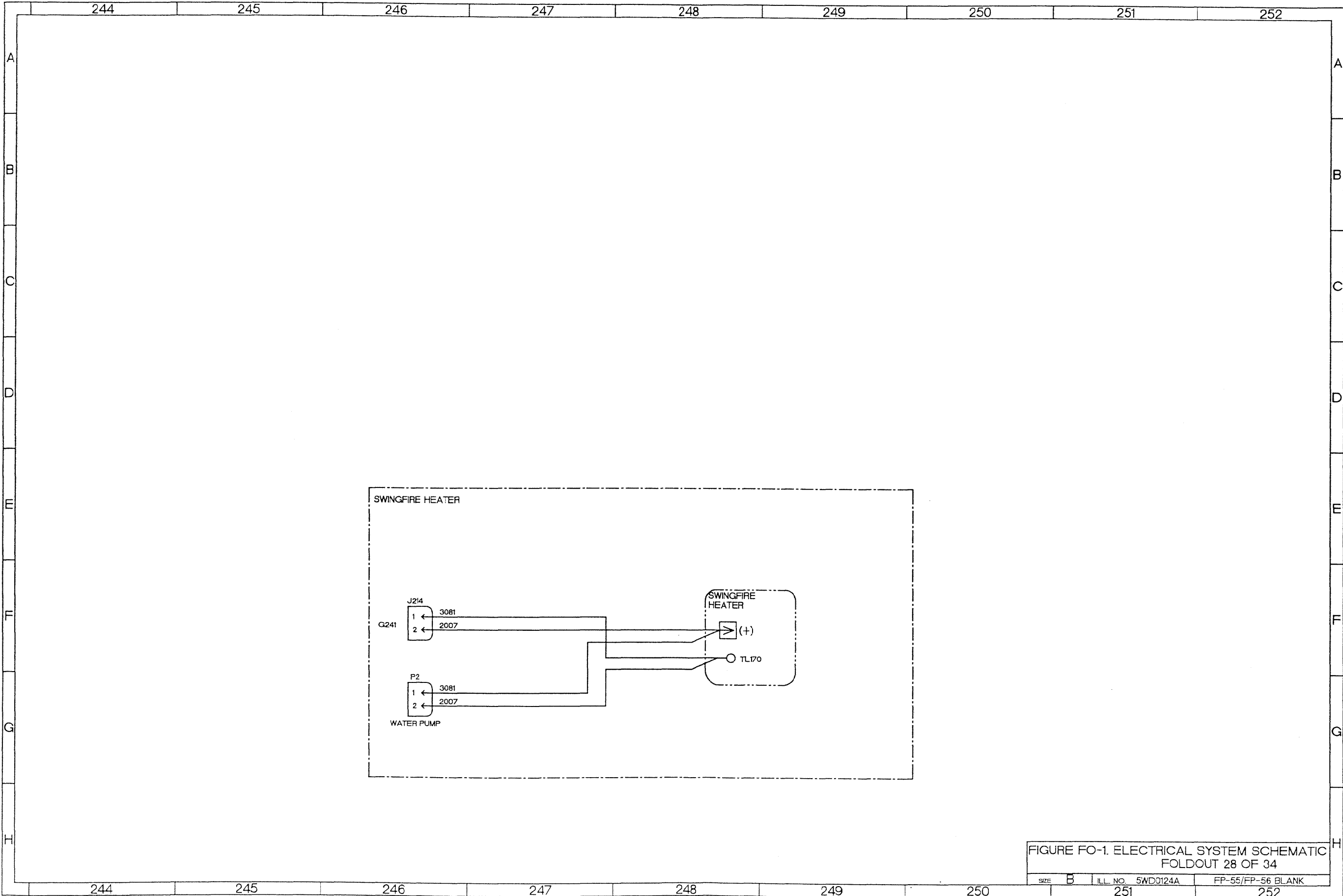


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 28 OF 34

SIZE	B	ILL. NO.	5WD0124A	FP-55/FP-56 BLANK
			251	252

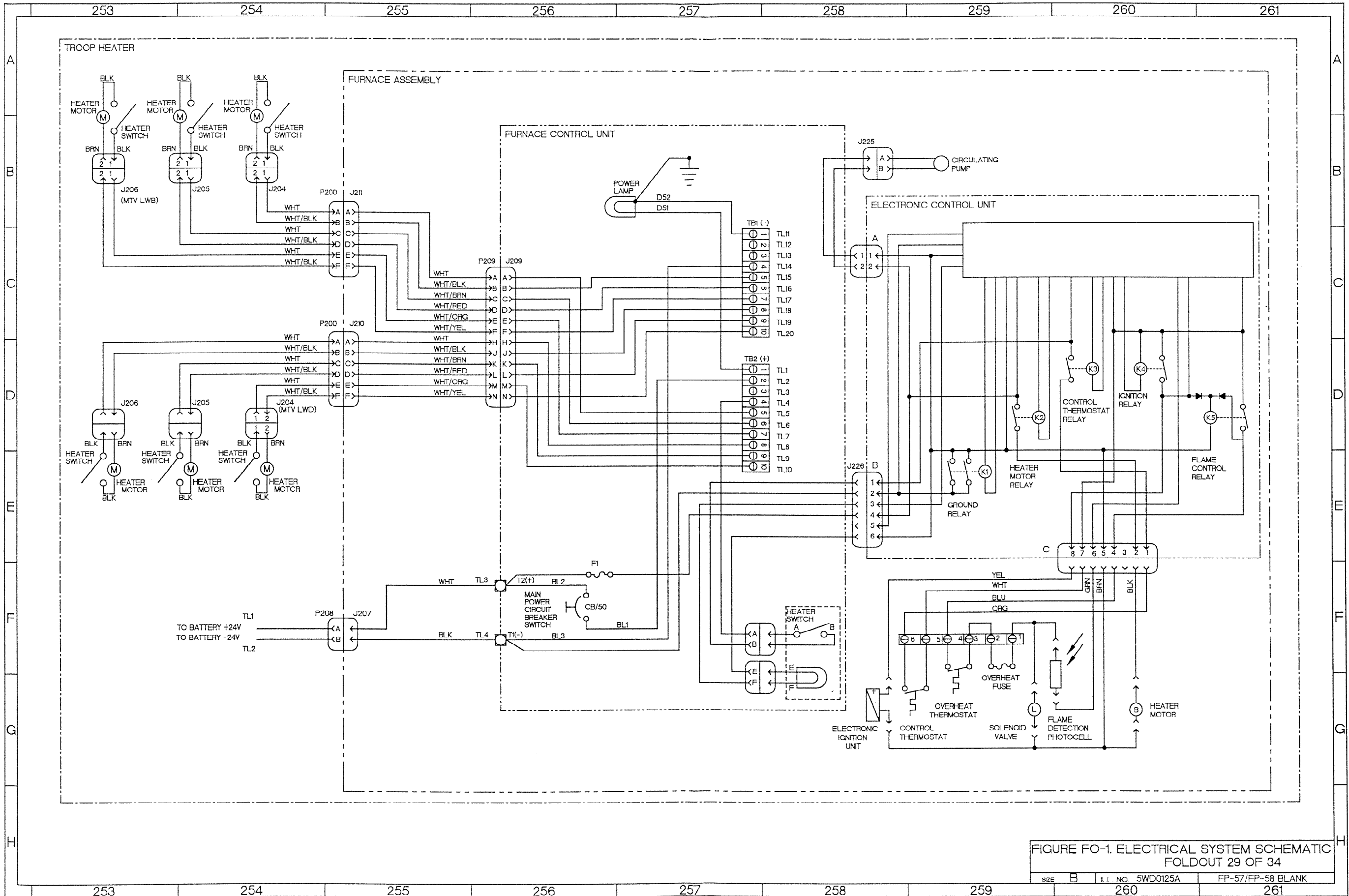


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 29 OF 34

SIZE	B	ILL. NO.	5WD0125A	FP-57/FP-58 BLANK
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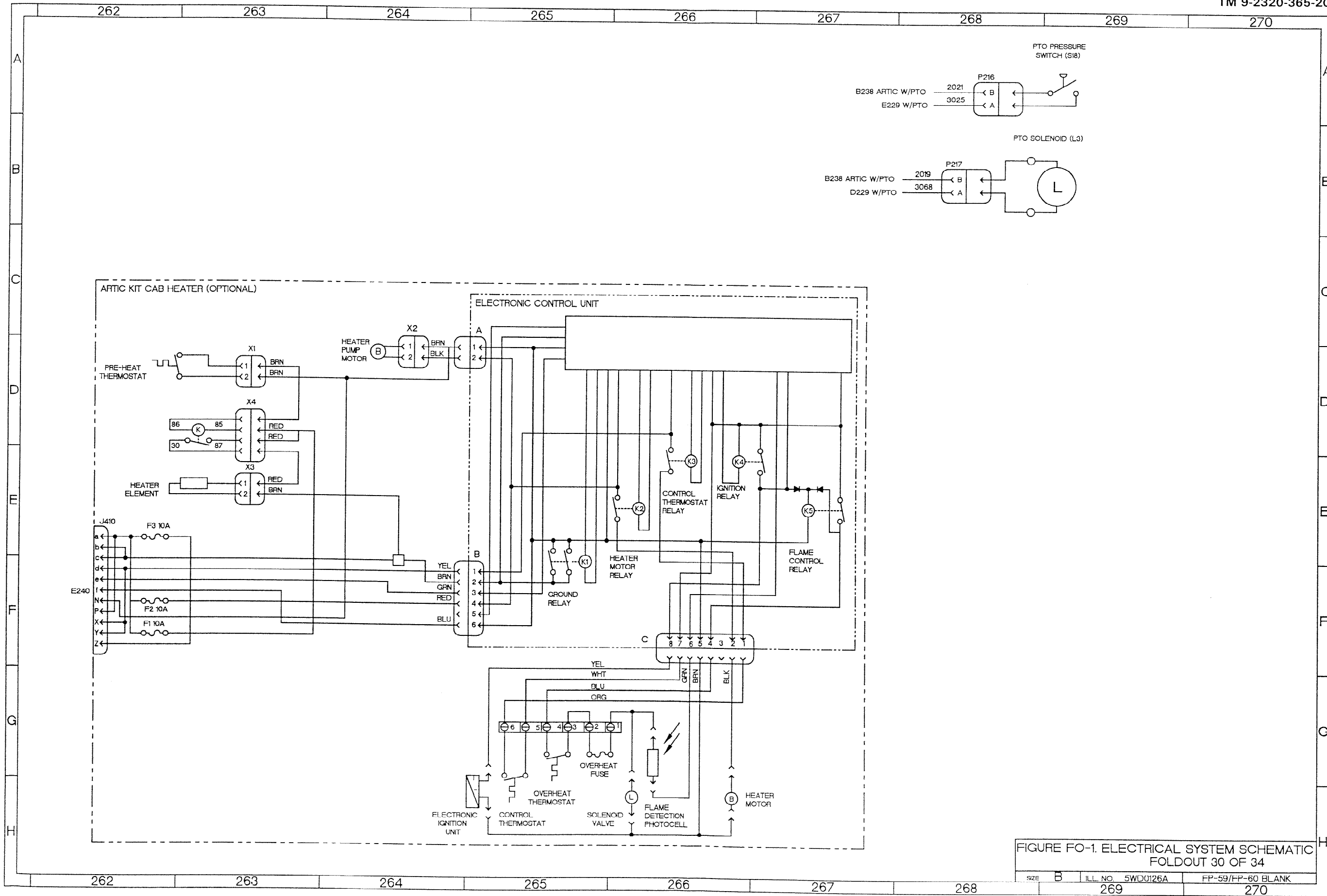


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 30 OF 34

SIZE	B	ILL. NO.	5WD0126A	FP-59/FP-60	BLANK
			269		270

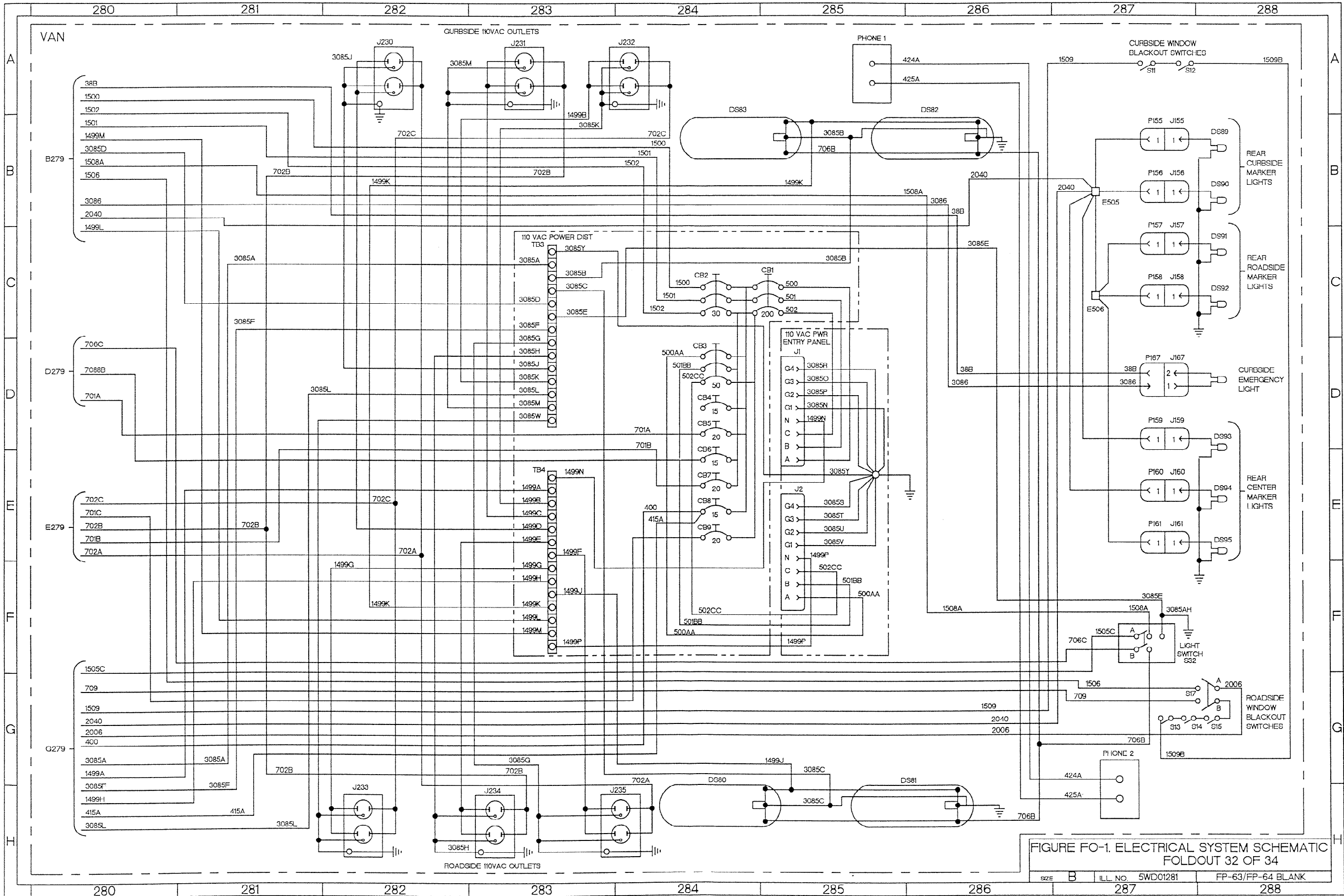


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 32 OF 34

SIZE	B	ILL. NO.	5WD01281	FP-63/FP-64	BLANK
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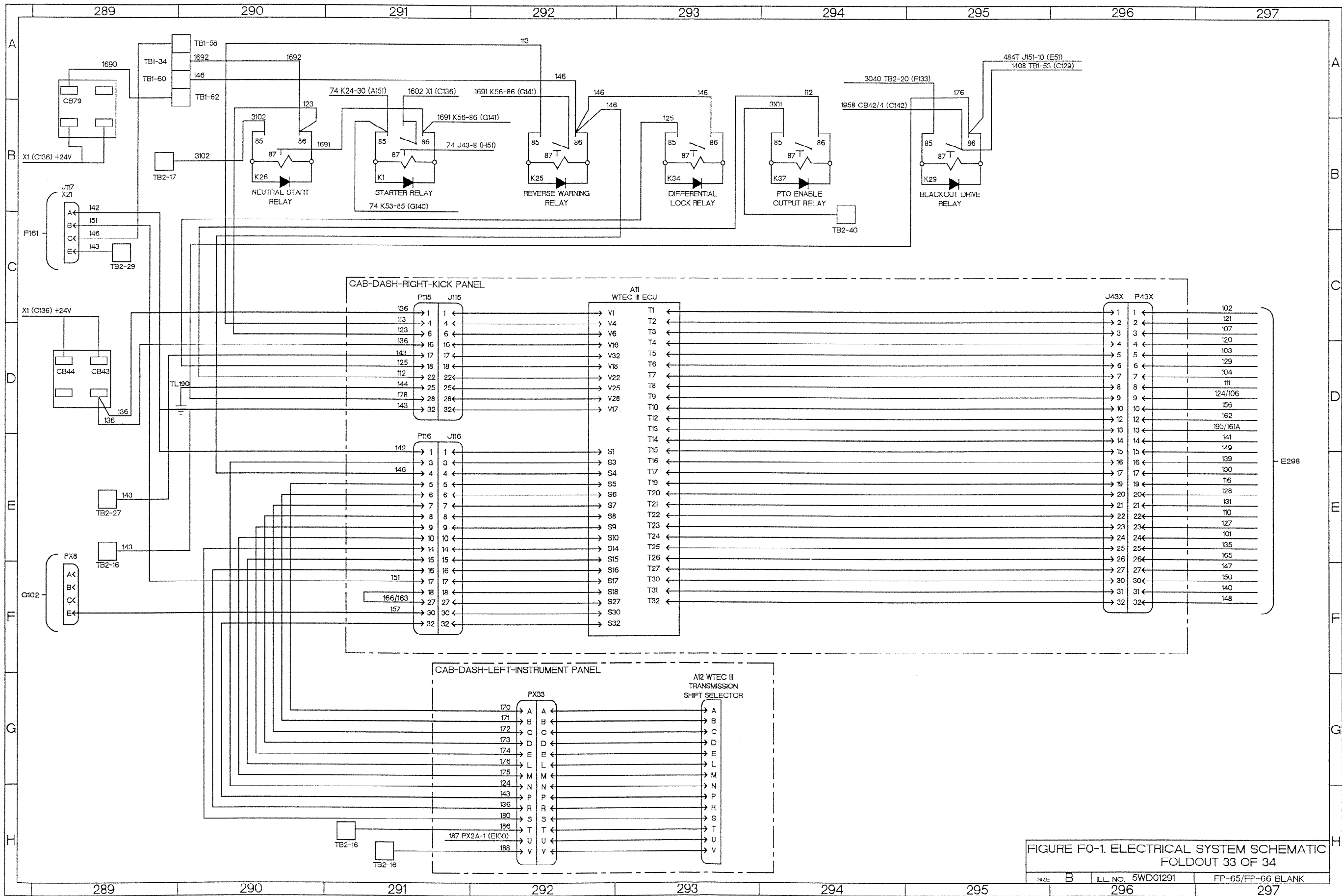


FIGURE F0-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 33 OF 34

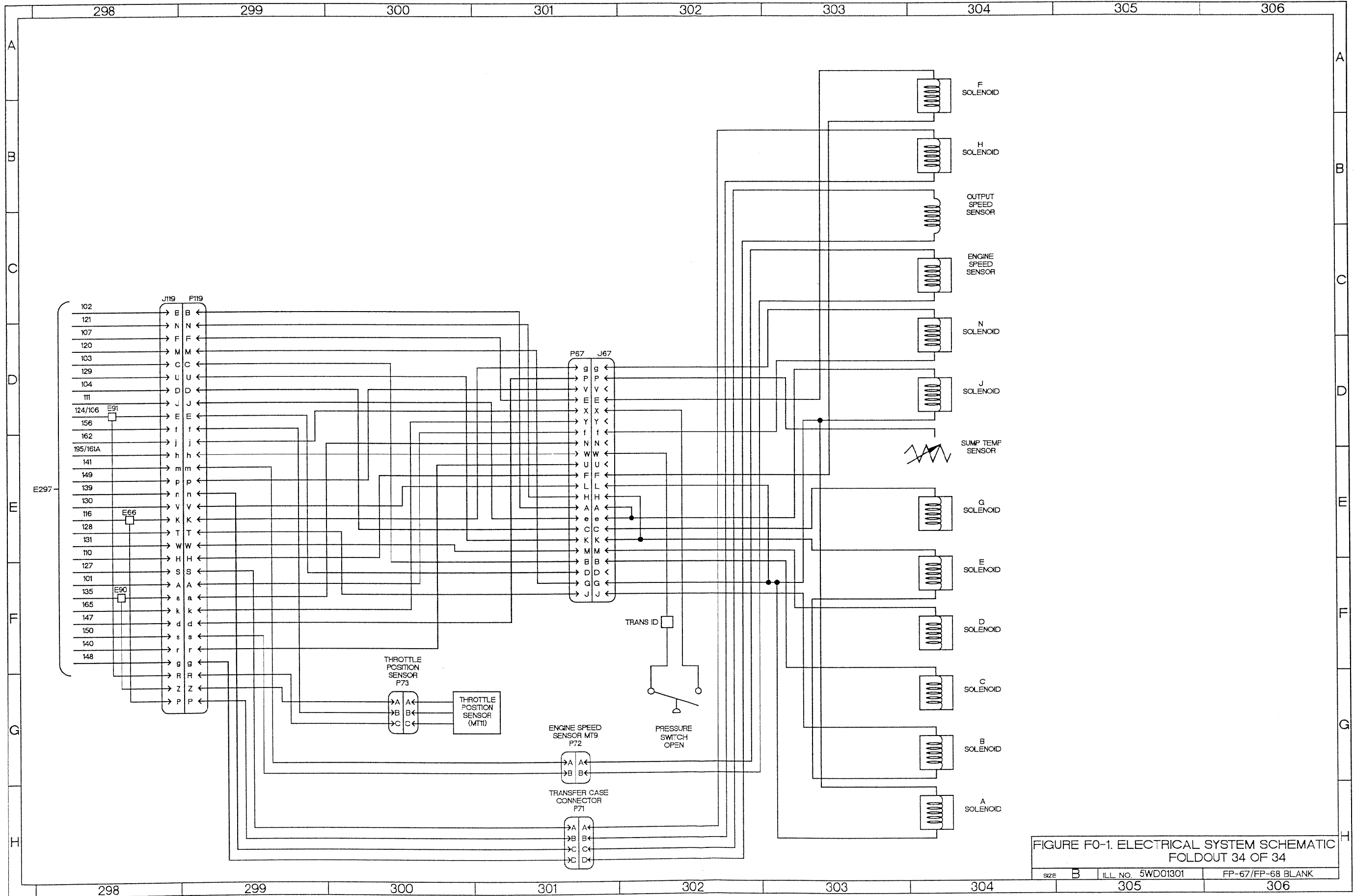


FIGURE F0-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 34 OF 34

size	B	ILL. NO.	5WD01301	FP-67/FP-68	BLANK
			305		306

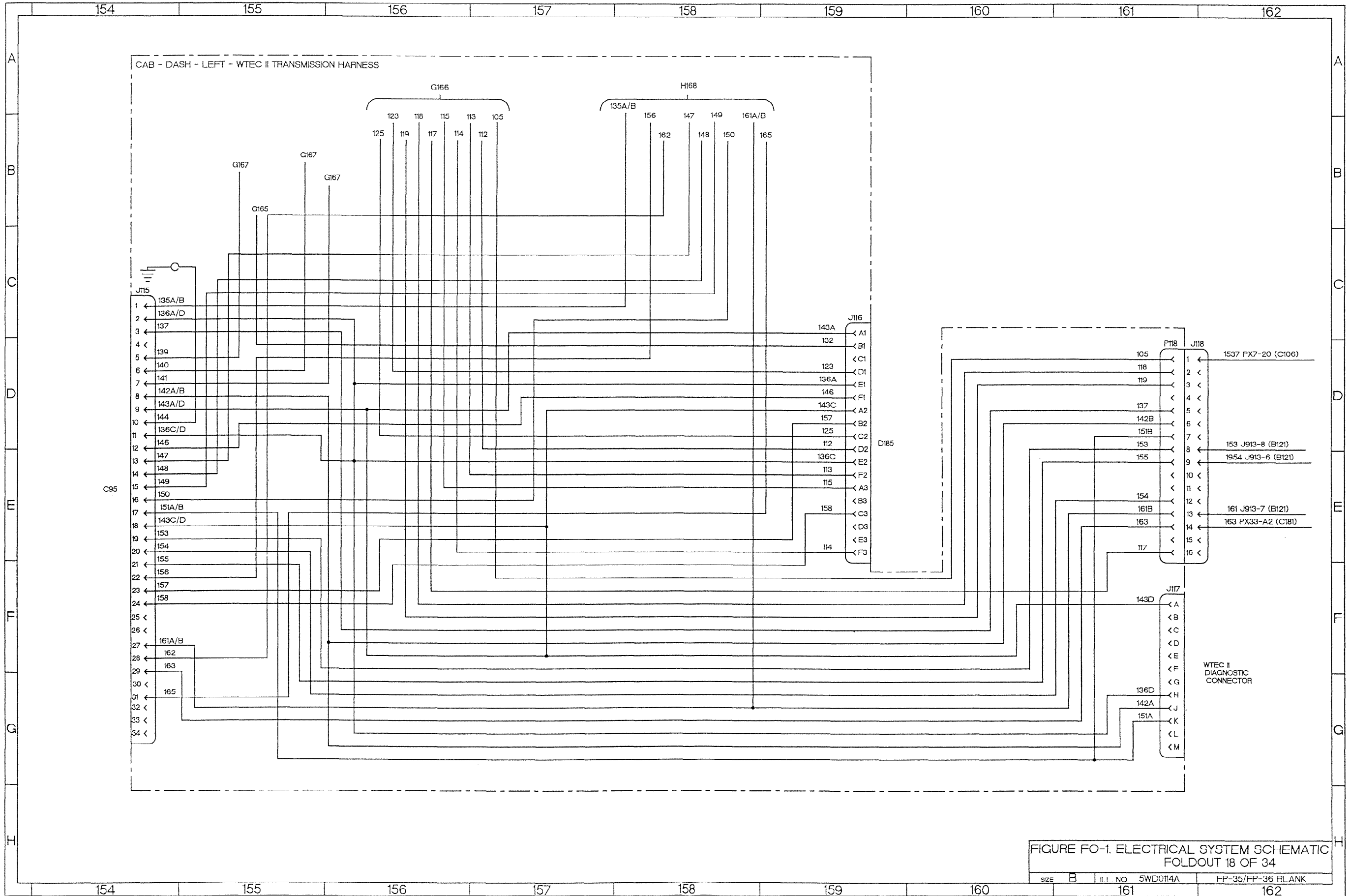


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 18 OF 34

SIZE	B	ILL. NO.	5WD0114A	FP-35/FP-36	BLANK
			161		162

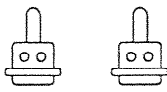

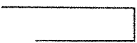
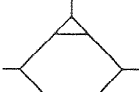
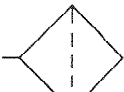
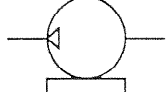




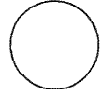
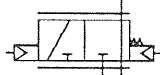
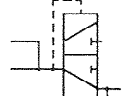
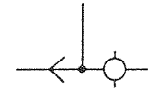
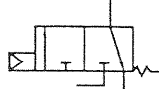
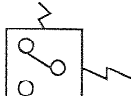
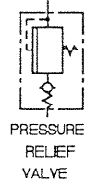
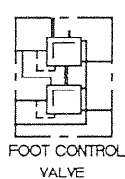
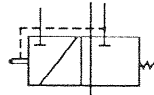
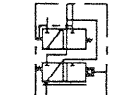
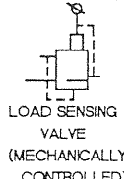
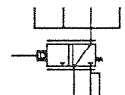
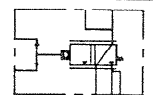
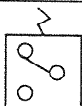



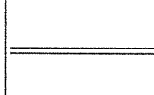

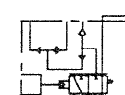



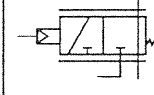
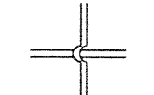
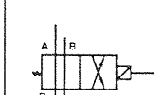
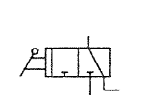
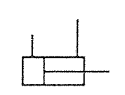
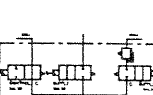
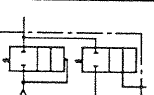

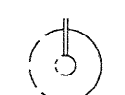
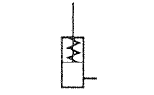
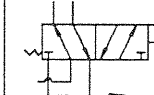
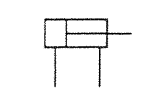
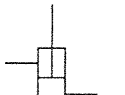
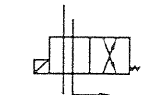
 REAR AXLE BRAKE CHAMBER	 FRONT AXLE BRAKE CHAMBER	 COUPLER AIR BRAKE	 AIR DRYER	 AIR CLEANER INTAKE	 AIR COMPRESSOR WITH GOVERNOR	 AIR TANK	 DASH GAUGE
 MANUAL VALVE	 ONE WAY CHECK VALVE	 FAN CLUTCH	 MODULATED CONTROL VALVE	 QUICK RELEASE VALVE	 TWO WAY CHECK VALVE	 3/2 WAY SOLENOID VALVE	 PRESSURE SWITCH
 PRESSURE RELIEF VALVE	 FOOT CONTROL VALVE	 PARK CONTROL VALVE (HAND OPERATED)	 TRAILER AIR SUPPLY VALVE (HAND OPERATED)	 LOAD SENSING VALVE (MECHANICALLY CONTROLLED)	 DIRECTIONAL RELAY VALVE	 CONTROL VALVE WITH TWO WAY CHECK VALVE	 STOPLIGHT SWITCH
 CONNECTION	 SUPPLY AIR HOSE	 NO CONNECTION	 DELIVERY AIR HOSE	 PARK/EMERGENCY AIR HOSE	 AIR BRAKE PROTECTING VALVE	 INTERMEDIATE DIFFERENTIAL	 AIR BRAKE PRESSURE TRANSMITTER
 BOOSTER VALVE	 AIR/HYDRAULIC INVERSION VALVE	 DELIVERY AIR HOSE NO CONNECTION	 DUMP TAILGATE SOLENOID	 BLEED VALVE	 TAILGATE CYLINDER	 CTIS MANFOLD VALVE	 WHEEL VALVE
 KNEELING VALVE	 TIRE	 (SINGLE ACTING) CYLINDER RETURN SPRING	 2-POSITION SPRING OFFSET SOLENOID VALVE	 (DOUBLE ACTING) CYLINDER	 MANIFOLD VALVE	 2-POSITION SOLENOID VALVE	

FIGURE F0-2 PNEUMATIC SYSTEM SCHEMATIC
FOLDOUT 1 OF 4

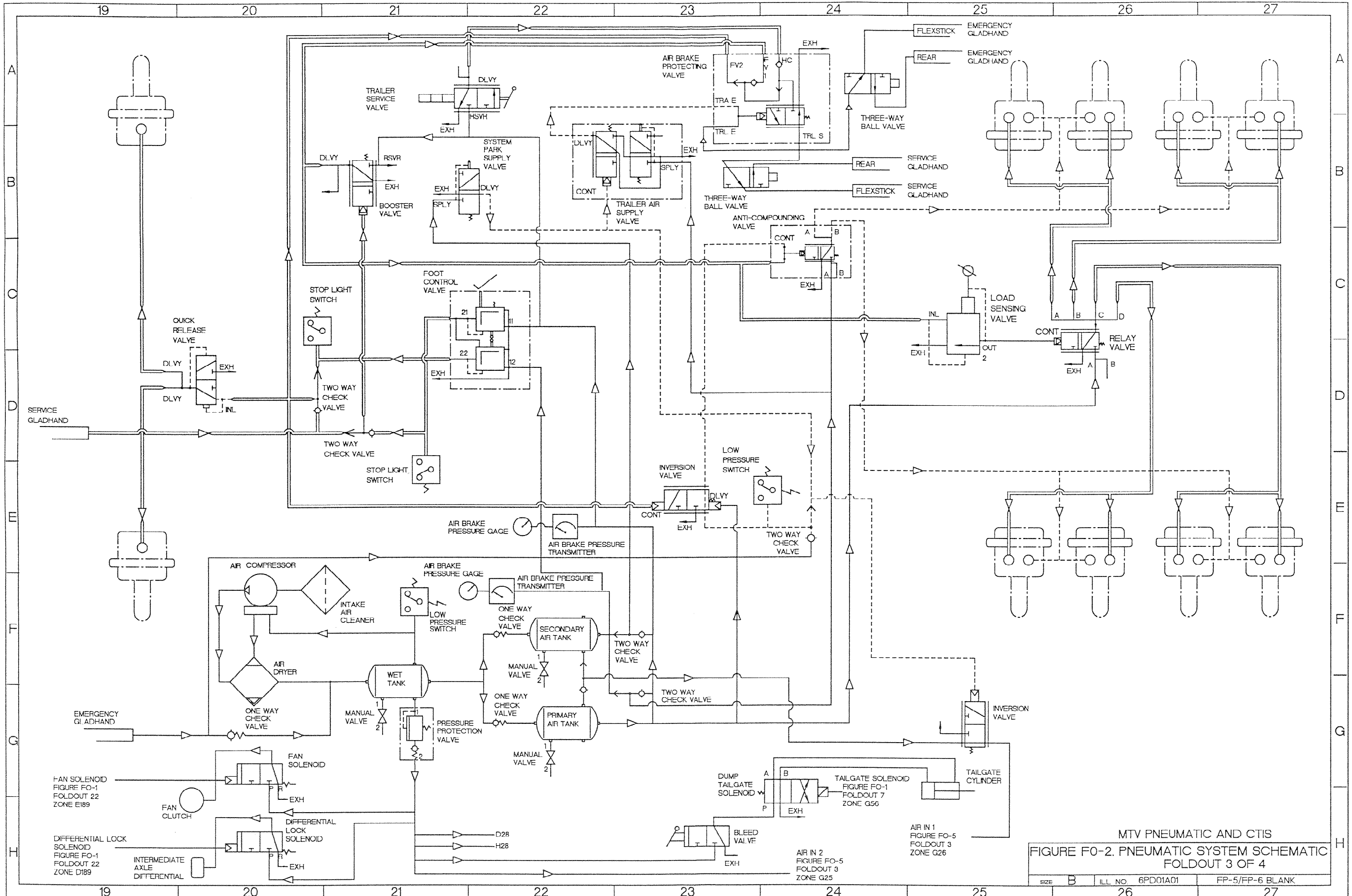
SIZE B ILL. NO. 6PD01A1 FP-1/FP 2 BLANK

		10	11	12	13	14	15	16	17	18
A										
B										
C										
D										
E										
F										
G										
H										

SH	ZONE	DESCRIPTION
3	E22	AIR BRAKE PRESSURE TRANSMITTER
3	F21	AIR BRAKE PRESSURE TRANSMITTER
3	A23	AIR BRAKE PROTECTING VALVE
3	F20	AIR COMPRESSOR
3	F20	AIR DRYER
3	B24	ANTI-COMPOUNDING VALVE
3	H23	BLEED VALVE
3	B21	BOOSTER VALVE
4	D30	CONTROL VALVE
4	C30	CTIS MANIFOLD VALVE
4	D31	DEFLATE VALVE
3	H20	DIFFERENTIAL LOCK SOLENOID
3	G24	DUMP TAILGATE SOLENOID
3	A25	EMERGENCY GLADHAND
3	A25	EMERGENCY GLADHAND
3	G19	EMERGENCY GLADHAND
3	H20	FAN CLUTCH
3	G20	FAN SOLENOID
3	C22	FOOT CONTROL VALVE
3	F20	INTAKE AIR CLEANER
3	H19	INTERMEDIATE AXLE DIFFERENTIAL
3	E23	INVERSION VALVE
3	G25	INVERSION VALVE
4	A28	KNEELING VALVE
4	C28	KNEELING VALVE
4	E28	LH MAIN WINCH FREESPOOL
4	E30	LH MAIN WINCH TENSIONER
4	G29	LH MAIN WINCH VALVE
3	C25	LOAD SENSING VALVE
3	E23	LOW PRESSURE SWITCH
3	F21	LOW PRESSURE SWITCH
4	F28	MANIFOLD
4	G29	MANIFOLD
3	F22	MANUAL VALVE
3	G21	MANUAL VALVE
3	G22	MANUAL VALVE
3	F22	ONE WAY CHECK VALVE
3	G20	ONE WAY CHECK VALVE
3	G22	ONE WAY CHECK VALVE
3	G21	PRESSURE PROTECTION VALVE
3	G22	PRIMARY AIR TANK
4	B30	QUICK RELEASE VALVE
4	B33	QUICK RELEASE VALVE
4	B36	QUICK RELEASE VALVE
3	C20	QUICK RELEASE VALVE
4	E30	REGULATOR
4	E31	REGULATOR

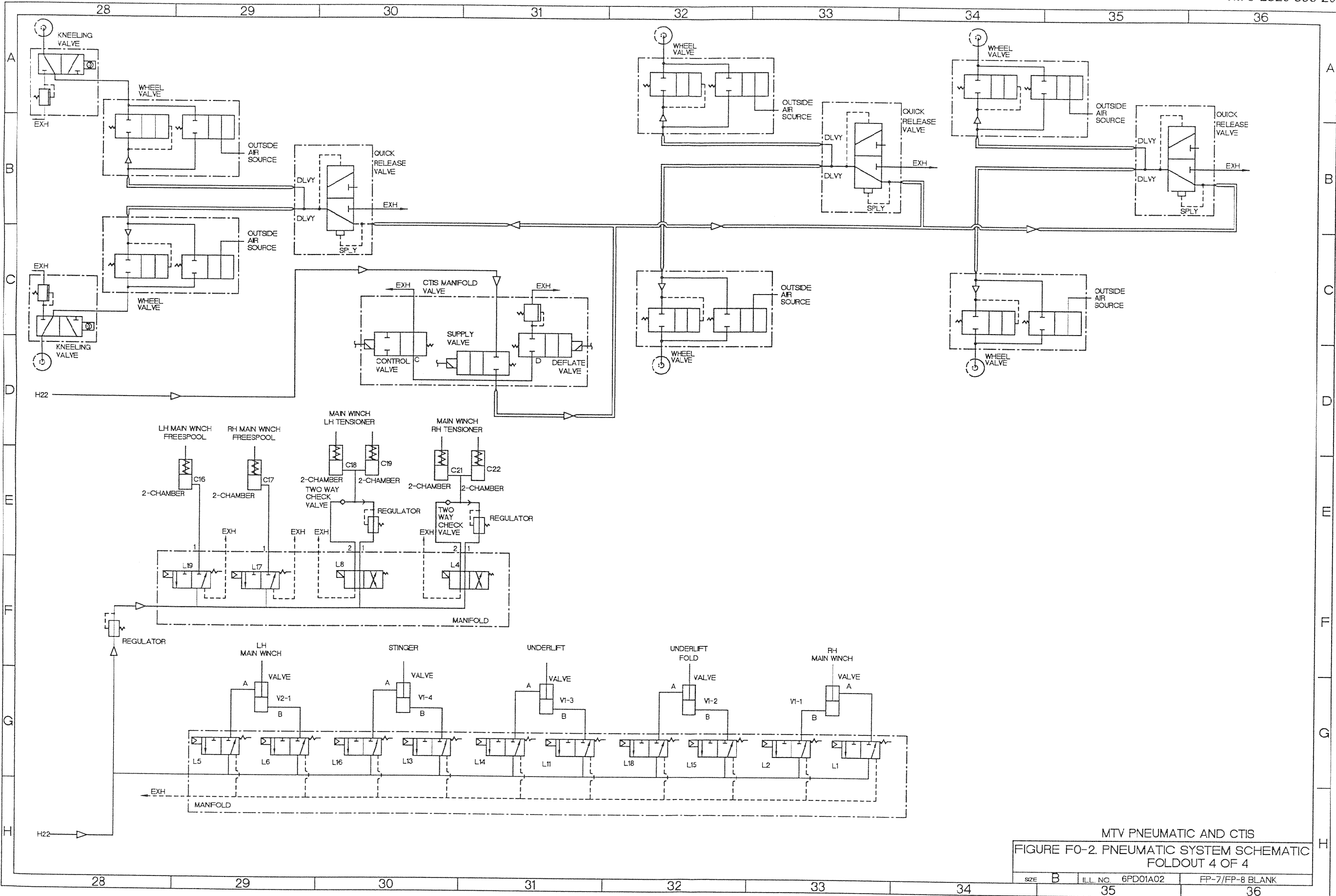
SH	ZONE	DESCRIPTION
4	F28	REGULATOR
3	D26	RELAY VALVE
4	E29	RH MAIN WINCH FREESPOOL
4	E30	RH MAIN WINCH TENSIONER
4	G33	RH MAIN WINCH VALVE
3	F22	SECONDARY AIR TANK
3	B24	SERVICE GLADHAND
3	B24	SERVICE GLADHAND
3	D19	SERVICE GLADHAND
4	G30	STINGER VALVE
3	C20	STOPLIGHT SWITCH
3	E21	STOPLIGHT SWITCH
4	D31	SUPPLY VALVE
3	B21	SYSTEM PARK SUPPLY VALVE
3	G25	TAILGATE CYLINDER
3	A24	THREE WAY BALL VALVE
3	B23	THREE WAY BALL VALVE
3	B22	TRAILER AIR SUPPLY VALVE
3	A21	TRAILER SERVICE VALVE
3	D21	TWO WAY CHECK VALVE
3	D21	TWO WAY CHECK VALVE
3	E24	TWO WAY CHECK VALVE
4	E30	TWO WAY CHECK VALVE
4	E30	TWO WAY CHECK VALVE
3	F23	TWO WAY CHECK VALVE
3	G23	TWO WAY CHECK VALVE
4	G32	UNDERLIFT FOLD VALVE
4	G31	UNDERLIFT VALVE
3	F21	WET TANK
4	C34	WHEEL VALVE
4	A28	WHEEL VALVE
4	A32	WHEEL VALVE
4	A34	WHEEL VALVE
4	C28	WHEEL VALVE
4	C32	WHEEL VALVE

		MTV PNEUMATIC AND CTIS	
		FIGURE F0-2. PNEUMATIC SYSTEM SCHEMATIC	
		FOLDOUT 2 OF 4	
SIZE	B	ILL. NO.	6PDO1AL2
			FP-3/FP-4 BLANK
		17	18



MTV PNEUMATIC AND CTIS
 FIGURE FO-2. PNEUMATIC SYSTEM SCHEMATIC
 FOLDOUT 3 OF 4

size	B	ILL. NO.	6PD01A01	FP-5/FP-6 BLANK
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MTV PNEUMATIC AND CTIS
 FIGURE FO-2. PNEUMATIC SYSTEM SCHEMATIC
 FOLDOUT 4 OF 4

SIZE	B	ILL. NO.	6PD01A02	FP-7/FP-8 BLANK
			35	36

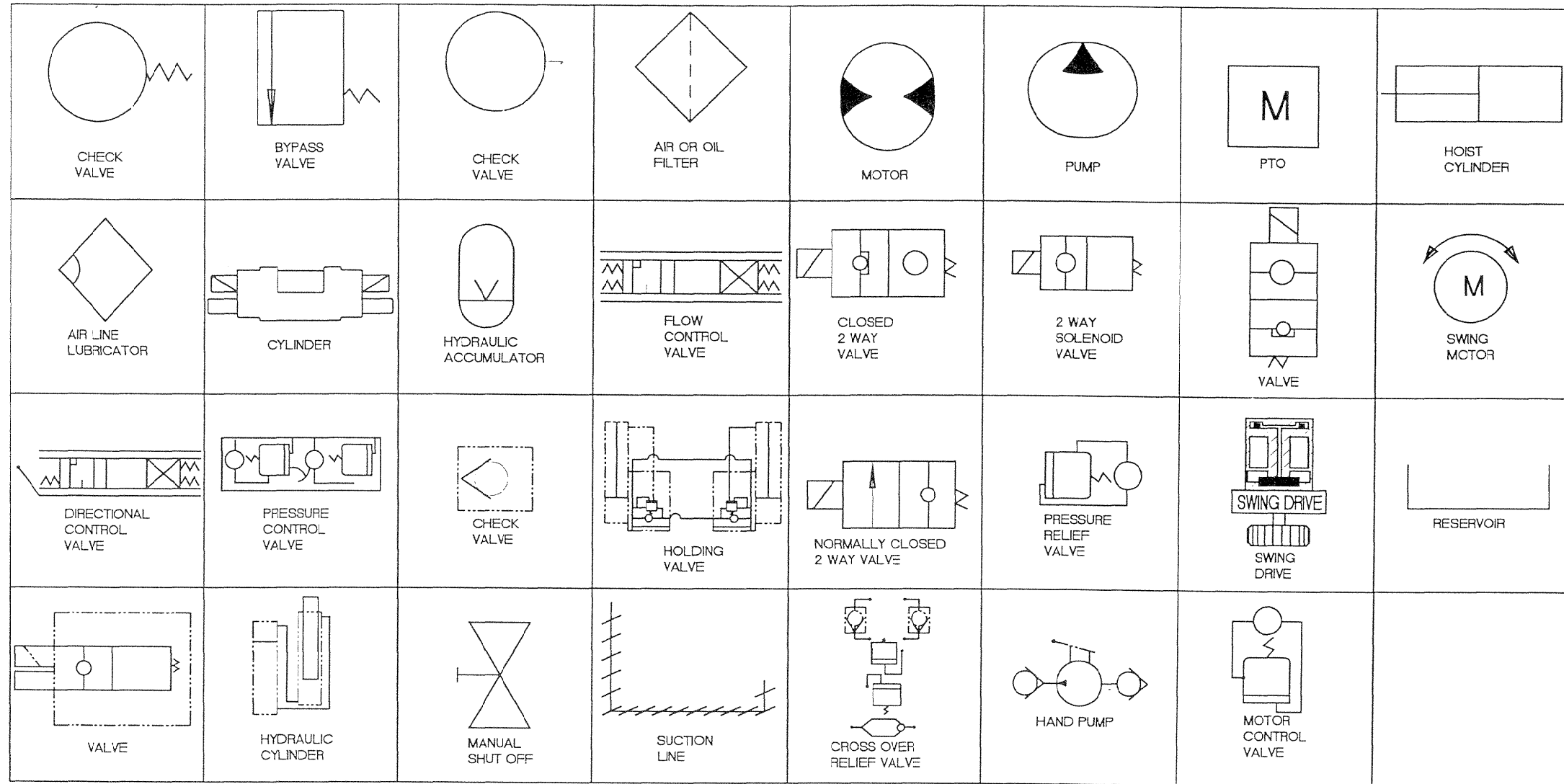


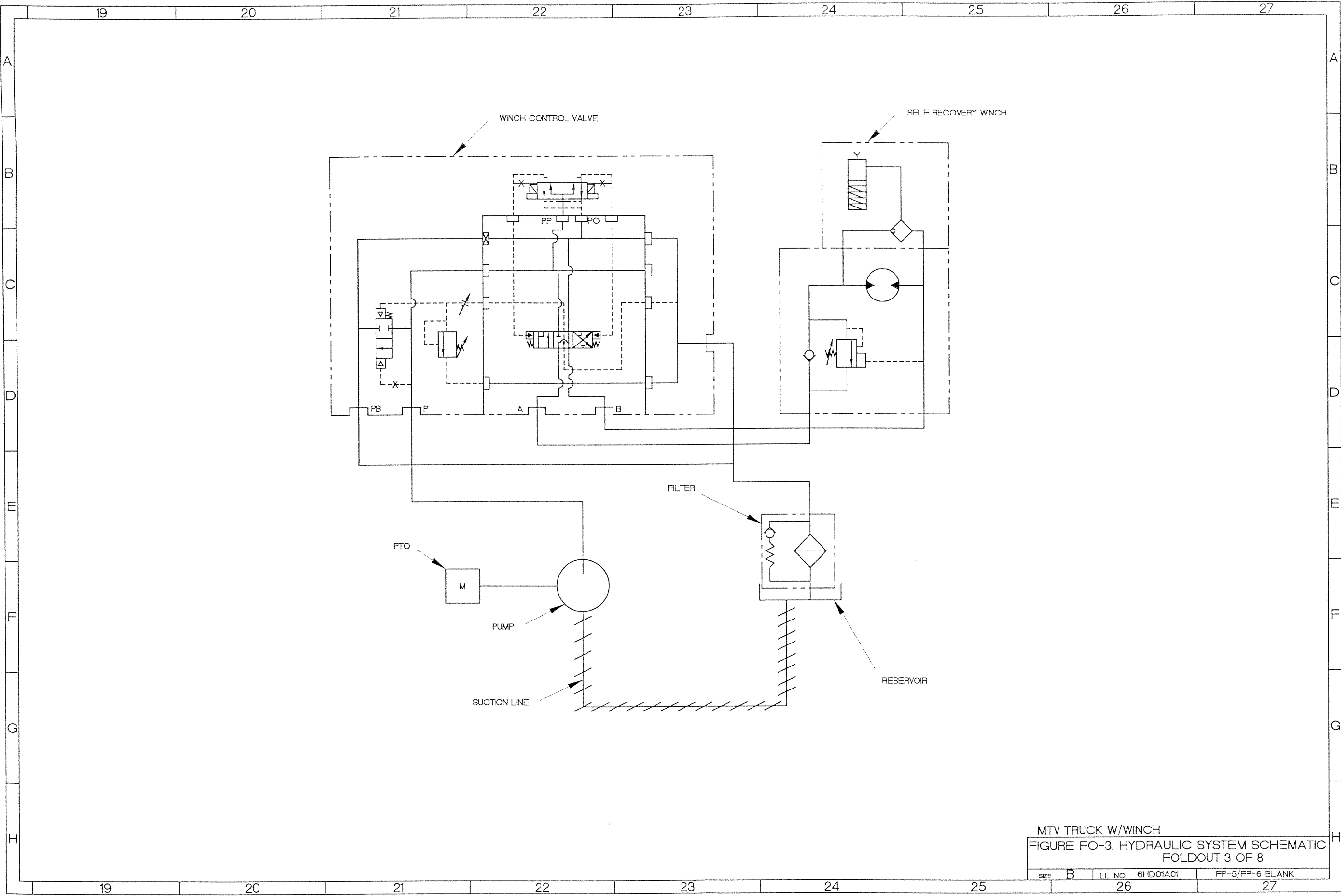
FIGURE FO-3. HYDRAULIC SYSTEM SCHEMATIC
 FOLDOUT 1 OF 8
 SIZE B ILL. NO. 6HD01A1 FP-1/FP-2 BLANK

SH	ZONE	DESCRIPTION
6	D46	2 WAY SOLENOID VALVE
7	D60	2 WAY SOLENOID VALVE
7	D55	2 WAY SOLENOID VALVE, OPERATING PRESS
7	F60	3 BANK VALVE ASSEMBLY
7	C61	4 BANK VALVE ASSEMBLY
6	B52	BOOM
7	F55	BULKHEAD PLATE (SUBFRAME)
7	F57	CHECK VALVE
7	G62	CHECK VALVE
7	D55	CHECK VALVE
5	E37	CHECK VALVE CK1
5	E37	CHECK VALVE CK2
5	E37	CHECK VALVE CK3
5	E37	CHECK VALVE CK4
5	E37	CHECK VALVE CK5
5	E37	CHECK VALVE CK6
8	E65	CONTROL VALVE
5	B44	COUNTERBALANCE VALVE
6	B48	CROSS RELIEF VALVE
7	C57	CROSS RELIEF VALVE
8	E64	DUMP BODY HYDRAULIC HOIST
6	G48	ERECTION CYLINDER
5	E38	FC1 SLAVE POWER
5	E38	FC2 EXTERNAL POWER
3	F23	FILTER
4	D34	FILTER
8	E68	FILTER
5	B43	FLOW CONTROL VALVE
5	B45	FLOW CONTROL VALVE
5	B43	FOLD CYLINDER
7	C62	FULL FLOW
6	G54	GAUGE PORT
6	E47	HAND PUMP
7	E56	HAND PUMP
7	G57	HOIST
7	A62	HOIST
6	B53	HOIST
8	G65	HOIST CYLINDER
7	G58	HOIST MOTOR
6	G46	HOIST MOTOR
7	H57	HOIST MOTOR CONTROL VALVE
6	H46	HOIST MOTOR CONTROL VALVE
7	H59	HOLDING VALVE
7	G62	HOLDING VALVE
6	C47	HOLDING VALVE
6	H53	HOLDING VALVE
7	C55	HOLDING VALVE
7	G56	HOLDING VALVES
6	E48	HOLDING VALVES
6	G48	HOLDING VALVES
5	D41	HYDRAULIC MOTOR, PAY-OUT
5	E41	HYDRAULIC MOTOR, PAY-OUT
7	A60	HYDRAULIC ACCUMULATOR

SH	ZONE	DESCRIPTION
6	E54	HYDRAULIC ACCUMULATOR
7	H61	LEFT JACK CYLINDER
6	H49	LEFT JACK CYLINDER
5	G42	LEFT MAIN WINCH
7	A61	LIFT
6	E48	LIFT CYLINDERS
5	C37	LINEAR DIRECTIONAL CONTROL VALVE
5	B42	LOWER MAIN CONTROL VALVE ASSEMBLY
5	D37	M1089 MATERIAL HANDLING CRANE LOC
6	B51	MANUAL OVERRIDE
7	G61	MAST,ERECTION
7	H59	MAST ERECTION CYLINDER
4	C30	MATERIAL HANDLING EQUIPMENT
5	E38	MC1 SLAVE POWER
5	E38	MC2 EXTERNAL POWER
5	D40	MONO BLOCK VALVE ASSEMBLY
7	G58	MOTOR DRAIN
6	G46	MOTOR DRAIN
6	D54	N/C 2 WAY VALVE
6	H52	OUTRIGGER EXTENSION CYLINDER
7	A60	PRESSURE CHECK POINT
3	F21	PTO
4	E32	PTO
8	G68	PTO
3	F22	PUMP
4	E33	PUMP
8	F68	PUMP
5	F37	PUMP ASSEMBLY
5	D41	RELIEF VALVE
5	E41	RELIEF VALVE
5	F42	RELIEF VALVE ASSEMBLY
5	B42	RELIEF VALVE ASSY (RIGHT MAIN WINCH)
3	F24	RESERVOIR
4	F34	RESERVOIR
8	G69	RESERVOIR
5	G40	RETURN VALVE
5	B44	RH UNDERLIFT COUNTERBALANCE VALVE
7	G62	RIGHT JACK CYLINDER
6	H54	RIGHT JACK CYLINDER
5	B42	RIGHT MAIN WINCH
5	F40	SAMPLING VALVE
3	B24	SELF RECOVERY WINCH
5	G41	SELF RECOVERY WINCH
8	B71	SELF RECOVERY WINCH
5	G43	STIFFLEG CYLINDER LH
5	G45	STIFFLEG CYLINDER RH
5	B45	STINGER CYLINDER
7	F55	SUCTION LINE-HAND PUMP
3	G22	SUCTION LINE
4	F33	SUCTION LINE
5	F37	SUPPLY VALVE
7	A58	SWING
6	B50	SWING

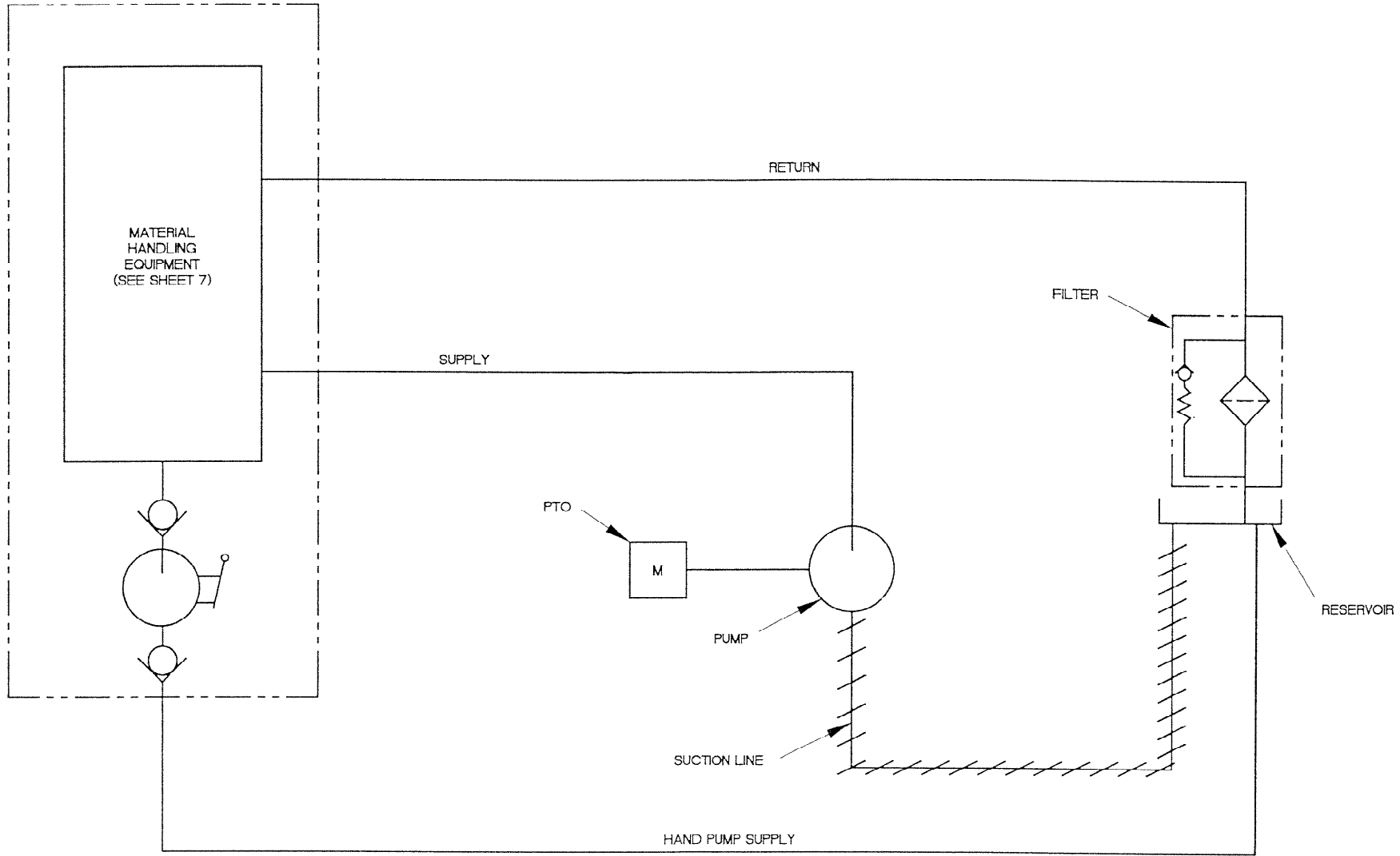
SH	ZONE	DESCRIPTION
6	B48	SWING DRIVE
7	B57	SWING DRIVE
6	A48	SWING MOTOR
7	B57	SWING MOTOR
6	C46	TELESCOPE CYLINDER
7	A59	TELESCOPE
6	B51	TELESCOPE
7	B55	TELESCOPE CYLINDER
5	A44	TELESCOPIC LIFT CYLINDER, LH
5	A45	TELESCOPIC LIFT CYLINDER, RH
6	F49	UNLOADER VALVE
7	E56	UNLOADER VALVE
5	E42	UPPER MAIN CONTROL VALVE ASSEMBLY
5	E37	VALVE, SELECTOR
3	B21	WINCH CONTROL VALVE
8	B69	WINCH CONTROL VALVE

FIGURE FO-3 HYDRAULIC SYSTEM SCHEMATIC
FOLDOUT 2 OF 8



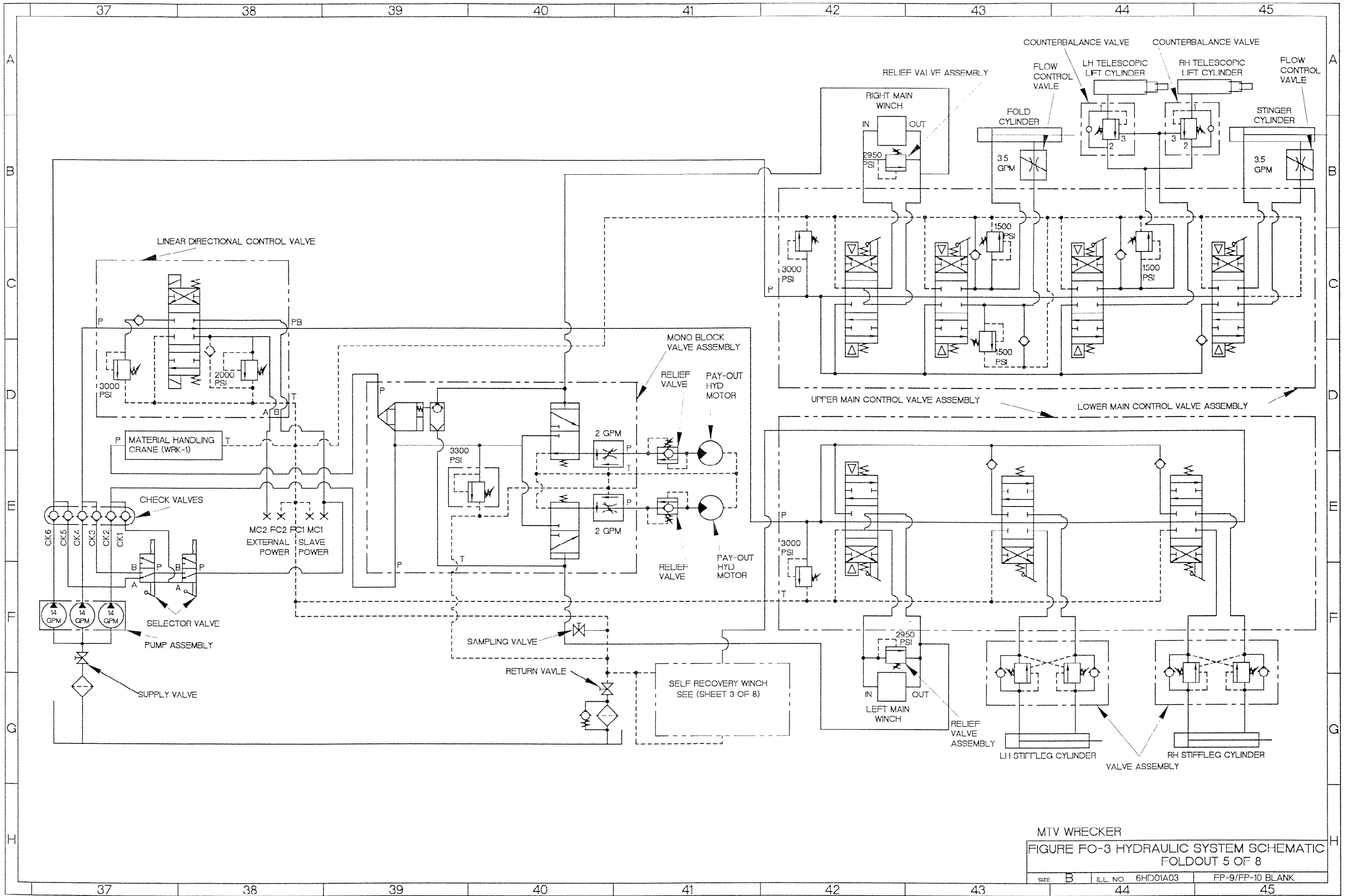
MTV TRUCK W/WINCH
 FIGURE FO-3. HYDRAULIC SYSTEM SCHEMATIC
 FOLDOUT 3 OF 8

SIZE	B	ILL. NO.	6HD01A01	FP-5/FP-6 BLANK
			26	27



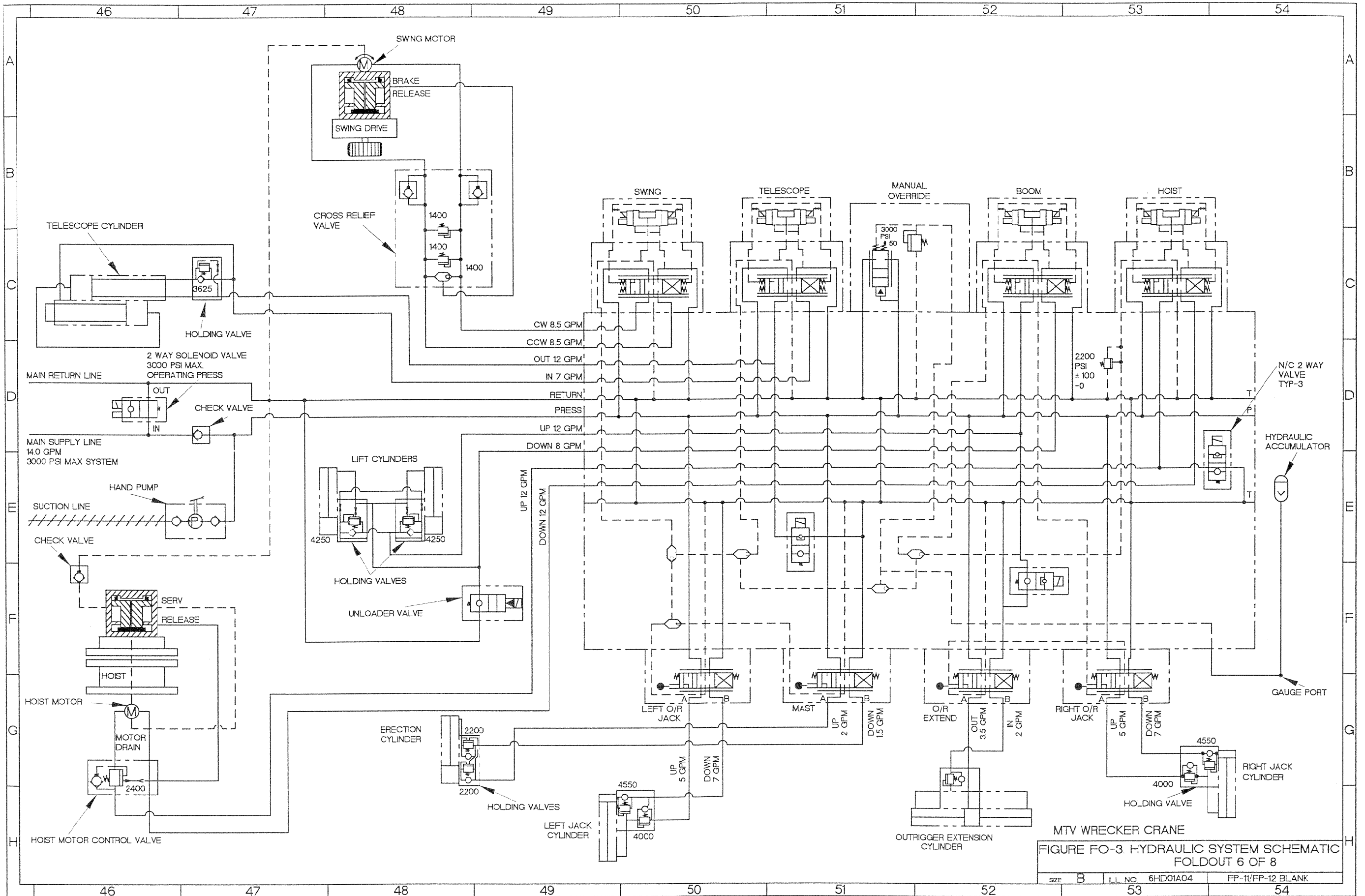
MTV MATERIAL HANDLING CRANE
 FIGURE FO-3. HYDRAULIC SYSTEM SCHEMATIC
 FOLDOUT 4 OF 8

SIZE	B	ILL. NO.	6HD01A02	FP-7/FP-8 BLANK
			35	36



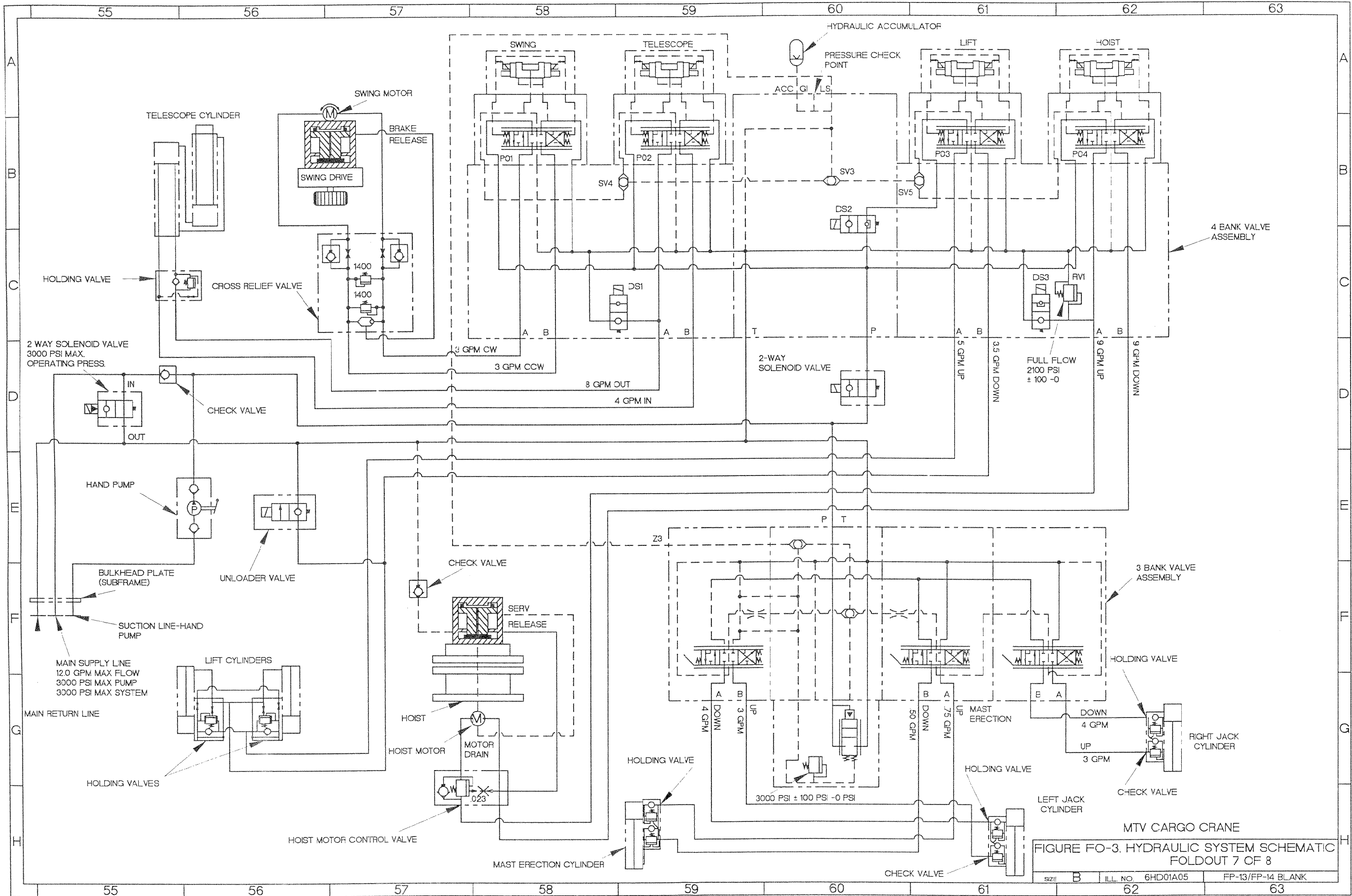
MTW WRECKER
 FIGURE FO-3 HYDRAULIC SYSTEM SCHEMATIC
 FOLDOUT 5 OF 8

SIZE	B	ILL. NO.	6HD01A03	FP-9/FP-10	BLANK
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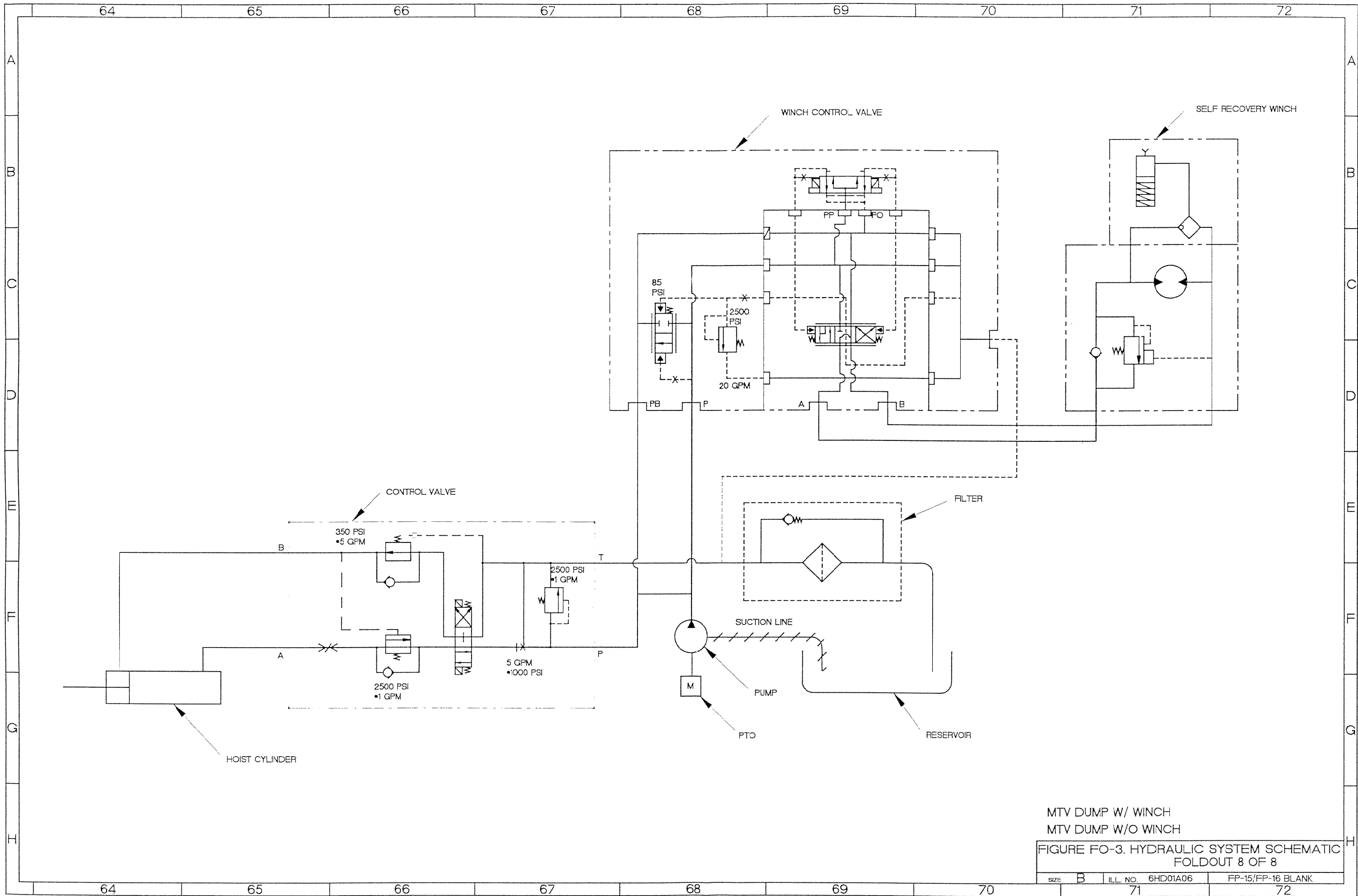
MTV WRECKER CRANE
 FIGURE FO-3. HYDRAULIC SYSTEM SCHEMATIC
 FOLDOUT 6 OF 8

SIZE	B	ILL. NO.	6HD01A04	FP-11/FP-12	BLANK
			53		54



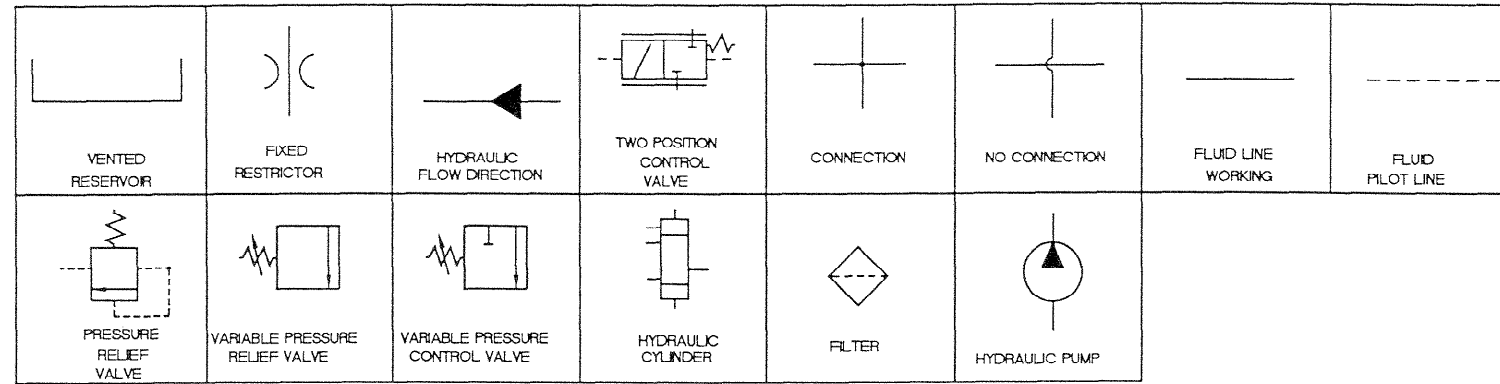
MTV CARGO CRANE
 FIGURE FO-3. HYDRAULIC SYSTEM SCHEMATIC
 FOLDOUT 7 OF 8

SIZE	B	ILL. NO.	6HD01A05	FP-13/FP-14 BLANK
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MTV DUMP W/ WINCH
 MTV DUMP W/O WINCH
 FIGURE FO-3. HYDRAULIC SYSTEM SCHEMATIC
 FOLDOUT 8 OF 8

SIZE	B	ILL. NO.	6HD01A06	FP-15/FP-16 BLANK
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SH	ZONE	DESCRIPTION
2	D11	FILTER
2	D14	FIXED RESTRICTOR
2	E17	HYDRAULIC CYLINDER
2	E13	HYDRAULIC PUMP
2	C13	PRESSURE RELIEF VALVE
2	D13	TWO POSITION CONTROL VALVE
2	E16	VARIABLE PRESSURE CONTROL VALVE
2	E16	VARIABLE PRESSURE RELIEF VALVE
2	C11	VENTED RESERVOIR

FIGURE FO-4 HYDRAULIC STEERING SYSTEM

FOLDOUT 1 OF 2

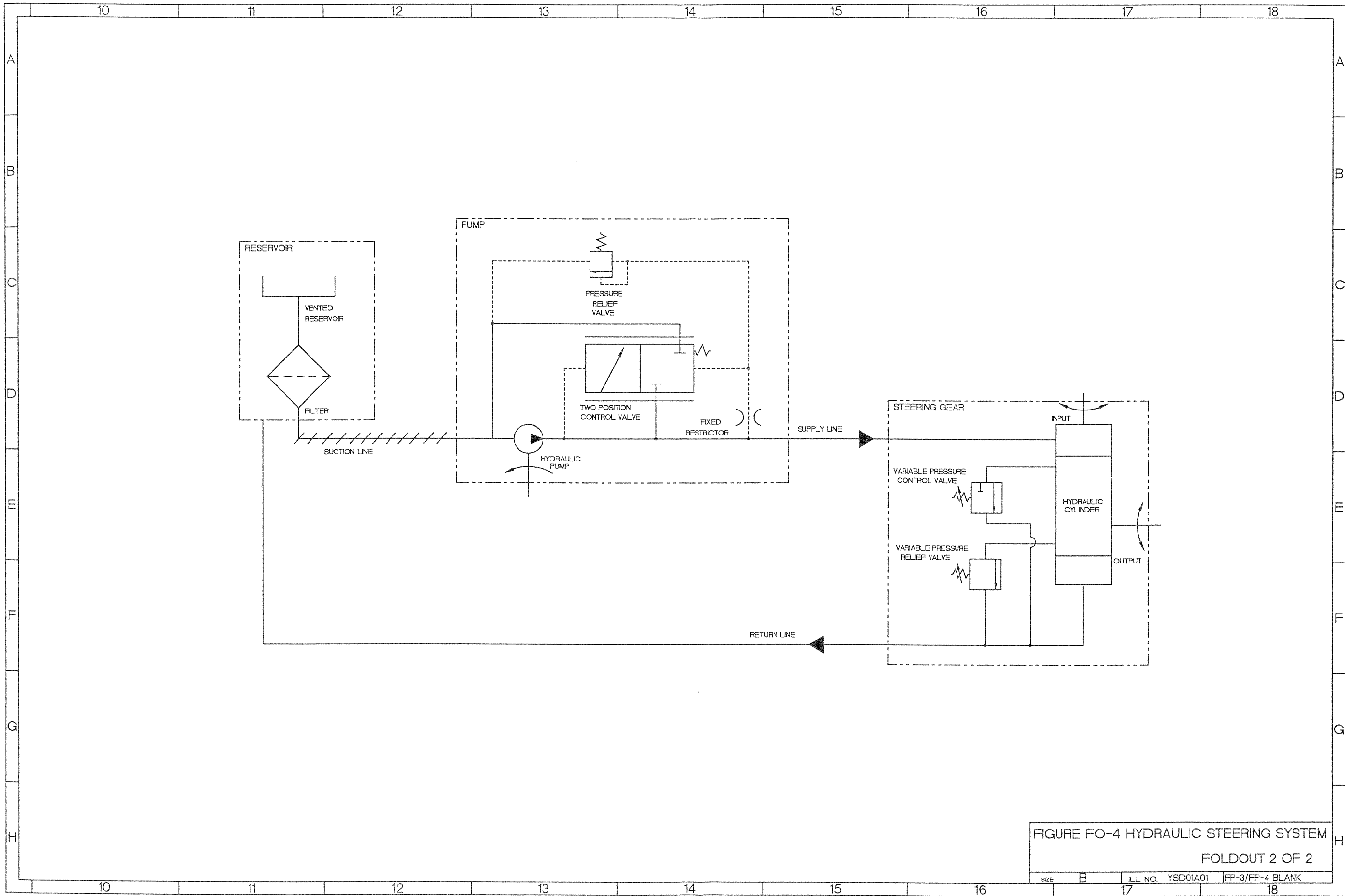


FIGURE FO-4 HYDRAULIC STEERING SYSTEM
FOLDOUT 2 OF 2

SIZE	B	ILL. NO.	YSD01A01	FP-3/FP-4 BLANK
			17	18

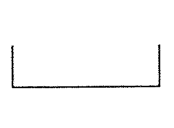
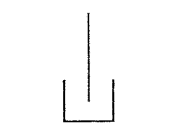
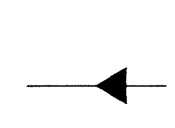
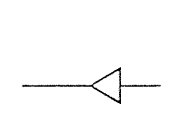
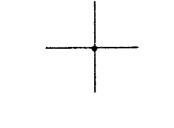
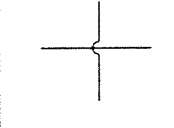


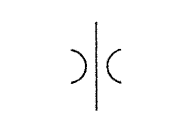
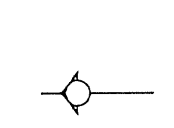
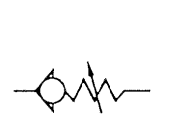
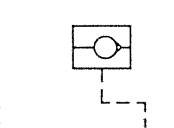
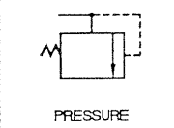
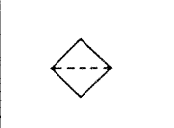
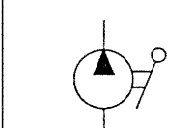
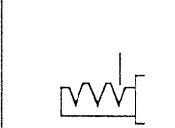
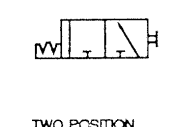
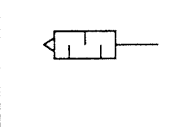
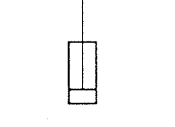
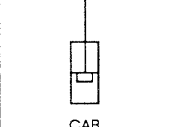
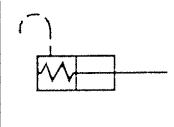
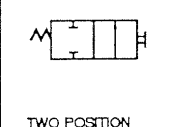
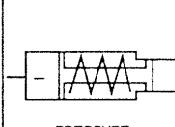
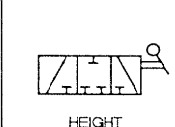
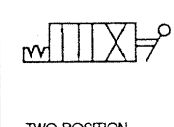
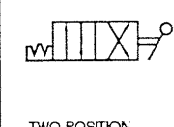
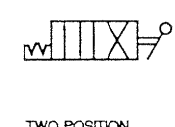

 VENTED RESERVOIR	 ABOVE FLUID LEVEL RESERVOIR	 HYDRAULIC FLOW DIRECTION	 PNEUMATIC FLOW DIRECTION	 CONNECTION	 NO CONNECTION	 FLUID LINE WORKING	 FLUID PILOT LINE
 FIXED RESTRICTOR	 CHECK VALVE	 VARIABLE CONTROL CHECK VALVE	 CHECK PILOT	 PRESSURE RELIEF VALVE	 FILTER	 HAND PUMP	 DETENT
 TWO POSITION CAB SUSPENSION VALVE	 MUFFLER	 HYDRAULIC CYLINDER	 CAB AIR SUSPENSION W/DAMPER	 REAR CAB LATCH	 TWO POSITION AIR PUMP VALVE	 PRESSURE INTENSIFIER	 HEIGHT CONTROL VALVE
 TWO POSITION CAB TILT VALVE	 TWO POSITION SUSPENSION VALVE	 TWO POSITION SPARE TIRE VALVE	 THREE POSITION SELECTION VALVE				

FIGURE FO-5 AIR TRANSPORTABILITY
HYDRAULIC/PNEUMATIC SYSTEM SCHEMATIC
FOLDOUT 1 OF 3

SIZE B ILL. NO. YADO'ALI |FP-1/FP-2 B_LANK

	10	11	12	13	14	15	16	17	18																																																																																																																																														
A	<table border="1"> <thead> <tr> <th>SH</th> <th>ZONE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td>3</td><td>A25</td><td>CAB AIR SUSPENSION W/DAMPER</td></tr> <tr><td>3</td><td>F21</td><td>CHECK PILOT</td></tr> <tr><td>3</td><td>A22</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>A23</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>B22</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>B23</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>B25</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>C20</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>C21</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>E19</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>E24</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>E25</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>F19</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>F21</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>G21</td><td>CHECK VALVE</td></tr> <tr><td>3</td><td>A22</td><td>FILTER</td></tr> <tr><td>3</td><td>B22</td><td>FILTER</td></tr> <tr><td>3</td><td>A24</td><td>FILTER</td></tr> <tr><td>3</td><td>B24</td><td>FILTER</td></tr> <tr><td>3</td><td>D19</td><td>FILTER</td></tr> <tr><td>3</td><td>D20</td><td>FILTER</td></tr> <tr><td>3</td><td>D21</td><td>FILTER</td></tr> <tr><td>3</td><td>E19</td><td>FILTER</td></tr> <tr><td>3</td><td>G19</td><td>FILTER</td></tr> <tr><td>3</td><td>G21</td><td>FILTER</td></tr> <tr><td>3</td><td>A22</td><td>FIXED RESTRICTOR</td></tr> <tr><td>3</td><td>B22</td><td>FIXED RESTRICTOR</td></tr> <tr><td>3</td><td>A23</td><td>FIXED RESTRICTOR</td></tr> <tr><td>3</td><td>B23</td><td>FIXED RESTRICTOR</td></tr> <tr><td>3</td><td>F19</td><td>HAND PUMP</td></tr> <tr><td>3</td><td>B25</td><td>HEIGHT CONTROL VALVE</td></tr> <tr><td>3</td><td>B22</td><td>HYDRAULIC CYLINDER</td></tr> <tr><td>3</td><td>B23</td><td>HYDRAULIC CYLINDER</td></tr> <tr><td>3</td><td>C21</td><td>HYDRAULIC CYLINDER</td></tr> <tr><td>3</td><td>F20</td><td>MUFFLER</td></tr> <tr><td>3</td><td>F21</td><td>PRESSURE INTENSIFIER</td></tr> <tr><td>3</td><td>F19</td><td>PRESSURE RELIEF VALVE</td></tr> <tr><td>3</td><td>A24</td><td>REAR CAB LATCH</td></tr> <tr><td>3</td><td>E21</td><td>THREE POSITION SELECTION VALVE</td></tr> <tr><td>3</td><td>D26</td><td>TWO POSITION AIR PUMP VALVE</td></tr> <tr><td>3</td><td>D25</td><td>TWO POSITION CAB SUSPENSION VALVE</td></tr> <tr><td>3</td><td>C24</td><td>TWO POSITION CAB TILT VALVE</td></tr> <tr><td>3</td><td>C23</td><td>TWO POSITION SPARE TIRE VALVE</td></tr> <tr><td>3</td><td>D21</td><td>TWO POSITION SUSPENSION VALVE</td></tr> <tr><td>3</td><td>G22</td><td>VARIABLE CONTROL CHECK VALVE</td></tr> <tr><td>3</td><td>G22</td><td>VENTED RESERVOIR</td></tr> </tbody> </table>									SH	ZONE	DESCRIPTION	3	A25	CAB AIR SUSPENSION W/DAMPER	3	F21	CHECK PILOT	3	A22	CHECK VALVE	3	A23	CHECK VALVE	3	B22	CHECK VALVE	3	B23	CHECK VALVE	3	B25	CHECK VALVE	3	C20	CHECK VALVE	3	C21	CHECK VALVE	3	E19	CHECK VALVE	3	E24	CHECK VALVE	3	E25	CHECK VALVE	3	F19	CHECK VALVE	3	F21	CHECK VALVE	3	G21	CHECK VALVE	3	A22	FILTER	3	B22	FILTER	3	A24	FILTER	3	B24	FILTER	3	D19	FILTER	3	D20	FILTER	3	D21	FILTER	3	E19	FILTER	3	G19	FILTER	3	G21	FILTER	3	A22	FIXED RESTRICTOR	3	B22	FIXED RESTRICTOR	3	A23	FIXED RESTRICTOR	3	B23	FIXED RESTRICTOR	3	F19	HAND PUMP	3	B25	HEIGHT CONTROL VALVE	3	B22	HYDRAULIC CYLINDER	3	B23	HYDRAULIC CYLINDER	3	C21	HYDRAULIC CYLINDER	3	F20	MUFFLER	3	F21	PRESSURE INTENSIFIER	3	F19	PRESSURE RELIEF VALVE	3	A24	REAR CAB LATCH	3	E21	THREE POSITION SELECTION VALVE	3	D26	TWO POSITION AIR PUMP VALVE	3	D25	TWO POSITION CAB SUSPENSION VALVE	3	C24	TWO POSITION CAB TILT VALVE	3	C23	TWO POSITION SPARE TIRE VALVE	3	D21	TWO POSITION SUSPENSION VALVE	3	G22	VARIABLE CONTROL CHECK VALVE	3	G22	VENTED RESERVOIR	
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FIGURE F0-5 AIR TRANSPORTABILITY
HYDRAULIC/PNEUMATIC SYSTEM SCHEMATIC
FOLDOUT 2 OF 3
SIZE B ILL. NO. YAD01AL2 FP-3/FP-4 BLANK

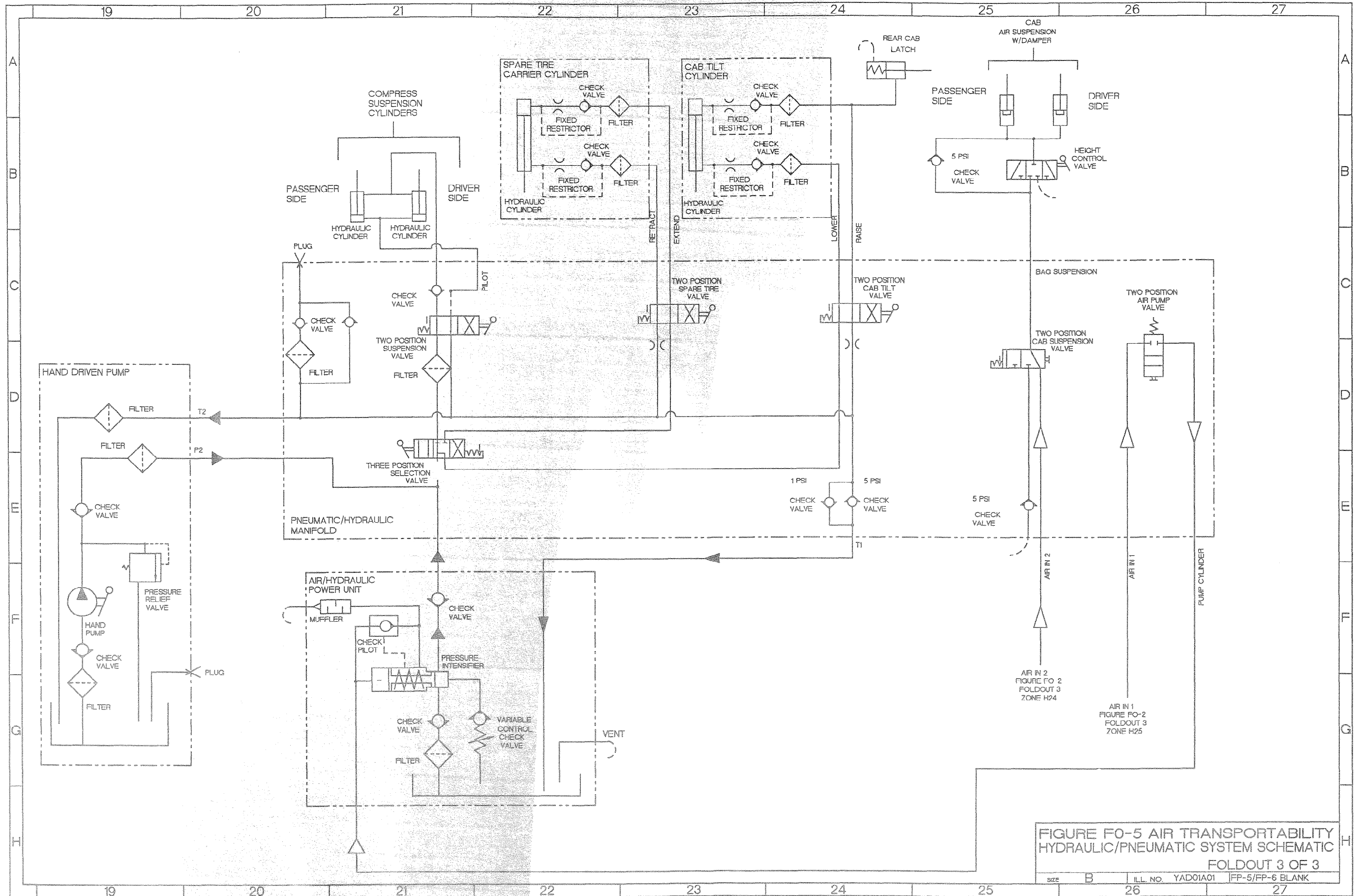
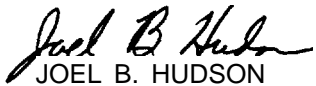


FIGURE FO-5 AIR TRANSPORTABILITY
HYDRAULIC/PNEUMATIC SYSTEM SCHEMATIC
FOLDOUT 3 OF 3
SIZE B ILL. NO. YAD01A01 | FP-5/FP-6 BLANK

By Order of the Secretary of the Army:

DENNIS J. REIMER
General, United States Army
Chief of Staff

Official:


JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
05120

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TECHNICAL MANUAL
MAINTENANCE INSTRUCTIONS
UNIT MAINTENANCE

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PAGE NO.	PARA-GRAPH	PICTURE NO.	TABLE NO.
15-33	15-7	4	
19-6	19-2		

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Item 10. Change illustration. Reason: Text calls out 90-degree fitting, art shows straight fitting. Text is correct.

Step (4) of removal says to disconnect four hydraulic hoses from manifold. The correct number of hydraulic hoses is five. Correct the text to reflect the actual quantity of hydraulic hoses. The supporting illustration is correct.

SAMPLE

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PAGE NO.	PARA-GRAPH	PICTURE NO.	TABLE NO.
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TEAR ALONG PERFORATED LINE



THE METRIC SYSTEM AND EQUIVALENTS

WEIGHT MEASURE

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

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

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 = 1,000,000 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

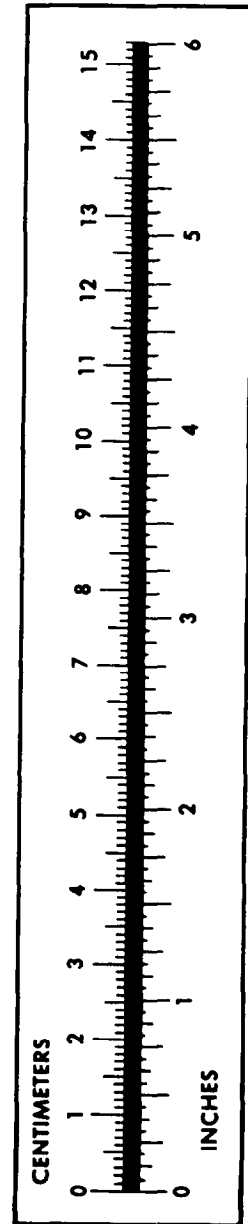
TEMPERATURE

$5/9(^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
its	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
ometers per Liter	Miles per Gallon	2.354
ometers per Hour	Miles per Hour	0.621



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