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This manual supersedes TM 9-2350-261-20-3 dated July 1985, including all changes.

<p>DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.</p>

CHANGE
No. 4

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., 15 July 1997

**TECHNICAL MANUAL
UNIT MAINTENANCE
FOR**

**CARRIER, PERSONNEL, FULL TRACKED, ARMORED, M113A2
2350-01-068-4077**

**CARRIER, COMMAND POST, LIGHT TRACKED, M577A2
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2350-01-338-3116**

**CARRIER, SMOKE GENERATOR, FULL TRACKED, M1059
2350-01-203-0188**

**COMBAT VEHICLE, ANTI-TANK, IMPROVED TOW VEHICLE, M901A1
2350-01-103-5641**

**CARRIER, STANDARDIZED INTEGRATED COMMAND POST SYSTEM, M1068
2350-01-354-5657**

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i thru iv.1 (iv.2 blank)
24-1 and 24-2
24-11 and 24-12
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24-63 thru 24-66
24-87 and 24-88
24-99 thru 24-106

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24-49 and 24-50
24-63 thru 24-66
24-87 and 24-88
24-99 thru 24-106

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24-190.5 thru 24-190.8
 24-215 and 24-216.1 (24-216.2 blank)
 24-219 thru 24-236
 24-241 thru 24-244

 24-248.1 and 24-248.2
 28-9 and 28-10
 28-81 thru 28-84
 29-47 and 29-48
 31-15 thru 31-18
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 40.1-1 thru 40-101 (40.1-102 blank)
 42-11 and 42-12
 42-19 (42-20 blank) and 43-1(43-2
 blank)
 A-1 and A-2
 B-1 thru B-22
 C-1 thru C-3 (C-4 blank)
 D-3 (D-4 blank)
 F-1 and E-2
 Index-1 thru Index 30
 DA 2028-2 (Sample) and DA 2028-2
 (Sample Reverse)
 DA 2028-2 and DA 2028-2 (Reverse)
 DA 2028-2 and DA 2028-2 (Reverse)
 DA 2028-2 and DA 2028-2 (Reverse)
 Metric Chart Inside Back Cover
 FO-1
 FO-2
 FO-3
 FO-4
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 FO-6
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 FO-11
 Cover 1 and 2

Insert Pages

24-190.5 thru 24-190.8
 24-215 and 24-216.1 (24-216.2 blank)
 24-219 thru 24-236
 24-241 and 24-242 (24-243 and 24-244
 deleted)
 24-248.1 and 24-248.2
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 40.1-1 thru 40.1-102
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 42-19 (42-20 blank)(43-1 and 43-2 deleted)

 A-1 and A-2
 B-1 thru B-22
 C-1 thru C-3 (C-4 blank)
 D-3 (D-4 blank)
 E-1 and E-2
 Index-1 thru Index 29 (Index 30 blank)
 DA 2028-2 (Sample) and DA 2028-2
 (Sample Reverse)
 DA 2028-2 and DA 2028-2 (Reverse)
 DA 2028-2 and DA 2028-2 (Reverse)
 DA 2028-2 and DA 2028-2 (Reverse)
 Metric Chart Inside Back Cover
 FO-1
 FO-2
 FO-3
 FO-4
 FO-5
 FO-6
 FO-8
 FO-10
 FO-11
 Cover 1 and 2

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CHANGE
No. 3

HEADQUARTERS
DEPARTMENT OF THE ARMY
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**TECHNICAL MANUAL
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FOR**

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2350-01-068-4077**

**CARRIER, COMMAND POST, LIGHT TRACKED, M577A2
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**CARRIER, MORTAR, 81-MM, M29A1; SELF-PROPELLED, M125A2
2350-01-068-4087**

**CHASSIS, GUN, ANTI-AIRCRAFT ARTILLERY, M741A1
2350-01-099-8929**

**CARRIER, SMOKE GENERATOR, FULL TRACKED, M1059
2350-01-203-0188**

**COMBAT VEHICLE, ANTI-TANK, IMPROVED TOW VEHICLE, M901A1
2350-01-103-5641**

**CARRIER, MORTAR, 120-MM, M121; SELF-PROPELLED, M1064
2350-01-338-3116**

**CARRIER, STANDARDIZED INTEGRATED COMMAND POST SYSTEM, M1068
2350-01-354-5657**

TM 9-2350-261-20-3, 11 July 1990, is changed as follows:

1. Title is changed to reflect added new item of equipment, Carrier, Standardized Integrated Command Post System, M1068.
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Remove Pages

e and f
i thru vi
xiii (xiv blank)
24-7 thru 24-12
24-29 and 24-30
24-35 and 24-36
None
24-47 thru 24-50
24-63 thru 24-66
24-95 thru 24-100
24-117 and 24-118
24-125 and 24-126
None

Insert Pages

e, f, and g (h blank)
i thru vi
xiii (xiv blank)
24-7 thru 24-12
24-29 thru 24-30
24-35 and 24-36
24-44.1 (24-44.2 blank)
24-47 thru 24-50
24-63 thru 24-66
24-95 thru 24-100
24-117 and 24-118
24-125 and 24-126
24-344.1 thru 24-144.3 (24-144.4 blank)

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None
 24-157 and 24-158
 24-169 thru 24-172
 24-215 and 24-216
 24-226.5 (24-226.6 blank)
 None
 None
 24-245 and 24-246
 None
 None
 24-275
 25-1 and 25-2
 25-19 thru 25-26
 28-3 thru 28-6.2
 None
 29-1 and 29-2
 29-13 and 29-14
 29-35 thru 29-40
 32-1 and 32-2
 32-9 and 32-10
 32-15 and 32-16
 32-19 and 32-20
 37-1 thru 37-4
 None
 42-1 thru 42-4
 None
 A-1 thru A-4
 B-11 thru B-14
 B-21 and B-22
 C-1 thru C-3
 D-1 thru D-3
 None
 Index-1 thru Index-27 (Index-28 blank)
 None
 Cover

Insert Pages

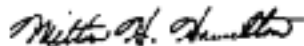
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 24-248.1 thru 24-248.7 (24-248.8 blank)
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 25-1 and 25-2
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 28-3 thru 28-6.2
 28.1-1 thru 28.1-12
 29-1 and 29-2
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 29-35 thru 29-40
 32-1 and 32-2
 32-9 and 32-10
 32-15 and 32-16
 32-19 and 32-20
 37-1 (37-2 blank)(37-3 and 37-4 deleted)
 40.1-1 thru 40.1-101 (40.1-102 blank)
 42-1 thru 42-4
 42-17 thru 42-19 (42-20 blank)
 A-1 thru A-5 (A-6 blank)
 B-11 thru B-14.2
 B-21 and B-22
 C-1 thru C-3 (C-4 blank)
 D-1 thru D-3 (D-4 blank)
 F-1 and E-2
 Index-1 thru Index-30
 FO-9 thru FO-11
 Cover

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CHANGE
No. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 13 March 1992

**TECHNICAL MANUAL
UNIT MAINTENANCE
FOR**

- CARRIER, PERSONNEL, FULL TRACKED, ARMORED, M113A2
2350-01-068-4077**
- CARRIER, COMMAND POST, LIGHT TRACKED, M577A2
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2350-01-099-8929**
- CARRIER, SMOKE GENERATOR, FULL TRACKED, M1059
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24-29 and 24-30
24-35 thru 24-40
24-47 thru 24-52
24-77 thru 24-90
24-107 thru 24-110
24-113 and 24-114
24-125 and 24-126
24-141 and 24-142

Insert Pages

i thru vi
xiii (xiv blank)
a and b
e and f
24-7 thru 24-12
24-29 and 24-30
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24-47 thru 24-52
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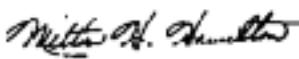
24-145 and 24-146	24-145 and 24-146
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24-167 and 24-168	24-167 and 24-168
24-185 and 24-186	24-185 and 24-186
None	24-190.1 thru 24-190.8
None	24-208.1 thru 24-208.3 (24-208.4 blank)
24-215 and 24-216	24-215 and 24-216
24-249 thru 24-252	24-249 thru 24-252
None	24-252.1 (24-252.2 blank)
25-1 and 25-2	25-1 and 25-2
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25-15 and 25-16	25-15 and 25-16
25-31 and 2532	25-31 thru 25-32.1 (25-32.2 blank)
25-33 thru 25-36	25-33 thru 25-36
None	25-39 thru 25-41 (25-42 blank)
26-1 (26-2 blank)	26-1 (26-2 blank)
28-3 thru 28-6.2	28-3 thru 28-6.2
28-79 and 28-80	28-79 and 28-80
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A-1 thru A-	A-1 thru A-4
B-1 and B-2	B-1 and B-2
B-11 thru B-14	B-11 thru B-14
C-1 thru C-3 (C-4 blank)	C-1 thru C- (C-4 blank)
D-1 and D-2	D-1 and D-2
Index-1 thru Index-27 (Index 28 blank)	Index-1 thru Index-28
FO-1 thru FO-3	FO-1 thru FO-3
FO-5 thru FO-8	FO-5 thru FO-8

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CHANGE
No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 9 September 1991

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24-105 and 24-106
24-125 and 24-126
24-129 and 24-130

Insert Pages

24-7 and 24-8
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24-63 thru 24-66
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24-99 and 24-100
24-105 and 24-106
24-125 and 24-126
24-129 and 24-130

24-133 and 24-134	24-133 and 24-134
24-139 thru 24-142	24-139 thru 24-142
24-149 and 24-150	24-149 thru 24-150.2
24-153 thru 24-156	24-153 thru 24-156
24-191 and 24-192	24-191 and 24-192
24-221 and 24-222	24-221 and 24-222
24-225 thru 24-236	24-225 thru 24-236
28-25 thru 28-28	28-25 thru 28-28
28-39 thru 28-46	28-39 thru 28-46
40-11 thru 40-20	40-11 thru 40-20
40-25 and 40-26	40-25 and 40-26
40-33 thru 40-35 (40-36 blank)	40-33 thru 40-35 (40-36 blank)
42-11 and 42-12	42-11 and 42-12
42-15 and 42-16	42-15 and 42-16
44-1 thru 44-9 (44-10 blank)	44-1 thru 44-9 (44-10 blank)
C-1 thru C-3 (C-4 blank)	C-1 thru C-3 (C-4 blank)
D-1 thru D-3 (D-4 blank)	D-1 thru D-3 (D-4 blank)
Index-1 thru Index-27 (Index-28 blank)	Index-1 thru Index-28

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General, United States Army
Chief of Staff

PATRICIA P. HICKERSON
Brigadier General, United States Army
The Adjutant General

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SUMMARY OF WARNINGS

WARNING

This list summarizes critical WARNINGS in this manual. They are repeated here to let you know how important they are. Study these WARNINGS carefully; they can save your life and the lives of personnel with whom you work.

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 flash point for type I dry cleaning solvent is 100°F (38°C) and for type II is 138°F (50°C). Failure to do so may result in 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 immediate medical attention.

WARNING



Unlocked ramp can open and move down slowly. If ramp system is damaged, unlocked ramp can fall suddenly. Personnel can be killed or injured. Take care when you work near ramp. Keep away from ramp that has come open during carrier operation.

WARNING



Energized systems and equipment can burn you. If MASTER SWITCH is ON, electrical system and equipment will be energized. Make sure MASTER SWITCH is OFF when you work on electrical systems or equipment.

WARNING



Failure to set the parking brake and block the road wheels can allow the carrier to move and could result in injury or death. Always set the parking brake and block road wheels before working on the carrier.

WARNING



Battery post and cables touched by metal objects can short circuit and burn you. Gas from batteries can explode and injure you. Battery acid can blind you or burn you. Do not wear jewelry when you work on electrical systems. Use caution when you work near battery or electrical system with tools or other metal objects. Do not get acid on your skin or in your eyes. Do not allow sparks near batteries.

WARNING



Heater and engine exhaust can kill or poison you. Close power plant access panels tight before you start engine. Do not run heater or engine indoors without very good fresh air flow. Keep power plant access cover closed when you run engine. Check for the smell of exhaust fumes. If you notice any fumes, open hatches and turn on vent fans.

WARNING



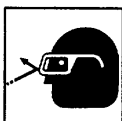
Exhaust gases can make you ill or kill you. Signs of exhaust gas poison are dizziness, headache, loss of muscle control, sleepiness, coma, or death. If anyone shows signs of exhaust gas poisoning: Get all personnel out of carrier. Get medical help. Make sure personnel have lots of fresh air. Keep personnel warm. Do not let anyone do hard exercise. If anyone stops breathing, give artificial respiration.

WARNING



Torsion springs or bars can fly out and injure you. Make sure spring tension is released before you start work.

WARNING



Air pressure in excess of 30 psi (207 kpa) can injure personnel. Do not direct pressurized air at yourself or others. Always wear goggles.

WARNING



If you work on a carrier that has been running, you could be burned. All tasks begin with a cooled down carrier. Allow carrier to cool, or use care if you work on a hot carrier.

WARNING



Unsafe use of chemical products, tools, and equipment can injure you. Read and follow warnings and instructions on labels of all chemical products. Follow all general shop safety procedures. See unit commander for further instructions on safety.

WARNING



Fire bottles can discharge and injure you. Insert antirecoil plugs, lock pins, and cotter pins before you work on or near fire bottles.

WARNING



Hanging loads could kill or injure you. Keep away from hanging loads and overhead equipment. Keep hands out of engine compartment while power unit is being removed or installed.

WARNING



NBC agents can kill you. Do not service air cleaner or vent system after NBC attack until carrier has been decontaminated.

WARNING



Starting engine right after a fire could restart the fire and kill or injure you. Do not turn MASTER SWITCH ON until cause of fire has been repaired or removed.

WARNING



Loctite sealing compound can damage your eyes. Before you handle loctite sealing compound, wear safety glasses/goggles, avoid contact with eyes. If it gets into your eyes, flush eyes with fresh water and get medical help.

WARNING



Remove machine gun and all ammunition when operating M113A2 as a litter carrier. Display Red Cross symbol on exterior of carrier.

WARNING



To prevent litter tilt, which could cause injury, be sure to install repair link at chain link.

WARNING



Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING

Hot radiator coolant can burn you. Use hand to remove cap **ONLY** if cool to touch. Turn cap slowly to release pressure. Replace cap by pressing down and turning until tight.



WARNING

Radiator is heavy and can cause back injury if handled improperly. Be sure to use a hoist and helper to remove radiator.



WARNING

Do not work under power plant. Power plant is heavy and may cause personnel and equipment damage if it falls. Lower power plant close to the ground before starting task.



WARNING

Carbon Monoxide is poisonous and can kill you. Do not idle engine with driver's power plant access panel off unless there is very good air flow.



WARNING

Carbon Monoxide gas is deadly poison. Play it safe: make sure power plant access covers and door are closed tight before you start engine.



WARNING

Damaged lifting slings can fail with load. Soldiers can be killed or injured. Inspect all slings before use. Do not use damaged slings.



WARNING

Do not touch exhaust pipes with bare hands. You could get a bad burn.

WARNING



Gas from batteries can explode. Ventilate compartment before you disconnect or connect battery cables. Battery acid can burn or blind you. Do not get acid on your skin or eyes. ALWAYS disconnect negative (circuit 7) lead first and connect it last.

WARNING



Battery posts and cables touched by metal objects can short circuit and burn you or injure you. Use caution when you work with tools or other metal objects. Do not wear jewelry when you work on electrical system.

WARNING



Fuel and fog oil can burn and could poison you.

WARNING



Fog oil is slippery and can cause soldiers to fall and get injured. Clean up all spillage or leakage of fog oil as soon as possible by washing the area or absorbing the fog oil with sand or other absorbent material.

WARNING



You could be killed or injured by accidental carrier movement. Before you perform maintenance, make sure to properly block the carrier.

WARNING



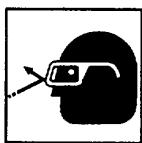
Hanging loads can kill or injure you. Keep away from hanging loads and overhead equipment. Keep hands away from pinch points.

WARNING



Lifting or moving objects in excess of 70 pounds could injure you. Make sure to get an assistant or use a lifting device to move fog oil tank, armor, or other heavy objects.

WARNING



Compressed air pressure from smoke generator can cause serious injury or death. To avoid accidents, bleed air before working on air compressor assembly or disconnecting any air hose.

WARNING



Fire resistant hydraulic (FRH) fluid may contain Tricresyl Phosphate which, if taken internally, can produce paralysis. Hydraulic fluid may be absorbed through the skin. Wear long sleeves, gloves, goggles, and face shield. If FRH gets in eyes, wash them immediately and get medical aid immediately. If FRH gets on your skin, thoroughly wash with soap and water. Wash hands thoroughly prior to eating or smoking.

WARNING



Chemical Agent Resistance Coatings (CARC) are toxic. Use a respirator when spraying or brushing CARC. To identify the needed respirator and detailed safety information, consult your environmental or safety office before using CARC. Protect your hands and wrists with rubber gloves. Wear coveralls. Keep your eyes protected with splash goggles or face shield. Never mix paint or use thinner near an open flame during painting and for at least four to six hours afterward. Make sure the temperature of the surface to be painted is not less than 60°F and no more than 100°F. One person is not to use more than one quart of CARC a day. Two people will not paint an item at the same time.

WARNING



Vehicle operation during hot weather may result in potential heat stress to crew members. Crew members should limit their exposure based on TB med 507 using PHEL Chart (Appendix C) curve as a guide.

WARNING



Start up of equipment or moving parts could injure you or others. If other personnel are working on your carrier, be sure you know what they are doing. Place DO NOT OPERATE tags on MASTER SWITCH when needed to prevent startup.

WARNING



Power cable connections should not be attempted until grounding system and signal/data cabling have been completed.

System ground must be completed prior to making any power connections. Failure to do so may result in personal injury and/or damage to the equipment. Improper or loose connection between the surface wire grounding systems and ground lugs could cause a short in the system, which may cause personal injury.

WARNING



HIGH VOLTAGE is used in the operation of this equipment.

DEATH ON CONTACT may result if personnel fail to observe safety precautions.

NEVER work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be competent in giving first aid. When an operator helps a technician, that operator must be warned about dangerous areas.

SHUT OFF POWER supply to equipment before beginning work. When working inside equipment with power off, take special care to ground every capacitor likely to hold a dangerous potential.

BE CAREFUL not to contact high-voltage connections when installing or operating this equipment.

KEEP one hand away from the equipment to reduce the hazard of current flowing through life-sustaining organs of the body.

WARNING



The insulator blanket is made out of asbestos. Handle with care. Discard insulator blanket properly as a hazardous material per local standard operating procedure. The insulator washer takes the place of the blanket.



**TECHNICAL MANUAL
UNIT MAINTENANCE**

**CARRIER, PERSONNEL, FULL TRACKED, ARMORED, M113A2
2350-01-068-4077**

**CARRIER, COMMAND POST, LIGHT TRACKED, M577A2
2350-01-068-4089**

**CARRIER, MORTAR, 107-MM, M30; SELF-PROPELLED, M106A2
2350-01-069-6931**

**CARRIER, MORTAR, 81-MM, M29A1; SELF-PROPELLED, M125A2
2350-01-068-4087**

**CARRIER, MORTAR, 120-MM, M121; SELF-PROPELLED, M1064
2350-01-338-3116**

**CARRIER, SMOKE GENERATOR, FULL TRACKED, M1059
2350-01-203-0188**

**COMBAT VEHICLE, ANTI-TANK, IMPROVED TOW VEHICLE, M901A1
2350-01-103-5641**

**CARRIER, STANDARDIZED INTEGRATED COMMAND POST SYSTEM, M1068
2350-01-345-5657**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes, or if you know a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual, directly to: Commander, U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-AC-NML, Rock Island, IL 61201-9948. A reply will be furnished to you.

This manual supersedes TM 9-2350-261-20 dated July, 1985, including all changes.

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HOW TO USE THIS MANUAL

This manual tells you how to perform unit maintenance for the M113A2, M106A2, M125A2, M577A2, M741A1, M1059, M1064, M1068, and M901A1 Carriers.

Before starting a task or procedure, read HOW TO USE THIS MANUAL and CHAPTER 2, PRINCIPLES OF OPERATION.

USING YOUR MANUAL ON THE JOB

The best way to learn about this manual is to practice using it. Knowing how to use this manual will save both time and energy.

WHICH TYPE OF TASK DO YOU USE?

There are two different types of tasks in this manual. They are maintenance tasks and troubleshooting tasks. Decide which type of task you need to use.

TROUBLESHOOTING TASKS

Troubleshooting tasks help you locate faulty parts. They direct you to the maintenance task to correct these faults. CHAPTER 3, TROUBLESHOOTING, contains detailed information on how to perform troubleshooting tasks. Read CHAPTER 3, Section I, before performing the troubleshooting tasks in the chapter.

MAINTENANCE TASKS

Doing maintenance tasks will keep the carrier in shape to operate. Maintenance tasks are used to present maintenance instructions. Each maintenance task details steps which you need to perform. If the vehicle and parts need maintenance that is not included in any task in the manual, report this to your supervisor.

HOW DO YOU FIND THE CORRECT TASK?

Pick a key word from the carrier part or system to be used during the task. Look in the ALPHABETICAL INDEX for this key word or the name of the action you will perform. Turn to the page indicated.

The ALPHABETICAL INDEX lists each task under one or more headings. The task, REPLACE TOWING PINTLE, could be found:

Under "P"

Pintle, towing:

Repair: 24-4

Under "T"

Towing pintle:

Repair: 24-4

HOW DO YOU READ MAINTENANCE TASKS?

Be sure to read all warnings, cautions, and notes. These are in all types of tasks. They help you avoid harm to yourself, other personnel and equipment. They also tell you things you should know about the task.

Before starting, get all tools, supplies, and personnel listed on the setup page needed to do the task. Be sure to read the task before performing the maintenance. If any other tasks are referenced, you must go to the setup page for each of those tasks to find out what tools, parts and materials will be needed.

Start with step 1 and do each step in given order.

Look at the drawings. These show you what to look for when reading a maintenance task.

REFERENCES

References within a task refer to a different manual or to another task in the same manual. They are found in the INITIAL SETUP and in the FOLLOW-THROUGH STEPS. Below is an example.

MASTER SWITCH OFF (see your -10)
Battery ground lead disconnected (page 13-2)

For all tasks, the following comments apply:

Parts which are listed on the setup page will be referred to as "new" in the task setup when installed.

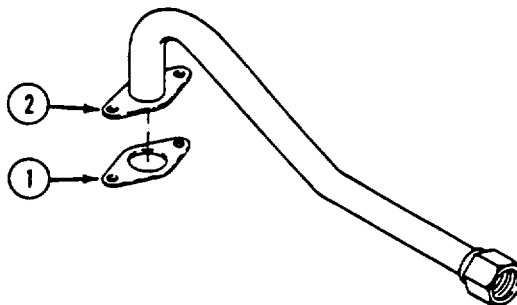
Examples are:

- gaskets
- lockwashers
- some preformed packings
- some retaining rings

These and other new parts are listed under MATERIALS/PARTS in the initial set up.

GENERAL MAINTENANCE

Cleaning, inspecting, checking for leaks, and similar procedures which apply to most tasks are found in CHAPTER 2, Section IV, GENERAL MAINTENANCE PROCEDURES. Use these steps to clean and inspect any part being removed, repaired, or installed. Special cleaning will be covered in the task step. Below is a step that would require general cleaning.



5. Remove gasket (1) from upper tube flange (2). Discard gasket.

After doing this step, you would clean the mating surface with cleaning solvent and a wiping rag according to the general cleaning procedures. In other tasks, hoses or rubber hatch seals will need to be checked for leaks. Refer to CHAPTER 2 for general procedures.

SAMPLE OF SETUP ITEMS

The sample below shows the DESCRIPTION and INITIAL SETUP sections on the first page of a task. Items to watch for are listed in the legend. Match them with the sample.

<p>① →</p> <p>② →</p> <p>③ →</p> <p>④ →</p> <p>⑤ →</p>	<p>REPLACE MASTER SWITCH ASSEMBLY</p>	<p>DESCRIPTION</p> <p>This task covers: Remove (page 9-13). Install (page 9-14).</p> <hr/> <p>INITIAL SETUP</p> <p>Tools: General Mechanics Tool Kit (Item 30, App D)</p> <p>Materials/Parts: Lockwasher (3) Self-locking nut (2) Self-locking nut (8)</p> <p>Personnel Required: Unit Mechanic</p>	<p>References: ←</p> <p>See your -10</p> <p>Equipment Conditions: ←</p> <p>Engine stopped/shutdown(see your -10) Carrier blocked (see your -10) Battery ground lead disconnected (page 13-2)</p>	<p>⑥</p> <p>⑦</p>
--	--	---	--	-------------------

Legend to Sample

- | | |
|--|--|
| <p>(1) TITLE</p> <p>(2) DESCRIPTION</p> <p>(3) TOOLS</p> <p>(4) MATERIALS/PARTS</p> <p>(5) PERSONNEL
REQUIRED</p> <p>(6) REFERENCES</p> <p>(7) EQUIPMENT
CONDITIONS</p> | <p>This is the name of the task.</p> <p>This describes the overall actions you will perform. Also, it tells you the page where each action begins.</p> <p>These are the tools and equipment you will need to do the task.</p> <p>These are supplies you will need to do the task. If more than one part is needed, the quantity will be in parenthesis following the name of the part. The only parts listed are those you must replace every time the task is performed. Use the Repair Parts and Special Tools List (RPSTL), TM 9-2350-261-24P, to order parts you need for the task.</p> <p>These are the personnel needed to do the task.</p> <p>These are the other technical publications you will need to do the task.</p> <p>These are the conditions the equipment must be in before you start the task. You will be referred to the task or technical publication needed to meet each equipment condition. This reference will be given in parenthesis after each equipment condition.</p> |
|--|--|

NOTE

When performing equipment conditions tasks, do only those steps required to gain access to complete the major task. Some tasks will include all of the items listed in the legend. Others will only include some of the items.


Read the INITIAL SETUP section carefully before you start each task. Get the tools and supplies listed and the personnel needed. Be sure the equipment is in the condition required.

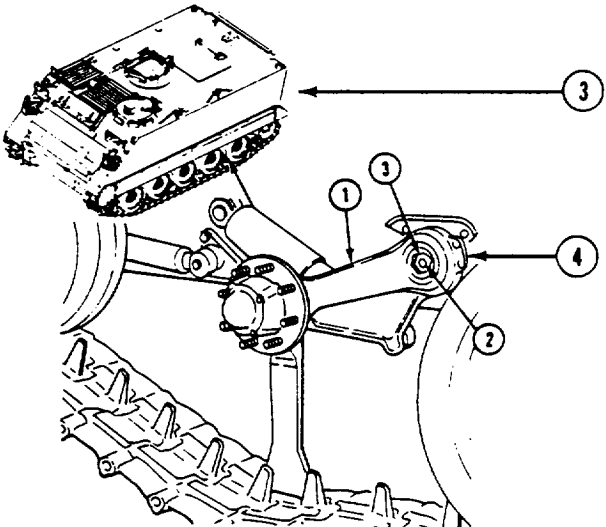
SAMPLE OF TASK STEPS

The sample below shows you some of the signs to watch for when you are performing a task. Read all the steps, warnings, cautions and notes before starting each task. Some items to watch for are listed in the legend, match them with the sample.

REMOVE

WARNING
If road wheel lifter slips while lowering road arm, it could injure you. Stand clear before you lower road arm.





1. With road wheel removed and road arm raised on lifter, start engine (see your -10). Place range selector in 1. Slowly drive carrier forward off lifter so that road wheel support arm (1) hangs freely.

2. Remove screw (2) from plug (3).

Legend to Sample Above

- | | |
|--------------------|---|
| (1) WARNING | This describes possible injury to personnel. |
| (2) STEP | This tells you what to do and how to do it. |
| (3) LOCATOR | This helps you locate equipment on the carrier or major components. An arrow will lead you from the locator to the closeup. If the arrow is dotted, it means that the item is located behind something. |
| (4) CLOSEUP | This shows you a closeup of the equipment. |

In addition to the items listed, cautions and notes may be listed. Cautions deal with things or actions which could damage equipment. Notes contain facts to make tasks easier. Also, notes tell you about conditions that effect the step that follows them.

Each task includes step-by-step illustrated instructions. The numbered steps tell you WHAT to do and HOW to do it. Each numbered part in the instructions matches the same number in the drawings of the task. When they are needed, warnings, cautions, and notes always appear just above the task step to which they apply.

Read all steps, warnings, cautions and notes before starting to do the task. It is important to do each step in the order given. FOLLOW-THROUGH STEPS tell you what to do after the maintenance task is done. The words END OF TASK will tell you when you have finished the job.

PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Preventive maintenance is required to keep your carrier in good running condition. Preventive Maintenance Checks and Services (PMCS) for unit maintenance are made on a periodic basis, and are found in CHAPTER 2, Section V of this manual.

SAMPLE OF PMCS PROCEDURES

The sample below shows you what to look for when you read a PMCS procedure. Items to watch for are listed in the legend. Match them with the sample.

UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES

SEMIANNUAL (S) OPERATION CHECKS

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES
7	TRACK PIN/NUTS	Check track pin nuts (1) for looseness or cracks. Replace cracked nuts. Check track pins (2) for stripped threads. Replace stripped track pins. Tighten loose nuts to 115-135 lb-ft (156-183 N·m) torque. Use torque wrench (Item 96, App D).
8	TRACK GROUSER	Check grouser (3) for wear or cracks on both tracks. Replace track shoe if grouser measures less than 1/8 inch (3 mm) in height or is cracked.

Legend to Sample

- (1) **ITEM NO.** This tells you the number of the item to be checked or serviced.
- (2) **INTERVAL** This tells you how often the items are checked or serviced.
- (3) **ITEM TO BE INSPECTED** This tells you the item to be checked or serviced.
- (4) **PROCEDURES** This tells you what to do. Illustrations may be included in this section to help you perform the procedures or you will be directed to another manual.

WARNINGS, CAUTIONS, AND NOTES

Be sure to read all warnings and cautions in the task. Ignoring a warning could cause death or injury to yourself or other personnel. Ignoring a caution could cause damage to equipment. Notes contain facts to make the task easier. Warnings, cautions, and notes always appear just above the task step to which they apply.

WARNINGS: Call attention to the things that could injure personnel.



WARNING

Lowering ramp could injure personnel. Make sure ramp zone is clear before you lower ramp.

CAUTIONS: Call attention to the actions or materials that could damage equipment.

CAUTION

Improper cable actions or removal can cause a short circuit. Remove negative cable prior to removing positive cable.

NOTES: Contain information you should know.

NOTE

Two personnel are required to perform this task.

HELPER

Helpers are needed in tasks that require more than one person such as to help lift heavy objects. A helper may also be needed to act as an outside observer, drive the carrier, or do similar tasks.

If a helper is needed to perform a task, the INITIAL SETUP will tell you:

Example: Personnel required:
 Unit Mechanic
 Helper (H)

If a helper assists with a step or substep, the step or substep will include: 'Have helper assist.'

Example: 3. Remove panel. Have helper assist.

If a helper performs the action alone, the step or substep will start with (H).

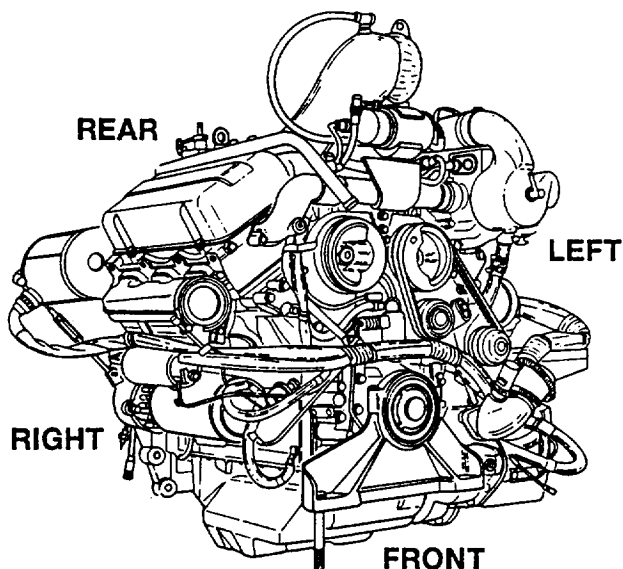
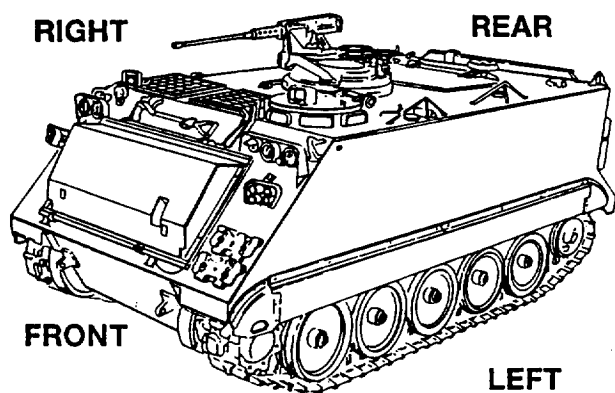
Example: 2. (H) Turn MASTER SWITCH ON.

LOCATIONAL TERMS

The terms FRONT, REAR, LEFT AND RIGHT are used to describe where items are located. THE POINT OF REFERENCE FOR THESE TERMS IS DIFFERENT FOR CARRIER ITEMS AND POWER UNIT ITEMS. (Carrier items are items which are not on the power unit. Power unit items are items on the engine, transmission, differential, or transfer gearcase.)

If you are working with carrier items, use this point of reference. Think of the location as if you were sitting in the driver's seat looking forward.

If you are working with power unit items, use this point of reference. Think of the locations as if you were standing at the transfer gearcase end of the power unit and facing the flywheel. This rule applies whether the power unit is IN or OUT of the carrier.



HOW TO USE THE REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL) WITH THIS MANUAL

The RPSTL (TM 9-2350-261-24P) gives the National Stock Number (NSN) required to order parts used in the maintenance tasks. To use the RPSTL to identify and order a part, do the following:

1. In this manual, turn to the first page of the task to be performed.
2. Find Materials/Parts under INITIAL SETUP, and read the part(s) that need replacement. If required, find the illustrated part in the task steps.
3. Go to the RPSTL and find the same illustrated part. That part will have an item number assigned to it. Look this item number up in the listing for that figure. The NSN can be found in the NSN column.
4. If you inspect an item and find that it is damaged, go to the RPSTL and find the SMR code for the item. If the SMR code does not authorize you to repair the item, reassemble it and send it to the authorized level of maintenance.
5. The usable on code in the RPSTL appears in the lower left corner of the Description column heading. Usable on codes are shown as 'UOC' in the Description Column (justified left) on the first line following the item description/nomenclature. Uncoded items are applicable to all models. Identification of the usable on codes in the RPSTL are:

Code	Used On
V35	M113A2 Carrier, Personnel
V36	M125A2 Carrier, 81 mm Mortar
V37	M577A2 Carrier, Command Post
V38	M106A2 Carrier, 107 mm Mortar
V83	M981 Carrier, Personnel, Armored Fire Support
V95	M741A1 Chassis, 20 mm Anti-Aircraft Gun
011	M901A1 Combat Vehicle, Anti-Tank Improved TOW Vehicle
056	M1059 Carrier, Personnel, Smoke
120	M1064 Carrier, 120 mm Mortar
ACP	M1068 Carrier, Standardized Integrated Command Post System

**CHAPTER 24
HULL MAINTENANCE**

**Section I. LIFTING EYES, TOWING EYES, PINTLE, AND TOW
ROPE STORAGE PADS**

TASK INDEX

Task	Page	Task	Page
Replace Lifting Eye.....	24-2	Replace Towing Hook And Eye.....	24-3
Replace Rear Tiedown Plates (M1059, M1068, M113A2, M577A2, M901A1, M981 ONLY).....	24-2.1	Repair/Replace Towing Pintle	24-4
		Replace Tow Cable Pad.....	24-6

REPLACE LIFTING EYE

INITIAL SETUP**Tools:**

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 98, App D)
- Torque Wrench Adapter (Item 4, App D)

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

REMOVE

1. Remove four screws (1) or screws (1 and 2) that secure lifting eye (3) to hull.

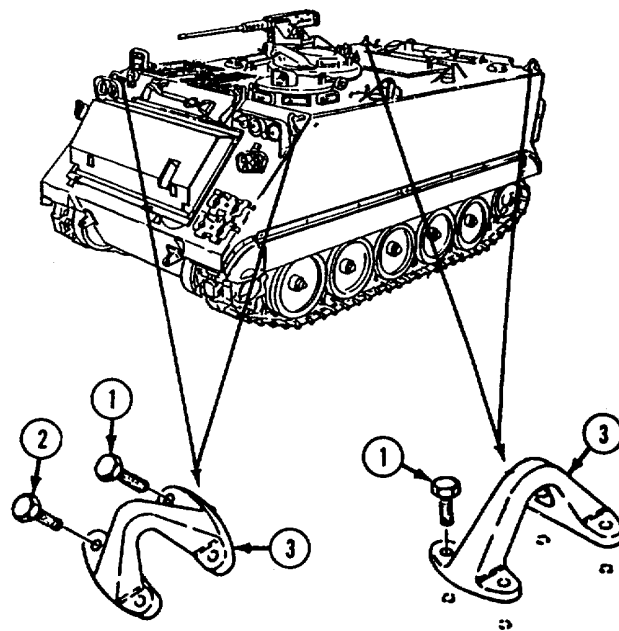
INSTALL

2. Install lifting eye (3) on hull. Secure with four screws (1) or screws (1 and 2).

NOTE

Right front lifting eye has one screw (2) 2-3/4 inches (7 cm) long and three screws 2-1/2 inches (6 cm) long. All other lifting eyes use four screws 2-1/2 inches (6 cm) long.

3. Tighten screws (1 and 2) to 175-200 lb-ft (237-271 N-m) torque. Use torque wrench and adapter.

**FOLLOW-THROUGH STEPS**

1. Unblock carrier (see your -10).
-

END OF TASK

REPLACE REAR TIEDOWN PLATES (M1059, M1068, M113A2, M577A2, M901A1, M981 ONLY)**INITIAL SETUP****Tools:**

General Mechanic's Tool Kit (Item 30, App D)
 Socket Wrench Set (Item 90, App D)
 Torque Wrench (Item 98, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Materials/Parts:

Sealing compound primer (Item 43, App C)
 Sealing compound (Item 52.1, App C)

Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)

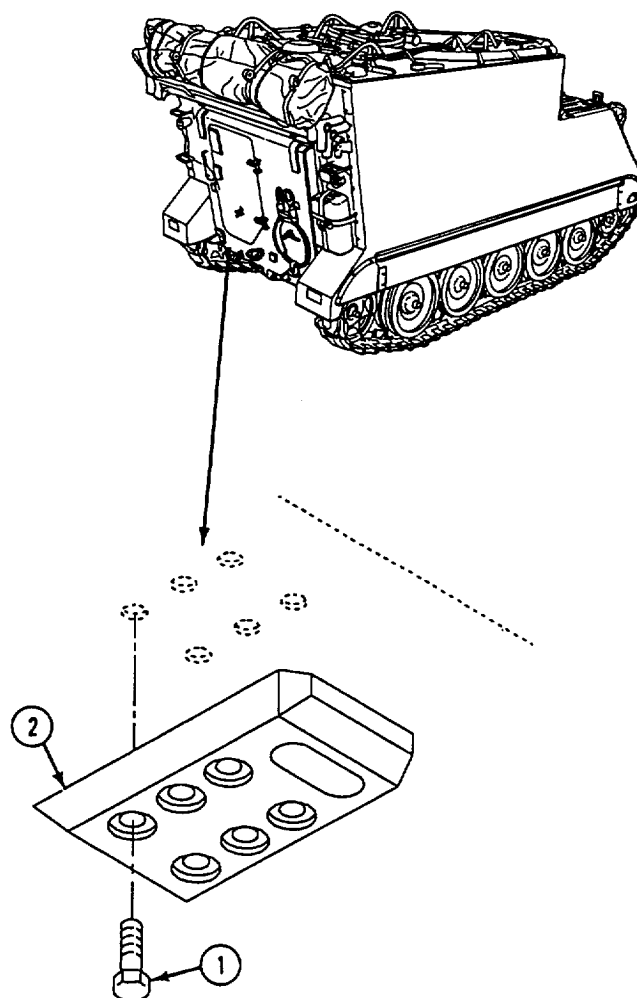
REMOVE

1. Remove 12 screws (1) and two plates (2) from bottom of carrier.

INSTALL

2. Install two plates to bottom of carrier.
 - a. Apply a light coat of sealing compound primer and sealing compound to the threads of the 12 screws.
 - b. Install two plates (2) and coated screws (1) to bottom of carrier.
3. Tighten 12 screws (1) to 268-295 lb-ft (363-400 N-m) torque.

Tiedown plates are in same location on all vehicles.



END OF TASK

REPLACE TOWING HOOK AND EYE

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 96, App D)

References:

See your -10

Personnel Required:

Unit Mechanic

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)

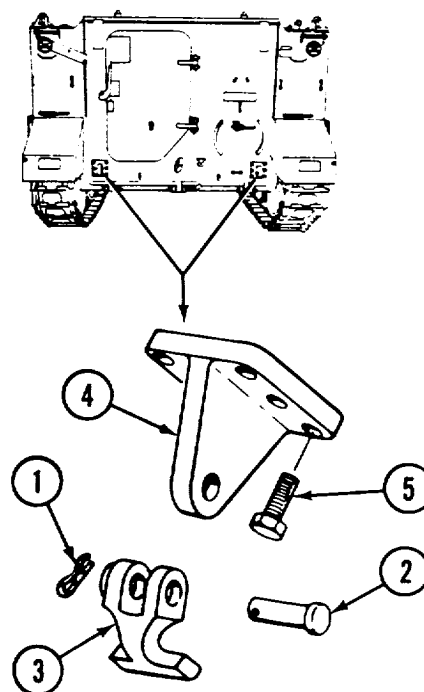
REMOVE**NOTE**

There are four towing eyes on the carrier, two in front and two in the rear.

1. Remove clip (1) and pin (2) that secure hook (3) in eye (4). Remove hook.
2. Remove six screws (5) that secure eye (4) to carrier. Remove eye.

INSTALL

3. Place eye (4) on carrier. Secure with six screws (5). Tighten screws to 130-140 lb-ft (176-190 N-m) torque. Use torque wrench.
4. Install hook (3) in eye (4). Secure with pin (2) and clip (1).

**FOLLOW-THROUGH STEPS**

1. Unblock carrier (see your -10).
-

END OF TASK

REPAIR/REPLACE TOWING PINTLE

DESCRIPTION

This task covers: Remove (page 24-4). Disassemble (page 24-4). Clean, Inspect, and Repair (page 24-5). Assemble (page 24-5). Install (page 24-5).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter Pin (2)
Cotter Pin
Drive screw
Preformed Packing

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

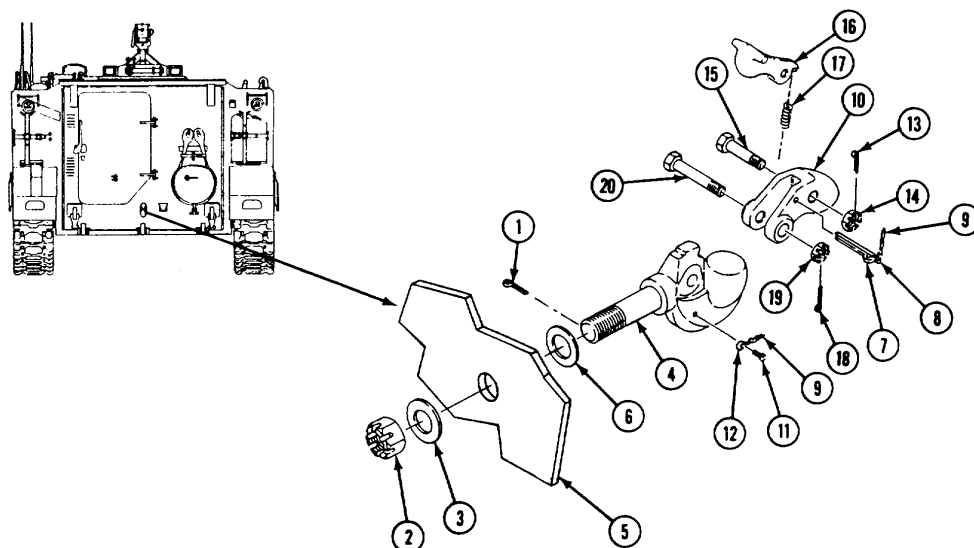
Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)

REMOVE

1. Remove cotter pin (1), nut (2), and washer (3) that secure pintle (4) to ramp (5). Discard cotter pin.
2. Remove pintle (4) and preformed packing (6) from ramp (5). Discard packing.
3. Remove cotter pin (7) with S hook (8) and chain (9) from lock (10) and pintle (4).
4. Remove drive screw (11), S hook (12), and chain (9) from pintle (4).
5. If necessary, open S hooks (8 and 12) and remove chain (9) and cotter pin (7).

DISASSEMBLE

3. Remove cotter pin (7) with S hook (8) and chain (9) from lock (10) and pintle (4).
6. Remove cotter pin (13), nut (14), screw (15), handle (16), and spring (17) from lock (10). Discard cotter pin.
7. Remove cotter pin (18), nut (19), screw (20), and lock (10) from pintle (4). Discard cotter pin.



CLEAN, INSPECT, AND REPAIR

8. Inspect parts for corrosion, distortion, cracks, breaks, and loose or missing parts. Repair or replace damaged and missing parts.

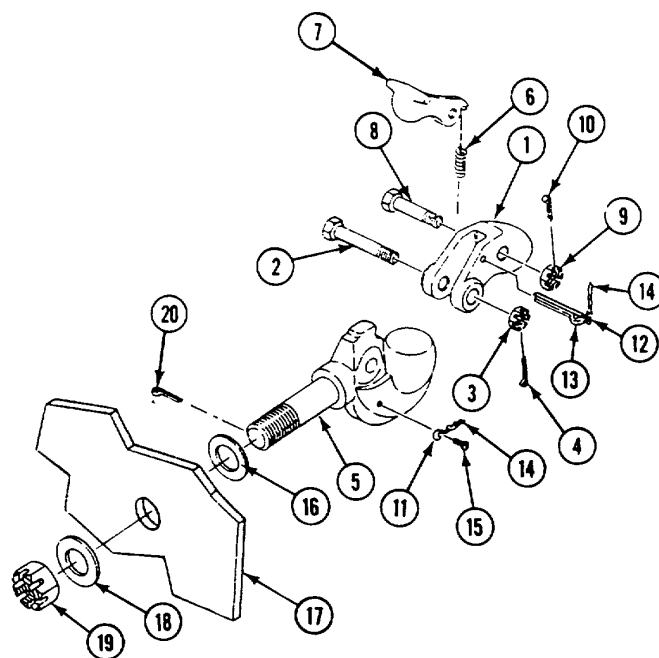
ASSEMBLE**NOTE**

Neither the lock nor the pintle are available as repair parts.

9. Install lock (1), screw (2), nut (3), and new cotter pin (4) on pintle (5).
10. Install spring (6), handle (7), screw (8), nut (9), and new cotter pin (10) on lock (1). Check that spring is properly seated.
11. If removed, install S hooks (11 and 12), and cotter pin (13) on chain (14). Close S hooks.
12. Install S hook (11), chain (14), and new drive screw (15) on pintle (5).
13. Install cotter pin (13) with attached S hook (12) and chain (14) on lock (1) and pintle (5).

INSTALL

14. Install new preformed packing (16) and pintle (5) on ramp (17).
15. Install washer (18), nut (19), and new cotter pin (20) on pintle (5).
16. Check that pintle turns freely on ramp after installation.

**FOLLOW-THROUGH STEPS**

1. Unblock carrier (see your -10).

END OF TASK

REPLACE TOW CABLE PAD

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Adhesive

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Tow cable removed (see your -10)

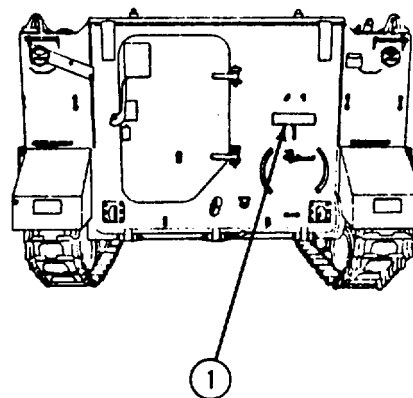
Personnel Required:Unit Mechanic

REMOVE

1. Check pad (1). If pad is cracked, broken, cut, or not flexible, scrape from hull.

INSTALL

2. Apply a thin coat of adhesive to hull and back of new pad (1).
3. Allow adhesive to dry for 10 to 20 minutes. Surface should be tacky, but not too sticky.
4. Position pad (1) on hull surface and press firmly in place.



FOLLOW-THROUGH STEPS

1. Install tow cable (see your -10).
 2. Unblock carrier (see your -10).
-

END OF TASK

**Section II. TRIM VANE, POWER PLANT FRONT DOOR, AND
POWER PLANT ACCESS DOOR**

TASK INDEX

Task	Page	Task	Page
Replace Trim Vane	24-8	Replace Power Plant Door	24-21
Repair Trim Vane (M106A2, M125A2, M577A2, M1068, and M1064 Only)	24-9	Repair Power Plant Door	24-22
Repair Trim Vane (All Except M106A2, M125A2, M1064, M1068, and M577A2)	24-11	Replace Hull Front Access Cover	24-24
Repair Trim Vane Control Linkage	24-13	Replace Driver's Power Plant Access Panel.....	24-25
Replace Trim Vane Release.....	24-14	Replace Power Plant Rear Access Panels (M113A2, M741A1, and M901A1 Only).....	24-27
Repair Trim Vane Release.....	24-17	Replace Power Plant Rear Access Panels (M1059 Only).....	24-28.1
Replace Power Plant Door Combat Lock.....	24-19	Replace Power Plant Rear Access Panel (M577A2, M106A2, M125A2, M1068, and M1064 Only).....	24-29

REPLACE TRIM VANE

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (4)

Personnel Required:

Unit Mechanic
Helper (H)

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered (see your -10)

REMOVE

1. Remove two outer locknuts (1) and screws (2) from hinges (3). Discard locknuts.
2. (H) Lower trim vane (see your -10).

WARNING

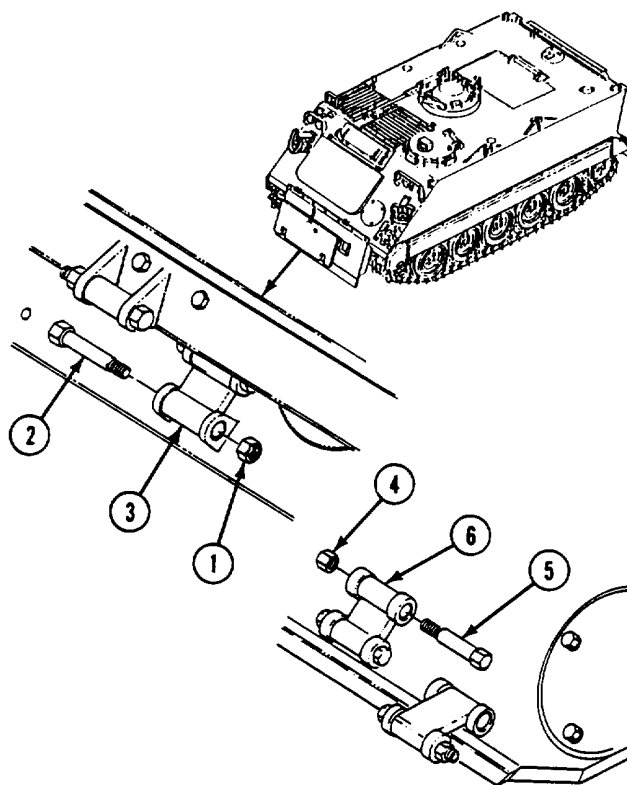
Lifting or moving objects in excess of 70 pounds could injure you. Make sure to get an assistant or use a lifting device to remove trim vane or other heavy objects.

3. Remove two inner locknuts (4) and screws (5) from hinges (6). Remove trim vane from carrier. Have helper assist. Discard locknuts.
4. Remove hinges from trim vane and retain.

INSTALL

5. Install hinges on new trim vane.
6. Place trim vane on carrier and align four hinges. Have helper assist. Secure two inner hinges (6) with two screws (5) and new locknuts (4).

7. (H) Stow trim vane (see your -10).
8. Secure two outer hinges (3) with two screws (2) and new locknuts (1).

**FOLLOW-THROUGH STEPS**

1. Stow trim vane (see your -10).
 2. Unblock carrier (see your -10).
-

END OF TASK

REPAIR TRIM VANE (M106A2, M125A2, M577A2, M1068, AND M1064 ONLY)**DESCRIPTION**

This task covers: Disassemble (page 24-9).

Assemble (page 24-10).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Self-locking nut (2)

Self-locking nut (5)

Self-locking nut (16)

References:

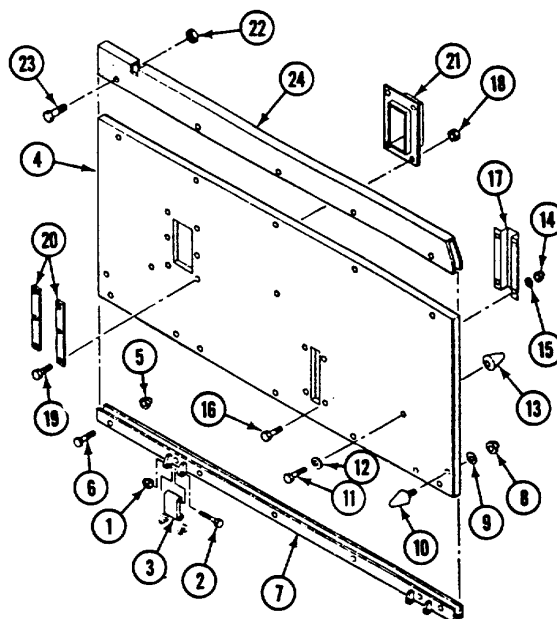
See your -10

Equipment Conditions:

Trim vane removed (page 24-8)

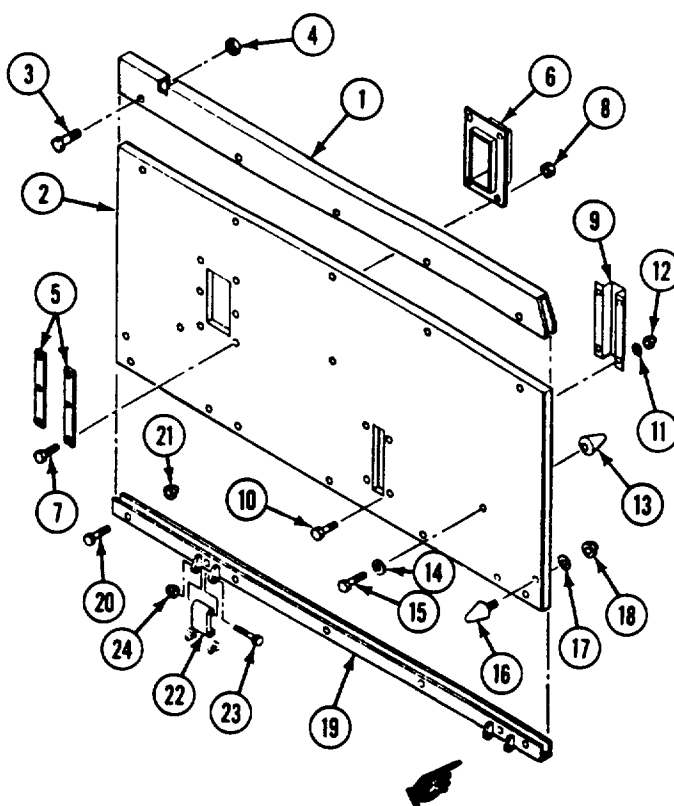
DISASSEMBLE

1. Remove two locknuts (1), screws (2), and hinges (3) from trim vane (4). Discard locknuts.
2. Remove five locknuts (5), screws (6), and lower stiffener (7) from vane (4). Discard locknuts.
3. Remove locknut (8), washer (9), and bumper (10) from vane (4). Discard locknut.
4. Remove screw (11), washer (12), and bumper (13) from vane (4).
5. Remove four locknuts (14), washers (15), screws (16), and guard (17) from vane (4). Discard locknuts.
6. Remove six locknuts (18), screws (19), two plates (20), and release assembly (21) from vane (4). Discard locknuts.
7. Remove five locknuts (22), screws (23), and upper stiffener (24) from vane (4). Discard locknuts.

**GO TO NEXT PAGE**

ASSEMBLE

8. Install upper stiffener (1) on trim vane (2). Secure with five screws (3) and new locknuts (4).
9. Place two plates (5) and release assembly (6) on vane (2). Secure with four screws (7) and new locknuts (8).
10. Install guard (9) on vane (2). Secure with six screws (10), washers (11), and new locknuts (12).
11. Install bumper (13) on vane (2). Secure with washer (14) and screw (15).
12. Install bumper (16) on vane (2). Secure with washer (17) and new locknut (18).
13. Install lower stiffener (19) on vane (2). Secure with five screws (20) and nuts (21).
14. Install two hinges (22) on vane (2). Secure with two screws (23) and locknuts (24).



FOLLOW-THROUGH STEPS

1. Install trim vane (page 24-8).

END OF TASK

REPAIR TRIM VANE (ALL EXCEPT M106A2, M125A2, M1064, M1068, AND M577A2)

DESCRIPTION

This task covers: Disassemble (page 24-11).
Assemble (page 24-12).

Clean, Inspect, and Repair (page 24-12).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

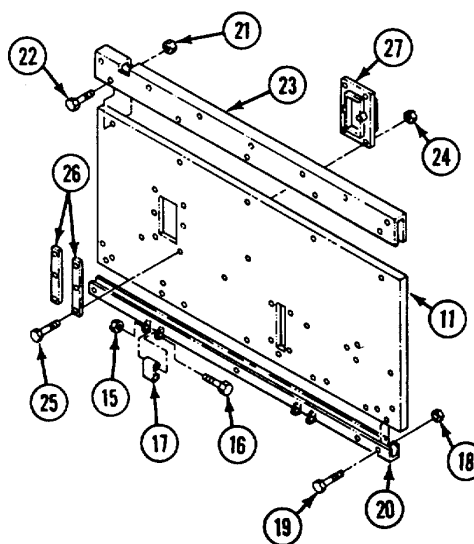
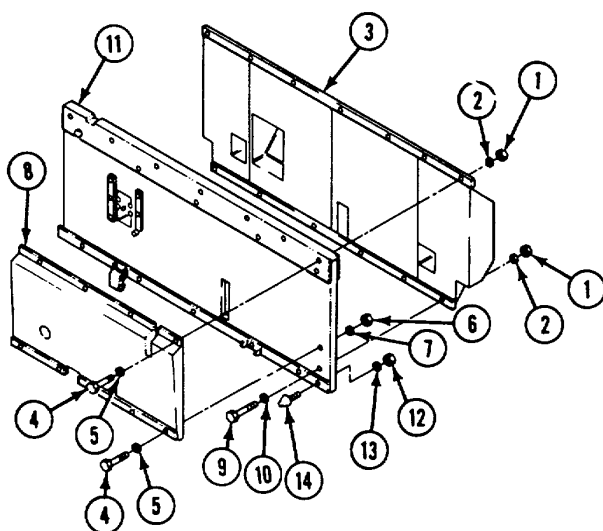
Self-locking nut (45)

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Trim vane removed (page 24-8)

DISASSEMBLE

1. Remove 13 locknuts (1) and washers (2). Remove front pod (3). Discard locknuts.
2. Remove nine screws (4), washers (5), locknuts (6), and washers (7). Remove rear pod (8). Discard locknuts.
3. Remove six screws (9) and washers (10) from trim vane (11).
4. Remove three locknuts (12), washers (13), and bumpers (14) from trim vane (11). Discard locknuts.
5. Remove two locknuts (15), screws (16), and hinges (17) from trim vane (11). Discard locknuts.
6. Remove six locknuts (18), screws (19), and lower stiffener (20) from trim vane (11). Discard locknuts.
7. Remove six locknuts (21), screws (22), and upper stiffener (23) from trim vane (11). Discard locknuts.
8. Remove six locknuts (24), screws (25), two plates (26), and release assembly (27) from trim vane (11). Discard locknuts.



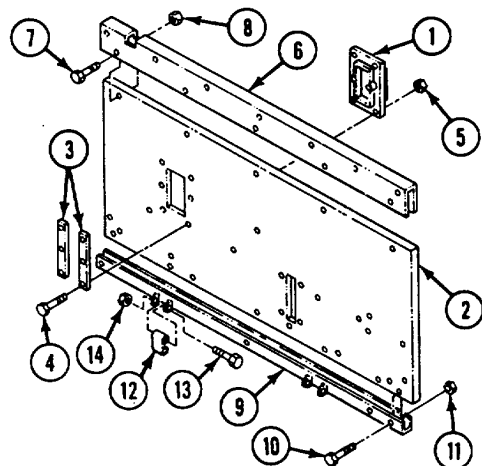
GO TO NEXT PAGE

CLEAN, INSPECT, AND REPAIR

9. Check inside of flotation pod section. If foam filler is cracked or missing, notify Direct Support. Check metal for cracks. Check flatness with straight edge. Trim off any foam that extends beyond edge of pod.

ASSEMBLE

10. Install release assembly (1) in trim vane (2). Secure with two plates (3), six screws (4), and new locknuts (5).
11. Install upper stiffener (6) on trim vane (2). Secure with six screws (7) and new locknuts (8).
12. Install lower stiffener (9) on trim vane (2). Secure with six screws (10) and new locknuts (11).



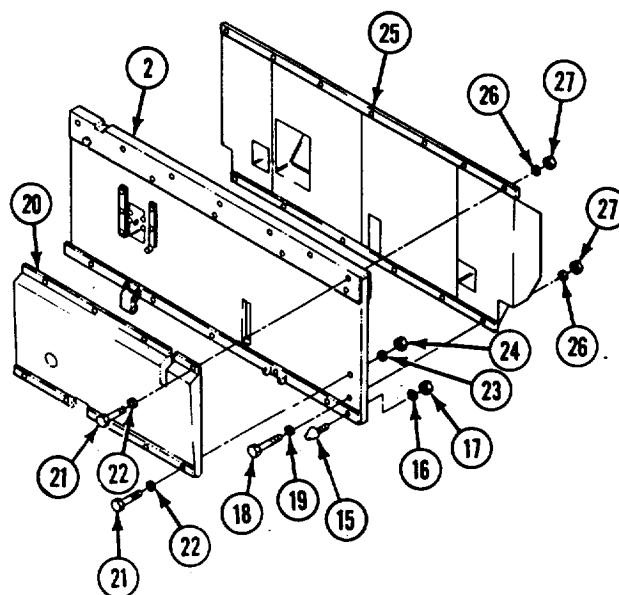
13. Install two hinges (12) on lower stiffener (9). Secure with two screws (13) and new locknuts (14).

14. Install three bumpers (15) on trim vane (2). Secure with three washers (16) and new locknuts (17).

15. Install six screws (18) and washers (19) on trim vane (2).

16. Install rear pod (20) on trim vane (2). Secure with nine screws (21), washers (22), washers (23), and new locknuts (24).

17. Install front pod (25) on trim vane (2). Secure with 13 washers (26) and new locknuts (27).



FOLLOW-THROUGH STEPS

1. Install trim vane (page 24-8).

END OF TASK

REPAIR TRIM VANE CONTROL LINKAGE

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin
Self-locking nut

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)

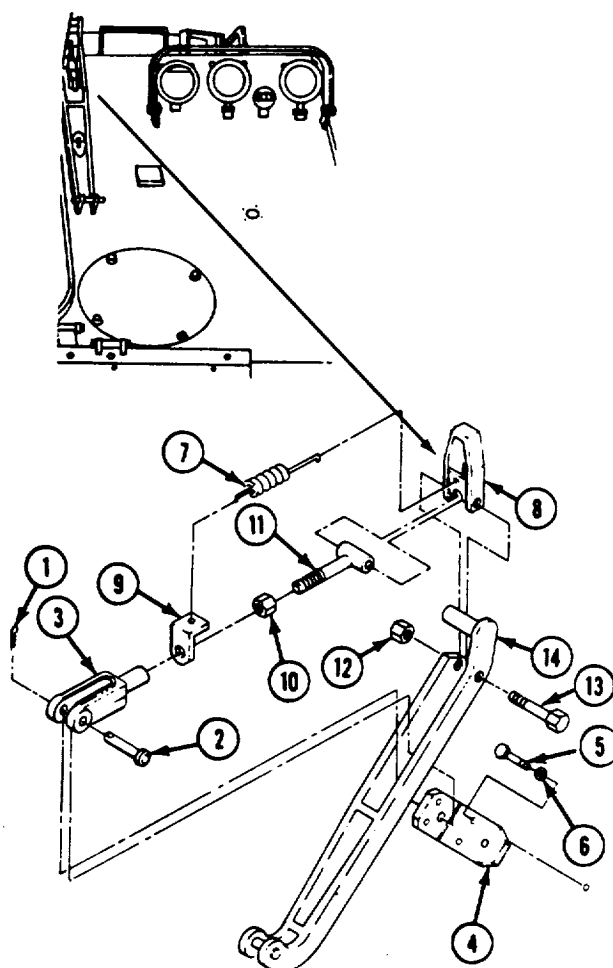
DISASSEMBLE

1. Remove cotter pin (1) from pin (2). Remove pin (2) from clevis (3) and pivot bracket (4). Discard cotter pin.
2. Remove two screws (5), washers (6), and pivot bracket (4) from hull.
3. Disconnect spring (7) from catch (8) and bracket (9).
4. Remove clevis (3), bracket (9), and nut (10) from eyebolt (11).
5. Remove locknut (12), screw (13), catch (8), and eyebolt (11) from extension (14). Discard locknut.

ASSEMBLE

6. Install eyebolt (11) and catch (8) on extension (14). Secure with screw (13) and new locknut (12).
7. Install nut (10), bracket (9), and clevis (3) on eyebolt (11).
8. Install spring (7) on catch (8) and bracket (9).
9. Install pivot bracket (4) on hull. Secure with two screws (5) and washers (6).
10. Position trim vane control linkage on carrier with clevis (3) aligned with pivot bracket (4).

11. Install pin (2) in clevis (3) and pivot bracket (4). Secure with new cotter pin (1).
12. Adjust clevis (3) to provide overcenter lock in retracted position.



END OF TASK

REPLACE TRIM VANE RELEASE

DESCRIPTION

This task covers: Remove (page 24-14). Install (page 24-14). Adjust (page 24-15).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Cotter pin
Cotter pin
Self-locking nut (6)

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Trim vane lowered (see your -10)

Personnel Required:

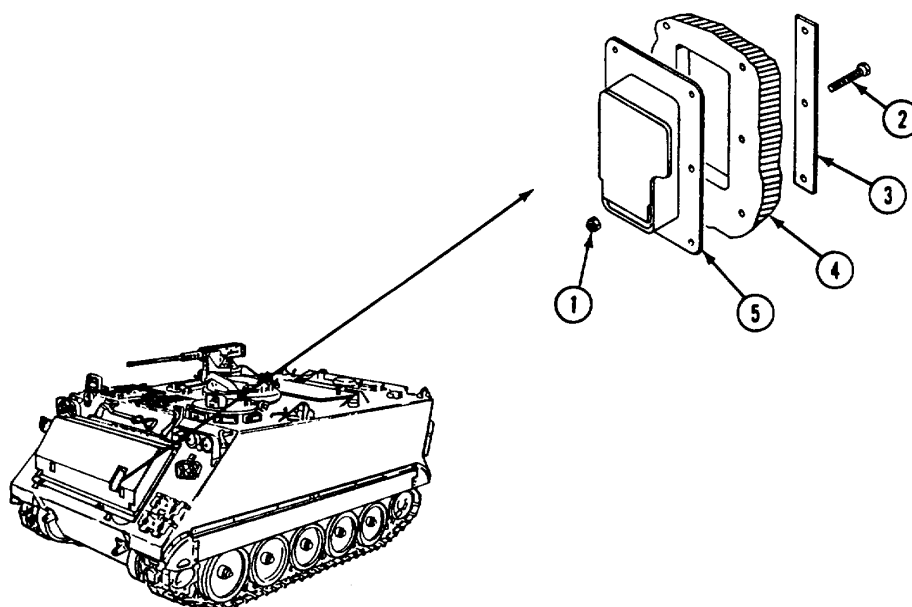
Unit Mechanic

REMOVE

1. Remove six locknuts (1), screws (2), and two plates (3) from trim vane (4). Discard locknuts.
2. Remove trim vane release (5) from trim vane (4).

INSTALL

3. Place two plates (3) and trim vane release (5) on trim vane (4). Secure with six screws (2) and new locknuts (1).



ADJUST

WARNING



Carrier can sink and personnel can be trapped inside and drown if trim vane collapses during water operation. Improper adjustment of trim vane release may allow extension linkage to come out of trim vane release and cause collapse of trim vane.

4. Stow trim vane (see your -10).

WARNING



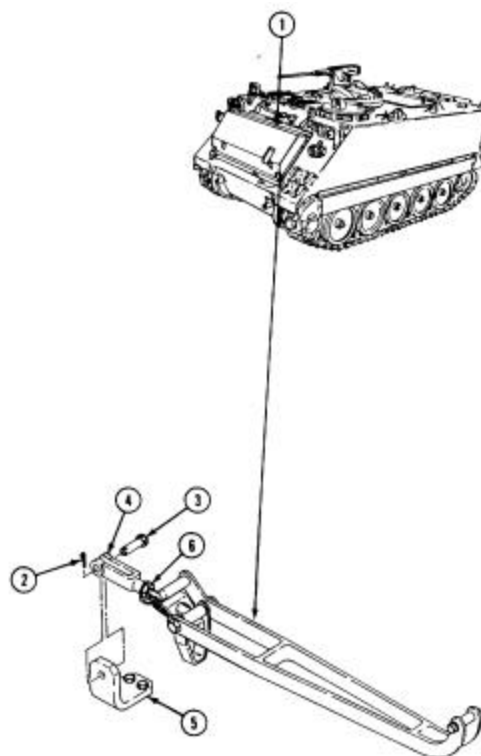
Trim vane can fall and injure personnel. Make sure trim vane zone is clear when you lower or stow trim vane.

NOTE

Several adjustments of clevis rod ends on extension linkage and trim vane release may be necessary to obtain overcenter lock in retracted position.

5. Manually move upper edge of trim vane (1) forward and rearward to check trim vane for excess movement in stowed position. If trim vane moves too much or is not secure in stowed position, go to step 6.
6. Remove cotter pin (2) and pin (3) from clevis rod end (4) and bracket (5). Loosen nut (6) and turn clevis rod end to change length of extension linkage. Tighten nut. Retain cotter pin until adjustments are complete.

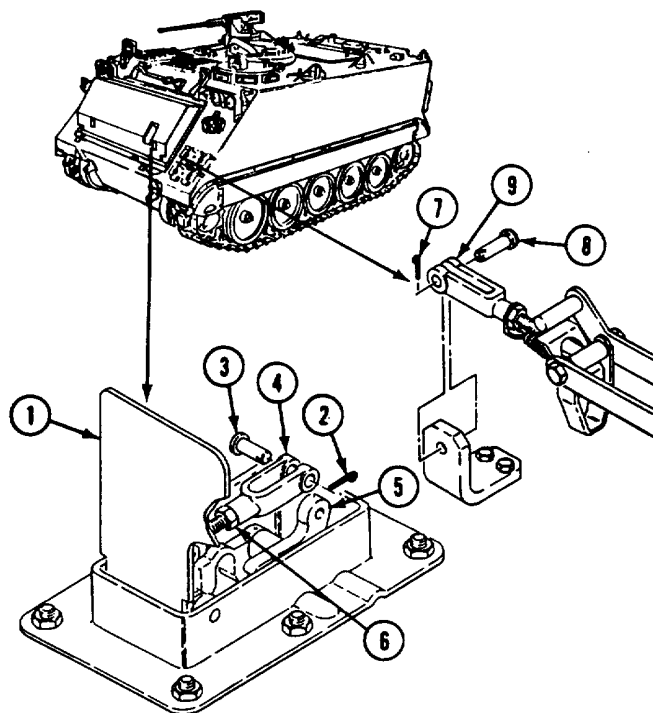
7. Install clevis rod end (4), pin (3), and retained cotter pin (2) on bracket (5). Check that extension linkage provides overcenter lock in retracted position.
8. Check trim vane (1) for excess movement in stowed position. If trim vane moves too much or is not secure in stowed position, go to step 9.



GO TO NEXT PAGE

9. Lower trim vane (see your -10) and secure in safe position for access to trim vane release handle (1).
10. Lift and secure spring-loaded trim vane release handle (1) for access to internal parts.
11. Remove cotter pin (2), straight pin (3), and clevis rod end (4) from trim vane release (5). Retain cotter pin until adjustments are complete.
12. Loosen nut (6) and turn clevis rod end (4) to change length of clevis rod. Tighten nut.
13. Install clevis rod end (4), straight pin (3), and retained cotter pin (2) on trim vane release linkage (5).
14. Check that trim vane release linkage (5) provides overcenter lock in retracted position. Repeat adjustment procedure for clevis rod ends on extension linkage and trim vane release, if necessary.
15. Remove and discard retained cotter pin (7) from pin (8) on extension linkage clevis rod end (9). Install new cotter pin (7).

16. Remove and discard retained cotter pin (2) from straight pin (3) on trim vane release linkage (5). Install new cotter pin (2).



FOLLOW-THROUGH STEPS

1. Raise trim vane (see your -10).
 2. Unblock carrier (see your -10).
-

END OF TASK

REPAIR TRIM VANE RELEASE

DESCRIPTION

This task covers: Disassemble (page 24-17).
Assemble (page 24-18).

Clean, Inspect, and Repair (page 24-17).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Dry cleaning solvent (Item 13, App C)
Cotter pin (2)
Cotter pin (2)

References:

See your -10

Equipment Conditions:

Trim vane release removed from trim vane
(page 24-14)

DISASSEMBLE

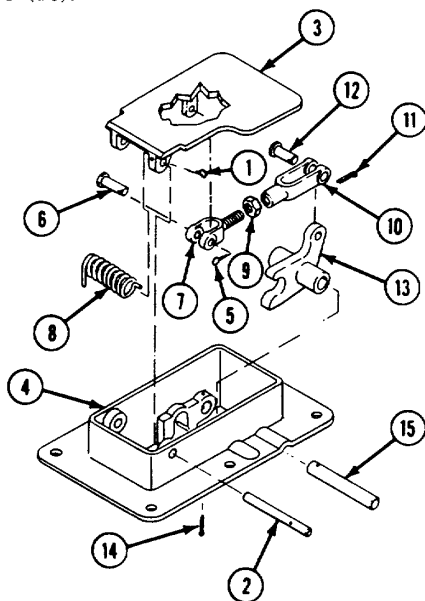
1. Remove cotter pin (1), straight pin (2), and cover (3) from housing (4). Discard cotter pin.
2. Recover cotter pin (5), headed pin (6), and cover (3) from clevis (7). Discard cotter pin.
3. Remove cover (3) and spring (8) from housing (4).
4. Remove clevis (7) and nut (9) from clevis (10).

5. Remove cotter pin (11), headed pin (12), and clevis (10) from trim vane release (13). Discard cotter pin.
6. Remove cotter pin (14), straight pin (15), and release (13) from housing (4). Discard cotter pin.

CLEAN, INSPECT, AND REPAIR**WARNING**

Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

7. Clean parts with dry cleaning solvent.
8. Check spring for corrosion, distortion, weakness, cracks, and breaks. Replace damaged spring.

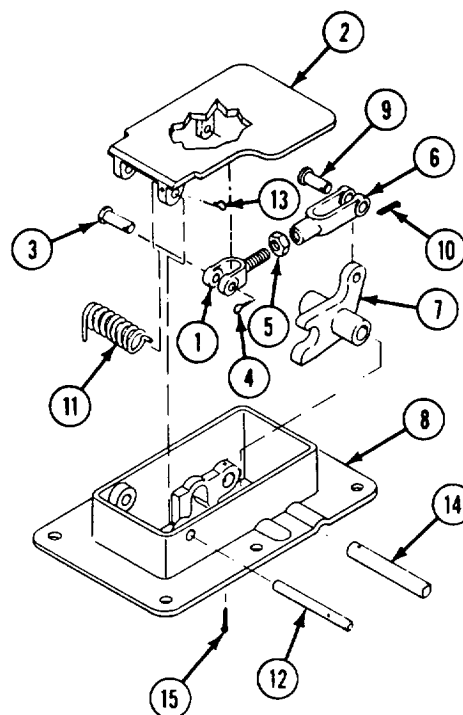


GO TO NEXT PAGE

9. Check cover and housing for corrosion, distortion, cracked, and missing parts. Repair or replace damaged parts.
10. Check parts for corrosion, distortion, cracks, breaks, and missing parts. Repair or replace damaged and missing parts.

ASSEMBLE

11. Install clevis (1) on cover (2). Secure with headed pin (3) and new cotter pin (4).
12. Install nut (5) and clevis (6) on clevis (1).
13. Install release (7) on housing (8). Secure with straight pin (9) and new cotter pin (10).
14. Place spring (11) in housing (8). Secure cover (2) to housing with straight pin (12) and new cotter pin (13).
15. Raise cover (2). Install clevis (6) on release (7). Secure with headed pin (14) and new cotter pin (15).



FOLLOW-THROUGH STEPS

1. Install trim vane release on trim vane (page 24-14).
-

END OF TASK

REPLACE POWER PLANT DOOR COMBAT LOCK

DESCRIPTION

This task covers: Remove (page 24-19). Install (page 24-20).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Drive pin
Self-locking nut (16)

Personnel Required:

Unit Mechanic
Helper (H)

References:

See your -10

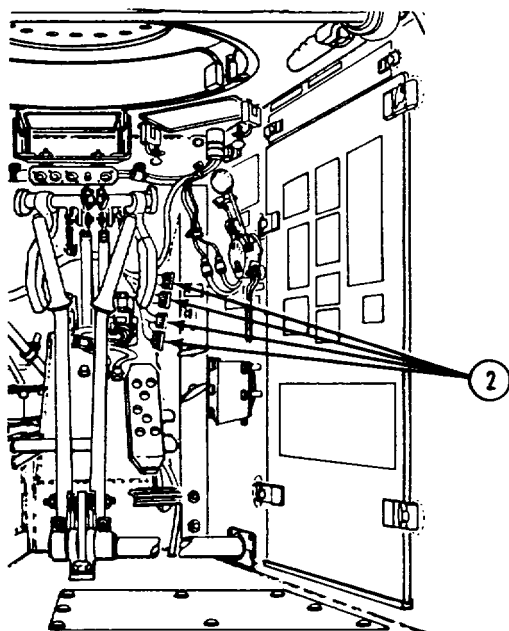
Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground leads disconnected (page 13-2)
Trim vane lowered and disconnected
(see your -10)
Power plant door open (see your -10)

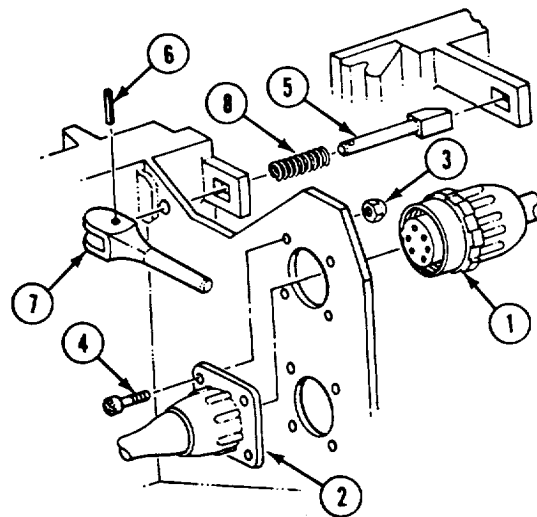
REMOVE**NOTE**

Tag or mark each harness to make sure each is installed in the proper connector after service.

1. Disconnect four wiring harness connectors (1) from bulkhead connectors (2) inside driver's compartment.



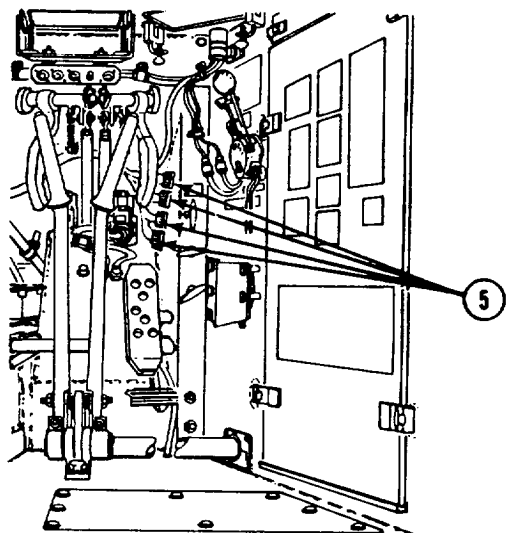
2. Remove 16 locknuts (3) and screws (4), and four wiring harness connectors (2) from bulkhead. Discard locknuts.
3. (H) Hold hand under bolt (5) from inside carrier through power plant access door opening.
4. Drive out pin (6). Remove handle (7) and spring (8) from bolt (5). Discard drive pin.
5. (H) Remove bolt (5) from power plant compartment.



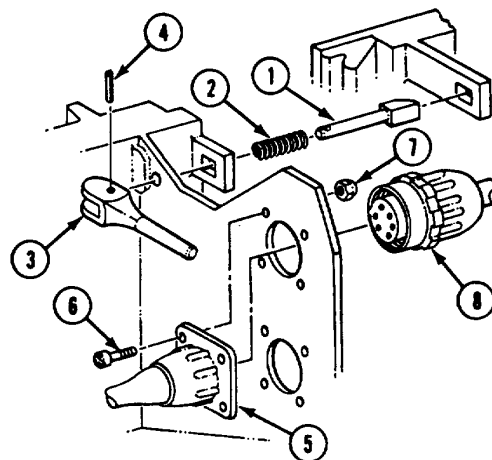
GO TO NEXT PAGE

INSTALL

6. (H) Install bolt (1) and spring (2) in place from outside of carrier through access to power plant compartment.
7. From inside driver's compartment, install handle (3) on bolt (1). Secure with new pin (4).



8. Install four wiring harness connectors (5), 16 screws (6), and new locknuts (7) on bulk head.
9. Connect four wiring harness connectors (8) to bulkhead connectors (5) inside driver's compartment.



FOLLOW-THROUGH STEPS

1. Connect battery ground leads (page 13-2).
 2. Close power plant door (see your -10).
 3. Connect and raise trim vane (see your -10).
-

END OF TASK

REPLACE POWER PLANT DOOR

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
 Torque Wrench (Item 95, App D)
 Lifting Device and Sling (Item 1, App B)

Personnel Required:

Unit Mechanic
 Helper (H)

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
 Carrier blocked (see your -10)
 Trim vane lowered and disconnected
 (see your -10)
 Power plant door open (see your -10)

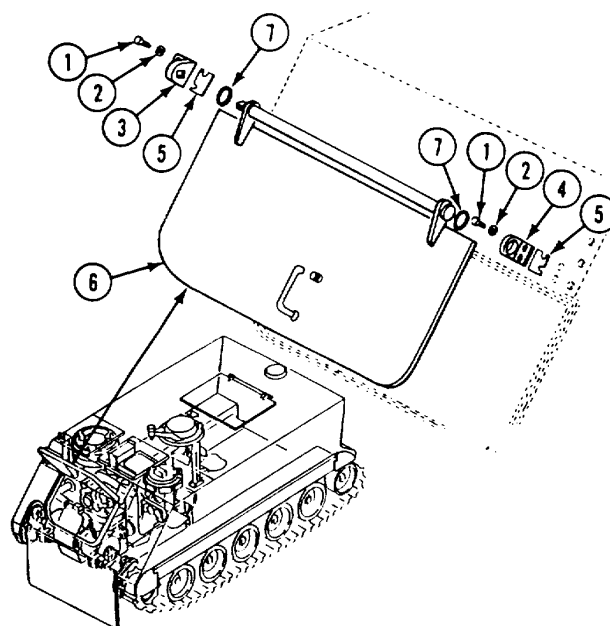
REMOVE

1. Connect a suitable lifting device and sling around power plant door. Hold door straight up until tension is gone.
2. Remove four screws (1), washers (2), two - brackets (3 and 4), plates (5), and power plant door (6) from hull.
3. Remove two spacers (7) from ends of power plant door (6).

INSTALL

4. Install two spacers (7) on ends of power plant door (6).
5. Install bracket (3) on right end of power plant door (6).
6. Install bracket (4) on left end of power plant door (6), with door in open position, so brackets (3 and 4) can be secured to hull. Install two brackets, four washers (2), and screws (1) on hull. Do not tighten screws.
7. If power plant door (6) does not clear top of opening, install plates (5).

8. Place plates (5) under brackets (3 and 4). Tighten screws (1) snug after each plate is installed, until power plant door (6) clears top of opening.
9. Tighten four screws (1) to 216-240 lb-in (24-27 N.m) torque. Use torque wrench.
10. Remove lifting device and sling from power plant door.

**FOLLOW-THROUGH STEPS**

1. Close and lock power plant door (see your -10).
 2. Connect and raise trim vane (see your -10).
-

END OF TASK

REPAIR POWER PLANT DOOR

DESCRIPTION

This task covers: Disassemble (page 24-22). Assemble (page 24-23). Adjust (page 24-23).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Cotter pin
Non-metallic seal
Preformed packing
Self-locking nut

Equipment Conditions:

Power plant door removed from carrier
(page 24-21)

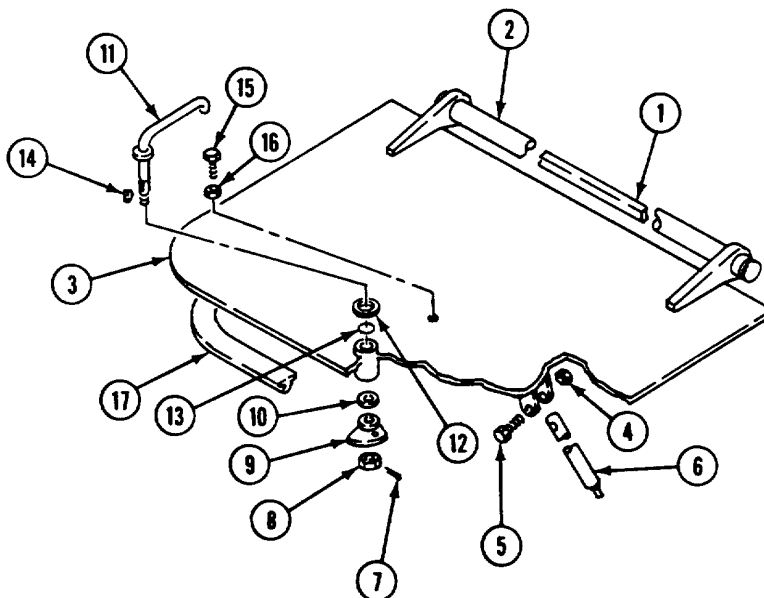
DISASSEMBLE

1. Remove vehicular leaf pins (1) and shield (2) from door (3).
2. Remove locknut (4), screw (5), and brace (6) from door (3). Discard locknut.
3. Remove cotter pin (7), nut (8), catch (9), and washer (10) from handle (11). Discard cotter pin.
4. Remove handle (11), washer (12), packing (13), and key (14) from door (3). Discard packing.
5. Remove screw (15) and nut (16) from door (3).

NOTE

Remove seal only if damaged.

6. Bend back door seal support and remove seal (17) from door (3). Discard seal.

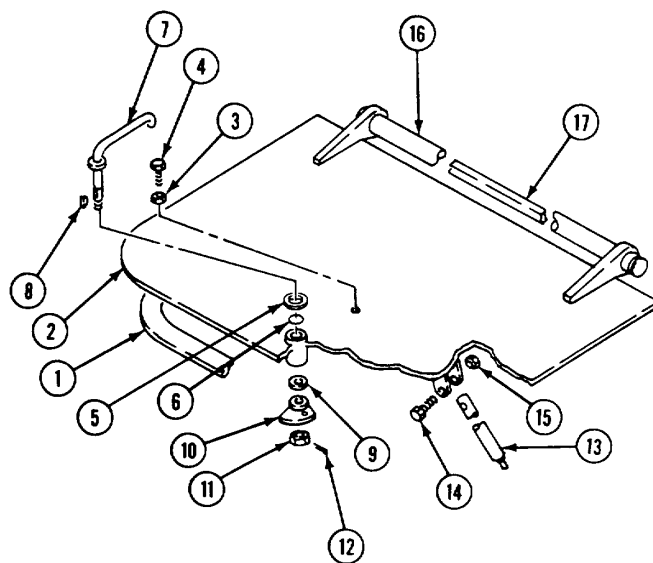


ASSEMBLE

7. If removed, install new seal (1) on door (2). Bend support to hold seal in place.
8. Install nut (3) and screw (4) on door (2).
9. Install washer (5) and new packing (6) on handle (7).
10. Install key (8) on handle (7). Insert handle and key in door (2). Make sure key (8) and keyway in door are aligned.
11. Install washer (9), catch (10), nut (11), and new cotter pin (12) on handle (7).
12. Install brace (13) on door (2). Secure with screw (14) and new locknut (15).
13. Install shield (16) and vehicular leaf pins (17) on door (2).

ADJUST

14. Adjust screw (4) until handle (7) rubs on head of screw. This adds slight detent action when opening or closing door (2).
15. After door (2) is installed on hull (page 24-21), it may be necessary to add or remove washers (9 and 5) until door locks securely on hull.

**FOLLOW-THROUGH STEPS**

1. Install power plant door on carrier (page 24-21).

END OF TASK

REPLACE HULL FRONT ACCESS COVER

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 97, App D)

Adhesive

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Trim vane lowered (see your -10)

REMOVE

1. Remove four screws (1), washers (2), and cover (3) from hull.

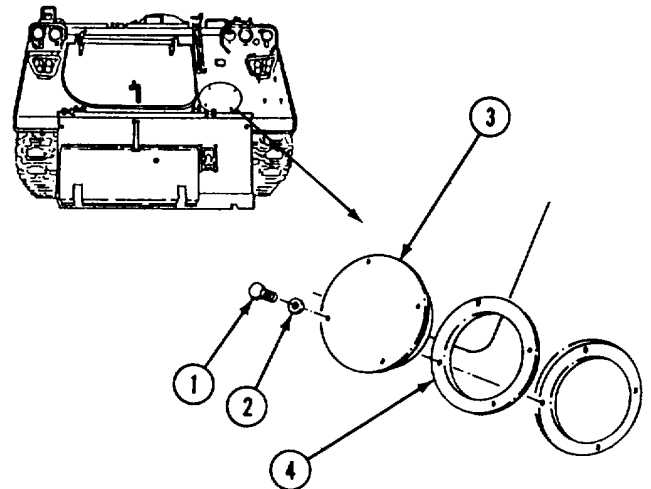
NOTE

Remove gasket only if damaged.

INSTALL

2. Apply a thin coat of adhesive to one side of new gasket, if gasket is being replaced, and allow to dry 20-40 minutes. Apply thin coat of adhesive to cleaned bottom side of cover. Allow to dry 30-120 seconds.
3. Position gasket (4) on cleaned bottom side of cover (3). Align mounting holes in cover and gasket.

4. Secure cover (3) and gasket (4) to hull with four washers (2) and screws (1). Tighten screws to 40-50 lb-ft (54-68 N-m) torque. Use torque wrench.

**FOLLOW-THROUGH STEPS**

1. Raise trim vane (see your -10).
 2. Unblock carrier (see your -10).
-

END OF TASK

REPLACE DRIVER'S POWER PLANT ACCESS PANEL**DESCRIPTION**

This task covers: Remove (page 24-25). Install (page 24-26).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (6)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

REMOVE**NOTE**

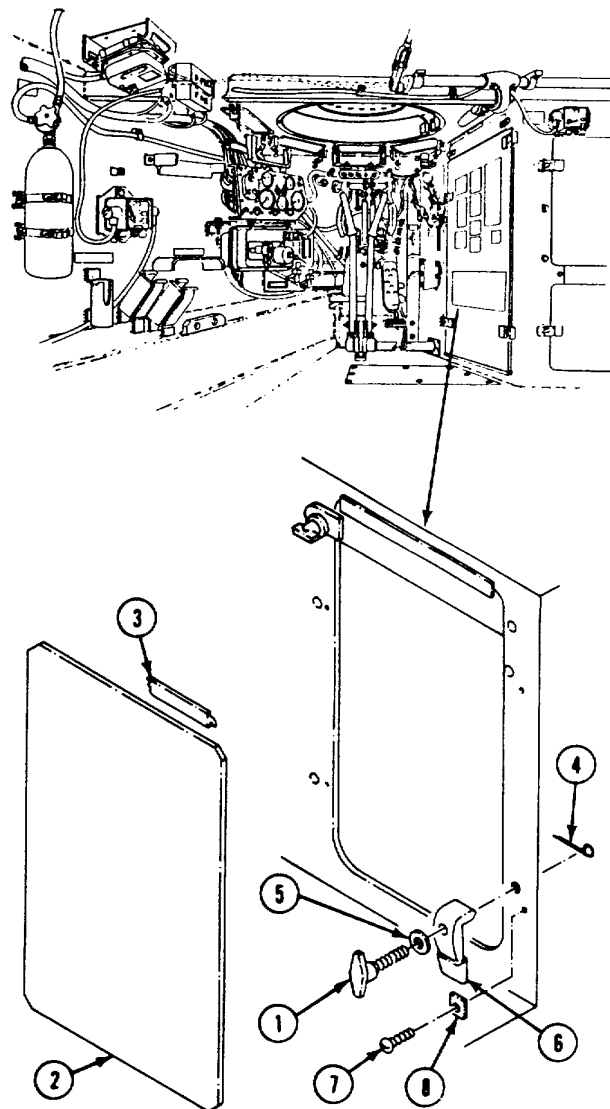
If decals and plates on panel need replacing, see page 24-226.

1. Unscrew four T-bolts (1). Remove driver's access panel (2) from hull.

NOTE

Remove seal only if damaged.

2. Bend back seal support to remove seal (3).
3. Remove four cotter pins (4), T-bolts (1), washers (5), and clamps (6) from hull.
4. Remove four screws (7) and washers (8) from hull.



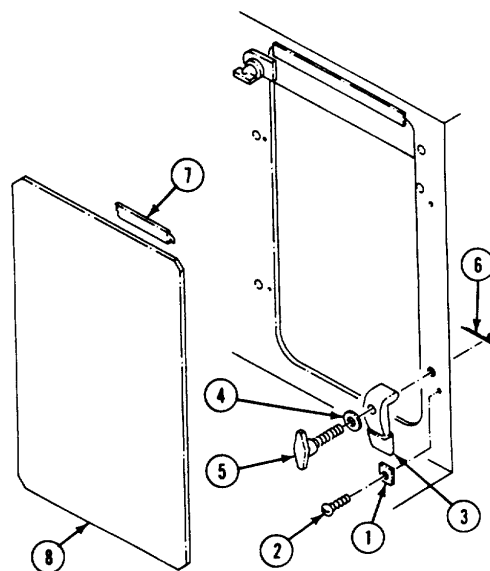
GO TO NEXT PAGE

INSTALL

5. Install four washers (1) on hull. Secure with four screws (2).
6. Install four clamps (3), washers (4), T-bolts (5), and new cotter pins (6).
7. If new seal (7) is needed, install on panel (8). Bend support to secure seal to panel.
8. Install driver's access panel (8) in hull. Secure by tightening four T-bolts (5) and clamps (3).



WARNING
Engine exhaust gas is
deadly poison. Make
sure power unit access
panels are closed tight
before you start the
engine.



9. Perform chalk test (page 2-37) to ensure that panel seals hull opening to prevent carbon monoxide leaks.

FOLLOW-THROUGH STEPS

1. Start engine (see your -10). Check for exhaust leaks around panel seals.
2. Engine stopped/shutdown (see your -10).

END OF TASK

REPLACE POWER PLANT REAR ACCESS PANELS (M113A2, M741A1, AND M901A1 ONLY)

DESCRIPTION

This task covers: Remove (page 24-27). Install (page 24-28).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (7)
Non-metallic seal
Self-locking nut (6)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Personnel heater duct removed
(page 29-47 to 29-48)

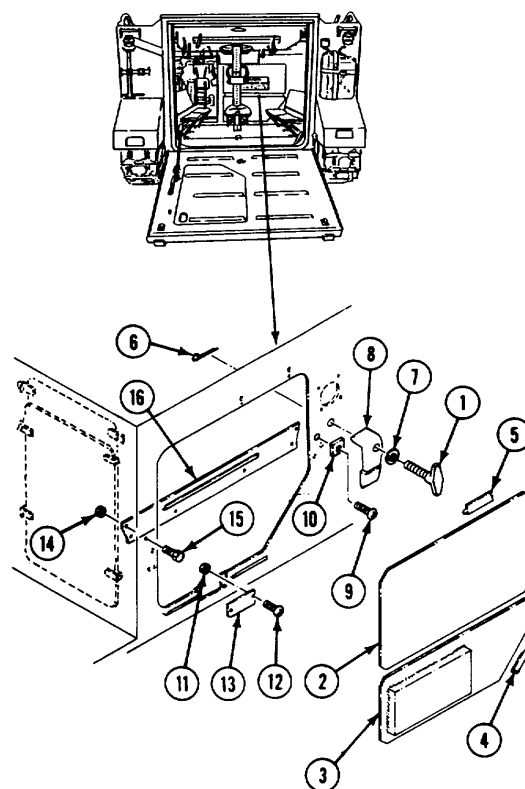
REMOVE

1. Unscrew seven T-bolts (1). Remove upper and lower panels (2 and 3).

NOTE

Remove seals only if damaged.

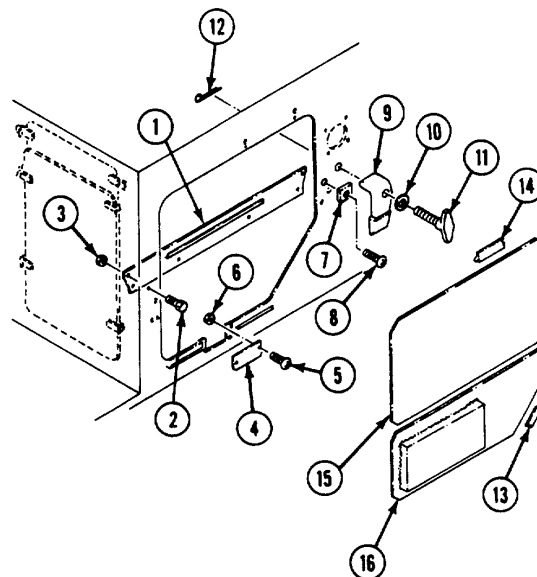
2. Bend back seal supports on panel to remove seals (4 and 5).
3. Remove seven cotter pins (6), T-bolts (1), washers (7), and clamps (8) from hull. Discard cotter pins.
4. Remove seven screws (9) and washers (10) from hull.
5. Remove two locknuts (11), screws (12), and cover (13) from hull. Discard locknuts.
6. Remove four locknuts (14), screws (15), and support (16) from hull. Discard locknuts.



GO TO NEXT PAGE

INSTALL

7. Install support (1) on hull. Secure with four screws (2) and new locknuts (3).
8. Install cover (4) on hull. Secure with two screws (5) and new locknuts (6).
9. Install seven spacers (7) on hull. Secure with seven screws (8).
10. Install seven clamps (9), washers (10), T-bolts (11), and new cotter pins (12) in hull.
11. If removed, install new seals (13 and 14) on panels (15 and 16). Bend seal supports to secure seals to panels.
12. Install panels (15 and 16) on hull. Tighten seven clamps (9) and T-bolts (11).

**WARNING**

Carbon monoxide gas is deadly poison. Play it safe: make sure power plant access covers and door are closed tight before you start engine.

13. Use chalk test (page 2-37) to ensure panel seals hull opening to prevent carbon monoxide leaks.

FOLLOW-THROUGH STEPS

1. Install personnel heater duct (page 29-47 to 29-48).
2. Start engine (see your -10).
3. Check for exhaust leaks around panel seals.
4. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE POWER PLANT REAR ACCESS PANELS (M1059 ONLY)**DESCRIPTION**

This task covers: Remove (page 24-28.1). Install (page 24-28.2).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (7)
Non-metallic seal
Self-locking nut (6)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Personnel heater duct removed
(page 29-47 to 29-48)

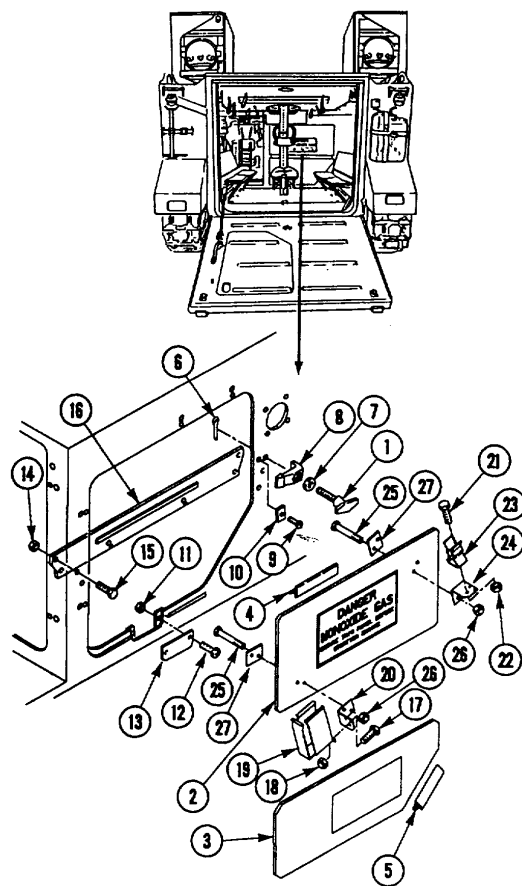
REMOVE

1. Unscrew seven T-bolts (1). Remove upper and lower panels (2, 3).

NOTE

Remove seals only if damaged.

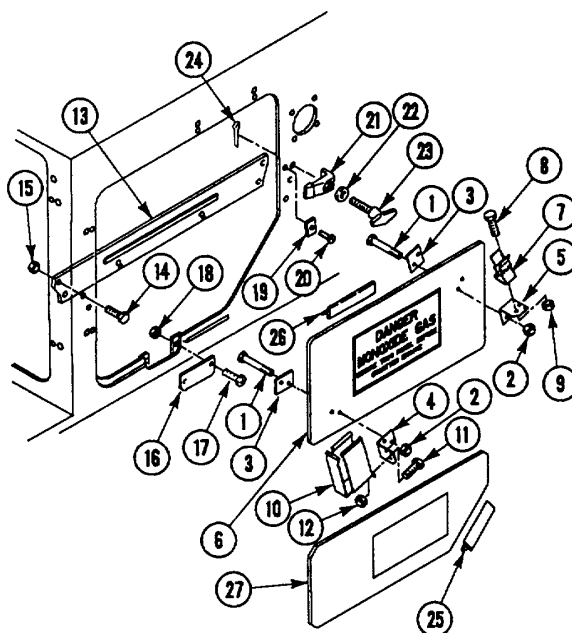
2. Bend back seal supports on panel to remove seals (4, 5).
3. Remove seven cotter pins (6), T-bolts (1), washers (7), and clamps (8) from hull. Discard cotter pins.
4. Remove seven screws (9) and washers (10) from hull.
5. Remove two locknuts (11), screws (12), and cover (13) from hull. Discard locknuts.
6. Remove four locknuts (14), screws (15), and support (16) from hull. Discard locknuts.
7. Remove two screws (17), nuts (18), and rifle bracket (19) from bracket (20).
8. Remove screw (21), locknut (22), and rifle clip (23) from bracket (24).
9. Remove four screws (25), nuts (26), two plates (27), and brackets (20, 24) from upper panel (2).



GO TO NEXT PAGE

INSTALL

10. Install four screws (1), nuts (2), two plates (3), and brackets (4, 5) on upper panel (6).
11. Install rifle clip (7), screw (8), and nut (9) on bracket (5).
12. Install rifle bracket (10), two screws (11), and nuts (12) on bracket (4).
13. Install support (13) on hull. Secure with four screws (14) and new locknuts (15).
14. Install cover (16) on hull. Secure with two screws (17) and new locknuts (18).
15. Install seven spacers (19) on hull. Secure with seven screws (20).
16. Install seven clamps (21), washers (22), T-bolts (23), and new cotter pins (24) in hull.
17. If removed, install new seals (25, 26) on panels (6, 27). Bend seal supports to secure seals to panels.
18. Install panels (6, 27) on hull. Tighten seven clamps (21) and T-bolts (23).



WARNING

Carbon monoxide gas is deadly poison. Play it safe: make sure power plant access covers and door are closed tight before you start engine.



19. Use chalk test (page 2-37) to ensure panel seals hull opening to prevent carbon monoxide leaks.

FOLLOW-THROUGH STEPS

1. Install personnel heater duct (page 29-47 to 29-48).
2. Start engine (see your -10).
3. Check for exhaust leaks around panel seals.
4. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE POWER PLANT REAR ACCESS PANEL (M577A2, M106A2, M125A2, M1068, AND M1064 ONLY)

DESCRIPTION

This task covers: Remove (page 24-29). Install (page 24-30).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (5)
Non-metallic seal
Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)

REMOVE

NOTE

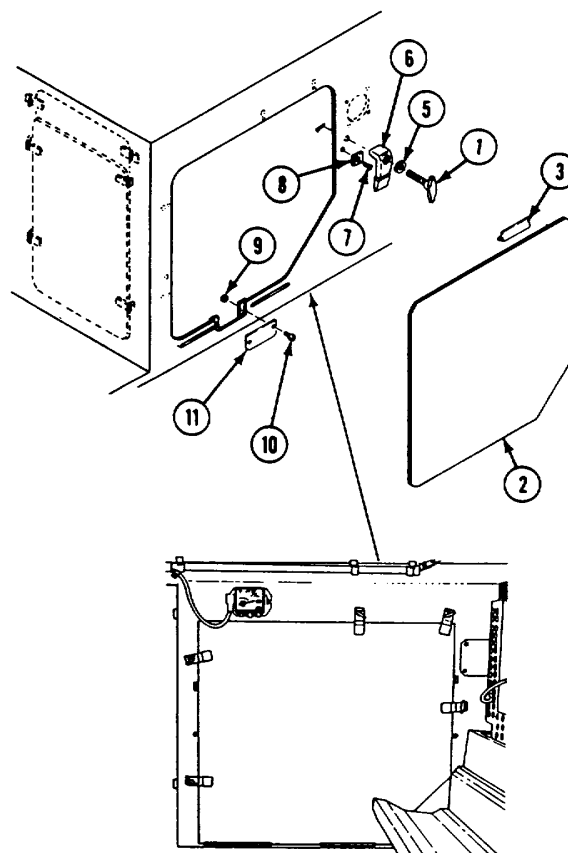
If decals on panel need to be replaced, see page 24-217.

1. Unscrew five T-bolts (1). Remove panel (2) from hull.

NOTE

Remove seal only if damaged.

2. Bend back seal supports on panel to remove seal (3).
3. Remove five cotter pins (4), T-bolts (1), washers (5), and clamps (6) from hull. Discard cotter pins.
4. Remove five screws (7) and washers (8) from hull.
5. Remove two locknuts (9), screws (10), and cover (11) from hull. Discard locknuts.



GO TO NEXT PAGE

INSTALL

6. Install cover (1) on hull. Secure with two screws (2) and new locknuts (3).
7. Install five washers (4) on hull. Secure with five screws (5).
8. Install five clamps (6), washers (7), and T-bolts (8) on hull. Secure with five new cotter pins (9).
9. If removed, install new seal (10) on panel (11). Bend seal supports on panel to secure seal.

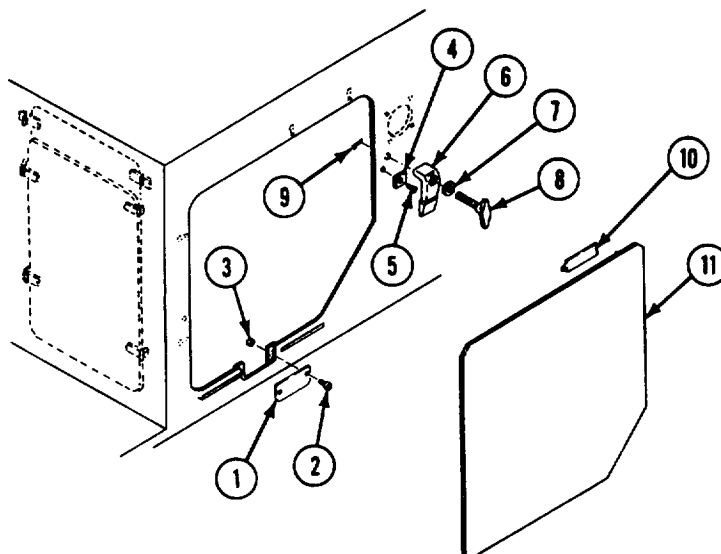
10. Install panel (11) on hull. Tighten five clamps (6) and T-bolts (8).

WARNING

Carbon monoxide gas is deadly poison. Play it safe: make sure power plant access covers and door are closed tight before you start engine.



11. Use chalk test (page 2-37) to ensure panel seals hull opening and prevents carbon monoxide leaks.



FOLLOW-THROUGH STEPS

1. Start engine (see your -10). Check for exhaust leaks around panel seals. Turn engine off.
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

**Section III. HULL BOTTOM COVERS, DRAIN PLUGS, AND BOX
BEAM PLUGS**

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace Power Plant Bottom Access Cover	24-32	Replace Box Beam Plugs (M741A1 Only)	24-35
Replace Hull Drain Plugs and Final Drive Hull Poppet Valves	24-34		

REPLACE POWER PLANT BOTTOM ACCESS COVER

DESCRIPTION

This task covers: Remove (page 24-32). Clean, Inspect, and Repair (page 24-33).
 Install (page 24-33).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)
 Torque Wrench (Item 97, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Adhesive
 Antiseize compound (Item 4, App C)
 Dry cleaning solvent (Item 13, App C)

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
 Carrier blocked (see your -10)

REMOVE

WARNING



Access cover is heavy and can fall and injure you when screws are removed. Keep body clear of cover.

CAUTION

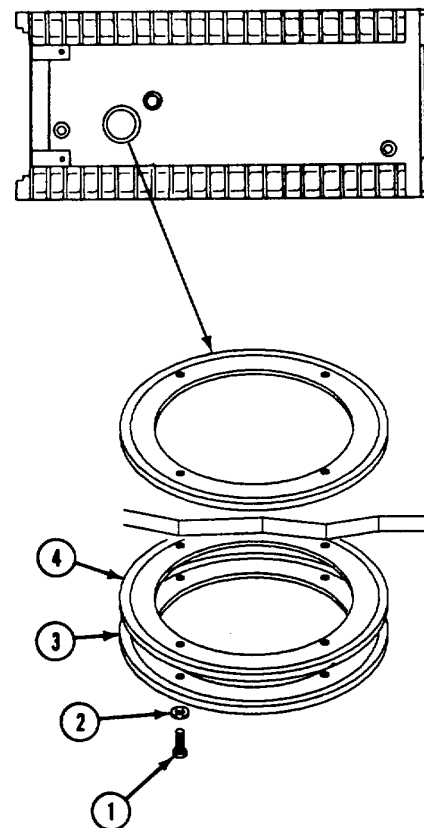
Carrier should not be operated with bottom access cover off. This reduces air flow through radiator and draws dirt and debris into power plant compartment.

1. Remove four screws (1), washers (2), and power plant bottom access cover (3) from hull.

NOTE

Remove gasket only if damaged.

2. Remove gasket (4) from cover (3).



CLEAN, INSPECT, AND REPAIR

- Inspect gasket for separation, tears, and cracks. Replace separated or damaged gasket.

**WARNING**

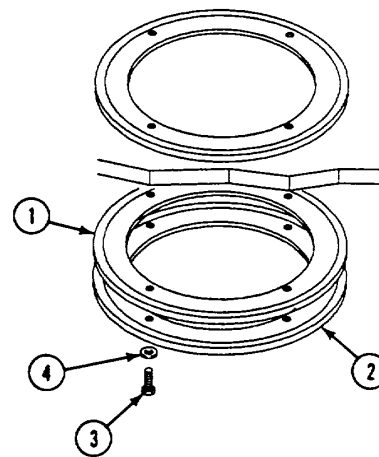
Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

- Clean cover and gasket mating surface with dry cleaning solvent.

INSTALL

- Apply a light coat of adhesive to one side of new gasket, if gasket is being replaced. Allow adhesive to become tacky.

- Place gasket (1) on cleaned mating side of cover (2). Align mounting holes in cover and gasket.
- Clean four screws (3) with dry cleaning solvent. Apply antiseize compound sparingly to external threads of screws.
- Place cover (2) on hull. Secure with four screws (3) and washers (4). Tighten screws to 40-50 lb-ft (54-68 N•m) torque. Use torque wrench.



END OF TASK

REPLACE HULL DRAIN PLUGS AND FINAL DRIVE HULL POPPET VALVES

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)
 Socket Wrench Adapter, 1/2 x 3/4 inch
 (Item 5, App D)

Materials/Parts:

Antiseize compound (Item 5, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
 Carrier blocked (see your -10)
 Rear floor plates removed (page 24-40)

REMOVE

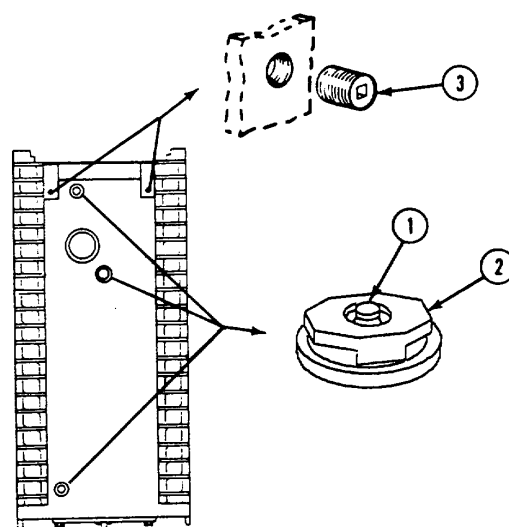
NOTE

Three poppet valves and two drain plugs are installed on bottom of hull.

1. Loosen three screws (1) and remove poppet valves (2) from hull.
2. Remove two drain plugs (3) from hull. Use socket wrench adapter.

CAUTION

Carrier should not be operated with hull drain plug or poppet valve removed. This reduces air flow through radiator, draws dirt and debris into power plant compartment, and water into carrier.



INSTALL

3. Coat threads of two drain plugs (3) with antiseize compound. Install two drain plugs in hull. Use socket wrench adapter.
4. Install three poppet valves (2) in hull and tighten screws (1).

FOLLOW-THROUGH STEPS

1. Install rear floor plates (page 24-40).
2. Unblock carrier (see your -10).

END OF TASK

REPLACE BOX BEAM PLUGS (M741A1 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 50, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

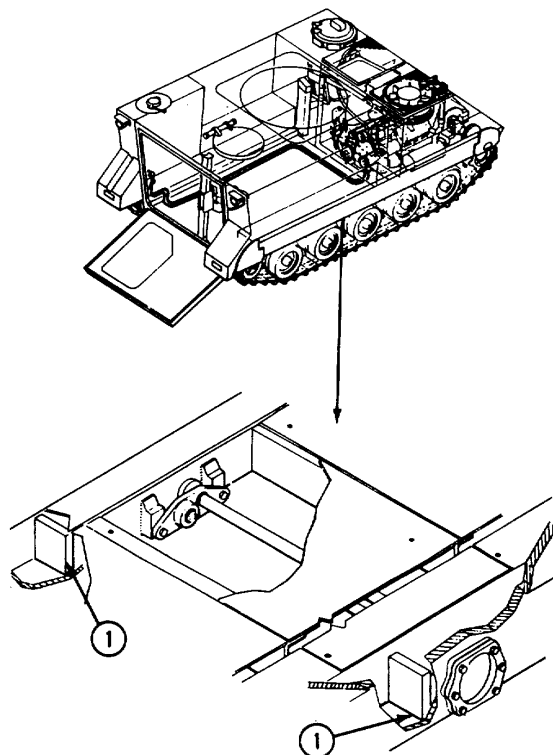
Third road wheel support arm removed
(page 22-14)

REMOVE

1. Reach in through hole in box beam. Break seal around box beam plug (1).
2. Pull plug (1) through hole in box beam. Discard seal.

INSTALL

3. Apply sealing compound to inside of box beam where plug (1) will make contact. On one side, sealing compound must be at least 1/16 in (2 mm) thick.
4. Install plug (1) in box beam. Sealing compound must lap plug (1) and box beam by at least 1/8 in (3 mm) on all sides.



FOLLOW-THROUGH STEPS

1. Install third road wheel support arm (page 22-14).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

**Section IV. DRIVER'S AND REAR COMPARTMENT FLOOR
PLATES**

TASK INDEX

Task	Page	Task	Page
Replace Rear Compartment Floor Plates (M113A, M577A2 Only)	24-37	Replace Driver's Compartment Hull Access Covers	24-44
Replace Floor Plates (M106A2, M1064, M125A2 Only)	24-38	Replace Compartment Floor Plates (M1068 Only)	24-44.1
Replace Floor Plates (M741A1 Only)	24-40	Replace Floor Plates (M901A1 Only)	24-45
Replace Floor Plates (M1059 Only)	24-42		

REPLACE REAR COMPARTMENT FLOOR PLATES (M113A2 AND M577A2 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Adhesive
Cushioning pad (2)
Non-metallic seal (6)
Non-metallic seal
Rubber strip (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

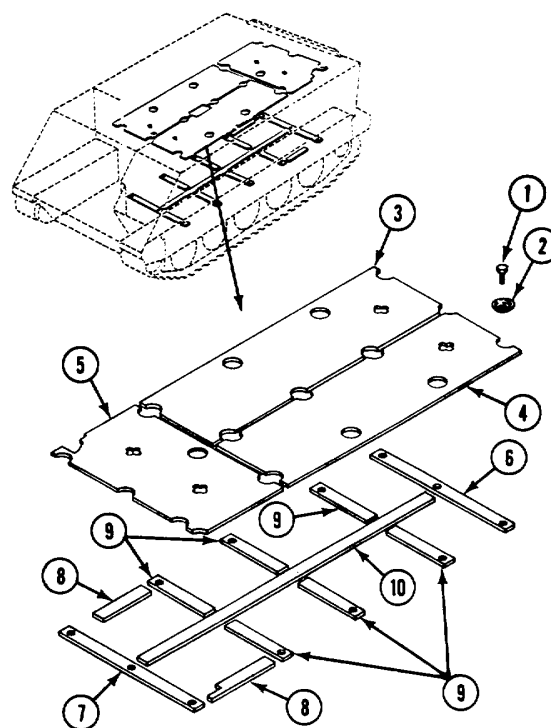
Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
If installed, personnel heater floor duct removed (page 29-47)

REMOVE

1. Remove 16 screws (1) and liner washers (2) from carrier hull.
2. Remove two front floor plates (3 and 4) and rear floor plate (5) from hull crossmembers.
3. If necessary, remove two pads (6 and 7), rubber strips (8), six seals (9), and seal (10) from crossmembers by scraping.

INSTALL

4. If pads, strips, or seals (6 through 10) were removed, apply thin coat of adhesive to roughened side of surface. Allow to dry 20-40 minutes. Apply thin coat of adhesive to metal surface of hull crossmembers. Allow to dry 30-120 seconds. Install pads, strips, and seals on crossmembers and press surfaces together firmly.
5. Place rear floor plate (5) and two front floor plates (4 and 3) on hull crossmembers. Secure to hull with 16 liner washers (2) and screws (1).



FOLLOW-THROUGH STEPS

1. If removed, install personnel heater floor duct (page 29-47).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

REPLACE FLOOR PLATES (M106A2, M125A2, AND M1064 ONLY)

DESCRIPTION

This task covers: Remove (page 24-38). Install (page 24-39).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

- Adhesive
- Cushioning pad (2)
- Cushioning pad
- Cushioning pad
- Cushioning pad (3)
- Cushioning pad
- Non-metallic seal (2)
- Non-metallic seal
- Locknut (2)
- Locknut

References:

See your -10

Equipment Conditions:

- Engine stopped (see your -10)
- Ramp lowered (see your -10)
- Carrier blocked (see your -10)
- If installed, personnel heater floor duct removed (page 29-47, 29-48)

REMOVE

NOTE

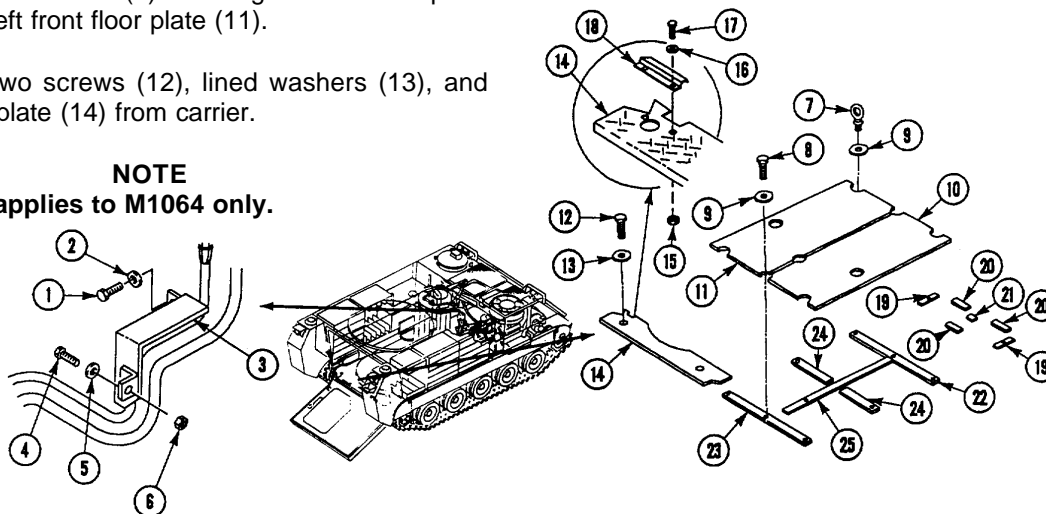
Steps 1 and 2 apply to M1064 only.

1. Remove screw (1) and washer (2) from guard (3).
2. Remove screw (4), washer (5), locknut (6), and guard (3) from hull. Discard locknut.
3. Remove eight eyebolts (7), one screw (8), and nine lined washers (9) from right front floor plate (10) and left front floor plate (11).
4. Remove two screws (12), lined washers (13), and rear floor plate (14) from carrier.

5. Remove two locknuts (15), washers (16), screws (17), and guard (18) from rear floor plate (14). Discard locknuts.
6. If necessary, remove two pads (19), three pads (20), and pad (21) from front crossmembers by scraping.
7. If necessary, remove two pads (22, 23) and three seals (24, 25) from crossmembers by scraping.

NOTE

Step 5 applies to M1064 only.



INSTALL

8. If pads (1 thru 5) or seals (6, 7) were removed, apply light coat of adhesive to crossmember mating surfaces. Allow surfaces to become sticky. Install pads and seals on crossmembers and press surfaces together firmly.

NOTE

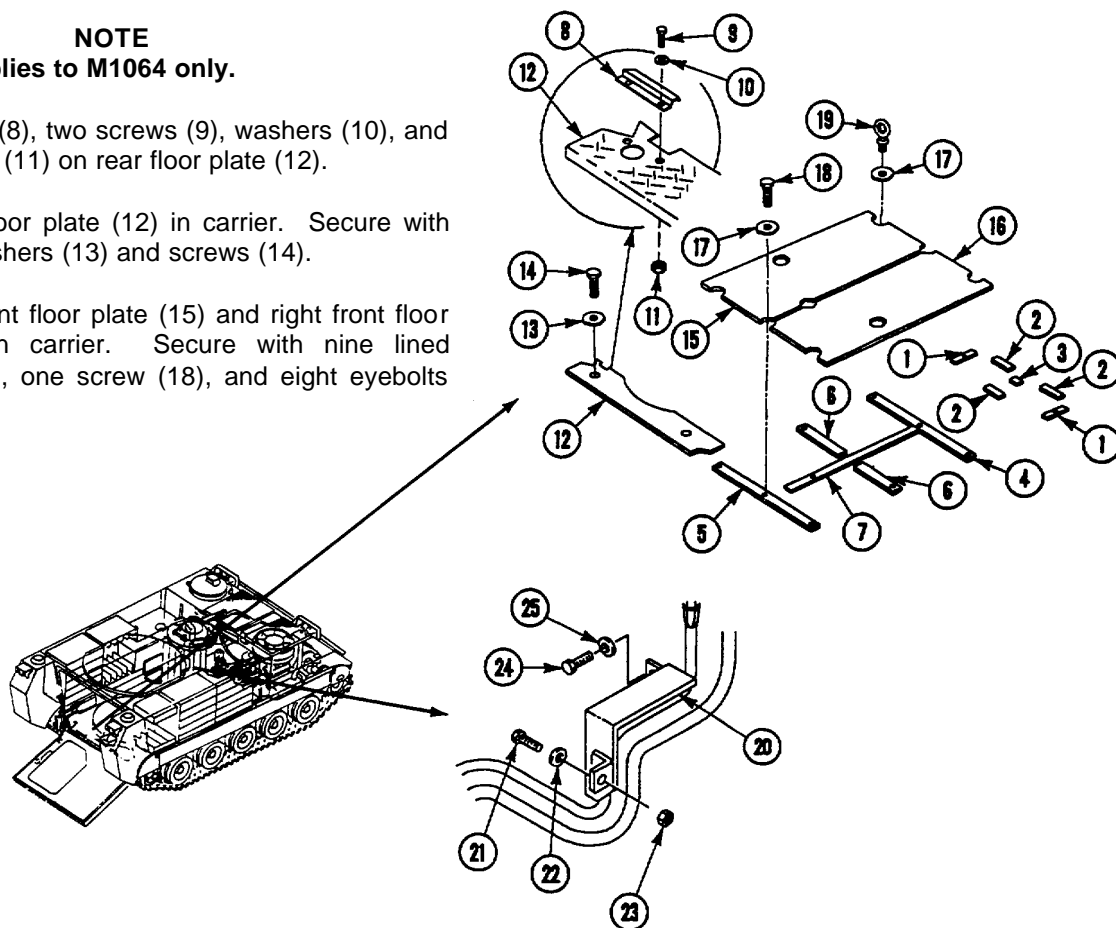
Step 9 applies to M1064 only.

9. Install guard (8), two screws (9), washers (10), and new locknuts (11) on rear floor plate (12).
10. Place rear floor plate (12) in carrier. Secure with two lined washers (13) and screws (14).
11. Place left front floor plate (15) and right front floor plate (16) in carrier. Secure with nine lined washers (17), one screw (18), and eight eyebolts (19).

NOTE

Steps 12 and 13 apply to M1064 only.

12. Install guard (20) on hull with screw (21), washer (22), and new locknut (23).
13. Install screw (24) and washer (25) on guard (20).



FOLLOW-THROUGH STEPS

1. If removed, install personnel heater floor duct (page 29-47, 29-48).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

REPLACE FLOOR PLATES (M741A1 ONLY)

DESCRIPTION

This task covers: Remove (page 24-40). Install (page 24-41).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Adhesive
Methyl Isobutyl Ketone (Item 29, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

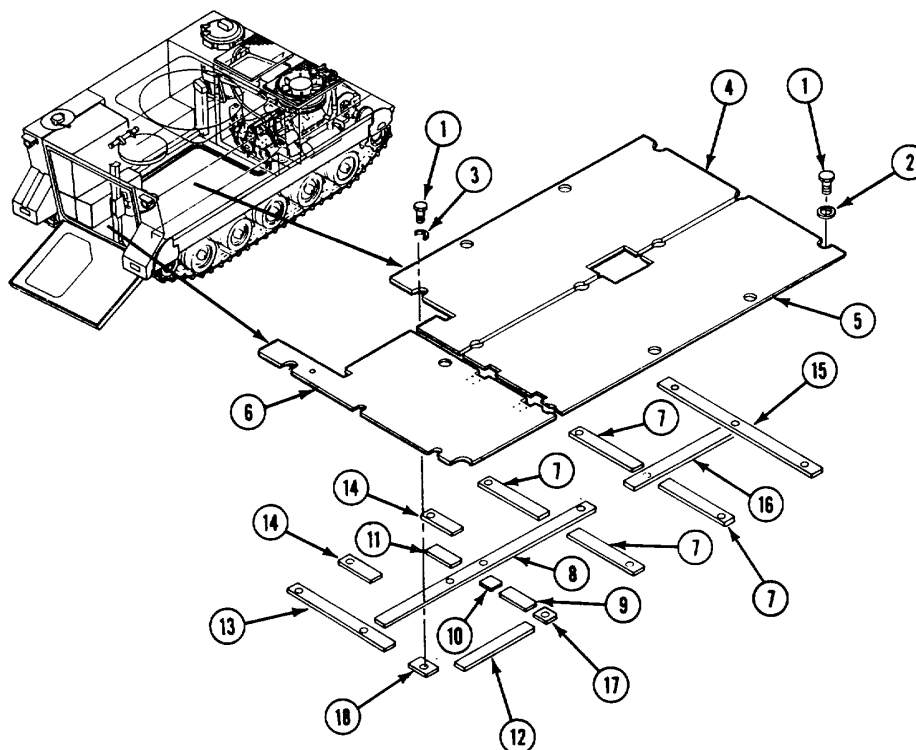
Equipment Conditions:

Engine stopped (see your -10)
Ramp lowered (see your -10)
Carrier blocked (see your -10)
If installed, personnel heater floor duct removed (page 29-47) (page 29-48)

REMOVE

1. Remove 16 screws (1), 15 washers (2), and shouldered washer (3) from carrier hull.
2. Remove two front floor plates (4 and 5) from carrier.
3. Remove rear floor plate (6) from carrier.

4. If necessary, remove four seals (7) and seal (8) from crossmembers by scraping.
5. If necessary, remove two rubber strips (9), and three rubber strips (10 through 12) from crossmembers by scraping.
6. If necessary, remove six pads (13 through 18) from crossmembers by scraping.



INSTALL

7. If pads (1 through 6) , or rubber strips (7 through 10) , or seals (11 and 12) were removed, apply light coat of adhesive to crossmember mating surfaces. Allow surfaces to become sticky. Install pads, rubber strips, and seals on crossmembers and press surfaces firmly together.
8. Place rear floor plate (13) and two front floor plates (14 and 15) in carrier.

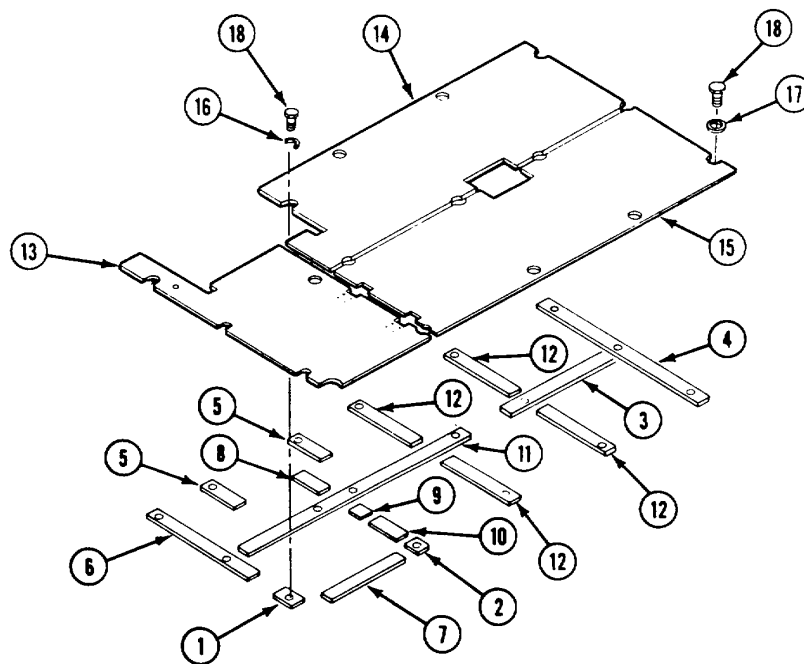
WARNING

Large amounts of methyl isobutyl ketone solvent vapor can kill you. **DO NOT** breathe vapors. Solvent can also irritate your skin. Wear gloves and safety goggles.



Ventilate your work area adequately.

9. Soften adhesive backing on shouldered washer (16) with methyl isobutyl ketone solvent. Wait 10-20 seconds until backing becomes sticky. Install shouldered washer (16) on front floor plate (14).
10. Secure front floor plate (13) and two rear floor plates (14 and 15) to hull with 15 washers (17) and 16 screws (18).



FOLLOW-THROUGH STEPS

1. If removed, install personnel heater floor duct (page 29-47) (page 29-48).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

REPLACE FLOOR PLATES (M1059 ONLY)**DESCRIPTION**

This task covers: Remove (page 24-42). Install (page 24-43).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Adhesive

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Personnel floor heater duct removed
(page 29-47)

Seats folded in stowed position (see your -10)

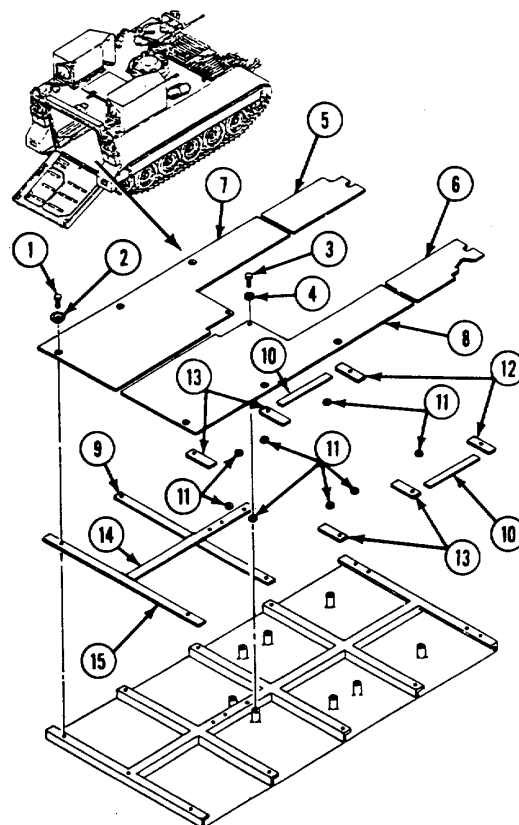
Ramp lowered (see your -10)

REMOVE

1. Remove 12 screws (1) and lined washers (2) securing floor plates to hull crossmembers.
2. Remove two screws (3) and washers (4) securing floor plates to hull crossmembers.
3. Remove two rear floor plates (5 and 6) from hull crossmembers.
4. Remove two front floor plates (7 and 8) from hull crossmembers.
5. If necessary, remove two non-metallic seals (9) from hull crossmembers by scraping.
6. If necessary, remove two rubber strips (10) from hull crossmembers by scraping.
7. If necessary, remove eight pads (11) from hull crossmembers by scraping.
8. If necessary, remove two pads (12), four pads (13), and two pads (14 and 15) from hull crossmembers by scraping.

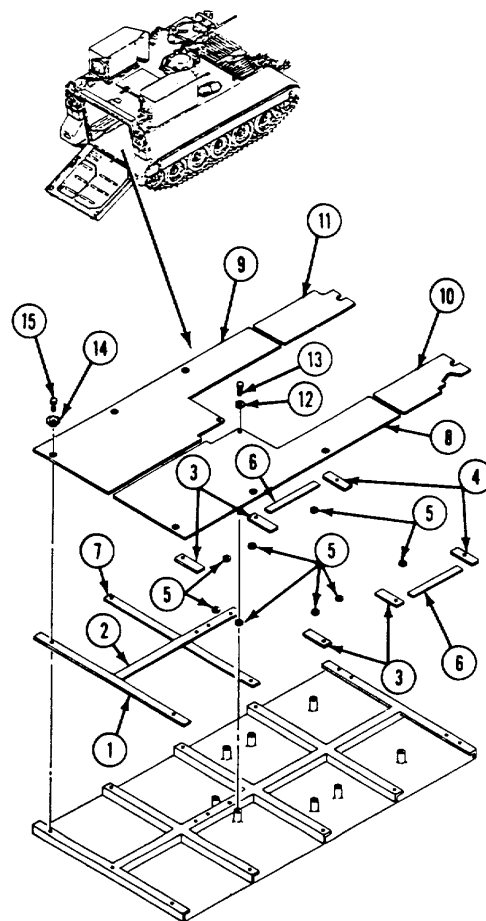
CLEAN, INSPECT, AND REPAIR

9. Inspect parts to make sure parts are not broken or damaged. If any part is damaged, it must be replaced.



INSTALL

10. If pads (1 through 5) , rubber strips (6), or seals (7) were removed, apply light coat of adhesive to all crossmember mating surfaces. Allow surfaces to become sticky. Install pads, rubber strips, and seals on crossmembers and press surfaces firmly together.
11. Place two front floor plates (8 and 9) on hull crossmembers.
12. Place two rear floor plates (10 and 11) on hull crossmembers.
13. Install two washers (12) and screws (13) on front floor plates (8 and 9).
14. Install 12 lined washers (14) and screws (15) on front floor plates (8 and 9), and rear floor plates (10 and 11).

**FOLLOW-THROUGH STEPS**

- | | |
|--|--|
| 1. Install personnel floor heater duct (page 29-47). | 3. Raise and lock ramp (see your -10). |
| 2. Unstow seats (see your -10). | 4. Stop engine (see your -10). |

END OF TASK

REPLACE DRIVER'S COMPARTMENT HULL ACCESS COVERS

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Dry cleaning solvent (Item 13, App C)

Sealing compound (Item 47, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

REMOVE

1. Remove nine screws (1), washers (2), and forward access cover (3) from hull.
2. Remove eight screws (1), washers (2), and rear access cover (4) from hull.

5. Install rear access cover (4). Secure with eight washers (2) and screws (1).
6. Install forward access cover (3). Secure with nine washers (2) and screws (1).

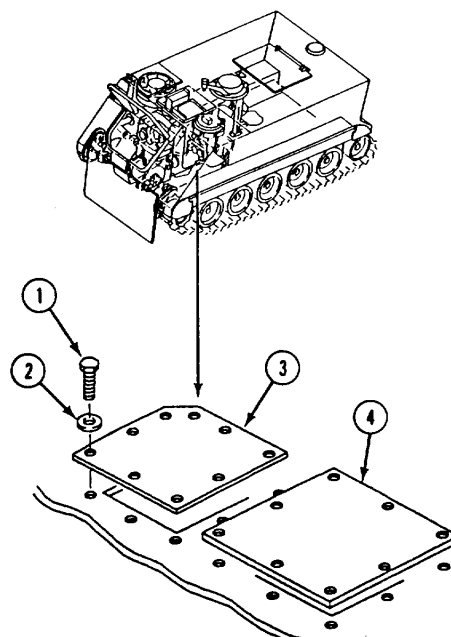
CLEAN, INSPECT, AND REPAIR**WARNING**

Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

3. Clean access covers and hull mating surfaces with dry cleaning solvent.

INSTALL

4. Apply sealing compound to hull mating surface of access covers.



END OF TASK

REPLACE COMPARTMENT FLOOR PLATES (M1068 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Adhesive
 Cushioning pad (2)
 Non-metallic seal (6)
 Non-metallic seal
 Rubber strip (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

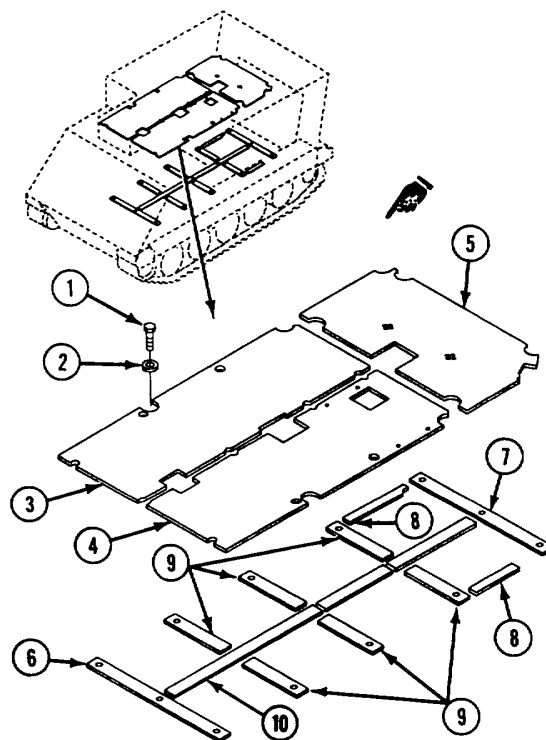
Engine stopped/shutdown (see your -10)
 Carrier blocked (see your -10)
 Ramp lowered (see your -10)
 Personnel heater floor duct removed
 (page 29-47)
 Power supply storage box removed
 (page 40.1-33)

REMOVE

1. Remove 13 screws (1) and liner washers (2) from carrier hull.
2. Remove two front floor plates (3 and 4) and rear floor plate (5) from hull crossmembers.
3. If necessary, remove two pads (6 and 7), rubber strips (8), six seals (9), and seal (10) from crossmembers by scraping.

INSTALL

4. If pads, strips, or seals (6 through 10) were removed, apply thin coat of adhesive to roughened side of surface. Allow to dry 20-40 minutes. Apply thin coat of adhesive to metal surface of hull crossmembers. Allow to dry 30-120 seconds. Install pads, strips, and seals on crossmembers and press surfaces together firmly.
5. Place rear floor plate (5) and 2 front floor plates (4 and 3) on hull crossmembers. Secure to hull with 13 liner washers (2) and screws (1).

**FOLLOW-THROUGH STEPS**

- | | |
|--|--|
| 1. Install personnel heater floor duct (page 29-47). | 3. Raise and lock ramp (see your -10). |
| 2. Install power supply storage box (page 40.1-33). | 4. Stop engine (see your -10). |

END OF TASK

REPLACE FLOOR PLATES (M901A1 ONLY)

DESCRIPTION

This task covers: Remove (page 24-45). Install (page 24-46).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Adhesive
- Grommet
- Self-locking nut (4)
- Self-locking nut (4)
- Self-locking nut (6)

References:

See your -10

Equipment Conditions:

- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Engine shutdown (see your -10)
- Launcher stowed (see your -10)
- Personnel heater duct and hose removed (page 29-47) (page 29-48)

Personnel Required:

Unit Mechanic

REMOVE

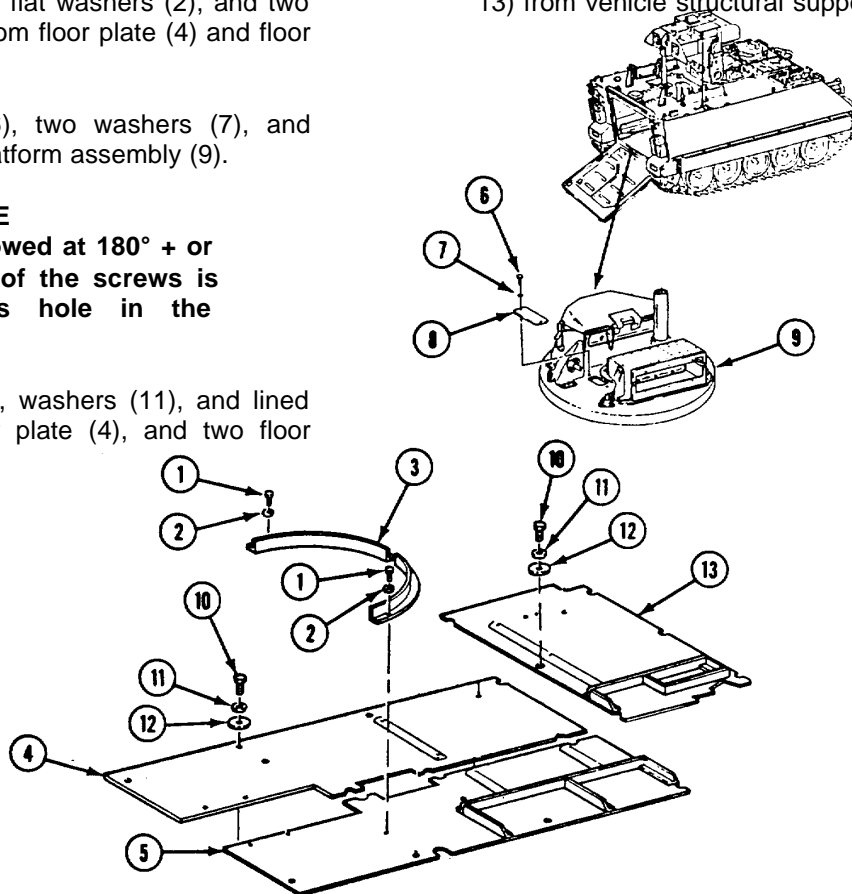
1. Remove four screws (1), flat washers (2), and two platform protectors (3) from floor plate (4) and floor plate (5).
2. Remove two screws (6), two washers (7), and access cover (8) from platform assembly (9).

NOTE

When launcher is stowed at 180° + or -1/2° access to one of the screws is through the access hole in the platform assembly.

3. Remove 13 screws (10), washers (11), and lined washers (12) from floor plate (4), and two floor plates (5 and 13).

4. Remove floor plate (4) and two floor plates (5 and 13) from vehicle structural supports.

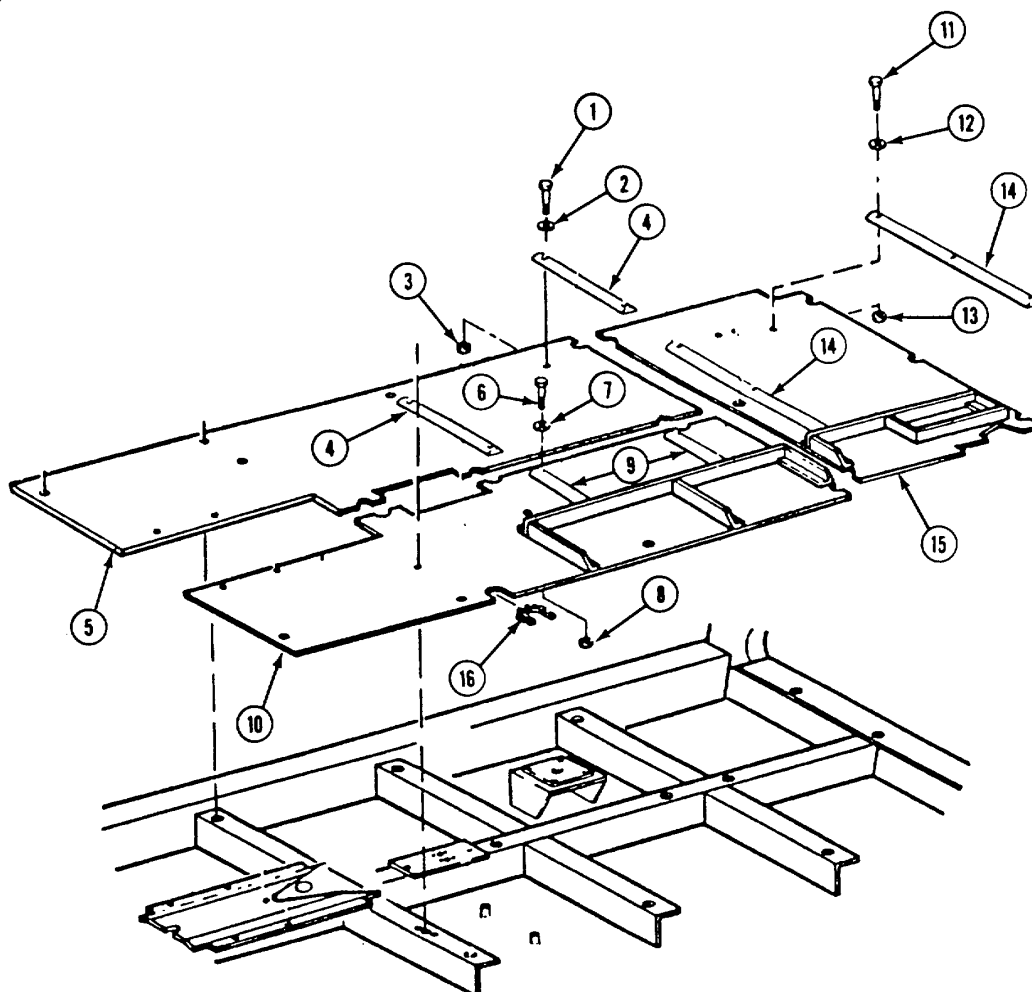


GO TO NEXT PAGE

5. Remove four screws (1), flat washers (2), locknuts (3), and two tread plate cleats (4) from floor plate (5). Discard locknuts.
6. Remove four screws (6), flat washers (7), locknuts (8), and two left floor plate cleats (9) from floor plate (10). Discard locknuts.
7. Remove six screws (11), flat washers (12), locknuts (13), and two floor plate cleats (14) from floor plate (15). Discard locknuts.
8. Remove grommet (16) from floor plate (10). Discard grommet.

INSTALL

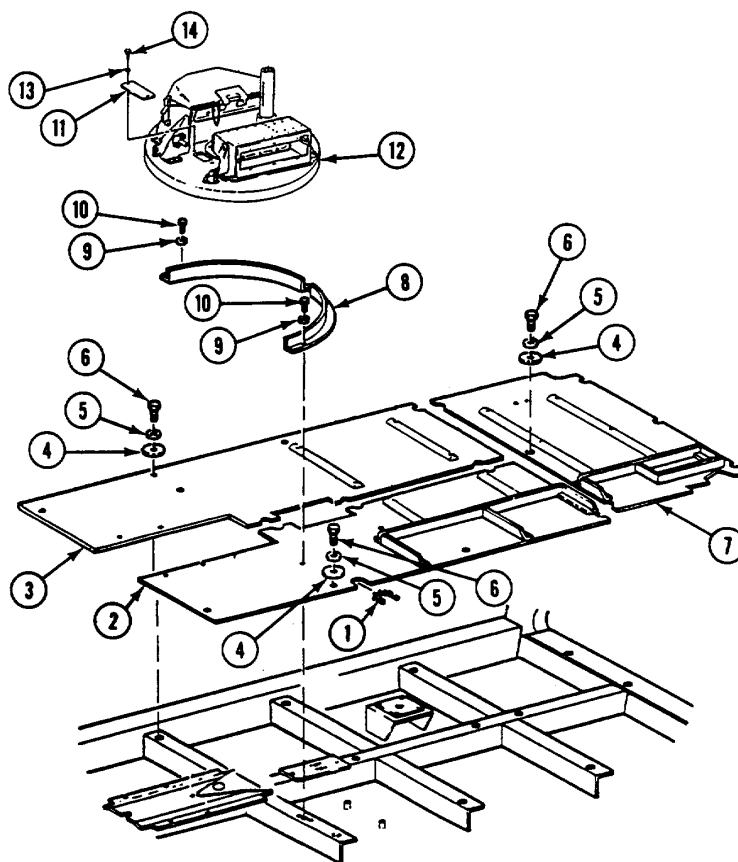
9. Install two floor plate cleats (14) on floor plate (15). Secure with six screws (11), flat washers (12), and new locknuts (13).
10. Install two left floor plate cleats (9) on floor plate (10). Secure with four screws (6), flat washers (7), and new locknuts (8).
11. Install two tread plate cleats (4) on floor plate (5). Secure with four screws (1), flat washers (2), and new locknuts (3).



12. Apply light coat of adhesive to groove portion of new grommet (1). Allow adhesive to dry until tacky.
13. Carefully insert new grommet (1) in cut out portion of floor plate (2). Press firmly into place. Wipe off excess sealant.
14. Position floor plate (3) and floor plate (2) on vehicle structural supports.
15. Secure floor plate (3) and floor plate (2) to vehicle structural supports with seven (of 13) lined washers (4), washers (5), and screws (6).
16. Install floor plate (7) on vehicle structural supports. Secure with six (of 13) lined washers (4), washers (5), and screws (6).
17. Install two platform protectors (8) on floor plate (3) and floor plate (2). Secure with four flat washers (9) and screws (10).
18. Install access cover (11) on platform assembly (12). Secure with two washers (13) and screws (14).

NOTE

When installing floor plates in the M901A1, make sure electrical cables are not pinched or damaged.



FOLLOW-THROUGH STEPS

1. Install personnel heater duct and hose (page 29-47) (page 29-48).
2. Raise and lock ramp (see your -10).
3. Shutdown engine (see your -10).

END OF TASK

**Section V. GRILL ASSEMBLY, TOP DECK HATCHES,
VENTILATOR, AND GENERATOR SET ENCLOSURE**

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REPLACE POWER PLANT GRILLE SUPPORT ARM

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

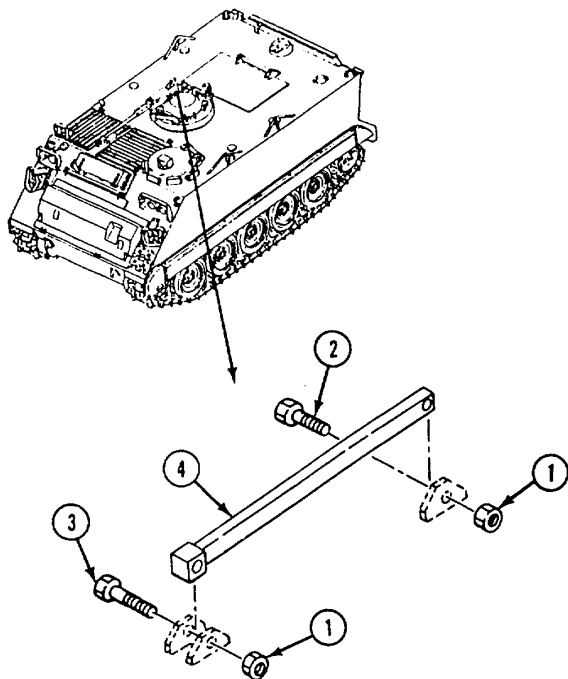
See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

REMOVE

1. Remove two locknuts (1), screws (2 and 3), and grille support arm (4) from two hull top plate mounts. Discard locknuts.
2. M901A1 only. Remove two locknuts (5), washers (6), screws (7), and grille support arm (8) from two hull top plate mounts. Discard locknuts.



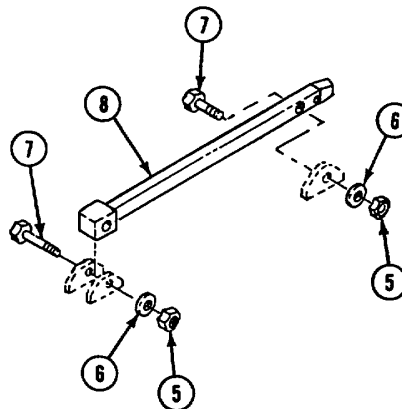
INSTALL

3. Place grille support arm (4 or 8) in hull top plate mounts with plastic-coated end facing forward.

NOTE

Forward screw must be installed from right side of carrier, as shown.

4. Align grille support arm (4) with mounts. Secure with two screws (3 and 2) and new locknuts (1).
5. M901A1 only. Align grille support arm (8) with mounts. Secure with two screws (7), washers (6), and new locknuts (5).



END OF TASK

REPLACE DRIVER'S HATCH CUSHIONING PAD

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (6)

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Personnel Required:

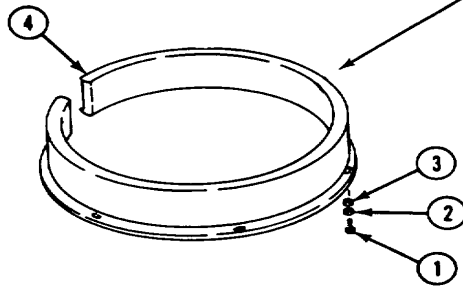
Unit Mechanic

REMOVE

1. Remove six screws (1), lockwashers (2), washers (3), and cushioning pad (4) from hatch opening. Discard lockwashers.

INSTALL

2. Place cushioning pad (4) in hatch opening. Secure with six washers (3), new lockwashers (2), and screws (1).



END OF TASK

**REPLACE DRIVER'S HATCH VISION BLOCK LOCKS AND SEALS
(ALL EXCEPT M106A2, M1064, AND M741A1)**

DESCRIPTION

This task covers: Remove (page 24-52). Clean, Inspect, and Repair (page 24-53).
Install (page 24-53).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 96, App D)
Torque Wrench (Item 97, App D)

Materials/Parts:

Adhesive
Seal
Seal
Spring pin
Dry cleaning solvent (Item 14, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Vision block removed (see your -10)
Ramp lowered (see your -10)

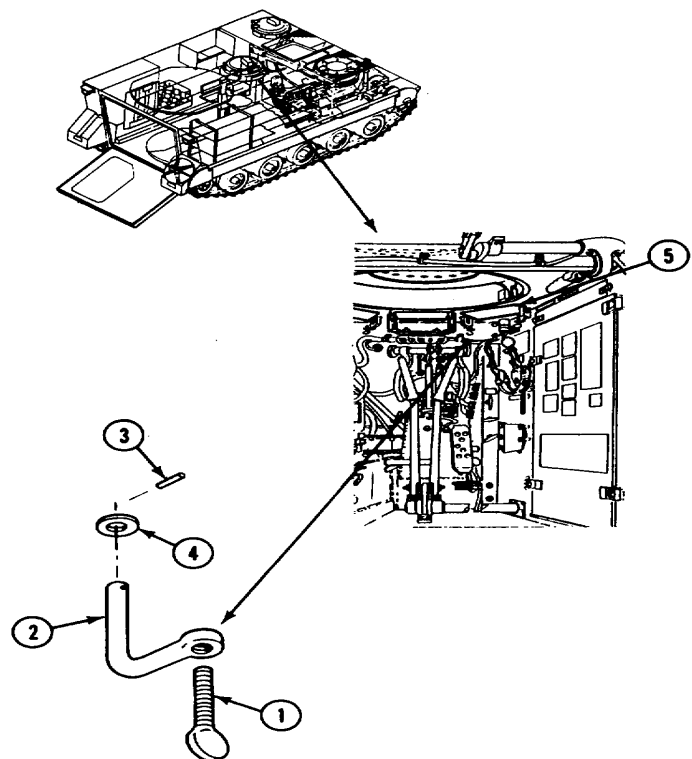
REMOVE**NOTE**

There are six vision block locks and four seals on the driver's hatch. Text is for one lock and one seal.

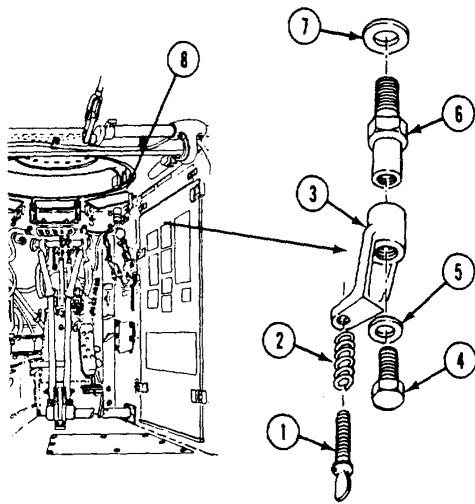
1. Remove thumbscrew (1) from arm (2).
2. Remove spring pin (3) from arm (2). Discard pin.
3. Remove arm (2) and washer (4) from hull bracket.
4. Scrape seal (5) from vision block opening.

NOTE

Driver's center vision block is held in place by two thumbscrews mounted on the warning light panel



5. Remove thumbscrew (1) and spring (2) from arm (3).
6. Remove screw (4), washer (5), and arm (3) from bolt (6).
7. Remove bolt (6) and washer (7) from driver's hatch.
8. Scrape seal (8) from vision block opening.



INSTALL

NOTE

Surface on seal marked **BOND THIS SIDE** should be glued to hull.

10. Apply adhesive to mating surface around vision block opening. Allow to become tacky. Install new seal (8) on hull.
11. Install washer (7) and bolt (6) in driver's hatch. Tighten bolt to 54-59 lb-ft (73-80 N•m torque). Use torque wrench.
12. Install arm (3) on bolt (6). Secure with washer (5) and screw (4). Tighten screw to 144-168 lb-in (16-19 N•m) torque. Use torque wrench
13. Install spring (2) and thumbscrew (1) in arm (3). Deform first thread of thumbscrew to prevent easy removal

CLEAN, INSPECT, AND REPAIR W



WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

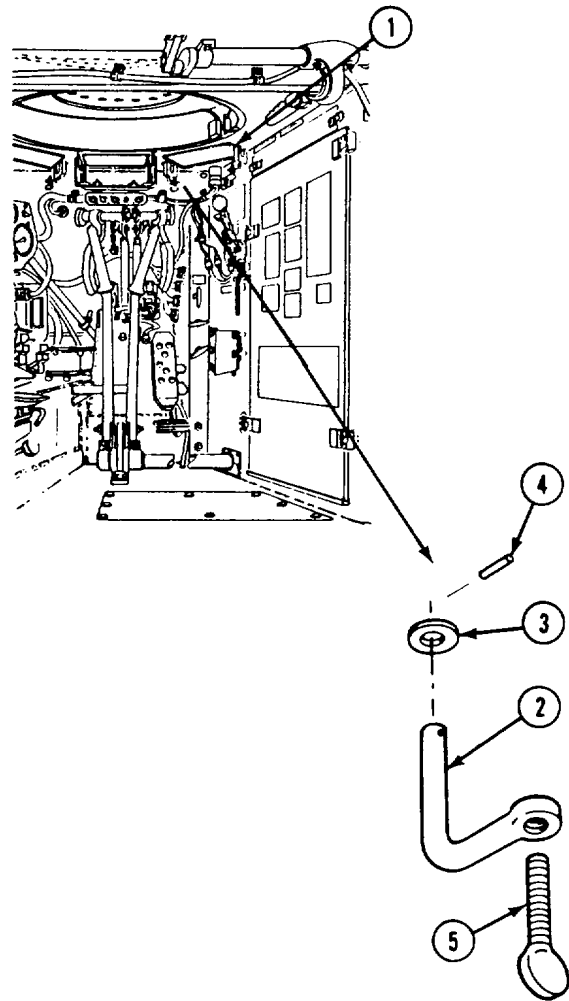
9. Clean seal mating surface on hull with dry cleaning solvent.

GO TO NEXT PAGE

NOTE

Surface on seal marked **BOND THIS SIDE** should be glued to hull.

14. Apply adhesive to mating surface around vision block opening. Allow adhesive to become tacky. Install seal (1) on hull.
15. Install arm (2) and washer (3) in hull bracket. Secure with new spring pin (4).
16. Install thumbscrew (5) in arm (2). Deform first thread of thumbscrew to prevent easy removal.



FOLLOW-THROUGH STEPS

- | | |
|--|------------------------------------|
| 1. Install vision blocks (see your -10). | 3. Stop engine (see your -10). |
| 2. Install vision blocks (see your -10). | 4. Unblock carrier (see your -10). |

END OF TASK

REPLACE DRIVER'S HATCH INTERIOR LOCK AND LATCH

DESCRIPTION

This task covers: Remove (page 24-55). Install (page 24-56). Adjust (page 24-56).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

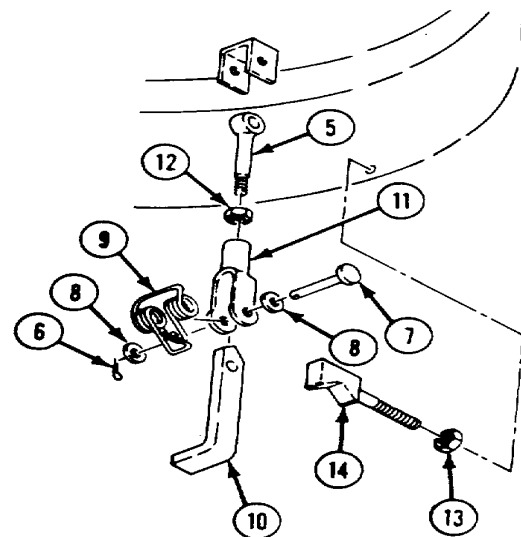
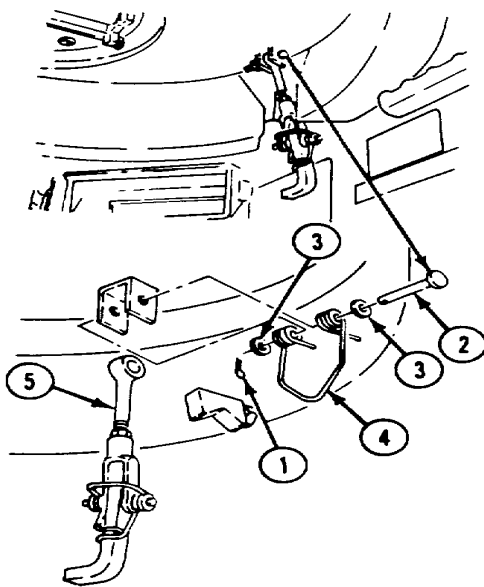
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

REMOVE

1. Remove cotter pin (1) from headed pin (2). Discard cotter pin.
2. Remove pin (2), two washers (3), spring (4), and eyebolt (5) from driver's hatch bracket.

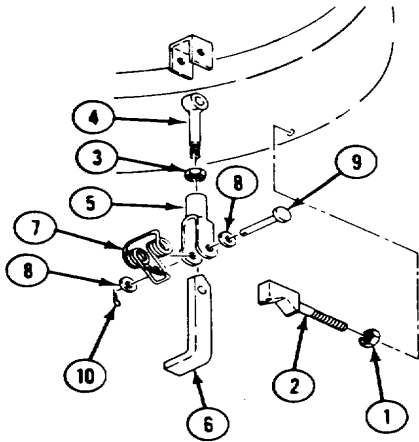
3. Remove cotter pin (6) from headed pin (7). Discard cotter pin.
4. Remove pin (7), two washers (8), spring (9), and latch (10) from clevis (11).
5. Loosen nut (12). Remove eyebolt (5) from clevis (11).
6. Loosen nut (13). Remove lug (14) from bulkhead. Remove nut from lug.



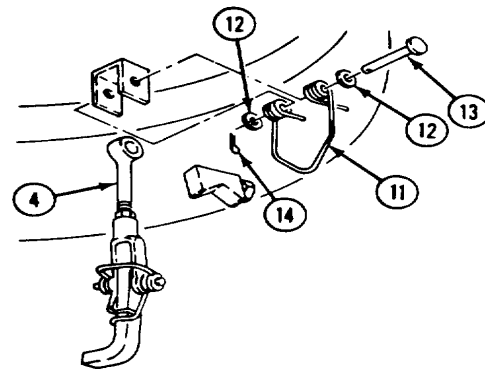
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INSTALL

7. Install nut (1) on lug (2). Install lug in bulkhead. Do not tighten nut.
8. Install nut (3) and eyebolt (4) in clevis (5). Do not tighten nut.
9. Install latch (6), spring (7), and two washers (8) in clevis (5). Secure with headed pin (9) in new cotter pin (10).



10. Install eyebolt (4), spring (11), and two washers (12) in driver's hatch bracket. Secure with headed pin (13) and new cotter pin (14).

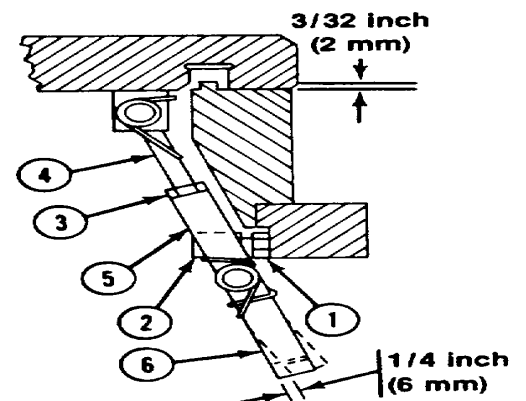


ADJUST

NOTE

Perform steps 11 and 12 to adjust lock and latch.

11. Turn clevis (5) and eyebolt (4) until hatch closes tightly on hull in the latched position with maximum clearance of 3/32 inch (2 mm). Tighten nut (3).
12. Turn lug (2) until latch (6) is in line with clevis (5) or 1/4 inch (6 mm) maximum above clevis in the latched position. Tighten nut (1) on lug.



FOLLOW-THROUGH STEPS

1. Close hatch. Check that hatch lock and latch are properly installed.

END OF TASK

REPAIR DRIVER'S HATCH PERISCOPE GUARD AND QUICK RELEASE ASSEMBLY

DESCRIPTION

This task covers: Remove (page 24-57). Disassemble (page 24-58). Clean, Inspect, and Repair (page 24-59). Assemble (page 24-60). Install (page 24-61).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

- Adhesive (Item 0.1, App C)
- Sealing compound primer (Item 43, App C)
- Sealing compound (Item 48, App C)
- Lockwasher (4)
- Lockwasher (4)
- Lockwasher
- Non-metallic seal (2)
- Preformed mechanical felt (1)
- Preformed mechanical felt (2)

References:

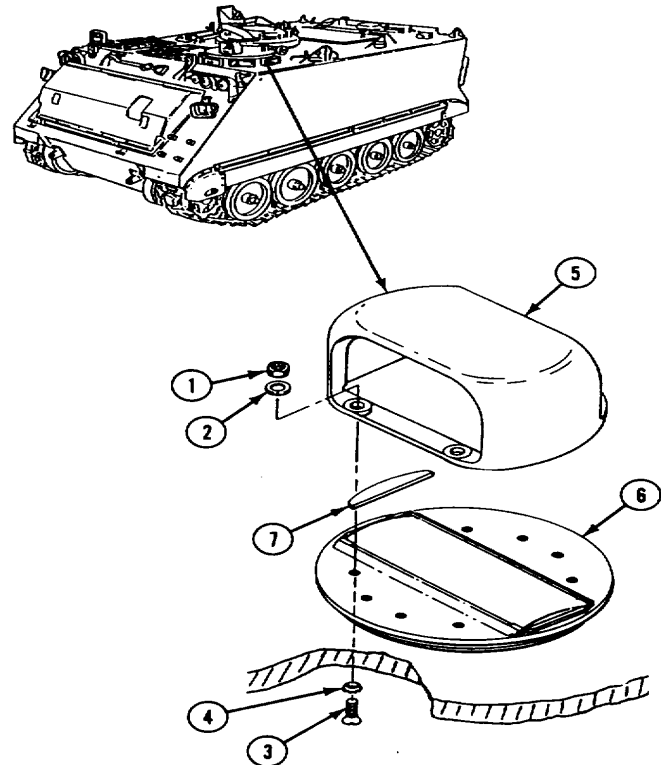
See your -10

Equipment Conditions:

- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)

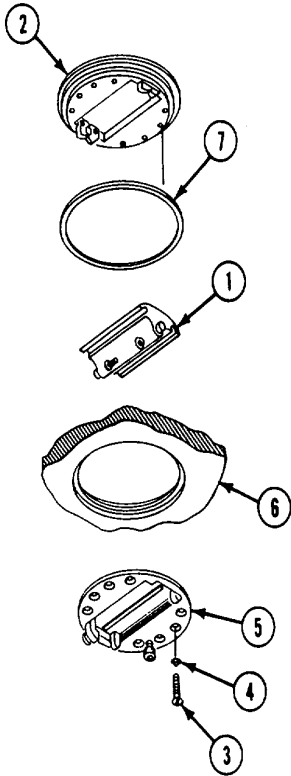
REMOVE

1. Remove four nuts (1), washers (2), screws (3), lockwashers (4), and periscope guard (5) from periscope quick release assembly (6). Discard lockwashers.
2. Remove two non-metallic seals (7) from bottom of guard (5). Discard seals.



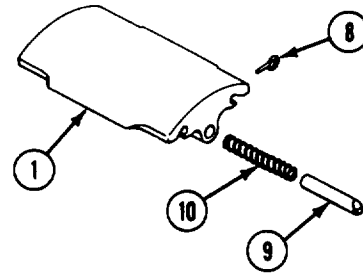
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3. Compress two rings on plug (1). Remove plug from quick release top plate (2). Place plug on top deck of carrier.
4. Remove four screws (3), lockwashers (4), top plate (2), and bottom plate (5) from driver's hatch (6). Discard lockwashers.
5. Remove felt (7) from top plate (2). Discard felt.

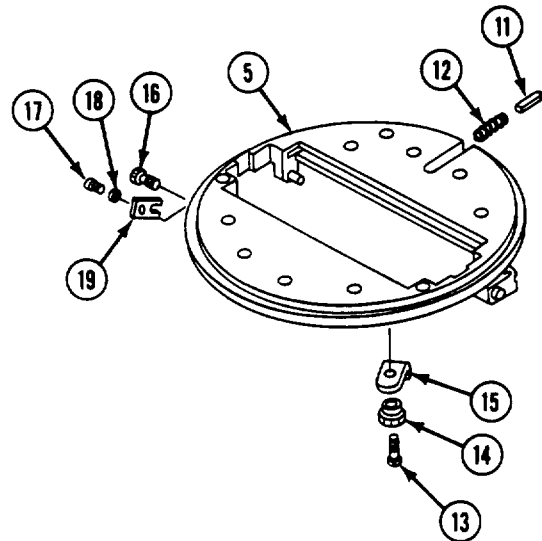


DISASSEMBLE

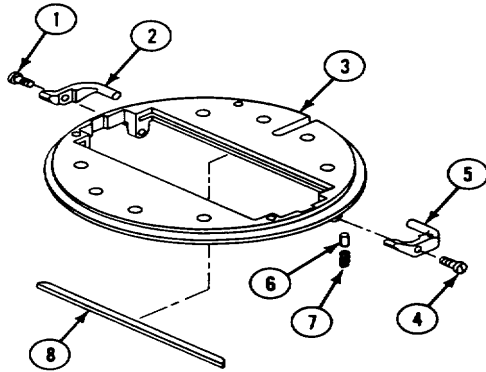
6. Remove eyebolt (8), trunnion (9), and spring (10) from plug (1).



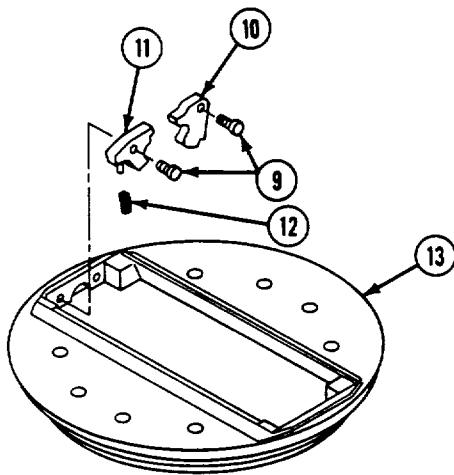
7. Remove key (11) and spring (12) from bottom plate (5).
8. Remove screw (13), knob (14), and lock plate (15) from bottom plate (5).
9. Remove knob (16), screw (17), lockwasher (18), and retainer (19) from bottom plate (5). Discard lockwasher.



10. Remove screw (1) and latch release (2) from bottom plate (3).
11. Remove screw (4) and latch release (5) from bottom plate (3).
12. Remove two pins (6) and springs (7) from bottom plate (3).
13. Remove two felt (8) from bottom plate (3). Discard felt.



14. Remove four screws (9), retainers (10 and 11), and two springs (12) from top plate (13).



CLEAN, INSPECT, AND REPAIR



WARNING

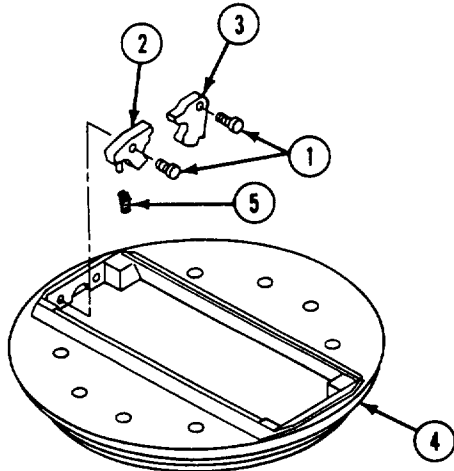
Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

15. Clean parts with dry cleaning solvent.
16. Inspect springs for corrosion, distortion, weakness, cracks, and breaks. Replace damaged springs.
17. Inspect parts for corrosion, distortion, wear, cracks, and loose or missing parts. Repair or replace damaged or missing parts

GO TO NEXT PAGE

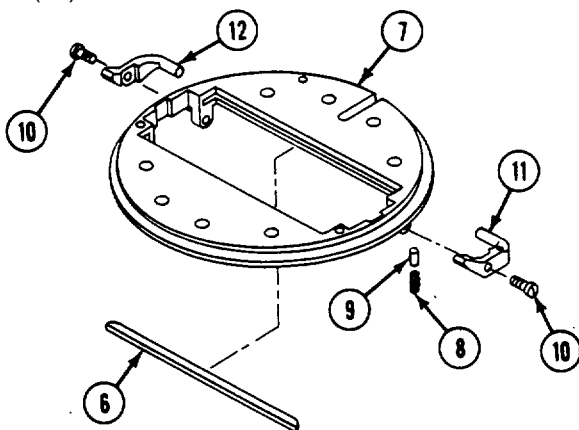
ASSEMBLE

- 17.1 Apply primer and sealing compound to the threads of screws (1).
- 18. Install four retainers (2 and 3) and screws (1) on top plate (4).
- 19. Install two springs (5) on retainers (2).

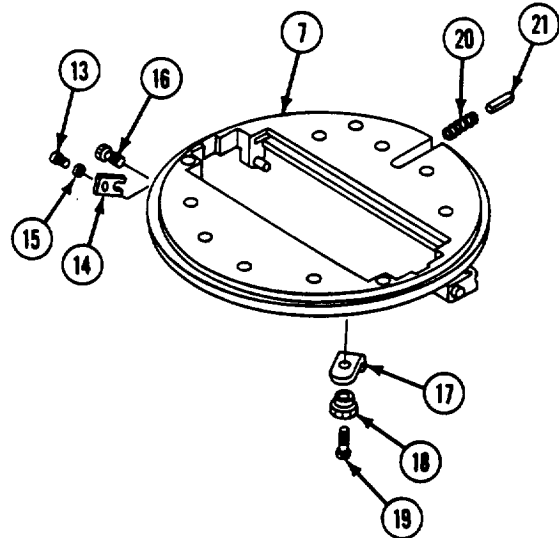


- 20. Install two new felt (6) on bottom plate (7).
- 21. Install two springs (8) and pins (9) on bottom plate (7).

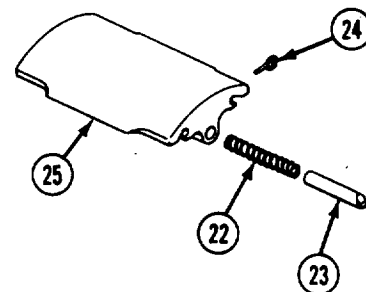
- 21.1 Apply primer and sealing compound to the threads of screws (10).
- 22. Install latch release (11) and secure with screw (10).
- 23. Install latch release (12) and secure with screw (10).



- 23.1 Apply primer and sealing compound to the threads of screw (13).
- 24. Install retainer (14) on bottom plate (7). Secure with new lockwasher (15), screw (13), and knob (16).
- 25. Install lock plate (17), knob (18), and screw (19) on bottom plate (7).
- 26. Install spring (20) and key (21) on bottom plate (7).

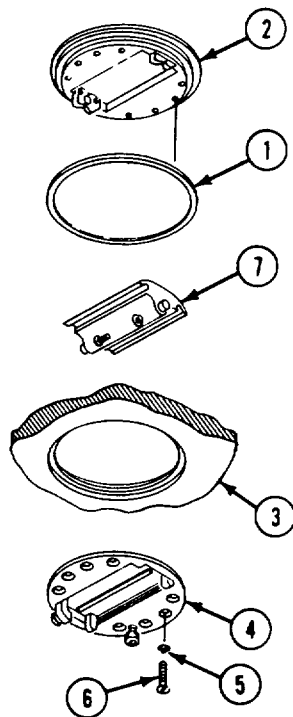


- 27. Install spring (22), trunnion (23), and eyebolt (24) in plug (25).

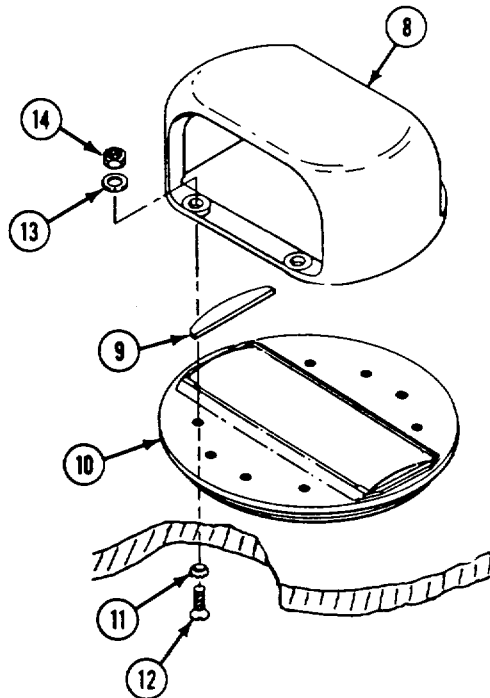


INSTALL

28. Install new felt (1) on top plate (2). Place top plate in driver's hatch (3).
29. Install bottom plate (4) in driver's hatch (3). Secure to top plate (2) with four new lockwashers (5) and screws (6).
30. Compress two rings on plug (7). Install plug in top plate (2) from top deck of carrier.



31. Apply adhesive to mating surface on guard (8). Install two new non-metallic seals (9). Trim seals, if needed.
32. Place guard (8) on periscope quick-release assembly (10). Secure with four new lockwashers (11), screws (12), washers (13), and nuts (14).



FOLLOW-THROUGH STEPS

1. Unlock carrier (see your -10).

END OF TASK

**REPLACE DRIVER'S HATCH COVER AND EXTERIOR LOCK
(ALL EXCEPT M901A1)**

DESCRIPTION

This task covers: Remove (page 24-62). Install (page 24- 63).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

- Grease (Item 18, App C)
- Cotter pin
- Non-metallic seal
- Self-locking nut (3)

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Driver's hatch interior latch disconnected from hatch cover (page 24-55)
- Driver's hatch periscope guard removed (page 24-57)
- Driver's hatch periscope quick release assembly removed (page 24-57)

Personnel Required:

- Unit Mechanic
- Helper

REMOVE



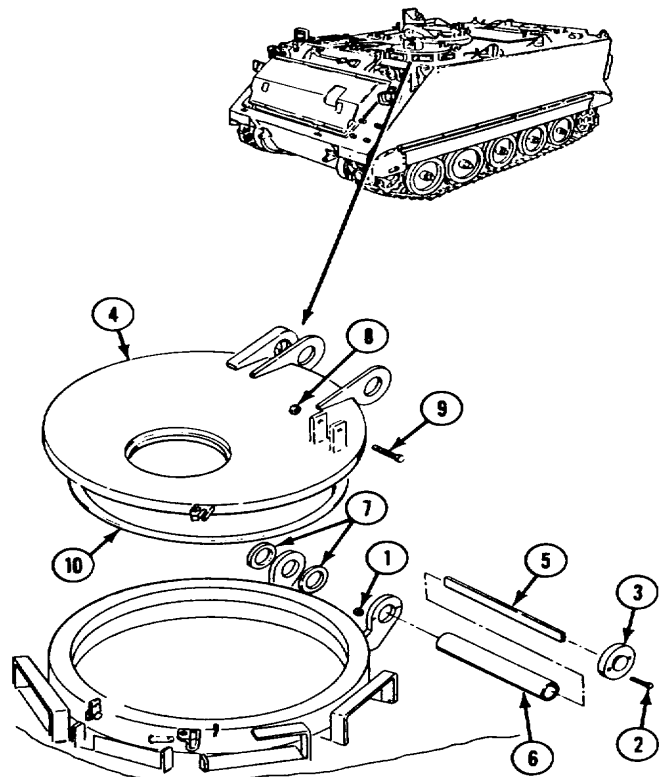
WARNING
Driver's hatch cover could fall and injure you. Keep hands clear when you open or close cover.

1. Remove two locknuts (1), screws (2), and retainer (3) from hinge brackets. Discard locknuts.



WARNING
Lifting or moving objects in excess of 70 pounds could injure you. Make sure to get an assistant or use a lifting device to move cover or other heavy objects.

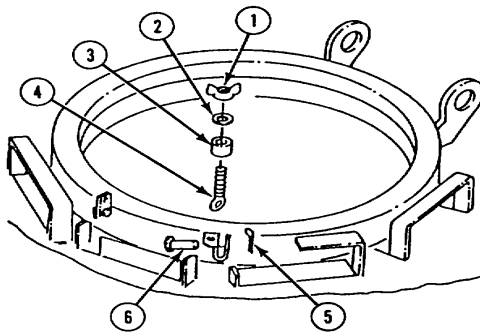
2. Support cover (4). Remove springs (5), tube (6), two ring spacers (7), and cover from hinge brackets. Discard ring spacers.
3. Remove locknut (8) and screw (9) from cover (4). Discard locknut.
4. Pry up end of seal (10) and remove from cover (4). Discard seal.



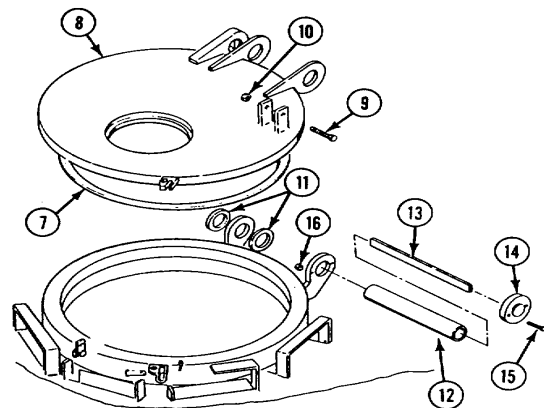
5. Remove wing nut (1), washer (2), and bushing (3) from eyebolt (4).
6. Remove cotter pin (5) from headed pin (6). Discard cotter pin.
7. Remove headed pin (6) and eyebolt (4) from bracket on hatch.

INSTALL

8. Align eyebolt (4) with bracket on hatch. Secure with headed pin (6) and new cotter pin (5).
9. Install bushing (3), washer (2), and wing nut (1) on eyebolt (4).



11. Install screw (9) in cover (8) and secure with new locknut (10).
12. Align cover (8) with hinge brackets and install two new ring spacers (11) and tube (12).
13. Apply light coat of grease to each spring (13). Install springs in tube (12).
14. Place cover (8) in vertical position and install retainer (14) on hinge brackets. Secure with two screws (15) and new locknuts (16).



10. Place new seal (7) over retaining groove in cover (8) and press seal into place. Trim end, if needed.

FOLLOW-THROUGH STEPS

1. Install driver's hatch periscope quick release assembly (page 24-57).
2. Install driver's hatch periscope guard (page 24-57).
3. Connect driver's hatch interior latch to cover (page 24-55).

END OF TASK

**REPLACE DRIVER'S HATCH LATCH AND BUMPER
(ALL EXCEPT M901A1)**

DESCRIPTION

This task covers: Remove (page 24-64). Clean, Inspect, and Repair (page 24-65).
Install (page 24-65).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Self-locking nut (2)
Self-locking nut

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

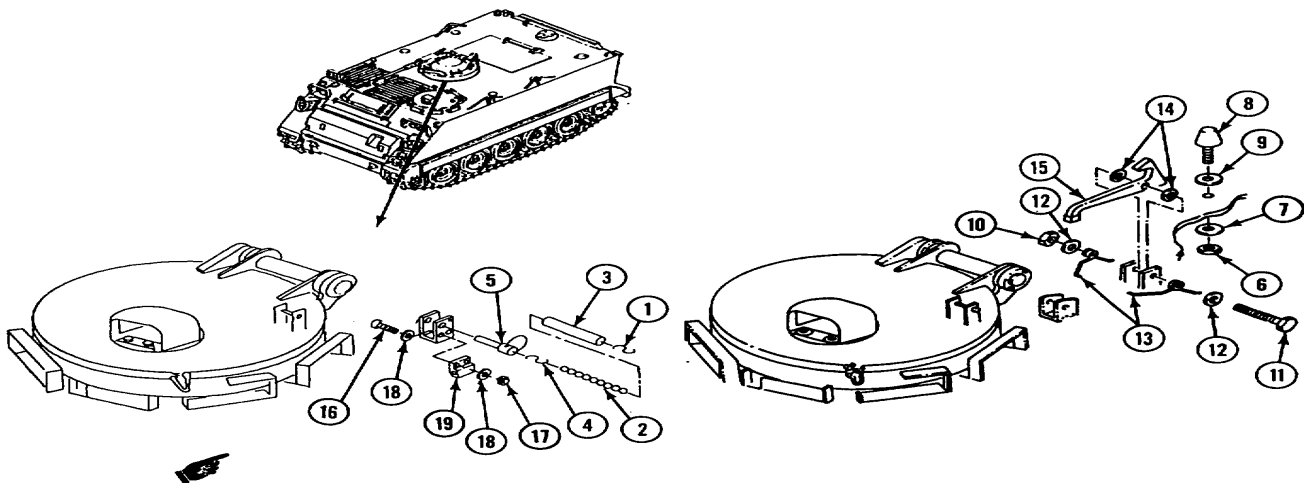
REMOVE

NOTE

Steps 1 through 6 apply to all carriers, except M577A2 and M1068.

1. Open both ends of hook (1). Remove hook from chain (2) and hull.
2. Remove tube (3) from chain (2).

3. Open both ends of hook (4). Remove hook from chain (2) and quick release pin (5). Remove quick release pin from hull bracket.
4. From inside carrier, remove nut (6) and washer (7). Remove bumper (8) and washer(s) (9) from hull top plate.
5. Remove locknut (10), screw (11), two washers (12), spring (13), spacers (14), and hook (15) from hull bracket. Discard locknut.
6. Remove two screws (16), nuts (17), four washers (18), and block (19) from hull bracket.



NOTE

Steps 7 through 21 apply to M577A2 and M1068 carriers.

7. Open both ends of hook (1). Remove from chain (2) and hull bracket.
8. Remove tube (3) from chain (2).
9. Open both ends of hook (4). Remove from chain (2) and quick release pin (5).
10. Remove locknut (6), washer (7), bumper (8), and washer(s) (9) from bulkhead bracket. Discard locknut.
11. Remove locknut (10), screw (11), two washers (12), spring (13), two spacers (14), and hook (15) from hull brackets. Discard locknut.
12. Remove two screws (16), nuts (17), four washers (18), and block (19) from hull bracket (20).

CLEAN, INSPECT, AND REPAIR

13. Check spring. Replace broken or weak spring.
14. Check bumper. Replace bumper that is cut, hard, or has stripped threads.
15. Check spring clip. Replace if broken or weak.

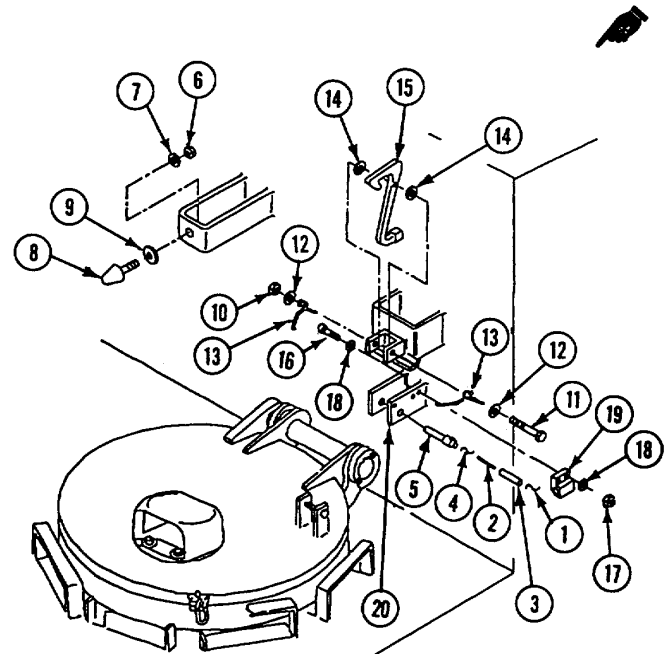
INSTALL

16. Install hook (15), two spacers (14), spring (13), and two washers (12) on hull brackets. Secure with screw (11) and new locknut (10).

NOTE

Install washer(s) as needed, to compress bumper 1/4 inch (6 mm) when hook is engaged.

17. Install washer(s) (9) and bumper (8) on hull bracket. Secure with washer (7) and new locknut (6).
18. Install hook (4) on quick release pin (5) and chain (2). Squeeze both ends of hook to secure.
19. Install tube (3) on chain (2).
20. Install hook (1) on chain (2) and hull bracket. Squeeze both ends of hook to secure.
21. Install block (19), four washers (18), two screws (16), and nuts (17) on hull bracket (20).



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NOTE

Steps 22 through 27 apply to all carriers, except M577A2 and M1068.

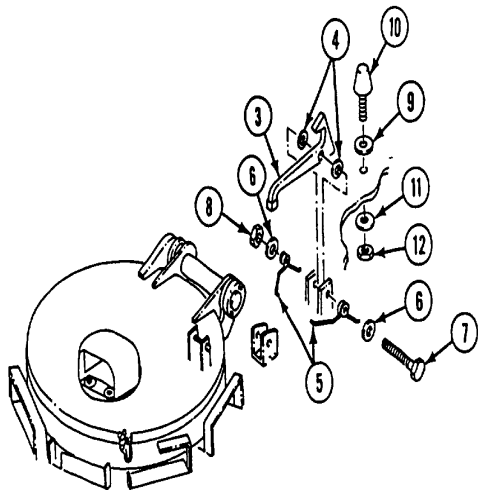
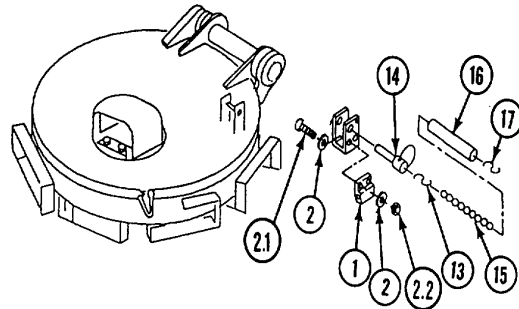
22. Install block (1), four washers (2), two screws (2.1), and nuts (2.2) on hull bracket.
23. Install hook (3), two spacers (4), spring (5), and two washers (6) on hull bracket. Secure with screw (7) and new locknut (8).

NOTE

Install washer(s), as needed, to compress bumper 1/4 inch (6 mm) when hold-open hook is engaged.

24. Install washer(s) (9) and bumper (10) on hull top plate. From inside carrier, secure with washer (11) and nut (12).

25. Install hook (13) on quick release pin (14). Squeeze both ends of hook to secure.
26. Install tube (16) on chain (15).
27. Install hook (17) on chain (15) and on hull. Squeeze both ends of hook to secure.



FOLLOW-THROUGH STEPS

1. Open and close driver's hatch cover and engage hook to check that hook and bumper are properly installed.
2. Unblock carrier (see your -10).

END OF TASK

REPAIR DRIVER'S HATCH (M901A1 ONLY)

DESCRIPTION

This task covers: Remove (page 24-67). Disassemble (page 24-69). Clean, Inspect, and Repair (page 24-71). Assemble (page 24-73). Install (page 24-75).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 93, App D)
- Torque Wrench (Item 95, App D)
- Torque Wrench (Item 97, App D)
- Socket Wrench Set (Item 98, App D)
- Snap Ring Pliers (Item 45, App D)

Materials/Parts (cont):

- Seal
- Spring pin

Personnel Required:

- Unit Mechanic

Materials/Parts:

- Adhesive sealant
- Dry cleaning solvent (Item 13, App C)
- Lubricating oil (Item 28, App C)
- Sealing compound (Item 48, App C)
- Cotter pin (2)
- Cotter pin (2)
- Lockwasher (6)
- Lockwasher (3)
- Lockwasher (2)
- Lockwasher

References:

- See your -10
- See your LO
- TM 43-0139
- TB 43-0209

Equipment Conditions:

- Engine shutdown (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)

REMOVE



WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get

dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

1. Clean driver's hatch areas with a stiff acid brush dampened with dry cleaning solvent.



WARNING

Driver's hatch cover could fall during vehicle operation because of worn or excessively soiled components and/or maladjustment, causing injury or death. Follow these inspection procedures very

carefully.

2. Close and latch driver's hatch (see your -10). While driver's hatch is closed and latched, inspect yoke support assembly (1) and inspect block detents (2) and (3) for mud, dirt, and any debris that could interfere with smooth operation of the assembly



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NOTE

Make sure hatch is in the closed position.

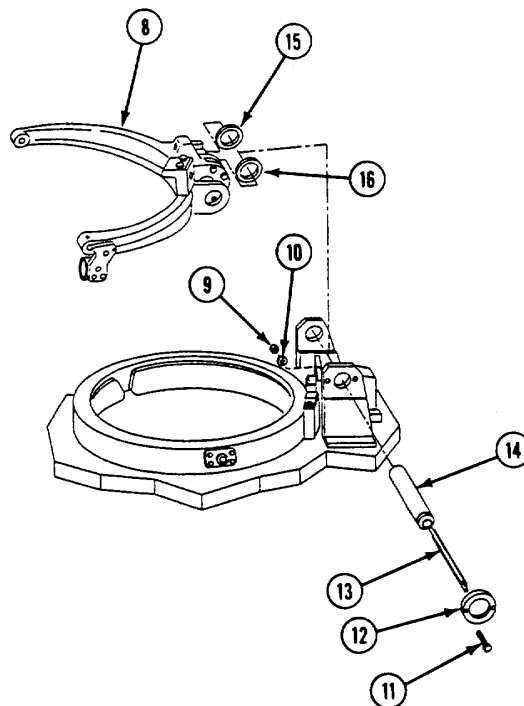
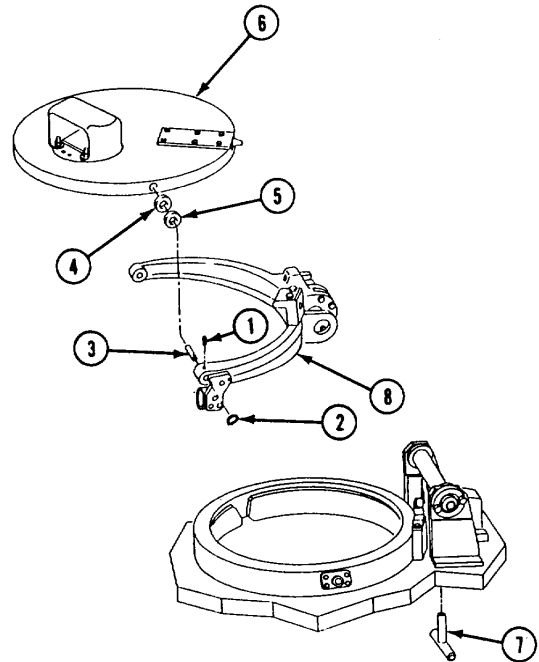
3. Remove two set screws (1), snap rings (2), pins (3), washers (4), and washers (5) from driver's hatch cover (6).

WARNING

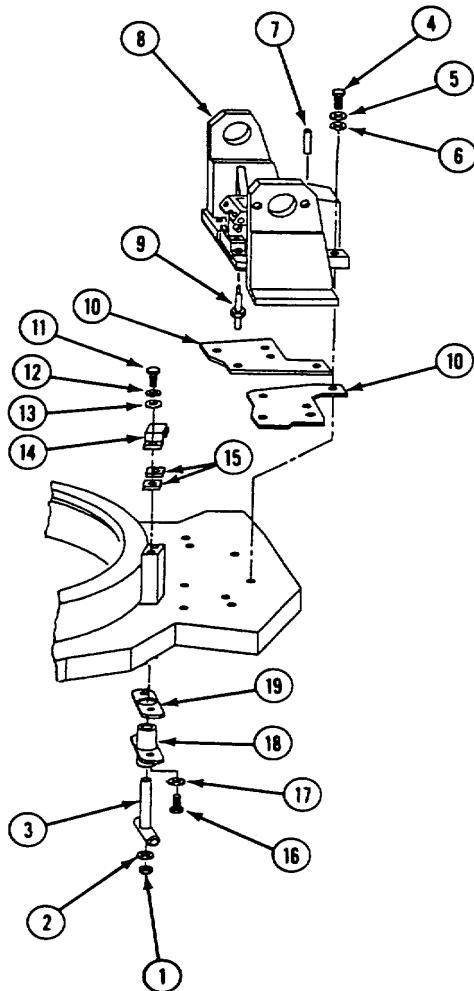
A falling hatch is heavy and could kill you or your buddy. Equipment could also be damaged. Make sure all personnel are clear before performing the next step.



4. Pull hatch release handle (7) and allow yoke (8) to move to open position.
5. Carefully lift away hatch cover (6).
6. Remove two locknuts (9), washers (10), screws (11), and cap (12).
7. Move yoke (8) to closed position.
8. Remove 17 springs (13), shield (14), spacer (15), spacer (16), and yoke (8).

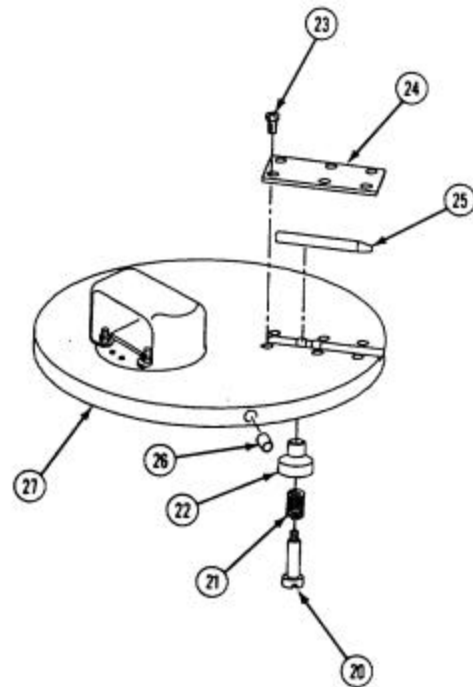


9. Remove locknut (1), washer (2), and handle (3).
10. Remove six screws (4), lockwashers (5), washers (6), two pins (7), support (8), lanyard (9), and four shims (10). Discard lockwashers.
11. Remove two screws (11), lockwashers (12), washers (13), catch (14), and two shims (15). Discard lockwashers.
12. Remove two screws (16), washers (17), guide (18), and spacer (19).



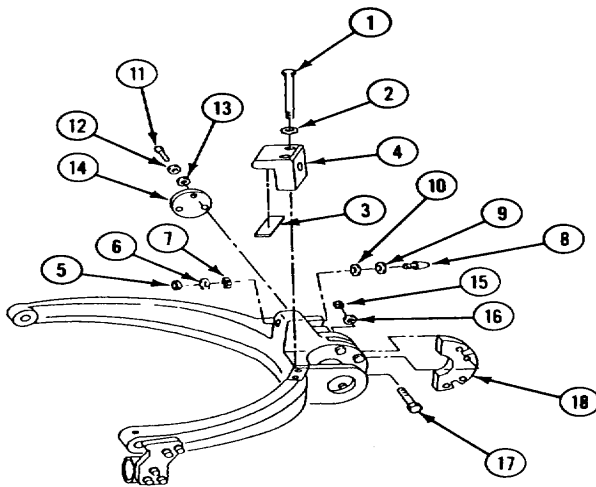
DISASSEMBLE

13. Remove screw (20), spring (21), and handle (22).
14. Remove six screws (23), plate (24), and thumb latch (25).
15. Remove two sleeve bearings (26) from hatch cover (27).

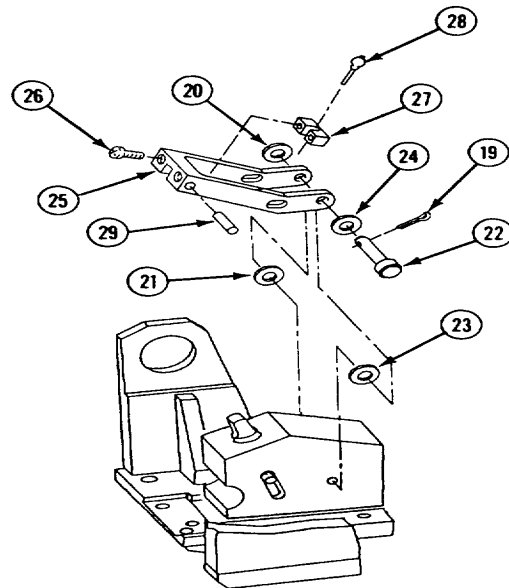


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16. Remove two screws (1), lockwashers (2), rubber stop (3), and stop (4). Discard lockwashers.
17. Remove nut (5), washer (6), lockwasher (7), bumper (8), washer (9), and washer (10). Discard lockwasher.
18. Remove three screws (11), lockwashers (12), washers (13), and cover (14). Discard lockwashers.
19. Remove four locknuts (15), washers (16), screws (17), and insert block (18).



20. Remove two cotter pins (19), washers (20), washer (21), two pins (22), washer (23), two washers (24), and bracket (25). Discard cotter pins.
21. Remove two screws (26), retainer (27), pin (28), and pin (29).



22. Remove six screws (1), washers (2), two pins 3), and block (4) from support (5).
23. Remove two screws (6), washers (7), bracket 8), and shim (9).
24. Remove two cotter pins (10), pin (11), washer 12), washer (13), link (14), washer (15), washer 16), link (17), spacer (18), and washer (19). discard cotter pins.
25. Remove pin (20), pin (21), spring (22), spring 23), and link (24).

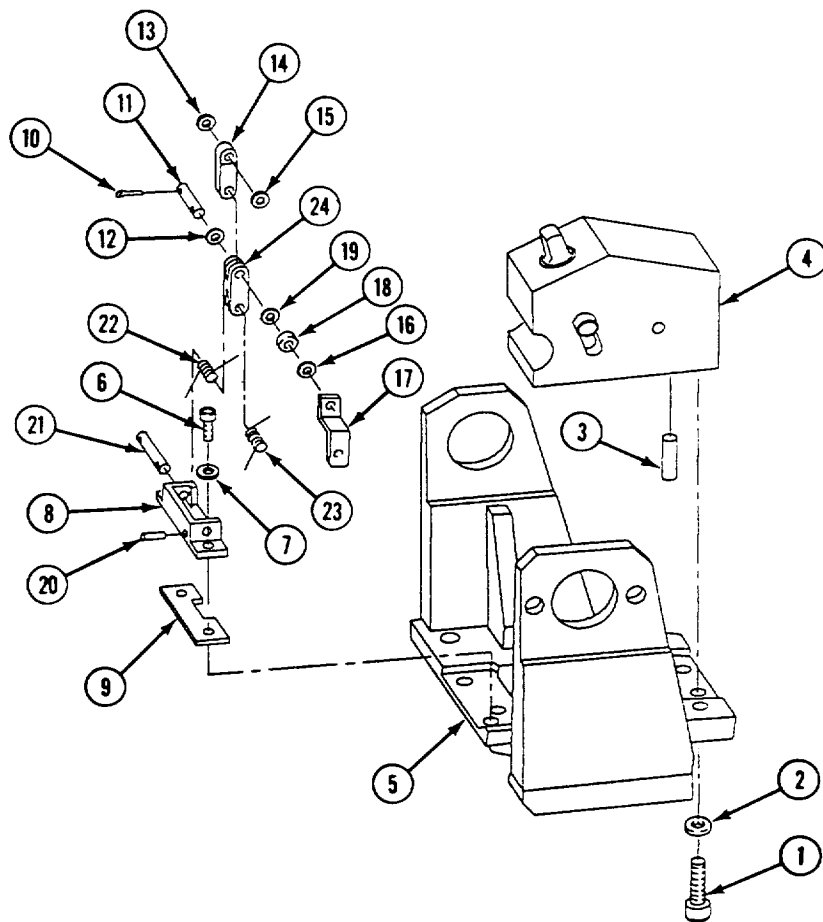
CLEAN, INSPECT, AND REPAIR



WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

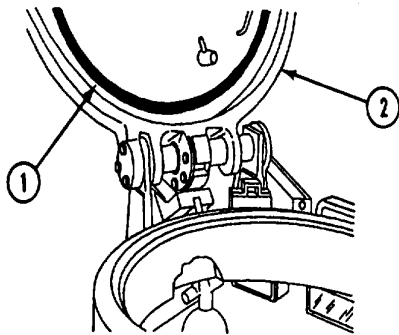
26. Clean parts with dry cleaning solvent.
27. Inspect parts for corrosion, distortion, cracks, and broken or missing parts. Repair or replace damaged and missing parts.



GO TO NEXT PAGE

28. Replace hatch seal.

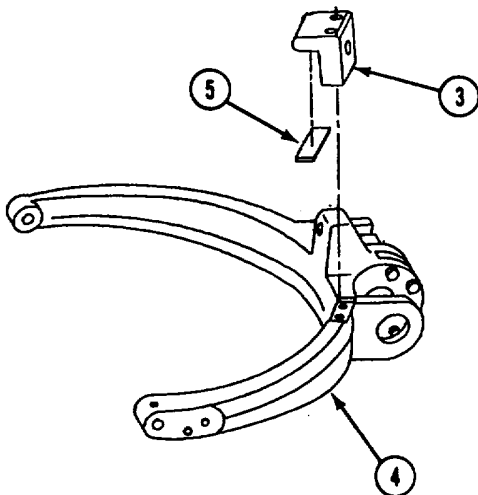
- a. Remove seal (1) from hatch (2). Discard seal.
- b. Press new seal (1) into hatch (2) groove and apply pressure with a roller or other suitable to seat seal.



- d. Apply clear adhesive sealant evenly to mating surface of stop (3). Allow to dry at least 30 minutes. Apply second coat only when surface is dry to touch.
- e. Apply second coat of sealant evenly to mating surface of stop (3). Allow second coat of sealant to dry at least 20 minutes. Surface must be tacky to touch.
- f. Press new rubber stop (5) to stop (3), and apply pressure with a roller or other functional tool.
- g. Install stop (3) on yoke (4) (see step 40).

29. Replace rubber stop (see step 16).

- a. Place hatch (2) in closed position.
- b. Remove stop (3) from yoke (4).
- c. Remove rubber stop (5) from stop (3). Discard rubber stop. Clean to bare metal.



ASSEMBLE

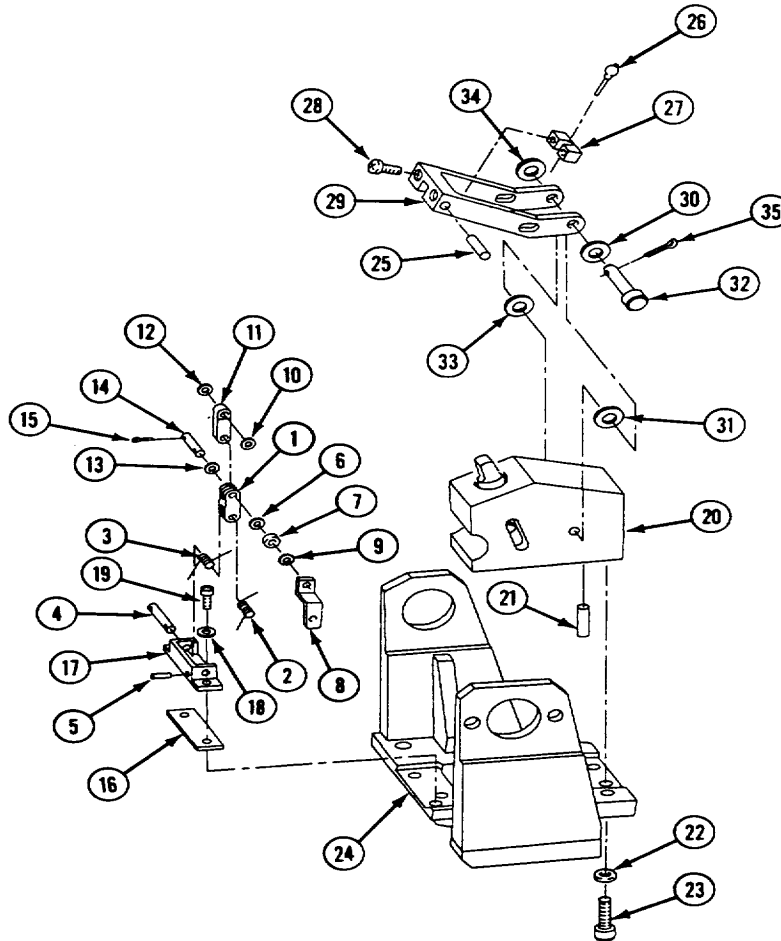
- 30. Install link (1), spring (2), spring (3), pin (4), and pin (5).
- 31. Install washer (6), spacer (7), link (8), washer (9), washer (10), link (11), washer (12), washer (13), pin (14), and two new cotter pins (15).
- 32. Install shim (16), bracket (17), two washers (18), and screws (19).
- 33. Install block (20), two pins (21), six washers (22), and screws (23) on support (24).

- 34. Install pin (25), pin (26), block (27), and two screws (28).

NOTE

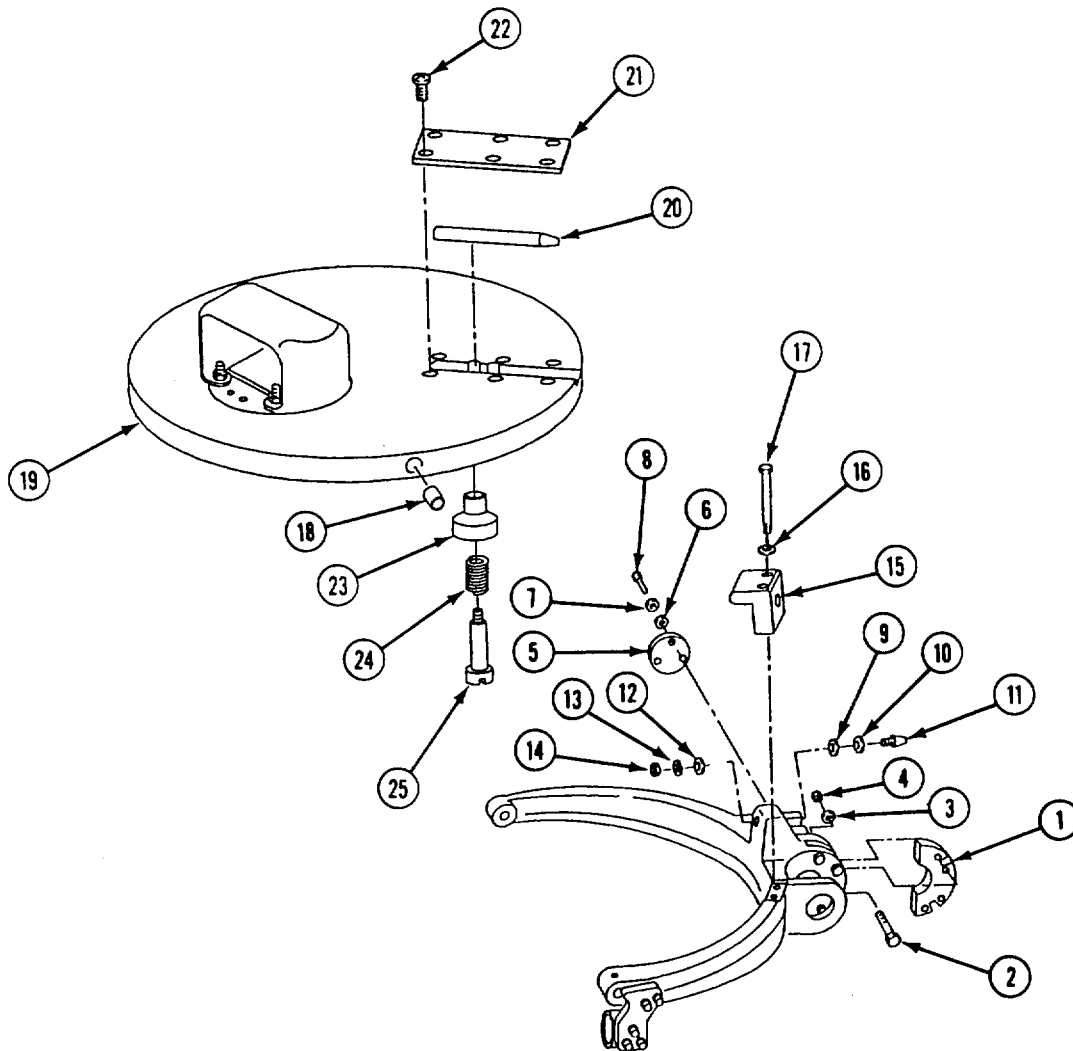
Shim as required to make sure linkage returns to over center position.

- 35. Install bracket (29), two washers (30), washer (31), two pins (32), washer (33), two washers (34), and two new cotter pins (35).



GO TO NEXT PAGE

36. Install insert block (1), four screws (2), washers (3), and four nuts (4).
37. Tighten four nuts (4) to 216-240 lb-ft (320-325.4 N•m) torque. Use torque wrench (Item 93, App D)
38. Install cap (5), three washers (6), new lockwashers (7), and screws (8).
39. Install washer (9), washer (10), bumper (11), washer (12), new lockwasher (13), and nut (14).
40. Install stop (15), two new lockwashers (16), and screws (17).
41. Install two sleeve bearings (18) on hatch cover (19).
42. Install pop-up hatch latch (20), plate (21), and six screws (22).
43. Install handle (23), spring (24), and screw (25).



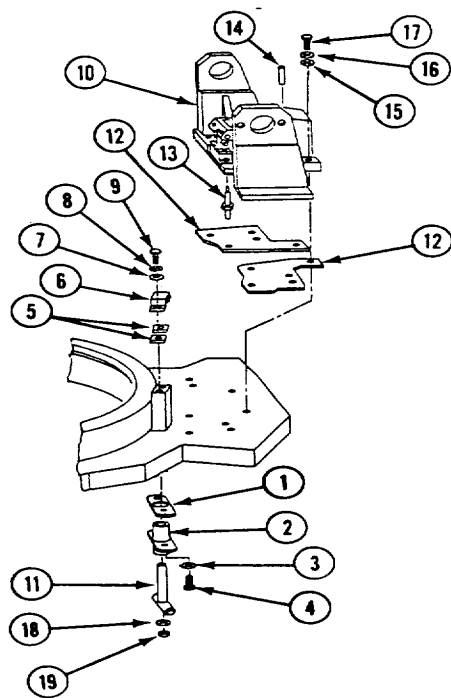
INSTALL

44. Install spacer (1), guide (2), two washers (3), and screws (4).
45. Install two shims (5), catch (6), two washers (7), new lockwashers (8), and screws (9).
46. Tighten two screws (9) to 120-144 lb-in (14-16 N•m) torque. Use torque wrench (Item 89, App D)

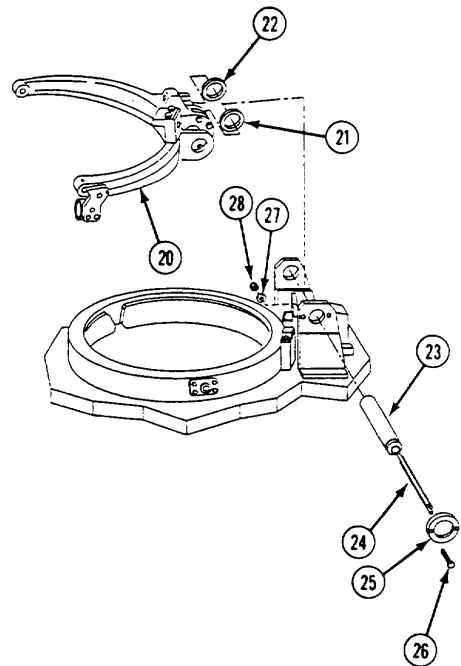
NOTE

Before installing support (10) to deck, apply a .006-inch high and .12-inch wide bead of sealing compound around the hole through the deck for handle (11). Do not allow sealing compound to dry before installing support (10) to deck.

47. Install two shims (12), lanyard (13), support (10), two pins (14), six washers (15), new lockwashers (16), and screws (17).
48. Tighten six screws (17) to 300-336 lb-in (34-38 N•m) torque. Use torque wrench (Item 89, App D).



49. Install handle (11), washer (18), and nut (19).
50. Install yoke (20), spacer (21), spacer (22), shield (23), and 17 springs (24).
51. Move yoke (20) to open position.
52. Install cap (25), two screws (26), washers (27), and nuts (28).
53. Tighten two nuts (28) to 48-70 lb-ft (65-95 N•m) torque. Use torque wrench.



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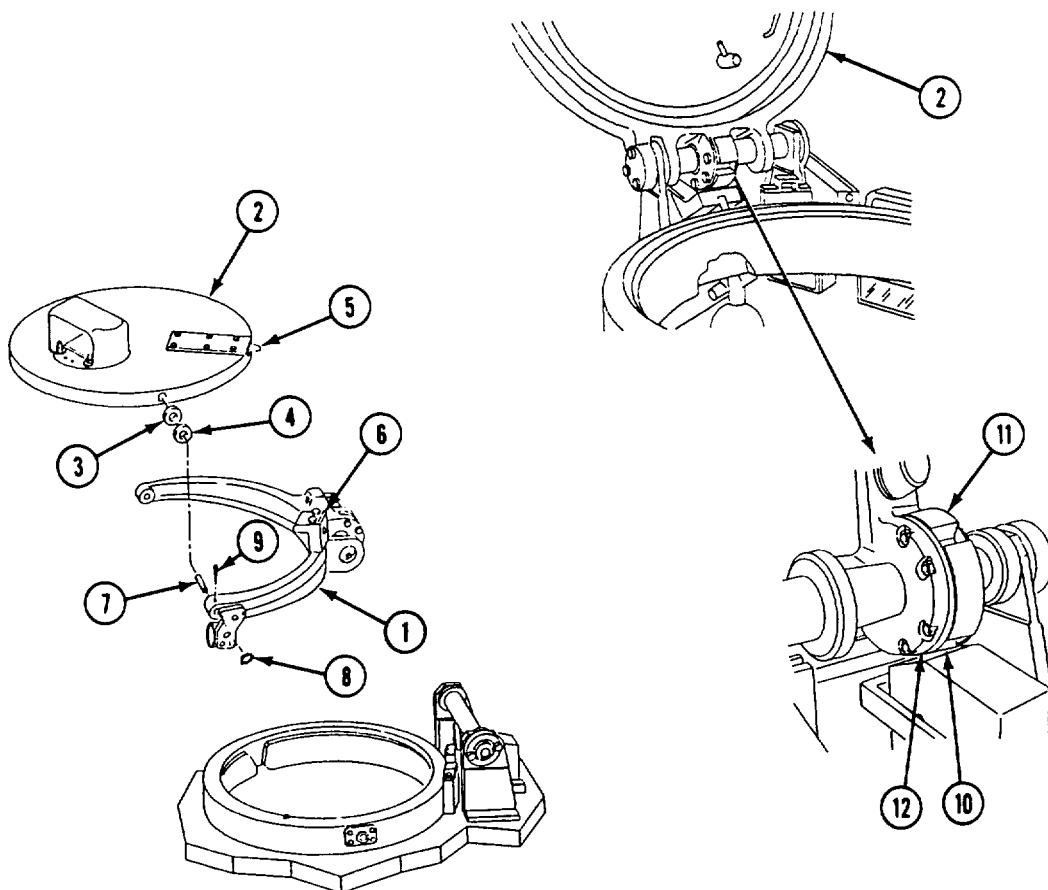
54. Move yoke (1) to closed position.
55. Place hatch cover (2) into position.
56. Apply sealing locking compound to setscrew before installing. Using washers (3 and 4), center latch assembly (5) within stop assembly (6), allowing maximum movement of hatch cover (2) within yoke assembly (1). This allows engagement between latch assembly (5) and stop assembly (6). A minimum of one washer (3 and 4) is required between hatch cover (2) and yoke assembly (1).
57. Install two washers (3), washers (4), pins (7), snap rings (8), and setscrews (9) on driver's hatch cover (2). Use snap ring pliers.



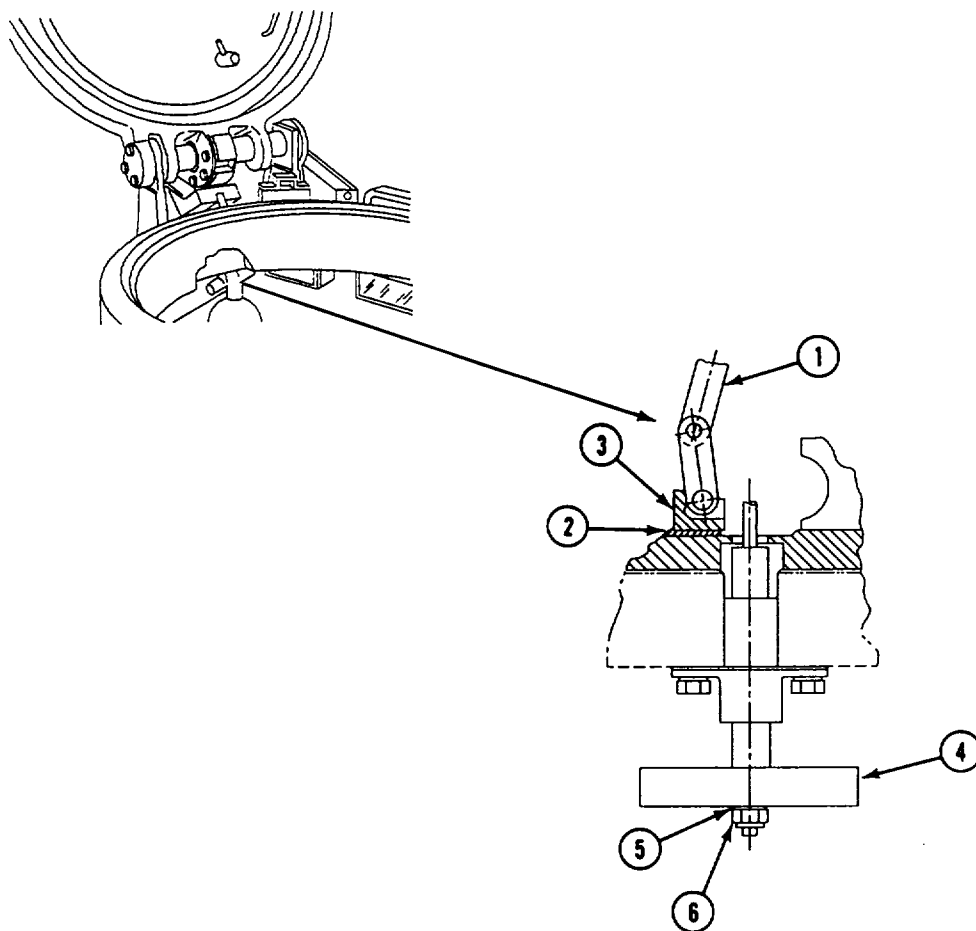
WARNING

The yoke support assembly could fail to operate if the hatch release handle gets caught on the ledge directly behind it. Watch for this any time the hatch release handle is operated.

58. Raise driver's hatch cover (2) to first detent (10) (pop-up) and second detent (11) (full-up) positions. Make sure top (12) fully engages insert block detents (10 and 11) in each position.



59. Check that yoke support assembly linkage (1) is over center. If linkage is not over center, add shim laminations (2) under bracket (3).
60. Push hatch release handle (4) up. Then measure between handle (4) and washer (5). Make sure gap is 0.06 (+0.03, -0.00) inch. If clearance is not within limits, loosen or tighten nut (6), as required.



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Shutdown engine (see your -10).

END OF TASK

REPLACE COMMANDER'S CUPOLA CUSHIONING PAD AND HANDLE (M113A2, M106A2, M1064, AND M125A2 ONLY)

INITIAL SETUP**Tools:**

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 96, App D)

Materials/Parts:

- Lockwasher (2)
- Lockwasher (6)

Personnel Required:

- Unit Mechanic
-

References:

- See your -10

Equipment Conditions:

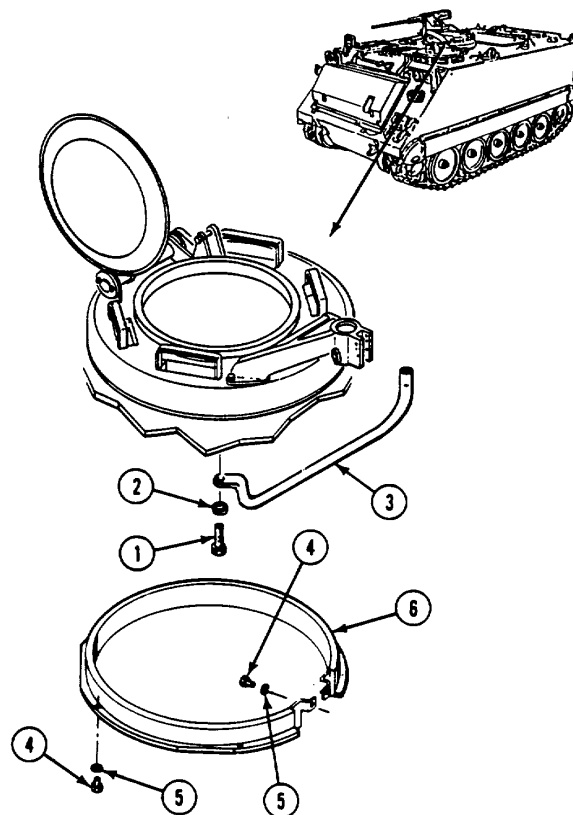
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Hatch cover open (see your -10)

REMOVE

1. Remove two screws (1), washers (2), and handle (3) from commander's hatch.
2. Remove six screws (4), washers (5), and pad (6) from commander's hatch.

INSTALL

3. Align pad (6) with holes in commander's hatch. Secure with six washers (5) and screws (4).
4. Align handle (3) with commander's hatch. Secure with two washers (2) and screws (1). Tighten screws to 120-130 lb-ft (163-176 N•m) torque. Use torque wrench.

**FOLLOW-THROUGH STEPS**

1. Close hatch cover (see your -10).
-

END OF TASK

REPLACE COMMANDER'S HATCH VISION BLOCK LOCKS AND SEALS

DESCRIPTION

This task covers: Remove (page 24-79). Install (page 24-80).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Socket Wrench Set (Item 89, App D)
- Torque Wrench (Item 95, App D)
- Torque Wrench (Item 97, App D)

Materials/Parts:

- Adhesive
- Rubber seal
- Spring pin
- Vision block removed (see your -10)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

- Engine stopped/shutdown (see your -10)
- Ramp lowered (see your -10)
- Carrier blocked (see your -10)

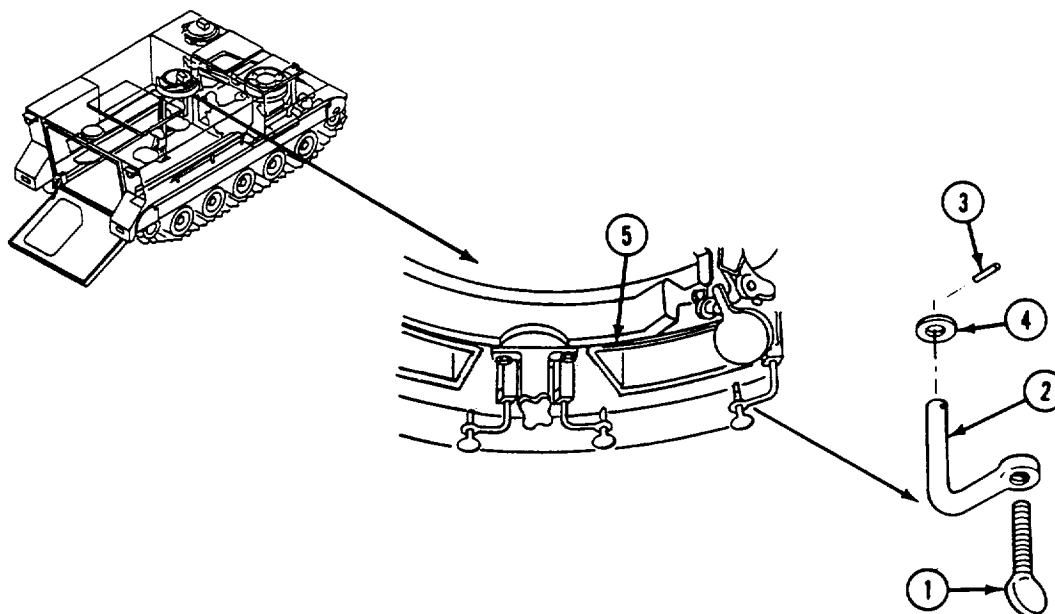
REMOVE

NOTE

Steps 1 through 4 apply to all carriers except M106A2 and M1064.

Five vision block locks and seals are on the commander's hatch. Task is for one lock and seal.

1. Remove thumbscrew (1) from arm (2).
2. Remove spring pin (3) from arm (2). Discard pin.
3. Remove arm (2) and washer (4) from hull bracket.
4. Scrape seal (5) from vision block opening.



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NOTE

Steps 5 through 8 apply to carriers M106A2 and M1064.

Six vision block locks and four seals are on the commander's hatch. Task is for one lock and seal.

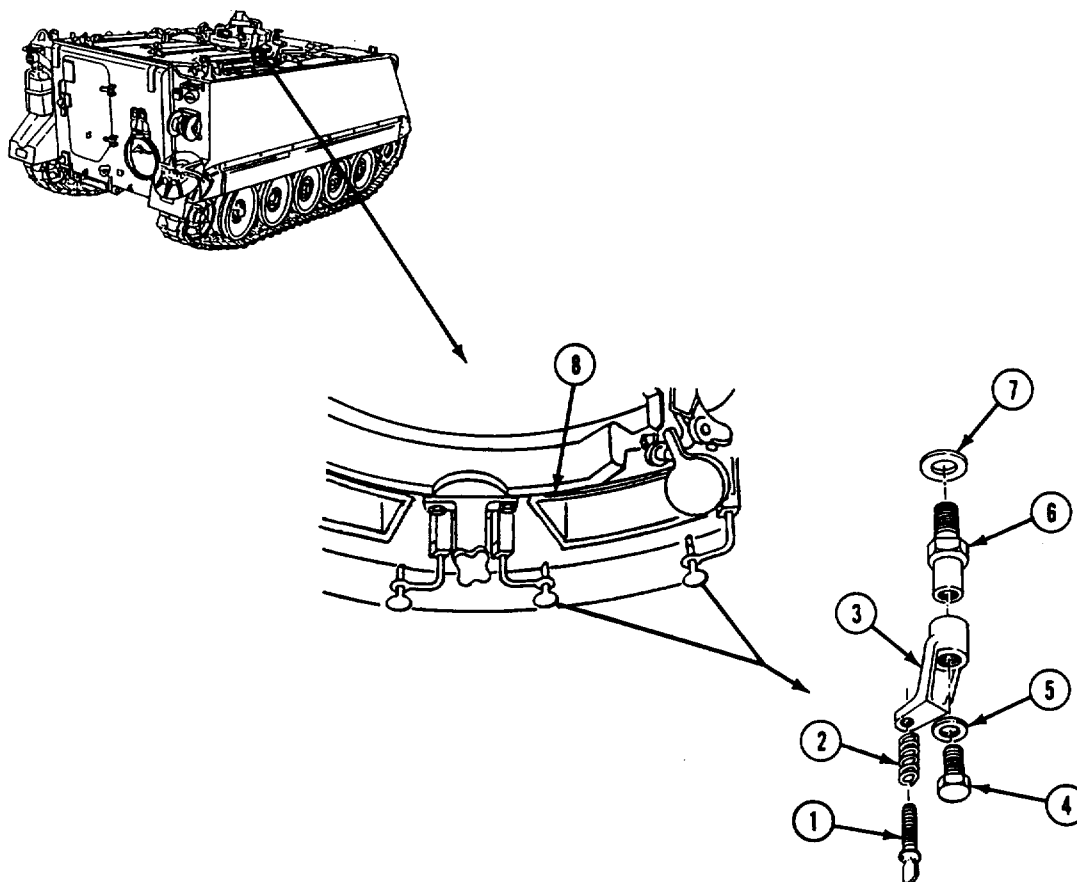
5. Remove thumbscrew (1) and spring (2) from periscope clamp (3).
6. Remove bolt (4), washer (5), and periscope clamp (3) from post (6).
7. Remove post (6) and washer (7) from commander's hatch.
8. Scrape seal (8) from vision block opening.

INSTALL**NOTE**

Steps 9 through 12 apply to carriers M106A2 and M1064.

Surface on seal marked **BOND THIS SIDE** should be glued to hull.

9. Apply adhesive to mating surface around vision block opening. Allow to become tacky. Install new seal (8) on hatch.
10. Install washer (7) and post (6) in commander's hatch. Tighten post to 54-59 lb-ft (73-80 N•m) torque. Use torque wrench.
11. Install periscope clamp (3) on post (6). Secure with washer (5) and bolt (4). Tighten bolt to 144-168 lb-in (16-19 N•m) torque. Use torque wrench.
12. Install spring (2) and thumbscrew (1) on periscope clamp (3). Deform first thread of thumbscrew to prevent easy removal.

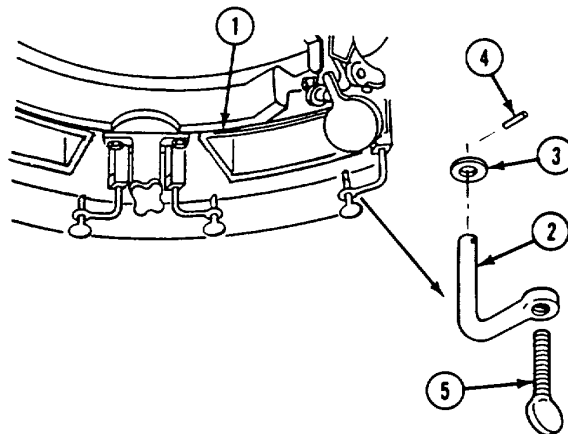


NOTE

Steps 13 through 15 apply to all carriers, except M106A2 and M1064.

Surface on seal marked **BOND THIS SIDE** should be glued to hull.

13. Apply adhesive to mating surface around vision block opening. Allow adhesive to become tacky. Install seal (1) on hull.
14. Install arm (2) and washer (3) in hull bracket. Secure with new spring pin (4).
15. Install thumbscrew (5) in arm (2). Deform first thread of thumbscrew to prevent easy removal.

**FOLLOW-THROUGH STEPS**

1. Install vision blocks (see your -10).
2. Raise and lock ramp (see your -10).
3. Stop/shutdown engine (see your -10)

END OF TASK

REPLACE COMMANDER'S CUPOLA BRAKE ASSEMBLY

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

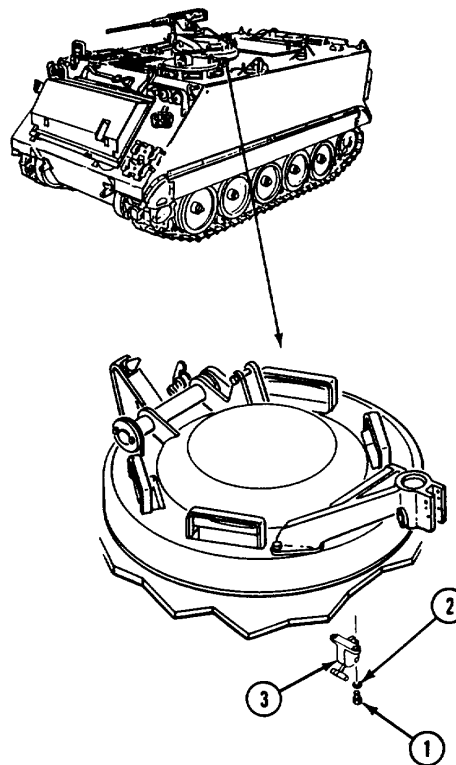
Carrier blocked (see your -10)

REMOVE

1. Remove two screws (1), washers (2), and brake assembly (3) from commander's hatch.

INSTALL

2. Align brake assembly (3) with holes in commander's hatch. Secure with two washers (2) and screws (1).



FOLLOW-THROUGH STEPS

1. Tighten brake. Check that brake assembly is properly installed (see your -10).

END OF TASK

REPLACE COMMANDER'S CUPOLA AZIMUTH LOCK

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Spring pin

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

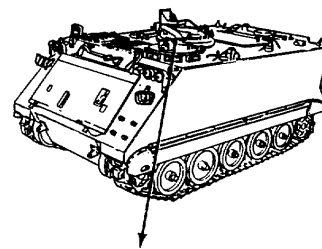
Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

REMOVE

1. Remove spring pin (1) and control lever (2) from pin (3). Discard spring pin.
2. Remove bushing (4), washer(s) (5), pin (3), and spring (6) from commander's hatch.

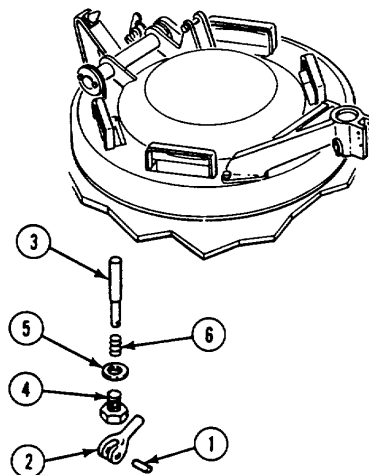


INSTALLATION

NOTE

Use the least number of washers needed to release pin in unlocked position.

3. Install spring (6), pin (3), washer(s) (5), and bushing (4) in commander's hatch.
4. Align control lever (2) with pin (3). Secure with new spring pin (1).



FOLLOW-THROUGH STEPS

1. Operate azimuth lock (see your -10). Check that lock is properly installed.

END OF TASK

REPLACE COMMANDER'S CUPOLA INTERIOR LATCH (M113A2, M106A2, M125A2, M1064, AND M1059 ONLY)

DESCRIPTION

This task covers: Remove (page 24-84). Install (page 24-84). Adjust (page 24-85).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Socket Wrench Set (Item 89, App D)
- Torque Wrench (Item 95, App D)

Materials/Parts:

- Cotter pin
- Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

See your-10

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)

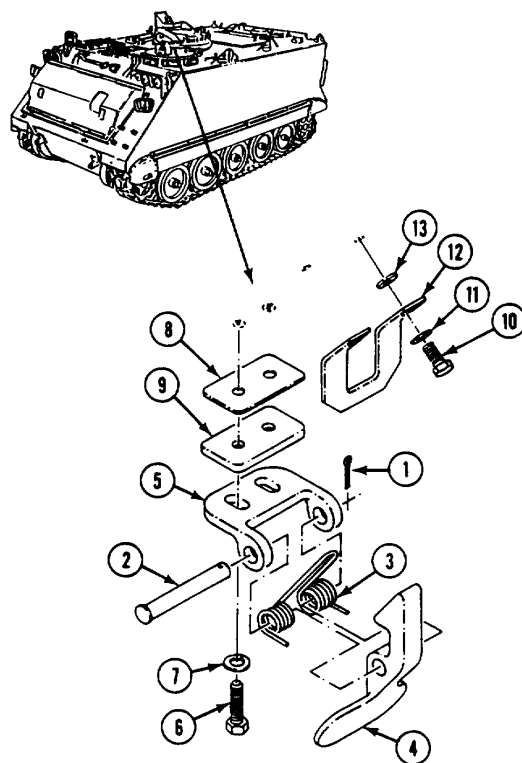
REMOVE

1. Remove cotter pin (1) from headed pin (2). Discard cotter pin.
2. Remove pin (2), spring (3), and latch (4) from eye bracket (5).
3. Remove two screws (6), washers (7), eye bracket (5), and spacers (8 and 9) from hull.
4. Remove two screws (10), washers (11), strike (12), and two lockwashers (13) from cupola cover. Discard lockwashers.

8. Tighten two screws (6) to 300-360 lb-in (34-41 N•m) torque. Use torque wrench.

INSTALL

5. Align strike (12) with holes in cupola cover. Secure with two new lockwashers (13), washers (11), and screws (10).
6. Place two spacers (9 and 8) and eye bracket (5) on hull. Secure with two washers (7) and screws (6). Do not tighten screws at this time.
7. Align latch (4) and spring (3) with eye bracket (5). Secure with headed pin (2) and new cotter pin (1).

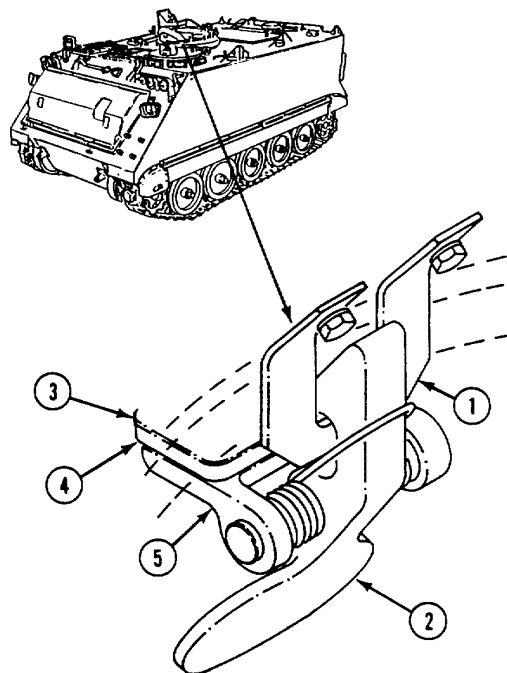


ADJUST

NOTE

Commander's cupola cover should latch tightly with firm latching action.

9. To increase pressure of strike (1) on latch (2), add spacers (3 and 4) between eye bracket (5) and hull. To decrease pressure use fewer spacers.



END OF TASK

**REPLACE COMMANDER'S CUPOLA COVER
(M113A2, M106A2, M1064, AND M125A2 ONLY)**

DESCRIPTION

This task covers: Remove (page 24-86). Install (page 24-87).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

- Grease (Item 18, App C)
- Non-metallic seal
- Self-locking nut (1)
- Self-locking nut (2)

References:

See your -10

Equipment Conditions:

- Engine stopped /shutdown (see your -10)
- Carrier blocked (see your -10)

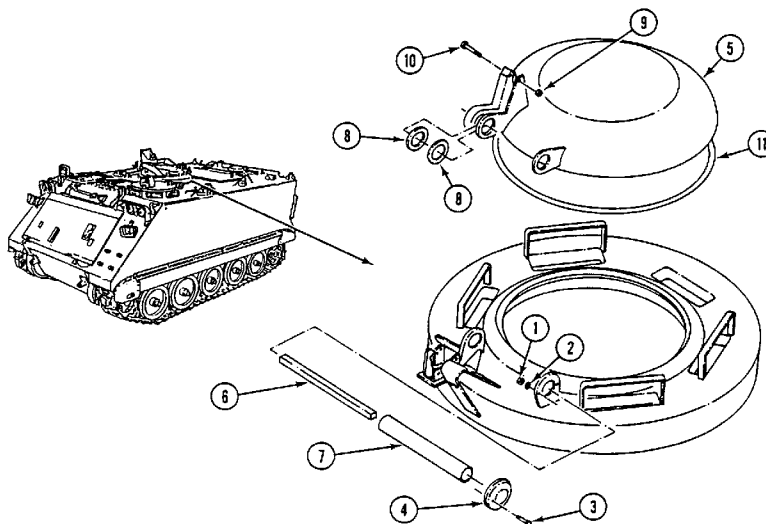
REMOVE



WARNING
Commander's hatch cover may spring up and injure you. Open hatch cover and support in vertical position.

2. Support cover (5). Remove 12 springs (6), tube (7), two spacers (8), and cover (5) from cupola.
3. Remove locknut (9) and screw (10) from cover (5). Discard locknut.
4. Pry up end of seal (11) and remove from cover (5). Discard seal.

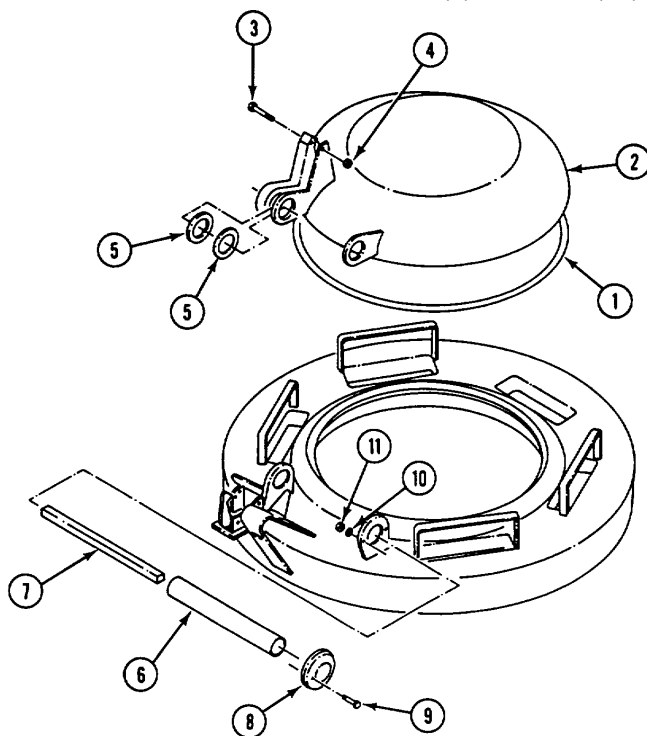
1. Remove two locknuts (1), washers (2), screws (3), and retainer (4) from cupola bracket. Discard locknuts.



INSTALL

5. Place new seal (1) over retaining groove in cover (2). Press seal into place. Trim end of seal if needed.
6. Install screw (3) in cover (2). Secure with new locknut (4).

7. Align cover (2) with cupola brackets. Install two spacers (5) and tube (6).
8. Apply light coat of grease to each spring (7). Install 12 springs in tube (6).
9. Place cover (2) in vertical position. Install retainer (8) on cupola: bracket. Secure with two screws (9), washers (10), and new locknuts (11).



FOLLOW-THROUGH STEPS

1. Adjust latch (page 24-84).
2. Close cover. Check that commander's cupola cover is properly installed.

END OF TASK

REPLACE COMMANDER'S CUPOLA HATCH LATCH AND BUMPER (M113A2, M106A2, M1059, M1064, AND M125A2 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

REMOVE

1. Open both ends of hook (1). Remove hook from chain (2) and cupola bracket.
2. Remove tube (3) from chain (2).
3. Open both ends of hook (4). Remove hook from chain (2) and quick release pin (5).
4. Remove locknut (6), two washers (7), spring (8), two spacers (9), hook (10), and screw (11) from cupola. Discard locknut.

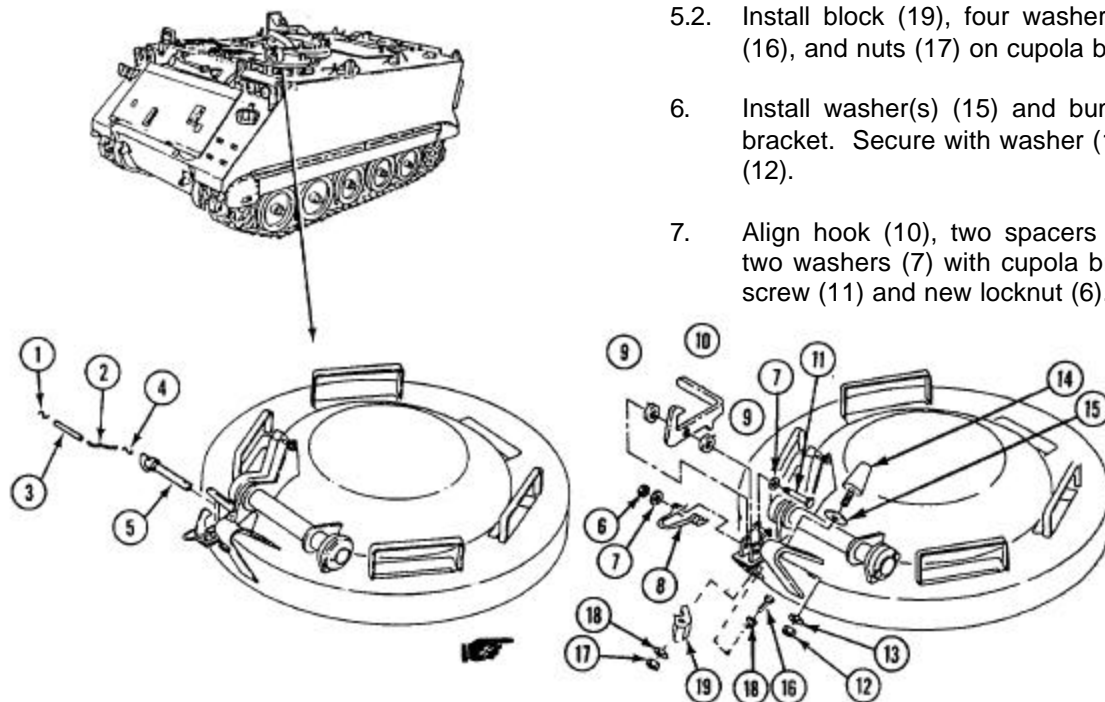
5. Remove locknut (12), washer (13), bumper (14), and washer(s) (15) from cupola bracket. Discard locknut.
- 5.1. Remove two screws (16), nuts (17), four washers (18), and block (19) from cupola bracket.

INSTALL

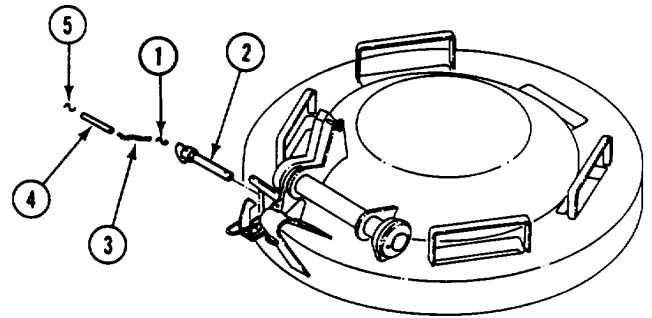
NOTE

Install washer(s), as needed, to compress bumper 1/4 inch (6 mm) when hook is engaged.

- 5.2. Install block (19), four washers (18), two screws (16), and nuts (17) on cupola bracket.
6. Install washer(s) (15) and bumper (14) in cupola bracket. Secure with washer (13) and new locknut (12).
7. Align hook (10), two spacers (9), spring (8), and two washers (7) with cupola bracket. Secure with screw (11) and new locknut (6).



8. Install hook (1) on quick release pin (2) and chain (3). Squeeze both ends of hook to secure.
9. Install tube (4) on chain (3).
10. Install hook (5) on chain (3) and cupola bracket. Squeeze both ends of hook to secure.



FOLLOW-THROUGH STEPS

1. Open commander's cupola cover and engage hook. Check that hook and bumper are properly installed.

END OF TASK

REPAIR COMMANDER'S CUPOLA MACHINE GUN MOUNT
(M113A2, M106A2, M125A2, M1064, AND M1059 ONLY)

DESCRIPTION

This task covers: Remove (page 24-90). Disassemble (page 24-91). Clean, Inspect, and Repair (page 24-91). Assemble (page 24-92). Install (page 24-92).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Cotter pin

Cotter pin

Lockwasher (2)

References:

See your -10

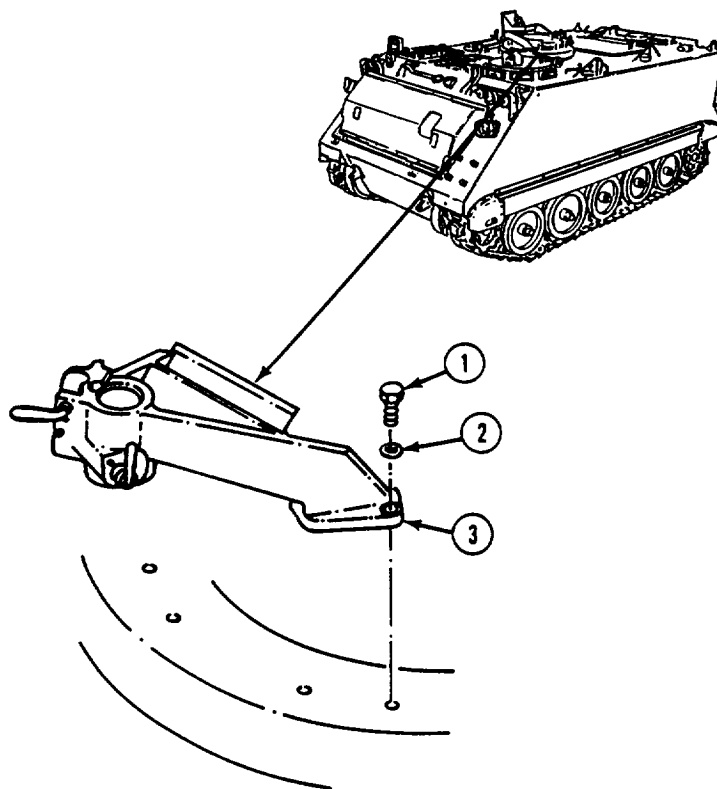
Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

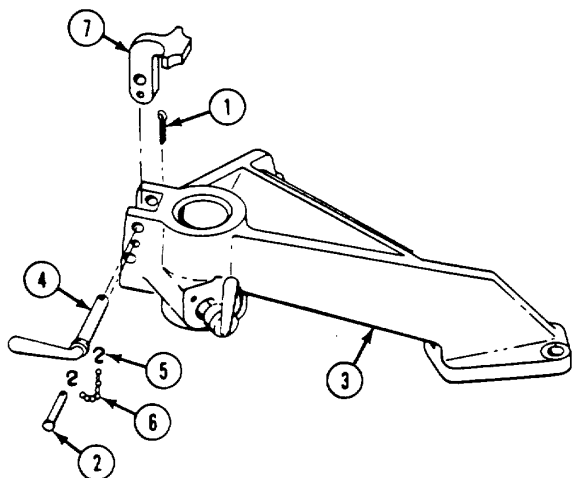
REMOVE

1. Remove four screws (1), washers (2), and machine gun mount (3) from commander's cupola.



DISASSEMBLE

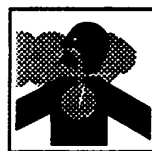
2. Remove cotter pin (1) and headed pin (2) from gun mount support (3). Discard cotter pin.
3. Remove travel lock pin (4), two S hooks (5), chain (6), and travel lock (7) from gun mount support (3).



4. Remove cotter pin (8), cover (9), spring (10), and straight pin (11) from gun mount support (3). Discard cotter pin.
5. Remove lock (12) and two straight pins (13) from gun mount support (3).
6. Remove two screws (14), lockwashers (15), and bracket (16) from gun mount support (3). Discard lockwashers.

CLEAN, INSPECT, AND REPAIR

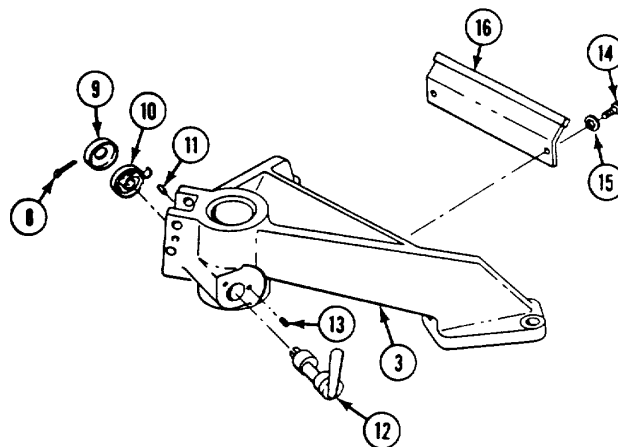
WARNING



Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks,

heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

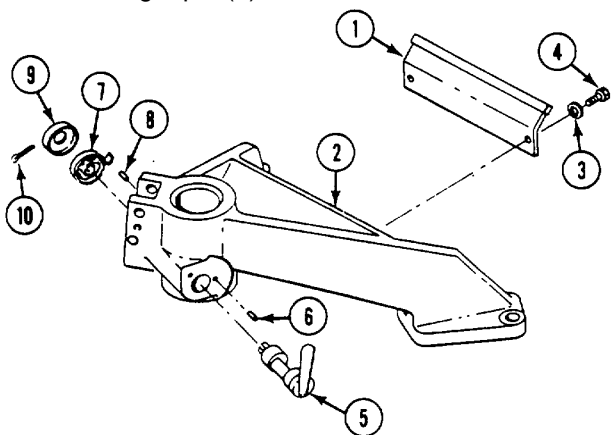
7. Clean parts with dry cleaning solvent.
8. Inspect parts for corrosion, distortion, wear, cracks, and loose or missing parts. Repair or replace damaged and missing parts.



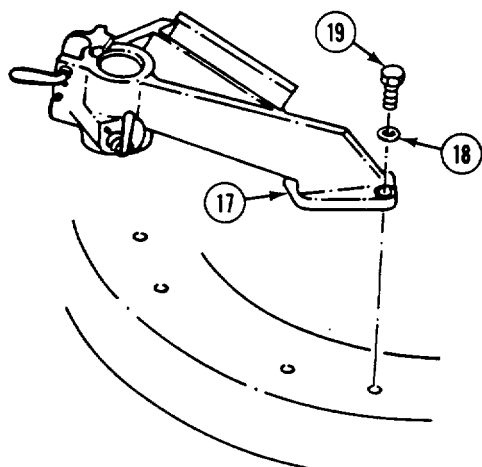
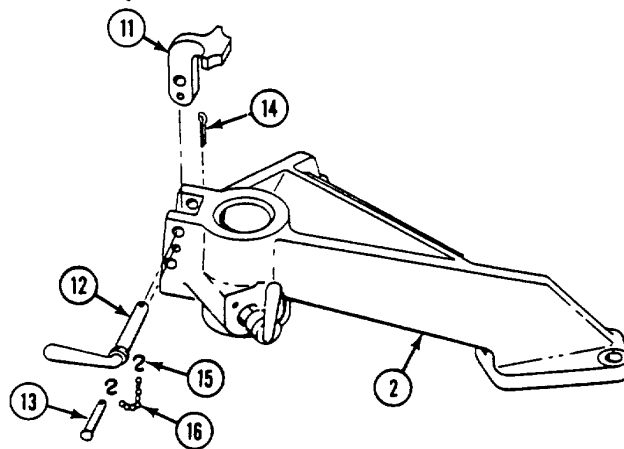
GO TO NEXT PAGE

ASSEMBLE

9. Install bracket (1) on gun mount support (2). Secure with two new lockwashers (3) and screws (4).
10. Install lock (5) and two straight pins (6) on gun mount support (2).
11. Install spring (7). Secure to gun mount support (2) with straight pin (8).



12. Install cover (9) and new cotter pin (10) through lock (5).
13. Install travel lock (11) on gun mount support (2).
14. Insert travel lock pin (12) through large hole in lock (11) and into gun mount support (2).
15. Install headed pin (13) through lock (11). Secure with new cotter pin (14).
16. Install two S hooks (15) and chain (16) between cotter pin (14) and travel lock pin (12).



INSTALL

17. Place machine gun mount (17) on commander's cupola. Secure with four washers (18) and screws (19).

END OF TASK

REPLACE COMMANDER'S CUPOLA MACHINE GUN MOUNT STOPS (M1059 ONLY)

DESCRIPTION

This task covers: Remove (page 24-93). Install (page 24-94).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 95, App D)

Materials/Parts:

- Lockwasher (3)

Personnel Required:

- Unit Mechanic

References:

See your -10

Equipment Conditions:

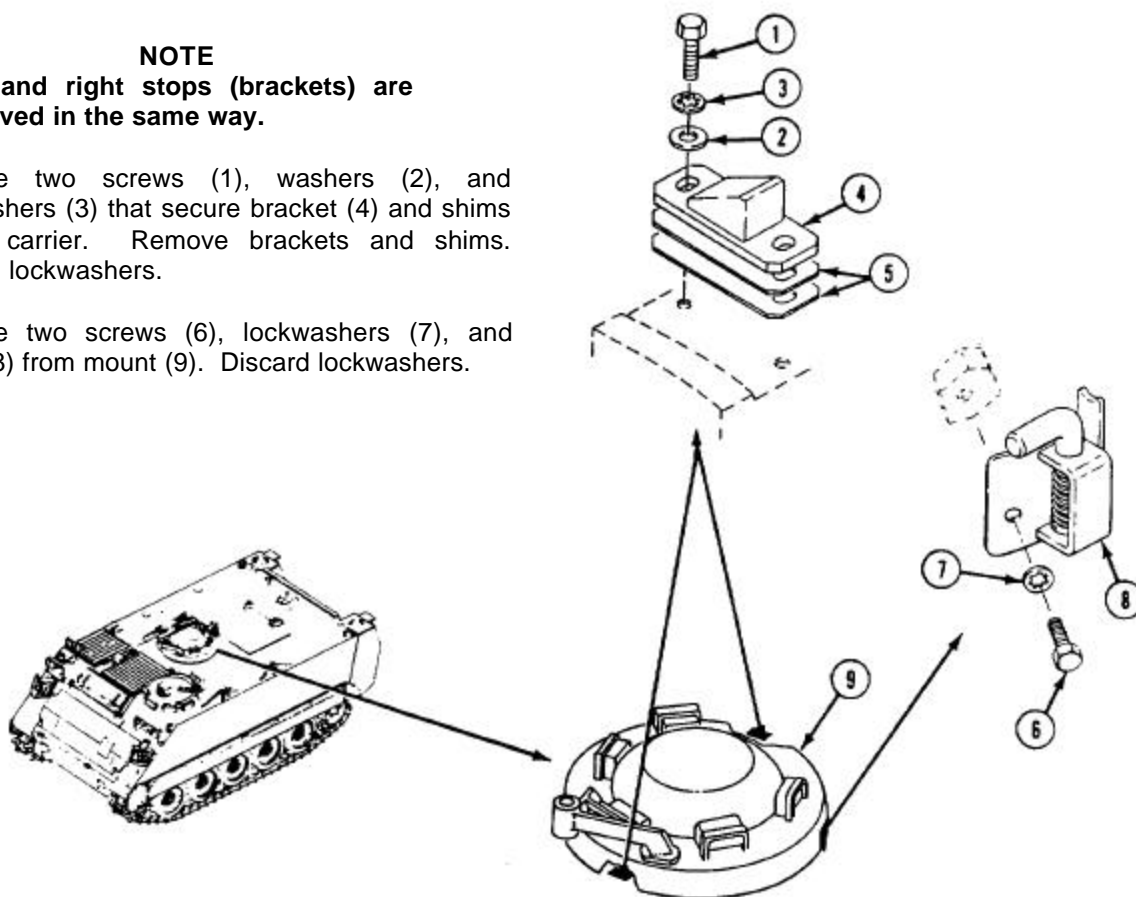
- Engine stopped (see your -10)
- Carrier blocked (see your -10)

REMOVE

NOTE

Left and right stops (brackets) are removed in the same way.

1. Remove two screws (1), washers (2), and lockwashers (3) that secure bracket (4) and shims (5) to carrier. Remove brackets and shims. Discard lockwashers.
2. Remove two screws (6), lockwashers (7), and catch (8) from mount (9). Discard lockwashers.



GO TO NEXT PAGE

INSTALL

NOTE

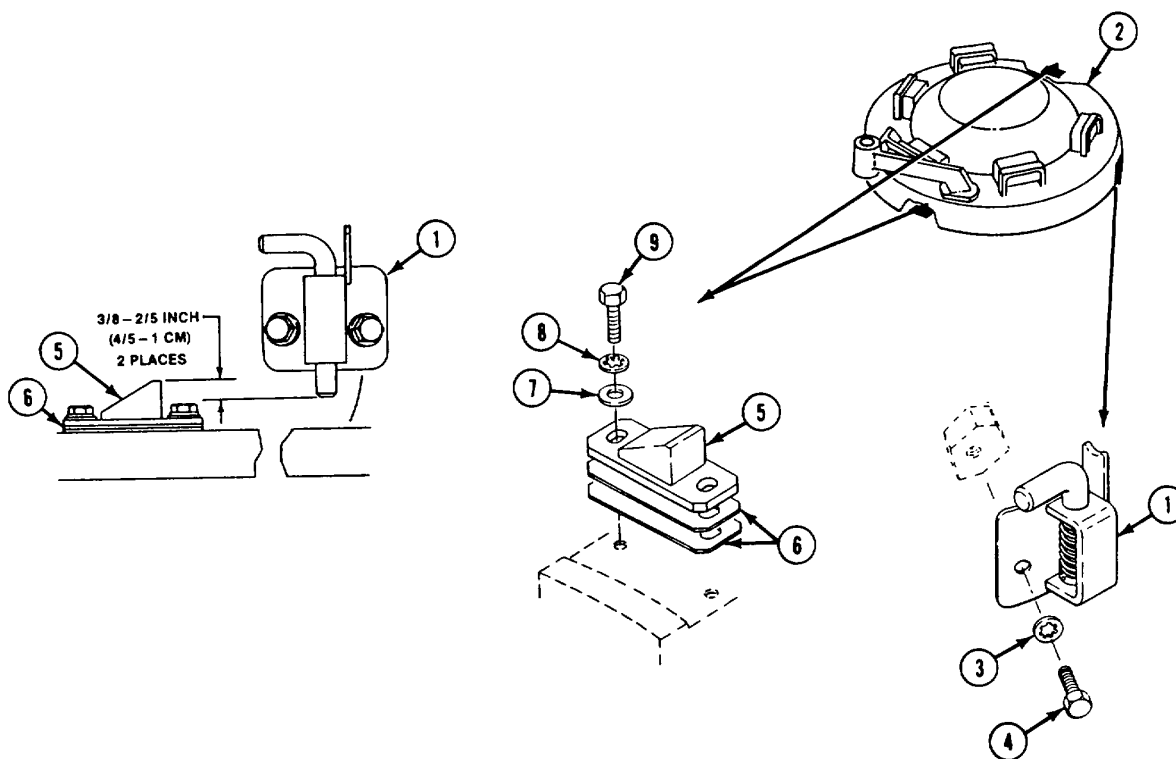
Left and right stops (brackets) are installed in the same way.

3. Install catch (1) on mount (2). Secure with two new lockwashers (3) and screws (4). Tighten screws to 264-284 in-lb (30-32 N-m) torque. Use torque wrench.

NOTE

Install shims as required so handle of catch contacts bracket at 3/8-2/5 in (4/5-1 cm). Make sure flat surface of bracket makes contact with pin.

4. Install bracket (5) with shims (6) on carrier and secure with two washers (7), new lockwashers (8), and screws (9). Tighten screws to 264-284 in-lb (30-32 N•m) torque. Use torque wrench.
5. Turn cupola until catch (1) pin contacts bracket (5). Measure distance from bottom of pin to top of bracket. Distance should be 3/8-2/5 inch (4/5-1 cm). If not, add or remove shims (6) to obtain correct measurement.



END OF TASK

REPLACE COMMANDER'S HATCH CUSHIONING PAD AND HANDLE (M577A2, M1068, AND M741A1 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (2)

Lockwasher (6)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

REMOVE

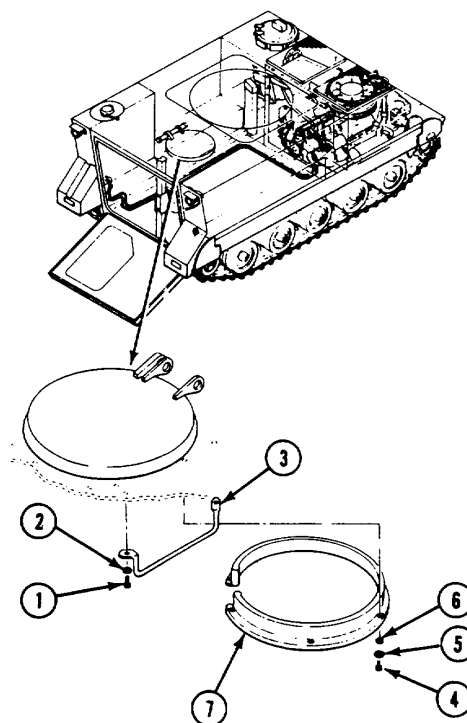
1. Remove two screws (1), lockwashers (2), and handle (3) from hull. Discard lockwashers.
2. Remove six screws (4), lockwashers (5), washers (6), and pad (7) from commander's hatch. Discard lockwashers.

CLEAN, INSPECT, AND REPAIR

3. Clean cushioning pad with soap and water. Dry with clean cloth.
4. Check handle. Replace cracked or damaged handle.
5. Check pad. Replace cut, broken, or hard pad.

INSTALL

6. Install pad (7) in commander's hatch. Secure with six washers (6), new lockwashers (5), and screws (4).
7. Place handle (3) on hull. Secure with two new lockwashers (2) and screws (1).

**FOLLOW-THROUGH STEPS**

1. Stop engine (see your -10).

END OF TASK

**REPLACE COMMANDER'S HATCH INTERIOR LATCH
(M577A2, M1068, AND M741A1 ONLY)**

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 95, App D)

Materials/Parts:

Cotter pin
Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

REMOVE

1. Remove cotter pin (1) from headed pin (2). Discard cotter pin.
2. Remove pin (2), spring (3), and latch plate (4) from eye bracket (5).
3. Remove two screws (6), washers (7), eye bracket (5), and spacers (8) from hull.
4. Remove two screws (9), lockwashers (10), and strike (11) from commander's hatch cover. Discard lockwashers.

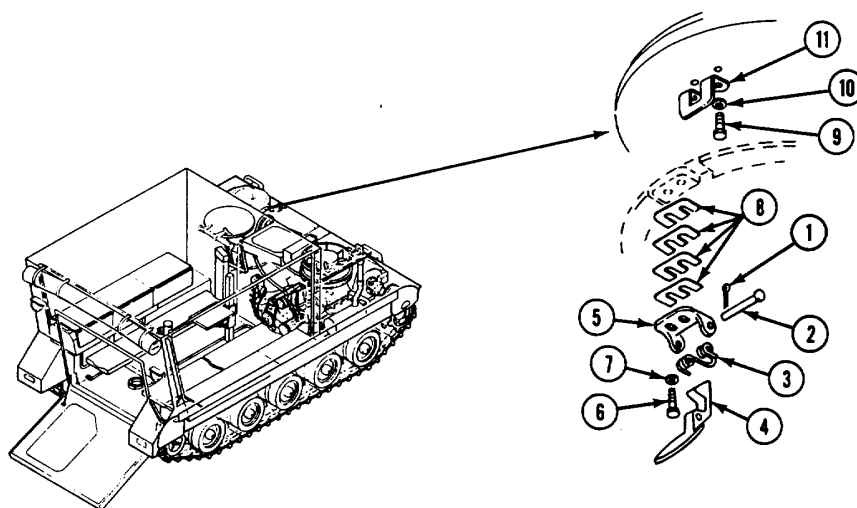
7. Align latch plate (4) and spring (3) with eye bracket (5). Secure with headed pin (2) and new cotter pin (1).

ADJUST

8. Check that commander's hatch cover latches tightly with a firm latching action.
9. To increase pressure of latch plate (4) on strike (11), add spacers (8) between eye bracket (5) and hull. To decrease pressure, use fewer spacers.
10. Tighten screws (6) to 300-360 lb-in (34-41 N•m) torque. Use torque wrench.

INSTALL

5. Align strike (11) with holes in hatch cover. Secure with two new lockwashers (10) and screws (9).
6. Place spacers (8) and eye bracket (5) on hull. Secure with two washers (7) and screws (6). Do not tighten screws.



END OF TASK

**REPLACE COMMANDERS' HATCH COVER
(M577A2, M1068, AND M741A1 ONLY)**

DESCRIPTION

This task covers: Remove (page 24-97). Install (page 24-98).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Grease (Item 18, App C)
Self-locking nut (4)
Self-locking nut

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

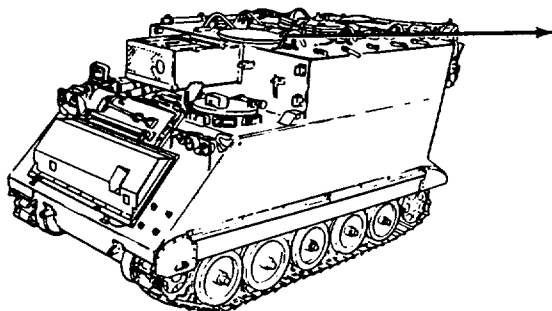
Engine stopped (see your -10)
Carrier blocked (see your -10)
Commander's hatch interior latch removed
(page 24-96)

REMOVE

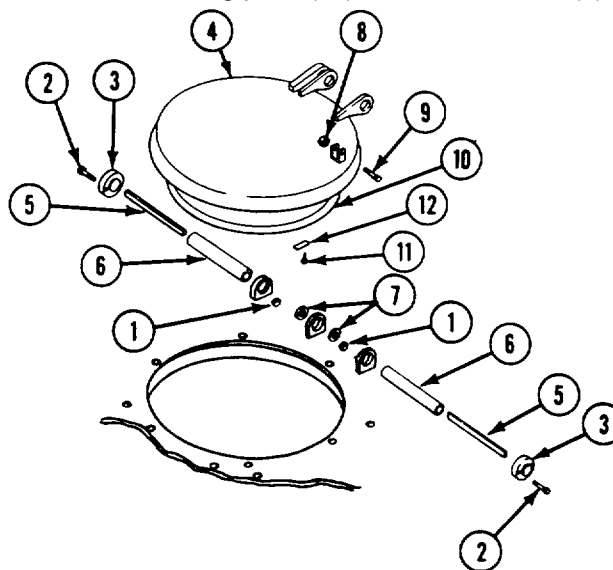


WARNING
Driver's hatch cover may spring up and injure you. Open and support hatch cover in vertical position.

1. Remove four locknuts (1), screws (2), and two retaining plates (3) from hatch brackets. Discard locknuts.



2. Support hatch cover (4). Remove 28 springs (5), two tubes (6), spacers (7), and cover (4) from hatch brackets.
3. Remove locknut (8) and screw (9) from cover (4). Discard locknut.
4. If necessary, pry up end of seal (10) and remove from cover (4).
5. On M741A1 only, remove four screws (11) and warning plate (12) from inside cover (4).

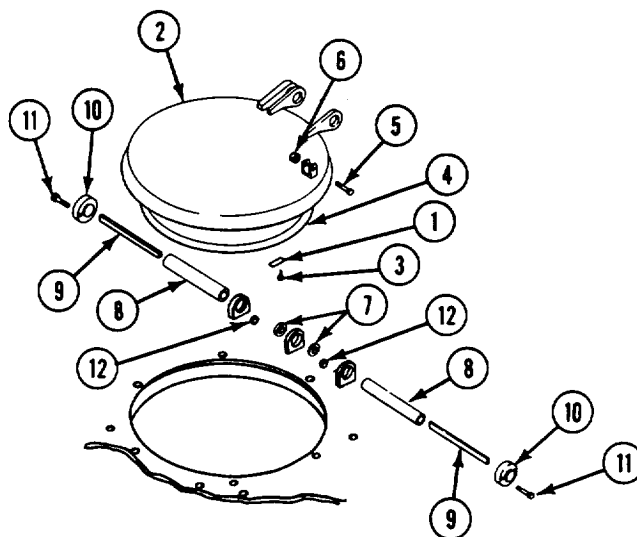


GO TO NEXT PAGE

INSTALL

6. On M741A1 only, align warning plate (1) with holes on inside of hatch cover (2). Secure with four screws (3).
7. If removed, place seal (4) over retaining groove on cover (2). Press seal into place. Trim end of seal, if necessary.
8. Install screw (5) in cover (2). Secure with new locknut (6).

9. Align cover (2) with hinge brackets. Install two spacers (7) and tubes (8).
10. Apply a light coat of grease on each spring (9). Install 14 springs in each tube (8).
11. Place cover (2) in vertical position. Install two retaining plates (10) on hatch brackets. Secure with four screws (11) and new locknuts (12).



FOLLOW-THROUGH STEPS

1. Install and adjust commander's hatch interior latch (page 24-96).
2. Close cover and check for proper installation.

END OF TASK

REPLACE COMMANDER'S HATCH HOOK AND BUMPER (M577A2 AND M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 24-99). Install (page 24-100).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut
Self-locking nut

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

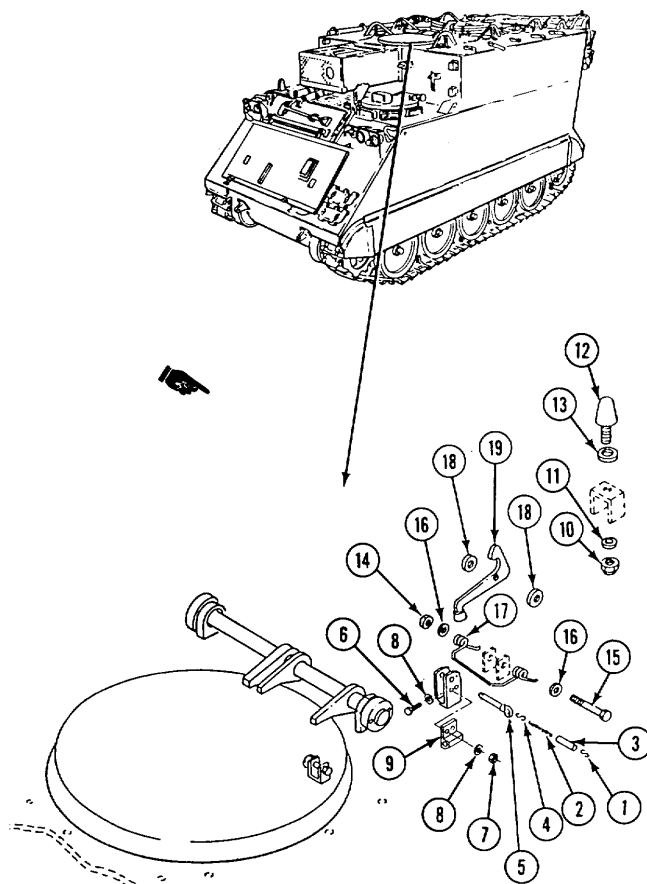
REMOVE



WARNING

Driver's hatch cover may spring up and hurt you. Open and support hatch cover in vertical position.

1. Open both ends of hook (1). Remove from chain (2) and hull bracket.
2. Remove tube (3) from chain (2).
3. Open both ends of hook (4). Remove from chain (2) and quick release pin (5).
- 3.1. Remove two screws (6), nuts (7), four washers (8), and block (9) from bracket.
4. Remove locknut (10), washer (11), bumper (12), and washer (13) from hull brackets. Discard locknut.
5. Remove locknut (14), screw (15), two washers (16), spring (17), two spacers (18), and hook (19) from hull brackets. Discard locknut.



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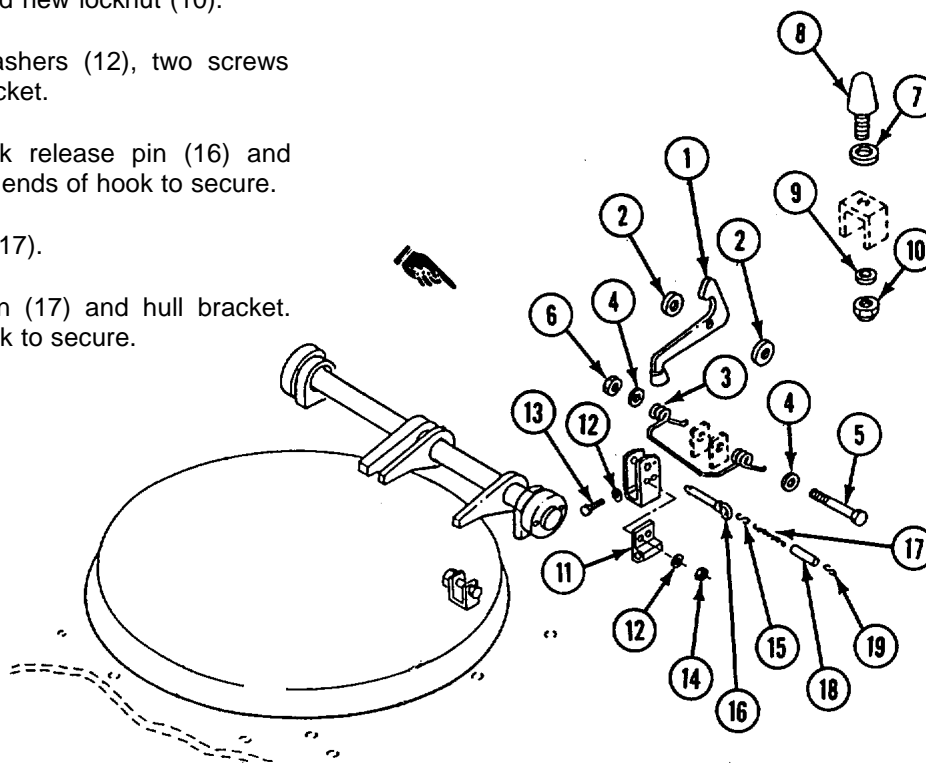
INSTALL

6. Align hook (1), two spacers (2), spring (3), and two washers (4) with hull brackets. Secure with screw (5) and new locknut (6).

NOTE

Install washer, as needed, to compress bumper 1/4 inch (6 mm) when hook is engaged.

7. Install washer (7) and bumper (8) in hull bracket. Secure with washer (9) and new locknut (10).
- 7.1. Install block (11) four washers (12), two screws (13), and nuts (14) on bracket.
8. Install hook (15) in quick release pin (16) and chain (17). Squeeze both ends of hook to secure.
9. Install tube (18) on chain (17).
10. Install hook (19) on chain (17) and hull bracket. Squeeze both ends of hook to secure.



FOLLOW-THROUGH STEPS

1. Install and adjust commander's hatch interior latch (page 24-99).
2. Open commander's hatch cover and engage hook to check that hook and bumper are properly installed.

END OF TASK

REPLACE CARGO HATCH INTERIOR LATCH

DESCRIPTION

This task covers: Remove (page 24-101). Install (page 24-101). Adjust (page 24-102).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 95, App D)

Materials/Parts:

- Lockwasher (4)
- Cotter pin (2)

Personnel Required:

Unit Mechanic

References:

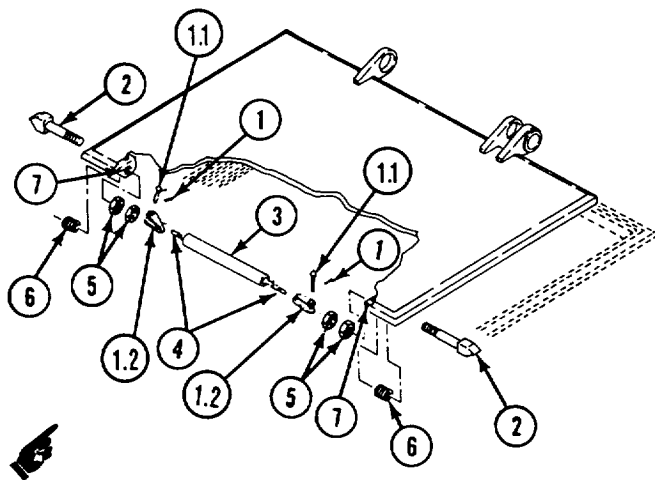
See your-10

Equipment Conditions:

- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)

REMOVE

1. Remove two cotter pins (1) from headed pins (1.1). Discard pins.
- 1.1. Remove two headed pins (1.1) and clevises (1.2) from strikers (2).
2. Remove two clevises (1.2) and tube (3) from chain (4).
3. Remove four nuts (5) from two strikers (2). Remove two strikers and springs (6) from mount brackets (7).

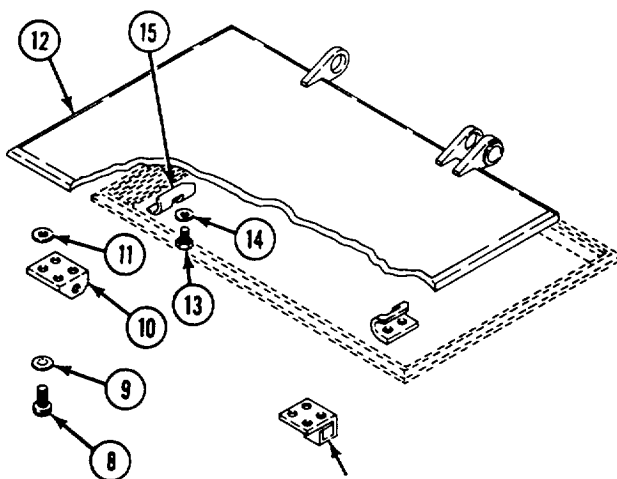


4. Remove eight screws (8), washers (9), two brackets (10), and washers (11) from cargo hatch door (12).

5. Remove four screws (13), lockwashers (14), and two catch strikes (15) from hull. Discard lockwashers.

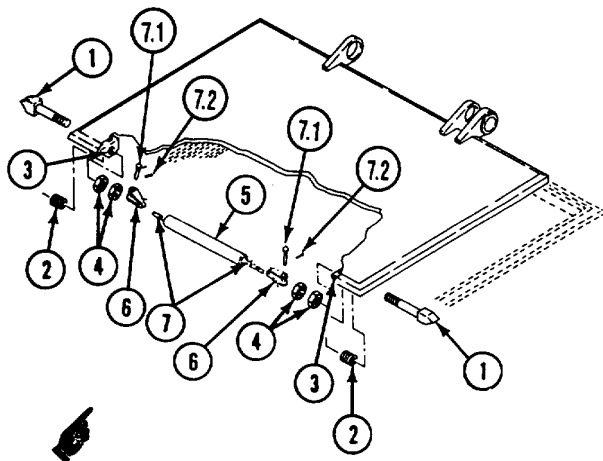
INSTALL

6. Place two strikes (15) on hull. Secure with four new lockwashers (14) and screws (13).
7. Place washers (11) and two mount brackets (10) on cargo hatch door (12). Secure with eight washers (9) and screws (8). Do not tighten screws.



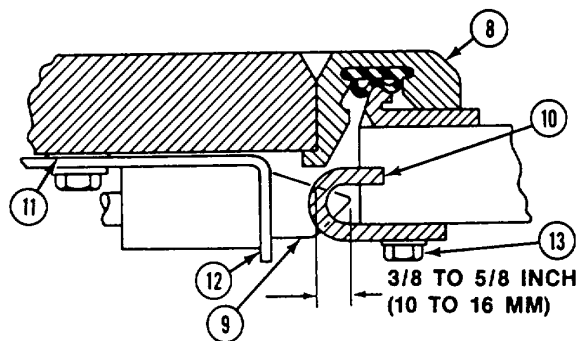
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8. Install two strikers (1) and springs (2) in brackets (3). Secure with four nuts (4).
9. Install tube (5) and two clevises (6) on chain (7).
10. Secure clevises (6) to strikers (1) with headed pins (7.1) and new cotter pins (7.2).



ADJUST

11. Check that cargo hatch door (8) fits tightly and evenly on all four sides.
12. If two strikers (9) do not engage catch strikes (10), remove washers (11) until parts engage. Remove washers evenly from both mount brackets (12).
13. If cargo hatch door (8) is not tight in the latched position, add washers (11) between mount brackets (12) and hull. Add washers evenly to both brackets.
14. Position mount bracket (12) and striker (9) to engage strike (10) 3/8 5/8 in (10 16 mm).
15. Tighten eight screws (13) to 264-288 lb-in (30-37 N•m) torque. Use torque wrench.



END OF TASK

**REPLACE CARGO HATCH DOOR
(M113A2, M901A1, AND M1059 ONLY)**

DESCRIPTION

This task covers: Remove (page 24-103). Install (page 24-104).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 96, App D)

Materials/Parts:

- Grease (Item 21, App C)
- Self-locking nut
- Nonmetallic seals (2 long, 2 short)

Personnel Required:

- Unit Mechanic
- Helper (H)

Personnel Required (cont):

References:

See your -10

Equipment Conditions:

- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)

REMOVE



WARNING
Hatch door may spring up and injure you. Open hatch door and support in vertical position.

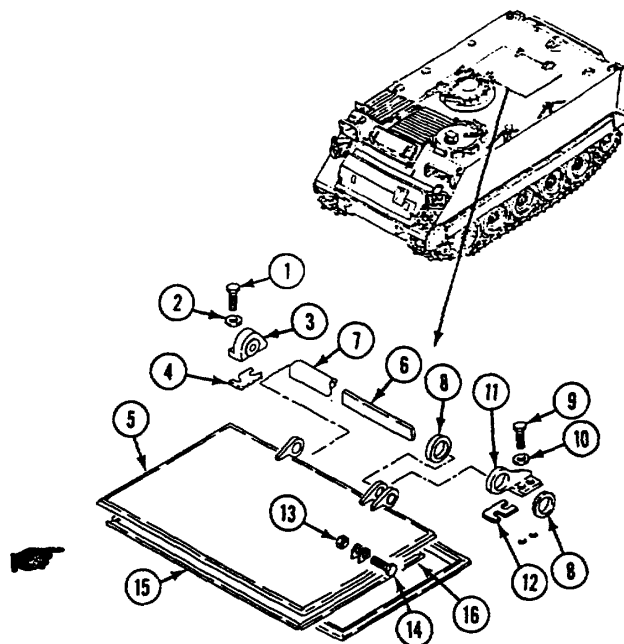
1. Remove two screws (1), washers (2), bracket (3), and plates (4) from hull top plate.



WARNING
Lifting or moving objects in excess of 70 pounds could injure you. Make sure to get an assistant or use a lifting device to move cargo hatch door or other heavy objects.

2. Support hatch door (5). Remove nine leaf springs (6), shield (7), two gaskets (8), and -hatch door (5) from hinge brackets.

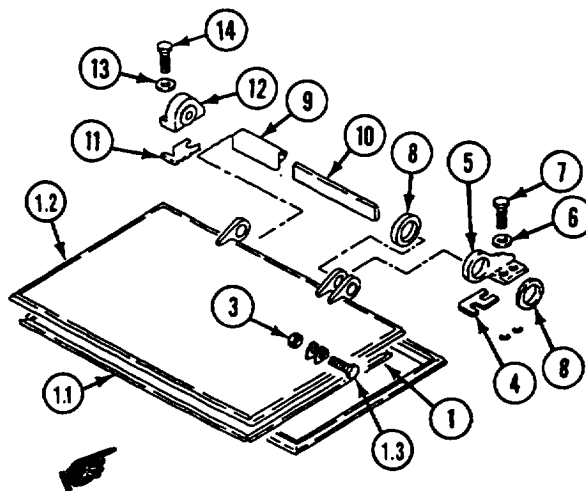
3. Remove two screws (9), washers (10), eye bracket (11), and plate(s) (12) from hull top plate.
4. Remove locknut (13) and screw (14) from hatch door (5). Discard locknut.
- 4.1. Remove two long seals (15) and two short seals (16) from groove in hatch door (5). Discard seals.



GO TO NEXT PAGE

INSTALL

- 4.2. Install two new short seals (1) and two new long seals (1.1) into hatch door (1.2). Press seals into place.
5. Install screw (1.3) in hatch door (1.2). Secure with new locknut (3).
6. Place plate(s) (4) and eye bracket (5) on hull top plate. Secure with two washers (6) and screws (7). Tighten screws to 60-65 lb-ft (81-88 N•m) torque. Use torque wrench.
7. Align hatch door (1.2) with hinge brackets. Install two gaskets (8) and shield (9).
8. Apply coat of grease to each leaf spring (10). Install nine leaf springs in shield (9).
9. Place hatch door (1.2) in vertical position. Install plate(s) (11) and bracket (12). Secure with two washers (13) and screws (14). Tighten screws to 60-65 lb-ft (81-88 N•m) torque. Use torque wrench.

**FOLLOW-THROUGH STEPS**

1. Adjust latch (page 24-104).
2. Close cargo hatch door. Check that door is properly installed.

END OF TASK

REPLACE CARGO HATCH DOOR HOOK AND BUMPERS (M113A2, M901A1, AND M1059 ONLY)

DESCRIPTION

This task covers: Remove (page 24-105). Install (page 24-106).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (2)
Self-locking nut

Personnel Required:

Unit Mechanic

References:

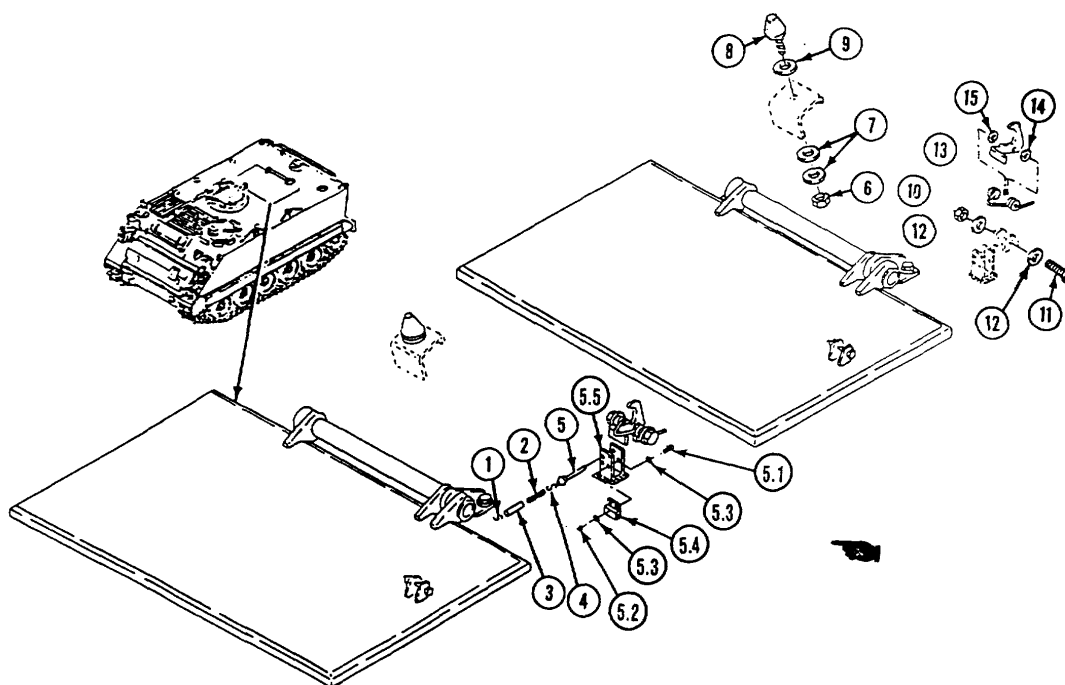
See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)

REMOVE

1. Open both ends of hook (1). Remove hook from chain (2) and hull bracket.
2. Remove tube (3) from chain (2).
3. Open both ends of hook (4). Remove hook from chain (2) and quick release pin (5).
- 3.1. Remove two screws (5.1), nuts (5.2), four washers (5.3), and block (5.4) from bracket (5.5).
4. Remove two locknuts (6), four washers (7), two bumpers (8), and washer(s) (9) from hull brackets. Discard locknuts.
5. Remove locknut (10), screw (11), two washers (12), spring (13), two spacers (14), and hook (15) from hull brackets. Discard locknut.



GO TO NEXT PAGE

INSTALL

6. Align hook (1), two spacers (2), spring (3), and two washers (4) with hull brackets. Secure with screw (5) and new locknut (6).

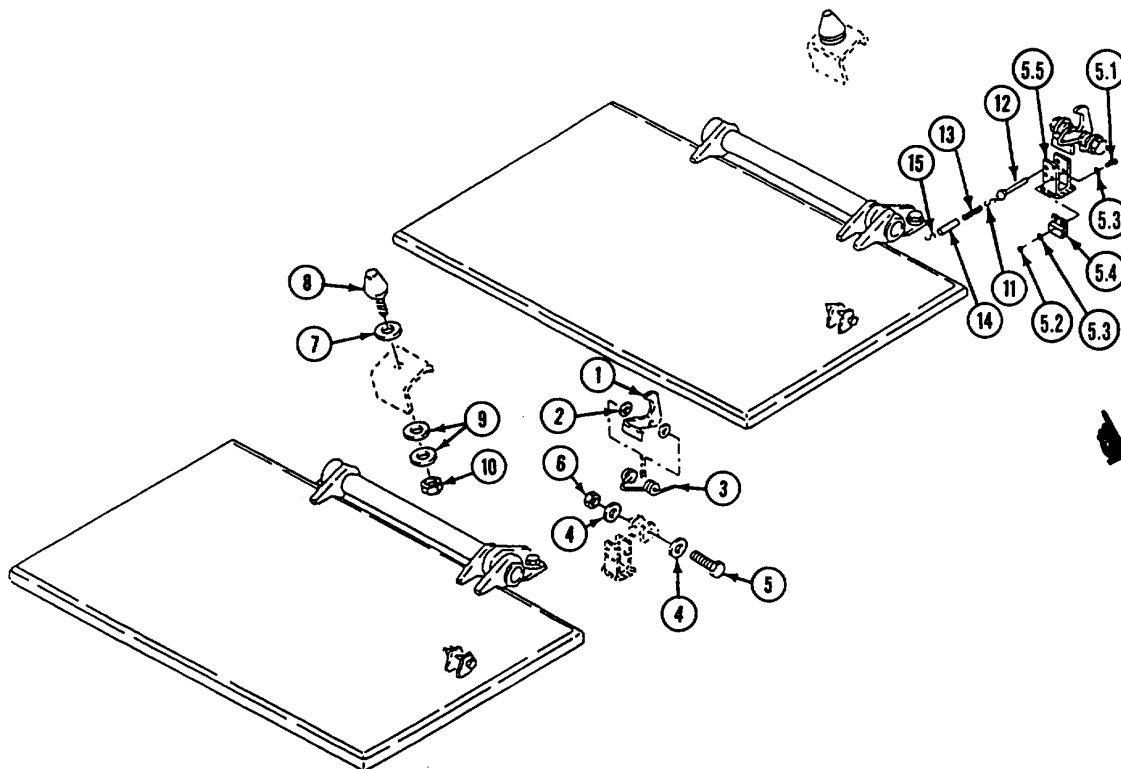
NOTE

Install washer(s), as needed, to compress left bumper 3/16 to 5/16 inch (5 to 8 mm) and right bumper 1/16 to 1/4 inch (2 to 6 mm) when hatch door hook is engaged.

7. Install washer(s) (7) and two bumpers (8) in hull brackets. Secure with four washers (9) and two new locknuts (10).

- 7.1. Install four washer(s) (5.3), two nuts (5.2), screws (5.1), and block (5.4) on bracket (5.5).

8. Install hook (11) on quick release pin (12) and chain (13). Squeeze both ends of hook to secure.
9. Install tube (14) on chain (13).
10. Install hook (15) on chain (13) and hull bracket. Squeeze both ends of hook to secure.



FOLLOW-THROUGH STEPS

1. Open cargo hatch door and engage hook to check that hook and bumper are properly installed.

END OF TASK

**REPLACE MORTAR HATCH INTERIOR RELEASE MECHANISMS
(M106A2, M1064, AND M125A2 ONLY)**

DESCRIPTION

This task covers: Remove (page 24-107). Install (page 24-108). Adjust (page 24-108).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

- Calking compound (Item 8, App C)
- Cotter pin (2)
- Lockwasher (8)
- Lockwasher (4)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

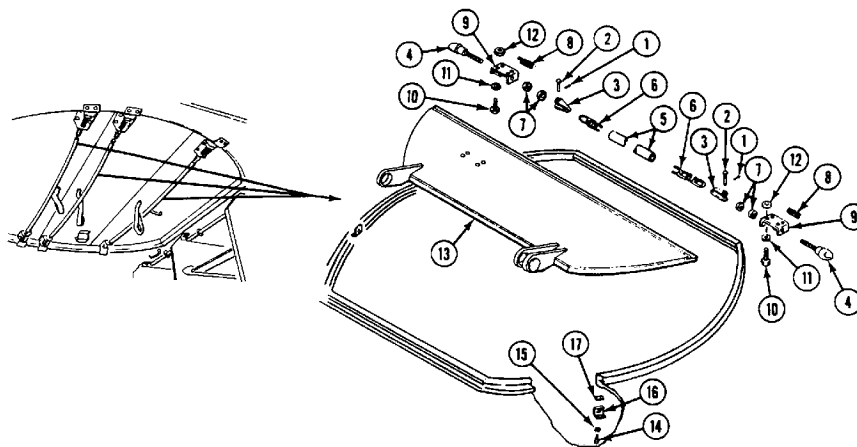
NOTE

There are three interior latch mechanisms. Inner chain and tube are longer than outside chains and tubes. Remove and install all three release mechanisms the same way. Left section is shown.

3. Remove two clevises (3) and tube (5) from chain (6).
4. Remove four nuts (7), two tee head bolts (4), and springs (8) from brackets (9).
5. Remove eight screws (10), lockwashers (11), two brackets (9), and washers (12) from cover section (13). Discard lockwashers.
6. Remove four screws (14), lockwashers (15), two strikes (16), and spacer(s) (17) from hull top plate. Discard lockwashers.

REMOVE

1. Remove two cotter pins (1) from headed pins (2). Discard cotter pins.
2. Remove two headed pins (2) and clevises (3) from tee head bolts (4).



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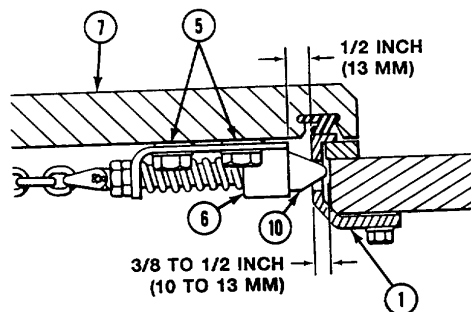
INSTALL

7. Apply calking compound to surfaces of strikes (1) that contact seal ledge.
8. Place spacer(s) (2) and two strikes (1) on hull top plate. Secure with four new lockwashers (3) and screws (4).
9. Place eight washers (5) and two brackets (6) on cover section (7). Secure with eight new lockwashers (8) and screws (9). Do not tighten screws.
10. Install two tee head bolts (10) and springs (11) on brackets (6). Secure with four nuts (12).

NOTE

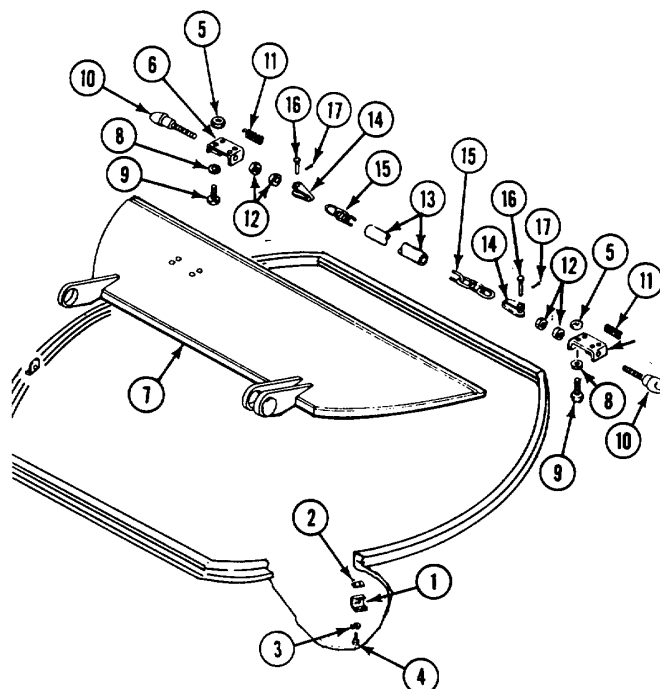
Inner chain and tube are longer than outside chains and tubes. Check lengths of chains and tubes before installation.

11. Install tube (13) and two clevises (14) on chain (15). Secure clevises to tee head bolts (10) with headed pins (16) and new cotter pins (17).



ADJUST

12. Position each bracket (6) on cover (7) to get 1/2 inch (13 mm) maximum distance from strike (1) to bracket with cover closed.
13. Install washer(s) (5) between each bracket (6) and cover (7) until tee head bolt (10) inserts into strike (1) 3/8-1/2 in (10-13 mm) with cover closed.
14. Tighten four screws (9).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE MORTAR HATCH EXTERIOR CATCHES AND BUMPERS (M106A2, M1064, AND M125A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-109). Install (page 24-110). Adjust (page 24-111).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 95, App D)
Socket Wrench Set (Item 89, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Materials/Parts:

Cotter pin (6)
Lockwasher (20)
Self-locking nut (6)
Spring pin (12)

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)

REMOVE

NOTE

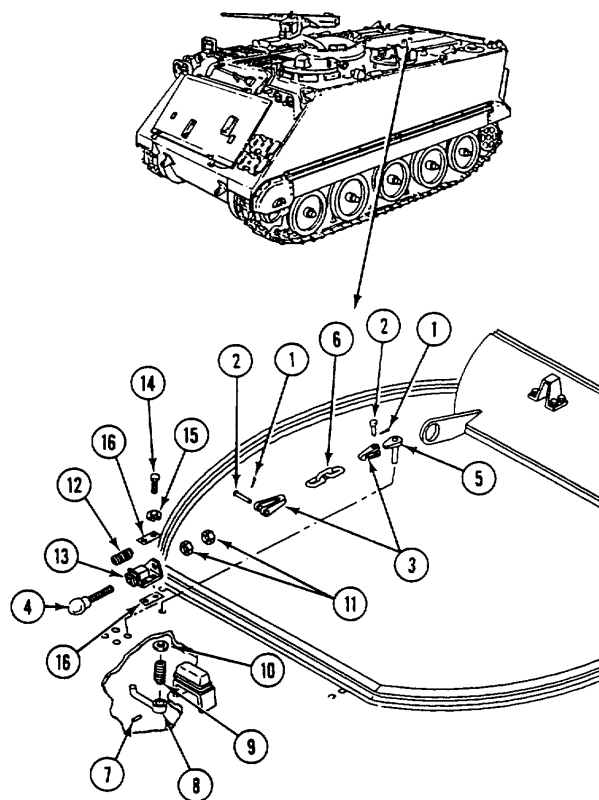
Three exterior catches and bumpers are removed and installed the same way. Three chains and some brackets are not interchangeable and should be used in the same assembly. Left section is shown.

1. Remove two cotter pins (1) from headed pins (2). Discard cotter pins.
2. Remove two headed pins (2) and clevises (3) from tee head bolt (4) and arm (5).
3. Remove two clevises (3) from chain (6).
4. Remove spring pin (7), handle (8), spring (9), and washer (10) from arm (5). Discard spring pin. Remove arm from hull top plate.
5. Remove two nuts (11) from tee head bolt (4). Remove tee head bolt and spring (12) from latch bolt bracket (13).

NOTE

Latch bolt bracket for center door section is mounted on right door section. Bracket for right door section does not have four spacers installed.

6. Remove four screws (14), lockwashers (15), spacers (16), and latch bolt bracket (13) from hull top plate. Discard lockwashers.



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NOTE

Striker and catch for center and right door sections are both mounted on center door section.

- Remove four screws (1), lockwashers (2), and catch (3) from door section (4). Discard lockwashers.

NOTE

Bumper for center door section is mounted on right door section.

- Remove two locknuts (5), washers (6), bumper (7), and shims(s) (8) from hull bracket. Discard locknuts.

INSTALL

NOTE

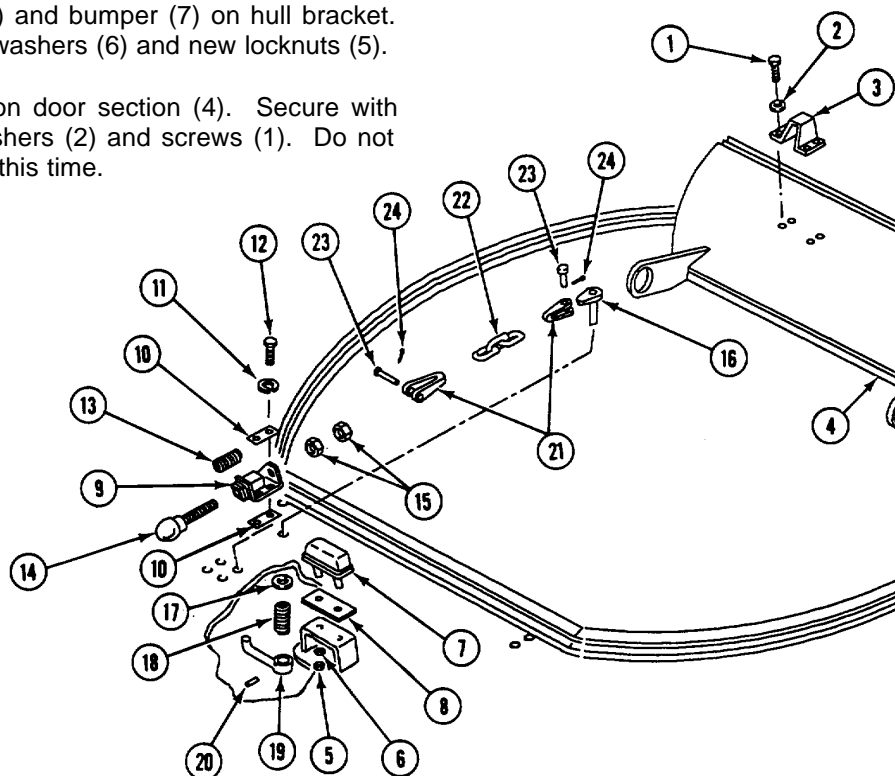
Shim(s) are installed between bumper and hull bracket to remove all end play between cover and bumper.

- Install shim(s) (8) and bumper (7) on hull bracket. Secure with two washers (6) and new locknuts (5).
- Place catch (3) on door section (4). Secure with four new lockwashers (2) and screws (1). Do not torque screws at this time.

NOTE

Latch bolt bracket for center door section is mounted on right door section. Bracket for right door section does not have spacers installed.

- Place latch bolt bracket (9) and two spacers (10) on hull top plate. Secure with new lockwashers (11) and four screws (12). Do not tighten screws at this time.
- Install spring (13) and tee head bolt (14) on latch bolt bracket (9). Secure with two nuts (15).
- Install arm (16) through hole in hull top plate. Install washer (17), spring (18), and handle (19) on arm. Secure with new spring pin (20).
- Install two clevises (21) on chain (22). Secure clevises to arm (16) and tee head bolt (14) with two headed pins (23) and new cotter pins (24).

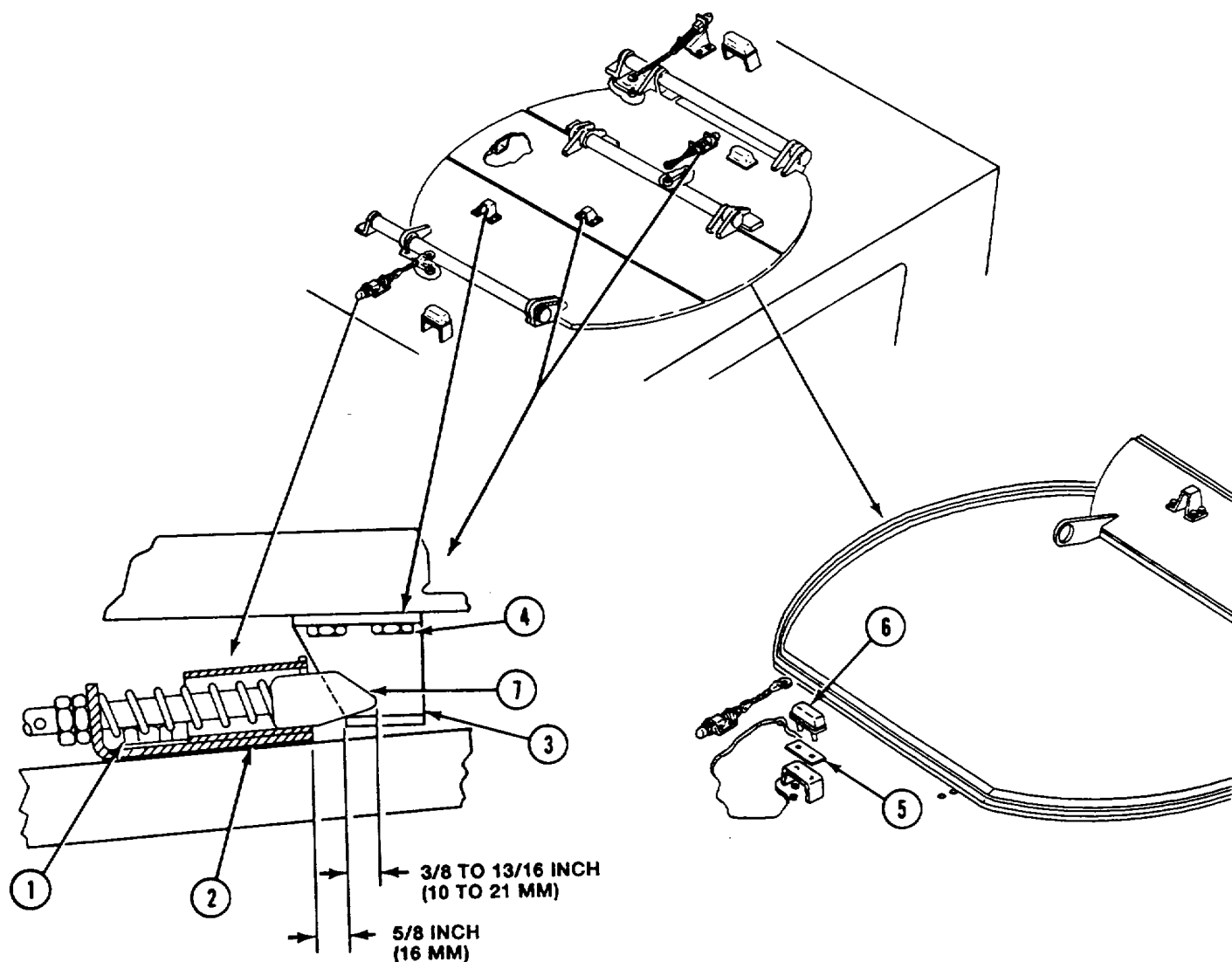


ADJUST

15. Adjust LEFT and CENTER exterior latches as follows:

- a. Open hatch sections.
- b. Loosen screws (1). Move latch bolt bracket (2) to get 5/8 in (16 mm) between end of bracket (2) and edge of catch (3).
- c. If above adjustment cannot be made, loosen screws (4) and move catch (3) to get above measurement.

- d. Remove or install shims (5) between bumper (6) and hull so that tee head bolt (7) protrudes into catch (3) a distance of 3/8-13/16 in (10-21 mm) with center door section firmly against bumper.
- e. Tighten screws (1). Tighten screws (4) to 360-420 lb-in (41-47 N•m) torque. Use torque wrench and socket wrench set.



LEFT AND CENTER EXTERIOR LATCH ADJUSTMENT

GO TO NEXT PAGE

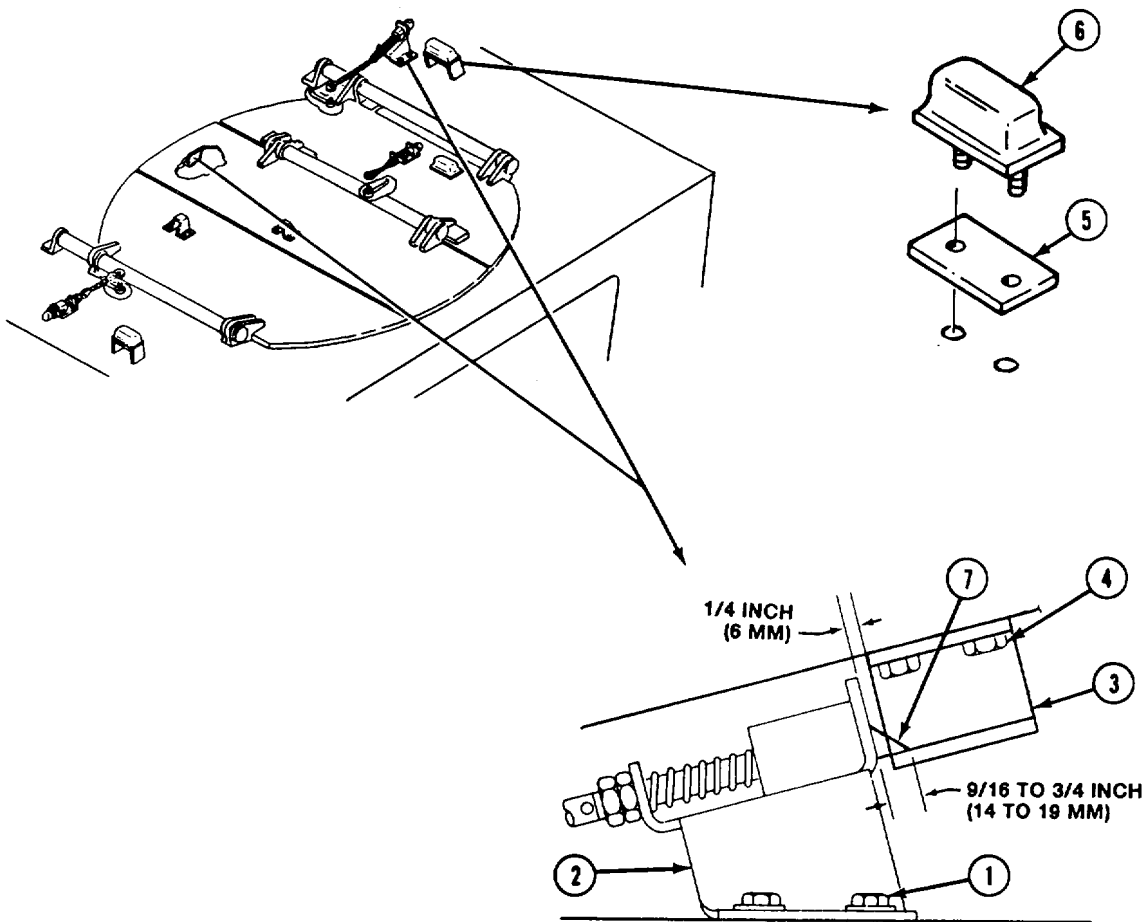
16. Adjust RIGHT exterior latch as follows:

- a. Open hatch sections.
- b. Loosen screws (1). Move bracket (2) to get 1/4 in (6 mm) between end of bracket (2) and edge of catch (3).
- c. If above adjustment cannot be made, loosen screws (4) and move catch (3) to get above measurement.

- d. Remove or install shims (5) between bumper (6) and door section so that tee head bolt (7) protrudes into catch (3) a distance of 9/16-3/4 in (14-19 mm) with center and right door sections firmly against bumper.
- e. Tighten screws (1). Tighten screws (4) to 360-420 lb-in (41-47 N•m) torque. Use torque wrench and socket wrench set.

17. Tighten screws (1) on bracket (2).

18. Tighten screws (4) on catch (3) to 360 -420 lb-in (41-47 N•m) torque



RIGHT EXTERIOR LATCH ADJUSTMENT

FOLLOW-THROUGH STEPS

1. Open and close mortar hatch covers. Check that covers are properly installed.

END OF TASK

**REPLACE MORTAR HATCH COVERS
(M106A2, M1064, AND M125A2 ONLY)**

DESCRIPTION

This task covers: Remove (page 24-113).

Install (page 24-114).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 96, App D)

References:

See your -10

Materials/Parts:

- Grease (Item 18, App C)
- Seal (2)
- Seal (2)
- Seal (2)

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Mortar hatch interior release mechanism removed (page 24-107)
- Mortar hatch exterior catch removed (page 24-109)

Personnel Required:

- Unit Mechanic
- Helper (H)

REMOVE

WARNING

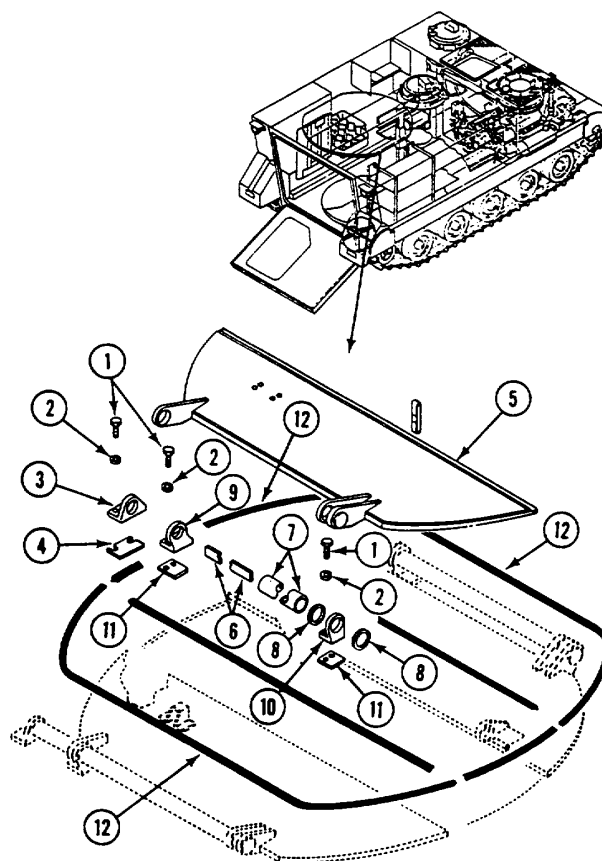


Mortar hatch sections must be in a vertical position to release torsion spring tension before removing torsion spring brackets.

NOTE

There are three mortar hatch sections. Remove and install all three the same way. Left section is shown.

1. Remove two screws (1), washers (2), bracket (3), and spacers (4) from hull top plate.
2. Support door (5). Remove two springs (6), shield (7), two spacers (8), and door from hinges (9 and 10). Remove six springs from shield for right door section.
3. Remove four screws (1), washers (2), two hinges (9 and 10), and spacers (11) from hull top plate.
4. Remove two seals (12) from door (5). Discard seal.

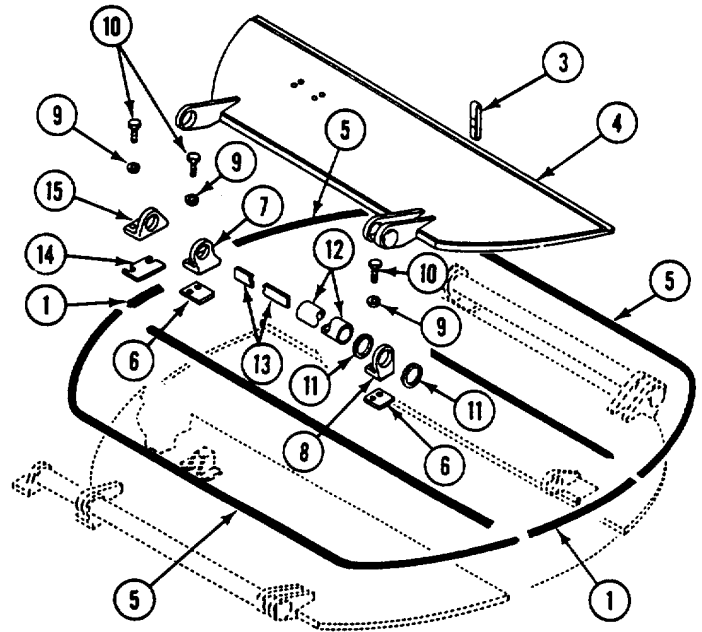


GO TO NEXT PAGE

5. Remove two seals (1) and two seals (2) from center door. Discard seals.
6. Remove canvas strap (3) from door (4).

INSTALL

7. Install canvas strap (3) on door (4).
8. Place two new seals (5) over retaining groove in door (4). Press seals into place.
9. Install two new seals (1) and two new seals (2) on center door.
10. Place two spacers (6) and hinges (7 and 8) on hull top plate. Secure with four washers (9) and screws (10). Tighten screws to 60-65 lb-ft (81-88 N-m) torque. Use torque wrench.
11. Align door (4) with hinges (7 and 8). Install two spacers (11) and shield (12).
12. Apply light coat of grease to each spring (13). Install two springs in shield (12) for left door section. Install six springs in shield for right door section.
13. Place door (4) in vertical position. Install spacer(s) (14) and bracket (15). Secure with two washers (9) and screws (10). Tighten screws to 60-65 lb-ft (81-88 N•m) torque. Use torque wrench.



FOLLOW-THROUGH STEPS

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Install mortar hatch exterior catch (page 24-107). 2. Install mortar hatch interior release mechanism (page 24-109). | <ol style="list-style-type: none"> 3. Close cover. Check that mortar hatch door is properly installed. 4. Raise and lock ramp (see your -10). 5. Stop engine (see your -10). |
|--|---|

END OF TASK

REPAIR CARGO HATCH LATCH (M901A1 ONLY)**INITIAL SETUP****Tools:**

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 94, App D)
- Socket Wrench Set (Item 89, App D)

Materials/Parts:

- Sealing compound (Item 48, App C)
- Lockwasher (4)

Personnel Required:

- Unit Mechanic

References

- See your -10

Equipment Conditions

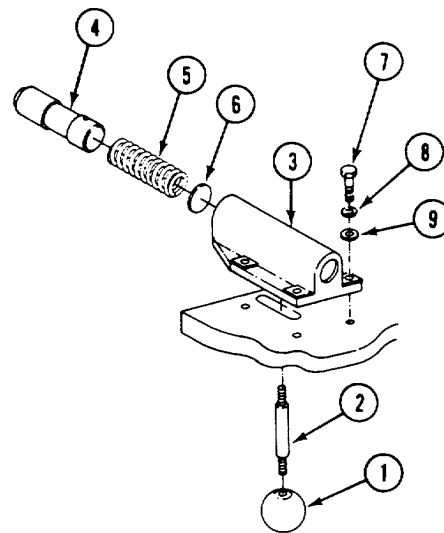
- Carrier blocked (see your -10)
- Engine shutdown (see your -10)
- Launcher bled down and supported (TM 9-2350-259-20)
- Launcher erected (see your -10)
- Ramp lowered (see your -10)
- Traversed to 230° (see your -10)

REMOVE**CAUTION**

Do not transverse the turret with the cargo hatch in the open (load or vertical) position. Damage to system could occur.

1. Remove knob (1) and shouldered stud (2) from housing (3).
2. Remove shouldered pin (4), spring (5), and disk (6) from housing (3).
3. Remove four bolts (7), lockwashers (8), washers (9), and housing (3) from hatch. Discard lockwashers.

7. Install handle (2) on housing (3).
8. Apply sealing, locking compound to knob (1).
9. Install knob (1) on handle (2) and housing (3).

**INSTALL**

4. Install housing (3) on hatch. Secure with four washers (8), new lockwashers (9), and bolts (7).
5. Tighten four bolts (7) to 120-144 lb-in torque. Use torque wrench and socket wrench set.
6. Install disk (6), spring (5), and shoulder pin (4) on housing (3).

FOLLOW-THROUGH STEPS

1. Fill launcher hydraulic system and remove supports (TM 9-2350-259-20).
2. Power up launcher (see your -10).
3. Stow launcher (see your -10).
4. Raise and lock ramp (see your -10).
5. Power up launcher (see your -10).

END OF TASK

REPLACE CARGO HATCH SUPPORT (M901A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine shutdown (see your -10)

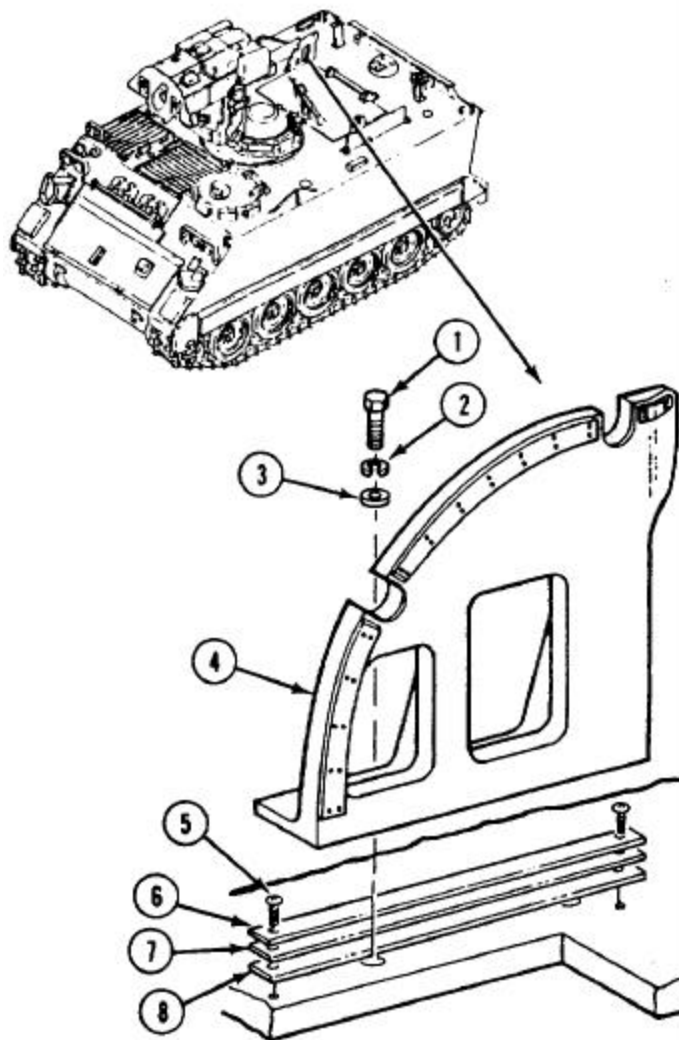
Carrier blocked (see your -10)

REMOVE

1. Remove two screws (1), lockwashers (2), and washers (3), from support (4). Discard lockwashers.
2. Remove support (4) from deck.
3. Remove two drive screws (5) and three shims (6 through 8) from deck.

INSTALL

4. Install three shims (6 through 8) on deck. Secure with two drive screws (5).
5. Install support (4) on deck. Secure with two washers (3), new lockwashers (2) and screws (1).



END OF TASK

REPLACE REAR COMPARTMENT AIR VENTILATOR

INITIAL SETUP**Tools:**

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 96, App D)

Materials/Parts:

- Gasket

Personnel Required:

- Unit Mechanic
-

References:

- See your -10

Equipment Conditions:

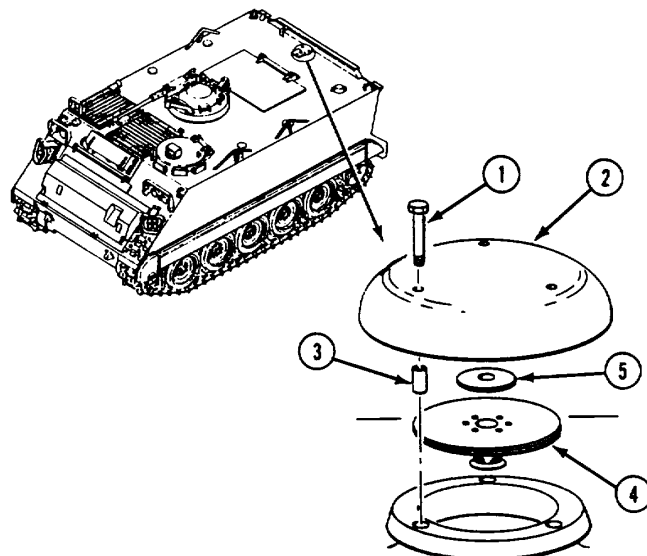
- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)

REMOVE

1. Remove three screws (1), cover (2), and three spacers (3) from hull mount.
2. Remove valve (4) and gasket (5) from cover (2). Discard gasket.

INSTALL

3. Install new gasket (5) and valve (4) on cover (2).
4. Align three spacers (3) and cover (2) with hull mount. Secure with three screws (1). Tighten screws to 75-80 lb-ft (102-108 N-m) torque. Use torque wrench.

**FOLLOW-THROUGH STEPS**

1. Open and close air ventilator. Check that ventilator is properly installed.
 2. Raise and lock ramp (see your -10).
 3. Stop/shutdown engine (see your -10).
-

END OF TASK

REPLACE GENERATOR SET ENCLOSURE (M577A2 AND M1068 ONLY)

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 96, App D)
- Lifting Device and Sling (Item 1, App B)

Materials/Parts:

- Cotter pin (4)
- Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)
- Generator set removed (see your -10)

REMOVE

1. Remove two locknuts (1), screws (2), washers (3), and washers (4) from two hull lugs. Discard locknuts.
2. Remove four screws (5), washers (6), and generator set enclosure (7) from bulkhead.
3. Remove four cotter pins (8) from bolts (9). Discard cotter pins.
4. Remove four thumbscrews (9), washers (10), and clamps (11) from enclosure (7).

WARNING



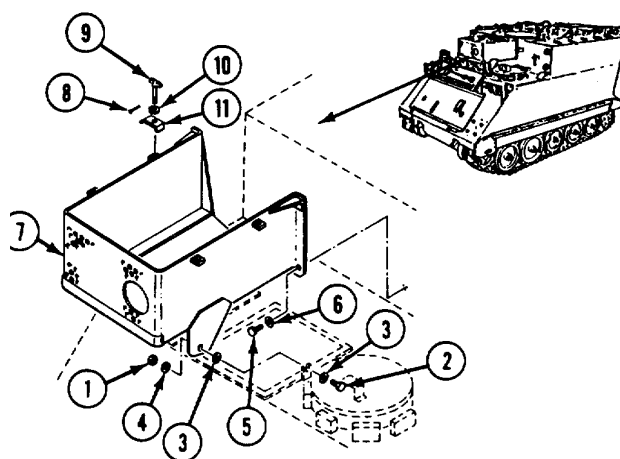
Lifting or moving objects in excess of 70 pounds could injure you. Make sure to get an assistant or use a lifting device to move generator set enclosure or other heavy objects.

5. Remove enclosure (7). Use lifting device and sling.

INSTALL

6. Install enclosure (7). Use lifting device and sling.

7. Install four clamps (11), washers (10), and thumbscrews (9) in generator set enclosure (7). Secure with four new cotter pins (8).
8. Place enclosure (7) on bulkhead. Secure with four washers (6) and screws (5). Tighten screws to 55-60 lb-ft (75-81 N•m) torque. Use torque wrench.
9. If needed, add washers (4) to remove play between enclosure and hull lugs.
10. Align enclosure (7) with two hull lugs. Secure with two washers (4), washers (3), screws (2), and new locknuts (1).



FOLLOW-THROUGH STEPS

1. Install generator set (see your -10).

END OF TASK

**Section VI. ARMOR AND SUPPORT MAINTENANCE
(M901A1 ONLY)**

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace Side Armor (M901A1 Only)	24-120	Replace High Stow Launcher Support (M901A1 Only)	24-122
Replace Low Stow Cushion Base (M901A1 Only)	24-121	Replace High Stow Bracket (M901A1 Only)	24-124

REPLACE SIDE ARMOR (M901A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 96, App D)

Materials/Parts:

Lockwasher (4)
Lockwasher (5)
Spring pin (2)

Personnel Required:

Unit Mechanic

References:

See your -10

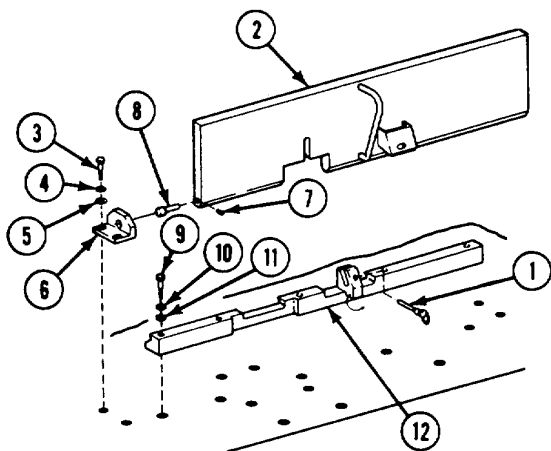
Equipment Conditions:

Engine shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)

REMOVE**NOTE**

Right and left side armor are removed the same way. Left side shown.

1. Remove quick release pin (1) and place armor plate (2) in the down position.
2. Remove four screws (3), lockwashers (4), washers (5), two brackets (6), and armor plate (2) from deck. Discard lockwashers.



3. Remove two spring pins (7), and shoulder pins (8), from brackets (6) and armor plate (2). Discard spring pins.
4. Remove five screws (9), lockwashers (10), washers (11), and armor plate (12) from deck. Discard lockwashers.

INSTALL

5. Install armor plate (12) on deck. Secure with five washers (11), new lockwashers (10), and screws (9).
6. Tighten five screws (9) to 55-60 lb-ft (75-81 N-m) torque. Use torque wrench.
7. Install two brackets (6) on armor plate (2). Secure with two shoulder pins (8) and new spring pins (7).
8. Install two brackets (6) and armor plate (2) on deck. Secure with four washers (5), new lockwashers (4), and screws (3).
9. Tighten four screws (3) to 35-40 lb-ft (48-54 N-m) torque. Use torque wrench.
10. Install quick release pin (1) on armor plate (2).

FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Shutdown engine (see your -10).

END OF TASK

REPLACE LOW STOW CUSHION BASE (M901A1 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine shutdown (see your -10)

Carrier blocked (see your -10)

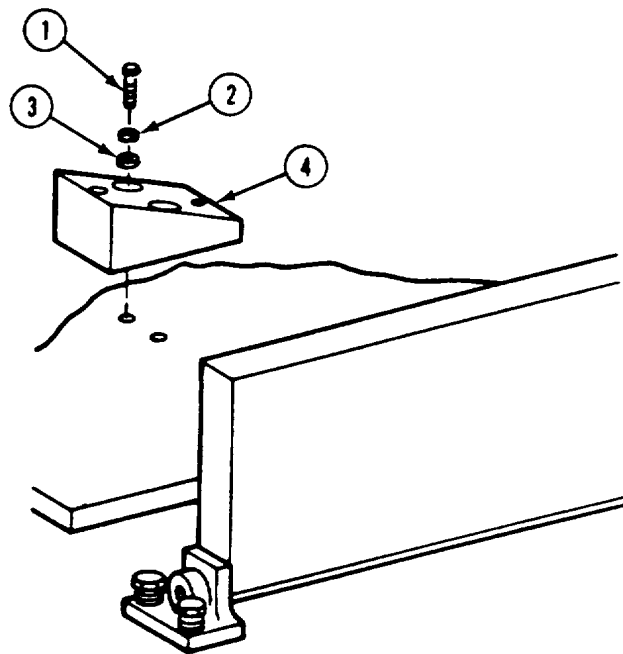
Launcher erect (see your -10)

REMOVE

1. Remove two screws (1), lockwashers (2), and washers (3) from low stow cushion base (4). Discard lockwashers.
2. Remove low stow cushion base (4) from deck.

INSTALL

3. Install low stow cushion base (4) on deck. Secure with two washers (3), new lockwashers (2), and screws (1).



FOLLOW-THROUGH STEPS

1. Lower launcher (see your -10).
 2. Shutdown engine (see your -10).
-

END OF TASK

REPLACE HIGH STOW LAUNCHER SUPPORT (M901A1 ONLY)**DESCRIPTION**

This task covers: Remove (page 24-122). Disassemble (page 24-122). Assemble (page 24-123).
Install (page 24-123).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (4)

Lockwasher (2)

Self-locking nut

Personnel Required:

Unit Mechanic

Torque Wrench (Item 95, App D)

References:

See your -10

Equipment Conditions:

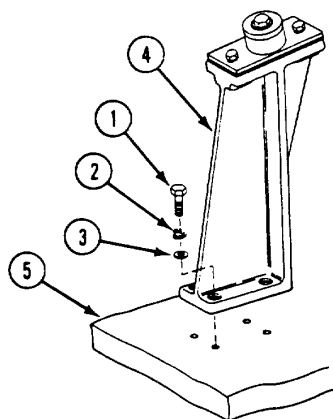
Engine shutdown (see your -10)

Carrier blocked (see your -10)

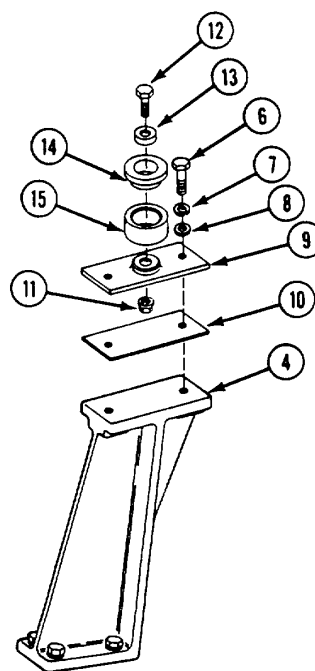
Launcher erect (see your -10)

REMOVE

1. Remove four bolts (1), lockwashers (2), and washers (3) from high stow launcher support (4). Discard lockwashers.
2. Remove high stow launcher support (4) from deck (5).

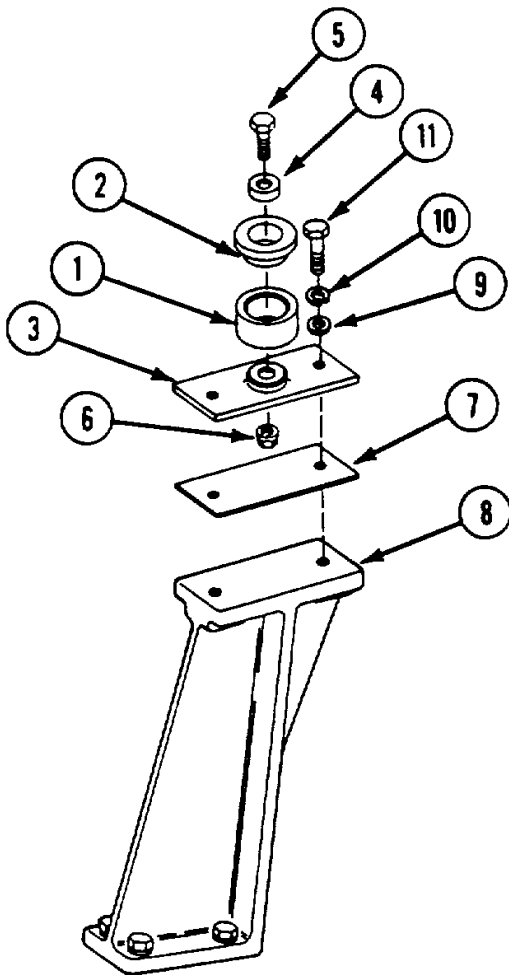
**DISASSEMBLE**

3. Remove two bolts (6), lockwashers (7), washers (8), base (9), and shim (10) from high stow launcher support (4). Discard lockwashers.
4. Remove locknut (11), bolt (12), washer (13), pad (14), and bumper (15) from base (9). Discard locknut.



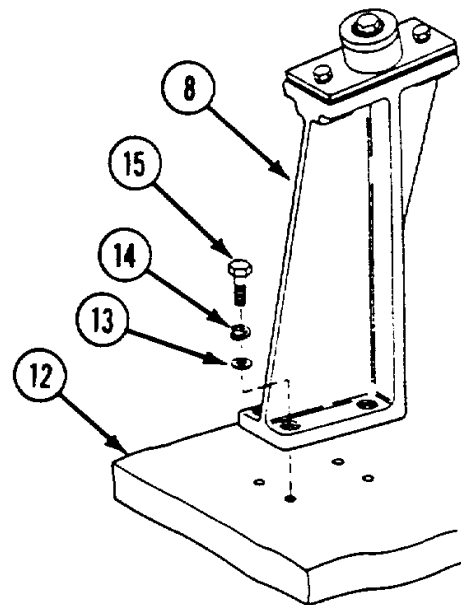
ASSEMBLE

5. Install bumper (1) and pad (2) on base (3). Secure with washer (4), bolt (5), and new locknut (6)
6. Install shim (7) and base (3) on high stow launcher support (8). Secure with two washers (9), new lockwashers (10), and bolts (11).



INSTALL

7. Install high stow launcher support (8) on deck (12). Secure with four washers (13), new lockwashers (14), and bolts (15).
8. Tighten four bolts (15) to 300-360 lb-in (34-41 N-m) torque. Use torque wrench.



FOLLOW-THROUGH STEPS

1. Lower launcher (see your -10).

END OF TASK

REPLACE HIGH STOW BRACKET (M901A1 ONLY)

DESCRIPTION

This task covers: Remove (page 24-124). Disassemble (page 24-124). Assemble (page 24-125).
Install (page 24-125).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 96, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Lockwasher (6)
Self-locking nut (2)
Self-locking nut (3)
Self-locking nut

References:

See your -10

Equipment Conditions:

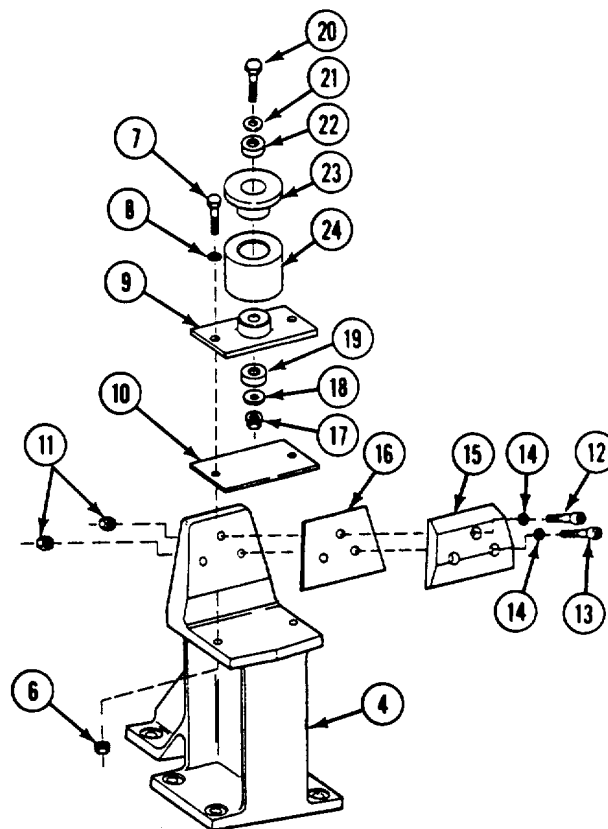
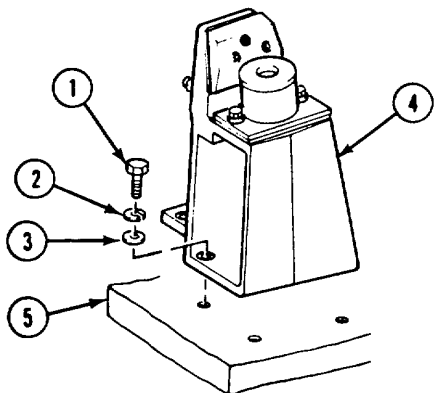
Launcher raised (see your -10)
Engine shutdown (see your -10)
Carrier blocked (see your -10)

REMOVE

1. Remove six screws (1), lockwashers (2), and washers (3) from high stow bracket (4). Discard lockwashers.
2. Remove high stow bracket (4) from deck (5).

DISASSEMBLE

3. Remove two locknuts (6), screws (7), washers (8), bumper plate (9), and shim (10) from high stow bracket (4). Discard locknuts.
4. Remove three locknuts (11), screw (12), two screws (13), three washers (14), plate (15), and shim (16) from high stow bracket (4). Discard locknuts.
5. Remove locknut (17), washer (18), spacer (19), screw (20), washer (21), spacer (22), plate (23), and bumper (24) from high stow bracket (4).



ASSEMBLE

6. Install bumper (1) and plate (2) on bumper plate (3). Secure with spacer (4), washer (5), screw (6), spacer (7), washer (8), and new locknut (9).

NOTE

Screws (10) are longer than screw (11).

7. Install shim (12) and plate (13) on high stow bracket (14). Secure with three washers (15), screw (11), two screws (10), and three new locknuts (16).
8. Install shim (17) and bumper plate (3) on high stow bracket (14). Secure with two washers (18), screws (19), and new locknuts (20).

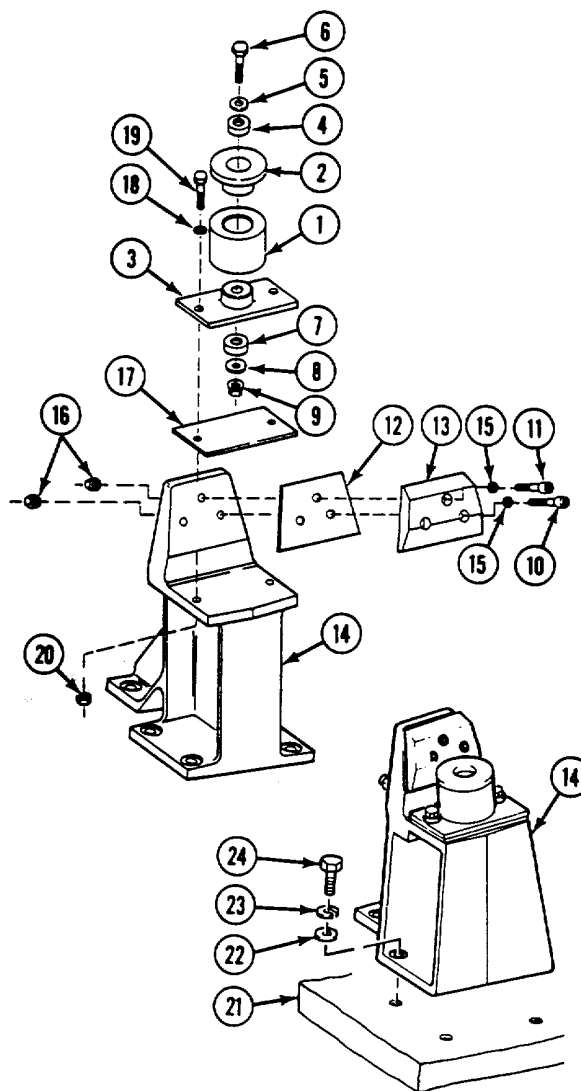
INSTALL

9. Install high stow bracket (14) on deck (21). Secure with six washers (22), new lockwashers (23), and screws (24).
10. Tighten six screws (24) to 50-55 lb-ft (68-75 N-m) torque. Use torque wrench.
11. Adjust clearance between plate (13) and the high stowage erection arm stop.

CAUTION

Excessive clearance between the high stowage erection arm stop and the side plate of the launcher high stow bracket may cause damage to the system.

- a. With the launcher in the stow position, use a feeler gauge to measure the distance between the high stowage erection arm stop and plate (13) of the launcher high stow bracket (14).



FOLLOW-THROUGH STEPS

1. Lower launcher (see your -10).

END OF TASK

**Section VII. DRIVER'S SEAT AND COMMANDER'S SEAT
PLATFORM (ALL CONFIGURATIONS)**

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace Driver's Seat (All Configurations)	24-127	Repair Commander's Seat (M113A2, M106A2, M125A2, M1064, and M741A1 Only)	24-145
Repair Driver's Seat	24-129	Replace Operator's Seat (M1059 Only)	24-149
Replace Driver's Seat Mount (Old Configuration)	24-131	Repair Operator's Seat (M1059 Only)	24-150.1
Repair Driver's Seat Mount (Old Configuration)	24-132	Replace/Repair Radio Operator's Seat (M1068 Only)	24-150.3
Replace Driver's Footrest (New Configuration)	24-134	Replace Commander's Jump Seat	24-151
Replace/Repair Driver's Seat Post Assembly (New Configuration)	24-135	Replace/Repair Commander's Platform	24-153
Replace Commander's Seat and Post	24-140	Replace Commander's Footrest (M741A1 Only)	24-156
Replace Commander's Seat and Post (M106A2, M1064, and M125A2 Only)	24-142	Replace/Repair Commander's Platform and Post (M577A2 and M1068 Only)	24-157
Replace Commander's Seat and Post (M741A1 Only)	24-143	Replace Rifle Rack (M1064 Only) .	24-160.1
Replace/Repair Commander's Seat (M1068 Only)	24-144.1	Replace Commander's Seat (M901A1 Only)	24-161 (Observation Periscope)

REPLACE DRIVER'S SEAT (ALL CONFIGURATIONS)

DESCRIPTION

This task covers: Remove (page 24-127).

Install (page 24-128).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Self-locking nut (2)

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

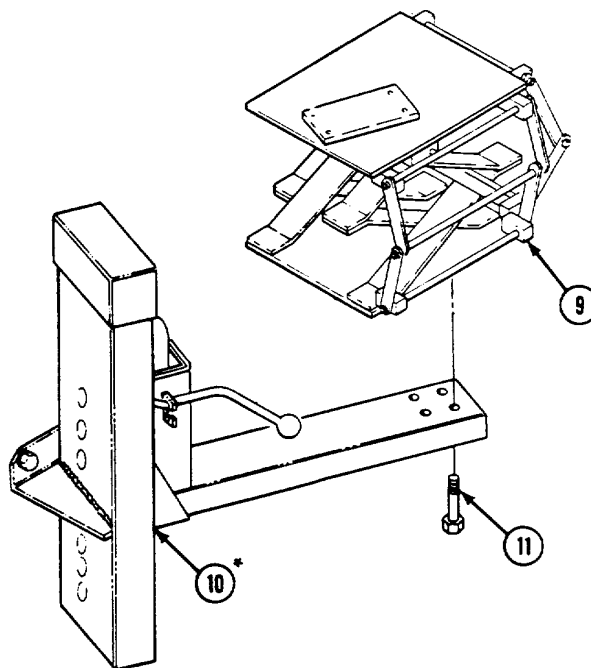
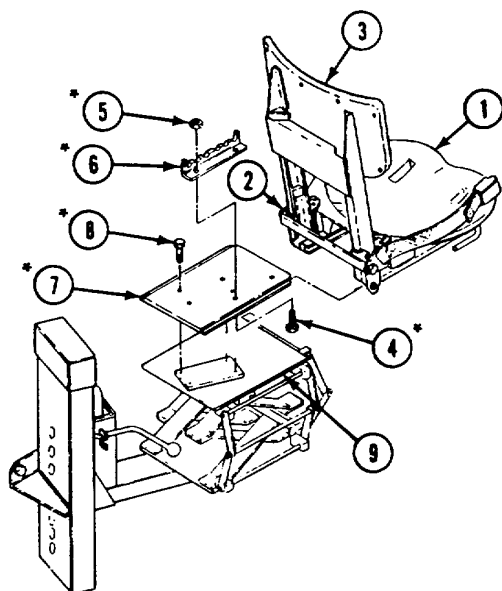
Personnel Required:

Unit Mechanic

REMOVE

1. Push driver's seat back assembly (1) forward against spring tension of flanges (2) and lift seat back assembly from seat (3).
2. On old configuration seats, remove two screws (4), locknuts (5), and seat lock rack (6) from seat mounting plate (7). Discard locknuts.

3. Slide seat (3) forward. Remove four screws (8) from seat mounting plate (7) and seat impact absorber (9) (on new configuration seats) or post assembly (10) (on old configuration seats). Remove plate (7).
4. On old configuration seats, remove four screws (11) from seat impact absorber (9) and post assembly (10). Remove absorber.

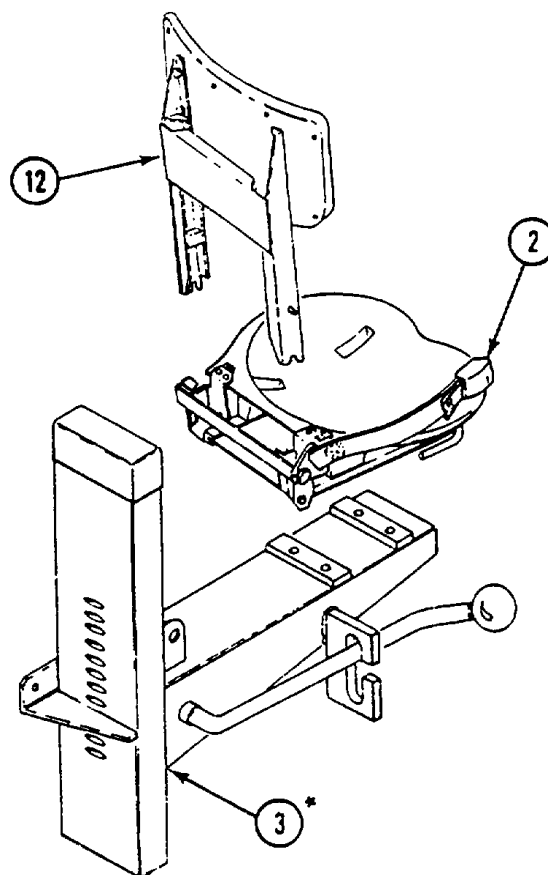
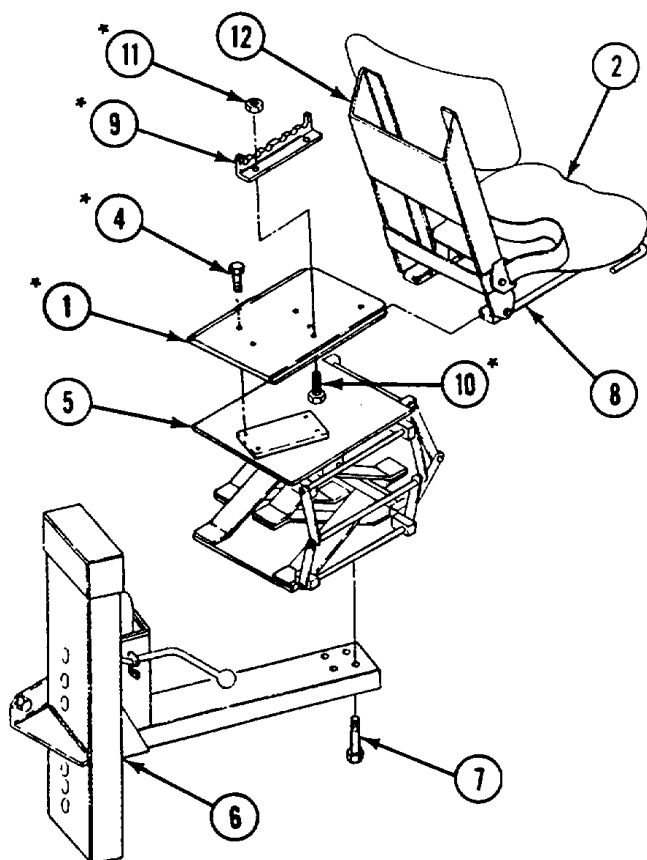


ASTERISK (*) IDENTIFIES OLD CONFIGURATION ITEM.

GO TO NEXT PAGE

INSTALL

5. Slide plate (1) into seat (2).
6. On old configuration seats, position plate (1) with seat on post assembly (3). Secure with four screws (4).
7. On new configuration seats, install absorber (5) on post assembly (6). Secure with four screws (7).
8. Position plate (1) on absorber (5). Secure with four screws (4).
9. Position seat rails (8) with mounting plate (1). Slide seat (2) to the rear.
10. Install seat lock rack (9) on seat mounting plate (1). Secure with two screws (10) and new locknuts (11).
11. Push seat back assembly (12) down into seat (2) until it locks into position.



ASTERISK (*) IDENTIFIES OLD CONFIGURATION ITEM.

FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop/shutdown engine (see your -10).

END OF TASK

REPAIR DRIVER'S SEAT

DESCRIPTION

This task covers: Disassemble (page 24-129).

Assemble (page 24-130).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

- Bushing
- Lockwasher (2)
- Long spring pin (2)
- Self-locking nut (4)
- Self-locking nut (6)
- Short spring pin (2)

Equipment Conditions:

- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)
- Driver's seat removed (page 24-127)

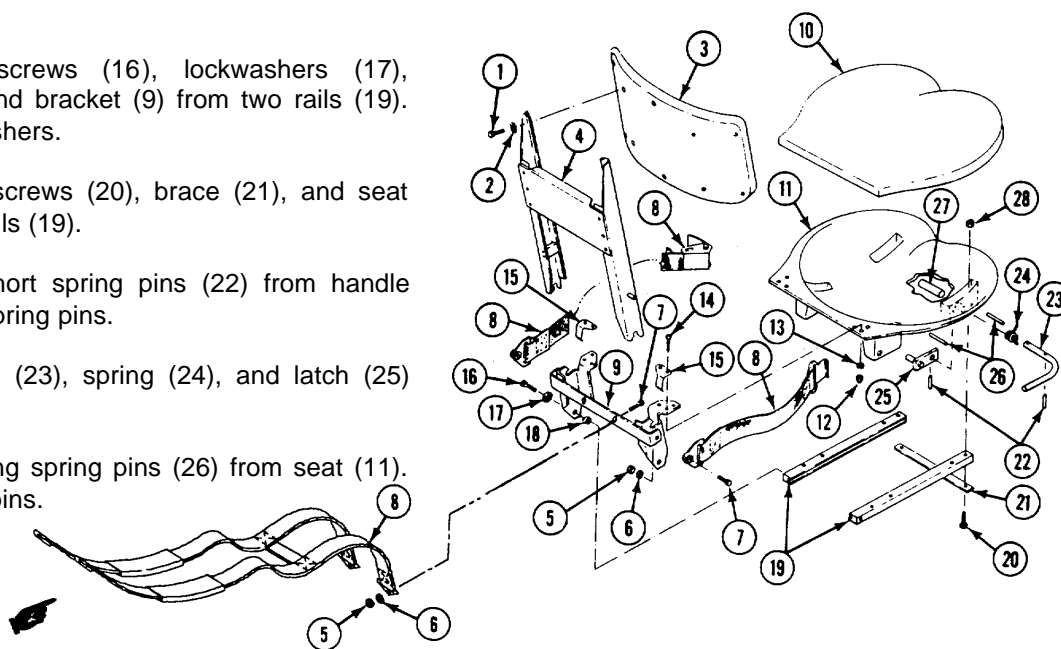
DISASSEMBLE

1. Remove four screws (1), washers (2), and backrest (3) from back brace (4).
2. Remove four locknuts (5), washers (6), screws (7), and seatbelt (8) from backrest bracket (9). Discard locknuts.
3. Remove seat cushion (10) from seat (11).
4. Remove six locknuts (12), washers (13), screws (14), and two clips (15) from seat (11). Discard locknuts.
5. Remove two screws (16), lockwashers (17), spacers (18), and bracket (9) from two rails (19). Discard lockwashers.
6. Remove eight screws (20), brace (21), and seat (11) from two rails (19).
7. Remove two short spring pins (22) from handle (23). Discard spring pins.
8. Remove handle (23), spring (24), and latch (25) from seat (11).
9. Remove two long spring pins (26) from seat (11). Discard spring pins.

NOTE

If inspection shows that bushing (27) needs to be replaced, perform step 10. Be careful. Do not damage seat when straightening ends.

10. Straighten ends and remove bushing (27) from seat (11). Discard bushing.
11. If locknut(s) (28) need to be replaced, drive out old locknut(s) from seat (11). Discard locknut(s).



GO TO NEXT PAGE

ASSEMBLE

- 12. If removed, install new bushing (1) in seat (2). Peen both ends snugly to seat and secure.
- 13. Install two new long spring pins (3) in seat (2).

NOTE

If handle (4) is replaced, use latch (5) as a template. Drill 1/8 inch (3 mm) hole in handle for spring pin (6).

- 14. Install latch (5), spring (7), and handle (4) in seat (2). Secure with two new short spring pins (6).
- 15. If locknut(s) (8) was removed, install new locknut(s) (8) in seat (2).

NOTE

Install brace (9) between rails (10) and front two screws (11).

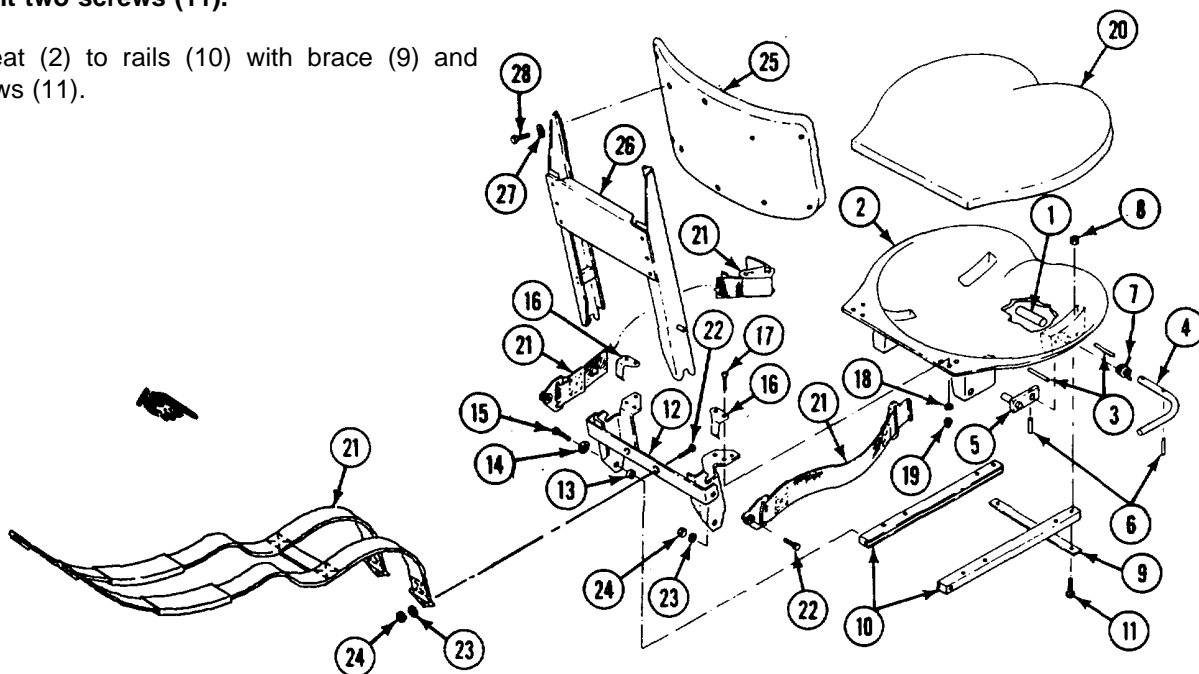
- 16. Secure seat (2) to rails (10) with brace (9) and eight screws (11).

- 17. Align backrest bracket (12) and two spacers (13) with two rails (10). Secure with two new lockwashers (14) and screws (15).
- 18. Align two clips (16) and bracket (12) with seat (2). Secure with six screws (17), washers (18), and new locknuts (19).
- 19. Install seat cushion (20) on seat (2).

NOTE

Install seatbelt (21) with buckle on left side of seat (2).

- 20. Align seatbelt (21) with bracket (12). Secure with four screws (22), washers (23), and new locknuts (24).
- 21. Align backrest (25) with back brace (26). Secure with four washers (27) and screws (28).



FOLLOW-THROUGH STEPS

- 1. Install driver's seat (page 24-127).

END OF TASK

REPLACE DRIVER'S SEAT MOUNT (OLD CONFIGURATION)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

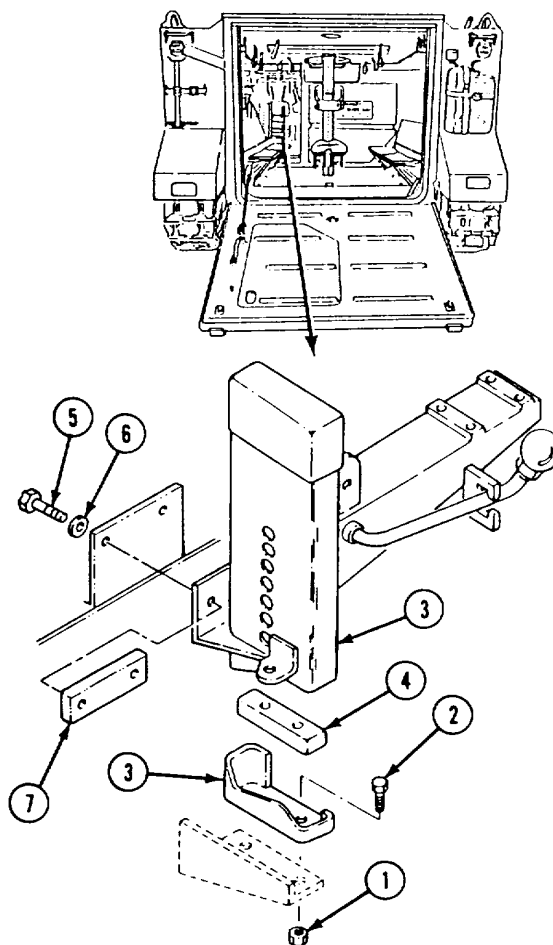
Driver's seat removed (page 24-127)

REMOVE

1. Remove two locknuts (1) and screws (2) from seat mount (3). Discard locknuts.
2. Remove pad (4) from seat mount (3).
3. Remove two screws (5), washers (6), strap (7), and seat mount (3) from driver's sponson brackets.

INSTALL

4. Place seat mount (3) on driver's sponson brackets.
5. Align strap (7) with seat mount and sponson bracket. Secure with two washers (6) and screws (5).
6. Install pad (4) in seat mount (3).
7. Secure seat mount (3) to sponson bracket with two screws (2) and new locknuts (1).

**FOLLOW-THROUGH STEPS**

1. Install driver's seat (page 24-127).
2. Raise and lock ramp (see your -10).
3. Engine stopped/shutdown (see your -10).

END OF TASK

CLEAN, INSPECT, AND REPAIR

14. Check parts for corrosion, distortion, cracks, breaks, and loose or missing parts. Repair or replace damaged or missing parts.

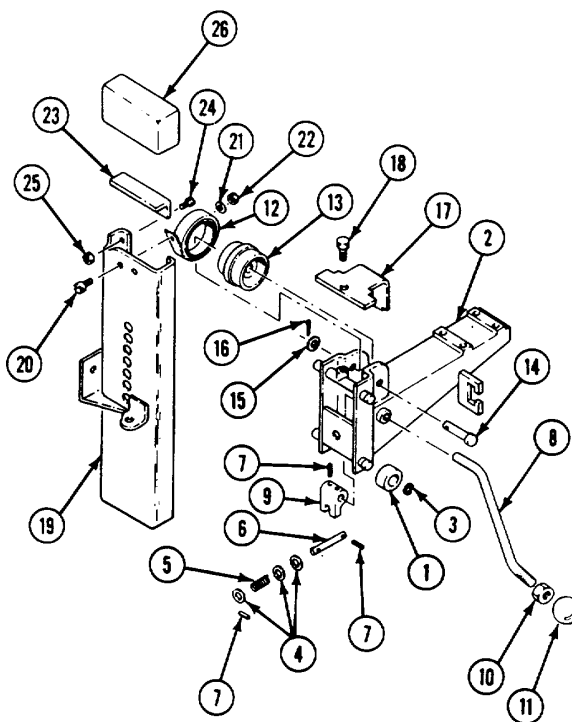
ASSEMBLE

15. Install four rollers (1) on seat support (2). Secure with four retainer rings (3).
16. Install three washers (4), spring (5), and straight pin (6) in seat support (2). Secure with two new spring pins (7).

NOTE

If handle (8) is replaced, use cam (9) as a template. Drill two 1/8 inch (3 mm) holes in handle for spring pins (7).

17. Install cam (9) and handle (8) in seat support (2). Secure with two new spring pins (7).
18. Install jamnut (10) and knob (11) on handle (8). Tighten jamnut to secure knob.
19. Place two torsion springs (12) on spool (13). Align spool with seat support (2). Secure with pin (14), washer (15), and new cotter pin (16).
20. Install cover (17) on seat support (2). Secure with screw (18).
21. Install seat support (2) in seat post (19). Align torsion springs (12) with seat post. Secure with two screws (20), washers (21), and new locknuts (22).
22. Align stiffener (23) with seat post (19). Secure with two screws (24) and new locknuts (25).
23. Install cap (26) on seat post (19).



FOLLOW-THROUGH STEPS

1. Install driver's seat post (page 24-135).
2. Install driver's seat (page 24-127).

END OF TASK

REPLACE DRIVER'S FOOTREST (NEW CONFIGURATION)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

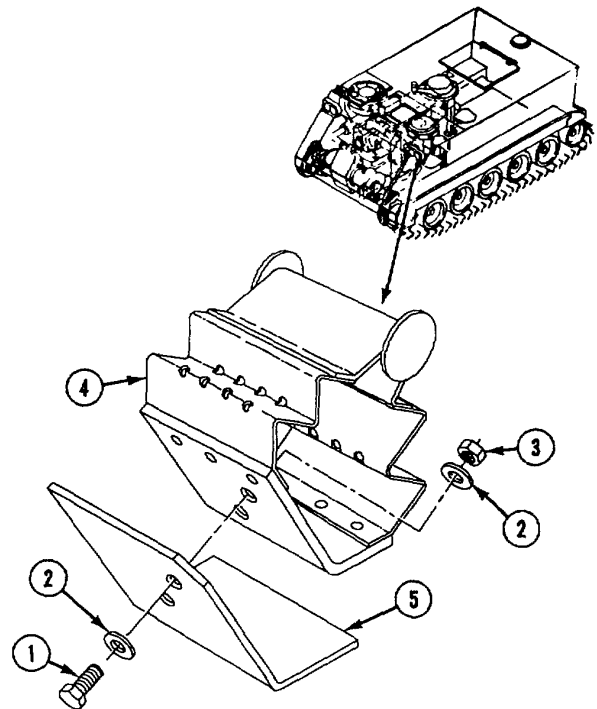
Carrier blocked (see your -10)

REMOVE

1. Remove two screws (1), four washers (2), two locknuts (3), and footrest (4) from bracket (5). Discard locknuts.

INSTALL

2. Install footrest (4) on bracket (5). Secure with two new locknuts (3), four washers (2), and two screws (1).



END OF TASK

REPLACE/REPAIR DRIVER'S SEAT POST ASSEMBLY (NEW CONFIGURATION)

DESCRIPTION

This task covers: Remove (page 24-135). Disassemble (page 24-136). Clean, Inspect, and Repair (page 24-137). Assemble (page 24-137). Install (page 24-139).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Snap Ring Pliers (Item 45, App D)

Personnel Required:

Unit Mechanic
Helper

Materials/Parts:

Cotter pin
Self-locking nut (2)
Self-locking nut (4)
Self-locking nut (2)
Self-locking nut (4)
Spring pin (4)

References:

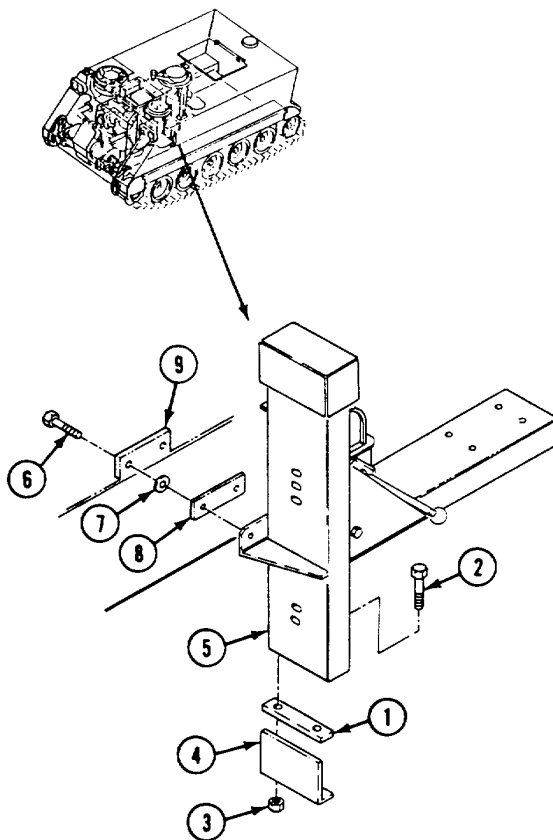
See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Driver's seat assembly removed (page 24-127)
Driver's seat impact absorber removed (page 24-127)

REMOVE

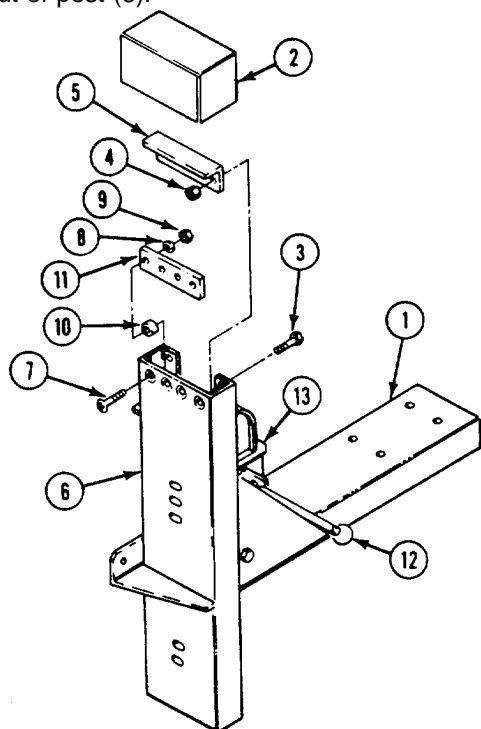
1. Remove bumper (1), two screws (2), and locknuts (3) from lower support bracket (4). Discard locknuts.
2. Support post assembly (5), and remove two screws (6), washers (7), and strap (8) from post assembly and sponson bracket (9). Remove post assembly from carrier. Have helper assist.



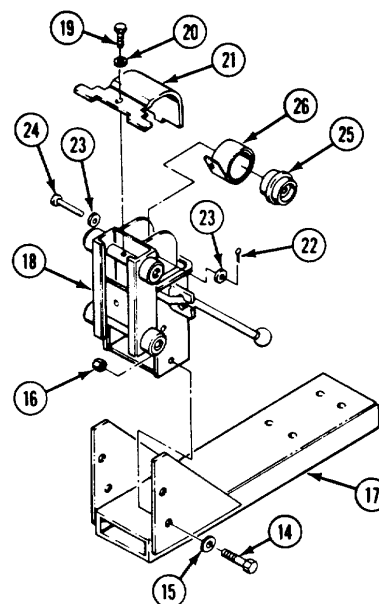
GO TO NEXT PAGE

DISASSEMBLE

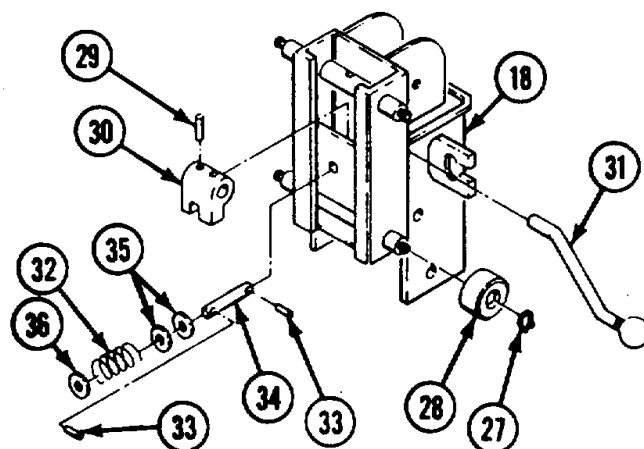
3. Lower seat support (1) to bottom hole. Remove cap (2), two screws (3), locknuts (4), and stiffener (5) from post (6). Discard locknuts.
4. Remove four screws (7), washers (8), locknuts (9), two spacers (10), and plate (11) from post (6). Discard locknuts.
5. Hold crank (12) up and slide adjuster (13) up and out of post (6).



6. Remove four screws (14), washers (15), locknuts (16), and support (17) from adjuster (18). Discard locknuts.
7. Remove screw (19), washer (20), and spring cover (21) from adjuster (18). Remove cover.
8. Remove cotter pin (22), washer (23), pin (24), washer (23), and spool (25) with two springs (26) from adjuster (18). Remove springs from spool. Discard cotter pin.



9. Remove four snap rings (27) and rollers (28). Use snap ring pliers.
10. Work through slot on top of adjuster (18), and remove two spring pins (29) from cam (30). Remove crank (31). Discard spring pins.
11. Compress spring (32) against wall of adjuster (18). Remove two spring pins (33) from straight pin (34). Remove straight pin, two washers (35), and cam (30) from inside adjuster. Discard spring pins.
12. Remove spring (32) and washer (36) from adjuster (18).



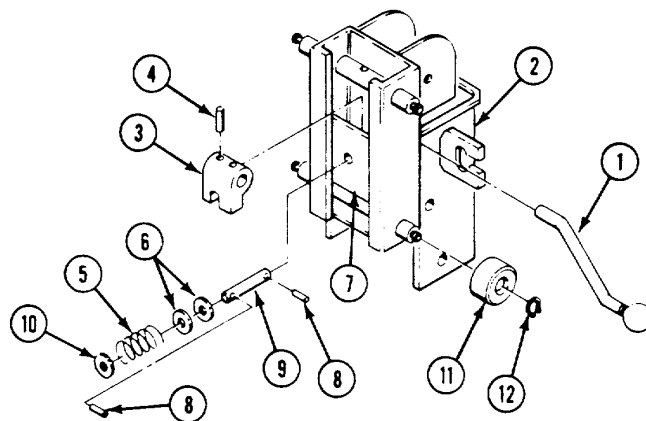
CLEAN, INSPECT, AND REPAIR

13. Check parts for corrosion, distortion, cracks, breaks, and loose or missing parts. Repair or replace damaged and missing parts.

ASSEMBLE

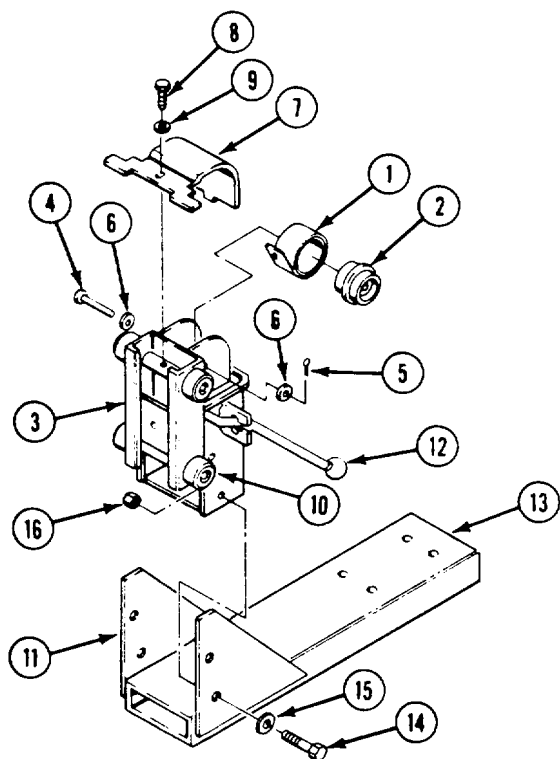
14. Place crank (1) in adjuster (2) and install cam (3). Secure with two new spring pins (4).
15. Align spring (5) and two washers (6) with holes of stiffener (7) and adjuster (2).
16. Install new spring pin (8) in hole closest to end of straight pin (9). Install two washers (6) on straight pin from other end and push up against spring pin. Slide straight pin through slot in cam (3), hole in housing, spring (5), washer (10), and into hole in stiffener (7).

17. Compress spring (5) against wall of adjuster (2) and install new spring pin (8) outboard of washers (6). Check operation of crank (1) and straight pin (9).
18. Install four rollers (11) on shaft of adjuster (2) and secure with four snap rings (12). Use snap ring pliers.



GO TO NEXT PAGE

19. Install two springs (1) on spool (2) and install on top of adjuster (3). Install pin (4) through spool. Secure with new cotter pin (5) and two washers (6).
20. Pry out two springs (1) and route under upper roller shaft. Extend springs 2 to 3 inches beyond roller shaft.
21. Install spring cover (7) on adjuster (3). Secure with one screw (8) and washer (9).
22. Place lower roller (10) inside top of post (11). Raise crank (12) and slide adjuster (3) down into post until holes in post line up with holes in springs (1).

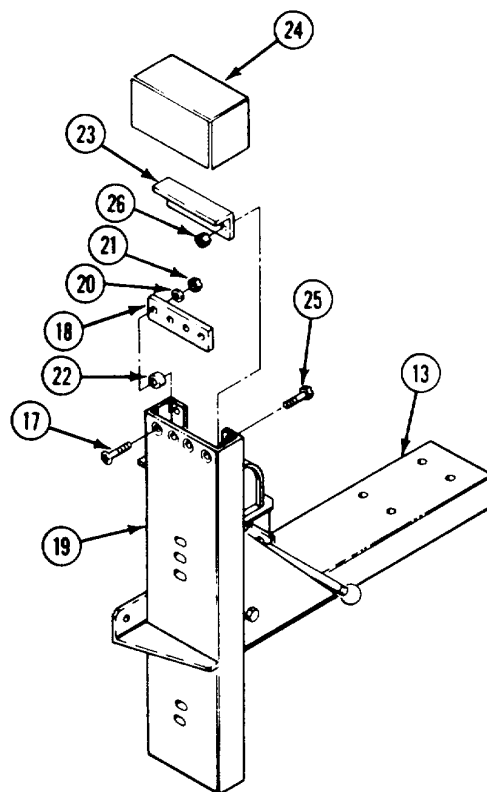


25. Place spacers (22) between post (19) and plate (18) at the outboard holes. Install two screws (17) through spacers and plate. Secure with two washers (20) and new locknuts (21).

CAUTION

Take care not to tighten the locknuts too tight or the plate will bend.

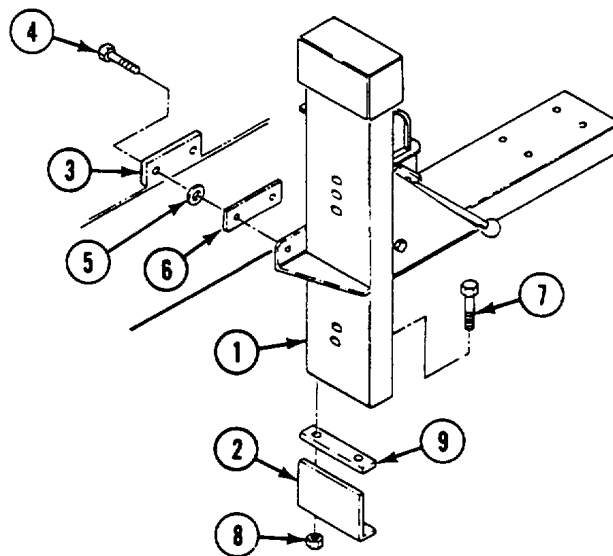
26. Tighten two locknuts (21), installed in step 24, just enough to bottom against plate (18).
27. Lower seat support (13) all the way down. Place stiffener (23) in post (19) and install cap (24). Secure with two screws (25) and new locknuts (26).



23. Install support (13) on adjuster (3). Secure with four screws (14), washers (15), and new locknuts (16).
24. Install two screws (17) into inboard holes and install plate (18) on post (19) with two screws (17), washers (20), and new locknuts (21). Tighten locknuts two turns only at this time.

INSTALL

28. Place post assembly (1) on lower bracket (2) and against sponson bracket (3). Secure post to sponson bracket with two screws (4), washers (5), and strap (6).
29. Secure lower end of post assembly (1) to lower bracket (2) with two screws (7) and new locknuts (8).
30. Install bumper (9) inside post (1).

**FOLLOW-THROUGH STEPS**

1. Install driver's seat impact absorber (page 24-127).
2. Install driver's seat assembly (page 24-127).

END OF TASK

REPLACE COMMANDER'S SEAT AND POST

DESCRIPTION

This task covers: Remove (page 24-140). Install (page 24-141).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

- Self-locking nut
- Self-locking nut
- Lock washer

Equipment Conditions:

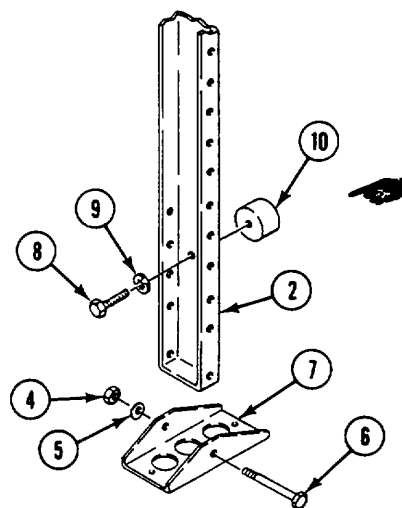
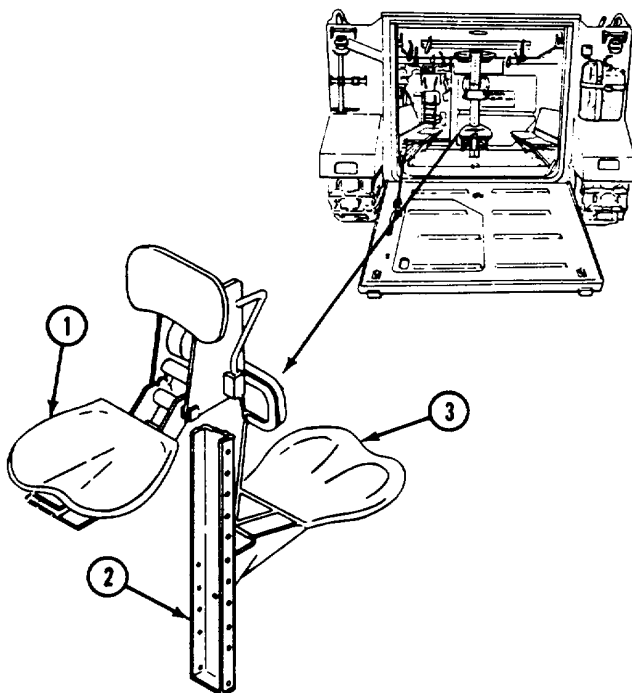
- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)
- Commander's platform removed (page 24-153 or 24-157)

Personnel Required:

Unit Mechanic

REMOVE

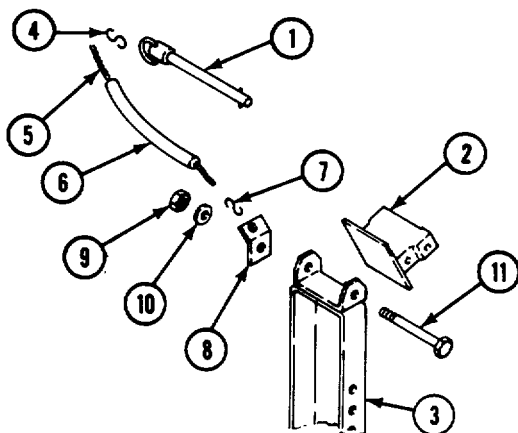
1. Unlock seat lock. Remove seat assembly (1) from post (2).
2. If post (2) is to be replaced, remove commander's jump seat (3) from post (page 24-151).
3. Remove locknut (4), washer (5), screw (6), and post (2) from base (7). Discard locknut.
4. Remove base (7) from hull crossmember.
- 4.1. Remove screw (8), lock washer (9), and nut (10) from post (2). Discard lock washer.



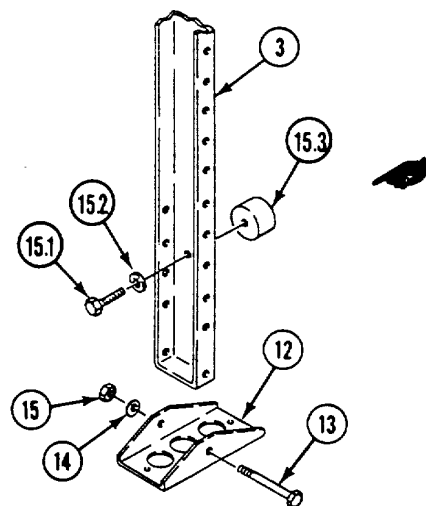
5. Remove quick release pin (1) from link (2) and hull top plate brackets. Remove seat and post assembly (3) from carrier.
6. Open both ends of hook (4). Remove from pin (1) and chain (5).
7. Remove tube (6) from chain (5).
8. Open both ends of hook (7). Remove hook from chain (5) and bracket (8).
9. Remove locknut (9), washer (10), bracket (8), link (2), and screw (11) from post (3). Discard locknut.

INSTALL

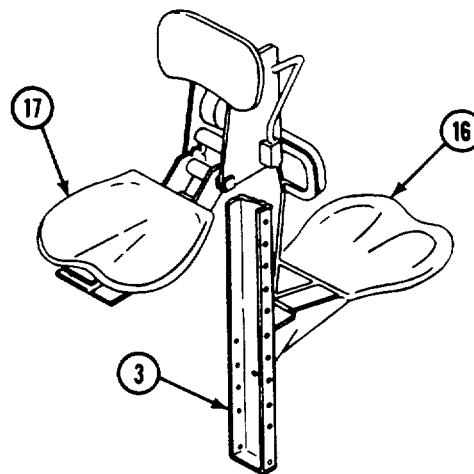
10. Align link (2) and bracket (8) with post (3). Secure with screw (11), washer (10), and new locknut (9).
11. Install hook (7) in bracket (8) and chain (5). Squeeze both ends of hook to secure.
12. Install tube (6) on chain (5).
13. Install hook (4) on chain (5) and quick release pin (1). Squeeze both ends of hook to secure.
14. Align link (2) with hull top plate brackets. Secure with pin (1).



15. Install base (12) in hull crossmember.
16. Align post (3) with base (12). Secure with screw (13), washer (14), and new locknut (15).
- 16.1. Install screw (15.1), new lock washer I (15.2), and nut (15.3) on post (3).



17. Install commander's jump seat (16) on post assembly (3) (page 24-151).
18. Hold seat lock in unlocked position. Install seat assembly (17) on post (3).



FOLLOW-THROUGH STEPS

1. Install commander's platform (page 24-153 or 24-157).

END OF TASK

REPLACE COMMANDER'S SEAT AND POST (M106A2 AND M125A2 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (2)
 Lockwasher
 Self-locking nut
 Self-locking nut

Personnel Required:

Unit Mechanic

References:

See your -10

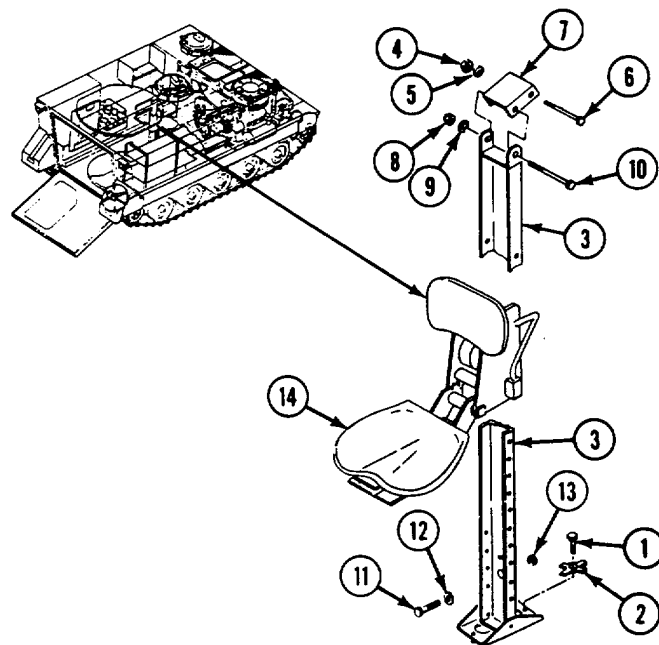
Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 Commander's platform removed
 (page 24-153 or 24-157)

REPLACE

1. Remove two screws (1) and lockwashers (2) from base of post assembly (3). Discard lockwashers.
2. Remove locknut (4), washer (5), screw (6), and link (7) from hull top plate brackets. Discard locknut.
3. Remove seat and post (3) from carrier.
4. Remove locknut (8), washer (9), link (7), and screw (10) from post (3). Discard locknut.
5. Remove screw (11), lockwasher (12), and nut (13) from post (3). Discard lockwasher.
6. Unlock seat lock. Remove seat assembly (14) from post (3).

10. Place post and seat assembly (14) in carrier. Align link (7) with hull top plate brackets. Secure with screw (6), washer (5), and new locknut (4).
11. Align base of post (3) with hull crossmember. Secure with two new lockwashers (2) and screws (1). Bend keys on lockwashers to secure screws.

**INSTALL**

7. Hold seat lock in unlocked position. Install seat assembly (14) on post (3).
8. Align nut (13) with post (3). Secure with new lockwasher (12) and screw (11).
9. Align link (7) with post (3). Secure with screw (10), washer (9), and new locknut (8).

FOLLOW-THROUGH STEPS

1. Install commander's platform (page 24-153 or 24-157).
-

END OF TASK

REPLACE COMMANDER'S SEAT AND POST (M741A1 ONLY)**DESCRIPTION**

This task covers: Remove (page 24-143).

Install (page 24-144).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

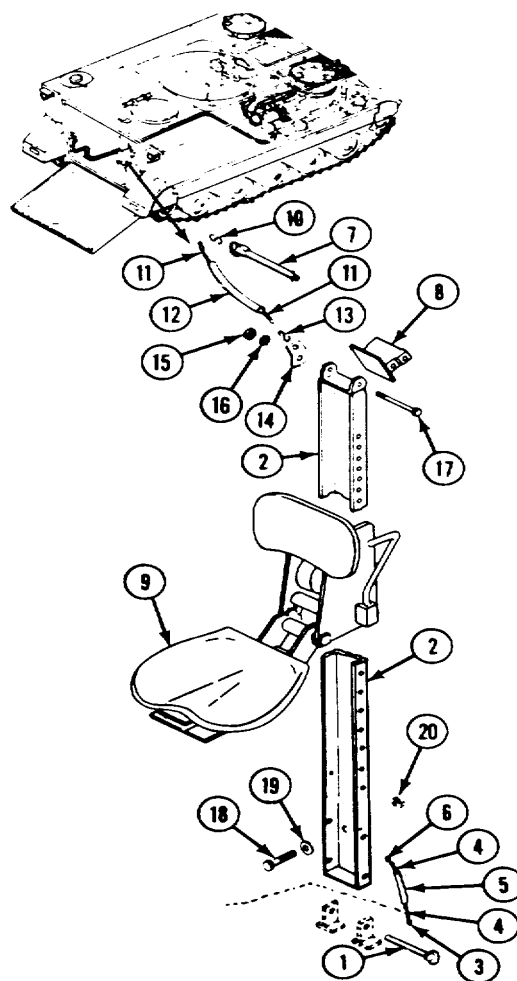
References:

See your -10

Materials/Parts:Lockwasher
Self-locking nut**Equipment Conditions:**Engine stopped/shutdown (see your -10)
Ramp lowered (see your -10)
Carrier blocked (see your -10)**Personnel Required:**

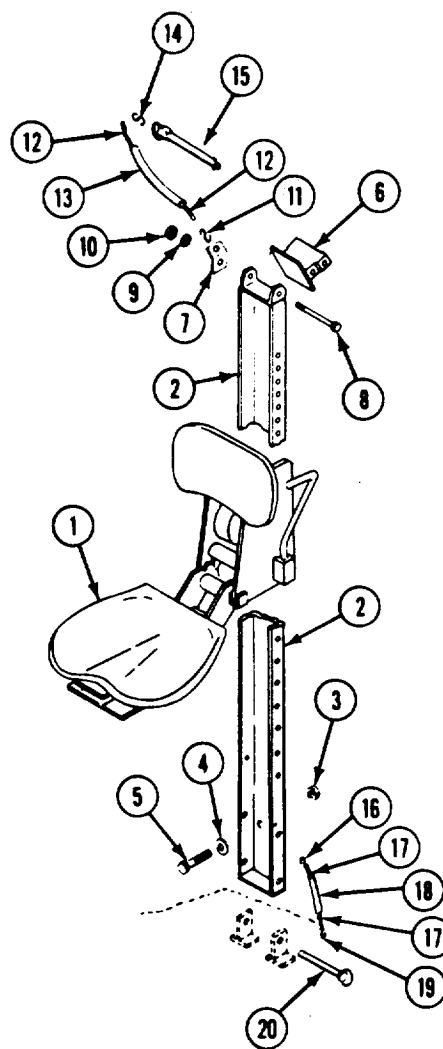
Unit Mechanic

2. Open both ends of hook (3). Remove hook from pin (1) and chain (4).
3. Remove tube (5) from chain (4).
4. Open both ends of hook (6). Remove hook from chain (4) and post (2).
5. Remove quick release pin (7) and link (8) from hull top plate brackets. Remove seat assembly (9) and post (2) from carrier.
6. Open both ends of hook (10). Remove hook from pin (7) and chain (11).
7. Remove tube (12) from chain (11).
8. Open both ends of hook (13). Remove hook from chain (11) and bracket (14).
9. Remove locknut (15), washer (16), bracket (14), link (8), and screw (17) from post (2). Discard locknut.
10. Remove screw (18), lockwasher (19), and nut (20) from post (2). Discard lockwasher.
11. Unlock seat lock. Remove seat assembly (9) from post (2).

**GO TO NEXT PAGE**

INSTALL

12. Hold seat lock in unlocked position. Install seat assembly (1) on post assembly (2).
13. Align nut (3) with post (2). Secure with new lockwasher (4) and screw (5).
14. Align link (6) and bracket (7) with post (2). Secure with screw (8), washer (9), and new locknut (10).
15. Install hook (11) on bracket (7) and chain (12). Squeeze both ends of hook to secure.
16. Install tube (13) on chain (12).
17. Install hook (14) on chain (12) and quick release pin (15). Squeeze both ends of hook to secure.
18. Place seat and post (2) in carrier. Align link (6) with hull top plate brackets. Secure with pin (15).
19. Install hook (16) on post (2) and chain (17). Squeeze both ends of hook to secure.
20. Install tube (18) on chain (17).
21. Install hook (19) on chain (17) and quick release pin (20). Squeeze both ends of hook to secure.
22. Align post (2) with hull floor brackets. Secure with pin (20).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE/REPAIR COMMANDER'S SEAT (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 24-144.1). and Repair (see chapter 2).

Disassemble (page 24-144.2). Clean, Inspect, Assemble (page 24-144.2). Install (page 24-144.3).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Cotter pin (2)
Self-locking nut (2)

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

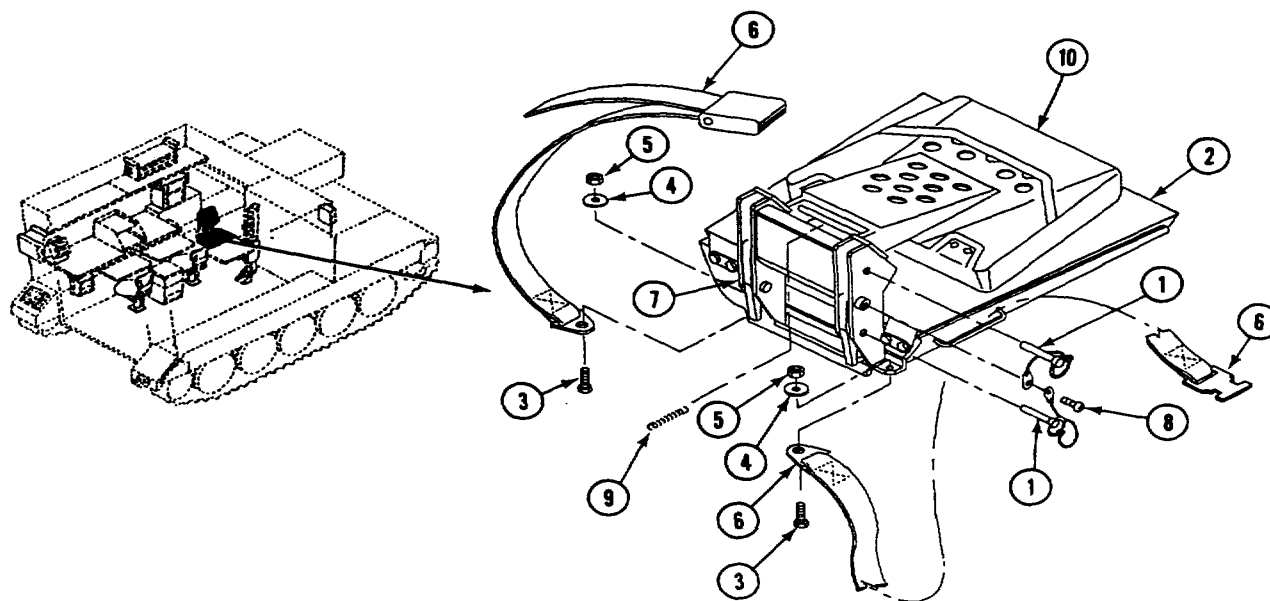
REMOVE

1. Remove four pins (1) securing commander's seat (2) to track bracket.
2. Remove commander's seat (2) from carrier.

4. Remove two screws (8) and four pins (1) from seat bracket (7).
5. Remove two springs (9) from seat back (10) and seat bracket (7).

DISASSEMBLE

3. Remove two screws (3), washers (4), locknuts (5), and belts (6) from seat bracket (7). Discard locknuts.

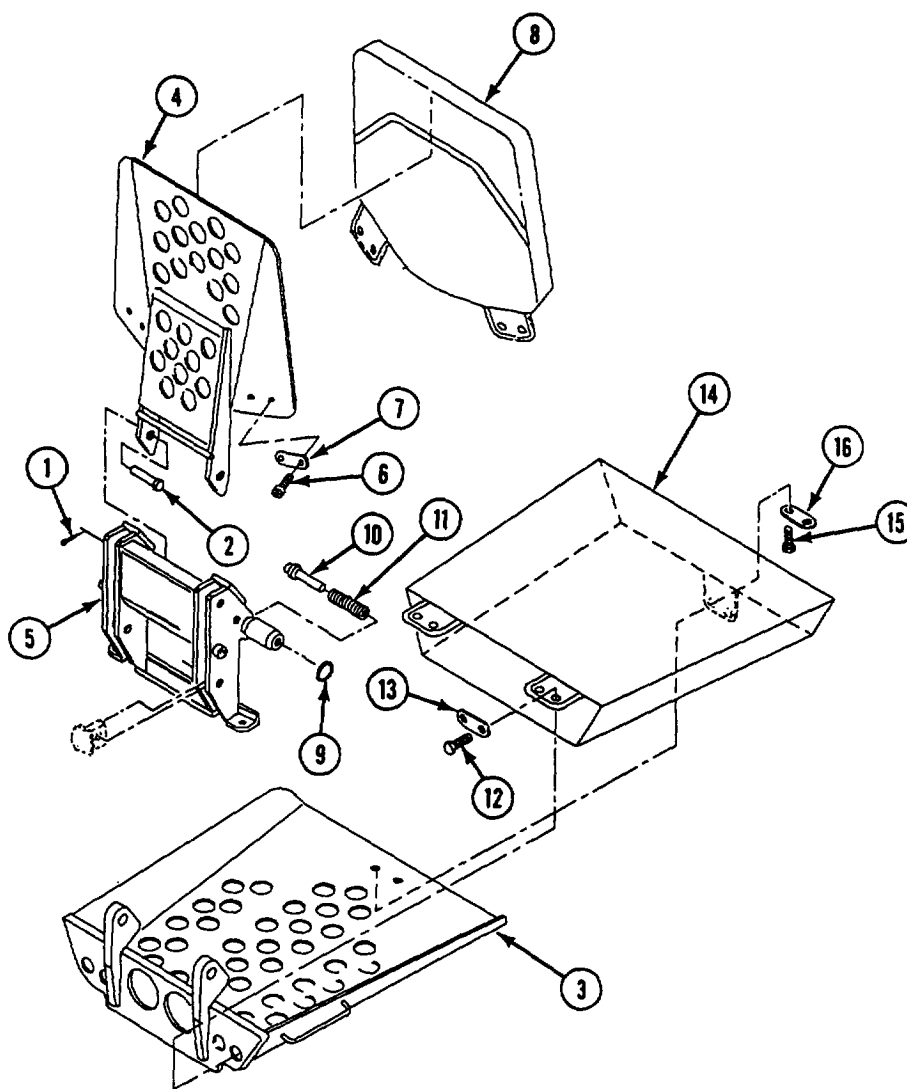


GO TO NEXT PAGE

6. Remove two cotter pins (1), pins (2), seat bottom (3), and seat back (4) from seat bracket (5). Discard cotter pins.
7. Remove four screws (6), two retainers (7), and back cushion (8) from seat back (4).
8. Remove ring (9), pin (10), and spring (11) from seat bracket (5).
9. Remove four screws (12) and two retainers (13) from cushion (14) and seat bottom (3).
10. Remove two screws (15), retainer (16), and cushion (14) from seat bottom (3).

ASSEMBLE

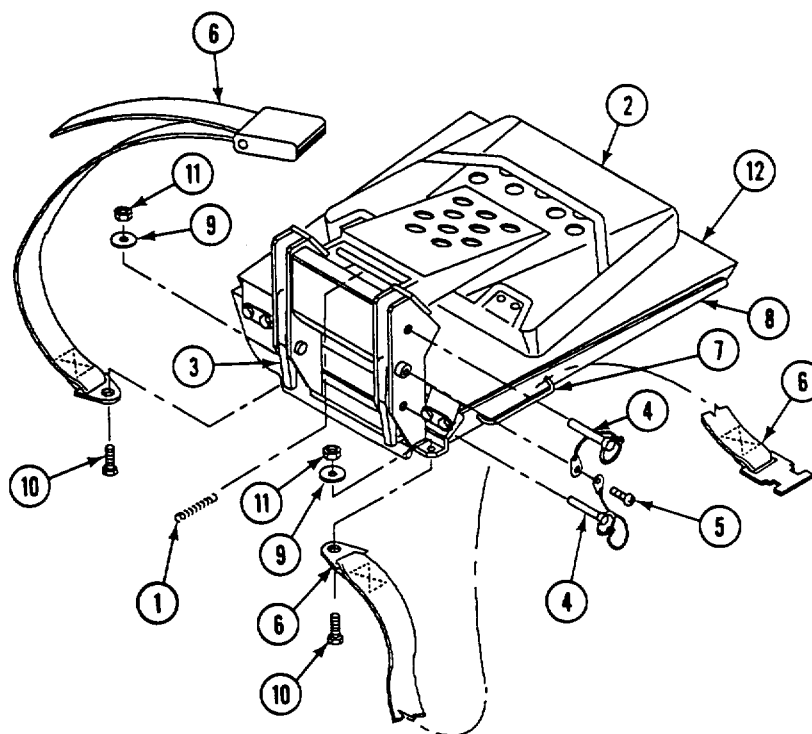
11. Position cushion (14) on seat bottom (3). Secure with retainer (16), two screws (15), two retainers (13), and four screws (12).
12. Position cushion (8) on seat back (4). Secure with two retainers (7), and four screws (6).
13. Position seat bracket (5) on seat bottom (3), and seat back (4) on seat bracket (5). Secure with two pins (2) and new cotter pins (1).
14. Install spring (11), pin (10), and ring (9) in seat bracket (5).



15. Install two springs (1) on seat back (2) and seat bracket (3).
16. Install four pins (4) and two screws (5) on seat bracket (3).
17. Install two seat belts (6) as follows:
 - a. Position two seat belts (6) through loops (7) on seat bottom (8).
 - b. Secure two seat belts (6) to seat bracket (3) with two washers (9), screws (10), and new locknuts (11).

INSTALL

18. Position commander's seat (12) on track bracket. Secure four pins (4)



END OF TASK

REPAIR COMMANDER'S SEAT (M113A2, M106A2, M125A2, M1064, AND M741A1 ONLY)

DESCRIPTION

This task covers: Disassemble (page 24-145).

Assemble (page 24-147).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

- Cotter pin (4)
- Lockwasher
- Self-locking nut (6)
- Splined nut, as needed (8)
- Splined washer, as needed (8)
- Spring pin (2)

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Commander's seat removed from post (pages 24-140, 24-142, or 24-143)

DISASSEMBLE

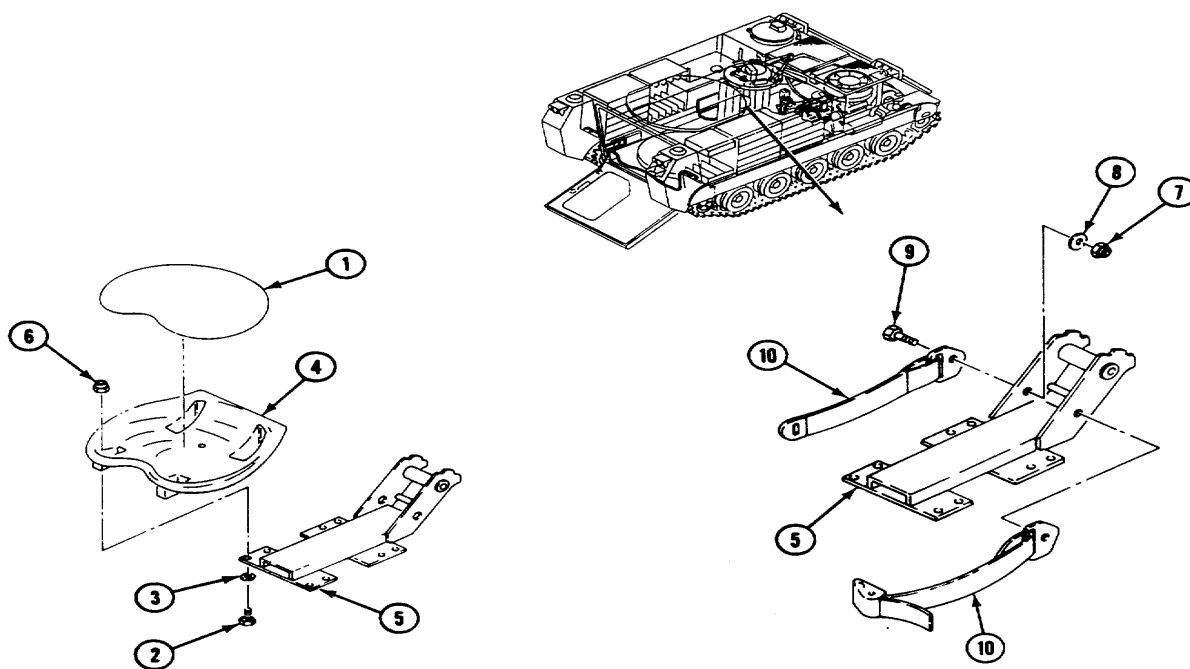
1. Remove seat cushion (1).
2. Remove eight screws (2) and washers (3). Remove seat (4) from seat support (5).

4. Remove two locknuts (7), washers (8), screws (9), and seatbelt (10) from support (5). Discard locknuts.

NOTE

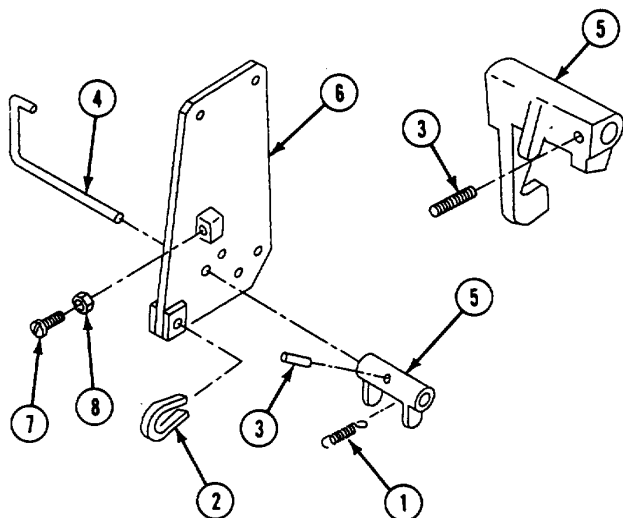
Remove splined nut(s) only if damaged.

3. If splined nuts (6) need to be replaced, drive old nuts out of seat (4). Discard nuts.

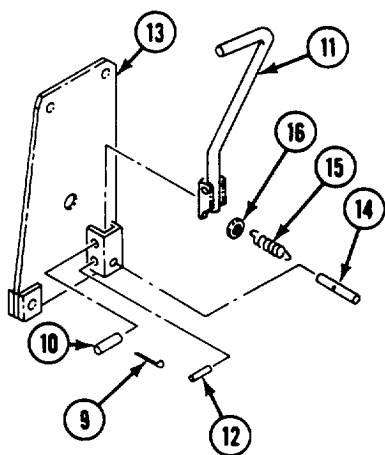


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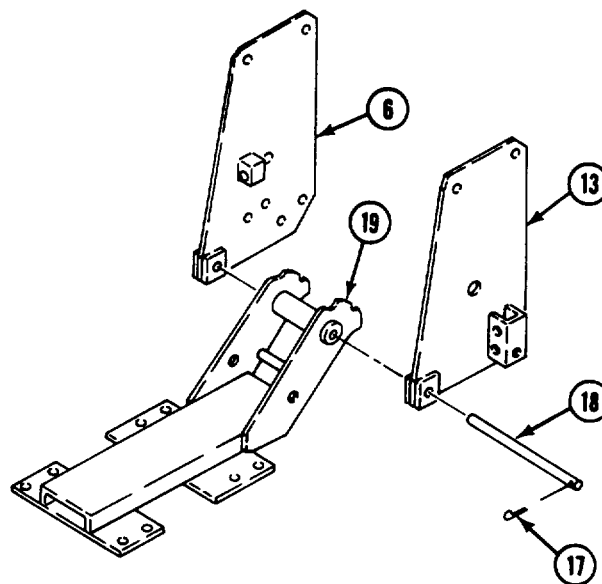
5. Remove spring (1), clip (2), spring pin (3), handle (4), and seat lock (5) from right mount (6). Discard spring pin.
6. Remove two screws (7) and nuts (8) from right mount (6).



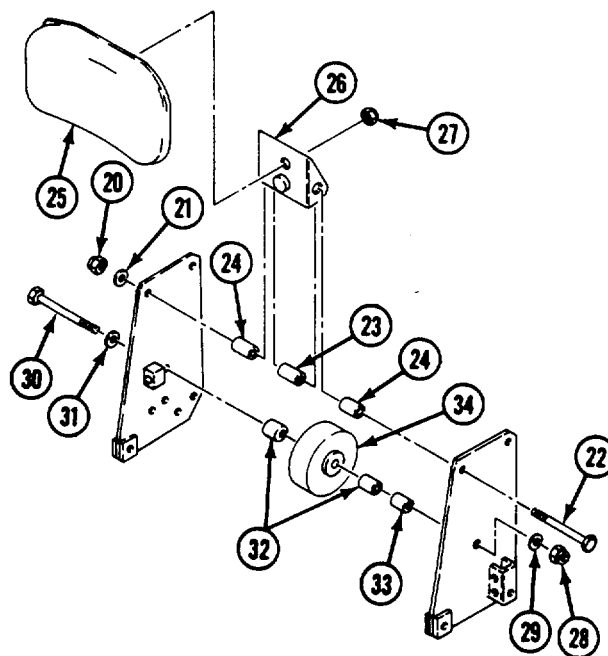
7. Remove two cotter pins (9), straight pin (10), handle (11), and spring pin (12) from left mount (13). Discard cotter pins and spring pin.
8. Remove stop pin (14), spring (15), and washer (16) from left mount (13).



9. Remove two cotter pins (17) and straight pin (18) from left mount (13), support (19), and right mount (6). Discard cotter pins.



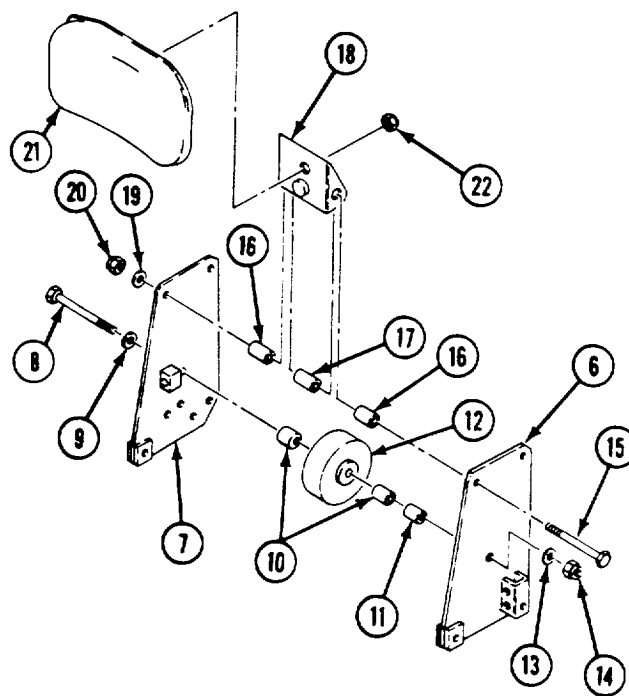
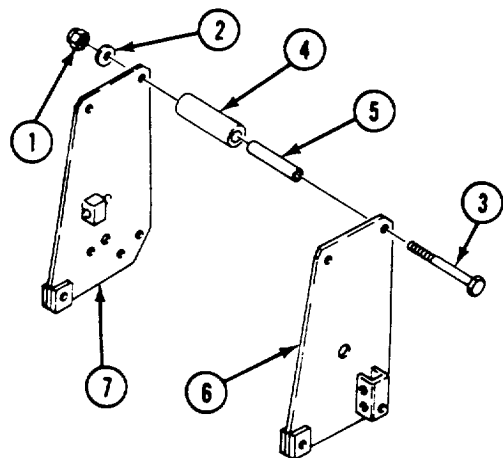
10. Remove locknut (20), washer (21), screw (22), short spacer (23), two long spacers (24), backrest (25), and bracket (26). Discard locknut.
11. Remove nut (27) and backrest (25) from bracket (26).
12. Remove locknut (28), washer (29), screw (30), washer (31), two spacers (32), one spacer (33), and wheel (34). Discard locknut.



13. Remove locknut (1), washer (2), screw (3), two rollers (4), and spacers (5) from left mount (6) and right mount (7). Discard locknut.

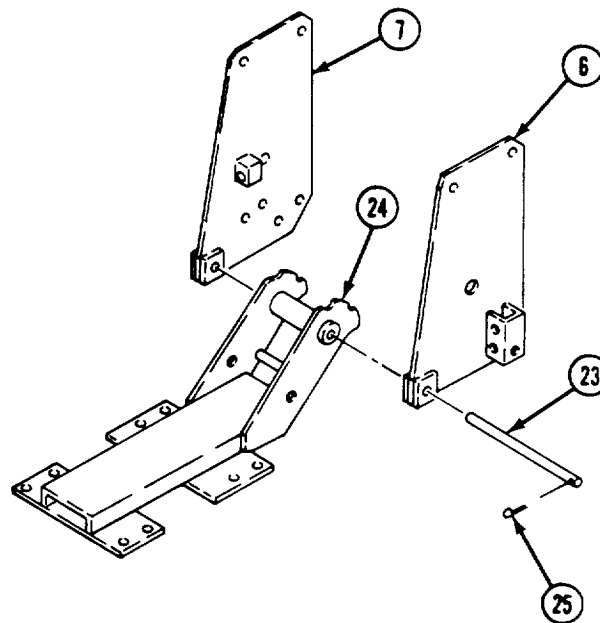
ASSEMBLE

14. Install screw (3) in left mount (6). Assemble two spacers (5) and rollers (4) on screw.
15. Install screw (3) through right mount (7). Secure with washer (2) and new locknut (1).



21. Install straight pin (23) through left mount (6), seat support (24), and right mount (7). Secure with two new cotter pins (25).

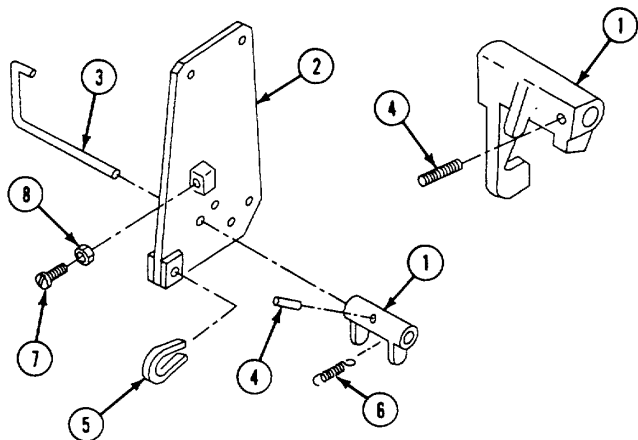
16. Install screw (8) and washer (9) in right mount (7). Assemble two spacers (10), one spacer (11), and wheel (12) on screw (8).
17. Install screw (8) through left mount (6). Secure with washer (13) and new locknut (14).
18. Install screw (15) in left mount (6). Assemble two long spacers (16), one short spacer (17), and bracket (18) on screw (15).
19. Install screw (15) in right mount (7). Secure with washer (19) and new locknut (20).
20. Secure backrest (21) to bracket (18) with new locknut (22).



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22. Install seat lock (1) on right mount (2). Secure with handle (3), new spring pin (4), clip (5), and spring (6).

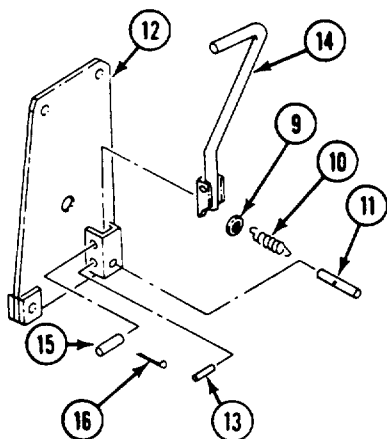
23. Install two screws (7) and nuts (8) on right mount (2).



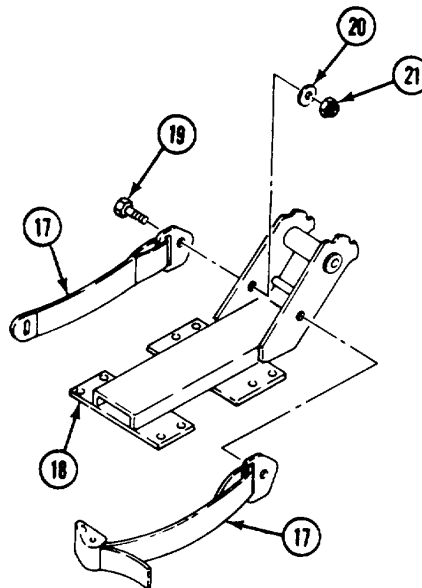
24. Install washer (9), spring (10), and stop pin (11) in left mount (12).

25. Install new spring pin (13), handle (14), and straight pin (15) in left mount (12).

26. Install two new cotter pins (16) through straight pin (15).



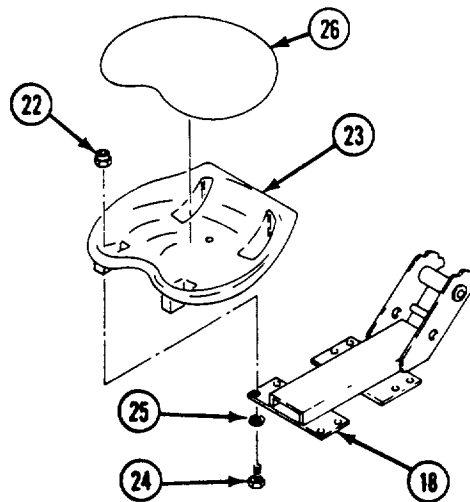
27. Install seatbelt (17) on support (18). Secure with two screws (19), washers (20), and new locknuts (21).



28. If removed, install new splined nuts (22) in seat (23).

29. Install seat (23) on support (18). Secure with eight screws (24) and washers (25).

30. Install seat cushion (26) on seat (23).



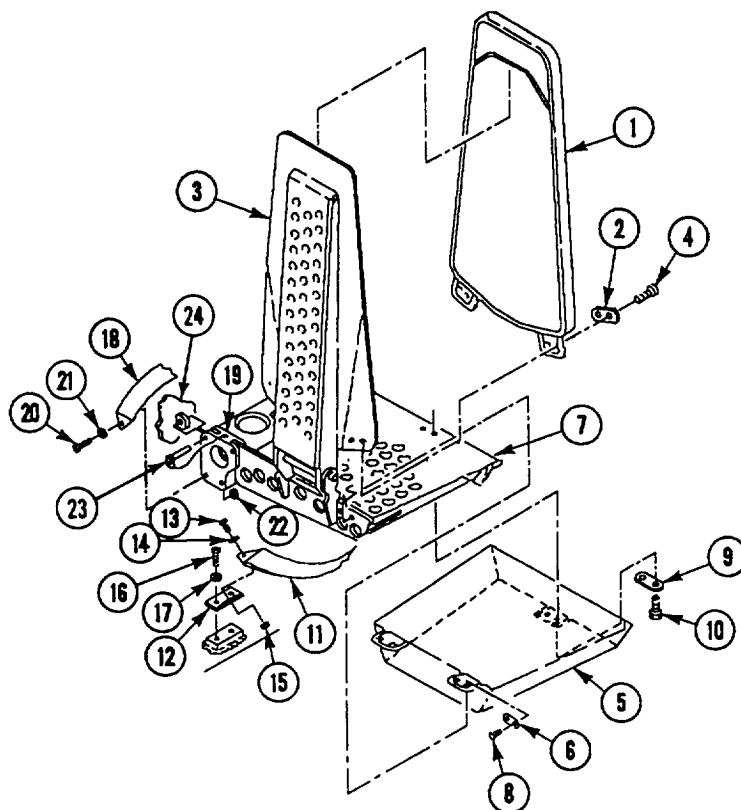
FOLLOW-THROUGH STEPS

1. Install commander's seat on post (page 24-140, 24-142, or 24-143).

END OF TASK

INSTALL

7. Install cushion (1) and two retainers (2) on seat back (3). Secure with four screws (4).
8. Install cushion (5) and two retainers (6) on pan (7). Secure with four screws (8).
9. Install retainer (9) and two screws (10) on pan (7) and cushion (5).
10. Install seat belt (11) on bracket (12). Secure with screw (13), washer (14), and new locknut (15). Tighten locknut to 264-288 lb-in (30-32 N-m) torque. Use torque wrench and socket wrench set.
11. Install bracket (12) on box beam. Secure with two screws (16) and washers (17). Tighten screws to 264-288 lb-in (30-32 N-m) torque. Use torque wrench and socket wrench set.
12. Install seat belt (18) on bracket (19). Secure with screw (20), washer (21), and new locknut (22). Tighten locknut to 264-288 lb-in (30-32 N.m) torque. Use torque wrench and socket wrench set.
13. Install four quick release pins (23) on seat bracket (19) and sponson bracket (24).



END OF TASK

REPAIR OPERATORS SEAT (M1059 ONLY)

DESCRIPTION

This task covers: Disassemble (page 24-150.1).

Assemble (page 24-150.2).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Cotter pin (4)

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

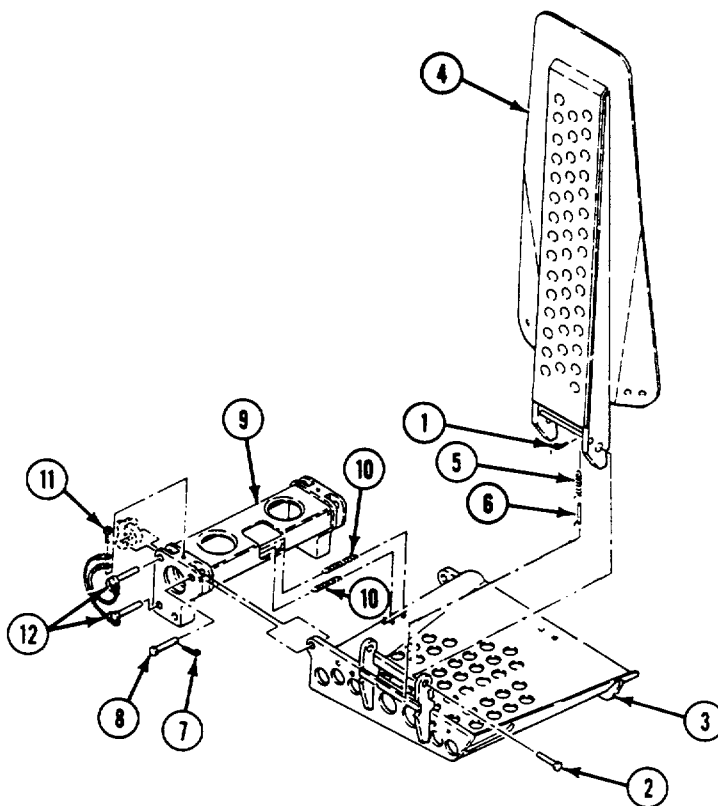
Operator's seat removed (page 24-149)

Personnel Required:

Unit Mechanic

DISASSEMBLE

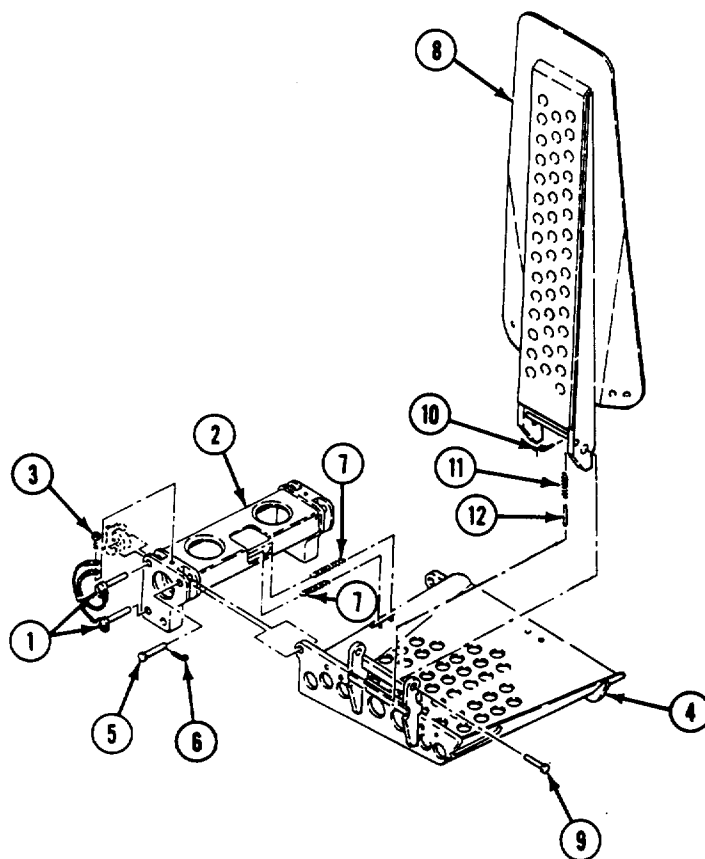
1. Remove two cotter pins (1) and headed pins (2) from seat pan (3) and seat back (4). Discard cotter pins.
2. Remove two springs (5) and pins (6) from seat back (4) and seat pan (3).
3. Remove two cotter pins (7) and headed pins (8) from seat pan (3) and seat bracket (9). Discard cotter pins.
4. Remove two springs (10) from seat bracket (9) and seat pan (3).
5. Remove two screws (11) and four lanyards (12), with quick release pins attached, from seat bracket (9).



GO TO NEXT PAGE

ASSEMBLE

6. Install four lanyards (1), with quick release pins attached, on seat bracket (2) with two screws (3).
7. Install seat bracket (2) on seat pan (4). Secure with two headed pins (5) and new cotter pins (6).
8. Tilt seat bracket (2) and install two springs (7) on seat bracket and seat pan (4).
9. Install seat back (8) on seat pan (4). Secure with two headed pins (9) and new cotter pins (10).
10. Tilt seat back (8) and install two springs (11) and pins (12) on seat back and seat pan (4).



FOLLOW-THROUGH STEPS

- 1 Install operator's seat (page 24-149).

END OF TASK

REPLACE/REPAIR RADIO OPERATOR'S SEAT (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 24-150.3) and Repair (see chapter 2). Disassemble (page 24-150.4). Clean, Inspect, Assemble (page 24-150.5). Install (page 24-150.7)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Bushing
- Lockwasher (2)
- Long spring pin (2)
- Self-locking nut (2)
- Self-locking nut (6)
- Self-locking nut (6)
- Self-locking nut

Materials/Parts: (cont):

Short spring pin (2)

Personnel Required:

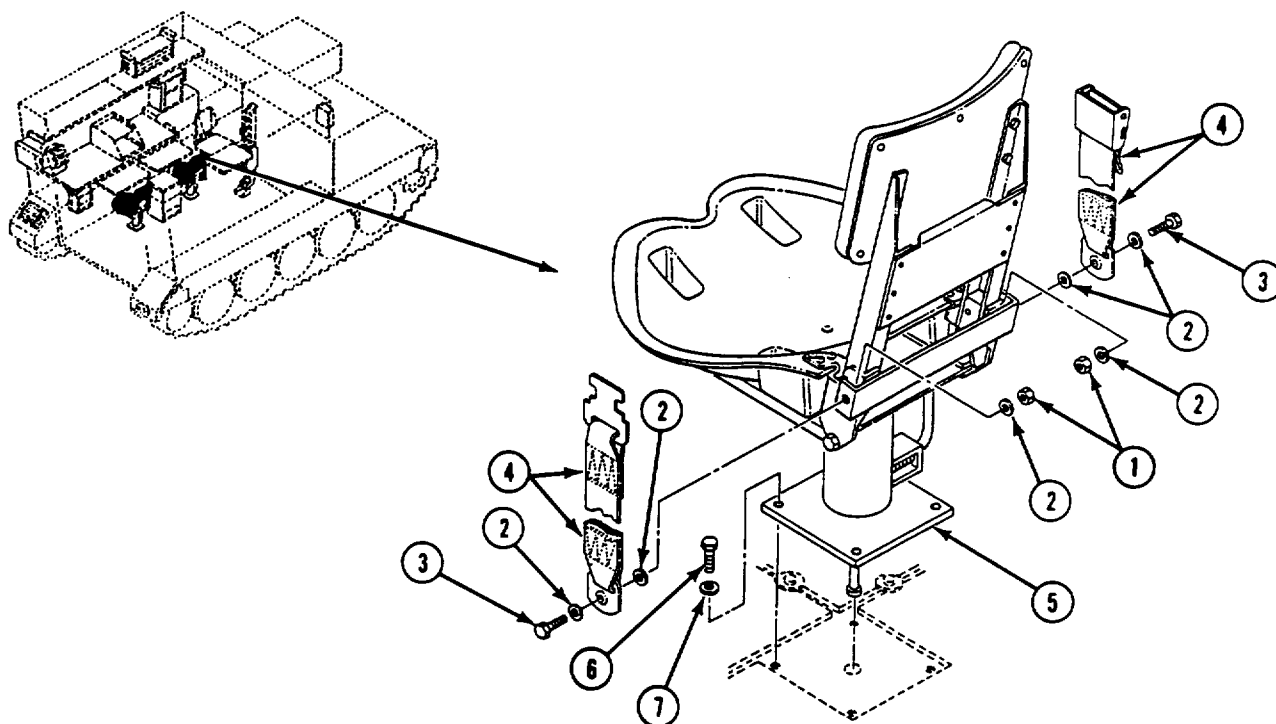
Unit Mechanic

Equipment Conditions:

- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)

REMOVE

1. Remove two locknuts (1), six washers (2), two screws (3), and seat belts (4) from station operator's seat (5). Discard locknuts.
2. Remove four screws (6), washers (7), and station operator's seat (5) from carrier.



GO TO NEXT PAGE

DISASSEMBLE

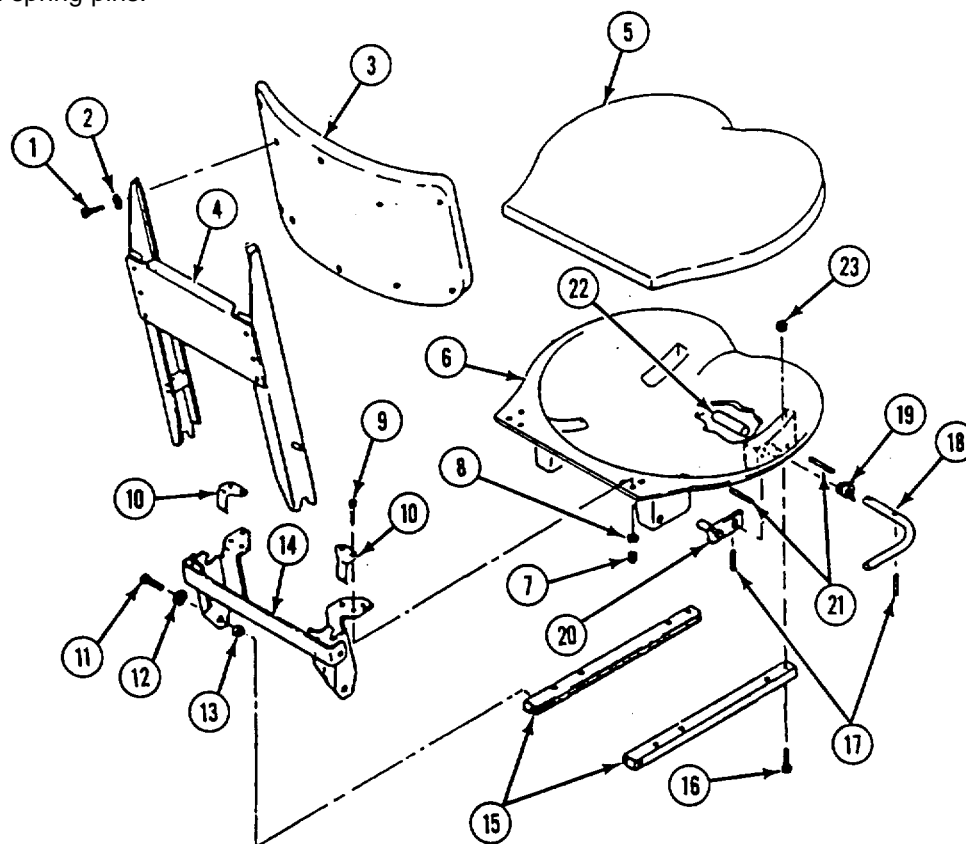
3. Remove four screws (1), washers (2), and backrest (3) from back brace (4). Lift back brace off seat.
4. Remove seat cushion (5) from seat (6).
5. Remove six locknuts (7), washers (8), screws (9), and two clips (10) from seat (6). Discard locknuts.
6. Remove two screws (11), lockwashers (12), spacers (13), and bracket (14) from two rails (15). Discard lockwashers.
7. Remove eight screws (16) and seat (6) from two rails (15).
8. Remove two short spring pins (17) from handle (18). Discard spring pins.

9. Remove handle (18), spring (19), and latch (20) from seat (6).
10. Remove two long spring pins (21) from seat (6). Discard spring pins.

NOTE

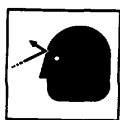
If inspection shows that bushing (22) needs to be replaced, perform step 11. Be careful. Do not damage seat when straightening ends.

11. Straighten ends and remove bushing (22) from seat (6). Discard bushing.
12. If locknut(s) (23) need to be replaced, drive out old locknut(s) from seat (6). Discard locknut(s).



13. Remove two locknuts (1), screws (2), washers (3), and rack (4) from support plate (5). Discard locknuts.
14. Remove four screws (6), locknuts (7), eight washers (8), and support plate (5) from tube (9). Discard locknuts.
15. Pull handle (10) and push tube (9) down to its lowest position. Hold rod (11) and remove locknut (12) and washer (13) from rod. Discard locknut.

WARNING



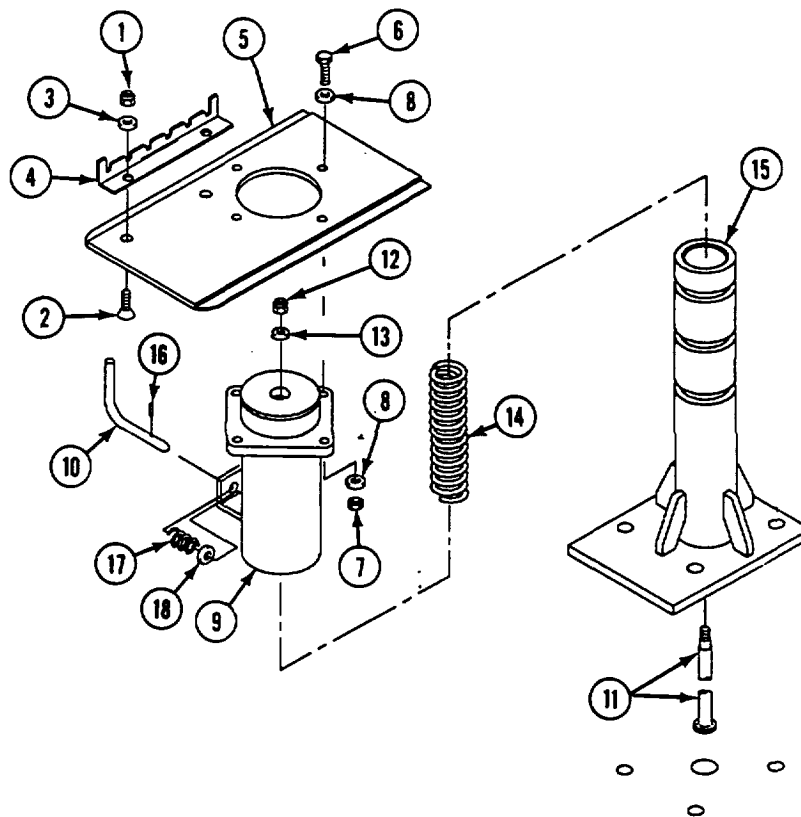
Apply pressure on tube to prevent spring from releasing when handle is pulled out. Injury to personnel can result from flying tube and spring.

16. While pushing down on tube (9), pull out handle (10) and slowly allow spring (14) to expand.
17. Remove rod (11), tube (9), and spring (14), from pedestal (15).

18. Remove pin (16), handle (10), spring (17), and washer (18) from tube (9).

ASSEMBLE

19. Install washer (18), spring (17), handle (10), and pin (16) on tube (9).
20. Install spring (14), tube (9), and rod (11) on pedestal (15).
21. Install tube (9). Push down on tube and lock handle (10) in the lowest position.
22. Hold rod (11) and install washer (13) and new locknut (12) on rod.
23. Install support plate (5), eight washers (8), four screws (6), and new locknuts (7) on tube (9). Tighten screws to 80-90 in.-lb torque.
24. Install rack (4), two washers (3), screws (2), and new locknuts (1) on support plate (5).



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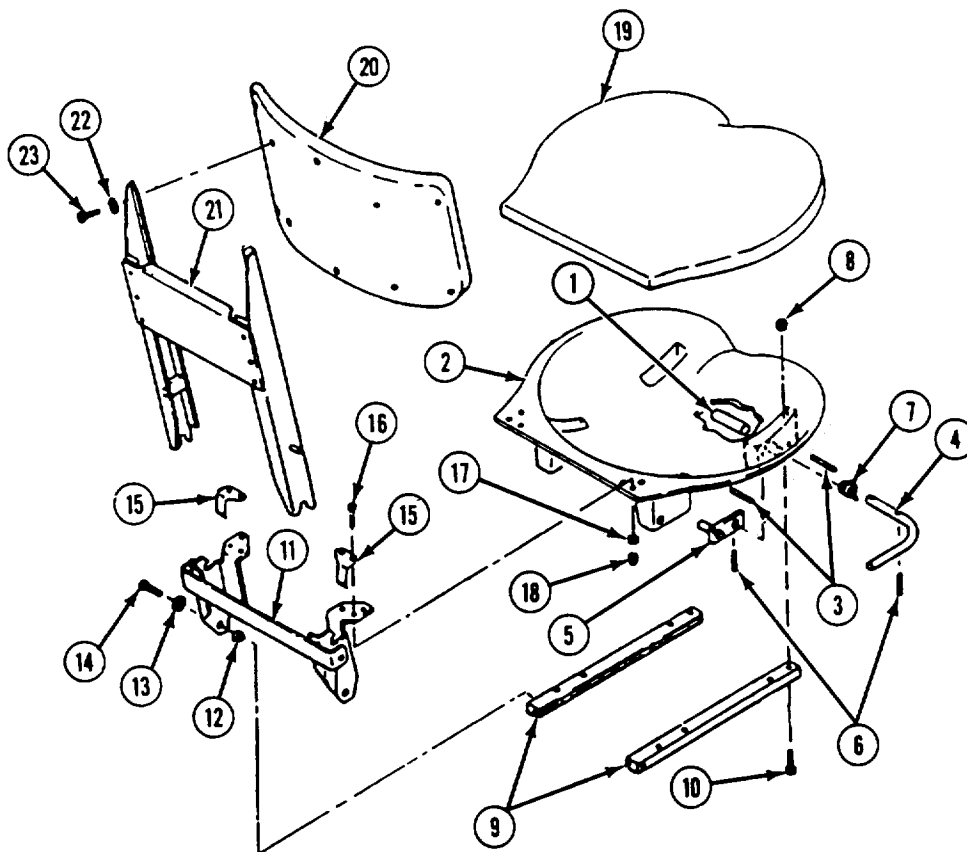
- 25. If removed, install new bushing (1) in seat (2). Peen both ends snugly to seat and secure.
- 26. Install two new long spring pins (3) in seat (2).

NOTE

If handle (4) is replaced, use latch (5) as a template, and drill 1/8 inch (3 mm) hole in handle for spring pin (6).

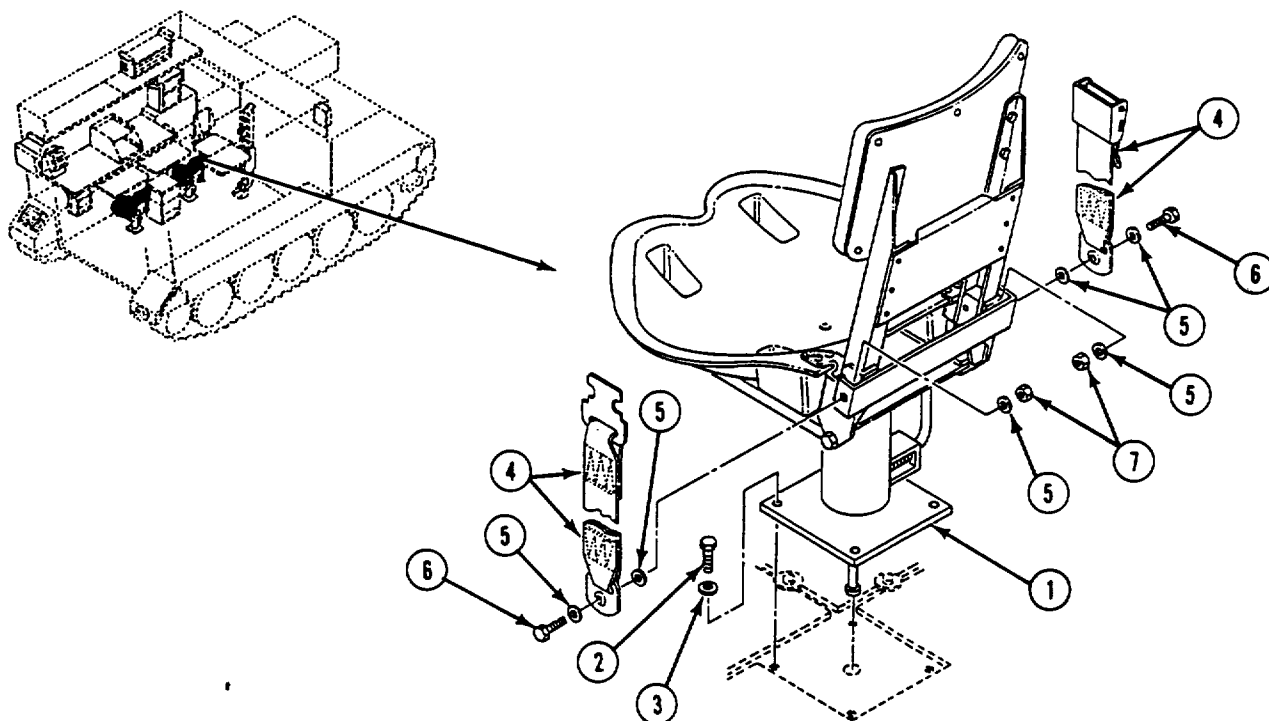
- 27. Install latch (5), spring (7), and handle (4) in seat (2). Secure with two new short spring pins (6).
- 28. If locknut(s) (8) was removed, install new locknut(s) (8) in seat (2).

- 29. Secure seat (2) to rails (9) with eight screws (10).
- 30. Align backrest bracket (11) and two washers (12) with two rails (9). Secure with two new lockwashers (13) and screws (14).
- 31. Align two clips (15) and bracket (11) with seat (2). Secure with six screws (16), washers (17), and new locknuts (18).
- 32. Install seat cushion (19) on seat (2).
- 33. Align backrest (20) with back brace (21). Secure with four washers (22) and screws (23).



INSTALL

34. Position station operator's seat (1) in carrier. Secure with four washers (2) and screws (3).
35. Position two seat belts (4) on station operator's seat (1). Secure with six washers (5), two screws (6), and two new locknuts (7).



END OF TASK

REPLACE COMMANDER'S JUMP SEAT**DESCRIPTION**

This task covers: Remove (page 24-151).

Install (page 24-152).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Large cotter pin
 Self-locking nut
 Self-locking nut (2)
 Self-locking nut
 Small cotter pin (4)
 Splined nut (8), as needed

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

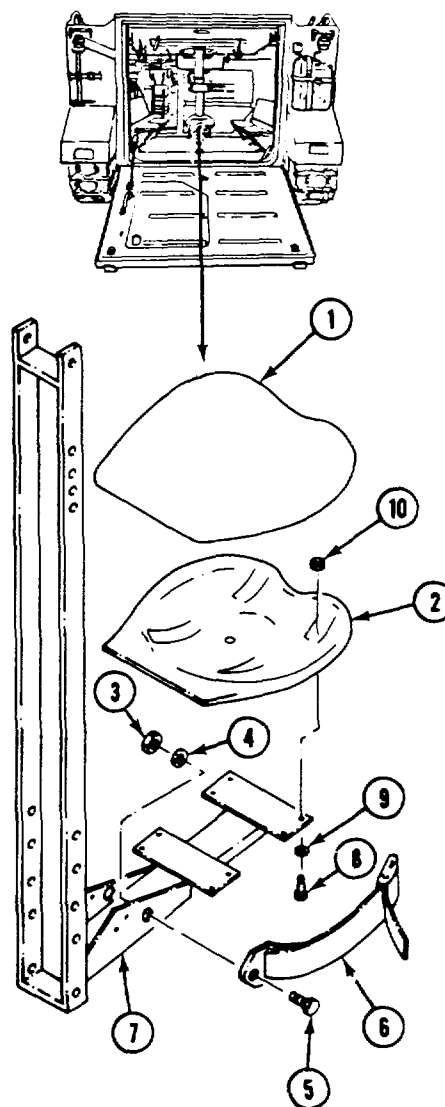
REMOVE

1. Remove cushion (1) from seat (2).
2. Remove two locknuts (3), washers (4), screws (5), and seatbelt (6) from seat support (7). Discard locknuts.
3. Remove eight screws (8), washers (9), and seat (2) from support (7).

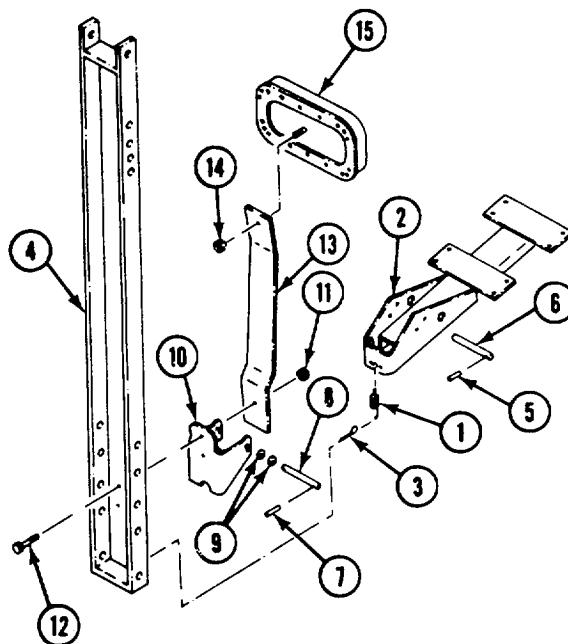
NOTE

Remove splined nut(s) only if damaged.

4. If splined nut(s) (10) need to be replaced, drive old splined nuts out of seat (2). Discard nuts.

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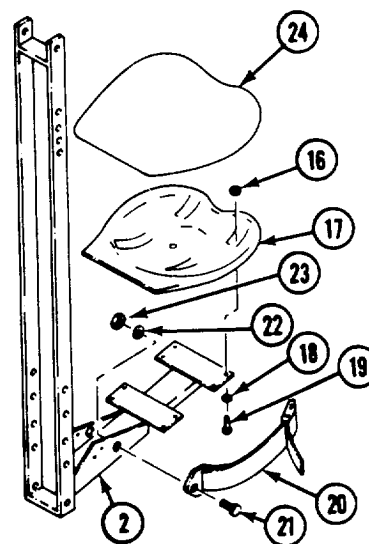
5. Remove spring (1) from support (2) and large cotter pin (3).
6. Remove cotter pin (3) from post (4). Discard cotter pin.
7. Remove two cotter pins (5) from pin (6). Remove pin from support (2). Discard cotter pins.
8. Remove two cotter pins (7) from pin (8). Remove pin, two washers (9), and support (2) from bracket (10). Discard cotter pins.
9. Remove two locknuts (11), screws (12), backrest support (13), and bracket (10) from post (4). Discard locknuts.
10. Remove locknut (14) and backrest (15) from support (13). Discard locknut.



INSTALL

11. Install backrest (15) on backrest support (13). Secure with new locknut (14).
12. Align support (13) and bracket (10) with post (4). Secure with two screws (12) and new locknuts (11).
13. Align seat support (2) with bracket (10). Secure with pin (8), two washers (9), and new small cotter pins (7).
14. Install pin (6) in support (2). Secure with two new small cotter pins (5).
15. Install new large cotter pin (3) in post (4).
16. Install spring (1) on cotter pin (3) and support (2).

17. If removed, install new splined nuts (16) in seat (17).
18. Align seat (17) with support (2). Secure with eight washers (18) and screws (19).
19. Align seatbelt (20) with support (2). Secure with two screws (21), washers (22), and new locknuts (23).
20. Install cushion (24) on seat (17).



END OF TASK

REPLACE/REPAIR COMMANDER'S PLATFORM

DESCRIPTION

This task covers: Remove (page 24-153).
and Repair (page 24-154).

Disassemble (page 24-154). Clean, Inspect,
Assemble (page 24-155). Install (page 24-155).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Cotter pin
Self-locking nut (2)
Self-locking nut (4)

References:

See your -10

Equipment Conditions:

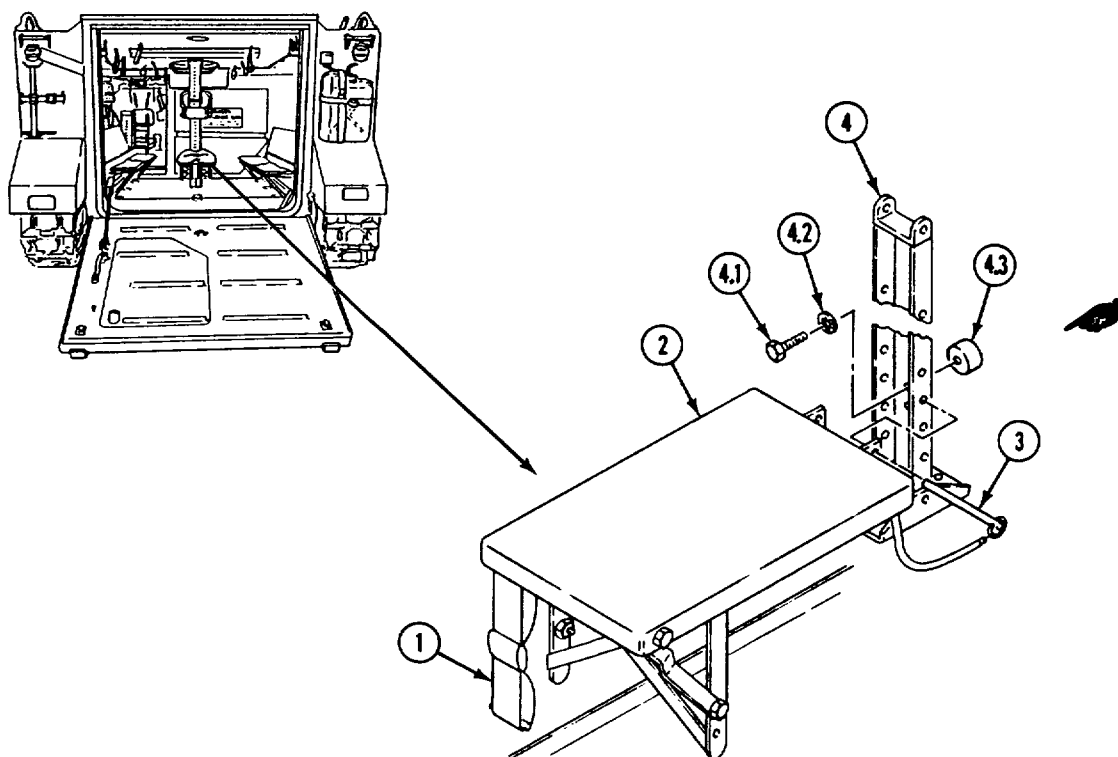
Engine stopped (see your -10)
Carrier blocked (see your -10)

REMOVE

1. Remove hold-down strap (1) from right front floor plate and platform (2).

2. Remove quick release pin (3) and platform (2) from seat post (4).

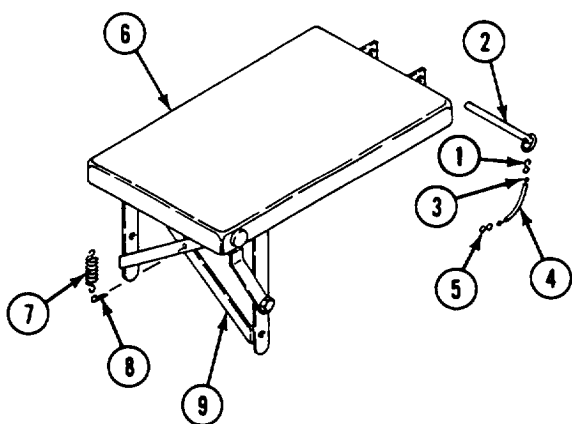
2.1. Remove screw (4.1), washer (4.2), and nut (4.3) from post (4).



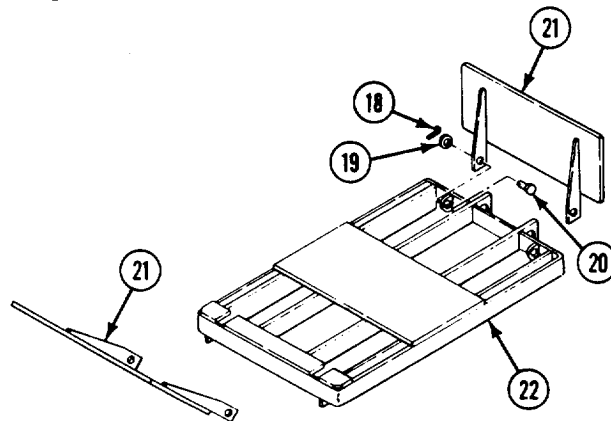
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DISASSEMBLE

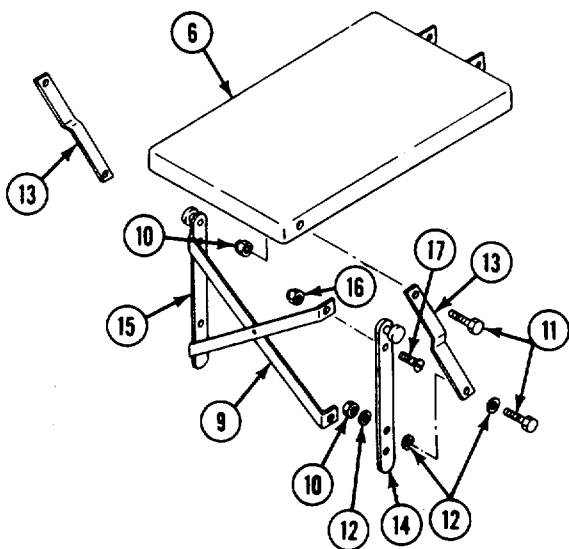
3. Open both ends of hook (1) and remove from quick release pin (2) and chain (3).
4. Remove tube (4) from chain (3).
5. Open both ends of hook (5). Remove from chain (3) and platform (6).
6. Remove spring (7) from cotter pin (8) and platform (6).
7. Remove cotter pin (8) from two supports (9). Discard cotter pin.



9. Remove two posts (14 and 15) from platform (6). Remove two locknuts (16), screws (17), and post (14) from two supports (9). Discard locknuts.
10. On M106A2 and M125A2 carriers, remove four cotter pins (18), washers (19), pins (20), and two plates (21) from platform (22). Discard cotter pins.



8. Remove four locknuts (10), screws (11), six washers (12), and two braces (13) from platform (6) and two posts (14 and 15). Discard locknuts.

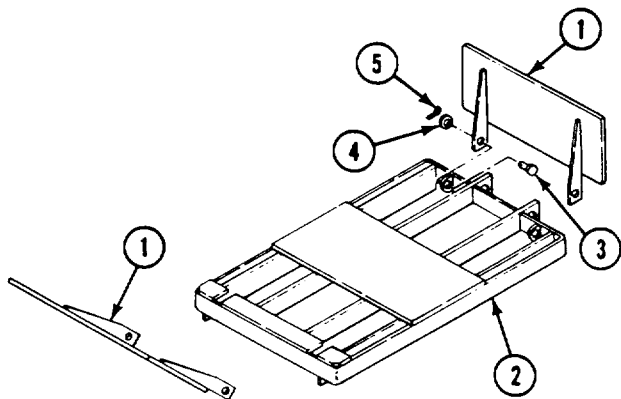


CLEAN, INSPECT, AND REPAIR

11. Inspect parts for corrosion, distortion, cracks, breaks, and loose or missing parts. Repair or replace damaged, loose, and missing parts.

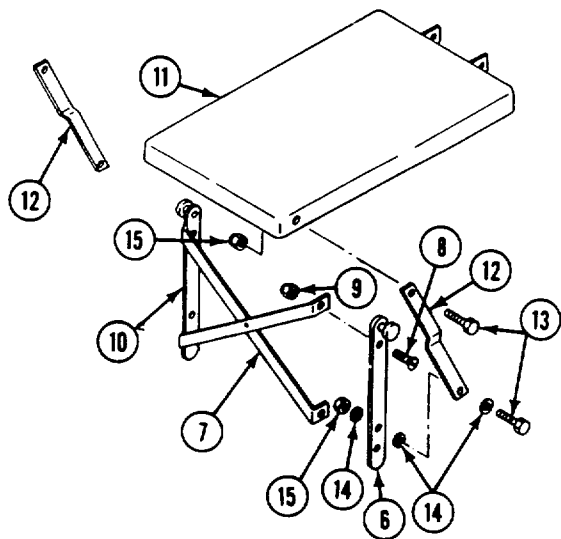
ASSEMBLE

12. On M106A2 and M125A2 carriers, align two plates (1) with platform (2). Secure with four pins (3), washers (4), and new cotter pins (5).

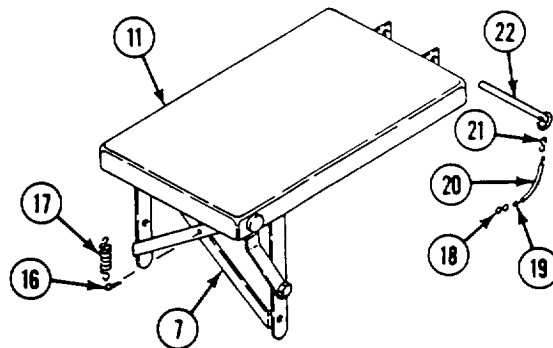


13. Install post (6) on two supports (7). Secure with two screws (8) and new locknuts (9). Install two posts (6 and 10) on platform (11).

14. Install two braces (12) on posts (6 and 10) and platform (11). Secure with four screws (13), six washers (14), and new locknuts (15).



15. Install new cotter pin (16) in two supports (7). Bend legs of cotter pin to secure supports.
16. Install spring (17) in cotter pin (16) and platform (11).
17. Install hook (18) on platform (11) and chain (19). Squeeze both ends of hook to secure platform and chain.
18. Install tube (20) on chain (19).
19. Install hook (21) on chain (19) and quick release pin (22). Squeeze both ends of hook to secure chain and pin.



INSTALL

- 19.1. Install screw (22.1), washer (22.2), and nut (22.3) on seat post (23).
20. Align platform (11) with seat post (23). Secure with quick release pin (22).
21. Install hold-down strap (24) in right front floor plate and platform (11). Tighten strap.

FOLLOW-THROUGH STEPS

1. Install commander's platform (page 24-157 or 24-161).

END OF TASK

REPLACE COMMANDER'S FOOTREST (M741A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Ramp lowered (see your -10)

Engine stopped (see your -10)

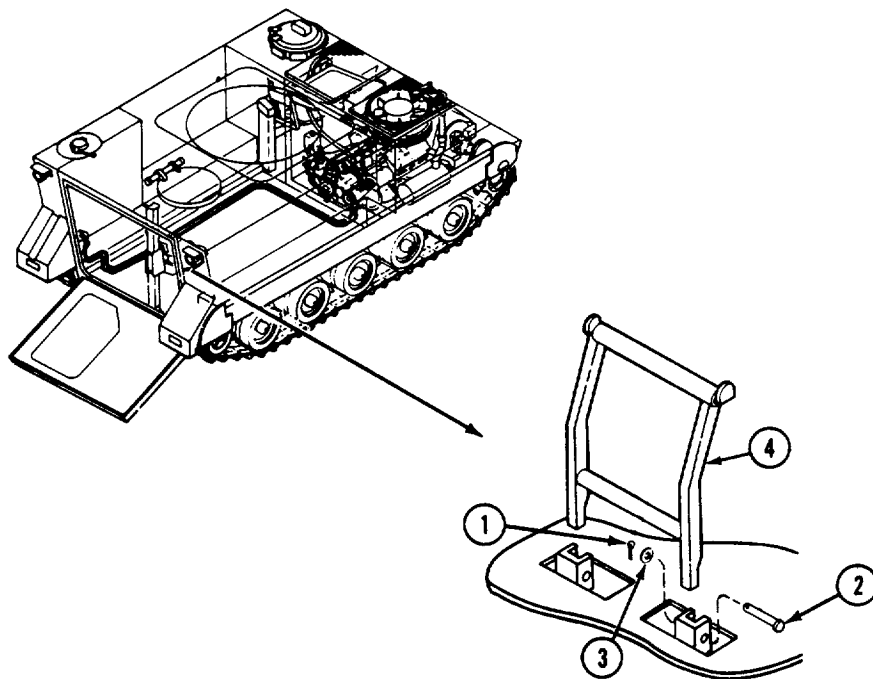
Carrier blocked (see your -10)

REMOVE

1. Remove two cotter pins (1) from two pins (2). Discard cotter pins.
2. Remove two pins (2), washers (3), and footrest (4) from floor mounts.

INSTALL

3. Install footrest (4) in floor mounts. Secure with two pins (2).
4. Install two washers (3) and new cotter pins (1) in two pins (2).

**FOLLOW-THROUGH STEPS**

1. Raise and lock ramp (see your -10).

2. Stop engine (see your -10).

END OF TASK

**REPLACE/REPAIR COMMANDER'S PLATFORM AND POST
(M577A2 AND M1068 ONLY)**

DESCRIPTION

This task covers: Remove (page 24-157). Disassemble (page 24-158). Clean, Inspect,
and Repair (page 24-159). Assemble (page 24-159). Install (page 24-160).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

- Cotter pin (2)
- Self-locking nut (3)
- Self-locking nut (2)
- Self-locking nut (10)
- Spring pin

References:

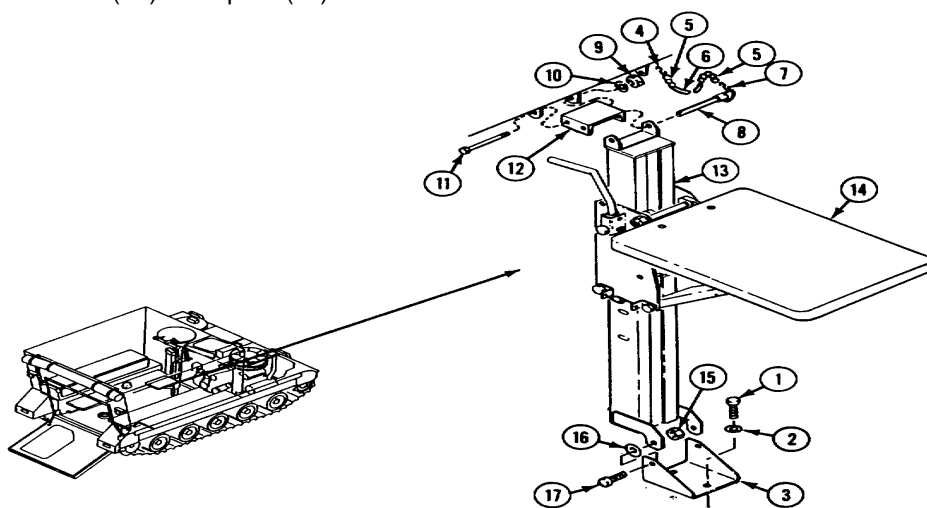
See your -10

Equipment Conditions:

- Engine stopped (see your -10)
- Ramp lowered (see your -10)
- Carrier blocked (see your -10)

REMOVE

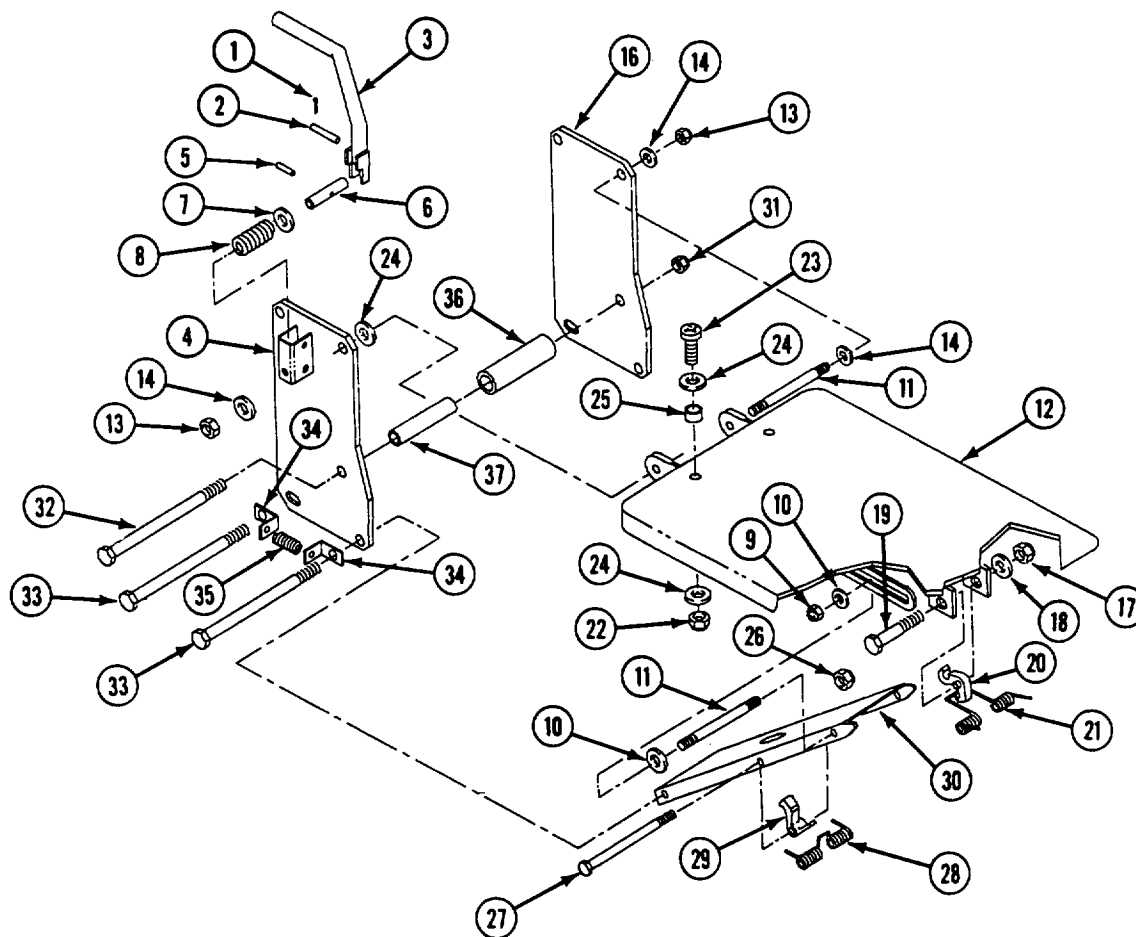
1. Remove two screws (1) and washers (2) from base (3).
2. Open both ends of hook (4). Remove hook from hull top plate lug and chain (5).
3. Remove tube (6) from chain (5).
4. Open both ends of hook (7). Remove hook from chain (5) and quick release pin (8).
5. Remove locknut (9), washer (10), screw (11), and link (12) from hull top plate brackets. Remove post (13) and platform (14) from carrier. Discard locknut.
6. Remove pin (8) and link (12) from post (13).
7. Remove two locknuts (15), washers (16), screws (17), and base (3) from post (13). Discard locknuts.
8. Unlock platform lock and remove platform (14) from post (13).



GO TO NEXT PAGE

DISASSEMBLE

9. Remove two cotter pins (1) from straight pin (2). Discard cotter pins.
10. Remove straight pin (2) and handle (3) from left mount (4).
11. Remove spring pin (5), stop pin (6), washer (7), and spring (8) from left mount (4). Discard spring pin.
12. Remove two locknuts (9), four washers (10), and rod (11) from platform (12). Discard locknuts.
13. Remove two locknuts (13), four washers (14), rod (15), and platform (12) from left and right mounts (4 and 16). Discard locknuts.
14. Remove locknut (17), washer (18), screw (19), catch (20), and spring (21) from platform (12). Discard locknut.
15. Remove two locknuts (22), screws (23), four washers (24), and two bumpers (25) from platform (12). Discard locknuts.
16. Remove locknut (26), screw (27), spring (28), and catch (29) from brace (30).
17. Remove four locknuts (31), screws (32 and 33), lugs (34), and one spring (35) from left mount (4). Discard locknuts.
18. Remove three rollers (36) and spacers (37) from between left mount (4) and right mount (16).

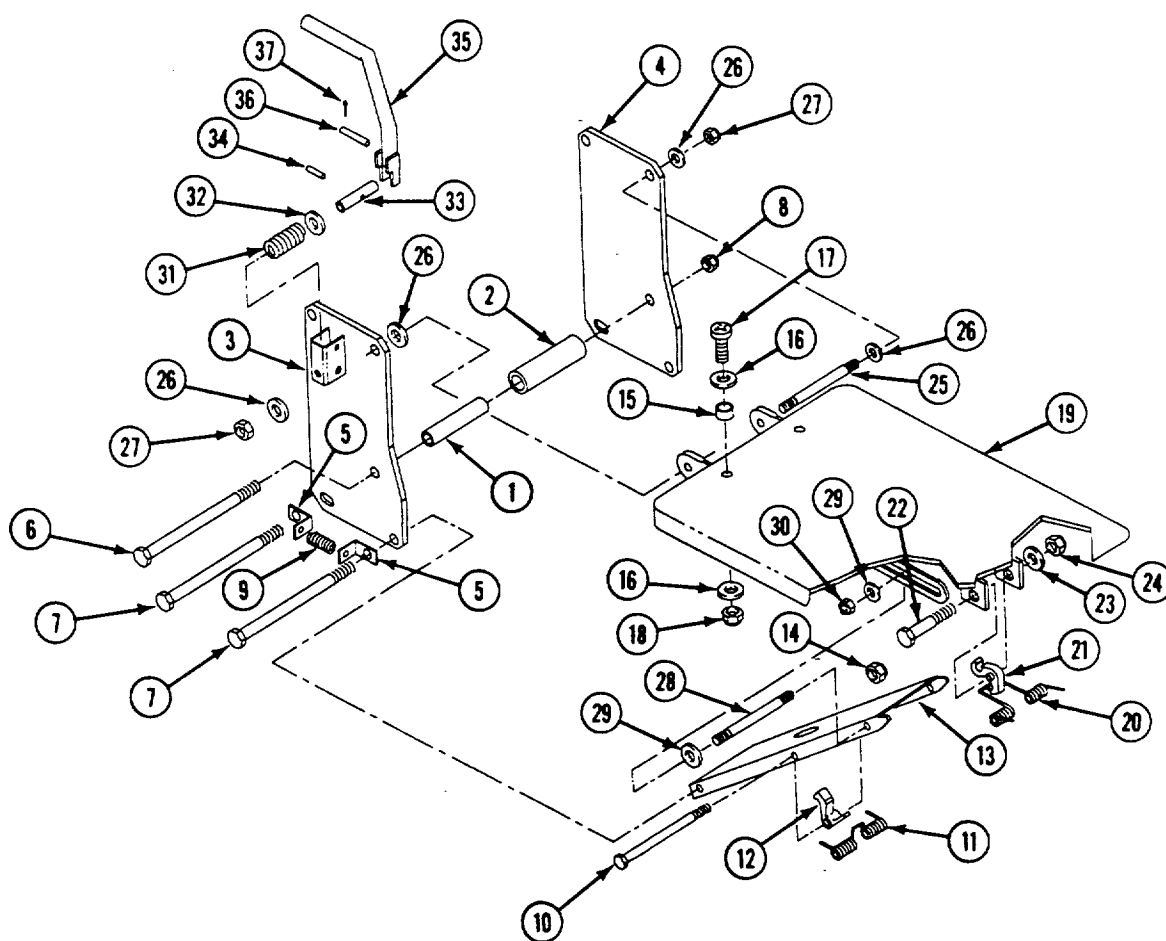


CLEAN, INSPECT, AND REPAIR

19. Inspect parts for corrosion, distortion, cracks, breaks, and loose or missing parts. Repair or replace damaged or missing parts.

ASSEMBLE

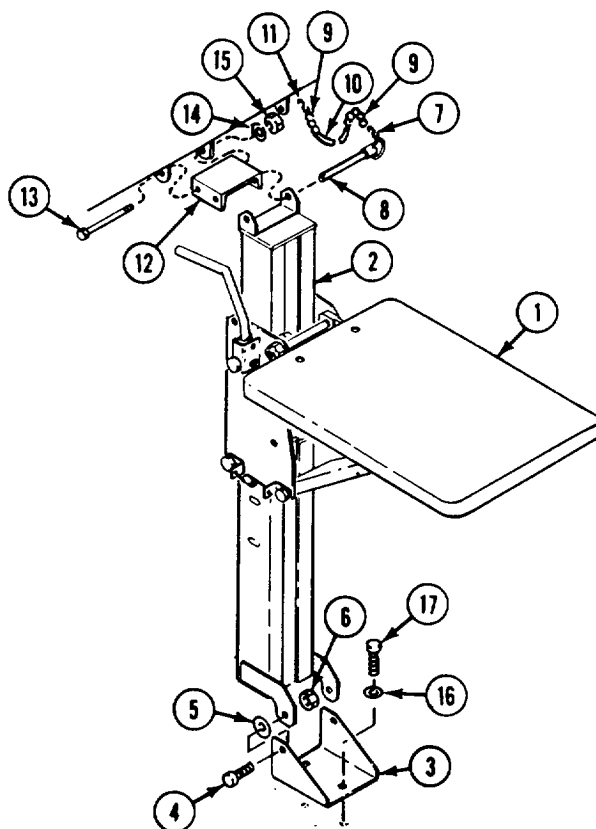
20. Install three spacers (1) and rollers (2) between left mount (3) and right mount (4).
21. Install two lugs (5) on left mount (3).
22. Install four screws (6 and 7) through left mount (3), three spacers (1), rollers (2), four lugs (5), and right mount (4). Secure with four new locknuts (8).
23. Install screw (10), spring (11), and catch (12) on brace (13). Secure with new locknut (14).
24. Install two bumpers (15), four washers (16), two screws (17), and new locknuts (18) on platform (19).
25. Install spring (20), catch (21), screw (22), washer (23), and nut (24) on platform (19).
26. Install platform (19) between left and right mounts (3 and 4). Secure with rod (25), four washers (26), and two new locknuts (27).
27. Install rod (28) through platform (19) and brace (13). Secure with four washers (29) and two new locknuts (30).
28. Install spring (31), washer (32), stop pin (33), new spring pin (34), and handle (35) on left mount (3).
29. Secure handle (35) with straight pin (36) and two new cotter pins (37).



GO TO NEXT PAGE

INSTALL

30. Hold platform lock in unlocked position and install platform (1) on post (2).
31. Align base (3) with post (2). Secure with two screws (4), washers (5), and new locknuts (6).
32. Install hook (7) on quick release pin (8) and chain (9). Squeeze both ends of hook to secure.
33. Install tube (10) on chain (9).
34. Install hook (11) on chain (9) and hull top plate lug. Squeeze both ends of hook to secure.
35. Align link (12) with hull top plate brackets. Secure with screw (13), washer (14), and new locknut (15).
36. Place post (2) and platform (1) in carrier. Align post with link (12). Secure with quick release pin (8).
37. Align base (3) with hull crossmember. Secure with two washers (16) and screws (17).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE RIFLE RACK (M1064 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Locknut (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Sight extension arm stowage brackets removed (page 24-252.1)

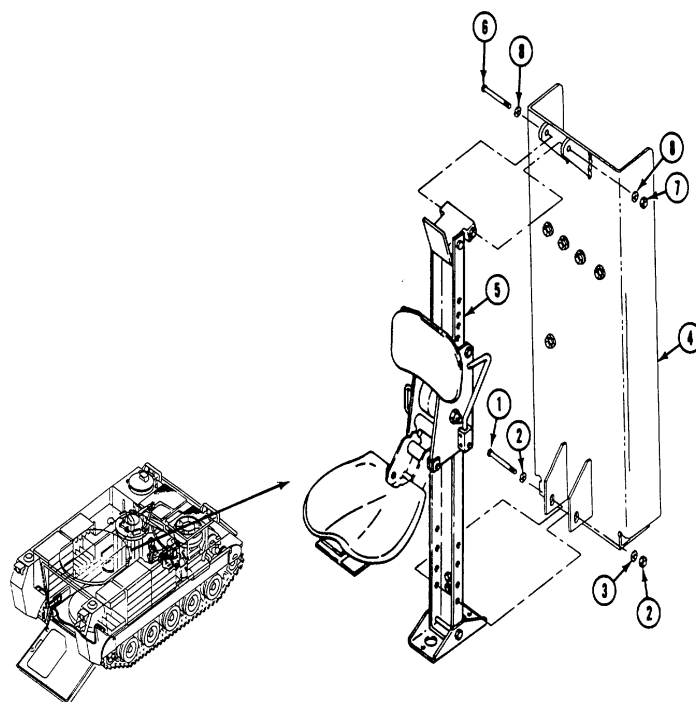
Rifle brackets removed (page 24-238)

REMOVE

1. Remove screw (1), locknut (2), and two washers (3) from rifle rack (4) and commander's seat post (5). Discard locknut.
2. Remove screw (6), locknut (7), two washers (8), and rifle rack (4) from commander's seat post (5). Discard locknut.

INSTALL

3. Position rifle rack (4) on commander's seat post (5) and secure with screw (6) two washers (8), and new locknut (2).
4. Secure base of rifle rack (4) with screw (1), two washers (3), and new locknut (2).

**FOLLOW-THROUGH STEPS**

1. Install sight extension arm stowage brackets (page 24-252.1).
2. Install rifle brackets (page 24-238).

END OF TASK

REPLACE COMMANDER'S SEAT (OBSERVATION PERISCOPE) (M901A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine shutdown (see your -10)

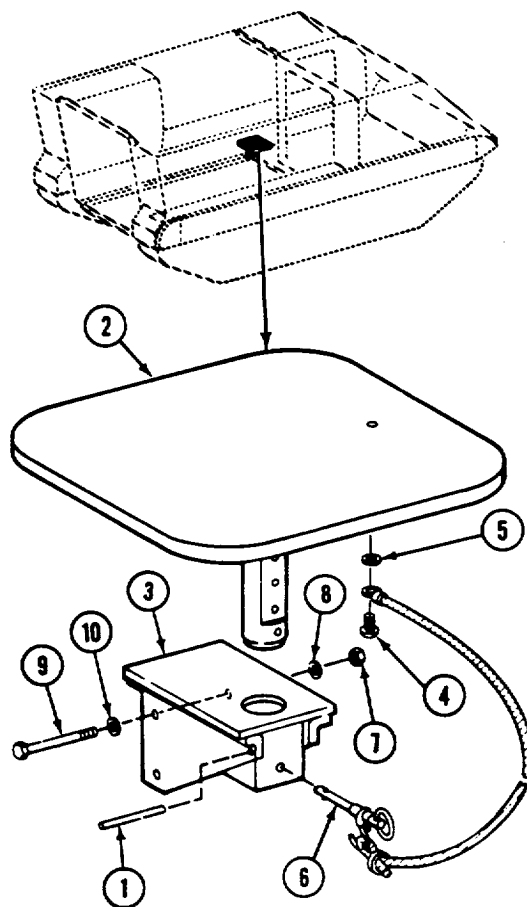
Carrier blocked (see your -10)

REMOVE

1. Remove pin (1) and seat (2) from support (3).
2. Remove screw (4), washer (5), and pin and cable assembly (6) from seat (2).
3. Remove two locknuts (7), washers (8), screws (9), and washers (10) from support (3). Discard locknuts.

INSTALL

4. Install two washers (10), screws (9), washers (8), and new locknuts (7) on support (3).
5. Install pin and cable assembly (6), washer (5), and screw (4), on seat (2).
6. Install seat (2) on support (3). Secure with pin (1).

**END OF TASK**

Section VIII. PERSONNEL SEATS - REAR COMPARTMENT

TASK INDEX

Task	Page	Task	Page
Replace Personnel Seats, Backrests, Cushions and Straps (M113A2 Only)	24-163	Replace Personnel Seats, Backrest, Cushions and Straps (M106A2, M1064, and M125A2 Only)	24-167
Replace Personnel Seats, Cushions and Straps (M577A2 Only)	24-165	Replace Crew Seat (M901A1 Only)	24-169

REPLACE PERSONNEL SEATS, BACKRESTS, CUSHIONS, AND STRAPS (M113A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-163). Install (page 24-164).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Cotter pin, per seat (8)
- Rivet, per strap
- Self-locking nut, per seat (2)
- Self-locking nut, per seatbelt (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)

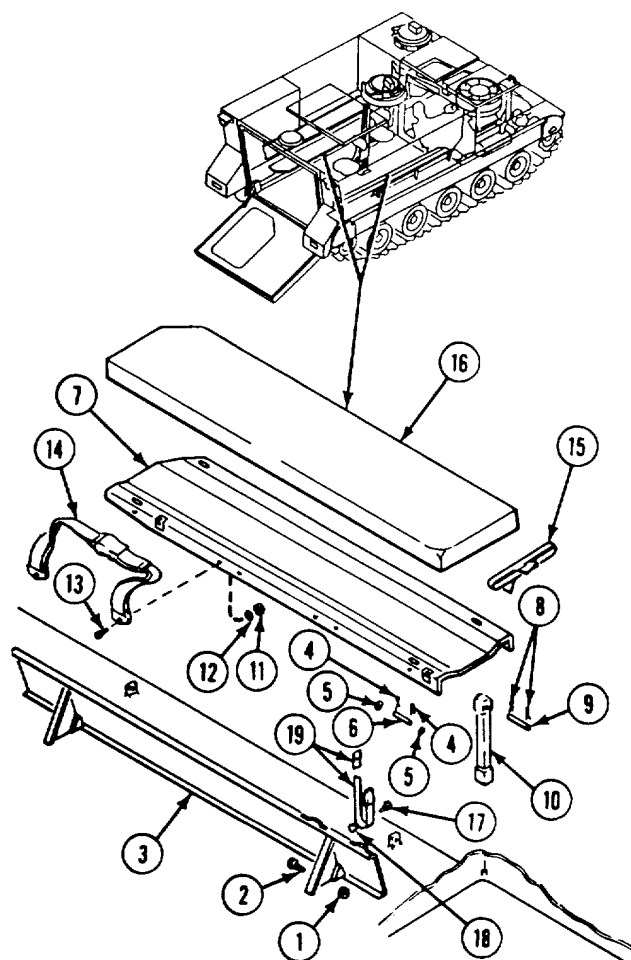
REMOVE

NOTE

There are four seats and two backrests in the M113A2. Remove and install all seats and backrests the same way.

1. Remove two locknuts (1), screws (2), and backrest (3) from sponson brackets. Discard locknuts.
2. Remove four cotter pins (4), washers (5), two straight pins (6), and seat (7) from sponson brackets. Discard cotter pins.
3. Remove four cotter pins (8), two straight pins (9), and two legs (10) from seat (7). Discard cotter pins.
4. Remove two locknuts (11), washers (12), screws (13), and seatbelt (14) from each position on seat (7). Discard locknuts.
5. Remove two straps (15) and cushion (16) from seat (7).

6. If needed, remove rivet (17), washer (18), and strap (19) from backrest (3). Discard rivet.



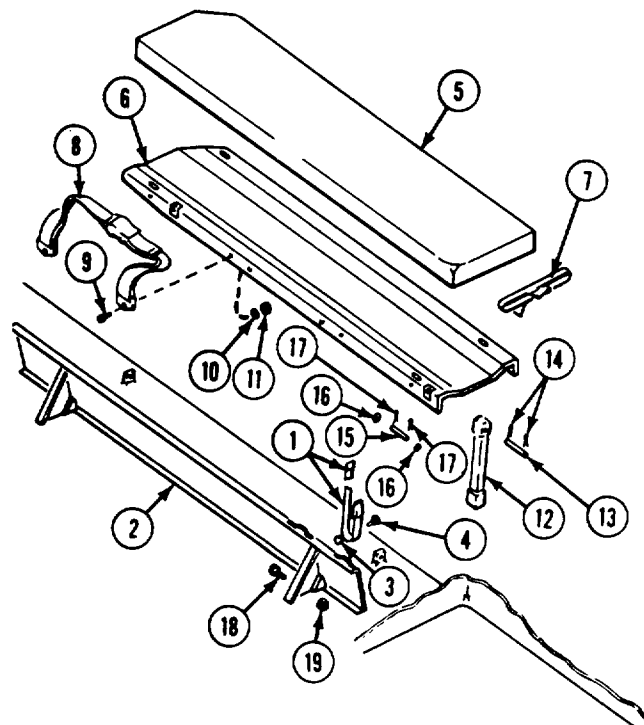
NOTE

There are two straps on the long backrest and one strap on the short backrest. On the M113A2 with external fuel tanks, remove strap from fuel tank support.

GO TO NEXT PAGE

INSTALL

7. If removed, install strap (1) on backrest (2). Secure with washer (3) and new rivet (4).
8. Place cushion (5) on seat (6). Secure with two straps (7).
9. Place seatbelt (8) for each position on seat (6). Secure with two screws (9), washers (10), and new locknuts (11).
10. Align two legs (12) with seat (6). Secure with two straight pins (13) and four new cotter pins (14).
11. Align seat (6) with sponson brackets. Secure with two straight pins (15), four washers (16), and four new cotter pins (17).
12. Align backrest (2) with sponson brackets. Secure with two screws (18) and two new locknuts (19).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE PERSONNEL SEATS, CUSHIONS, AND STRAPS (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-165). Install (page 24-166).

INITIAL SETUP

Tools:
 General Mechanics Tool Kit (Item 30, App D)

References:
 See your -10

Materials/Parts:
 Cotter pin, per seat (6)
 Self-locking nut (2)
 Ramp lowered (see your -10)

Equipment Conditions:
 Engine stopped (see your -10)
 Carrier blocked (see your -10)

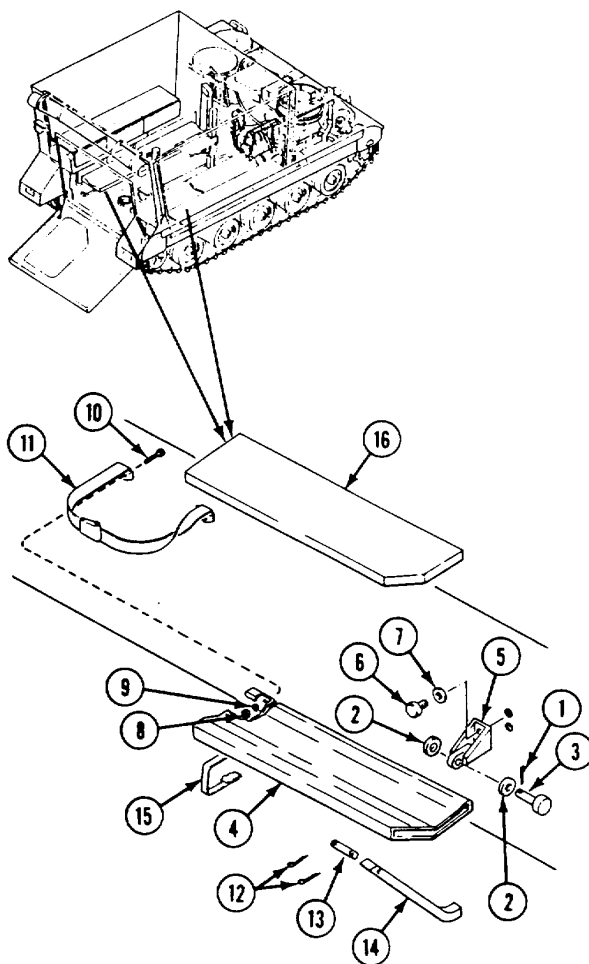
Personnel Required:
 Unit Mechanic

REMOVE

NOTE

There are two personnel seats in the M577A2 carrier. Remove and install both seats the same way.

1. Remove two cotter pins (1), four washers (2), two headed pins (3), and seat (4) from two brackets (5). Discard cotter pins.
2. Remove four screws (6), washers (7), and two brackets (5) from sponson.
3. Remove two locknuts (8), washers (9), screws (10), and seatbelt (11) from seat (4). Discard locknuts.



NOTE

Remove two washers (9) on two center positions on right seat.

4. Remove four cotter pins (12), two straight pins (13), and two legs (14) from seat (4). Discard cotter pins.
5. Remove two straps (15) and cushion (16) from seat (4).

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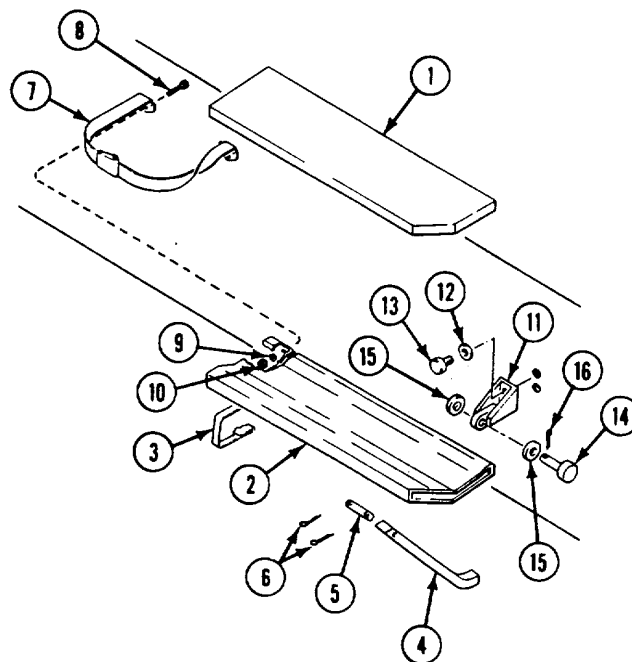
INSTALL

6. Place cushion (1) on seat (2). Secure with two straps (3).
7. Align two legs (4) with seat (2). Secure with two straight pins (5) and four new cotter pins (6).
8. Place seatbelt (7) on seat (2). Secure with two screws (8), washers (9), and new locknuts (10).

NOTE

Install two washers (9) on two center positions on right seat (2).

9. Align two brackets (11) with sponson. Secure with four washers (12) and screws (13).
10. Align seat (2) with two brackets (11). Secure with two headed pins (14), four washers (15), and two new cotter pins (16).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).

2. Stop engine (see your -10).

END OF TASK

REPLACE PERSONNEL SEATS, BACKREST, CUSHIONS, AND STRAPS (M106A2, M1064, AND M125A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-167).

Install (page 24-168).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

- Cotter pin, per seat (10)
- Rivet, per seat (1)
- Self-locking nut (4)

Equipment Conditions:

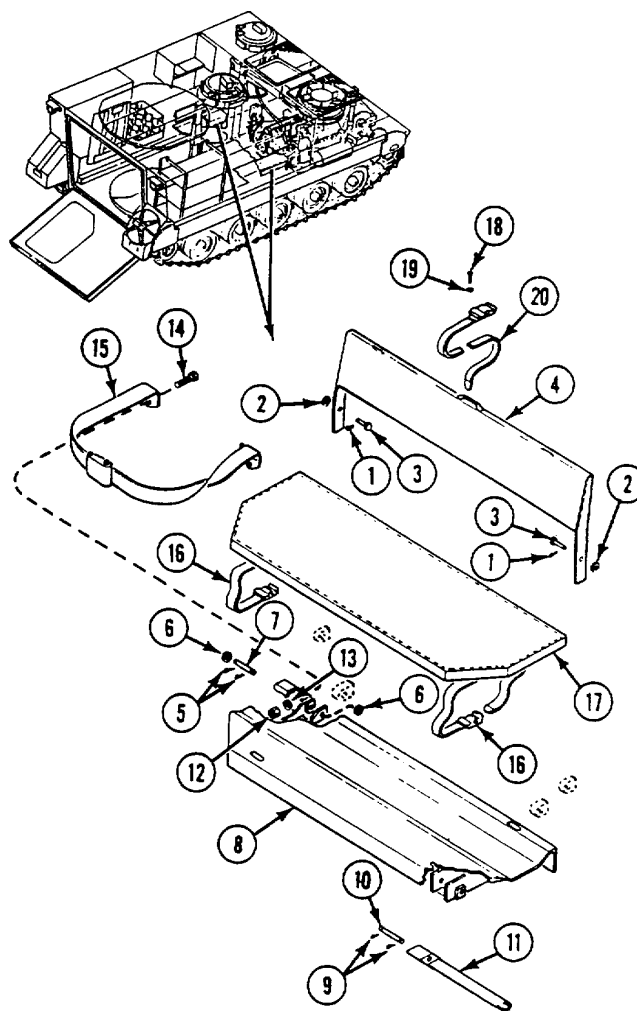
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)

Personnel Required:

Unit Mechanic

REMOVE

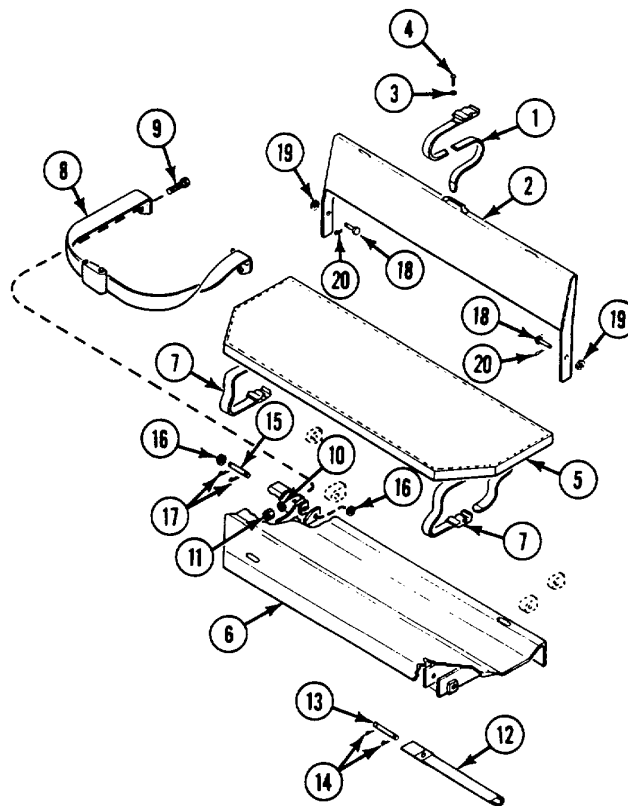
1. Remove two cotter pins (1), washers (2), headed pins (3), and backrest (4) from sponson lugs. Discard cotter pins.
2. Remove four cotter pins (5), washers (6), two straight pins (7), and seat (8) from sponson brackets. Discard cotter pins.
3. Remove four cotter pins (9), two straight pins (10), and two legs (11) from seat (8). Discard cotter pins.
4. Remove four locknuts (12), washers (13), screws (14), and two seat belts (15) from seat (8). Discard locknuts.
5. Remove two straps (16) and cushion (17) from seat (8).
6. If needed, remove rivet (18), washer (19), and strap (20) from backrest (4). Discard rivet.



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INSTALL

7. If removed, install strap (1) on backrest (2). Secure with washer (3) and new rivet (4).
8. Place cushion (5) on seat (6). Secure with two straps (7).
9. Place two seatbelts (8) on seat (6). Secure with four screws (9), washers (10), and new locknuts (11).
10. Align two legs (12) with seat (6). Secure with two straight pins (13) and four new cotter pins (14).
11. Align seat (6) with sponson brackets. Secure with two straight pins (15), four washers (16), and four new cotter pins (17).
12. Align backrest (2) with sponson lugs. Secure with two headed pins (18), washers (19), and two new cotter pins (20).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE CREW SEAT (M901A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (2)

Cotter pin (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

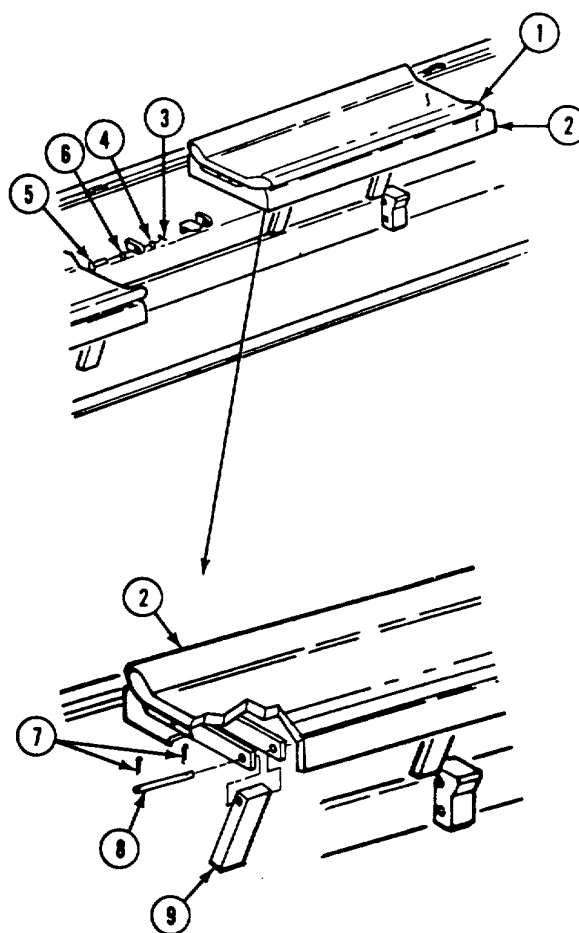
REMOVE**NOTE**

The cushion is secured to the seat with either one or two straps. Each strap is inserted through two loops on the bottom of the cushion and through two holes in the seat and buckled beneath the seat.

1. Remove straps and cushion (1) from seat (2).
2. Remove cotter pin (3), washer (4), straight pin (5), and washer (6) from each end of seat (2). Discard cotter pins.
3. Remove seat (2).
4. Remove four cotter pins (7), two straight pins (8), and legs (9) from seat (2). Discard cotter pins.

INSTALL

5. Install two legs (9), straight pins (8), and four new cotter pins (7) on seat (2).
6. Install seat (2). Secure with washer (6), straight pin (5), washer (4), and new cotter pin (3) on each end of seat.
7. Install straps through loops on bottom of cushion (1) and through holes in seat (2).
8. Secure straps beneath seat (2).

**FOLLOW-THROUGH STEPS**

1. Raise and lock ramp (see your -10).
2. Shutdown engine (see your -10).

END OF TASK

**Section IX. BLACKOUT CURTAIN AND TABLES
(M577A2, AND M1068, AND M901A1 ONLY)**

TASK INDEX

Task	Page	Task	Page
Replace Blackout Curtain and Frame (M577A2 and M1068 Only).....	24-171	Replace Left Table (M577A2 Only).....	24-178
Replace Right Rearward Table (M577A2 Only)	24-173	Replace Equipment Stowage Shelf (M901A1 Only).....	24-180
Replace Right Forward Table (M577A2 Only)	24-175		

REPLACE BLACKOUT CURTAIN AND FRAME (M577A2 AND M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 24-171).

Install (page 24-172).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

- Grommet
- Self-locking nut
- Self-locking nut (2)
- Self-locking nut (6)

References:

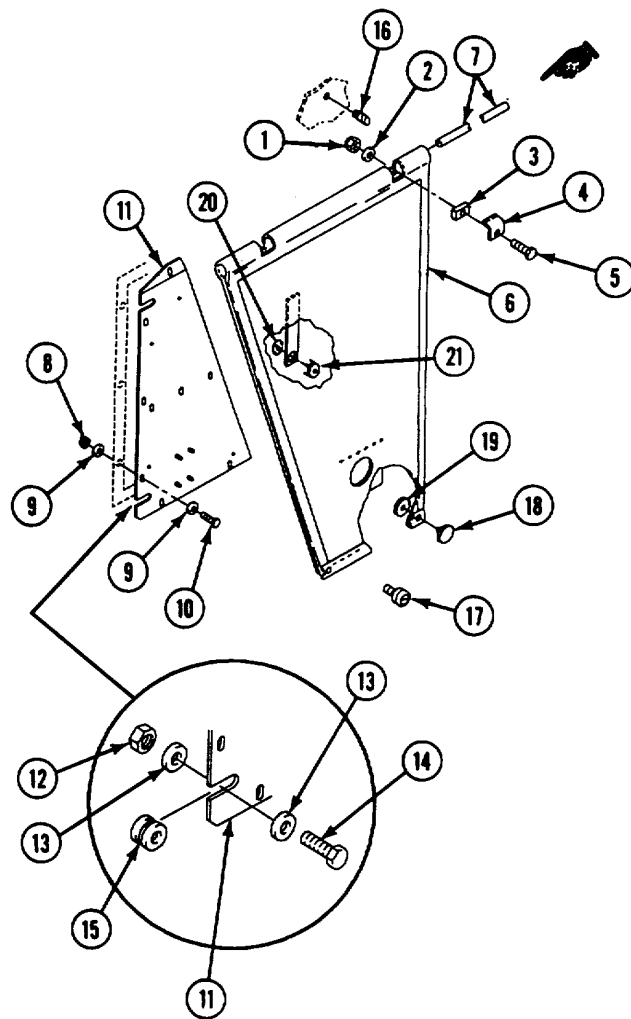
See your -10

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)

REMOVE

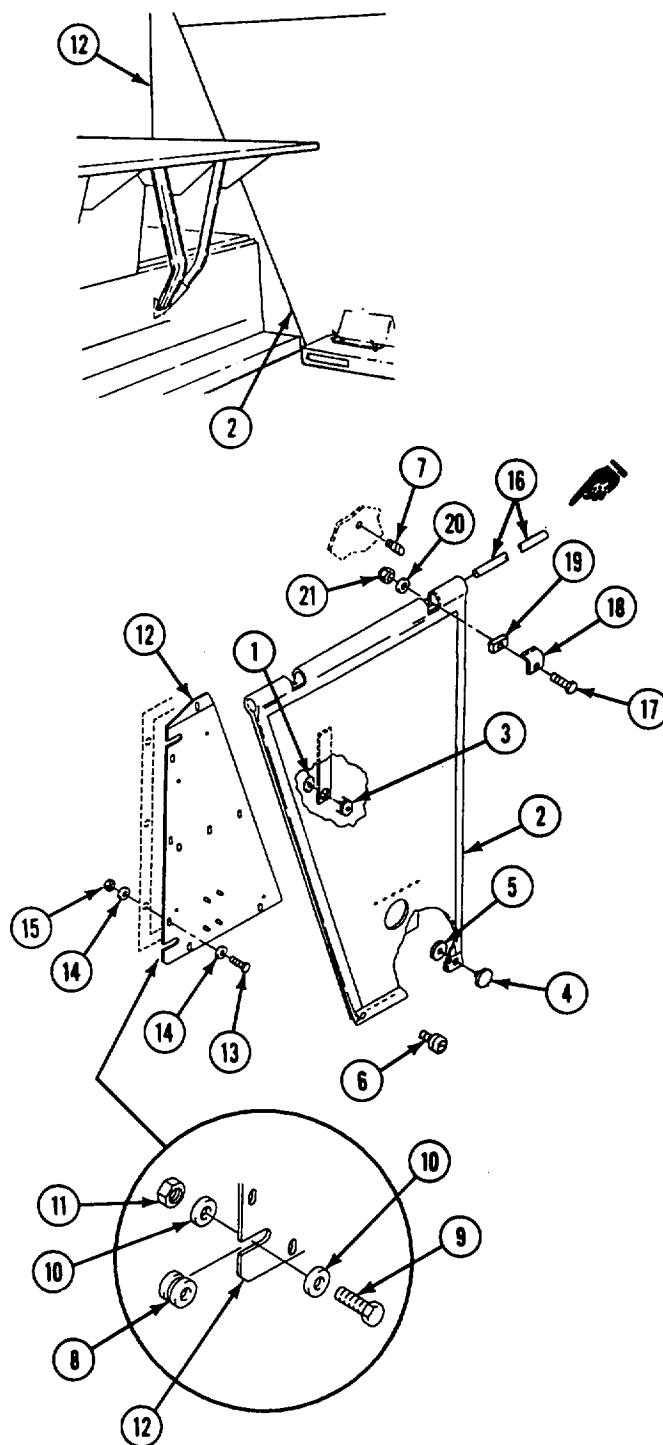
1. Remove two locknuts (1), washers (2), blocks (3), clips (4), screws (5), and blackout curtain (6) from driver's compartment opening. Discard locknuts.
2. Remove rod (7) from curtain (6).
3. Remove 6 locknuts (8), 12 washers (9), 6 screws (10), and frame (11) from bulkhead and sponson. Discard locknuts.
4. Remove locknut (12), two washers (13), screw (14), and grommet (15) from frame (11). Discard grommet and locknut.
5. If damaged, remove two fasteners (16) from driver's compartment rear bulkhead.
6. Remove two studs (17) from driver's compartment lower frame and traverse beam.
7. If needed, remove four buttons (18) and sockets (19) from curtain (6).
8. If needed, remove two eyelets (20) and washers (21) from curtain (6).



GO TO NEXT PAGE

INSTALL

9. If removed, place two eyelets (1) on curtain (2). Secure with two washers (3).
10. If removed, place four buttons (4) on curtain (2). Secure with four sockets (5).
11. Install two studs (6) on driver's compartment lower frame and traverse beam.
12. If removed, install two fasteners (7) in driver's compartment rear bulkhead.
13. Install new grommet (8), screw (9), two washers (10), and new locknut (11) to frame (12).
14. Align frame (12) with bulkhead and sponson. Secure with 6 screws (13), 12 washers (14), and 6 new locknuts (15).
15. Install rod (16) in curtain (2).
16. Align curtain (2) with driver's compartment. Secure with two screws (17), clips (18), blocks (19), washers (20), and new locknuts (21).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE RIGHT REARWARD TABLE (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-173). Install (page 24-174).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Lockwasher (8)
- Self-locking nut (12)
- Self-locking nut (2)

References:

See your -10

Equipment Conditions:

- Ramp lowered (see your -10)
- Engine stopped (see your -10)
- Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

REMOVE

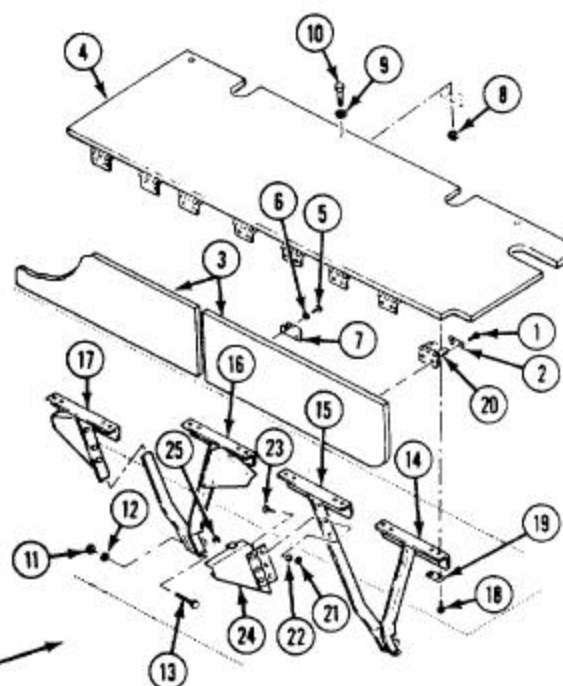
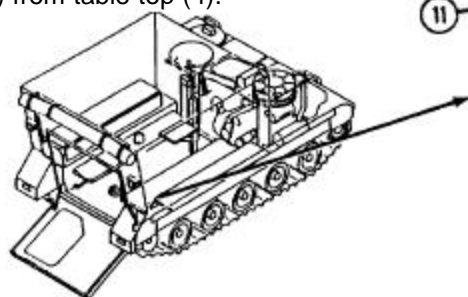
1. Remove 16 screws (1), 8 spacers (2), and 2 drop leaves (3) from table top (4).
2. Remove eight screws (5), lockwashers (6), and four catches (7) from two drop leaves (3). Discard lockwashers.
3. Remove three nuts (8), washers (9), and screws (10) that hold table top (4) to hull.

6. Remove 12 locknuts (21), washers (22), screws (23), and 4 braces (24) from supports (14 thru 17). Discard locknuts.
7. Remove four bumpers (25) from braces (24).

NOTE

Shims might be required to obtain clearance between screw and support bracket. (Use flat washers as shims, two maximum.)

4. Remove two locknuts (11), washers (12), and screws (13) that hold table supports (14 thru 17) to hull. Discard locknuts.
5. Remove 16 screws (18), 8 spacers (19), hinges (20), and supports (14 thru 17) from table top (4).



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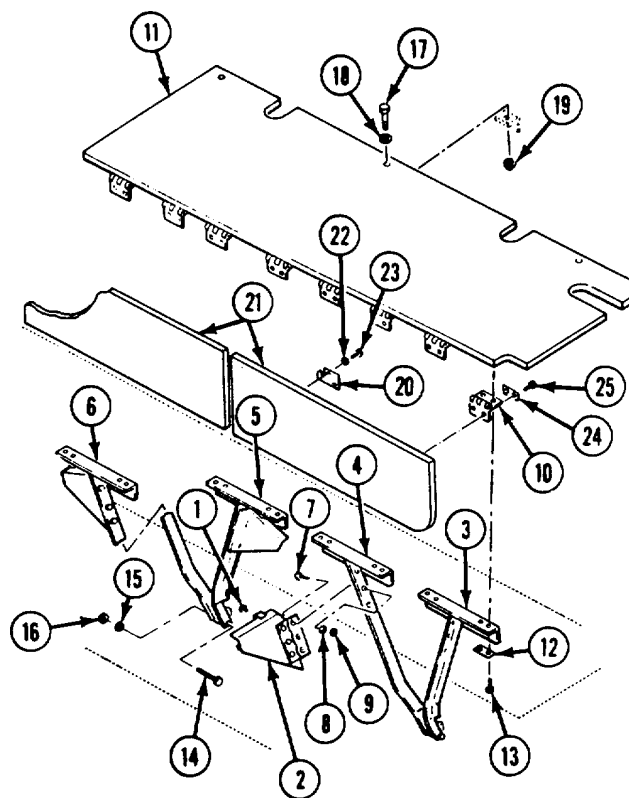
INSTALL

8. Install four bumpers (1) in braces (2).
9. Install four braces (2) on supports (3 thru 6). Secure with 12 screws (7), washers (8), and new locknuts (9).
10. Install supports (3 thru 6) and hinges (10) on table top (11). Secure with 8 spacers (12) and 16 screws (13).

NOTE

Shims might be required to obtain clearance between screw and support bracket. (Use flat washers as shims, two maximum.)

11. Install table top with supports on hull. Secure to hull with two screws (14), washers (15), and new locknuts (16).
12. Install three screws (17) through table top and brackets on hull. Secure with three washers (18) and nuts (19).
13. Install four catches (20) on two drop leaves (21). Secure with eight new lockwashers (22) and screws (23).
14. Install two drop leaves (21) on hinges (10). Secure with 8 spacers (24) and 16 screws (25).

**FOLLOW-THROUGH STEPS**

1. Raise and lock ramp (see your -10).
2. Engine stopped (see your -10).

END OF TASK

REPLACE RIGHT FORWARD TABLE (M577A2 ONLY)**DESCRIPTION**

This task covers: Remove (page 24-175).

Install (page 24-177).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (2)
 Self-locking nut (3)
 Self-locking nut (7)
 Self-locking nut

Personnel Required:

Unit Mechanic

References:

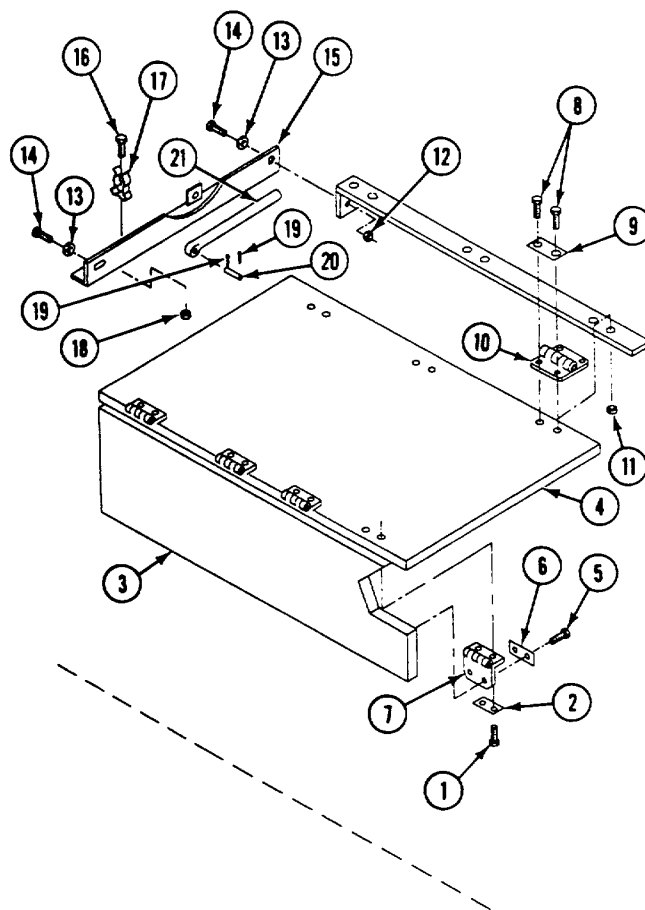
See your -10

Equipment Conditions:

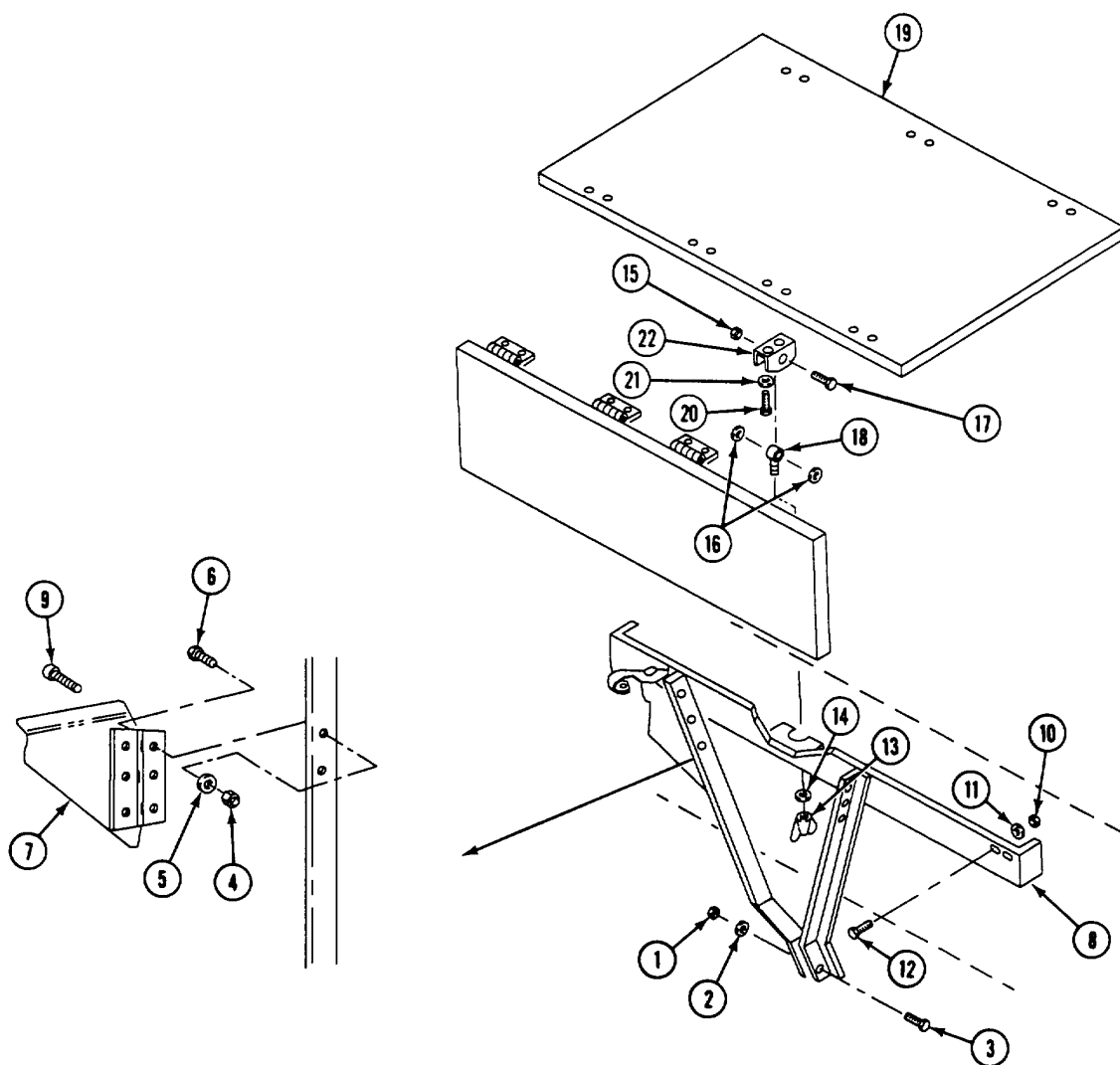
Ramp lowered (see your -10)
 Engine stopped (see your -10)
 Carrier blocked (see your -10)

REMOVE

1. Remove eight screws (1), four spacers (2), and drop leaf (3) from table top (4).
2. Remove eight screws (5), four spacers (6), and hinges (7) from drop leaf (3).
3. Remove 12 screws (8), 3 spacers (9), 6 hinges (10), 12 locknuts (11), and table top (4) from hull. Discard locknuts.
4. Remove two locknuts (12), washers (13), and screws (14) from bracket (15). Discard locknuts.
5. Remove screws (16), clip (17), and locknut (18). Discard locknut.
6. Remove two cotter pins (19), straight pin (20), and rod (21). Discard cotter pins.

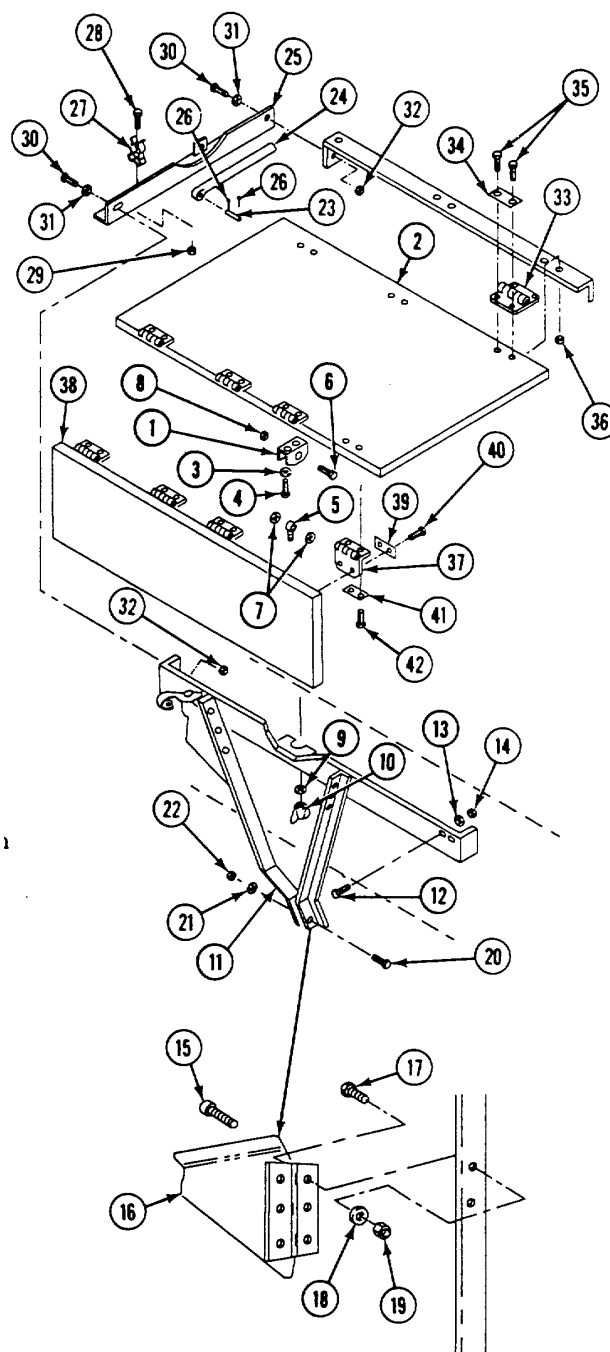
**GO TO NEXT PAGE**

7. Remove locknut (1), washer (2), and screw (3) from hull. Discard locknut.
8. Remove six locknuts (4), washers (5), screws (6), and two braces (7) from support (8). Discard locknuts.
9. Remove two bumpers (9) from braces (7).
10. Remove locknut (10), washer (11), and screw (12) from support (8). Discard locknut.
11. Remove wing nut (13), washer (14), and support (8) from hull.
12. Remove locknut (15), two washers (16), screw (17), and eyebolt (18) from table top (19). Discard locknut.
13. Remove screw (20), washer (21), and bracket (22) from table (19).



INSTALL

14. Install bracket (1) on table top (2). Secure with washer (3) and screw (4).
15. Install eyebolt (5) on bracket (1). Secure with screw (6), two washers (7), and new locknut (8).
16. Install washer (9) and wing nut (10) on eyebolt (5).
17. Install support (11) on hull. Secure with screw (12), washer (13), and new locknut (14).
18. Install two bumpers (15) on braces (16).
19. Install two braces (16) on support (11). Secure with six screws (17), washers (18), and new locknuts (19).
20. Install screw (20), washer (21), and new locknut (22) to secure support (11) to hull.
21. Install straight pin (23) in rod (24) and bracket (25). Secure with two new cotter pins (26).
22. Install clip (27) on bracket (25). Secure with screw (28), and new locknut (29).
23. Install bracket (25). Secure to hull angle and support (11) with two screws (30), washers (31), and new locknuts (32).
24. Install table top (2) on hull and support (11). Secure with 6 hinges (33), 3 spacers (34), 12 screws (35), and new locknuts (36).
25. Install four hinges (37) on drop leaf (38). Secure with four spacers (39) and eight screws (40).
26. Install drop leaf (38) on table top (2). Secure with four spacers (41) and eight screws (42).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE LEFT TABLE (M577A2 ONLY)**DESCRIPTION**

This task covers: Remove (page 24-178).

Install (page 24-179).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (3)
 Self-locking nut (18)
 Self-locking nut

References:

See your -10

Equipment Conditions:

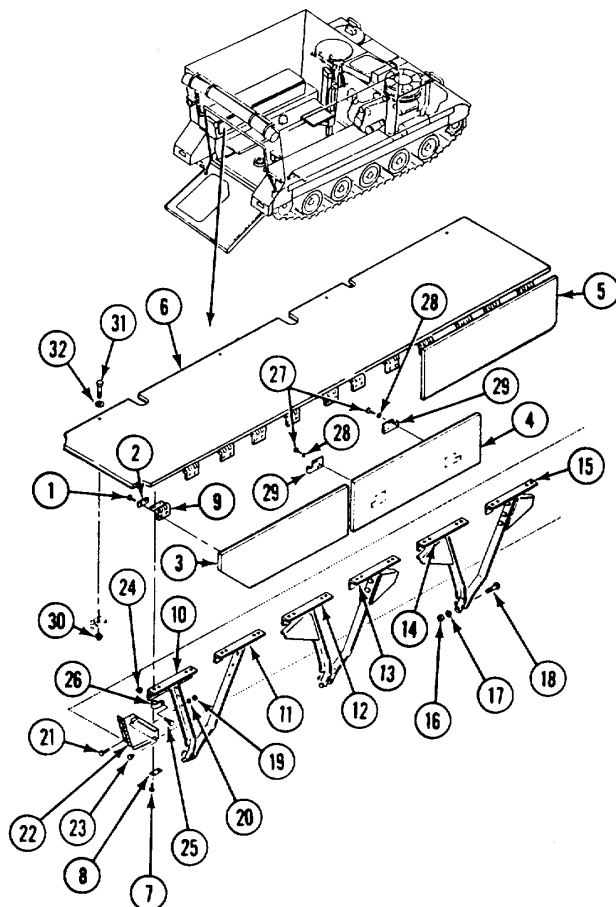
Engine stopped (see your -10)
 Carrier blocked (see your -10)
 Ramp lowered (see your -10)

Personnel Required:

Unit Mechanic

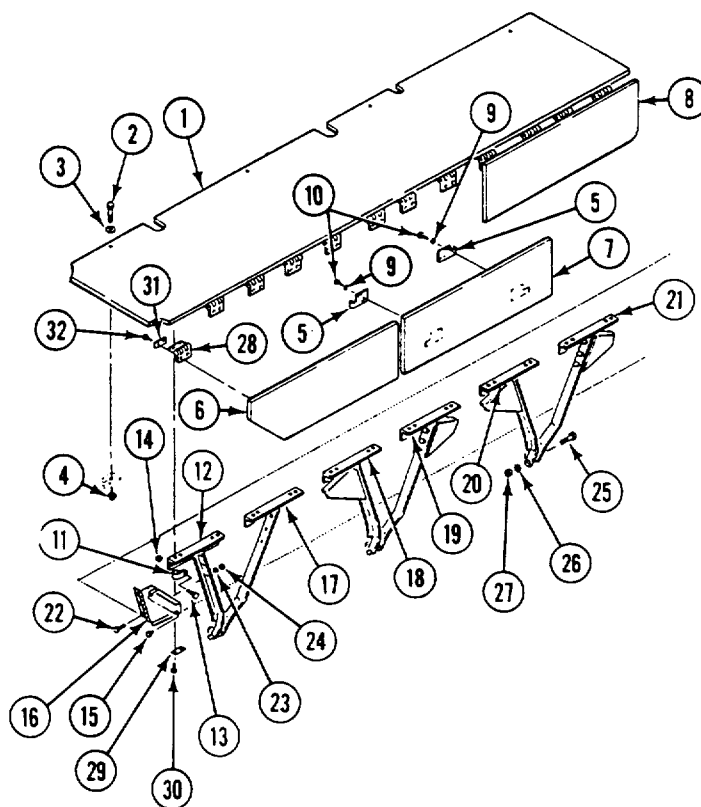
REMOVE

1. Remove 24 screws (1), 12 spacers (2), and 3 drop leaves (3, 4 and 5) from table top (6).
2. Remove 24 screws (7), 12 spacers (8), and hinges (9) from table top (6) and 6 supports (10 thru 15).
3. Remove three locknuts (16), washers (17), screws (18), and supports (10 thru 15) from hull. Discard locknuts.
4. Remove 18 locknuts (19), washers (20), screws (21), and 6 braces (22) from supports (10 thru 15). Discard locknuts.
5. Remove six bumpers (23) from braces (22).
6. Remove locknut (24), screw (25), and clamp (26) from support (10). Discard locknut.
7. Remove 12 screws (27), washers (28), and 6 catches (29) from 3 drop leaves (3, 4, and 5).
8. Remove four nuts (30), screws (31), washers (32), and table top (6) from hull.



INSTALL

9. Install table top (1) on hull. Secure with four screws (2), washers (3), and nuts (4).
10. Install six catches (5) on three drop leaves (6, 7, and 8). Secure with 12 washers (9) and screws (10).
11. Install clamp (11) on support (12). Secure with screw (13) and new locknut (14).
12. Install six bumpers (15) on braces (16).
13. Install six braces (16) on six supports (12 and 17 thru 21). Secure with 18 screws (22), washers (23), and new locknuts (24).
14. Attach supports (12 and 17 thru 21) on hull. Secure with three screws (25), washers (26), and new locknuts (27).
15. Install 12 hinges (28) on table top (1). Secure with 12 spacers (29) and 24 screws (30).
16. Install three drop leaves (6, 7, and 8) on table top (1). Secure with 12 spacers (31) and 24 screws (32).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE EQUIPMENT STOWAGE SHELF (M901A1 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (8)

Equipment Conditions:

Engine shutdown (see your -10)

Carrier blocked (see your -10)

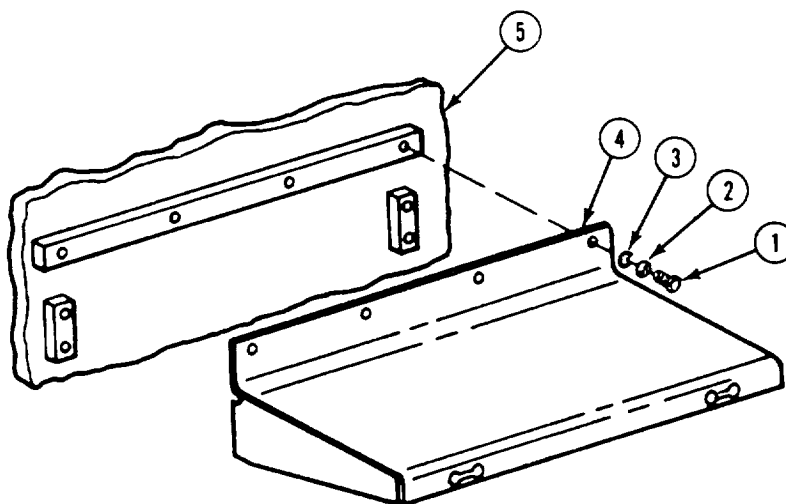
Personnel Required:Unit Mechanic

REMOVE

1. Remove eight screws (1), washers (2), and lockwashers (3) from shelf (4). Discard lockwashers.
2. Remove shelf (4) from bulkhead (5).

INSTALL

3. Install shelf (4) on bulkhead (5). Secure with eight new lockwashers (3), washers (2), and screws (1).



END OF TASK

Section X. TENT AND FRAME

TASK INDEX

Task	Page	Task	Page
Replace Tent and Clamps (M577A2 Only)	24-181	Replace Tent and Frame Mounts (M577A2 Only)	24-183

REPLACE TENT AND CLAMPS (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-181). Install (page 24-182).

INITIAL SETUP

Tools:
General Mechanics Tool Kit (Item 28, App D)

References:
See your -10

Materials/Parts:
Spring pin (6)

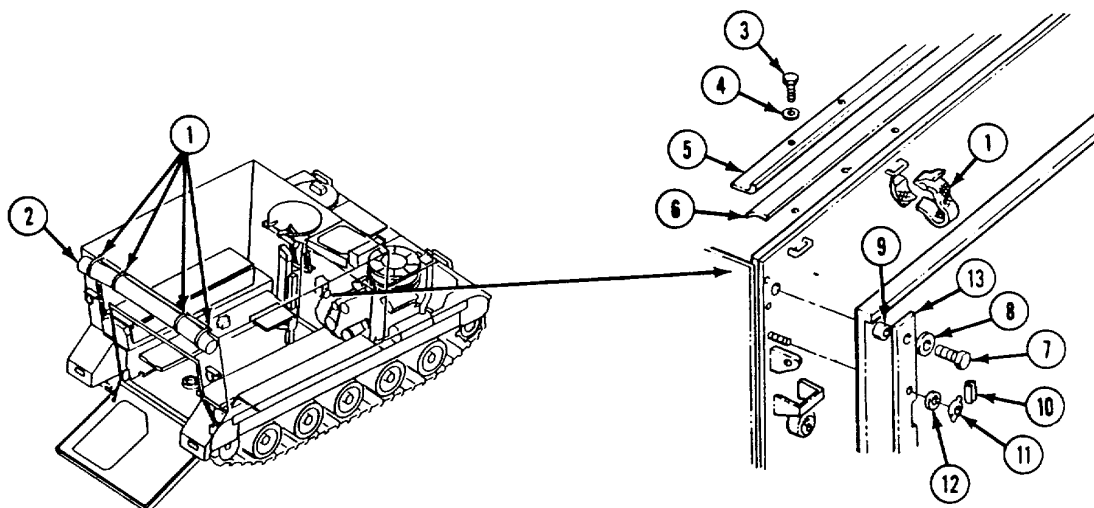
Equipment Conditions:
Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)

Personnel Required:
Unit Mechanic
Helper

REMOVE

1. Release four straps (1). Remove tent (2) and straps from hull top plate.
2. Remove nine screws (3), washers (4), retainer strip (5), and rubber strip (6) from hull top plate.

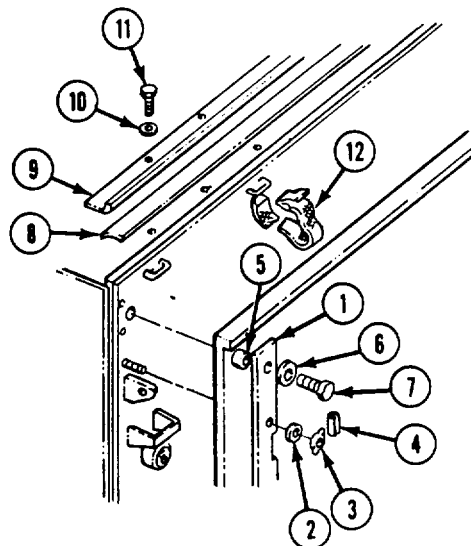
3. Remove two screws (7), washers (8), and spacers (9) from rear bulkhead.
4. Remove six spring pins (10), wing nuts (11), washers (12), and two retainer strips (13) from rear bulkhead. Discard spring pins.



GO TO NEXT PAGE

INSTALL

5. Place two retainer strips (1) on rear bulkhead. Secure with six washers (2) and wing nuts (3). Secure wing nuts with six new spring pins (4).
6. Install two spacers (5), washers (6), and screws (7) in rear bulkhead.
7. Place rubber strip (8) and retainer strip (9) on hull top plate. Secure with nine washers (10) and screws (11).
8. Place tent on hull top plate. Secure with four straps (12).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
 2. Stop engine (see your -10).
-

END OF TASK

REPLACE TENT AND FRAME MOUNTS (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-183). Install (page 24-184).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 97, App D)

References:

See your -10

Materials/Parts:

Cotter pin (2)
Self-locking nut (2)
Self-locking nut (2)

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Tent frame removed from carrier
(see your -10)

Personnel Required:

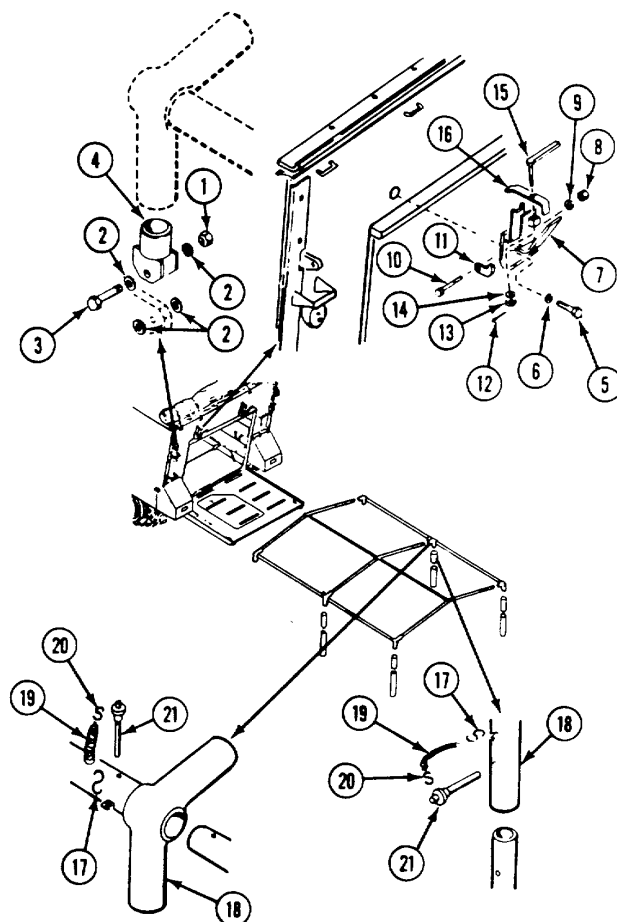
Unit Mechanic

REMOVE

1. Remove two locknuts (1), eight washers (2), two screws (3), and two end fittings (4) from rear bulkhead lugs. Discard locknuts.
2. Remove four screws (5), washers (6), and two brackets (7) from rear bulkhead.
3. Remove two locknuts (8), washers (9), screws (10), and retainers (11) from brackets (7). Discard locknuts.
4. Remove two cotter pins (12), nuts (13), washers (14), hand screws (15), and clamps (16) from brackets (7). Discard cotter pins.
5. Open both ends of hook (17). Remove hook from bracket on frame (18) and from chain (19).
6. Open both ends of hook (20). Remove hook from chain (19) and quick release pin (21).

NOTE

There are six quick release pins and attaching chains on the frame assembly. Remove pins and chains, as needed.



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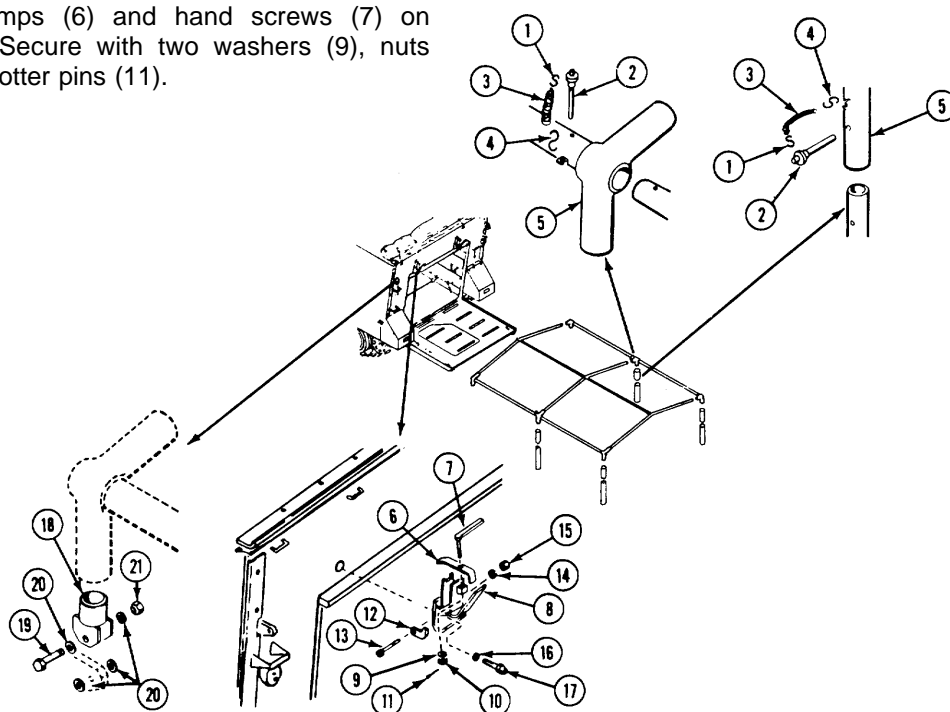
INSTALL

NOTE

There are six quick release pins and attaching chains on the frame assembly. Install pins and chains, as needed.

7. Install hook (1) on quick release pin (2) and chain (3). Squeeze both ends of hook to secure.
8. Install hook (4) on chain (3) and bracket on frame (5). Squeeze both ends of hook to secure.
9. Install two clamps (6) and hand screws (7) on brackets (8). Secure with two washers (9), nuts (10), and new cotter pins (11).

10. Install two retainers (12) on brackets (8). Secure with two screws (13), washers (14), and new locknuts (15).
11. Align two brackets (8) on rear bulkhead. Secure with four washers (16) and screws (17). Tighten screws to 60-65 lb-ft (81-88 N-m) torque. Use torque wrench.
12. Align two end fittings (18) with rear bulkhead lugs. Secure with two screws (19), eight washers (20), and two new locknuts (21).



FOLLOW-THROUGH STEPS

1. Install tent frame on carrier (see your -10).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

**Section XI. AMMUNITION AND FUZE RACKS
(M106A2, M125A2, AND M1064 Only)**

TASK INDEX

Task	Page	Task	Page
Replace Vertical Fuze Rack (M106A2 Only)	24-186	Replace Horizontal Ammunition Rack (M1064 Only)	24-190.3
Replace Vertical Ammunition Rack (M106A2 and M125A2 Only).....	24-188	Repair Horizontal Ammunition Rack (M1064 Only)	24-190.5
Replace Horizontal Ammunition Rack (M125A2 Only).....	24-189	Replace Horizontal Ammunition Rack (M106A2 Only)	24-191
Replace Vertical Ammunition Rack (M1064 Only).....	24-190.1		

REPLACE VERTICAL FUZE RACK (M106A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-186).

Install (page 24-187).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Rivet (14), as needed
Self-locking nut (6)

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)

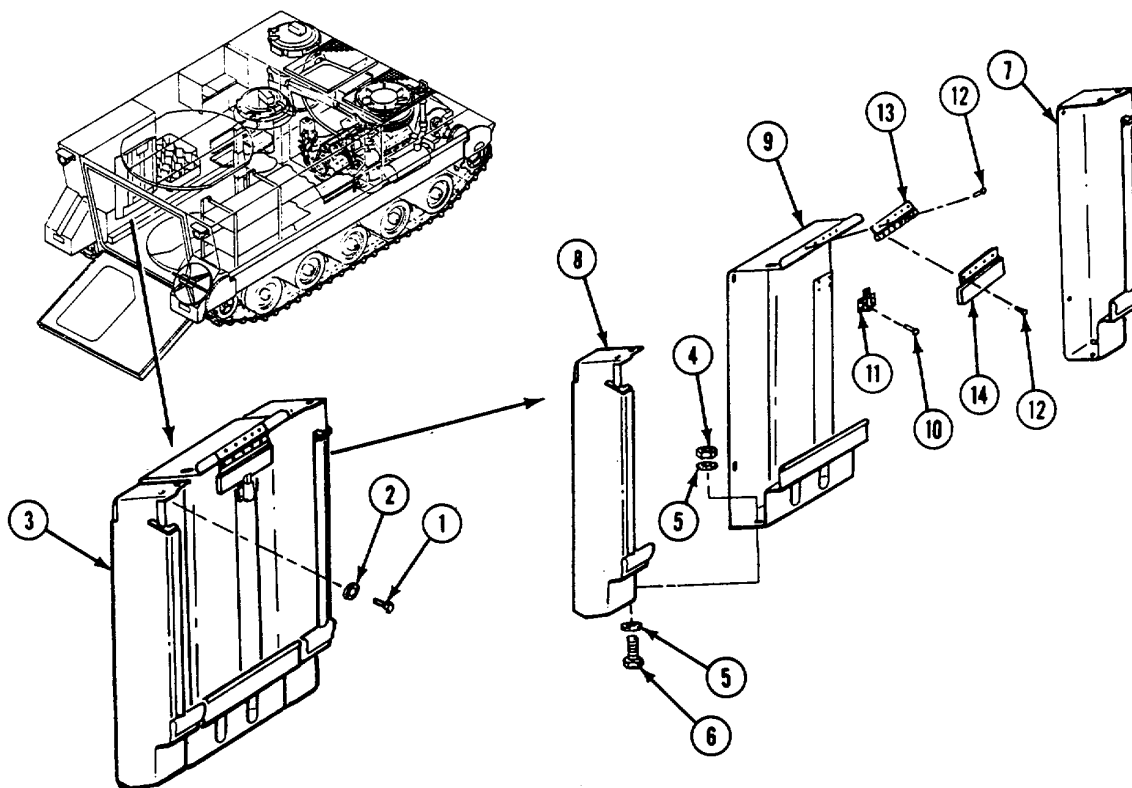
Personnel Required:

Unit Mechanic

REMOVE

1. Remove four screws (1), washers (2), and fuze rack (3) from left rear bulkhead.
2. Remove 6 locknuts (4), 12 washers (5), and 6 screws (6) from fuze rack (3). Separate right end panel (7) and left end panel (8) from center panel (9). Discard locknuts.

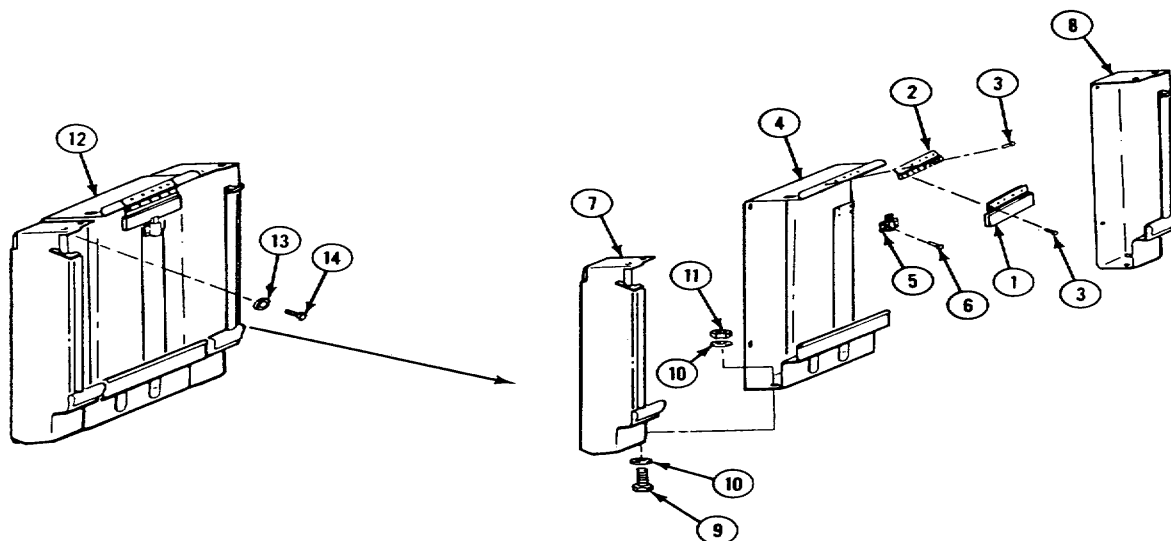
3. If needed, remove four rivets (10) and catch (11) from center panel (9). Discard rivets.
4. If needed, remove five rivets (12) and hinge (13) from center panel (9). Discard rivets.
5. If needed, remove five rivets (12) and door (14) from hinge (13). Discard rivets.



INSTALL

6. If removed, align door (1) with hinge (2). Secure with five new rivets (3).
7. If removed, align hinge (2) with center panel (4). Secure with five new rivets (3).
8. If removed, align catch (5) with center panel (4). Secure with four new rivets (6).

9. Align left end panel (7) and right end panel (8) with center panel (4). Secure with six screws (9), twelve washers (10), and six new locknuts (11).
10. Place fuze rack (12) on left rear bulkhead. Secure with four washers (13) and screws (14).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE VERTICAL AMMUNITION RACK (M106A2 AND M125A2 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Washer (3)
Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)

REMOVE

NOTE

Vertical ammunition racks in the M106A2 and M125A2 carriers are removed and installed the same way. Racks differ in size and capacity.

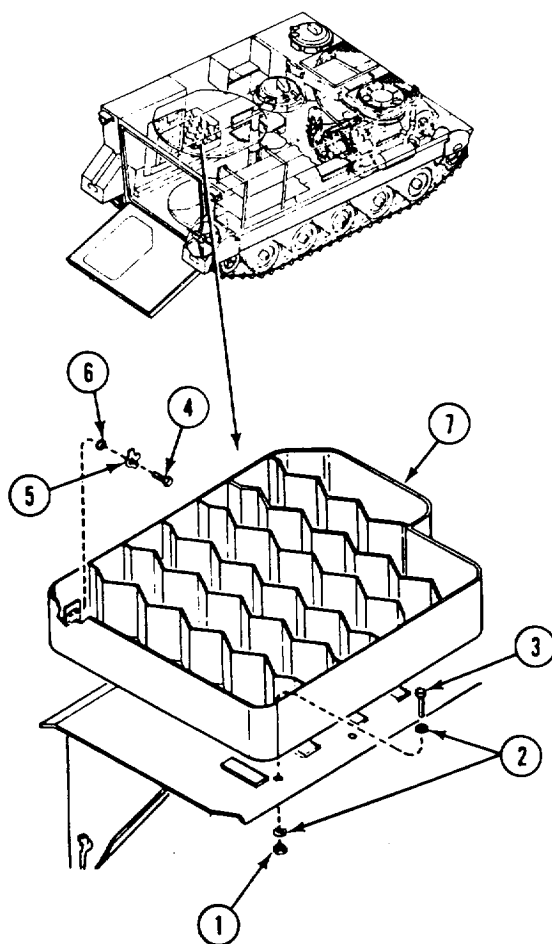
1. Remove two locknuts (1), four washers (2), and two screws (3) from bracket on sponson. Discard locknuts.
2. Remove three screws (4), key washers (5), washers (6), and ammunition rack (7) from left rear bulkhead. Discard key washers (5).

CLEAN, INSPECT, AND REPAIR

3. Check stencil. Restencil ammunition rack if stencil cannot be read.

INSTALL

4. Align ammunition rack (7) with left rear bulkhead. Secure with three washers (6), new key washers (5), and screws (4). Bend keys on key washers to secure screws.
5. Install two screws (3), four washers (2), and two new locknuts (1) in bracket on sponson.



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE HORIZONTAL AMMUNITION RACK (M125A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-189).

Install (page 24-190).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

- Key washer (31)
- Self locking nut (24)
- Ramp lowered (see your -10)

Equipment Conditions:

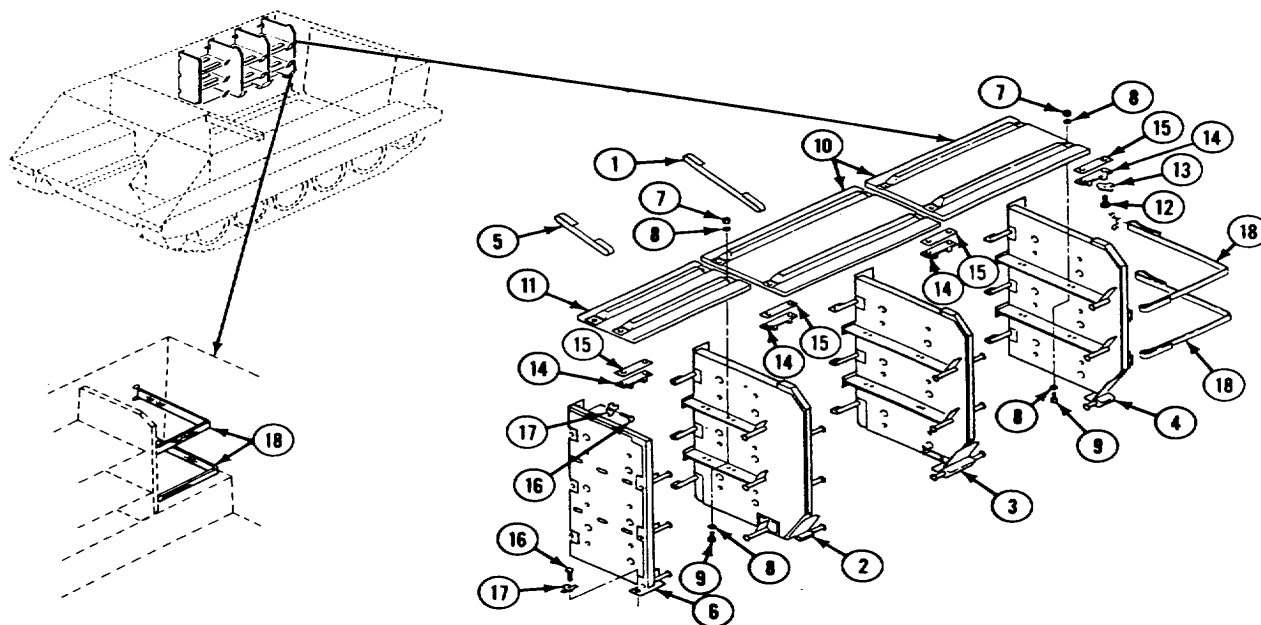
- Engine stopped (see your -10)
- Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

REMOVE

1. Remove 12 long straps (1) from 3 supports (2, 3, and 4).
2. Remove six short straps (5) from two supports (2 and 6).
3. Remove 16 locknuts (7), 32 washers (8), 16 screws (9), and 4 shelves (10) from supports (2, 3, and 4). Discard locknuts.
4. Remove 8 locknuts (7), 16 washers (8), 8 screws (9), and 2 shelves (11) from supports (2 and 6). Discard locknuts.
5. Remove eight screws (12), key washers (13), four brackets (14), and shims (15) from hull top plate. Discard key washers.
6. Remove 23 screws (16), key washers (17), and 4 supports (2, 3, 4, and 6) from right rear bulkhead and sponson. Discard key washers.
7. Remove two straps (18) from support (4).



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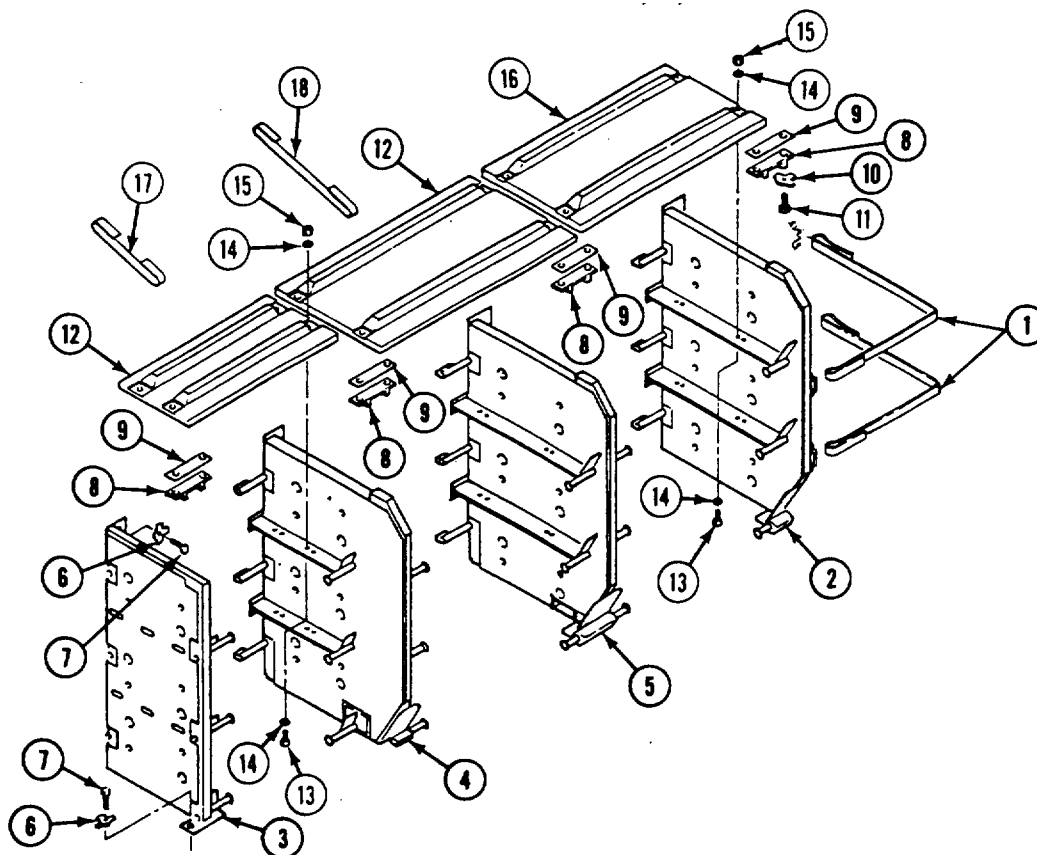
INSTALL

8. Install two straps (1) on support (2).
9. Align four supports (2, 3, 4, and 5) with right rear bulkhead and sponson. Secure with 23 new key washers (6) and screws (7). Bend keys on key washers to secure screws.

NOTE

Remove or install shims from between brackets and hull top plate, as needed to provide 3/16 in (5 mm) clearance between brackets and four supports.

10. Align four brackets (8) and shims (9) with hull top plate. Secure with eight new key washers (10) and screws (11). Bend keys on key washers to secure screws.
11. Place two shelves (12) on supports (3 and 4). Secure with 8 screws (13), 16 washers (14), and 8 new locknuts (15).
12. Place four shelves (16) on supports (2, 4, and 5). Secure with 16 screws (13), 32 washers (14), and 16 new locknuts (15).
13. Install six short straps (17) on supports (3 and 4).
14. Install 12 long straps (18) on supports (2, 4, and 5).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE VERTICAL AMMUNITION RACK (M1064 ONLY)

DESCRIPTION

This task covers: Remove (page 24-190.1).

Install (page 24-190.2).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Personnel Required:

Unit Mechanic

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

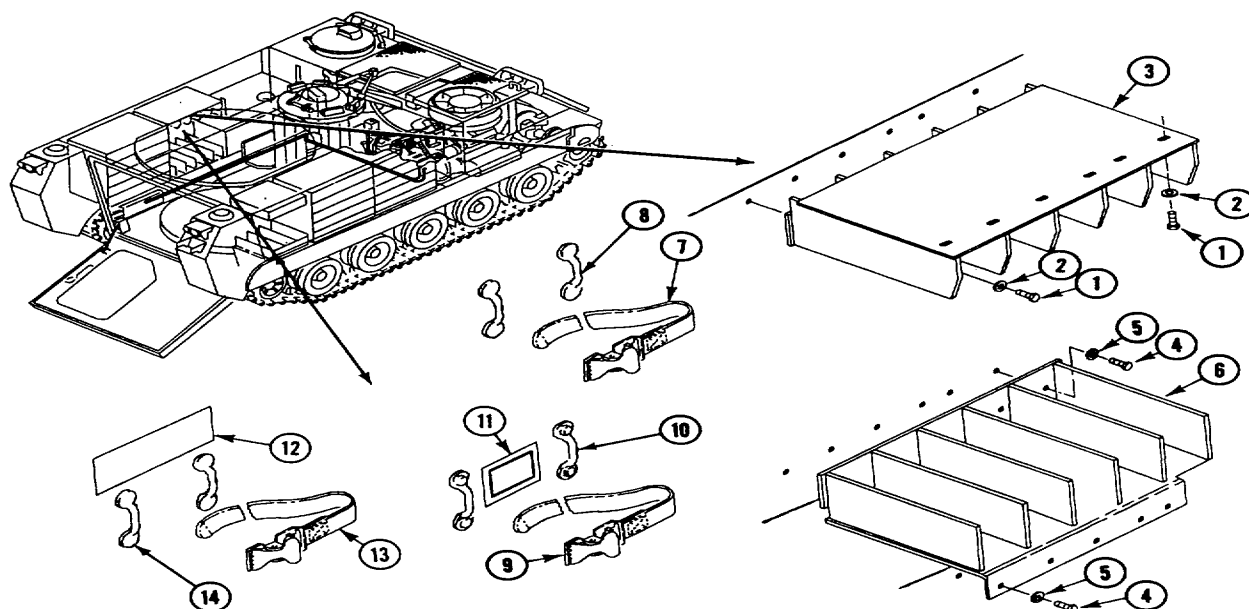
REMOVE

NOTE

Vertical ammunition racks in the M1064 carrier are removed and installed the same way. Racks differ in size and capacity. Left racks are shown.

1. Remove twelve screws (1), washers (2), and rack (3) from side hull and top plate.
2. Remove eleven screws (4), washers (5), and rack (6) from side hull and sponson.

3. If damaged, remove ten straps (7) from loops (8) on left side hull.
4. If damaged, remove two straps (9) from loops (10) on sponson side plate.
5. If damaged, remove two decals (11) from sponson side plate.
6. If damaged, remove decal (12) from sponson side plate.
7. If damaged, remove strap (13) from loops (14) on sponson side plate.

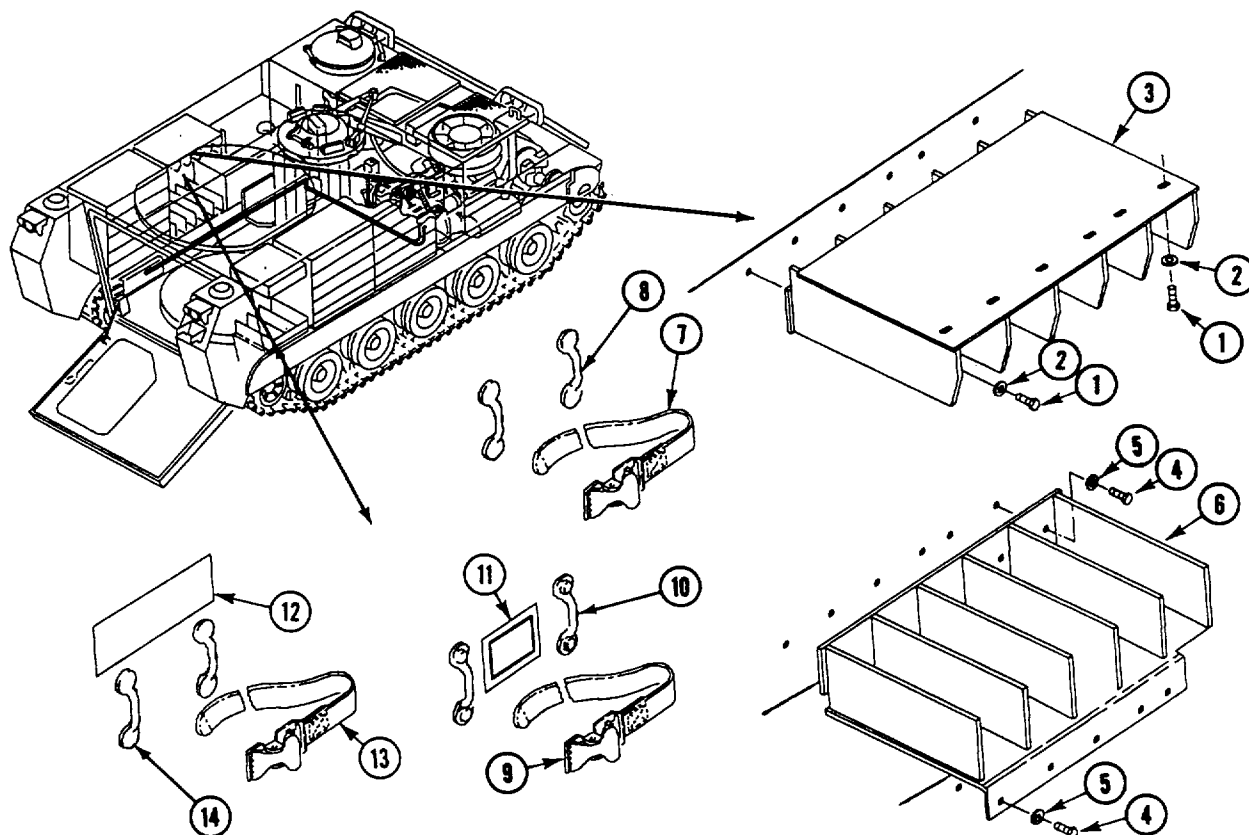


GO TO NEXT PAGE

INSTALL

8. If straps (1,2, or 3) were removed, replace with new straps.
9. If decals (4 or 5) were removed, clean area and apply new decal.

10. Install rack (6), eleven washers (7), and screws (8) on side hull and sponson.
11. Install rack (9), twelve washers (10), and screws (11) on side hull and top plate.



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).
3. Unblock carrier (see your -10).

END OF TASK

REPLACE HORIZONTAL AMMUNITION RACK (M1064 ONLY)

DESCRIPTION

This task covers: Remove (page 24-190.3).

Install (page 24-190.4).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Personnel Required:

Unit Mechanic
Helper

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)

REMOVE

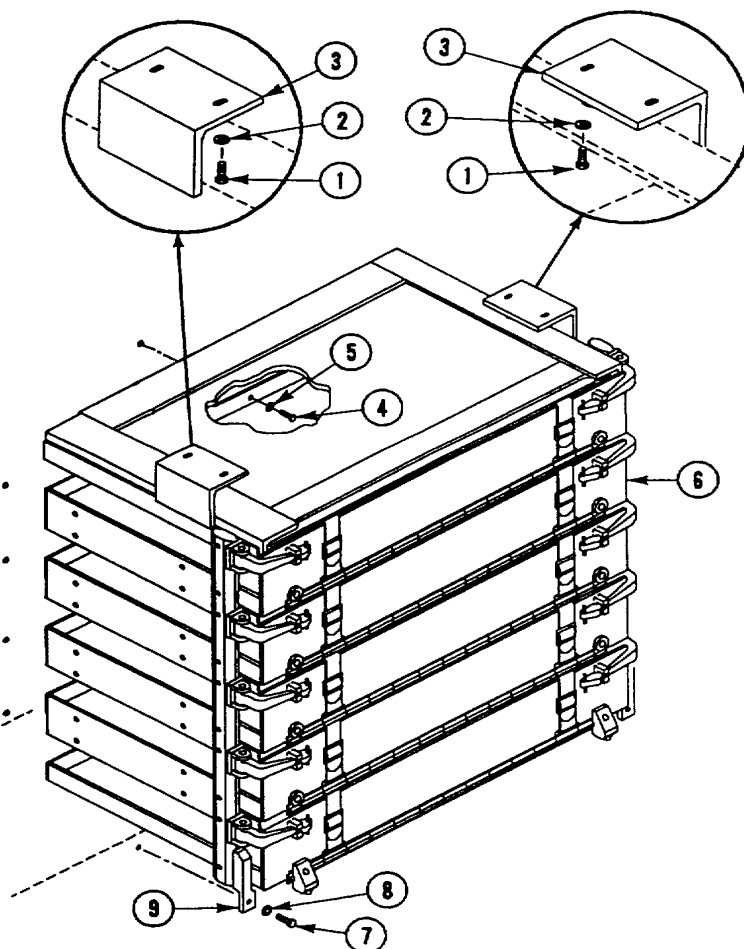
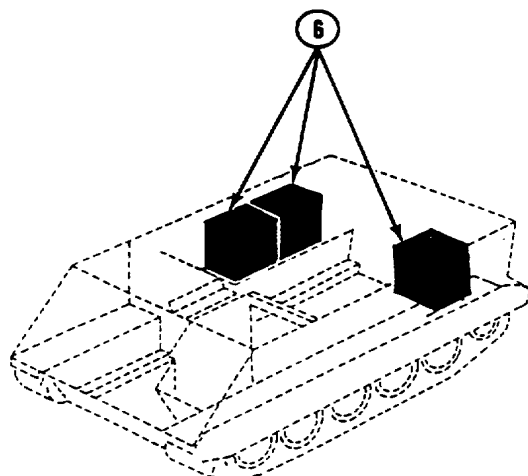
1. Remove four screws (1), washers (2), and two brackets (3) from hull top plate.
2. Remove eighteen screws (4) and washers (5) from rack assembly (6) and side hull.
3. Remove two screws (7) and washers (8) from two vertical posts (9) and sponson.

4. Remove horizontal ammunition rack (6) from carrier.

WARNING



Rear trays of ammo rack could collapse when removed. To prevent injury, move ammo rack from the front. Keep fingers away from spaces between trays on the back of ammo rack.



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Change 2 24-190.3

INSTALL

NOTE

WARNING

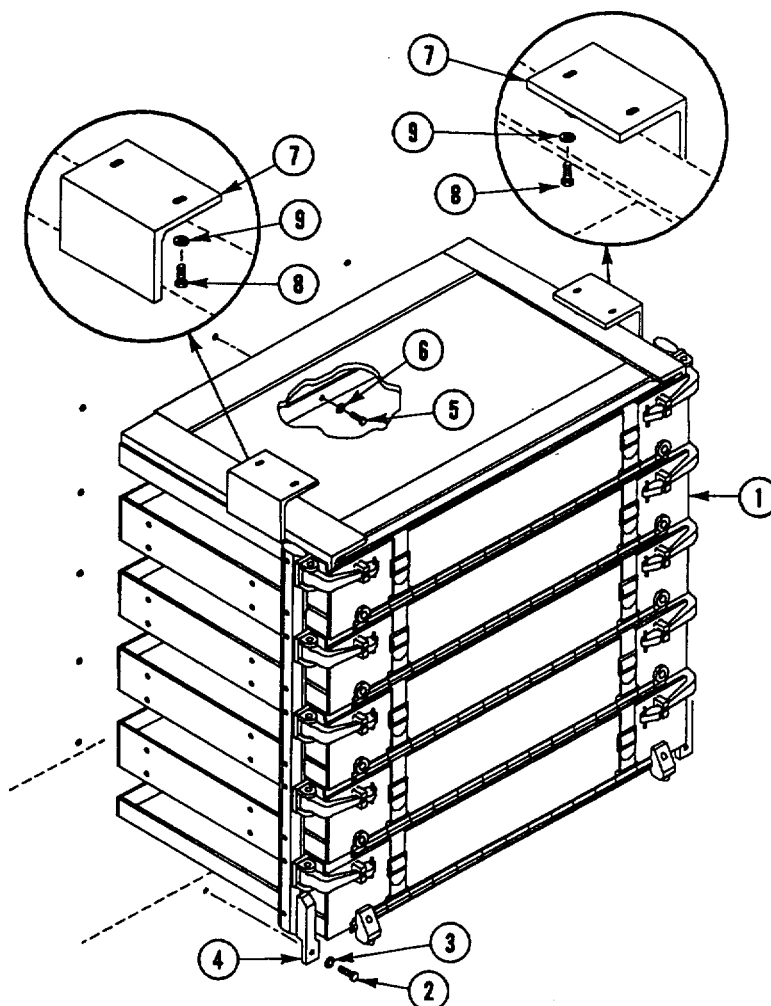


Rear trays of ammo rack could collapse when removed. To prevent injury, move ammo rack from the front. Keep fingers away from spaces between trays on the back of ammo rack.

5. Position horizontal ammunition rack (1) on sponson. Jam rack against other rack, if installed.
6. Install two screws (2), washers (3), vertical posts (4) on sponson.

Start installation of 18 screws inside hull from top and work down. Rack mounting holes may be elongated to 3/16 inch to match hole pattern.

7. Install eighteen screws (5) and washers (6) in rack assembly (1) and side hull.
8. Position two brackets (7) against hull top plate and top of rack (1). Install four screws (8) and washers (9) in brackets (7) and hull top plate. Close all ammo doors.



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).
3. Unblock carrier (see your -10).

END OF TASK

REPAIR HORIZONTAL AMMUNITION RACK (M1064 ONLY)

DESCRIPTION

This task covers: Disassemble (page 190.5).

Repair (page 24-190.6). Assemble (page 190.7).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Adhesive (Item 0.2, App C)
 Dry cleaning solvent (Item 13, App C)
 Self-locking nut (20)

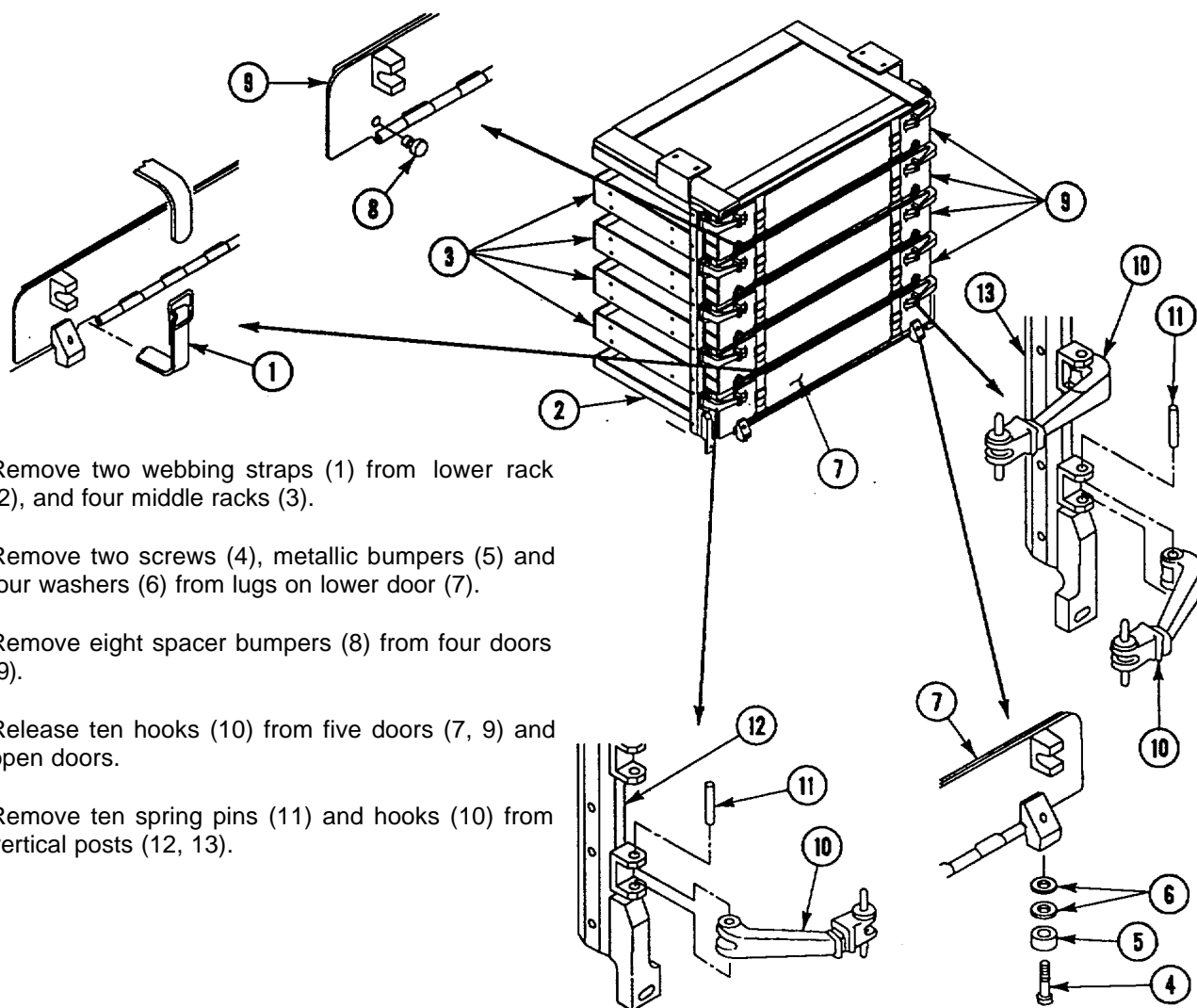
Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 Ramp lowered (see your -10)
 Horizontal ammo rack removed from carrier (page 24-190.3)

Personnel Required:

Unit Mechanic

DISASSEMBLE



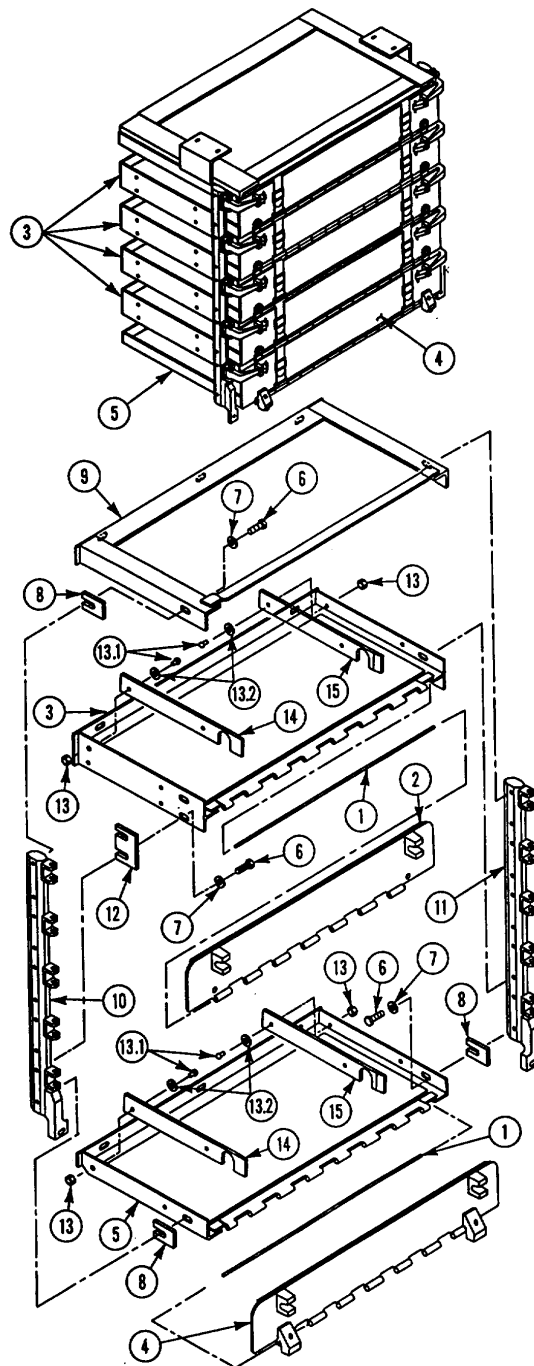
1. Remove two webbing straps (1) from lower rack (2), and four middle racks (3).
2. Remove two screws (4), metallic bumpers (5) and four washers (6) from lugs on lower door (7).
3. Remove eight spacer bumpers (8) from four doors (9).
4. Release ten hooks (10) from five doors (7, 9) and open doors.
5. Remove ten spring pins (11) and hooks (10) from vertical posts (12, 13).

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6. Remove four hinge pins (1) and doors (2) from four middle ammo racks (3).
7. Remove hinge pin (1) and door (4) from lower ammo rack (5).
8. Remove two screws (6), washers (7), shims (8), and upper stowage rack (9) from two vertical posts (10, 11).
9. Remove two screws (6), washers (7), shims (12), and middle stowage rack (3) from two vertical posts (10, 11).
10. Repeat step 9 for four middle stowage racks (3).
11. Remove two screws (6), washers (7), shims (8) and lower stowage rack (5) from two vertical posts (10, 11).
12. Remove four nuts (13), screws (13.1), washers (13.2), and two mortar wear bars (14, 15) from each of five stowage racks (3, 5). Discard nuts.

REPAIR

13. Clean all parts of stowage rack. See Chapter 2.
14. Inspect all metal parts for cracks, bends, or breaks. Repair minor defects. Replace parts that cannot be repaired.
15. Inspect webbing straps and door hooks for excessive wear, cuts, or fraying. Replace defective parts.

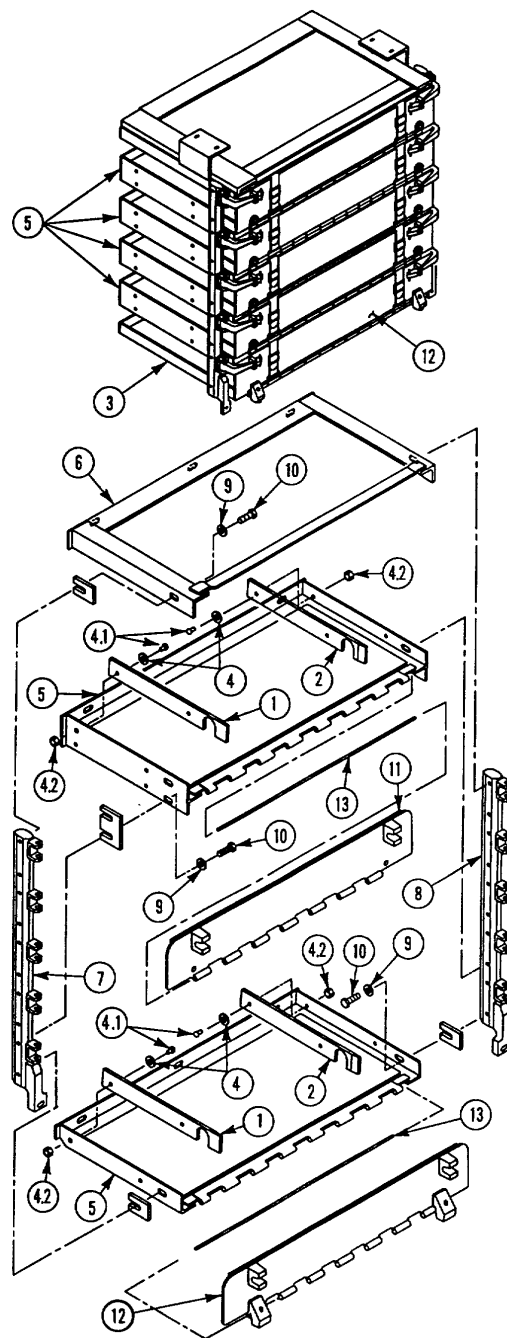


ASSEMBLE

NOTE

Assemble each horizontal storage rack without shims and straps outside the carrier. Do not tighten any mounting screws until after installation in the carrier.

16. Install two mortar wear bars (1, 2) on lower storage rack (3) with four washers (4), screws (4.1), and new nuts (4.2).
17. Repeat step 16 for four middle storage racks (5).
18. Install upper storage rack (6) on vertical posts (7, 8) with two washers (9) and screws (10).
19. Install lower storage rack (3) on vertical posts (7, 8) with two washers (9) and screws (10).
20. Install four middle storage racks (5) on vertical posts (7, 8) with 16 washers (9) and screws (10).
21. Install five doors (11, 12) on five storage racks (3, 5) with five hinge pins (13).
22. Stake ends of five hinge pins (13) to five doors (11, 12).



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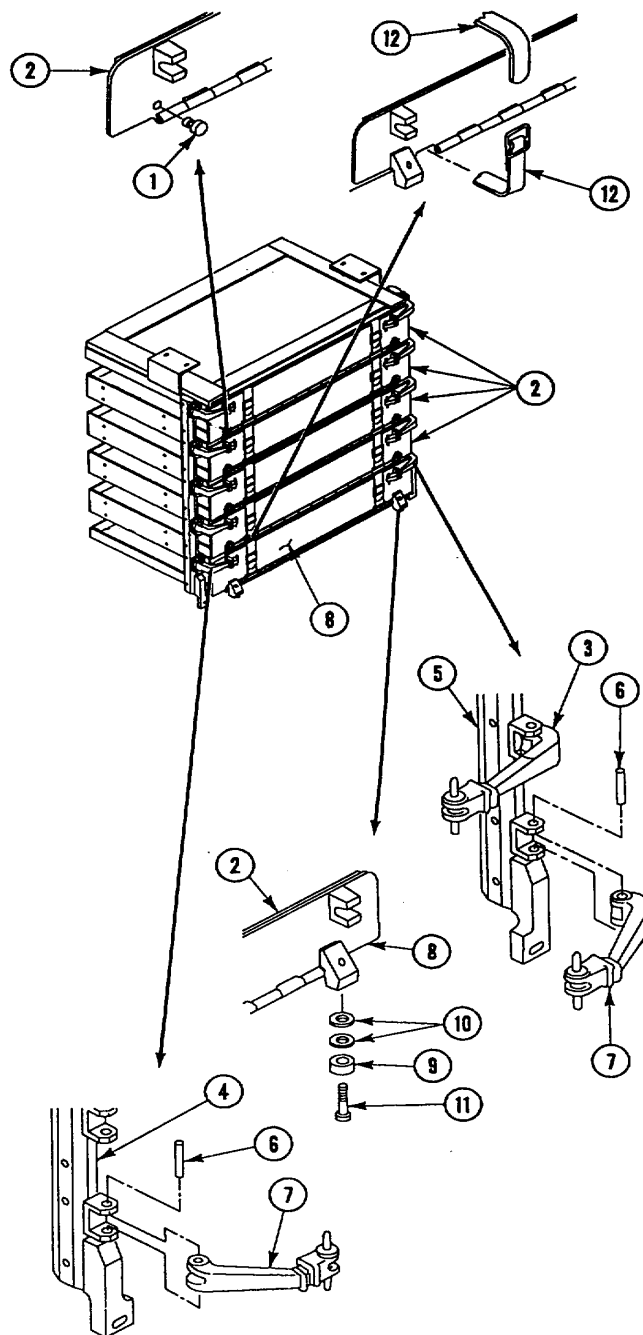
Change 4 24-190.7

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 flash point for type I dry cleaning solvent is 100° F (38° C) and for type II is 138° F (50° C). Failure to do so may result in injury or death to personnel.

23. Install eight spacer bumpers (1) on four doors (2) as follows:
 - (a) Clean mating surfaces on four doors (2) with dry cleaning solvent.
 - (b) Apply a thin even coat of adhesive to mating surfaces. Allow adhesive to dry until tacky (10 to 20 minutes). Press spacer bumpers firmly on doors (2).
24. Install ten hooks (3) on vertical posts (4, 5) with ten spring pins (6).
25. Secure ten hooks (7) on five doors (2, 8).
26. Install two metallic bumpers (9), four washers (10), and two screws (11) on lugs of lower door (8).
27. Install two mortar stowage webbing straps (12) in bottom slots of five doors (2, 8). Secure each strap around door.



FOLLOW-THROUGH STEPS

1. Install horizontal ammo rack (page 24-190.3).
2. Raise and lock ramp (see your -10).

END OF TASK

REPLACE HORIZONTAL AMMUNITION RACK (M106A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-191).

Install (page 24-192).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

- Lockwasher (39)
- Self-locking nut (44)
- Tab washer (31)

References:

See your -10

Equipment Conditions:

- Engine stopped (see your -10)
- Ramp lowered (see your -10)

REMOVE

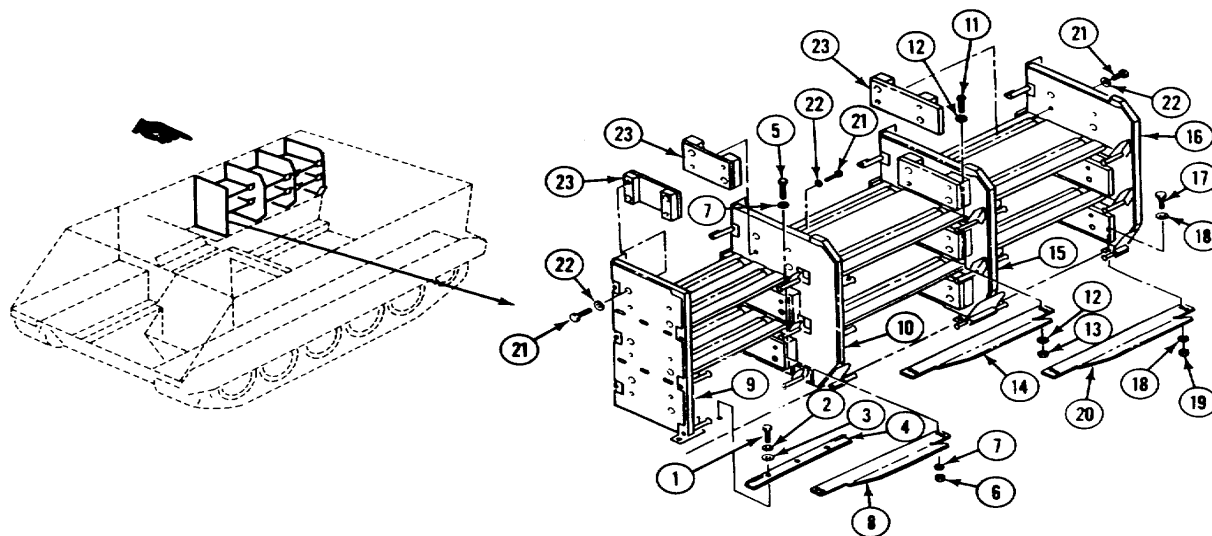
1. Remove three screws (1), lockwashers (2), washers (3), and ammunition retainer plate (4) from the top of sponson. Discard lockwashers.
2. Remove four screws (5), locknuts (6), eight washers (7), and two ammunition retainer plates (8) from supports (9 and 10). Discard locknuts.
3. Remove 8 screws (11), 16 washers (12), 8 locknuts (13), and 4 ammunition retainer plates (14) from top 2 shelves between supports (10, 15, 16). Discard locknuts.

4. Remove 8 screws (17), 16 washers (18), 8 locknuts (19), and 2 ammunition retainer plates (20) from sponson between supports (10, 15, 16). Discard locknuts.

CAUTION

Spacers are of three different sizes. Check the part numbers before removing and installing spacers to be sure of proper installation.

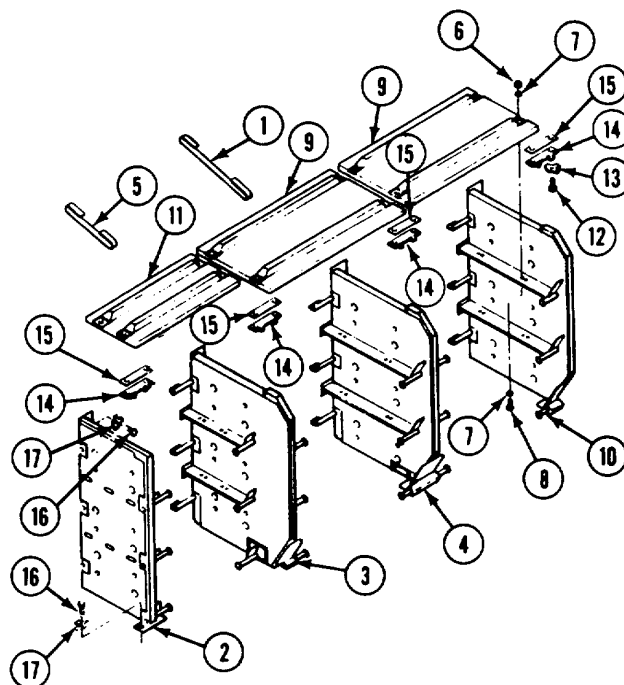
5. Remove 36 screws (21), lock washers (22), and 18 spacers (23) from supports (9, 10, 15, 16). Discard lockwashers.



GO TO NEXT PAGE

6. Remove 12 long straps (1) from 3 supports (2, 3, and 4).
7. Remove six short straps (5) from two supports (2 and 3).
8. Remove 16 locknuts (6), 32 washers (7), 16 screws (8), and 4 shelves (9) from supports (3, 4, and 10). Discard locknuts.
9. Remove 8 locknuts (6), 16 washers (7), 8 screws (8), and 2 shelves (11) from supports (2 and 3). Discard locknuts.
10. Remove eight screws (12), tab washers (13), four brackets (14), and shims (15) from hull top plate. Discard tab washers.
11. Remove 23 screws (16), tab washers (17), and 4 supports (2, 3, 4, and 10) from right rear bulkhead and sponson. Discard tab washers.

15. Place four shelves (9) on supports (3, 4, and 10). Secure with 16 screws (8), 32 washers (7), and 16 new locknuts (6).
16. Install six short straps (5) on supports (2 and 3).
17. Install 12 long straps (1) on supports (3, 4, and 10).



INSTALL

12. Align four supports (2, 3, 4, and 10) with right rear bulkhead and sponson. Secure with 23 new tab washers (17) and screws (16). Bend keys on tab washers to secure screws.

NOTE

Remove or install shims (15) from between brackets (14) and hull top plate, as needed to provide 3/16 inch (5 mm) clearance between brackets (14) and four supports (2, 4, and 10).

13. Align four brackets (14) and shims (15) with hull top plate. Secure with eight new tab washers (13) and screws (12). Bend keys on tab washers to secure screws.
14. Place two shelves (11) on supports (2 and 3). Secure with 8 screws (8), 16 washers (7), and eight new locknuts (6).

WARNING



M329A2 mortar ammunition can explode if it is dropped or loose enough to move about when stowed in ammunition stowage racks without proper spacers in place. Personnel can be killed or injured. Check that correct size spacers are in place before stowing M329A2 mortar ammunition.

CAUTION

Spacers come in three different sizes. Of the three sizes, the smallest is mounted on support (1), the intermediate size is mounted on the forward side of support (2), and the largest size is mounted on supports (2, 3, and 4).

18. Align 18 spacers (5) on supports (1, 2, 3, and 4) and secure with 36 screws (6) and new lockwashers (7).

NOTE

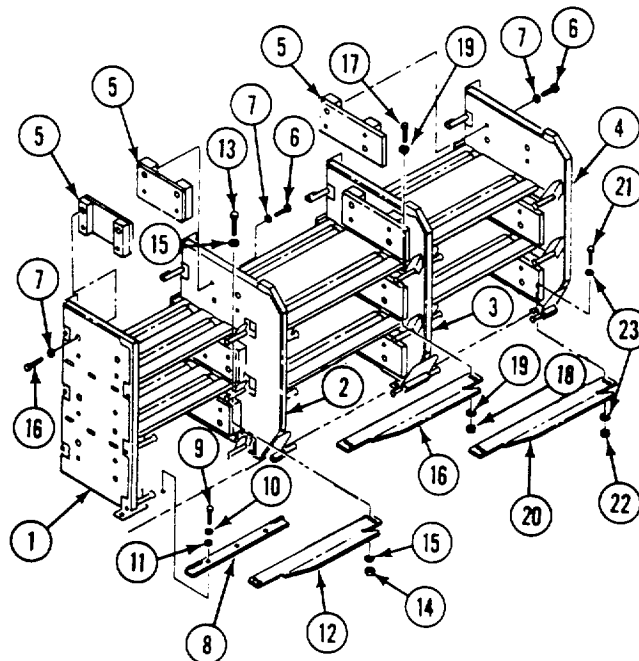
Only two screws, four washers, and two locknuts are required to install ammunition retainer plates on the top and center shelves between supports (2 and 3) and supports (3 and 4).

19. Align ammunition retainer plate (8) on sponson between supports (1 and 2). Secure plate (8) to sponson with three screws (9), new lockwashers (10), and washers (11).

NOTE

Align all ammunition retainer plates with existing angle plates on supports.

20. Align two ammunition retainer plates (12) between supports (1 and 2). Secure plates (12) with four screws (13), four new locknuts (14), and eight washers (15).
21. Align 4 ammunition retainer plates (16) between supports (2, 3, and 4). Secure top 4 plates (16) with 8 screws (17), 8 new locknuts (18), and 16 washers (19). Secure bottom 2 plates (20) with 8 screws (21), 8 new locknuts (22), and 16 washers (23).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

**Section XII. AMMUNITION CONTAINERS AND COMPONENTS
(M741A1 ONLY)**

TASK INDEX

Task	Page	Task	Page
Replace Ammunition Seat Container (M741A1 Only)	24-195	Replace Ammunition Stowage Container Supports (M741A1 Only)	24-203
Repair Ammunition Seat Container (M741A1 Only)	24-197	Replace Ammunition Disposal Cover (M741A1 Only)	24-205
Replace Ammunition Stowage Container (M741A1 Only)	24-199	Repair Ammunition Chute (M741A1 Only)	24-207
Repair Ammunition Stowage Container (M741A1 Only)	24-201		

REPLACE AMMUNITION SEAT CONTAINER (M741A1 ONLY)

DESCRIPTION

This task covers: Remove (page 24-195).

Install (page 24-196).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 97, App D)
- Torque Wrench (Item 95, App D)
- Socket Wrench Set (Item 89, App D)

References:

See your -10

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Ammunition chute removed from seat container (see your -10)

Personnel Required:

Unit Mechanic

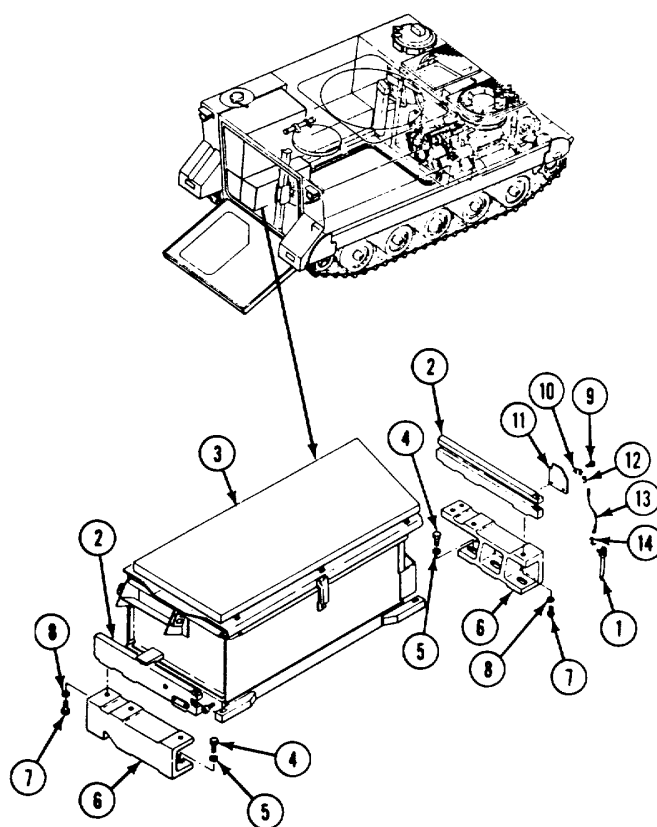
REMOVE

WARNING



You could be injured or killed if there is ammunition in seat container. Make sure there is no ammunition in container before you remove it.

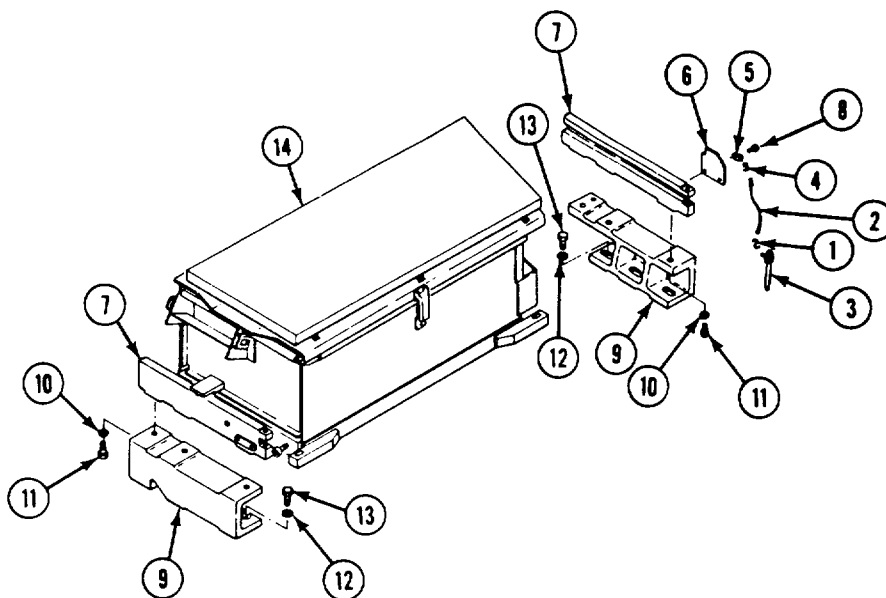
1. Remove two quick release pins (1) and one ammunition seat container (3) from two channels (2).
2. Remove six screws (4), washers, (5), and two channel supports (6) from hull.
3. Remove six screws (7), washers (8), and two channels (2) from two supports (6).
4. Remove two screws (9), lug (10), and plate (11) from each channel (2).
5. Open both ends of two hooks (12). Remove hooks from two lugs (10) and chains (13).
6. Open both ends of two hooks (14). Remove hooks from two chains (13) and pins (1).



GO TO NEXT PAGE

INSTALL

7. Install two hooks (1) on two chains (2) and quick release pins (3). Squeeze both ends of hooks to secure.
8. Install two hooks (4) on two chains (2) and lugs (5). Squeeze both ends of hooks to secure.
9. Align lug (5) and plate (6) on each channel (7). Secure with two screws (8).
10. Install two channels (7) on two channel supports (9). Secure with six washers (10) and screws (11). Tighten screws to 61-66 lb-ft (83-90 N•m) torque. Use torque wrench.
11. Align two supports (9) with hull. Secure with six washers (12) and screws (13). Tighten screws to 264-288 in-lb (30-33 N•m) torque. Use torque wrench and socket wrench set.
12. Install ammunition seat container (14) in two channels (7). Secure with two quick release pins (3).



FOLLOW-THROUGH STEPS

1. Install ammunition chute on seat container (see your -10).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

REPAIR AMMUNITION SEAT CONTAINER (M741A1 ONLY)**DESCRIPTION**

This task covers: Disassemble (page 24-197).

Assemble (page 24-198).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 94, App D)

Materials/Parts:

Rivet (28)
Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

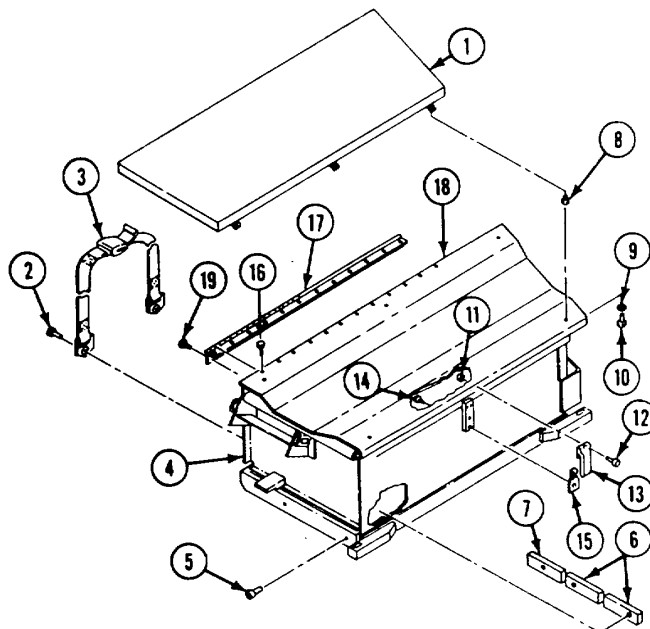
See your -10

Equipment Conditions:Ammunition seat container removed
page 24-195)

Ammunition removed (see your -10)

DISASSEMBLE

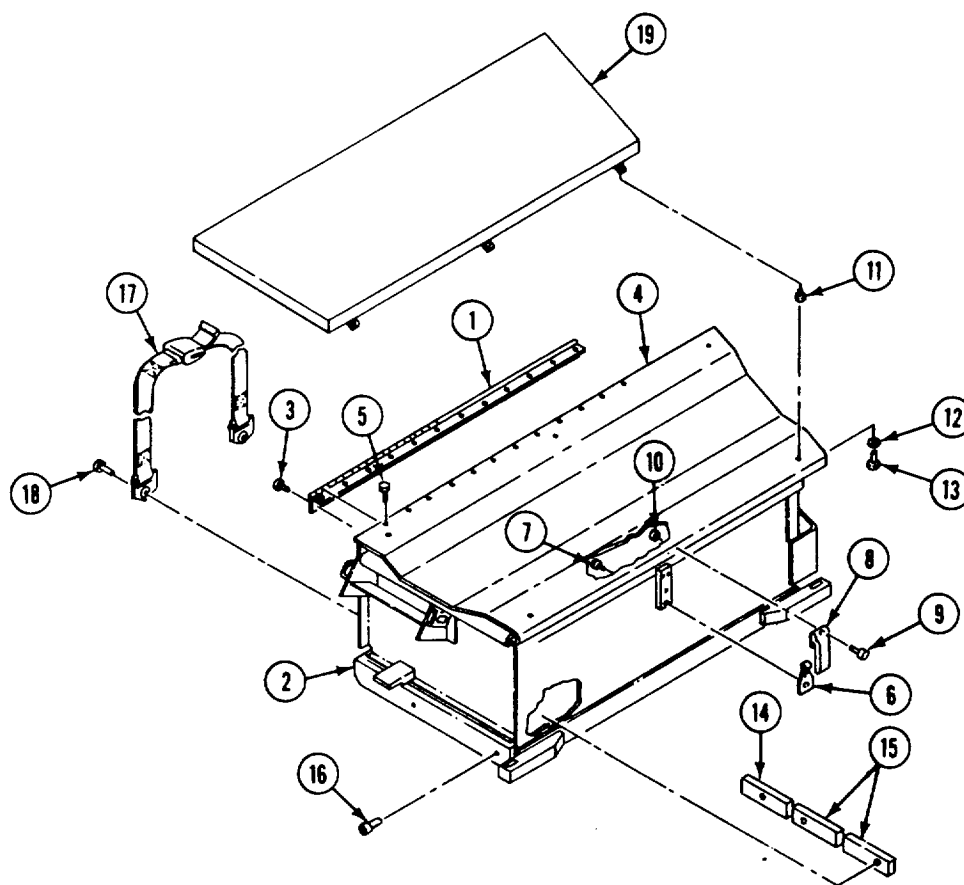
1. Remove cushion (1).
2. Remove four screws (2), and two seat belts (3) from container (4).
3. Remove six cam followers (5), four bars (6), and two bars (7) from container (4).
4. Remove six studs (8), washers (9), and screws (10) from container (4).
5. Remove two locknuts (11), screws (12), and latch (13) from container (4). Discard locknuts.
6. Remove two rivets (14) and catch (15) from container (4). Discard rivets.
7. Remove 13 rivets (16) from hinge (17) on seat (18). Discard rivets.
8. Remove 13 rivets (19) from hinge (17) on container (4). Discard rivets.



GO TO NEXT PAGE

ASSEMBLE

9. Install hinge (1) on container (2). Secure with 13 new rivets (3).
10. Install hinge (1) on seat (4). Secure with 13 new rivets (5).
11. Install catch (6) on container (2). Secure with two new rivets (7).
12. Install latch (8) on container (2). Secure with two screws (9) and new locknuts (10).
13. Install six studs (11), washers (12), and screws (13) in container (2).
14. Install two bars (14) and four bars (15) in container (2). Secure with six cam followers (16). Tighten cam followers to 216-264 lb-in (24-30 N•m) torque. Use torque wrench.
15. Install two seat belts (17) on container (2). Secure with four screws (18). Tighten screws to 156-180 lb-in (18-20 N•m) torque. Use torque wrench.
16. Install seat cushion (19).



FOLLOW-THROUGH STEPS

1. Install ammunition seat container (page 24-195).

END OF TASK

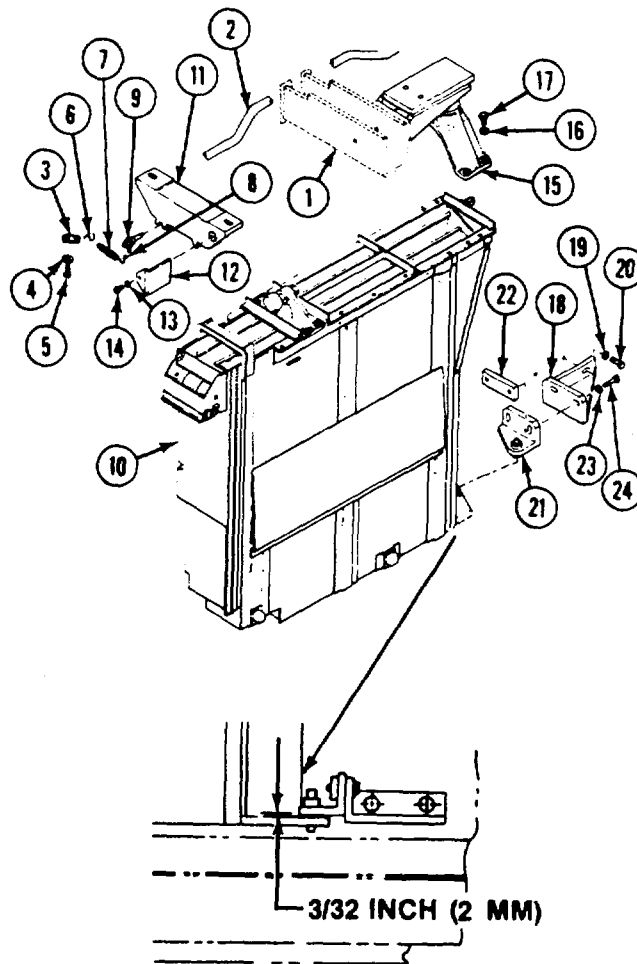
CLEAN, INSPECT, AND REPAIR

9. Check for sharp edges at front and rear of notch in top plate support (1).
 - a. Remove rear portion of rear main wiring harness (2) from notched opening in top plate support (1).
 - b. Remove sharp edges from notched opening in top plate support (1).
 - c. Clean and repaint any bare metal.
 - d. Repair rear main wiring harness if damaged (page 14-3).

17. Align bracket (21) with mount (18) to obtain 3/32 inch (2 mm) maximum clearance between container (10) and bracket (21). Secure bracket to bar (22) with two washers (23) and new lockbolts (24). Tighten screws to 264-288 in-lb (30-33 N•m) torque. Use torque wrench.

INSTALL

10. Align lug (3) with hull top plate. Secure with washer (4) and screw (5).
11. Install hook (6) on lug (3) and chain (7). Squeeze both ends of hook to secure.
12. Install hook (8) on chain (7) and quick release pin (9). Squeeze both ends of hook to secure.
13. Install ammunition stowage container (10) in carrier. Install pin (9) in rear support (11) and container.
14. Place pad (12) on rear support (11). Secure with washer (13) and screw (14).
15. Align container (10) with front support (15). Secure with four washers (16) and screws (17). Tighten screws to 264-288 in-lb (30-33 N•m) torque. Use torque wrench.
16. Install mount (18) on left rear bulkhead. Secure with two washers (19) and new lockbolts (20). Tighten lockbolts to 264-288 in-lb (30-33 N•m) torque. Use torque wrench.



FOLLOW-THROUGH STEPS

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Install ammunition seat container (page 24-195). 2. Install ammunition chute (see your -10). | <ol style="list-style-type: none"> 3. Raise and lock ramp (see your -10) 4. Stop engine (see your -10). |
|--|---|

END OF TASK

REPAIR AMMUNITION STOWAGE CONTAINER (M741A1 ONLY)

DESCRIPTION

This task covers: Disassemble (page 24-201).

Assemble (page 24-202).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Marker (2), instruction, as needed
- Marker (2), warning, as needed
- Rivet (34)
- Self-locking nut
- Self-locking nut
- Self-locking screw (2)

Personnel Required:

Unit Mechanic

References:

See your -10

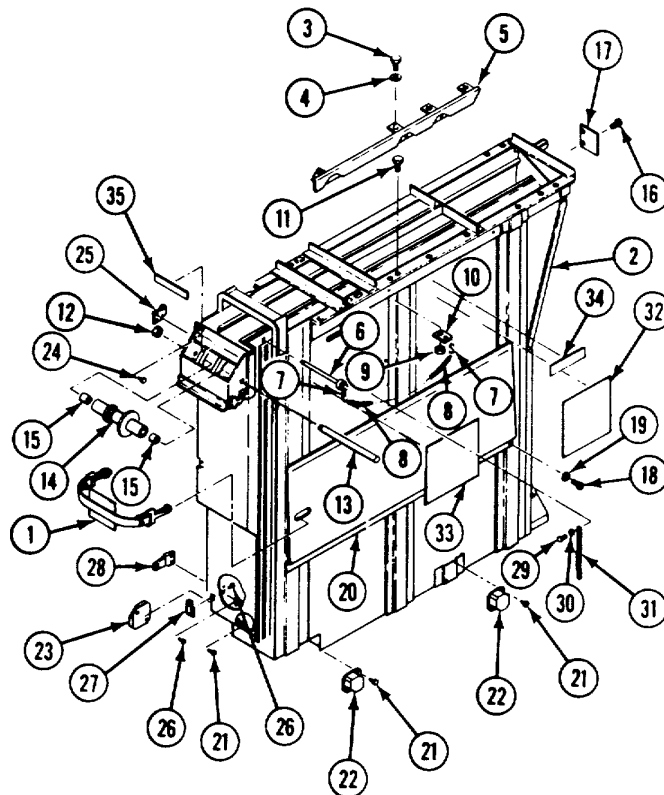
Equipment Conditions:

Ammunition stowage container removed (page 24-199)

DISASSEMBLE

1. Unhook chute strap (1) from container (2).
2. Remove four screws (3), washers (4), and guard (5) from container (2).
3. Remove ammo lock pin (6), two S-hooks (7), chain (8), locknut (9), lug (10), and screw (11) from container (2). Discard locknut.
4. Remove locknut (12), shaft (13), roller (14), and two bearings (15) from container (2). Discard locknut.
5. Remove two lockscrews (16) and stop plate (17) from container (2). Discard lockscrews.
6. Remove four screws (18), washers (19), and backrest (20) from container (2).
7. Remove six rivets (21) and three bumpers (22 and 23) from container (2). Discard rivets.
8. Remove two rivets (24) and catches (25) from container (2). Discard rivets.
9. Remove 25 rivets (26), 2 catches (27), and 3 latches (28) from container (2). Discard rivets.

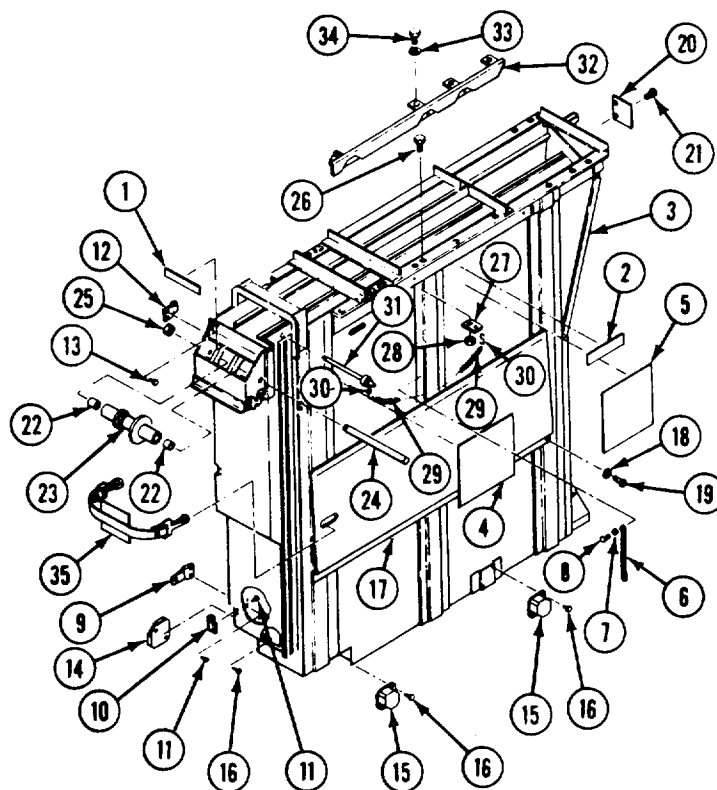
10. Remove rivet (29), washer (30), and chain (31) from container (2). Discard rivet.
11. If damaged, remove instruction markers (32 and 33). Discard markers.
12. If damaged, remove warning markers (34 and 35). Discard markers.



GO TO NEXT PAGE

ASSEMBLE

13. If removed, install new warning markers (1 and 2) on container (3).
14. If removed, install new instruction markers (4 and 5) on container (3).
15. Install chain (6) on container (3). Secure with washer (7) and new rivet (8).
16. Install three latches (9) and two catches (10) on container (3). Secure with 25 new rivets (11).
17. Install two catches (12) on container (3). Secure with two new rivets (13).
18. Install three bumpers (14 and 15) on container (3). Secure with six new rivets (16).
19. Install backrest (17) on container (3). Secure with four washers (18) and screws (19).
20. Install stop plate (20) on container (3). Secure with two new lockscrews (21).
21. Install two bearings (22), roller (23), and shaft (24) in container (3). Secure with new locknut (25).
22. Install screw (26), lug (27), new locknut (28), chain (29), two S-hooks (30), and lock pin (31) on container (3).
23. Install guard (32) on container (3). Secure with four washers (33) and screws (34).
24. Install chute strap (35) on container (3).



FOLLOW-THROUGH STEPS

1. Install ammunition stowage container (page 24-199).

END OF TASK

REPLACE AMMUNITION STOWAGE CONTAINER SUPPORTS (M741A1 ONLY)

DESCRIPTION

This task covers: Remove (page 24-203).

Install (page 24-204).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 95, App D)
Torque Wrench (Item 96, App D)
Wrench Set (Item 89, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Materials/Parts:

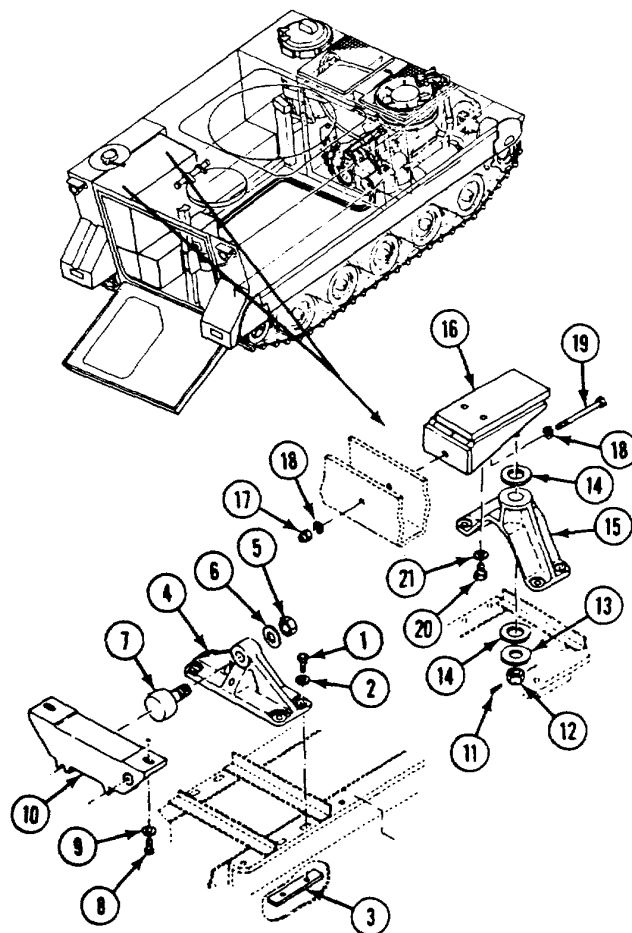
Cotter pin
Self-locking bolt
Self-locking nut

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Ammunition stowage container removed
(page 24-199)

REMOVE

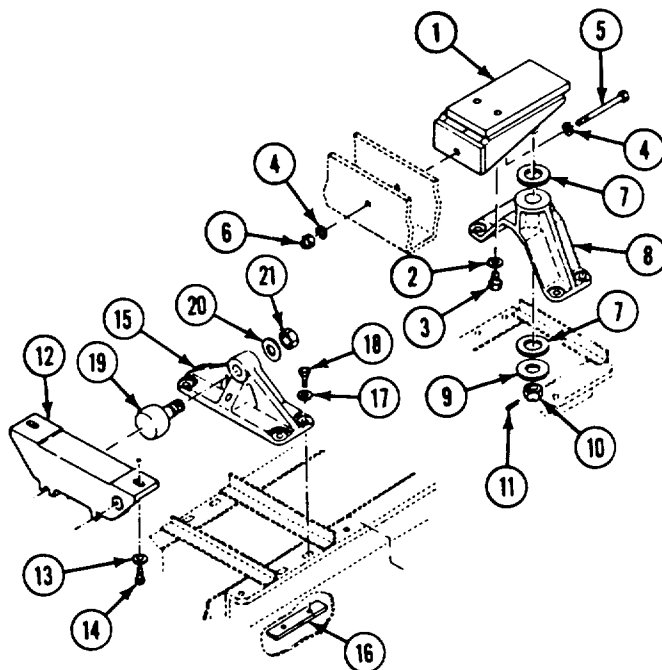
1. Remove four lockbolts (1), washers (2), two bars (3), and rear support (4) from ammunition stowage container. Discard lockbolts.
2. Remove locknut (5), washer (6), and cam follower (7) from support (4). Discard locknut.
3. Remove two lockbolts (8), washers (9), and rear support mount (10) from hull top plate. Discard lockbolts.
4. Remove cotter pin (11), nut (12), washer (13), two thrust washers (14), and front support (15) from support bracket (16). Discard cotter pin.
5. Remove locknut (17), two washers (18), and screw (19) from bracket (16) and hull crossmember. Discard locknut.
6. Remove two screws (20), washers (21), and bracket (16) from hull top plate.



GO TO NEXT PAGE

INSTALL

7. Align support bracket (1) with hull to plate. Secure with two washers (2) and screws (3). Tighten screws to 61-66 lb-ft (83-90 N•m) torque. Use torque wrench.
8. Install one washer (4), screw (5), one washer (4), and new locknut (6) in bracket (1) and hull crossmember. Tighten nut to 54-59 lb-ft (73-80 N•m) torque. Use torque wrench.
9. Install one thrust washer (7), front support (8), one thrust washer (7), washer (9), and nut (10) on bracket (1). Tighten nut. Then back off to align nearest slot in nut with hole in stud on bracket. Install new cotter pin (11).
10. Align support mount (12) with hull top plate. Secure with two washers (13) and new lockbolts (14). Tighten screws to 54-59 lb-ft (73-80 N•m) torque. Use torque wrench.
11. Align rear support (15) with ammunition stowage container. Secure with two bars (16), four washers (17), and new lockbolts (18). Tighten screws to 264-288 in-lb (30-33 N•m) torque. Use torque wrench.
12. Install cam follower (19) in support (15). Secure with washer (20) and new locknut (21). Tighten locknut to 115-120 lb-ft (156-163 N•m) torque. Use torque wrench.



FOLLOW-THROUGH STEPS

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Install ammunition stowage container (page 24-199). | <ol style="list-style-type: none"> 2. Raise and lock ramp (see your -10). 3. Stop engine (see your -10). |
|--|--|

END OF TASK

REPLACE AMMUNITION DISPOSAL COVER (M741A1 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Adhesive
Gasket
Lockwasher (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Ramp lowered (see your -10)
Carrier blocked (see your -10)
Ammunition unloaded (see your -10)

REMOVE



WARNING

You could be injured or killed if there is ammunition in stowage container. Make sure there is no ammunition in container before you remove it.

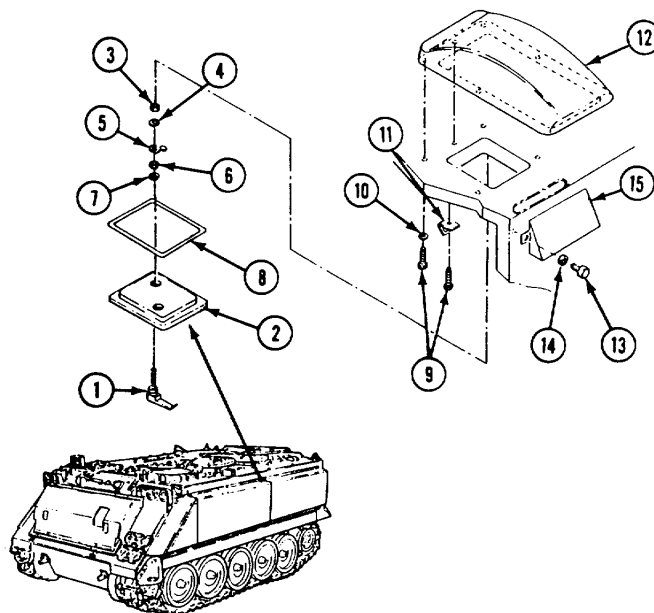
1. Turn two handles (1) to the left. Remove plate (2) from opening in hull top plate.
2. Remove two nuts (3), lockwashers (4), and pawls (5) from two handles (1). Discard lockwashers.
3. Remove two nuts (6), lockwashers (7), and handles (1) from plate (2). Discard lockwashers.
4. Remove gasket (8) from plate (2). Discard gasket.
5. Remove five screws (9), four washers (10), bracket (11), and cover (12) from hull top plate.
6. Remove two screws (13), washers (14), and deflector (15) from hull.

INSTALL

7. Place deflector (15) on hull. Secure with two washers (14) and screws (13).
8. Place cover (12) on hull top plate. Secure with bracket (11), four washers (10), and five screws (9).

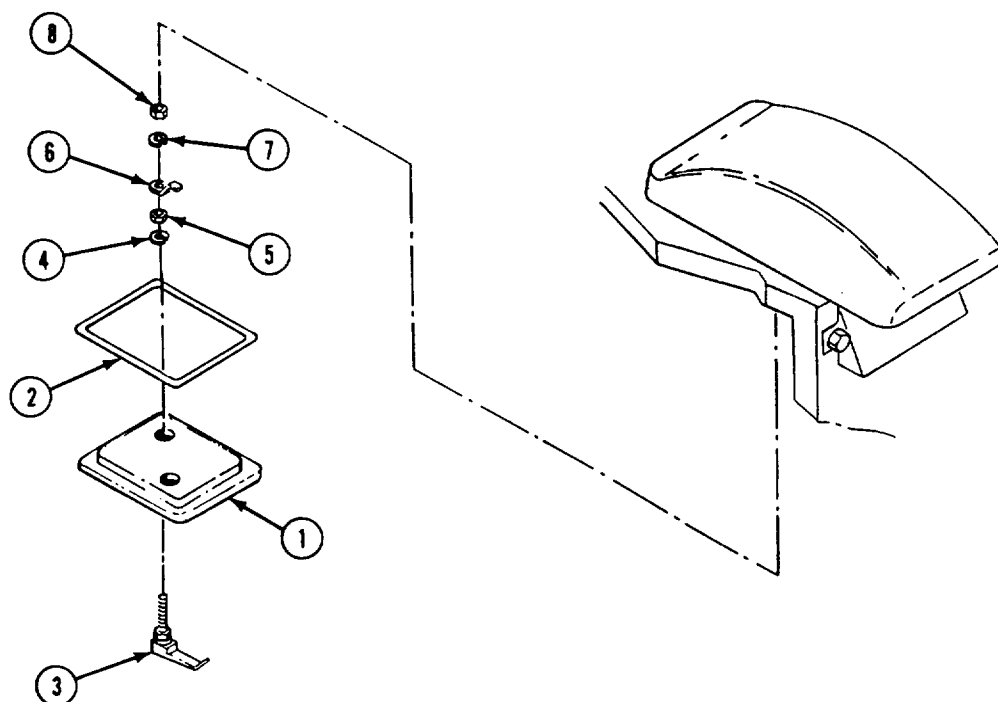
NOTE

Install bracket (11) on middle screw (9) as shown.



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9. Coat mating surface on plate (1) with adhesive. Place new gasket (2) on plate.
10. Install two handles (3) in plate (1). Secure with two new lockwashers (4) and nuts (5).
11. Install two pawls (6) on two handles (3). Secure with two new lockwashers (7) and nuts (8).
12. Place plate (1) in opening in hull top plate. Turn two handles (3) to the right to secure.



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPAIR AMMUNITION CHUTE (M741A1 ONLY)

DESCRIPTION

This task covers: Disassemble (page 24-207).
Assemble (page 24-208).

Clean, Inspect, and Repair (page 24-208).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Green Paint
Red Paint
Paint Brush

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ammunition unloaded (see your -10)
Ammunition chute removed (see your -10)

Personnel Required:

Unit Mechanic

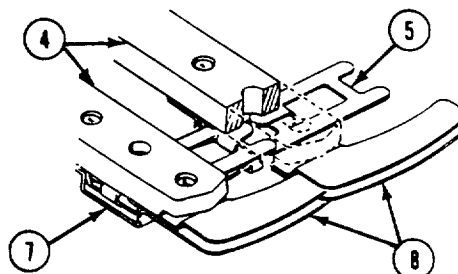
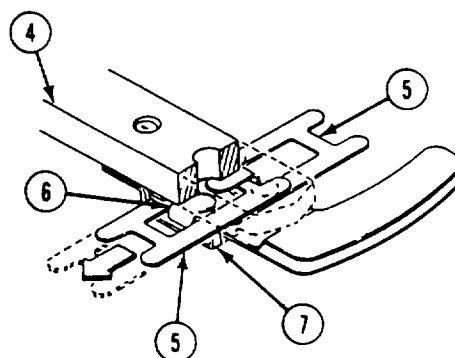
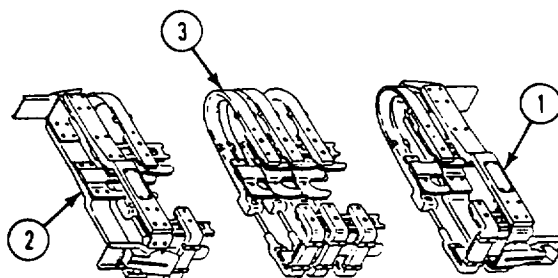
WARNING



You could be injured or killed if there is ammunition in stowage container. Make sure there is no ammunition in container before you remove it.

DISASSEMBLE

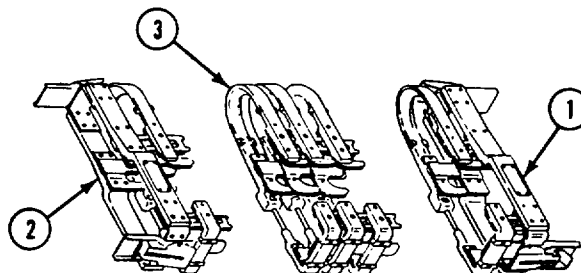
1. Push box end assembly (1) or gun end assembly (2) toward center assembly (3) to compress castings (4) and align connecting links (5).
2. Push and hold down ear (6) of link holder (7).
3. Pull casting (4) back so that link (5) passes over ear (6). Separate center assembly (3) from end assemblies (1 or 2).
4. Repeat steps 1, 2, and 3 for each connecting link (5).
5. Remove all assemblies (1, 2, and 3) from guides (8).



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CLEAN, INSPECT, AND REPAIR

6. Check connecting links. Replace assembly if links are cracked or have worn holes.
7. Check link holder ear. Replace assembly if ear is cracked or has missing parts.
8. Check link assembly. Chute should bend easily in four directions. Replace assembly that binds.



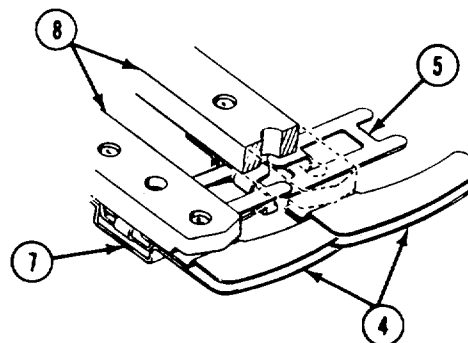
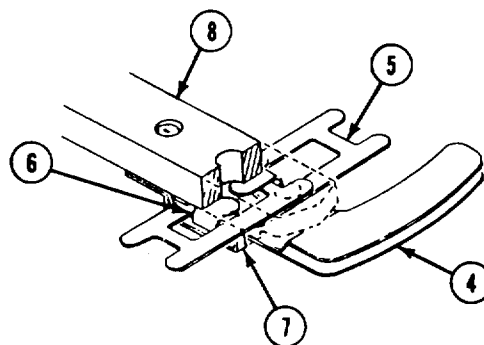
ASSEMBLE

9. Align and partially install end assembly (1 or 2) and center assembly (3) in guides (4).
10. Slide link (5) over ear (6) on link holder (7). Link must click into place after passing over ear.

NOTE

During assembly, make sure that all links are properly installed.

11. Repeat steps 1 and 2 for all connecting links (5).
12. Pull castings (8) apart to make sure that links (5) are installed right.
13. Paint the first 10 castings (8) of the gun end of the assembled ammunition chute red.
14. Paint the first 10 castings (8) of the ammunition end of the assembled ammunition chute green.



FOLLOW-THROUGH STEPS

1. Install ammunition chute (see your -10).
-

END OF TASK

**Section XII.I STOWAGE RACK, BOXES, AND STRAPS (M981 AND
M1064 ONLY)**

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace Cable Reel Holder Assembly (M1064 Only)	24-208.2	Repair Cable Reel Holder Assembly (M1064 Only)	24-208.3

REPLACE CABLE REEL HOLDER ASSEMBLY (M1064 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

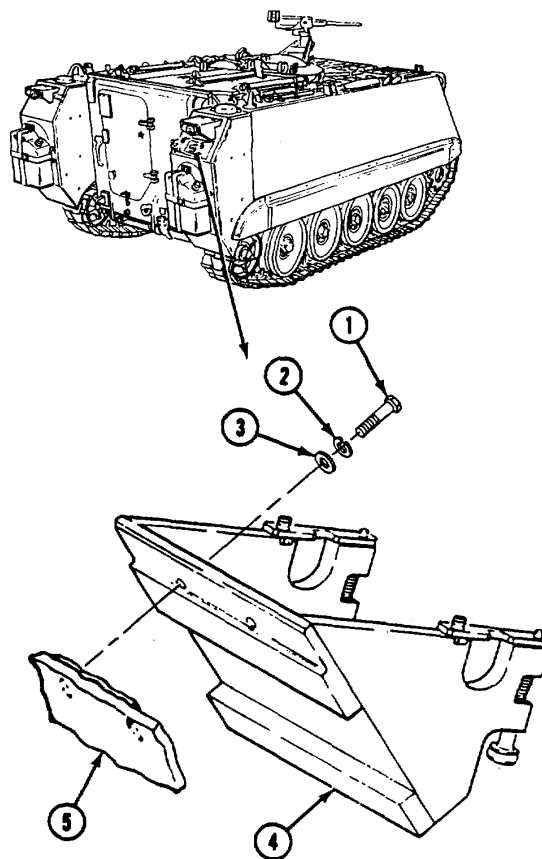
Carrier blocked (see your -10)

REMOVE

1. Remove two screws (1), lockwashers (2), and washers (3) from holder assembly (4), stop light-tail light guard (5), and external fuel tank.
2. Remove holder assembly (4) from right fuel tank.

INSTALL

3. Position holder assembly (4) on right fuel tank.
4. Install two washers (3), lockwashers (2), and screws (1), in holder assembly (4), stop light-tail light guard (5), and external fuel tank.



END OF TASK

REPAIR CABLE REEL HOLDER ASSEMBLY (M1064 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Material/Parts:

Cotter pin

Personnel Required:

Unit Mechanic
Helper

References:

See your -10

Equipment Conditions:

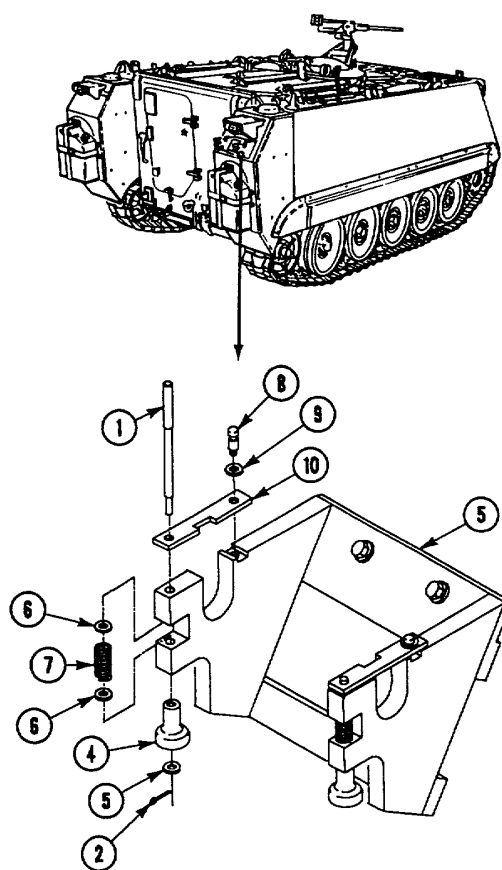
Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Cable reel holder assembly removed
(page 24-208.2)

REMOVE

1. Push pin (1) down and remove cotter pin (2), washer (3), and pin from handle (4). Remove handle from cable reel holder (5). Discard cotter pin.
2. Remove two washers (6), and spring (7) from cable reel holder (5).
3. Remove screw (8), washer (9), and retainer (10) from cable reel holder (5).

INSTALL

4. Attach retainer (10) to cable reel holder (5) with washer (9) and screw (8).
5. Install two washers (6), spring (7), and pin (3) in cable reel holder (5).
6. Push pin (1) down and attach handle (4) to pin with washer (3) and cotter pin (2).

**FOLLOW-THROUGH STEPS**

1. Install cable reel holder assembly (page 24-208.2).

**Section XIII. TURRET GUARD, GUN TRAVEL LOCK, AND
FLOTATION PODS (M741A1 ONLY)**

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace/Repair Turret Guard (M741A1 Only)	24-210	Replace Flotation Pods (M741A1 Only)	24-215
Replace/Repair Gun Travel Lock (M741A1 Only)	24-213		

REPLACE/REPAIR TURRET GUARD (M741A1 ONLY)**DESCRIPTION**

This task covers: Remove (page 24-210). Disassemble (page 24-211). Clean, Inspect, and Repair (page 24-211). Assemble (page 24-211). Install (page 24-212).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Rivet (33)
Self-locking nut
Self-locking nut (6)
Spring pin (3)

References:

See your -10

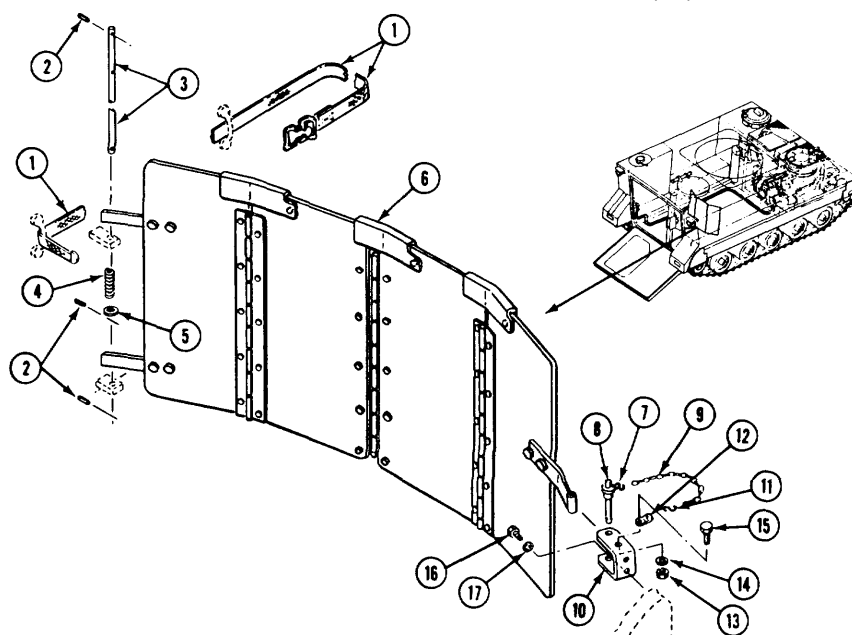
Equipment Conditions:

Engine stopped and ramp lowered
(see your -10)
Carrier blocked (see your -10)

REMOVE

1. Release strap (1). Remove from two loops on right sponson.
2. Remove three spring pins (2), tube (3), spring (4), washer (5), and turret guard (6) from mounts on right sponson. Discard spring pins.

3. Open both ends of hook (7). Remove hook from quick release pin (8) and chain (9). Remove pin from bracket (10).
4. Open both ends of hook (11). Remove hook from chain (9) and lug (12).
5. Remove locknut (13), washer (14), lug (12), and screw (15) from bracket (10). Discard locknut.
6. Remove two screws (16), washers (17), and bracket (10) from hull.



DISASSEMBLE

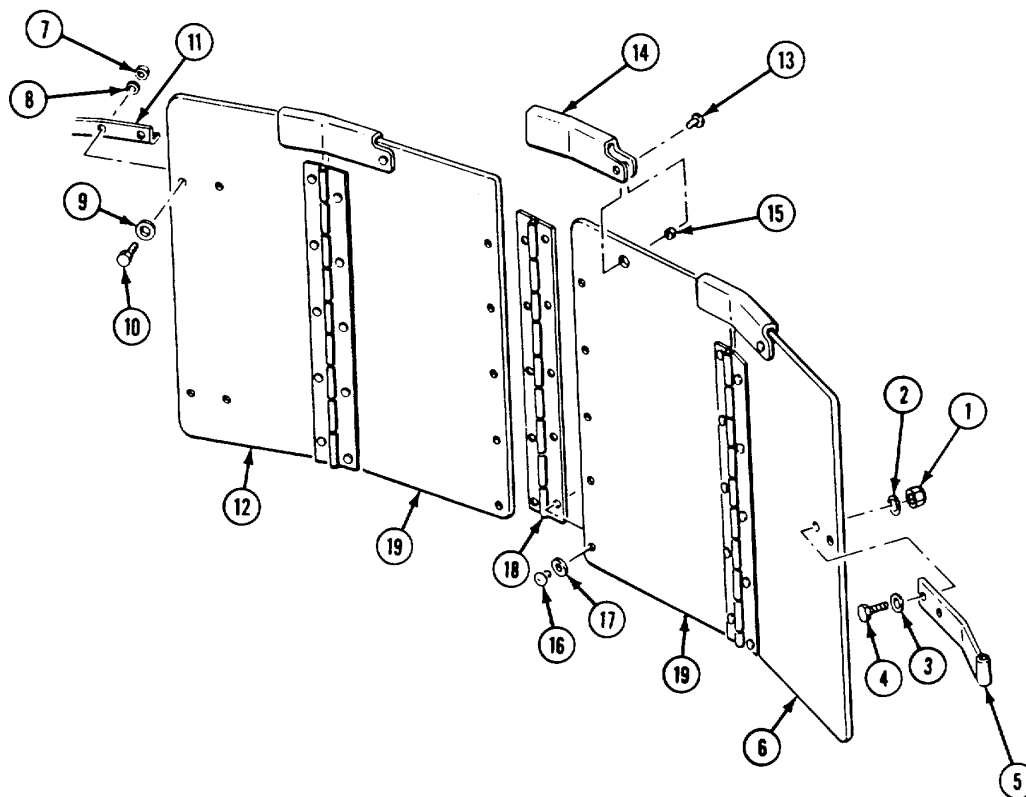
7. Remove two locknuts (1), washers (2), washers (3), screws (4), and bracket (5) from panel (6). Discard locknuts.
8. Remove four locknuts (7), washers (8), washers (9), screws (10), and bracket (11) from panel (12). Discard locknuts.
9. Remove three rivets (13) and panel locks (14). Discard rivets.
10. Remove three spacers (15).
11. Remove 30 rivets (16), washers (17), and 3 hinges (18) from panels (6, 12, and 19). Discard rivets.

ASSEMBLE

13. Install three hinges (18) on panels (6, 12, and 19). Secure with 30 new rivets (16) and washers (17).
14. Install three spacers (15) on panels.
15. Install three panel locks (14). Secure to panels with three new rivets (13).
16. Install bracket (11) on panel (12). Secure with four screws (10), washers (8), washers (9), and new locknuts (7).
17. Install bracket (5) on panel (6). Secure with two screws (4), washers (3), washers (2), and new locknuts (1).

CLEAN, INSPECT, AND REPAIR

12. Inspect parts for corrosion, distortion, cracks, breaks, and loose or missing parts. Repair or replace damaged and missing parts.

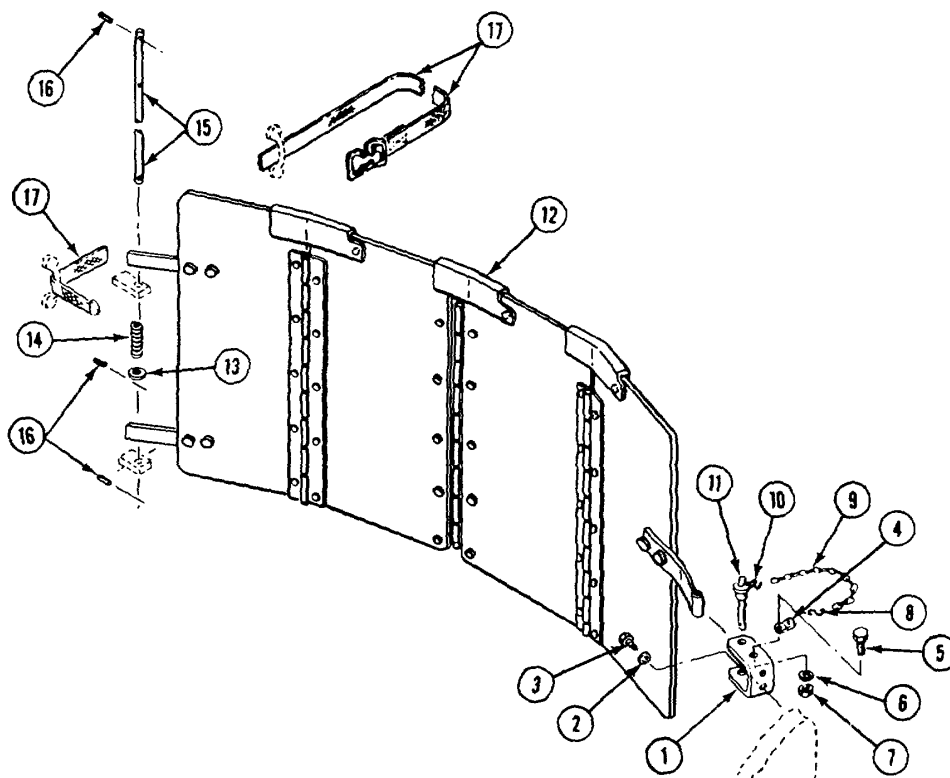


GO TO NEXT PAGE

INSTALL

18. Place bracket (1) on hull. Secure with two washers (2) and screws (3).
19. Align lug (4) with bracket (1). Secure with screw (5), washer (6), and new locknut (7).
20. Install hook (8) on lug (4) and chain (9). Squeeze both ends of hook to secure.

21. Install hook (10) on chain (9) and quick release pin (11). Squeeze both ends of hook to secure. Install pin in bracket (1).
22. Install turret guard (12), washer (13), spring (14), and tube (15) in mounts on right sponson. Secure with three new spring pins (16).
23. Install strap (17) in two loops on right sponson.



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE/REPAIR GUN TRAVEL LOCK (M741A1 ONLY)

DESCRIPTION

This task covers: Remove (page 24-213). Disassemble (page 24-214). Clean, Inspect, and Repair (page 24-214). Assemble (page 24-214). Install (page 24-214).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 90, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

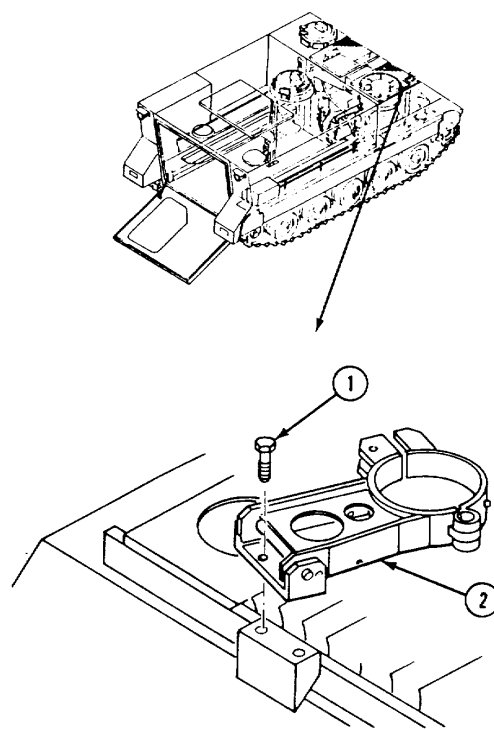
Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

REMOVE

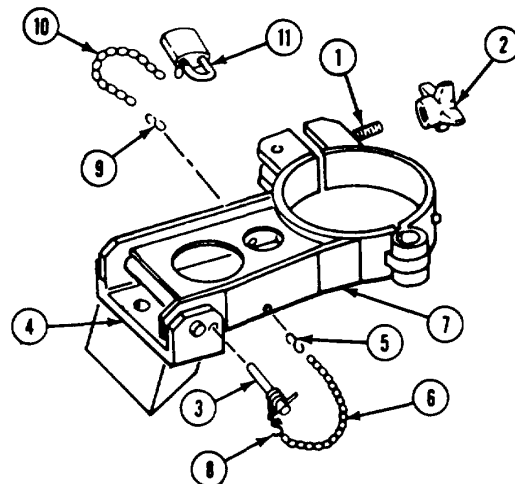
1. Remove two screws (1) and gun travel lock (2) from grill.



GO TO NEXT PAGE

DISASSEMBLE

2. Repair deformed threads on bolt (1). Remove knob (2) from bolt.
3. Remove quick release pin (3) from gun travel lock base (4).
4. Remove S hook (5) and chain (6) from gun travel lock (7).
5. Remove S hook (8) and chain (6) from quick release pin (3).
6. Remove S hook (9) and chain (10) from gun travel lock (7).
7. Open padlock (11). Remove chain (10).

**CLEAN, INSPECT, AND REPAIR**

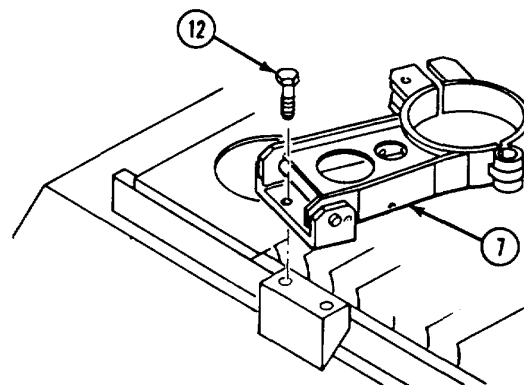
8. Check gun travel lock. Replace cracked or damaged lock.

ASSEMBLE

9. Install chain (10) on padlock (11). Close lock.
10. Secure chain (10) to gun travel lock (7) with S hook (9).
11. Secure chain (6) to quick release pin (3) with S hook (8).
12. Secure chain (6) to gun travel lock (7) with S hook (5).
13. Install quick release pin (3) in gun travel lock base (4).
14. Install knob (2) on bolt (1). Deform last two threads on bolt to secure knob to bolt.

INSTALL

15. Place gun travel lock (7) on grill. Secure with two screws (12). Tighten screws to 384-408 lb-in (43-46 N-m) torque. Use torque wrench.

**END OF TASK**

REPLACE FLOTATION PODS (M741A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic
Helper

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

REMOVE

1. Loosen, but do not remove, eight track shroud clamp screws (1) on each side of carrier.
2. Remove 10 screws (2), washers (3), front flotation pod (4), and two rear pods (5) from each side of carrier.

CLEAN, INSPECT, AND REPAIR.

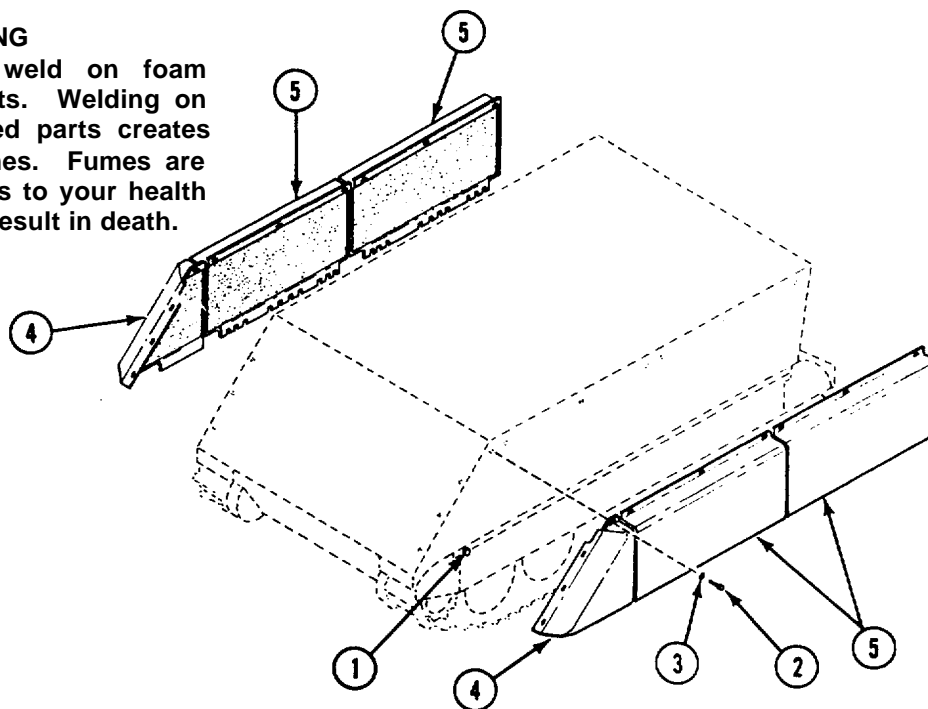
3. Check flotation pods. Place straight edge on back side of pod to check for bulging. Trim off foam that extends beyond edge of pod. Replace pod that is cracked or has missing insulation foam.

INSTALL

4. Place two rear flotation pods (5) and front flotation pod (4) on each side of carrier.
5. Install flange on lower edge of pods (4 and 5) between track shroud and hull. Slide rear pods forward to get minimum gap between pods.
6. Install 10 washers (3) and screws (2) in pods (4 and 5) on each side of carrier.
7. Tighten eight track shroud clamp screws (1) on each side of carrier.



WARNING
Do not weld on foam filled parts. Welding on foam filled parts creates toxic fumes. Fumes are hazardous to your health and can result in death.



END OF TASK

**Section XIV. DATAPLATES, MARKERS, DECALS AND
MISCELLANEOUS STOWAGE ITEMS.**

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
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Stencils (M113A2 Only)	24-219	Replace Right Front Radio Stowage Rack (M577A2 Only)	24-242
Stencils (M577A2 Only)	24-220	Replace Shelf Assembly (M1068 Only)	24-244.1
Stencils (M1059 Only)	24-221	Replace Right Side Rack Base (M1068 Only)	24-244.3
Stencils (M1068 Only)	24-223	Replace Left Side Rack Base (M1068 Only)	24-244.5
Stencils (M106A2 and M125A2 Only)	24-224	Replace Left Bulkhead Radio Stowage Racks (M577A2 and M1068 Only)	24-245
Stencils (M901A1 Only)	24-226	Replace Map Board (M577A2 Only)	24-247
Stencils (M1064 Only)	24-227	Replace/Repair Map Board (M1068 Only)	24-248.1
Dataplates, Decals, and Markers (All Models Except M901A1)	24-229	Replace Map Storage Box (M1068 Only)	24-248.3
Dataplates, Decals, and Markers (M901A1 Only)	24-230	Repair Map Storage Box (M1068 Only)	24-248.4
Dataplates, Decals, and Markers (M106A2, M1064, and M125A2 Only)	24-230.1	Repair Rear External Stowage Frame (M1068 Only)	24-248.6
Dataplates, Decals, and Markers (M1059 and M113A2 Only)	24-231	Replace Radio Stowage Rack (M106A2, M1064, and M125A2)	24-249
Dataplates, Decals, and Markers (M577A2, and M1068 Only)	24-234	Replace Grenade Stowage Box (M106A2, M1064, and M125A2 Only)	24-250
Dataplates, Decals, and Markers (M901A1 Only)	24-234.1	Replace Periscope Stowage Box (M106A2, M1064, and M125A2 Only)	24-251
Replace Cushioning Pad	24-236	Replace Windshield Stowage Bracket (M106A2, M1064, and M125A2 Only)	24-252
Replace Tiedown Plates M1068.....	24-236.1		
Replace Oilcan Bracket	24-237		
Replace Rifle Brackets	24-238		
Replace Spare IR (M19)			
Periscope Stowage Box	24-239		
Replace Antenna Guard.....	24-240		

Replace Sight Extension Arm
Stowage Brackets (M1064, Only)24-252.1

Replace Sight Extension
Arm Stowage Brackets
(M106A2 and M125A2 Only) 24-253

Replace Mortar Rotator Cushion
Rope (M106A2 Only) 24-254

Replace Mortar Base Stowage
Bracket (M1064 Only)24-254.1

Replace Mortar Base Stowage
Bracket (M106A2 Only) 24-255

Replace Mortar Bridge Stowage
Brackets and Bumpers
(M106A2 Only)24-256

Replace Mortar Base Stowage
Brackets (M125A2 Only)24-258

Replace Mortar Bipod Stowage
Cover and Brackets
(M125A2 Only)24-259

Replace Stowage Racks
(M741A1 Only)24-261

REPLACE DATAPLATES, STENCILS, MARKERS, AND DECALS

DESCRIPTION

This task covers: Remove (page 24-217). Clean, Inspect, and Repair (page 24-218).
Install (page 24-218).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 28, App D)
- Drill
- Drill bit

Personnel Required:

Unit Mechanic

References:

- See your -10
- TM 43-0139

Materials/Parts:

- Dry cleaning solvent (Item 14, App C)
- Drive screw, as needed

Equipment Conditions:

- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)

REMOVE

NOTE

Dataplates and markers should be cleaned or replaced when they become too hard to read.

1. Remove heads of drive screws (1) from dataplate (2). Remove dataplate from hull.

NOTE

Dataplates are secured to bulkheads with drive screws.

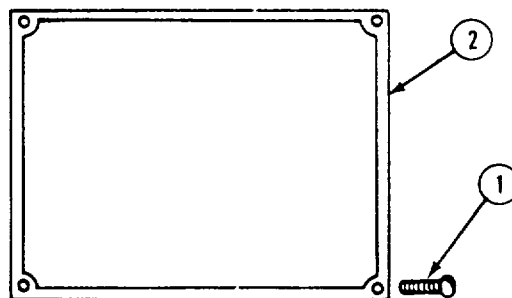
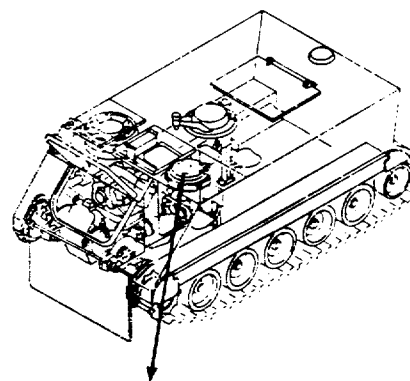
WARNING



Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

Dataplates are secured to bulkheads with drive screws.

2. Remove hard to read stencils with dry cleaning solvent.
3. Remove hard to read or damaged markers and decals by scraping.



GO TO NEXT PAGE

CLEAN, INSPECT, AND REPAIR**WARNING**

Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

4. Clean hull surface where dataplate, stencil, marker, or decal is to be applied with dry cleaning solvent.

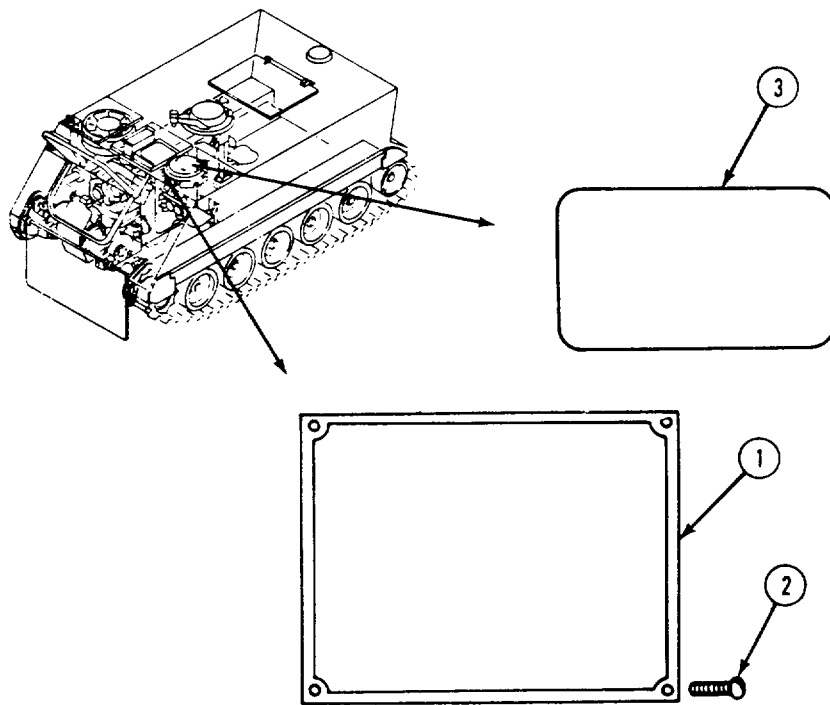
INSTALL

5. Place old dataplate on hull so that holes in plate do NOT align with holes in hull. Using old dataplate as a template, drill four new holes.
6. Align new dataplate (1) with four new holes. Secure dataplate to hull with four new drive screws (2).

NOTE

If carrier identification plate is being replaced, make sure replacement dataplate contains data that belongs to the specific carrier.

7. Check page 24-219 to 24-235 for location of stencil, and paint new stencil (see TM 43-0139).
8. Check page 24-219 to 24-235 for location of decal or marker. Remove backing from decal or marker (3) and press on surface.

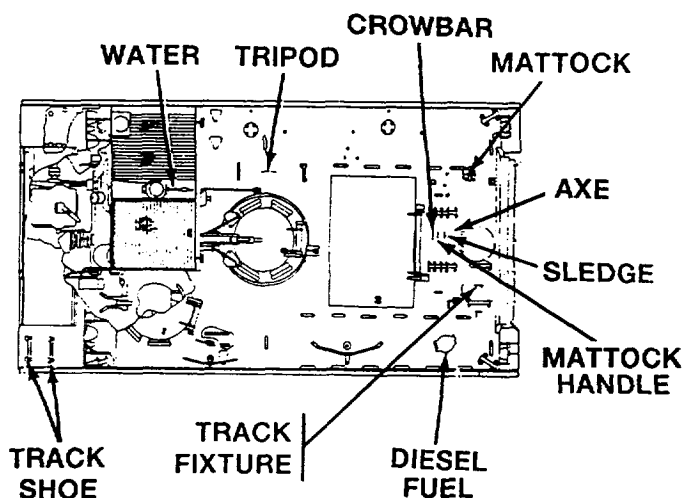
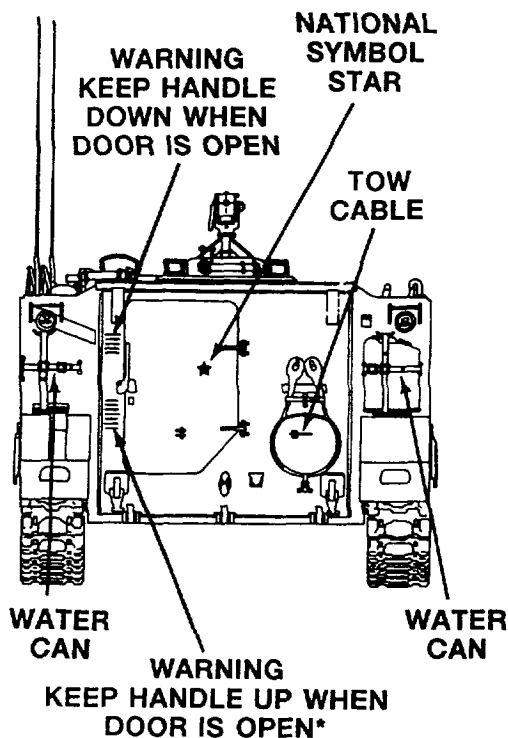
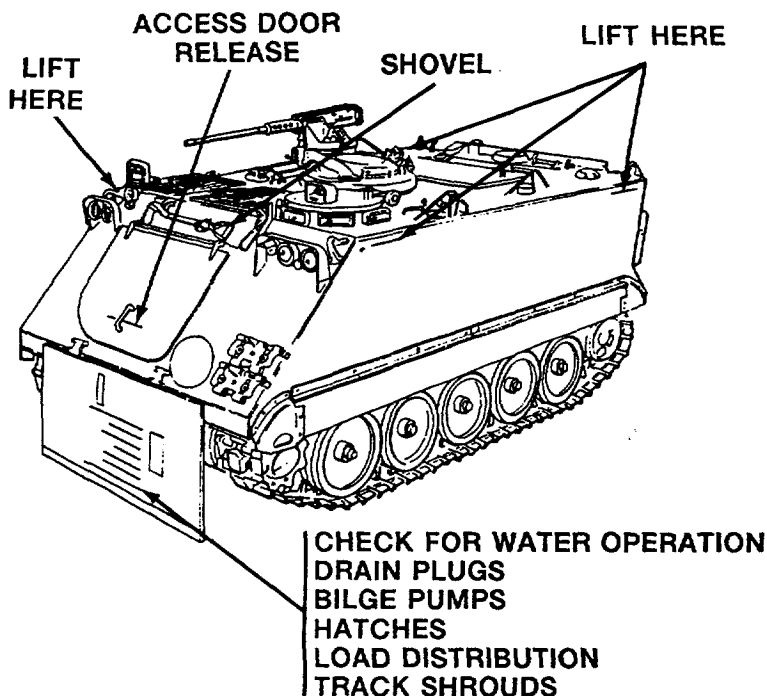


24-218

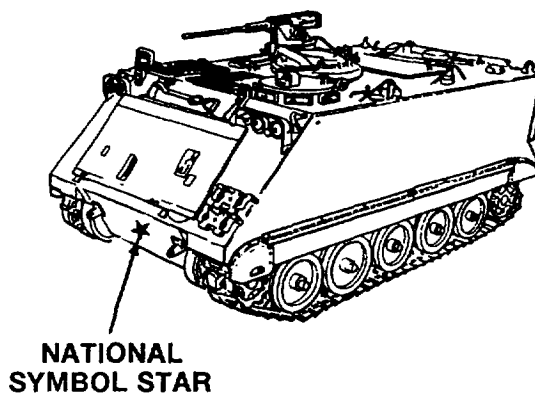
STENCIL (M113A2, M577A2, M1059, M1068, M106A2, M125A2, M901A1, M981 AND M1064)

The following pages show the location of all dataplates, stencils, markers, and decals on the M113A2, M577A2, M1059, M1068, M106A2, M125A2, M901A1, M981 and M1064 carriers.

STENCILS (M113A2 ONLY)



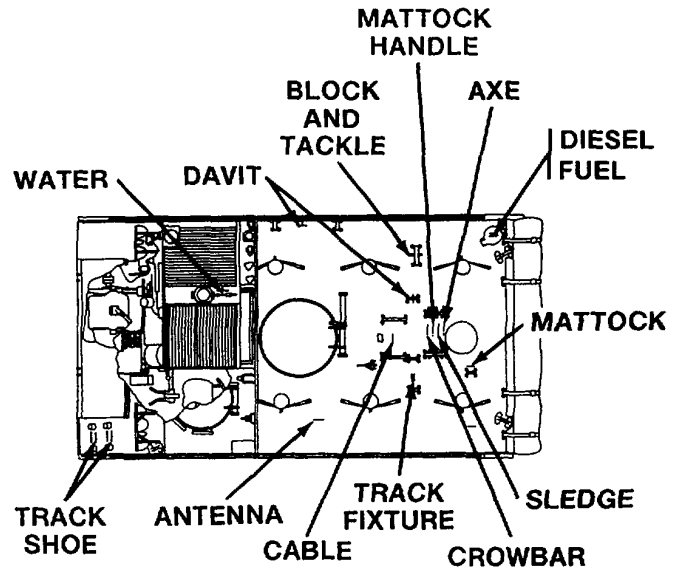
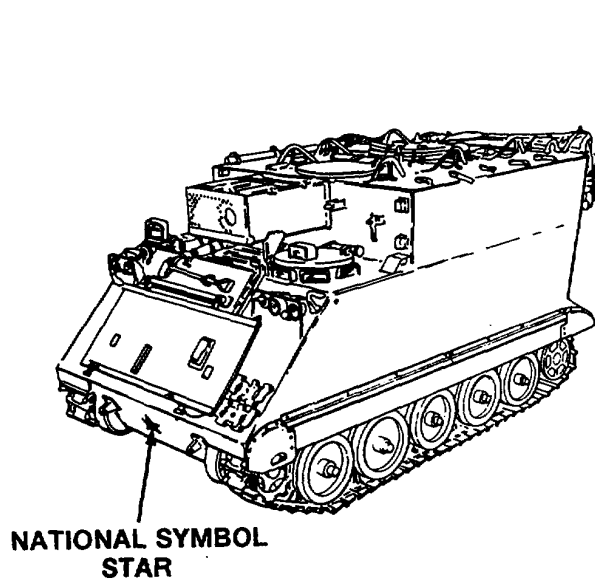
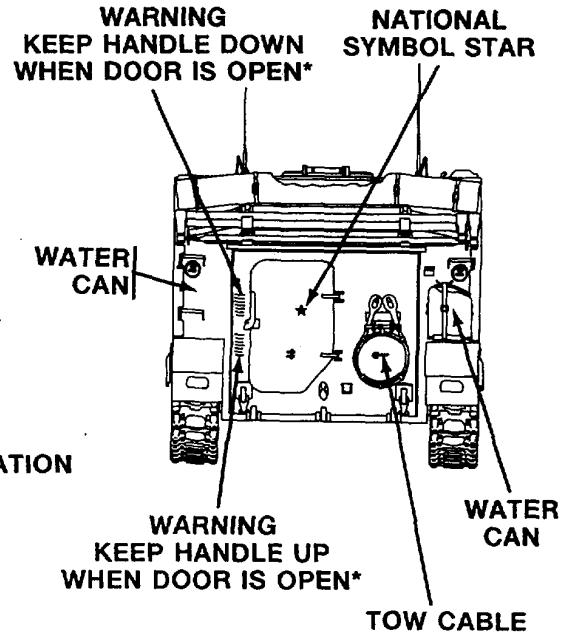
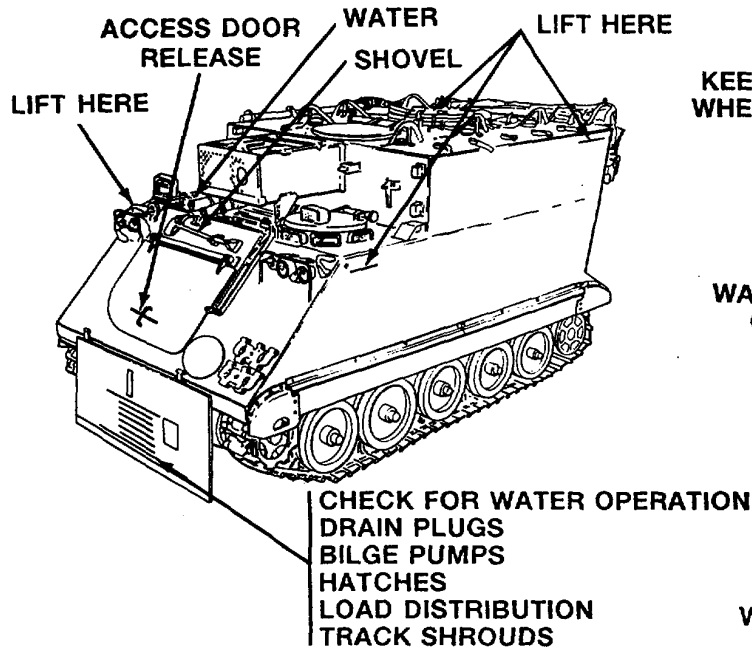
TOP VIEW



*STENCIL ON INSIDE OF RAMP

GO TO NEXT PAGE

STENCILS (M577A2 ONLY)



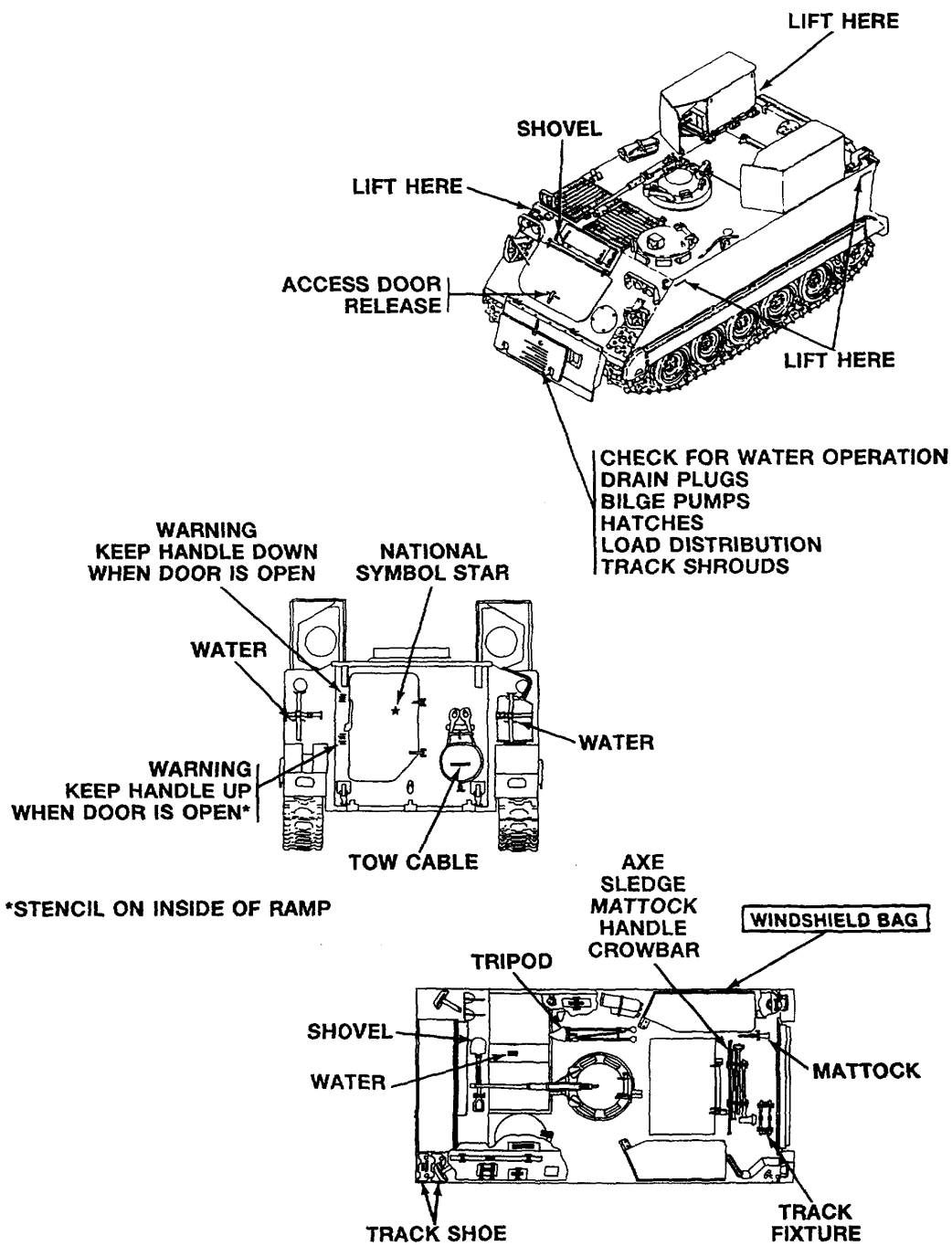
TOP VIEW

*Stencil on inside of ramp

STENCILS (M1059 ONLY)

NOTE

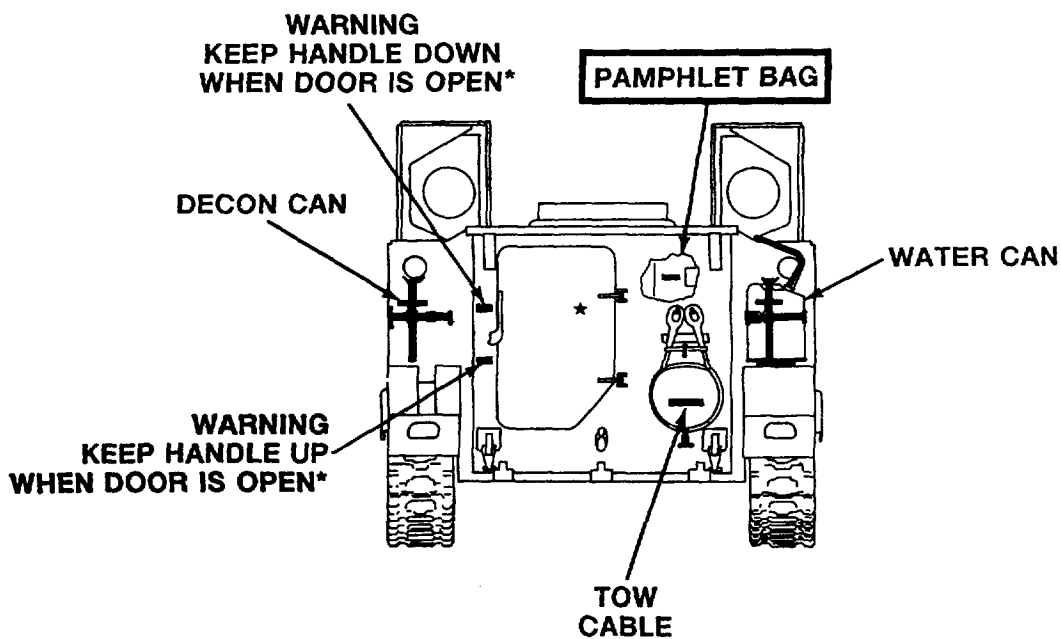
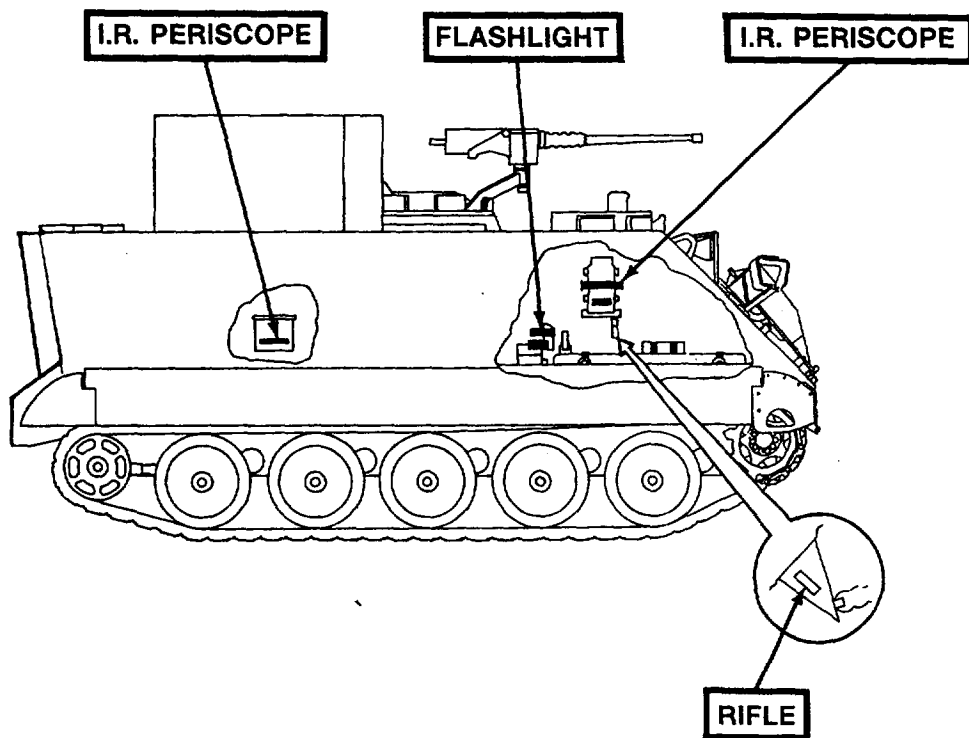
Signs outlined with boxes are decals applied in locations shown. Signs not outlined with boxes are stencils.



*STENCIL ON INSIDE OF RAMP

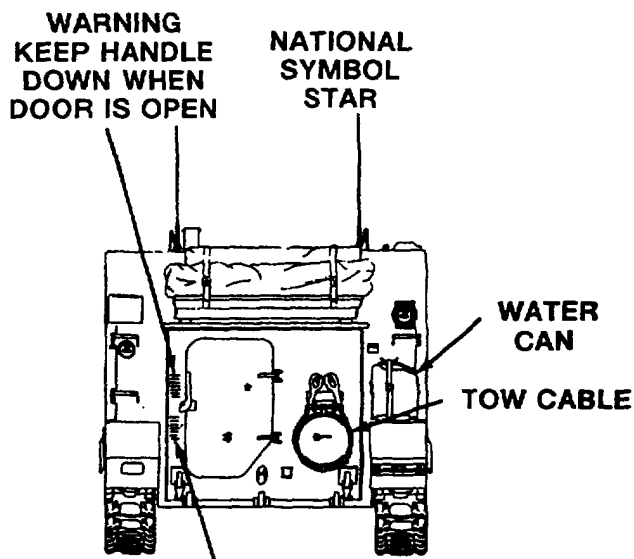
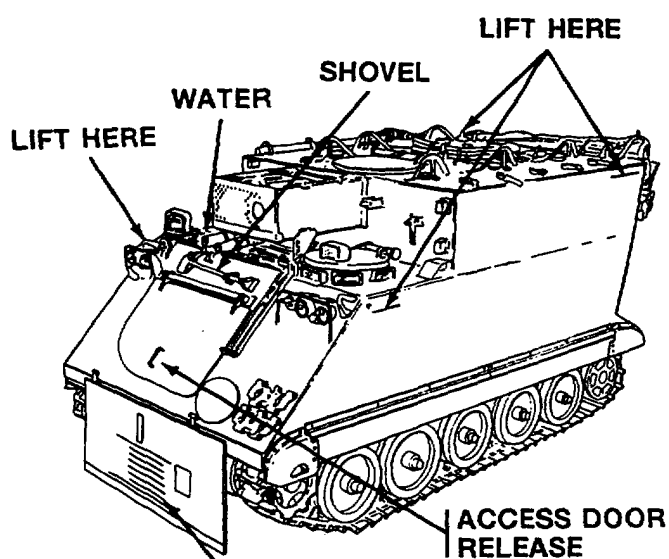
GO TO NEXT PAGE

STENCILS (M1059 ONLY)



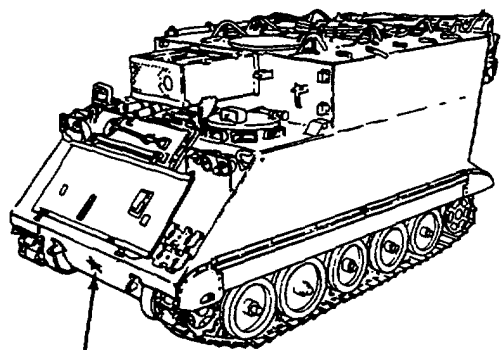
*STENCIL ON INSIDE OF RAMP

STENCILS (M1068 ONLY)

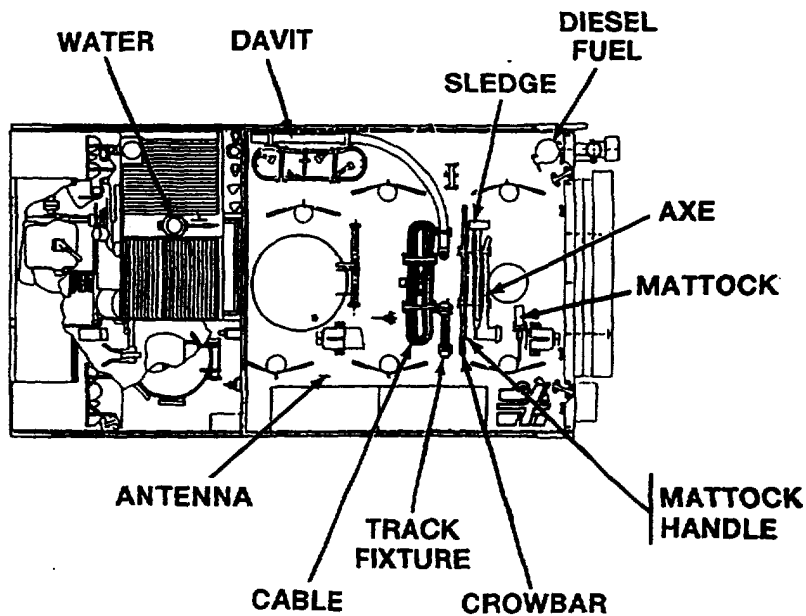


CHECK FOR WATER OPERATION
DRAIN PLUGS
BILGE PUMPS
HATCHES
LOAD DISTRIBUTION
TRACK SHROUDS

WARNING
KEEP HANDLE
UP
WHEN
DOOR IS
OPEN*



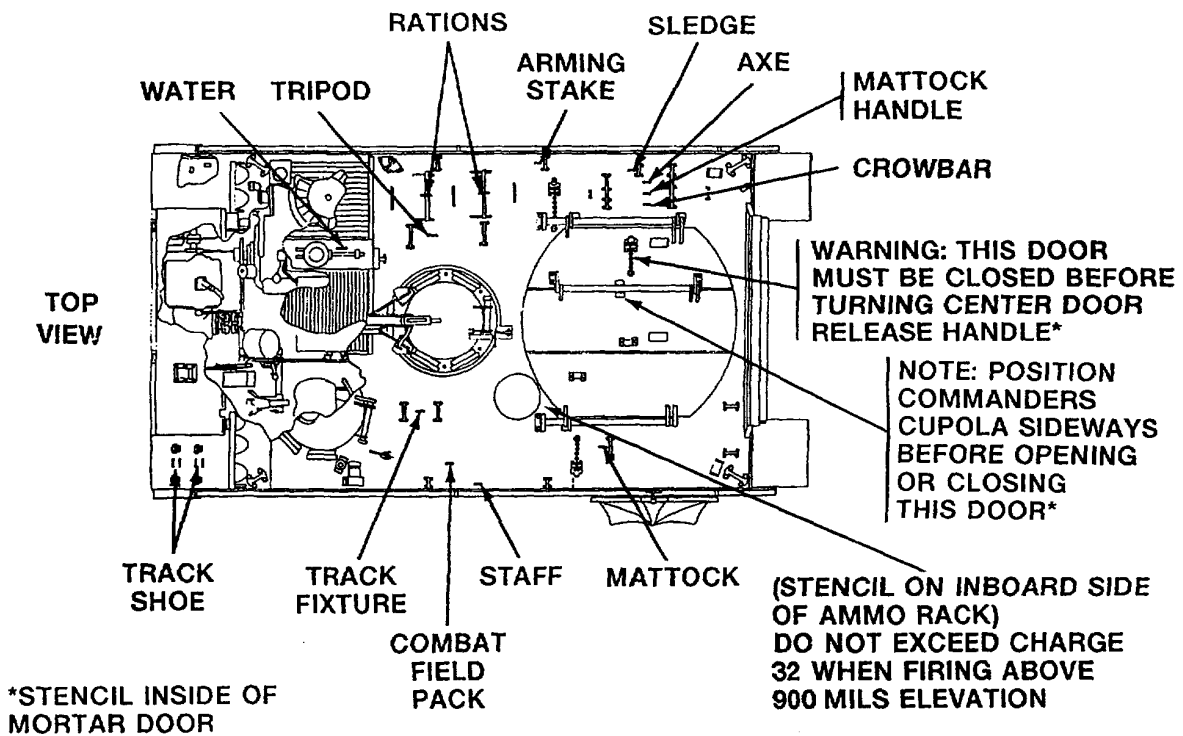
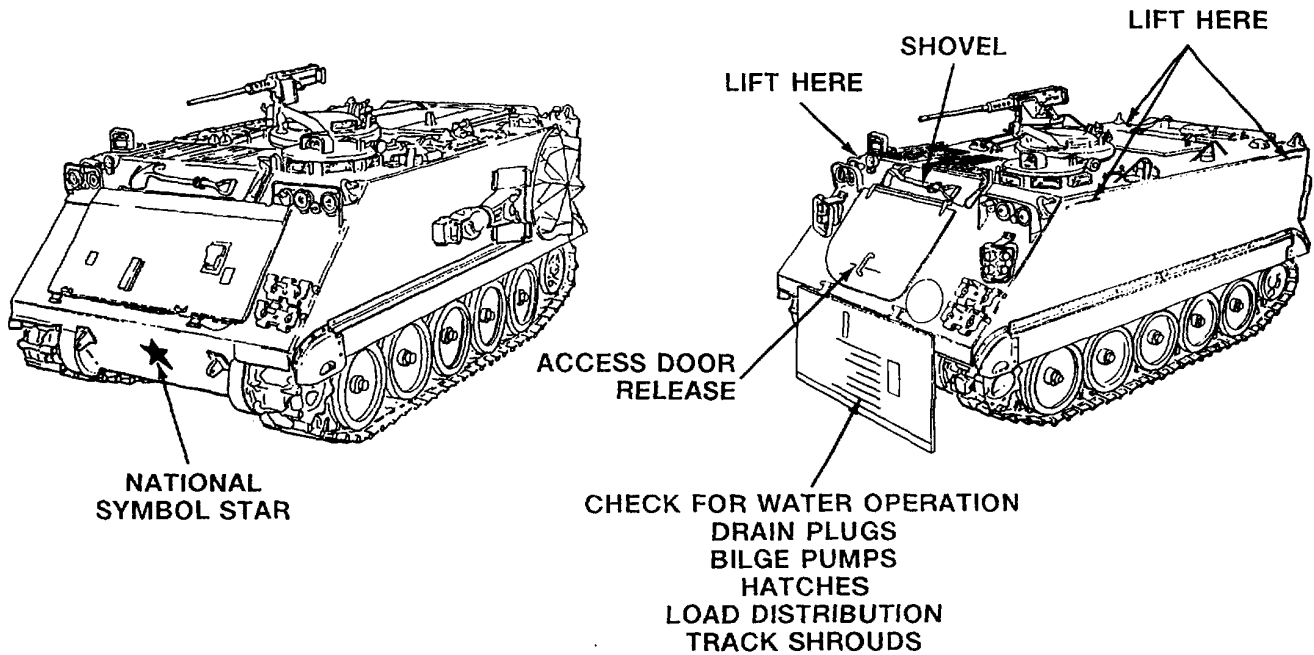
NATIONAL
SYMBOL
STAR



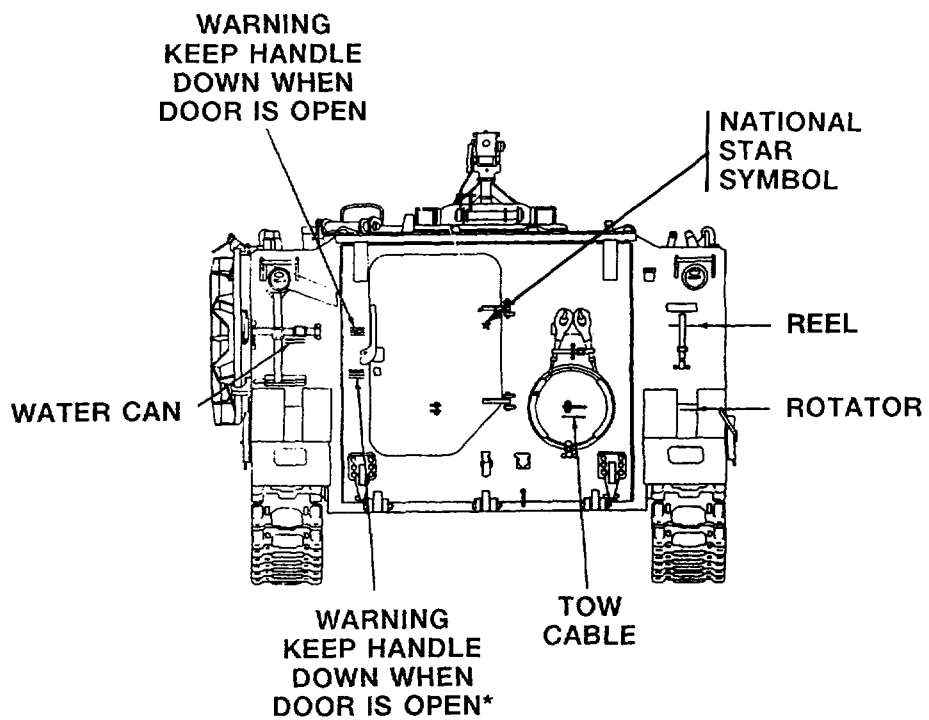
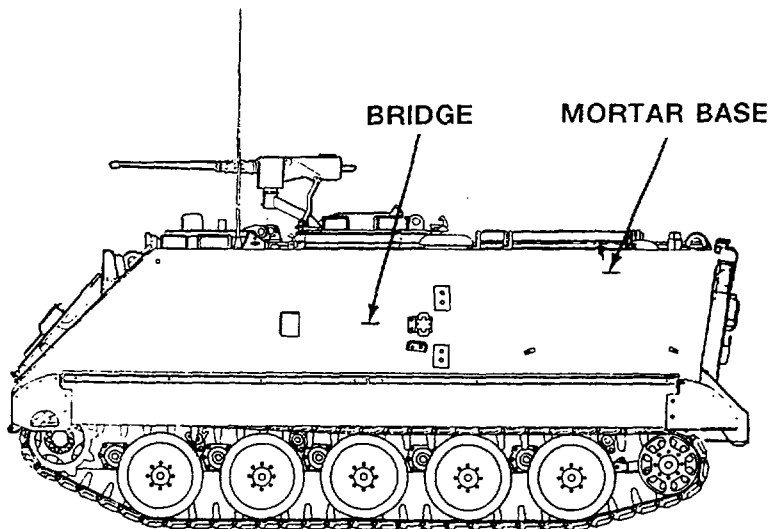
*STENCIL ON INSIDE OF RAMP

GO TO NEXT PAGE

STENCILS (M106A2 AND M125A2 ONLY)



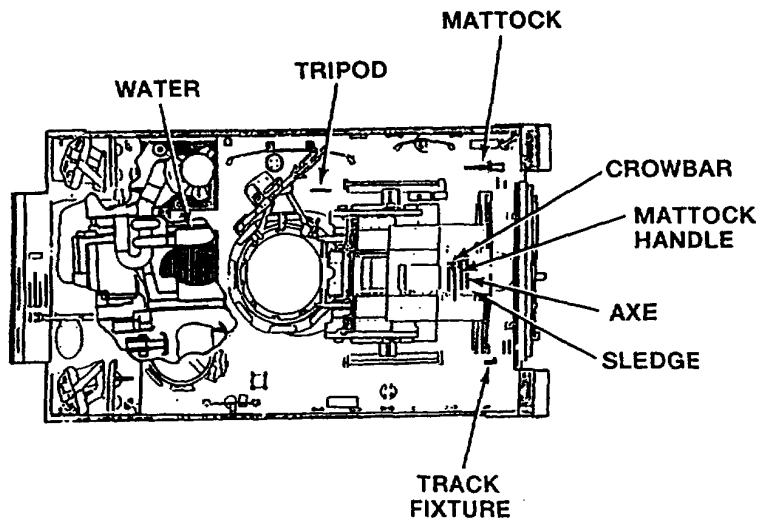
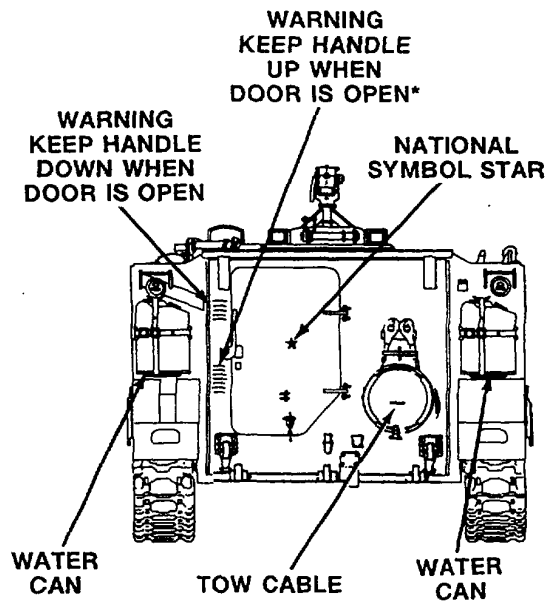
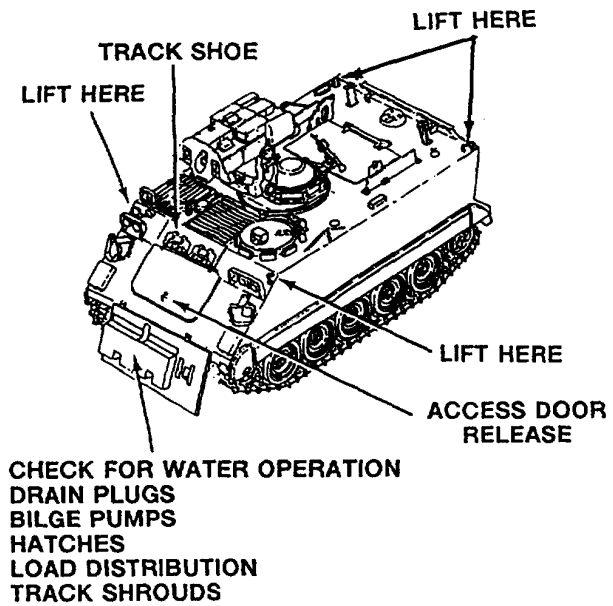
STENCILS (M106A2 AND M125A2 ONLY)



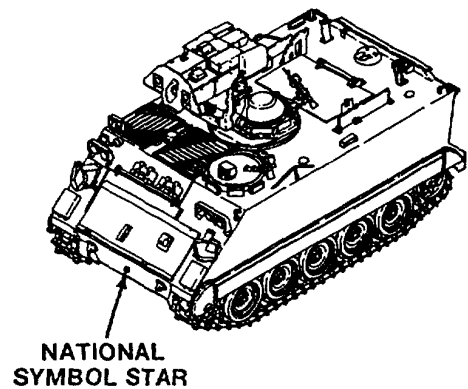
*STENCIL ON INSIDE OF RAMP

GO TO NEXT PAGE

STENCILS (M901A1 ONLY)

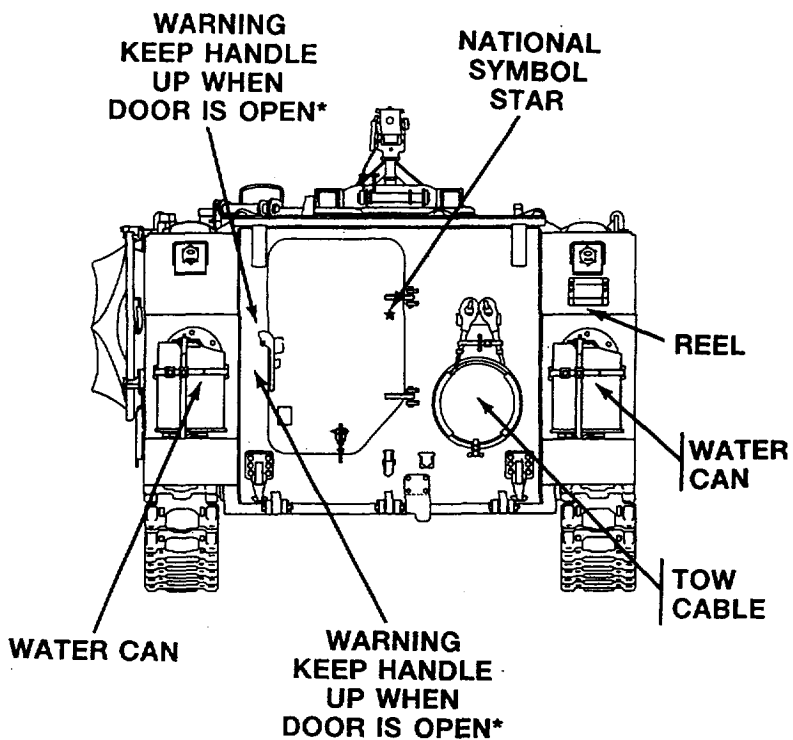
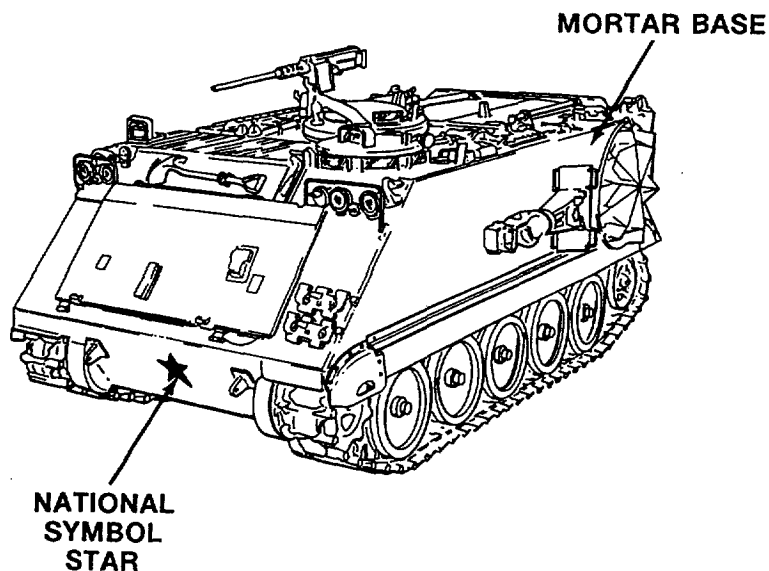


TOP VIEW



*STENCIL ON INSIDE OF RAMP

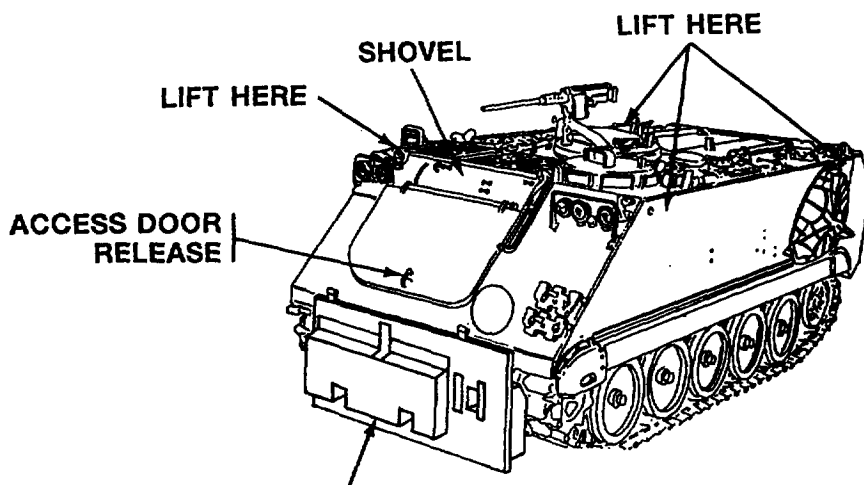
STENCILS (M1064 ONLY)



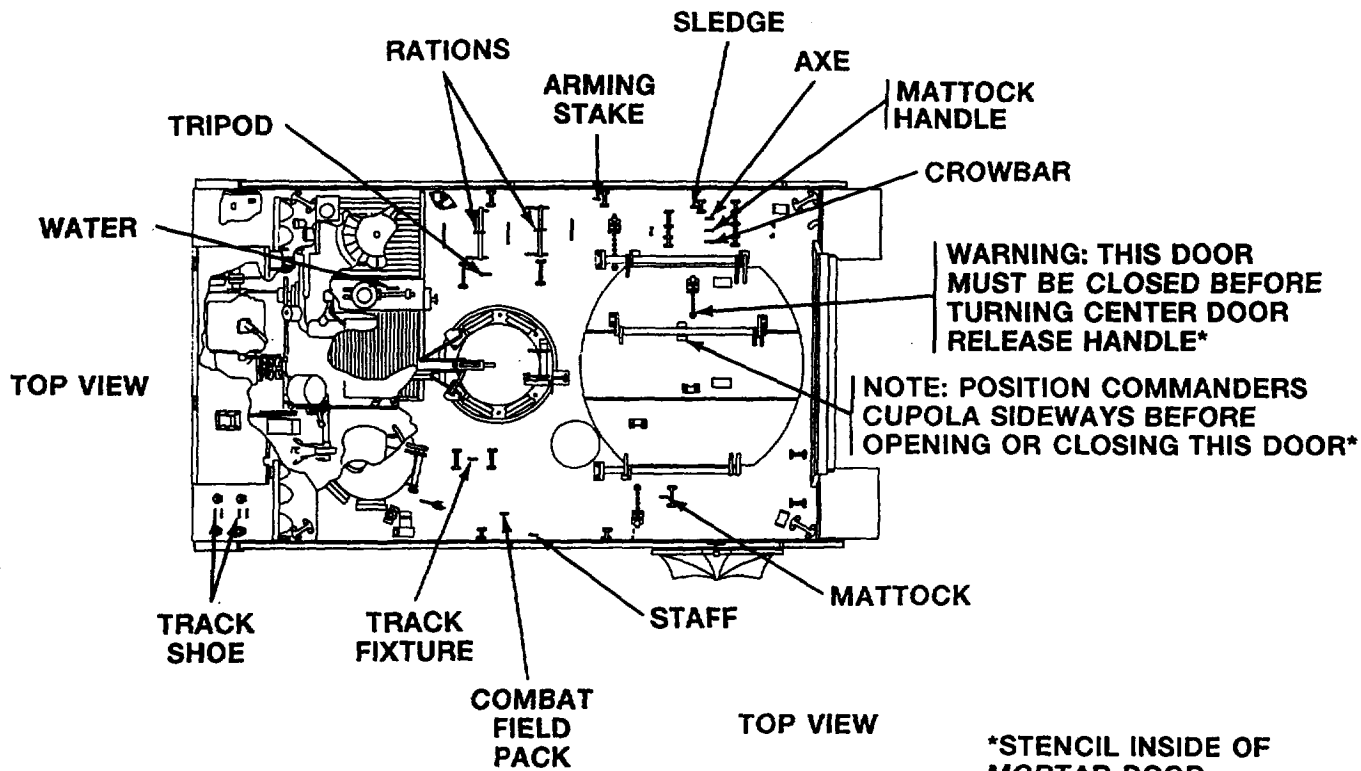
*STENCIL ON INSIDE OF RAMP

GO TO NEXT PAGE

STENCILS (M1064 ONLY)



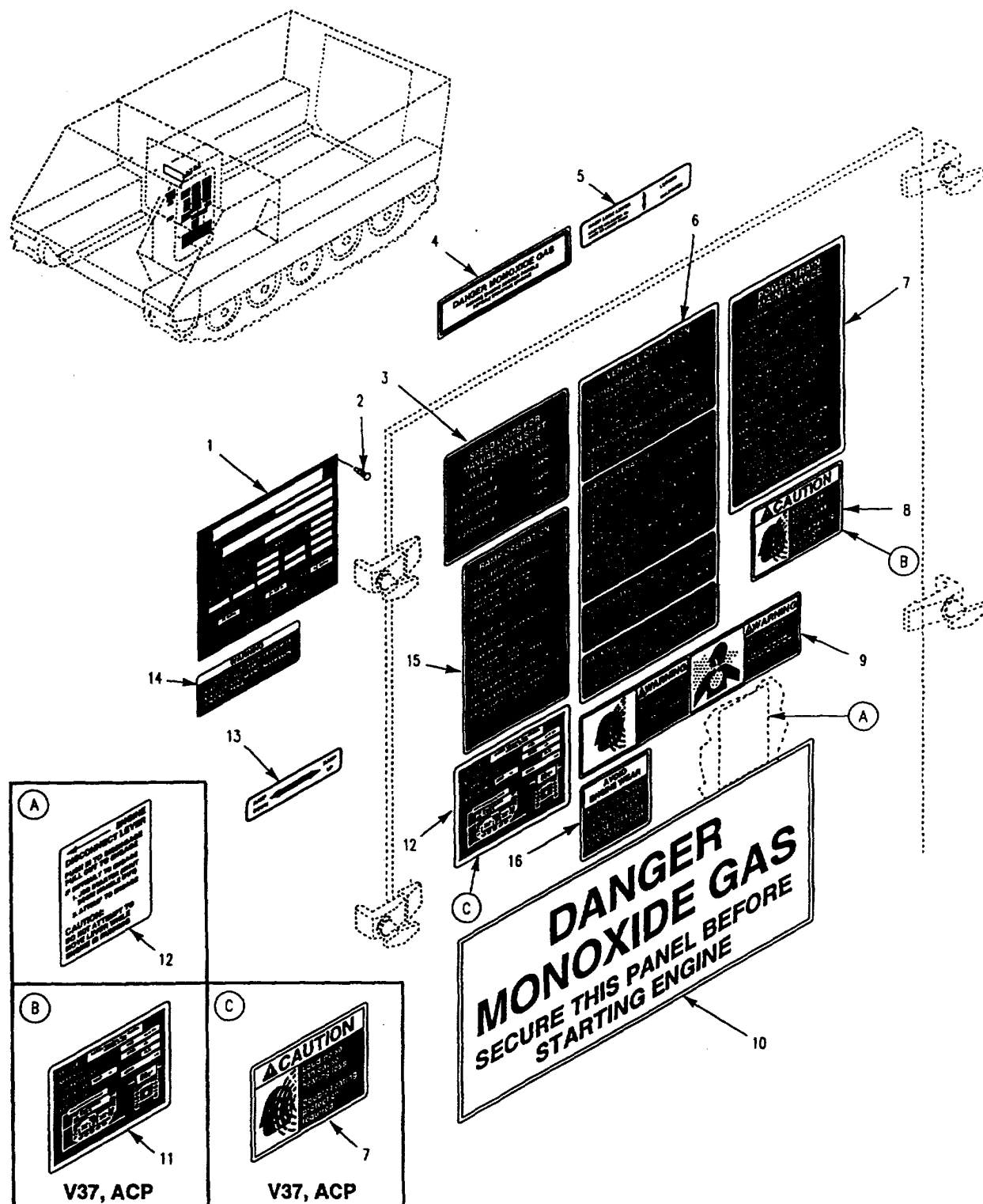
CHECK FOR WATER OPERATION
 DRAIN PLUGS
 BILGE PUMPS
 HATCHES
 LOAD DISTRIBUTION
 TRACK SHROUDS
 AIR GRILL CURTAIN



*STENCIL INSIDE OF MORTAR DOOR

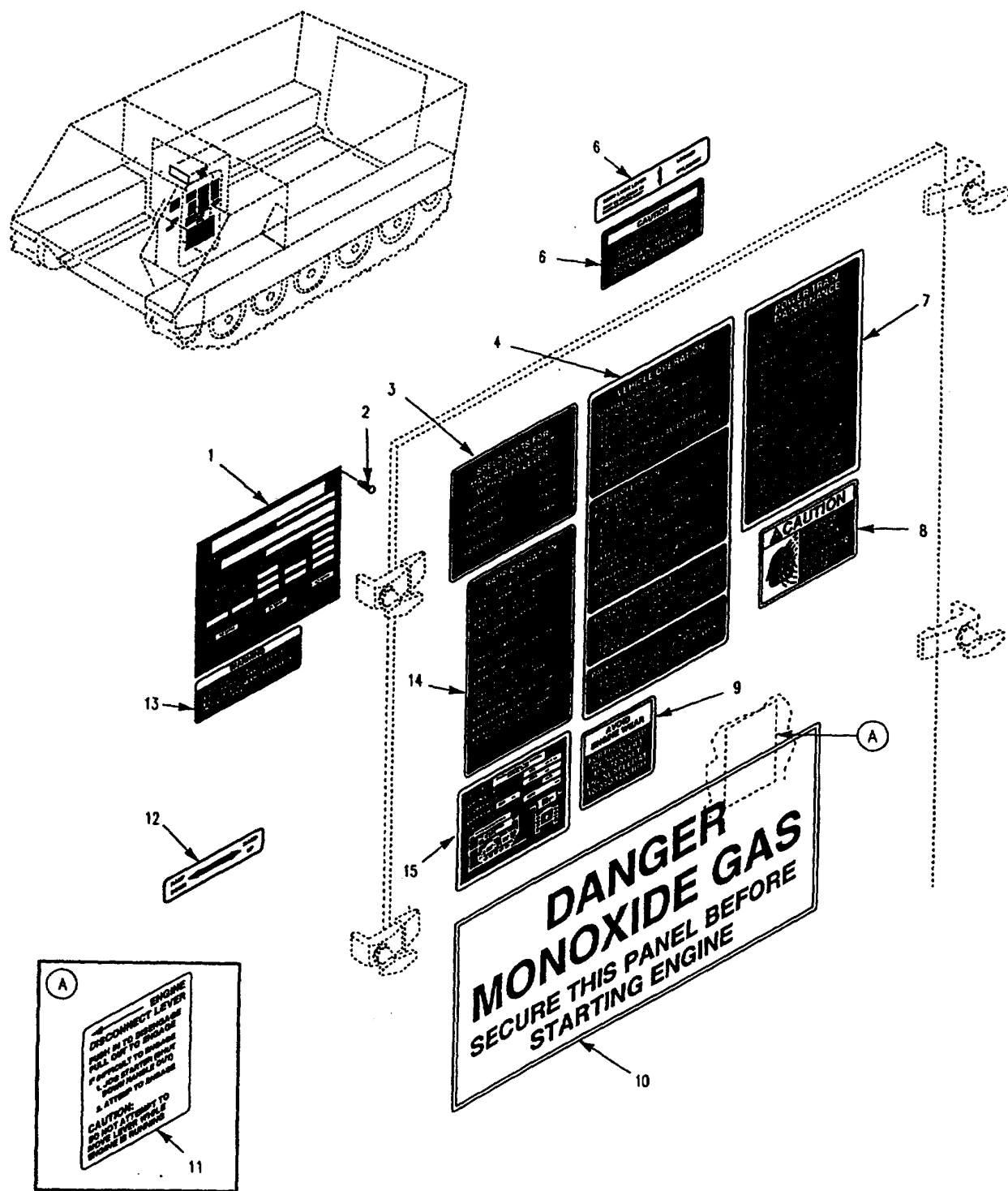
DATAPLATES, DECALS, AND MARKERS (ALL MODELS, EXCEPT M901A1)

The following pages show the location of all dataplates, decals, and markers for all models (except M901A1).



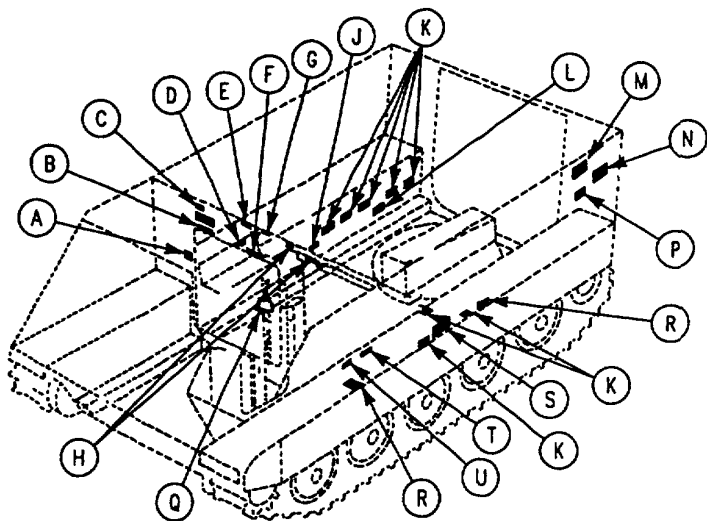
GO TO NEXT PAGE

DATAPLATES, DECALS, AND MARKERS (M901A1 ONLY)



GO TO NEXT PAGE

DATAPLATES, DECALS, AND MARKERS (M106A2, M1064, AND M125A2 ONLY)

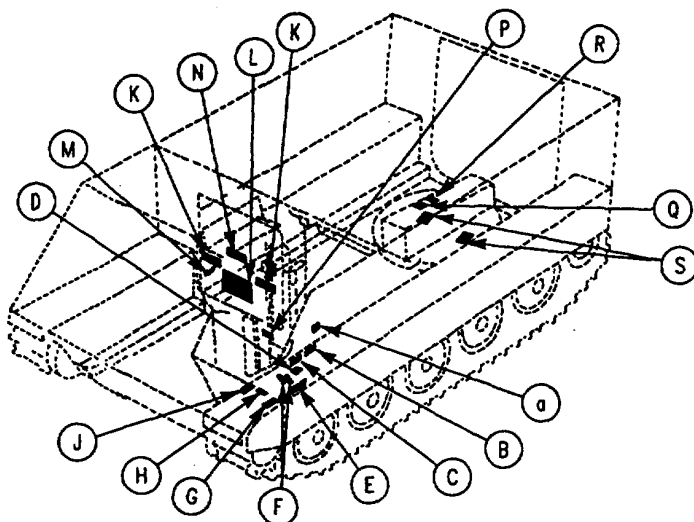


<p>(A) 1</p>	<p>(B) 2</p>
<p>(R) 15</p>	<p>(C) 3</p>
<p>(S) 16</p>	<p>(D) 4</p>
<p>(T) 17</p>	<p>(E) 5</p>
<p>(U) 18</p>	<p>(F) 6</p>
<p>(H) 8</p>	<p>(G) 7</p>

<p>(P) 14</p>	<p>(Q) 9</p> <p>M1064</p>	
<p>(N) 13</p>		
<p>(M) 12</p>		
<p>(L) 11</p>	<p>(K) 10</p>	<p>(J) 9</p>

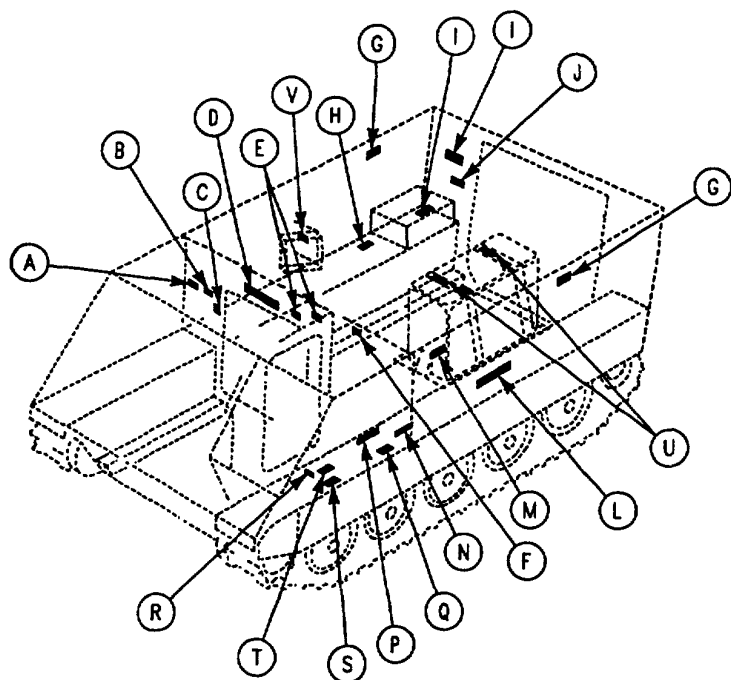
GO TO NEXT PAGE

DATAPLATES, DECALS, AND MARKERS (M106A2, M1064, AND M125A2 ONLY)



<p>(M) 12 MACHETE</p>	<p>(N) 13 M125A2</p>	<p>(N) 13 M106A2</p>	<p>(A) 1 CAUTION THE RETURNING SAFETY DEVICES ARE NOT TO BE REMOVED FROM THE MORTAR TUBES FLASHLIGHT</p>
<p>(L) 11 DANGER MONOXIDE GAS SECURE THIS PANEL BEFORE STARTING ENGINE</p>	<p>(S) 17 5.56 AMMO</p>	<p>(P) 14 MORTAR EQUIPMENT BAG</p>	<p>(C) 3 I. R. PERISCOPE</p>
<p>(K) 10 PAMPHLET BAG</p>	<p>(R) 16 CAUTION - BEFORE FILING MORTAR FORWARD 1. SECURE THE MORTAR TUBES WITH THE RETURNING SAFETY DEVICES. 2. SECURE THE MORTAR TUBES WITH THE RETURNING SAFETY DEVICES. 3. SECURE THE MORTAR TUBES WITH THE RETURNING SAFETY DEVICES.</p>	<p>(Q) 15 TOOLS</p>	<p>(D) 4 SPARE HEAD</p>
<p>(J) 9 SPARE BARREL</p>	<p>(H) 8 FIRST AID KIT</p>	<p>(G) 7 PERISCOPE</p>	<p>(E) 5 GRENADERS</p>

DATAPLATES, DECALS, AND MARKERS (M1059 AND M113A2 ONLY)

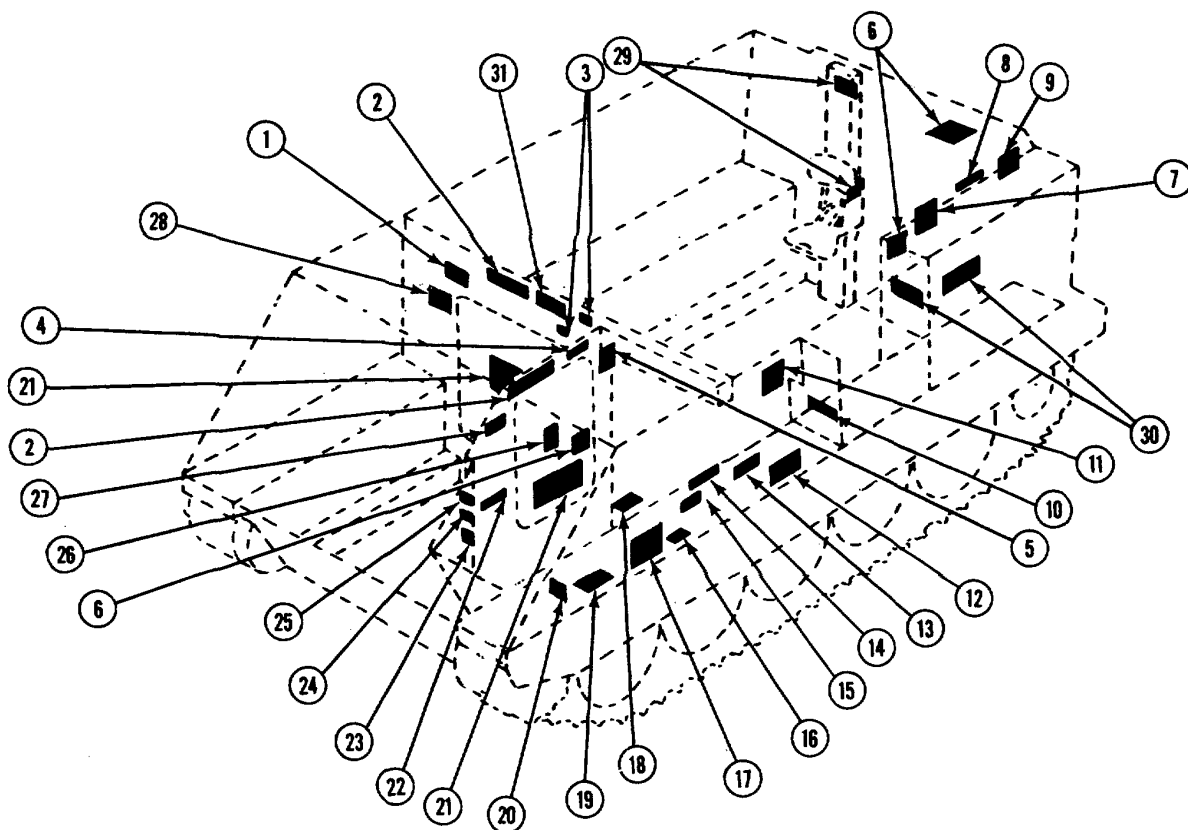


<p>(A) 1</p>	<p>(B) 2</p>			
<p>(N) 13</p>	<p>(C) 3</p>			
<p>(P) 14</p>	<p>(D) 4</p>			
<p>(M) 12</p>	<p>(U) 19</p>	<p>(V) 20</p>	<p>(Q) 15</p>	<p>(E) 5</p>
<p>(L) 11</p>	<p>(T) 18</p>	<p>(S) 17</p>	<p>(R) 16</p>	<p>(F) 6</p>
<p>(K) 10</p>	<p>(J) 9</p>	<p>(I) 9</p>	<p>(H) 8</p>	<p>(G) 7</p>

GO TO NEXT PAGE

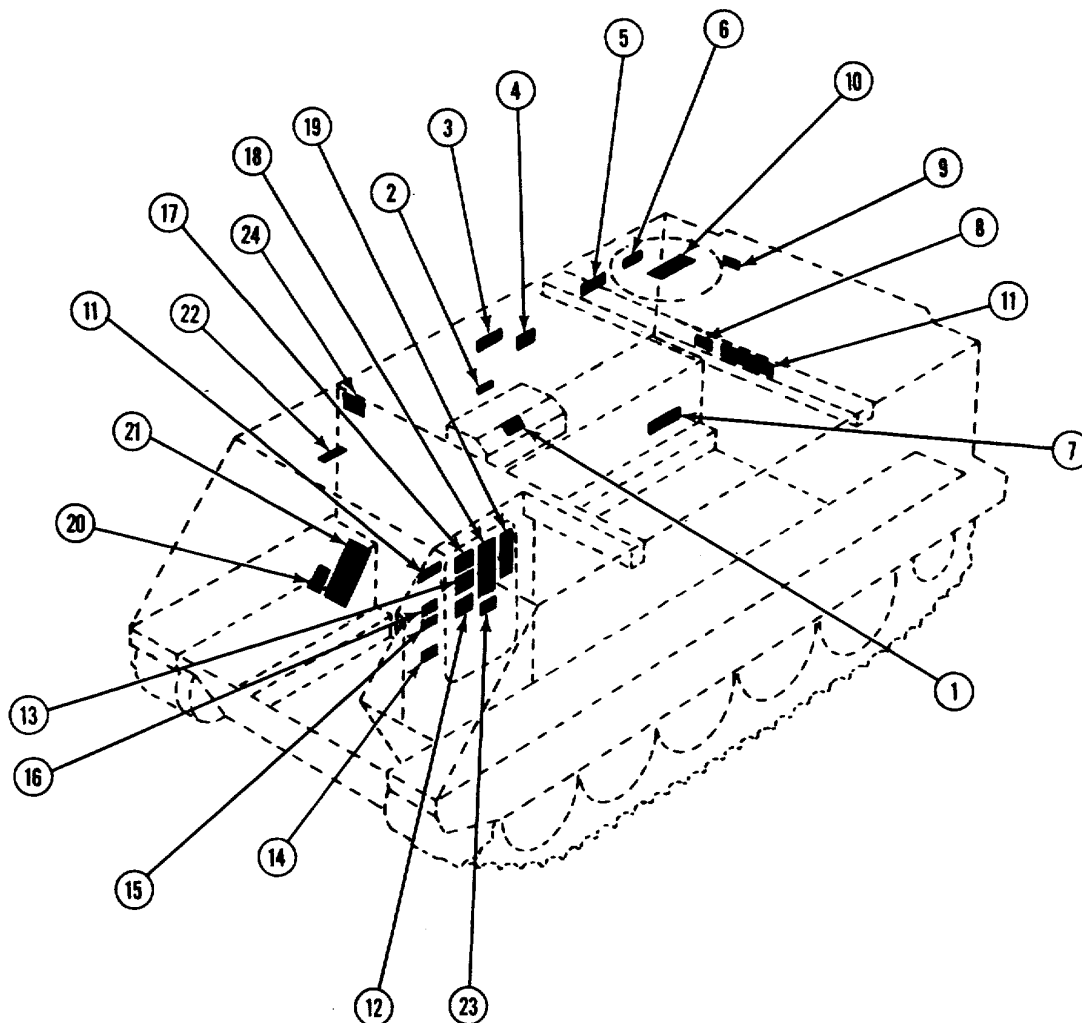
DATAPLATE, STENCIL, MARKER, AND DECAL CHART (M741A1 ONLY)

The following chart is for location of all dataplates, stencils, markers, and decals on the M741A1 carrier.

DATAPLATE, MARKER AND DECAL LOCATIONS

- | | |
|---|---|
| 1. Decal, curtain | 16. Decal, first aid kit |
| 2. Decal, WARNING, carbon monoxide (SMALL) | 17. Decal, CAUTION, pivot steer |
| 3. Decal, WARNING, ramp lock | 18. Decal, spare head |
| 4. Marker, instruction, ramp lock lever | 19. Decal, 7.62 ammunition |
| 5. Decal, instruction, suspension lockout operation | 20. Marker, rifle |
| 6. Decal, WARNING, noise | 21. Decal, WARNING, carbon monoxide (LARGE) |
| 7. Marker, placement of ammo lock pin | 22. Decal, CAUTION, pivot steer |
| 8. Marker, WARNING, keep hands away | 23. Marker, air vent |
| 9. Marker, loading instruction and diagram | 24. Marker, throttle |
| 10. Decal, pamphlet bag | 25. Decal, fuel shutoff |
| 11. Decal, CAUTION, fire extinguisher safety wire | 26. Marker, engine disconnect |
| 12. Decal, periscope | 27. Plate, Instruction, turret |
| 13. Decal, flashlight | 28. Marker, WARNING, personnel/equipment heater |
| 14. Decal, canteen | 29. Marker, CAUTION, seat belt buckle |
| 15. Decal, Infrared periscope | 30. Marker, CAUTION, fuel bladder |
| | 31. Marker, carc paint (M2927R1) |

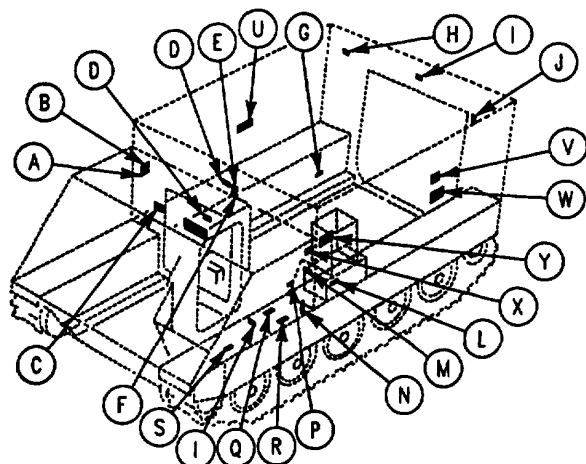
DATAPLATE, STENCIL, MARKER, AND DECAL LOCATIONS



- | | |
|---|--|
| <ul style="list-style-type: none"> 1. Marker, instruction, battery service 2. Decal, tools 3. Decal, night sight 4. Decal, muzzle clamp 5. Decal, telescope 6. Decal, cookset 7. Decal, fire extinguisher 8. Decal, flashlight 9. Marker, rifle 10. Marker, instruction, water operation 11. Plate, instruction, turret warning 12. Marker, instruction, vehicle shipping data 13. Marker, instruction, ramp | <ul style="list-style-type: none"> 14. Marker, instruction, ramp actuating lever 15. Marker, WARNING, stall check 16. Plate, identification, vehicle 17. Marker, instruction, speed shift limit 18. Marker, instruction, vehicle operation 19. Marker, instruction, power train maintenance 20. Decal, WARNING, NBC engine air cleaner (J1162) 21. Marker, instruction, engine air cleaner 22. Decal, identification, fan oil gage and fill 23. Plate, instruction, engine idle RPM (K2627) 24. Marker, WARNING, personnel heater |
|---|--|

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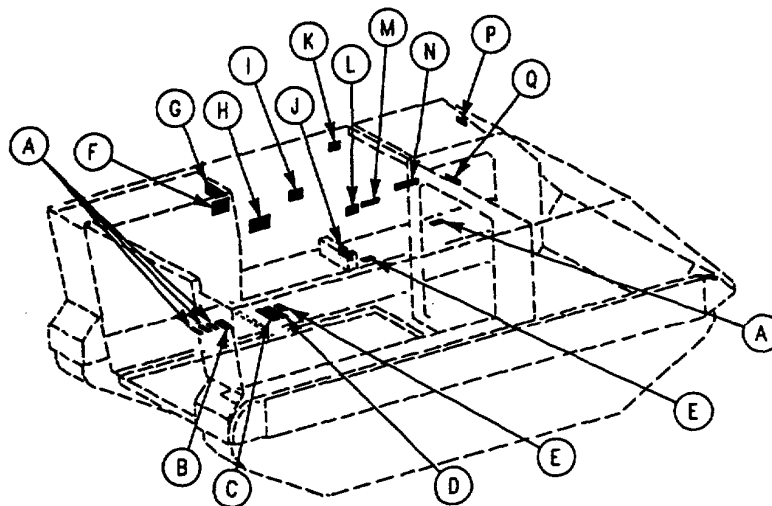
DATAPLATES, DECALS, AND MARKERS (M577A2 AND M1068 ONLY)



<p>(A) 1</p>	<p>(B) 2</p>
<p>(R) 17</p>	<p>(C) 3</p>
<p>(P) 15</p>	<p>(Q) 16</p>
<p>(N) 14</p>	<p>(Y) 24</p>
<p>(M) 13</p>	<p>(X) 23</p>
<p>(L) 12</p>	<p>(W) 22</p>
<p>(K) 11</p>	<p>(J) 10</p>
<p>(S) 18</p>	<p>(D) 4</p>
<p>(T) 19</p>	<p>(E) 5</p>
<p>(U) 20</p>	<p>(F) 6</p>
<p>(V) 21</p>	<p>(G) 7</p>
<p>(I) 9</p>	<p>(H) 8</p>

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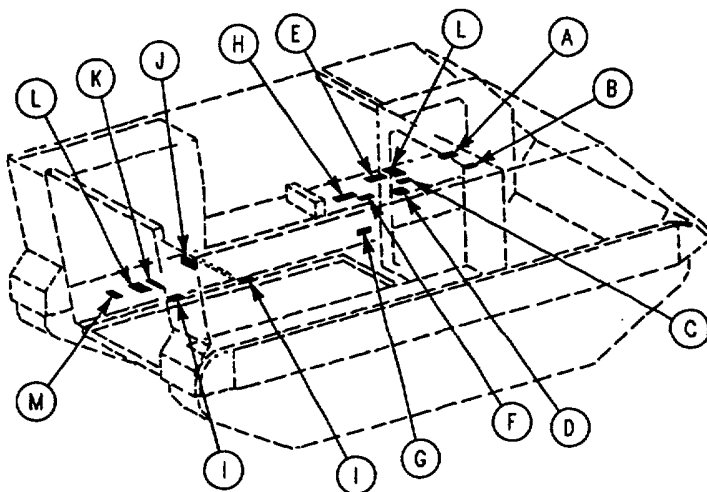
DATAPLATES, DECALS, AND MARKERS (M901A1 ONLY)



<p>(A) 1</p>	<p>(B) 2</p>	<p>(C) 3</p>	<p>(D) 4</p>
<p>(L) 12</p>	<p>(M) 13</p>	<p>(N) 14</p>	<p>(E) 5</p>
<p>(K) 11</p>	<p>(Q) 16</p>	<p>(P) 15</p>	<p>(F) 6</p>
<p>(J) 10</p>	<p>(I) 9</p>	<p>(H) 8</p>	<p>(G) 7</p>

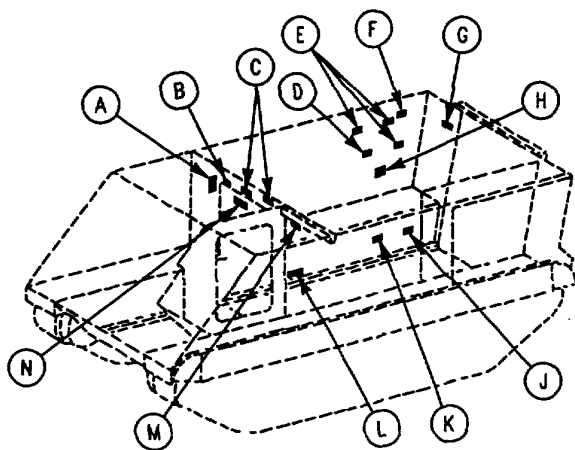
GO TO NEXT PAGE

DATAPLATES, DECALS, AND MARKERS (M901A1 ONLY) (CONT.)



<p>(J) 10 GRENAD. INCEND.</p>	<p>(K) 11 GRENADE, COLOR & H. C. SMOKE</p>	<p>(A) 1 STOVE</p>
<p>(I) 9 LAW MISSILE</p>	<p>(L) 12 5.56 AMMO</p>	<p>(B) 2 TOOLS</p>
<p>(H) 8 M158 GROUND SIGNAL</p>	<p>(M) 13 FIRE EXTINGUISHER</p>	<p>(C) 3 TELEPHONE</p>
<p>(G) 7 RATIONS</p>	<p>(F) 6 BINOCULARS</p>	<p>(D) 4 SPARE HEAD</p>
		<p>(E) 5 FIRST AID KIT</p>

DATAPLATES, DECALS, AND MARKERS (M901A1 ONLY)



<p>(K) 10 LAUNCH TUBE</p>	<p>(L) 11 NIGHT GOGGLES OR 7.62 AMMO</p>	<p>(A) 1 5.56 AMMO</p>
<p>(J) 9 TRIPOD</p>	<p>(M) 12 PERISCOPE</p>	<p>(B) 2 CARC PAINTED</p>
<p>(H) 8 SERVICE BATTERY WEEKLY</p>	<p>(N) 13 PAMPHLET BAG</p>	<p>(C) 3 WARNING</p>
<p>(G) 7 FIRE EXTINGUISHER</p>	<p>(F) 6 NIGHT SIGHT BATTERIES</p>	<p>(D) 4 NIGHT SIGHT COLLIMATOR</p>
		<p>(E) 5 NIGHT SIGHT COOLANT</p>

GO TO NEXT PAGE

REPLACE CUSHIONING PAD

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Adhesive
 Dry cleaning solvent (Item 13, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

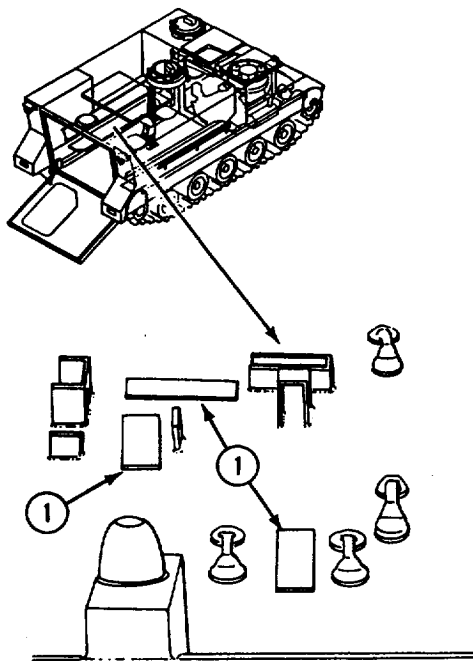
Engine stopped/shutdown (see your -10)
 Carrier blocked (see your -10)

REMOVE

NOTE

Cushioning pads should be checked before they are removed. Replace cut, torn, or hard pads.

1. Using putty knife or similar tool, lift corner of cushioning pad (1) and peel pad from hull.
2. Scrape any remaining adhesive from hull.



CLEAN, INSPECT, AND REPAIR

WARNING



Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

3. Thoroughly clean hull mating surface with dry cleaning solvent.

INSTALL

4. Apply thin coat of adhesive to hull mating surface and cushioning pad (1).
5. Allow 10 to 20 minutes for adhesive to dry. Surface should be tacky, not too sticky. Warmer temperature will speed drying time.
6. Position pad (1) on hull and press firmly into place.

END OF TASK

REPLACE OILCAN BRACKET

INITIAL SETUP**Tools:**

General Mechanics Tool, Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (2)

Personnel Required:

Unit Mechanic
Helper

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

REMOVE

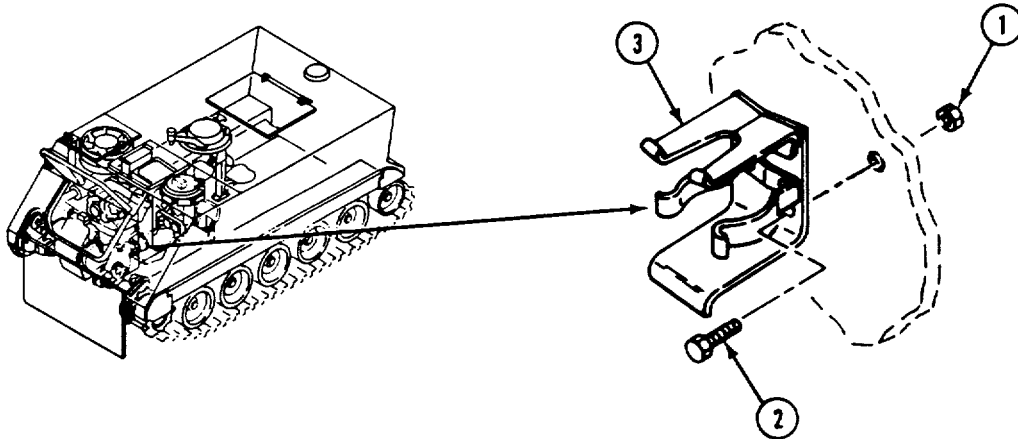
1. Remove oilcan, if present.
2. Have helper hold two locknuts (1) in driver's compartment. Discard locknuts.
3. Remove two screws (2) and oilcan bracket (3) from power plant compartment.

CLEAN, INSPECT, AND REPAIR

4. Check oilcan bracket. Replace bracket that is cracked, damaged, or has a loose clamp.

INSTALL

5. Align oilcan bracket (3) with bulkhead in power plant compartment.
6. Secure with two screws (2) and new locknuts (1).

**FOLLOW-THROUGH STEPS**

1. Install oilcan, if available.
 2. Close power plant front access door and raise trim vane (see your -10).
-

END OF TASK

REPLACE RIFLE BRACKETS

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (3)
Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

REMOVE**NOTE**

Rifle brackets are located in various places in the different carriers. Removal and installation all brackets is the same, unless noted.

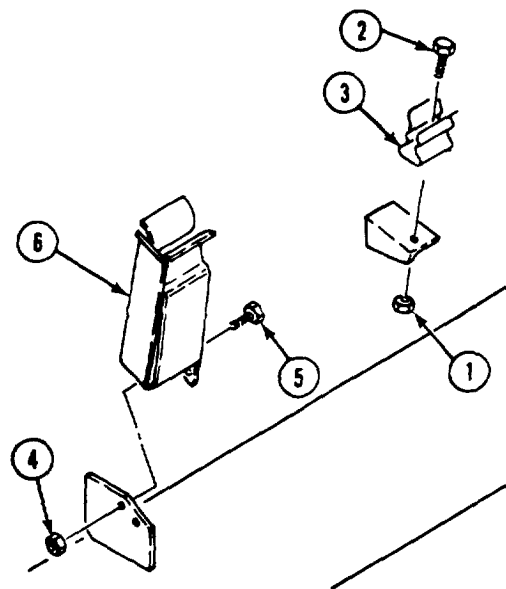
1. Remove locknut (1), screw (2), and front bracket (3) from hull mount. Discard locknut.

NOTE

Delete steps 2 and 3 for M106A2 and M125A2 carriers. Clip (6) is welded to hull. 2. Remove two locknuts (4), screws (5), and clip (6) from hull mount. Discard locknuts.

INSTALL

3. Align clip (6) with hull mount. Secure with two screws (5) and new locknuts (4).
4. Align front bracket (3) with hull mount. Secure with screw (2) and new locknut (1).



END OF TASK

REPLACE SPARE IR (M19) PERISCOPE STOWAGE BOX

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Adhesive
Lockwasher (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

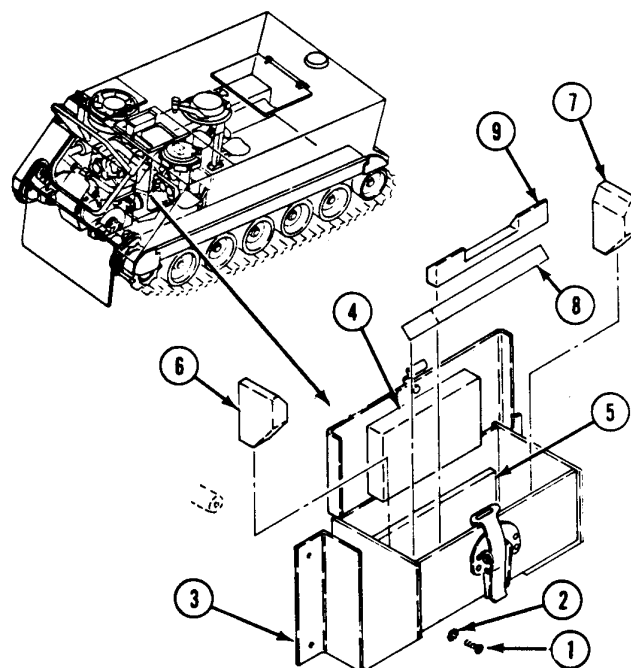
Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)

REMOVE

1. Remove four screws (1), lockwashers (2), and periscope stowage box (3) from driver's sponson. Discard lockwashers.
2. If needed, remove top pad (4), back pad (5), left pad (6), right pad (7), lower front pad (8), or upper front pad (9) from box (3).

INSTALL

3. If any pad was removed, apply thin coat of adhesive to pad. Allow to dry 20 to 40 minutes. Apply thin, even coat of adhesive to metal surface. Allow to dry 30 seconds to 2 minutes. Press surfaces firmly together.
4. Align periscope stowage box (3) with driver's sponson. Secure with four new lockwashers (2) and screws (1).



END OF TASK

REPLACE ANTENNA GUARD

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Self-locking nut (3)

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

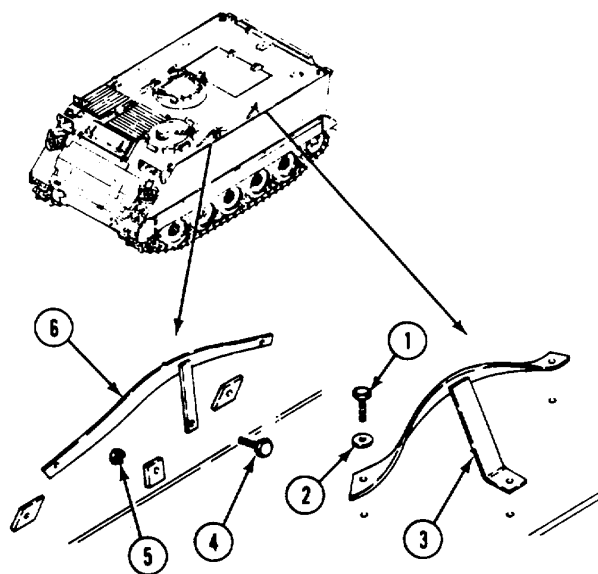
Personnel Required:Unit Mechanic

REMOVE

1. Remove three screws (1), washers (2), and guard (3) from hull top plate.
2. Remove three screws (4), locknuts (5), and guard (6) from bracket on hull top plate. Discard locknuts.

INSTALL

3. Align guard (6) with brackets on hull top plate. Secure with three screws (4) and new locknuts (5).
4. Align guard (3) with hull top plate. Secure with three washers (2) and screws (1).



END OF TASK

REPLACE ANTENNA COVERS (ALL EXCEPT M741A1)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Gasket (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

REMOVE

NOTE

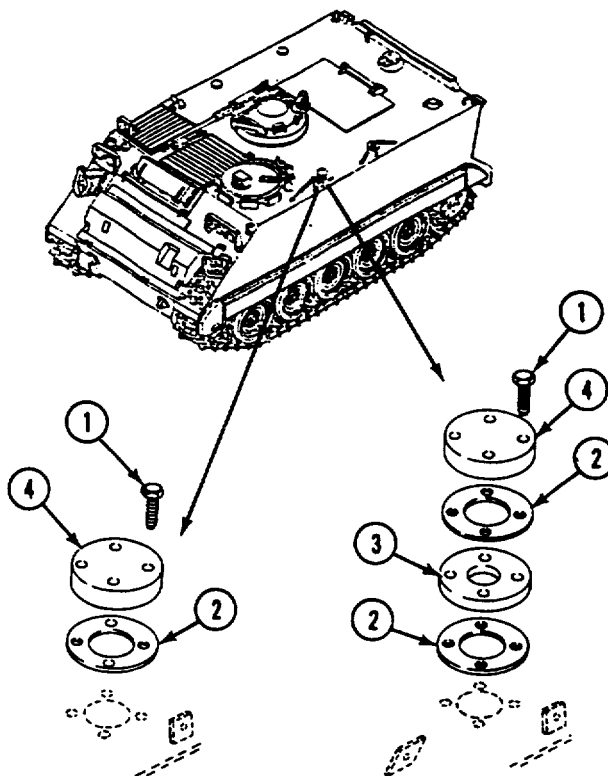
Screws and adapters are different sizes for different locations. Remove and install one cover at a time.

On some locations, adapter is not installed.

1. Remove four screws (1), two gaskets (2), adapter (3), and cover (4) from hull top plate. Discard gaskets.

INSTALL

2. Align one new gasket (2), adapter (3), one new gasket (2), and cover (4) with hull top plate. Secure with four screws (1).



END OF TASK

REPLACE RIGHT FRONT RADIO STOWAGE RACK (M577A2 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (10)
Self-locking nut (5)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

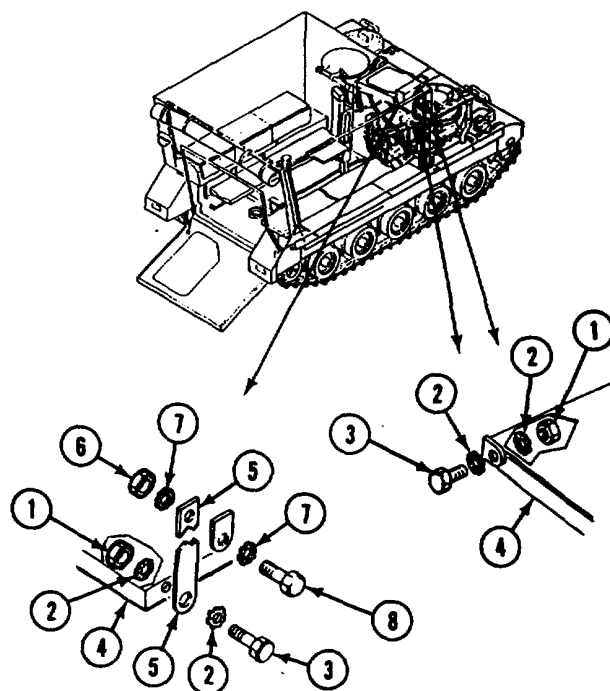
Engine stopped (see your -10)
Carrier blocked (see your -10)
Electronic equipment heater removed, if installed (page 31-16)
Electronic equipment heater control box removed, if installed (page 31-11)

REMOVE

1. Remove four locknuts (1), eight lockwashers (2), four screws (3), and rack (4) from hanger (5) and bulkhead mounts. Discard locknuts and lockwashers.
2. Remove locknut (6), two lockwashers (7), screw (8), and hanger (5) from hull top plate mount. Discard locknuts and lockwashers.

INSTALL

3. Align hanger (5) with hull top plate mount. Secure with screw (8), two new lockwashers (7), and new locknut (6).
4. Align rack (4) with hanger (5) and bulkhead mounts. Secure with four screws (3), eight new lockwashers (2), and four new locknuts (1).

**FOLLOW-THROUGH STEPS**

1. Install electronic equipment heater control box (page 31-11).
2. Install electronic equipment heater (page 31-16).

END OF TASK

REPLACE WALL STOWAGE RACK (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-243).

Install (page 24-244).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 95, App D)
- Wrench Set, Socket (Item 89, App D)

Materials/Parts:

- Self-locking nut (8)

Personnel Required:

- Unit Mechanic

References:

- See your -10

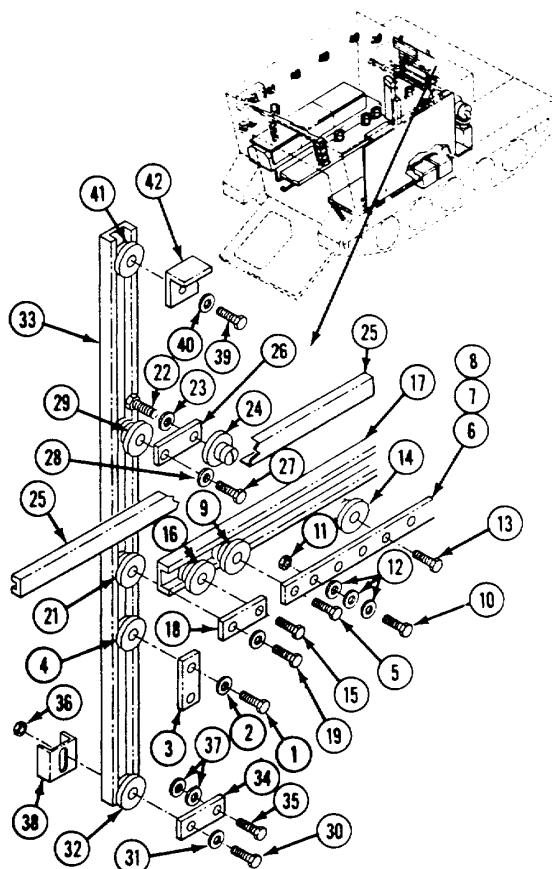
Equipment Conditions:

- Engine stopped (see your -10)
- Ramp lowered (see your -10)
- Carrier blocked (see your -10)

REMOVE

1. Remove four screws (1), washers (2), and two plates (3) from four nuts (4).
2. Remove six screws (5) and three plates (6, 7, and 8) from six nuts (9).
3. Remove 8 screws (10), locknuts (11), and 24 washers (12) from top plate (6). Discard locknuts.
4. Remove 22 screws (13) and nuts (14) from 3 plates (6, 7, and 8).
5. Remove six screws (15), nuts (16), and three channels (17) from six plates (18).
6. Remove six screws (19), washers (20), and plates (26) from six nuts (21).
7. Remove eight screws (22), washers (23), nuts (24), and four channels (25) from eight plates (26).
8. Remove eight screws (27), washers (28), and plates (26) from eight nuts (29).
9. Remove two screws (30), washers (31), nuts (32), and bottom ends of two channels (33) from two plates (34).
10. Remove two screws (35), nuts (36), four washers (37), and two plates (34) from two supports (38).

11. Remove two screws (39), washers (40), nuts (41), and top ends of two channels (33) from two lugs (42).

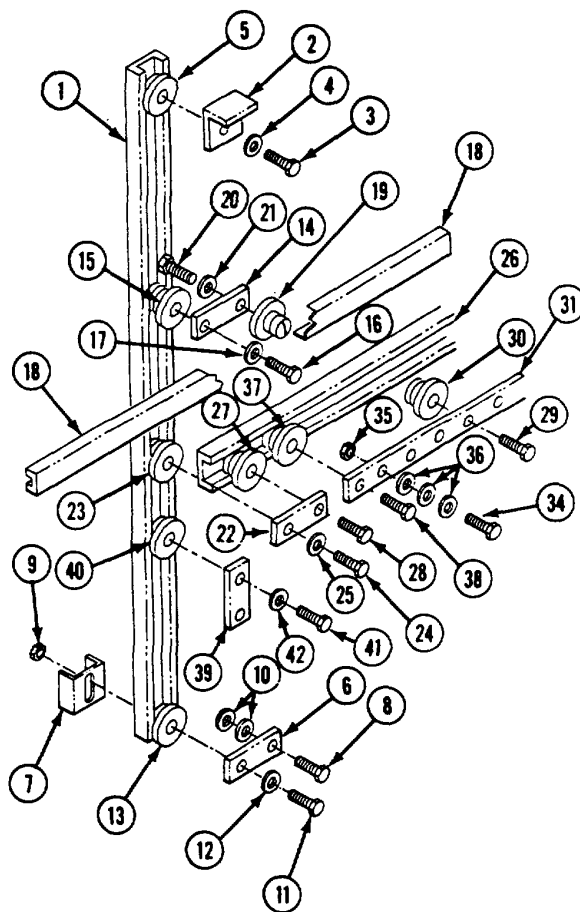


GO TO NEXT PAGE

INSTALL**NOTE**

Tighten all screws in this task to 300-360 lb-in (34-41 N-m) torque. Use torque wrench and socket wrench set.

12. Align top ends of two channels (1) with two lugs (2). Secure with two screws (3), washers (4), and nuts (5).
13. Align two plates (6) with two supports (7). Secure with two screws (8), nuts (9), and four washers (10).
14. Align bottom ends of two channels (1) with two plates (6). Secure with two screws (11), washers (12), and nuts (13).
15. Align eight plates (14) with eight nuts (15). Secure with eight screws (16) and washers (17).
16. Install four channels (18) and eight nuts (19) on eight plates (14). Secure with eight screws (20) and washers (21).
17. Install six plates (22) on six nuts (23). Secure with six screws (24) and washers (25).
18. Install three channels (26) and six nuts (27) on six plates (22). Secure with six screws (28).
19. Install 22 screws (29) and nuts (30) in 3 plates (31, 32, and 33).
20. Install 8 screws (34), new locknuts (35), and 24 washers (36) in top plate (31).
21. Secure three plates (31, 32, and 33) to six nuts (37) with six screws (38).
22. Install two plates (39) on four nuts (40). Secure with four screws (41) and washers (42).

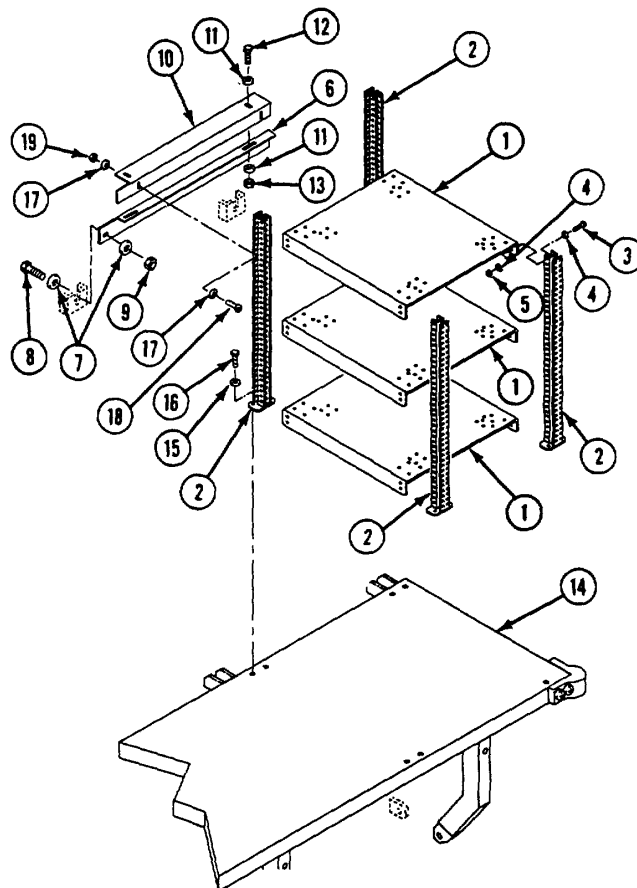
**FOLLOW-THROUGH STEPS**

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

INSTALL

6. Position 3 shelves (1) to 4 vertical rails (2). Secure with 24 screws (3), 48 washers (4), and 24 new locknuts (5).
7. Install bracket (6), four washers (7), two screws (8), and new locknuts (9) on right bulkhead.
8. Install bracket (10), four washers (11), two screws (12), and new locknuts (13) on bracket (6).
9. Position shelf assembly on base (14). Secure each of four vertical rails (2) to base (14) with two washers (15) and screws (16).
10. Install eight washers (17), four screws (18), and new locknuts (19) in two vertical rails (2) and bracket (10).



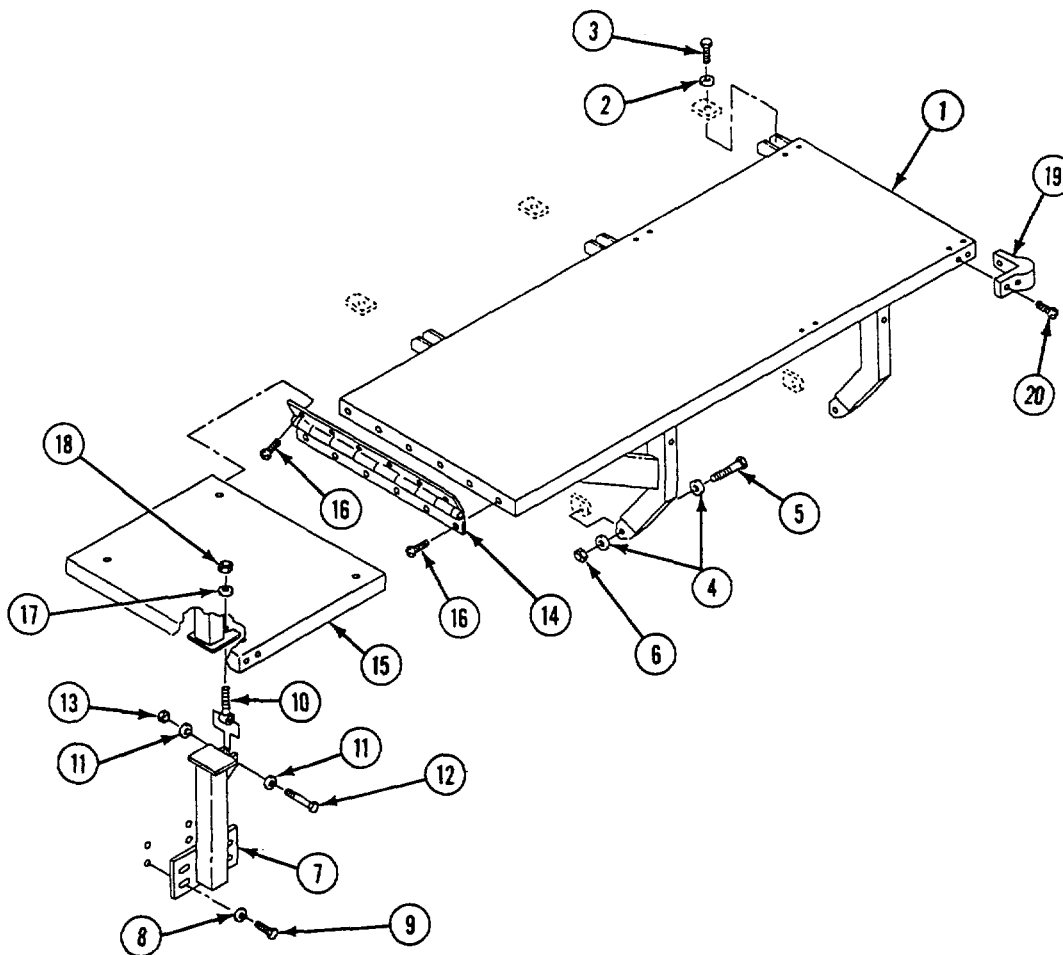
FOLLOW-THROUGH STEPS

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Install right equipment rack brackets and mounts (page 40.1-6). 2. Install LAN ground box assembly (page 40.1-15). 3. Install switch box assembly (page 40.1-14). 4. Install U.P.S. power extension box A17 (page 40.1-8). | <ol style="list-style-type: none"> 5. Install A.C. power extension box A7 (page 40.1-12). 6. Install D.C. power extension box A8 (page 40.1-13). 7. Install electrical/communication equipment (TM 11-7010-256-12&P). 8. Raise and lock ramp (see your -10). 9. Stop engine (see your -10). |
|--|--|

END OF TASK

INSTALL

9. Position base (1) on bulkhead mounts. Secure with three washers (2) and screws (3).
10. Install four washers (4), two screws (5), and new locknuts (6) on base (1) and sponson.
11. Position base extension mount (7) on sponson. Secure with four washers (8) and screws (9).
12. Install bolt (10), two washers (11), screw (12), and new locknut (13) on base extension mount (7).
13. Position hinge (14) between base (1) and base extension (15). Secure with 12 screws (16).
14. Position base extension (15) on bolt (10) on base extension mount (7). Secure with new lockwasher (17) and nut (18).
15. Install bumper (19) on base extension (15). Secure with four screws (20).
16. Install bumper (19) on base (1). Secure with three screws (20).



FOLLOW-THROUGH STEPS

1. Install shelf assembly (page 24-244.1).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

REPLACE LEFT SIDE RACK BASE (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 24-244.5).

Install (page 24-244.6).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (10)

Personnel Required:

Unit Mechanic

References:

See your -10

See TM 11-7010-256-12&P

Equipment Conditions:

Ramp lowered (see your -10)

Engine stopped (see your -10)

Carrier blocked (see your -10)

Electronic/Communication equipment removed (TM 11-7010-2567-12&P)

A.C. and D.C. power extension boxes and mounts removed (page 40.1-38)

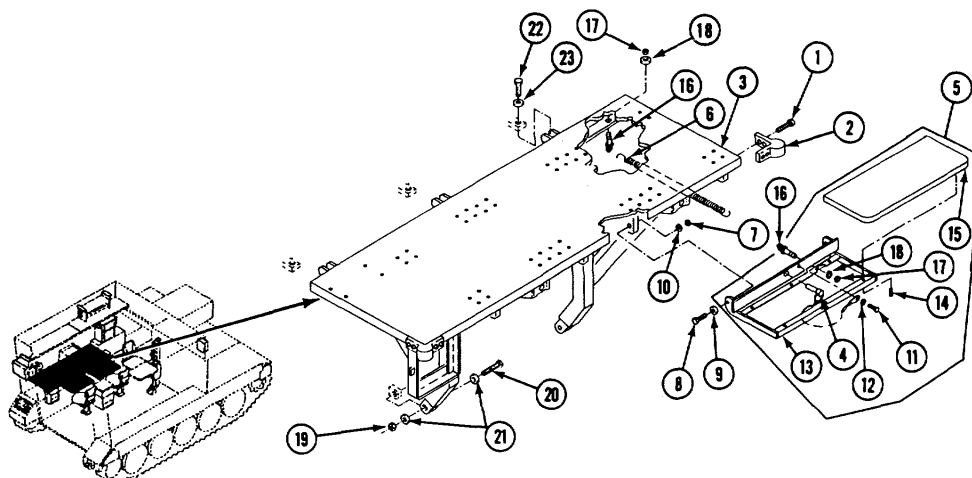
U.P.S. power extension box removed (page 40.1-8)

Printer mount removed (page 40.1-42)

REMOVE

1. Remove eight screws (1) and two bumpers (2) from rack base (3).
2. Remove two pins (4), lower two work surface assemblies (5), and remove two springs (6).
3. Raise two work surface assemblies (5). Remove four locknuts (7), screws (8), washers (9), washers (10), and two work surface assemblies (5) from rack base (3). Discard locknuts.
4. Remove two screws (11), washers (12), and pins (4) with lanyards from two frames (13).
5. Remove 12 screws (14), and 2 work surfaces (15) from 2 frames (13).

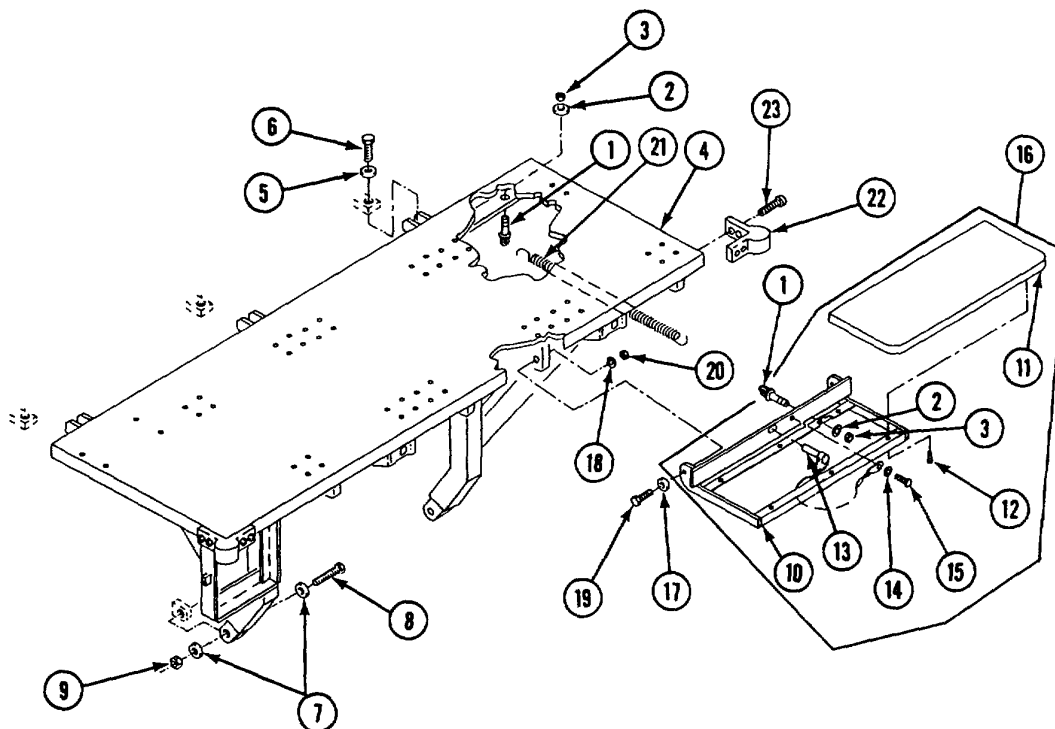
6. Remove two bolts (16), locknuts (17), and washers (18) from two frames (13). Discard locknuts.
7. Remove two bolts (16), locknuts (17), and washers (18) from rack base (3). Discard locknuts.
8. Remove two locknuts (19), screws (20), four washers (21), and rack base (3) from sponson lugs.
9. Remove three screws (22), washers (23), and rack base (3) from bulkhead mounts.



GO TO NEXT PAGE

INSTALL

10. Install two bolts (1), washers (2), and new locknuts (3) in rack base (4).
11. Position rack base (4) on bulkhead mounts. Secure with three washers (5) and screws (6).
12. Position rack base (4) to sponson lugs. Secure with four washers (7), two screws (8), and new locknuts (9).
13. Install two bolts (1), washers (2), and new locknuts (3) in two frames (10).
14. Install 2 work surfaces (11) and 12 screws (12) on two frames (10).
15. Install two pins (13) with lanyards, washers (14), and screws (15) on frames (10).
16. Position two work surface assemblies (16) under rack base (4). Secure with four washers (17), washers (18), screws (19), and new locknuts (20).
17. Install two springs (21) onto four bolts (1).
18. Install two bumpers (22) and eight screws (23) on rack base (4).
19. Install two pins (13) in work surface assemblies (16).



FOLLOW-THROUGH STEPS

1. Install printer mount (page 40.1-42).
2. Install U.P.S. power extension box (40.1-8).
3. Install A.C. and D.C. power extension boxes and mounts (page 40.1-38).
4. Install electronic/communication equipment (TM 11-7010-256-12&P).
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).

END OF TASK

REPLACE LEFT BULKHEAD RADIO STOWAGE RACKS (M577A2 AMD M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 24-245).

Install (page 24-246).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (12)

Self-locking nut (12)

Equipment Conditions:

Engine stopped and ramp lowered

(see your -10)

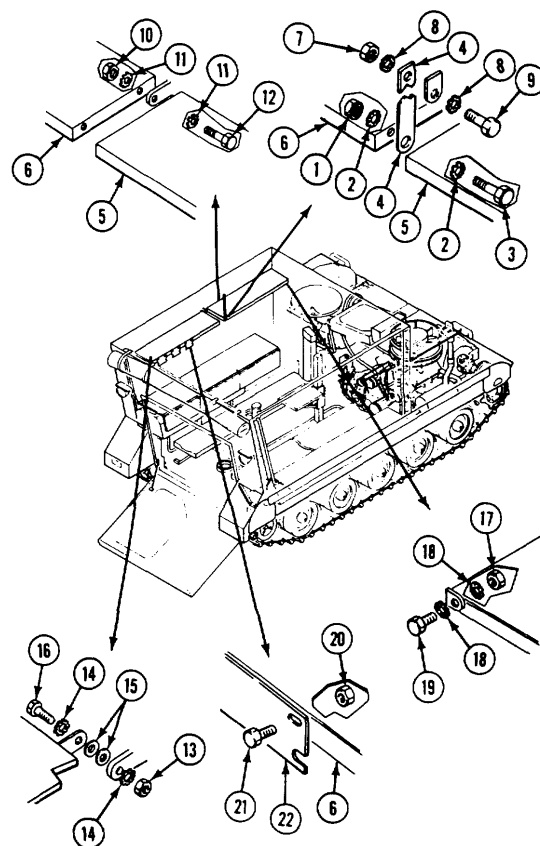
Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

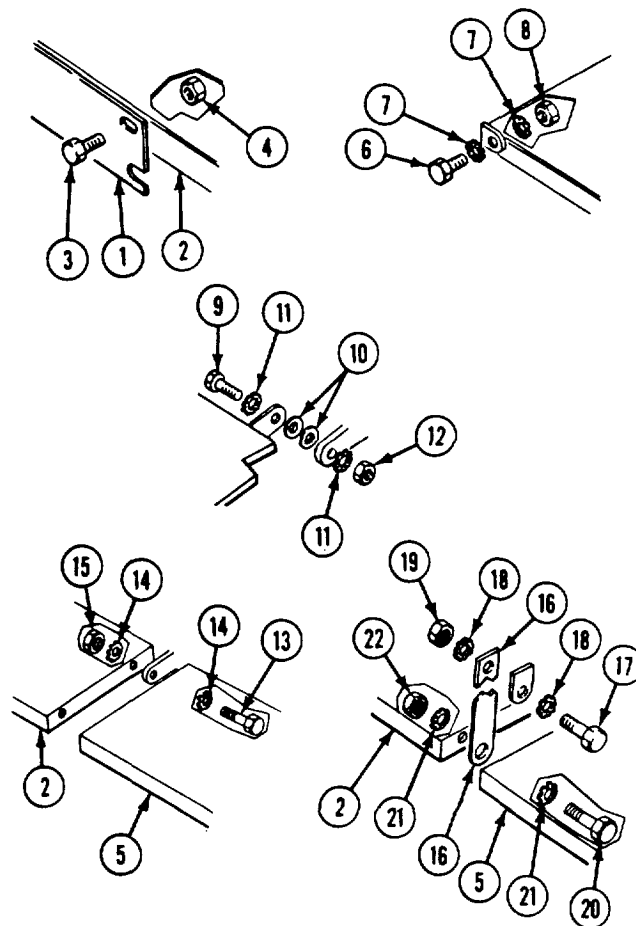
REMOVE

1. Remove locknut (1), two lockwashers (2), and screw (3) from hanger (4), front rack (5), and rear rack (6). Discard lockwashers and locknut.
2. Remove locknut (7), two lockwashers (8), screw (9), and hanger (4) from hull top plate lug. Discard lockwashers and locknut.
3. Remove locknut (10), two lockwashers (11), and screw (12) from rack (5), rack (6), and bulkhead lug. Discard lockwashers and locknut.
4. Remove locknut (13), two lockwashers (14), washers (15), and screw (16) from each rack (5 and 6). Discard lockwashers and locknut.
5. Remove two locknuts (17), four lockwashers (18), and two screws (19) from each rack (5 and 6). Discard lockwashers and locknuts.
6. Remove six locknuts (20), screws (21), and three intercom brackets (22) from rack (6). Discard locknuts.

**GO TO NEXT PAGE**

INSTALL

7. Align three intercom brackets (1) with rack (2). Secure with six screws (3) and new locknuts (4).
8. Align racks (5 and 2) with front and rear bulkhead lugs. Secure with two screws (6), four new lockwashers (7), and two new locknuts (8) on each rack.
9. Align racks (5 and 2) to left bulkhead lugs. Secure with screw (9), washer(s) (10) (to shim), two new lockwashers (11), and new locknut (12) on each rack.
10. Align racks (5 and 2) with left bulkhead lug. Secure with screw (13), two new lockwashers (14), and new locknut (15).
11. Align hanger (16) with hull top plate lug. Secure with screw (17), two new lockwashers (18), and new locknut (19).
12. Align hanger (16) with rear rack (2) and front rack (5). Secure with screw (20), two new lockwashers (21), and new locknut (22).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE MAP BOARD (M577A2 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (2)
Self-locking nut (8)

Personnel Required:

Unit Mechanic

References:

See your -10

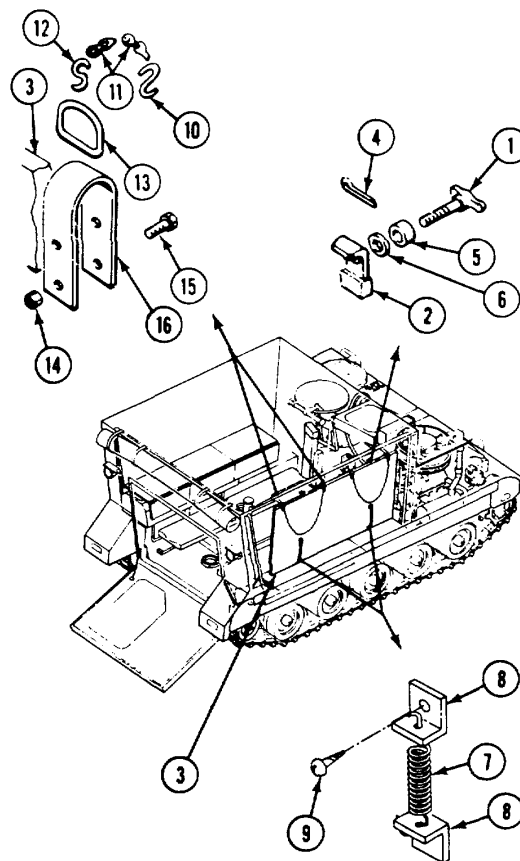
Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)

REMOVE

1. Loosen two bolts (1) and clamps (2). Remove map board (3) from right bulkhead mounts.
2. Remove two cotter pins (4), bolts (1), clamps (2), spacers (5), and washers (6) from bulkhead stops. Discard cotter pins.
3. Remove two springs (7) from four brackets (8).
4. Remove four screws (9) and brackets (8) from map board (3).
5. Open one end of four hooks (10). Remove hooks from four chains (11).
6. Open both ends of four hooks (12). Remove hooks from four chains (11) and D-rings (13).
7. Remove eight locknuts (14), screws (15), four hangers (16), and D-rings (13) from map board (3). Discard locknuts.

9. Install four hooks (12) on four D-rings (13) and chains (11). Squeeze both ends of hooks to secure.
10. Install four hooks (10) on four chains (11). Squeeze on end of hooks to secure.

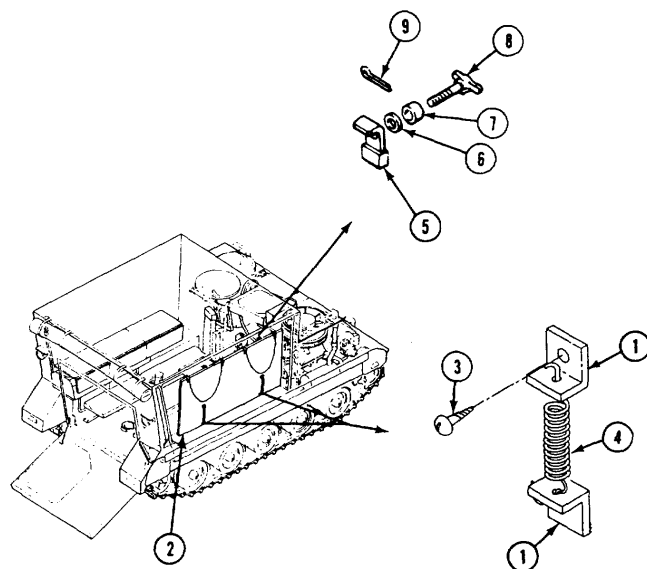


INSTALL

8. Pass four hangers (16) through four D-rings (13) and align hangers on map board (3). Secure hangers with eight screws (15) and new locknuts (14).

GO TO NEXT PAGE

11. Align four brackets (1) on map board (2).Secure with four screws (3).
12. Install two springs (4) on four brackets (1).
13. Install two clamps (5) on two bulkhead stops. Stops. Secure with two washers (6), spacers (7), Bolts (8), and new cotter pins (9).
14. Place map board (2) on right bulkhead mounts. Secure with two clamps (5) and bolts (8).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
 2. Stop engine (see your -10).
-

END OF TASK

REPLACE/REPAIR MAP BOARD (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 24-248.1).
Install (page 24-248.2).

Clean, Inspect, and Repair (page 2-30).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

- Self-locking nut (4)
- Self-locking nut (6)

Equipment Conditions:

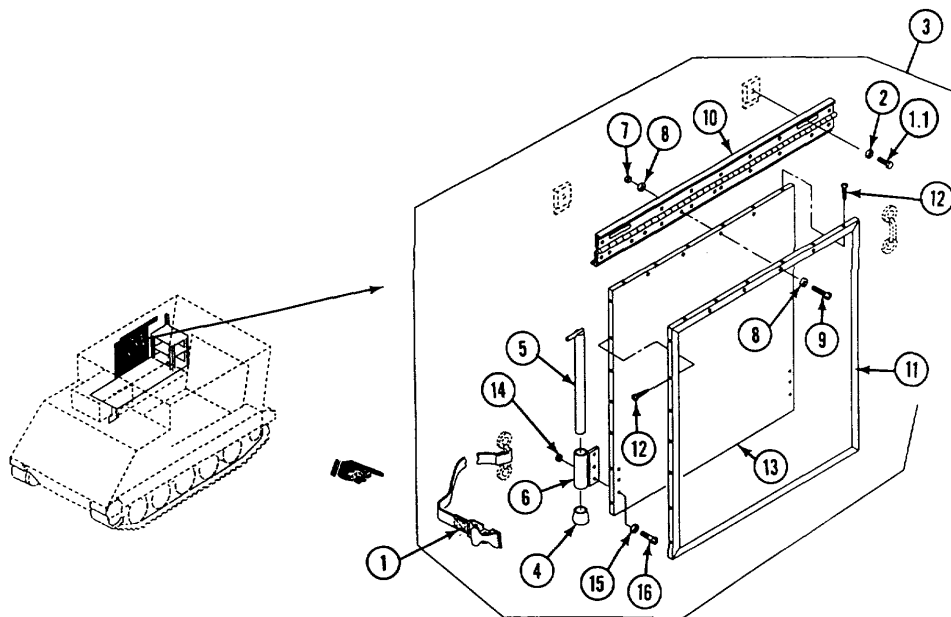
- Ramp lowered (see your -10)
- Engine stopped (see your -10)
- Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

REMOVE

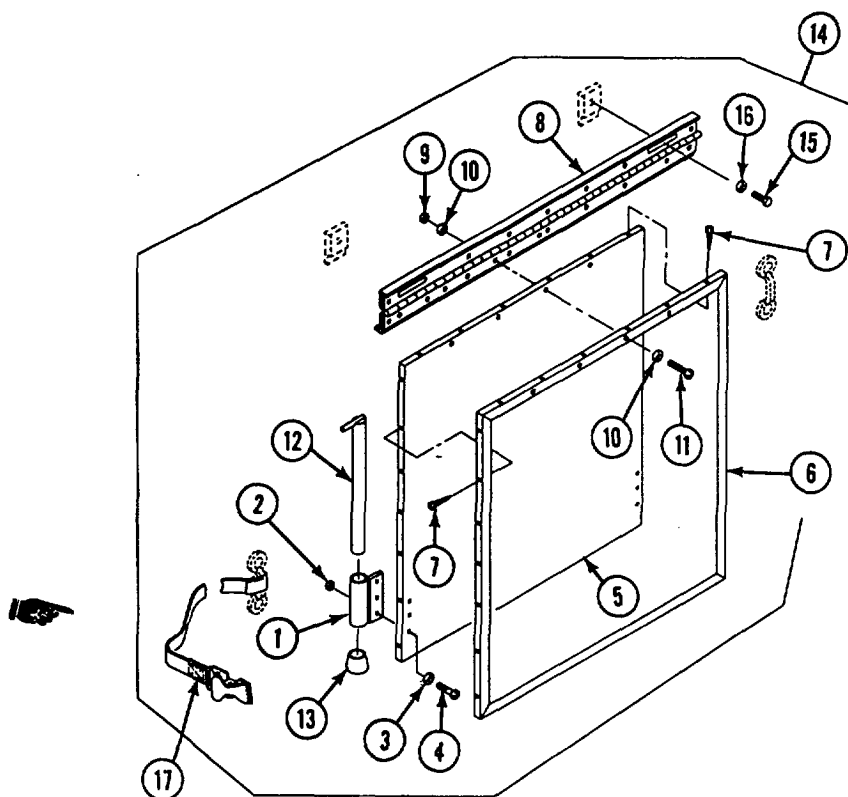
1. Remove strap (1) securing map board.
 - 1.1 Remove two screws (1.1), washers (2), and map board assembly (3) from right side bulkhead mounts.
2. Remove two tips (4) from two stakes (5).
3. Remove two stakes (5) from two brackets (6).
4. Remove four locknuts (7), eight washers (8), screws (9), and hinge (10) from frame (11). Discard locknuts.
5. Remove 14 screws (12) from sides of frame (11).
6. Remove 12 screws (12) and frame (11) from map board (13).
7. Remove six locknuts (14), washers (15), screws (16), and two brackets (6) from map board (13). Discard locknuts.



GO TO NEXT PAGE

INSTALL

8. Install two brackets (1), new locknuts (2), washers (3), and six screws (4) on map board (5).
9. Install frame (6) and 12 screws (7) on map board (5).
10. Install 14 screws (7) in sides of frame (6).
11. Install hinge (8), new locknuts (9), eight washers (10), and four screws (11) on frame (6).
12. Install two stakes (12) in two bracket (1).
13. Install two tips (13) on two stakes (12).
14. Align map board assembly (14) with right side bulkhead mounts. Secure with two screws (15) and washers (16).
15. Install strap (17) securing map board (14) to stowed position.



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE MAP STORAGE BOX (M1068 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Personnel Required:

Unit Mechanic

Equipment Conditions:

Engine stopped/shutdown (see your -10)

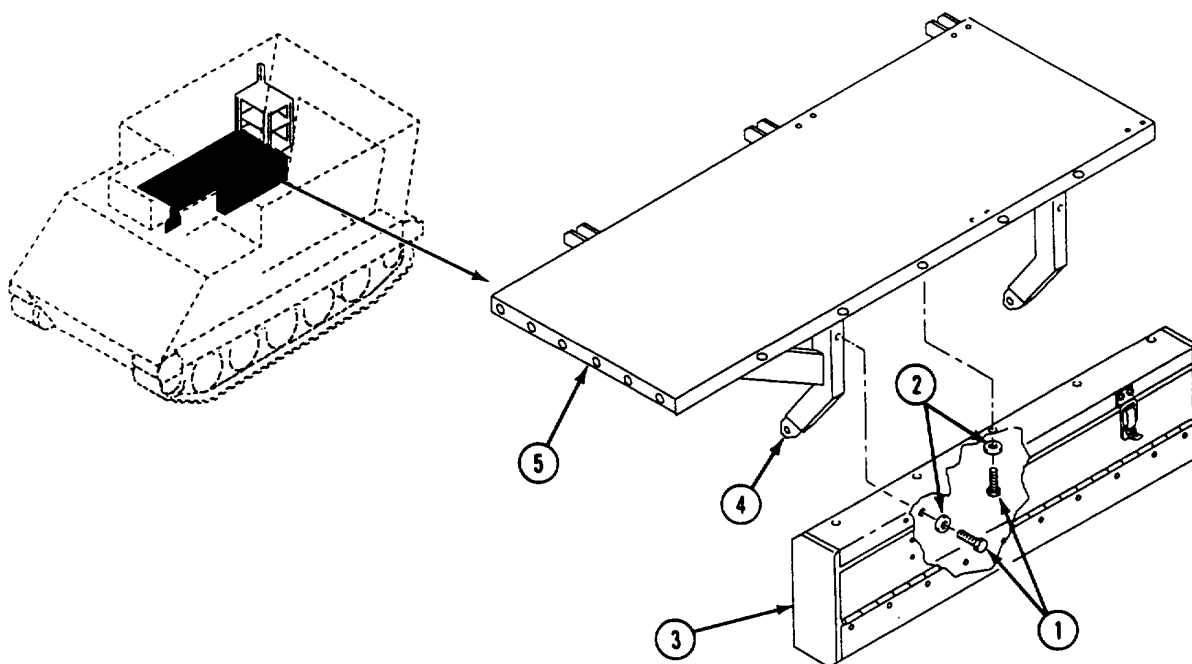
Carrier blocked (see your -10)

REMOVE

1. Remove two screws (1) and washers (2) from storage box (3) and two right side rack base legs (4).
2. Remove five screws (1), washers (2), and storage box (3) from right side rack base (5).

INSTALL

3. Position map storage box (3) under top of right side rack base (5). Secure with five washers (2) and screws (1).
4. Position map storage box (3) to two right side rack base legs (4). Secure with two washers (2) and screws (1).

**END OF TASK**

REPAIR MAP STORAGE BOX (M1068 ONLY)**DESCRIPTION**

This task covers: Disassemble (page 24-248.3).

Assemble (page 24-248.4).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Equipment Conditions:

Ramp lowered (see your -10)

Engine stopped (see your -10)

Carrier blocked (see your -10)

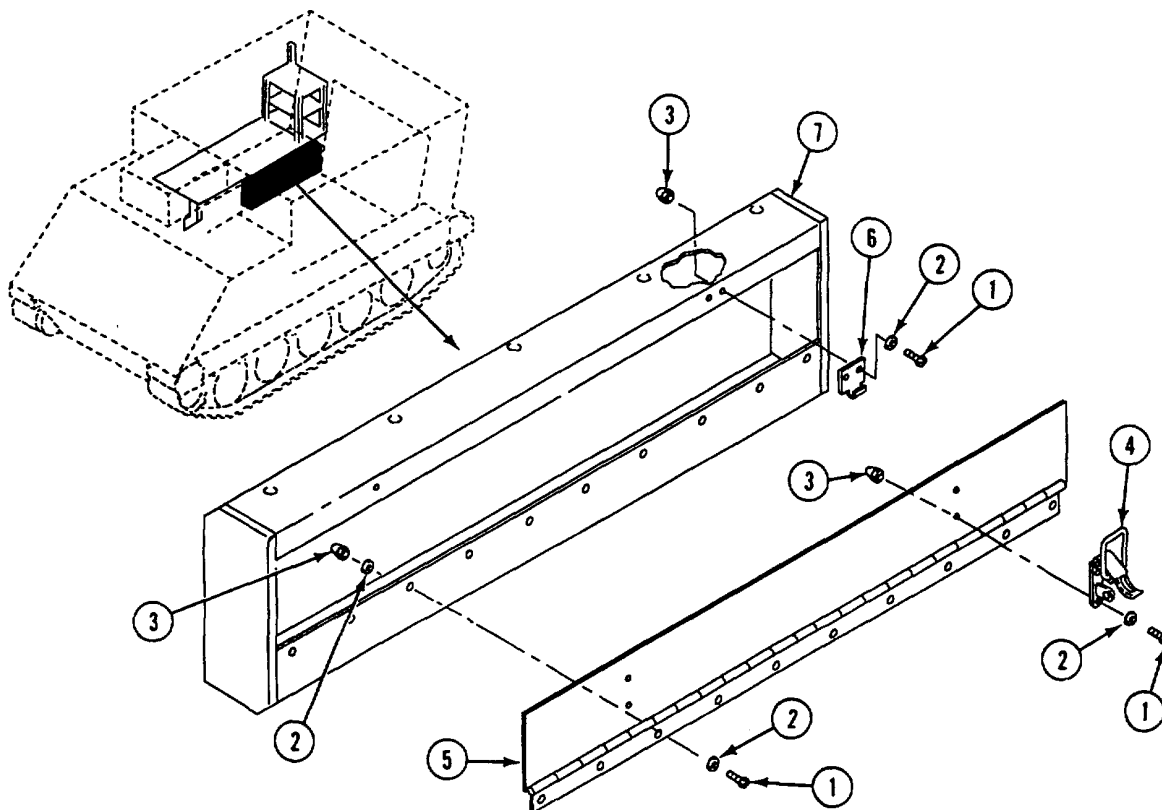
Map storage box removed (page 24-248.2)

References:

See your -10

DISASSEMBLE

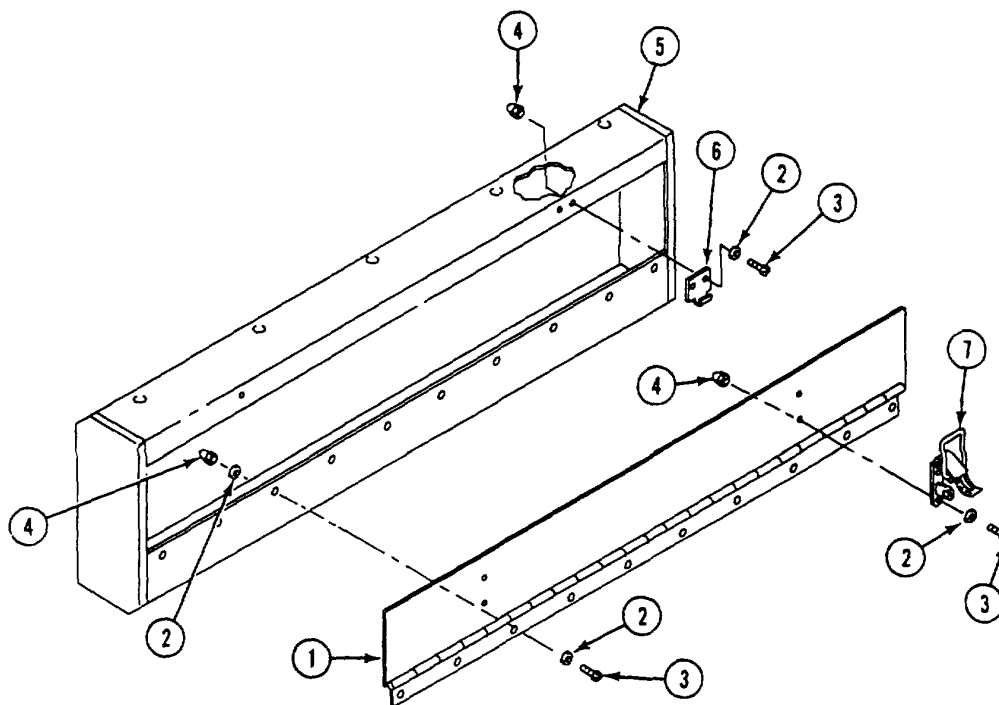
1. Remove four screws (1), washers (2), nuts (3), and catch (4) from door (5).
2. Remove four screws (1), washers (2), nuts (3), and strike (6) from map storage box (7).
3. Remove 10 screws (1), 20 washers (2), 10 nuts (3), and door (5) from map storage box (7).

**GO TO NEXT PAGE**

ASSEMBLE

4. Install door (1), 20 washers (2), 10 screws (3), and nuts (4) on map storage box (5).
5. Install strike (6), four washers (2), screws (3), and nuts (4) on map storage box (5).

6. Using catch (7) as a template, drill four 0.191-0.208 holes through door (1). Paint strike and catch number 24533 green per MIL-C-22750.
7. Install catch (7), four washers (2), screws (3), and nuts (4) on door (1).



FOLLOW-THROUGH STEPS

1. Install map storage box (page 24-248.2).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

REPLACE REAR EXTERNAL STOWAGE FRAME (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 24-248.6). Install (page 24-248.7).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (2)

Locknut (4)

Personnel Required:

Unit Mechanic

Helper (H)

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

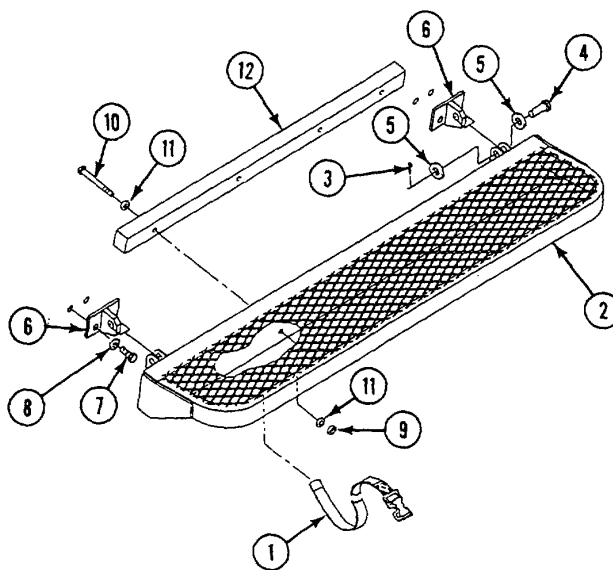
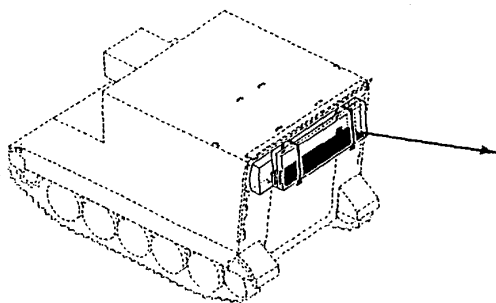
Carrier blocked (see your -10)

Remove any stowed equipment

REMOVE

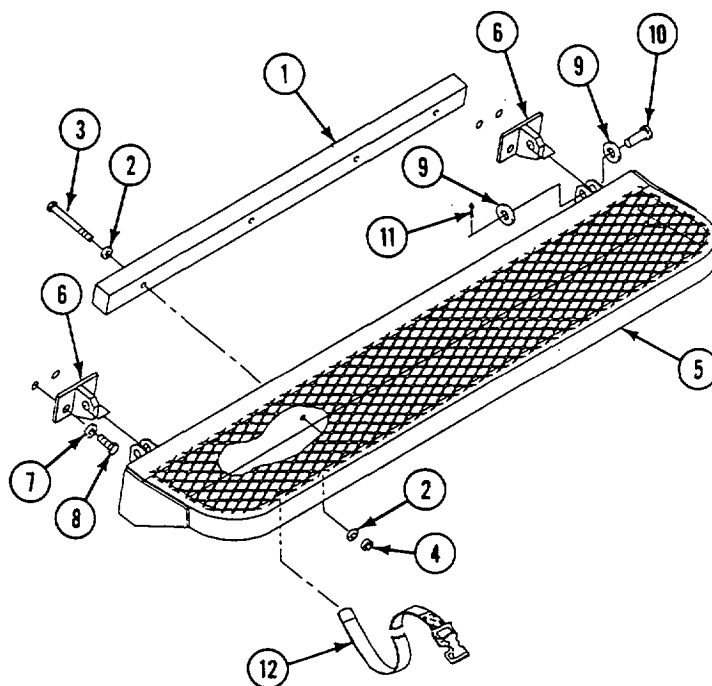
1. Loosen two straps (1) and remove stowed equipment from rear external stowage frame (2).
2. Remove two straps (1) from loops on hull rear plate and frame (2).
3. Remove two cotter pins (3), shouldered pins (4), four washers (5), and rear external stowage frame (2) from two mounts (6). Discard cotter pins. Have helper hold up one side.

4. Remove four screws (7), washers (8), and two mounts (6) from hull rear plate.
5. Remove four locknuts (9), screws (10), eight washers (11), and pad (12) from rear external stowage frame (2). Discard locknuts.



INSTALL

6. Install pad (1), eight washers (2), four screws (3), and new locknuts (4) on rear external stowage frame (5).
7. Install two mounts (6), four washers (7), and screws (8) on hull rear plate.
8. Install rear external stowage frame (5), four washers (9), two shouldered pins (10), and new cotter pins (11) on two mounts (6). Have helper hold up one side.
9. Connect two straps assemblies (12) to two loops on hull rear plate and frame (5).
10. Stow equipment on rear external stowage frame (5) with two straps (12).



END OF TASK

REPLACE RADIO STOWAGE RACK (M106A2, M1064, AND M125A2)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (13)
Self-locking nut (8)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

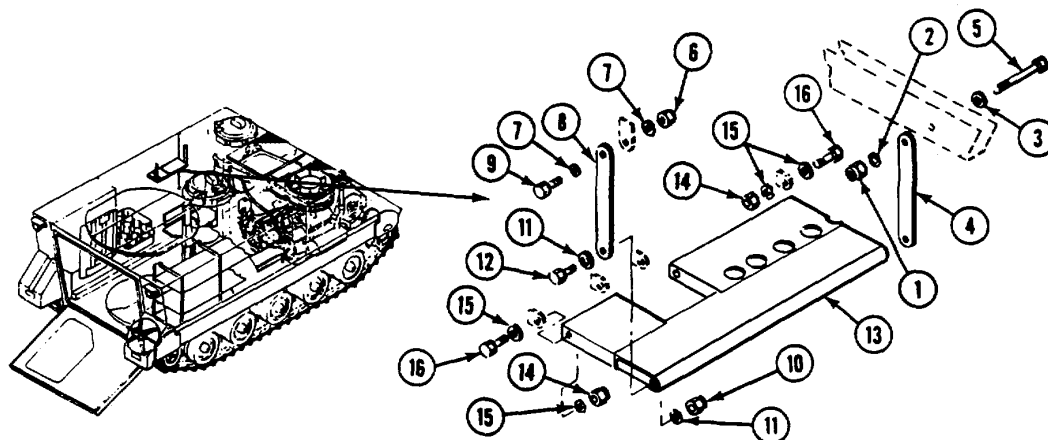
Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Radio and mount removed

REMOVE

1. Remove locknut (1), lockwasher (2), washer (3), hanger (4), and screw (5) from top plate crossmember. Discard locknut and lockwasher.
2. Remove locknut (6), two lockwashers (7), hanger (8), and screw (9) from top plate lug. Discard locknut and lockwashers.
3. Remove two locknuts (10), four lockwashers (11), two hangers (4 and 8), and two screws (12) from rack (13). Discard locknuts and lockwashers.
4. Remove four locknuts (14), eight lockwashers (15), four screws (16), and rack (13) from bulkhead lugs. Discard locknuts and lockwashers.

INSTALL

5. Align rack (13) with bulkhead lugs. Secure with four screws (16), eight new lockwashers (15), and four new locknuts (14).
6. Align two hangers (4 and 8) with rack (13). Secure with two screws (12), four new lockwashers (11), and two new locknuts (10).
7. Align hanger (8) with top plate lug. Secure with screw (9), two new lockwashers (7), and new locknut (6).
8. Align hanger (4) with top plate crossmember. Secure with screw (5), new lockwasher (2), washer (3), and new locknut (1).

**FOLLOW-THROUGH STEPS**

1. Install radio and mount.
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

REPLACE GRENADE STOWAGE BOX (M106A2, M1064, AND M125A2 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Self-locking nut (6)

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

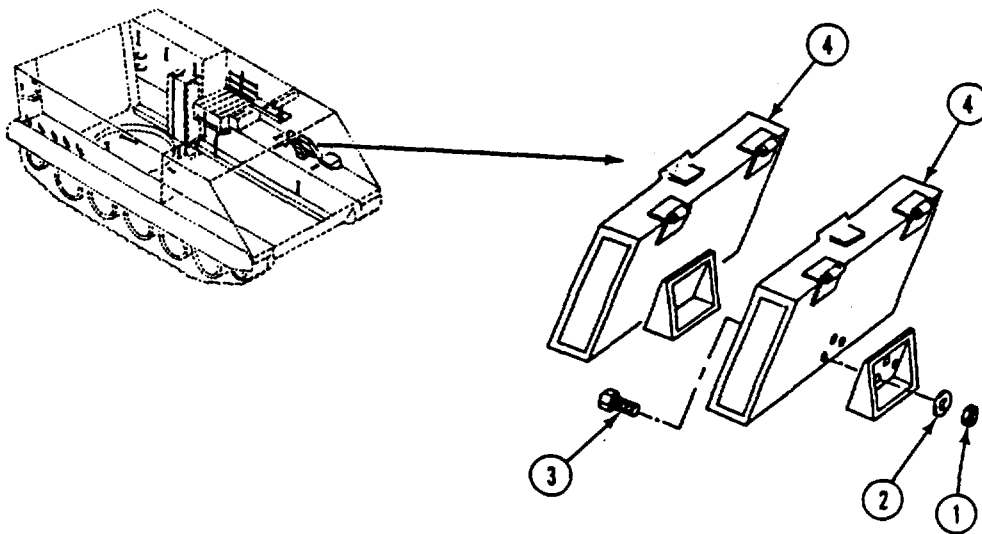
Personnel Required:Unit Mechanic

REMOVE

1. Remove six locknuts (1), washers (2), screws (3), and two grenade stowage boxes (4) from sponson mounts. Discard locknuts.

INSTALL

2. Align two grenade stowage boxes (4) with sponson mounts. Secure with six screws (3), washers (2), and new locknuts (1).



END OF TASK

REPLACE PERISCOPE STOWAGE BOX (M106A2, M1064, AND M125A2 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

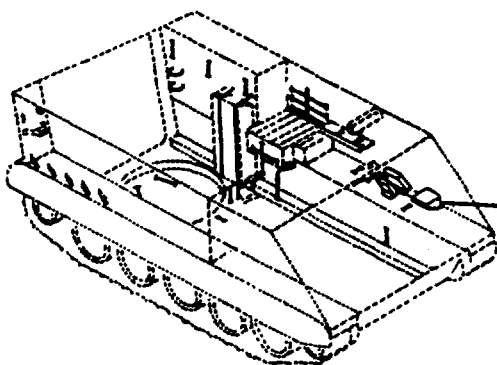
Engine stopped (see your -10)

Carrier blocked (see your -10)

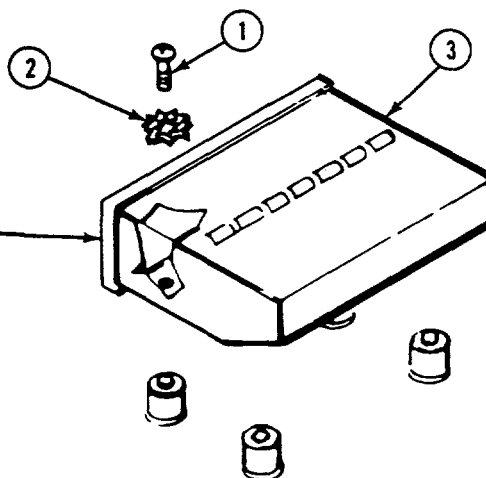
Ramp lowered (see your -10)

REMOVE

1. Remove four screws (1), lockwashers (2), and periscope stowage box (3) from driver's sponson. Discard lockwashers.

**INSTALL**

2. Align periscope stowage box (3) with driver's sponson. Secure with four new lockwashers (2) and screws (1).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE WINDSHIELD STOWAGE BRACKET (M106A2, M1064, AND M125A2 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Adhesive (Item 0.1, App C)
Cotter pin

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

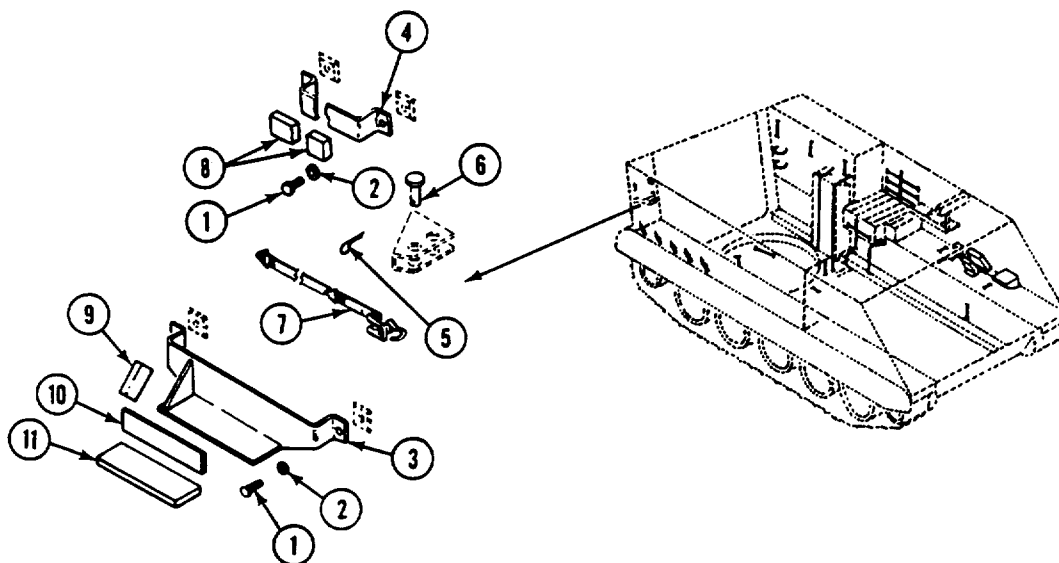
Engine stopped (see your -10)
Carrier blocked (see your -10)

REMOVE

1. Remove four screws (1), washers (2), bracket (3), and retainer (4) from rear bulkhead.
2. Remove cotter pin (5) from pin (6) and strap (7) from bulkhead bracket. Discard cotter pin.
3. If needed, remove pads (8) from retainer (4) and pads (9, 10 and 11) from bracket (3).

INSTALL

4. If removed, apply thin coat of adhesive to pad and mounting surface. Press pads (9, 10, or 11) firmly in place on bracket (3) or pads (8) on retainer (4).
5. Place strap (7) on bulkhead bracket. Secure with pin (6) and new cotter pin (5).
6. Align retainer (4) and bracket (3) with rear bulkhead. Secure with four washers (2) and screws (1).



END OF TASK

**REPLACE SIGHT EXTENSION ARM STOWAGE BRACKETS
(M1064 ONLY)**

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Locknut (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

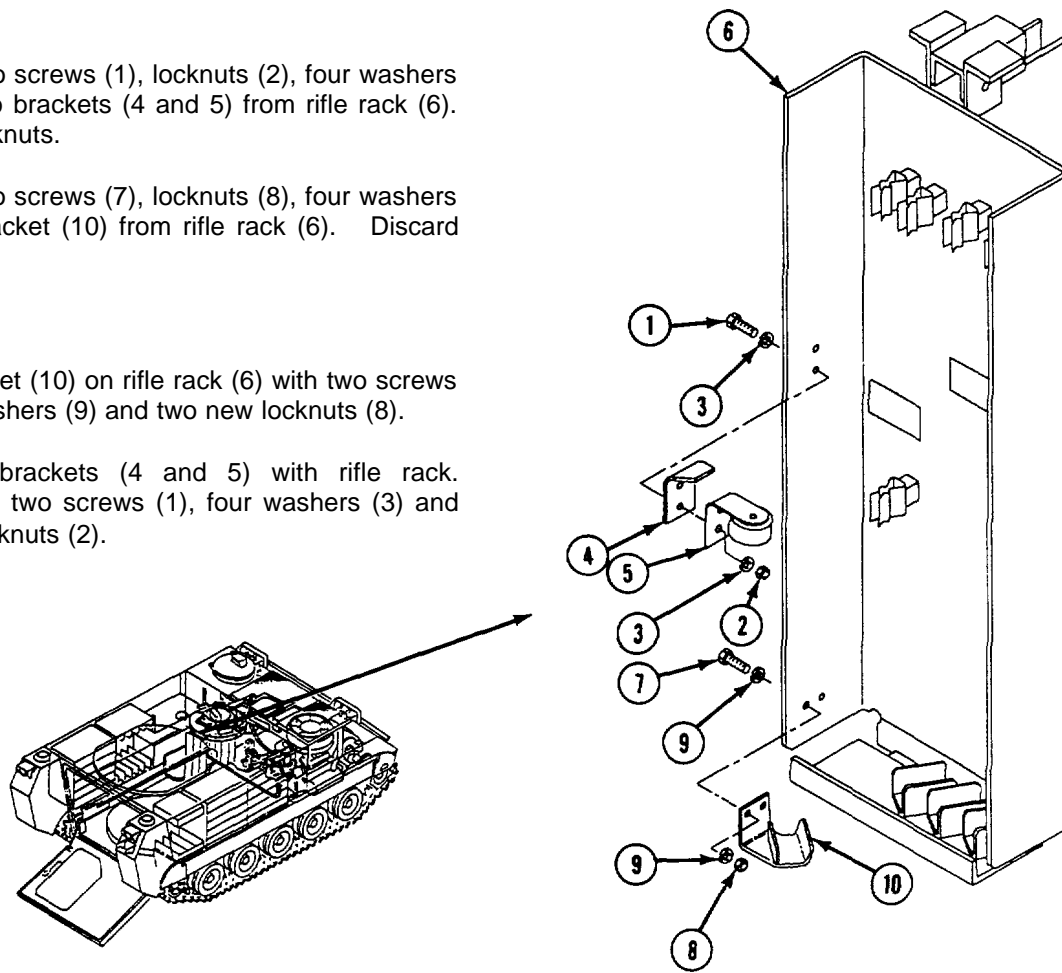
Ramp lowered (see your -10)

REMOVE

1. Remove two screws (1), locknuts (2), four washers (3), and two brackets (4 and 5) from rifle rack (6). Discard locknuts.
2. Remove two screws (7), locknuts (8), four washers (9), and bracket (10) from rifle rack (6). Discard locknuts.

INSTALL

3. Install bracket (10) on rifle rack (6) with two screws (7), four washers (9) and two new locknuts (8).
4. Align two brackets (4 and 5) with rifle rack. Secure with two screws (1), four washers (3) and two new locknuts (2).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

**REPLACE SIGHT EXTENSION ARM STOWAGE BRACKETS
(M106A2 AND M125A2 ONLY)**

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Key washer (2)
Plate

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

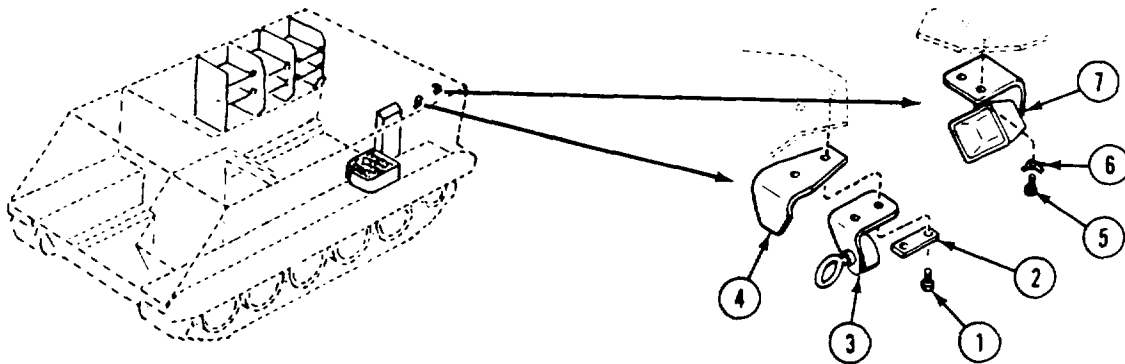
Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)

REMOVE

1. Remove two screws (1), plate (2), bracket (3), and bracket (4) from hull top plate. Discard plate.
2. Remove two screws (5), key washers (6), and bracket (7) from hull top plate. Discard key washers.

INSTALL

3. Align bracket (7) with hull top plate. Secure with two new key washers (6) and screws (5). Bend keys on key washers to secure screws.
4. Align bracket (4) and bracket (3) with hull top plate. Secure with new plate (2) and two screws (1). Bend corners on plate to secure screws.

**FOLLOW-THROUGH STEPS**

1. Raise and lock ramp (see your -10).
 2. Stop engine (see your -10).
-

END OF TASK

REPLACE MORTAR ROTATOR CUSHION ROPE (M106A2 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Rope, 138 inches (351 cm)

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

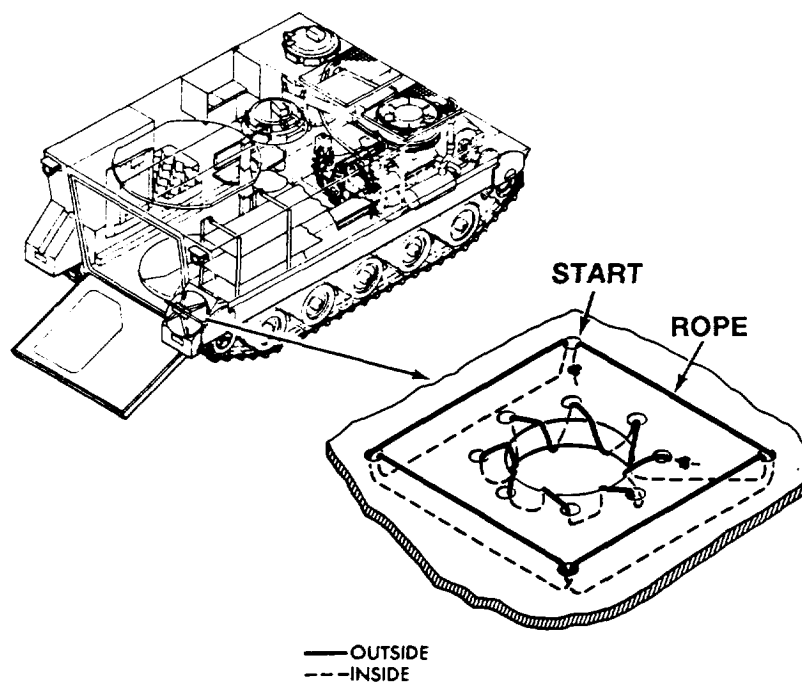
REMOVE**NOTE**

Check rope. Remove only if needed.

1. Untie end of rope or cut into several sections and remove from right fender.

INSTALL

2. Tie figure-eight knot in end of rope.
3. Lace rope through holes in fender, as shown.
4. Pull rope tight through all holes and tie figure-eight knot in other end. Heat ends of rope to prevent unraveling.



END OF TASK

REPLACE MORTAR BASE STOWAGE BRACKET (M1064 ONLY)**INITIAL SETUP****Tools:**

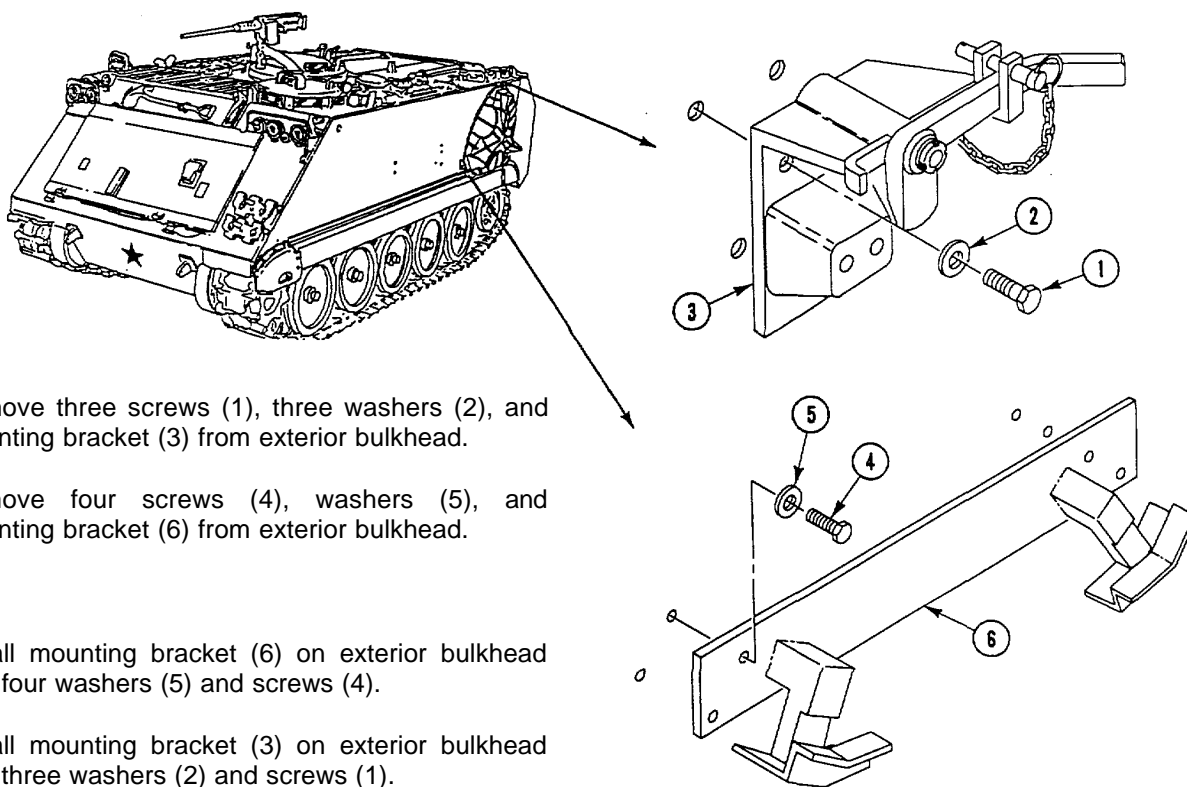
General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Stowage bracket

Personnel Required:

Unit Mechanic

References:See your -10
TM 9-1015-250-10**Equipment Conditions:**Engine stopped (see your -10)
Carrier blocked (see your -10)
Mortar base removed (see TM 9-1015-250-10)**REMOVE**

1. Remove three screws (1), three washers (2), and mounting bracket (3) from exterior bulkhead.
2. Remove four screws (4), washers (5), and mounting bracket (6) from exterior bulkhead.

INSTALL

3. Install mounting bracket (6) on exterior bulkhead with four washers (5) and screws (4).
4. Install mounting bracket (3) on exterior bulkhead with three washers (2) and screws (1).

FOLLOW-THROUGH STEPS

1. Install mortar base (see TM 9-1015-250-10).

END OF TASK

REPLACE MORTAR BASE STOWAGE BRACKET (M106A2 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin
Lockwasher (6)
Spring pin

Personnel Required:

Unit Mechanic

References:

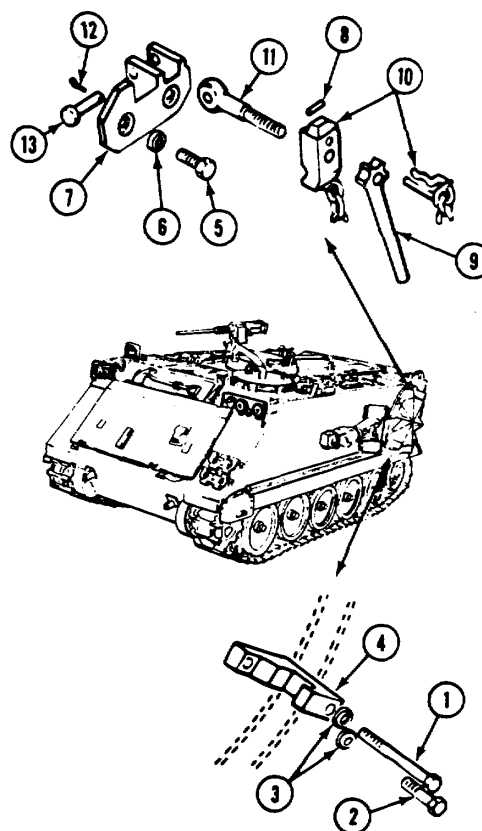
See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Mortar base removed (see your -10)

REMOVE

1. Remove two screws (1), screws (2), four lockwashers (3), and two lugs (4) from exterior bulkhead. Discard lockwashers.
2. Remove two screws (5), lockwashers (6), and clamp bracket (7) from exterior bulkhead. Discard lockwashers.
3. Remove spring pin (8), handle (9), and lug assembly (10) from bolt (11). Discard spring pin.
4. Remove cotter pin (12) from pin (13). Remove pin (13) and bolt (11) from bracket (7). Discard cotter pin.

**INSTALL**

5. Align bolt (11) with bracket (7). Secure with pin (13) and new cotter pin (12).
6. Install lug assembly (10) and handle (9) on bolt (11). Secure with new spring pin (8).
7. Place bracket (7) on exterior bulkhead. Secure with two new lockwashers (6) and screws (5).
8. Place two lugs (4) on exterior bulkhead. Secure with four new lockwashers (3), two screws (2), and screws (1).

FOLLOW-THROUGH STEPS

1. Install mortar base (see your -10)

END OF TASK

REPLACE MORTAR BRIDGE STOWAGE BRACKETS AND BUMPERS (M106A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-256). Install (page 24-257).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Spring pin (2)
Lockwasher (12)
Mortar bridge removed (see your -10)

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

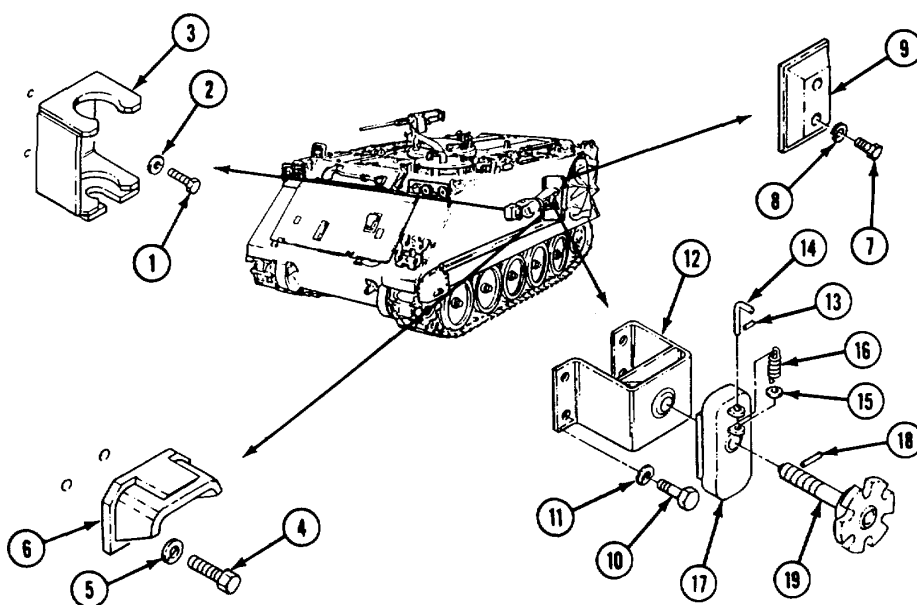
Personnel Required:

Unit Mechanic

REMOVE

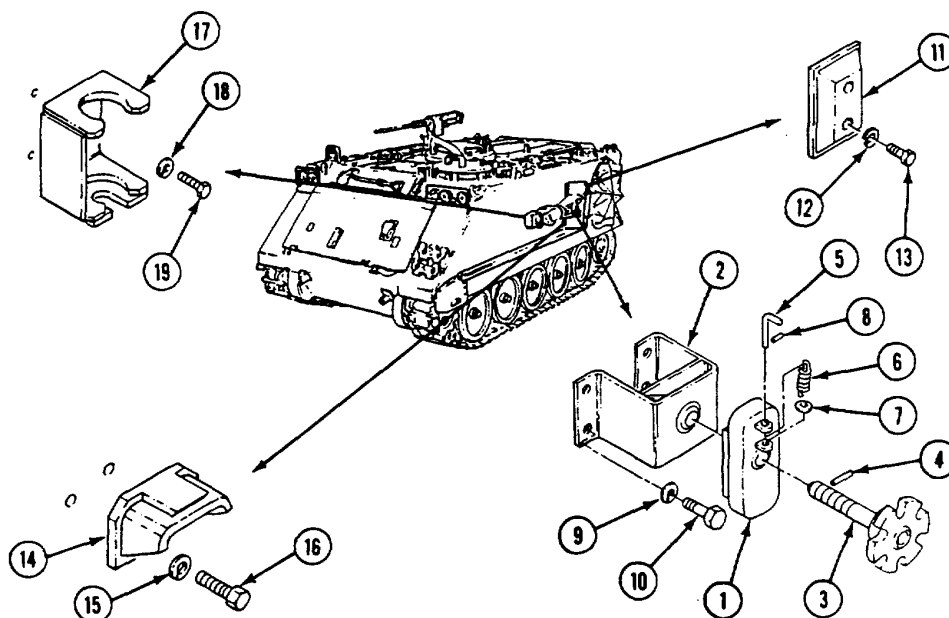
1. Remove two screws (1), lockwashers (2), and bracket (3) from exterior bulkhead. Discard lockwashers.
2. Remove two screws (4), lockwashers (5), and support (6) from exterior bulkhead. Discard lockwashers.
3. Remove four screws (7), lockwashers (8), and two bumpers (9) from exterior bulkhead. Discard lockwashers.

4. Remove four screws (10), lockwashers (11), and clamp support (12) from exterior bulkhead. Discard lockwashers.
5. Remove spring pin (13) from lock pin (14). Remove lock pin, washer (15), and spring (16) from clamp (17). Discard spring pin.
6. Remove spring pin (18) from screws (19). Remove screw, and clamp (17) from support (12). Discard spring pin.



INSTALL

7. Align clamp (1) with clamp support (2) and install screw (3) in support. Secure screw with new spring pin (4).
8. Install lock pin (5), spring (6), and washer (7) in clamp (1). Secure with new spring pin (8).
9. Place clamp support (2) on exterior bulkhead. Secure with four new lockwashers (9) and screw (10).
10. Place two bumpers (11) on exterior bulkhead. Secure with four new lockwashers (12) and screws (13).
11. Place support (14) on exterior bulkhead. Secure with two new lockwashers (15) and screws (16).
12. Place bracket (17) on exterior bulkhead. Secure with two new lockwashers (18) and screws (19).



FOLLOW-THROUGH STEPS

1. Install mortar bridge (see your -10).

END OF TASK

REPLACE MORTAR BASE STOWAGE BRACKETS (M125A2 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (3)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

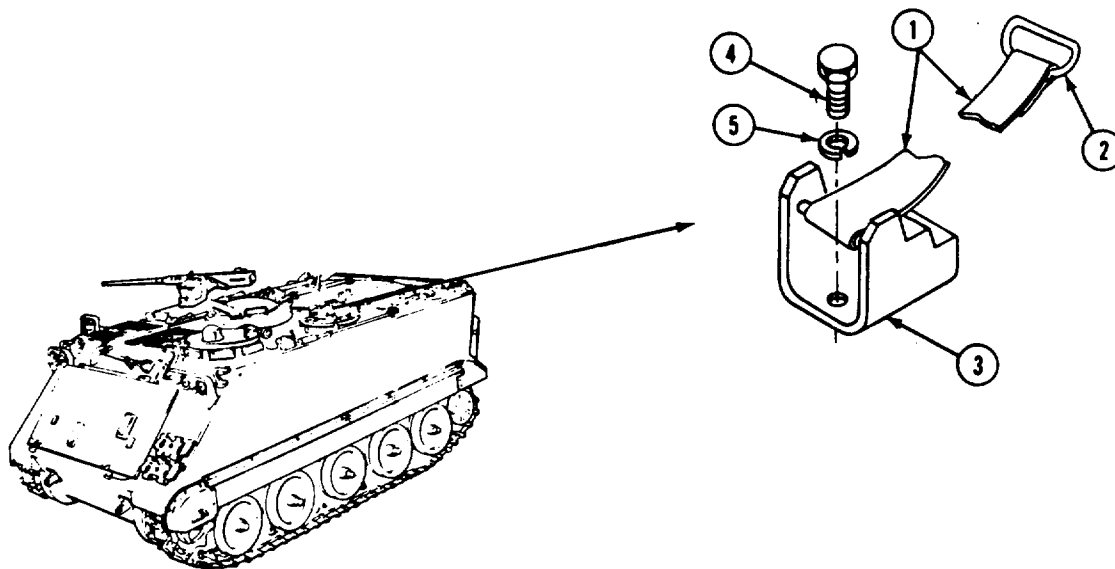
Mortar base removed (see your -10)

REMOVE

1. Release buckles and remove three straps (1) from D-ring (2) and three brackets (3).
2. Remove three screws (4), lockwashers (5), and brackets (3) from hull top plate. Discard lockwashers.

INSTALL

3. Place three brackets (3) on hull top plate. Secure with three new lockwashers (5) and screws (4).
4. Pass three straps (1) through three brackets (3) and D-ring (2) and fasten buckles.

**FOLLOW-THROUGH STEPS**

1. Install mortar base (see your -10).

END OF TASK

REPLACE MORTAR BIPOD STOWAGE COVER AND BRACKETS (M125A2 ONLY)

DESCRIPTION

This task covers: Remove (page 24-259). Install (page 24-260).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Adhesive
Lockwasher (6)
Rubber strip
Seal
Self-locking nut (8)

Personnel Required:

Unit Mechanic

References:

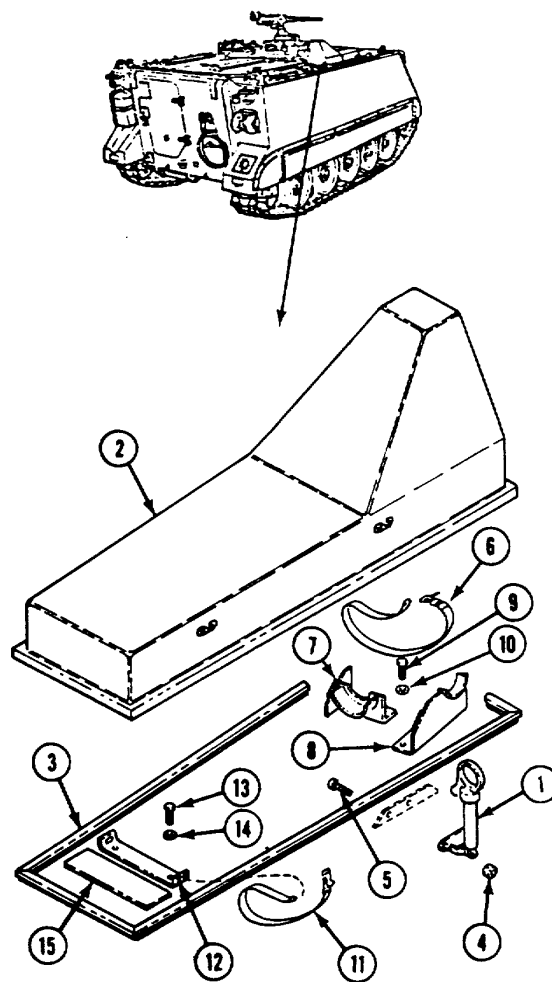
See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

REMOVE

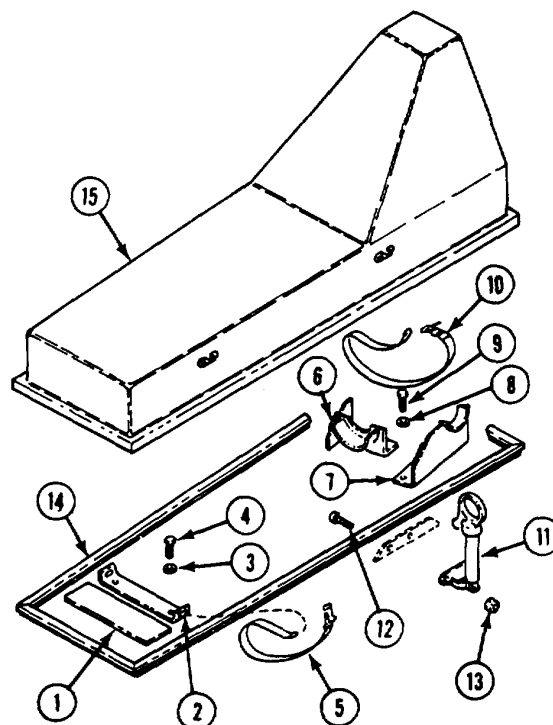
1. Release four catches (1). Remove cover (2) from hull top plate.
2. Remove seal (3) from cover (2). Discard seal.
3. Remove eight locknuts (4), screws (5), and four catches (1) from top plate mounts. Discard locknuts.
4. Remove strap (6) from cradles (7 and 8).
5. Remove four screws (9), lockwashers (10), and cradles (7 and 8) from hull top plate. Discard lockwashers.
6. Remove strap (11) from bracket (12).
7. Remove two screws (13), lockwashers (14), and bracket (12) from hull top plate. Discard lockwashers.
8. Scrape rubber strip (15) from hull top plate. Discard rubber strip.



GO TO NEXT PAGE

INSTALL

9. Apply a thin coat of adhesive to new rubber strip (1) and to clean mating surface on hull top plate. Allow adhesive to become tacky, then press strip firmly into place.
10. Place bracket (2) on hull top plate. Secure with two new lockwashers (3) and screws (4).
11. Install strap (5) in bracket (2). Buckle strap.
12. Place cradles (6 and 7) on hull top plate. Secure with four new lockwashers (8) and screws (9).
13. Install strap (10) in cradles (6 and 7). Buckle strap.
14. Install four catches (11) on top plate mounts. Secure with eight screws (12) and new locknuts (13).
15. Apply a thin coat of adhesive on new seal (14) and on clean mating surface in cover (15). Allow adhesive to become tacky and press seal firmly into groove on cover.
16. Place cover (15) on hull top plate. Secure in place with four catches (11).



END OF TASK

REPLACE STOWAGE RACKS (M741A1 ONLY)**DESCRIPTION**

This task covers: Remove (page 24-261). Install (page 24-262).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Adhesive
 Lockwasher (31)
 Rubber bumper (2)
 Rubber Strip (2)
 Self-locking nut (15)
 Ramp lowered (see your -10)

References:

See your -10

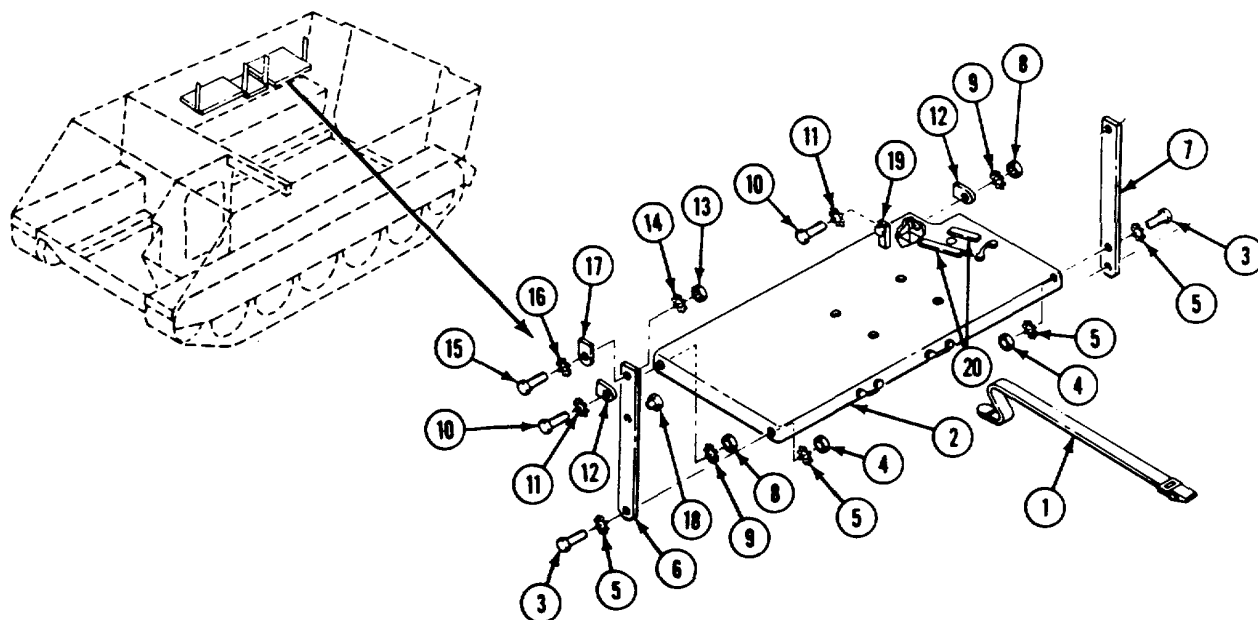
Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)

REMOVE

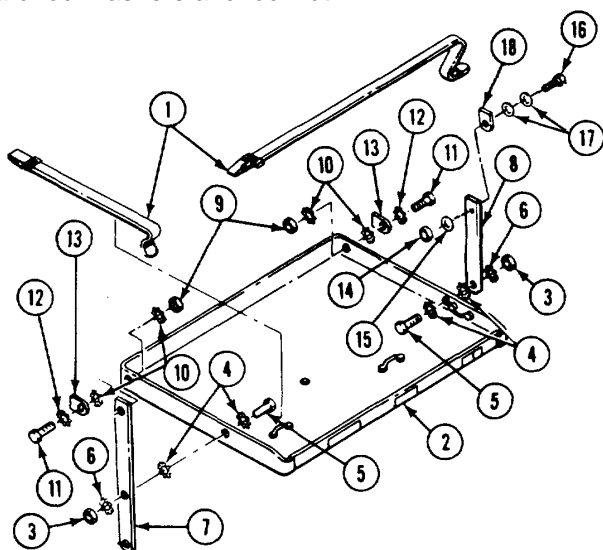
1. Remove three straps (1) from stowage shelf (2).
2. Remove two screws (3), locknuts (4), four lockwashers (5), and stowage shelf (2) from two supports (6 and 7). Discard lockwashers and locknuts.
3. Remove two locknuts (8), lockwashers (9), screws (10), washers (11), and stowage shelf (2) from two lugs (12). Discard lockwashers and locknuts.

4. Remove nut (13), two lockwashers (14), screw (15), washer (16), and support (6) from lug (17). Discard lockwashers.
5. Remove rubber bumper (18) from support (6). Discard bumper.
6. Remove rubber bumper (19) and two rubber strips (20) from stowage shelf (2). Discard bumper and strips.



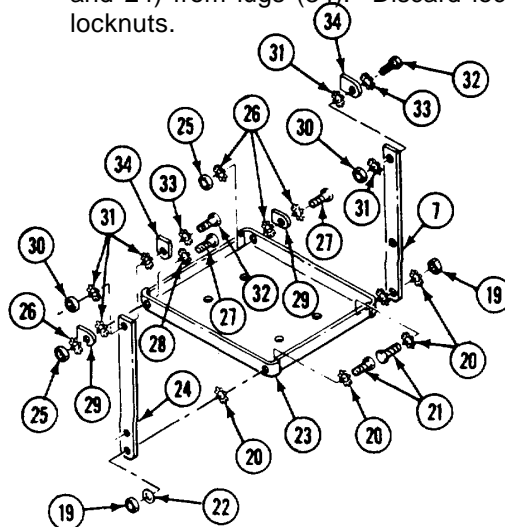
GO TO NEXT PAGE

7. Remove four straps (1) from stowage tray (2).
8. Remove two locknuts (3), four lockwashers (4), two screws (5), washers (6), and stowage tray (2) from two supports (7 and 8). Discard lockwashers and locknuts.
9. Remove two locknuts (9), four lockwashers (10), two screws (11), washers (12), and stowage tray (2) from two lugs (13). Discard lockwashers and locknuts.
10. Remove locknut (14), washer (15), screw (16), two lockwashers (17), and support (8) from lug (18). Discard lockwashers and locknut.



11. Remove two locknuts (19), five lockwashers (20), two screws (21), three washers (22), and stowage tray (23) from two supports (7 and 24). Discard lockwashers and locknuts.
12. Remove two locknuts (25), four lockwashers (26), two screws (27), washers (28), and stowage tray (23) from two lugs (29). Discard lockwashers and locknuts.

13. Remove two locknuts (30), four lockwashers (31), two screws (32), washers (33), and supports (7 and 24) from lugs (34). Discard lockwashers and locknuts.

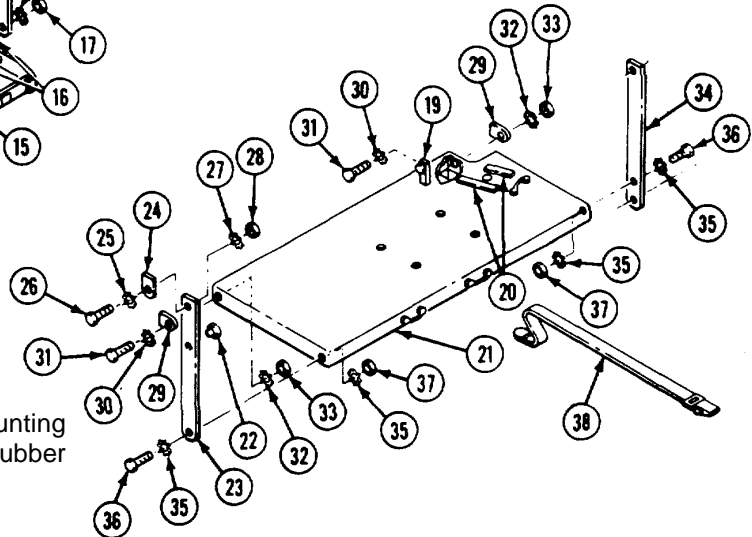
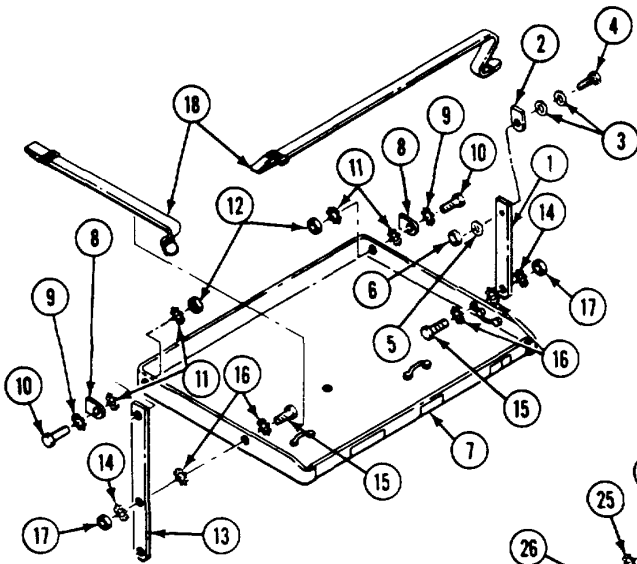


INSTALL

14. Install supports (7 and 24) on two lugs (34). Secure with two washers (33), screws (32), four new lockwashers (31), and two new locknuts (3).
15. Install stowage tray (23) on two lugs (29). Secure with two washers (28), screws (27), four new lockwashers (26), and two new locknuts (25).
16. Install stowage tray (23) on two supports (7 and 24). Secure with three washers (22), two screws (21), five new lockwashers (20), and two new locknuts (19).

17. Install support (1) on lug (2). Secure with two new lockwashers (3), screw (4), washer (5), and new locknut (6).
18. Install stowage tray (7) on two lugs (8). Secure with two washers (9), screws (10), four new lockwashers (11), and two new locknuts (12).
19. Install stowage tray (7) on two supports (1 and 13). Secure with two washers (14), screws (15), four new lockwashers (16), and two new locknuts (17).
20. Install four straps (18) on stowage tray (7). Buckle straps.

23. Apply a thin coat of adhesive to clean mounting surface of new bumper (22). Allow adhesive to become tacky.
24. Install new rubber bumper (22) on support (23).
25. Install support (23) on lug (24). Secure with washer (25), screw (26), two new lockwashers (27), and new locknut (28).
26. Install stowage shelf (21) on two lugs (29). Secure with two washers (30), screws (31), new lockwashers (32), and new locknuts (33).
27. Install stowage shelf (21) on two supports (23 and 34). Secure with four new lockwashers (35), two screws (36), and new locknuts (37).
28. Install three straps (38) on stowage shelf (21). Buckle straps.



21. Apply a thin coat of adhesive to clean mounting surfaces of new bumper (19) and two new rubber strips (20). Allow adhesive to become tacky.
22. Install new rubber bumper (19) and two new rubber strips (20) on stowage shelf (21).

FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10)

END OF TASK

Section XV. STOWAGE SYSTEM MAINTENANCE (M901A1 ONLY)

TASK INDEX

Task	Page	Task	Page
Replace M26 Periscope Mounting Assembly (M901A1 Only)	24-265	Replace Launch Tube Stowage Bracket (M901A1 Only)	24-271
Replace Ammunition Stowage Rack (M901A1 Only)	24-266	Replace Tripod Stowage Brackets (M901A1 Only)	24-272
Replace Missile Rack (M901A1 Only)	24-267	Replace Traversing Unit Mount and Spacer (M901A1 Only)	24-275
Replace Missile Rack Retainers (M901A1 Only)	24-270		

REPLACE M26 PERISCOPE MOUNTING ASSEMBLY (M901A1 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Corrosion preventive compound
(Item 11, App C)
Cotter pin (2)
Gasket
Lockwasher (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine shutdown (see your -10)
Carrier blocked (see your -10)

REMOVE

1. Unlatch two latches (1) and remove periscope (2) from deck (3).
2. Remove four screws (4), lockwashers (5), and washers (6) from periscope mount (7) and deck (3). Remove periscope mount and gasket (8) from deck. Discard lockwashers and gasket.
3. Remove two cotter pins (9), latches (1), springs (10), washers (11) and headless pins (12) with spring pins (13) from periscope mount (7). Discard cotter pins.

NOTE

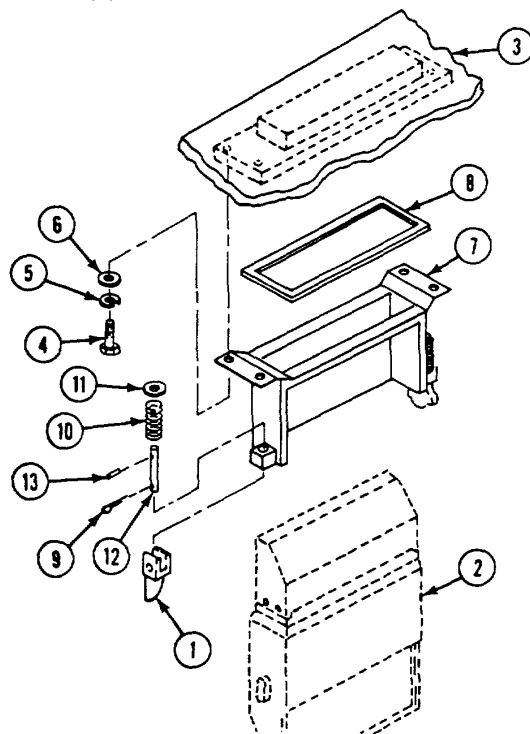
If spring pins are not damaged, go to step 6.

4. If necessary, remove spring pins (13) from headless pins (12).

INSTALL

5. If removed, install new spring pins (13) on headless pins (12).
6. Install two washers (11) and springs (10) on two headless pins (12).
7. Install two headless pins (12) in periscope mount (7).
8. Install two latches (1) and new cotter pins (9) on headless pins (12).

9. Apply corrosion preventive compound to four screws (4).
10. Install new gasket (8) and periscope mount (7) on deck (3). Secure with four washers (6), new lockwashers (5), and screws (4).
11. Install periscope (2) on deck (3). Secure with two latches (1).



END OF TASK

REPLACE AMMUNITION STOWAGE RACK (M901A1 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine shutdown (see your -10)

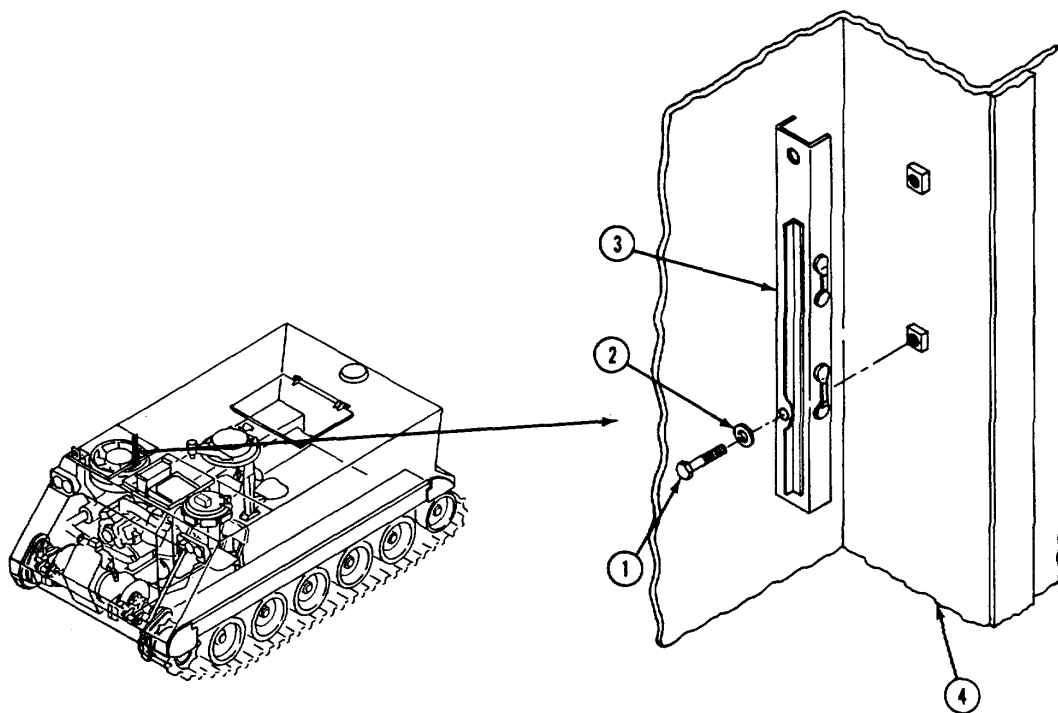
Carrier blocked (see your -10)

REMOVE

1. Remove two screws (1) and washers (2) from ammunition storage rack (3) and sponson (4). Remove storage rack from sponson.

INSTALL

2. Install ammunition storage rack (3) on sponson (4). Secure with two washers (2) and screws (1).



END OF TASK

REPLACE MISSILE RACK (M901A1 ONLY)**DESCRIPTION**

This task covers: Remove (page 24-267). Disassemble (page 24-268). Clean, Inspect, and Repair (page 24-268). Assemble (page 24-268). Install (page 24-269).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 95, App D)
Socket Wrench Set (Item 89, App D)

Materials/Parts:

Adhesive
Dry cleaning solvent (Item 14, App C)
Cotter pin (22)
Lockwasher (2)
Self-locking nut (20)

Personnel Required:

Unit Mechanic

References:

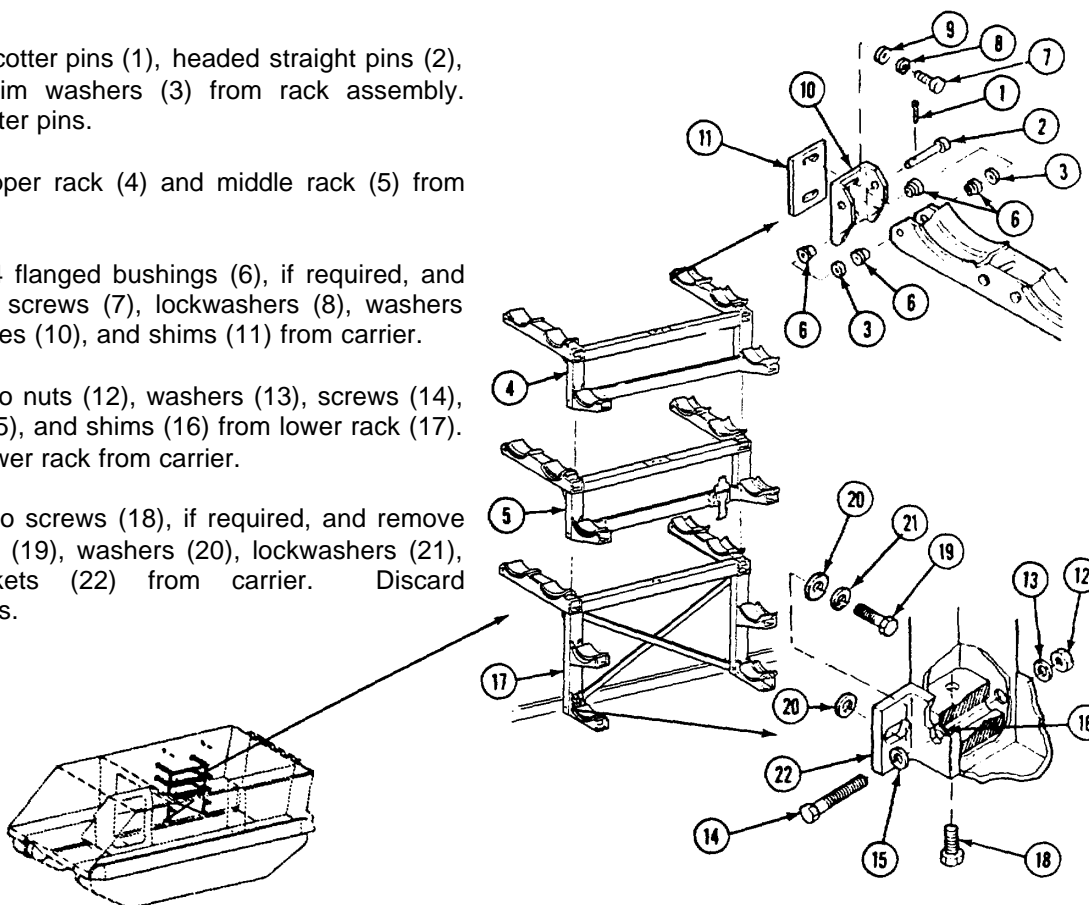
See your -10
See FM 23-23

Equipment Conditions:

Engine shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Missile removed (see your -10)

REMOVE

1. Remove 6 cotter pins (1), headed straight pins (2), and 12 shim washers (3) from rack assembly. Discard cotter pins.
2. Remove upper rack (4) and middle rack (5) from carrier.
3. Remove 24 flanged bushings (6), if required, and remove 12 screws (7), lockwashers (8), washers (9), 6 clevises (10), and shims (11) from carrier.
4. Remove two nuts (12), washers (13), screws (14), washers (15), and shims (16) from lower rack (17). Remove lower rack from carrier.
5. Remove two screws (18), if required, and remove two screws (19), washers (20), lockwashers (21), and brackets (22) from carrier. Discard lockwashers.



GO TO NEXT PAGE

DISASSEMBLE

6. Remove 16 cotter pins (1), headed straight pins (2), and 20 tiedown straps (3) from rack. Discard cotter pins.
7. Remove two pins (4) from upper rack (5).
8. Remove four locknuts (6), washers (7), screws (8), rubber pads (9), and shims (10) from lower rack (11) and middle rack (12). Discard locknuts.
9. Remove 20 missile pads (13) from upper rack (5), middle rack (12), and lower rack (11).
10. Remove 16 locknuts (14), washers (15), screws (16), washers (17), and 4 latches (18) from lower rack (11) and middle rack (12). Discard locknuts.

14. Apply adhesive to 20 missile pads (13), and install pads on upper rack (5), middle rack (12), and lower rack (11).
15. Install two shims (10) and rubber pads (9) on lower rack (11) and middle rack (12). Secure with four screws (8), washers (7), and new locknuts (6).
16. Tighten four screws (8) to 336-384 lb-in (3 to 4 N-m) torque. Use torque wrench and socket set.
17. Install two pins (4) on upper rack (5).
18. Install 20 tiedown straps (3) on missile rack. Secure with 14 headed straight pins (2) and new cotter pins (1).

CLEAN, INSPECT, AND REPAIR

11. Inspect parts for corrosion, distortion, cracks, breaks, and loose or missing parts. Repair or replace damaged or missing parts.

ASSEMBLE

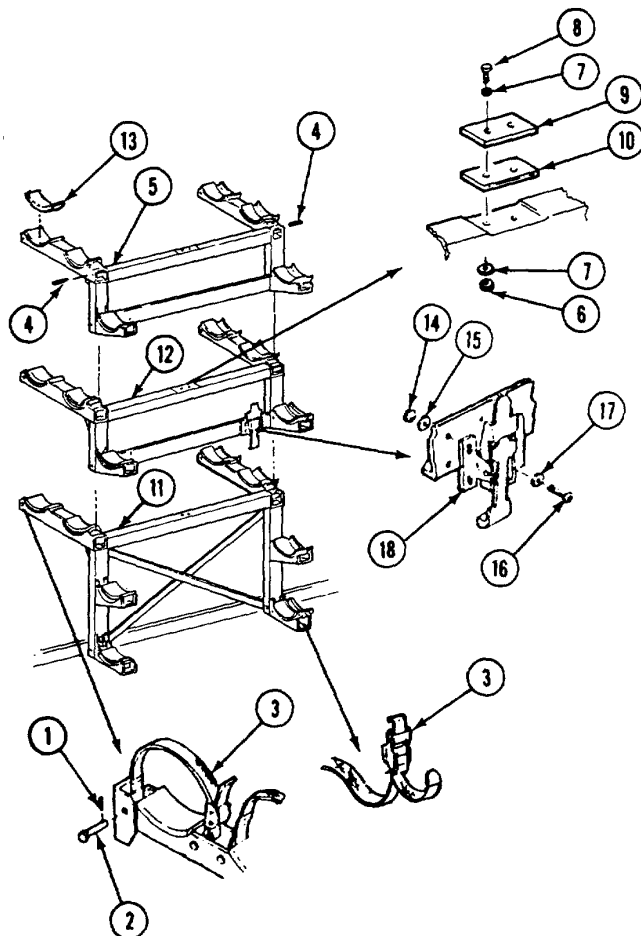
12. Install four latches (18) on middle rack (12) and lower rack (11). Secure with 16 washers (17), screws (16), washers (15), and new locknuts (14).

WARNING



Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

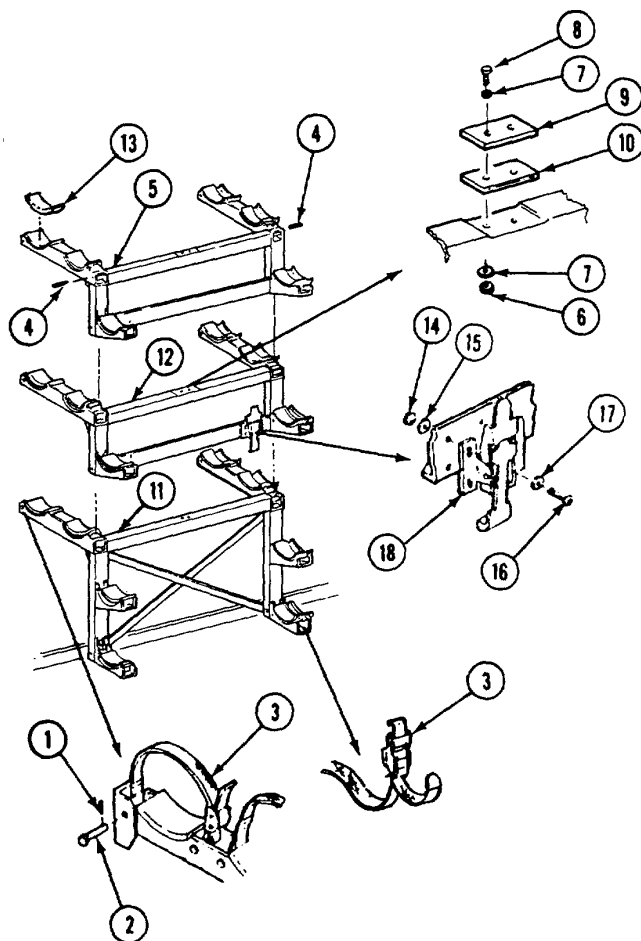
13. Clean pad mounts with dry cleaning solvent.



INSTALL

19. If removed, install two screws (1).
20. Install six shims (2) and clevises (3) on carrier. Secure with 12 washers (4), new lockwashers (5), and screws (6). Do not tighten screws.
21. Install lower rack (7), middle rack (8), and upper rack (9).
22. Install six headed straight pins (10).
23. Tighten 12 screws (6) to secure clevises (3).
24. Remove six headed straight pins (10), upper rack (9), middle rack (8), and lower rack (7).
25. Tighten 12 screws (6) to 216-264 lb-in (24-30 N•m) torque. Use torque wrench and socket set.
26. Install lower rack (7). Secure with eight flanged bushings (11), if removed, four shim washers (12), headed straight pins (10), and new cotter pins (13).
27. Install two brackets (14) on carrier. Secure with two new lockwashers (15), washers (16), and screws (17).
28. Tighten two screws (17) to 216-264 lb-in (24-30 N•m) torque. Use torque wrench and socket set.
29. Install two brackets (14) on lower rack (7). Secure with two washers (18), screws (19), washers (20), and nuts (21).
30. Tighten two screws (19) to 216-264 lb-in (24-30 N•m) torque. Use torque wrench and socket set.

31. Install middle rack (8) and upper rack (9) on carrier. Secure with 16 flanged bushings (11), if removed, 8 shim washers (12), 4 headed straight pins (10), and 4 new cotter pins (13). Use shim washers (12) as required at missile clevis points to ensure no more than 0.002-inch end movement.
32. Adjust latches (22) for positive overcenter locking action.
33. Tighten latch securing screws (23) to 84-108 lb-in (10-12 N•m) torque. Use torque wrench and socket set.



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Shutdown engine (see your -10).

END OF TASK

REPLACE MISSILE RACK RETAINERS (M901A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)
 Torque Wrench (Item 95, App D)
 Torque Wrench (Item 93, App D)
 Wrench Set (Item 89, App D)

Materials/Parts:

Cotter pin (2)
 Lockwasher (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine shutdown (see your -10)
 Carrier blocked (see your -10)

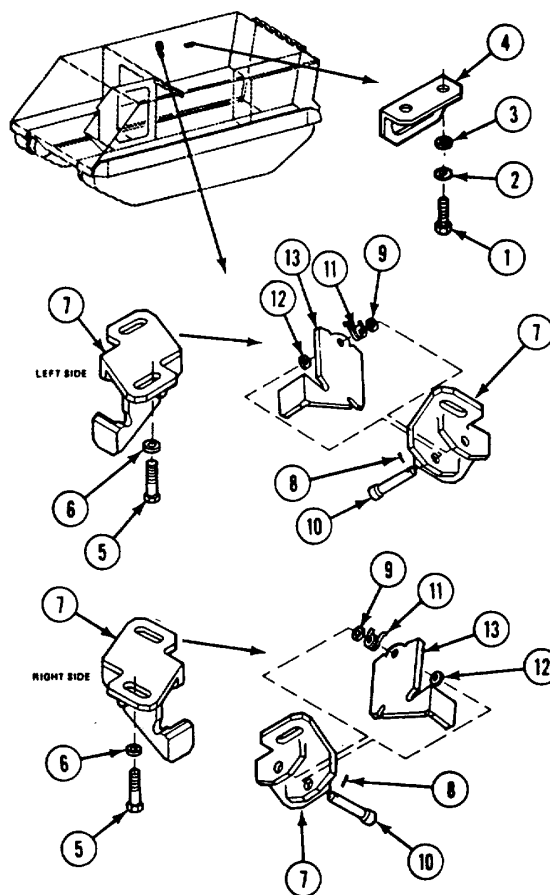
REMOVE

1. Remove four screws (1), lockwashers (2), and washers (3) from two strap retainers (4). Remove strap retainers from carrier. Discard lockwashers.
2. Remove four screws (5) and washers (6) from two latch brackets (7). Remove latch brackets from carrier.
3. Remove two cotter pins (8), washers (9), headed straight pins (10), torsion springs (11), and washers (12) from retainer latches (13) and latch brackets (7). Remove retainer latches from latch brackets. Discard cotter pins.

INSTALL

4. Install two retainer latches (13) on latch brackets (7). Secure with two washers (12), torsion springs (11), headed straight pins (10), washers (9), and new cotter pins (8).
5. Install two latch brackets (7) on carrier with slot toward bulkhead. Secure with four washers (6) and screws (5).
6. Tighten screws (5) to 216-264 lb-in (24-30 N•m) torque. Use torque wrench and 3/8 drive wrench set.
7. Install two strap retainers (4) on carrier. Secure with four washers (3), new lockwashers (2), and screws (1).

8. Tighten screws (1) to 72-84 lb-in (8-10 N•m) torque. Use torque wrench and 3/8 drive wrench set.



END OF TASK

REPLACE LAUNCH TUBE STOWAGE BRACKET (M901A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin
Lockwasher (10)

Personnel Required:

Unit Mechanic

References:

See your -10

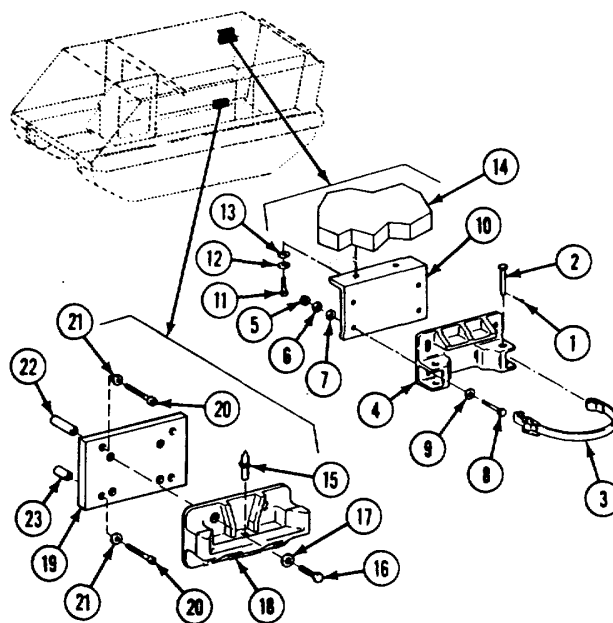
Equipment Conditions:

Engine shutdown (see your -10)
Carrier blocked (see your -10)
Launch tube removed (see your -10)

REMOVE

1. Remove cotter pin (1), headed straight pin (2), strap (3) and upper support (4). Remove strap. Discard cotter pin.
2. Remove four nuts (5), lockwashers (6), washers (7), screws (8), and washers (9) from upper support (4) and bracket (10). Remove support from bracket. Discard lockwashers.
3. Remove two screws (11), lockwashers (12), and washers (13) from bracket (10) and hull (14). Remove bracket. Discard lockwashers.
4. Remove pin (15), four screws (16), and washers (17) from lower support (18) and plate (19). Remove lower support.
5. Remove four screws (20), lockwashers (21), two spacers (22), and two spacers (23) from plate (19) and hull. Remove plate. Discard lockwashers.

8. Install bracket (10) on hull (14). Secure with two washers (13), new lockwashers (12), and screws (11).
9. Install upper support (4) on bracket (10). Secure with four washers (9), washers (7), new lockwashers (6), screws (8), and nuts (5).
10. Install strap (3) on upper support (4). Secure with headed straight pin (2) and new cotter pin (1).

**INSTALL**

6. Install plate (19) on hull. Secure with two spacers (23), spacers (22), four new lockwashers (21), and screws (20).
7. Install lower support (18) on plate (19). Secure with four washers (17), screws (16), and pin (15).

FOLLOW-THROUGH STEPS

1. Install launch tube (see your -10).
2. Shutdown engine (see your -10).

END OF TASK

REPLACE TRIPOD STOWAGE BRACKETS (M901A1 ONLY)**DESCRIPTION**

This task covers: Remove (page 24-272). Install (page 24-273).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 95, App D)
Torque Wrench (Item 96, App D)

Materials/Parts:

Cotter pin
Cotter pin (2)
Cotter pin (2)
Lockwasher (3)
Lockwasher (2)
Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

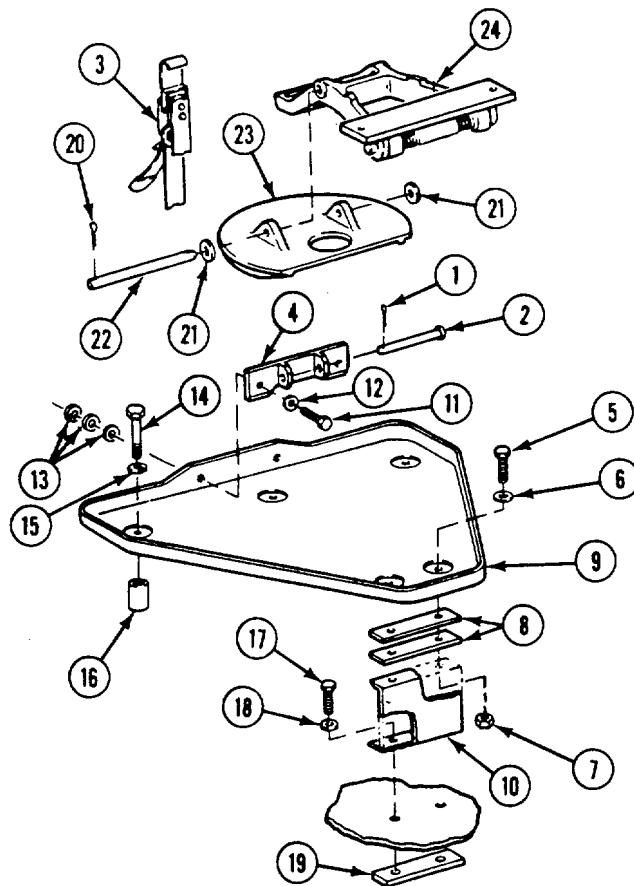
See your -10

Equipment Conditions:

Engine shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Tripod removed (see your -10)

REMOVE

1. Remove cotter pin (1), headed straight pin (2), and restraining strap (3) from tripod plate strap (4).
2. Remove two screws (5), washers (6), locknuts (7), and support shims (8) from lower support bracket (9) and support channel (10). Remove support bracket from support channel. Discard locknuts.
3. Remove two screws (11), washers (12), six washers (13), and tripod plate strap (4) from lower support bracket (9).
4. Remove three screws (14), lockwashers (15), and spacers (16) from lower support bracket (9). Remove lower support bracket from carrier. Discard lockwashers.
5. Remove two screws (17) and washers (18) from support channel (10) and floorboard. Remove support channel and support cushion (19) from under floorboard.
6. Remove two cotter pins (20), washers (21), and cap pivot pin (22) from tripod tiedown cap (23) and tripod tiedown arm (24). Remove tripod tiedown cap from tripod tiedown arm. Discard cotter pins.



7. Remove two cotter pins (1), support pivot pin (2), spring (3), spacer (4), and spring (5) from tripod tiedown support (6) and tripod tiedown arm (7). Remove tripod tiedown arm from tripod tiedown support. Discard cotter pins.
8. Remove two screws (8), lockwashers (9), and washers (10) from tripod tiedown support (6). Remove tripod tiedown support from hull. Discard lockwashers.

INSTALL

9. Install tiedown support (6) on hull. Secure with two washers (10), new lockwashers (9), and screws (8).
10. Tighten two screws (8) to 216-264 lb-in (24-30 N-m) torque. Use torque wrench.
11. Install tripod tiedown arm (7) on tiedown support (6). Secure with spring (5), spacer (4), spring (3), pivot support pin (2), and two new cotter pins (1).

NOTE

Short end of springs touch tripod tiedown support and long ends touch grooved slot of tripod tiedown arm.

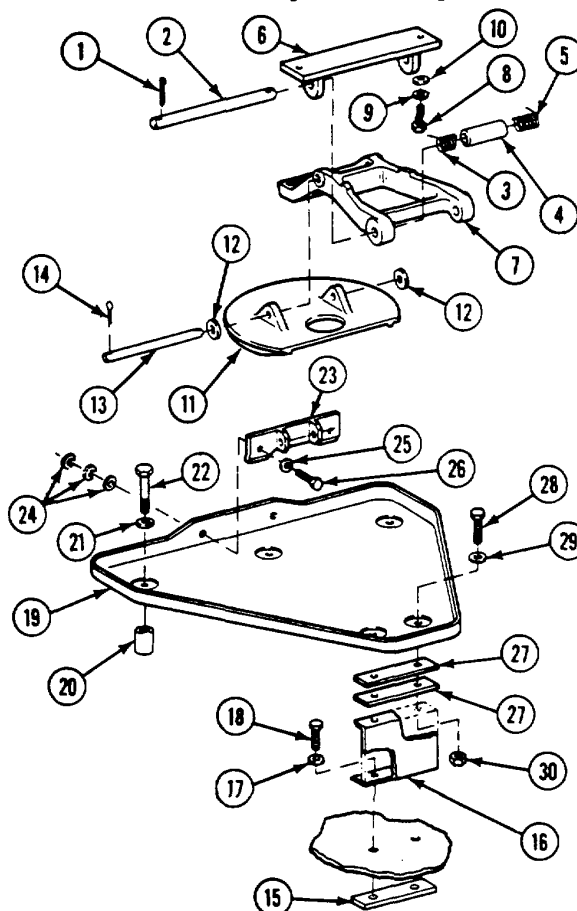
12. Install tripod tiedown cap (11) on tripod tiedown arm (7). Secure with two washers (12), cap pivot pin (13), and two new cotter pins (14).

NOTE

Flat edge of tripod tiedown cap must face springs.

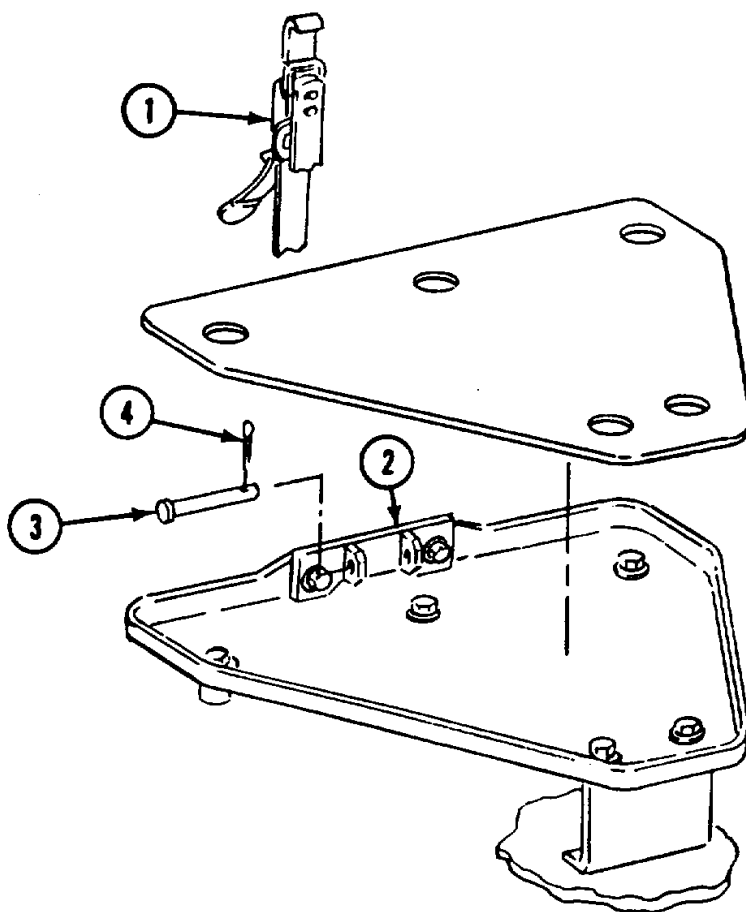
13. Install support cushion (15) and support channel (16) on floorboard. Secure with two washers (17) and screws (18).
14. Tighten two screws (18) to 72-84 lb-in (8-10 N-m) torque. Use torque wrench.

15. Install lower support bracket (19) on carrier. Secure with three spacers (20), new lockwashers (21), and screws (22).
16. Tighten two screws (22) to 72-84 lb-in (8-10 N-m) torque. Use torque wrench.
17. Install tripod plate strap (23) on lower support bracket (19). Secure with six washers (24), two washers (25), and screws (26).
18. Tighten two screws (26) to 50-55 lb-ft (68-75 N-m) torque. Use torque wrench.
19. Install two support shims (27) and lower support bracket (19) on support channel (16). Secure with two screws (28), washers (29), and new locknuts (30).
20. Tighten two screws (28) to 84-108 lb-in (10-12 N-m) torque. Use torque wrench.



GO TO NEXT PAGE

21. Install restraining strap (1) on tripod plate strap (2). Secure with headed straight pin (3) and new cotter pin (4).



FOLLOW-THROUGH STEPS

- | | |
|--|---|
| <p>1. Install tripod (see your -10).</p> <p>2. Raise and lock ramp (see your -10).</p> | <p>3. Shutdown engine (see your -10).</p> |
|--|---|
-

END OF TASK

REPLACE TRAVERSING UNIT MOUNT AND SPACER (M901A1 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (4)

Lockwasher (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

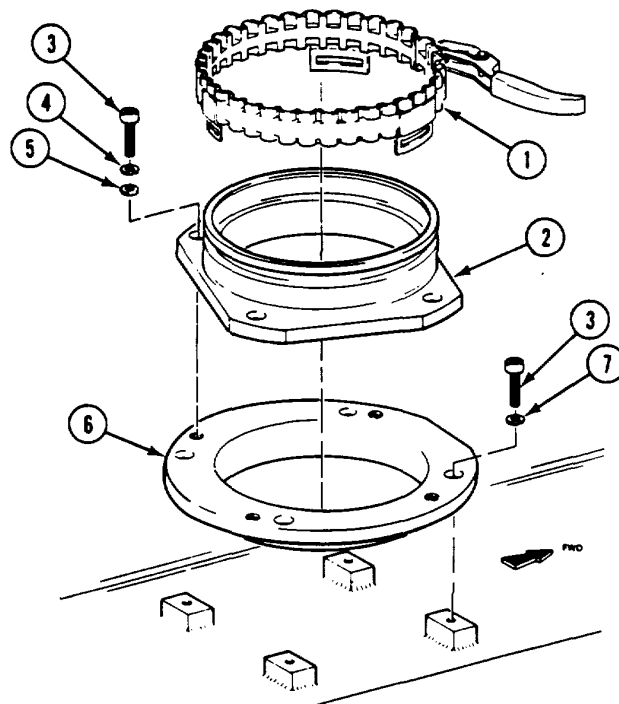
M59 traversing unit removed (see your -10)

REMOVE

1. Remove clamp strap (1) from mount (2).
2. Remove four screws (3), lockwashers (4), and washers (5), from mount (2) and spacer (6). Remove mount from spacer. Discard lockwashers.
3. Remove four screws (3) and lockwashers (7) from spacer (6). Remove spacer (6) from carrier. Discard lockwashers.

INSTALL

4. Install spacer (6) on carrier. Secure with four new lockwashers (7) and screws (3).
5. Install mount (2) on spacer (6). Secure with four washers (5), new lockwashers (4), and screws (3).
6. Install clamp strap (1) on mount (2).

**FOLLOW-THROUGH STEPS**

1. Install M59 traversing unit (see your -10).
 2. Raise and lock ramp (see your -10).
 3. Shutdown engine (see your -10).
-

END OF TASK

Section XVI. ANTENNA MAST MAINTENANCE (M1068 ONLY)

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace/Repair Antenna Mast Bracket Assembly	24-276	Replace Heater Control Box and Intercom Box Bracket	24-284

REPLACE/REPAIR ANTENNA MAST BRACKET ASSEMBLY, TAIL LIGHT WIRING HARNESS, AND BRACKET (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 24-276). Clean, Inspect, and Repair (page 2-30). Install (page 24-279).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10
TM 11-7010-256-12&P

Materials/Parts:

- Cotter Pin
- Lockwasher
- Lockwasher (4)
- Self-locking nut (2)

Equipment Conditions:

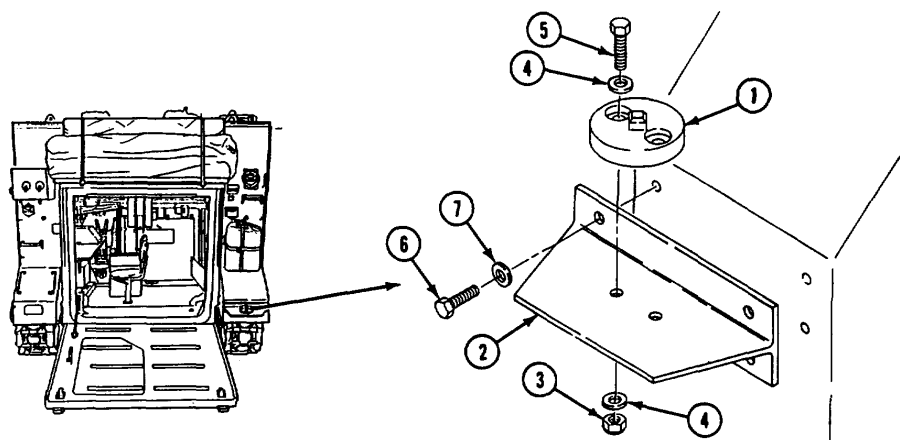
- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)
- Antenna mast removed (see TM 11-7010-256-12&P)
- All external power disconnected (see TM 11-7010-256-12&P)
- Battery ground leads disconnected (page 13-2)

Personnel Required:

Unit Mechanic

REMOVE

1. Remove securing pad (1) from bracket (2).
 - a. Remove two locknuts (3), four washers (4), screws (5), and securing pad (1) from bracket (2). Discard locknuts.
2. Remove bracket (2) from fender.
 - a. Remove four screws (6), washers (7), and bracket (2) from fender.

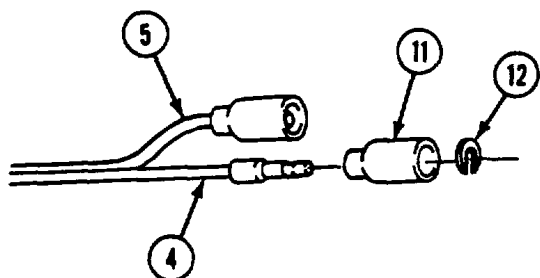
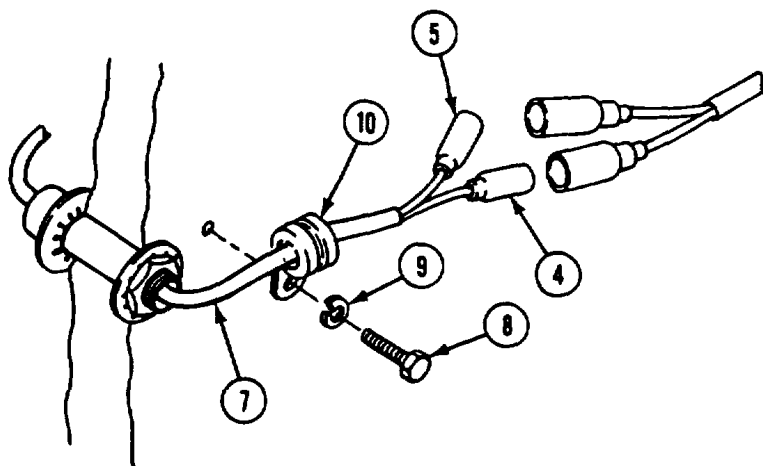
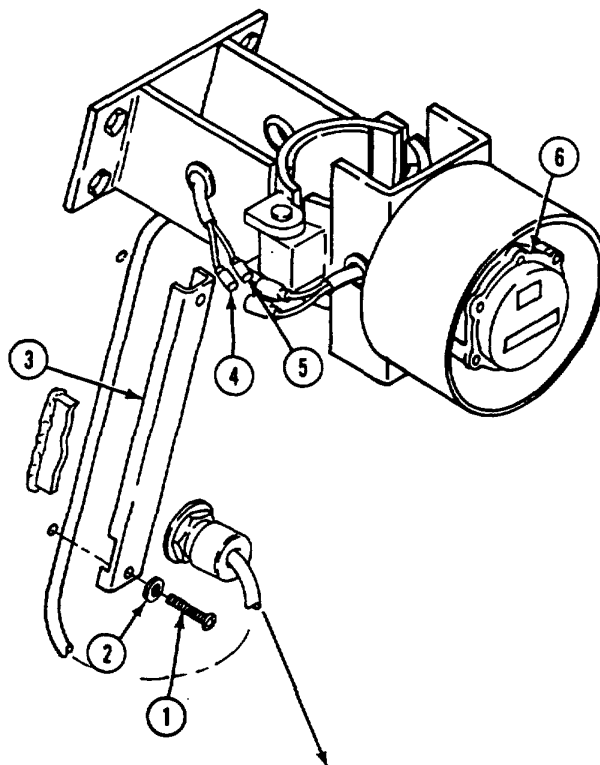


3. Remove two screws (1), washers (2), and guard (3) from hull.

NOTE

There are two sets of circuit 23 and 24 leads. One set connects inside the vehicle and the other sets connects outside the vehicle.

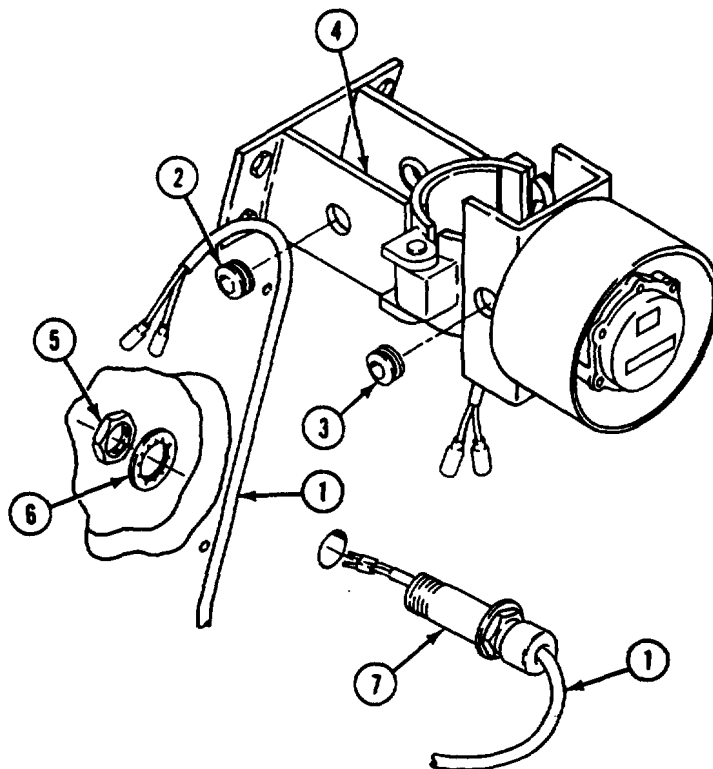
4. Disconnect circuits 23 and 24 leads (4 and 5) from right tail light (6).
5. Disconnect tail light wiring harness (7) inside vehicle.
 - a. Remove screw (8), lockwasher (9), and clamp (10) securing tail light wiring harness (7) to rear of hull. Discard lockwasher.
6. Disconnect leads circuit 23 (4) and circuit 24 (5) connectors.
 - a. Slide two shells (11) up connectors (4 and 5).
 - b. Remove two washers (12) from connectors (4 and 5).
 - c. Remove two shells (11) off connectors (4 and 5).



GO TO NEXT PAGE

7. Remove tail light wiring harness (1) with shield from hull.

- a. Remove tail light wiring harness (1) from two grommets (2 and 3) in antenna mast bracket (4).
- b. Remove nut (5) and lockwasher (6) from shield (7) containing tail light wiring harness (1). Pull wiring harness and shield toward the rear and through the mounting hole in the vehicle.



8. Remove two grommets (2 and 3) from antenna mast bracket (4).

9. Remove tail light (8).

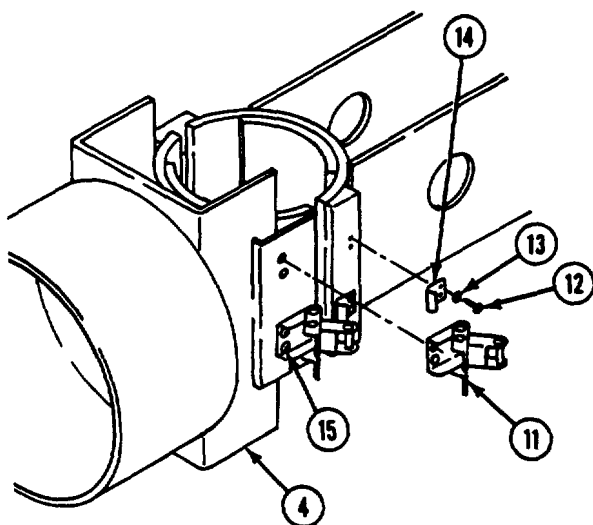
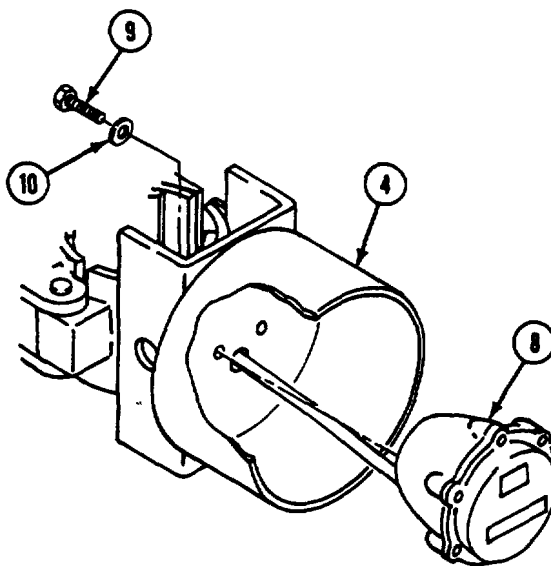
- a. Remove two screws (9), washers (10), and tail light from antenna mast bracket (4).

NOTE

If catches are damaged, do step 10 b.

10. Unlatch two catches (11) on antenna mast bracket (4).

- a. Remove four screws (12), lockwashers (13), and two strike (14) from antenna mast bracket (4). Check catches for damage. Discard lockwashers.
- b. Drill out four rivets (15) securing catch (11) to bracket (4). Remove and discard catch and rivets.



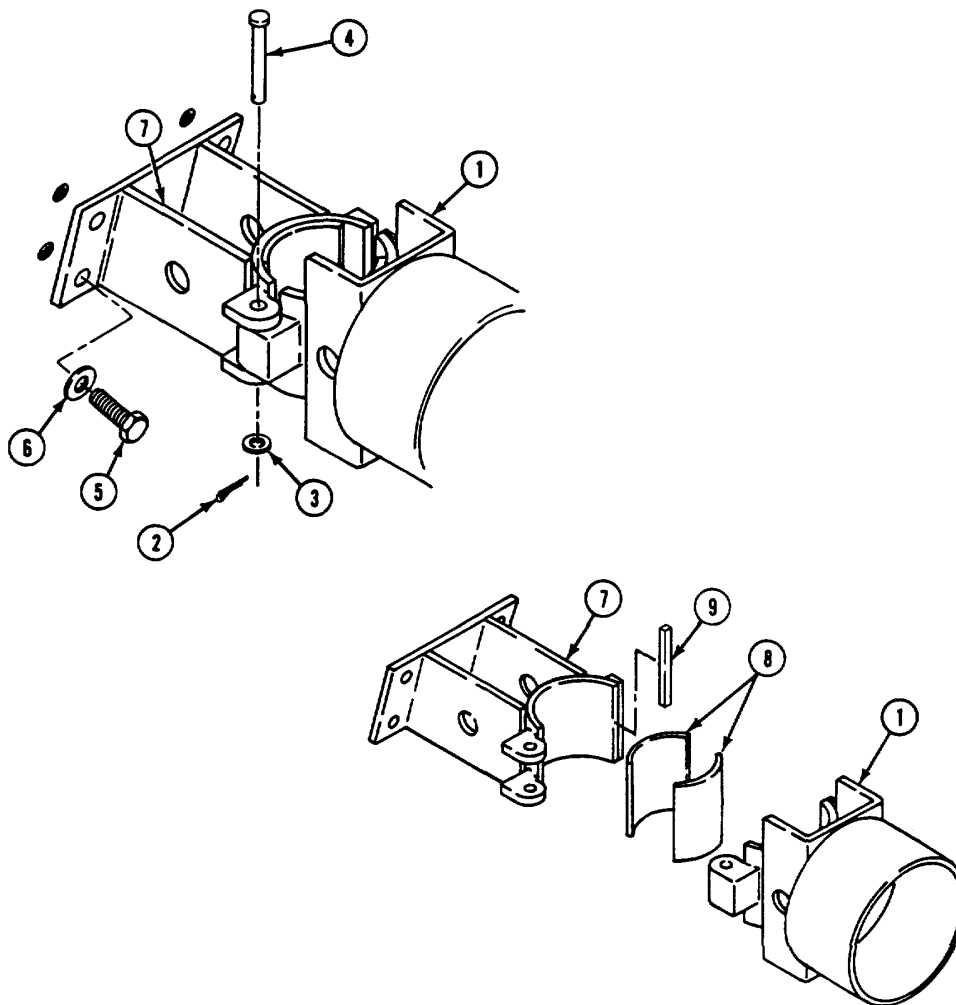
11. Remove hinged portion of antenna mast bracket (1).
 - a. Remove cotter pin (2), washer (3), hinge pin (4), and the front portion of antenna mast bracket (1). Discard cotter pin.
12. Remove four screws (5), washers (6), and that portion of the antenna mast bracket (7) against the right rear hull.
13. Replace rubber pads (8 and 9) on antenna mast brackets (1 and 7).
 - a. If damaged, remove rubber pads (8 and 9) from brackets (1 and 7). Clean off all excess adhesive . Use cleaning solvent and rags.

INSTALL

NOTE

Replace damaged rubber pads.

14. Install new rubber pads (8 and 9) on antenna mast brackets (1 and 7).
 - a. Apply a thin, even coat of adhesive to the rubber pad surfaces (8 and 9). Allow to dry 20 to 40 minutes. Apply a thin, even coat of adhesive to the inside of the brackets (1 and 7). Allow to dry 30 to 120 seconds. Press the surfaces of the rubber pads (8) and brackets (1 and 7) with the adhesive on them together firmly.



GO TO NEXT PAGE

15. Install stationary part of antenna mast (1) to right rear of hull.

- a. Install antenna mast (1), four washers (2), and screws (3) to right rear of hull.

16. Install hinged portion of antenna mast (4).

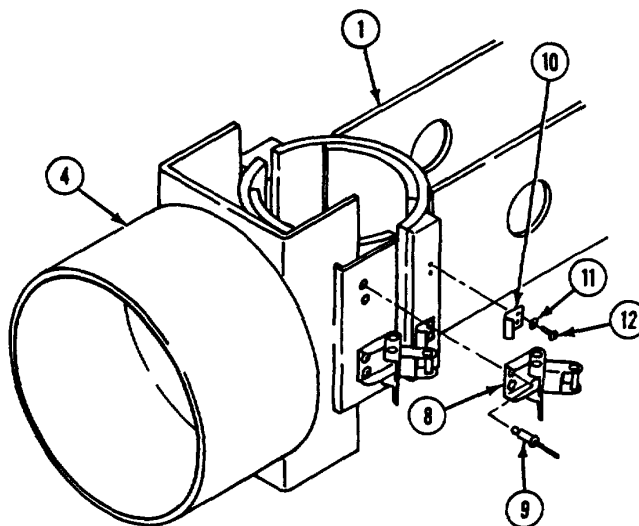
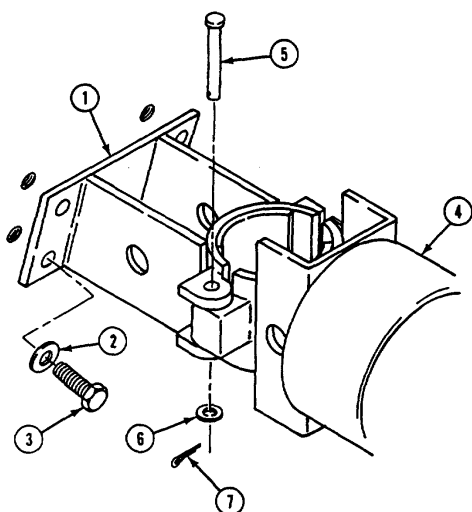
- a. Install antenna mast (4), hinge pin (5), washer (6), and new cotter pin (7).

NOTE

If catches were remove in step 10 b, do step 17 a.

17. Latch two catches (8) on antenna mast brackets (1 and 4).

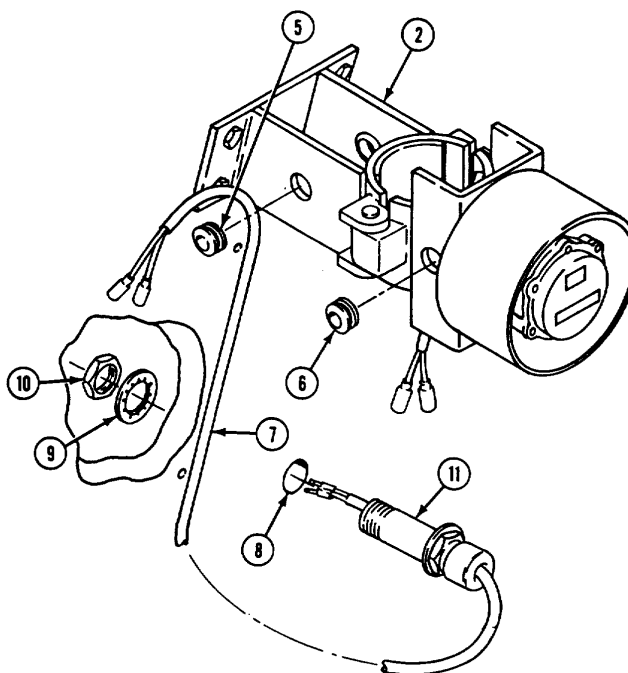
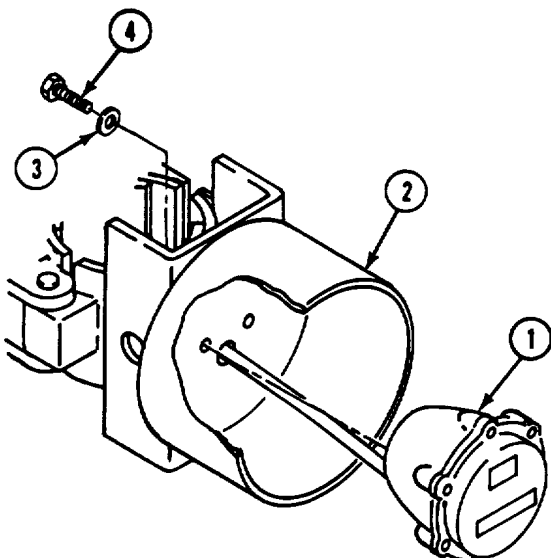
- a. Install two catches (8) and four rivets (9) to antenna bracket (1).
- b. Install two strike (10), four new lockwashers (11), and screws (12) on antenna mast (4). Tighten screws securely.



18. Install tail light (1) to antenna mast bracket (2).
 - a. Install tail light (1) , two washers (3), and screws (4) on antenna mast bracket (2). Tighten screws securely.
19. Install two grommets (5 and 6) in antenna mast (2).

20. Install tail light wiring harness (7) with shield through mounting hole (8) in hull.

- a. Install new lockwasher (9) and nut (10) over circuit leads and onto shield (11). Tighten nut securely on shield.
- b. Install the other end of wiring harness (7) through grommet (5) on antenna mast bracket (2). Route wires and connectors for tail light through grommet (6)



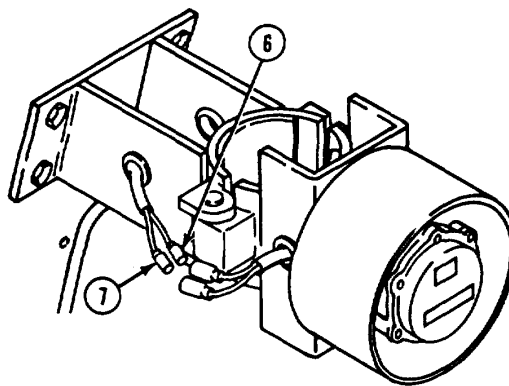
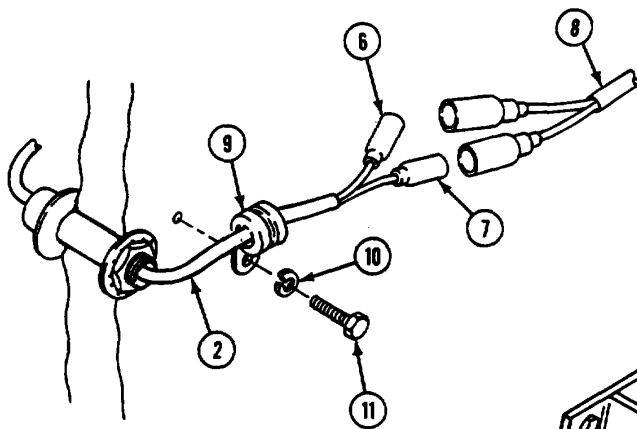
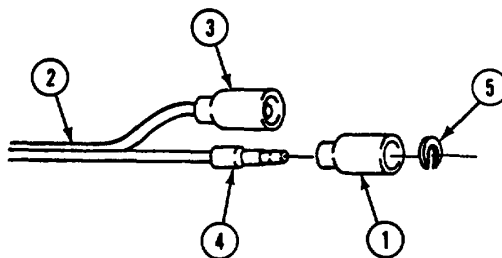
GO TO NEXT PAGE

NOTE

There are two circuit leads 23 and 24. One set connects inside the vehicle and one set connects outside the vehicle.

21. Install shells (1) on wiring harness (2) inside of vehicle.
 - a. Install shells (1) on connectors (3) and (4).
 - b. Install washers (5) for holding pins in place on connectors (3) and (4).
 - c. Slide shells up connectors (3) and (4).

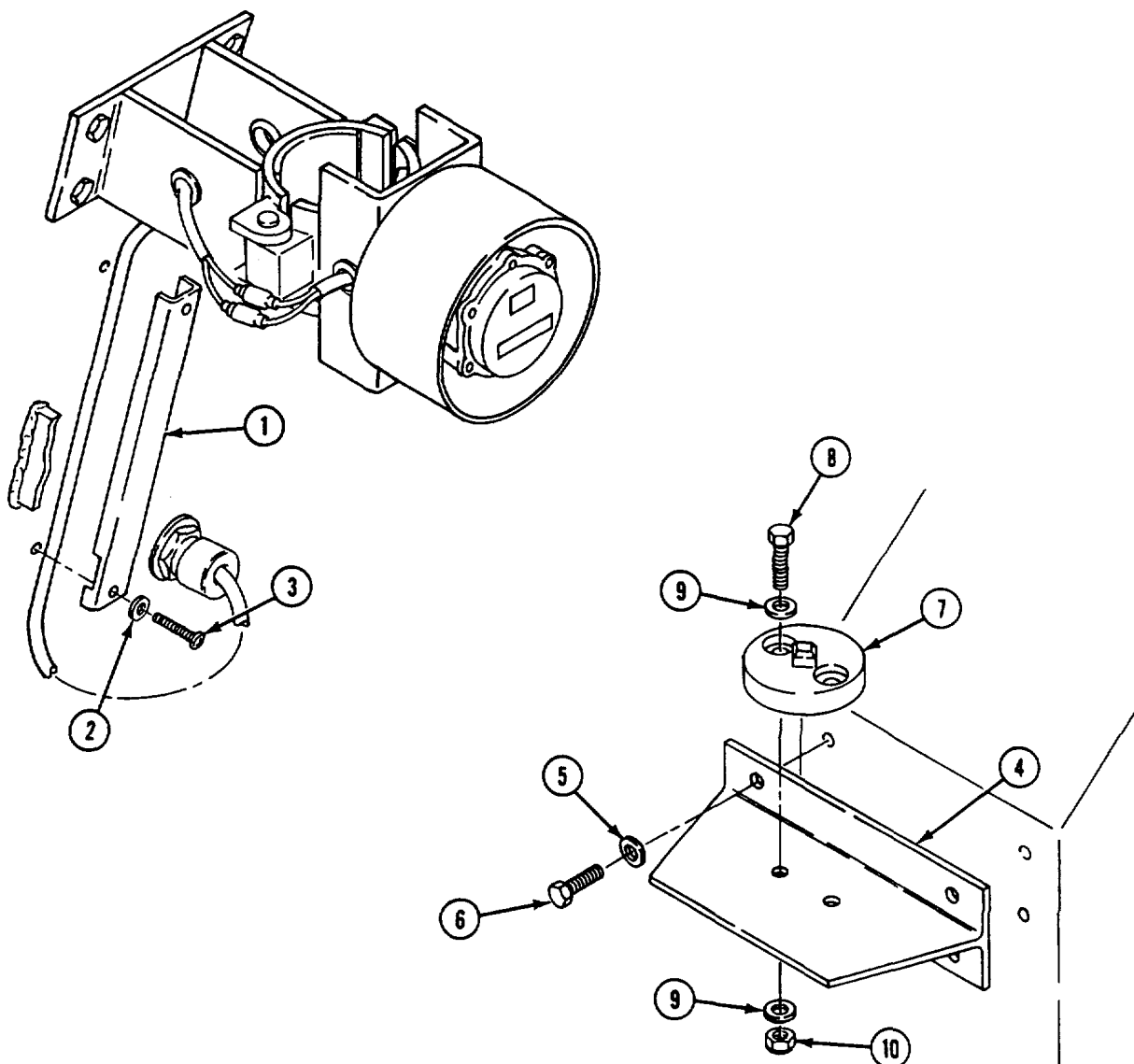
22. Connect tail light wiring harness (2) inside vehicle.
 - a. Connect circuit lead 23 (6) and circuit lead 24 (7) to main rear wiring harness (8).
 - b. Install tail light wiring harness (2), clamp (9), new lockwasher (10) and screw (11) to the rear of hull.
23. Connect circuit leads 23 (6) and 24 (7) to tail light leads.



24. Install guard (1), washers (2), and screws (3) on hull.

25. Install bracket (4), four washers (5), and screws (6) on fender.

26. Install securing pad (7), two screws (8), four washers (9), and new locknuts (10) on bracket (4).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE PERSONNEL HEATER CONTROL BOX AND INTERCOM BOX BRACKET (M1068 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)
Electrical Tool Kit (Item 75, App D)

Materials/Parts:

Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

See your -10

References: (cont):

TM 11-7010-256-12&P

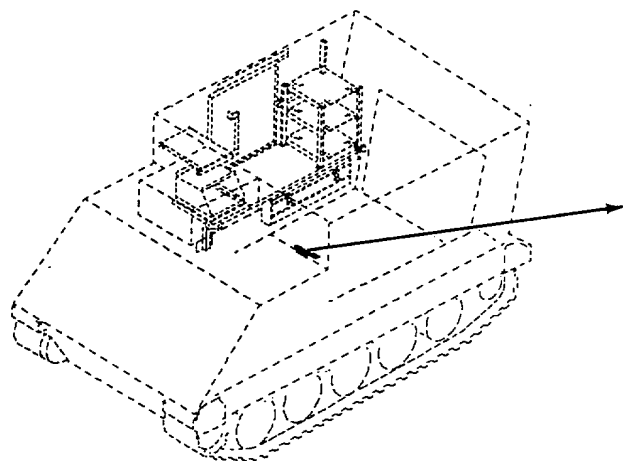
Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Personnel heater control box removed
(page 29-42)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

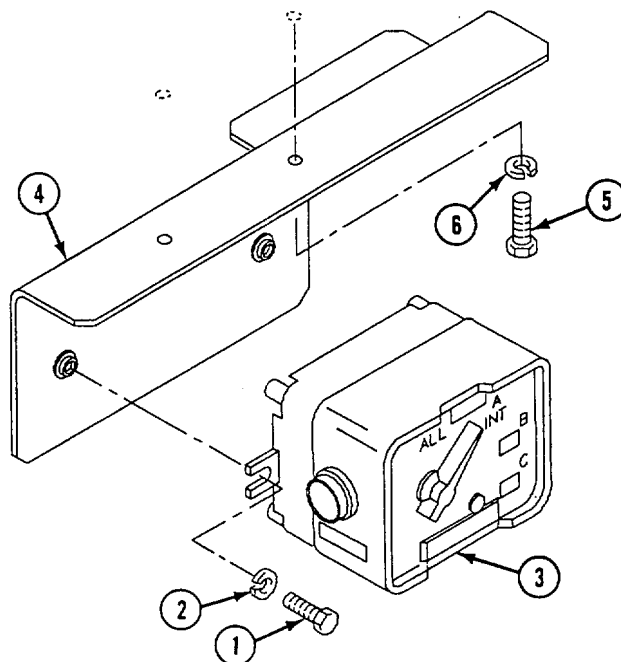
REMOVE**NOTE**

Make sure that intercom box is free to be removed.

1. Remove two screws (1), lockwashers (2), and intercom box (3) from bracket (4).
2. Remove two screws (5), lockwashers (6), and bracket (4) from beam on hull. Discard lockwashers.

**INSTALL**

3. Install bracket (4), two new lockwashers (6), and screws (5) to beam on hull.
4. Install intercom box (3), two washers (2), and screws (1) to bracket (4).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
2. Install personnel heater control box (page 29-42)

END OF TASK

CHAPTER 25
RAMP CONTROLS, RAMP, AND RAMP DOOR MAINTENANCE

TASK INDEX

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Replace Ramp Linkage (M113A2, M901A1, and M1059 Only).....	25-7	Replace Ramp Door Hook and Spring (M981A1 and M1064 Only).....	25-32.1
Adjust Ramp Lock (M741A1, M106A2, M1064, and M125A2 Only)	25-10	Replace Ramp Door Hook and Spring (All Except M981A1 and M1064).....	25-33
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ADJUST RAMP LOCK (M113A2, M901A1, AND M1059 ONLY)

DESCRIPTION

This task covers: Ramp Lock Test (page 25-2). Ramp Seal Test (page 25-2).
Ramp Lock Adjustment (page 25-3).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin
Flat washer (as needed)
Key washer (10)

Personnel Required:

Unit Mechanic
Helper (H)

References:

See your -10

Equipment Conditions:

Engine stopped (see your-10)
Carrier blocked (see your -10)

RAMP LOCK TEST

1. Start engine (see your -10).
2. Raise and lock ramp (see your -10).
3. With ramp up, ramp lock handle should latch tight. Swing handle forward until it clicks. If linkage is adjusted properly, it should take a good push to latch the handle.
4. Check that top, sides, and bottom of ramp are aligned properly.

NOTE

Ramp seal should be compressed enough to prevent water leakage, yet without metal-to-metal contact between ramp and hull.

5. If ramp handle will not latch or ramp does not seal, perform ramp seal test (step 6) and adjust ramp (step 13).

RAMP SEAL TEST**WARNING**

Lowering ramp could injure personnel. Make sure no one is in ramp zone before you lower ramp. If tactical situation permits, sound horn before dropping ramp.

6. Lower ramp (see your -10).
7. Check ramp-to-hull seal. Replace cracked, worn, or torn seal (page 25-36)..
8. If seal is not damaged, apply a heavy coat of white chalk to sealing lip of ramp seal.
9. Raise and lock ramp. Unlock and lower ramp (see your -10).
10. Check ramp for chalk transfer from seal to ramp surface.

11. If chalk is not evenly distributed, adjust ramp (step 13).
12. If there is no chalk along bottom of ramp, replace seal (page 25-36).

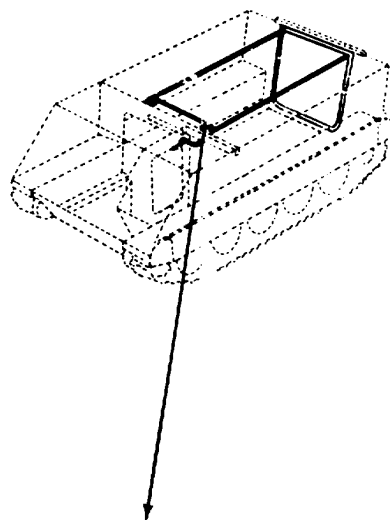
18. Install eight new key washers (9). Tighten eight screws (8). If shimmed right, catch (6) on handle (5) will engage firmly with striker (7). Bend keys to secure screws.

RAMP LOCK ADJUSTMENT

NOTE

All ramp adjustments must be done with the ramp down. Always adjust forward linkage first.

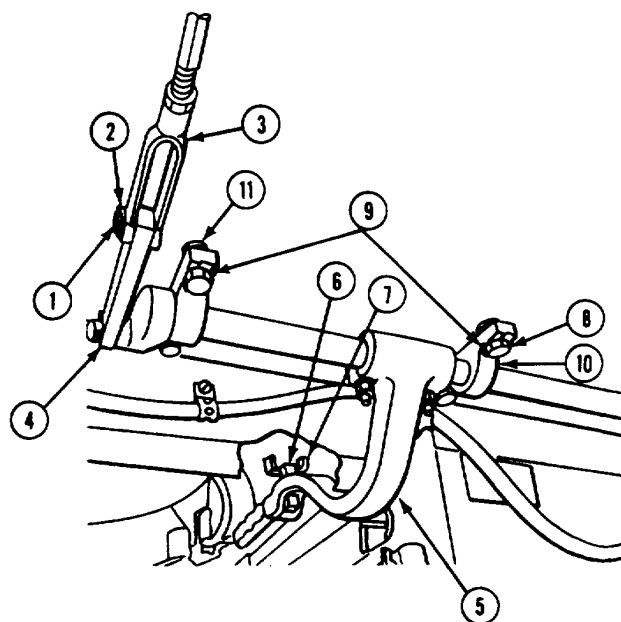
13. Lower ramp (see your -10).
14. Remove cotter pin (1) and headed pin (2) from clevis (3). Discard cotter pin.
15. Disconnect clevis (3) from link (4).
16. Swing ramp lock handle (5) forward. If catch (6) does not engage with striker (7), adjust catch (see step 17). If catch and striker adjustment is all right, go to step 19.



NOTE

Install the same number of flat washers on each side of all four supports.

17. To adjust catch (6) and striker (7), remove eight screws (8) and key washers (9) from four supports (10). Discard key washers. Remove or add new flat washers (11) (as required) to shim between supports (10) and hull top plate.



GO TO NEXT PAGE

NOTE

Test is for one side of ramp lock adjustment. Adjust both sides of carrier at the same time. Have helper assist.

Some carriers are equipped with flat shape ramp lock rods, while other carriers are equipped with hex shape ramp lock rods. Adjustment is different as described below.

19. To adjust rear links (1), loosen two screws (2) that secure bracket (3) to hull top plate.
20. For carriers with flat rod (4), turn clevis (5) on flat rod (4), as needed, to lengthen or shorten linkage.
21. For carriers with hex rod (6), bend back tabs on washer (7). Loosen jamnut (8). Remove hex rod (6) from clevis (9) and discard washer (7). Install new washer (7). Install hex rod (6) in clevis (9). Place link (1) in clevis (9). Secure with headed pin (10) and a new cotter pin (11). Turn hex rod (6) as needed to lengthen or shorten linkage. Tighten jamnut (8). Secure nut by bending tabs of new washer (7).

NOTE

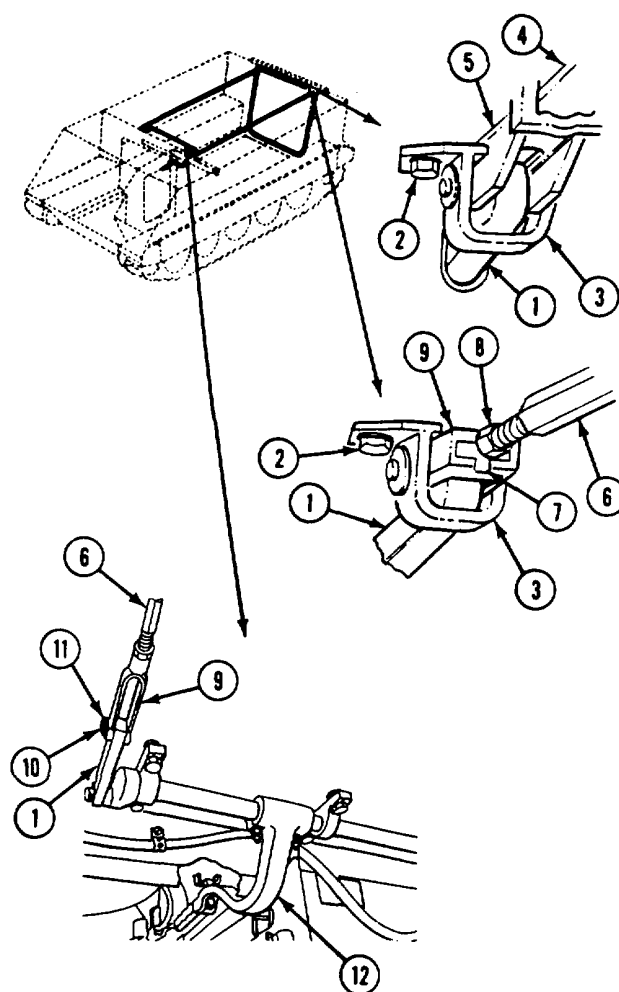
Making linkage shorter pulls the ramp in and puts a tight squeeze on the ramp seal. Making linkage longer lessens the squeeze on the seal.

22. For carriers with flat rod (4), place link (1) in clevis (9). Secure with headed pin (10) and a new cotter pin (11).
23. Push handle (12) in full forward position. Push bracket (3) to the rear until forward edge of slot in bracket makes contact with cam surface on link (1).
24. Tighten two screws (2).

25. The link (1) should point down as shown in illustration. Put your hand under link and try to lift link. If adjustment is correct, link will not move.
26. Move handle (13) to full released position. Link (1) will contact rear edge of bolt in bracket (3) and will move up as shown in illustration.
27. Wipe chalk off ramp surface and repeat seal test (step 6).

NOTE

If ramp fails test, check and repeat steps 2 through 13, as needed.



END OF TASK

REPLACE RAMP LOCK LEVER AND ARMS

DESCRIPTION

This task covers: Remove (page 25-5). Install (page 25-6).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

- Cotter pin (2)
- Key washer (8)
- Spring pin (2)

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)

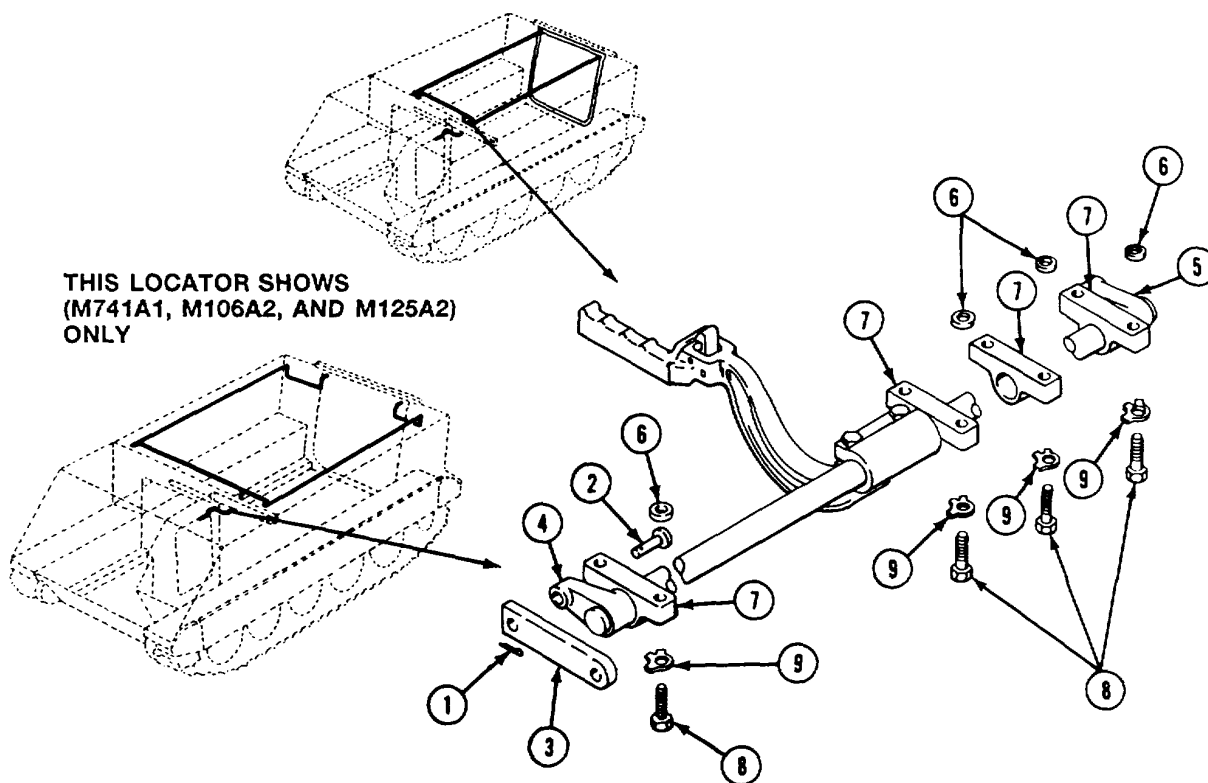
Personnel Required:

Unit Mechanic

REMOVE

1. Remove two cotter pins (1), headed pins (2), and connecting links (3) from arms (4 and 5). Discard cotter pins.

2. Note the number and location of steel washers (6) used as shims between supports (7) and top plate.
3. Bend back keys. Remove eight screws (8), key washers (9), four supports (7), and eight steel washers (6). Discard key washers.



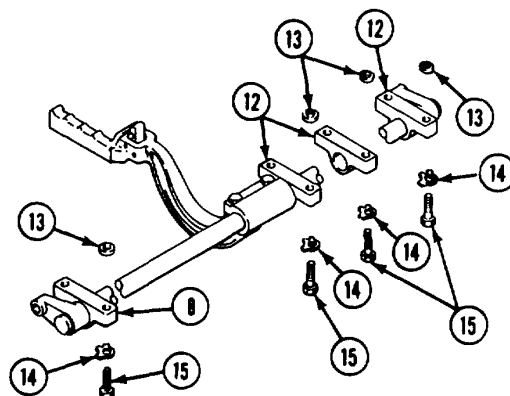
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4. Remove two screws (1), washers (2), and nuts (3) from ramp lock handle (4).
5. Remove arms (5 and 6) from handle (4).
6. Remove two keys (7) from arms (5 and 6). Remove supports (8 and 12) from arms.
7. Remove two spring pins (9), spring (10), and catch (11) from handle (4). Discard spring pins.

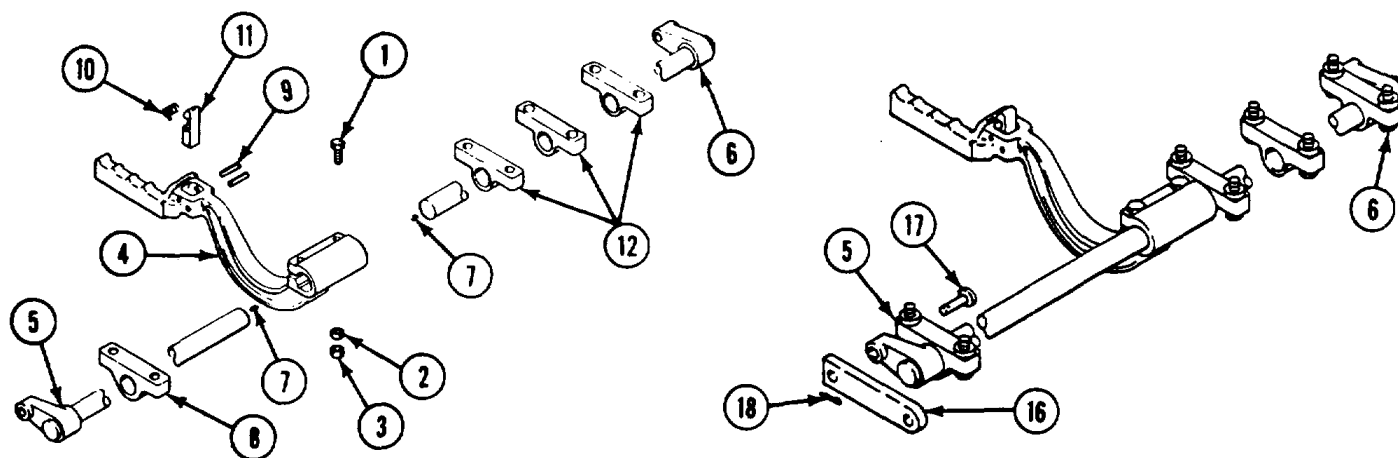
12. Align four supports (8 and 12) with holes in hull top plate. Shim with steel washers (13). Make sure you put the same number of steel washers in same position from which they were removed.
13. Secure with eight new key washers (14) and screws (15). Bend keys on washers to secure screws.

INSTALL

8. Install catch (11) and spring (10) in ramp lock handle (4). Secure with two new spring pins (9).
9. Install one support (8) on arm (5) and three supports (12) on arm (6).
10. Install two keys (7) in arms (5 and 6).
11. Install arms (5 and 6) in handle (4). Secure with two screws (1), washers (2), and nuts (3).



14. Align two connecting links (16) with two arms (5 and 6). Secure with two headed pins (17) and new cotter pins (18).



FOLLOW-THROUGH STEPS

1. Raise and lock ramp to check that ramp lock linkage operates properly (see your -10).
2. Adjust ramp lock linkage, if needed (page 25-2).

END OF TASK

REPLACE RAMP LINKAGE (M113A2, M901A1, AND M1059 ONLY)**DESCRIPTION**

This task covers: Remove (page 25-7). Install (page 25-8).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 98, App D)

Materials/Parts:

Cotter pin (6)
Key washer
Square washer (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)

REMOVE**NOTE**

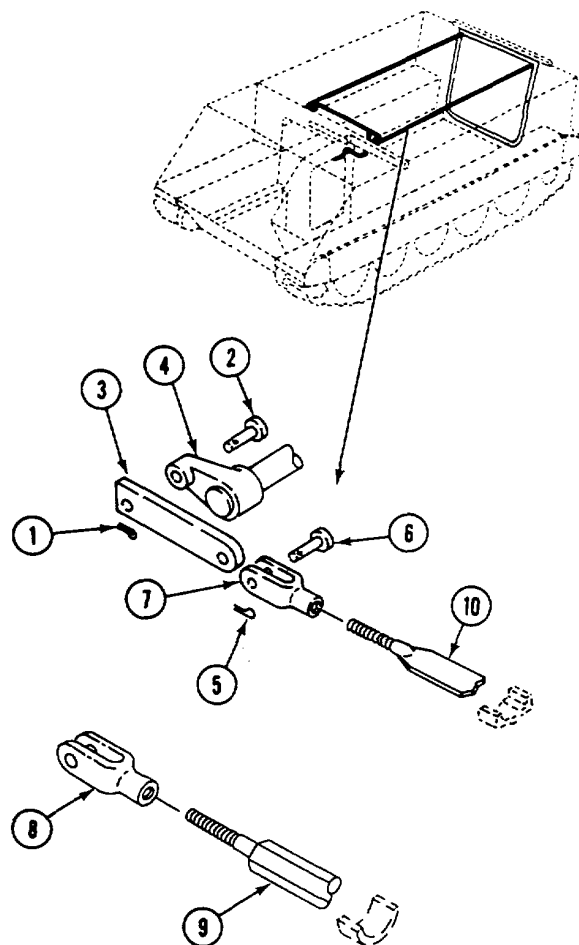
Removal and installation of ramp linkage is the same for both sides of carrier. Text is for one side only. Some carriers are equipped with flat shape ramp lock rods, while other carriers are equipped with hex shape ramp lock rods. Removal and installation is different as described below.

1. Remove cotter pin (1), headed pin (2), and connecting link (3) from arm (4). Discard cotter pin.
2. Remove cotter pin (5), headed pin (6), and connecting link (3) from clevis (7). Discard cotter pin.

NOTE

Clevis (8) and hex shape rod (9) are left-hand threads.

3. Remove clevis (7) from flat rod (10) or clevis (8) from hex rod (9).

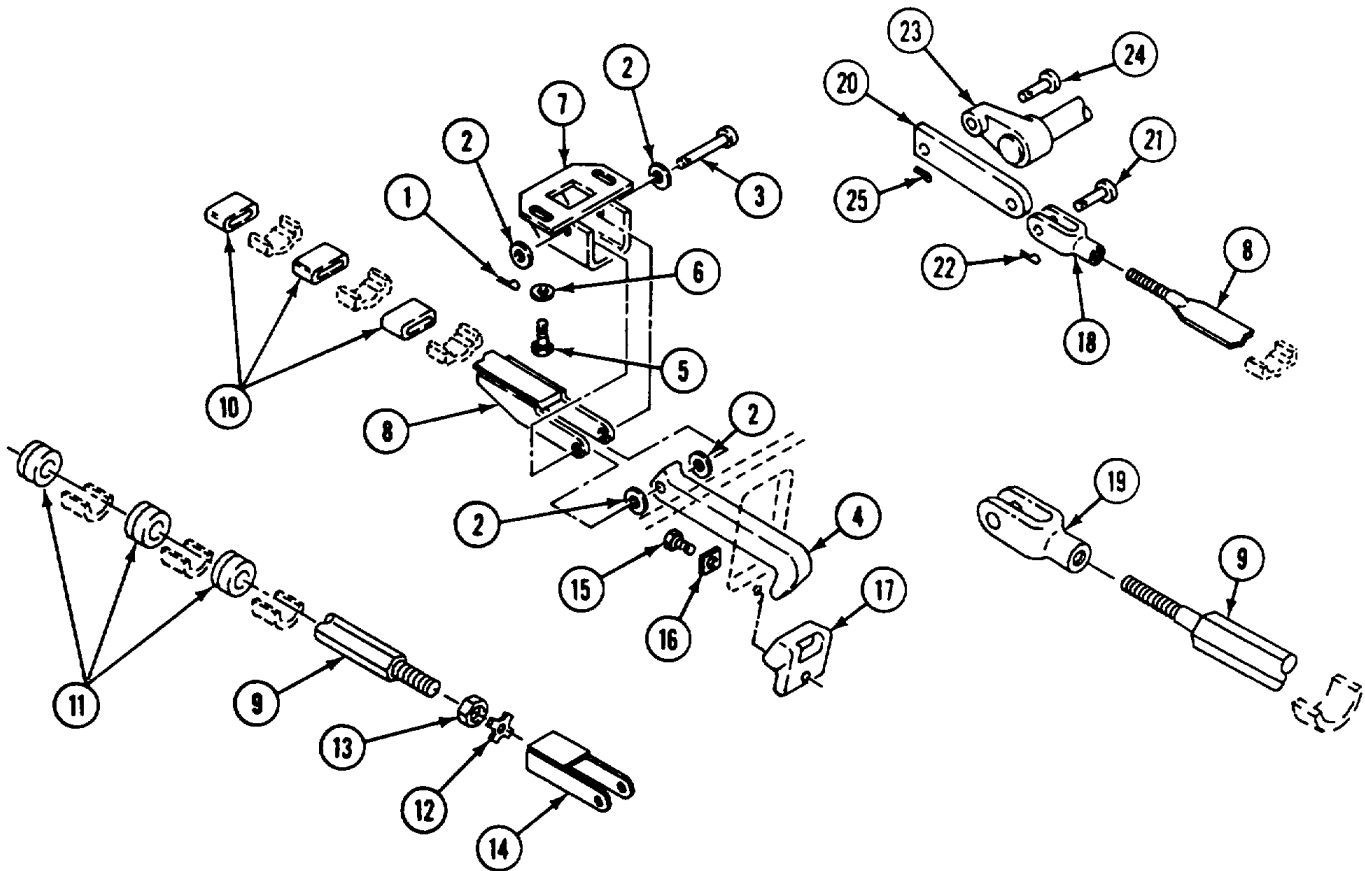


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4. Remove cotter pin (1), four washers (2), headed pin (3), and latch (4). Discard cotter pin.
5. Remove two screws (5), washers (6), and bracket (7) from hull top plate.
6. Pull flat rod (8) or hex rod (9) from welded brackets on hull top plate. Remove three bumpers (10) as flat rod is removed or three bushings (11) as hex shape rod is removed.
7. For hex shape rod (9), bend back tabs on key washer (12). Loosen jamnut (13). Remove clevis (14) from rod (9). Remove nut (13) from rod (9). Discard key washer.
8. Remove screw (15), square washer (16), and catch (17) from ramp. Discard square washer.
10. For carriers with hex rod (9), install nut (13), key washer (12) and clevis (14) on end of rod (9) that has right-hand threads.
11. Install flat rod (8) or hex rod (9) in welded brackets. As rod passes through each bracket, install three bumpers (10) on flat rod or three bushings (11) on hex rod.
12. Place bracket (7) on hull top plate. Install two washers (6) and screws (5). Do not tighten screws.
13. Align rod (8 or 9) and latch (4) in bracket (7). Secure with four washers (2), headed pin (3), and new cotter pin (1).
14. Install clevis (18) on flat rod (8) or clevis (19) on hex rod (9). (This end of hex rod and clevis (19) are left-hand threads.)
15. Align connecting link (20) with clevis (18) or (19). Secure with headed pin (21) and new cotter pin (22).
16. Align connecting link (20) with arm (23). Secure with headed pin (24) and new cotter pin (25).

INSTALL

9. Place catch (17) on ramp. Secure with new square washer (16) and screw (15). Tighten screw to 60-70 lb-ft (81-95 N-m) torque. Use torque wrench.



FOLLOW-THROUGH STEPS



WARNING
Falling ramp could cause severe injuries. Keep personnel clear of ramp area.

1. Adjust ramp lock (page 25-2).
2. Raise and lock ramp to check that ramp linkage operates properly (see your -10).
3. Stop engine (see your -10).

END OF TASK

ADJUST RAMP LOCK (M741A1, M106A2, M1064, AND M125A2 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Cotter pin
- Key washer (8)
- Lockwasher (2)
- Steel hardened washer (as needed)

Personnel Required:

Unit Mechanic
Helper (H)

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

TEST RAMP LOCK

Perform lock test (page 25-2).

TEST RAMP SEAL

Perform seal test (page 25-3).

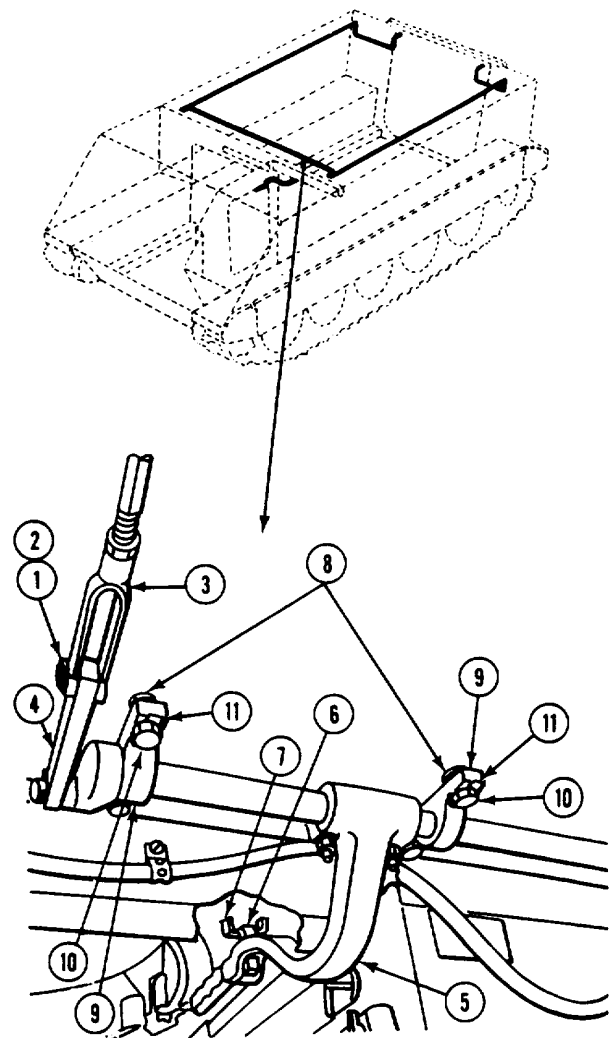
ADJUST RAMP LOCK

1. Lower ramp (see your -10).
2. Remove cotter pin (1) and headed pin (2) from clevis (3).
3. Disconnect link (4) from clevis (3).
4. Swing lever (5) forward. If catch (6) does not engage with striker (7), adjust catch (see step 5). If catch and striker adjustment is all right, go to step 7.

NOTE

Install the same number of flat washers (8) on each side of all four supports (9).

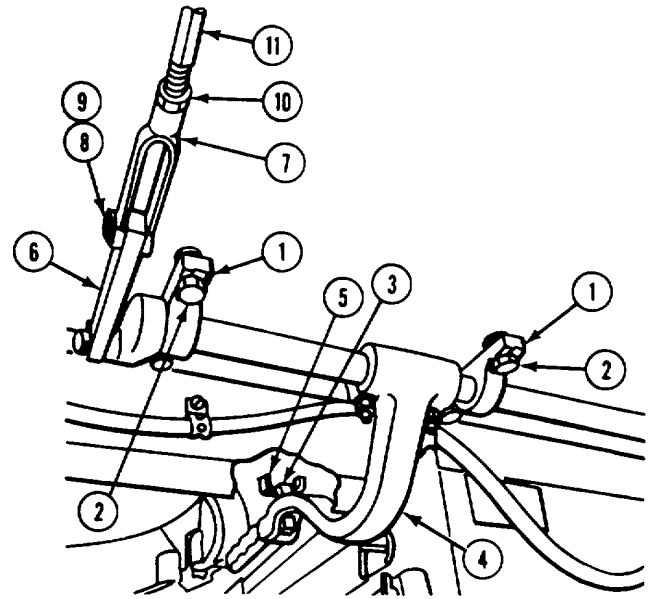
5. To adjust catch (6) and striker (7), remove eight screws (10) and key washers (11) from four supports (9). Discard key washers. Install new flat washers (8) to shim between supports (9) and hull top plate.



6. Install eight new key washers (1). Tighten eight screws (2) and bend washer keys to secure screws. If shimmed right, catch (3) on lever (4) will engage firmly with striker (5).
7. For carriers with flat shape rod, place link (6) in clevis (7). Secure with headed pin (8) and a new cotter pin (9).

NOTE

The steps below are for one side of ramp lock adjustment. Adjust both sides of carrier at the same time.

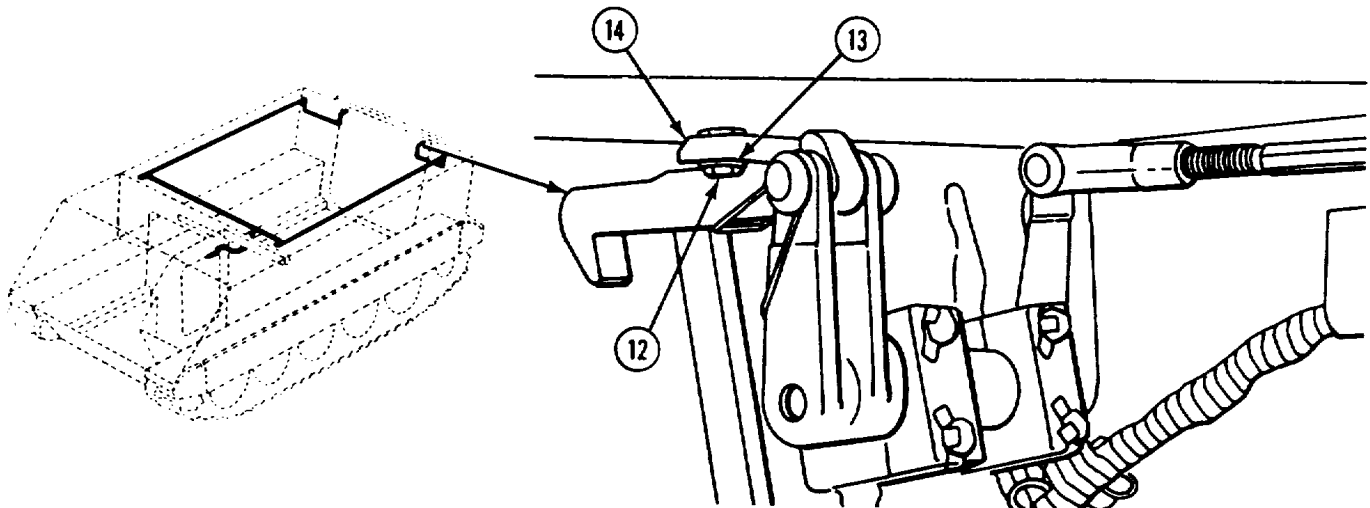


8. Loosen locknut (10) on forward clevis (7).
9. Turn rod (11), as needed, to make sure ramp seal is compressed right. Tighten locknut (10) on clevis (7).

NOTE

Making linkage shorter pulls the ramp in and puts a tight squeeze on the ramp seal. Making linkage longer lessens the squeeze on the seal.

10. Lower ramp and return lever (4) to closed position.
11. Remove two screws (12) and lockwashers (13) from trip plate (14). Discard lockwashers.



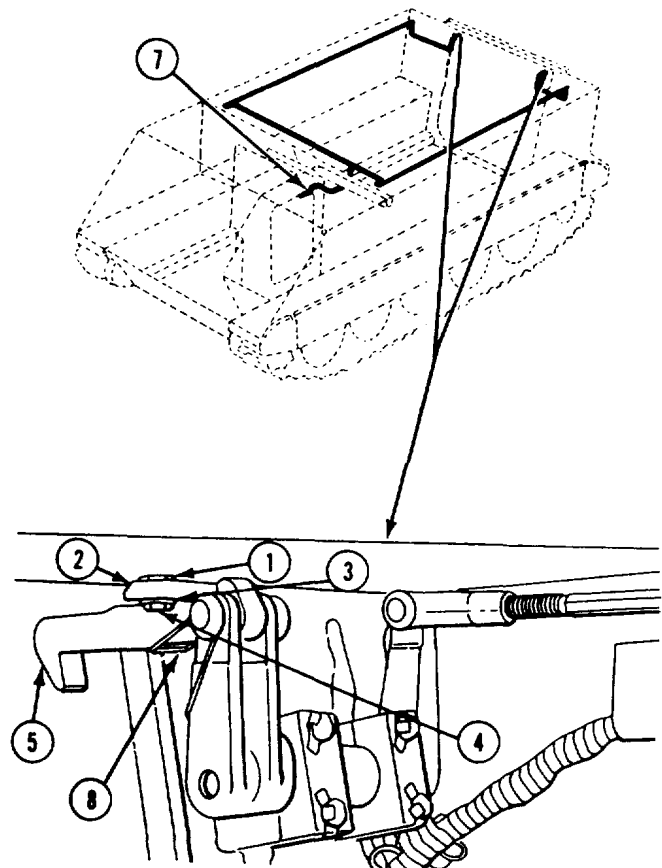
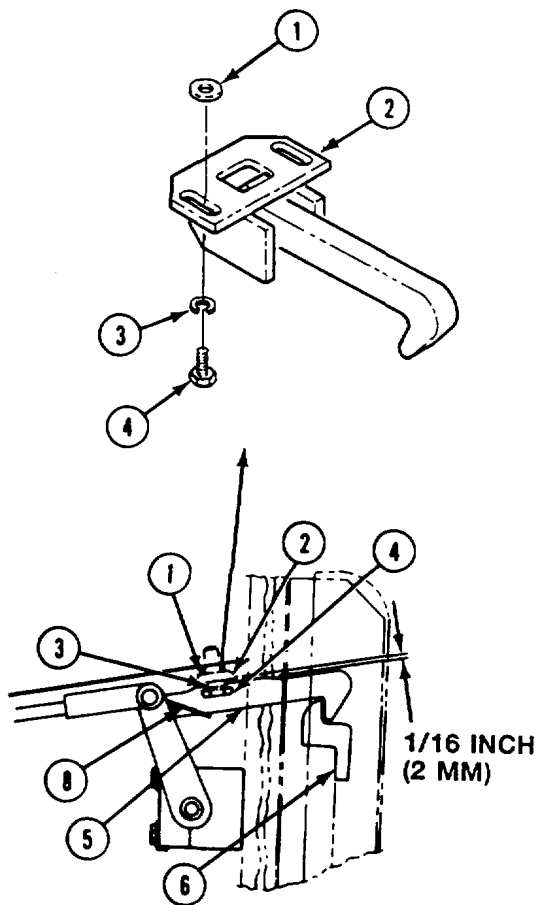
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NOTE

Use steps 12 to 18 for M106A2 and M125A2.

12. Add or remove flat steel washers (1) between ramp trip plates (2) and hull top plate. Use same number of washers as shims on each side of trip plate. Install two new lockwashers (3) and screws (4) in trip plate (2). Do not tighten screws at this time.
13. Measure distance between trip plates (2) and latch (5). It should be 1/16 inch (2 mm) maximum. Add or delete flat steel washers (1) until this clearance is obtained.

14. Raise and lock ramp (see your -10).
15. Check both trip plates (2) to see that they bear against top of latches (5).
16. Check that latch (5) and catch (6) are firm and flush against each other.
17. Lower ramp (see your -10). Adjust trip plates (2). Slide plates forward or rearward until latches (5) open, both at the same time, when ramp lock lever (7) is pulled all the way to the rear. Latches (5) should raise up to clear catch. Tighten two screws (4).
18. If latches (5) do not raise when trip plates (2) are adjusted correctly, replace spring (8) (page 25-15).

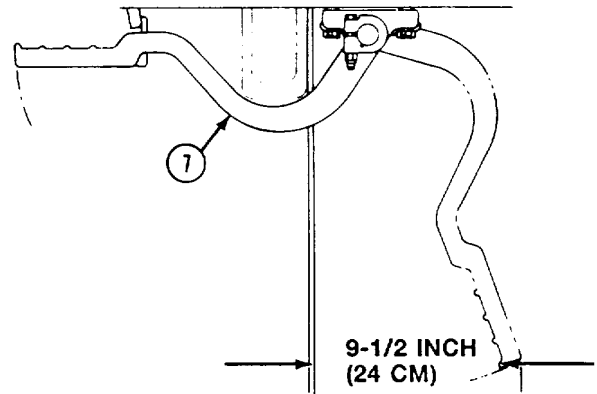


NOTE

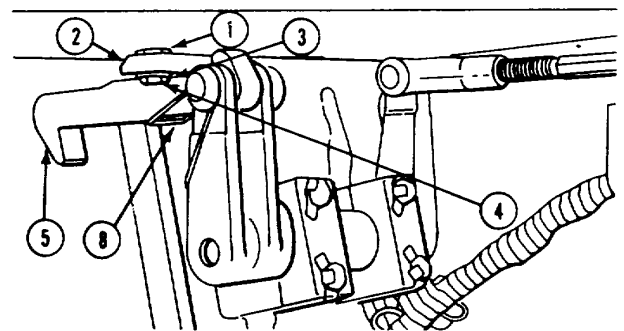
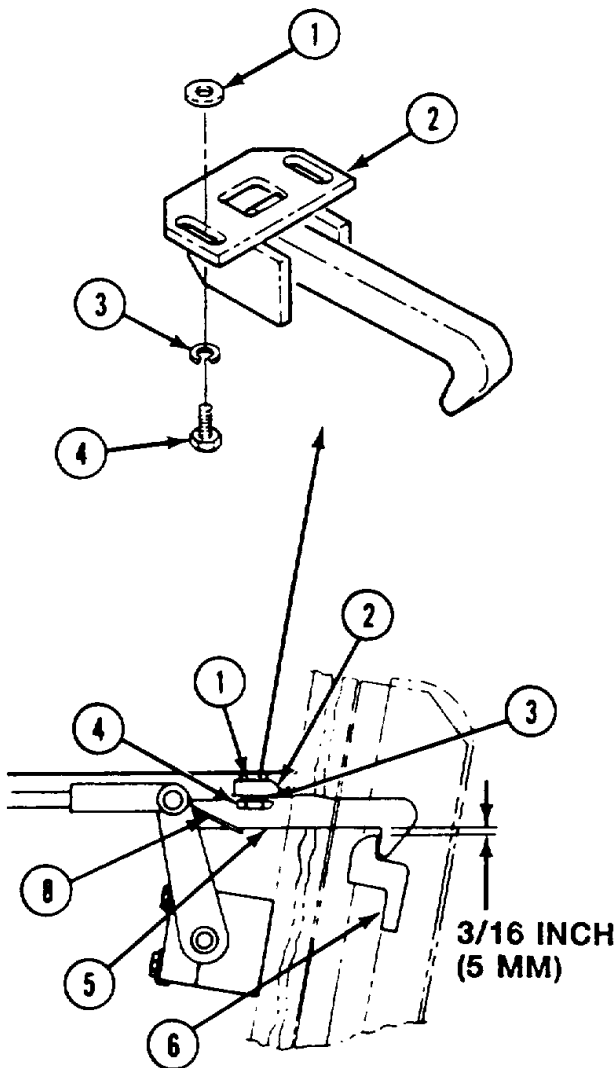
Use steps 19 to 24 for M741A1.

19. Add or remove flat steel washers (1) between ramp trip plate (2) and hull top plate. Use same number of washers as shims on each side of trip plate. Install two new lockwashers (3) and screws (4) in trip plate (2). Do not tighten screws at this time.
20. Raise and lock ramp (see your -10).
21. Measure distance between bottom of latch (5) and top of catch (6). It should be 3/16 inch (5 mm) maximum. Add or delete flat steel washers (1) until clearance is obtained.

22. Lower ramp (see your -10).
23. Pull ramp lock lever (7) to full open position. Measure from power plant bulkhead to bottom of grip on handle. Measurement should be 9 1/2 inch (24 cm) maximum.



24. Adjust trip plates (2). Slide plates forward or rearward until latches (5) open (both at the same time) when lever (7) is pulled all the way to the rear. Latches (5) should raise up to clear catch. Tighten two screws (4). If latches (5) do not raise when trip plates are adjusted correctly, replace spring (8) (page 25-15).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS



WARNING
Falling ramp could cause severe injuries. Keep personnel clear of ramp area.

1. Start engine. Raise and lower ramp several times to check that adjustment is correct (see your -10).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

REPLACE RAMP LINKAGE (M741A1, M106A2, M1064, AND M125A2 ONLY)**DESCRIPTION**

This task covers: Remove (page 25-15). Clean, Inspect, and Repair (page 25-16).
Install (page 25-16).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (8)
Key washer (8)
Lockwasher (2)
Self-locking nut
Square washer (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

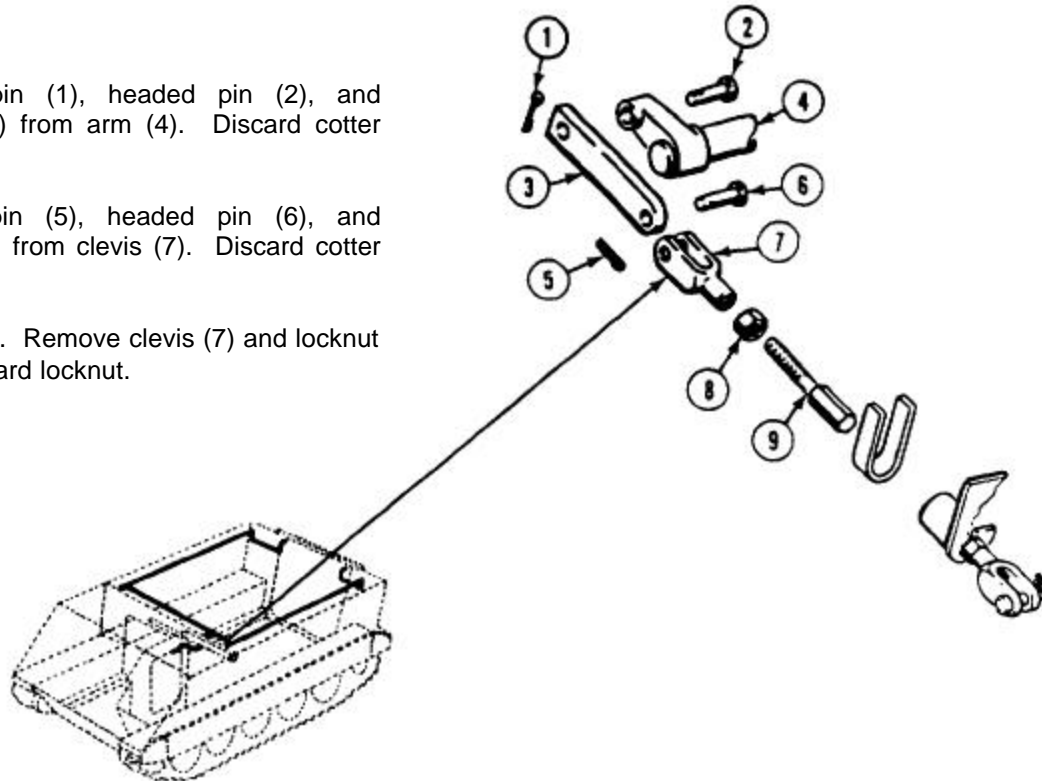
Engine stopped (see your -10)
Ramp lowered (see your -10)
On M106A2 and M125A2, right side only,
mortar ammunition racks removed
(page 24-189 or 24-191)
On M741A1, right side only, power plant rear
access panel removed (page 24-27)

NOTE

Removal and installation of ramp linkage is the same for both sides of carrier. Text is for one side only.

REMOVE

1. Remove cotter pin (1), headed pin (2), and connecting link (3) from arm (4). Discard cotter pin.
2. Remove cotter pin (5), headed pin (6), and connecting link (3) from clevis (7). Discard cotter pin.
3. Loosen locknut (8). Remove clevis (7) and locknut from rod (9). Discard locknut.



GO TO NEXT PAGE

4. Remove cotter pin (1), headed pin (2), and clevis (3) from cross-shaft arm (4). Discard cotter pin.
5. Remove clevis (3) from rod (5).
6. On M741A1 only, remove two screws (6), key washers (7), and rod supports (8) from hull top plate. Discard key washers.

NOTE

On M741A1 carriers, it is necessary to pull rod (5) forward to clear rear top plate crossmember. Then remove rod from carrier.

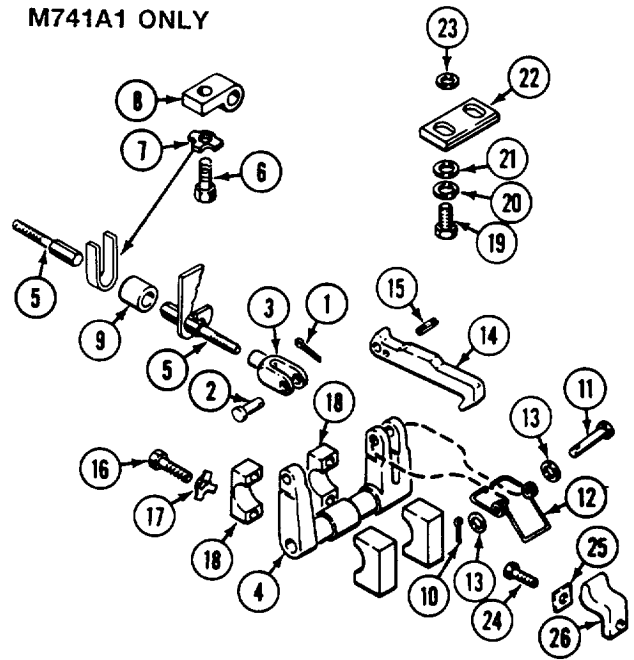
7. Remove rod (5) and three bumpers (9) from carrier.
8. Remove three bumpers (9) from rod (5) as rod is pulled from carrier. On M741A1 only, remove two supports (8) from rod.
9. Remove cotter pin (10), headed pin (11), spring (12), two washers (13), and latch (14) from arm (4). Discard cotter pin.
10. Remove pin (15) from latch (14).
11. Bend back keys. Remove four screws (16), key washers (17), two support blocks (18), and arm (4) from rear bulkhead. Discard key washers.
12. Remove two screws (19), lockwashers (20), washers (21), trip plate (22), and washers (23) from hull top plate. Note position and number of washers (23) removed. Discard lockwashers.
13. Bend back key corner and remove screw (24), square washer (25), and catch (26) from ramp. Discard square washer.

CLEAN, INSPECT, AND REPAIR

14. Check rods. Replace rod that is bent, damaged or has stripped threads.
15. Check bumpers. Replace bumpers that are cracked, torn, or not flexible.

16. Check support blocks. Replace blocks that are worn or binding.
17. Check cross-shaft arm. Remove grooves and scratches with fine sandpaper. Replace worn or pitted arm.
18. Check catch and latch. Replace damaged catch or latch.

M741A1 ONLY



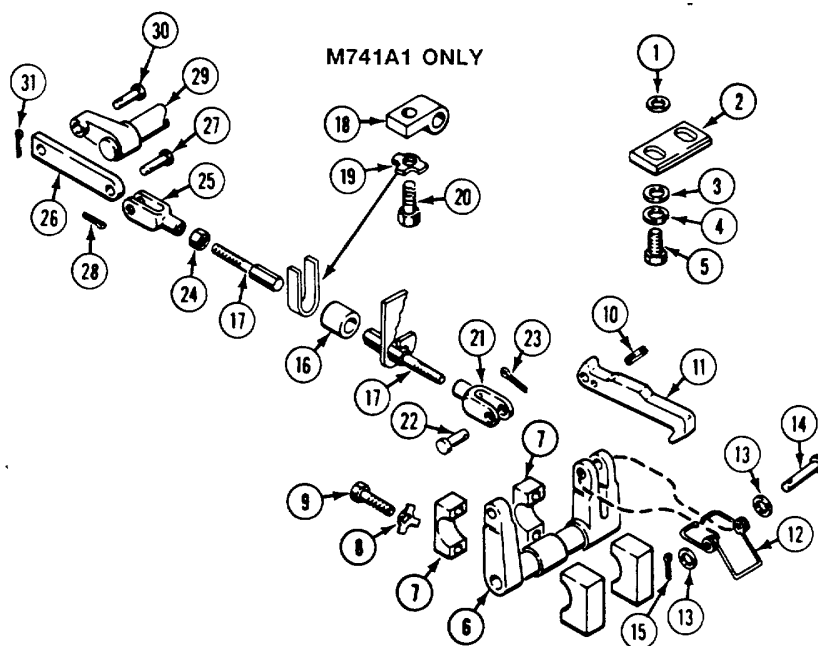
INSTALL

19. Place catch (26) on ramp. Secure with new square washer (25) and screw (24). Bend corner on washer to secure screw.

20. Place washers (1) and trip plate (2) on hull top plate. Make sure you install the same number of washers (1) in same positions from which they were removed. Secure with two washers (3), new lockwashers (4), and screws (5). Do not tighten screws at this time.
21. Place cross-shaft arm (6) on rear bulkhead. Secure with two support blocks (7), four new key washers (8), and screws (9). Bend keys to secure screws.
22. Install pin (10) in latch (11).
23. Align spring (12), latch (11), and two washers (13) with arm (6). Secure with headed pin (14) and new cotter pin (15).
24. Install three bumpers (16) on rod (17). On M741A1 only, install two supports (18).
25. Install rod (17) and three bumpers (16) in carrier.
26. On M741A1 only, align two rod supports (18) with hull top plate. Secure with two new key washers (19) and screws (20). Bend keys on washers to secure screws.
27. Install clevis (21) on rod (17).
28. Align clevis (21) with arm (6). Secure with headed pin (22) and new cotter pin (23).
29. Install new locknut (24) and clevis (25) on rod (17). Do not tighten locknut.
30. Align connecting link (26) with clevis (25). Secure with headed pin (27) and new cotter pin (28).
31. Align connecting link (26) with arm (29). Secure with headed pin (30) and new cotter pin (31).

NOTE

On M741A1 carriers, it is necessary to install rod (17) from the front of rear top plate crossmember.



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. On M741A1, right side only, install power plant rear access panel (page 24-27).
2. On M106A2 and M125A2, right side only, install mortar ammunition racks (page 24-189 or 24-191).

**WARNING**

Falling ramp could cause severe injuries. Keep personnel clear of ramp area.

3. Start engine. Raise and lock ramp to check that ramp linkage operates properly (see your -10).
4. Stop engine (see your -10).

END OF TASK

ADJUST RAMP LOCK (M577A2 AND M1068 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (3)

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

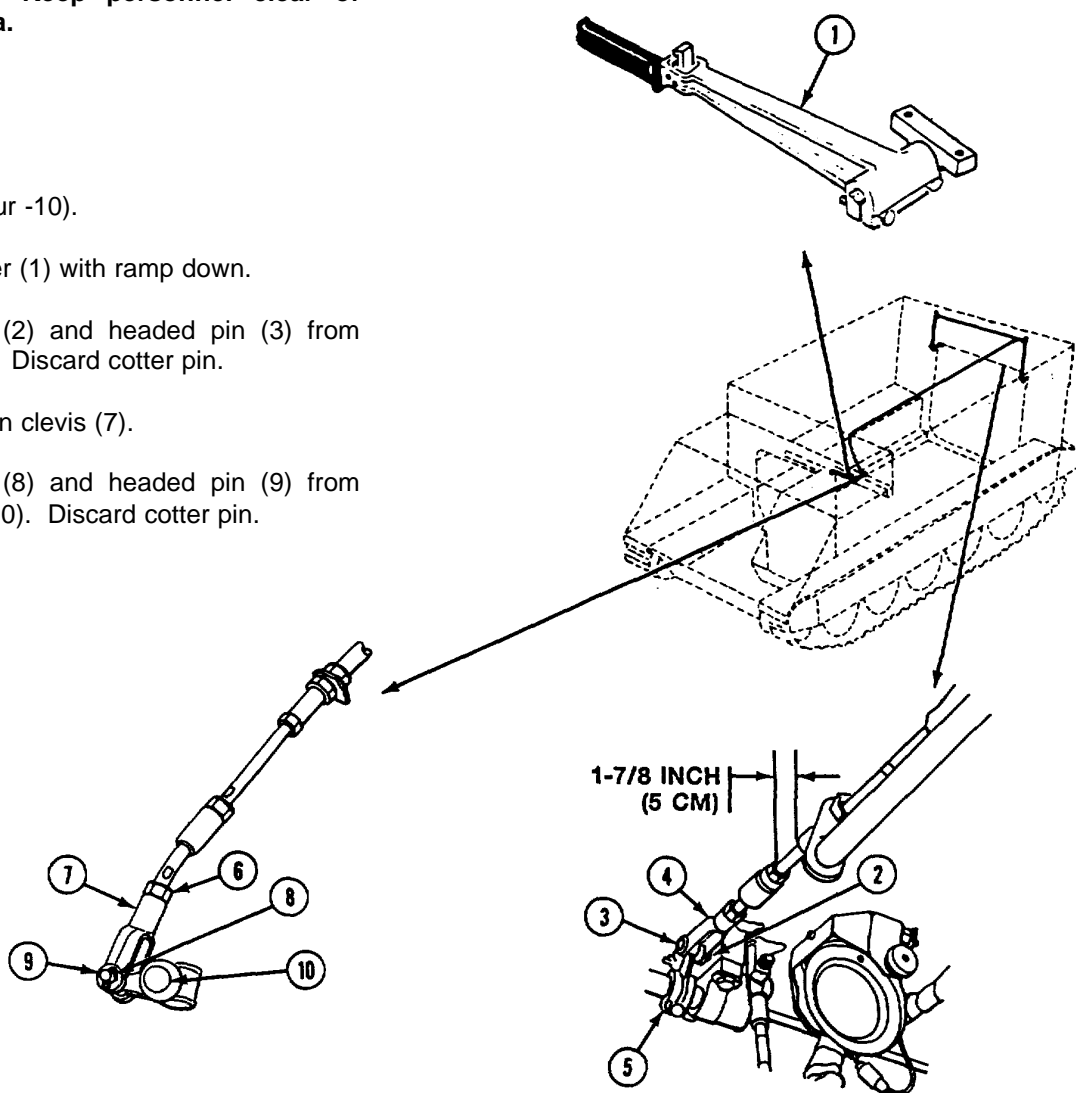
Helper

**WARNING**

Falling ramp could cause severe injuries. Keep personnel clear of ramp area.

ADJUST RAMP LOCK

1. Lower ramp (see your -10).
2. Latch ramp lock lever (1) with ramp down.
3. Remove cotter pin (2) and headed pin (3) from clevis (4) at arm (5). Discard cotter pin.
4. Loosen locknut (6) on clevis (7).
5. Remove cotter pin (8) and headed pin (9) from clevis (7) and arm (10). Discard cotter pin.



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Change 3 25-19

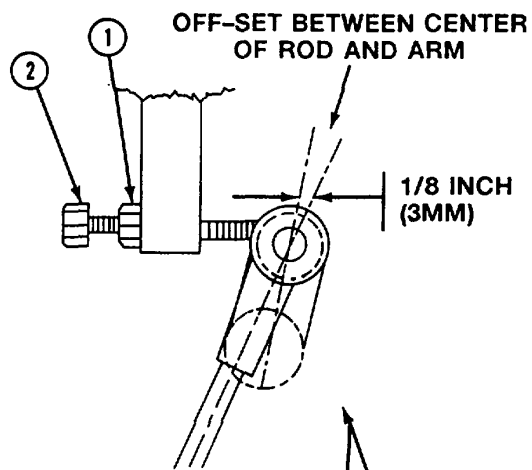
6. Loosen locknuts (1) on both sides of the vehicle.

CAUTION

Insure proper thread engagement after clevis adjustment. Thread engagement should be at least 1 1/2 times diameter of rod.

NOTE

Setscrew must be adjusted so the center of the top arm is offset toward front of vehicle in reference to the center of rod.

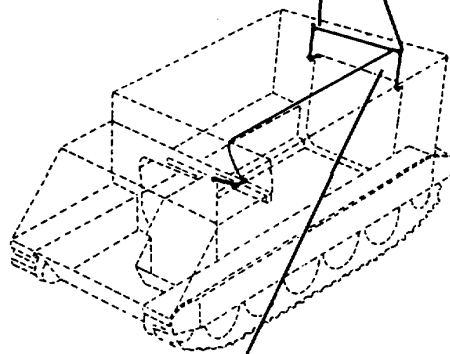


7. Adjust two setscrews (2) and rotate arm (3) until center line of arm (4) is aligned with center line of rod (4). Continue to rotate arm (3) until it is tilted 1/8 inch (3 mm) past center in reference to rod (4) toward front of vehicle.

8. Tighten locknut (1) on setscrew (2).

NOTE

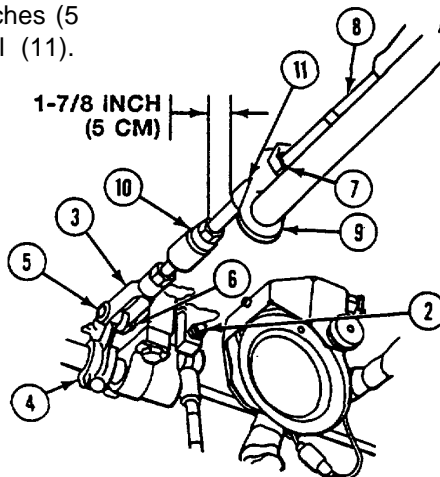
After attaching clevis to the arm, make sure arm is still against the setscrews.



9. Align clevis (3) with arm (4). Secure with headed pin (5) and new cotter pin (6).

10. Loosen two nuts (7) on cable (8) at bracket (9).

11. Adjust length of cable (8) to obtain 1 7/8 inches (5 cm) clearance between nut (10) and seal (11). Tighten two nuts (7).

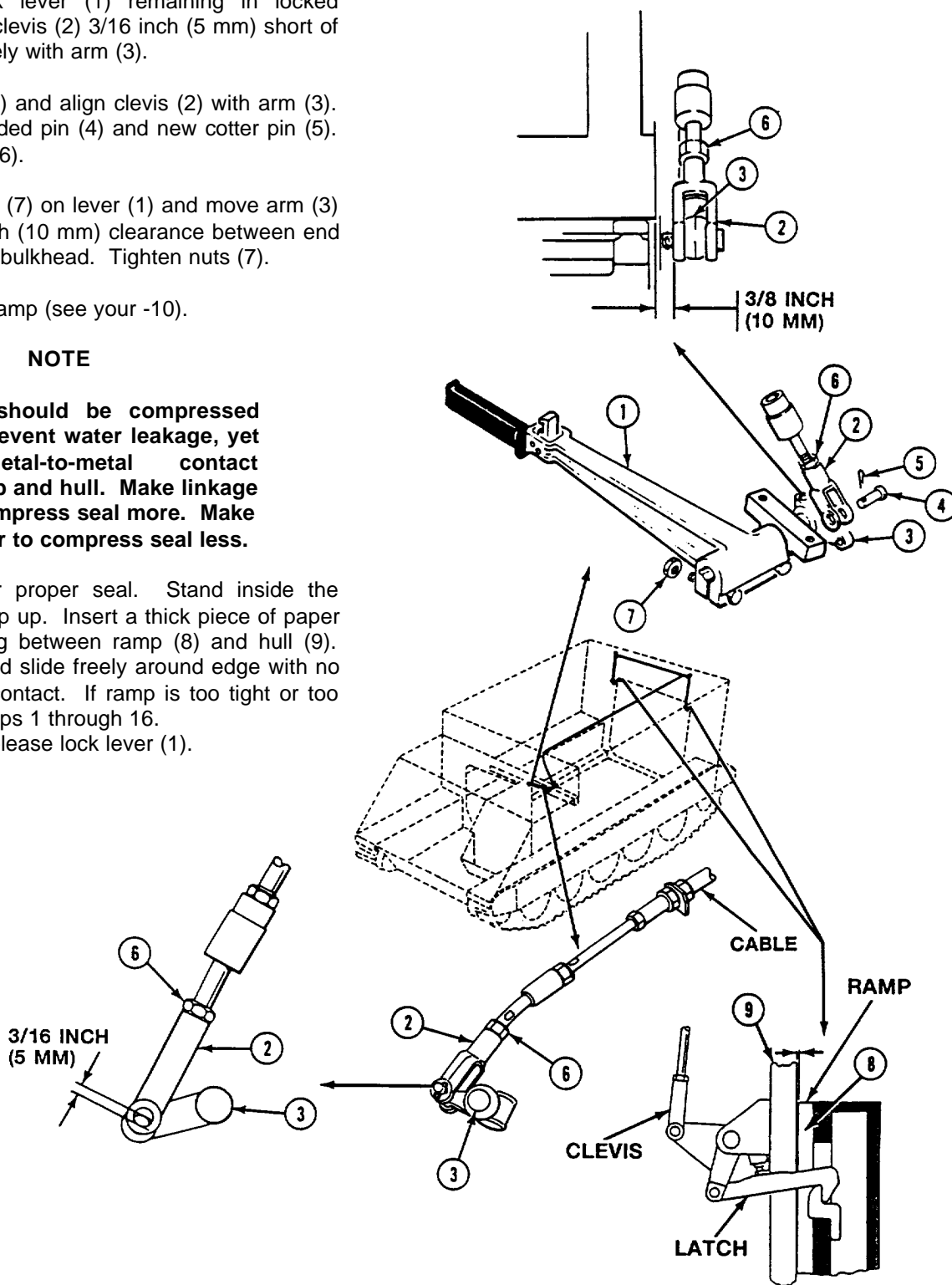


12. With ramp lock lever (1) remaining in locked position, adjust clevis (2) 3/16 inch (5 mm) short of pin (4) fitting freely with arm (3).
13. Release lever (1) and align clevis (2) with arm (3). Secure with headed pin (4) and new cotter pin (5). Tighten locknut (6).
14. Loosen two nuts (7) on lever (1) and move arm (3) to obtain 3/8 inch (10 mm) clearance between end of clevis (2) and bulkhead. Tighten nuts (7).
15. Raise and lock ramp (see your -10).

NOTE

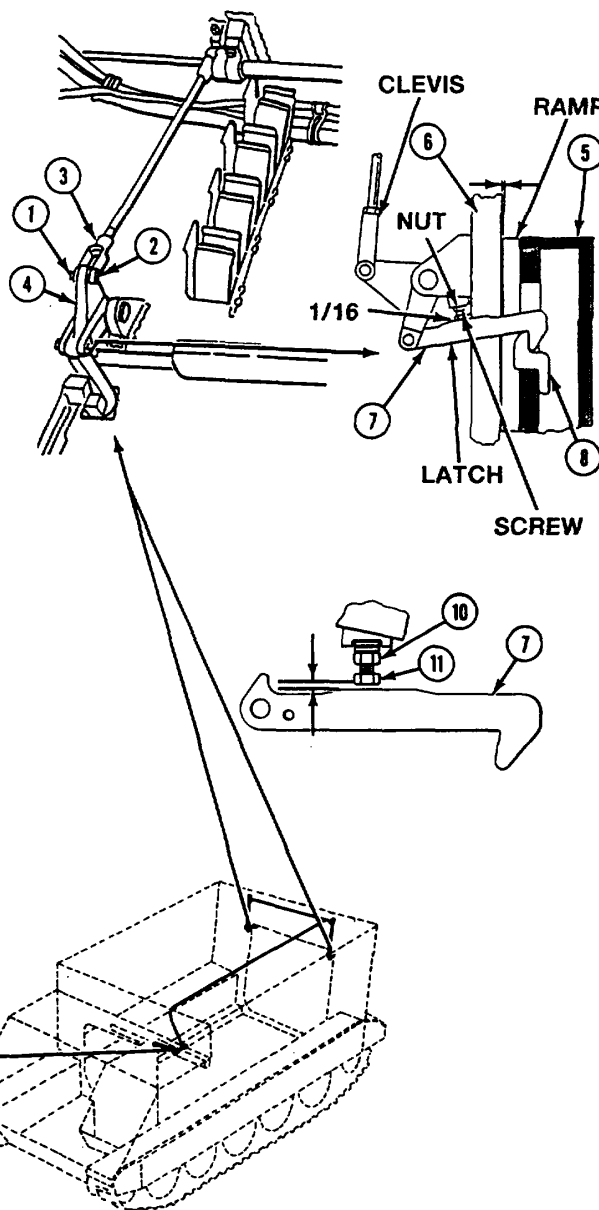
Ramp seal should be compressed enough to prevent water leakage, yet without metal-to-metal contact between ramp and hull. Make linkage shorter to compress seal more. Make linkage longer to compress seal less.

16. Check ramp for proper seal. Stand inside the vehicle with ramp up. Insert a thick piece of paper or inspection tag between ramp (8) and hull (9). The paper should slide freely around edge with no metal to metal contact. If ramp is too tight or too loose, repeat steps 1 through 16.
17. With ramp up, release lock lever (1).



GO TO NEXT PAGE

18. Remove cotter pin (1), headed pin (2), and clevis (3) from lever (4) for one side of vehicle only. Discard cotter pin.
19. Adjust clevis (3) to lengthen or shorten linkage and obtain a water tight seal between ramp (5) and hull (6). Latches (7) must pull tight on catches (8).
20. Align clevis (3) with lever (4). Secure with headed pin (2).
21. Latch ramp lock lever (9).
22. Check for adequate tension on ramp latch (7) and catch (8). There should be no free play in latches (7) when ramp lock lever (9) is latched.
23. Repeat steps 17 through 22 until latch (7) is under proper tension. Install new cotter pin (1) in headed pin (2).
24. Repeat steps 17 through 23 for latch (7) on opposite side of vehicle.
25. With ramp up and locked, loosen locknuts (10) on setscrew (11). Adjust setscrews (11) to obtain 1/16 inch (2 mm) to 3/32 inch (3 mm) maximum clearance between latches (7) and setscrews (11)
26. Tighten locknut (10) on setscrew (11).



FOLLOW-THROUGH STEPS



WARNING
 Falling ramp could cause severe injuries. Keep personnel clear of ramp area.

1. Test ramp lock. Perform ramp lock test (page 25-2).
2. Test ramp seal. Perform seal test (page 25-2).

END OF TASK

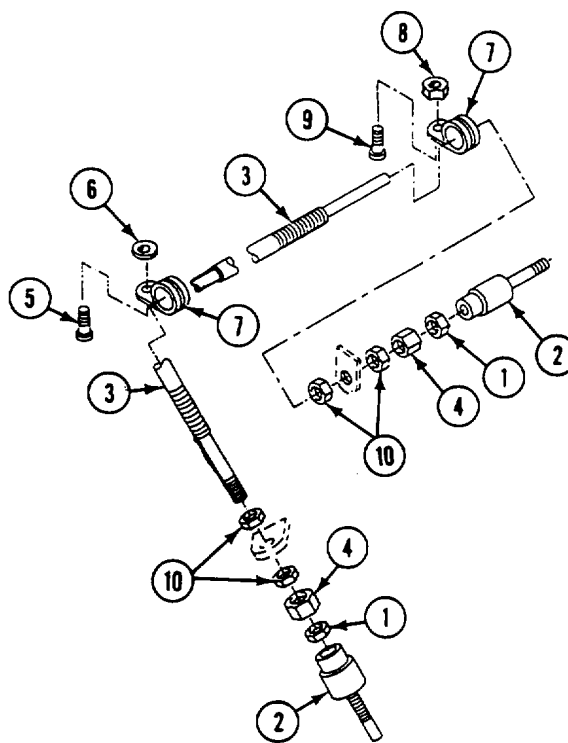
7. Loosen two locknuts (1). Remove two joints (2) and locknuts (1) from cable (3). Discard locknuts.
8. Remove two seal assemblies (4) from cable (3).
9. Remove screw (5), lockwasher (6), and clamp (7) from forward bulkhead weldnut. Discard lockwasher.
10. Remove five nuts (8), screws (9), and clamps (7) from overhead rail.
11. Remove four nuts (10) on cable (3) and on seal assemblies (4) from two hull retainers.
12. Remove two nuts (10) and six clamps (7) from cable (3).

CLEAN, INSPECT, AND REPAIR

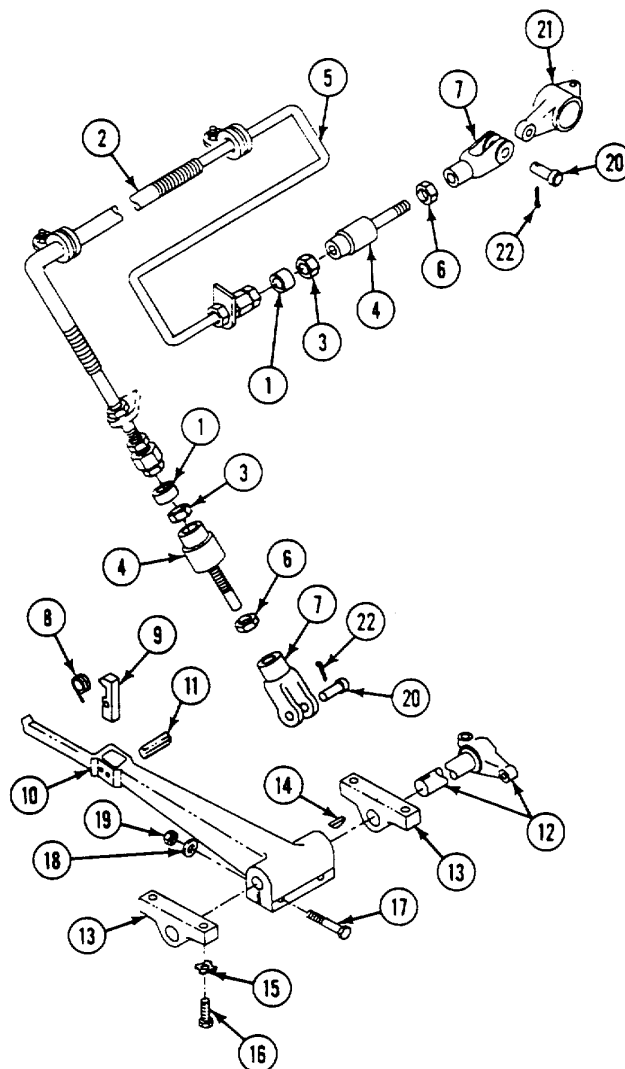
13. Check cable. Replace parts that are cut, worn, binding, or have stripped threads.
14. Check ball joints. Replace joints that are binding or that have stripped threads.
15. Check ramp lock lever supports and arm. Remove scratches and grooves with fine sandpaper. Replace parts that are worn, cracked, or pitted.

INSTALL

16. Install six clamps (7) and four nuts (10) on cable (3).
17. Install cable (3) in two hull retainers. Secure with four nuts (10).
18. Align five clamps (7) with overhead rail. Secure with five screws (9) and nuts (8).
19. Align clamp (7) with forward bulkhead weldnut. Secure with new lockwasher (6) and screw (5).



20. Install two seal assemblies (1) on cable (2).
21. Install two new locknuts (3) and joints (4) on cable (5). Secure joints with locknuts.
22. Install two new locknuts (6) and clevises L7) on two joints (4). Do not tighten locknuts.
23. Align spring (8) and catch (9) with lever (10). Secure with two new spring pins (11).
24. Position arm (12) through bulkhead. Slide rear support (13) into place.
25. Install key (14) on arm (12). Align lever (10) over key. Position front support (13) on arm.
26. Place two supports (13) on hull top plate. Secure with four new key washers (15) and screws (16), bend keys on washers to secure.
27. Install two screws (17), washers (18), and new locknuts (19) in lever (10). Do not tighten locknuts.
28. Install headed pins (20) in clevises (7) and arms (12 and 21). Secure with two new cotter pins (22). Tighten locknuts (19).
29. Adjust ramp lock (page 25-19).



FOLLOW-THROUGH STEPS



WARNING

Falling ramp could cause severe injuries. Keep personnel clear of ramp area.

1. Start engine (see your -10).
2. Raise and lock ramp (see your -10). Check that ramp lock lever and cable work properly.
3. Stop engine (see your -10).

END OF TASK

REPLACE RAMP LINKAGE (M577A2 AND M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 25-26).
 Install (page 25-28).

Clean, Inspect, and Repair (page 25-27).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (6)
 Key washer (10)
 Self-locking nut (4)
 Square washer

Personnel Required:

Unit Mechanic

References:

See your -10

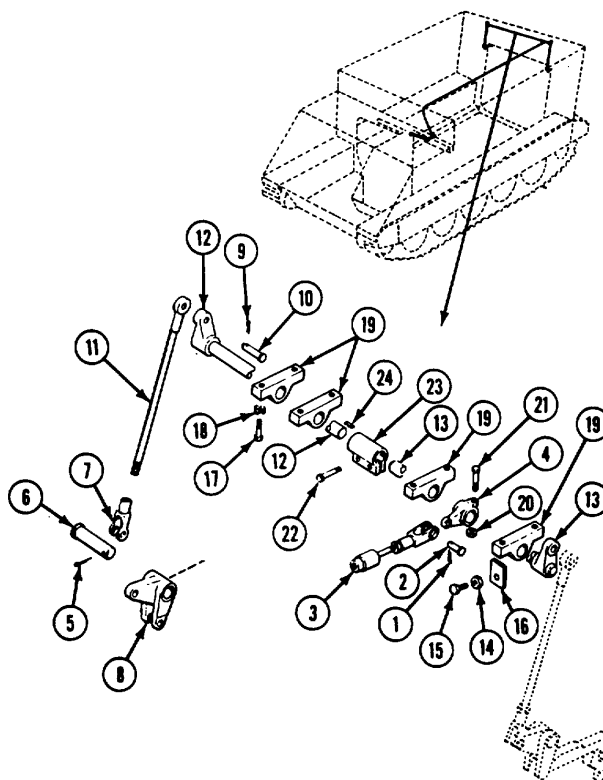
Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 Ramp lowered (see your -10)

REMOVE**WARNING**

Falling ramp could cause severe injuries. Keep personnel clear of ramp area.

1. Remove cotter pin (1), headed pin (2), and clevis (3) from arm (4). Discard cotter pin.
2. Remove cotter pin (5), headed pin (6), and clevis (7) from lever (8). Discard cotter pin.
3. Remove two cotter pins (9), headed pins (10), and eyebolts (11) from arms (12 and 13). Discard cotter pins.
4. Remove eyebolt (11) from clevis (7).
5. Loosen two locknuts (14). Remove two adjusting screws (15) and locknuts from two hull brackets (16). Discard locknuts.
6. Remove eight screws (17), key washers (18), and four supports (19) with arm assembly from hull top plate. Discard key washers.
7. Remove locknut (20) and screw (21) from arm (4). Discard locknut.
8. Remove two screws (22) from connector (23).
9. Remove arm (12) from connector (23) and key (24) from arm.



10. Remove arm (1) from connector (2) and key (3) from arm (1).

NOTE

Both sides are disassembled the same way.

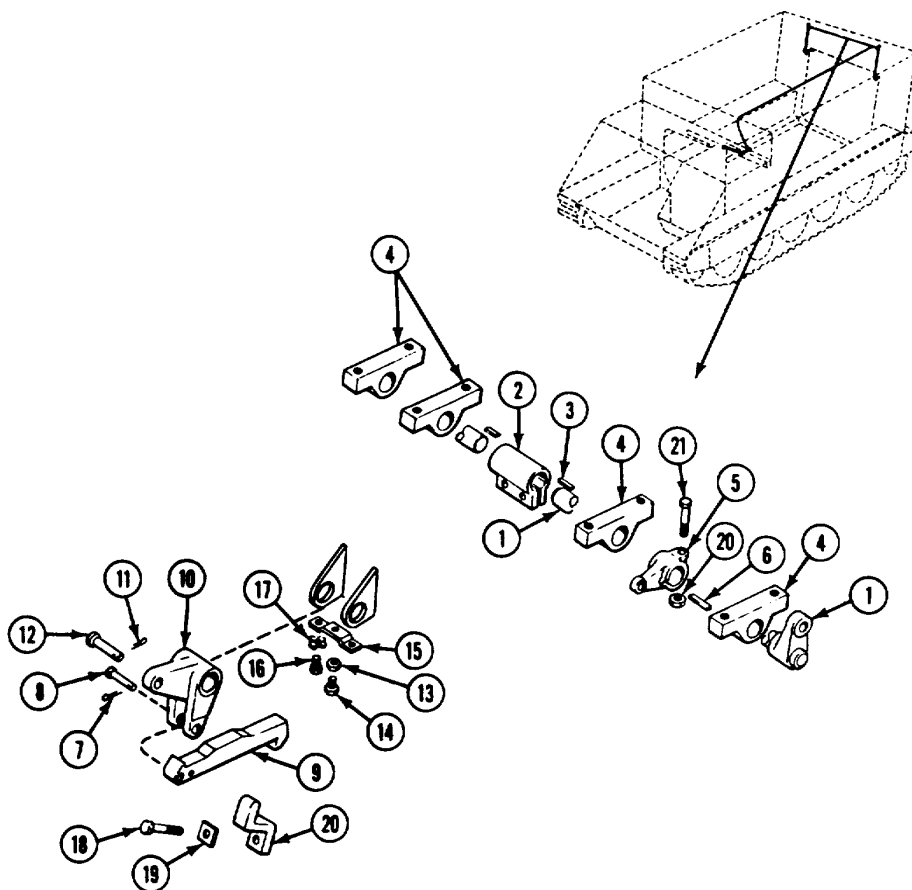
11. Remove two supports (4), lever (5), and key (6) from arm (1).
12. Remove cotter pin (7), headed pin (8), and latch (9) from lever (10). Discard cotter pin.
13. Remove cotter pin (11), headed pin (12), and lever (10) from hull bracket. Discard cotter pin.
14. Loosen locknut (13). Remove adjusting screw (14) and locknut from plate (15). Remove locknut from screw. Discard locknut.

15. Bend back tabs on washers (17). Remove two screws (16), key washers (17), and plate (15) from hull bracket. Discard key washers.

16. Bend back washer tabs. Remove screw (18), square washer (19), and catch (20) from ramp. Discard square washer.

CLEAN, INSPECT, AND REPAIR

17. Check arms, supports, latch, catch, and lever. Remove scratches and grooves with fine sandpaper. Replace parts that are worn or pitted.
18. Place plate (15) on hull bracket. Secure with two new key washers (17) and screws (16). Bend washer keys to secure screws.

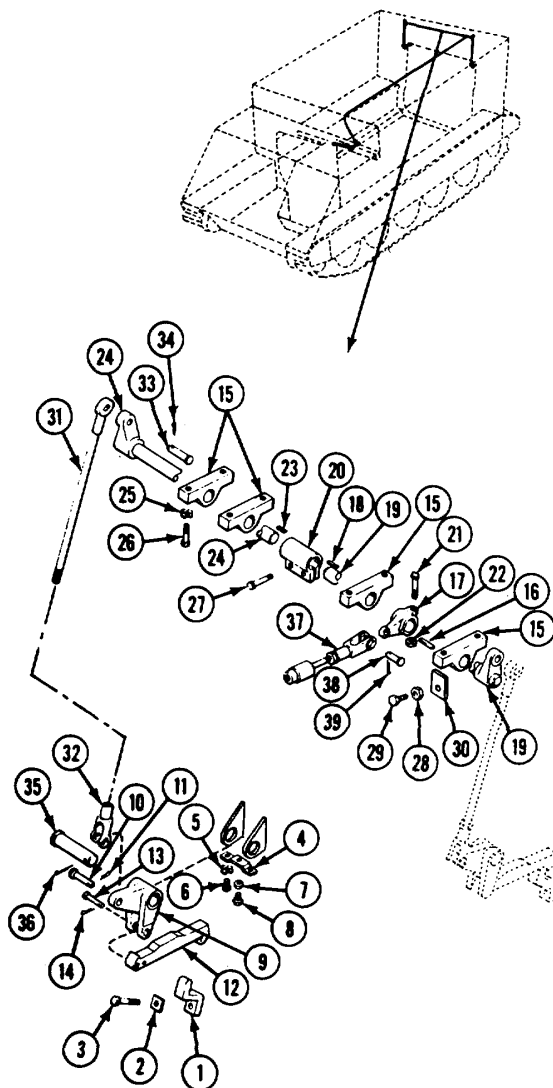


GO TO NEXT PAGE

INSTALL

19. Place catch (1) on ramp. Secure with new square washer (2) and screw (3). Bend tabs on square washer to secure screw.
20. Place plate (4) on hull bracket. Secure with two new key washers (5) and screws (6). Bend washer keys to secure screws.
21. Install new locknut (7) on adjusting screw (8). Install screw in plate (4). Do not tighten locknut.
22. Align lever (9) with hull bracket. secure with headed pin (10) and new cotter pin (11).
23. Align latch (12) with lever (9). Secure with headed pin (13) and new cotter pin (14).
24. Install one support (15), key (16), arm (17), one support (15), and key (18) on arm (19). Install arm (19) in connector (20).
25. Secure arm (17) on arm (19) with screw (21) and nut (22).
26. Install two supports (15) and key (23) on arm (24).
27. Align four supports (15) with hull top plate. Secure with eight new key washers (25) and screws (26). Bend keys on washers to secure screws.
28. Insert arm (24) in connector (20). Install two screws (27) in connector (20). Tighten screws.
29. Install two new locknuts (28) on two screws (29). Install screws in hull brackets (30). Do not tighten locknuts.
30. Install eyebolt (31) in clevis (32).
31. Align two eyebolts (31) with arms (24 and 19). Secure with two headed pins (33) and new cotter pins (34).

32. Align clevis (32) with lever (9). Secure with headed pin (35) and new cotter pin (36).
33. Align clevis (37) with arm (17). Secure with headed pin (38) and new cotter pin (39).
34. Tighten all locknuts.
35. Adjust ramp lock (page 25-19).



FOLLOW-THROUGH STEPS



WARNING

Falling ramp could cause severe injuries. Keep personnel clear of ramp area.

1. Start engine and raise and lock ramp (see your -10). Check that ramp lever and cable operate properly.
2. Stop engine (see your -10).

END OF TASK

REPLACE WIRE ROPE AND PULLEYS
(ALL EXCEPT M106A2 AND M125A2)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (3)
Spring pin

Personnel Required:

Unit Mechanic

References:

See your -10

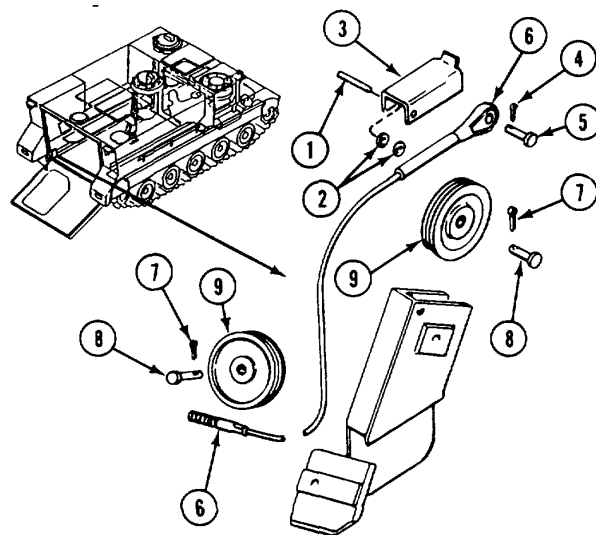
Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Rear floor plate removed (page 24-36)
Wire rope disconnected from ramp cylinder (page 28-93)

REMOVE

1. Remove spring pin (1), two washers (2), and guard (3) from upper pulley mount. Discard spring pin.
2. Remove cotter pin (4), headed pin (5), and wire rope (6) from ramp mount bracket. Discard cotter pin.
3. Remove two cotter pins (7), headed pins (8), and pulleys (9) from pulley mount. Discard cotter pins.
4. Remove rope (6) from carrier.

7. Align wire rope end fitting with ramp mount bracket. Secure with headed pin (5) and new cotter pin (4).
8. Align guard (3) and two washers (2) with upper pulley mount. Secure with new spring pin (1).

**INSTALL**

5. Route wire rope (6) through pulley mount.
6. Align two pulleys (9) with pulley mount. Secure with two headed pins (8) and new cotter pins (7).

FOLLOW-THROUGH STEPS

1. Connect wire rope to ramp cylinder (page 28-93).
2. Install rear floor plate (page 24-36).

3. Raise ramp (see your -10). Check that wire rope and pulleys operate properly.
 4. Stop/shutdown engine (see your -10).
-

END OF TASK

REPLACE WIRE ROPE AND PULLEYS (M106A2, M1064, 9 AND M125A2 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Rear floor plate removed (page 24-38)

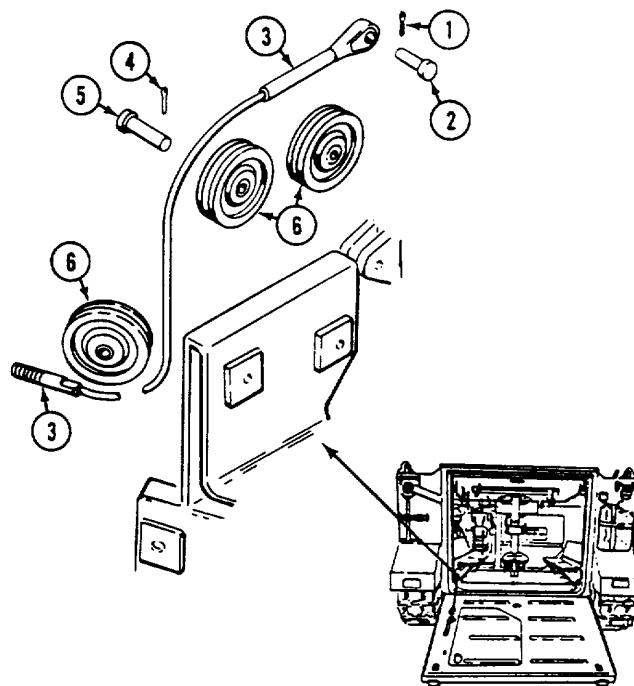
Wire rope disconnected from ramp cylinder (page 28-93)

REMOVE

1. Remove cotter pin (1), headed pin (2), and wire rope (3) from ramp mount bracket. Discard cotter pin.
2. Remove three cotter pins (4), headed pins (5), and pulleys (6) from pulley mount. Discard cotter pins.
3. Remove wire rope (3) from carrier.

INSTALL

4. Route wire rope (3) through pulley mount.
5. Align three pulleys (6) with pulley mount. Secure with three headed pins (5) and new cotter pins (4).
6. Align wire rope eye with ramp mount bracket. Secure with headed pin (2) and new cotter pin (1).

**FOLLOW-THROUGH STEPS**

1. Connect wire rope to ramp cylinder (page 28-93).
 2. Install rear floor plate (page 24-38).
 3. Start engine and raise ramp (see your -10). Check to see that wire rope and pulleys operate properly.
 4. Stop engine (see your -10).
-

END OF TASK

REPLACE RAMP DOOR SEAL

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 31, App D)

References:

See your -10

Personnel Required:

Unit Mechanic

Equipment Conditions:

Engine stopped/shutdown (see your -10)

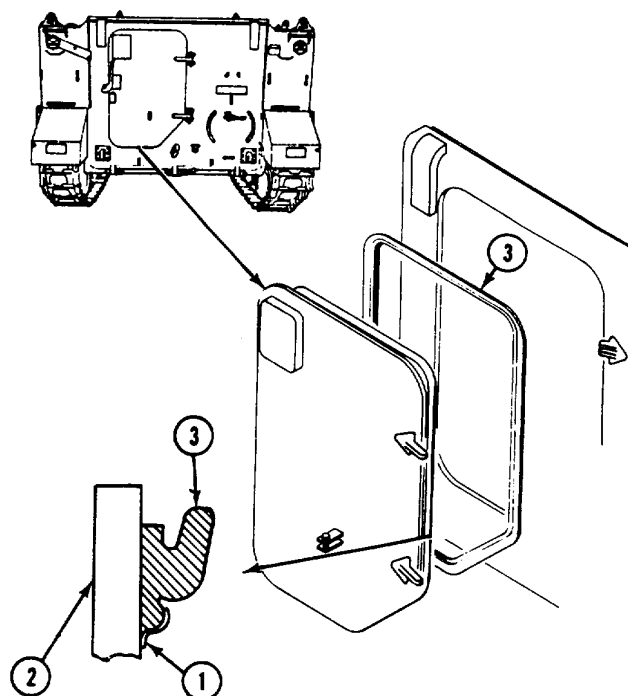
Carrier blocked (see your -10)

Ramp raised and locked (see your -10)

REMOVE**NOTE**

Check ramp door seal in same manner as ramp seal (page 24-2). Chalk pattern should be evenly distributed over interior sealing lip of ramp door. If pattern is uneven, adjust door handle (page 24-34). If adjustment of handle does not solve problem, notify direct support maintenance.

1. Open ramp door.
2. Bend five retainer strips (1), on door (2), away from door seal (3).
3. Remove damaged seal (3) from door (2).

**INSTALL**

4. Place door seal (3) on door (2).
5. Bend five retainer strips (1), on door (2), down on seal (3) to secure in place.

FOLLOW-THROUGH STEPS

1. Close ramp door to check that ramp door seal works properly.
2. Perform chalk test (page 2-37).

END OF TASK

REPLACE RAMP DOOR HOOK AND SPRING (M981A1 AND M1064 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut
Self-locking nut

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

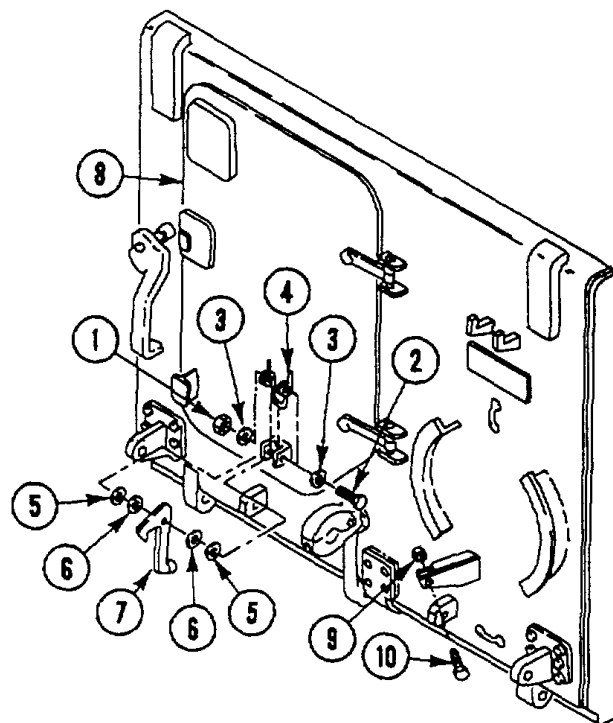
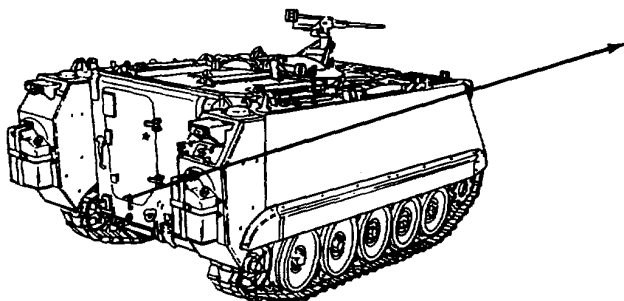
Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp raised and locked (see your -10)

REMOVE

1. Remove locknut (1), screw (2), two washers (3), spring (4), two spacers (5), two rubber washers (6), and hook (7) from mount on door (8). Discard locknut.
2. Remove locknut (9) and screw (10) from mount on ramp. Discard locknut.

INSTALL

3. Install screw (10) in mount on ramp with new locknut (9).
4. Aline hook (7), two rubber washers (6), spacers (5), spring (4), and two washers (3) with mount on door (8). Secure with screw (2) and new locknut (1).



FOLLOW-THROUGH STEPS

1. Open and close ramp door to check that ramp door hook and spring work right.

END OF TASK

REPLACE RAMP DOOR HOOK AND SPRING (ALL EXCEPT M981 AND M1064)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut
Self-locking nut

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp raised and locked (see your -10)

REMOVE

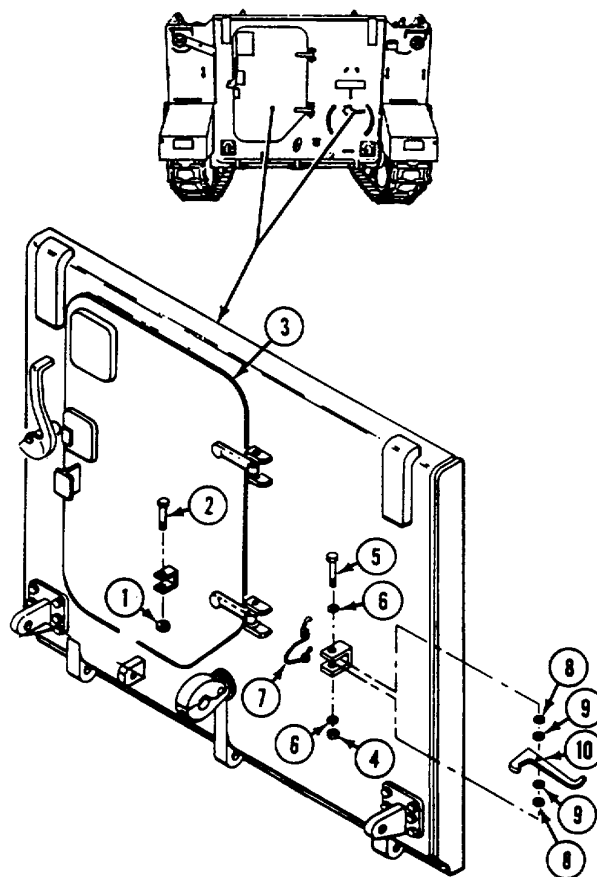
1. Remove locknut (1) and screw (2) from mount on ramp door (3). Discard locknut.
2. Remove locknut (4), screw (5), two washers (6), spring (7), two spacers (8), two rubber washers (9), and hook (10) from mount on ramp. Discard locknut.

CLEAN, INSPECT, AND REPAIR

3. Check hook. Replace cracked or worn hook.
4. Check spring. Replace broken or weak spring.
5. Check threaded parts. Remove burrs. Replace parts that have stripped threads.
6. Check rubber washers. Replace cracked washers.

INSTALL

7. Align hook (10), two rubber washers (9), spacers (8), spring (7), and two washers (6) with mount on ramp. Secure with screw (5) and new locknut (4).
8. Install screw (2) in mount on ramp door (3). Secure with new locknut (1).

**FOLLOW-THROUGH STEPS**

1. Open and close ramp door to check that ramp door hook and spring work correctly.
-

END OF TASK

REPLACE RAMP DOOR HANDLES AND SHAFT

DESCRIPTION

This task covers: Remove (page 25-34). Install (page 25-34). Adjust (page 25-35).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Preformed packing
Self-locking nut
Spring pin

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp raised and locked (see your -10)

Personnel Required:

Unit Mechanic

REMOVE

1. Remove spring pin (1), two washers (2), and door lock (3) from mount on ramp. Discard spring pin.
2. Remove locknut (4), inside handle (5), and inside washer(s) (6) from shaft (7) of outside handle (8). Discard locknut.
3. Remove key (9) from shaft (7).
4. Remove handle (8) from ramp (10). Remove outside washer(s) (11) and packing (12) from handle. Discard packing.

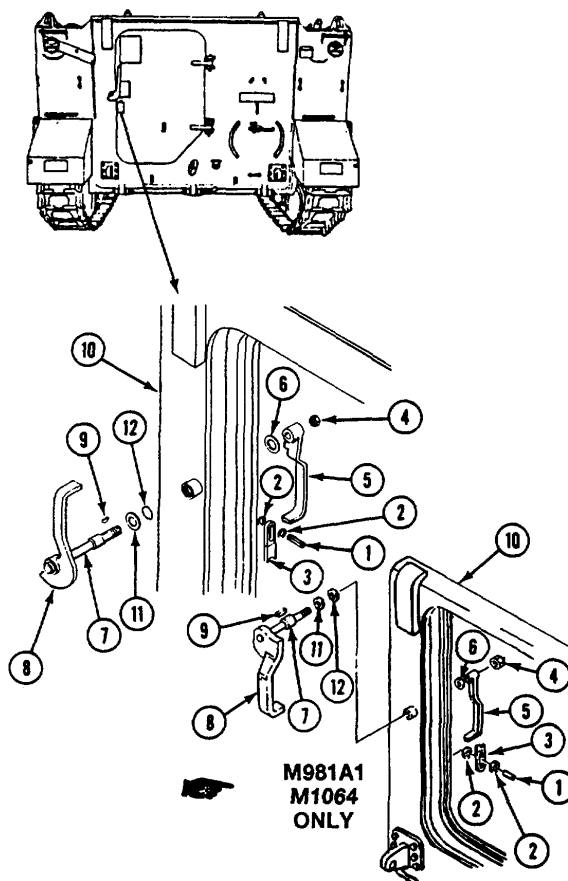
8. Align door lock (3) and two washers (2) with mount on ramp (10). Secure with pin (1).

INSTALL

5. Install outside washer(s) (11), new packing (12), and handle (8) in ramp (10).
6. Install key (9) on shaft of outside handle (8).
7. Install inside washer(s) (6), and inside handle (5) on shaft (7) of outside handle (8). Secure with nut (4).

NOTE

On M981A1 and M1064 carriers with external fuel tanks, the outside handle is mounted 180° differently from other carriers. Make sure key (9) fits properly into handle (5).

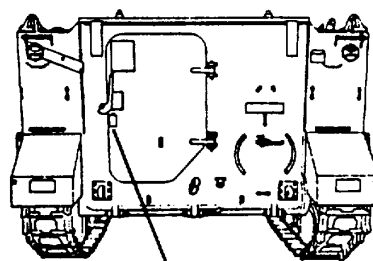


ADJUST

NOTE

When adjusted right, door handle will have no end play. Ramp door should be flush with ramp in the closed position.

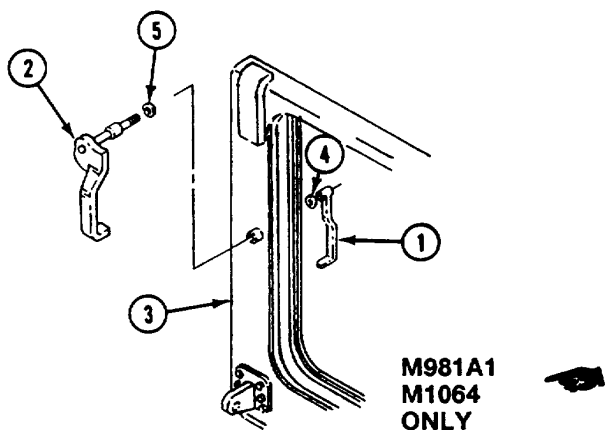
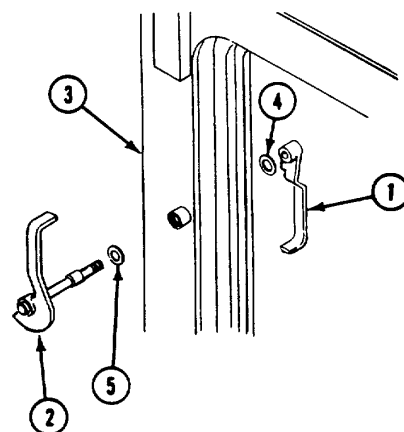
9. Remove handles (1 and 2) from ramp (3) (steps 2 thru 4).
10. Remove or install washer(s) (4 and 5) on shaft of handle (2) from inside and outside ramp (3) to obtain proper fit.



NOTE

Install washer(s) (4) on inside and washer(s) (5) on outside of ramp up to a maximum of nine at each position.

11. Install handles (1 and 2) on ramp. See steps 5 thru 8.
12. Repeat steps as needed to obtain right adjustment.



FOLLOW-THROUGH STEPS

1. Open and close ramp door to check that ramp door handles are installed properly.
2. Perform chalk test (page 2-37).

END OF TASK

REPLACE RAMP SEAL

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

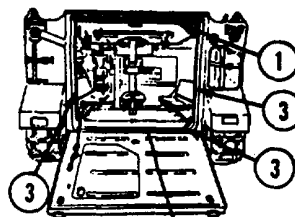
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

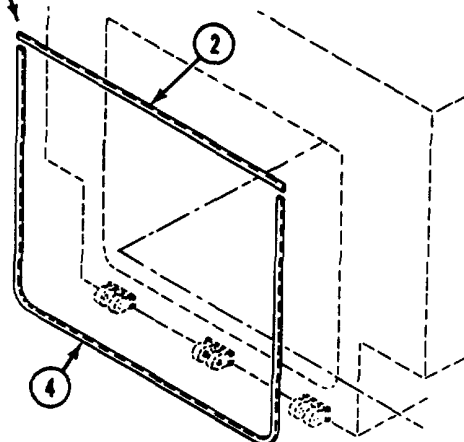
REMOVE

1. Bend retaining strip (1) up. Remove upper seal (2) from hull rear bulkhead.
2. Bend three retaining strips (3) up. Remove lower seal (4) from hull rear bulkhead.

**INSTALL****NOTE**

Trim seal to fit.

3. Place lower seal (4) on rear bulkhead. Bend three retaining strips (3) down on seal to secure in place.
4. Place upper seal (2) on rear bulkhead. Bend retaining strip (1) down on seal to secure in place.

**FOLLOW-THROUGH STEPS**

1. Start engine and raise ramp (see your -10).
 2. Perform chalk test (page 2-37).
 3. Stop/shutdown engine (see your -10).
-

END OF TASK

REPLACE/REPAIR RAMP VISION PORT AND SHIELD (M901A1 AND M981A1 ONLY)

DESCRIPTION

This task covers: Remove (page 25-37). Install (page 25-38).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30 App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Corrosion preventive compound
(Item 11, App C)
Grease (Item 18, App C)
Sealing compound (Item 49, App C)
Gasket
Lockwasher (4)
Preformed packing

References:

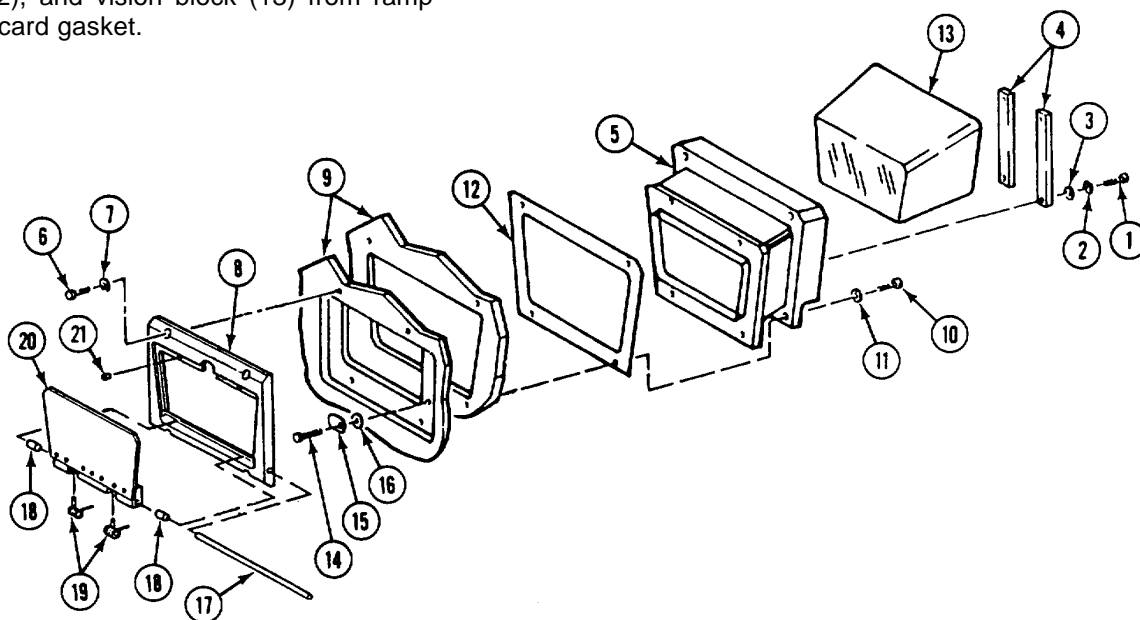
See your -10
See your LO

Equipment Conditions:

Engine shutdown (see your -10)
Carrier blocked (see your -10)
Ramp raised (see your -10)
Rear access door open (see your -10)

REMOVE

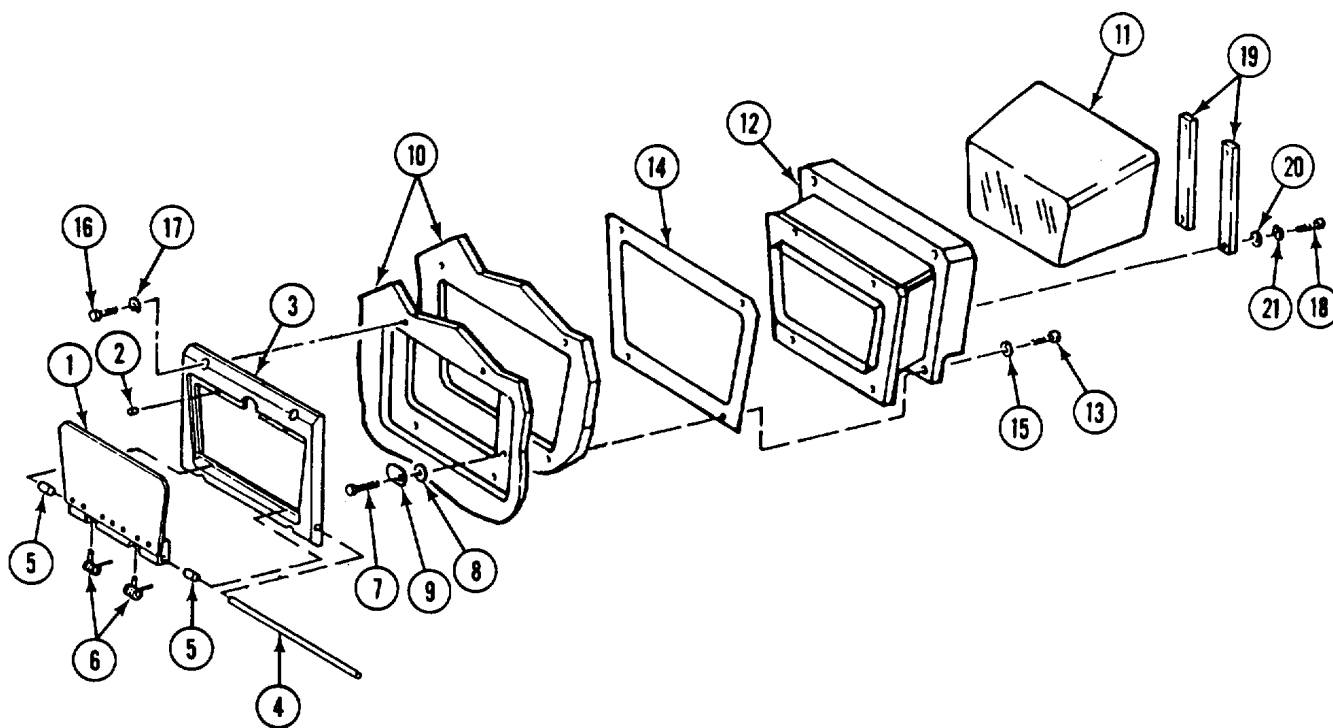
1. Remove four screws (1), lockwashers (2), washers (3), and two mending plates (4) from housing (5). Discard lockwashers.
2. Remove four screws (6), washers (7), and shield (8) from ramp hatch (9).
3. Remove four screws (10), washers (11), housing (5), gasket (12), and vision block (13) from ramp hatch (9). Discard gasket.
4. Remove two screws (14), clamps (15), and shims (16) from ramp hatch (9).
5. Remove shaft (17), two spacers (18), and two springs (19), from shield (8).
6. Remove door (20) and preformed packing (21) from shield (8). Discard packing.



GO TO NEXT PAGE

INSTALL

7. Install door (1) and preformed packing (2) on shield (3).
8. Lubricate shaft (4) lightly with grease (see your LO).
9. Install two spacers (5), two springs (6), and one shaft (4) on shield (3).
10. Apply corrosion preventive compound to two screws (7).
11. Install two shims (8), clamps (9), and screws (7) on ramp hatch (10).
12. Install vision block (11) in housing (12). Use sealing compound.
13. Apply corrosion preventive compound to four screws (13).
14. Install gasket (14) and housing (12) on ramp hatch (10). Secure with four washers (15) and screws (13).
15. Apply corrosion preventive compound to four screws (16).
16. Install shield (3) on ramp hatch (10). Secure with four washers (17) and screws (16).
17. Apply corrosion preventive compound to four screws (18).
18. Install two mending plates (19) on housing (12). Secure with four washers (20), new lockwashers (21), and screws (18).



FOLLOW-THROUGH STEPS

1. Close rear access door (see your -10).

END OF TASK

REPLACE RAMP BRACKET (M981A1 AND M1064 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Personnel Required:

Unit Mechanic

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

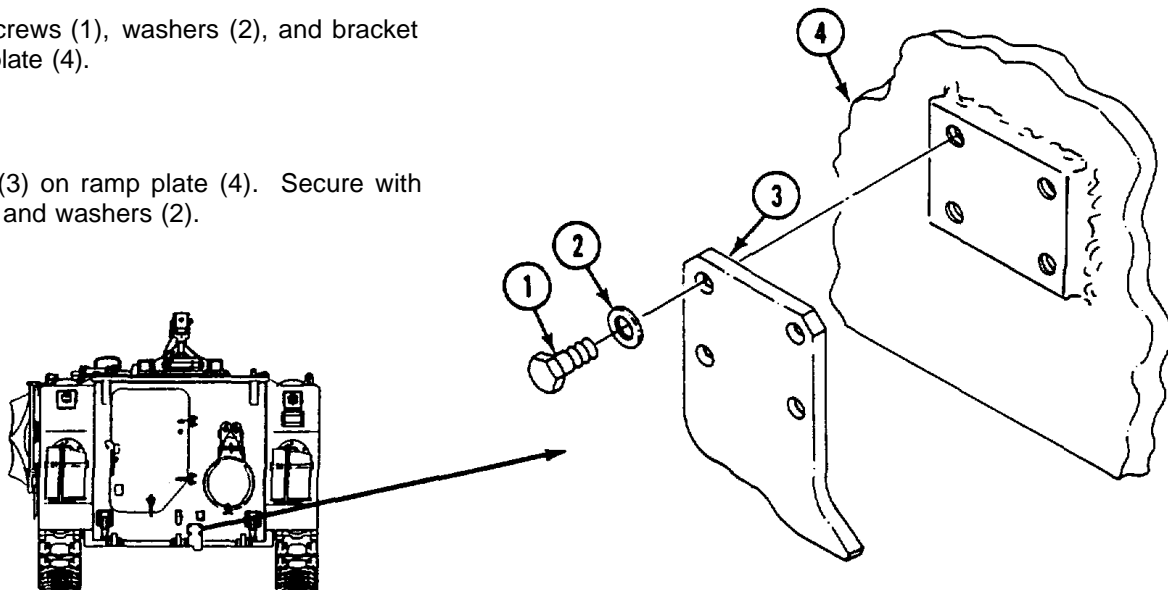
Ramp raised and locked (see your -10)

REMOVE

1. Remove four screws (1), washers (2), and bracket (3) from ramp plate (4).

INSTALL

2. Install bracket (3) on ramp plate (4). Secure with four screws (1) and washers (2).



END OF TASK

REPLACE RAMP ACCESS DOOR STOP BRACKET (M981A1 AND M1064 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Locknut

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp raised and locked (see your -10)

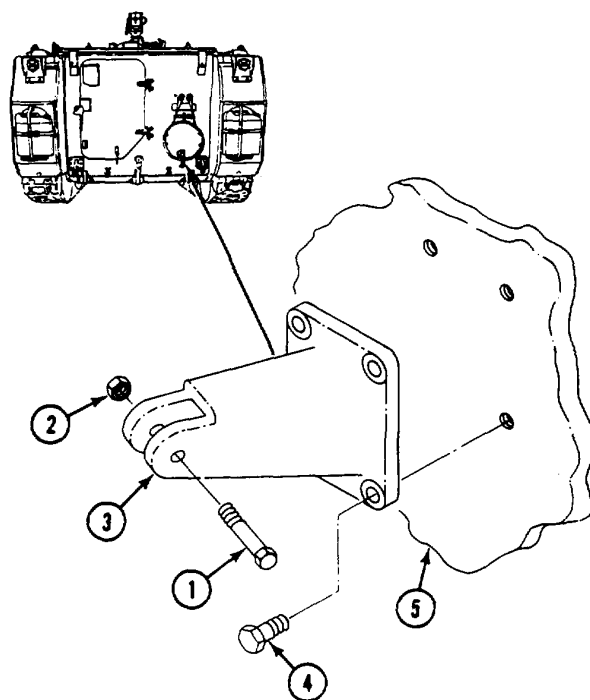
Personnel Required:Unit Mechanic

REMOVE

1. Remove screw (1) and locknut (2) from bracket (3). Discard locknut.
2. Remove four screws (4) and bracket (3) from ramp (5).

INSTALL

3. Install bracket (3) on ramp (5). Secure with four screws (4).
4. Install screw (1) and new locknut (2) on bracket (3).



END OF TASK

REPLACE DRAIN PLUGS (M981A1 AND M1064 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Antiseize compound (Item 4, App C)

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp raised and locked (see your -10)

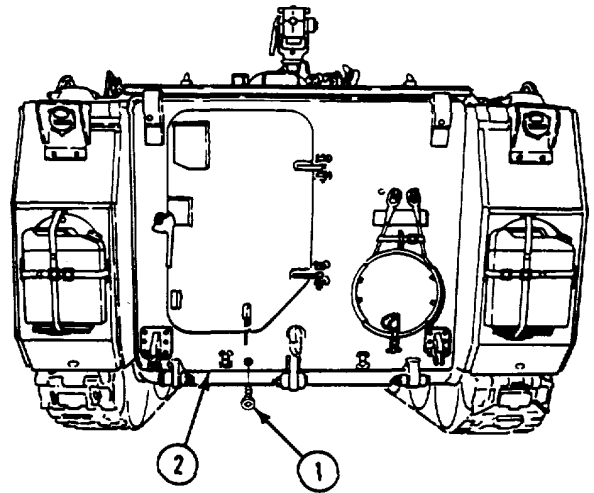
Personnel Required:Unit Mechanic

REMOVE

1. Remove three pipe plugs (1) from ramp (2).

INSTALL

2. Apply thin coat of antiseize compound to external tapered threads of three pipe plugs (1).
3. Install three pipe plugs (1) on ramp (2).



END OF TASK

CHAPTER 26
WELDING CAUTIONS AND INSTRUCTIONS

REPAIR HULL BY WELDING

WELDING ON FUEL CELL WALLS
(M741A1 ONLY)

CAUTION

Welding on M741A1 carrier's fuel cell compartment walls with fuel bladder installed can damage fuel bladder.

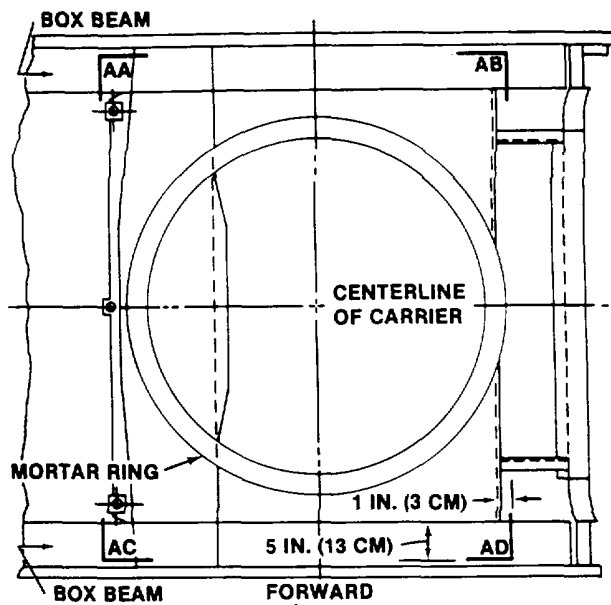
1. If necessary to weld on fuel cell wall, remove fuel bladder (page 6-94).

WELDING NEAR MORTAR RING
(M106A2, M1064, AND M125A2 ONLY)

CAUTION

Welding on area around mortar ring will cause turntable to bind.

2. Do not weld on M106A2, M1064, and M125A2 carriers in the area around mortar ring. The area extends from top of hull right through hull.



END OF TASK

CHAPTER 27
SMOKE GRENADE LAUNCHER AND AMMUNITION SPACERS

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace Smoke Grenade Launcher Guard, Plate, and Base (M113A2, M1059, and M901A1 Only)	27-2	Replace Smoke Grenade Launcher Wiring Harness (M113A2, M1059, and M901A1 Only)	27-3

REPLACE SMOKE GRENADE LAUNCHER GUARD, PLATE, AND BASE (M113A2, M1059, AND M901A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (7)

Lockwasher (3)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

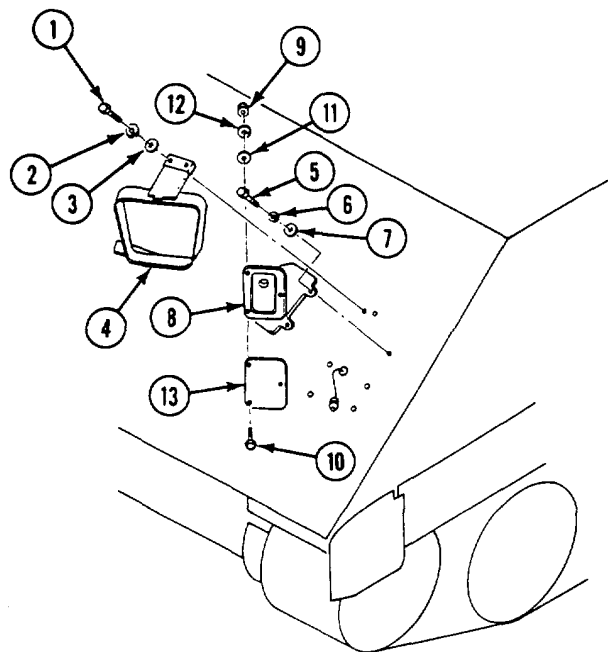
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

REMOVE**NOTE**

Left side and right side guard, plate and base are removed the same way.

1. Remove four screws (1), lockwashers (2), washers (3) and guard (4) from front hull plate. Discard lockwashers.
2. Remove three screws (5), lockwashers (6), washers (7) and base (8) from front hull plate. Discard lockwashers.
3. Remove three nuts (9), screws (10), washers (11), lockwashers (12), and plate (13) from base (8). Discard lockwashers.

**INSTALL****NOTE**

Left side and right side guard, plate, and base are installed the same way.

4. Secure plate (13) to base (8) with three screws (10), washers (11), new lockwashers (12), and nuts (9).
5. Secure base (8) to front hull plate with three screws (5) new lockwashers (6) and washers (7).
6. Secure guard (4) to front hull plate with four screws (1) new lockwashers (2) and washers (3).

END OF TASK

REPLACE SMOKE GRENADE LAUNCHER WIRING HARNESS (M113A2, M1059, AND M901A1 ONLY)**DESCRIPTION**

This task covers: Remove (page 27-3). Install (page 27-7).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Material/Parts:

Lockwasher (12)
Self-locking nut (10)
Self-locking nut (4)
Self-locking nut (4)

Personnel Required:

Unit Mechanic
Helper

References:

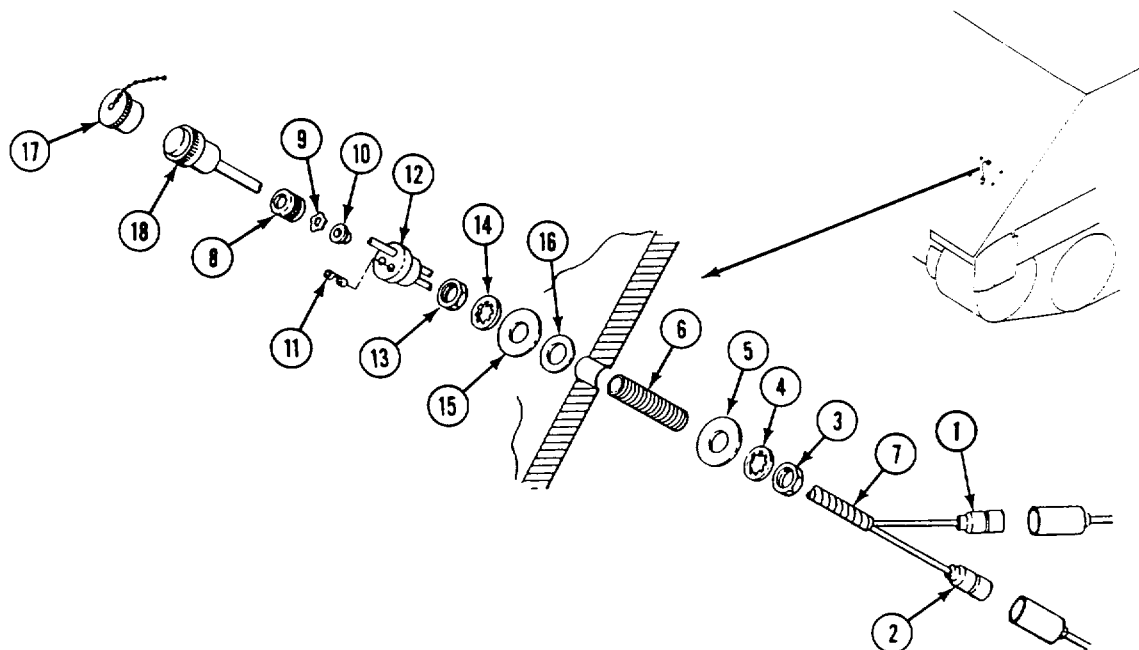
See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Battery ground lead disconnected (page 13-2)
Trim vane lowered and power plant front access door open (see your -10)
Base and plate removed (page 27-2)

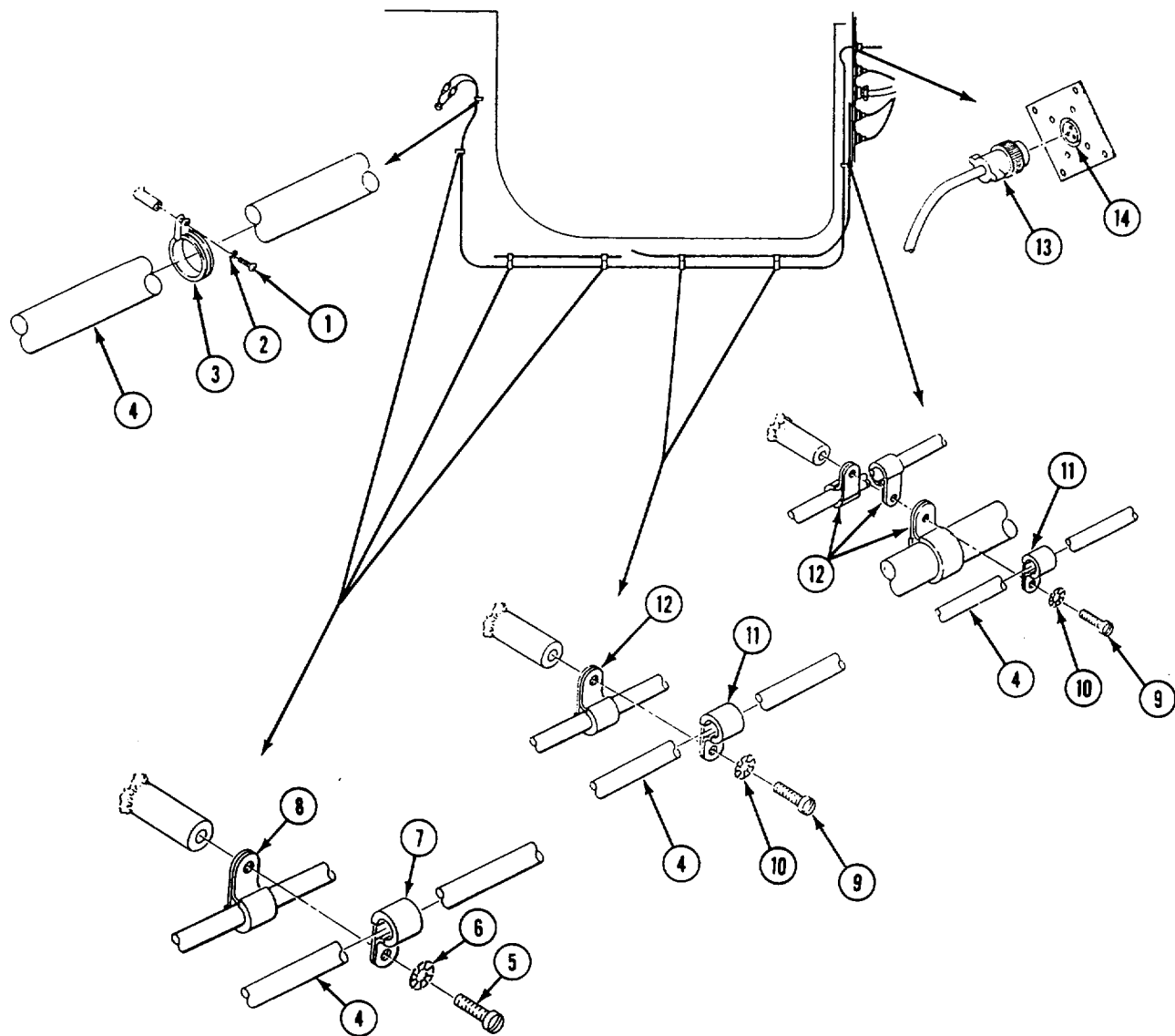
REMOVE

1. Remove circuit 7 lead (1) and circuit 799 lead (2) from inside carrier.
2. Remove locknut (3), lockwasher (4), and washer (5) from bushing (6) and wiring harness (7). Discard locknut and lockwasher.
3. Remove coupling nut (8), spring washer (9), packing retainer (10), end seal plug (11), and rubber bushing (12) from bushing (6).
4. Remove locknut (13), lockwasher (14), washer (15), and washer insulator (16) from bushing (6). Discard locknut and lockwasher.
5. Remove harness (7) from hull.
6. Remove cover (17) from connector (18).
7. Repeat steps 1 thru 6 for opposite side of carrier.

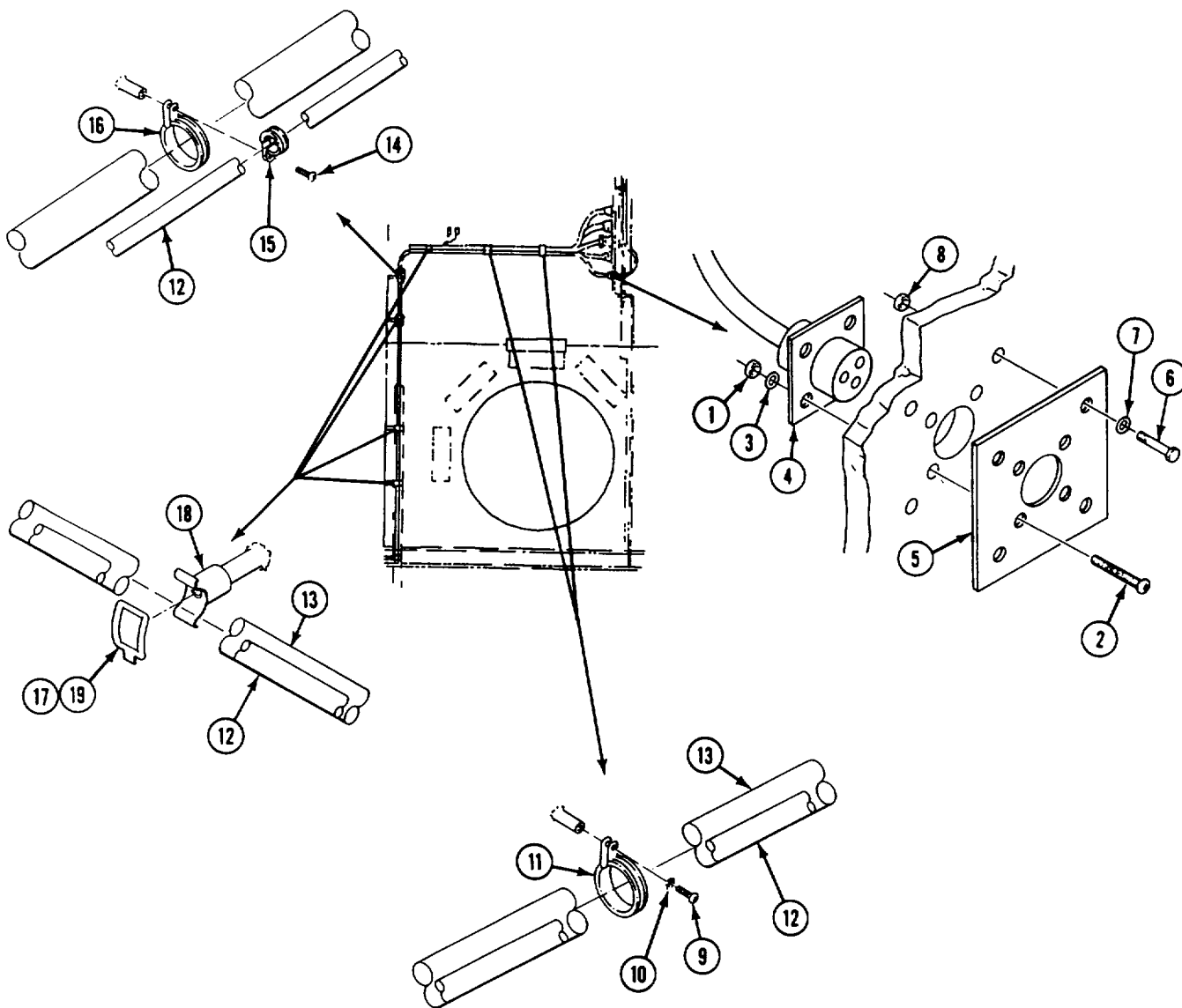


GO TO NEXT PAGE

8. Remove screw (1), lockwasher (2), and clamp (3) (M901A1 only) from hull inside power plant compartment. Remove wiring harness (4) from clamps. Discard lockwasher.
9. Remove three screws (5), lockwashers (6), clamps (7), and heater harness clamps (8) from hull. Remove wiring harness (4) from clamps (7). Discard lockwashers.
10. Remove three screws (9), lockwashers (10), clamps (11), and clamps (12) from hull and bulkhead. Remove wiring harness (4) from clamps (11). Discard lockwashers.
11. Remove harness connector (13) from connector (14) on bulkhead.

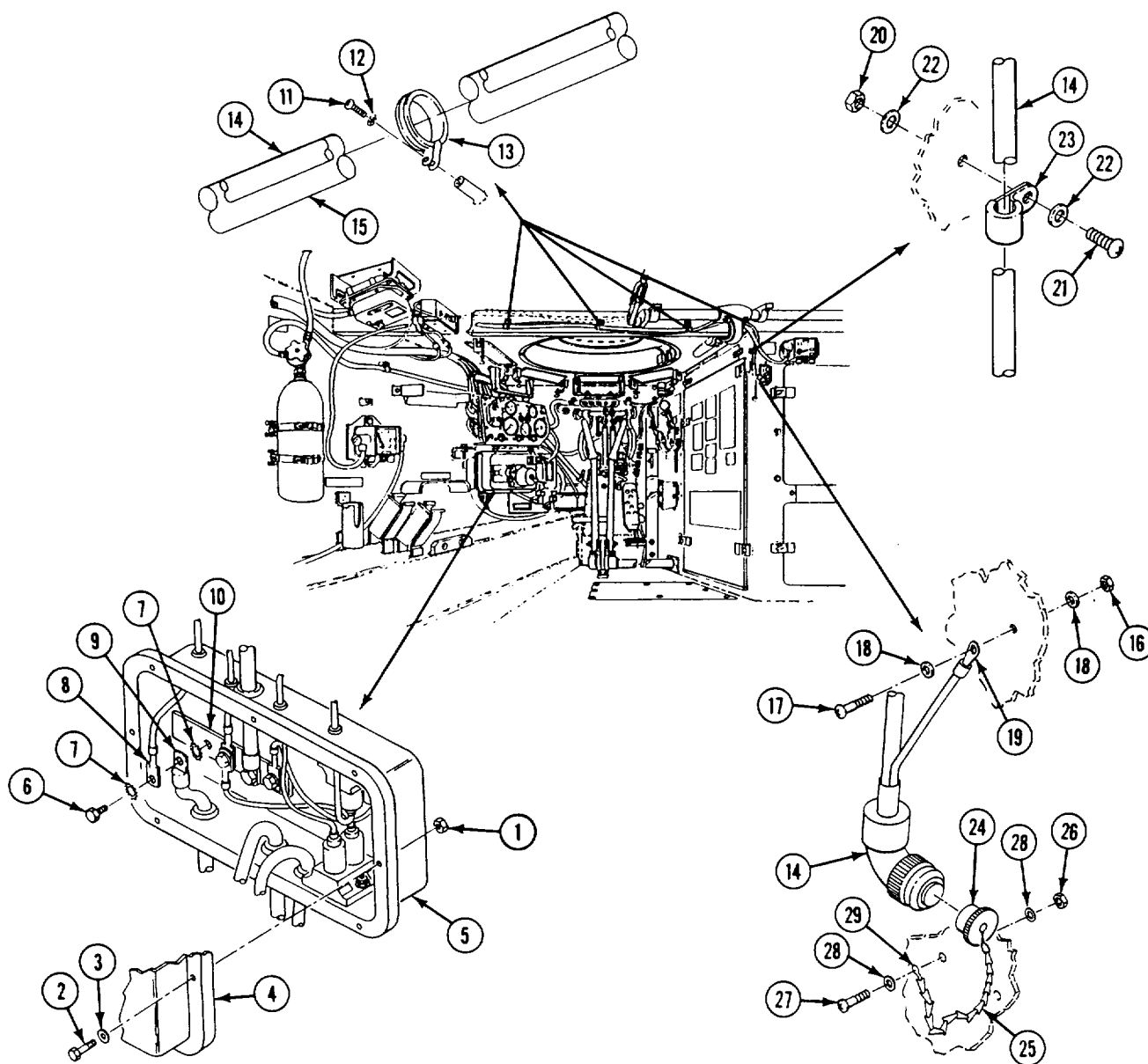


12. Remove four small locknuts (1), small screws (2), washers (3), and harness connector (4) from driver's compartment bulkhead. Discard locknuts.
13. Inspect plate (5) on bulkhead. If defective, remove four screws (6), four washers (7), and four locknuts (8). Discard locknuts.
14. Remove two screws (9), lock washers (10), and clamps (11) from front hull inside driver's compartment. Remove wiring harness (12) and main wiring harness (13) from clamps. Discard lockwashers.
15. Remove screw (14), clamp (15), and main wiring harness clamp (16) from hull. Remove wiring harness (12) from clamp (15).
16. Remove cradle clip (17), wiring harness (12), and main wiring harness (13) from cradle (18) on front hull.
17. Remove four cradle clips (19), wiring harness (12), and main wiring harness (13) from four cradles (18).



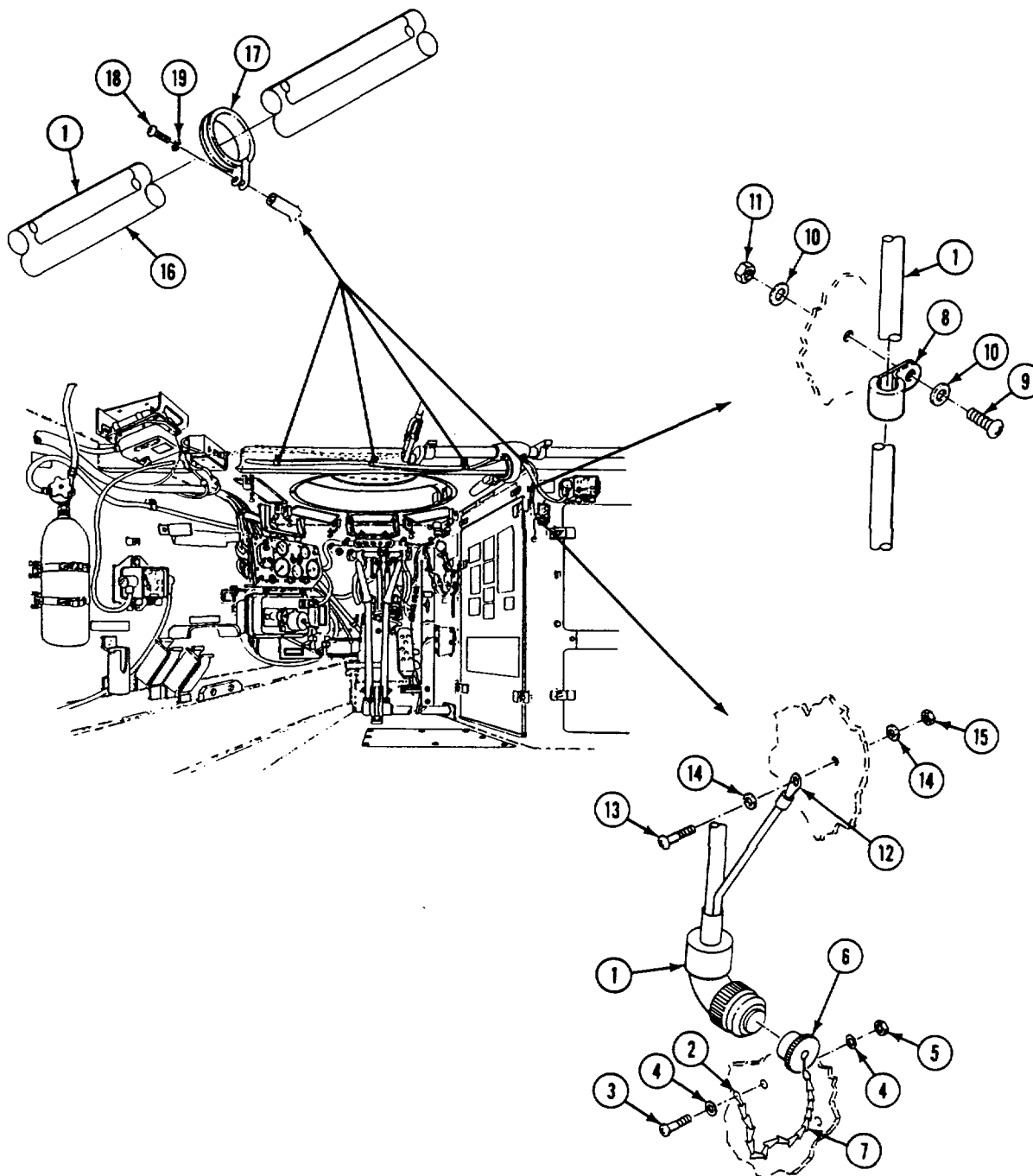
GO TO NEXT PAGE

18. Remove eight locknuts (1), screws (2), washers (3), and master switch panel (4) from distribution box (5). Discard locknuts.
19. Remove screw (6), two lockwashers (7), circuit 6L lead (8) and circuit 6 lead (9) from bus bar (10). Discard lockwashers.
20. Remove four screws (11), lockwashers (12), and clamps (13) from bulkhead behind driver's compartment. Remove wiring harness (14) and intercom cable assembly (15) from clamps. Discard lockwashers.
21. Remove nut (16), screw (17), two washers (18), and circuit 7 lead (19) from bulkhead.
22. Remove locknut (20), screw (21), two washers (22), and clamp (23) from bulkhead. Remove wiring harness (14) from clamp. Discard locknut.
23. Remove cover (24) with chain (25) from wiring harness (14).
24. Remove locknut (26), screw (27), two washers (28), and hook (29) from bulkhead. Discard locknut.
25. Remove all sections of wiring harness (14) from carrier.



INSTALL

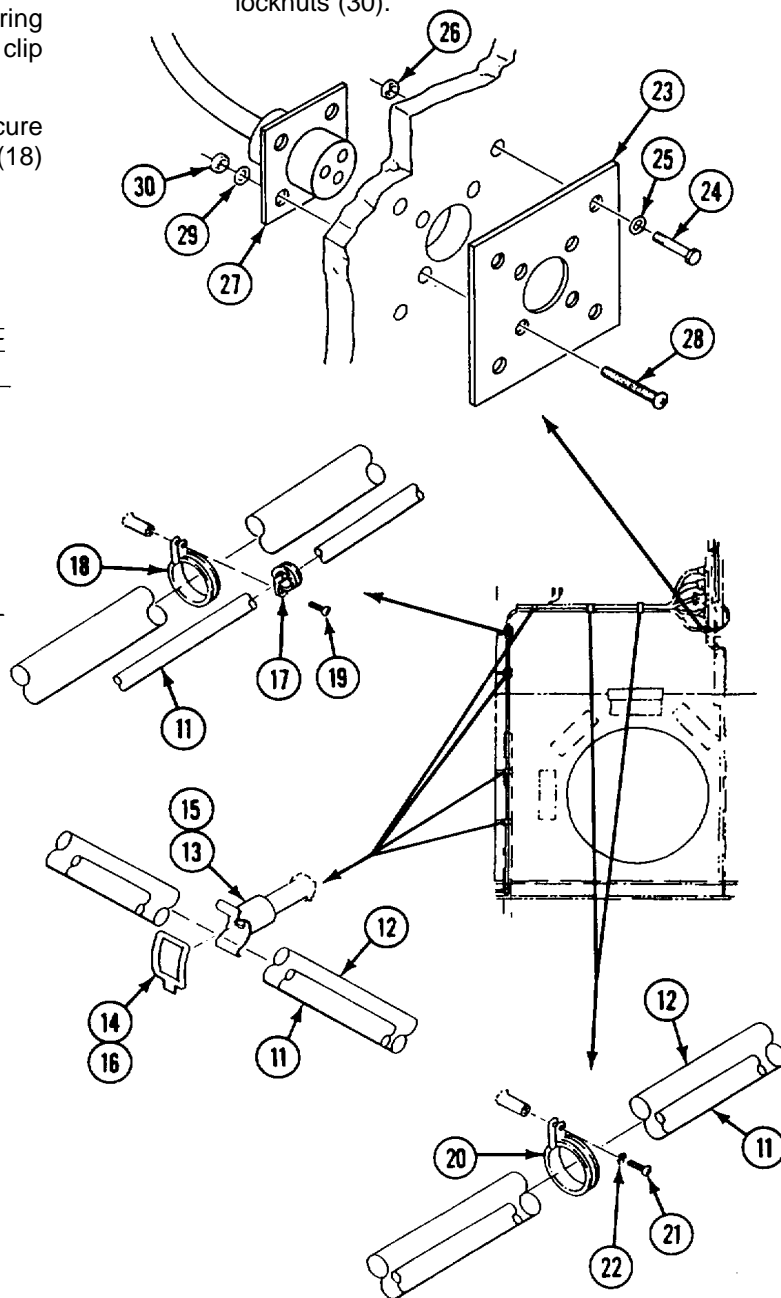
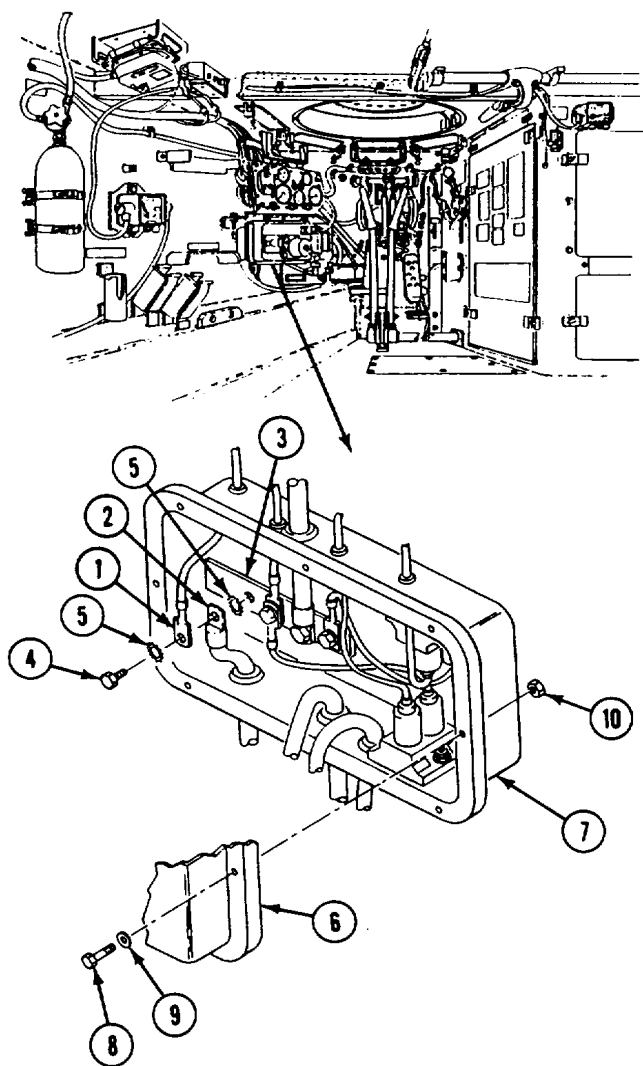
26. Place sections of wiring harness (1) through front hull plates and in carrier.
27. Secure hook (2) to bulkhead with screw (3), two washers (4), and new locknut (5).
28. Install cover (6) with chain (7) on wiring harness (1).
29. Install wiring harness (1) in clamp (8). Secure clamp to bulkhead with screw (9), two washers (10), and new locknut (11).
30. Secure circuit 7 lead (12) to bulkhead with screw (13), two washers (14), and new locknut (15).
31. Install wiring harness (1) and intercom cable assembly (16) in four clamps (17). Secure clamps to bulkhead with four screws (18) and new lockwashers (19).



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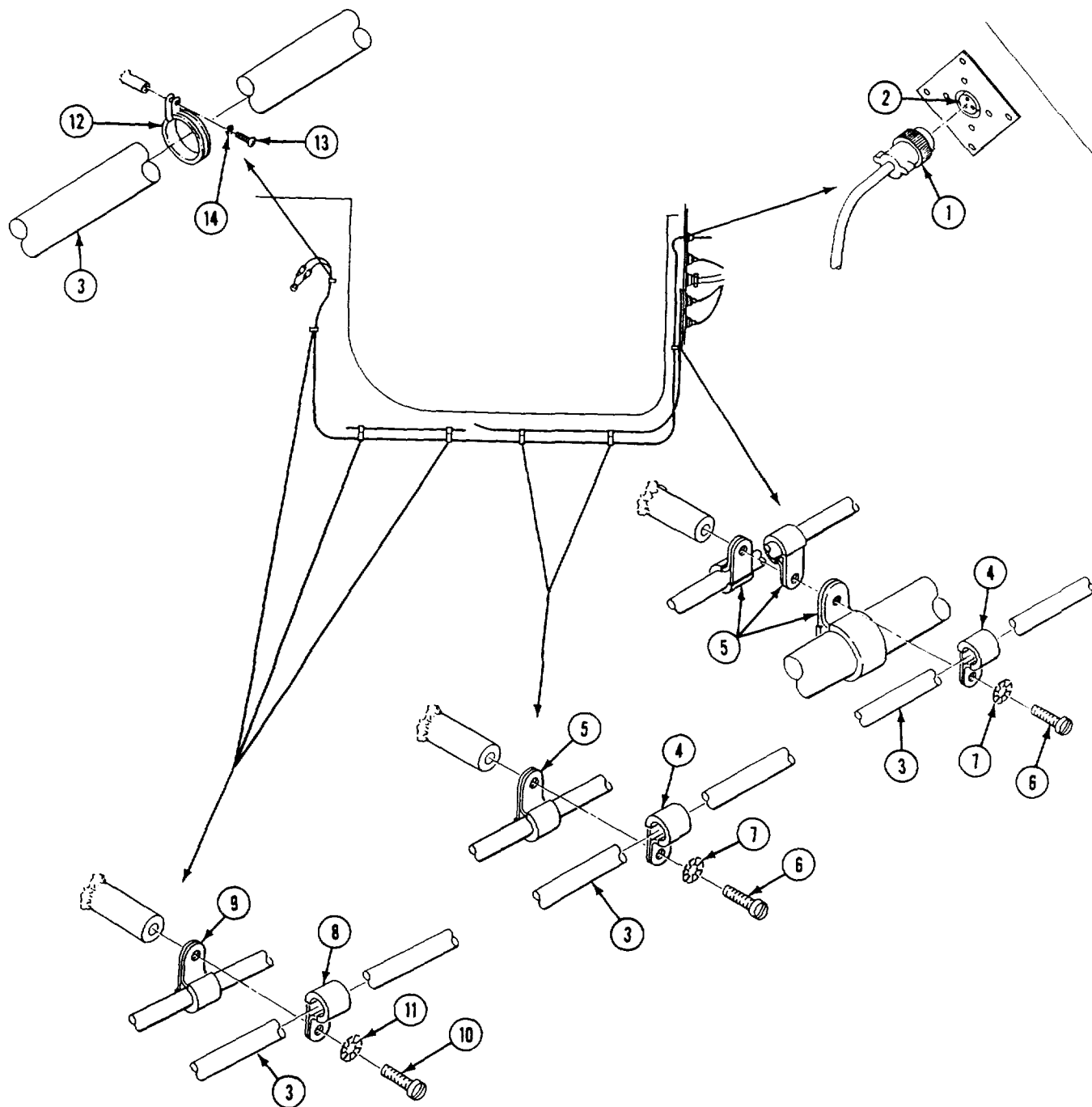
32. Secure circuit 6L lead (1) and circuit 6 lead (2) to bus bar (3) with screw (4) and two new lockwashers (5).
33. Secure master switch panel (6) to distribution box (7) with eight screws (8), washers (9), and new locknuts (10).
34. Install wiring harness (11) and main wiring harness (12) in four cradles (13). Secure with four clips (14).
35. Install wiring harness (11) and main wiring harness (12) in cradle (15). Secure with clip (16).
36. Install wiring harness (11) in clamp (17). Secure clamp (17) and main wiring harness clamp (18) to hull with screw (19).

37. Install wiring harness (11) and main wiring harness (12) in two clamps (20). Secure clamps to hull with two screws (21) and new lockwashers (22).
38. If removed, install plate (23) on bulkhead with four screws (24), four washers (25), and four new locknuts (26).
39. Secure harness connector (27) to bulkhead with four screws (28), washers (29), and new locknuts (30).



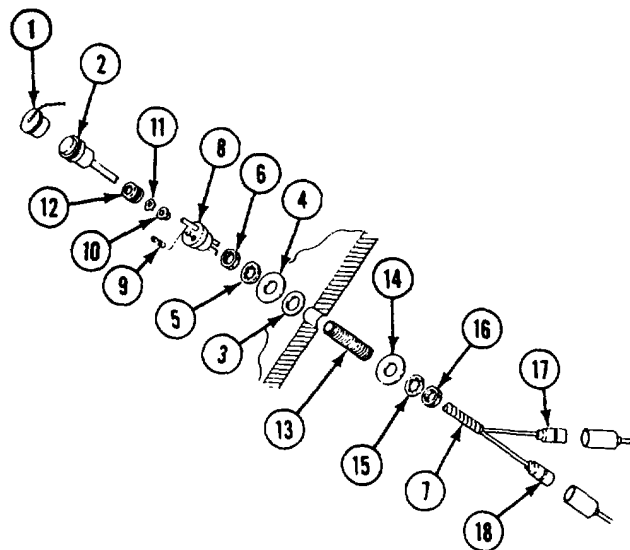
- 40. Secure harness connector (1) to connector (2) on bulkhead.
- 41. Install wiring harness (3) in three clamps (4). Secure clamps (4) and clamps (5) to hull and bulkhead with three screws (6) and new lockwashers (7).

- 42. Install wiring harness (3) in three clamps (8). Secure clamps (8) and heater harness clamps (9) to hull with three screws (10) and new lockwashers (11).
- 43. Install wiring harness (3) in clamp (12) (M901A1 only). Secure clamp to hull with screw (13) and new lockwasher (14).



GO TO NEXT PAGE

44. Install cover (1) on connector (2).
45. Install wiring harness.
46. Install washer insulator (3), washer (4), new lockwasher (5), and new locknut (6) on wiring harness (7).
47. Install rubber bushing (8), end seal plug (9), packing retainer (10), spring washer (11), and coupling nut (12) on wiring harness (7).
48. Feed wiring harness (7) through bushing (13) and secure with washer (14), new lockwasher (15), and new locknut (16).
49. Install connectors (17 and 18) on wiring harness (7).
50. Connect circuit 7 lead (17) and circuit 799 lead (18) inside carrier.
51. Repeat installation steps 42 thru 47 for opposite side of carrier.



FOLLOW-THROUGH STEPS

1. Install base and plate (page 27-2).
2. Close power plant front access door and raise trim vane (see your -10).
3. Connect battery ground lead (page 13-2).

END OF TASK

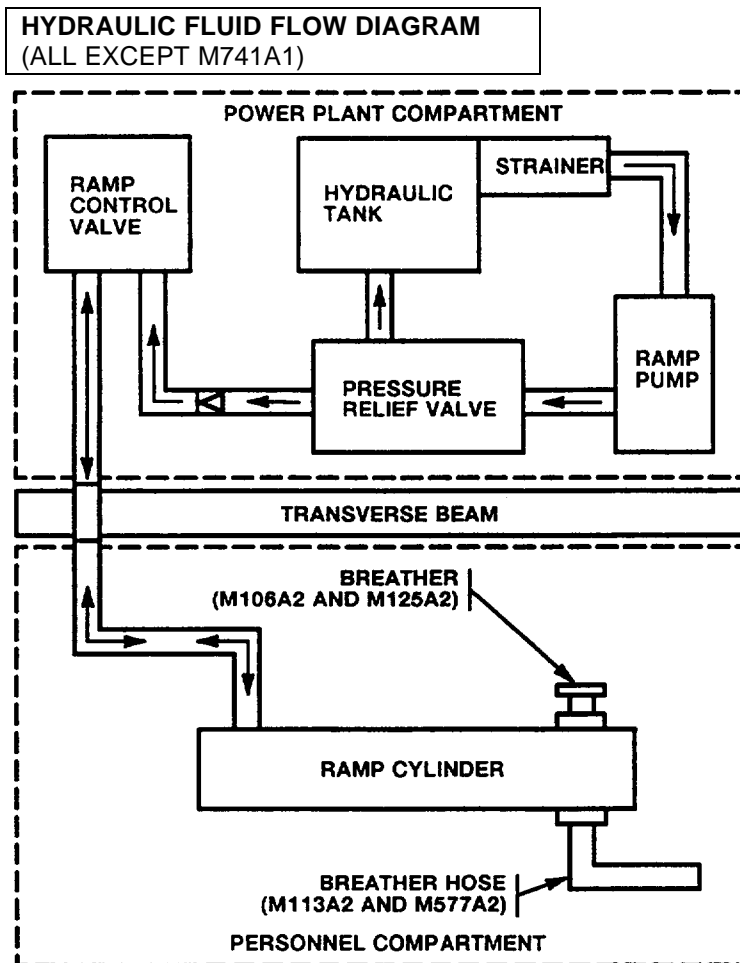
**CHAPTER 28
HYDRAULIC SYSTEM - RAMP AND SUSPENSION LOCKOUT**

**Section I. HYDRAULIC TANK, VALVES, AND LINES (ALL
EXCEPT M741A1)**

TASK INDEX

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Raise/Lower Inoperable/Unsafe Ramp (All Except M741A1)	28-3	Replace Hydraulic Tank Strainer (All Except M741A1)	28-15
Replace Ramp Pump to Hydraulic Tank Strainer Tube (All Except M741A1)	28-7	Replace/Repair Hydraulic Tank Service Hydraulic Tank (All Except M741A1)	28-17
Replace Ramp Pump to Pressure Relief Valve Hose (All Except M741A1)	28-9	Replace Quick Disconnect and Ramp Control Valve Tube to Bulkhead Connection (All Except M741A1)	28-22
Replace Relief Valve Tee to Quick Disconnect Hose (All Except M741A1)	28-11		

HYDRAULIC FLUID FLOW DIAGRAM (ALL EXCEPT M741A1)



RAISE/LOWER INOPERABLE/UNSAFE RAMP (ALL EXCEPT M741A1)

DESCRIPTION

This task covers: Raise Inoperable/Unsafe Ramp (page 28-3).
Lower Inoperable/Unsafe Ramp (page 28-6.1).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)
Powered lifting device with rated lift capability of at least 700 lbs (318 kg)

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp inoperable or unsafe

Personnel Required:

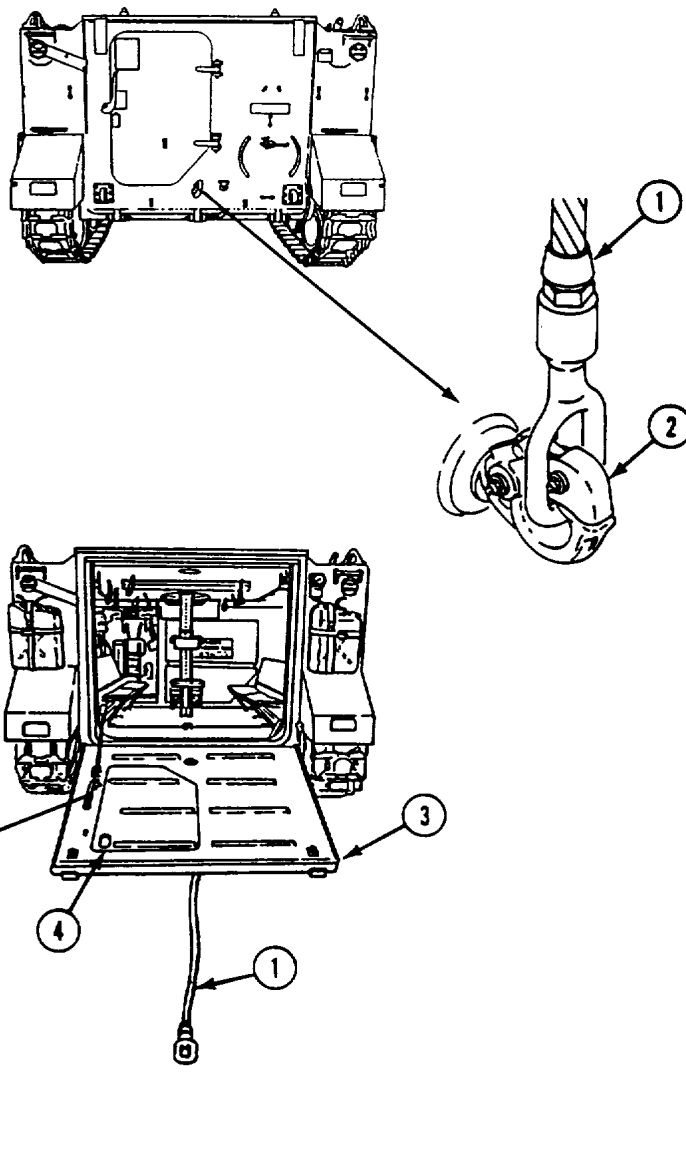
Unit Mechanic

RAISE INOPERABLE/UNSAFE RAMP



WARNING
An inoperable/unsafe ramp can fall and kill soldiers. Follow these procedures and never get behind a raised, inoperable/unsafe ramp that is not secured.

1. Connect cable (1) to tow pintle (2) of ramp (3) and to lifting hook of powered lifting device. Place cable under center of ramp and out at top edge. If required, use crowbar to raise ramp slightly.
2. Close ramp access door (4) and secure with combat lock (5) (see your -10).
3. Secure combat lock (5) with padlock (6) from tool bag (see your -10).



GO TO NEXT PAGE

4. Raise ramp (1). Make sure ramp actuator cable does not get caught between ramp and hull.
5. Close ramp (1) and secure with ramp lock (see your -10).



WARNING

An inoperable/unsafe ramp can fall and kill soldiers. Follow these procedures and never get behind a raised, inoperable/unsafe ramp that is not secured.

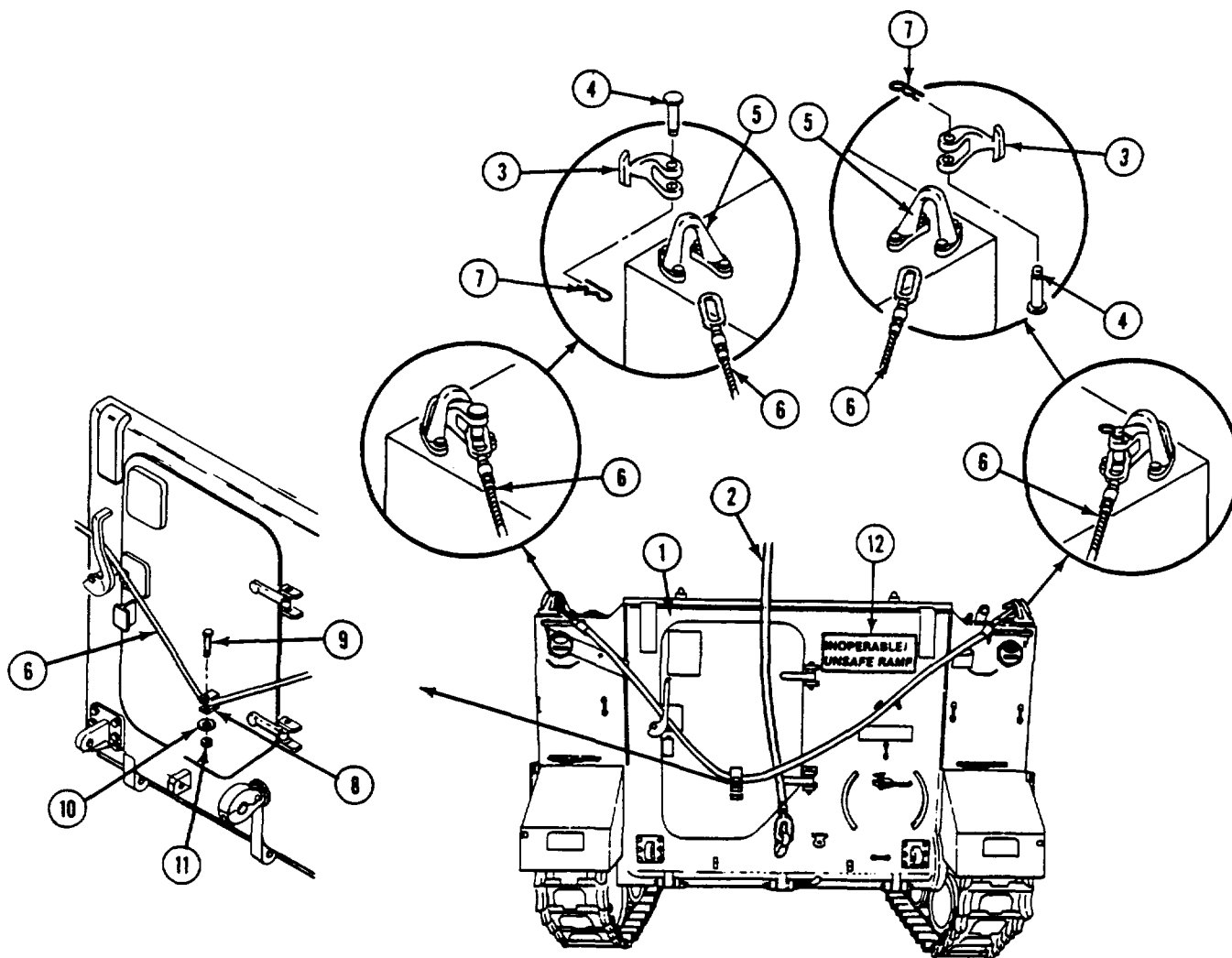
NOTE

Steps 6 thru 10 apply to all carriers except M577A2, M1068, and carriers with external fuel tanks.

6. With ramp lock engaged and lifting equipment cable (2) holding ramp (1) up, install two tow hooks (3) and headed pins (4) in rear lifting eyes (5).
7. Connect tow cable (6) to both tow hooks (3) with headed pins (4) and safety clips (7).
8. Secure tow cable (6) to ramp door striker bracket (8) with screw (9), washer (10), and locknut (11).
9. Post warning sign (12) on ramp (1) with the following:

WARNING

This inoperable/unsafe ramp can fall and kill you. Do not remove any cable unless proper lifting equipment is attached.



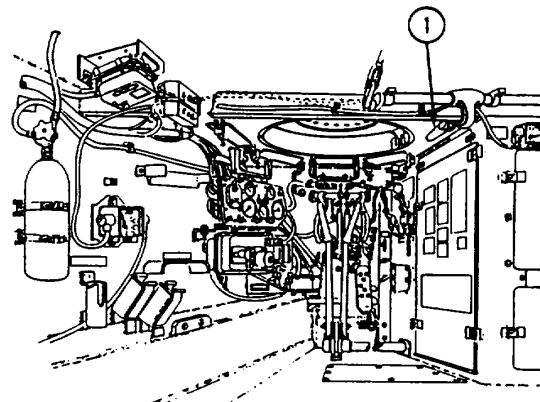
10. Tag driver's ramp lock lever (1) inside vehicle with the following warning sign:

WARNING

Do not work behind an inoperable/unsafe ramp that is not secured. Use lifting device to make sure ramp cannot fall while cable is being secured to tow pintle.

NOTE

Steps 11 thru 14 apply to M577A2 and M1068 only.



11. With ramp lock engaged and lifting equipment cable holding ramp up, install tow hook (2), headed pin (3), and safety clip (4) in rear left hand lifting eye (5), and rear right hand towing eye (6).

12. Route tow cable (7) through tow pintle (8).
Connect ends of tow cable to lifting eye (5) and towing eye (6), and secure with two tow hooks (2), headed pins (3), and safety clips (4).

13. Post a warning sign (9) on ramp (10) with the following:

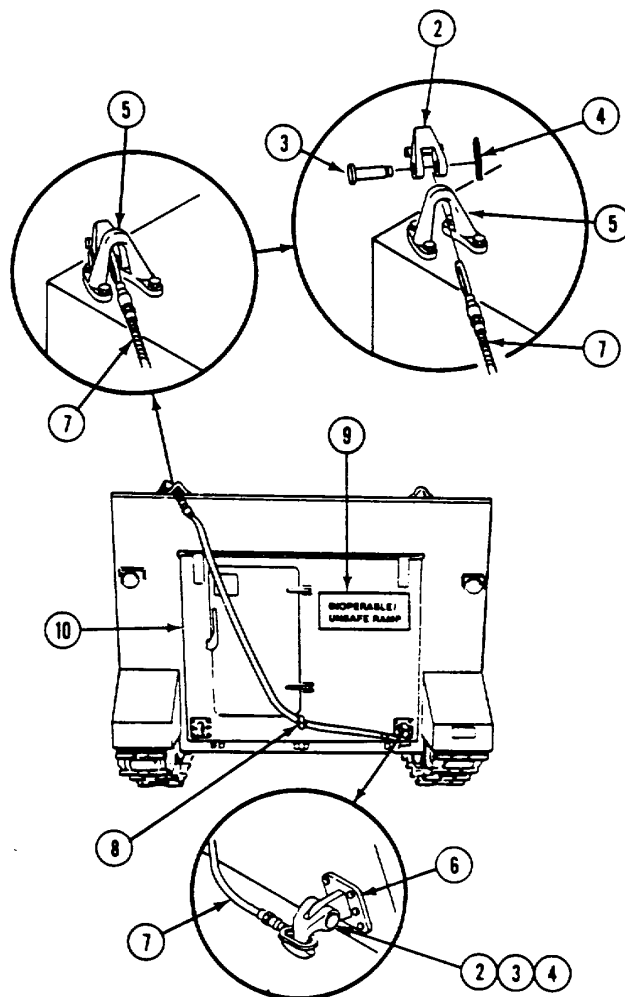
WARNING

This inoperable/unsafe ramp can fall and kill you. Do not remove any cable unless proper lifting equipment is attached.

14. Tag driver's ramp lock lever (1) inside vehicle with the following warning sign:

WARNING

Do not work behind an inoperable/unsafe ramp that is not secured. Use lifting device to make sure ramp cannot fall while cable is being secured to tow pintle.



Steps 15 thru 19 apply to carriers with external fuel tanks and without armor.

15. Secure cable (1) to antenna brush guard (2) or mortar hatch catch (3) and tow eye (4) with two tow hooks (5). Secure tow hooks with headed pins (6) and safety clips (7).
16. Release load from lifting device and remove cable (8) from tow pintle (9).
17. Secure ramp access door with combat lock and carrier padlock from tool bag (see your -10).
18. Post warning sign (10) on ramp (11) with the following:

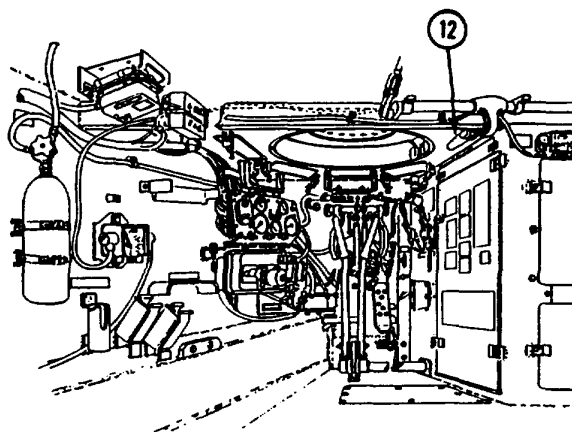
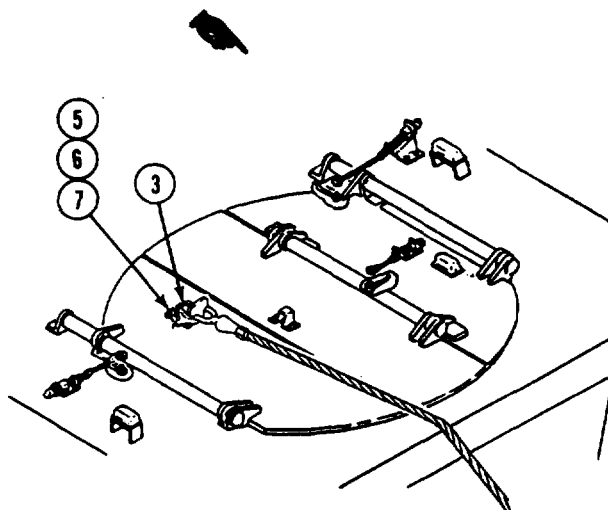
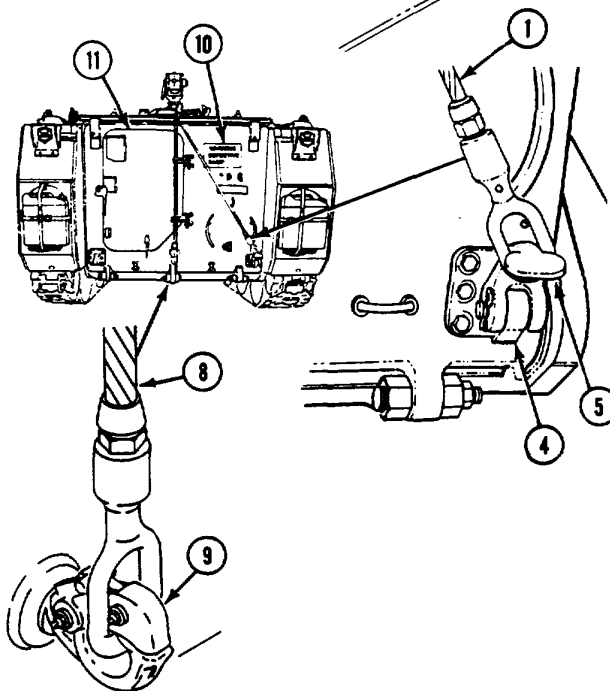
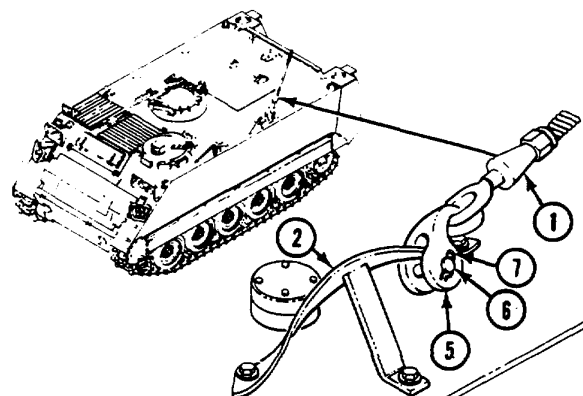
NOTE

This inoperable/unsafe ramp can fall and kill you. Do not remove cable securing ramp unless proper lifting equipment is attached.

19. Tag driver's ramp locking handle (12) with the following warning sign:

NOTE

Do not work behind an inoperable/unsafe ramp that is not secured. Use lifting device to make sure ramp cannot fall while cable is being secured to tow pintle.



LOWER INOPERABLE/UNSAFE RAMP

WARNING



An inoperable/unsafe ramp can fall and kill you. Do not remove any cable securing ramp unless proper lifting equipment is attached.

NOTE

Step 24 applies to M577A2 and M1068 carriers only.

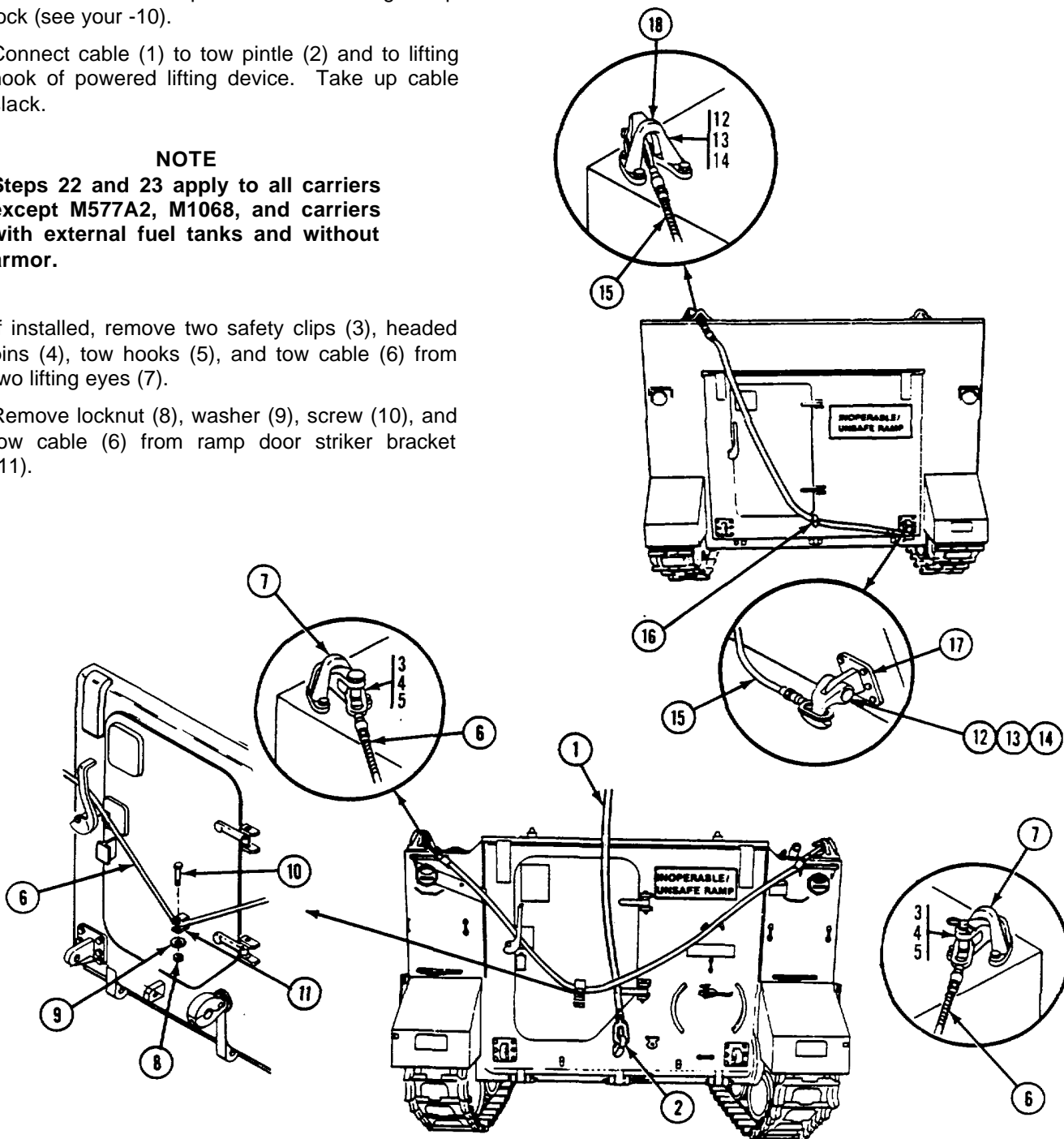
20. Secure driver's ramp lock closed using ramp lock (see your -10).
21. Connect cable (1) to tow pintle (2) and to lifting hook of powered lifting device. Take up cable slack.

NOTE

Steps 22 and 23 apply to all carriers except M577A2, M1068, and carriers with external fuel tanks and without armor.

22. If installed, remove two safety clips (3), headed pins (4), tow hooks (5), and tow cable (6) from two lifting eyes (7).
23. Remove locknut (8), washer (9), screw (10), and tow cable (6) from ramp door striker bracket (11).

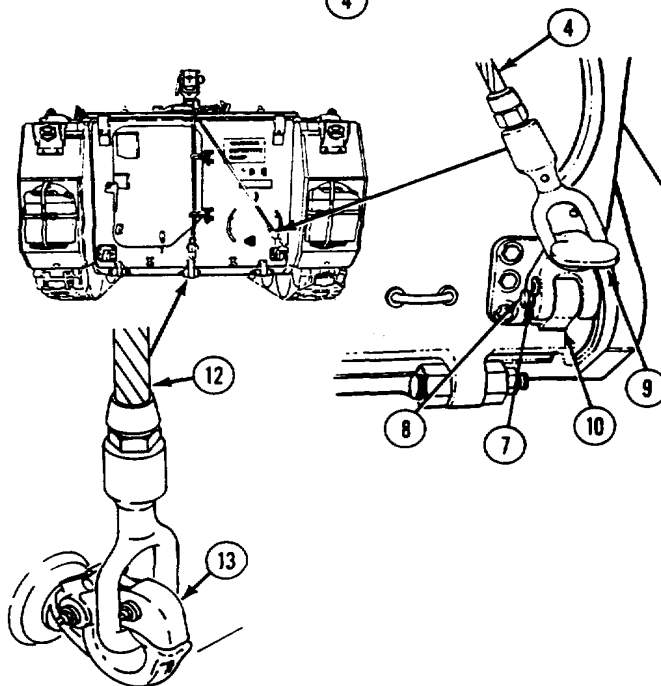
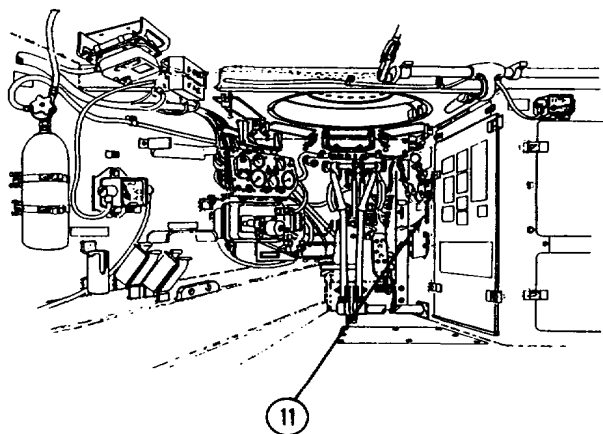
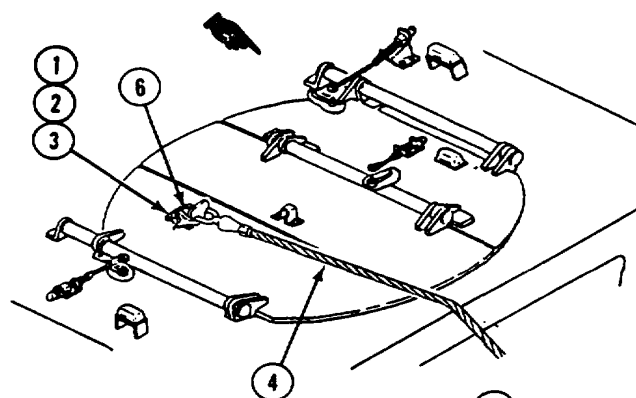
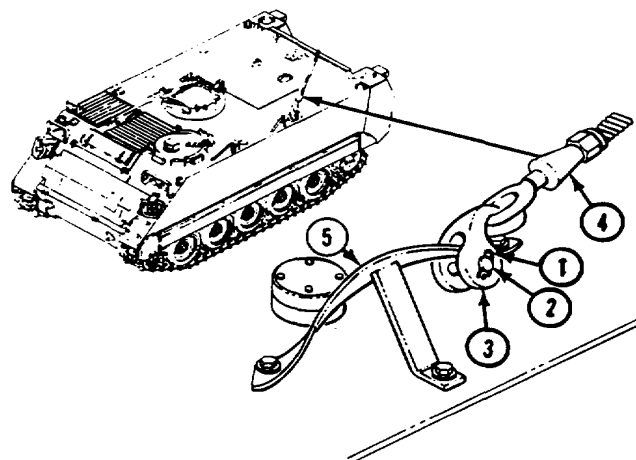
24. If installed, remove two safety clips (12), headed pins (13), and tow hooks (14) from tow cable (15). Remove tow cable from tow pintle (16), towing eye (17), and lifting eye (18).



GO TO NEXT PAGE

NOTE
Steps 25 and 26 apply to carriers with external fuel tanks and without armor.

25. If installed, remove safety clip (1), headed pin (2), tow hook (3) and tow cable (4) from antenna brush guard (5) or mortar hatch catch (6).
26. If installed, remove safety clip (7), headed pin (8), tow hook (9) and tow cable (4) from towing eye (10).
27. Unlock driver's ramp lock handle (see your -10).
28. Lower ramp with lifting device while holding ramp control handle (11) in down position.
29. Disconnect cable (12) from tow pintle (13) and lifting hook of powered lifting device. If required, use crowbar to raise ramp slightly for cable removal.



END OF TASK

**CHAPTER 28.1
AUXILIARY GENERATOR**

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace Auxiliary Generator Fuel		Replace Auxiliary Generator	
Shutoff Valve (M1068 Only)	28.1-2	Bulkhead-to-Hull Fuel Supply	
Replace Auxiliary Generator		Hoses (M1068 Only)	28.1-7
Valve-to-Bulkhead Fuel Supply		Replace Auxiliary Generator Fuel	
Hoses (M1068 Only)	28.1-4	Return Hose (M1068 Only)	28.1-10

REPLACE AUXILIARY GENERATOR FUEL SHUTOFF VALVE (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 28.1-2). Install (page 28.1-3).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 46, App C)
Locknut

Personnel Required:

Unit Mechanic

References:

See your -10

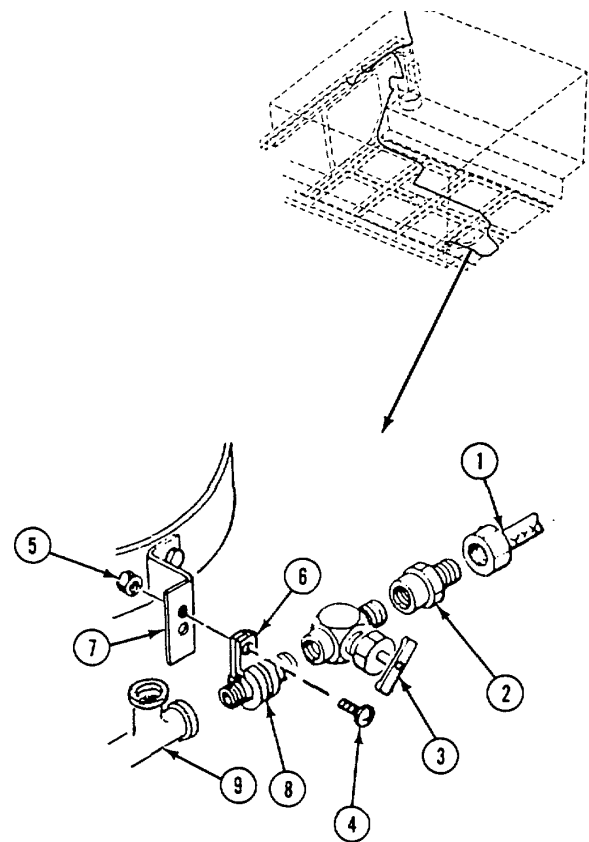
Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Battery ground lead disconnected (page 13-2)
Rear floor plate removed (page 24-37)
Auxiliary equipment fuel shutoff valve closed (see your -10)

REMOVE**WARNING**

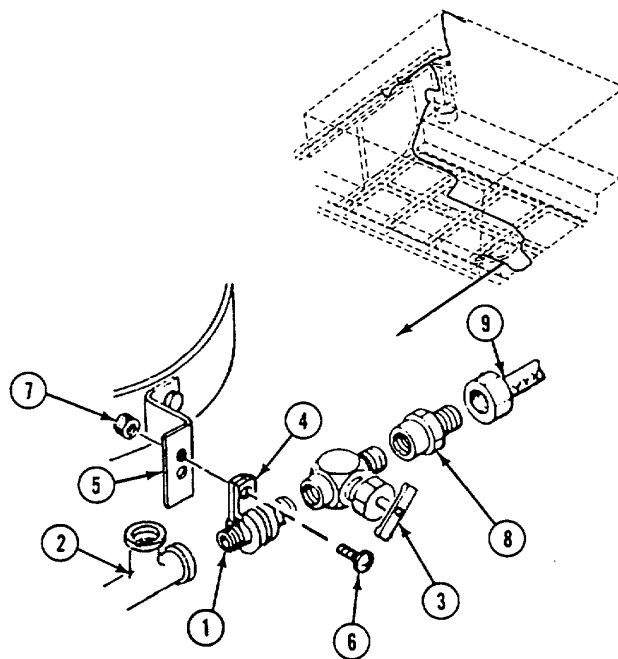
Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Disconnect hose (1) from adapter (2) on fuel shutoff valve (3).
4. Remove adapter (2) from shutoff valve (3).
5. Remove screw (4), locknut (5), and clamp (6) from bracket (7). Remove clamp from nipple (8). Discard locknut.
6. Remove shutoff valve (3) from nipple (8).
7. Remove nipple (8) from tee (9).



INSTALL

8. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
9. Install nipple (1) in tee (2).
10. Install shutoff valve (3) on nipple (1).
11. Place clamp (4) on nipple (1). Secure clamp to bracket (5) with screw (6) and new locknut (7).
12. Install adapter (8) on shutoff valve (3).
13. Connect hose (9) to adapter (8).

**FOLLOW-THROUGH STEPS**

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Open auxiliary equipment fuel shutoff valve (see your -10). 2. Connect battery ground lead (page 13-2). 3. Start auxiliary generator (see your -10). Check all fittings for leaks. Turn generator off. | <ol style="list-style-type: none"> 4. Install rear floor plate (page 24-37). 5. Raise and lock ramp (see your -10). 6. Stop engine (see your -10). |
|---|---|

END OF TASK

REPLACE AUXILIARY GENERATOR VALVE-TO-BULKHEAD FUEL SUPPLY HOSES (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 28.1-4). Install (page 28.1-5).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Strap (6)
Lockwasher (3)
Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

See your -10

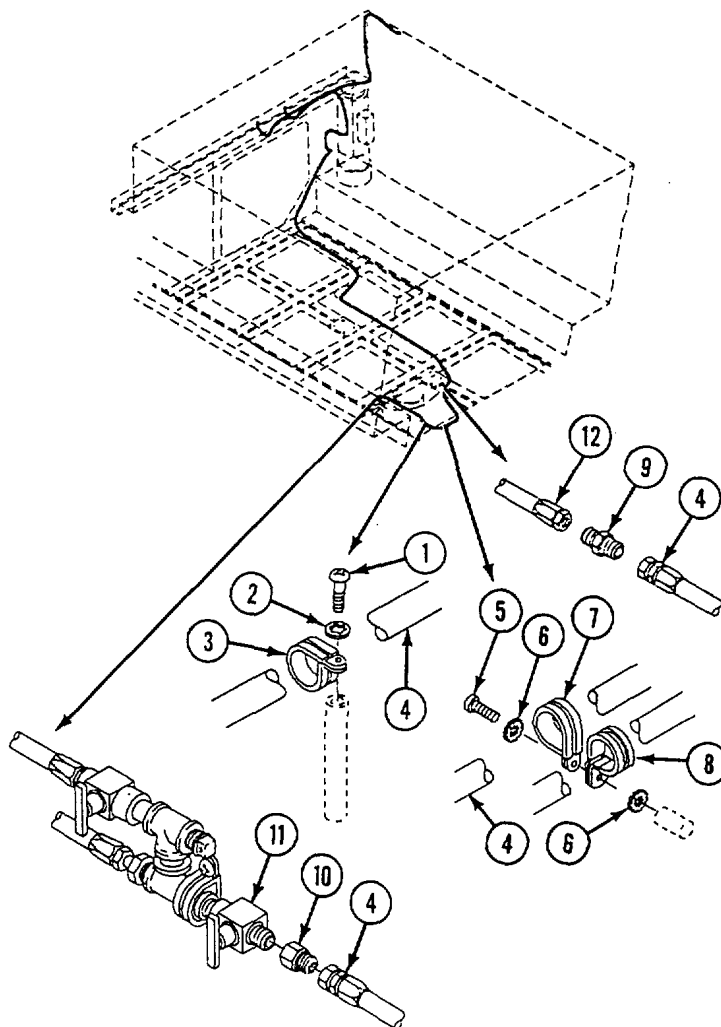
Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Battery ground lead disconnected (page 13-2)
Personnel heater duct removed (page 29-48).
Right front and rear floor plates removed (page 24-37)
Auxiliary generator fuel shutoff valve closed (see your -10)

REMOVE

WARNING
Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Remove screw (1), lockwasher (2), and clamp (3) securing fuel hose (4) to weldnut on hull floor. Remove clamp from hose. Discard lockwasher.
2. Remove screw (5), two lockwashers (6), and clamp (7) securing fuel hose (4) and wiring harness clamp (8) to rear hull plate. Remove clamp from hose. Discard lockwashers.
3. Disconnect fuel hose (4) from nipple (9) and from adapter (10) on fuel shutoff valve (11). Remove hose from carrier.
4. Remove nipple (9) from end of fuel hose (12).



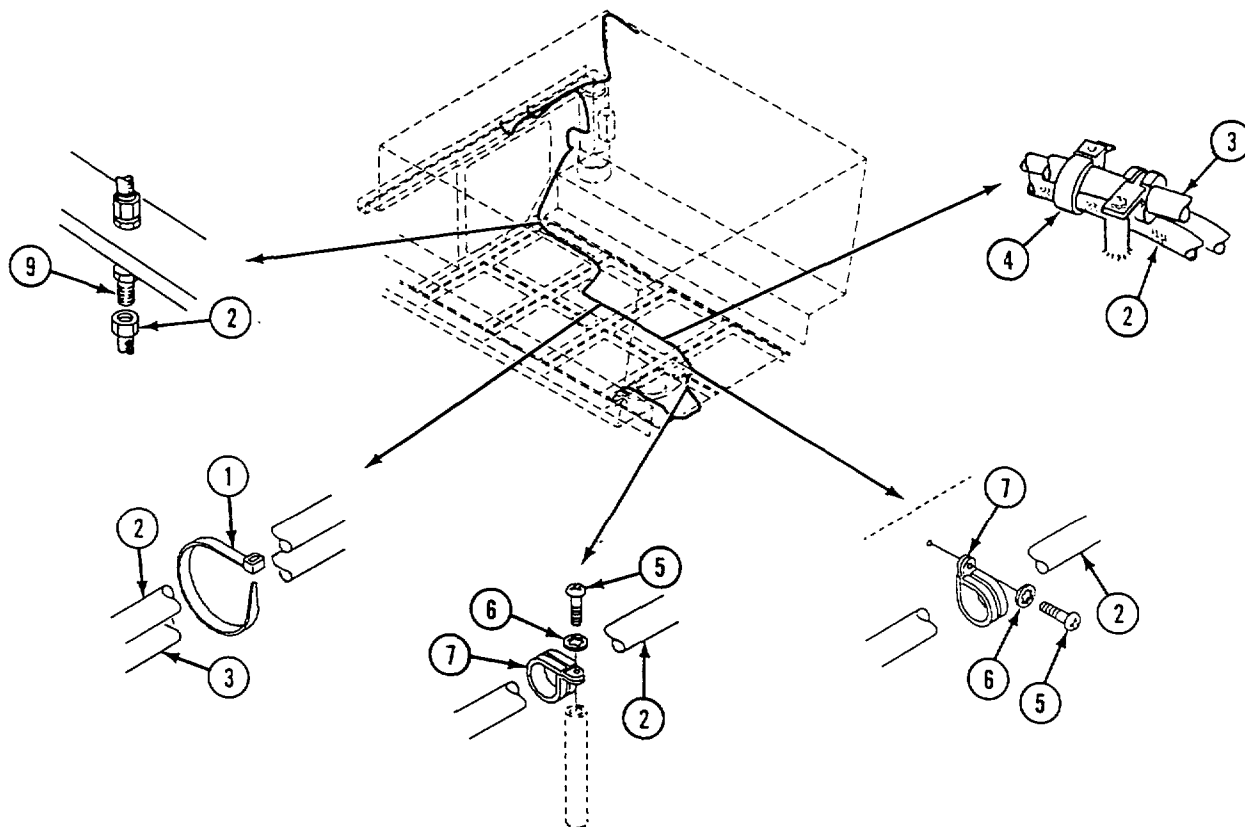
5. Remove six straps (1) holding fuel hose (2) to other hoses (3). Discard straps.
6. Remove nine straps (4) holding fuel hose (2) to other hoses (3).
7. Remove two screws (5), lockwashers (6), and clamps (7) securing fuel hose (2) to weldnut on hull floor and to side of seat support. Discard lockwashers.
8. Disconnect fuel hose (2) from nipple (9) in bulkhead crossbeam. Remove hose from carrier.

INSTALL

NOTE

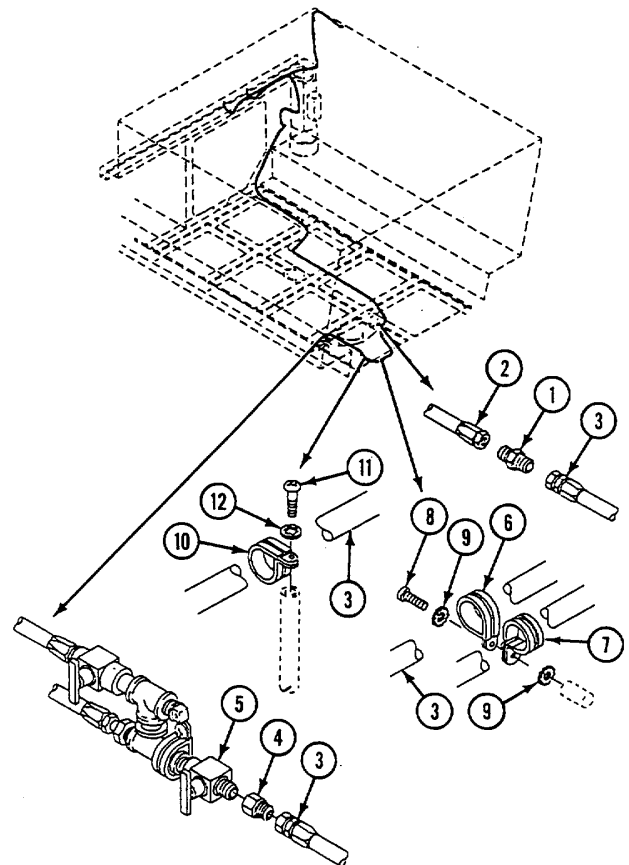
Replacing a flareless fuel hose may also require new mating fittings such as a nipple.

9. Connect fuel hose (2) to nipple (9) in bulkhead crossbeam. Route hose to rear of carrier.
10. Install two clamps (7) on fuel hose (2) Secure clamps to weldnut on hull floor and to side of seat support with two screws (5) and new lockwashers (6).
11. Secure fuel hose (2) to other hoses (3) with nine straps (4).
12. Secure fuel hose (2) to other hoses (2) with six new straps (1).



GO TO NEXT PAGE

13. Install nipple (1) on end of fuel hose (2).
14. Connect fuel hose (3) to nipple (1) and to adapter (4) on fuel shutoff valve (5).
15. Install clamp (6) on fuel hose (3). Secure clamp along with wiring harness clamp (7) to rear hull plate with screw (8) and two new lockwashers (9).
16. Install clamp (10) on fuel hose (3). Secure clamp to weldnut on hull floor with screw (11) and new lockwasher (12).



FOLLOW-THROUGH STEPS

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Open auxiliary generator fuel shutoff valve (see your -10) 2. Connect battery ground lead (page 13-2). 3. Start auxiliary generator (see your -10).
Check all fittings for leaks. Turn generator off. | <ol style="list-style-type: none"> 4. Install right front and rear floor plates (page 24-37). 5. Install personnel heater duct (page 29-48). 6. Raise and lock ramp (see your -10) 7. Stop engine (see your -10). |
|--|---|

END OF TASK

REPLACE AUXILIARY GENERATOR BULKHEAD-TO-HULL FUEL SUPPLY HOSES (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 28.1-7). Install (page 28.1-8).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Gasket
- Lockwasher
- Locknut (2)
- Strap (5)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

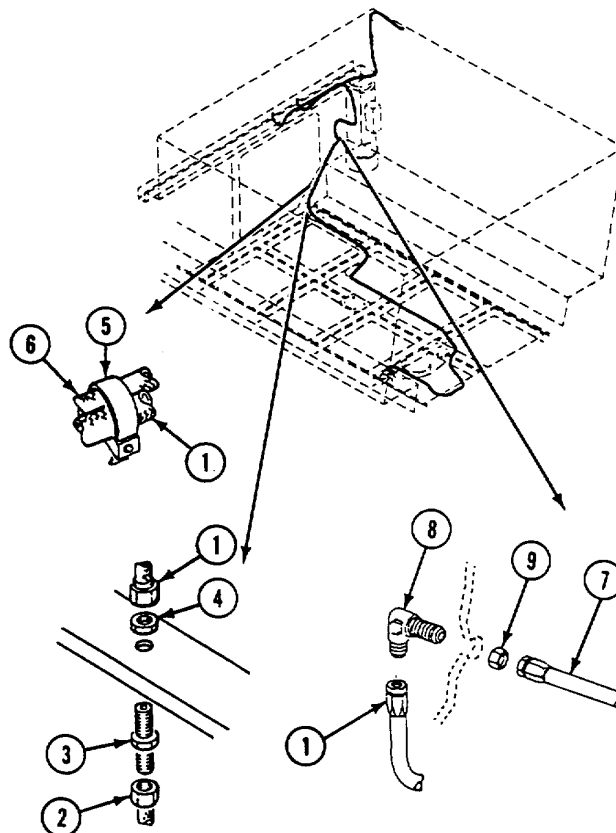
- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Battery ground lead disconnected (page 13-2)
- Personnel heater duct removed (page 29-48)
- Right front floor plate removed (page 24-37)
- Power plant rear access panel removed (page 24-29)
- Auxiliary generator fuel shutoff valve closed (see your -10)

REMOVE



WARNING
 Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Disconnect fuel hoses (1 and 2) from nipple (3) in bulkhead crossbeam.
2. Remove jamnut (4) and nipple (2) from bulkhead crossbeam.
3. Remove two straps (5) holding fuel hose (1) to personnel heater fuel hose (6).
4. Disconnect fuel hoses (1 and 7) from elbow (8) in bulkhead.
5. Remove jamnut (9) and elbow (8) from bulkhead.



GO TO NEXT PAGE

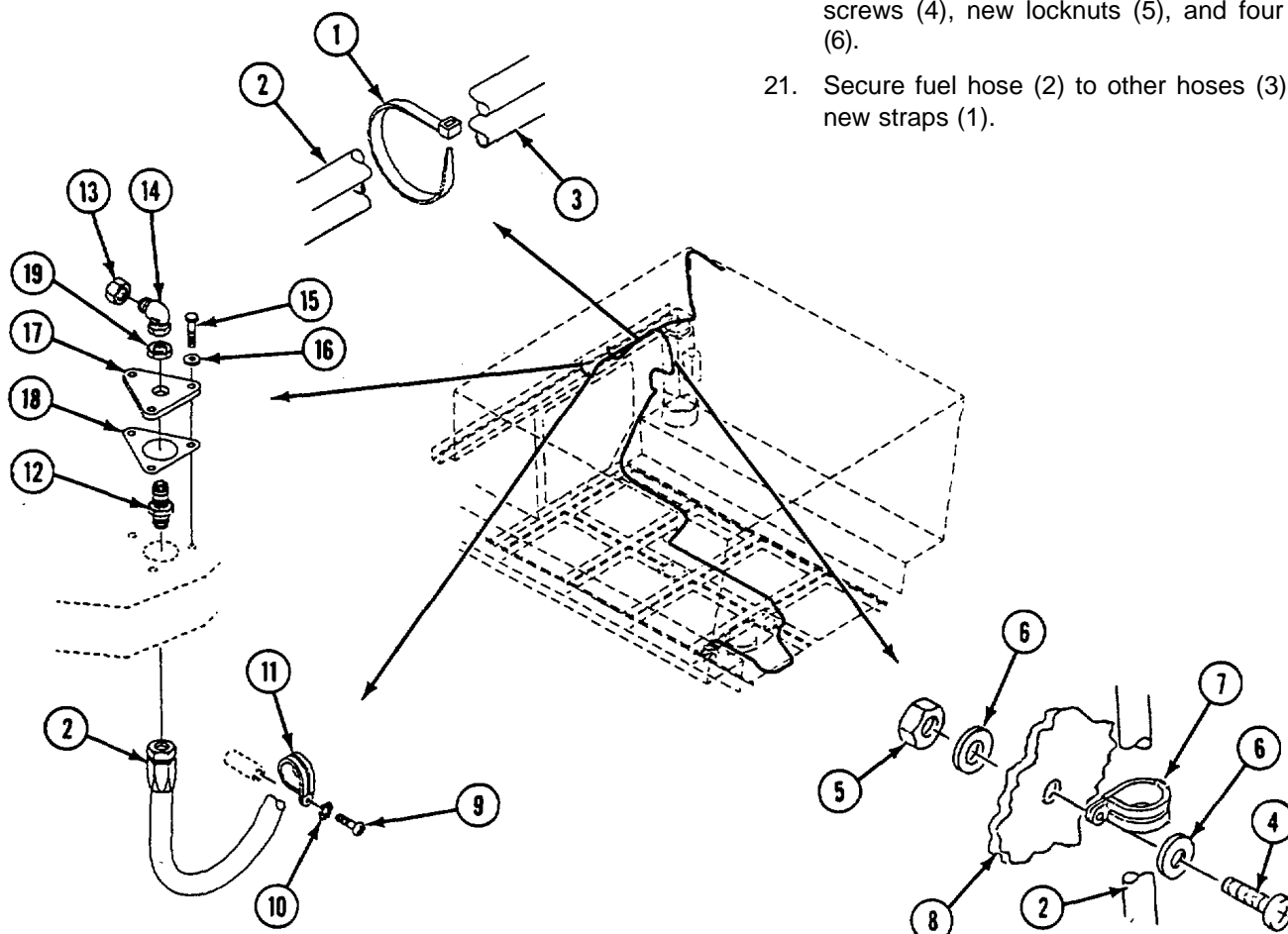
6. Remove five straps (1) holding fuel hose (2) to other hoses (3). Discard straps.
7. Remove two screws (4), locknuts (5), four washers (6), and two clamps (7) securing fuel hose (2) to personnel heater shield (8). Remove clamps from hose. Discard locknuts.
8. Remove screw (9), lockwasher (10), and clamp (11) securing fuel hose (2) to bulkhead crossbeam. Remove clamp from hose. Discard lockwasher.
9. Disconnect fuel hose (2) from nipple (12) in hull ceiling.
10. Remove cap (13) from elbow (14).
11. Remove elbow (14) from nipple (12).
12. Remove three screws (15), washers (16), flange (17), and gasket (18) from hull roof.
Discard gasket.
13. Remove jamnut (19) and nipple (12) from flange (17).

INSTALL

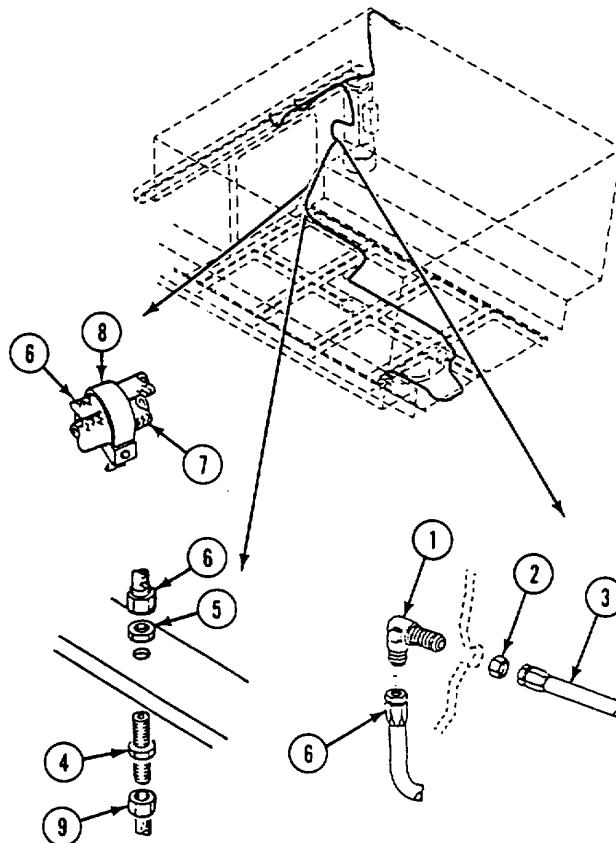
NOTE

Replacing a flareless fuel hose may also require new mating fittings such as a nipple or elbow.

14. Install nipple (12) in flange (17) and secure with jamnut (19).
15. Install new gasket (18) and flange (17) on hull roof and secure with three screws (15) and washers (16).
16. Install elbow (14) on nipple (12).
17. Install cap (13) on elbow (14).
18. Connect fuel hose (2) to nipple (12) in hull ceiling. Route hose over to personnel heater.
19. Install clamp (11) on fuel hose (2). Secure clamp to bulkhead crossbeam with screw (9) and new lockwasher (10).
20. Install two clamps (7) on fuel hose (2). Secure clamps to personnel heater shield (8) with two screws (4), new locknuts (5), and four washers (6).
21. Secure fuel hose (2) to other hoses (3) with five new straps (1).



22. Install elbow (1) in bulkhead and secure with jamnut (2).
23. Connect fuel hose (3) to elbow (1).
24. Install nipple (4) in bulkhead crossbeam and secure with jamnut (5).
25. Connect fuel hose (6) to elbow (1) in bulkhead and to nipple (4) in bulkhead crossbeam.
26. Secure fuel hose (6) to personnel heater fuel hose (7) with two straps (8).
27. Connect fuel hose (9) to nipple (4).



FOLLOW-THROUGH STEPS

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Open auxiliary generator fuel shutoff valve (see your -10). 2. Connect battery ground lead (page 13-2). 3. Start auxiliary generator (see your -10). Check all fittings for leaks. Turn generator off. | <ol style="list-style-type: none"> 4. Install power plant rear access panel (page 24-29). 5. Install right front floor plate (page 24-37). 6. Install personnel heater duct (page 29-48). 7. Raise and lock ramp (see your -10). 8. Stop engine (see your -10). |
|---|--|

END OF TASK

REPLACE AUXILIARY GENERATOR FUEL RETURN HOSE (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 28.1-10). Install (page 28.1-11).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Gasket
Lockwasher (4)
Strap (4)

Personnel Required:

Unit Mechanic

References:

See your -10

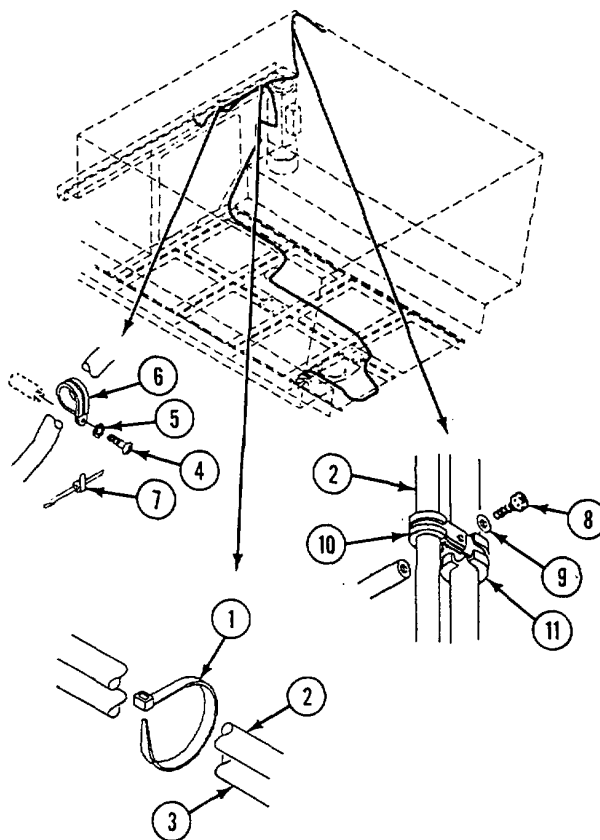
Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Auxiliary generator off (see TM TBD)
Battery ground lead disconnected (page 13-2)
Auxiliary generator fuel shutoff valve closed (see your -10)

REMOVE**WARNING**

Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Remove four straps (1) holding fuel hose (2) to other hoses (3). Discard straps.
2. Remove two screws (4), lockwashers (5), and clamps (6) securing fuel hose (2) and fan lead clamps (7) to weldnuts on the crossbeam. Remove clamps from hose. Discard lockwashers.
3. Remove two screws (8), lockwashers (9), and clamps (10) securing fuel hose (2) and engine fuel return line clamps (11) to weldnuts on the upper front hull plate. Remove clamps from hose. Discard lockwashers.



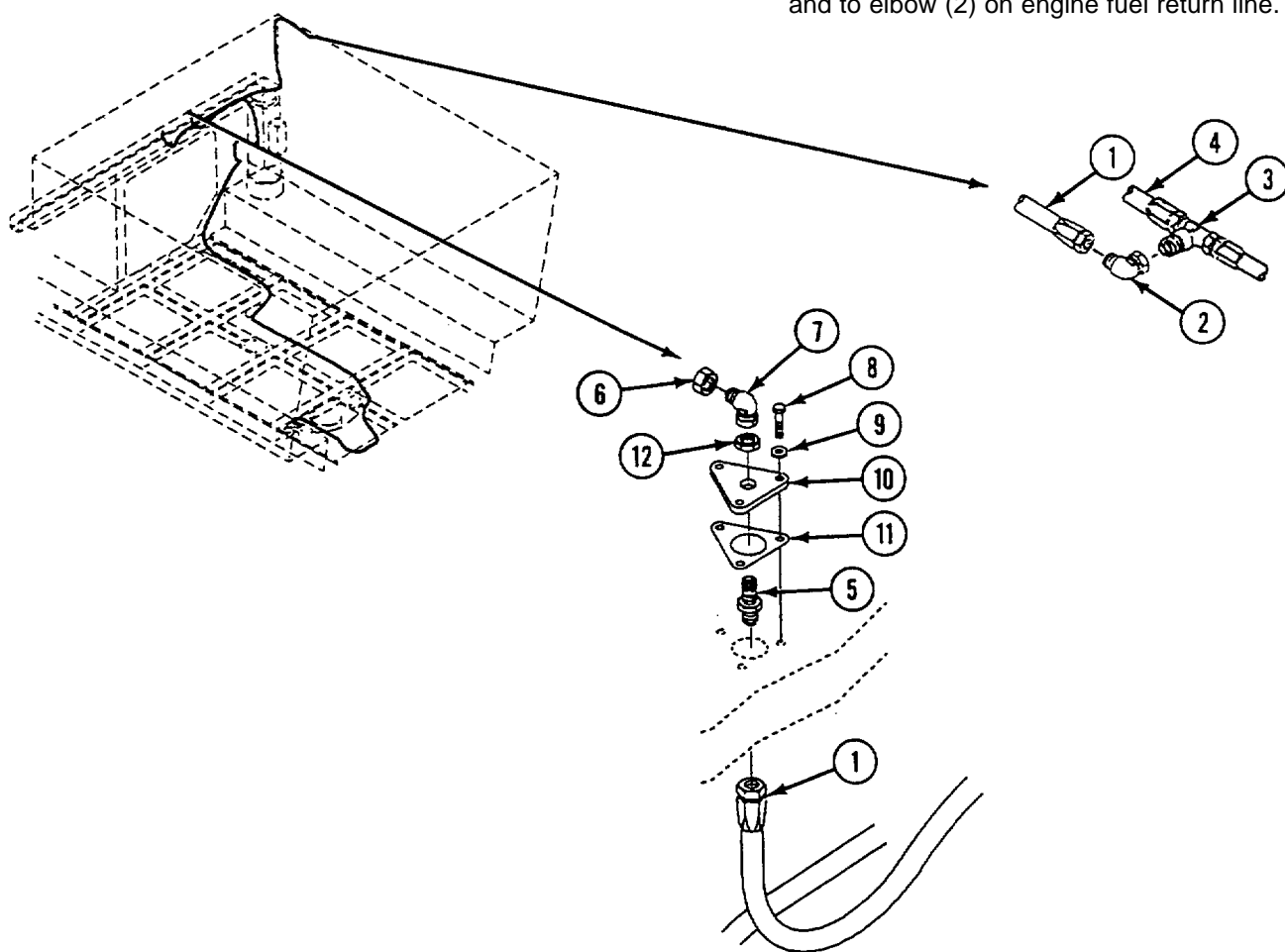
4. Disconnect fuel hose (1) from elbow (2). Remove hose from carrier.
5. Remove elbow (2) from tee (3) in engine fuel return line (4).
6. Disconnect fuel hose (1) from nipple (5) in hull ceiling.
7. Remove cap (6) from elbow (7).
8. Remove elbow (7) from nipple (5).
9. Remove three screws (8), washers (9), flange (10), and gasket (11) from hull roof. Discard gasket.
10. Remove jamnut (12) and nipple (5) from flange (10).

INSTALL

NOTE

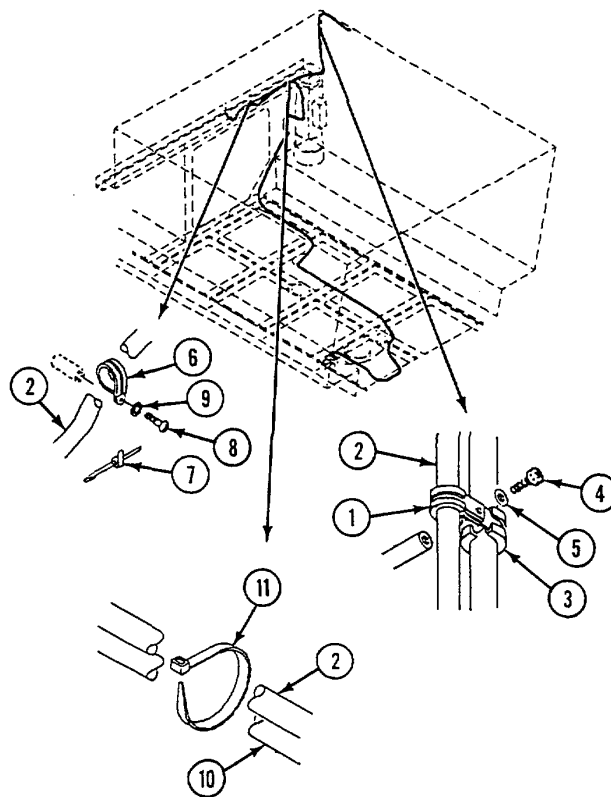
Replacing a flareless fuel hose may also require new mating fittings such as a nipple or elbow.

11. Install nipple (5) in flange (10) and secure with jamnut (12).
12. Install new gasket (11) and flange (10) on hull roof and secure with three screws (8) and washers (9).
13. Install elbow (7) on nipple (5).
14. Install cap (6) on elbow (7).
15. Install elbow (2) on tee (3) in engine fuel return line (4).
16. Connect fuel hose (1) to nipple (5) in hull ceiling and to elbow (2) on engine fuel return line.



GO TO NEXT PAGE

17. Install two clamps (1) on fuel hose (2). Place clamps (1) along with engine fuel return line clamps (3) on weldnuts on the upper front hull plate. Secure with two screws (4) and new lockwashers (5).
18. Install two clamps (6) on fuel hose (2). Place clamps (6) along with fan lead clamps (7) on weldnuts on the crossbeam. Secure with two screws (8) and new lockwashers (9).
19. Secure fuel hose (2) to other hoses (10) with four new straps (11).



FOLLOW-THROUGH STEPS

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Open auxiliary generator fuel shutoff valve (see your -10). 2. Connect battery ground lead (page 13-2). | <ol style="list-style-type: none"> 3. Start auxiliary generator (see your -10). Check all fittings for leaks. Turn generator off. 4. Raise and lock ramp (see your -10). 5. Stop engine (see your -10). |
|---|--|

END OF TASK

**REPLACE RAMP PUMP TO HYDRAULIC TANK STRAINER TUBE
(ALL EXCEPT M741A1)**

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

See your -10
See your LO

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Power plant rear access panel removed
(page 24-27 or 24-29)
Hydraulic tank drained (see your LO)

REMOVE

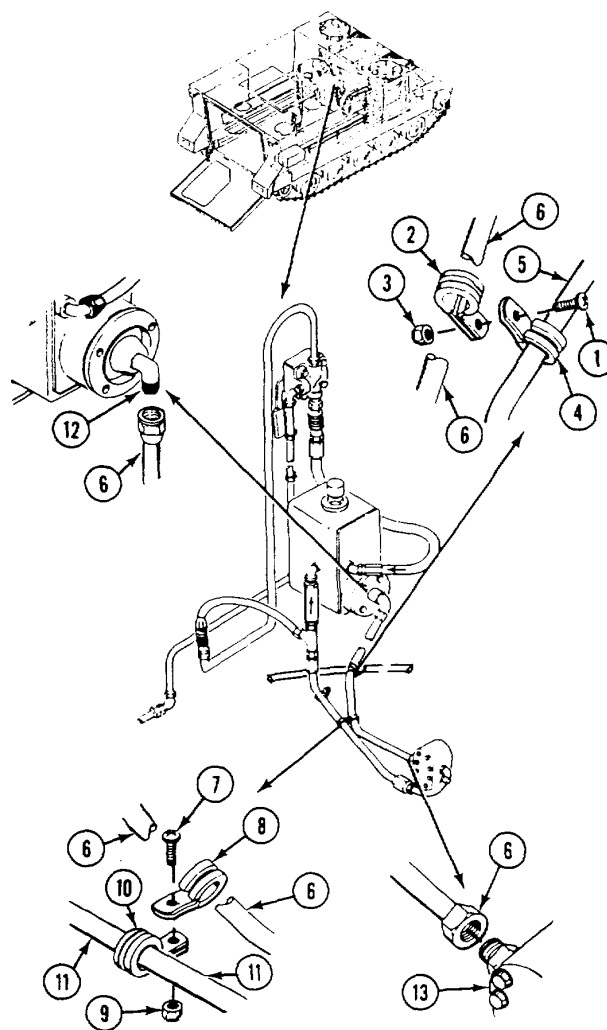
1. Remove screw (1), clamp (2), and locknut (3) from clamp (4) on tachometer cable (5). Remove clamp (2) from tube (6). Discard locknut.
2. Remove screw (7), clamp (8), and locknut (9) from clamp (10) on ramp pump-to-relief valve hose (11). Remove clamp (8) from tube (6). Discard locknut.
3. Remove tube (6) from elbow (12) and ramp pump (13).

CLEAN, INSPECT, AND REPAIR

4. Check tube. Replace cracked or distorted tube.

INSTALL

5. Install tube (6) on elbow (12) and ramp pump (13).
6. Place clamp (8) on tube (6). Align clamp (8) with clamp (10) on hose (11). Secure with screw (7) and new locknut (9).
7. Place clamp (2) on tube (6). Align clamp (2) with clamp (4) on cable (5). Secure with screw (1) and new locknut (3).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Fill hydraulic tank (see your LO).



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Install power plant rear access panel (page 24-27 or 24-29).
5. Raise and lock ramp (see your -10).
6. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE RAMP PUMP TO PRESSURE RELIEF VALVE HOSE**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)
 Socket Set (Item 89, App D)
 Torque Wrench (Item 94, App D)

References:

See your -10
 See your LO

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
 Self-locking nut
 Tab washer

Equipment Conditions:

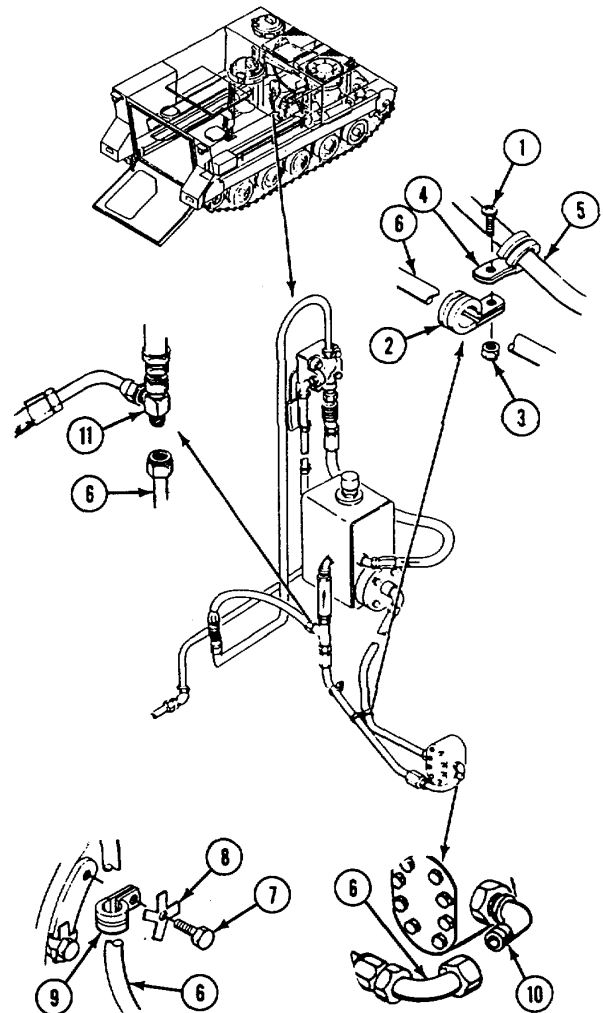
Engine stopped/shutdown (see your -10)
 Carrier blocked (see your -10)
 Ramp lowered (see your -10)
 Power plant rear access panel removed
 (page 24-29)
 Hydraulic tank drained (see your LO)

Personnel Required:

Unit Mechanic

REMOVE

1. Remove screw (1), clamp (2), and locknut (3) from clamp (4) on ramp-to-strainer tube (5). Remove clamp (4) on ramp-to-strainer tube (5). Remove clamp (2) from hose (6). Discard locknut.
2. Remove screw (7), tab washer (8), and clamp (9) from transfer gearcase. Discard tab washer.
3. Remove clamp (9) from hose (6).
4. Remove hose (6) from ramp pump elbow (10) and tee (11).

**CLEAN, INSPECT, AND REPAIR**

5. Check tube. Replace cracked or distorted tube.

INSTALL

6. Install hose (6) on tee (11) and ramp pump elbow (10).
7. Place clamp (9) on hose (6). Align clamp with transfer gearcase. Secure with new tab washer (8) and screw (7). Tighten screw 144-192 in. lb. Use torque wrench and socket set.
8. Place clamp (2) on hose (6). Align with clamp (4) on tube (5). Secure with screw (1) and new locknut (3).

GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Fill hydraulic tank (see your LO).



WARNING

Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING

You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Raise and lock ramp (see your -10).
5. Stop/shutdown engine (see your -10).
6. Install power plant rear access panel (page 24-29).

END OF TASK

**REPLACE RELIEF VALVE TEE TO QUICK DISCONNECT HOSE
(ALL EXCEPT M741A1)**

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)

Sealing compound (Item 51, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

See your LO

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Power plant rear access panel removed
(page 24-27 or 24-29)

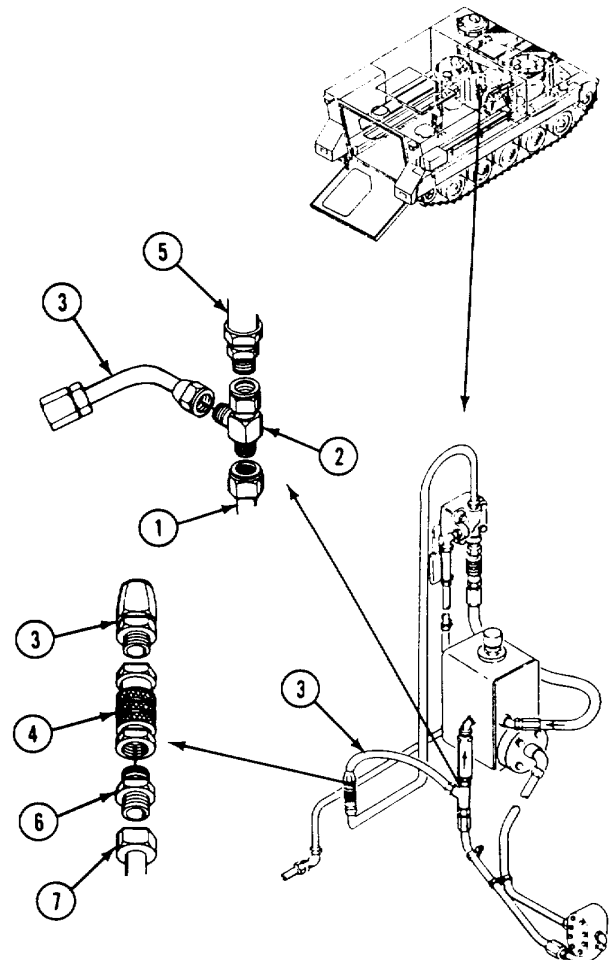
Hydraulic tank drained (see your LO)

REMOVE

1. Disconnect hose (1) from tee (2).
2. Remove hose (3) from tee (2) and quick disconnect assembly (4).
3. Remove tee (2) from pressure relief valve (5).
4. Remove quick disconnect assembly (4) from nipple (6).
5. Remove nipple (6) from tube (7).

INSTALL

6. Apply sealing compound to male threads of nipple (6). Install nipple into tube (7).
7. Install quick disconnect assembly (4) in nipple (6).
8. Apply sealing compound to male threads. Install tee (2) on pressure relief valve (5).
9. Apply sealing compound to male threads on hose (3). Install hose on quick disconnect assembly (4) and tee (2).
10. Connect hose (1) to tee (2).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Fill hydraulic tank (see your LO).

**WARNING**

Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.

**WARNING**

You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Install power plant rear access panel (page 24-27 or 24-29).
5. Raise and lock ramp (see your -10).
6. Stop/shutdown engine (see your -10).

END OF TASK

**REPLACE RAMP CONTROL VALVE TO HYDRAULIC TANK HOSE
(ALL EXCEPT M741A1)**

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
Sealing compound (Item 51, App C)
Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

See your -10
See your LO

Equipment Conditions:

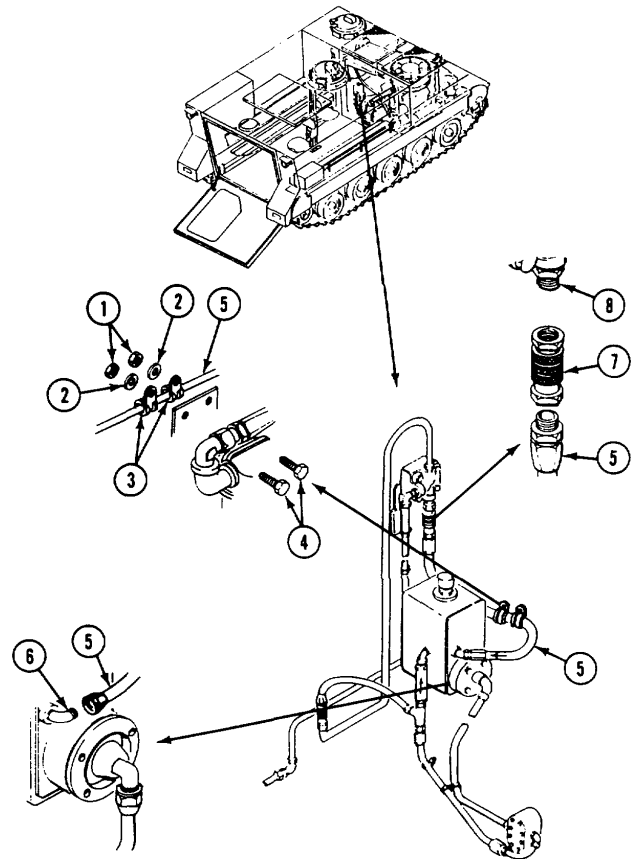
Engine stopped/shutdown (see your -10)
Ramp lowered (see your -10)
Carrier blocked (see your -10)
Power plant rear access panel removed
(page 24-27 or 24-29)
Hydraulic tank drained (see your LO)

REMOVE

1. Remove two locknuts (1), washers (2) and clamps (3) from oil filter bracket screws (4). Remove clamps from control valve-to-strainer hose (5). Discard locknuts.
2. Remove hose (5) from elbow (6) and quick disconnect assembly (7).
3. Remove quick disconnect assembly (7) from adapter (8).

INSTALL

4. Install quick disconnect assembly (7) on adapter (8).
5. Apply sealing compound on male threads of hose (5). Install hose on quick disconnect assembly (7) and elbow (6).
6. Place two clamps (3) on hose (5). Align clamps with oil filter bracket screws (4). Secure with two washers (2) and new locknuts (1).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Fill hydraulic tank (see your LO).



WARNING
 Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
 You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Raise and lock ramp (see your -10).
5. Stop/shutdown engine (see your -10).
6. Install power plant rear access panel (page 24-27 or 24-29).

END OF TASK

REPLACE HYDRAULIC TANK STRAINER (ALL EXCEPT M741A1)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Antiseize compound (Item 4, App C)
FRH hydraulic fluid (Item 19, App C)
Key washer (4)
Packing

Personnel Required:

Unit Mechanic

References:

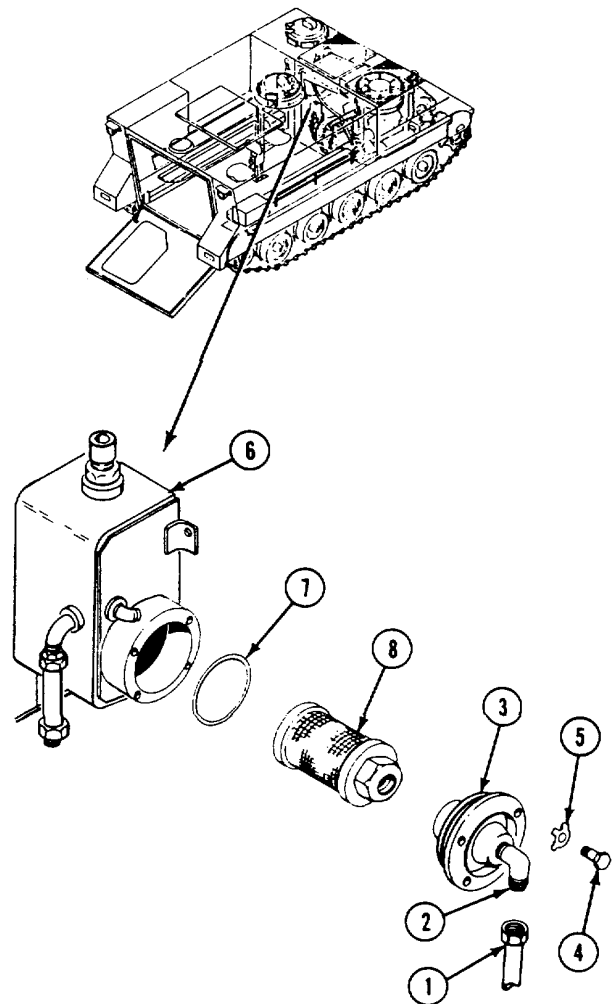
See your -10
See your LO

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Power plant rear access panel removed
(page 24-27 or 24-29)
Hydraulic tank drained (see your LO)

REMOVE

1. Disconnect tube (1) from elbow (2) on adapter (3).
2. Remove four screws (4), key washers (5), and adapter (3) from hydraulic tank (6). Discard key washers.
3. Remove packing (7) from adapter (3). Discard packing.
4. Remove strainer (8) from adapter (3).

**INSTALL**

5. Install strainer (8) on adapter (3).
6. Install new packing (7) on adapter (3).
7. Apply light coat of antiseize compound to threads of screws (4).
8. Install adapter (3), four new key washers (5), and screws (4) in hydraulic tank (6). Bend tabs on key washers to secure screws.
9. Install tube (1) on elbow (2) on adapter (3).

GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Fill hydraulic tank (see your LO).

**WARNING**

Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.

**WARNING**

You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Install power plant rear access panel (page 24-27 or 24-29).
5. Raise and lock ramp (see your -10).
6. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE/REPAIR HYDRAULIC TANK (ALL EXCEPT M741A1)**DESCRIPTION**

This task covers: Remove (page 28-17). Clean, Inspect, and Replace (page 28-18).
 Install (page 28-18). Hydraulic Tank Fill (page 28-19).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
 Sealing compound (Item 46, App C)
 Gasket, breather
 Packing, pressure relief valve
 Packing, sight glass
 Suitable container
 Tab washer (4)

References:

See your -10
 See your LO

Equipment Conditions:

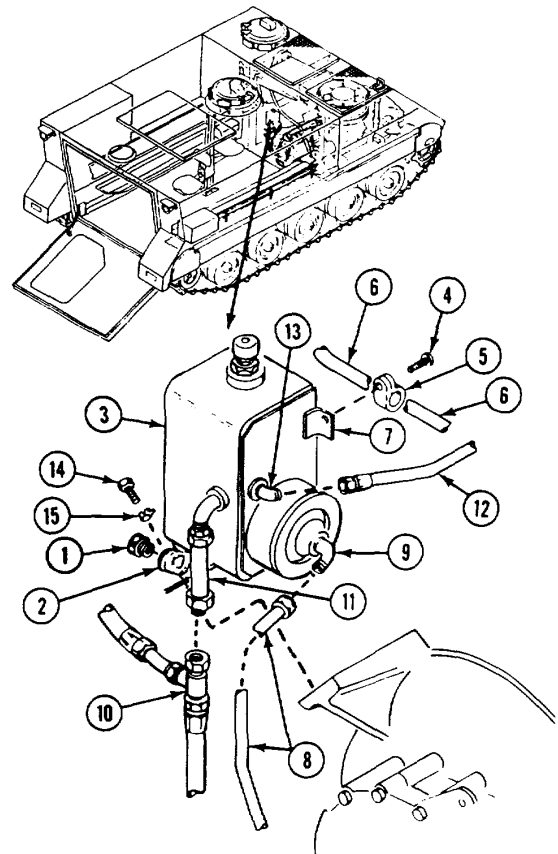
Engine stopped/shutdown (see your -10)
 Carrier blocked (see your -10)
 Ramp lowered (see your -10)
 Power plant rear access panel removed
 (page 24-27 or 24-29)
 Driver's power plant access panel removed
 (page 24-25)

Personnel Required:

Unit Mechanic

REMOVE

1. Remove plug (1) from tank elbow (2). Drain hydraulic fluid from tank (3) (see your LO). Use suitable container.
2. Remove screw (4) and clamp (5) on filler tube (6) from bracket (7) on tank (3).
3. Disconnect ramp pump-to-strainer tube (8) from elbow (9) on tank (3).
4. Disconnect pressure relief valve tee (10) from pressure relief valve (11).
5. Disconnect ramp control-to-tank hose (12) on elbow (13) from tank (3).
6. Remove four screws (14), tab washers (15) and tank (3) from transfer gearcase mount. Discard tab washers.



GO TO NEXT PAGE

7. Remove elbow (1) from bottom of hydraulic tank (2).
8. Remove sight glass (3) and packing (4) from side of tank (2). Discard packing.
9. Remove pressure relief valve (5) and packing (6) from adapter (7). Discard packing.
10. Remove adapter (7) and elbow (8) from tank (2).
11. Remove breather (9) from bushing (10).
12. Remove bushing (10) and gasket (11) from top of tank (2). Discard gasket.
13. Remove elbow (12) from tank (2).
14. Remove four screws (13), tab washers (14), adapter (15), and strainer (16) from tank (2). Discard tab washers.
15. Remove elbow (17) and packing (18) from adapter (15).

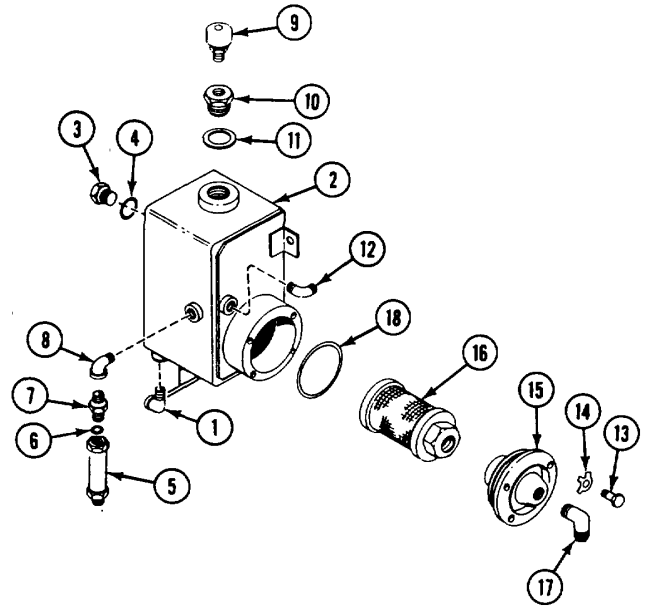
CLEAN, INSPECT AND REPLACE

16. Check all hoses, valves, adapters, bushings, and strainer for cracks, wear and damage. Replace if needed.

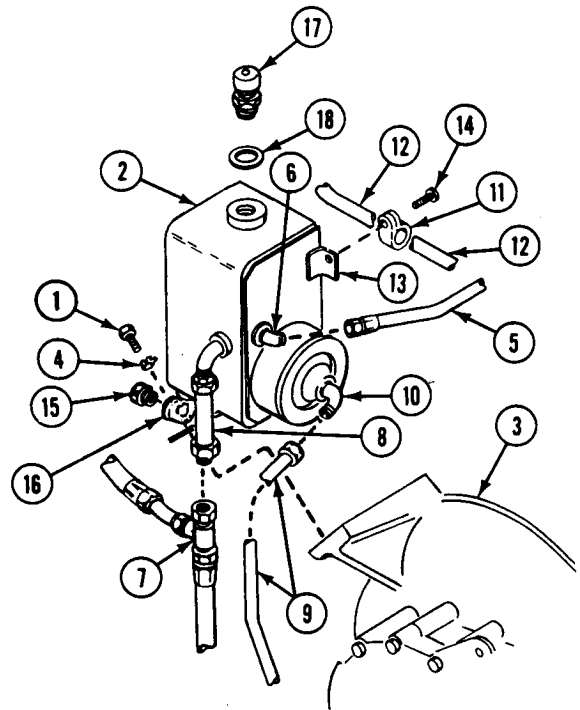
INSTALL

17. Apply sealing compound to male tapered threads of all fittings except sight glass.
18. Install new packing (18) and elbow (17) on adapter (15).
19. Install strainer (16) and adapter (15) on tank (2). Secure with four new tab washers (14) and screws (13). Bend tabs on washers to secure screws.
20. Install elbow (12) on tank (2).

21. Install new gasket (11) and bushing (10) on tank (2).
22. Install breather (9) on bushing (10).
23. Install elbow (8) on tank (2). Install adapter (7) on elbow (8).
24. Install new packing (6) and pressure relief valve (5) on adapter (7).
25. Install new packing (4) and sight glass (3) on tank (2).
26. Install elbow (1) on tank (2).



27. Apply light coat of antiseize compound to threads of four screws (1). Place tank (2) on transfer gearcase mount (3). Secure with four new tab washers (4) and screws (1). Bend tabs on washers to secure screws.
28. Connect ramp control-to-tank hose (5) to elbow (6) on tank (2).
29. Connect pressure relief valve tee (7) to pressure relief valve (8).
30. Connect ramp pump-to-strainer tube (9) to elbow (10) on tank (2).
31. Align clamp (11) on filler tube (12) with bracket (13) on tank (2). Secure with screw (14).
32. Install plug (15) in elbow (16) on tank (2).



HYDRAULIC TANK FILL

33. Remove adapter with breather (17) and gasket (18) from tank (2). Discard gasket (18) if worn.
34. Fill tank (2) (see your LO).
35. Install gasket (18) and adapter with breather (17) on tank (2).

FOLLOW-THROUGH STEPS

WARNING



Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.

WARNING



You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

1. Start engine (see your -10). Check for hydraulic leaks.
2. Raise and lower ramp several times to bleed air from system.
3. Install driver's power plant access panel (page 24-25).
4. Install power plant rear access panel (page 24-27 or 24-29).
5. Raise and lock ramp (see your -10).
6. Stop/shutdown engine (see your -10).

END OF TASK

SERVICE HYDRAULIC TANK (ALL EXCEPT M741A1)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)

Hydraulic tank strainer

Breather gasket

Container

Packing

Tab washer (4)

Personnel Required:

Unit Mechanic

References:

See your -10

See your LO

Equipment Conditions:

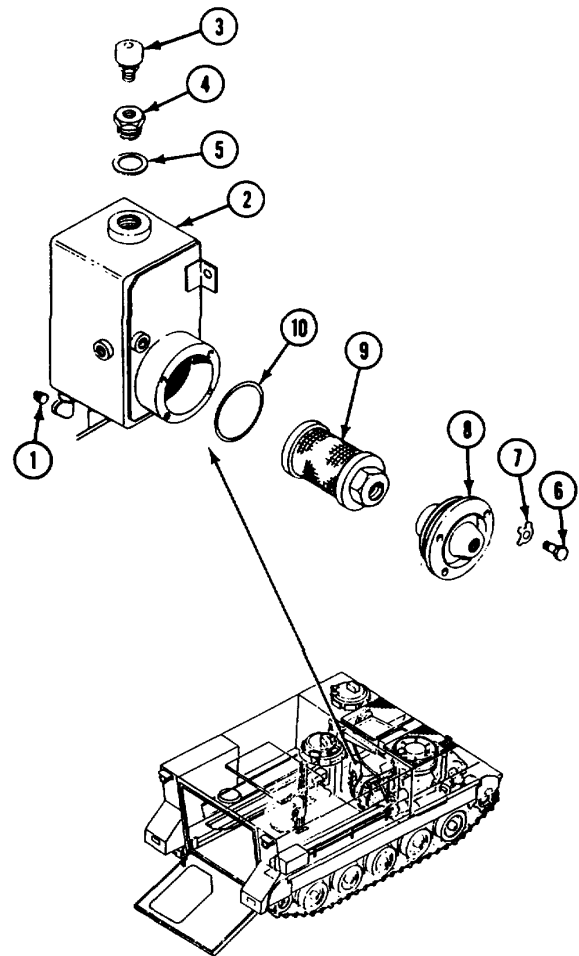
Hydraulic tank removed (see page 28-17)

DISASSEMBLE

1. Remove drain plug (1) from bottom of hydraulic tank (2). Drain hydraulic fluid from tank (see your LO). Use suitable container.
2. Remove breather (3), bushing (4), and gasket (5) from top of tank (2). Discard gasket.
3. Remove four screws (6), tab washers (7), adapter (8), and strainer (9) from tank (2). Discard tab washers and strainer.
4. Remove packing (10) from adapter (8). Discard packing.

ASSEMBLE

5. Install drain plug (1) in tank (2).
6. Install new packing (10) on adapter (8).
7. Install new strainer (9) and adapter (8) on tank (2). Secure with four new tab washers (7) and screws (6). Bend tabs on washers to secure screws.
8. Fill hydraulic tank (see your LO).
9. Install new gasket (5), bushing (4) and breather (3) on tank (2).



FOLLOW-THROUGH STEPS**WARNING**

Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.

**WARNING**

You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

1. Install hydraulic tank (page 28-17).
2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Raise and lock ramp (see your -10).
5. Stop/shutdown engine (see your -10)

END OF TASK

REPLACE QUICK DISCONNECT AND RAMP CONTROL VALVE TUBE TO BULKHEAD CONNECTION (ALL EXCEPT M741A1)

DESCRIPTION

This task covers: Remove (page 28-22). Install (page 28-23).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
Self-locking nut (4)

Personnel Required:

Unit Mechanic

References:

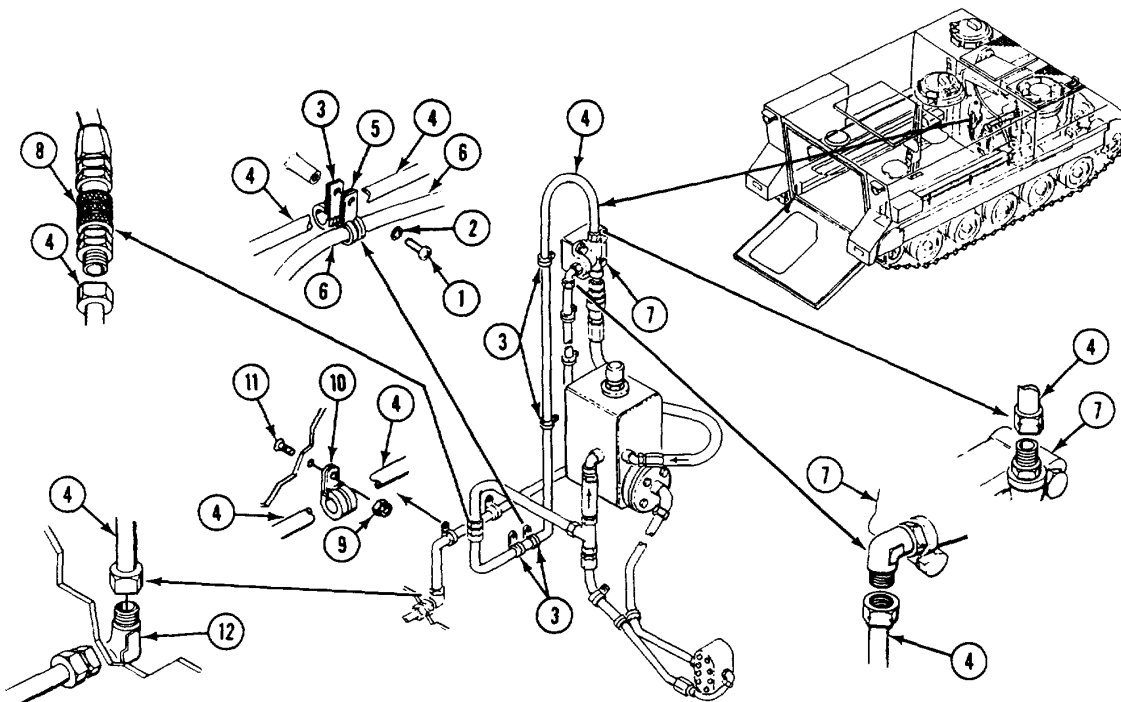
See your -10
See your LO

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Driver's power plant access panel removed (page 24-25)

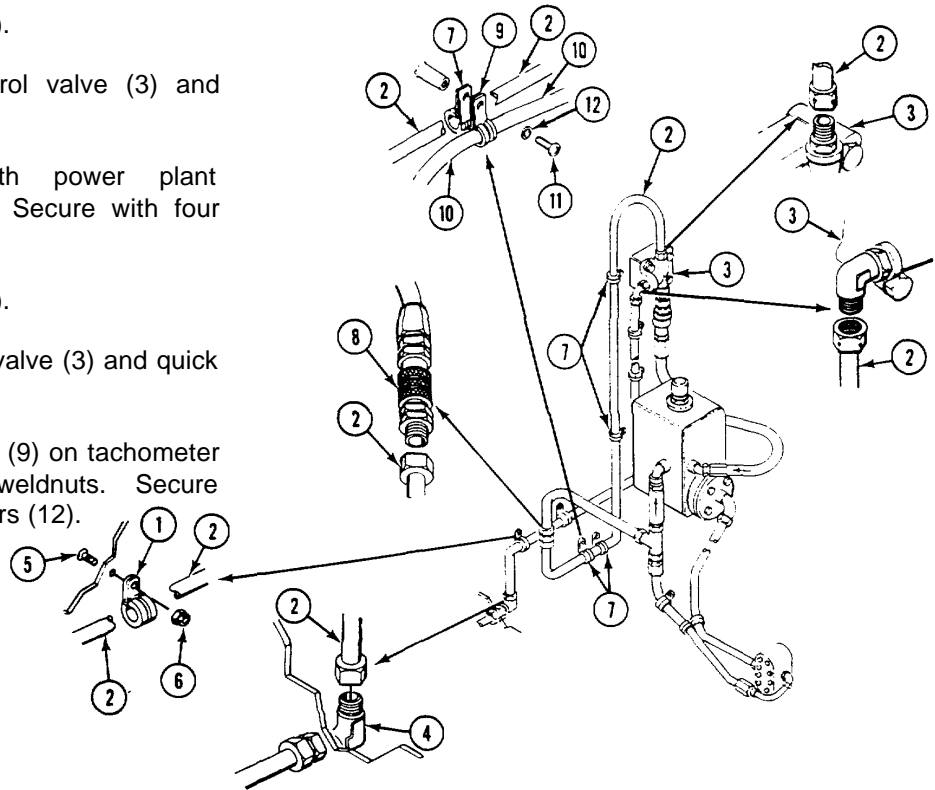
REMOVE

1. Remove four screws (1), washers (2), four lamps (3) on tube (4), and clamp (5) on tachometer cable (6) from four bulkhead weldnuts.
2. Remove four clamps (3) from tube (4).
3. Remove tube (4) from ramp control valve (7) and quick disconnect (8).
4. Remove four locknuts (9), clamps (10), and screws (11) from power plant compartment bulkhead. Discard locknuts.
5. Remove tube (4) from ramp control valve (7) and bulkhead elbow (12).
6. Remove four clamps (10) from tube (4). 28-22



INSTALL

7. Place four clamps (1) on tube (2).
8. Install tube (2) on ramp control valve (3) and bulkhead elbow (4).
9. Align four clamps (1) with power plant compartment bulkhead holes. Secure with four screws (5) and new locknuts (6).
10. Place four clamps (7) on tube (2).
11. Install tube (2) on ramp control valve (3) and quick disconnect (8).
12. Align four clamps (7) and clamp (9) on tachometer cable (10) with four bulkhead weldnuts. Secure with four screws (11) and washers (12).



FOLLOW-THROUGH STEPS

1. Check fluid level in hydraulic tank (see your LO).

WARNING



Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.

WARNING



You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Install driver's power plant access panel (page 24-25).
5. Raise and lock ramp (see your -10).
6. Stop/shutdown engine (see your -10).

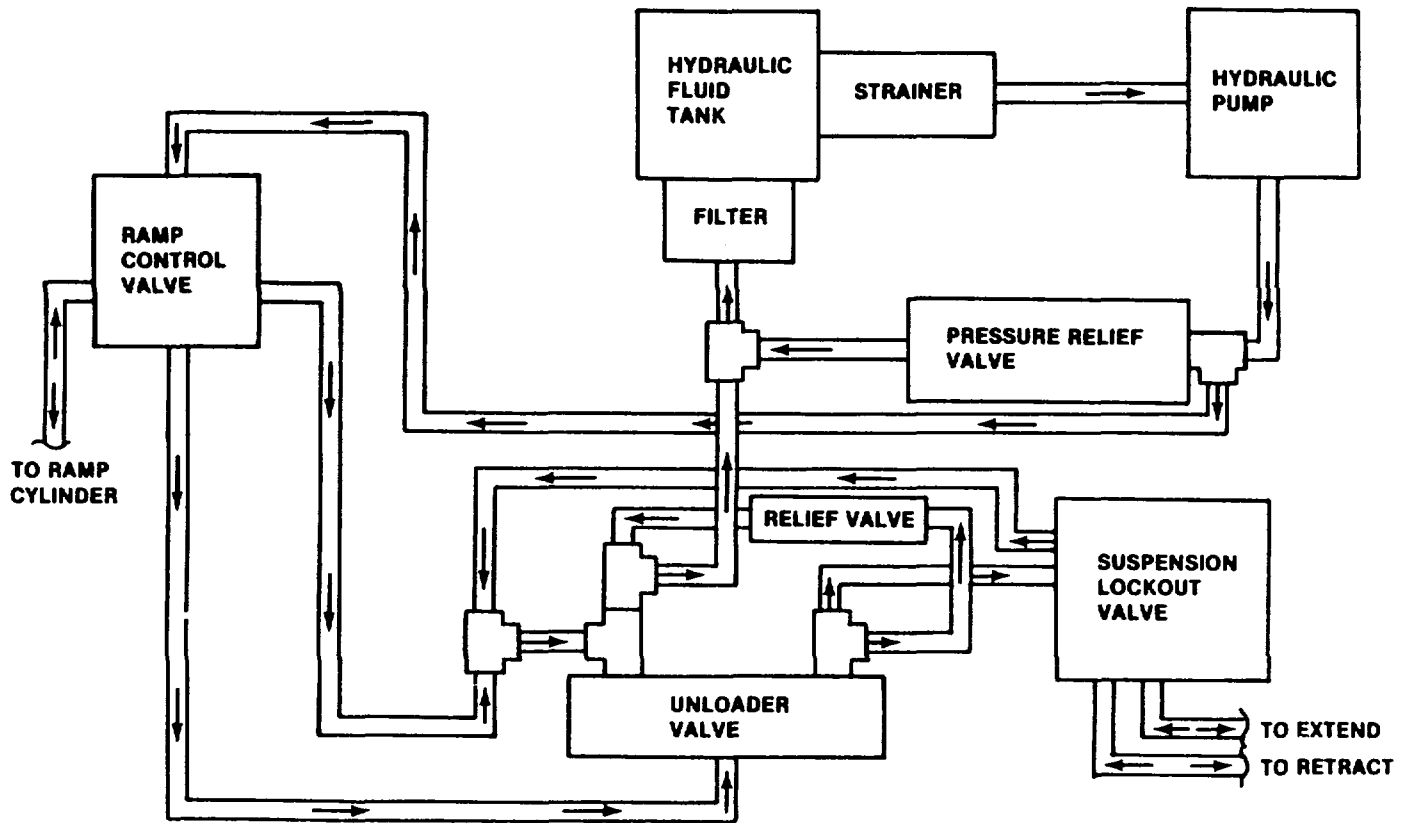
END OF TASK

**Section II. HYDRAULIC TANK, VALVES, AND LINES
(M741A1 ONLY)**

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Hydraulic Fluid Flow Diagram (M741A1 Only)	28-25	Replace Ramp Unloader Valve to Bulkhead Connection Tube (M741A1 Only)	28-36
Replace Ramp Pump to Hydraulic Tank Strainer Hose (M741A1 Only)	28-26	Replace Ramp Control Valve to Unloader Valve Tee Tube (M741A1 Only)	28-38
Replace Ramp Pump to Pressure Relief Valve Tube (M741A1 Only)	28-28	Replace Hydraulic Tank Filter and Strainer Elements (M741A1 Only)	28-40
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HYDRAULIC FLUID FLOW DIAGRAM (ALL EXCEPT M741A1)



END OF TASK

**REPLACE RAMP PUMP TO HYDRAULIC TANK STRAINER HOSE
(M741A1 ONLY)**

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
Tab washer

Personnel Required:

Unit Mechanic

References:

See your -10
See your LO

Equipment Conditions:

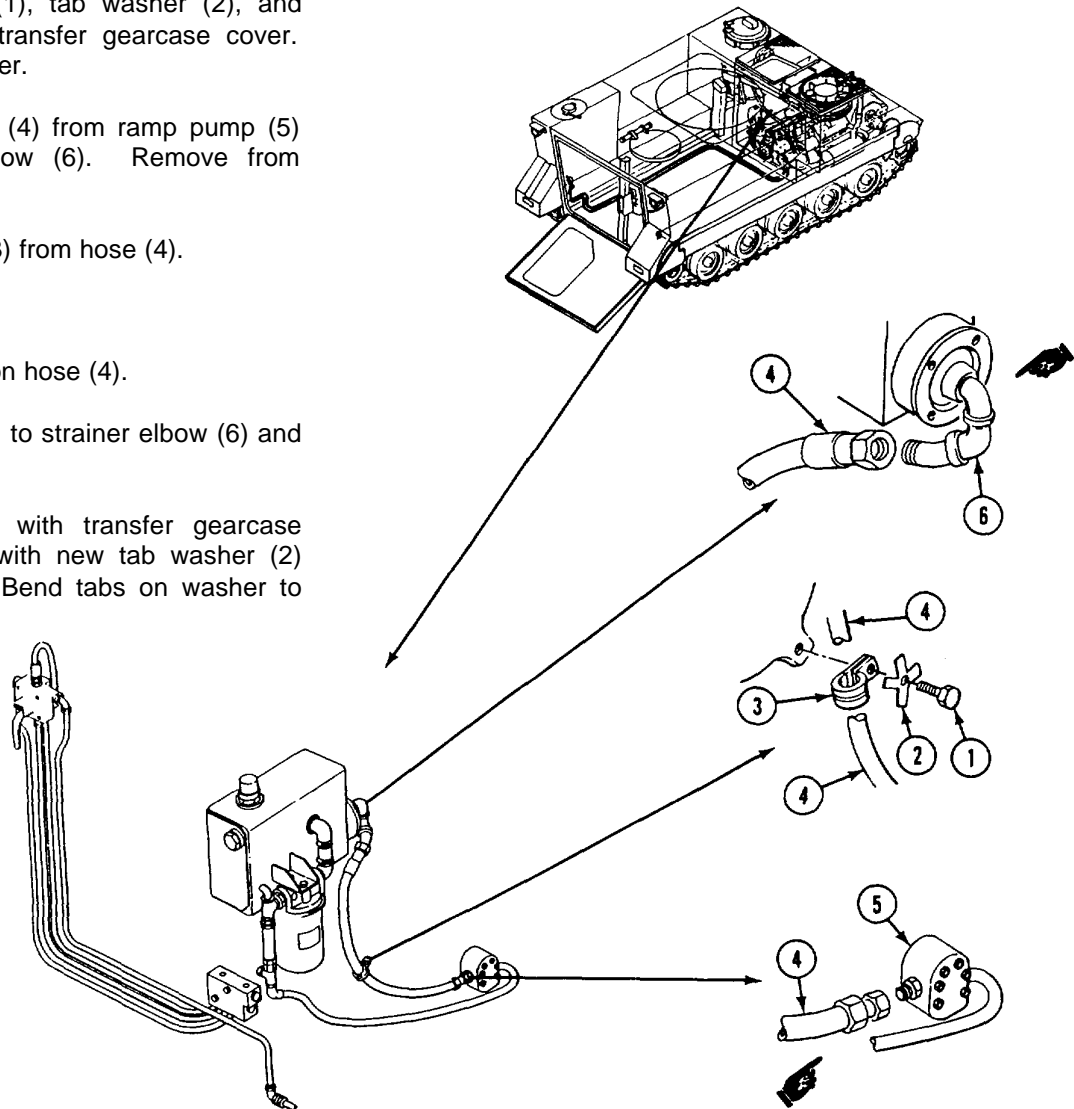
Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Power plant rear access panel removed
(page 24-27)
Hydraulic tank drained (see your LO)

REMOVE

1. Remove screw (1), tab washer (2), and clamp (3) from transfer gearcase cover. Discard tab washer.
2. Disconnect hose (4) from ramp pump (5) and strainer elbow (6). Remove from carrier.
3. Remove clamp (3) from hose (4).

INSTALL

4. Place clamp (3) on hose (4).
5. Connect hose (4) to strainer elbow (6) and ramp pump (5).
6. Align clamp (3) with transfer gearcase cover. Secure with new tab washer (2) and screw (1). Bend tabs on washer to secure screw.



FOLLOW-THROUGH STEPS

1. Fill hydraulic tank (see your LO).

**WARNING**

Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.

WARNING

You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Install power plant rear access panel (page 24-27).
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).

END OF TASK

**REPLACE RAMP PUMP TO PRESSURE RELIEF VALVE TUBE
(M741A1 ONLY)**

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

References:

See your LO

Equipment Conditions:

Engine stopped and ramp lowered
(see your -10)

Carrier blocked (see your -10)

Power plant rear access panel removed
(page 24-27)

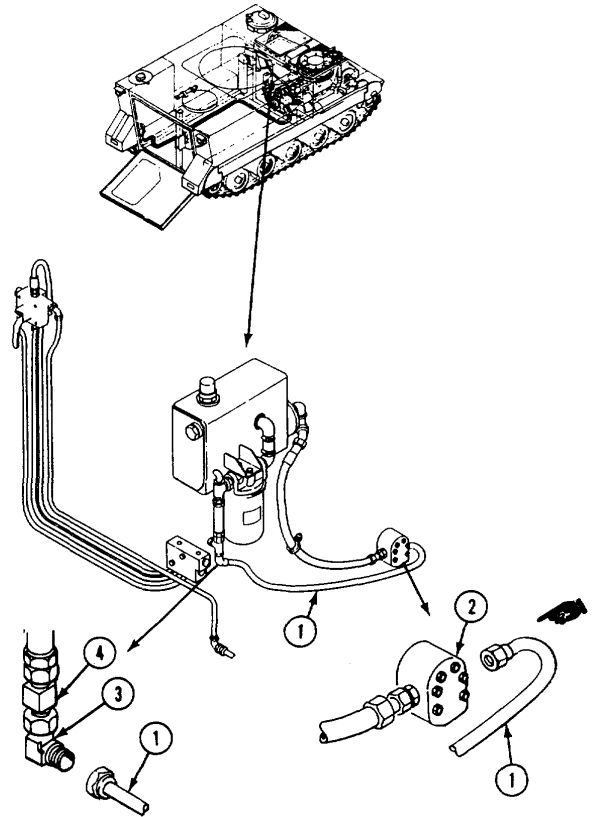
Hydraulic tank drained (see your LO)

REMOVE

1. Disconnect tube (1) from ramp pump (2).
2. Remove tube (1) from elbow (3) on pressure relief valve tee (4).

INSTALL

3. Connect tube (1) to elbow (3) on pressure relief valve (4).
4. Connect tube (1) to ramp pump (2).



FOLLOW-THROUGH STEPS

1. Fill hydraulic tank (see your LO).

**WARNING**

Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.

**WARNING**

You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Install power plant rear access panel (page 24-27).
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).

END OF TASK

**REPLACE PRESSURE RELIEF VALVE TO UNLOADER VALVE
HOSE AND TUBE (M741A1 ONLY)**

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
Sealing compound (Item 58, App C)
Quick disconnect packing

Personnel Required:

Unit Mechanic

References:

See your -10
See your LO

Equipment Conditions:

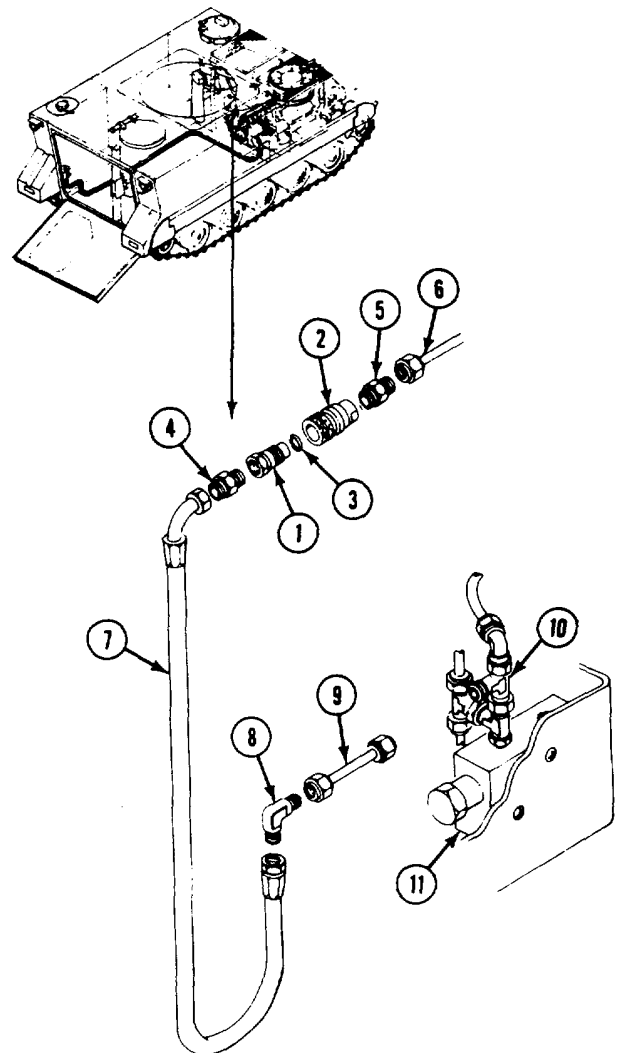
Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Driver's power plant access panel removed
(page 24-25)
Hydraulic tank drained (see your LO)

REMOVE

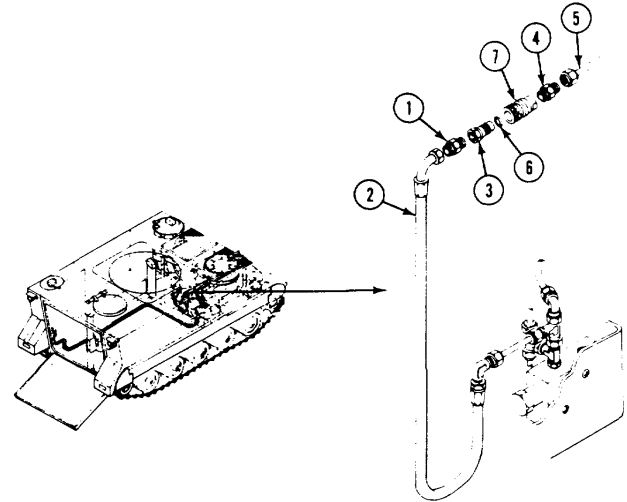
1. Remove male fitting (1) from female fitting (2). Remove packing (3) from fitting. Discard packing.
2. Remove fitting (1) from nipple (4). Remove fitting (2) from nipple (5). Remove nipple from line (6).
3. Remove hose (7) from elbow (8). Remove elbow from tube (9).
4. Remove tube (9) from tee (10) on unloader valve (11).

INSTALL

5. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
6. Install tube (9) on tee (10) on unloader valve (11).
7. Install elbow (8) on tube (9).
8. Install hose (7) on elbow (8).
9. Install nipple (4) on hose (7).

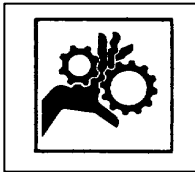


10. Install nipple (1) on hose (2).
11. Install fitting (3) on nipple (1). Install fitting (3) on nipple (4). Install nipple (4) on line (5).
12. Install new packing (6) on fitting (3).
13. Install fitting (3) in fitting (7).



FOLLOW-THROUGH STEPS

1. Fill hydraulic tank (see your LO).



WARNING

Loose clothing is dangerous around moving belts and pulleys. you could get badly hurt if your clothes get caught in moving parts



WARNING

You or your buddy could get killed or injured by a falling ramp. seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Install driver's power plant access panel (page 24-25).
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).

END OF TASK

REPLACE PRESSURE RELIEF VALVE TO RAMP CONTROL VALVE HOSE AND TUBE (M741A1 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
 Sealing compound (Item 46, App C)
 Quick disconnect packing

Personnel Required:

Unit Mechanic

References:

See your -10
 See your LO

Equipment Conditions:

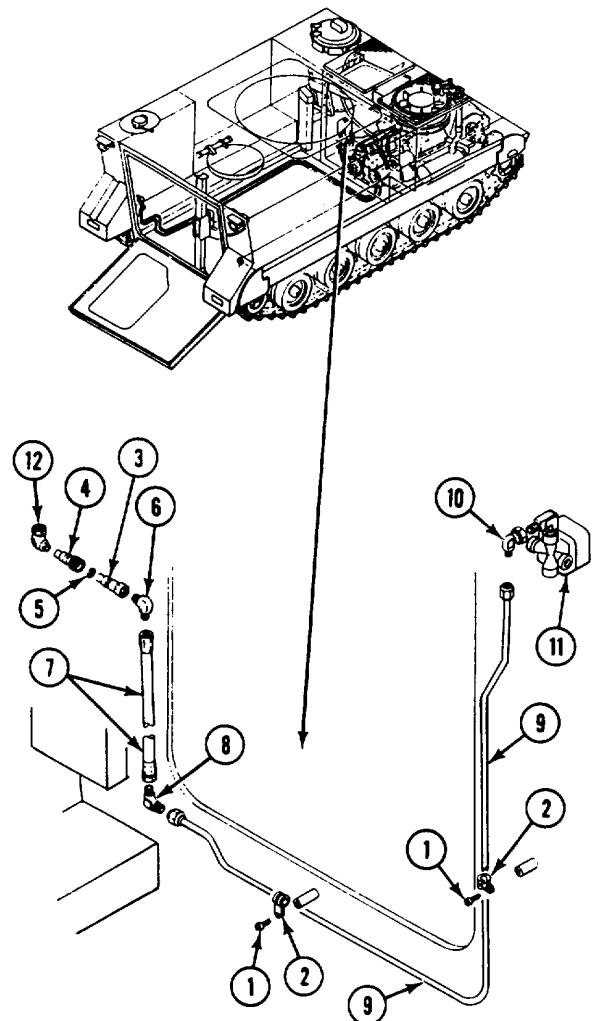
Engine stopped (see your -10)
 Carrier blocked (see your -10)
 Ramp lowered (see your -10)
 Driver's power plant access panel removed
 (page 24-25)
 Hydraulic tank drained (see your LO)

REMOVE

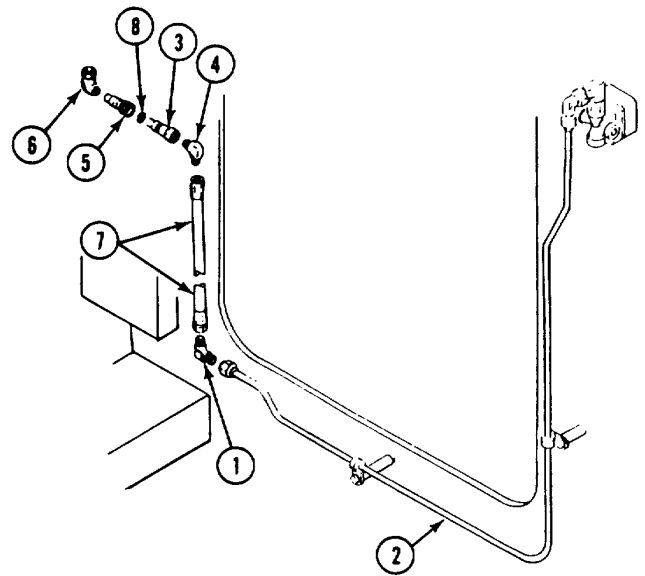
1. Remove two screws (1) and clamps (2) from two bulkhead weldnuts.
2. Remove fitting (3) from fitting (4). Remove packing (5) from fitting (4). Discard packing.
3. Remove fitting (3) from elbow (6). Remove fitting (4) from elbow (12).
4. Remove hose (7) from elbow (6) and elbow (8).
5. Remove elbow (8) from tube (9).
6. Remove tube (9) from elbow (10). Remove elbow (10) from ramp control valve (11).
7. Remove clamps (2) from tube (9).

INSTALL

8. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
9. Install elbow (10) on ramp control valve (11).
10. Install two clamps (2) on tube (9). Install tube on elbow (10).
11. Align two clamps (2) with bulkhead weldnuts. Secure with two screws (1).



12. Install elbow (1) in tube (2).
13. Install fitting (3) on elbow (4). Install fitting (5) on elbow (6).
14. Install hose (7) on elbow (1) and elbow (4).
15. Install new packing (8) on fitting (3).
16. Install fitting (3) in fitting (5).



FOLLOW-THROUGH STEPS

1. Fill hydraulic tank (see your LO).



WARNING

Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING

You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Install driver's power plant access panel (page 24-25).
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).

END OF TASK

REPLACE RAMP CONTROL VALVE TO BULKHEAD CONNECTION TUBE (M741A1 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
Self-locking nut

Personnel Required:

Unit Mechanic

References:

See your -10
See your LO

Equipment Conditions:

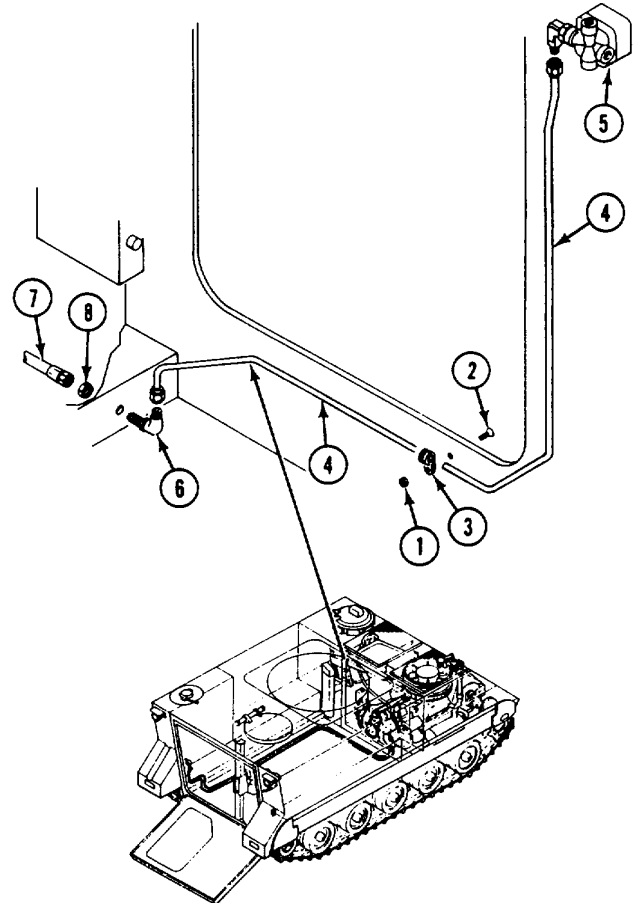
Engine stopped and ramp lowered
(see your -10)
Carrier blocked (see your -10)
Driver's power plant access panel removed
(page 24-25)
Front floor plate removed (page 24-40)

REMOVE

1. Remove locknut (1), screw (2), and clamp (3) from power plant compartment bulkhead. Discard locknut.
2. Remove tube (4) from ramp control valve (5) and bulkhead elbow (6).
3. Remove clamp (3) from tube (4).
4. Remove hose (7) from elbow (6).
5. Remove nut (8) and elbow (6) from bulkhead.

INSTALL

6. Install elbow (6) in bulkhead. Secure with nut (8).
7. Install hose (7) on elbow (6).
8. Place clamp (3) on tube (4). Install tube on elbow (6) and ramp control valve (5).
9. Align clamp (3) with hole in power plant compartment bulkhead. Secure with screw (2) and new locknut (1).



FOLLOW-THROUGH STEPS

1. Check fluid level in tank. Add fluid as needed (see your LO).

**WARNING**

Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.

**WARNING**

You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Install front floor plate (page 24-40).
5. Install driver's power plant access panel (page 24-25).
6. Raise and lock ramp (see your -10).
7. Stop engine (see your -10).

END OF TASK

REPLACE RAMP UNLOADER VALVE TO BULKHEAD CONNECTION TUBE (M741A1 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)

Sealing compound (Item 46, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

See your LO

Equipment Conditions:

Engine stopped and ramp lowered

(see your -10)

Carrier blocked (see your -10)

Driver's power plant access panel removed

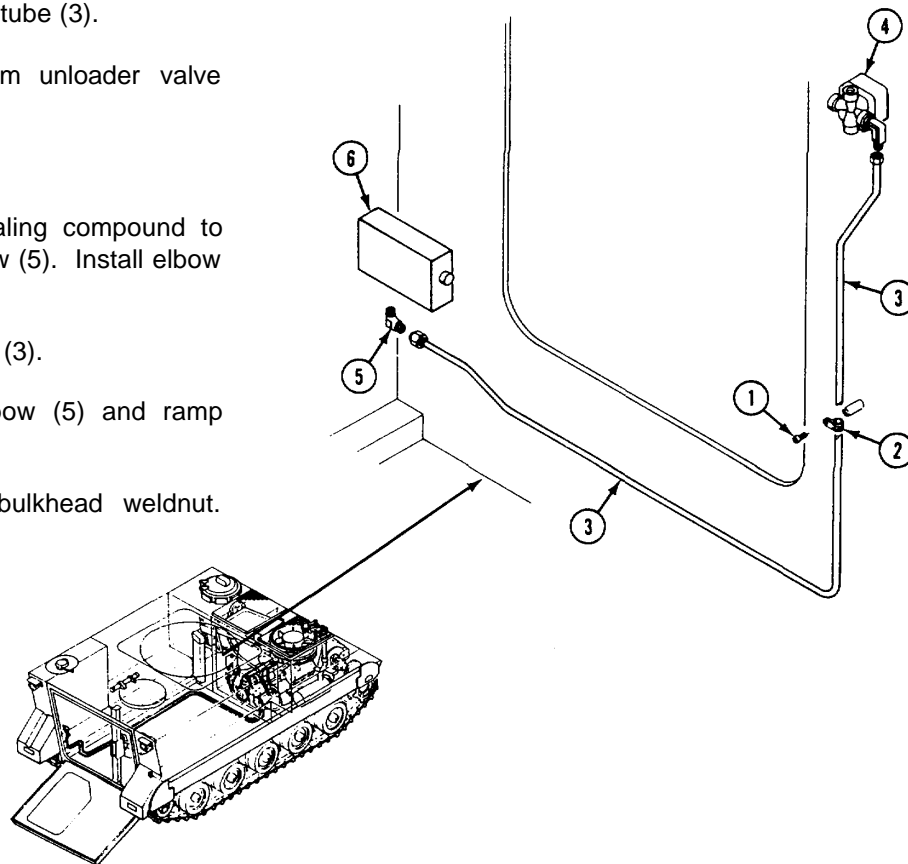
(page 24-25)

REMOVE

1. Remove screw (1) and clamp (2) from bulkhead weldnut.
2. Remove tube (3) from ramp control valve (4) and elbow (5).
3. Remove clamp (2) from tube (3).
4. Remove elbow (5) from unloader valve (6).

INSTALL

5. Apply light coat of sealing compound to tapered threads of elbow (5). Install elbow in unloader valve (6).
6. Place clamp (2) on tube (3).
7. Install tube (3) on elbow (5) and ramp control valve (4).
8. Align clamp (2) with bulkhead weldnut. Secure with screw (1).



FOLLOW-THROUGH STEPS

1. Check fluid level in tank. Add fluid as needed (see your LO).



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Install driver's power plant access panel (page 24-25).
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).

END OF TASK

REPLACE RAMP CONTROL VALVE TO UNLOADER VALVE TEE (M741A1 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
See your LO

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
Self-locking nut

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

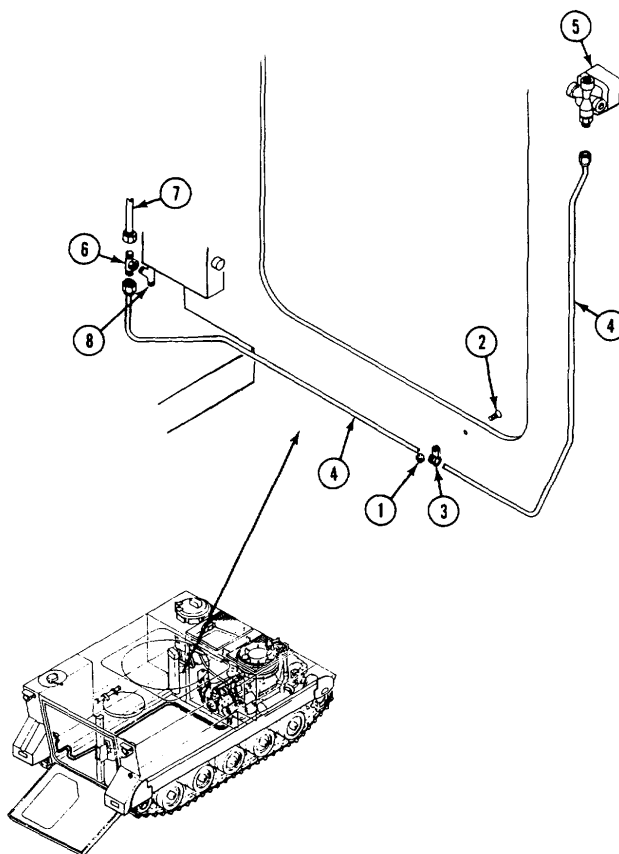
Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Driver's power plant access panel removed (page 24-25)

REMOVE

1. Remove locknut (1), screw (2), and clamp (3) from power plant compartment bulkhead. Discard locknut.
2. Remove tube (4) from ramp control valve (5) and tee (6).
3. Remove clamp (3) from tube (4).
4. Disconnect tube (7) from tee (6).
5. Remove tee (6) from tee (8) on unloader valve.

INSTALL

6. Install tee (6) on tee (8) on unloader valve.
7. Install tube (7) on tee (6).
8. Place clamp (3) on tube (4). Connect tube (4) to ramp control valve (5) and tee (6).
9. Align clamp (3) with hole in power plant compartment bulkhead. Secure with screw (2) and new locknut (1).



FOLLOW-THROUGH STEPS

1. Check fluid level in tank. Add fluid as needed (see your LO).

WARNING

Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.

WARNING

You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Raise and lock ramp (see your -10).
5. Stop engine (see your -10).
6. Install driver's power plant access panel (page 24-25).

END OF TASK

REPLACE HYDRAULIC TANK FILTER AND STRAINER ELEMENTS (M741A1 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Antiseize compound (Item 4, App C)
- FRH hydraulic fluid (Item 19, App C)
- Filter element
- Strainer packing
- Tab washer (4)

Personnel Required:

Unit Mechanic

References:

- See your -10
- See your LO

Equipment Conditions:

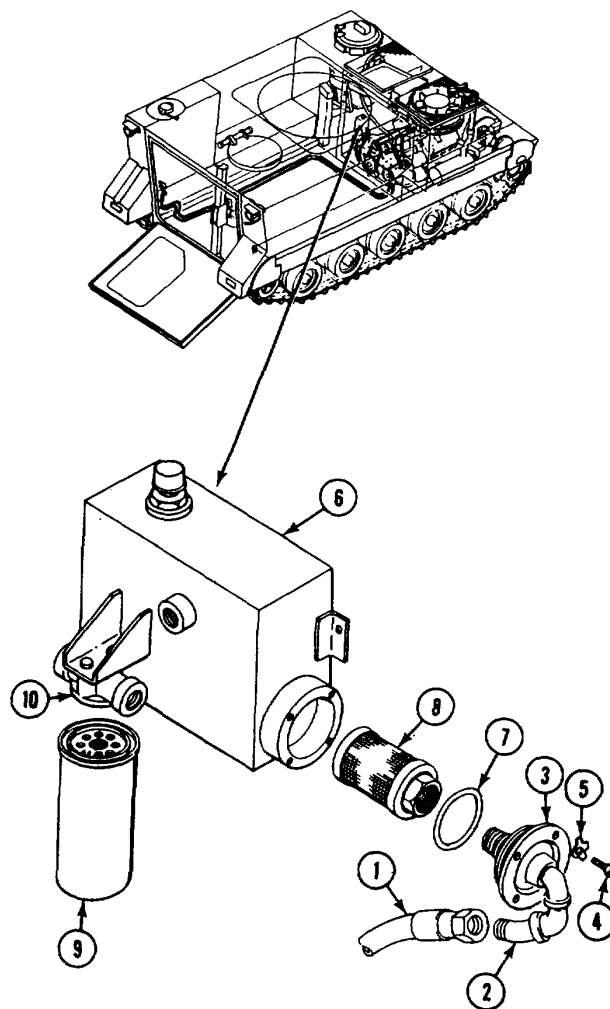
- Engine stopped and ramp lowered (see your -10)
- Carrier blocked (see your -10)
- Power plant rear access panel removed (page 24-27)
- Hydraulic tank drained (see your LO)

REMOVE

1. Disconnect hose (1) from elbow (2) on adapter (3).
2. Remove four screws (4), tab washers (5), and adapter (3) from hydraulic tank (6). Discard tab washers.
3. Remove strainer packing (7) and strainer (8) from adapter (3). Discard strainer packing.
4. Remove filter element (9) from housing (10) on tank (6). Discard filter element.

INSTALL

5. Install new filter element (9) on housing (10).
6. Install new strainer packing (7) and strainer (8) on adapter (3).
7. Apply light coat of antiseize compound to threads of four screws (4).
8. Install adapter (3), four new tab washers (5), and screws (4) in tank (6). Bend tabs on washers to secure screws.
9. Install hose (1) on elbow (2).



FOLLOW-THROUGH STEPS

1. Check fluid level in tank. Add fluid as needed (see your LO).



WARNING
 Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
 You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp several times to bleed air from system.
4. Install power plant rear access panel (page 24-27).
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).

END OF TASK

REPLACE HYDRAULIC TANK (M741A1 ONLY)**INITIAL SETUP****Tools:**

- General Mechanics Tool Kit (Item 30, App D)
- Pipe Wrench (Item 86, App D)

Materials/Parts:

- Antiseize compound (Item 4, App C)
- FRH hydraulic fluid (Item 19, App C)
- Sealing compound (Item 46, App C)
- Gasket
- Self-locking nut
- Tab washer (4)

Personnel Required:

- Unit Mechanic

References:

- See your -10
- See your LO

Equipment Conditions:

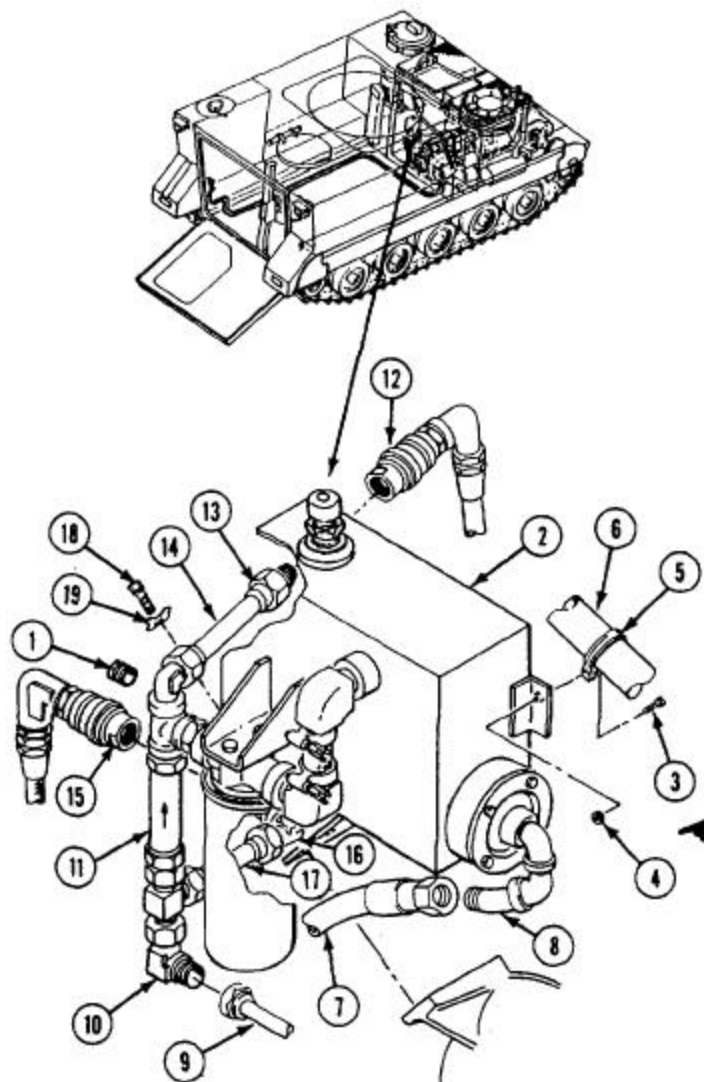
- Engine stopped (see your -10)
- Ramp lowered (see your -10)
- Carrier blocked (see your -10)
- Power plant rear access panel removed (page 24-27)
- Driver's power plant access panel removed (page 24-25)

REMOVE

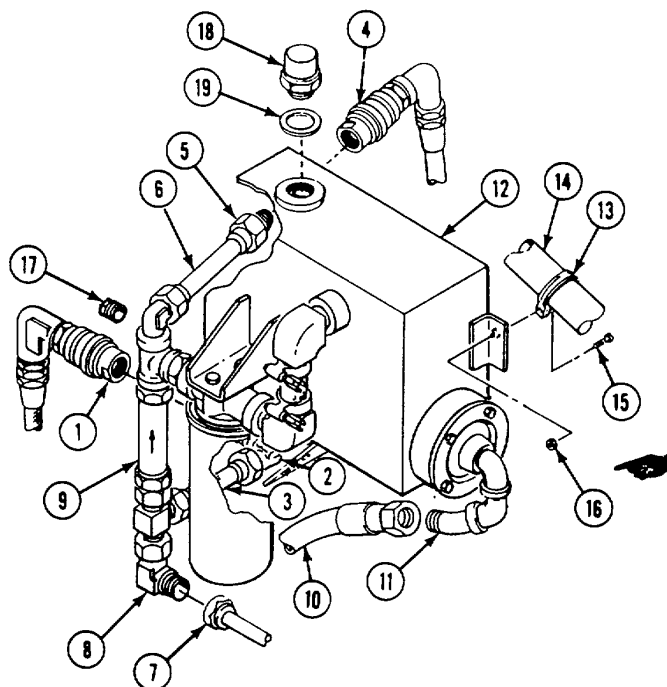
1. Remove plug (1). Drain hydraulic fluid from tank (2).
2. Remove screw (3), locknut (4), and clamp (5) on filler tube (6) from bracket on tank (2). Discard locknut.
3. Disconnect ramp pump-to-strainer hose (7) from elbow (8) on tank (2).
4. Disconnect ramp pump-to-relief valve tube (9) from elbow (10) on relief valve (11).
5. Remove relief valve-to-unloader valve hose quick disconnect (12) from nipple (13) on tube (14).
6. Remove relief valve-to-ramp control valve hose quick disconnect (15) from elbow (16) on tube (17).
7. Remove four screws (18), tab washers (19) and tank (2) from transfer gearcase mount. Discard tab washers.

INSTALL

8. Apply light coat of antiseize compound to threads of four screws (18). Place tank (2) on transfer gearcase mount. Secure with four new tab washers (19) and screws (18). Bend tabs on washers to secure screws.



9. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
10. Install quick disconnect (1) on elbow (2) on tube (3).
11. Install quick disconnect (4) on nipple (5) on tube (6).
12. Connect ramp pump-to-relief valve tube (7) to elbow (8) on relief valve (9).
13. Connect ramp pump-to-strainer hose (10) to elbow (11) on tank (12).
14. Align clamp (13) on filler tube (14) with bracket on tank (12). Secure with screw (15) and new locknut (16).
15. Install plug (17) in tank (12).



HYDRAULIC TANK FILL

16. Remove adapter with breather (18) and gasket (19) from tank (12). Discard gasket (19) if worn.
17. Fill tank (12) (see your LO).
18. Install gasket (19) and adapter with breather (18) on tank (12).

FOLLOW-THROUGH STEPS

WARNING



Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts

WARNING



You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

1. Start engine (see your -10). Check for hydraulic leaks.
2. Raise and lower ramp several times to bleed air from system.
3. Install driver's power plant access panel (page 24-25).
4. Install power plant rear access panel (page 24-27).
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).

END OF TASK

REPAIR HYDRAULIC TANK SYSTEM (M741A1 ONLY)

DESCRIPTION

This task covers: Disassemble (page 28-44). Assemble (page 28-45).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Antiseize compound (Item 4, App C)
- FRH hydraulic fluid (Item 19, App C)
- Sealing compound (Item 46, App C)
- Breather gasket
- Lockwashers (2)
- Pressure relief valve packing
- Sight glass packing
- Strainer packing
- Tab washer (4)

Personnel Required:

Unit Mechanic

References:

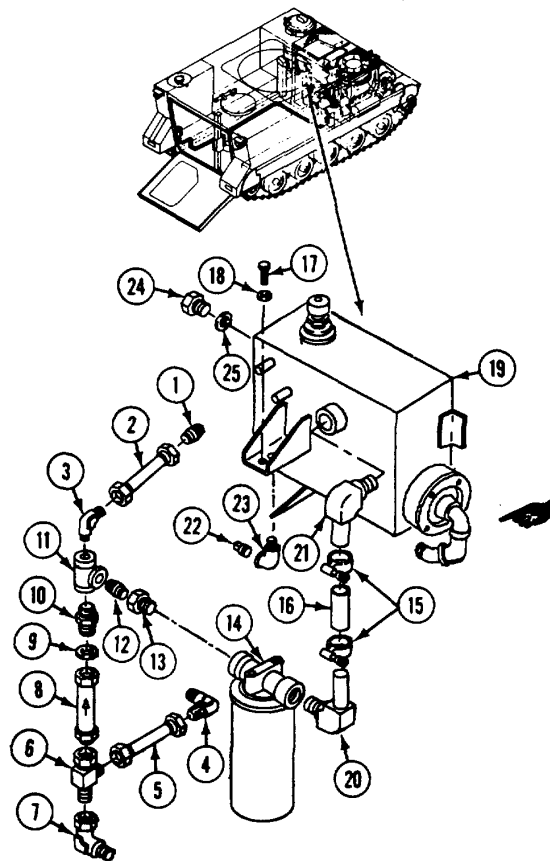
- See your -10
- See your LO

Equipment Conditions:

Hydraulic tank removed (page 28-42)

DISASSEMBLE

1. Remove nipple (1) from tube (2). Remove tube from elbow (3).
2. Remove elbow (4) from tube (5). Remove tube from tee (6).
3. Remove elbow (7) from tee (6). Remove tee from pressure relief valve (8).
4. Remove relief valve (8) and pressure relief valve packing (9) from adapter (10). Discard packing.
5. Remove elbow (3) and adapter (10) from tee (11).
6. Remove tee (11), nipple (12), and bushing (13) from filter housing (14).
7. Loosen two clamps (15) on hose (16). Remove two screws (17), lockwashers (18), and filter housing (14) from tank (19). Discard lockwashers.
8. Remove two clamps (15) and hose (16) from elbows (20 and 21). Remove elbow (20) from filter housing. Remove elbow (21) from tank (19).
9. Remove plug (22) from elbow (23). Remove elbow from tank (19).
10. Remove sight glass (24) and sight glass packing (25) from tank (19). Discard sight glass packing.

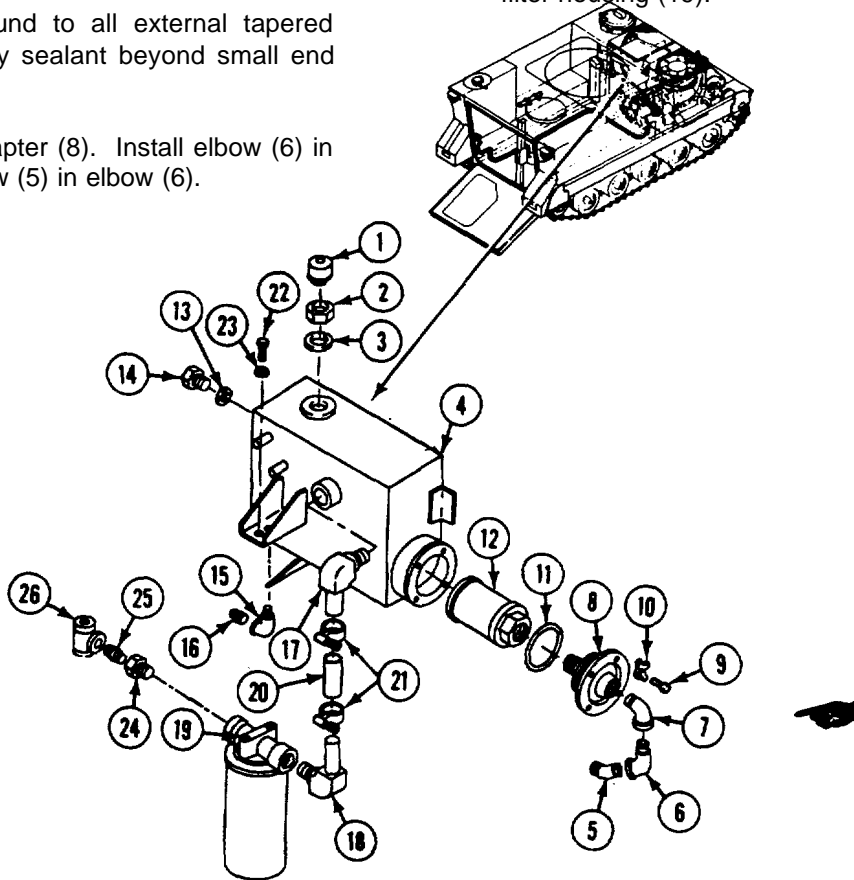


11. Remove breather (1) from bushing (2). Remove bushing and breather gasket (3) from tank (4). Discard gasket.
12. Remove elbow (5) from elbow (6). Remove elbow (6) from elbow (7). Remove elbow (7) from adapter (8).
13. Remove four screws (9), tab washers (10), and adapter (8), from tank (4). Discard tab washers.
14. Remove strainer packing (11) and strainer (12) from adapter (8). Discard packing.

ASSEMBLE

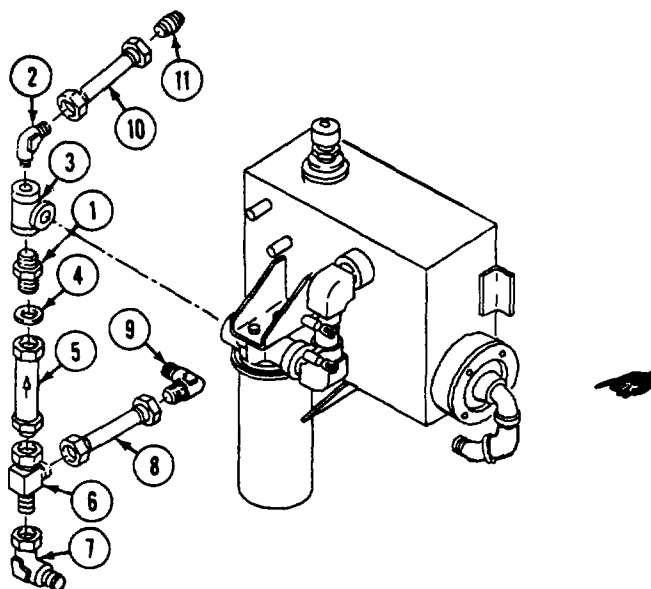
15. Install new strainer packing (11) and strainer (12) on adapter (8).
16. Apply light coat of antiseize compound to threads of four screws (9). Install adapter (8) on tank (4). Secure with four new tab washers (10) and screws (9). Bend tabs on washers to secure screws.
17. Apply sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
18. Install elbow (7) in adapter (8). Install elbow (6) in elbow (7). Install elbow (5) in elbow (6).

19. Install new breather gasket (3) and bushing (2) in tank (4). Install breather (1) in bushing.
20. Install new sight glass packing (13) and sight glass (14) in tank (4).
21. Install elbow (15) in tank (4). Install plug (16) in elbow.
22. Install elbow (17) in tank (4). Install elbow (18) in filter housing (19). Slide hose (20) and two clamps (21) on elbow (18).
23. Slide hose (20) on elbow (17). Align filter housing (19) with bracket on tank (4). Apply light coat of antiseize compound to threads of two screws (22). Secure housing to tank with two new lockwashers (23) and screws (22).
24. Tighten two clamps (21) on hose (20).
25. Install bushing (24), nipple (25), and tee (26) in filter housing (19).



GO TO NEXT PAGE

26. Install adapter (1) and elbow (2) in tee (3).
27. Install new pressure relief valve packing (4) and pressure relief valve (5) in adapter (1).
28. Apply light coat of antiseize compound to all external straight threads.
29. Install tee (6) on pressure relief valve (5). Install elbow (7) on tee.
30. Install tube (8) on tee (6). Install elbow (9) on tube.
31. Install tube (10) on elbow (2). Install nipple (11) in tube.



FOLLOW-THROUGH STEPS

1. Install hydraulic tank (page 28-42).
2. Fill hydraulic tank (see your LO).
3. Start engine (see your -10). Check for hydraulic leaks.
4. Raise and lower ramp several times to bleed air from system.
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

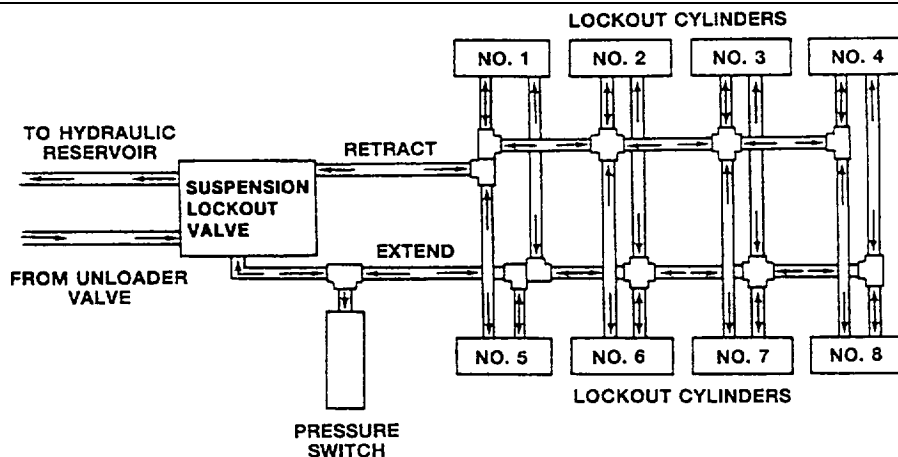
END OF TASK

Section III. SUSPENSION LOCKOUT SYSTEM (M741A1 ONLY)

TASK INDEX

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HYDRAULIC FLUID FLOW DIAGRAM - SUSPENSION LOCKOUT SYSTEM (M741A1 ONLY)



REPLACE SUSPENSION LOCKOUT VALVE TO MAIN EXTEND TUBES (M741A1 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

References: (cont):

See your LO

Equipment Conditions:

Engine stopped (see your -10)

Ramp lowered (see your -10)

Carrier blocked (see your -10)

Power plant rear access panel removed (page 24-27 or 24-29)

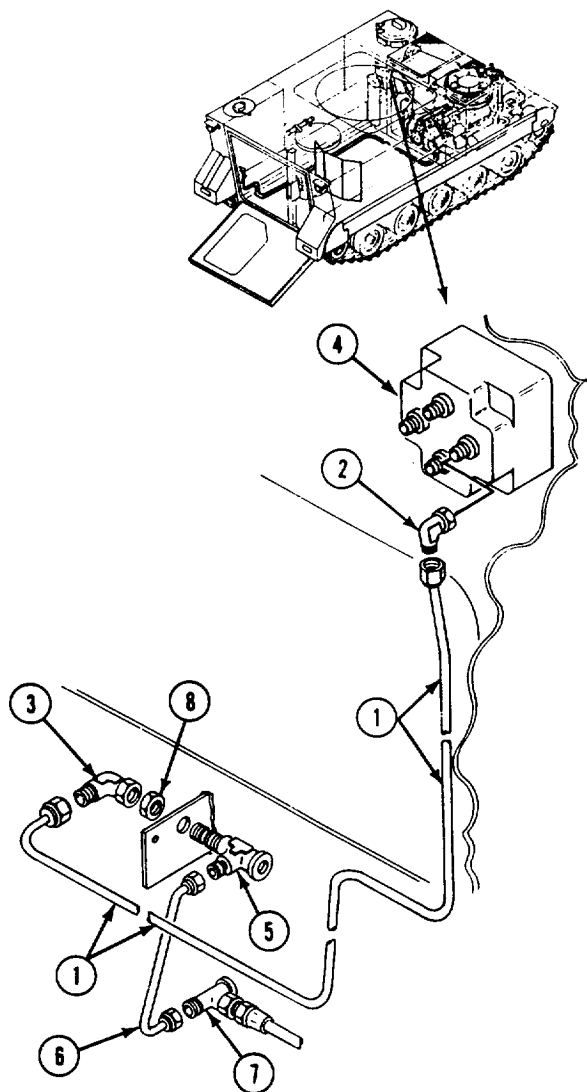
Pressure switch removed (page 28-62)

REMOVE

1. Remove tube (1) from elbows (2 and 3).
2. Remove elbow (2) from suspension lockout valve (4).
3. Remove elbow (3) from tee (5).
4. Remove tube (6) from tees (5 and 7).
5. Remove jamnut (8) and tee (5) from hull bracket.

INSTALL

6. Install tee (5) in hull bracket. Secure with jamnut (8).
7. Install tube (6) on tees (5 and 7).
8. Install elbow (3) on tee (5).
9. Install elbow (2) on lockout valve (4).
10. Install tube (1) on elbows (2 and 3).



FOLLOW-THROUGH STEPS

1. Install pressure switch (page 28-62).



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Check fluid level in tank. Add fluid as needed (see your LO).
3. Start engine (see your -10). Check for hydraulic leaks.
4. Lock and unlock suspension lockouts several times to bleed air from system (see your -10).
5. Raise and lock ramp (see your -10).
6. Install power plant rear access panel (page 24-27 or 24-29).
7. Stop engine (see your -10).

END OF TASK

**REPLACE SUSPENSION LOCKOUT VALVE TO MAIN RETRACT
TUBE (M741A1 ONLY)**

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

See your LO

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

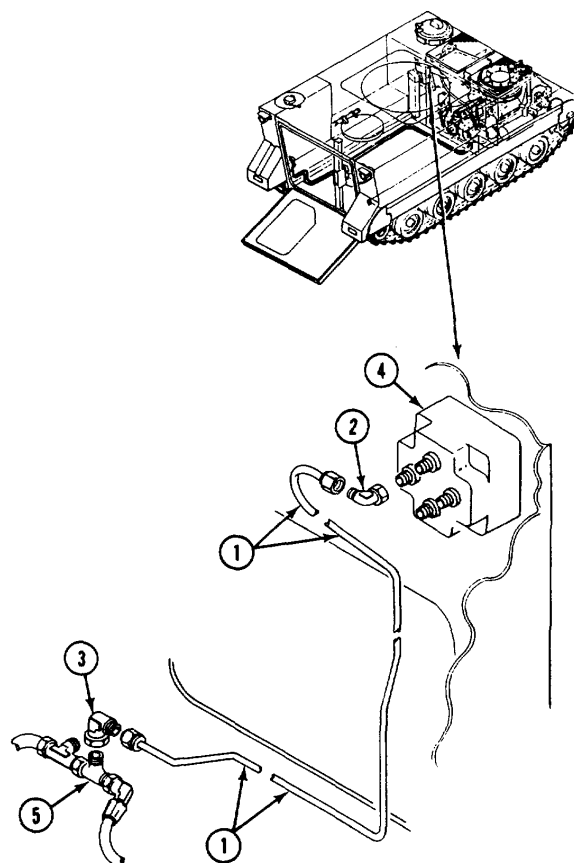
Power plant rear access panel removed
(page 24-27 or 24-29)

REMOVE

1. Remove tube (1) from elbows (2 and 3).
2. Remove elbow (2) from suspension lockout valve (4).
3. Remove elbow (3) from tee (5).

INSTALL

4. Install elbow (3) on tee (5).
5. Install elbow (2) on suspension lockout valve (4).
6. Install tube (1) on elbows (2 and 3).



FOLLOW-THROUGH STEPS

1. Check fluid level in tank. Add fluid as needed (see your LO).



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp. Operate suspension lockout several times to bleed air from system.
4. Raise and lock ramp (see your -10).
5. Stop engine (see your -10).
6. Install power plant rear access panel (page 24-27 or 24-29).

END OF TASK

REPLACE SUSPENSION LOCKOUT VALVE TO FLOW REGULATING VALVE TUBE (M741-A1 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

See your LO

Equipment Conditions:

Engine stopped (see your -10)

Ramp lowered (see your -10)

Carrier blocked (see your -10)

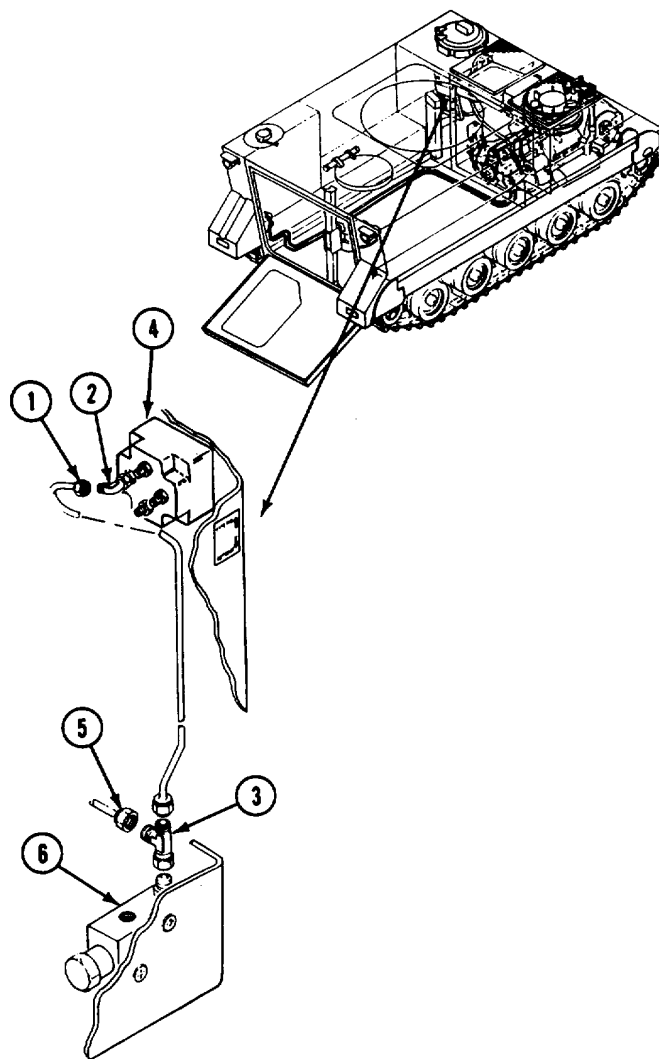
Power plant rear access panel removed (page 24-27 or 24-29)

REMOVE

1. Remove tube (1) from elbow (2) and tee (3).
2. Remove elbow (2) from suspension lockout valve (4).
3. Disconnect tube (5) from tee (3).
4. Remove tee (3) from flow regulating valve (6).

INSTALL

5. Install tee (3) on flow regulating valve (6).
6. Connect tube (5) to tee (3).
7. Install elbow (2) on suspension lockout valve (4).
8. Install tube (1) on tee (3) and elbow (2).



FOLLOW-THROUGH STEPS

1. Check fluid level in tank. Add fluid as needed (see your LO).



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp. Operate suspension lockout several times to bleed air from system.
4. Raise and lock ramp (see your -10).
5. Install power plant rear access panel (page 24-27 or 24-29).
6. Stop engine (see your -10).

END OF TASK

**REPLACE SUSPENSION LOCKOUT VALVE TO FLOW
REGULATING VALVE RETURN TUBE (M741A1 ONLY)
INITIAL SETUP**

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

See your LO

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

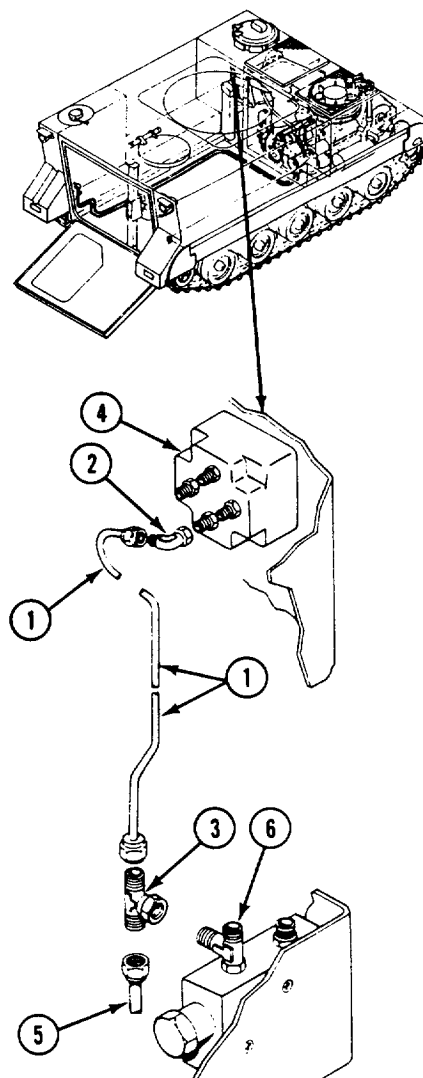
Power plant rear access panel removed
(page 24-27 or 24-29)

REMOVE

1. Remove tube (1) from elbow (2) and tee (3).
2. Remove elbow (2) from suspension lockout valve (4).
3. Remove tube (5) from tee (3).
4. Remove tee (3) from tee (6).

INSTALL

5. Install tee (3) on tee (6).
6. Connect tube (5) to tee (3).
7. Install elbow (2) on lockout valve (4).
8. Install tube (1) on tee (3) and elbow (2).



FOLLOW-THROUGH STEPS

1. Check fluid level in tank. Add fluid as needed (see your LO).



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp. Operate suspension lockout several times to bleed air from system.
4. Raise and lock ramp (see your -10).
5. Stop engine (see your -10).
6. Install power plant rear access panel (page 24-27 or 24-29).

END OF TASK

REPLACE SUSPENSION LOCKOUT VALVE (M741A1 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
 Lockwasher (4)
 Preformed packing (4)

Personnel Required:

Unit Mechanic

References:

See your -10
 See your LO

Equipment Conditions:

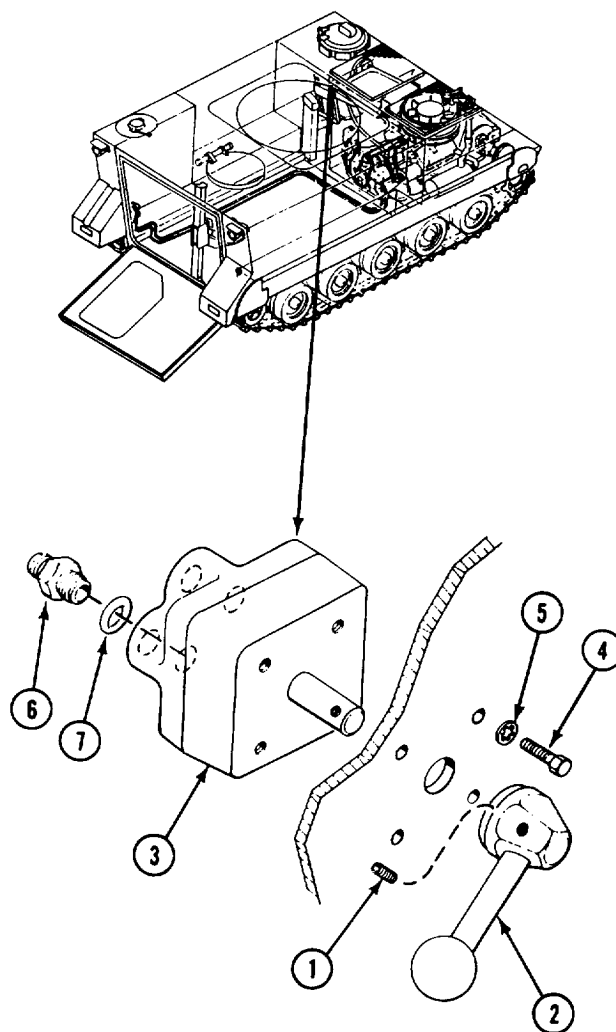
Engine stopped (see your -10)
 Carrier blocked (see your -10)
 Power plant rear access panel removed (page 24-27 or 24-29)
 All tubes and elbows removed from control valve (pages 28-50 to 28-55)

REMOVE

1. Remove set screw (1) and handle (2) from suspension lockout valve (3).
2. Remove four screws (4) and lockwashers (5) from valve (3). Remove valve from power plant compartment rear bulkhead. Discard lockwashers.
3. Remove four adapters (6) and preformed packings (7) from valve (3). Discard packings.

INSTALL

4. Install four new preformed packings (7) and adapters (6) in suspension lockout valve (3).
5. Place valve (3) on power plant compartment rear bulkhead. Secure with four new lockwashers (5) and screws (4).
6. Install handle (2) on lockout valve (3). Secure with set screw (1).



FOLLOW-THROUGH STEPS

1. Install all tubes and elbows on control valve (pages 28-50 to 28-55).



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Check fluid level in tank. Add fluid as needed (see your LO).
3. Start engine (see your -10). Check for hydraulic leaks.
4. Raise and lower ramp. Operate suspension lockout several times to bleed air from system.
5. Raise and lock ramp (see your -10).
6. Install power plant rear access panel (page 24-27 or 24-29).
7. Stop engine (see your -10).

END OF TASK

REPLACE SAFETY RELIEF VALVE ON FLOW REGULATING VALVE (M741A1 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)
See your LO

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped and ramp lowered
(see your -10)
Carrier blocked (see your -10)
Driver's power plant access panel removed
(page 24-27 or 24-29)

REMOVE

1. Disconnect tube (1) from elbow (2) and safety relief valve (3).
2. Remove relief valve (3) from tube (4). Remove tube (4) from tee (5).
3. Remove elbow (2) and tube (6) from tee (7).
4. Remove tee (7) from tee (8).

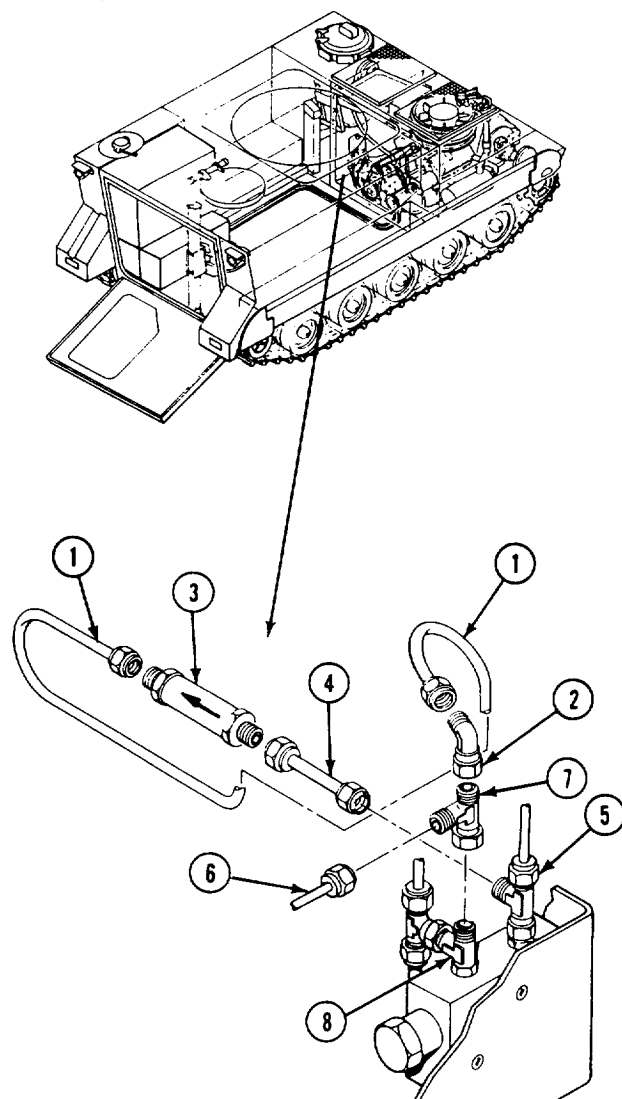
INSTALL

5. Install tee (7) on tee (8).
6. Install tube (6) and elbow (2) on tee (7).
7. Install tube (4) on tee (5). Install safety relief valve (3) on tube (4).

NOTE

Make sure safety relief valve is installed with arrow as shown.

8. Install tube (1) on safety relief valve (3) and elbow (2).



FOLLOW-THROUGH STEPS

1. Check fluid level in tank. Add fluid as needed (see your LO).



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp. Operate suspension lockout several times to bleed air from system.
4. Raise and lock ramp (see your -10).
5. Stop engine (see your -10).
6. Install driver's power plant access panel (page 24-27 or 24-29).

END OF TASK

REPLACE FLOW REGULATING VALVE (M741A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
 Sealing compound (Item 46, App C)
 Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

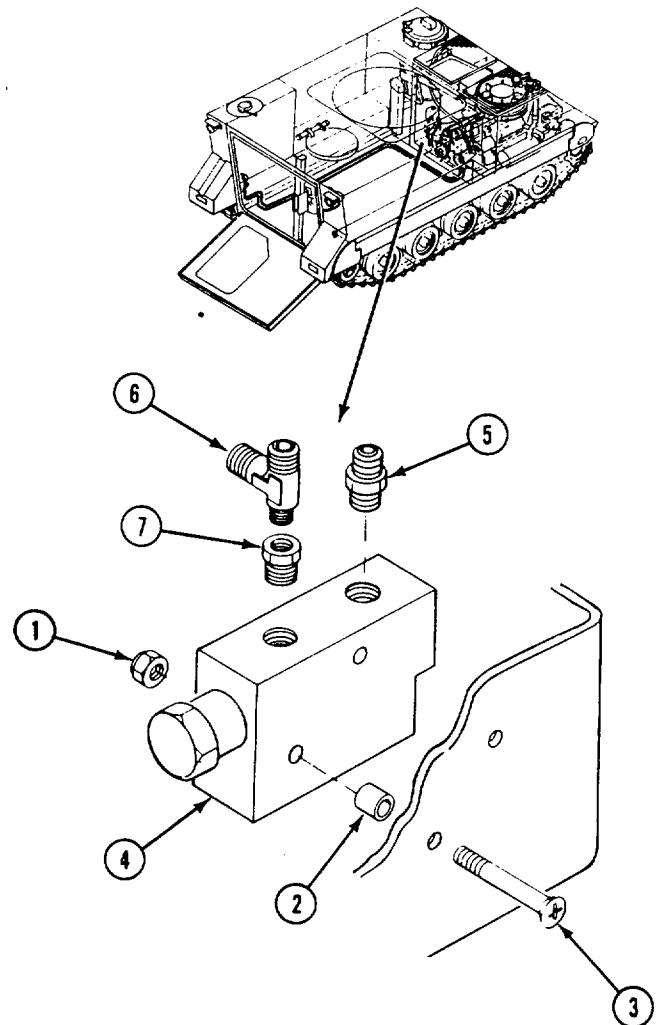
Engine stopped (see your -10)
 Carrier blocked (see your -10)
 Ramp lowered (see your -10)
 Driver's power plant access panel removed
 (page 24-25)
 Carrier blocked (see your -10)
 All tubes, elbows, and tees removed from
 unloader valve
 (pages 28-36, 28-38, 28-54, and 28-58)

REMOVE

1. Remove two locknuts (1), spacers (2), screws (3), and flow regulating valve (4) from power plant compartment bulkhead. Discard locknuts.
2. Remove nipple (5) from valve (4).
3. Remove tee (6) from bushing (7). Remove bushing (7) from valve (4).

INSTALL

4. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
5. Install bushing (7) in flow regulating valve (4). Install tee (6) in bushing (7).
6. Install nipple (5) in valve (4).
7. Align valve (4) and two spacers (2) with power plant compartment bulkhead. Secure with two screws (3) and new locknuts (1).



FOLLOW-THROUGH STEPS

1. Install all tees, elbows, and tubes in flow regulating valve (pages 28-36, 28-38, 28-54, and 28-58).
2. Check fluid level in tank. Add fluid as needed (see your LO).



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.

3. Start engine (see your -10). Check for hydraulic leaks.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

4. Raise and lower ramp. Operate suspension lockout several times to bleed air from system.
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).
7. Install driver's power plant access panel (page 24-25).

END OF TASK

REPLACE HYDRAULIC PRESSURE SWITCH (M741A1 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Preformed packing

Personnel Required:

Unit Mechanic

References:

See your -10

See your LO

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

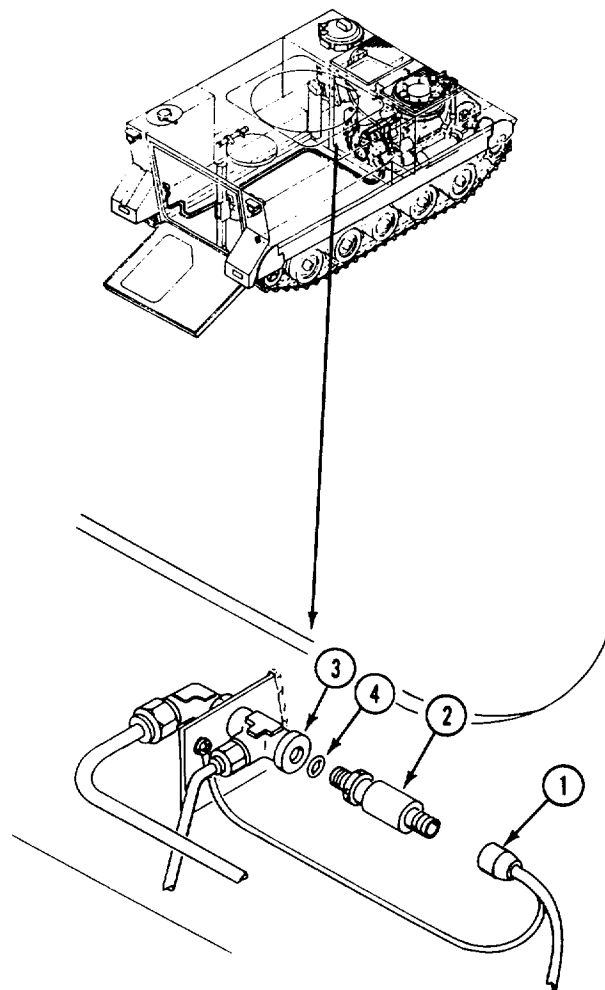
Power plant rear access panel removed
(page 24-27 or 24-29)

REMOVE

1. Disconnect circuit 509 lead (1) from pressure switch (2).
2. Remove switch (2) from tee (3).
3. Remove preformed packing (4) from switch (2). Discard preformed packing.

INSTALL

4. Install new preformed packing (4) on pressure switch (2).
5. Install switch (2) in tee (3).
6. Connect circuit 509 lead (1) to switch (2).



FOLLOW-THROUGH STEPS

1. Check fluid level in tank. Add fluid as needed (see your LO).



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Start engine (see your -10). Check for hydraulic leaks.
3. Raise and lower ramp. Operate suspension lockout several times to bleed air from system.
4. Raise and lock ramp (see your -10).
5. Stop engine (see your -10).
6. Install power plant rear access panel (page 24-27 or 24-29).

END OF TASK

REPLACE SUSPENSION LOCKOUT MAIN EXTEND HOSES

(M741A1 ONLY)

DESCRIPTION

This task covers: Remove (page 28-64). Install (page 28-65).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References: (cont):

See your LO

Materials/Parts:

Antiseize compound (Item 4, App C)
 FRH hydraulic fluid (Item 19, App C)
 Lockwasher (6)

Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 Ramp lowered (see your -10)
 Power plant rear access panel removed (page 24-27 or 24-29)
 Front and left rear floor plates removed (page 24-40)
 Suspension lockout control extend tube disconnected from tee (page 28-50)

Personnel Required:

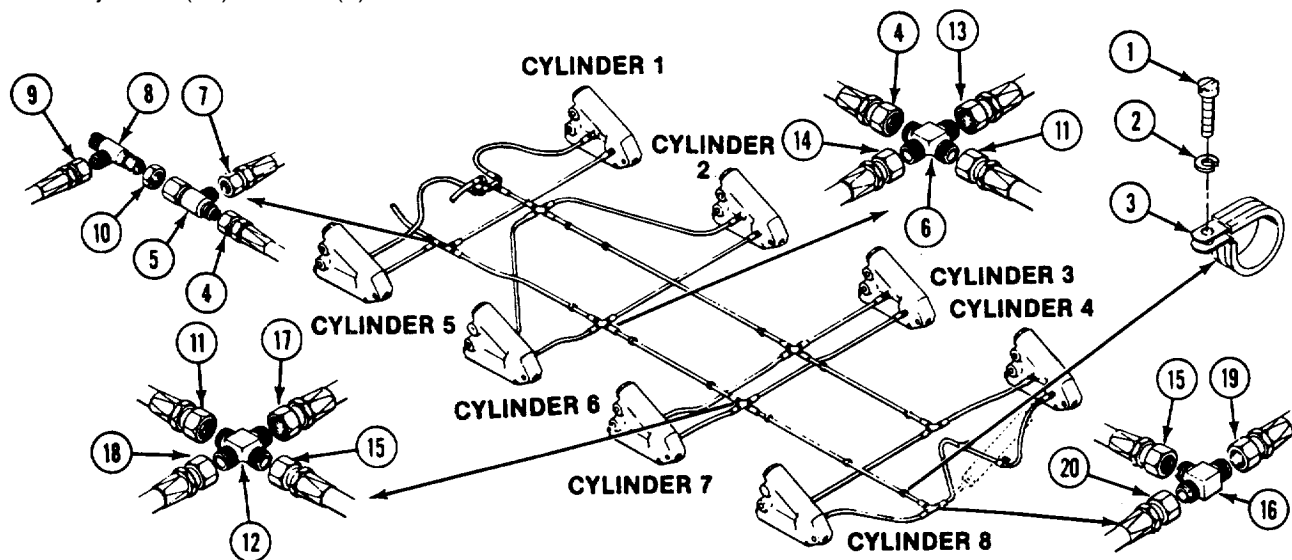
Unit Mechanic

References:

See your -10

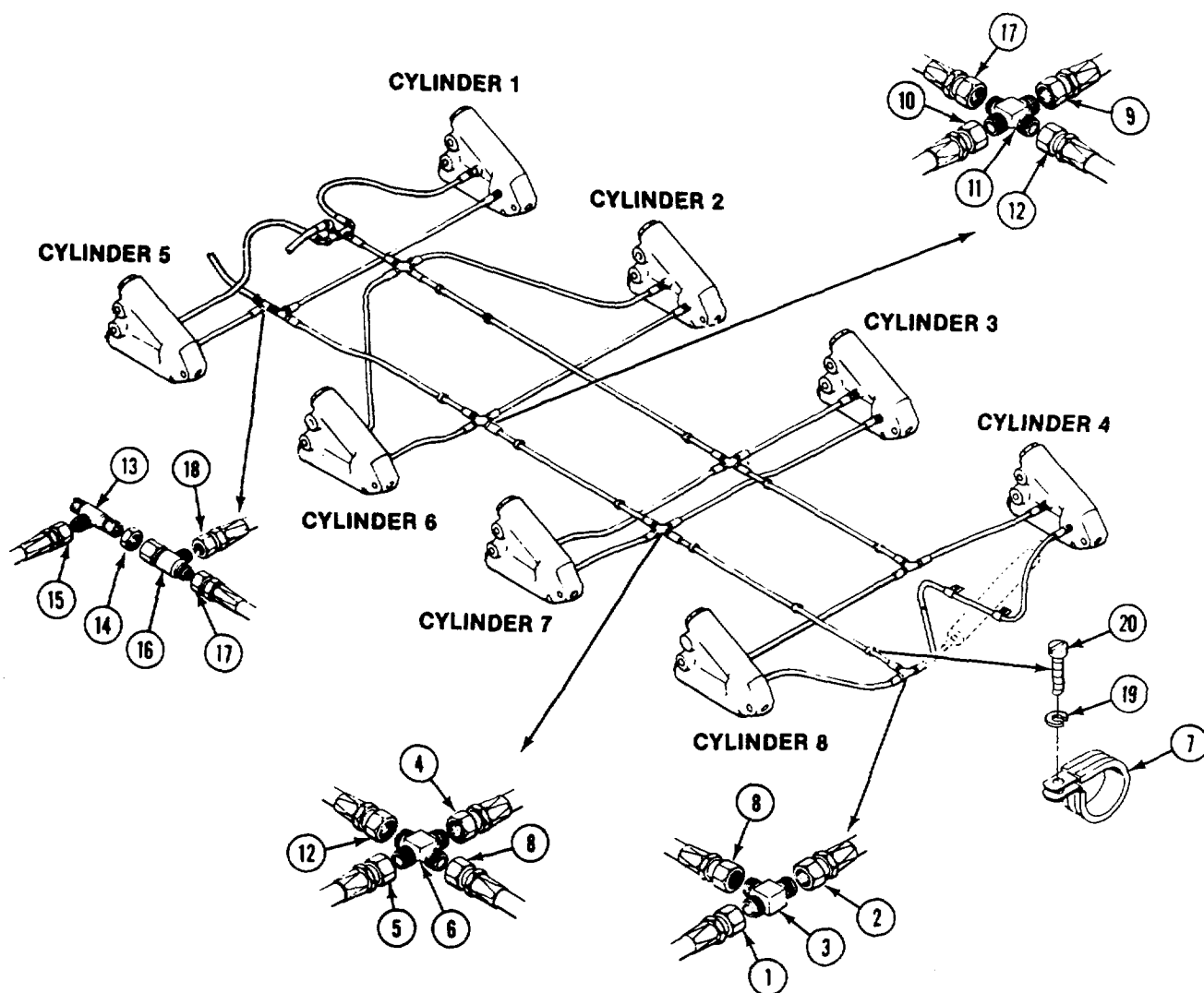
REMOVE

1. Remove six screws (1), lockwashers (2), and six clamps (3) from six hull weldnuts. Discard lockwashers.
2. Remove hose (4) from tee (5) and cross (6). Remove clamp (3) from hose.
3. Disconnect hose (7) from tee (5). Remove tee (5) from tee (8).
4. Disconnect hose (9) from tee (8).
5. Remove jamnut (10) and tee (8) from bulkhead.
6. Remove hose (11) from cross (6) and cross (12). Remove two clamps (3) from hose.
7. Disconnect hose (13) and hose (14) from cross (6).
8. Remove hose (15) from cross (12) and tee (16). Remove three clamps (3) from hose.
9. Disconnect hoses (17 and 18) from cross (12).
10. Disconnect hoses (19 and 20) from tee (16).



INSTALL

11. Apply antiseize compound sparingly to external threads of straight fittings.
12. Connect hoses (1 and 2) to tee (3).
13. Connect hoses (4 and 5) to cross (6).
14. Install three clamps (7) on hose (8). Install hose on tee (3) and cross (6).
15. Connect hoses (9 and 10) to cross (11).
16. Install two clamps (7) on hose (12). Install hose on crosses (6 and 11).
17. Install tee (13) in bulkhead. Secure with jamnut (14).
18. Connect hose (15) to tee (13).
19. Install tee (16) on tee (13).
20. Install clamp (7) on hose (17). Install hose on cross (11) and tee (16).
21. Install hose (18) on tee (16).
22. Align six clamps (7) with hull weldnuts. Secure with six new lockwashers (20) and screws (19).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Connect suspension lockout valve extend tube to tee (page 28-50).



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

2. Check fluid level in tank. Add fluid as needed (see your LO).
3. Start engine (see your -10). Check for hydraulic leaks.
4. Raise and lower ramp. Operate suspension lockout several times to bleed air from system.
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).
7. Install power plant rear access panel (page 24-27 or 24-29).
8. Install front and left rear floor plates (page 24-40).

END OF TASK

REPLACE SUSPENSION LOCKOUT MAIN RETRACT HOSES

(M741A1 ONLY)

DESCRIPTION

This task covers: Remove (page 28-67). Install (page 28-68).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Antiseize compound (Item 4, App C)
- FRH hydraulic fluid (Item 19, App C)
- Lockwasher (5)

Personnel Required:

Unit Mechanic

References:

See your -10

References: (cont):

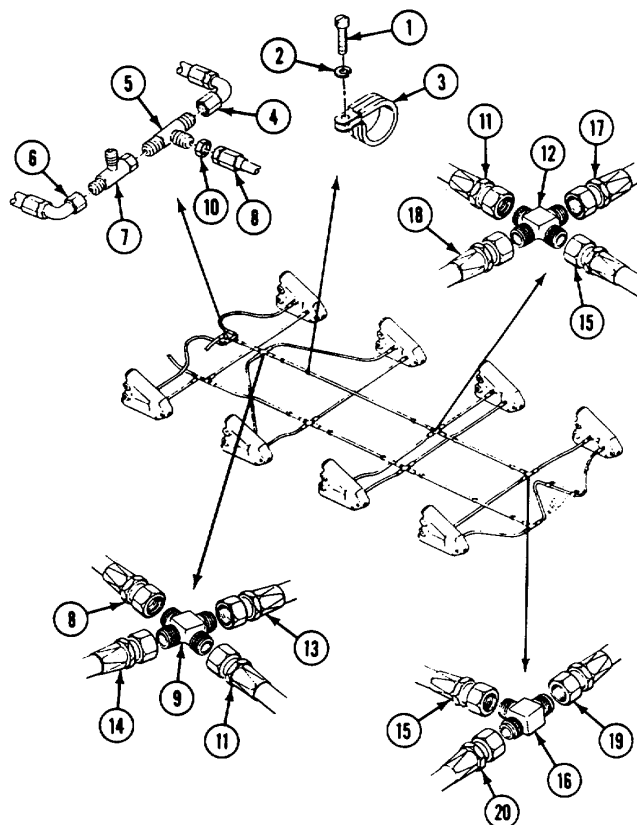
See your LO

Equipment Conditions:

- Engine stopped and ramp lowered (see your -10)
- Carrier blocked (see your -10)
- Power plant rear access panel removed (page 24-27 or 24-29)
- Front and right rear floor plates removed (page 24-40)
- Suspension lockout valve retract tube and elbow disconnected from tee (page 28-50)

REMOVE

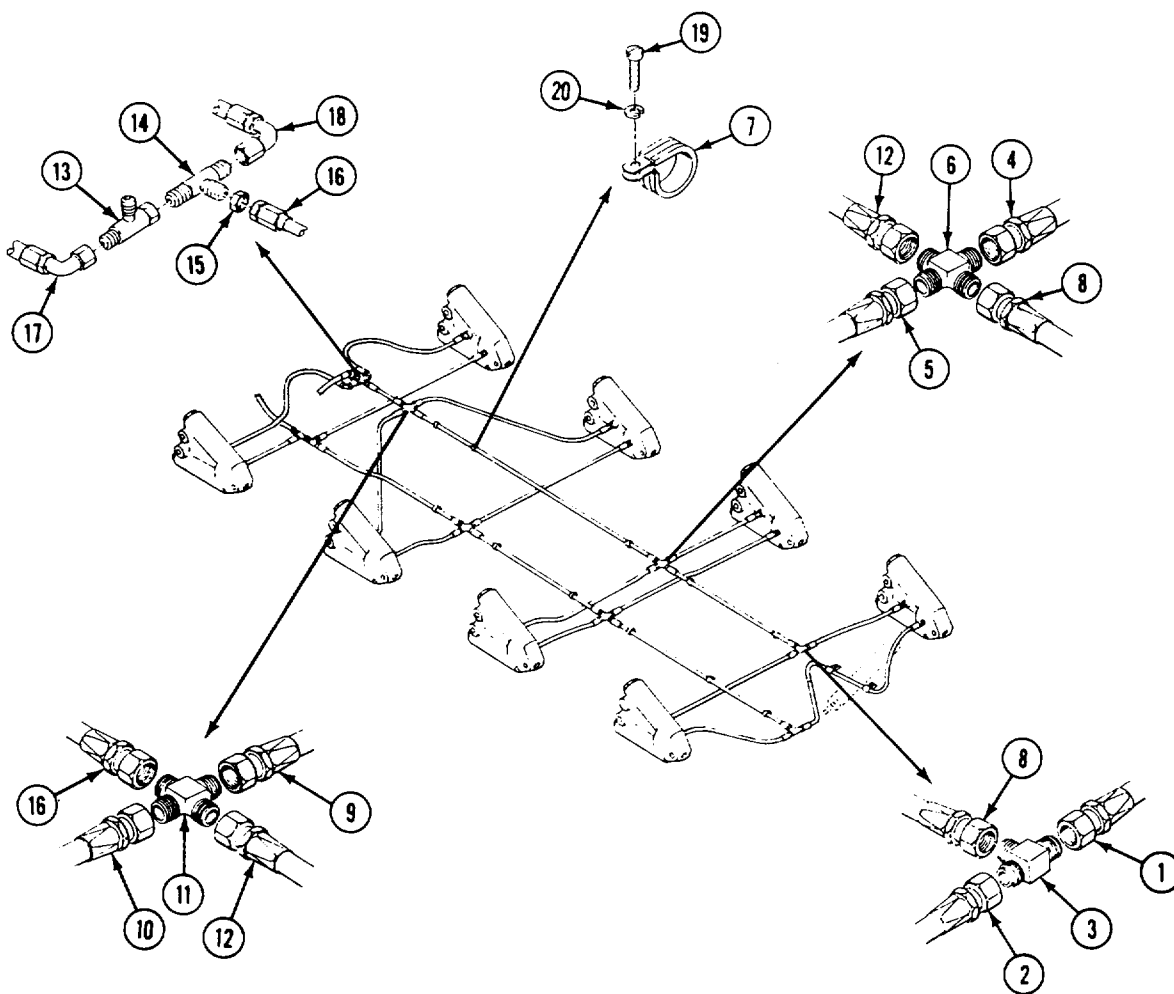
1. Remove five screws (1), lockwashers (2), and clamps (3) from five hull weldnuts.
2. Disconnect hose (4) from tee (5).
3. Disconnect hose (6) from tee (7).
4. Remove hose (8) from tee (5) and cross (9).
5. Remove jamnut (10) and tee (5) from bulkhead. Remove tee (7) from tee (5).
6. Remove hose (11) from crosses (9 and 12). Remove three clamps (3) from hose.
7. Disconnect hoses (13 and 14) from cross (9).
8. Remove hose (15) from cross (12) and tee (16). Remove two clamps (3) from hose.
9. Disconnect hoses (17 and 18) from cross (12).
10. Disconnect hoses (19 and 20) from tee (16).



GO TO NEXT PAGE

INSTALL

11. Apply antiseize compound sparingly to external threads of straight fittings.
12. Connect hoses (1 and 2) to tee (3).
13. Connect hoses (4 and 5) to cross (6).
14. Install two clamps (7) on hose (8). Install hose on tee (3) and cross (6).
15. Connect hoses (9 and 10) to cross (11).
16. Install three clamps (7) on hose (12). Install hose on crosses (6 and 11).
17. Install tee (13) on tee (14).
18. Install tee (14) in bulkhead. Secure with jamnut (15).
19. Install hose (16) on cross (11) and tee (14).
20. Connect hose (17) to tee (13).
21. Connect hose (18) to tee (14).
22. Align five clamps (7) with five bulkhead weldnuts. Secure with five screws (19) and new lockwashers (20).



FOLLOW-THROUGH STEPS

1. Connect suspension lockout valve retract tube and elbow to tee (page 28-73).
2. Check fluid level in tank. Add fluid as needed (see your LO).

WARNING

Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.

WARNING

You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

3. Start engine (see your -10). Check for hydraulic leaks.
4. Raise and lower ramp. Operate suspension lockout several times to bleed air from system.
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).
7. Install power plant rear access panel (page 24-27 or 24-29).
8. Install front and right rear floor plates (page 24-40).

END OF TASK

REPLACE SUSPENSION LOCKOUT CYLINDER EXTEND AND RETRACT HOSES (M741A1 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Packing (1 per hose)
 FRH hydraulic fluid (Item 19, App C)
 Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

See your -10
 See your LO

Equipment Conditions:

Engine stopped and ramp lowered
 (see your -10)
 Carrier blocked (see your -10)
 Power plant rear access panel removed for
 No. 1 and No. 5 cylinders only
 (page 24-27 or 24-29)
 Floor plates removed for all except No. 1 and
 No. 5 cylinders (page 24-40)
 Respective suspension lockout cylinder mount
 bolts removed (page 28-73)

REMOVE

NOTE

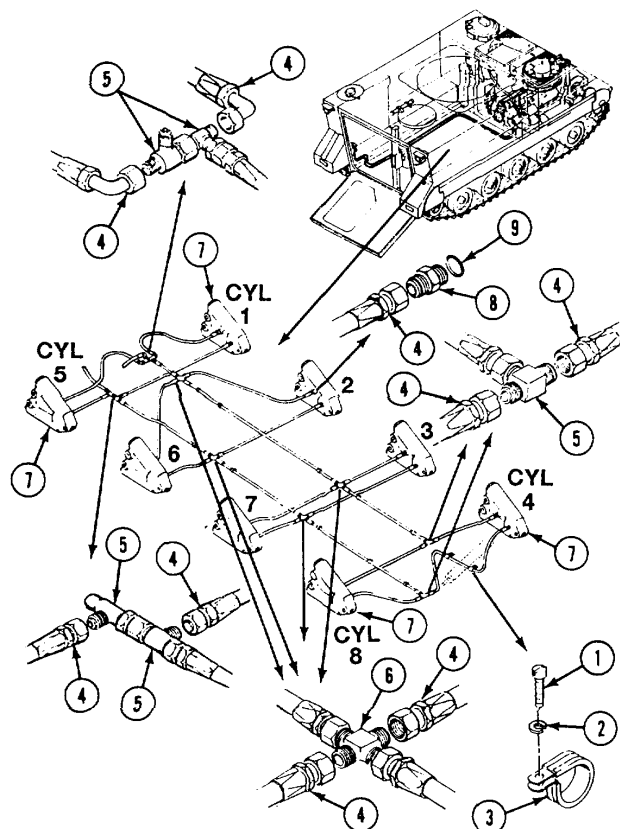
All suspension lockout cylinder extend and retract hoses are removed and installed the same way except as noted.

1. On No. 4 cylinder retract hose only, remove two screws (1), lockwashers (2), and clamps (3) from two hull weldnuts. Remove clamps from hose. Discard lockwashers.
2. Disconnect hoses (4) from tees (5) and cross (6).
3. Pull lockout cylinder (7) from hull. Remove hose (4) from adapter (8). Remove hose from carrier.
4. Remove adapter (8) and packing (9) from lockout cylinder (7). Discard packing.

INSTALL

5. Install new packing (9) and adapter (8) in suspension lockout cylinder (7).
6. Route hose (4) through bulkhead. Secure to adapter (8).
7. Connect hoses (4) to cross (6) and tees (5).

8. On No. 4 cylinder retract hose only, install two clamps (3) on hose. Align clamps with hull weldnuts. Secure with two screws (1) and new lockwashers (2).



FOLLOW-THROUGH STEPS

1. Install mount bolts in respective suspension lockout cylinder (page 28-73).
2. Check fluid level in tank. Add fluid as needed (see your LO).
3. Start engine (see your -10). Check for hydraulic leaks.
4. Raise and lower ramp. Operate suspension lockout several times to bleed air from system.



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).
7. Install power plant rear access panel (page 24-27 or 24-29).
8. Install front and right rear floor plates (page 24-40).

END OF TASK

REPLACE SUSPENSION LOCKOUT CYLINDER (M741A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)
 Hydraulic Jack (Item 38, App D)
 Roadwheel Lifter (Item 39, App D)
 Torque Wrench (Item 98, App D)

Materials/Parts:

Caulking compound (Item 8, App C)
 FRH hydraulic fluid (Item 19, App C)

Personnel Required:

Unit Mechanic

References:

See your -10
 See your LO

Equipment Conditions:

Engine stopped and ramp lowered
 (see your -10)
 Carrier blocked (see your -10)
 Track shroud removed (page 22-2)
 Road wheel removed (page 22-9)

REMOVE**WARNING**

If road wheel lifter slips, you could get badly hurt by carrier track. Keep feet clear of track when using road wheel lifter.

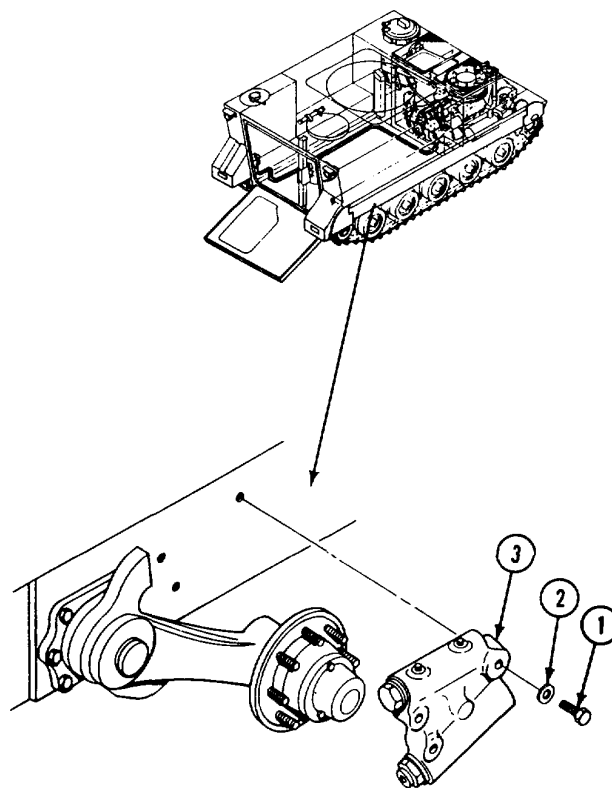
NOTE

Remove and install all suspension lockout cylinders the same way.

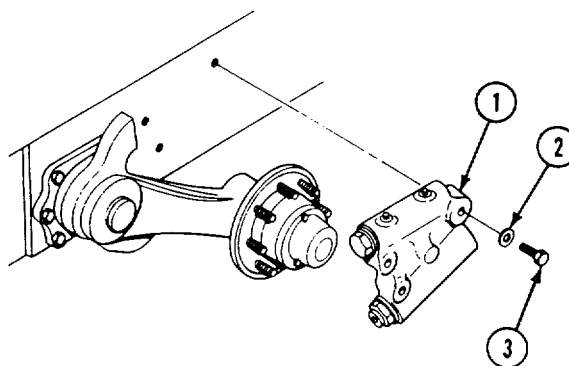
1. Jack up side of carrier. Remove road wheel lifter.
2. Place suspension lockout control valve to EXTEND to relieve pressure from lockout system (see your -10).
3. Remove three bolts (1) and washers (2). Pull lockout cylinder (3) from hull.
4. Disconnect extend and retract hoses from lockout cylinder (page 28-70).
5. Remove lockout cylinder (3) from carrier.

INSTALL

6. Position suspension lockout cylinder (3) on carrier.
7. Connect extend and retract hoses to lockout cylinder (page 28-70).



8. Apply a light coat of caulking compound between lockout cylinder (1) and hull.
9. Secure lockout cylinder (1) to hull with three washers (2) and bolts (3). Tighten bolts to 315-325 lb-ft (427-441 N•m) torque. Use torque wrench.



WARNING
If road wheel lifter slips, you could get badly hurt by carrier track. Keep feet clear of track when using road wheel lifter.

10. Install road wheel lifter. Lower carrier and remove jack from under carrier.

FOLLOW-THROUGH STEPS



WARNING
If road wheel lifter slips, you could get badly hurt by carrier track. Keep feet clear of track when using road wheel lifter.



WARNING
Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

1. Check fluid level in tank. Add fluid as needed (see your LO).
2. Install road wheel (page 22-9).
3. Start engine (see your -10). Check for hydraulic leaks.
4. Raise and lower ramp. Operate suspension lockout several times to bleed air from system.
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).
7. Install track shroud (page 22-2).

END OF TASK

**REPLACE SUSPENSION LOCKOUT SOLENOID AND BRACKET
(M741A1 ONLY)**

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Key washer (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

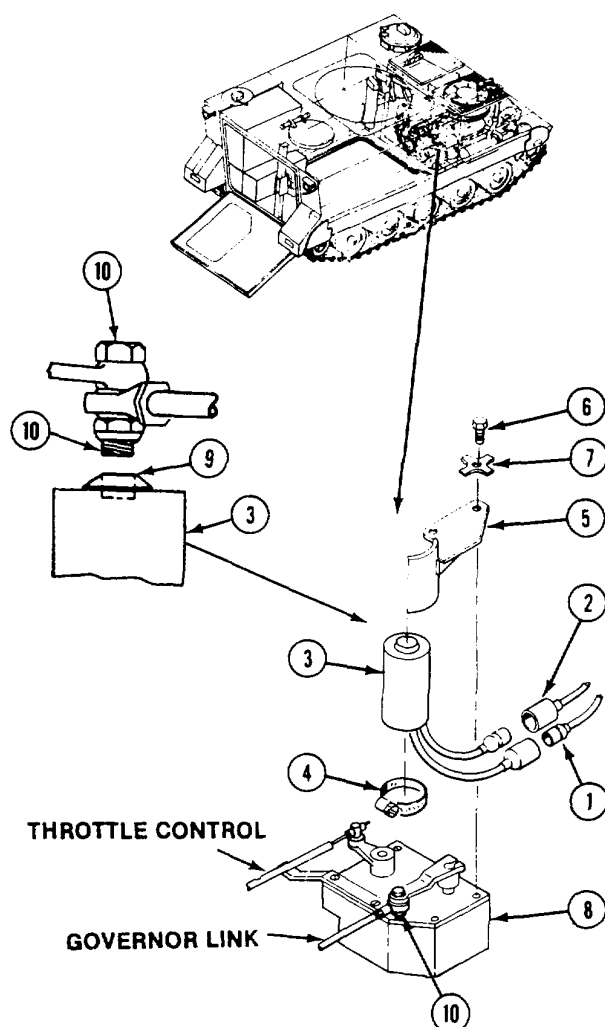
Power plant rear access panel removed
(page 24-27 or 24-29)

REMOVE

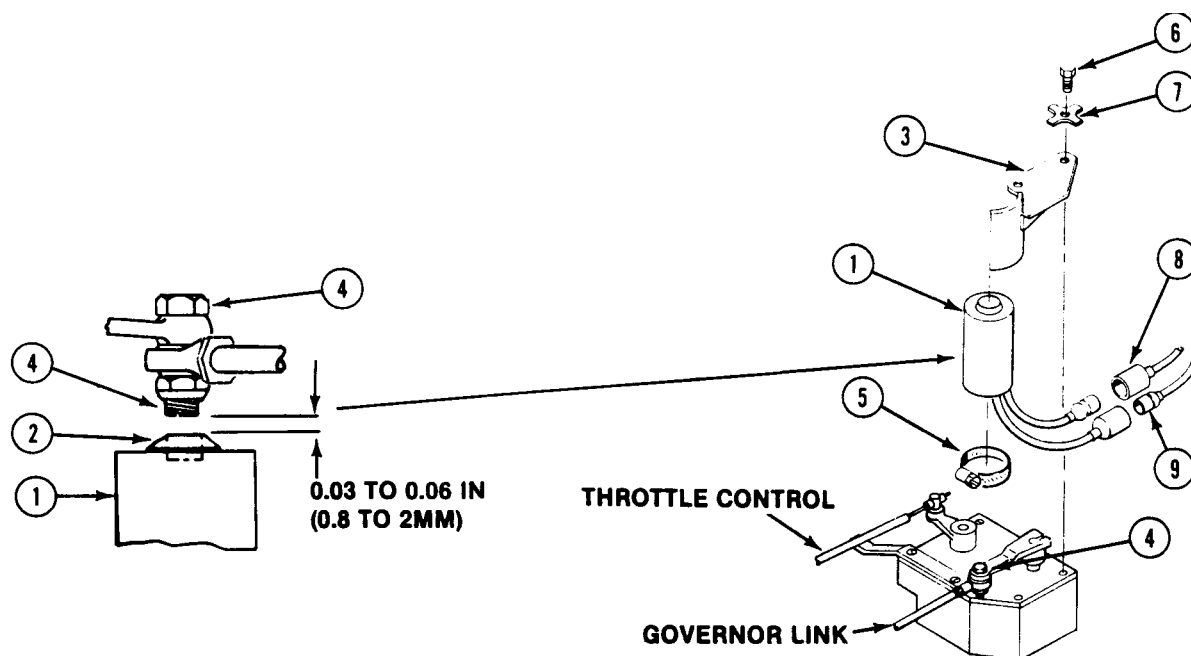
1. Disconnect circuit 641E lead (1) and circuit 641F lead (2) from suspension lockout solenoid (3).
2. Loosen clamp (4). Remove solenoid (3) and clamp from bracket (5).
3. Remove two screws (6), key washers (7), and bracket (5) from engine governor (8). Discard key washers.

INSTALL

4. Align bracket (5) with governor (8). Secure with two new key washers (7) and screws (6). Do not tighten screws or bend key washers.
5. Place solenoid (3) on bracket (5). Secure with clamp (4). Do not tighten clamp.
6. Check governor link for proper adjustment (page 23-34).
7. Place throttle control in IDLE position.
8. Move bracket (5) to align hole in solenoid plunger (9) with end of link screw (10). Tighten screw (6).



9. Slide solenoid (1) with plunger (2) retracted, up or down bracket (3) to obtain clearance of 0.03-0.06 in (0.8-2.0 mm) between end of link screw (4) and top of plunger. Tighten clamp (5).
10. Tighten two screws (6). Bend tabs on key washers (7) to secure screws.
11. Check clearance. If clearance is correct, perform step 12. If clearance is off, repeat steps 9 and 10.
12. Connect circuit 641F lead (8) and circuit 641E lead (9) to lockout solenoid (1).



FOLLOW-THROUGH STEPS

1. Install power plant rear access panel (page 24-27 or 24-29).
2. Start engine and allow it to idle. Engage suspension lockout system (see your -10).
3. Check operation of solenoid. Plunger (2) should lock up governor link screw (4).
4. Disengage suspension lockout system. Stop engine (see your -10).

END OF TASK

REPLACE SUSPENSION LOCKOUT SOLENOID WIRING HARNESS (M741A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nuts (6)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

Power plant rear access panel removed (page 24-27 or 24-29)

REMOVE

1. Disconnect wiring harness (1) from lockout solenoid (2).
2. Remove two straps (3) from wiring harness (1) and fuel line (4) on top of engine.
3. Remove strap (5), screw (6), locknut (7), clamp (8), two screws (9), locknuts (10), and clamps (11) from front of engine. Remove wiring harness (1) from clamps. Discard locknuts.
4. Remove screw (12), locknut (13), and clamp (14) from engine oil cooler housing. Remove wiring harness (1) from clamp. Discard locknut.
5. Remove two screws (15), locknuts (16) and clamps (17) from cross shaft. Remove wiring harness (1) from clamps. Discard locknuts.

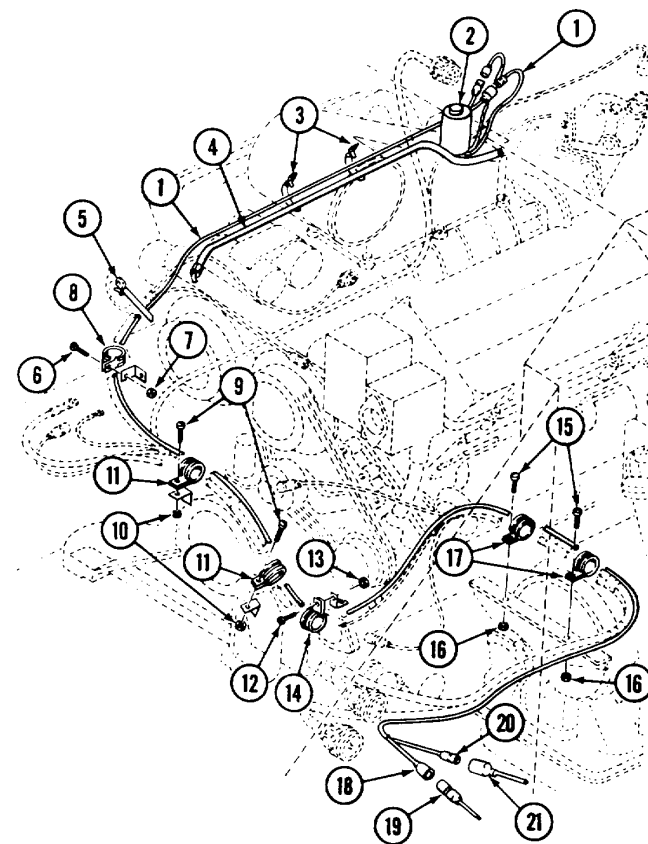
NOTE

Tag leads before disconnecting.

6. Disconnect 641E lead (18) from pressure switch lead (19). Disconnect 641F lead (20) from neutral start switch lead (21). Remove wiring harness (1) from carrier.

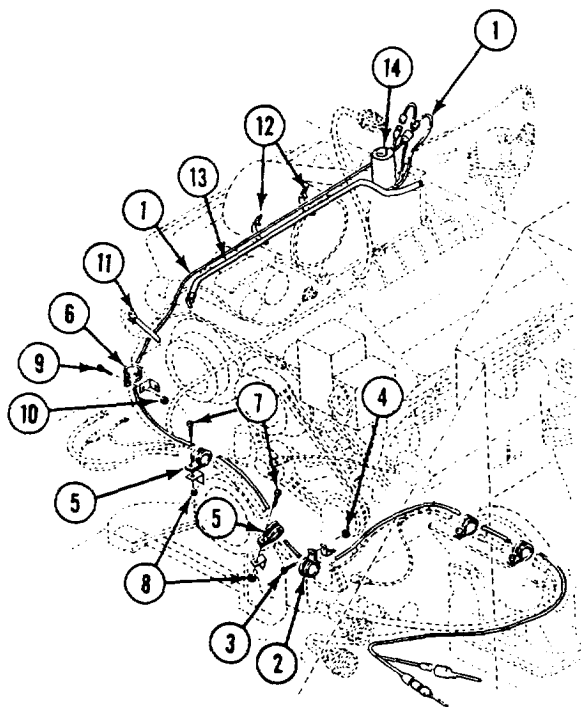
INSTALL

7. Place wiring harness (1) in carrier. Connect 641F lead (20) to neutral start switch lead (21). Connect 641E lead (18) to pressure switch lead (19).



8. Install wiring harness (1) in two clamps (17). Align clamps with cross shaft. Secure with two screws (15) and new locknuts (16).

9. Install wiring harness (1) in clamp (2). Align clamp with oil cooler housing. Secure with screw (3) and new locknut (4).
10. Install wiring harness (1) in two clamps (5) and clamp (6). Align clamps with front of engine. Secure clamps (5) with two screws (7) and new locknuts (8). Secure clamp (6) with screw (9) and new locknut (10).
11. Install strap (11) and two straps (12) on wiring harness (1) and fuel line (13).
12. Connect wiring harness (1) to lockout solenoid (14).



FOLLOW-THROUGH STEPS

1. Install power plant rear access panel (page 24-27 or 24-29).
 2. Close power plant front access door and raise trim vane (see your -10).
 3. Start engine (see your -10). Operate suspension lockout system to check that wiring harness is installed correctly.
 4. Stop engine (see your -10).
-

END OF TASK

REPLACE HYDRAULIC PRESSURE SWITCH WIRING HARNESS (M741A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher
Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

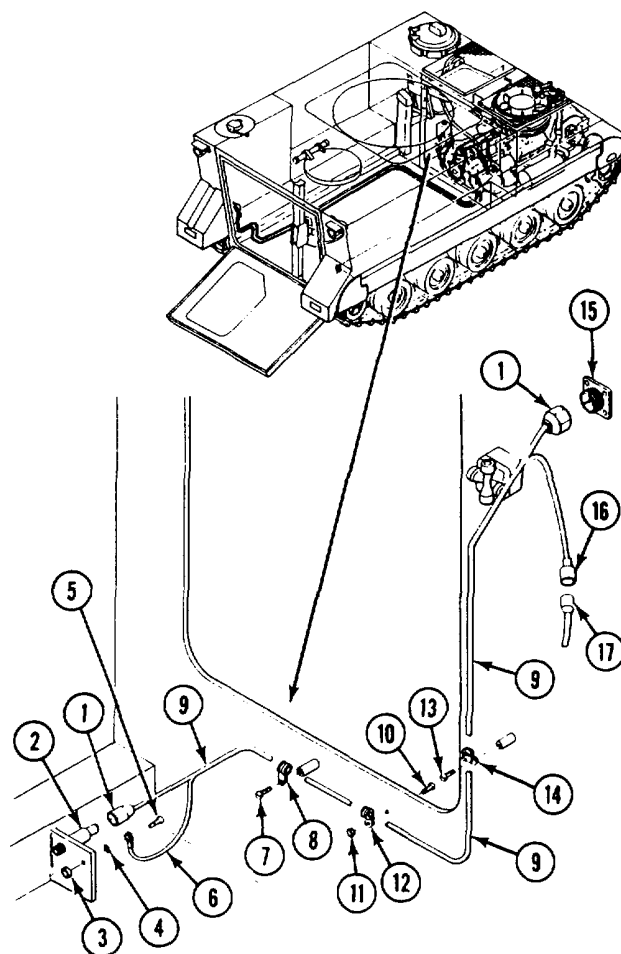
Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Driver's power plant access panel removed (page 24-25)
Power plant rear access panel removed (page 24-27 or 24-29)

REMOVE

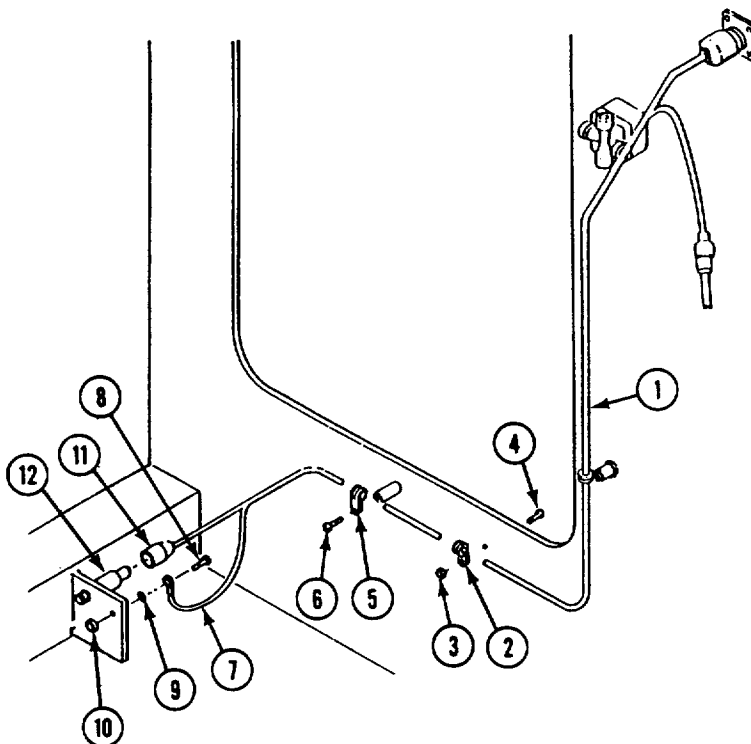
1. Disconnect circuit 509 lead (1) from hydraulic pressure switch (2).
2. Remove locknut (3), lockwasher (4), screw (5), and ground lead (6) from bulkhead bracket. Discard locknut and lockwasher.
3. Remove screw (7) and clamp (8) from bulkhead weldnut. Remove wiring harness (9) from clamp.
4. Remove screw (10), locknut (11), and clamp (12) from bulkhead. Remove next part of wiring harness (9) from clamp. Discard locknut.
5. Remove screw (13) and clamp (14) from bulkhead weldnut. Remove next part of wiring harness (9) from clamp.
6. Remove circuit 509 lead (1) from bulkhead receptacle (15).
7. Remove circuit 641E lead (16) from lockout solenoid lead (17). Remove wiring harness (9) from carrier.

INSTALL

8. Place wiring harness (9) in carrier. Connect circuit 641E lead (16) to lockout solenoid lead (17).



11. Install wiring harness (1) in clamp (2). Align clamp with hole in bulkhead. Secure with screw (4) and new locknut (3).
12. Install wiring harness (1) in clamp (5). Align clamp with bulkhead weldnut. Secure with screw (6) and new locknut (10).
13. Align ground lead (7) with bulkhead bracket. Secure with screw (8), new lockwasher (9), and new locknut (10).
14. Connect circuit 509 lead (11) to hydraulic pressure switch (12).



FOLLOW-THROUGH STEPS

1. Install power plant rear access panel (page 24-27 or 24-29).
 2. Install driver's power plant access panel (page 24-25).
 3. Start engine. Operate suspension lockout system to check that wiring harness is installed correctly.
 4. Raise and lock ramp (see your -10).
 5. Stop engine (see your -10).
-

END OF TASK

Section IV. RAMP PUMP, RAMP CONTROL VALVE, AND RAMP CYLINDER

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace Ramp Pump.....	28-81	Replace Breather Hose on Ramp Cylinder (All Except M106A2, M1064, and M125A2).....	28-91
Replace Ramp Control Valve and Fittings (All Except M741A1).....	28-84	Replace Breather Hose on Ramp Cylinder (M106A2, M1064, and M125A2 Only).....	28-92
Replace Ramp Control Valve (M741A1 Only)	28-87	Replace Ramp Cylinder.....	28-93
Replace Bulkhead Connection to Ramp Cylinder Hose.....	28-89		

REPLACE RAMP PUMP

DESCRIPTION

This task covers: Remove (page 28-81). Install (page 28-82).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
 Socket Wrench Set (Item 89, App D)
 Torque Wrench (Item 95, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
 Bracket packing
 Retaining ring
 Elbow ring
 Non-electrical wire, as needed
 Pump fitting packing (2)
 Pump-to-bracket gasket
 Tab washer (2)

Personnel Required:

Unit Mechanic

References:

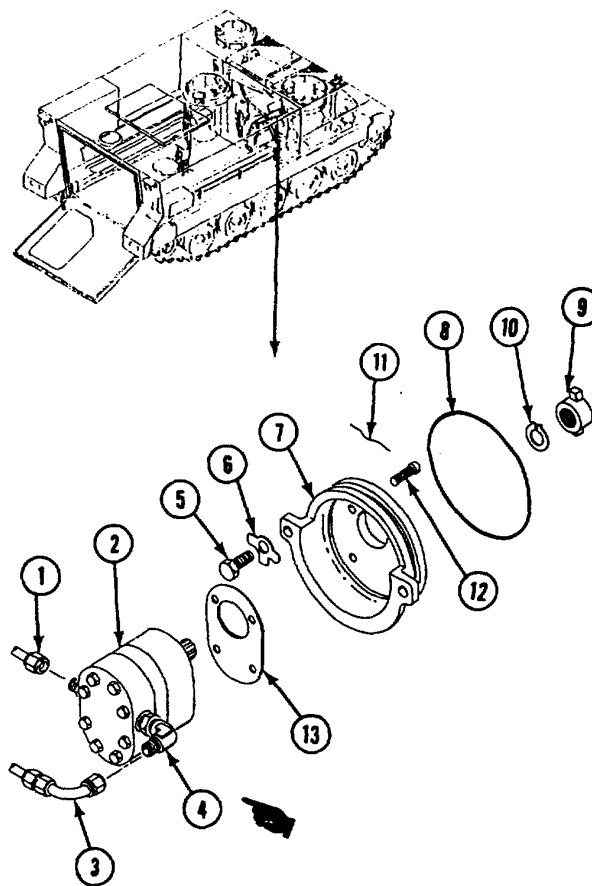
See your -10
 See your LO

Equipment Conditions:

Engine stopped/shutdown (see your -10)
 Ramp lowered (see your -10)
 Power plant rear access panel removed
 (page 24-27 or 24-29)

REMOVE

1. Drain hydraulic tank (see your LO and page 28-17).
2. Drain transfer gearcase (see your LO).
3. Remove pump inlet hose (1) from pump (2).
4. Remove pump outlet tube (3) from elbow (4).
5. Deleted.
6. Deleted.
7. Remove two screws (5), tab washers (6), and bracket (7), with pump (2) attached, from transfer gearcase. Discard tab washers.
8. Remove bracket packing (8) from bracket (7). Discard packing.
9. Remove coupling (9) and retaining ring (10) from pump (2). Discard ring.
10. Remove lockwire (11), four screws (12), pump (2), and gasket (13) from bracket (7). Discard lockwire and gasket.



GO TO NEXT PAGE

11. Loosen jamnut (1). Remove elbow (2), ring (3), and packing (4) from pump (5). Remove jamnut (1) from elbow. Discard packing and ring.
12. Deleted.
13. Remove reducer (6) and packing (7) from pump (5). Discard packing.

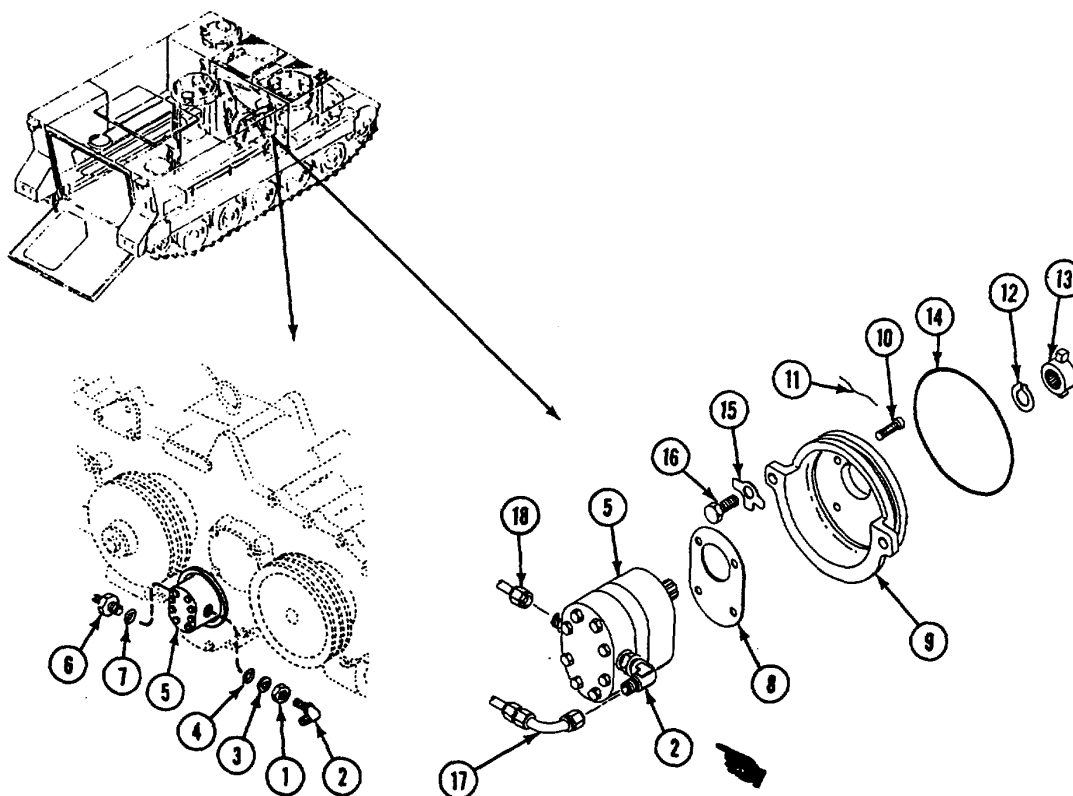
INSTALL

14. Install new packing (7) and reducer (6) in pump (5).
15. Deleted.
16. Install jamnut (1) on elbow (2). Install new packing (4), new ring (3) and elbow (2) in pump (5). Secure elbow with jamnut.
17. Install pump (5) and new gasket (8) in bracket (9). Install four screws (10). Secure with new lockwire (11).

NOTE

Retaining ring needs to be installed first. It protects coupling from rubbing against bracket. During coupling installation, tabs on two tab washers must face away from pump. Otherwise, pump will not work.

18. Install new retaining ring (12) and coupling (13) on pump (5).
19. Install new packing (14) on bracket (9).
20. Install bracket (9), with pump (5) attached, in transfer gearcase. Secure with two new tab washers (15) and screws (16). Tighten screws to 144-180 lb-in (16-20 N•m) torque. Use torque wrench and socket wrench set. Bend tabs on washers to secure screws.
21. Deleted.
22. Deleted.
23. Connect pump outlet tube (17) to elbow (2).
24. Connect pump inlet hose (18) to pump (5).



FOLLOW-THROUGH STEPS

1. Fill transfer gearcase (see your LO).
2. Fill hydraulic tank (see page 28-19 and your LO).
3. Start engine (see your -10). Check for hydraulic leaks.
4. Raise and lower ramp several times to bleed air from system (see your -10).
5. Install power plant rear access panel (see your -10).
6. Raise and lock ramp (see your -10).
7. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE RAMP CONTROL VALVE AND FITTINGS

DESCRIPTION

This task covers: Remove (page 28-84). Install (page 28-85).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Sealing compound (Item 46, App C)
- Preformed packing (3)
- Tab washer (4)

Personnel Required:

Unit Mechanic

References:

- See your -10
- See your LO

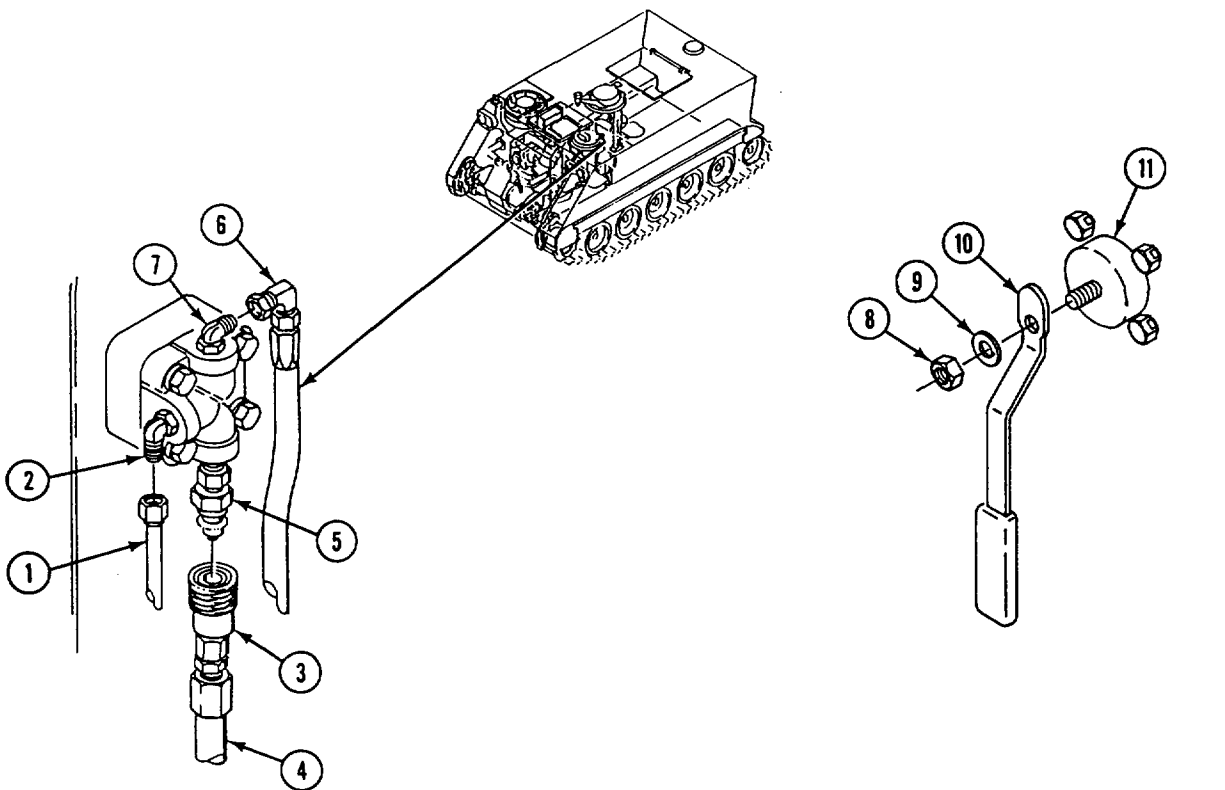
Equipment Conditions:

- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Driver's access panel removed (see your -10)

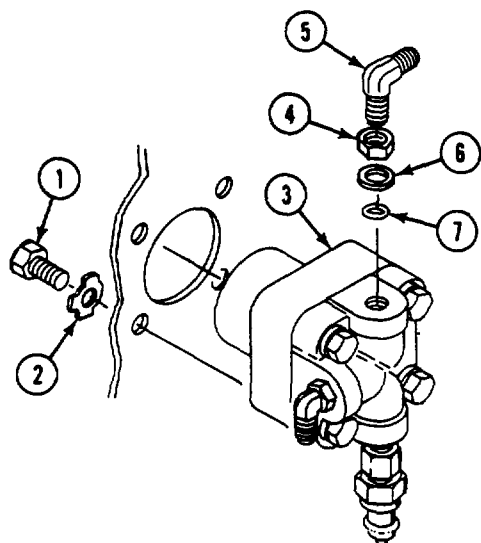
REMOVE

1. Disconnect tube (1) from elbow (2).
2. Disconnect quick disconnect (3) with hose (4) from quick disconnect (5) on control valve.
3. Disconnect elbow (6) from elbow (7).

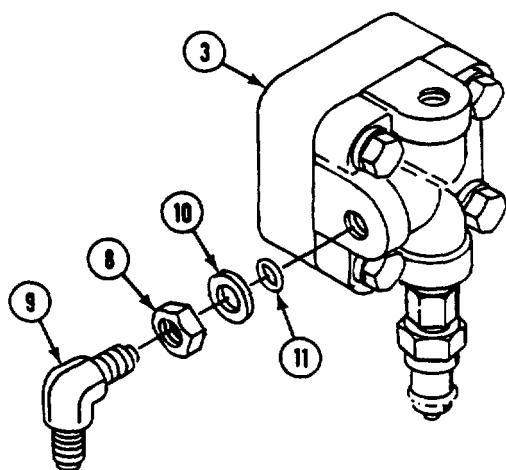
4. Remove nut (8), washer (9), and handle (10) from valve (11).



5. Remove four screws (1) and tab washers (2) from valve (3). Remove valve from bulkhead. Discard tab washers.
6. Loosen jam nut (4) on elbow (5). Remove elbow, jam nut, washer (6), and preformed packing (7) from valve (3). Discard packing.



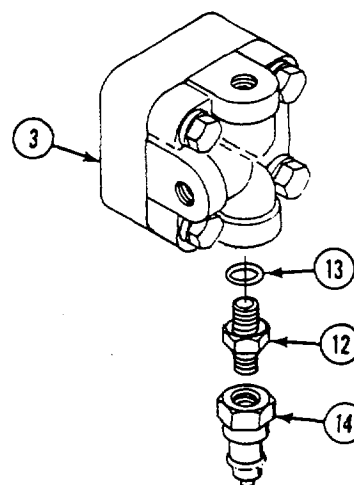
7. Loosen jam nut (8) on elbow (9). Remove elbow, jam nut, washer (10), and preformed packing (11) from valve (3). Discard packing.



8. Remove adapter (12) and preformed packing (13) from valve (3). Discard packing.
9. Remove quick disconnect (14) from adapter (12).

INSTALL

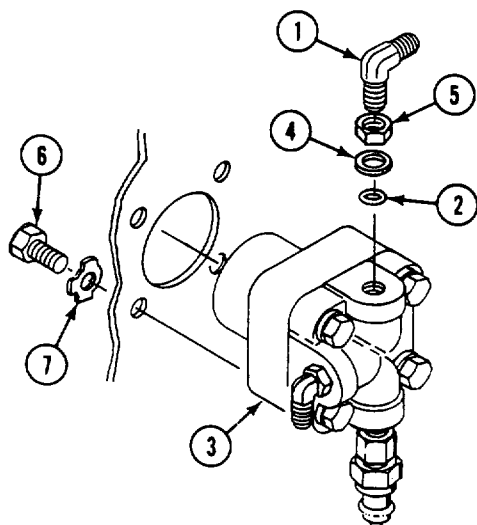
10. Apply sealing compound to clean male tapered threads of adapter (12).
11. Install adapter (12) and new preformed packing (13) on valve (3).
12. Install quick disconnect (14) on adapter (12).



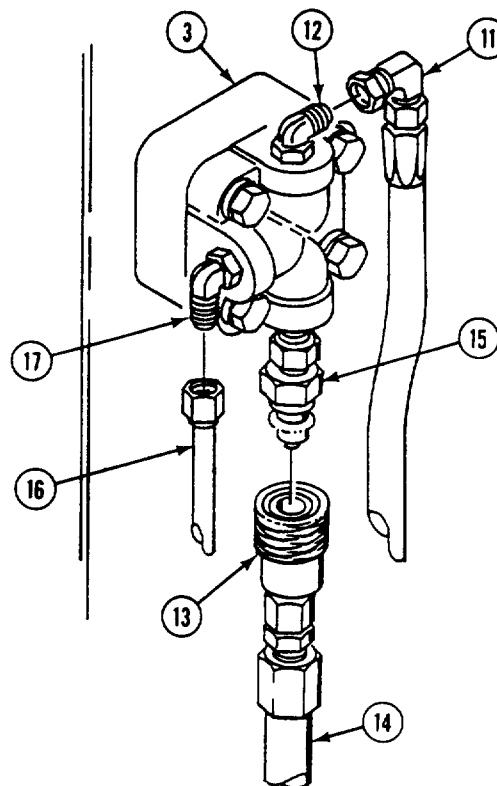
13. Install elbow (9) and new preformed packing (11) on valve (3). Secure with washer (10) and nut (8).

GO TO NEXT PAGE

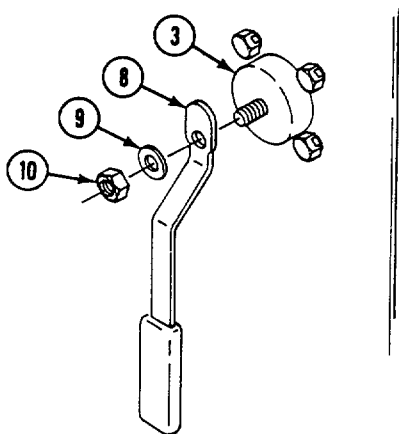
14. Install elbow (1) and new preformed packing (2) on valve (3). Secure with washer (4) and nut (5).
15. Install valve (3) on bulkhead. Secure with four screws (6) and new tab washers (7).



17. Connect elbow (11) to elbow (12).
18. Connect quick disconnect (13) with hose (14) to quick disconnect (15) on control valve (3).
19. Connect tube (16) to elbow (17).



16. Install handle (8) on valve (3). Secure with washer (9) and nut (10).



FOLLOW-THROUGH STEPS

1. Check and fill hydraulic reservoir (see your LO).
2. Raise and lower ramp several times to bleed system (see your -10). Check for leaks and that the hydraulic reservoir is filled correctly (see your LO).
3. Raise and lock ramp (see your -10).
4. Stop/shutdown engine (see your -10).
5. Install driver's access panel (see your -10).

END OF TASK

REPLACE RAMP CONTROL VALVE (M741A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)

Key washer (4)

Preformed packing (4)

Personnel Required:

Unit Mechanic

References:

See your -10

See your LO

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Driver's power plant access panel removed
(page 24-25)

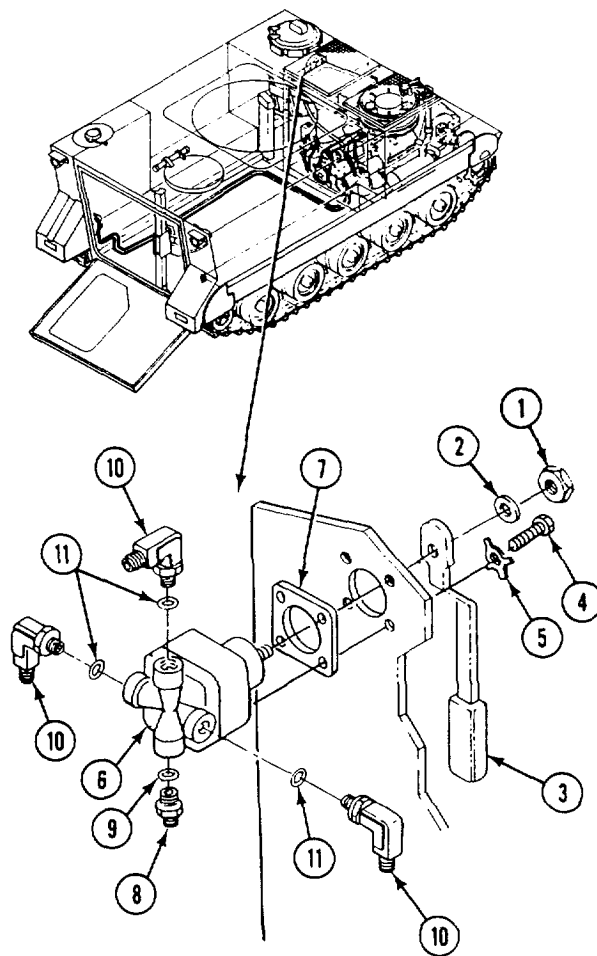
Tubes disconnected from control valve
(pages 28-32, 28-34, 28-36, or 28-38)

REMOVE

1. Remove locknut (1), washer (2), and handle (3) from control valve.
2. Remove four screws (4), key washers (5), ramp control valve (6), and spacer (7) from power plant compartment bulkhead. Discard key washers.
3. Remove adapter (8) and preformed packing (9) from valve (6). Discard preformed packing.
4. Loosen locknut on three elbows (10). Remove three elbows and preformed packing (11) from valve (6). Discard preformed packings.

INSTALL

5. Install three new preformed packings (11) on elbows (10). Install elbows in valve (6). Secure preformed packing with locknut on elbows.
6. Install new preformed packing (9) and adapter (8) in valve (6).
7. Place spacer (7) and ramp control valve (6) on power plant compartment bulkhead. Secure with four new key washers (5) and screws (4). Bend key on washers to secure screws.
8. Install handle (3), washer (2), and locknut (1) on control valve (6).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Connect tubes on control valve (pages 28-32, 28-34, 28-36, or 28-38).
2. Check fluid level in tank. Add fluid as needed (see your LO).

**WARNING**

Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.

**WARNING**

You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

3. Start engine (see your -10). Check for hydraulic leaks.
4. Raise and lower ramp several times to bleed air from system.
5. Install driver's power plant access panel (page 24-25).
6. Raise and lock ramp (see your -10).
7. Stop engine (see your -10).

END OF TASK

REPLACE BULKHEAD CONNECTION TO RAMP CYLINDER HOSE**DESCRIPTION**

This task covers: Remove (page 28-89). Install (page 28-90).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

FRH hydraulic fluid (Item 19, App C)
 Sealing compound (Item 46, App C)
 Lockwasher (7) (M106A2 and M125A2 only)
 Lockwasher (6) (all except M106A2 and M125A2)

Personnel Required:

Unit Mechanic

References:

See your -10

See your LO

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Ramp lowered (see your -10)

Carrier blocked (see your -10)

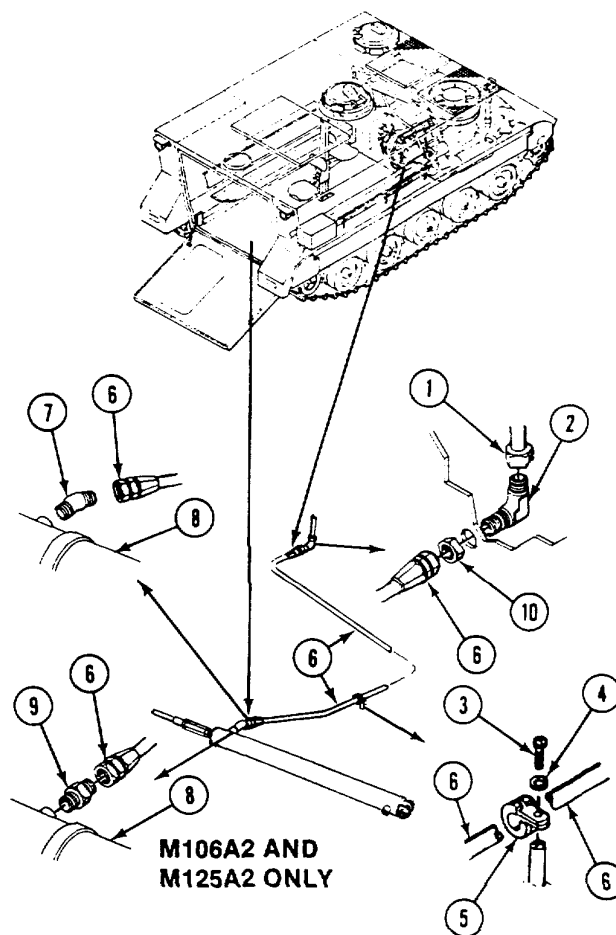
Power plant rear access panel removed
 (page 24-27 or 24-29)

Floor plates removed

(page 24-37, 24-38, 24-40, 24-42, or
 24-45)

REMOVE

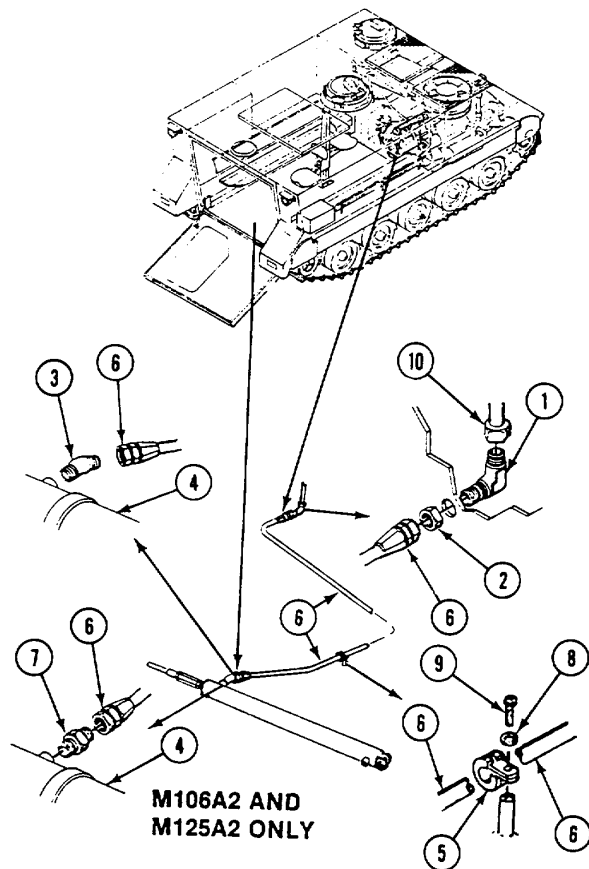
1. Disconnect tube (1) from elbow (2).
2. On M113A2, M577A2, and M741A1 carriers, remove seven screws (3), lockwashers (4), and clamps (5) from hull weldnuts. Discard lockwashers.
3. On M106A2 and M125A2 carriers, remove six screws (3), lockwashers (4), and clamps (5) from hull weldnuts. Discard lockwashers.
4. On all except M106A2 and M125A2 carriers, remove hose (6) from elbows (2 and 7). Remove clamps from hose. Remove elbow (7) from ramp cylinder (8).
5. On M106A2 and M125A2 carriers, remove hose (6) from elbow (2) and nipple (9). Remove clamps from hose. Remove nipple from ramp cylinder (8).
6. Remove jamnut (10) and elbow (2) from bulkhead.



GO TO NEXT PAGE

INSTALL

7. Install elbow (1) in bulkhead. Secure with jamnut (2).
8. Apply light coat of sealing compound to external tapered threads. Do not apply sealant beyond small end of external tapered threads.
9. On all except M106A2 and M125A2 carriers, install elbow (3) in ramp cylinder (4). Place clamps (5) on hose (6). Install hose on elbows (1 and 3).
10. On M106A2 and M125A2 carriers, install nipple (7) on ramp cylinder (4). Place clamps (5) on hose (6). Install hose on elbow (1) and nipple (7).
11. On M113A2, M577A2, and M741A1 carriers, align seven clamps (5) with hull weldnuts. Secure with seven new lockwashers (8) and screws (9).
12. On M106A2 and M125A2 carriers, align six clamps (5) with hull weldnuts. Secure with six new lockwashers (8) and screws (9).
13. Connect tube (10) to elbow (1).



FOLLOW-THROUGH STEPS

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Check fluid level in tank. Add fluid as needed (see your LO). | <ol style="list-style-type: none"> 2. Start engine (see your -10). Check for hydraulic leaks. 3. Raise and lower ramp several times to bleed air from system. 4. Install power plant rear access panel (page 24-27 or 24-29). 5. Install floor plates (page 24-37, 24-38, 24-40, 24-42, or 24-45). 6. Raise and lock ramp (see your -10). 7. Stop/shutdown engine (see your -10) |
|--|--|



WARNING
 Loose clothing is dangerous around moving belts and pulleys. You could get badly hurt if your clothes get caught in moving parts.



WARNING
 You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

END OF TASK

REPLACE BREATHER HOSE ON RAMP CYLINDER (ALL EXCEPT M106A2 AND M125A2)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 50, App C)
Lockwasher (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Rear floor plates removed
(page 24-37, 24-40, 24-42, or 24-45).

REMOVE

NOTE

M577A2 carriers have five screws, washers, and clamps.

1. Remove four screws (1), lockwashers (2), and clamps (3) from hull, box beam weldnuts, and clamp on bilge pump discharge tube. Discard lockwashers.
2. Remove hose (4) from adapter (5) on ramp cylinder (6). Remove clamps (3) from hose.
3. Remove adapter (5) from ramp cylinder (6).

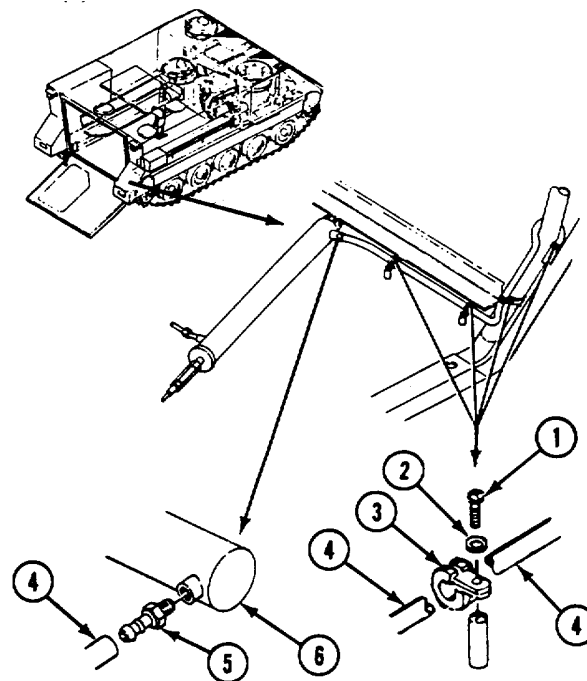
6. Place four clamps (3) on hose (4). Align clamps with box beam, hull weldnuts, and clamp on bilge pump discharge tube. Secure with four new lockwashers (2) and screws (1).

INSTALL

4. Apply light coat of sealing compound to threads of adapter (5). Install adapter in ramp cylinder (6).
5. Install hose (4) on adapter (5).

NOTE

M577A2 carriers have five clamps, washers, and screws.



FOLLOW-THROUGH STEPS

1. Install rear floor plate (page 24-37, 24-40, 24-42, or 24-45).
2. Raise and lock ramp (see your -10).
3. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE BREATHER HOSE ON RAMP CYLINDER (M106A2, M1064, AND M125A2 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 46, App C)

Personnel Required:

Unit Mechanic
Helper

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Ramp lowered (see your -10)
Tread plate on mortar base plate raised (see your -10)

REMOVE

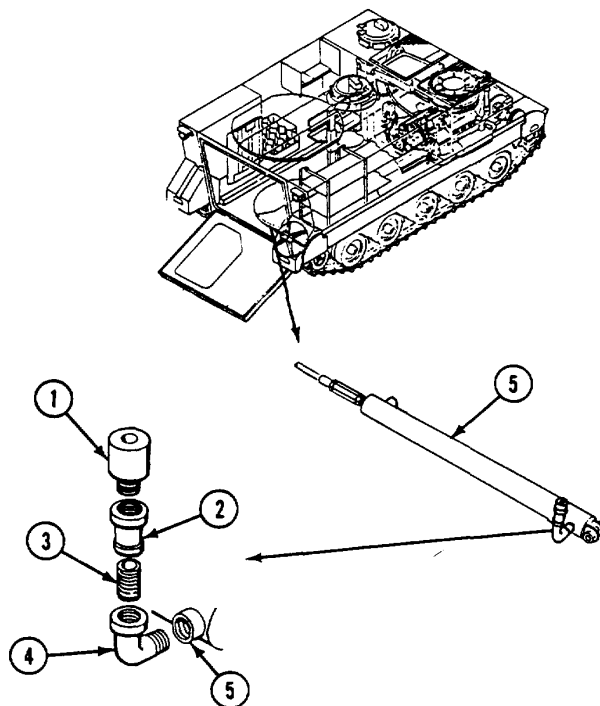
NOTE

Rotate base plate to access breather

1. Remove breather (1) from coupling (2).
2. Remove coupling (2) from nipple (3).
3. Remove nipple (3) from elbow (4).
4. Remove elbow (4) from ramp cylinder (5).

INSTALL

5. Apply light coat of sealing compound to external tapered threads. Do not apply sealant beyond small end of external tapered threads.
6. Install elbow (4) in ramp cylinder (5).
7. Install nipple (3) in elbow (4).
8. Install coupling (2) on nipple (3).
9. Install breather (1) in coupling (2).



FOLLOW-THROUGH STEPS

1. Lower tread plate (see your -10).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

REPLACE RAMP CYLINDER

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Adhesive
FRH hydraulic fluid (Item 19, App C)
Cotter pin

Personnel Required:

Unit Mechanic

References:

See your -10

References: (cont):

See your LO

Equipment Conditions:

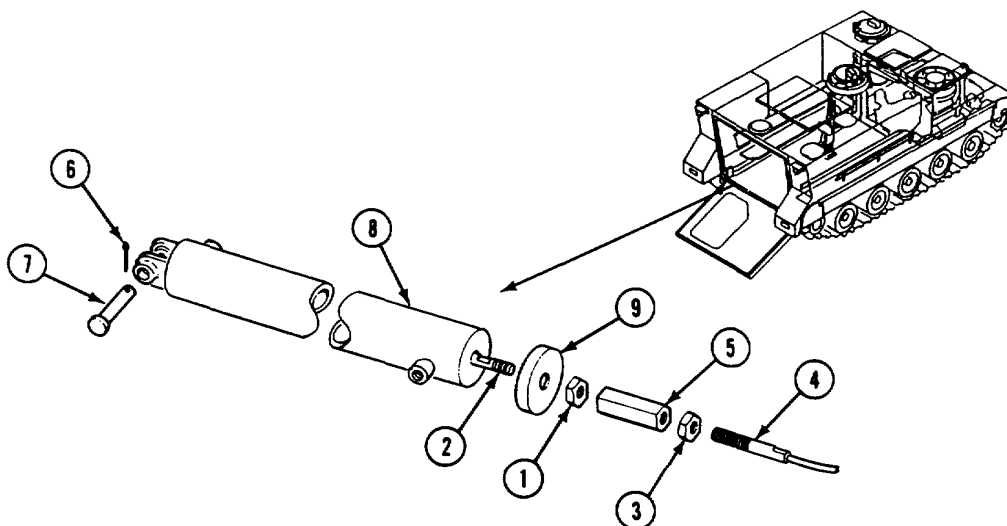
Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Rear floor plate removed
(page 24-37, 24-40, 24-42, 24-45, or
24-47)
Ramp cylinder hose disconnected (page 28-89)
Breather hose removed (page 28-91 or 28-92)

REMOVE

1. Loosen nut (1) on cylinder rod (2). Loosen nut (3) on cable (4).
2. Turn post (5) onto cable (4) until it clears cylinder rod (2). Remove nut (1) from rod.
3. Remove post (5) and nut (3) from cable (4).
4. Remove cotter pin (6) from clevis pin (7). Discard cotter pin.
5. Remove clevis pin (7) and ramp cylinder (8) from hull bracket.
6. Remove boot (9) from cylinder (8).

INSTALL

7. Apply a thin coat of adhesive to surfaces of boot (9) and cylinder (8). Allow adhesive to become tacky and install boot on cylinder.
8. Align cylinder (8) with hull bracket. Secure with clevis pin (7) and new cotter pin (6).
9. Install nut (3) and post (5) on cable (4).
10. Install nut (X) on cylinder rod (2).
11. Thread post (5) on cylinder rod (2). Secure with two nuts (1 and 3).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Install breather hose (page 28-91 or 28-92).
2. Connect ramp cylinder hose (page 28-89).
3. Check fluid in tank. Add hydraulic fluid if needed (see your -10).
4. Start engine (see your -10). Check for hydraulic leaks.
5. Raise and lower ramp several times to bleed air from system (see your -10).
6. Install rear floor plate b(page 24-37, 24-40, 24-42, 24-45, or 24-47).
7. Raise and lock ramp (see your -10).
8. Stop/shutdown engine (see your -10).

**WARNING**

You or your buddy could get killed or injured by a falling ramp. Seal off area behind ramp during testing and bleeding of hydraulic lines.

END OF TASK

**CHAPTER 29
PERSONNEL HEATER KIT COMPONENT MAINTENANCE**

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SERVICE HEATER FUEL PUMP

DESCRIPTION

This task covers: Service Bendix/Facet (page 29-2). Service Walbro (page 29-3).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 28, App D)

Materials/Parts:

Dry cleaning solvent (Item 13, App C)
 Wiping rag (Item 61, App C)
 Gasket
 Gasket

Personnel Required:

Unit Mechanic

References:

See your -10

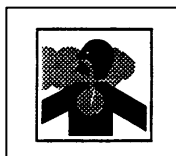
Equipment Conditions:

Engine stopped/shutdown (see your -10)
 Carrier blocked (see your -10)
 Ramp lowered (see your -10)
 Battery ground lead disconnected (page 13-2)
 Floor plate removed
 (page 24-37, 24-40, 24-42, 24-45, or 24-47)

SERVICE-BENDIX/FACET

1. Close heater fuel shutoff valve (see your -10).
2. Remove cap (1), gasket (2) and strainer (3) from fuel pump (4). Discard gasket.

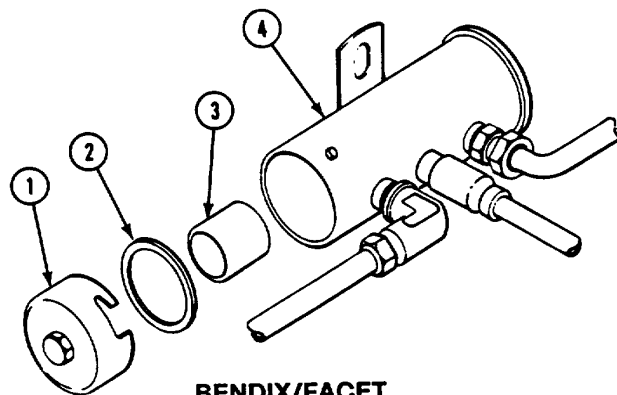
5. Install strainer (3), new gasket (2), and cap (1) on fuel pump (4).
6. Open heater fuel shutoff valve (see your -10).

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves.

Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

3. Clean cap (1) and strainer (3) with dry cleaning solvent.
4. Check strainer (3). Replace strainer if screen is torn.



SERVICE-WALBRO

7. Close heater fuel shutoff valve (see your -10).
8. Remove three screws (1), cap (2), gasket (3), and strainer (4) from fuel pump (5). Discard gasket.

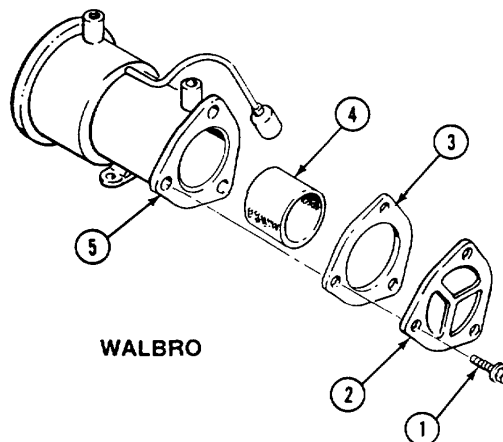
11. Install strainer (4), new gasket (3), cap (2), and three screws (1) on fuel pump (5).
12. Open heater fuel shutoff valve (see your -10).

WARNING



Dry cleaning solvent P-D-680 is toxic and flammable. Always use in an open area with good air flow, away from sparks, heat, or flames. Wear goggles and gloves. Do not breathe vapors. Avoid contact with skin, eyes, and clothes. If you get dizzy while using solvent, breathe fresh air and get medical help. If solvent gets on hands, wash them. If solvent gets in eyes, flush eyes with fresh water and get medical help immediately. Keep fire extinguisher nearby.

9. Clean cap (2) and strainer (4) with dry cleaning solvent.
10. Check strainer (4). Replace strainer if screen is torn.



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Start heater (see your -10). Check fuel pump for leaks. Turn heater OFF.
3. Install floor plate (page 24-37, 24-40, 24-42, 24-45, or 24-47).
4. Raise and lock ramp (see your -10).
5. Stop/shutdown engine (see your -10).

END OF TASK

BLEED AIR FROM COMPARTMENT HEATER FUEL LINES

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Wiping rag (Item 61, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
 Carrier blocked (see your -10)
 Ramp lowered (see your -10)
 Front or rear floor plate removed
 (page 24-37, 24-40, 24-42, 24-45, or
 24-47)

BLEEDING AIR FROM SYSTEM**NOTE**

The following bleeding procedure must be performed when disconnecting or replacing the following:

Heater fuel shutoff valve or fittings

Heater fuel line (tank to pump)

Heater fuel pump

Heater

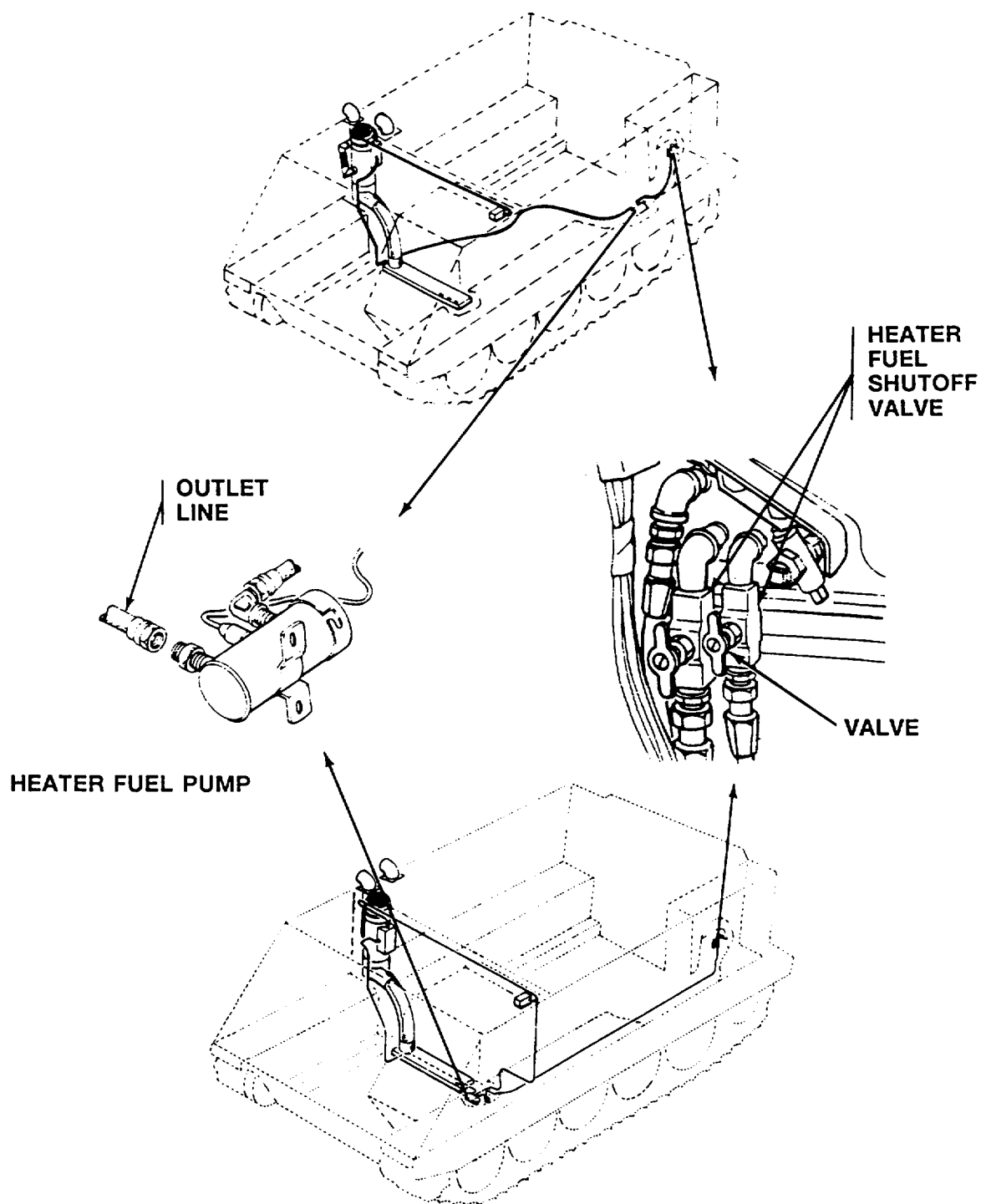
1. Make sure heater fuel shutoff valve is open (see your -10).
2. Turn heater ON (see your -10).

WARNING

Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

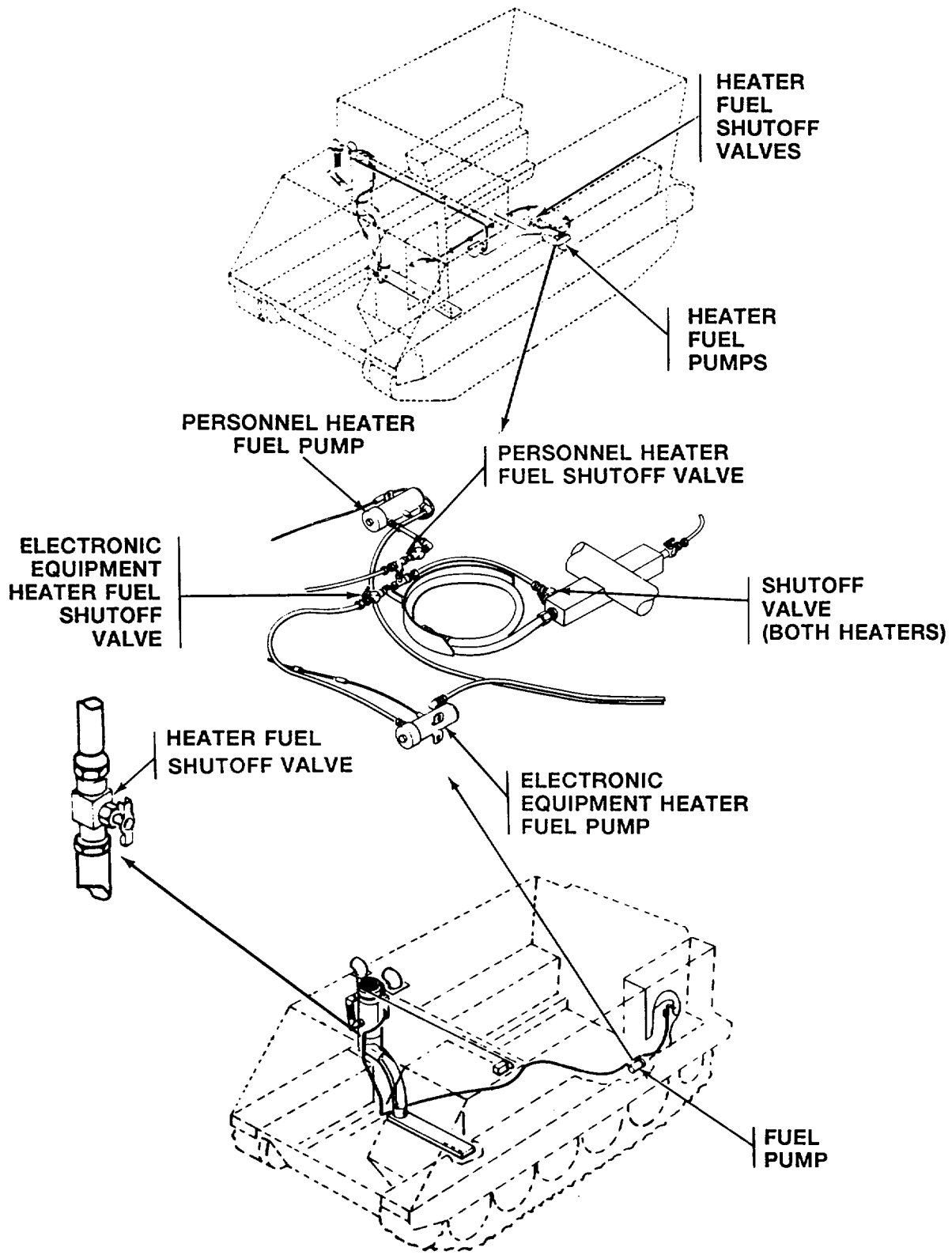
3. Loosen fuel line connection at outlet side of fuel pump. Tighten connection as soon as fuel begins to escape from the line. Wipe up spilled fuel with rags.

4. Loosen fuel line at inlet elbow of heater. Tighten connection as soon as fuel begins to escape from the line. Wipe up spilled fuel.
5. Check heater for proper operation and fuel leaks.
6. Turn heater OFF (see your -10).
7. Check for fuel leaks at fuel pump, at shutoff valve, and at line from fuel tank to heater.

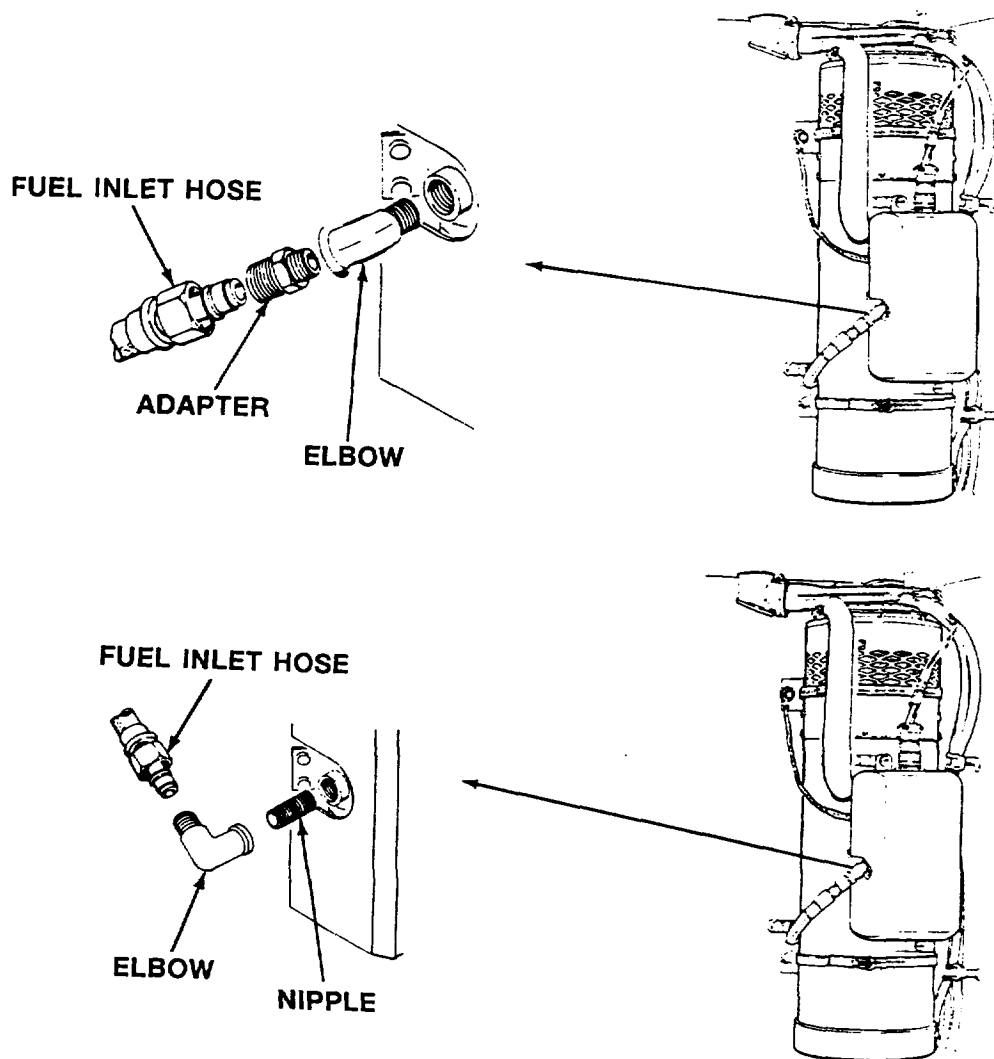


M106A2, M113A2, M741A1, AND M125A2

GO TO NEXT PAGE



ALL EXCEPT M106A2 AND M125A2



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop/shutdown engine (see your -10).
3. Install front or rear floor plate, as applicable (page 24-37, 24-40, 24-42, 24-45, or 24-47)

END OF TASK

**REPLACE PERSONNEL HEATER FUEL PUMP
(M113A2, M1059 AND M741A1 ONLY)**

DESCRIPTION

This task covers: Remove (page 29-8). Install (page 29-10).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Sealing compound (Item 46, App C)
Wiping rag (Item 61, App C)
Lockwasher (6)

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Heater fuel pump shutoff valve closed (see your -10)
Battery ground lead disconnected (page 13-2)
Rear floor plate removed (page 24-37, 24-40, or 24-42)

Personnel Required:

Unit Mechanic

REMOVE

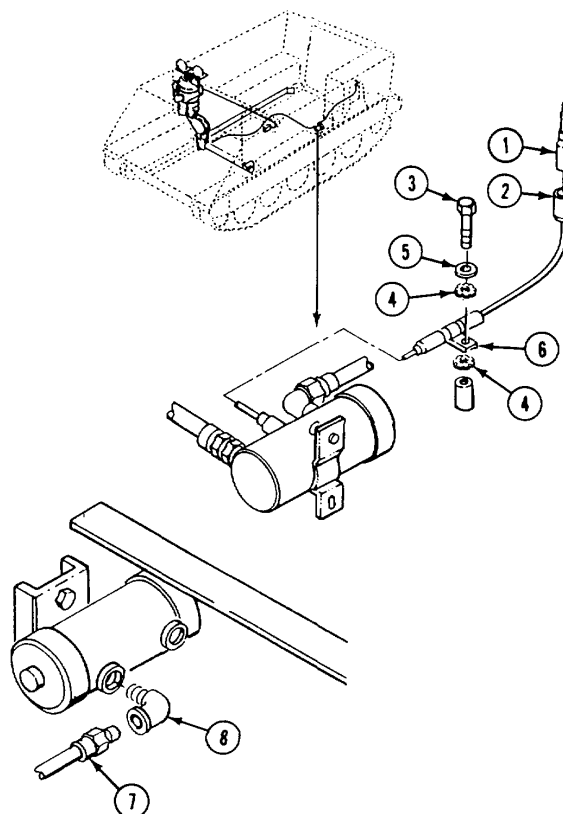
1. Disconnect circuit 402 lead (1) from pump lead (2).
2. Remove screw (3), two lockwashers (4), washer (5), and clamp (6) from hull weldnut. Discard lockwashers (4).

WARNING



Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

3. On M113A2 and M1059 carriers, disconnect fuel supply hose (7) from elbow (8). Clean up spilled fuel with wiping rags.



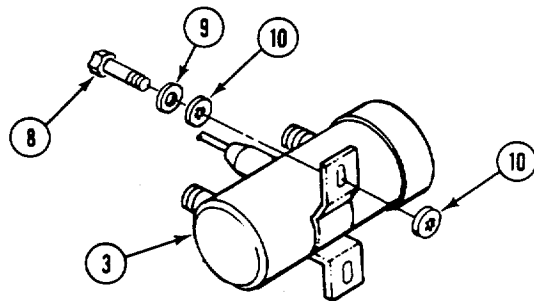
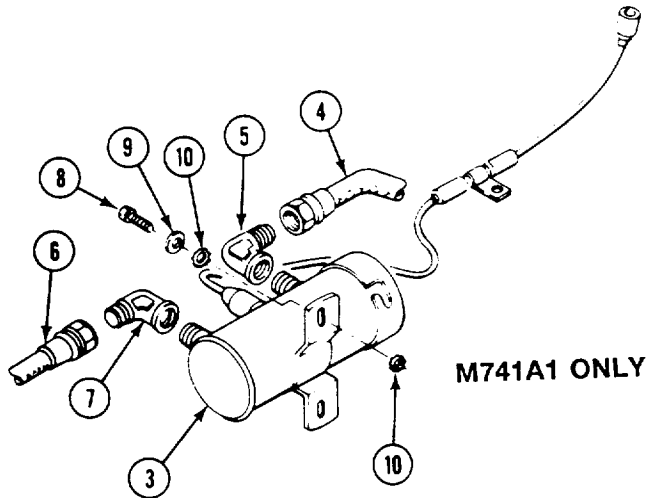
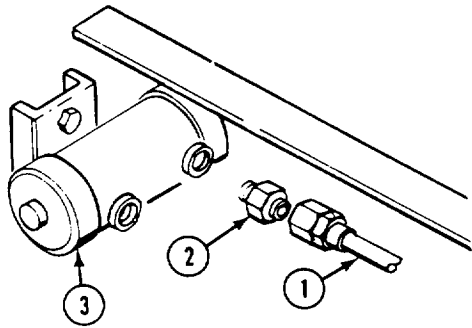
- On M113A2 and M1059 carriers, disconnect fuel hose (1) from adapter (2). Remove adapter from fuel pump (3).

WARNING



Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

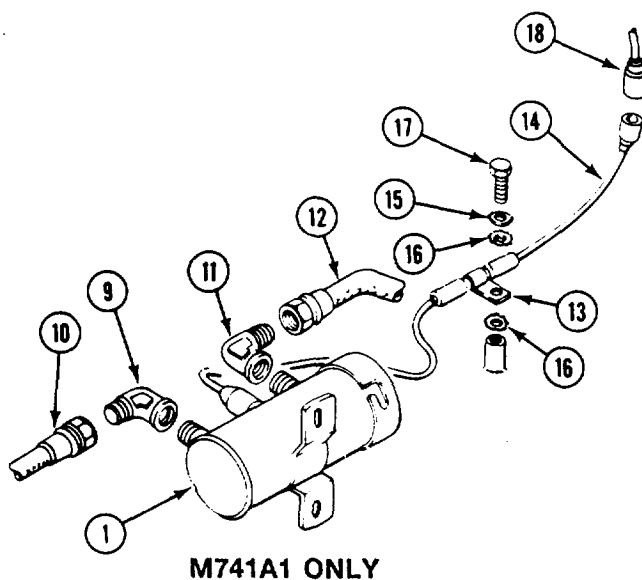
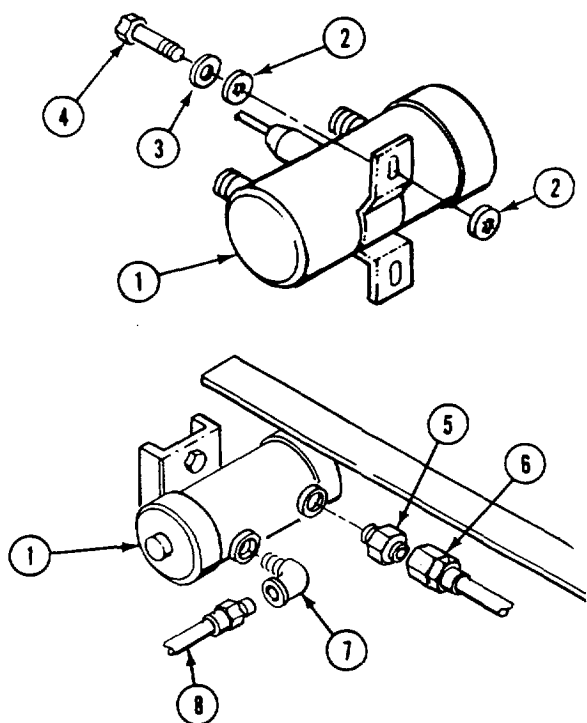
- On M741A1 carriers, disconnect fuel hose (4) from elbow (5). Remove elbow (5) from fuel pump (3). Clean up spilled fuel with wiping rags.
- On M741A1 carriers, disconnect fuel hose (6) from elbow (7). Remove elbow from fuel pump (3).
- Remove two screws (8), washers (9), four lockwashers (10), and fuel pump (3) from bulkhead bracket. Discard lockwashers.



GO TO NEXT PAGE

INSTALL

8. Place fuel pump (1) on bulkhead. Secure with four new lockwashers (2), two washers (3), and screws (4).
9. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
10. On M113A2 and M1059 carriers, install adapter (5) on fuel pump (1). Install hose (6) on adapter (5).
11. On M113A2 and M1059 carriers, install elbow (7) on fuel pump (1).
12. On M113A2 and M1059 carriers, install fuel supply hose (8) on elbow (7).
13. On M741A1 carriers, install elbow (9) on fuel pump (1). Install fuel hose (10) on elbow (9).
14. On M741A1 carriers, install elbow (11) on fuel pump (1). Install fuel hose (12) on elbow (11).
15. Align clamp (13) on fuel pump lead (14) with hull weldnut. Secure with washer (15), two new lockwashers (16), and screw (17).
16. Connect fuel pump lead (14) to circuit 402 lead (18).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Open heater fuel shutoff valve (see your -10).
3. Bleed fuel line (page 29-4).
4. Start heater (see your -10). Check for fuel leaks. Turn heater off.
5. Install rear floor plate (page 24-37, 24-40, or 24-42).
6. Raise and lock ramp (see your -10).
7. Stop engine (see your -10).

END OF TASK

REPLACE HEATER FUEL PUMP (M106A2, M125A2, AND M1064) ONLY

DESCRIPTION

This task covers: Remove (page 29-11). Install (page 29-12).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

- Lockwasher (6)
- Sealing compound (Item 46, App C)
- Wiping rag (Item 61, App C)

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Battery ground lead disconnected (page 13-2)
- Heater duct removed (page 29-47)
- Front floor plate removed (page 24-38)
- Heater fuel pump shutoff valve closed (see your -10)

Personnel Required:

Unit Mechanic

REMOVE

1. Disconnect circuit 402 lead (1) from fuel pump lead (2).

WARNING



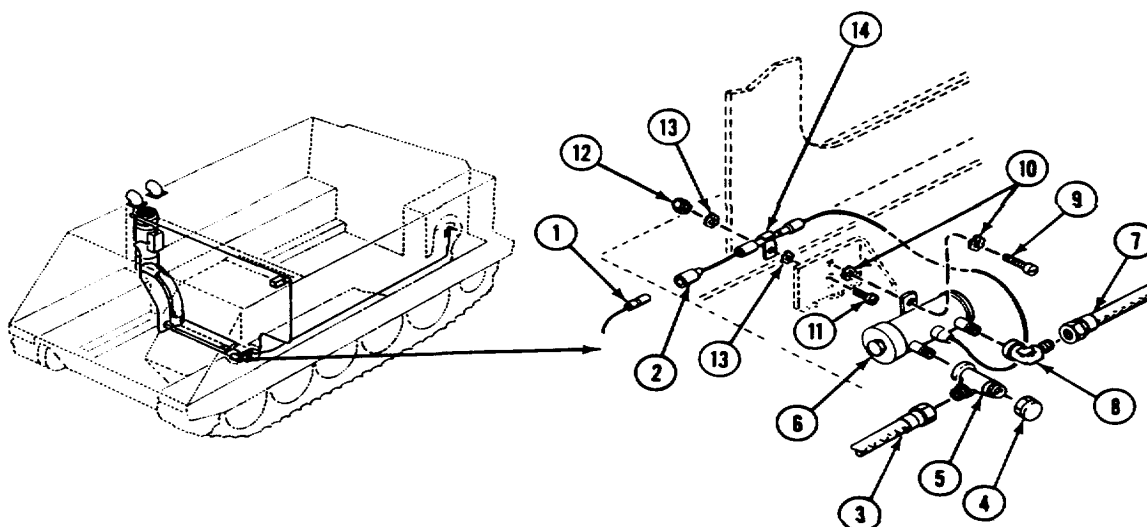
Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

2. Disconnect fuel hose (3). Remove cap (4) from tee (5). Remove tee from fuel pump (6).

3. Disconnect fuel hose (7) from elbow (8). Remove elbow from fuel pump (6).

4. Remove two screws (9), four lockwashers (10), and fuel pump (6) from hull bracket. Discard lockwashers.

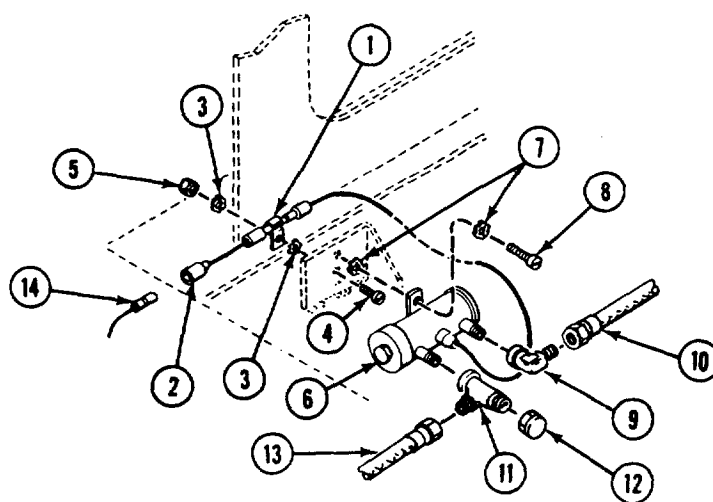
5. Remove screw (11), nut (12), two lockwashers (13), and clamp (14) on fuel pump lead (2) from hull bracket. Discard lockwashers.



GO TO NEXT PAGE

INSTALL

6. Align clamp (1) on fuel pump lead (2) with hull bracket. Secure with two new lockwashers (3), screw (4) and nut (5).
7. Place fuel pump (6) on hull bracket. Secure with four new lockwashers (7) and two screws (8).
8. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of external tapered threads.
9. Install elbow (9) on fuel pump (6).
10. Install hose (10) on elbow (9).
11. Install tee (11) on fuel pump (6).
12. Install cap (12) on tee (11).
13. Install hose (13) on tee (11).
14. Connect fuel pump lead (2) to circuit 402 lead (14).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
2. Open heater fuel shutoff valve. Bleed fuel line (page 29-4).
3. Start heater (see your -10). Check for fuel leaks. Turn heater off.
4. Install front floor plate (page 24-38).
5. Install heater duct (page 29-47).
6. Raise and lock ramp (see your -10).
7. Stop engine (see your -10).

END OF TASK

REPLACE HEATER FUEL PUMP (M577A2 AND M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 29-13).

Install (page 29-14).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Sealing compound (Item 46, App C)

Wiping rag (tem 61, App C)

Lockwasher (6)

Self-locking nut (2)

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (page 13-2)

Rear floor plate removed (page 24-37)

Heater fuel pump shutoff valve closed
(see your -10)**Personnel Required:**

Unit Mechanic

REMOVE

1. Disconnect circuit 402 lead (1) from fuel pump lead (2).
2. Remove screw (3), two lockwashers (4), and clamp (5) from bulkhead weldnut. Discard lockwashers.

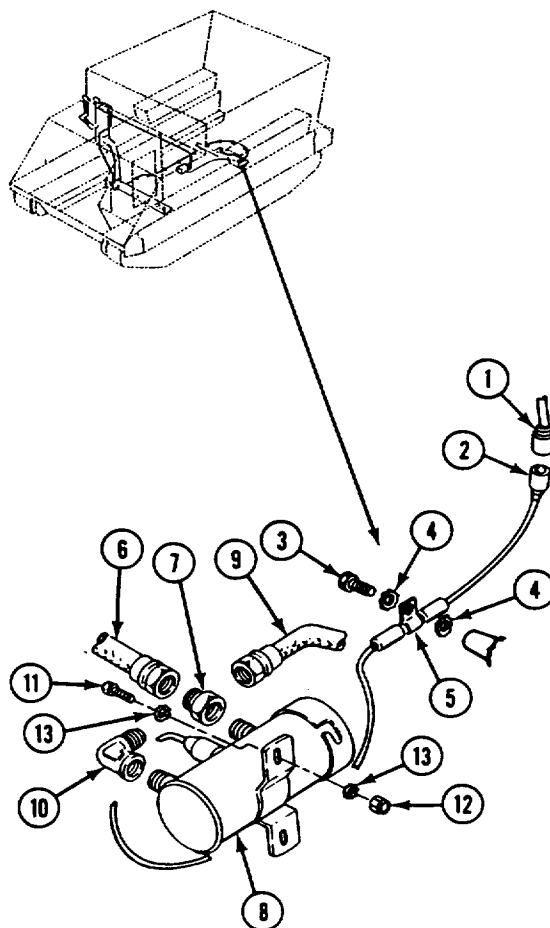
WARNING

Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

NOTE

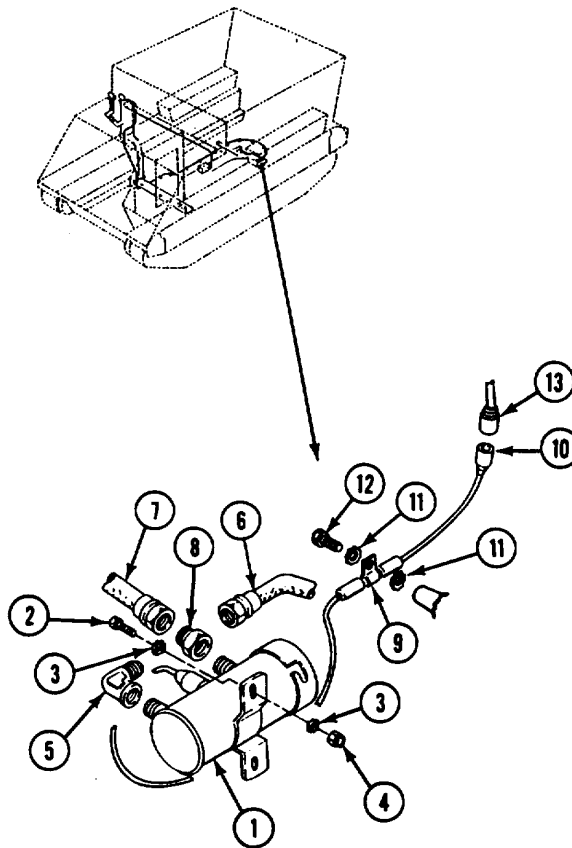
Clean up spilled fuel with wiping rags and store used rags in fireproof container.

3. Disconnect fuel hose (6) from adapter (7). Remove adapter from fuel pump (8).
4. Disconnect hose (9) from elbow (10). Remove elbow from fuel pump (8).
5. Remove two screws (11), locknuts (12), four lockwashers (13), and fuel pump (8) from bulkhead bracket. Discard lockwashers and locknuts.

**GO TO NEXT PAGE****Change 3 29-13**

INSTALL

6. Place fuel pump (1) on bulkhead bracket. Secure with two screws (2), four new lockwashers (3), and two new locknuts (4).
7. Apply light coat of sealing compound to external tapered threads. Do not apply sealant beyond small end of external tapered threads.
8. Install elbow (5) on fuel pump (1). Install fuel hose (6) on elbow. Install hose (6) under hose (7).
9. Install adapter (8) on fuel pump (1). Install fuel hose (7) on adapter.
10. Align clamp (9) on fuel pump lead (10) with weldnut. Secure with two new lockwashers (11) and screw (12).
11. Connect fuel pump lead (10) to circuit 402 lead (13).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
2. Open heater fuel shutoff valve. Bleed fuel line (page 29-4).
3. Start heater (see your -10). Check for fuel leaks. Turn heater off.
4. Install rear floor plate (page 24-37).
5. Raise and lock ramp (see your -10).
6. Stop engine (see your -10).

END OF TASK

**REPLACE FUEL TANK TO FUEL PUMP HOSE
(M113A2, M901A1 AND M1059 ONLY)**

DESCRIPTION

This task covers: Remove (page 29-16). Install (page 29-18).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References

See your -10

Material/Parts:

Sealing compound (Item 50, App C)

Wiping rag (Item 61, App C)

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (page 13-2)

Rear floor plate removed

(page 24-37, 24-42, or 24-45)

Fuel tank drained (page 6-6)

Personnel Required:

Unit Mechanic

REMOVE

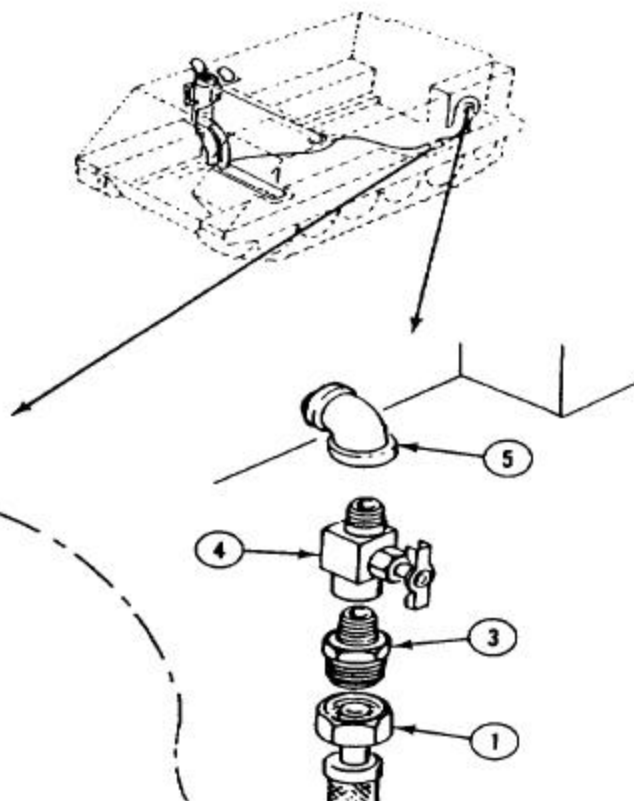
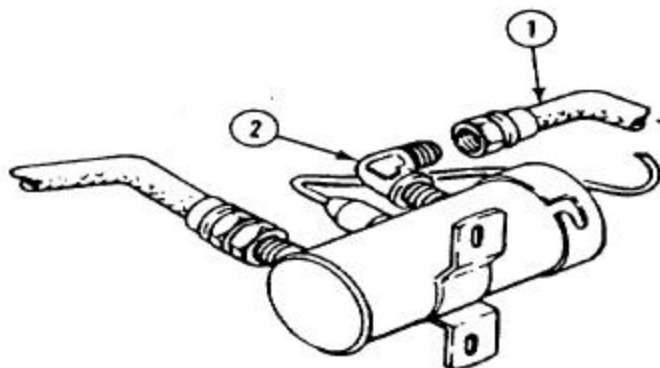
WARNING



Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Remove fuel hose (1) from elbow (2) on fuel pump and from adapter (3).

2. Remove adapter (3) from shutoff valve (4).
3. Remove shutoff valve (4) from elbow (5).

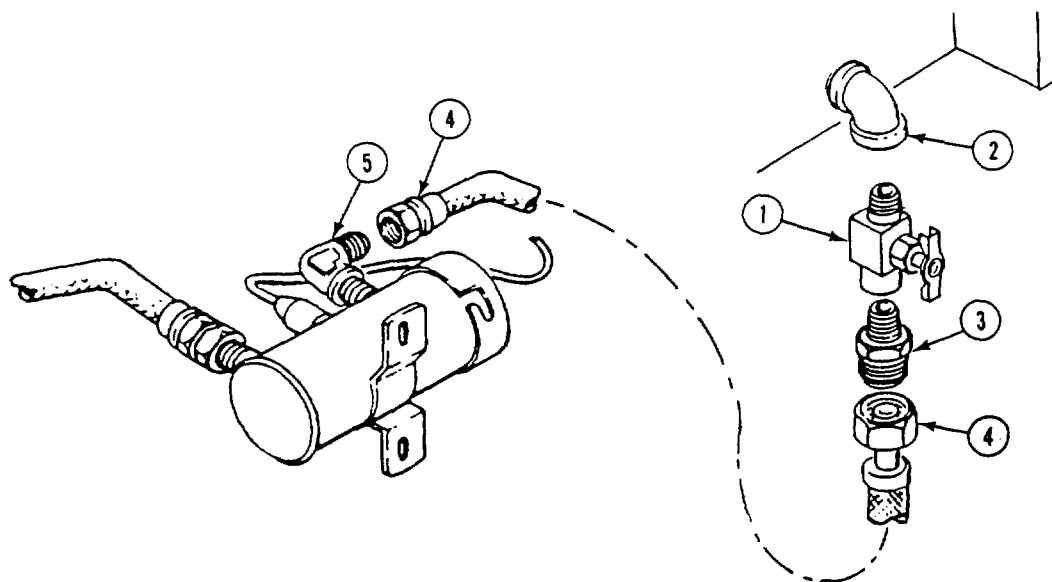


GO TO NEXT PAGE

INSTALL**NOTE**

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.

4. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of external tapered threads.
5. Install shutoff valve (1) on elbow (2).
6. Install adapter (3) on shutoff valve (1).
7. Install fuel hose (4) on elbow (5) and adapter (3).

**FOLLOW-THROUGH STEPS**

1. Fill fuel tank (see your -10).
2. Connect battery ground lead (page 13-2).
3. Bleed fuel line (page 29-4).
4. Start heater (see your -10). Check all fittings for fuel leaks. Turn heater off.
5. Install rear floor plate (page 24-37, 24-42, or 24-45).
6. Raise and lock ramp (see your -10).
7. Stop/shutdown engine (see your -10).

END OF TASK

**REPLACE TEE CONNECTION TO FUEL PUMP HOSE
(M981 ONLY)**

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Wiping rag (Item 61, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

- Engine shutdown (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Battery ground lead disconnected (page 13-2)
- Rear floor plate removed (page 24-45)
- Engine fuel supply line shutoff valve closed (see your -10)

REMOVE

WARNING



Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Disconnect fuel hose (1) from fuel pump (2) and reducer (3).
2. Remove reducer (3) from tee (4).
3. Remove hose (5) from tee (4).
4. Loosen strap (6) on hose (1) and hose (7). Remove hose (1).
5. Loosen two nuts (8) and remove tube (9) from tee (4) and tee (10).

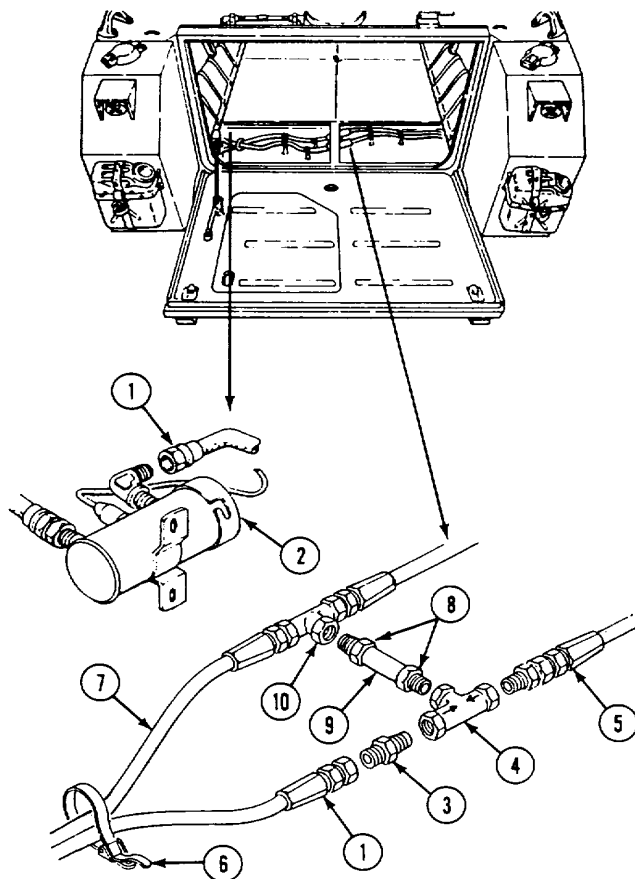
INSTALL

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.

6. Install tube (9) on tee (10) and tee (4). Tighten two nuts (8).
7. Install reducer (3) in tee (4).
8. Install hose (5) on tee (4).

9. Install fuel hose (1) on reducer (3) and fuel pump (2).
10. Secure hose (1) to hose (7) with strap (6).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Open engine fuel supply line shutoff valves (see your -10).
 2. Connect battery ground lead (page 13-2).
 3. Bleed fuel line (page 29-4).
 4. Start heater (see your -10). Check all fittings for leaks. Turn heater off.
 5. Install rear floor plate (page 24-45).
 6. Raise and lock ramp (see your -10).
 7. Shutdown engine (see your -10).
-

END OF TASK

REPLACE FUEL PUMP TO BULKHEAD CONNECTION HOSE

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Both main fuel shutoff valves closed
(see your -10)

Battery ground lead disconnected (page 13-2)

Heater duct removed (page 29-53 or 29-55)

Rear floor plates removed

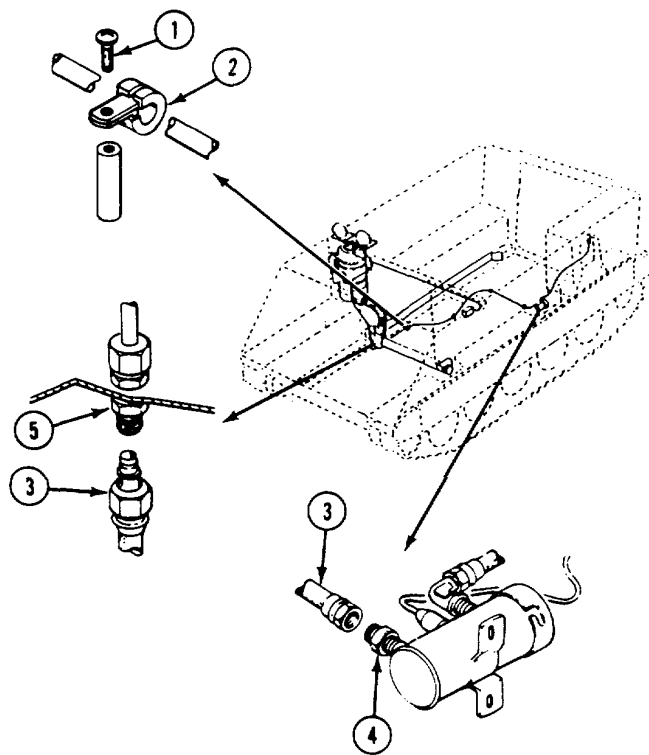
(page 24-37, 24-38, 24-40, 24-42, or 24-45)

REMOVE

1. Remove eight screws (1) and clamps (2) from hull weldnuts.
2. Remove fuel hose (3) from fuel pump adapter (4) and nipple (5). Remove hose.
3. Remove eight clamps (2) from hose (3).

INSTALL

4. Secure new hose (3) to fuel pump adapter (4).
5. Route hose (3) through hull openings. Connect hose to nipple (5).
6. Install eight clamps (2) on hose next to hull weldnuts. Secure clamps to hull weldnuts with eight screws (1).

**FOLLOW-THROUGH STEPS**

1. Open both main fuel shutoff valves (see your -10).
 2. Connect battery ground lead (page 13-2).
 3. Bleed fuel line (page 29-4).
 4. Start heater (see your -10). Check all fittings for leaks. Turn heater OFF.
 5. Install rear floor plates (page 24-37, 24-38, 24-40, 24-42, or 24-45).
 6. Install heater duct (page 29-53 or 29-55).
-

END OF TASK

REPLACE FUEL TANK TO FUEL PUMP HOSE (M741A1 ONLY)

DESCRIPTION

This task covers: Remove (page 29-20). Install (page 29-21).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Pipe wrench (Item 86, App D)

References:

See your -10

Materials/Parts:

- Sealing compound (Item 50, App C)
- Wiping rag (Item 61, App C)

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Battery ground lead disconnected (page 13-2)
- Rear floor plate removed (page 24-40)
- Fuel tank drained (page 6-88)

Personnel Required:

Unit Mechanic

REMOVE

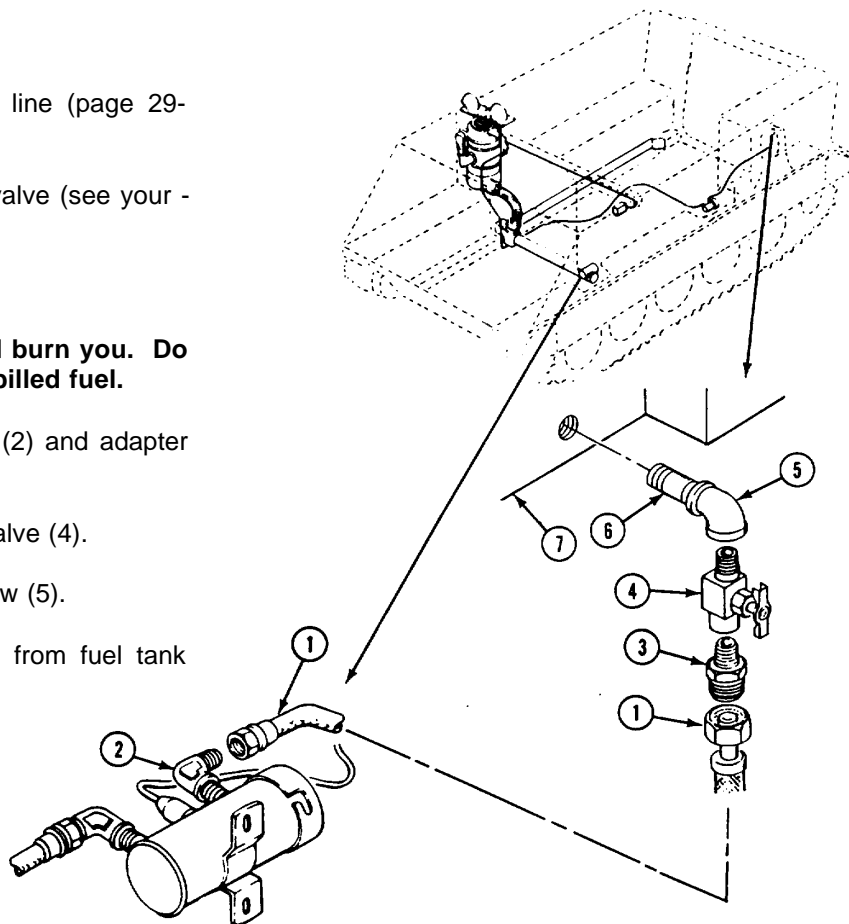
1. Remove guard (page 29-51).
2. Disconnect engine coolant heater line (page 29-51).
3. Close engine coolant fuel shutoff valve (see your -10).

WARNING



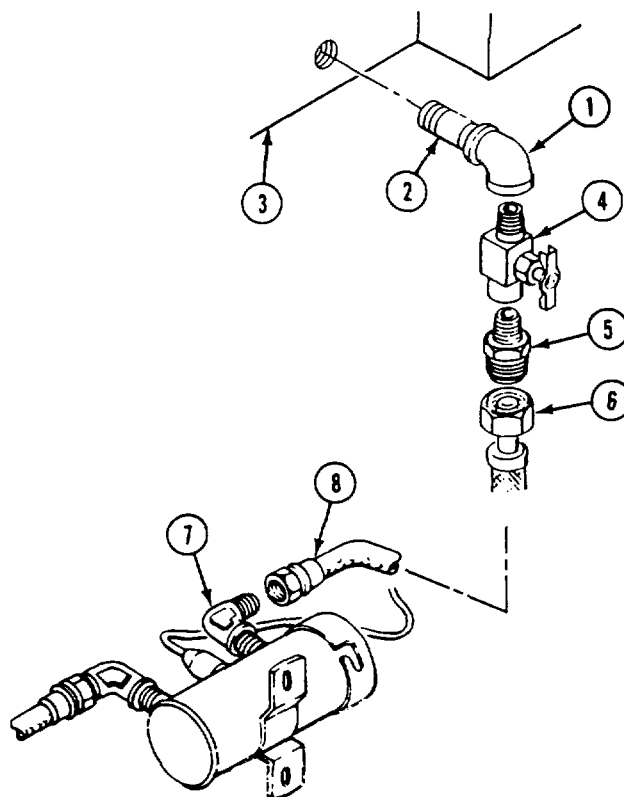
Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

4. Remove fuel hose (1) from elbow (2) and adapter (3).
5. Remove adapter (3) from shutoff valve (4).
6. Remove shutoff valve (4) from elbow (5).
7. Remove elbow (5) and nipple (6) from fuel tank (7). Use pipe wrench.



INSTALL

8. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of external tapered threads.
9. Install elbow (1) and nipple (2) on fuel tank (3).
10. Install shutoff valve (4) on elbow (1).
11. Install adapter (5) on shutoff valve (4).
12. Install fuel hose (6) on adapter (5) and elbow (7).
13. Open engine coolant fuel shutoff valve (see your -10).
14. Connect engine coolant heater line (page 29-51).
15. Install guard (page 29-51).



FOLLOW-THROUGH STEPS

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Fill fuel tank (see your -10). 2. Connect battery ground lead (page 13-2). 3. Bleed fuel line (page 29-4). 4. Start heater (see your -10). Check all fittings for leaks. Turn heater off. | <ol style="list-style-type: none"> 5. Install rear floor plate (page 24-40). 6. Raise and lock ramp (see your -10). 7. Stop engine (see your -10). |
|---|---|

END OF TASK

REPLACE FUEL PUMP TO BULKHEAD CONNECTION HOSE (M741A1 ONLY)

DESCRIPTION

This task covers: Remove (page 29-22). Install (page 29-23).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Wiping rag (Item 61, App C)

Personnel Required:

Unit Mechanic

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Battery ground lead disconnected (page 13-2)
- Heater duct removed (page 29-47)
- Floor plates removed (page 24-40)
- Heater fuel shutoff valve closed (see your -10)

References:

See your -10

REMOVE

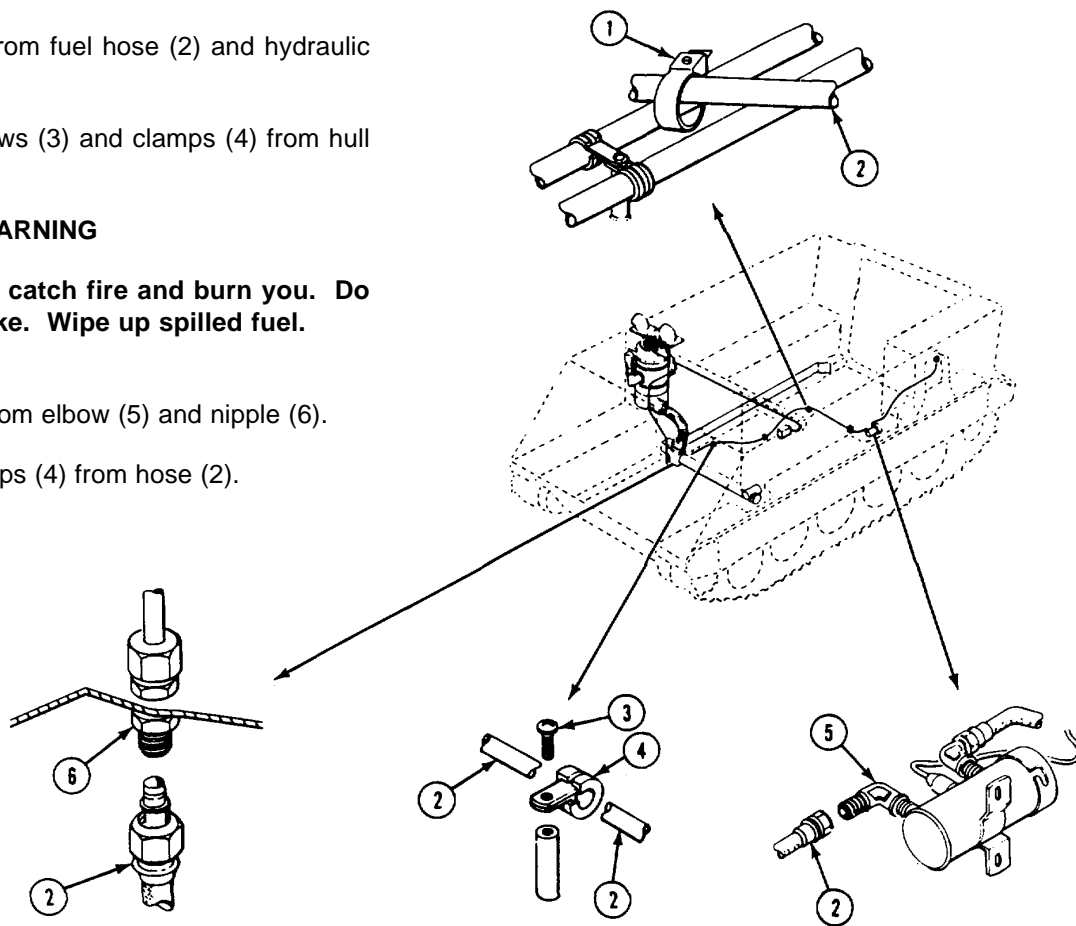
1. Remove strap (1) from fuel hose (2) and hydraulic fluid tube.
2. Remove three screws (3) and clamps (4) from hull weldnuts.

WARNING



Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

3. Remove hose (2) from elbow (5) and nipple (6).
4. Remove three clamps (4) from hose (2).

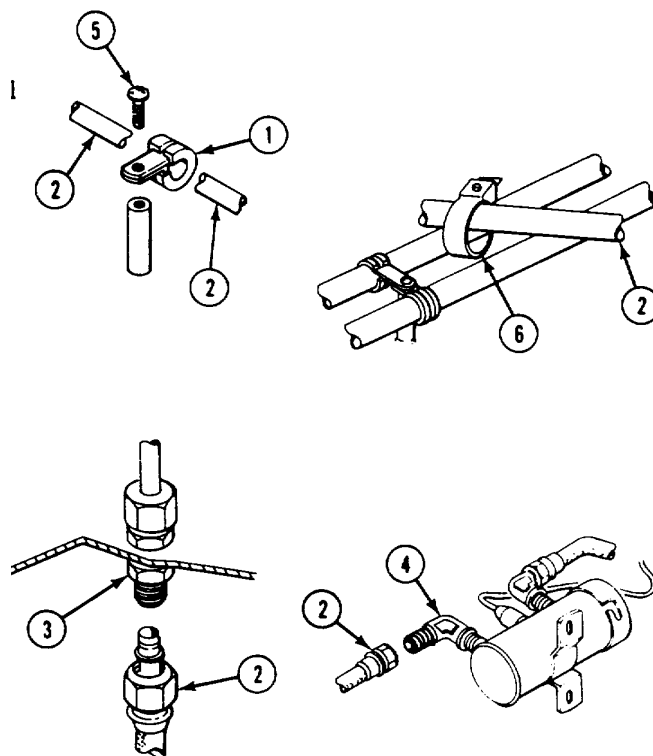


INSTALL

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.

5. Install three clamps (1) on fuel hose (2).
6. Route hose (2) through hull openings. Install hose on nipple (3) and elbow (4).
7. Align three clamps (1) with hull weldnuts. Secure with three screws (5).
8. Secure fuel hose (2) to hydraulic fluid tube with strap (6).



FOLLOW-THROUGH STEPS

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Open heater fuel shutoff valve (see your -10). 2. Connect battery ground lead (page 13-2). 3. Bleed fuel line (page 29-4). 4. Start heater (see your -10). Check all fittings for leaks. Turn heater off. | <ol style="list-style-type: none"> 5. Install floor plates (page 24-40). 6. Install heater duct (page 29-47). 7. Raise and lock ramp (see your -10). 8. Stop engine (see your -10). |
|---|---|

END OF TASK

REPLACE BULKHEAD CONNECTION TO HEATER TUBE (M113A2, M741A1, AND M1059 ONLY)

DESCRIPTION

This task covers: Remove (page 29-24).

Install (page 29-25).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 50, App C)

Wiping rag (Item 61, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (page 13-2)

Heater duct removed (page 29-53 or 29-55)

Right front floor plate removed

(page 24-37, 24-40, or 24-42)

Power plant rear access panel removed

(page 24-27 or 24-29)

Heater fuel shutoff valve closed (see your -10)

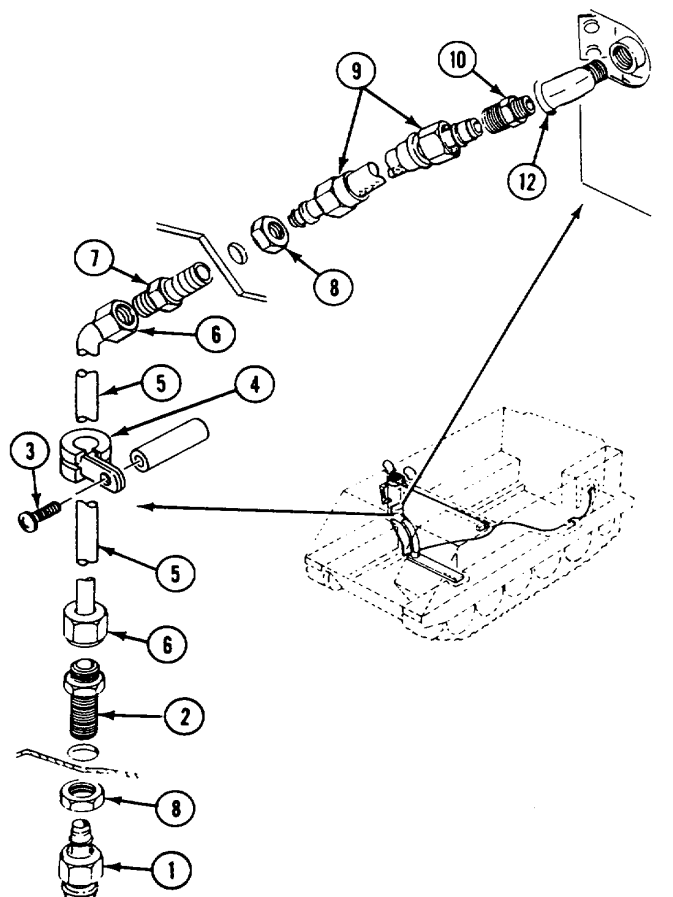
REMOVE

WARNING



Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

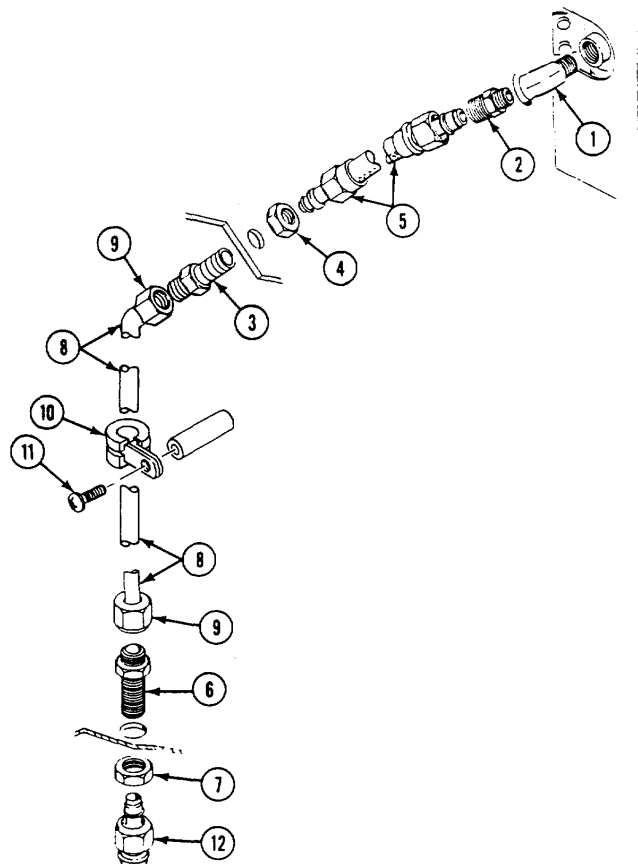
1. Remove fuel hose (1) from nipple (2).
2. Remove screw (3) and clamp (4) from bulkhead weldnut. Remove clamp from tube (5).
3. Loosen two nuts (6) on tube (5). Remove tube from two nipples (2 and 7).
4. Remove jamnut (8) and nipple (2) from hull.
5. Remove fuel hose (9) from adapter (10) and nipple (7).
6. Remove jamnut (11) and nipple (7) from power plant compartment bulkhead.
7. Remove adapter (10) from elbow (12).
8. Remove elbow (12) from heater.



INSTALL

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.



9. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of external tapered threads.
10. Install elbow (1) on heater.
11. Install adapter (2) on elbow (1).
12. Install nipple (3) on power plant compartment bulkhead. Secure with jamnut (4).
13. Install fuel hose (5) on nipple (3) and adapter (2).
14. Install nipple (6) on hull. Secure with jamnut (7).
15. Install tube (8) on nipples (3 and 6). Secure with two nuts (9) on tube.
16. Install clamp (10) on tube (8). Align clamp with bulkhead weldnut. Secure with screw (11).
17. Install fuel hose (12) on nipple (6).

FOLLOW-THROUGH STEPS

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Open heater fuel shutoff valve (see your -10). 2. Connect battery ground lead (page 13-2). 3. Bleed fuel line (page 29-4). 4. Start heater (see your -10). Check all fittings for leaks. Turn heater off. 5. Install power plant rear access panel (page 24-27 or 24-29). | <ol style="list-style-type: none"> 6. Install right front floor plate (page 24-37, 24-40, or 24-42). 7. Install heater duct (page 29-53 or 29-55). 8. Raise and lock ramp (see your -10). 9. Stop engine (see your -10). |
|--|--|

END OF TASK

**REPLACE BULKHEAD CONNECTION TO HEATER TUBE
(M981 ONLY)**

DESCRIPTION

This task covers: Remove (page 29-26).

Install (page 29-27).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 48, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (page 13-2)

Heater duct removed (page 29-47)

Right front floor plate removed (page 24-45)

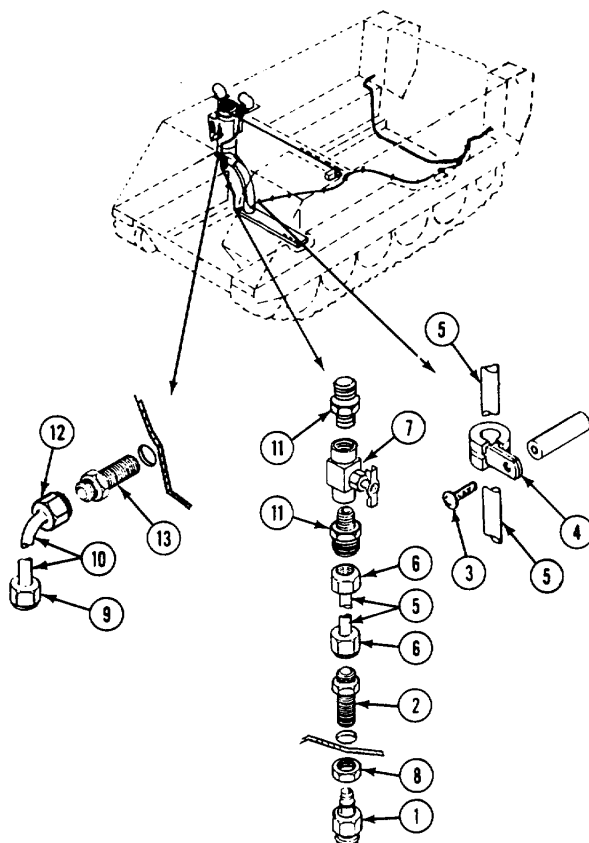
Power plant rear access panel removed

(page 24-27 or 24-29)

Engine fuel supply line shutoff valves closed

REMOVE

1. Remove fuel hose (1) from nipple (2).
2. Remove screw (3) and clamp (4) from bulkhead weldnut. Remove clamp (4) from tube (5).
3. Loosen two nuts (6) on tube (5). Remove tube from nipple (2) and shutoff valve (7).
4. Remove jamnut (8) and nipple (2) from hull.
5. Loosen nut (9). Remove shutoff valve (7) from tube (10).
6. Remove two adapters (11) from shutoff valve (7).
7. Loosen nut (12). Remove tube (10) from nipple (13).

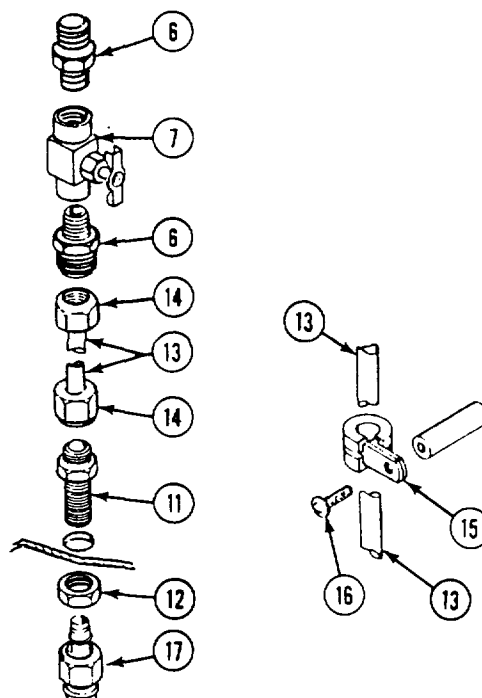
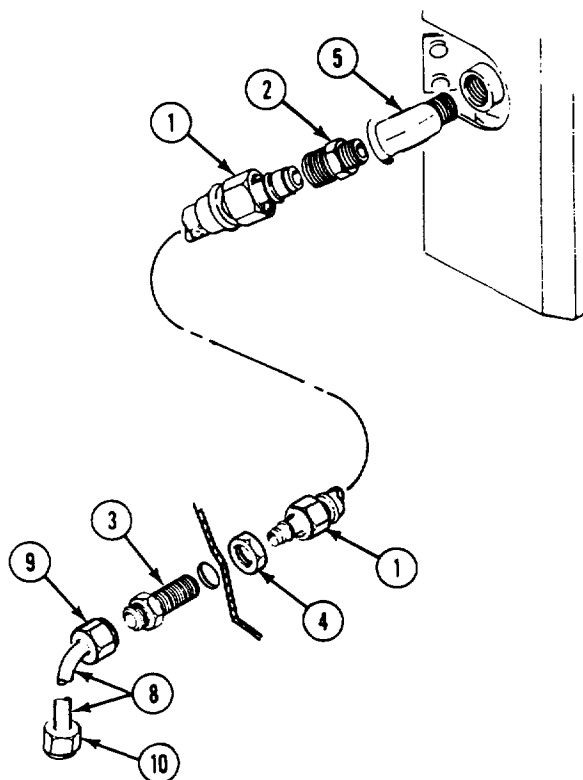


8. Remove fuel hose (1) from adapter (2) and nipple (3).
9. Remove jamnut (4) and nipple (3) from power plant compartment bulkhead.
10. Remove adapter (2) from elbow (5).
11. Remove elbow (5) from heater.

INSTALL

12. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
13. Install elbow (5) on heater.
14. Install adapter (2) on elbow (5).
15. Install nipple (3) on power plant compartment bulkhead. Secure with jamnut (4).

16. Install fuel hose (1) on adapter (2) and nipple (3).
17. Install two adapters (6) on shutoff valve (7).
18. Install tube (8) on nipple (3). Secure with nut (9).
19. Install shutoff valve (7) on tube (8). Secure with nut (10).
20. Install nipple (11) on hull. Secure with jamnut (12).
21. Install tube (13) on shutoff valve (7) and nipple (11). Secure with two nuts (14).
22. Install clamp (15) on tube (13). Align clamp with bulkhead weldnut. Secure with screw (16).
23. Install fuel hose (17) on nipple (11).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Open engine fuel supply line shutoff valves (see your -10).
 2. Connect battery ground lead (page 13-2).
 3. Bleed fuel line (page 29-4).
 4. Start heater (see your -10). Check all fittings for leaks. Turn heater off.
 5. Install power plant rear access panel (page 24-27 or 24-29).
 6. Install right front floor plate (page 24-37, 24-40, or 24-42).
 7. Install heater duct (page 29-53 or 29-55).
 8. Raise and lock ramp (see your -10).
 9. Shutdown engine (see your -10).
-

END OF TASK

**REPLACE FUEL COMPARTMENT TO FUEL PUMP TUBE
(M106A2 AND M125A2 ONLY)**

DESCRIPTION

This task covers: Remove (page 29-29).

Install (page 29-30).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (3)

Sealing compound (Item 50, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (page 13-2)

Heater duct removed (page 29-47)

Power plant rear access panel removed
(page 24-27 or 24-29)

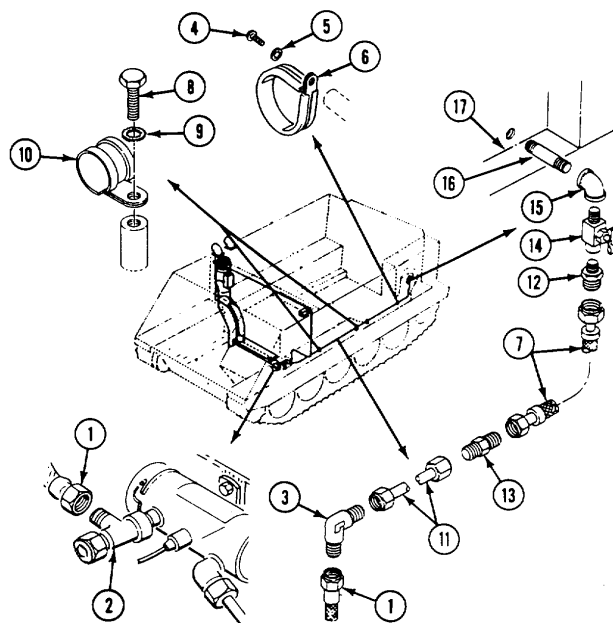
Left front floor plate removed (page 24-38)

Fuel compartment drained (page 6-77)

REMOVE

1. Remove fuel hose (1) from tee (2) and elbow (3).
2. Remove screw (4), lockwasher (5), and clamp (6) from bulkhead. Discard lockwasher.
3. Remove clamp (6) from hose (7).
4. Remove two screws (8), lockwashers (9), and clamps (10) from bulkhead. Discard lockwashers.
5. Remove two clamps (10) from tube (11).
6. Remove hose (7) from adapter (12) and union (13).
7. Remove tube (11) from union (13) and elbow (3).
8. Remove adapter (12) from shutoff valve (14).
9. Remove shutoff valve (14) from elbow (15).
10. Remove elbow (15) from nipple (16).

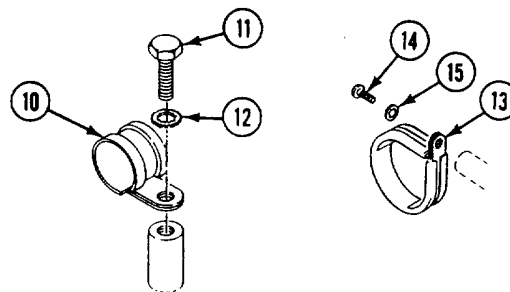
11. Remove nipple (16) from fuel compartment (17).

**GO TO NEXT PAGE**

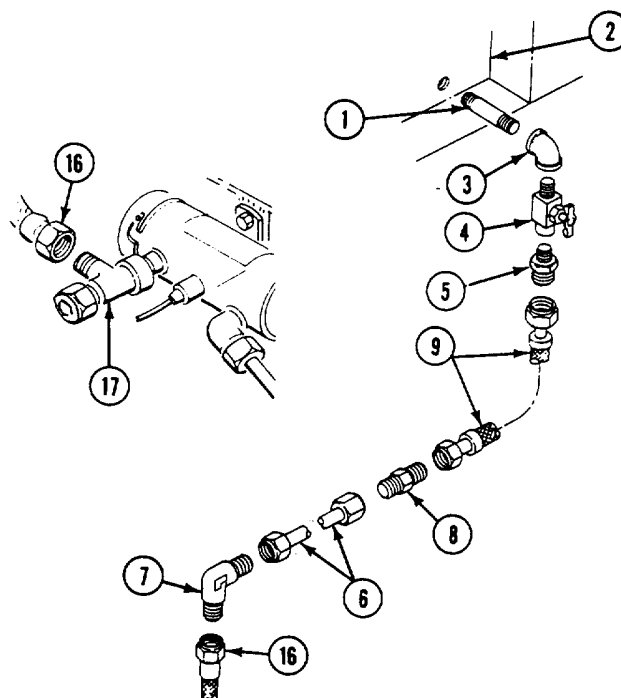
INSTALL

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.



12. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
13. Install nipple (1) on fuel compartment (2).
14. Install elbow (3) on nipple (1).
15. Install shutoff valve (4) on elbow (3).
16. Install adapter (5) on shutoff valve (4).
17. Install tube (6) on elbow (7) and union (8).
18. Install hose (9) on union (8) and adapter (5).
19. Install two clamps (10) on tube (6). Secure clamps and tube to bulkhead with two screws (11) and new lockwashers (12).
20. Install clamp (13) on hose (9). Secure clamp and hose to bulkhead with screw (14) and new lockwasher (15).
21. Install fuel hose (16) on tee (17) and elbow (7).



FOLLOW-THROUGH STEPS

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Fill fuel compartment (see your -10). 2. Connect battery ground lead (page 13-2). 3. Bleed fuel line (page 29-4). 4. Start heater (see your -10). Check all fittings for leaks. Turn heater off. | <ol style="list-style-type: none"> 5. Install power plant rear access panel (page 24-27 or 24-29). 6. Install left front floor plate (page 24-38). 7. Install heater duct (page 29-47). 8. Raise and lock ramp (see your -10). 9. Stop engine (see your -10). |
|--|--|

END OF TASK

REPLACE FUEL PUMP HOSE TO HEATER FUEL SHUTOFF VALVE (M1064 ONLY)

INITIAL SETUP

Tools

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts

Self-locking nut (2)
Sealing compound (Item 50, App C)

Personnel Required

Unit Mechanic

References

See your -10

Equipment Conditions

Engine stopped/shutdown (see your -10)
Ramp lowered (see your -10)
Carrier blocked (see your -10)
Heater fuel supply shutoff valve closed (see your -10)
Battery ground lead disconnected (page 13-2)
Heater duct removed (page 29-47)
Left front floor plate removed (page 24-38)

REMOVE

WARNING

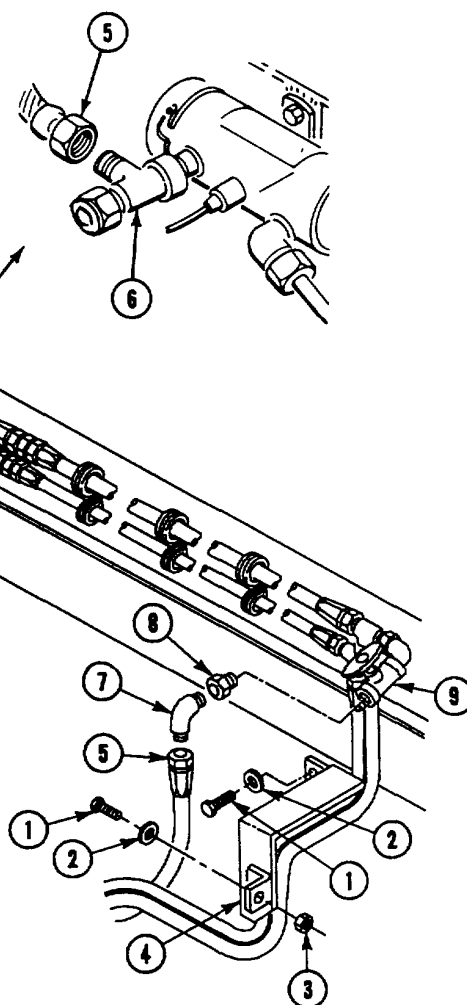
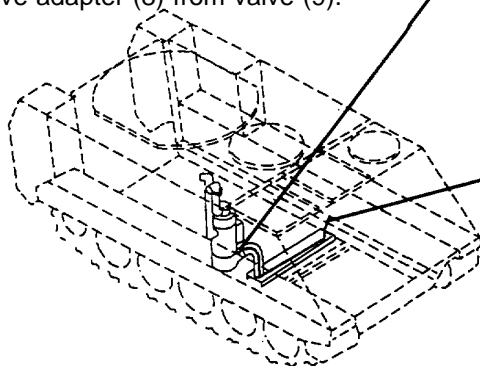


Fuel flowing over a metal surface causes static electricity. This will cause a spark unless the surface is grounded.

NOTE

Use wiping rags to wipe any spilled fuel.

1. Remove two screws (1), washers (2), locknuts (3), and guard (4) from hull.
2. Remove hose (5) from tee (6) and elbow (7).
3. Remove elbow (7) from adapter (8).
4. Remove adapter (8) from valve (9).

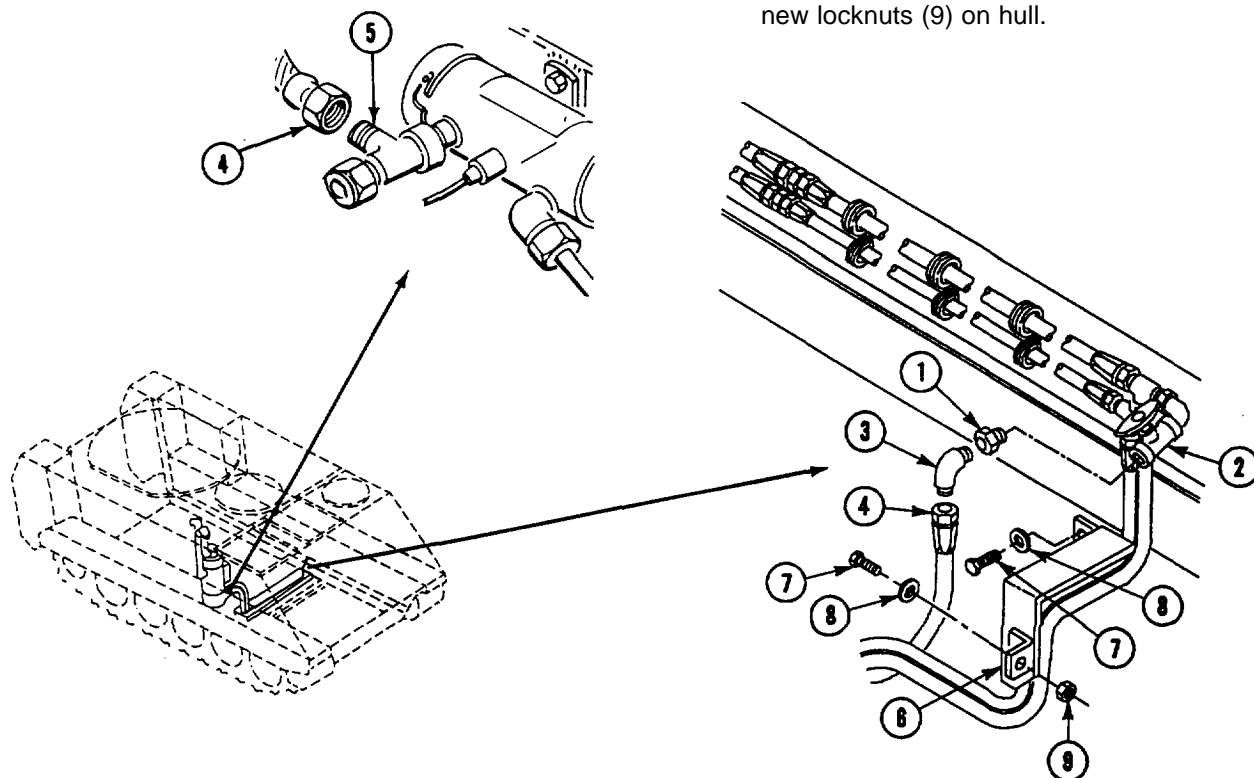


GO TO NEXT PAGE

INSTALL

5. Apply a thin even coat of sealing compound to cleaned external threads of fittings before installation.

6. Install adapter (1) on valve (2).
7. Install elbow (3) on adapter (1).
8. Install hose (4) on elbow (3) and tee (5).
9. Install guard (6), two screws (7), washers (8), and new locknuts (9) on hull.



FOLLOW-THROUGH STEPS

1. Open heater fuel supply shutoff valve (see your -10). Check for leaks.
2. Install left front floor plate (page 24-38).
3. Install heater duct (page 29-47).
4. Connect battery ground leads (page 13-2).
5. Raise and lock ramp (see your -10).
6. Unblock carrier (see your -10).

END OF TASK

REPLACE FUEL PUMP TO BULKHEAD CONNECTION HOSE (M106A2, M125A2, AND M1064 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Wiping rag (Item 61, App C)

Personnel Required:

Unit Mechanic

Equipment Conditions:

- Ramp lowered (see your -10)
- Carrier blocked (see your -10)
- Battery ground lead disconnected (page 13-2)
- Engine stopped/shutdown (see your -10)
- Heater duct removed (page 29-47)
- Front floor plates removed (page 24-38)
- Heater fuel shutoff valve closed (see your -10)

References:

See your -10

REMOVE



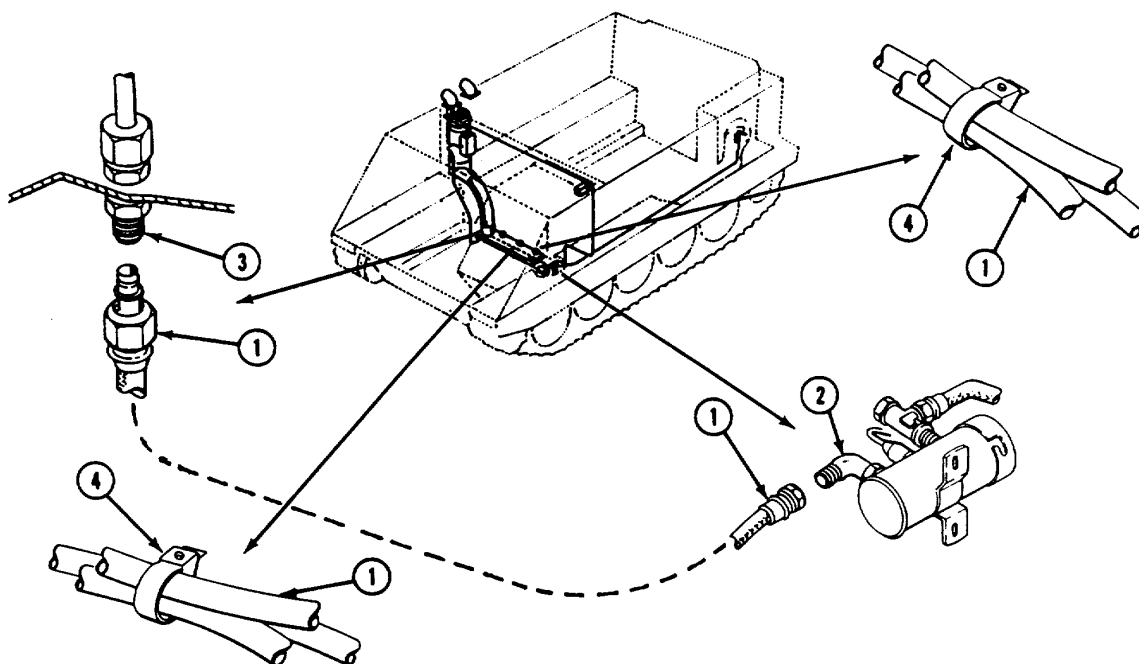
WARNING
Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Remove fuel hose (1) from elbow (2) and nipple (3).
2. Remove three straps (4) and fuel hose (1) from engine supply and return fuel lines.

INSTALL

NOTE
Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.

3. Install fuel hose (1) on nipple (3) and elbow (2).
4. Secure hose (1) to engine supply and return fuel lines with three straps (4).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Open heater fuel shutoff valve (see your -10).
 2. Connect battery ground lead (page 13-2).
 3. Bleed fuel line (page 29-4).
 4. Start heater (see your -10). Check all fittings for leaks. Turn heater off.
 5. Install front floor plates (page 24-38).
 6. Install heater duct (page 29-47).
 7. Raise and lock ramp (see your -10).
 8. Stop engine (see your -10).
-

END OF TASK

REPLACE BULKHEAD CONNECTION TO HEATER TUBE (M106A2, M125A2, AND M1064 ONLY)

DESCRIPTION

This task covers: Remove (page 29-33). Install (page 29-34).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Pipe Wrench (Item 86, App D)

Materials/Parts:

- Sealing compound (Item 46, App C)
- Wiping rags (Item 61, App C)

Personnel Required:

- Unit Mechanic

References:

- See your -10

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Battery ground lead disconnected (page 13-2)
- Heater duct removed (page 29-47)
- Right front floor plate removed (page 24-38)
- Power plant rear access panel removed (page 24-27 or 24-29)
- Heater fuel shutoff valve closed (see your -10)

REMOVE



WARNING

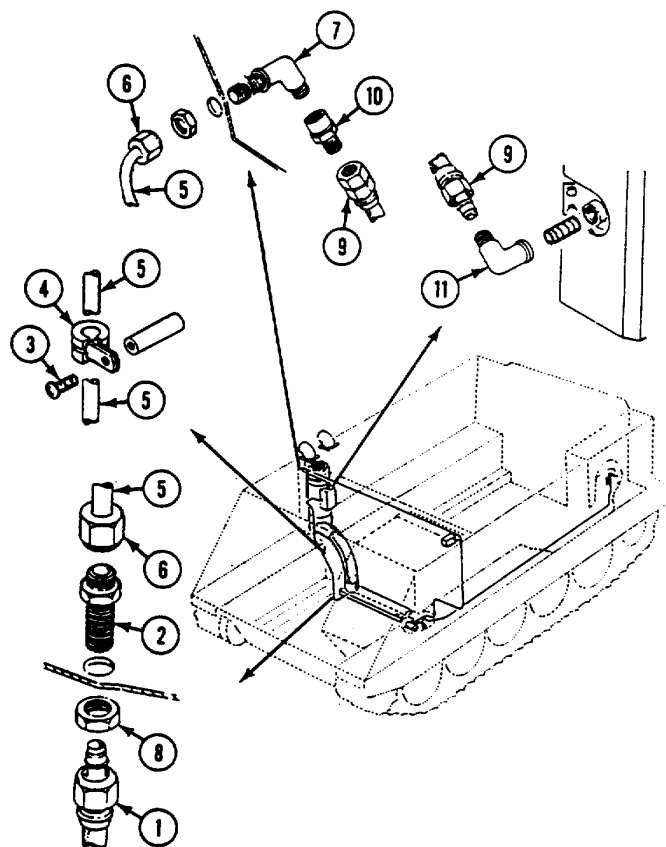
Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Remove fuel hose (1) from nipple (2).
2. Remove screw (3) and clamp (4) from bulkhead weldnut. Remove clamp (4) from tube (5).
3. Loosen two nuts (6) on tube (5). Remove tube (5) from nipple (2) and elbow (7).
4. Remove jamnut (8) and nipple (2) from hull.

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.

5. Remove fuel hose (9) from reducer (10) and elbow (11).
6. Remove reducer (10) from elbow (7).



GO TO NEXT PAGE

7. Remove jamnut (1) and elbow (2) from power plant compartment bulkhead.
8. Remove elbow (3) from nipple (4).
9. Remove nipple (4) from heater.

INSTALL

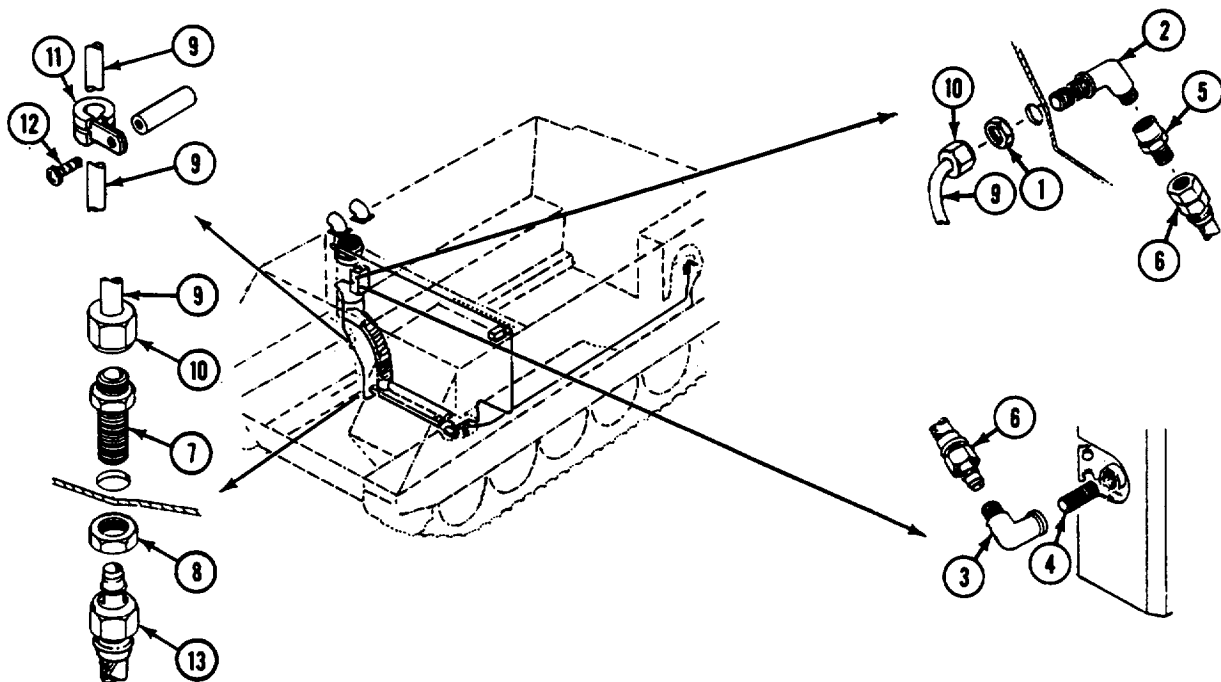
10. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of external tapered threads.

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.

11. Install nipple (4) on heater.
12. Install elbow (3) on nipple (4).
13. Install elbow (2) in power plant compartment bulkhead. Secure with jamnut (1).
14. Install reducer (5) on elbow (2).
15. Install fuel hose (6) on reducer (5) and elbow (3).
16. Install nipple (7) in hull. Secure with jamnut (8).
17. Install tube (9) on elbow (2) and nipple (7). Secure with two nuts (10).
18. Install damp (11) on tube (9). Align clamp with bulkhead weldnut. Secure with screw (12).
19. Install fuel hose (13) on nipple (7).

11. Install nipple (4) on heater.



FOLLOW-THROUGH STEPS

1. Open heater fuel shutoff valve (see your -10).
 2. Connect battery ground lead (page 13-2).
 3. Bleed fuel line (page 29-4).
 4. Start heater (see your -10). Check all fittings for leaks. Turn heater off.
 5. Install power plant rear access panel (page 24-27 or 24-29).
 6. Install right front floor plate (page 24-38).
 7. Install heater duct (page 29-47).
 8. Raise and lock ramp (see your -10).
 9. Stop engine (see your -10).
-

END OF TASK

REPLACE FUEL TANK TO FUEL PUMP HOSE (M577A2 AND M1068 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)
Pipe Wrench (Item 86, App D)

Materials/Parts:

Sealing compound (Item 46, App C)
Wiping rag (Item 61, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Battery ground lead disconnected (page 13-2)
Rear floor plate removed (page 24-38)
Fuel compartment drained (page 6-6)

REMOVE**WARNING**

Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Remove fuel hose (1) from adapter (2) and shutoff valve (3).
2. Remove adapter (2) from fuel pump (4).
3. Remove shutoff valve (3) from nipple (5).
4. If damaged, remove nipple (5) from fuel cross pipe. Use pipe wrench.

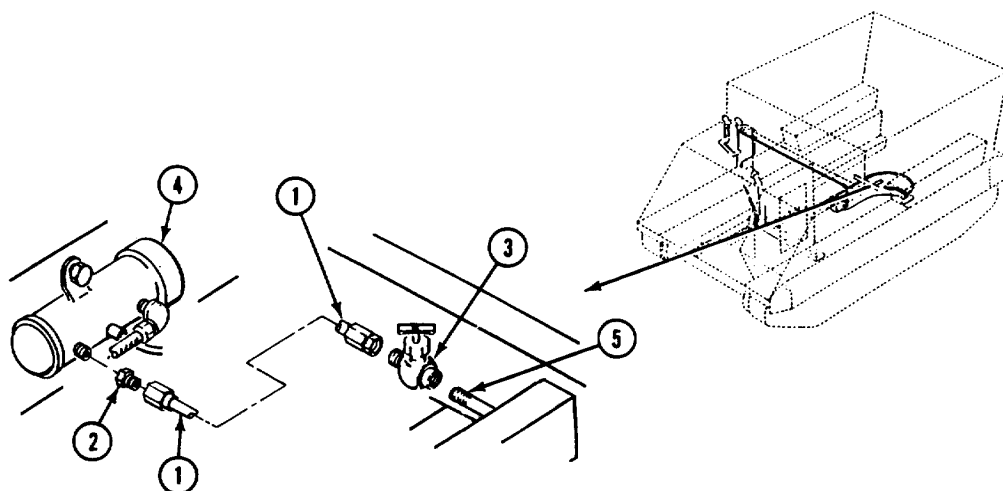
INSTALL

5. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of external tapered threads.

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter. 6. If necessary, install nipple (5) in fuel cross pipe.

7. Install shutoff valve (3) on nipple (5).
8. Install adapter (2) on fuel pump (4).
9. Install fuel hose (1) on adapter (2) and shutoff valve (3).



FOLLOW-THROUGH STEPS

1. Fill fuel tanks (see your -10).
2. Connect battery ground lead (page 13-2)
3. Bleed fuel line (page 29-4).
4. Start heater (see your -10). Check all fittings for leaks. Turn heater off.
5. Install rear floor plate (page 24-38).
6. Raise and lock ramp (see your -10).
7. Stop engine (see your -10).

END OF TASK

REPLACE FUEL PUMP TO BULKHEAD CONNECTION HOSE (M577A2 AND M1068 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (10)
Wiping rag (Item 61, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Battery ground lead disconnected (page 13-2)
Heater duct removed (page 29-47)
Right front and rear floor plates removed (page 24-37)
Heater fuel shutoff valve closed (see your -10)

REMOVE

1. Remove 10 screws (1), lockwashers (2), and clamps (3) from 10 hull weldnuts. Discard lockwashers.



WARNING

Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

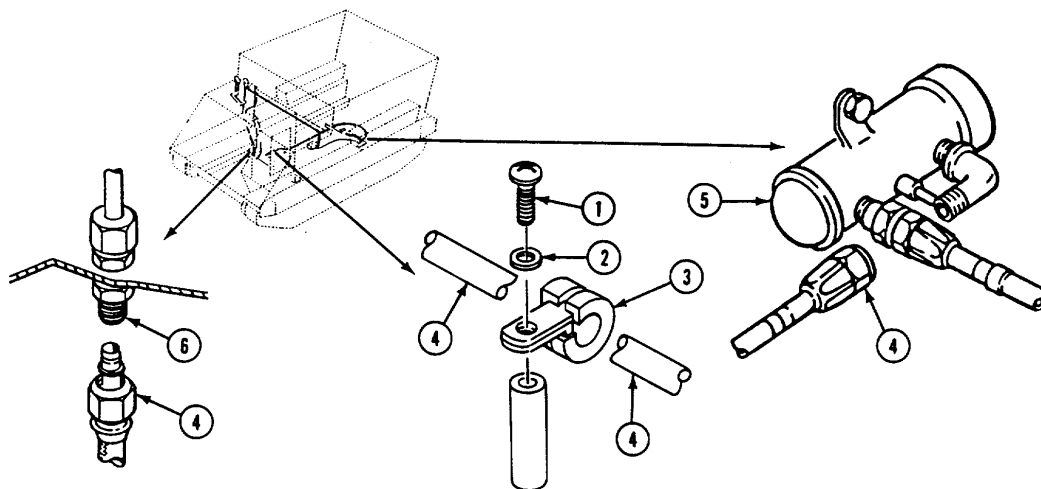
NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow or adapter.

2. Remove fuel hose (4) from fuel pump (5) and nipple (6). Remove hose.
3. Remove 10 clamps (3) from hose (4).

INSTALL

4. Install 10 clamps (3) on hose (4).
5. Route hose (4) through openings in hull cross members. Align 10 clamps (3) with hull weldnuts. Secure with 10 new lockwashers (2) and screws (1).
6. Install fuel hose (4) on fuel pump (5) and nipple (6).



FOLLOW-THROUGH STEPS

1. Open heater fuel shutoff valve (see your -10).
 2. Connect battery ground lead (page 13-2)
 3. Bleed fuel line (page 29-4).
 4. Start heater (see your -10). Check all fittings for leaks. Turn heater off.
 5. Install right front and rear floor plates (page 24-37).
 6. Install heater duct (page 29-47).
 7. Raise and lock ramp (see your -10).
 8. Stop engine (see your -10).
-

END OF TASK

REPLACE BULKHEAD CONNECTION TO HEATER TUBE (M577A2 AND M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 29-40). Install (page 29-41).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 50, App C)

Wiping rag (Item 61, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (page 13-2)

Heater duct removed (page 29-47)

Right front floor plate removed (page 24-37)

Power plant rear access panel removed
(page 24-29)

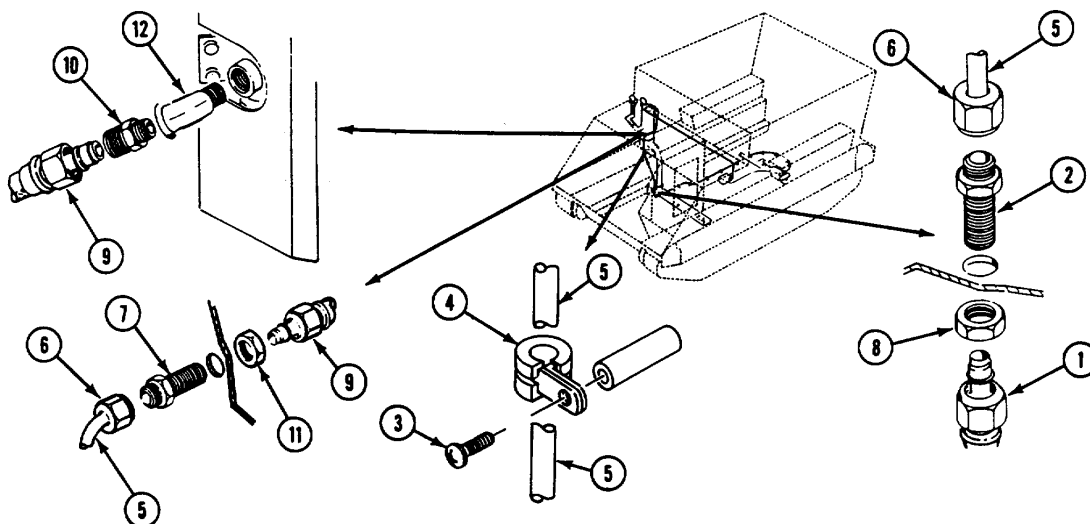
Heater fuel shutoff valve closed (see your -10)

REMOVE**WARNING**

Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel

1. Remove fuel hose (1) from nipple (2);
2. Remove screw (3) and clamp (4) from bulkhead weldnut. Remove clamp from tube (5).

3. Loosen two nuts (6) on tube (5). Remove tube (5) from nipples (2 and 7).
4. Remove jamnut (8) and nipple (2) from hull.
5. Remove fuel hose (9) from adapter (10) and nipple (7).
6. Remove jamnut (11) and elbow (12) from power plant compartment bulkhead.
7. Remove adapter (10) from elbow (12).
8. Remove elbow (12) from heater.



INSTALL

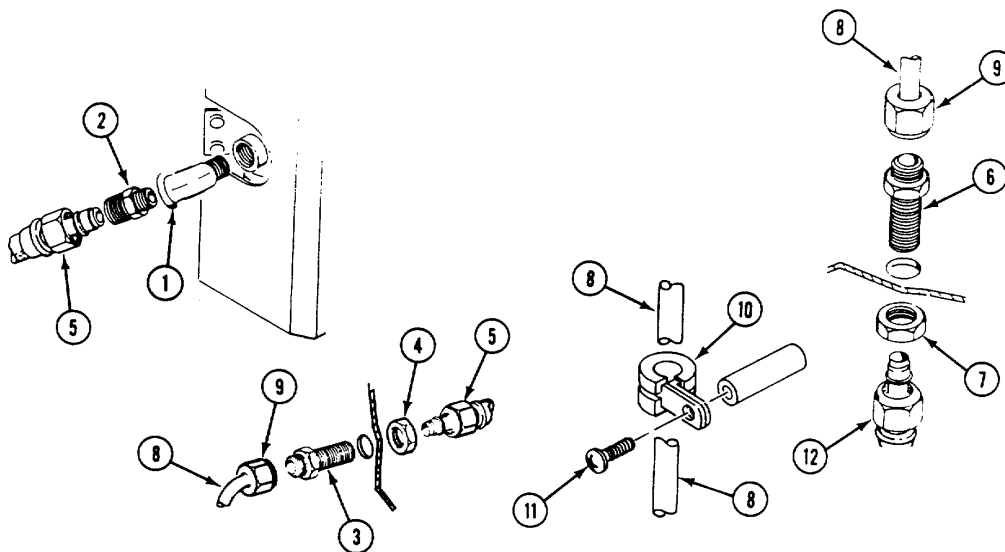
9. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of external tapered threads.

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow or adapter.

10. Install elbow (1) in heater.
11. Install adapter (2) on elbow (1).
12. Install nipple (3) in power plant compartment bulkhead. Secure with jamnut (4).

13. Install fuel hose (5) on nipple (3) and adapter (2).
14. Install nipple (6) in hull. Secure with jamnut (7).
15. Install tube (8) on nipples (3 and 6). Secure with two nuts (9).
16. Install clamp (10) on tube (8). Align clamp (10) with bulkhead weldnut. Secure with screw (11).
17. Install fuel hose (12) on nipple (6).



FOLLOW-THROUGH STEPS

1. Open heater fuel shutoff valve (see your -10).
2. Connect battery ground lead (page 13-2)
3. Bleed fuel line (page 29-4).
4. Start heater (see your -10). Check all fittings for leaks. Turn heater off.
5. Install power plant rear access panel (page 24-29).
6. Install right front floor plate (page 24-37).
7. Install heater duct (page 29-47).
8. Raise and lock ramp (see your -10).
9. Stop engine (see your -10).

END OF TASK

REPLACE HEATER CONTROL BOX

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Electrical Tool Kit (Item 75, App D)

Materials/Parts:

Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

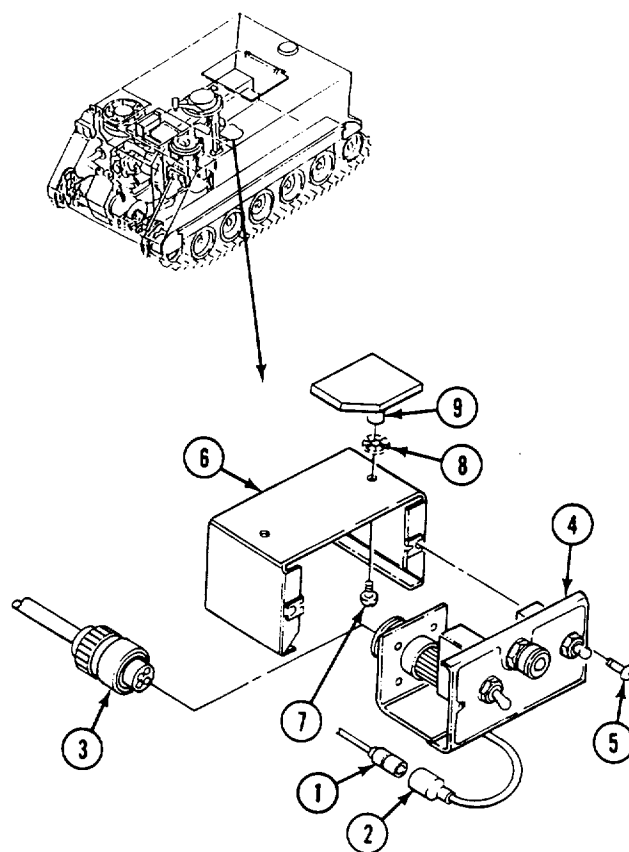
See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground lead disconnected (page 13-2)

REMOVE

1. Disconnect circuit 400 lead (1) from heater control box lead (2).
2. Disconnect heater wiring harness (3) from heater control box (4).
3. Remove two screws (5) and control box (4) from control box case (6).
4. Remove two screws (7), case (6), and two lockwashers (8) from two hull weldnuts (9). Discard lockwashers.

**INSTALL**

5. Place two new lockwashers (8) and control box case (6) on two hull weldnuts (9). Secure with two screws (7).
6. Install heater control box (4) in case (6). Secure with two screws (5).
7. Connect heater wiring harness (3) to control box (4).
8. Connect circuit 400 lead (1) to control box lead (2).

FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
 2. Start heater (see your -10). Check heater control box for proper operation. Turn heater off.
-

END OF TASK

REPAIR HEATER CONTROL BOX

DESCRIPTION

This task covers: Disassemble (page 29-43). Assemble (page 29-45).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Electrical Tool Kit (Item 75, App D)

Materials/Parts:

- Lockwasher (9)

Personnel Required:

Unit Mechanic

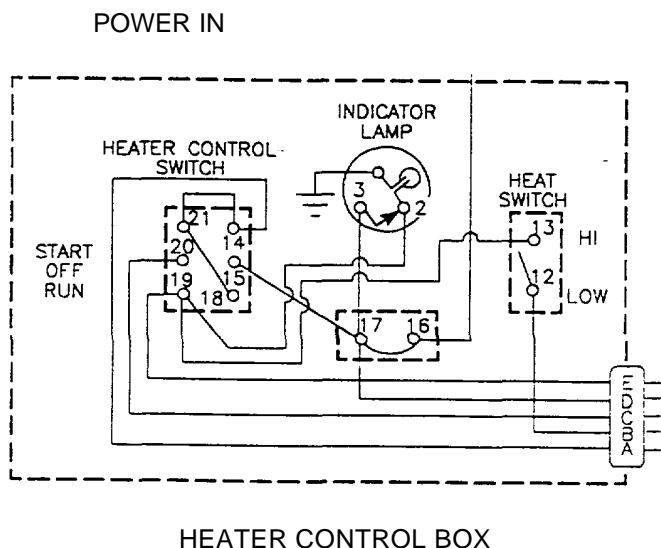
References:

See your -10

Equipment Conditions:

Heater control box removed (page 29-42)

DISASSEMBLE



HEATER CONTROL BOX

NOTE

Tag electrical leads as they are removed.

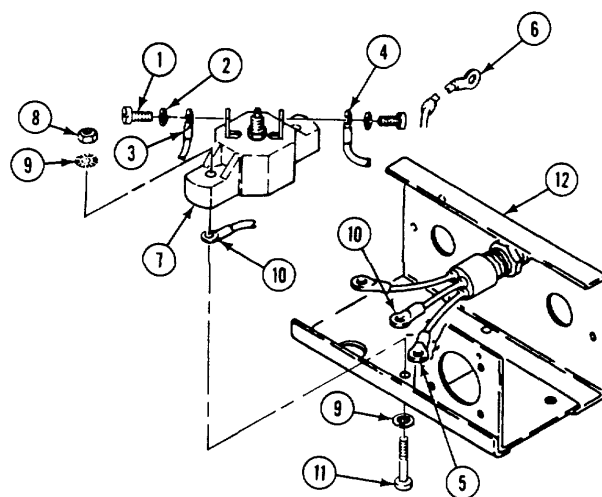
1. Remove circuit breaker from control box as follows:
 - a. Remove two screws (1), lockwashers (2), lead 16 (3), lead 17 (4), lead 17-3 (5), and jumper 15-17 (6) from circuit breaker (7).
 - b. Remove two nuts (8), lockwashers (9), indicator light ground lead (10), two screws (11), and circuit breaker (7) from control box (12). Discard lockwashers.

2. Remove indicator light from control box as follows:

NOTE

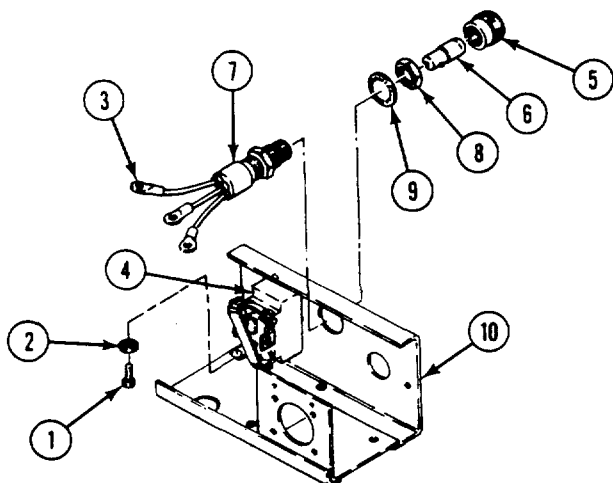
It may be necessary to loosen both screws when removing ground lead.

- a. Remove nut (8), lockwasher (9), and ground lead (10) from circuit breaker (7).
- b. Remove screw (1), lockwasher (2), and lead 17-3 (5) from circuit breaker (7).



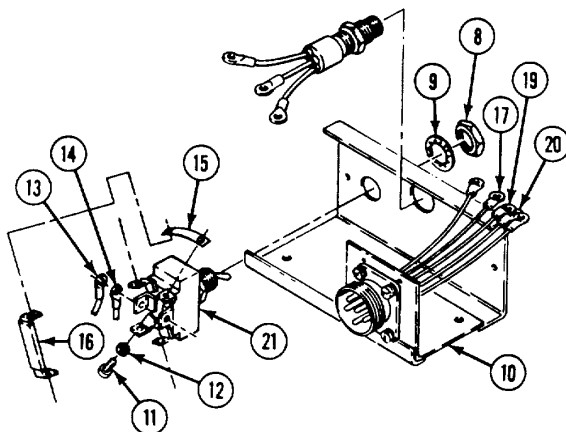
GO TO NEXT PAGE

- c. Remove screw (1), lockwasher (2), and lead 19-2 (3) from start switch (4).
- d. Unscrew cap (5) and remove bulb (6) from cable assembly (7).
- e. Remove nut (8), lockwasher (9), and cable assembly (7) from control box (10).



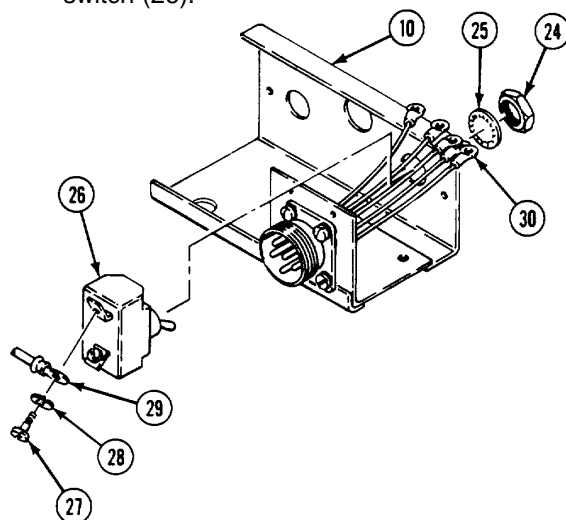
3. Remove start switch from control box as follows:

- a. Remove six screws (11), lockwashers (12), jumper 15-17 (13), lead 13-19 (14), jumper 21-14 (15), jumper 21-18 (16), lead 14 (17), lead 19-2 (18), lead 19 (19), and lead 20 (20) from start switch (21).
- b. Remove nut (22), washer (23), and switch (21) from control box (10).



4. Remove HI-LO heat switch from control box as follows:

- a. Remove nut (24), lockwasher (25), instruction plate (if applicable), and heat switch (26) from control box (10). Discard lockwasher.
- b. Remove two screws (27), lockwashers (28), jumper 13-19 (29), and lead 12B (30) from heat switch (26).



5. Remove outlet receptacle from control box as follows:
 - a. Remove three screws (1), lockwashers (2), lead 14 (3), lead 20 (4), and lead 19 (5) from start switch (6).
 - b. Remove screw (7), lockwasher (8), and lead 17 (9) from circuit breaker (10).
 - c. Remove four screws (11), lockwashers (12), and receptacle (13) from control box (14). Discard lockwashers.
 - d. Remove screw (15), lockwasher (16), and lead 12B (17) from heat switch (18).

7. Install HI-LO heat switch in control box as follows:

NOTE
Switch is marked ON and OFF.

- a. Place switch with ON at the top of the control box.
- b. Place jumper 13-19 (19) and lead 12B (17) on switch (18). Secure with lockwasher (16) and screw (15).
- c. Install heat switch (18) in control box (14). Secure with instruction plate (if applicable), lockwasher (20) and nut (21).

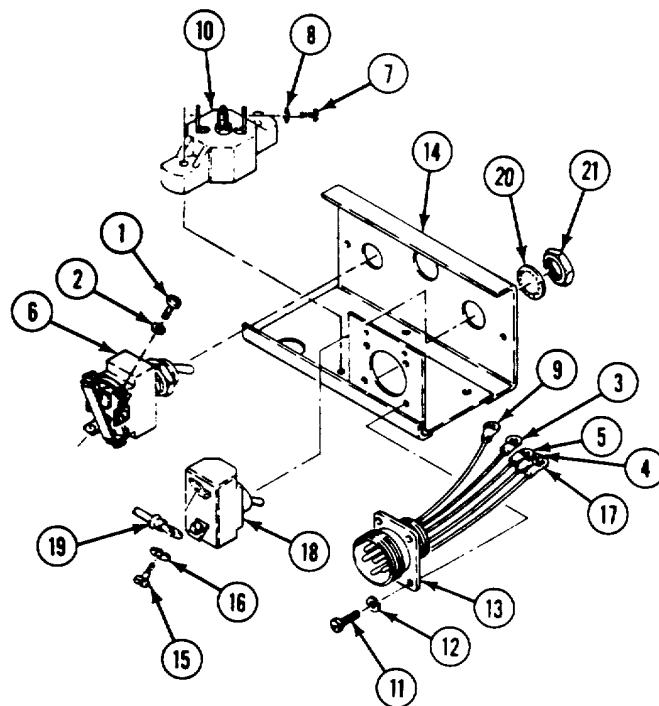
ASSEMBLE

NOTE
Before connecting electrical leads, check connection diagram (page 29-43) to make sure of proper connection.

6. Install outlet receptacle in control box as follows:
 - a. Install receptacle (13) in control box (14). Secure with four new lockwashers (12) and screws (11).

NOTE
Make sure key in receptacle is at the top.

- b. Place lead 17 (9) on circuit breaker (10). Secure with lockwasher (8) and screw (7).
- c. Place lead 12B (17) on heat switch (18). Secure with lockwasher (16) and screw (15).
- d. Place lead 19 (5), lead 20 (4), and lead 14 (3) on start switch (6). Secure with three new lockwashers (2) and screws (1).



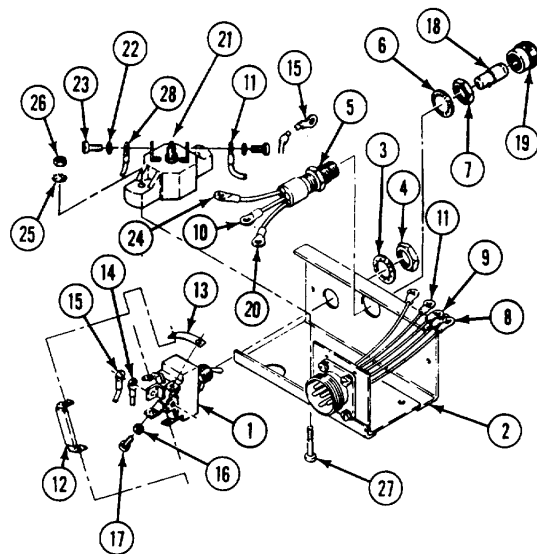
GO TO NEXT PAGE

8. Install start switch in control box as follows:

NOTE

Start switch has locked position and spring-loaded position.

- a. Place switch with locked position at the top of the control box.
- b. Place switch (1) in control box (2). Secure with washer (3) and nut (4).
- c. If required: Install light (5) in control box (2). Secure with lockwasher (6) and nut (7).
- d. Place lead 20 (8), lead 19 (9), lead 19-2 (10), lead 14 (11), jumper 21-18 (12), jumper 21-14 (13), lead 13-19 (14), and jumper 15-17 (15) on start switch (1). Secure with six lockwashers (16) and screws (17).



- d. Place lead 17-3 (20) on circuit breaker (21). Secure with lockwasher (22) and screw (23).
- e. Place ground lead (24) on circuit breaker (21). Secure with lockwasher (25) and nut (26).

NOTE

Ensure that both circuit breaker screws are tight.

9. Install indicator light in control box as follows:

- a. If required: Install light (5) in control box (2). Secure with lockwasher (6) and nut (7).
- b. Install bulb (18) in light (5). Secure with cap (19).
- c. Place lead 19-2 (10) on start switch (1). Secure with lockwasher (16) and screw (17).

NOTE

Be sure both circuit breaker screws are tight.

10. Install circuit breaker in control box as follows:

- a. Place circuit breaker (21) in control box (2). Secure with two new lockwashers (25), screws (27), ground lead (24), and two nuts (26).
- b. Place jumper 15-17 (15), lead 17-3 (20), lead 17 (11), and lead 16 (28) on circuit breaker (21). Secure with two lockwashers (22) and screws (23).

FOLLOW-THROUGH STEPS

- 1. Install heater control box (page 29-43).

- 2. Start heater. Check heater control box for proper operation (see your -10). Turn heater off.

END OF TASK

REPLACE PERSONNEL HEATER DUCT AND HOSES

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

REMOVE

1. Loosen two clamps (1). Remove hose (2) from two nipples (3). Remove clamps from hose.
2. Loosen latches. Remove nipple (3) from duct (4) and nipple (3) from duct (5).



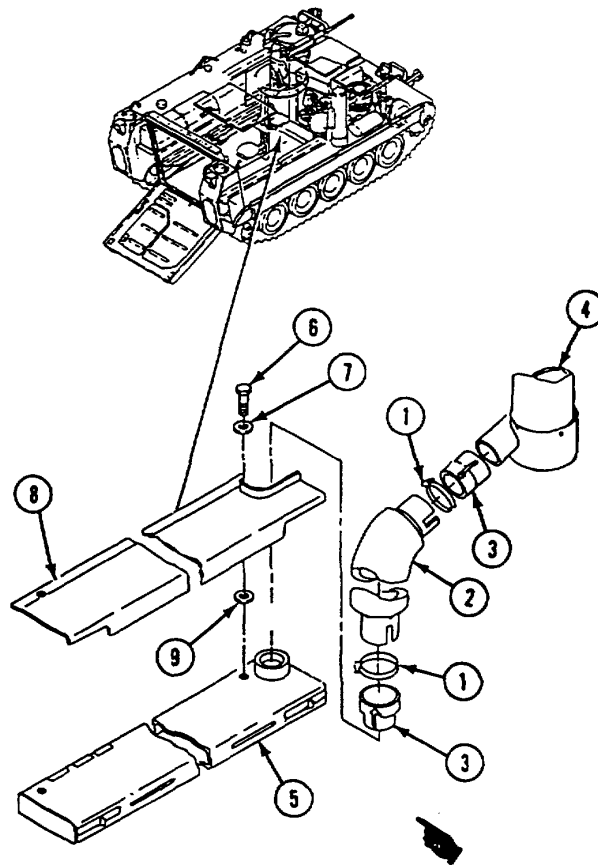
WARNING

The insulator blanket is made out of asbestos. Handle with care. Discard insulator blanket properly as a hazardous material per local standard operating procedure. The insulator washer takes the place of the blanket.

3. Remove three screws (6) and washers (7), shield (8), three insulator washers (9), and duct (5) from carrier.

INSTALL

4. Align duct (5), three insulator washers (9), and shield (8) with holes in carrier floor. Secure with three washers (7) and screws (6).
5. Install nipple (3) in duct (5) and nipple (3) in duct (4). Secure with latch on each nipple.
6. Install two clamps (1) on hose (2). Secure hose in two nipples (3) with clamps.



END OF TASK

REPLACE HEATER DUCTS AND HOSES (M741A1 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (3)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

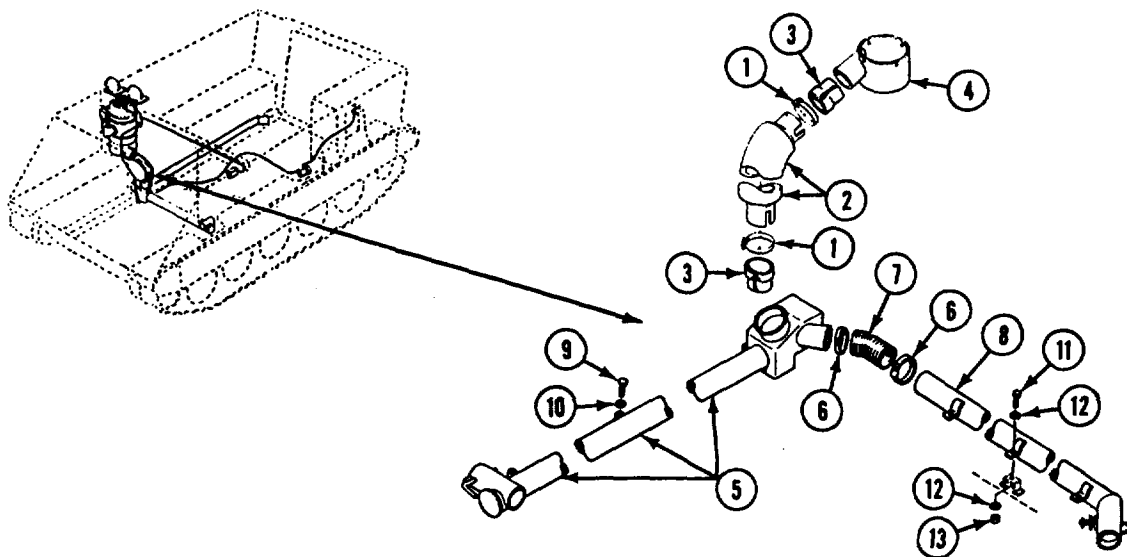
Personnel heater OFF (see your -10)

REMOVE

1. Loosen two clamps (1). Remove hose (2) from two nipples (3). Remove clamps from hose.
2. Loosen latches. Remove nipples (3) from duct (4) and air distribution duct (5).
3. Loosen two clamps (6). Remove hose (7) from air distribution duct (5) and personnel compartment duct (8). Remove clamps from hose.
4. Remove three screws (9), washers (10), and duct (5) from carrier floor.
5. Remove three screws (11), six washers (12), three locknuts (13), and duct (8) from carrier floor. Discard locknuts.

INSTALL

6. Align personnel compartment duct (8) on carrier floor. Secure with three screws (11), six washers (12), and three new locknuts (13).
7. Align air distribution duct (5) on carrier floor. Secure with three washers (10) and screws (9).
8. Slide two clamps (6) on hose (7). Install hose on personnel compartment duct (8) and distribution duct (5). Tighten clamps.
9. Install nipple (3) in distribution duct (5) and nipple (3) in duct (4). Secure with latch on each nipple.
10. Slide two clamps (1) on hose (2). Install hose on two nipples (3). Tighten clamps.



END OF TASK

REPAIR HEATER DUCT (ALL EXCEPT M741A1)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

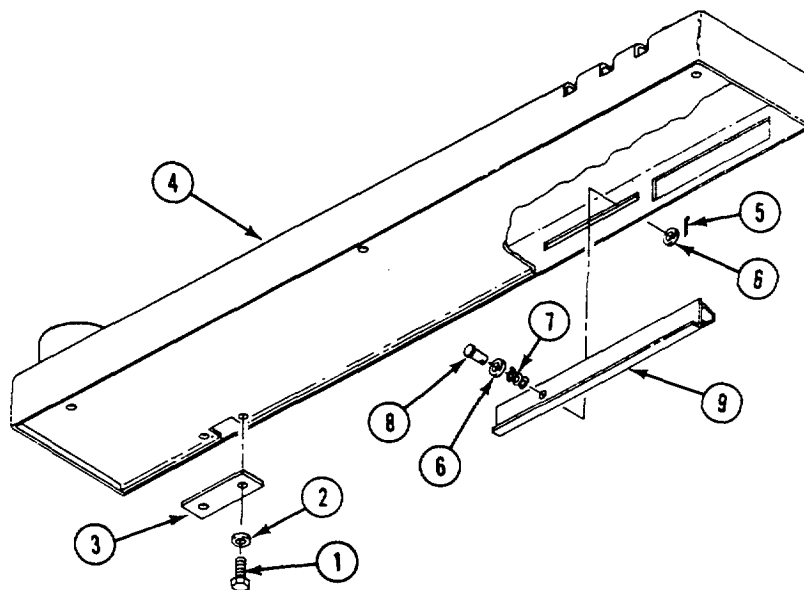
Heater duct removed (page 29-47)

DISASSEMBLE

1. Remove four screws (1), washers (2), and two access covers (3) from bottom of heater duct (4).
2. Remove two cotter pins (5), four washers (6), two springs (7), and pins (8), from duct (4) through access openings. Discard cotter pins.
3. Remove valves (9) through hot air opening in duct (4).

ASSEMBLE

4. Install valves (9) through hot air opening on heater duct (4).
5. Install two pins (8), four washers (6), and two springs (7) through valves. Secure with two new cotter pins (5).
6. Install two access covers (3) to bottom of heater duct (4). Secure with four washers (2) and screws (1).

**FOLLOW-THROUGH STEPS**

1. Install heater duct (page 29-47).

END OF TASK

REPAIR HEATER DUCTS (M741A1 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin
Lockwasher (2)

Equipment Conditions:

Heater duct removed (page 29-48)

Personnel Required:

Unit Mechanic

References:

See your -10

DISASSEMBLE

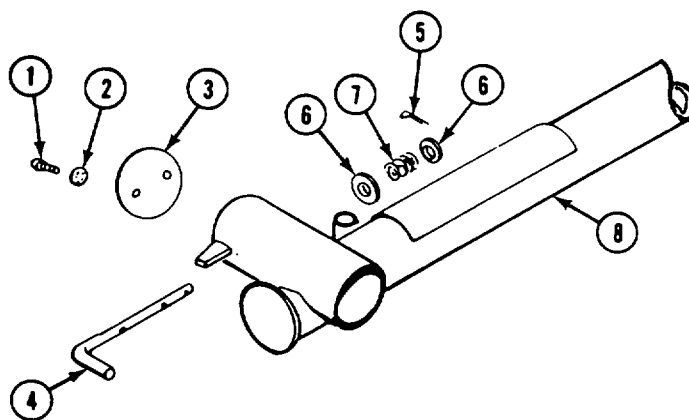
NOTE

Air distribution duct valve and personnel compartment duct valves are disassembled and assembled the same way. Only one valve is shown.

1. Remove two screws (1), two lockwashers (2), and disk (3) from rod (4). Discard lockwashers.
2. Remove cotter pin (5), two washers (6), spring (7), and rod (4) from duct (8). Discard cotter pin.

ASSEMBLE

3. Install rod (4) in duct (8). Secure with two washers (6), spring (7) and new cotter pin (5).
4. Align disk (3) with holes in rod (4). Secure with two new lockwashers (2) and two screws (1).



FOLLOW-THROUGH STEPS

1. Install heater duct (page 29-48)
-

END OF TASK

REPLACE HEATER ASSEMBLY

DESCRIPTION

This task covers: Remove (page 29-51). Install (page 29-52).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Lockwasher
- Lockwasher (3)
- Lockwasher (4)
- Self-locking nut (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

- Ramp lowered (see your -10)
- Carrier blocked (see your -10)
- Engine stopped/shutdown (see your -10)
- Battery ground lead disconnected (page 13-2)
- Power plant rear access panel removed (page 24-27 or 24-29)
- Heater hose removed from duct (page 29-47 or 29-48)
- Fuel hose disconnected from heater (page 29-24, 29-26, 29-33, or 29-40)

REMOVE

NOTE

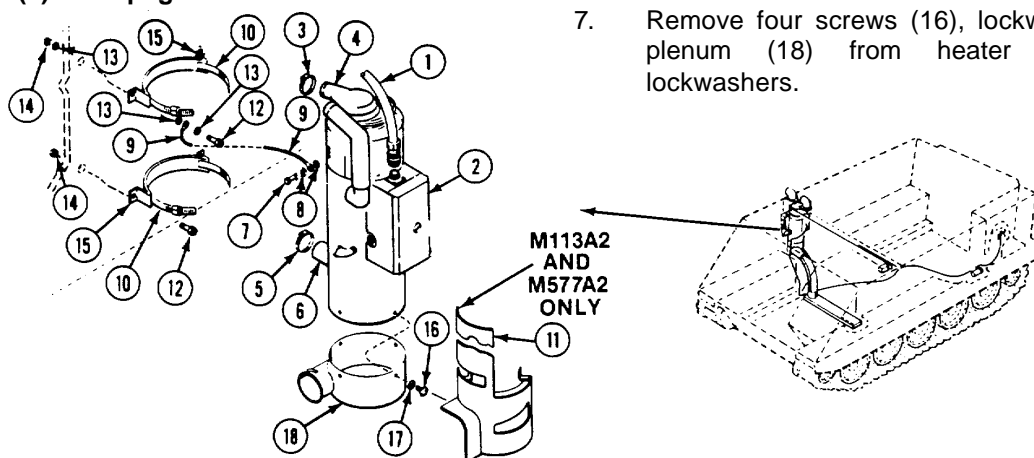
On M106A2 and M125A2 carriers, heater mounts are on right wall instead of power plant bulkhead.

1. Remove wiring harness (1) from heater (2).
2. Loosen clamp (3) on heater intake pipe (4).

NOTE

A U-bolt and clamp are used on M106A2 and M125A2 carriers in place of clamp (5). See page 29-55.

3. Loosen clamp (5) on heater exhaust pipe (6).
4. Remove screw (7), lockwasher (8) and ground strap (9) from heater (2). Discard lockwasher.
5. Loosen two clamps (10). Remove heater (2) and shield (11) from carrier. Remove clamps (3 and 5) from heater (2).
6. Remove four screws (12), three lockwashers (13), ground strap (9), four locknuts (14), and two mounts (15) from power plant bulkhead. Remove two clamps (10) from mounts (15). Discard lockwashers and locknuts.
7. Remove four screws (16), lockwashers (17), and plenum (18) from heater (2). Discard lockwashers.



GO TO NEXT PAGE

INSTALL



WARNING

Exhaust fumes can kill you. If the wrong type of heater is installed, fumes will not be completely vented. Never substitute a "common air" heater for a "dual air" heater.

NOTE

On M106A2 and M125A2 carriers, heater mounts are on right wall instead of power plant bulkhead.

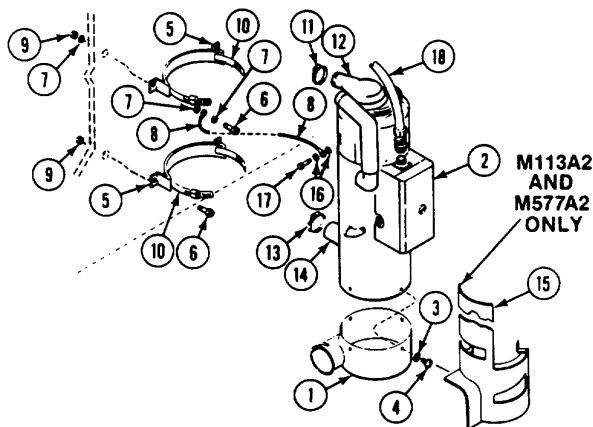
8. Install plenum (1) on heater (2) with four new lockwashers (3) and screws (4).
9. Place two mounts (5) on power plant bulkhead. Secure with four screws (6), three new lockwashers (7), ground strap (8), and four locknuts (9).

10. Install two clamps (10) in two mounts (5).

NOTE

A U-bolt and clamp are used on M106A2 and M125A2 carriers in place of clamp (13). See page 29-55.

11. Slide clamp (11) on heater intake pipe (12) and clamp (13) on heater exhaust pipe (14). Place heater (2) and shield (15) on mounts (5). Secure with two clamps (10).
12. Place ground strap (8) on heater (2). Secure with new lockwasher (16) and screw (17).
13. Tighten clamp (13) on heater exhaust pipe (14).
14. Tighten clamp (11) on heater intake pipe (12).
15. Install wiring harness (18) on heater (2).



FOLLOW-THROUGH STEPS

1. Connect fuel hose to heater (page 29-24, 29-26, 29-33, or 29-40).
2. Install heater hose on duct (page 29-47 or 29-48).
3. Install power plant rear access panel (page 24-27 or 24-29).
4. Connect battery ground lead (page 13-2).
5. Start heater (see your -10). Check that heater operates properly (see your -10). Turn heater off.
6. Raise and lock ramp (see your -10).
7. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE HEATER AIR INTAKE AND EXHAUST PIPES (ALL EXCEPT M106A2 AND M125A2)

DESCRIPTION

This task covers: Remove (page 29-53). Install (page 29-54).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Gasket, intake and exhaust elbow (2)
- Gasket, exhaust pipe bulkhead (2)
- Self-locking nut (4)

Personnel Required:

Unit Mechanic

References:

See your -10

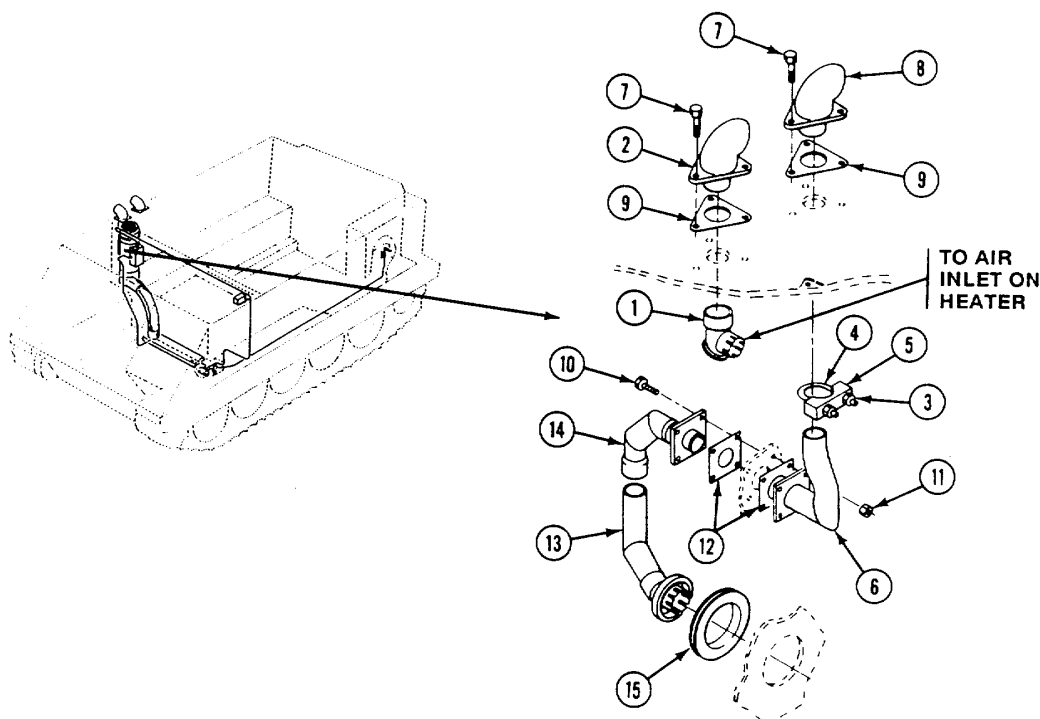
Equipment Conditions:

- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Battery ground lead disconnected (page 13-2)
- Power plant rear access panel removed (page 24-27 or 24-29)
- Heater assembly removed (page 29-51)

REMOVE

1. Remove elbow (1) from intake elbow (2).
2. Remove two nuts (3), U-bolt (4), and clamp (5) from exhaust pipe (6).
3. Remove six screws (7), intake elbow (2), exhaust elbow (8), and two gaskets (9) from carrier top deck. Discard gaskets.

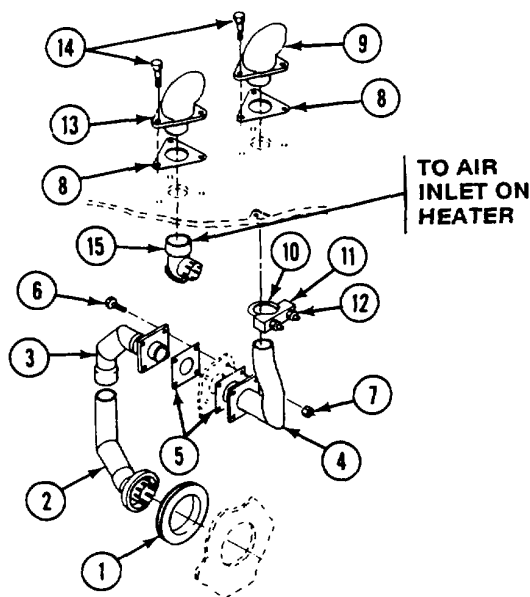
4. Remove four screws (10), locknuts (11), two gaskets (12), and exhaust pipes (13, 14, and 6) from power plant bulkhead. Discard gaskets and locknuts.
5. If needed, remove grommet (15) from power plant bulkhead.



GO TO NEXT PAGE

INSTALL

6. If removed, install new grommet (1) in power plant bulkhead.
7. Install exhaust pipe (2) in grommet (1). Install exhaust pipe (3) on pipe (2).
8. Align exhaust pipes (3 and 4) and two new gaskets (5) with power plant bulkhead. Secure with four screws (6) and new locknuts (7).
9. Place new gasket (8) on exhaust elbow (9). Install elbow through top deck into exhaust pipe (4). Secure with U-bolt (10), clamp (11), and two nuts (12).
10. Place new gasket (8) on intake elbow (13). Install elbow in top deck.
11. Secure two elbows (13 and 9) to top deck with six screws (14).
12. Install elbow (15) on elbow (13).



FOLLOW-THROUGH STEPS

1. Install heater assembly (page 29-51).
2. Connect battery ground lead (page 13-2).
3. Start heater (see your -10). Check for intake and exhaust leaks. Turn heater off.
4. Install power plant rear access panel (page 24-27 or 24-29).
5. Raise and lock ramp (see your -10).
6. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE HEATER AIR INTAKE AND EXHAUST PIPES (M106A2, M125A2, AND M1064 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Intake and exhaust elbow gasket (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (page 13-2)

Heater assembly removed (page 29-51)

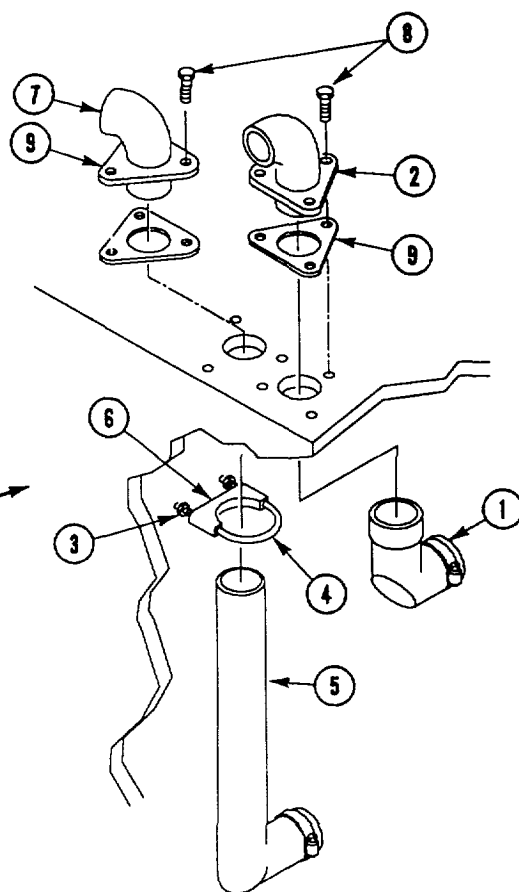
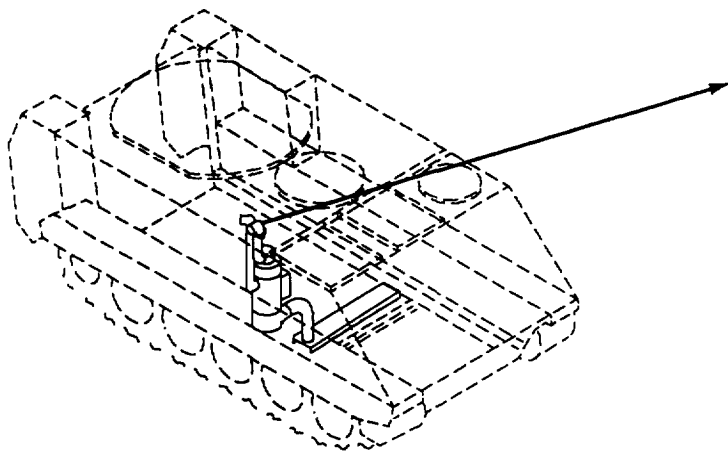
REMOVE

1. Remove elbow (1) from intake elbow (2).
2. Loosen two nuts (3) on U-bolt (4), and remove exhaust pipe (5) and clamp (6) from exhaust elbow (7).
3. Remove six screws (8), intake elbow (2), exhaust elbow (7), and two gaskets (9) from carrier top deck. Discard gaskets.

5. Install exhaust pipe (5) on exhaust elbow (7). Secure with U-bolt (4), clamp (6), and two nuts (3).
6. Install elbow (1) on intake elbow (2).

INSTALL

4. Install exhaust elbow (7), intake elbow (2), and two new gaskets (9) on carrier top deck. Secure with six screws (8).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Install heater assembly (page 29-51).
 2. Connect battery ground lead (page 13-2).
 3. Start heater (see your -10). Check for intake and exhaust leaks. Turn heater off.
 4. Raise and lock ramp (see your -10).
 5. Stop/shutdown engine (see your -10).
-

END OF TASK

CHAPTER 30
DRIVER'S WINDSHIELD KIT

REPLACE DRIVER'S WINDSHIELD AND BRACKETS

DESCRIPTION

This task covers: Remove (page 30-1). Install (page 30-2).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Material/Parts:

Self-locking nut (10)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

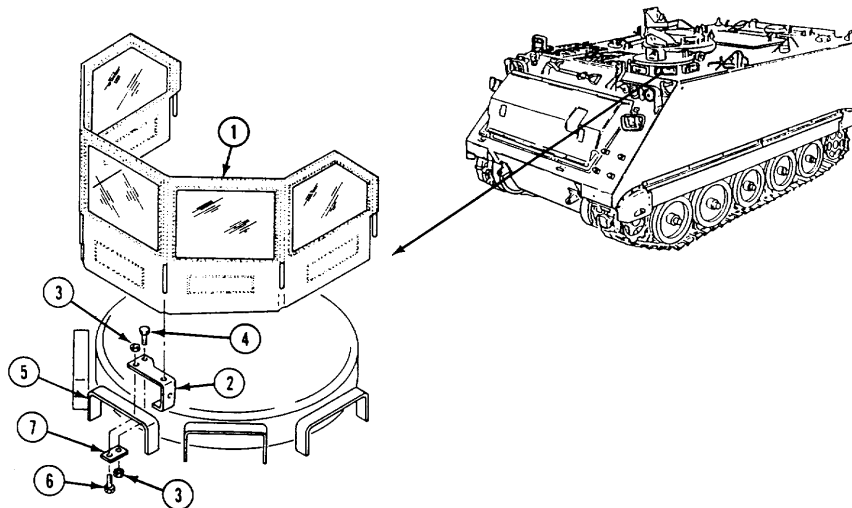
REMOVE

CAUTION

Handle windshield carefully to avoid damage to windows. Do not fold windshield after use in extreme cold; windows will crack. Warm cold windshield slowly before folding for stowage.

1. Lift windshield (1) out of five brackets (2).

2. Remove five locknuts (3) and outside screws (toward hatch) (4) from driver's hatch periscope guards (5). Discard locknuts.
3. Remove five locknuts (3), and inside screws (away from hatch) (6), five brackets (2), and plates (7) from driver's hatch periscope guards (5). Discard locknuts.



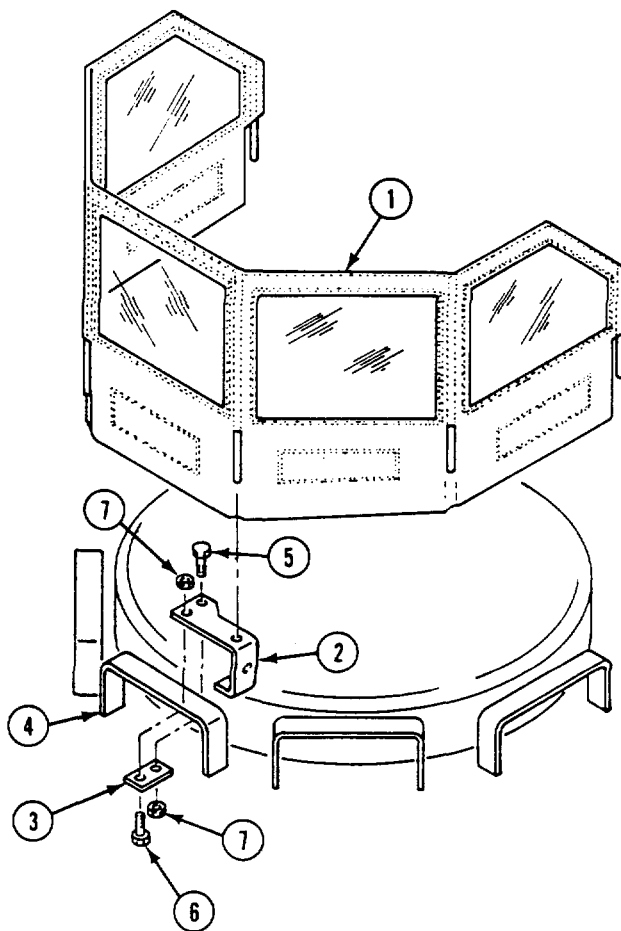
GO TO NEXT PAGE

INSTALL

NOTE

Install the heads of outside screws (toward hatch) down and the heads of inside screws (away from hatch) up to prevent interference.

4. If windshield (1) is to be installed, secure five brackets (2) and plates (3) to driver's hatch periscope guards (4) with five outside screws (5), five inside screws (6), and 10 nuts (7).
5. Install windshield (1) in five brackets (2).



END OF TASK

**CHAPTER 31
ELECTRONIC EQUIPMENT HEATER KIT (M577A2 ONLY)**

Section I. HEATER COMPONENT MAINTENANCE (STEWART WARNER CORP., MODEL 10560M24B1)

This section shows you how to perform maintenance on the replaceable components of the Stewart Warner Corp., Model 10560M24B1 electronic equipment heater. Only those components listed in this section may be repaired or replaced by organizational maintenance.

The electronic equipment heater and the personnel compartment heater are the same. Refer to TM 9-2540-205-24&P for heater component maintenance.

Section II. HEATER COMPONENT MAINTENANCE (HUPP CORP., MODEL MF510B)

Refer to TM 9-2540-205-24&P for troubleshooting, repair tasks, and Repair Parts and Special Tools Lists (RPSTL) for the Hupp Corp., Model MF510B Heater.

The Electronic Equipment Heater and the Personnel Compartment Heater are the same. Refer to Chapter 29 for other components of the Electronic Equipment Heater installation.

GO TO NEXT PAGE

Section III. ELECTRONIC EQUIPMENT HEATER

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace Heater Fuel Pump (M577A2 Only)	31-3	Replace Electronic Equipment Heater Battery-To-Control Box Lead (M577A2 Only)	31-12
Replace Shutoff Valve to Fuel Pump Hose and Shutoff Valve (M577A2 Only)	31-5	Replace Electronic Equipment Heater Control-Box-To-Fuel Pump Lead (M577A2 Only)	31-14
Replace Electronic Equipment Heater Fuel Pump to Bulkhead Connection Hose (M577A2 Only)	31-7	Replace Electronic Equipment Heater Assembly and Mounting Brackets (M577A2 Only)	31-16
Replace Electronic Equipment Heater Bulkhead to Heater Hoses (M577A2 Only)	31-8	Replace Electronic Equipment Heater Air Intake Hose and Exhaust Pipe (M577A2 Only)	31-18
Replace Electronic Equipment Heater Control Box (M577A2 Only)	31-11		

REPLACE HEATER FUEL PUMP (M577A2 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Dry cleaning solvent (Item 13, App C)
 Gasket
 Lockwasher (6)
 Sealing compound (Item 46, App C)
 Self-locking nut (2)
 Heater fuel shutoff valve closed (see your -10)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 Ramp lowered (see your -10)
 Battery ground lead disconnected (page 13-2)
 Rear floor plate removed (page 24-37)

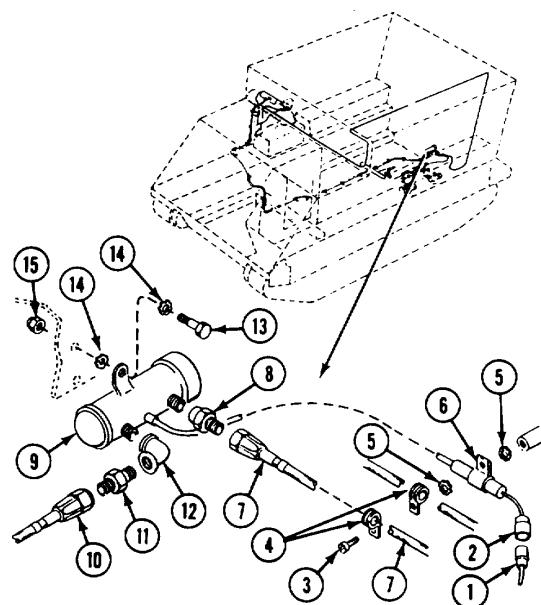
REMOVE**WARNING**

Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Disconnect circuit 402A lead (1) from fuel pump lead (2).
2. Remove screw (3), two clamps (4), two lockwashers (5), and clamp (6) from hull weldnut. Discard lockwashers.
3. Remove fuel hose (7) from adapter (8). Remove adapter from fuel pump (9).
4. Remove fuel hose (10) from adapter (11). Remove adapter from elbow (12).
5. Remove elbow (12) from fuel pump (9).
6. Remove two screws (13), four lockwashers (14), two locknuts (15), and fuel pump (9) from rear floor support. Discard lockwashers and locknuts.

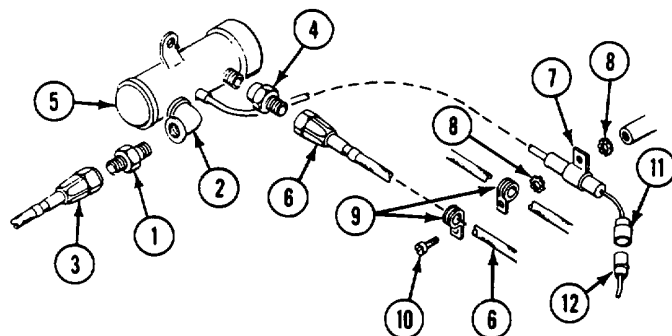
INSTALL

7. Place fuel pump (9) on rear floor support. Secure with two screws (13), four new lockwashers (14), and two new locknuts (15).
8. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond end of tapered threads.
9. Install elbow (12) on fuel pump (9).



GO TO NEXT PAGE

10. Install adapter (1) in elbow (2). Connect fuel hose (3) to adapter (4).
11. Install adapter (4) on fuel pump (5). Connect fuel hose (6) to adapter (4).
12. Align clamp (7), two new lockwashers (8), and two clamps (9) with hull weldnut. Secure with screw (10).
13. Install fuel pump lead (11) on circuit 402A lead (12).



FOLLOW-THROUGH STEPS

- | | |
|---|---|
| 1. Open heater fuel shutoff valve (see your -10). | 5. Install rear floor plate (page 24-37). |
| 2. Connect battery ground lead (page 13-2). | 6. Raise and lock ramp (see your -10). |
| 3. Bleed fuel line (page 29-4). | 7. Stop engine (see your -10). |
| 4. Start heater (see your -10). Check pump for fuel leaks. Turn heater off. | |

END OF TASK

REPLACE SHUTOFF VALVE TO FUEL PUMP HOSE AND SHUTOFF VALVE (M577A2 ONLY)**DESCRIPTION**

This task covers: Remove (page 31-5). Install (page 31-6).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 46, App C)

Lockwasher (2)

Self-locking nut

Personnel Required:

Unit Mechanic
(see your -10)

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (page 13-2)

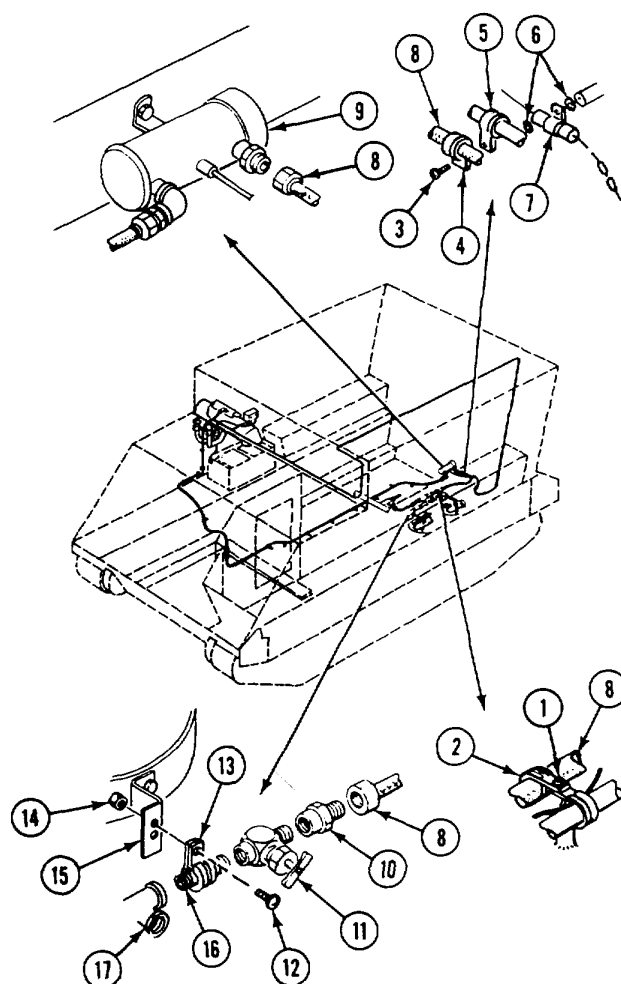
Rear floor plate removed (page 24-37)

Fuel supply shutoff valve closed

REMOVE**WARNING**

Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Remove screw (1) and clamp (2) from hull weldnut.
2. Remove screw (3), two clamps (4 and 5), two lockwashers (6), and clamp (7) from hull weldnut. Discard lockwashers.
3. Disconnect hose (8) from fuel pump (9) and adapter (10). Remove clamp (2) and clamp (4) from hose.
4. Remove adapter (10) from shutoff valve (11).
5. Remove screw (12), clamp (13), and locknut (14) from bracket (15). Discard locknut.
6. Remove shutoff valve (11) from nipple (16). Remove clamp (13) from nipple. Remove nipple from tee (17).



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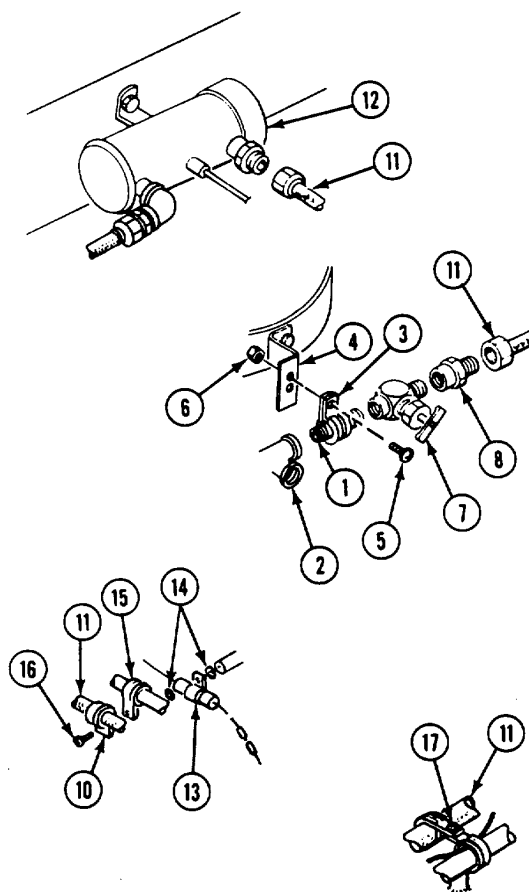
INSTALL

7. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow or adapter.

8. Install nipple (1) in tee (2).
9. Place clamp (3) on nipple (1) and align with bracket (4). Secure with screw (5) and new locknut (6).
10. Install shutoff valve (7) on nipple (1). Install adapter (8) on shutoff valve.
11. Install two clamps (9 and 10) on hose (11). Connect hose to adapter (8) and fuel pump (12).
12. Align clamp (13), two new lockwashers (14), and two clamps (10 and 15) with hull weldnut. Secure with screw (16).
13. Align clamp (9) with hull weldnut. Secure with screw (17).



FOLLOW-THROUGH STEPS

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Open fuel supply shutoff valve (see your -10). 2. Connect battery ground lead (page 13-2). 3. Bleed fuel line (page 29-4). 4. Start heater (see your -10). Check all fittings for leaks. Turn heater off. | <ol style="list-style-type: none"> 5. Install rear floor plate (page 24-37). 6. Raise and lock ramp (see your -10). 7. Stop engine (see your -10). |
|---|---|

END OF TASK

REPLACE ELECTRONIC EQUIPMENT HEATER FUEL PUMP TO BULKHEAD CONNECTION HOSE (M577A2 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (page 13-2)

Personnel heater duct removed (page 29-48).

Right front and rear floor plates removed
(page 24-37)

Heater fuel shutoff valve closed (see your -10)

REMOVE**WARNING**

Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

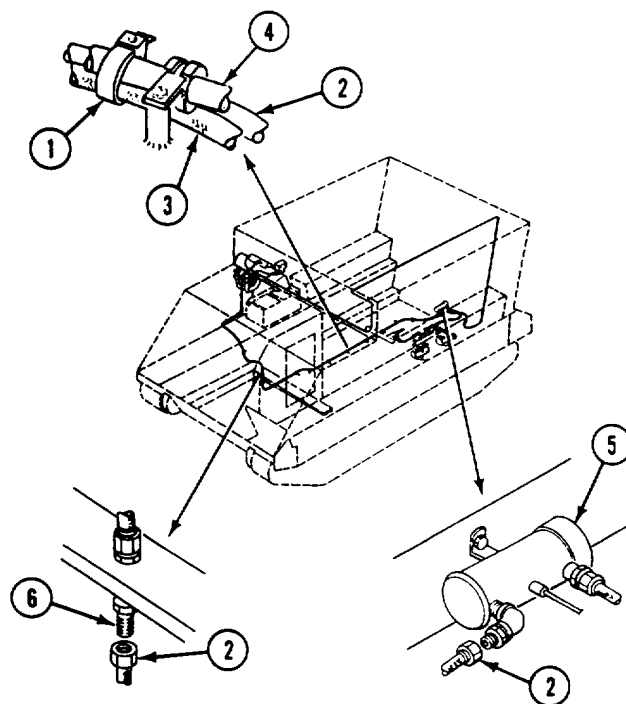
1. Remove nine straps (1) holding fuel hose (2) to hoses (3 and 4).
2. Disconnect fuel hose (2) from fuel pump (5) and nipple (6). Remove hose from carrier.

INSTALL**NOTE**

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow or adapter.

3. Connect fuel hose (2) to nipple (6) and fuel pump (5).

4. Secure hose (2) to hoses (3 and 4) with nine straps (1).

**FOLLOW-THROUGH STEPS**

1. Open heater fuel shutoff valve (see your -10)
2. Connect battery ground lead (page 13-2).
3. Bleed fuel line (page 29-4).
4. Start heater (see your -10). Check all fittings for leaks. Turn heater off.
5. Install right front and rear floor plates (page 24-37).
6. Install personnel heater duct (page 29-48).
7. Raise and lock ramp (see your -10)
8. Stop engine (see your -10).

END OF TASK

REPLACE ELECTRONIC EQUIPMENT HEATER BULKHEAD TO HEATER HOSES (M577A2 ONLY)**DESCRIPTION**

This task covers: Remove (page 31-8). Install (page 31-9).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Pipe Wrench (Item 86, App D)

Materials/Parts:

Sealing compound (Item 48, App C)
Lockwasher (2)
Self-locking nut

Personnel Required:

Unit Mechanic
Helper

References:

See your -10

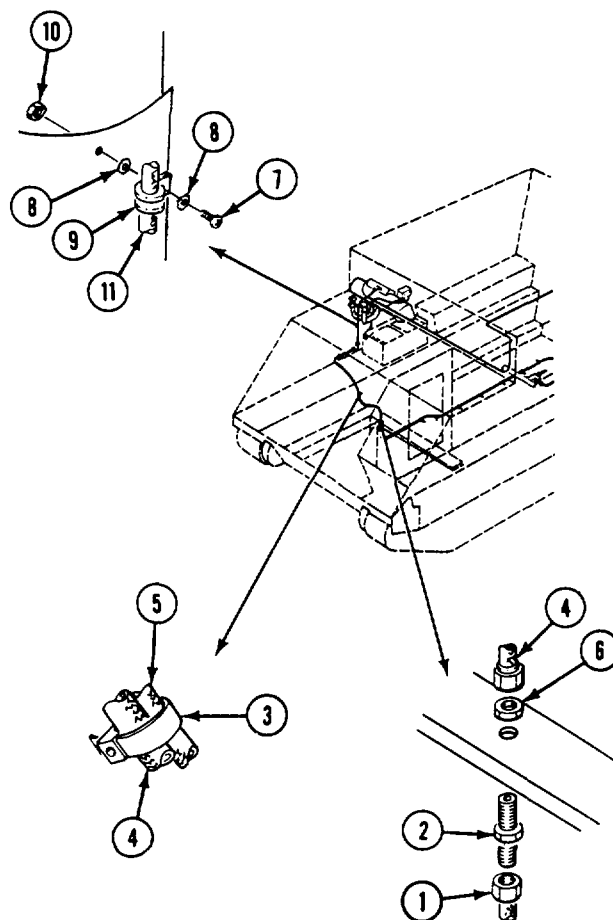
Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Battery ground lead disconnected (page 13-2)
Personnel heater duct removed (page 29-48)
Right front floor plate removed (page 24-37)
Power plant rear access panel removed (page 24-29)
Heater fuel shutoff valve closed (see your -10)

REMOVE

WARNING
Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Remove fuel hose (1) from nipple (2).
2. Remove two straps (3) from fuel hose (4) and hose (5).
3. Remove fuel hose (4) from nipple (2).
4. Remove jamnut (6) and nipple (2) from hull.
5. Remove screw (7), two lockwashers (8), clamp (9), and locknut (10) from personnel heater heat shield. Discard lockwashers and locknut.
6. Remove clamp (9) from hose (11).
7. Lower heater from mounts (page 31-16). Have helper support heater.



8. Remove screw (1) and clamp (2)- from bulkhead.
9. Remove clamp (2) from hose (3).
10. Remove hose (3) from elbow (4) and adapter (5).
11. Remove hose (6), jamnut (7) and elbow (4) from power plant compartment bulkhead.
12. Remove adapter (5), elbow (8), and nipple (9) from heater.
13. Raise and secure heater (page 31-16).

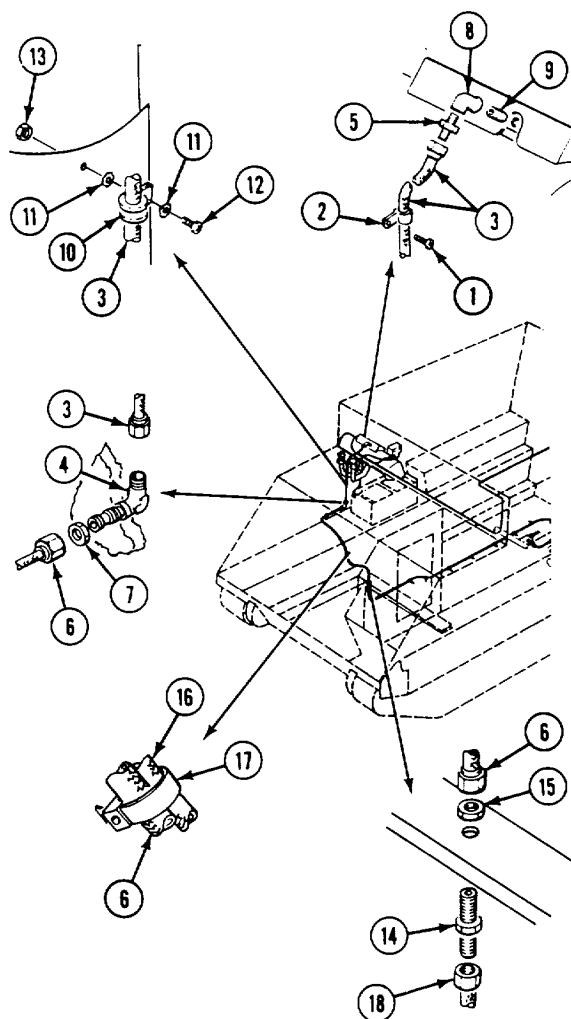
INSTALL

14. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
15. Lower heater from mounts (page 31-16). Have helper support heater.

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow or adapter.

16. Install nipple (9), elbow (8), and adapter (5) on heater.
17. Install elbow (4) in power plant compartment bulkhead. Secure with jamnut (7).
18. Install hose (3) on adapter (5).
19. Install clamp (2) on hose (3). Secure to bulkhead with screw (1).
20. Install clamp (10) on hose (3). Secure to heat shield with two new lockwashers (11), screw (12), and new locknut (13).
21. Raise heater and secure to mounts (page 31-16). Have helper assist,



22. Install hose (3) on elbow (4).
23. Install nipple (14) on hull. Secure with jamnut (15).
24. Install hose (6) on nipple (14) and elbow (4).
25. Secure hose (6) to hose (16) with two straps (17).
26. Install hose (18) on nipple (14).

GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Open heater fuel shutoff valve (see your -10).
 2. Connect battery ground lead (page 13-2).
 3. Bleed fuel line (page 29-4).
 4. Start heater (see your -10). Check all fittings for leaks. Turn heater off.
 5. Install power plant rear access panel (page 24-29).
 6. Install right front floor plate (page 24-37).
 7. Install personnel heater duct (page 29-48).
 8. Raise and lock ramp (see your -10).
 9. Stop engine (see your -10).
-

END OF TASK

REPLACE ELECTRONIC EQUIPMENT HEATER CONTROL BOX (M577A2 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (4)

Locknut (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (page 13-2).

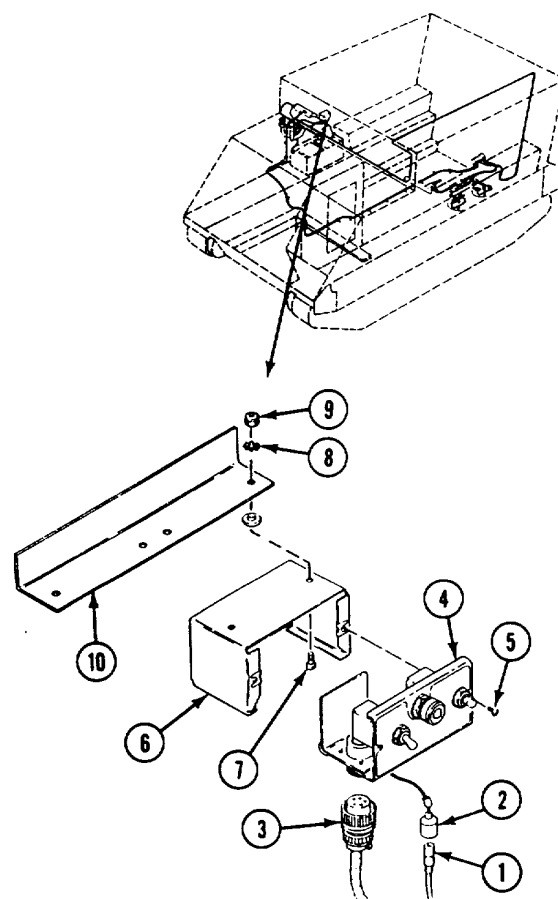
REMOVE

1. Disconnect circuit 400A lead (1) from control box lead (2).
2. Disconnect heater wiring harness (3) from control box (4).
3. Remove two screws (5) and control box (4) from control box case (6).
4. Remove two screws (7), case (6), four lockwashers (8), and two locknuts (9) from support bracket (10). Discard lockwashers and locknuts.

8. Connect control box lead (2) to circuit 400A lead (1).

INSTALL

5. Place four new lockwashers (8) and control box case (6) on support bracket (10). Secure with two screws (7) and two new locknuts (9).
6. Install control box (4) in control box case (6). Secure with two screws (5).
7. Connect heater wiring harness (3) to control box (4).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
2. Start heater (see your -10). Check that heater control box works properly. Turn heater off.

END OF TASK

REPLACE ELECTRONIC EQUIPMENT HEATER BATTERY-TO-CONTROL BOX LEAD (M577A2 ONLY)**DESCRIPTION**

This task covers: Remove (page 31-12). Install (page 31-13).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 28, App D)

Materials/Parts:

Grommet

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

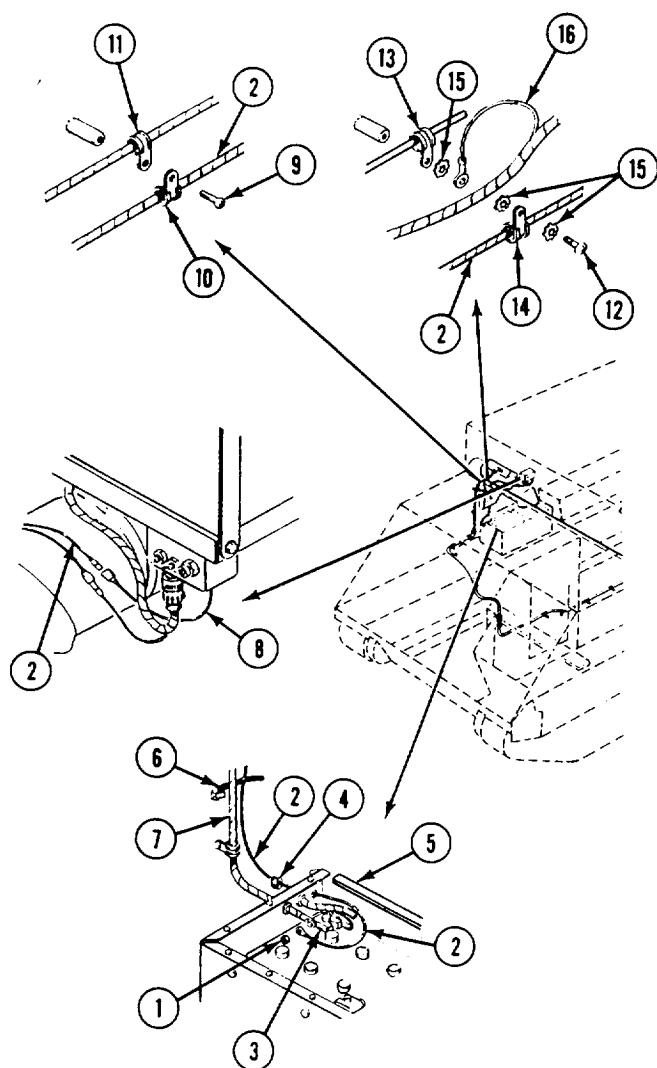
Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (page 13-2)

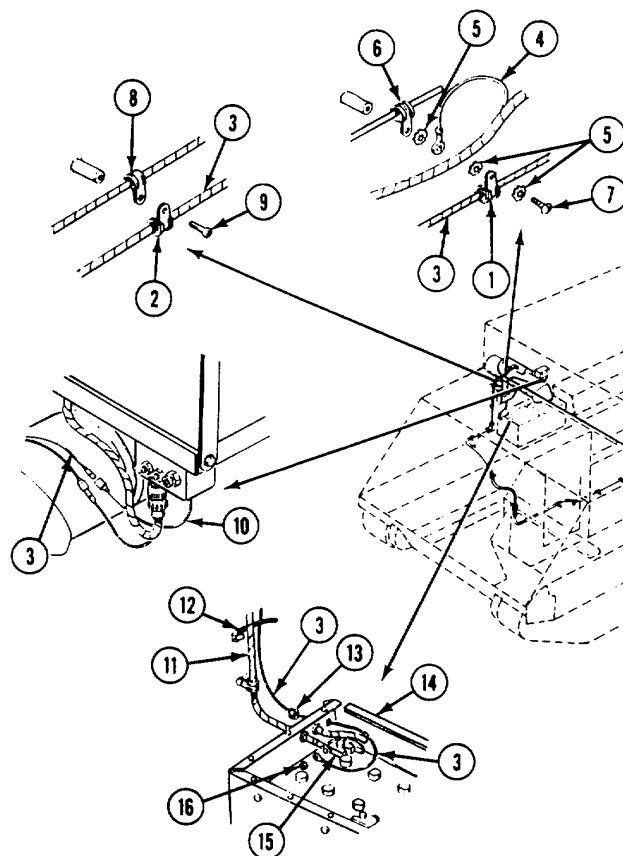
REMOVE

1. Remove nut (1) and circuit 400A lead (2) from front battery positive terminal (3).
2. Remove lead (2) and grommet (4) from battery box (5). Discard grommet.
3. Remove two straps (6) and lead (2) from circuit 6 lead (7).
4. Disconnect lead (2) from control box lead (8).
5. Remove heater from carrier (page 30-16).
6. Remove screw (9), and two clamps (10, 11) from bulkhead weldnut.
7. Remove screw (12), two clamps (13, 14) three lockwashers (15), and ground lead (16) from bulkhead weldnut.
8. Remove clamp (10) and clamp (14) from lead (2). Remove lead from carrier.



INSTALL

9. Install clamp (1) and clamp (2) on circuit 400A lead (3).
10. Place ground lead (4), three new lockwashers (5), and two clamps (1, 6) on bulkhead weldnut. Secure with screw (7).
11. Place two clamps (2, 8) on bulkhead weldnut. Secure with screw (9).
12. Install heater in carrier (page 30-16).
13. Connect lead (3) to control box lead (10).
14. Secure lead (3) to circuit 6 lead (11) with two straps (12).
15. Install new grommet (13) and lead (3) in battery box (14).
16. Install lead (3) on front battery positive terminal (15). Secure with nut (16).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
2. Start heater (see your -10). Check that circuit 400A lead is installed properly. Turn heater off.

END OF TASK

REPLACE ELECTRONIC EQUIPMENT HEATER CONTROL BOX-TO-FUEL PUMP LEAD (M577A2 ONLY)**DESCRIPTION**

This task covers: Remove (page 31-14). Install (page 31-15).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

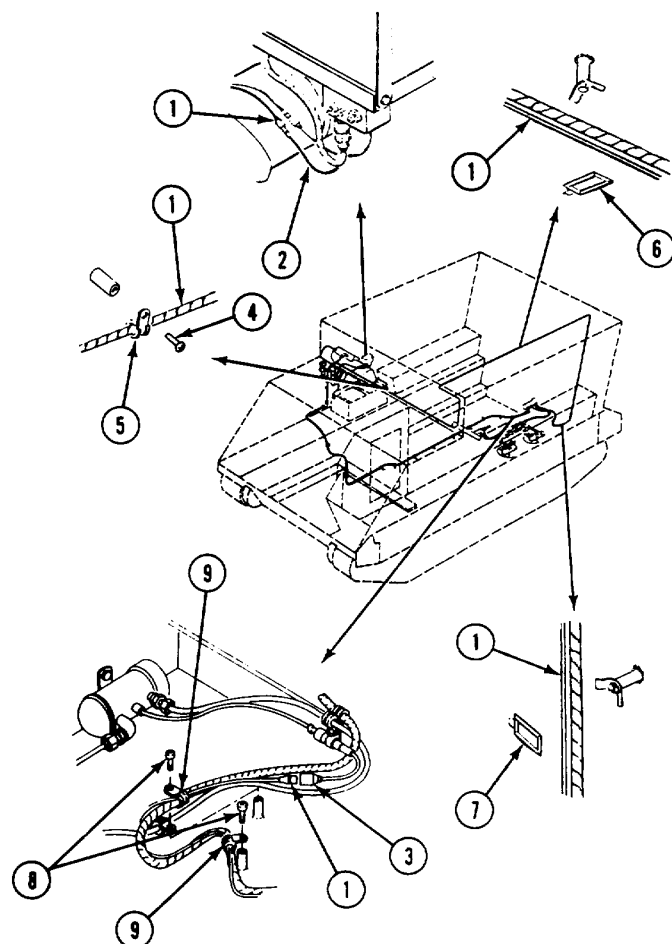
Ramp lowered (see your -10)

Battery ground lead disconnected (page 13-2)

Rear floor plate removed (page 24-37)

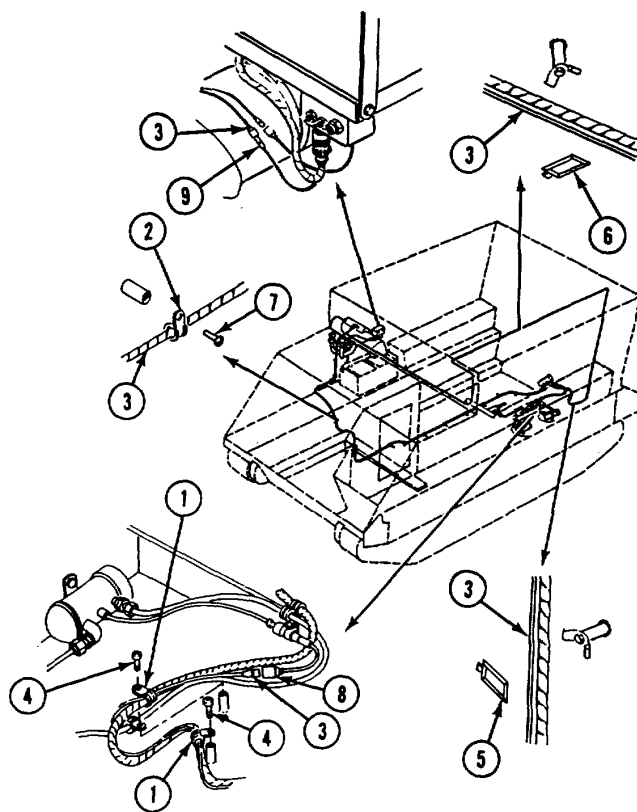
REMOVE

1. Disconnect circuit 402A lead (1) from wiring harness lead (2).
2. Disconnect circuit 402A lead (1) from fuel pump lead (3).
3. Remove five screws (4), clamps (5), and lead (1) from forward bulkhead weldnuts.
4. Remove 10 clips (6) and lead (1) from compartment roof cradles.
5. Remove six clips (7) and lead (1) from rear bulkhead cradles.
6. Remove two screws (8), clamps (9), and lead (1) from floor weldnuts.
7. Remove five clamps (5) and two clamps (9) from lead (1). Remove lead from carrier.



INSTALL

8. Install two clamps (1) and five clamps (2) on circuit 402A lead (3).
9. Place two clamps (1) on two floor weldnuts. Secure with two screws (4).
10. Place lead (3) in six cradles on rear bulkhead. Secure with six clips (6).
11. Place lead (3) in 10 cradles on compartment roof. Secure with 10 clips (6).
12. Place five clamps (2) on forward bulkhead weldnuts. Secure with five screws (7).
13. Connect lead (3) to fuel pump lead (8).
14. Connect lead (3) to wiring harness lead (9).

**FOLLOW-THROUGH STEPS**

- | | |
|---|---|
| 1. Connect battery ground lead (page 13-2). | 3. Install rear floor plate (page 24-37). |
| 2. Start heater (see your -10). Check that lead is installed properly. Turn heater off. | 4. Raise and lock ramp (see your -10). |
| | 5. Stop engine (see your -10). |

END OF TASK

REPLACE ELECTRONIC EQUIPMENT HEATER ASSEMBLY AND MOUNTING BRACKETS (M577A2 ONLY)**DESCRIPTION**

This task covers: Remove (page 31-16). Install (page 31-17).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (9)
Self-locking nut (6)

Personnel Required:

Unit Mechanic

References:

See your -10

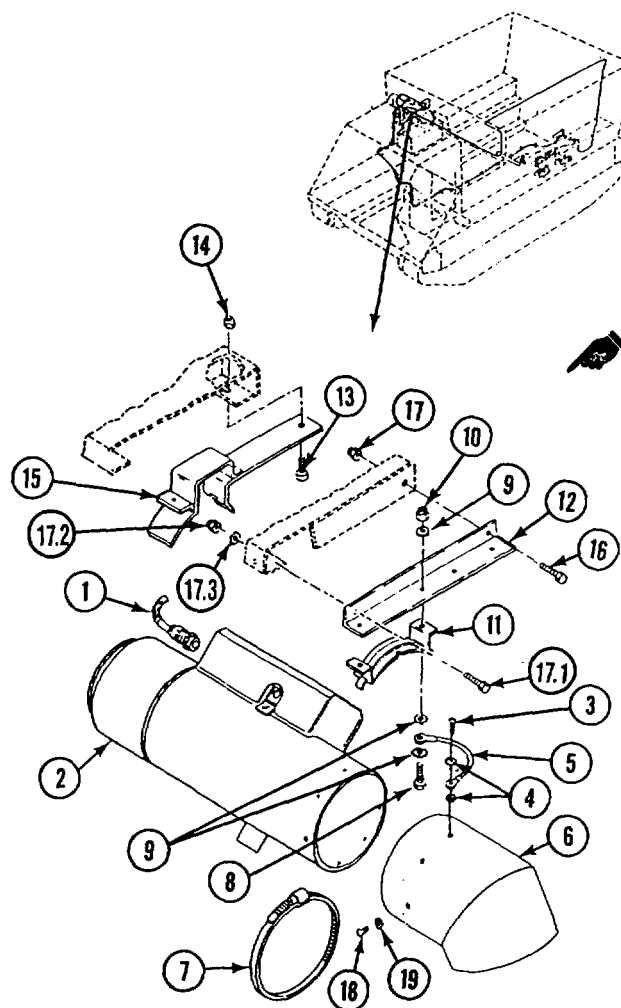
Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground lead disconnected (page 13-2)
Heater control box removed (page 31-11)

REMOVE

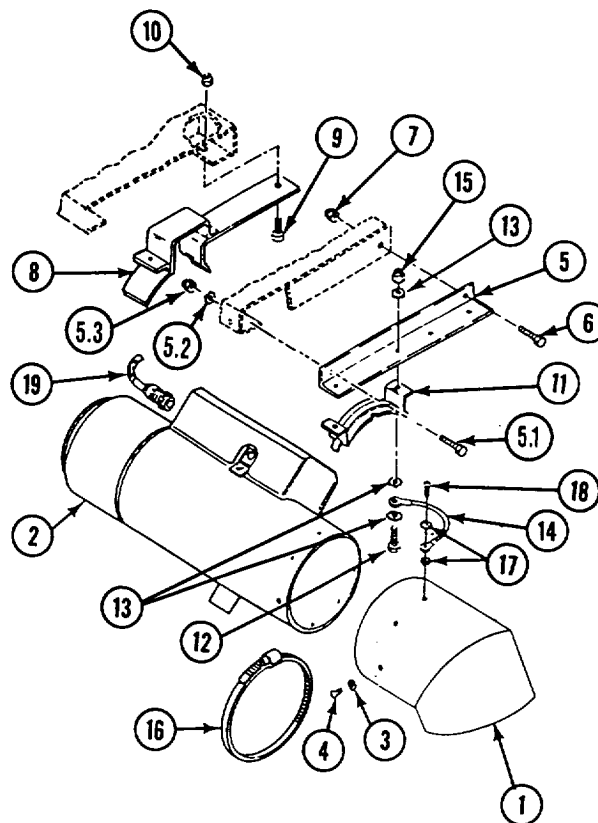
1. Disconnect wiring harness (1) from heater (2).
2. Remove screw (3), two lockwashers (4), and ground lead (5) from heater elbow (6). Discard lockwashers
3. Remove intake and exhaust pipes from heater (page 31-18).
4. Open two clamps (7) and lower heater (2).
5. Remove fuel hose and fittings from heater (page 31-3). Remove heater (2) from carrier.
6. Remove two screws (8), three lockwashers (9), ground lead (5), two locknuts (10), and saddle (11) from bracket (12). Discard lockwashers and locknuts.
7. Remove two screws (13), locknuts (14), and rear support bracket (15) from radio mount platform. Discard locknuts.
8. Remove screw (16), locknut (17), screw (17.1), locknut (17.2), lockwasher (17.3), and bracket (12) from radio mount platform. Discard locknuts and lockwasher.

9. Remove three screws (18), lockwashers (19), and elbow (6) from heater (2). Discard lockwashers.



INSTALL

10. Install elbow (1) on heater (2). Secure with three new lockwashers (3) and screws (4).
11. Install bracket (5) on radio mount platform. Secure with screw (5.1), new lockwasher (5.2), new locknut (5.3), screw (6), and new locknuts (7).
12. Install rear support bracket (8) on radio mount platform. Secure with two screws (9) and new locknuts (10).
13. Install saddle (11) on bracket (5). Secure with two screws (12), three new lockwashers (13), ground lead (14), and two new locknuts (15).
14. Install fuel hose and fittings on heater (page 31-3)
15. Install heater (2) in saddle (11) and rear support bracket (8). Secure with two clamps (16).
16. Install intake and exhaust pipes on heater (page 31-18).
17. Install ground lead (14) on elbow (1). Secure with two new lockwashers (17) and screw (18).
18. Connect wiring harness (19) to heater (2).



FOLLOW-THROUGH STEPS

1. Install heater control box (page 31-11).
2. Connect battery ground lead (page 13-2).
3. Start heater (see your -10). Check that it works properly. Turn heater off.

END OF TASK

REPLACE ELECTRONIC EQUIPMENT HEATER AIR INTAKE HOSE AND EXHAUST PIPE (M577A2 ONLY)**DESCRIPTION**

This task covers: Remove (page 31-18). Install (page 31-19).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Adhesive
Gasket (2)

Personnel Required:

Unit Mechanic

References:

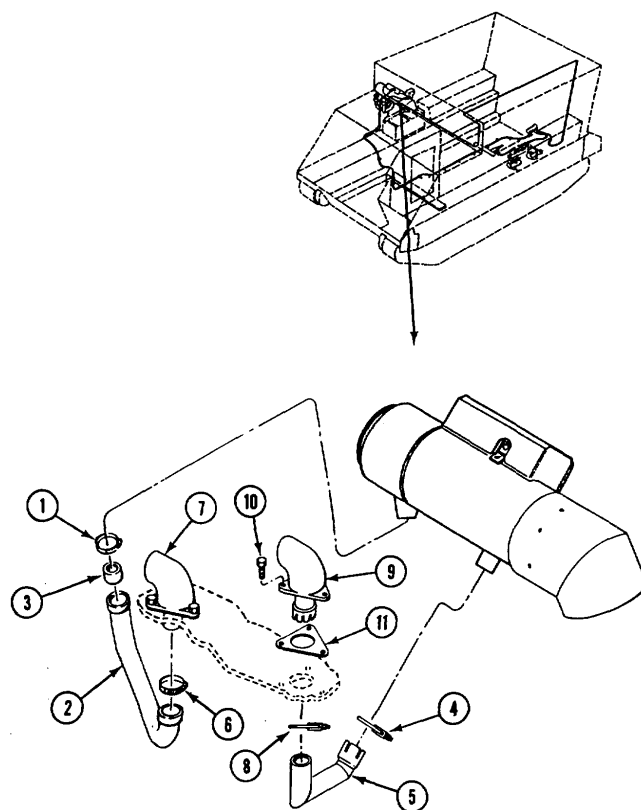
See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground lead disconnected (page 13-2)

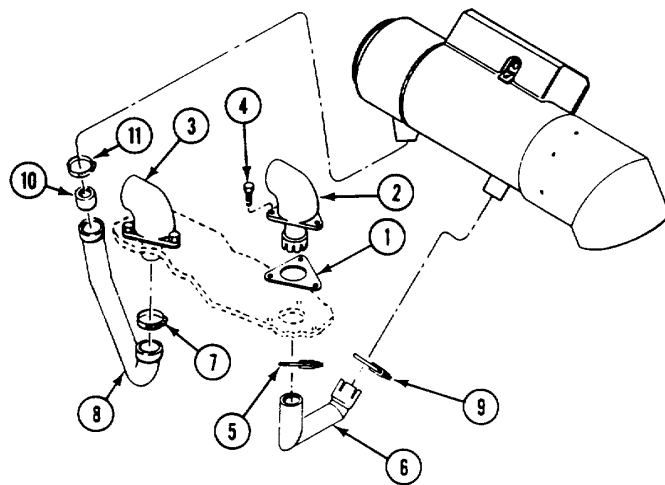
REMOVE

1. Loosen clamp (1). Remove hose (2) with hose (3) and clamp (1) from heater intake.
2. Loosen clamp (4) on exhaust pipe (5).
3. Remove heater from carrier (page 31-16).
4. Loosen clamp (6). Remove hose (2) and clamp (6) from intake elbow (7).
5. Loosen clamp (8). Remove exhaust pipe (5) and clamp (8) from exhaust elbow (9).
6. Remove six screws (10), intake elbow (7), exhaust elbow (9), and two gaskets (11) from carrier top deck. Discard gaskets.



INSTALL

7. Place two new gaskets (1), exhaust elbow (2), and intake elbow (3) on carrier top deck. Secure with six screws (4).
8. Install clamp (5) and exhaust pipe (6) on exhaust elbow (2). Tighten clamp.
9. Install clamp (7) and hose (8) on intake elbow (3). Tighten clamp.
10. Install heater in carrier (page 31-16).
11. Install clamp (9) and exhaust pipe (6) on heater. Tighten clamp.
12. If hoses (8 and 10) are being replaced, apply adhesive to new hose (10). Install hose (10) in hose (8).
13. Install clamp (11) and hose (8) with hose (10) on heater intake. Tighten clamp.

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
2. Start heater (see your -10). Check for intake and exhaust leaks. Turn heater off.

END OF TASK

**CHAPTER 32
ENGINE COOLANT HEATER KIT**

Section I. DESCRIPTION AND DATA

This section describes the engine coolant heater kit found in the M113A2 series carriers. Included in this section is data on the heater and kit components and a coolant flow diagram.

The coolant heater warms the coolant to make starting the engine possible during cold weather operation. The heater is required when temperature is between -25° and -65°F (-32° and -54°C). The heater is not required when temperature is above -25°F (-32°C).

A pump circulates coolant through tubing to engine block and battery box heat exchanger to warm the engine block, engine lubricating oil, and the battery electrolyte. Fuel for the coolant heater comes from the engine fuel system. An additional fuel pump is installed to supply fuel under pressure to the heater.

The coolant heater is not intended as a quick preheat heater.

On the M577A2 and M1068 carriers, a blow torch is installed as part of the engine coolant kit to aid in starting the generator set in cold weather.

HEATER DATA

Description	Characteristics	Metric Equivalents
Manufacturer	Stewart Warner	
Model	939-J24	
Part number	11601698	
Heat output:		
Coolant:		
High heat	15,000 Btu/hr	4.4 kw hr
Low heat	8,000 Btu/hr	2.3 kw hr
Operating temperature		
range (surrounding)	-65° to +100°F	-54° to +38°C
Electrical requirements:		
Operating voltage		
range	20 to 28.5 V	
Amperes draw		
(maximum above)	70°F	22°C
Start	12.0 amp	
Run	1.5 amp	
Amperes draw		
(maximum below)	70°F	22°C
Start	15.0 amp	
Run	3.5 amp	
Performance:		
Fuel	grades DF-1, DF-2, DFA, CIE, and JP-4	
Fuel consumption:		
High heat (normal)	0.026 ± 0.005 lb/min	0.013± 0.003 kg/min

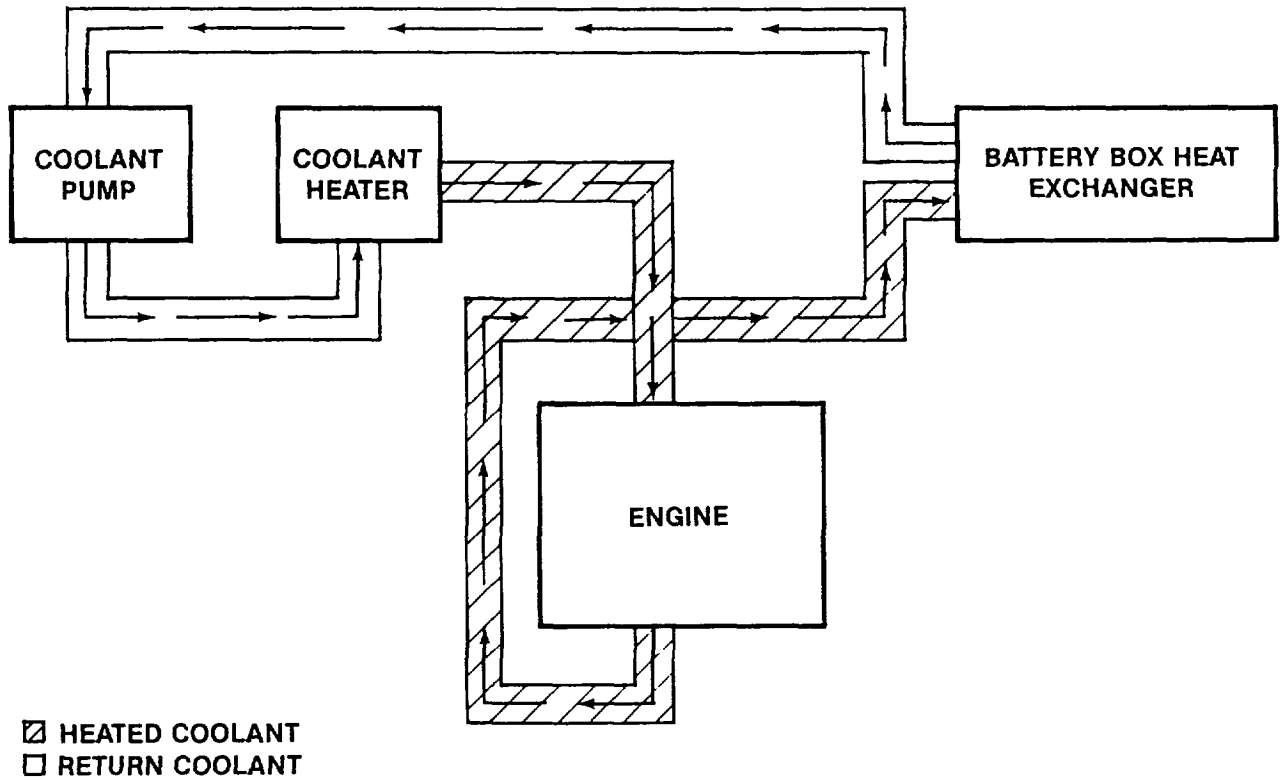
Low heat (normal).....	0.011 ± 0.003 lb/min	0.006 ± 0.002 kg/min
Fuel pressure (at fuel valve inlet)	3 to 15 psi	21 to 103 kN/sq cm
Fuel pump		
Output pressure	3 to.....	6 psi 21 to 41 kN/sq cm
Temperature settings:		
Overheat thermostat (opens)	245°F.....	118°C
Restriction thermostat setting.....	160°F.....	71°C
Dimensions and weight:		
Height	10 in.....	25 cm
Length	16-5/16 in	39 cm
Width	6-3/16 in.....	16 cm
Weight	15 lb.....	7 kg
Coolant pump:		
Manufacturer	MP Pumps, Inc.	
Model	12245	
Part number	10946835	
Electrical requirements:		
Operating voltage range	20 to 28.5 V	
Ampere draw	2.0 amp	
Output	12 to 16 gpm	45 to 61 liters/min
Weight (maximum)	10 lb	5 kg

Section II. COOLANT HEATER COMPONENT MAINTENANCE

TASK INDEX

Task	Page	Task	Page
Heater Coolant Flow Diagram.....	32-3	Repair Flame Detector Switch.....	32-5
Replace Flame Detector Switch.....	32-4	Replace Igniter.....	32-7

HEATER COOLANT FLOW DIAGRAM



GO TO NEXT PAGE

REPLACE FLAME DETECTOR SWITCH

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
(page 32-45)

Equipment Conditions:

Engine coolant heater and pump unit removed

Personnel Required:

Unit Mechanic

REMOVE

1. Remove four screws (1) and guard (2) from heater (3).

CAUTION

Make sure all leads are tagged before removing them from switch.

2. Remove five screws (4) and leads (5) from flame detector switch (6).
3. Loosen nut (7) on switch (6). Pull switch straight out from heater (3).

INSTALL

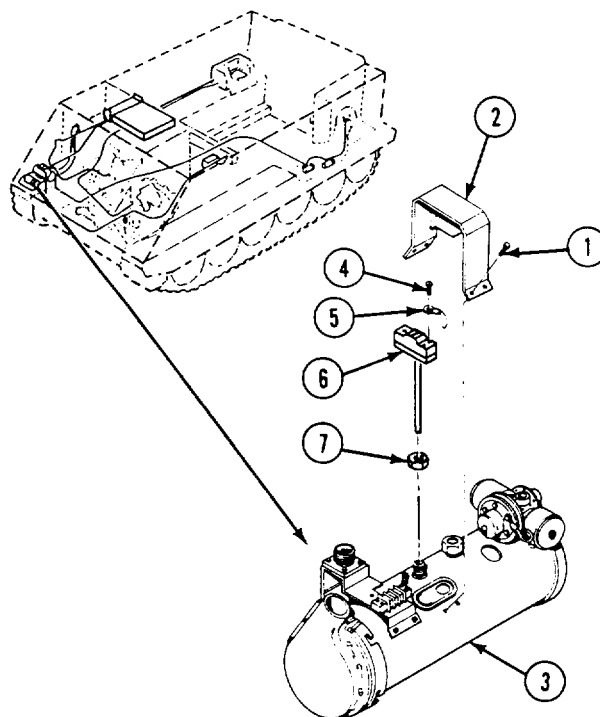
4. Install flame detector switch (6) in heater (3). Secure with nut (7) on switch.

CAUTION

Check tags on leads to make sure of proper connections.

5. Place five leads (5) on switch (6). Secure with five screws (4).

6. Place guard (2) on heater (3). Secure with four screws (1).

**FOLLOW-THROUGH STEPS**

1. Install engine coolant heater and pump unit (page 32-45).
 2. Start heater (see your -10). Check that flame detector switch works properly. Turn heater off.
-

END OF TASK

REPAIR FLAME DETECTOR SWITCH

DESCRIPTION

This task covers: Disassemble (page 32-5). Clean, Inspect, and Repair (page 32-5).
Install (page 32-5). Adjust (page 32-6).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Sealing compound (Item 50, App C)

Equipment Conditions:

Flame detector switch removed (page 32-4)

DISASSEMBLE

1. Remove nut (1), washer (2), and adjusting screw (3) from mount (4) and housing (5). Clean off old cement from screw (3) and mount (4).
2. Remove two nuts (6), washers (7 and 8), and screws (9) from switch (10). Remove switch from mount (4).
3. Remove housing (5) and bow spring (11).
4. Turn housing (5) over. Carefully slide ceramic rod (12) from housing.

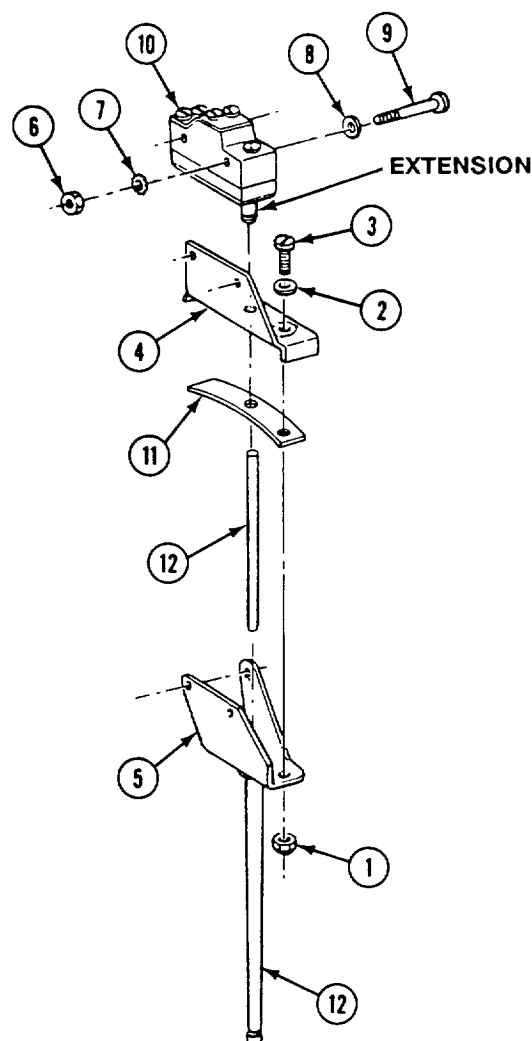
11. Install screw (3), and washer (2) through mount (4), spring (11), and housing (5). Secure with nut (1). See adjust (page 32-6).

CLEAN, INSPECT, AND REPAIR

5. Inspect ceramic rod. If rod is chipped, cracked, or broken, install a new rod.
6. Inspect housing. If housing is bent or cracked, install a new switch.

INSTALL

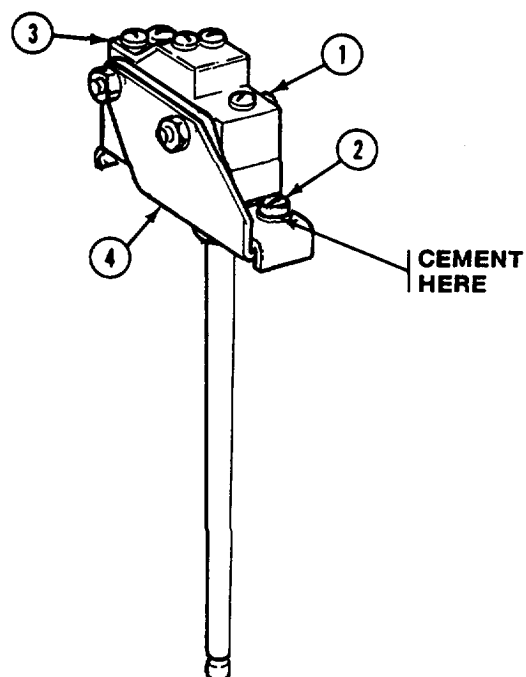
7. Carefully insert ceramic rod (12) into housing (5).
8. Install bow spring (11) in mount (4).
9. Install switch (10) in mount (4) and housing (5). Be sure ceramic rod (12) fits into extension on switch.
10. Install switch (10) on mount (4) and housing (5). Secure with two screws (9), washers (8), washers (7), and nuts (6). Do not tighten.



GO TO NEXT PAGE

ADJUST

12. Loosen mounting screws (1).
13. Back off adjusting screw (2) until switch (3) clicks.
14. Slowly turn screw (2) inward until switch (3) clicks; then turn screw exactly 3/4 turn past the click point.
15. Tighten mounting screws (1).
16. Cement screw (2) to mount (4) with sealing compound.

**FOLLOW-THROUGH STEPS**

1. Install flame detector switch (page 32-4).
2. Start heater (see your -10). Check switch for proper operation. Turn heater off.

END OF TASK

REPLACE IGNITER

DESCRIPTION

This task covers: Remove (page 32-7). Clean, Inspect, and Repair (page 32-7). Install (page 32-8).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Gasket
Lockwasher

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Trim vane lowered (see your -10)
Power plant front access door open (see your -10)
Battery ground lead disconnected (page 13-2)

Personnel Required:

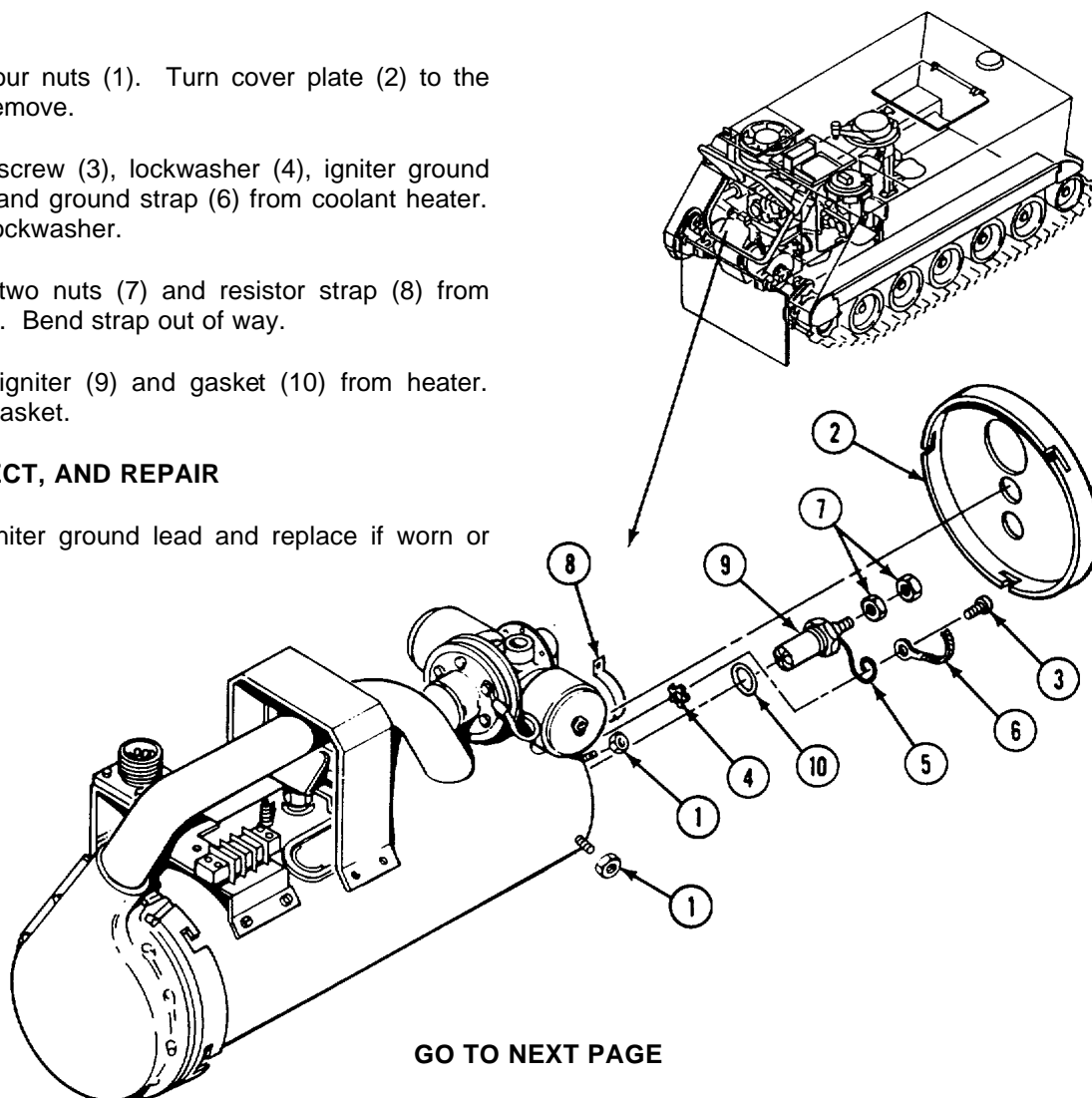
Unit Mechanic

REMOVE

1. Loosen four nuts (1). Turn cover plate (2) to the left and remove.
2. Remove screw (3), lockwasher (4), igniter ground lead (5), and ground strap (6) from coolant heater. Discard lockwasher.
3. Remove two nuts (7) and resistor strap (8) from igniter (9). Bend strap out of way.
4. Remove igniter (9) and gasket (10) from heater. Discard gasket.

CLEAN, INSPECT, AND REPAIR

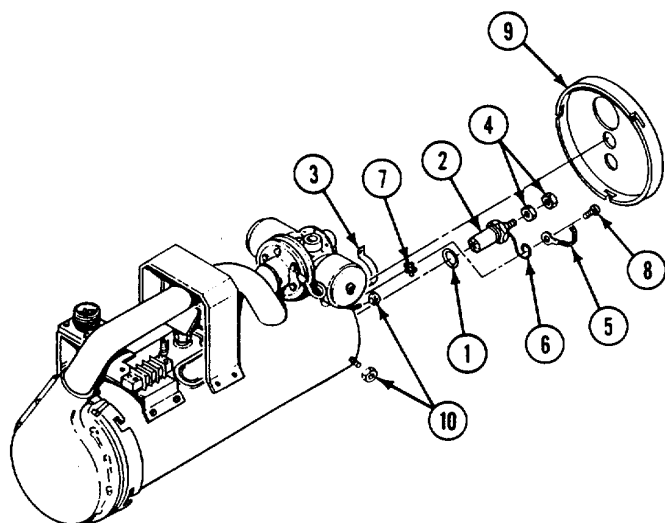
5. Check igniter ground lead and replace if worn or broken.



GO TO NEXT PAGE

INSTALL

6. Install new gasket (1) and igniter (2) in heater.
7. Place resistor strap (3) on igniter (2). Secure with two nuts (4).
8. Place ground strap (5) and igniter ground lead (6) on coolant heater. Secure with new lockwasher (7) and screw (8).
9. Place cover plate (9) on end of heater. Turn cover to the right and secure with four nuts (10).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
2. Start heater (see your -10). Check that igniter works properly. Turn heater off.
3. Close power plant front access door (see your -10).
4. Raise trim vane (see your -10).

END OF TASK

**Section III. KIT COMPONENT MAINTENANCE - ENGINE
COOLANT HEATER**

TASK INDEX

Task	Page	Task	Page
Drain and Fill Engine Coolant Heater System.....	32-10	Replace Bulkhead Connection to Coolant Heater Fuel Inlet Hose Tube.....	32-23
Replace Coolant Heater Fuel Pump (M113A2, M741A1, M901A1, and M1059 Only).....	32-12	Replace Coolant Heater Fuel Inlet Hose.....	32-25
Replace Coolant Heater Fuel Pump (M106A2 and M125A2 Only)	32-14	Replace Coolant Hoses and Fittings (All Except M106A2 and M125A2)	32-27
Replace Coolant Heater Fuel Pump (M577A2 and M1068 Only).....	32-16	Replace Coolant Hoses and Fittings (M106A2 and M125A2 Only).....	32-34
Replace Coolant Heater Fuel Pump to Bulkhead Connection Hose (M113A2, M741A1, M1059, and M901A1 Only).....	32-18	Replace Coolant Heater Exhaust Elbow and Pipes	32-41
Replace Coolant Heater Fuel Pump to Bulkhead Connection Hose (M577A2 and M1068 Only).....	32-20	Replace Engine Coolant Heater Control Box	32-42
Replace Coolant Heater Fuel Pump to Bulkhead Connection Hose (M106A2 and M125A2 Only).....	32-21	Replace Engine Coolant Pump to Coolant Heater Wiring Harness	32-43
		Replace Coolant Heater and Pump Unit	32-45
		Replace Coolant Heater.....	32-49
		Replace Coolant Heater Pump	32-51

DRAIN AND FILL ENGINE COOLANT HEATER SYSTEM

DESCRIPTION

This task covers: Drain (page 32-10). Fill (page 32-11).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic
(see your -10)

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Trim vane lowered (see your -10)
Power plant front access door open

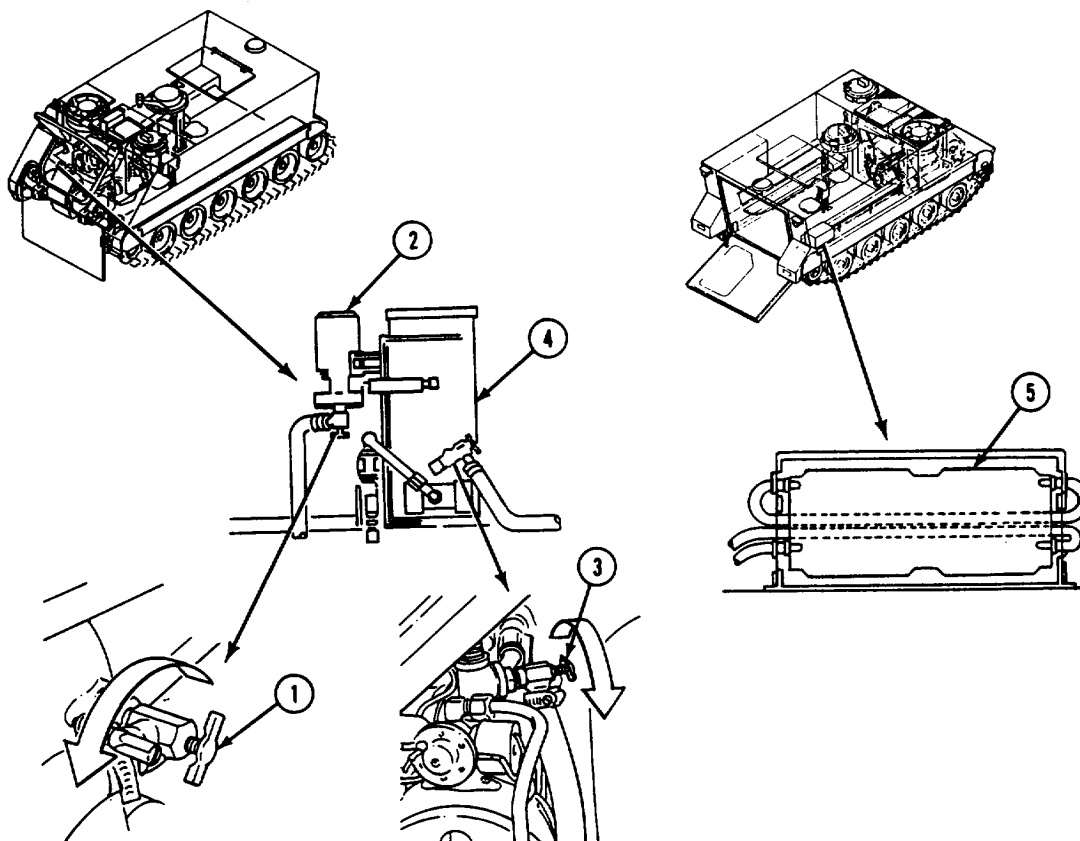
References:

See your -10

DRAIN

1. Open shutoff valve (1) at coolant pump (2) and valve (3) at heater (4).

2. Completely drain cooling system (page 8-3).
3. Remove batteries and retainers (page 13-16 or 13-18).
4. Remove and drain battery box heat exchanger (5) (page 13-32 or 13-35).



5. Install battery box heat exchanger (page 13-32 or 13-35).
6. Install batteries and retainers (page 13-16 or 13-18).

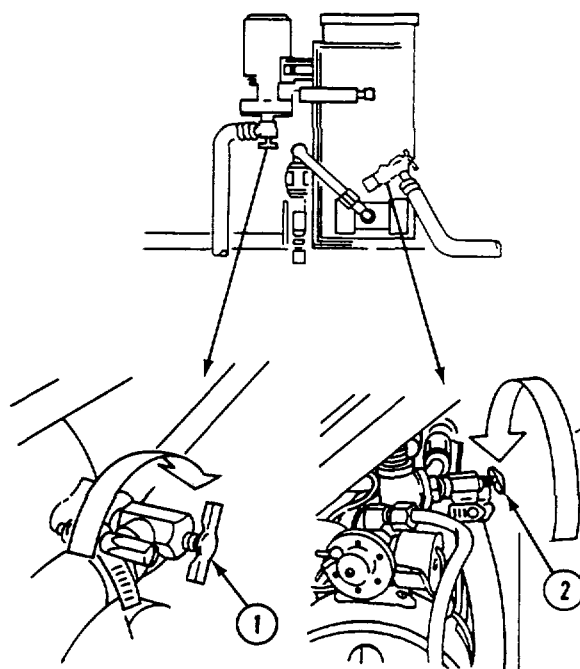
FILL

7. Close shutoff valves (1 and 2).
8. Fill cooling system (page 8-5).
9. Close heater fuel shutoff valve (see your -10).
10. Start engine (see your -10).
11. Hold RUN-OFF-START switch in START and run engine at 2,950 rpm for maximum 30 seconds to prime coolant pump.
12. Stop engine (see your -10). Refill cooling system (page 8-5).
13. Open heater fuel shutoff valve (see your -10).

NOTE

Hoses to and from battery box heat exchanger will gradually increase in temperature and remain warm if heater coolant system is primed and coolant heater is operating right.

14. Start heater (see your -10). Check for proper operation. If heater overheats and shuts off, repeat steps 7 thru 14. If problem persists, see troubleshooting (page 3-217).



FOLLOW-THROUGH STEPS

1. Close power plant front access door (see your -10).
2. Raise trim vane (see your -10).

END OF TASK

REPLACE COOLANT HEATER FUEL PUMP (M113A2, M741A1, M901A1, AND M1059 ONLY)**DESCRIPTION**

This task covers: Remove (page 32-12). Install (page 32-13).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 48, App C)

Lockwasher (6)

Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (page 13-2)

Rear floor plate removed

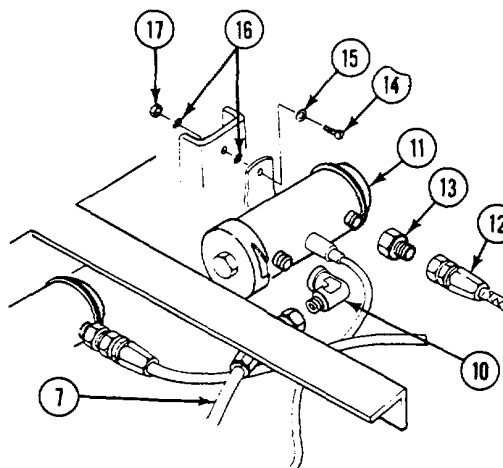
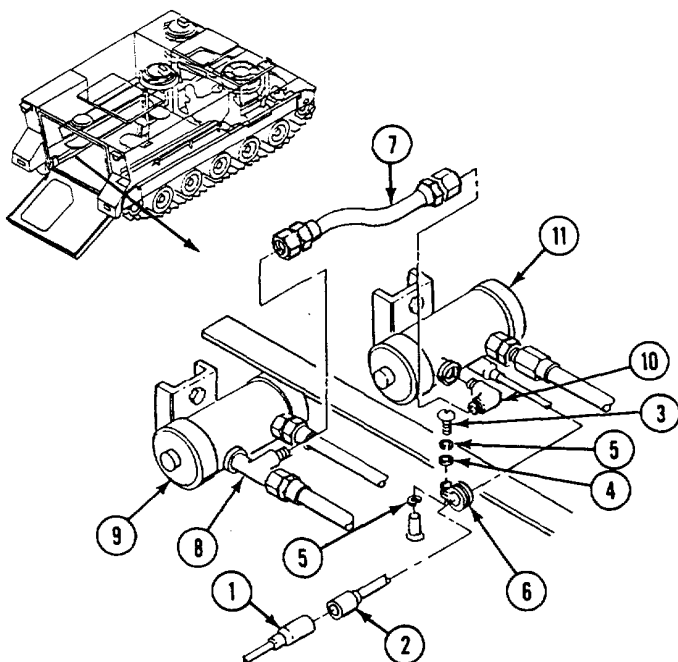
(page 24-40, 24-43, 24-45, or 24-47)

Heater fuel shutoff valve closed (see your -10)

REMOVE

1. Disconnect circuit 402A lead (1) from coolant heater fuel pump lead (2).
2. Remove screw (3), washer (4), and two lockwashers (5), and clamp (6) from hull weldnut. Discard lockwashers.
3. Remove hose (7) from tee (8) on personnel heater fuel pump (9) and from elbow (10) on coolant heater fuel pump (11).

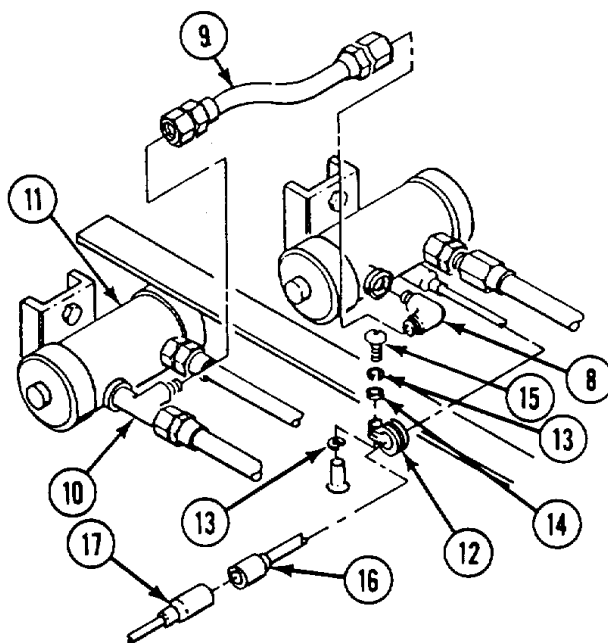
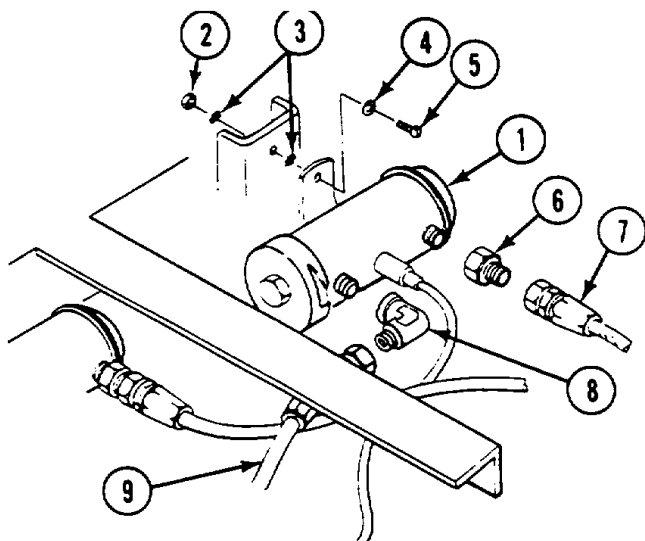
4. Remove elbow (10) from coolant heater fuel pump (11).
5. Remove hose (12) from adapter (13). Remove adapter from coolant heater fuel pump (11).
6. Remove two screws (14), washers (15), four lockwashers (16), two locknuts (17), and coolant heater fuel pump (11) from hull bracket. Discard lockwashers and locknuts.



INSTALL

7. Place coolant heater fuel pump (1) on hull bracket. Secure with two new locknuts (2), four new lockwashers (3), two washers (4), and screws (5).
8. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
9. Install adapter (6) on coolant heater fuel pump (1). Install hose (7) on adapter.

10. Install elbow (8) on coolant heater fuel pump (1).
11. Install hose (9) on elbow (8) and on tee (10) on personnel heater fuel pump (11).
12. Place clamp (12) on hull weldnut. Secure with two new lockwashers (13), washer (14), and screw (15).
13. Connect coolant heater fuel pump lead (16) to circuit 402A lead (17).



FOLLOW-THROUGH STEPS

1. Open coolant heater fuel shutoff valve (see your -10).
2. Connect battery ground lead (page 13-2).
3. Bleed fuel lines (page 29-4).
4. Start coolant heater (see your -10). Check for fuel leaks. Turn heater off.
5. Install rear floor plate (page 24-40, 24-43, 24-45, or 24-47).
6. Raise and lock ramp (see your -10).
7. Stop engine (see your -10).

END OF TASK

REPLACE COOLANT HEATER FUEL PUMP (M106A2 AND M125A2 ONLY)

DESCRIPTION

This task covers: Remove (page 32-14). Install (page 32-15).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 48, App C)
Lockwasher (6)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Battery ground lead disconnected (page 13-2)
Personnel heater duct removed (page 29-47)
Front floor plate removed (page 24-38)
Heater fuel shutoff valve closed (see your -10)

REMOVE

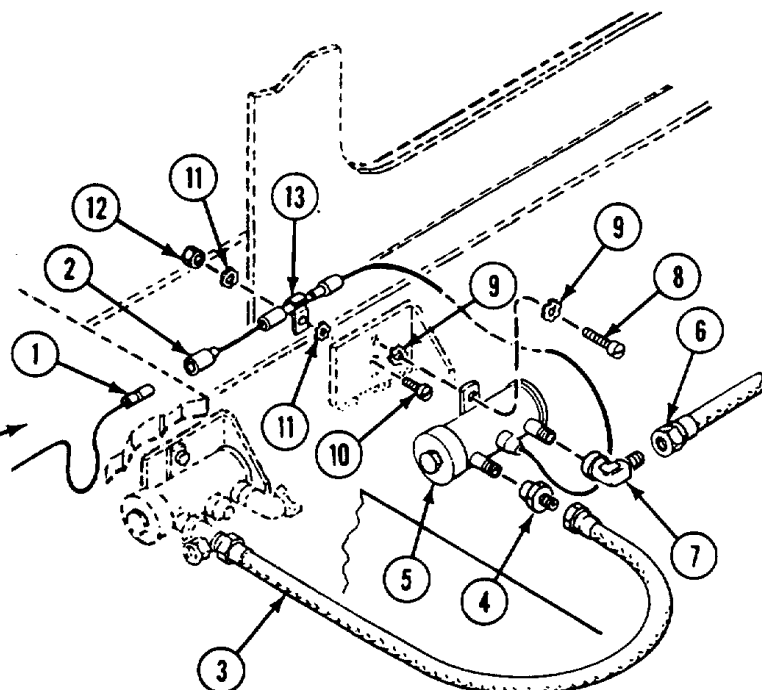
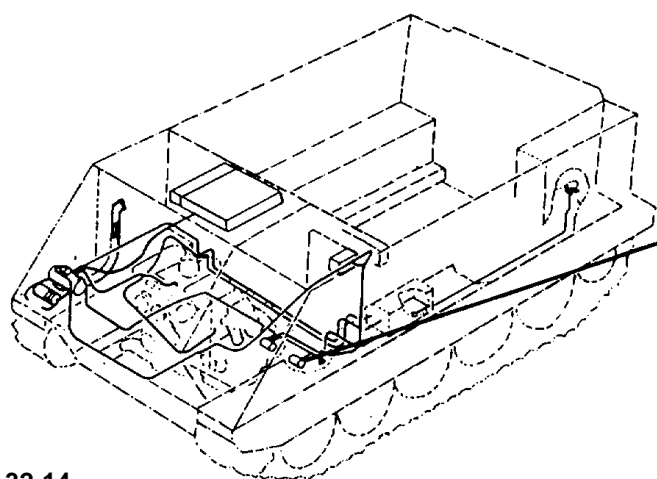
WARNING



Fuel can catch fire and burn you. Do not smoke. Disconnect vehicle ground cables before you work on fuel system. Wipe up spilled fuel.

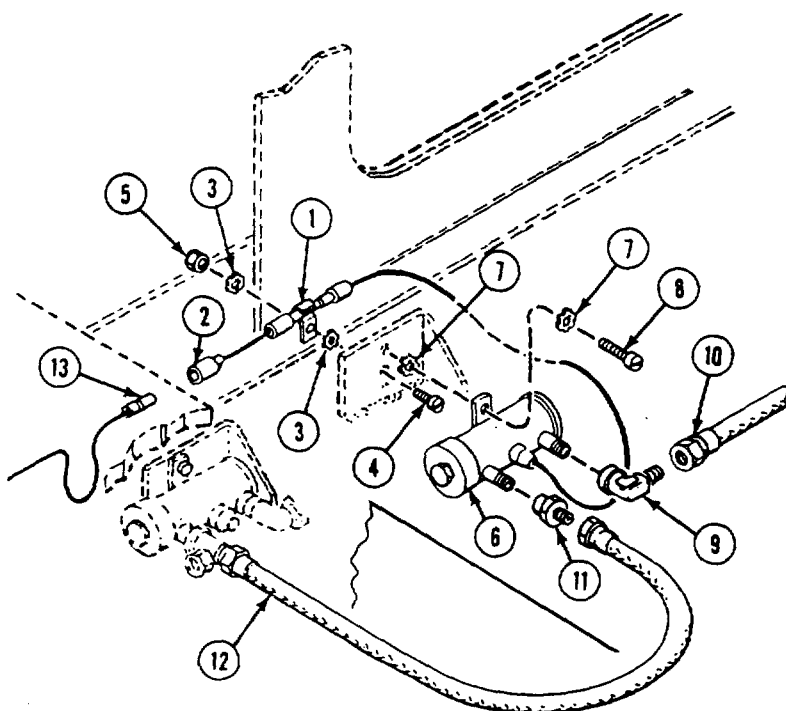
1. Disconnect circuit 402A lead (1) from coolant heater fuel pump lead (2).
2. Remove hose (3) from adapter (4) on coolant heater fuel pump (5).
3. Remove adapter (4) from coolant heater fuel pump (5).

4. Disconnect hose (6) from elbow (7) on coolant heater fuel pump (5). Remove elbow (7) from fuel pump.
5. Remove two screws (8), four lockwashers (9), and coolant heater fuel pump (5) from hull bracket. Discard lockwashers.
6. Remove screw (10), two lockwashers (11), nut (12), and clamp (13) on coolant heater fuel pump lead (2) from hull mount. Discard lockwashers.



INSTALL

7. Place clamp (1) on coolant heater fuel pump lead (2) on hull mount. Secure with two new lockwashers (3), screw (4), and nut (5).
8. Place coolant heater fuel pump (6) on hull bracket. Secure with four new lockwashers (7) and two screws (8).
9. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
10. Install elbow (9) on coolant heater fuel pump (6). Connect hose (10) to elbow.
11. Install adapter (11) on coolant heater fuel pump (6).
12. Install hose (12) on adapter (11).
13. Connect circuit 412A lead (13) to coolant heater fuel pump lead (2).

**FOLLOW-THROUGH STEPS**

1. Open coolant heater fuel shutoff valve (see your -10).
2. Connect battery ground lead (page 13-2).
3. Bleed fuel lines (page 29-4).
4. Start coolant heater (see your -10). Check for fuel leaks. Turn heater off.
5. Install front floor plate (page 24-38).
6. Install personnel heater duct (page 29-47).
7. Raise and lock ramp (see your -10),

END OF TASK

REPLACE COOLANT HEATER FUEL PUMP I (M577A2 AND M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 32-16). Install (page 32-17).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 46, App C)

Lockwasher (7)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

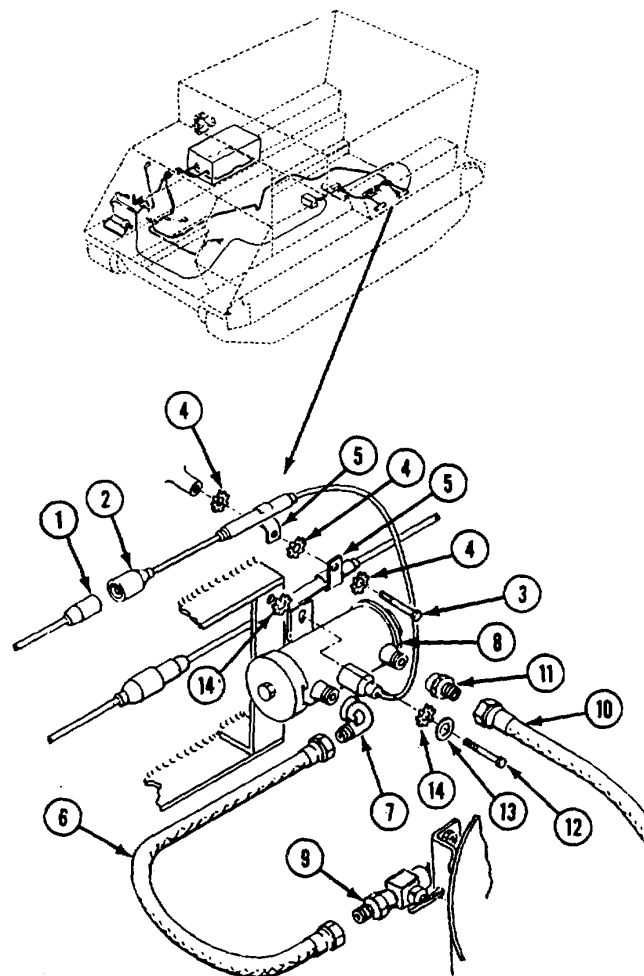
Battery ground lead disconnected (page 13-2)

Rear floor plate removed (page 24-40)

Coolant heater fuel shutoff valve closed
(see your -10)

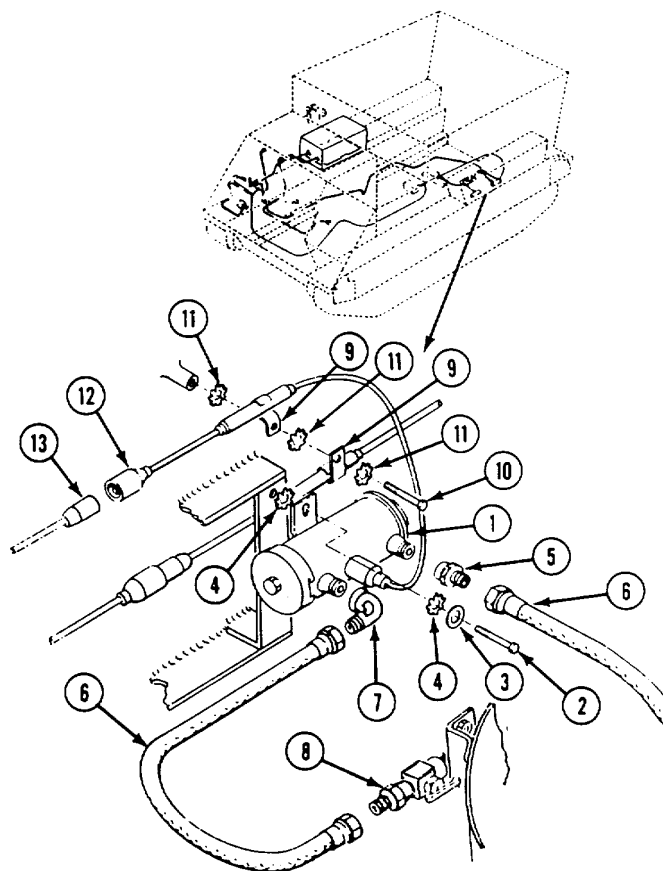
REMOVE

1. Disconnect circuit 402C lead (1) from coolant heater fuel pump lead (2).
2. Remove screw (3), three lockwashers (4), and two clamps (5) from bulkhead weldnut. Discard lockwashers.
3. Remove hose (6) from elbow (7) on coolant heater fuel pump (8) and from adapter (9).
4. Remove elbow (7) from coolant heater fuel pump (8).
5. Disconnect hose (10) from adapter (11). Remove adapter from coolant heater fuel pump (8).
6. Remove two screws (12), washers (13), four lockwashers (14), and coolant heater fuel pump (8) from hull bracket. Discard lockwashers.



INSTALL

7. Place coolant heater fuel pump (1) on hull bracket. Secure with two screws (2), washers (3), and four new lockwashers (4).
8. Apply light coat of sealing compound to all external tapered threads. Do not apply sealant beyond small end of tapered threads.
9. Install adapter (5) on coolant heater fuel pump (1). Connect hose (6) to adapter.
10. Install elbow (7) on coolant heater fuel pump (1).
11. Install hose (6) on elbow (7) and on adapter (8).
12. Place two clamps (9) on bulkhead weldnut. Secure with screw (10) and three new lockwashers (11).
13. Connect coolant heater fuel pump lead (12) to circuit 402C lead (13).



FOLLOW-THROUGH STEPS

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Open coolant heater fuel shutoff valve (see your -10). 2. Connect battery ground lead (page 13-2). 3. Start coolant heater (see your -10). Check for fuel leaks. Turn heater off. | <ol style="list-style-type: none"> 4. Bleed fuel lines (page 29-4). 5. Install rear floor plate (page 24-40). 6. Raise and lock ramp (see your -10). 7. Stop engine (see your -10). |
|--|---|

END OF TASK

REPLACE COOLANT HEATER FUEL PUMP TO BULKHEAD CONNECTION HOSE (M113A2, M741A1, M1059, AND M901A1 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Personnel heater duct removed

(page 29-47 or 29-48)

Floor plates removed

(page 24-40, 24-43, 24-45, or 24-47)

Heater fuel shutoff valve closed (see your -10)

REMOVE

1. Remove seven screws (1) and clamps (2) from hull weldnuts.
2. On M741A1 carriers, remove two screws (1) and two clamps (2) from hull weldnuts. Remove two straps (3) from adjoining hoses.

WARNING



Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

3. Remove hose (4) from elbow (5) and from coolant heater fuel pump (6).
4. Remove clamps (2) from hose (4).
5. Remove hose (4) from hull openings.

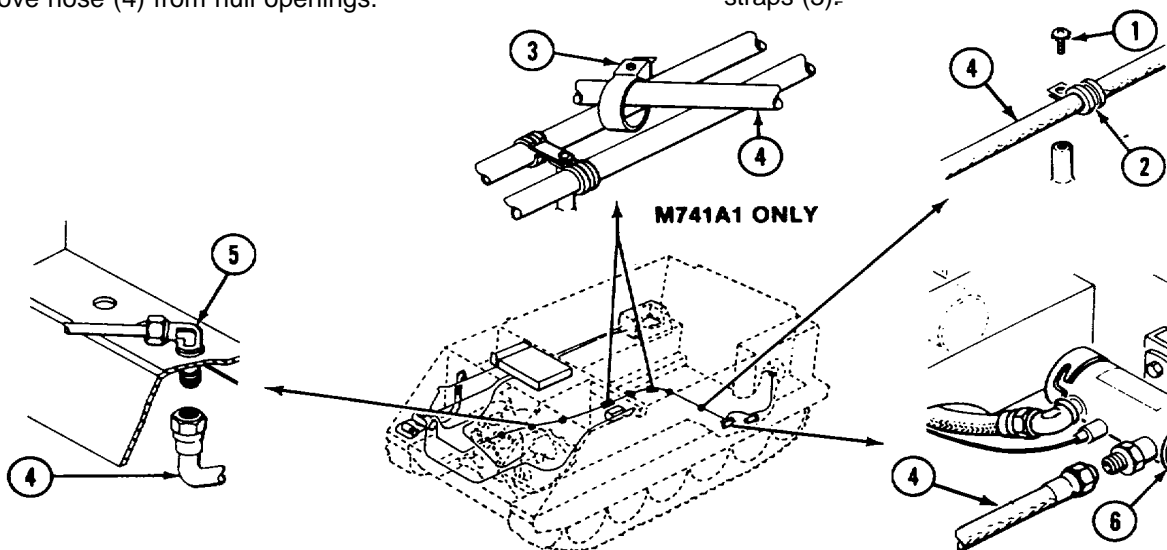
INSTALL

6. Install seven clamps (2) on fuel hose (4).

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.

7. Route fuel hose (4) through hull openings. Install fuel hose on coolant heater fuel pump (6) and elbow (5).
8. Align seven clamps (2) with hull weldnuts. Secure with seven screws (1).
9. On M741A1 carriers, align two clamps (2) with hull weldnuts. Secure with two screws (1). Secure hose (4) to adjoining hoses with two straps (3).



FOLLOW-THROUGH STEPS

1. Open heater fuel shutoff valve (see your -10).
2. Bleed fuel lines (page 29-4).
3. Start coolant heater (see your -10). Check for fuel leaks. Turn heater off.
4. Install floor plates (page 24-40, 24-43, 24-45, or 24-47).
5. Install personnel heater duct (page 29-47 or 29-48).
6. Raise and lock ramp (see your -10).
7. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE COOLANT HEATER FUEL PUMP TO BULKHEAD CONNECTION HOSE (M577A2 AND M1068 ONLY)**INITIAL SETUP****Tools**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Personnel heater duct removed (page 29-47)

Floor plates removed (page 24-40)

Coolant heater fuel shutoff valve closed

(see your -10)

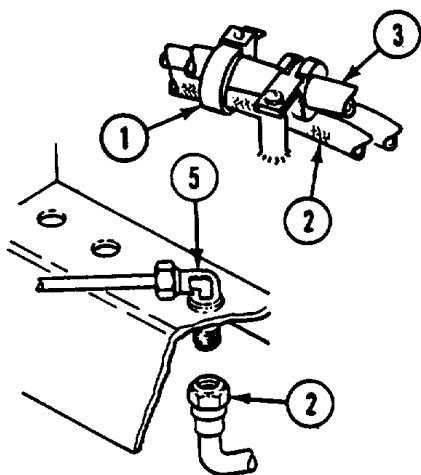
REMOVE

1. Remove 10 straps (1) holding coolant heater hose (2) to personnel heater hose (3).

WARNING

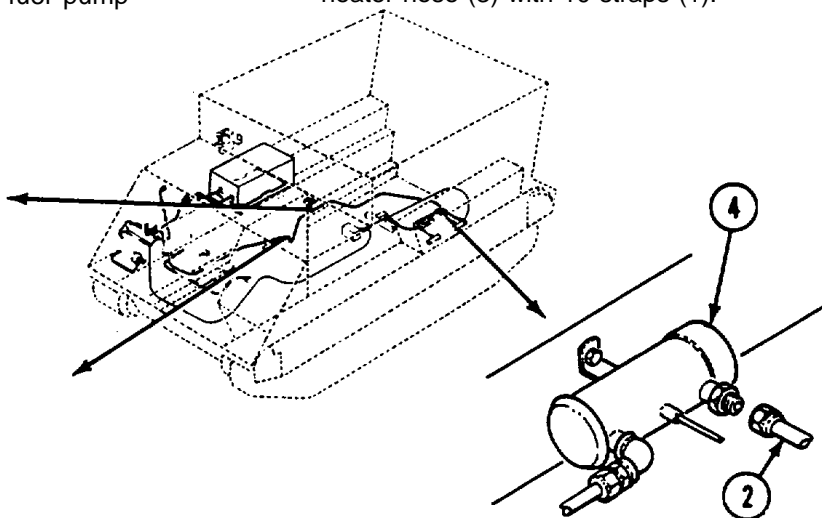
Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel

2. Remove hose (2) from coolant heater fuel pump (4) and from elbow (5).

**INSTALL****NOTE**

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.

3. Install hose (2) on elbow (5) and on coolant heater fuel pump (4).
4. Secure coolant heater hose (2) to personnel heater hose (3) with 10 straps (1).

**FOLLOW-THROUGH STEPS**

1. Open coolant heater fuel shutoff valve (see your -10).
2. Start coolant heater (see your -10). Check for fuel leaks. Turn heater off.
3. Bleed fuel lines (page 29-4).
4. Install floor plates (page 24-40).
5. Install personnel heater duct (page 29-47).
6. Raise and lock ramp (see your -10).
7. Stop engine (see your -10).

END OF TASK

REPLACE COOLANT HEATER FUEL PUMP TO BULKHEAD CONNECTION HOSE (M106A2 AND M125A2 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Personnel heater duct removed (page 29-47)

Front floor plate removed (page 24-41)

Heater fuel shutoff valve closed (see your -10)

REMOVE

1. Remove two straps (1) holding coolant heater hose (2) to personnel heater hose (3).

WARNING



Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

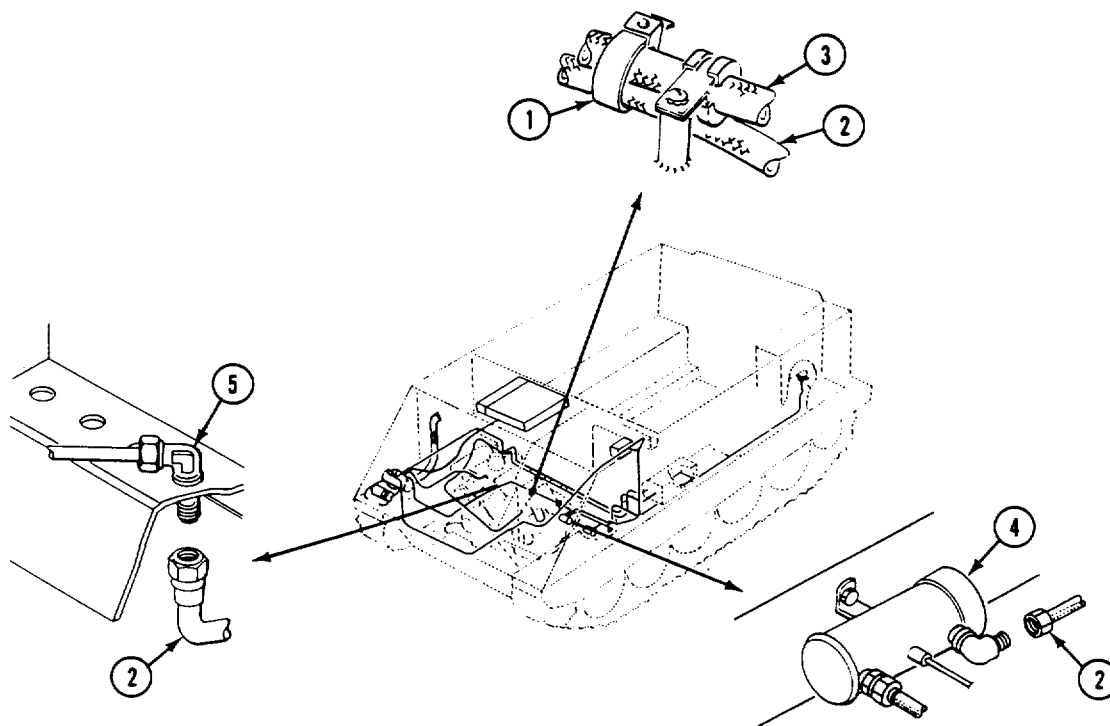
2. Remove hose (2) from coolant heater fuel pump (4) and from elbow (5).

INSTALL

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.

3. Install hose (2) on elbow (5) and on coolant heater fuel pump (4).
4. Secure coolant heater hose (2) to personnel heater hose (3) with two straps (1).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Open heater fuel shutoff valve (see your -10).
2. Bleed fuel lines (page 29-4).
3. Start coolant heater (see your -10). Check for fuel leaks. Turn heater off.
4. Install front floor plate (page 24-41).
5. Install personnel heater duct (page 29-47).
6. Raise and lock ramp (see your -10).
7. Stop engine (see your -10).

END OF TASK

REPLACE BULKHEAD CONNECTION TO COOLANT HEATER FUEL INLET HOSE TUBE

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)

Equipment Conditions: (cont):

Ramp lowered (see your -10)
Power plant rear access panel removed
(page 24-29 or 24-31)
Personnel heater duct removed
(page 29-47 or 29-48)
Front floor plate removed
(page 24-40, 24-41, 24-43, 24-45, or 24-47)
Trim vane lowered and power plant front
access door open (see your -10)
Heater fuel shutoff valve closed (see your -10)

REMOVE

WARNING



Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

1. Disconnect fuel supply hose (1) from elbow (2).
2. Remove three screws (3) and clamps (4) from three hull weldnuts.
3. Remove tube (5) from nipple (6) and elbow (2). Remove three clamps (4) from tube.
4. Remove jamnut (7) and elbow (2) from hull.

INSTALL

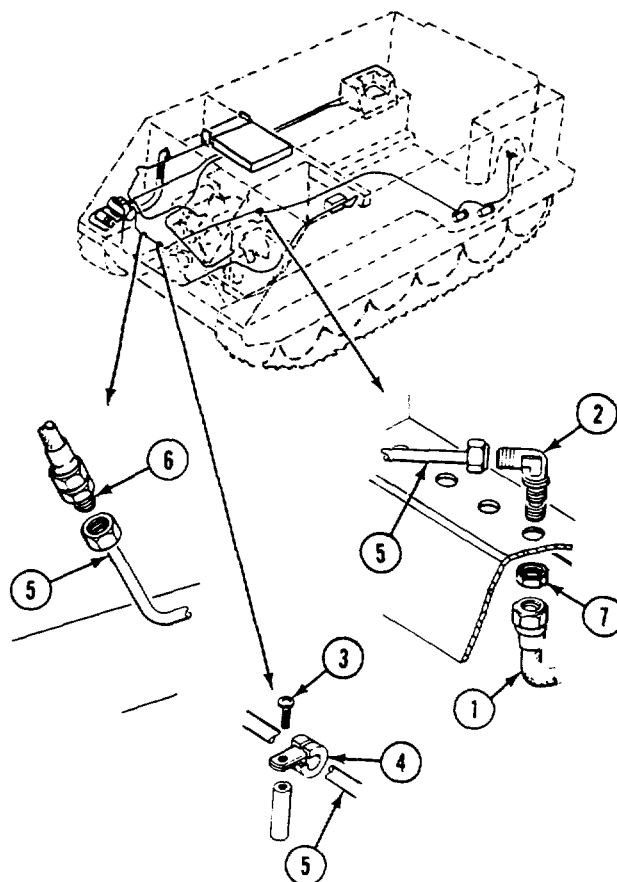
5. Install elbow (2) in hull. Secure with jamnut (7).

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.

6. Place three clamps (4) on tube (5). Install tube on elbow (2) and nipple (6).

7. Align three clamps (4) with three hull weldnuts. Secure with three screws (3).
8. Connect hose (1) to elbow (2).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Open coolant heater fuel shutoff valve (see your -10).
2. Bleed fuel lines (page 29-4).
3. Start coolant heater (see your -10). Check for leaks. Stop coolant heater (see your -10).
4. Close power plant front access door and raise trim vane (see your -10).
5. Install front floor plate (page 24-40, 24-41, 24-43, 24-45, or 24-47).
6. Install personnel heater duct (page 29-47 or 29-48).
7. Install power plant rear access panel (page 24-29 or 24-31).
8. Raise and lock ramp (see your -10).
9. Stop engine (see your -10).

END OF TASK

REPLACE COOLANT HEATER FUEL INLET HOSE

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 46, App C)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Ramp lowered (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

Heater fuel shutoff valve closed (see your -10)

REMOVE

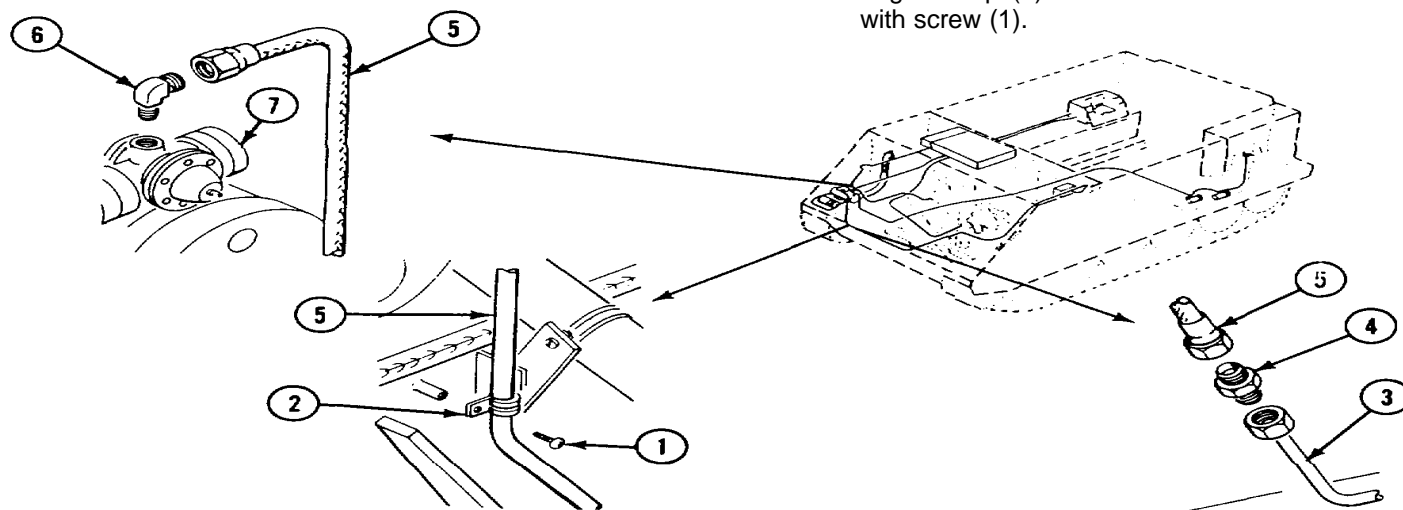
1. Remove screw (1) and clamp (2) from bulkhead weldnut.

WARNING



Fuel can catch fire and burn you. Do not smoke. Disconnect vehicle ground cables before you work on fuel system. Wipe up spilled fuel.

2. Remove tube (3) from nipple (4).
3. Remove nipple (4) from hose (5).
4. Remove hose (5) from elbow (6). Remove clamp (2) from hose.
5. Remove elbow (6) from engine coolant heater (7).



INSTALL

6. Apply a light coat of sealing compound to threads of elbow (6).
7. Install elbow (6) in engine coolant heater (7).

NOTE

Replacing a flareless fuel hose or tube assembly may also require new mating fittings such as a tee, elbow, or adapter.

8. Install hose (5) on elbow (6). Place clamp (2) on hose (5).
9. Install nipple (4) in hose (5).
10. Install tube (3) on nipple (4).
11. Align clamp (2) with bulkhead weldnut. Secure with screw (1).

GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Open coolant heater fuel shutoff valve (see your -10).
2. Bleed fuel lines (page 29-4).
3. Start coolant heater (see your -10). Check for fuel leaks. Turn heater off.
4. Close power plant front access door and raise trim vane (see your -10).
5. Raise and lock ramp (see your -10).
6. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE COOLANT HOSES AND FITTINGS (ALL EXCEPT M106A2 AND M125A2)**DESCRIPTION**

This task covers: Remove (page 32-27). Install (page 32-30).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Insulation tape (Item 26, App C)
Sealing compound (Item 46, App C)
Gasket
Grommet (2)

Personnel Required:

Unit Mechanic

References:

See your -10

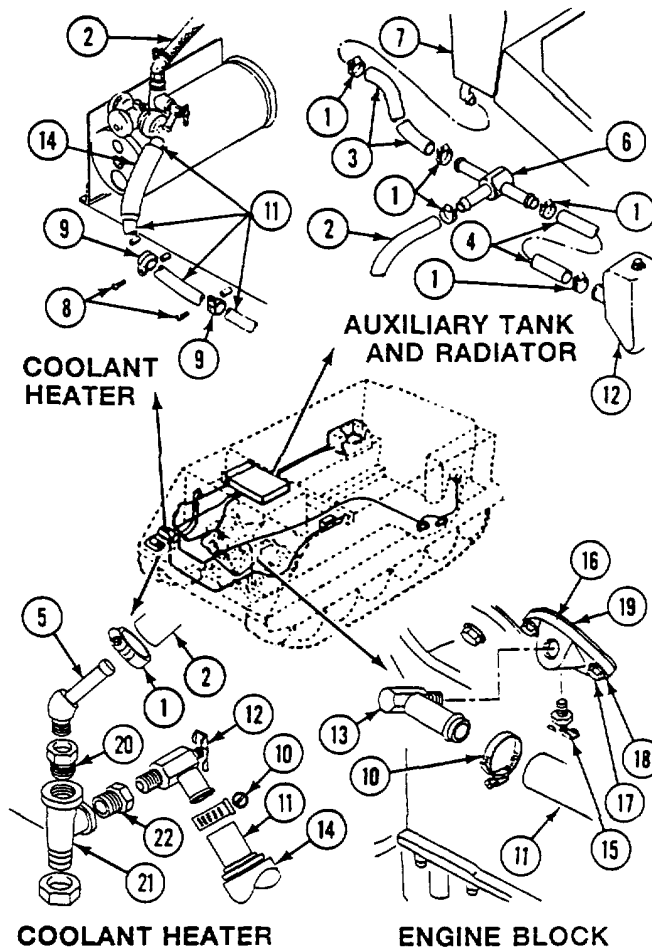
Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Trim vane lowered and power plant front access door open (see your -10)
Power plant rear access panel removed (page 24-29 or 24-31)
Cooling system drained (page 8-3)
Coolant heater system drained (page 32-10)

REMOVE

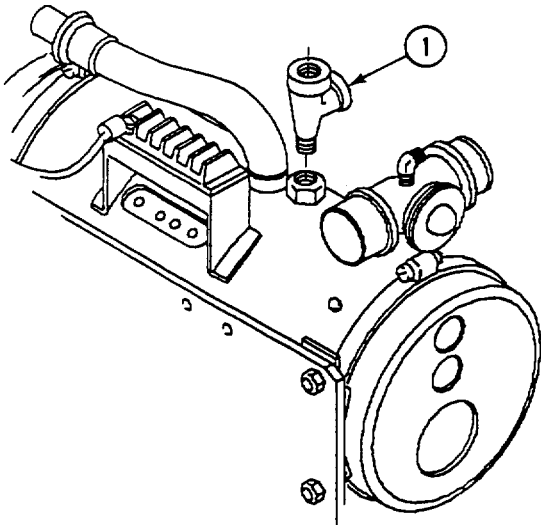
1. Loosen six clamps (1) on hoses (2, 3, and 4).
Remove hose (2) from adapter (5) and tee (6).
Remove hose (3) from tee (6) and radiator auxiliary tank (7). Remove hose (4) from tee (6) and thermostat housing on engine.
2. Remove six clamps (1) from hoses (2, 3, and 4).
3. Remove two screws (8) and clamps (9) from two hull weldnuts.
4. Loosen two clamps (10) on hose (11). Remove hose (11) from heater shutoff valve (12) and from elbow (13) on engine block. Remove clamps (9 and 10) and tubing (14) from hose (11).
5. Remove elbow (13) and draincock (15) from mount (16) on engine block.
6. Remove two screws (17), washers (18), mount (16), and gasket (19) from engine block. Discard gasket.
7. Remove adapter (5) from bushing (20) on heater. Remove bushing from tee (21).

8. Remove shutoff valve (12) from bushing (22). Remove bushing from tee (21).



GO TO NEXT PAGE

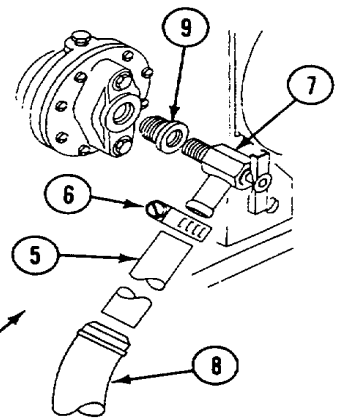
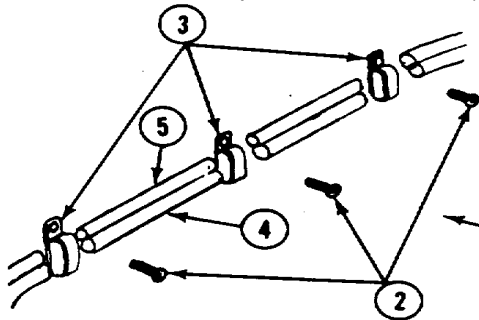
9. Remove tee (1) from coolant heater.



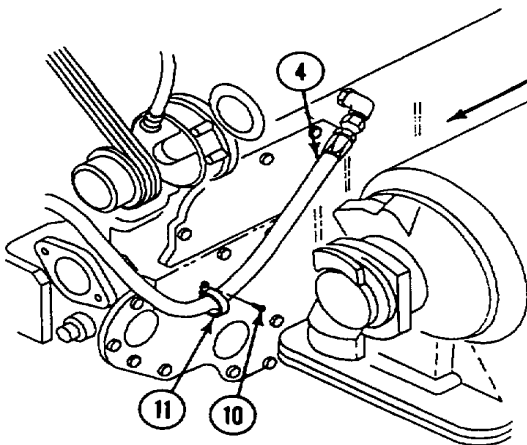
COOLANT HEATER

11. Loosen clamp (6) on hose (5). Remove hose from shutoff valve (7) on coolant pump. Remove clamp and tubing (8) from hose (5).
12. Remove shutoff valve (7) from bushing (9). Remove bushing (9) from coolant pump.
13. Remove screw (10) and clamp (11) from oil cooler housing. Remove clamp from hose (4).
14. Remove two screws (12), nuts (13), and clamps (14) from two engine brackets (15). Remove clamps from hose (4).

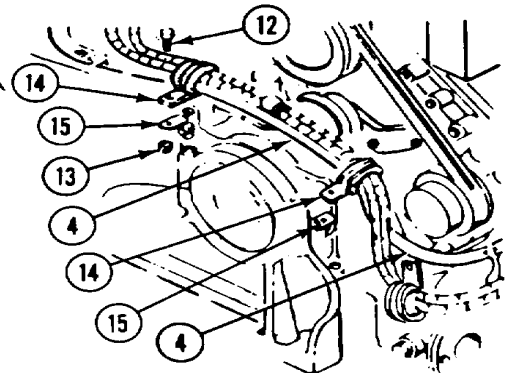
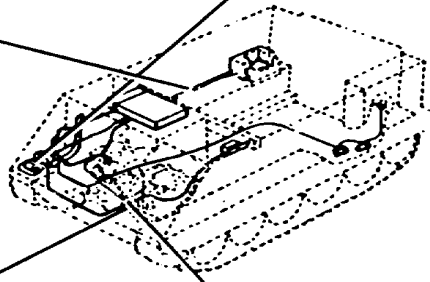
10. Remove three screws (2) and clamps (3) from sponson. Remove clamps from two hoses (4 and 5).



COOLANT PUMP



ENGINE OIL COOLER



FRONT OF ENGINE

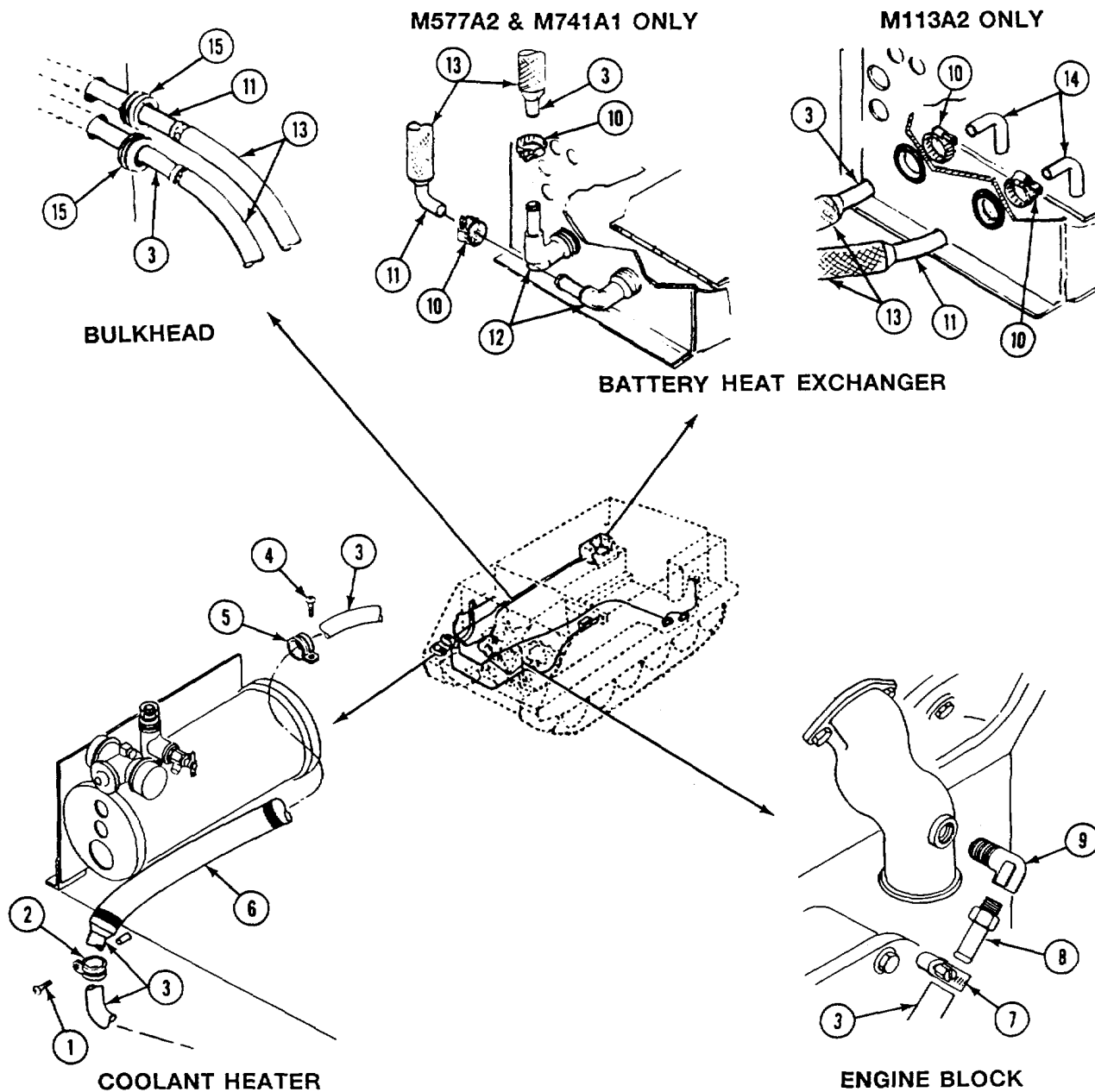
15. Remove screw (1) and clamp (2) from bulkhead weldnut. Remove clamp from hose (3).
16. Remove screw (4) and clamp (5) from sponson. Remove clamp from tube (6).
17. Loosen clamp (7) on hose (3). Remove hose from adapter (8). Remove clamp and tubing (6) from hose.
18. Remove adapter (8) from elbow (9). Remove elbow (9) from engine coolant tube.

19. Loosen two clamps (10). Remove two hoses (3 and 11) from two elbows (12). Remove clamps and tubing (13) from hoses.

NOTE

On M113A2 carriers, remove hoses from two tubes (14) instead of elbows (12).

20. Remove two hoses (3 and 11) and two grommets (15) from power plant compartment bulkhead. Discard grommets.



GO TO NEXT PAGE

INSTALL

NOTE

The longer hose (2) should be installed in the upper grommet.

21. Install two new grommets (1) and two hoses (2 and 3) in power plant compartment bulkhead.

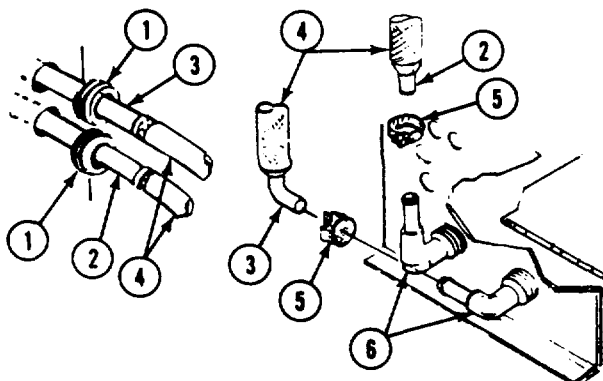
NOTE

Coolant heater kit contains four pieces of insulation tubing. A short piece of tubing is installed between power plant compartment bulkhead and battery box.

22. Slide tubing (4) and clamp (5) onto each hose (2 and 3). Install hoses on two elbows (6). Secure with clamps. Wrap ends of insulated tubing with overlapping turns of insulation tape to prevent unravelling.

BULKHEAD

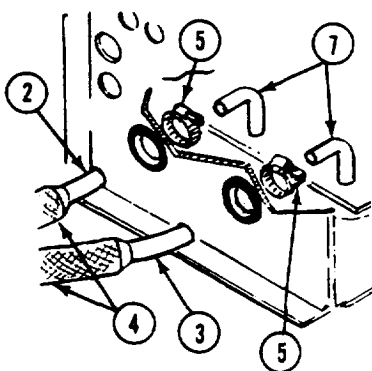
M577A2 & M741A1 ONLY



NOTE

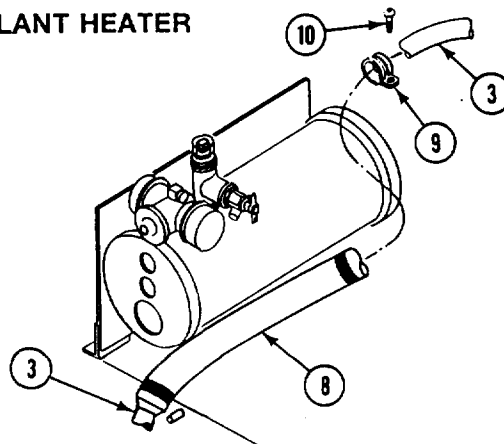
On M113A2 carriers, route hoses (2 and 3) through brackets on sponson and install on two tubes (7). Secure with clamps (5).

M113A2 ONLY



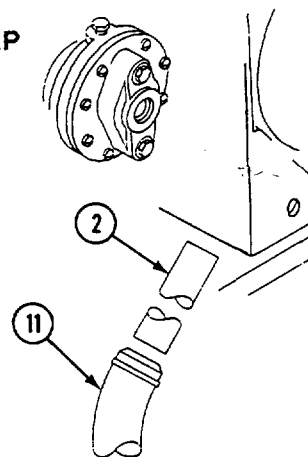
23. Install tubing (8) on hose (3). Place clamp (9) on tube (8). Align clamp with sponson hole. Secure with screw (10). Wrap ends of insulated tubing with overlapping turns of insulation tape to prevent unravelling.

COOLANT HEATER

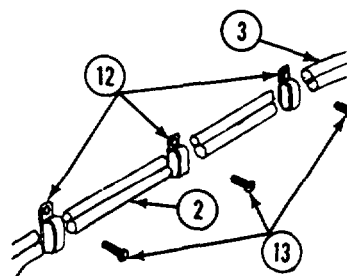


24. Install tubing (11) on hose (2). Wrap ends of insulated tubing with overlapping turns of insulation tape to prevent unravelling.

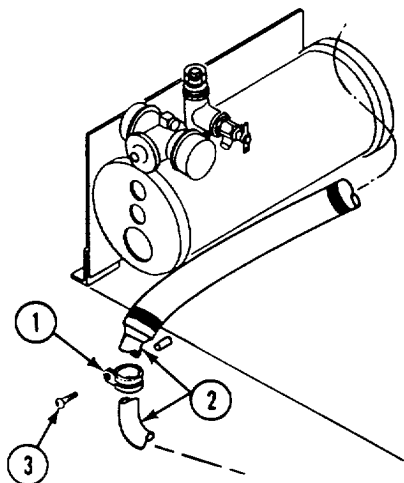
COOLANT PUMP



25. Place three clamps (12) on two hoses (2 and 3). Align clamps with bulkhead holes. Secure with three screws (13).

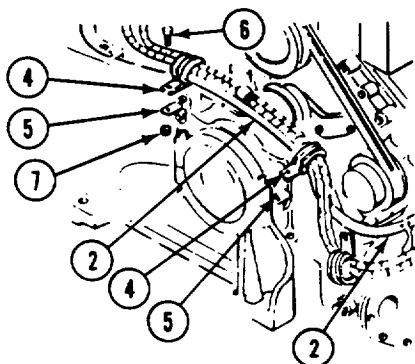


26. Place clamp (1) on hose (2). Align clamp with bulkhead weldnut. Secure with screw (3).



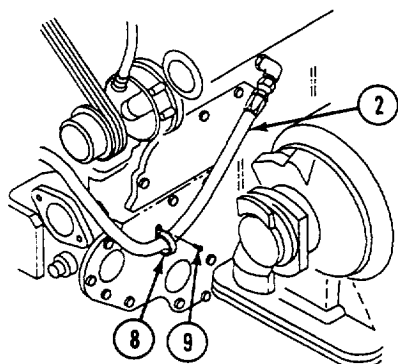
COOLANT HEATER

27. Place two clamps (4) on hose (2). Align clamps with two engine brackets (5). Secure with two screws (6) and nuts (7).



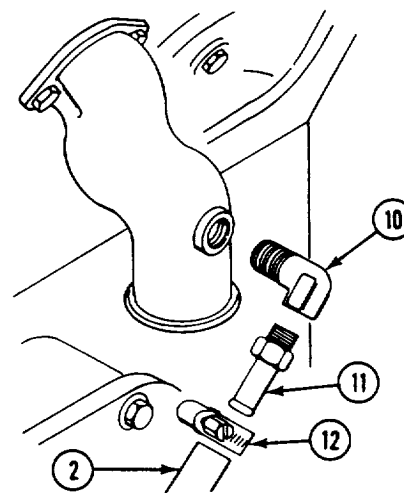
FRONT OF ENGINE

28. Place clamp (8) on hose (2). Align clamp with oil cooler housing. Secure with screw (9).



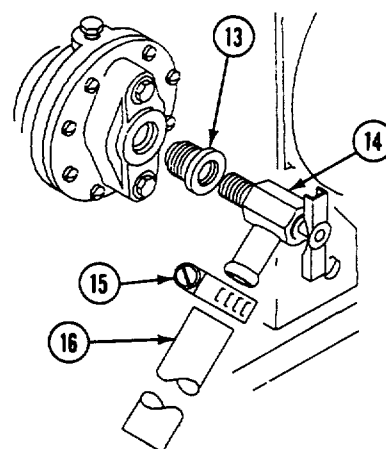
ENGINE OIL COOLER

29. Apply a light coat of sealing compound to all external tapered threads.
30. Install elbow (10) in engine coolant tube. Install adapter (11) in elbow (10).
31. Place clamp (12) on hose (2). Install hose on adapter (11). Secure with clamp.



ENGINE BLOCK

32. Install bushing (13) in coolant pump. Install shutoff valve (14) in bushing.
33. Place clamp (15) on hose (16). Install hose on shutoff valve (14). Secure with clamp.

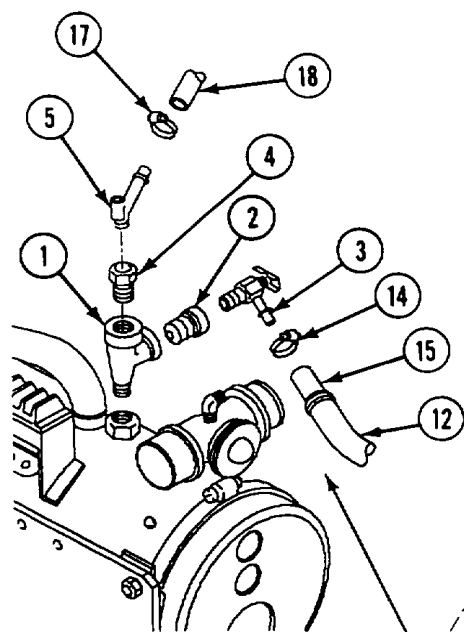


COOLANT PUMP

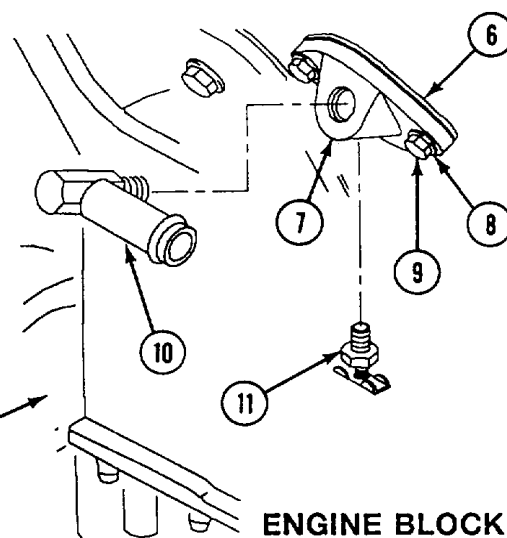
GO TO NEXT PAGE

34. Install tee (1) in coolant heater.
35. Install bushing (2) in tee (1). Install shutoff valve (3) in bushing.
36. Install bushing (4) in tee (1). Install adapter (5) in bushing.
37. Install new gasket (6) and mount (7) on engine block. Secure with two washers (8) and screws (9).
38. Install elbow (10) and draincock (11) in mount (7).

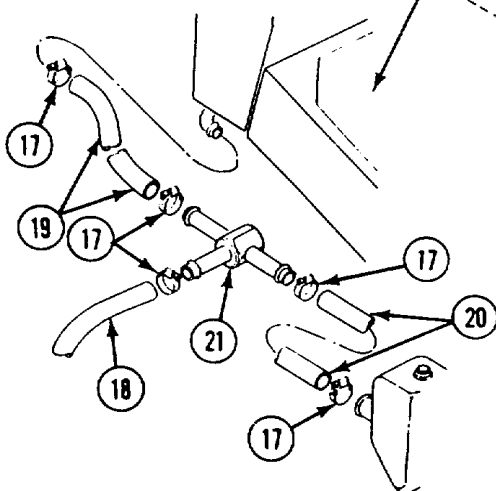
39. Place tubing (12), two clamps (13) and two clamps (14) on hoses (15).
40. Install hose (15) on shutoff valve (3) and elbow (10). Secure with two clamps (14).
41. Align two clamps (13) with hull weldnuts. Secure with two screws (16).
42. Place six clamps (17) on hoses (18, 19, and 20). Install tee (21) in hoses. Secure with three clamps (17).
43. Install hose (18) on adapter (5). Install hose (19) on radiator auxiliary tank. Install hose (20) on thermostat housing. Secure with remaining three clamps (17).



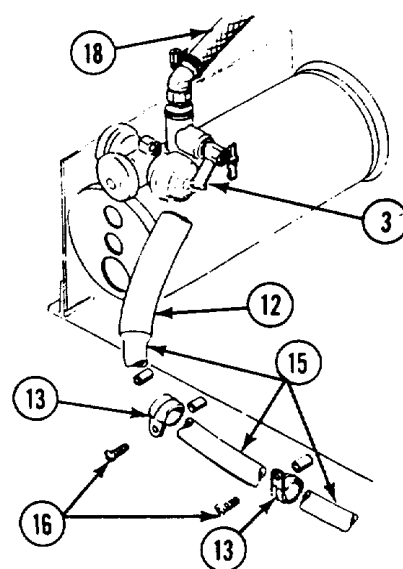
COOLANT HEATER



ENGINE BLOCK



AUXILIARY TANK AND RADIATOR



COOLANT HEATER

FOLLOW-THROUGH STEPS

1. Fill carrier cooling system (page 8-5).
2. Fill coolant heater system (page 32-10).
3. Start coolant heater to check for coolant leaks (see your -10). Turn heater off.
4. Close power plant front access door and raise trim vane (see your -10).
5. Install power plant rear access panel (page 24-29 or 24-31).
6. Raise and lock ramp (see your -10).
7. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE COOLANT HOSES AND FITTINGS (M106A2 AND M125A2 ONLY)

DESCRIPTION

This task covers: Remove (page 32-34). Install (page (32-37)).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Insulation tape (Item 26, App C)
 Sealing compound (Item 46, App C)
 Gasket

Personnel Required:

Unit Mechanic

References:

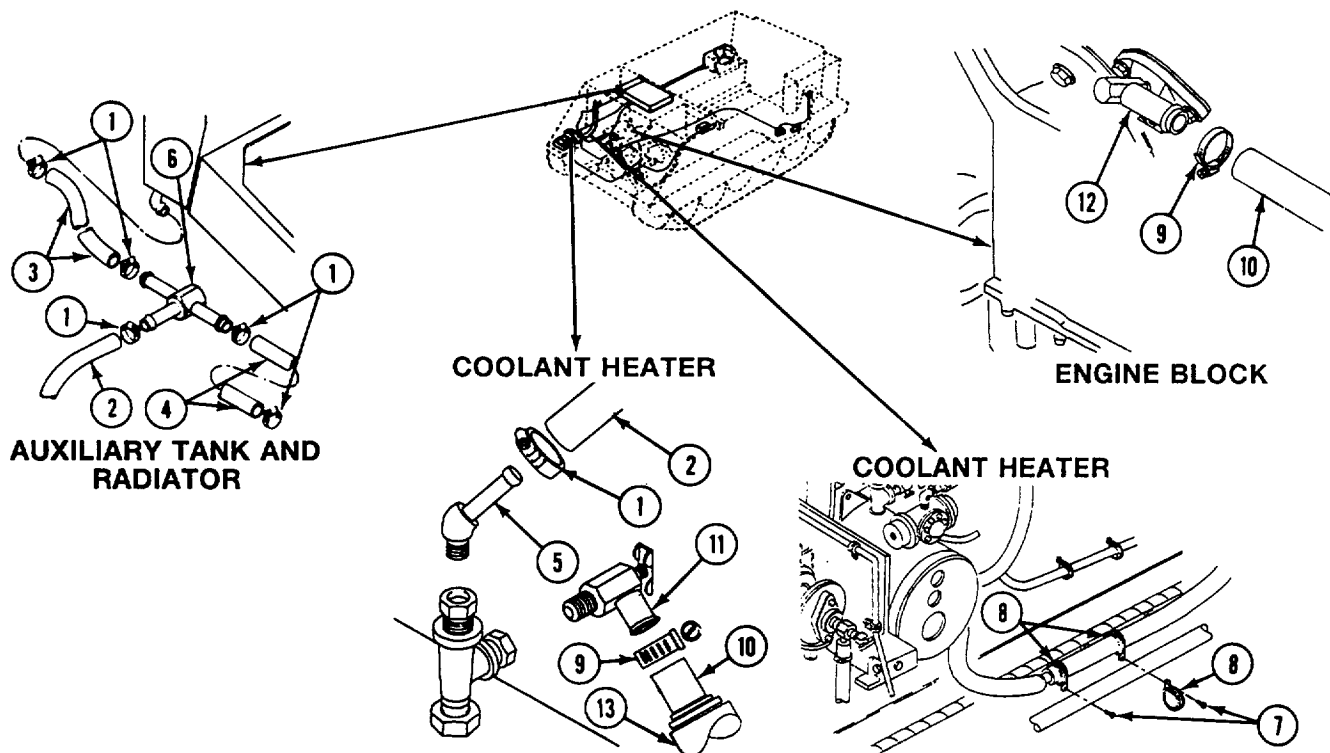
See your -10

Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 Trim vane lowered and power plant front access door open (see your -10)
 Power plant rear access panel removed (page 24-31)
 Carrier cooling system drained (page 9-3)
 Coolant heater system drained (page 32-10)

REMOVE

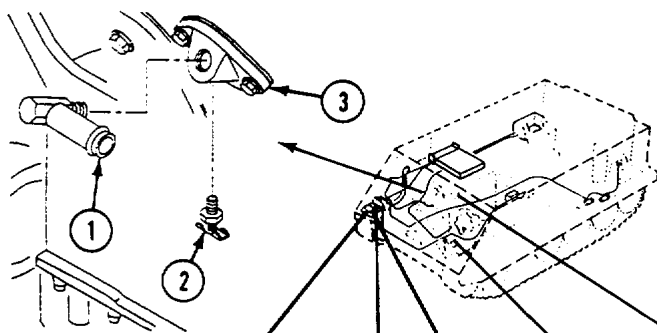
1. Loosen six clamps (1) on hoses (2, 3, and 4). Remove hose (2) from adapter (5) and tee (6). Remove hose (3) from tee (6) and radiator auxiliary tank. Remove hose (4) from tee (6) and thermostat housing on engine.
2. Remove six clamps (1) from hoses (2, 3, and 4).
3. Remove two screws (7) and three clamps (8) from two hull weldnuts.
4. Loosen two clamps (9) on hose (10). Remove hose from shutoff valve (11) and elbow (12) on engine block. Remove clamps (8 and 9) and tubing (13) from hose.



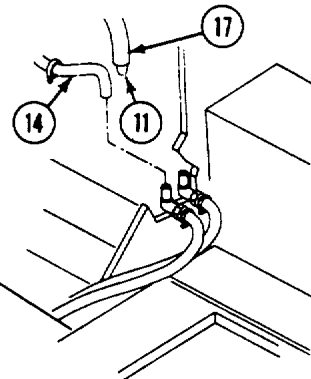
5. Remove elbow (1) and draincock (2) from mount (3) on engine block.
6. Remove adapter (4) from bushing (5) on heater. Remove bushing from tee (6).
7. Remove shutoff valve (7) from bushing (8). Remove bushing from tee (6) on heater.
8. Remove tee (6) from coolant heater.

9. Remove five screws (9) and clamps (10) from sponson. Remove clamps from hose (11).
10. Remove two screws (12) and clamps (13) from two hull weldnuts. Remove three clamps from hose (14).
11. Loosen clamp (15) on hose (11). Remove hose from shutoff valve (16) on coolant pump. Remove clamp and tube (17) from hose.
12. Remove shutoff valve (16) from bushing (18). Remove bushing from coolant pump.
13. Remove screw (19) and clamp (20) from oil cooler housing. Remove clamp from hose (14).

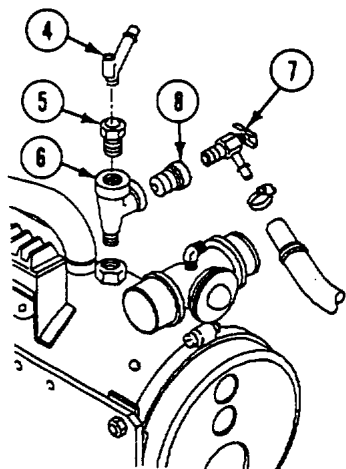
ENGINE BLOCK



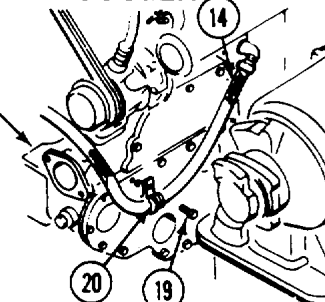
POWER PLANT BULKHEAD



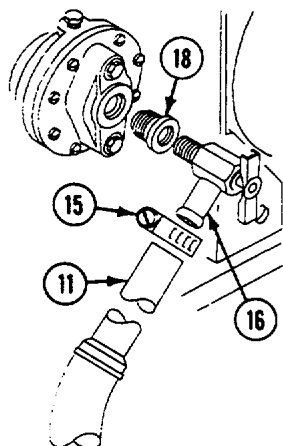
COOLANT HEATER



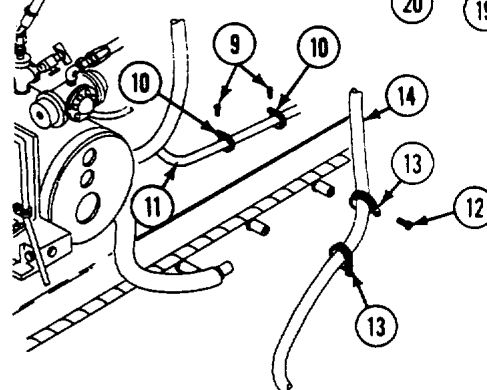
OIL COOLER



COOLANT PUMP



COOLANT HEATER



GO TO NEXT PAGE

14. Remove two screws (1), nuts (2), and clamps (3) from two engine brackets (4).

Remove clamps from hose (5).

15. Loosen clamp (6) on hose (5). Remove hose from adapter (7). Remove clamp from hose.

16. Remove adapter (7) from elbow (8). Remove elbow (8) from engine block.

17. Loosen clamp (9) on hose (10). Remove hose from elbow (11). Remove clamp from hose.

18. Loosen clamp (12) on hose (5). Remove hose from elbow (13). Remove clamp from hose.

19. Remove hoses (10 and 5) from carrier.

20. Remove two screws (14) and clamps (15) from personnel heater duct. Remove clamps from hoses (16 and 17).

21. Loosen two clamps (18) on hose (16).

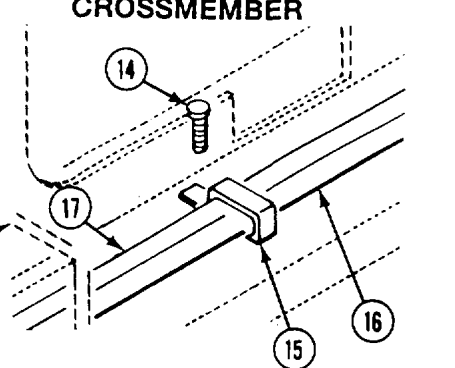
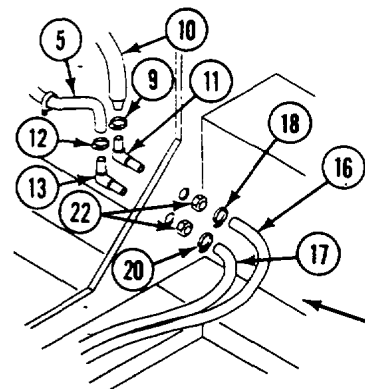
Remove hose (16) from elbow (11) and elbow (19).

22. Loosen two clamps (20) on hose (17). Remove hose (17) from elbow (13) and elbow (21).

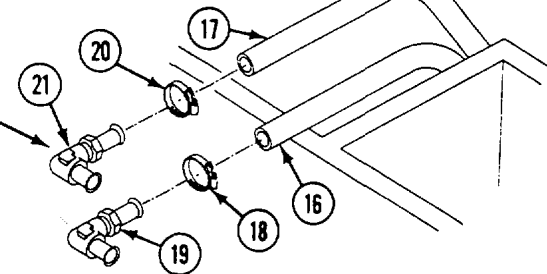
23. Remove two nuts (22), elbow (11), and elbow (13) from power plant compartment bulkhead.

POWER PLANT BULKHEAD

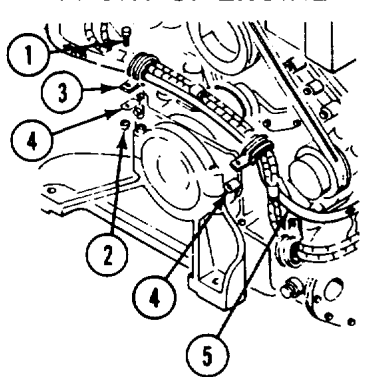
CROSSMEMBER



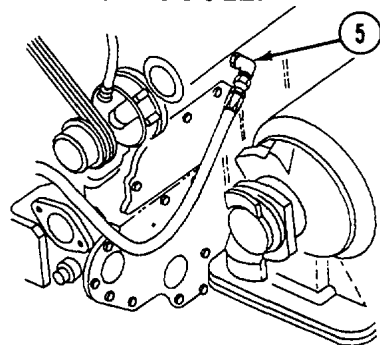
BATTERY BOX



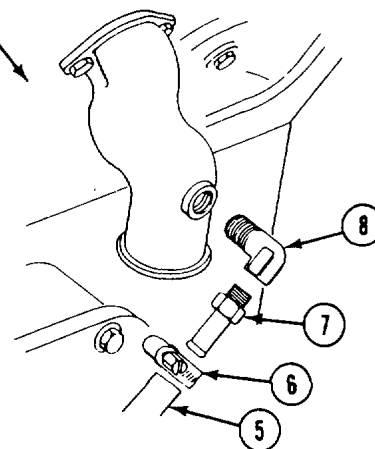
FRONT OF ENGINE



OIL COOLER



ENGINE BLOCK

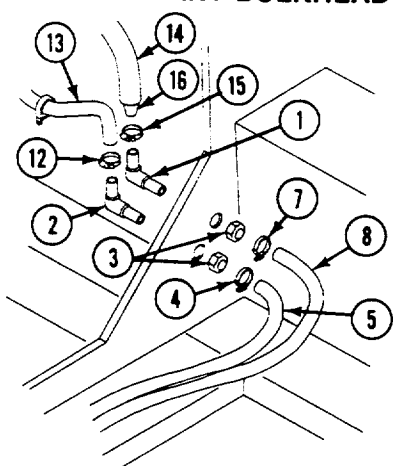


INSTALL

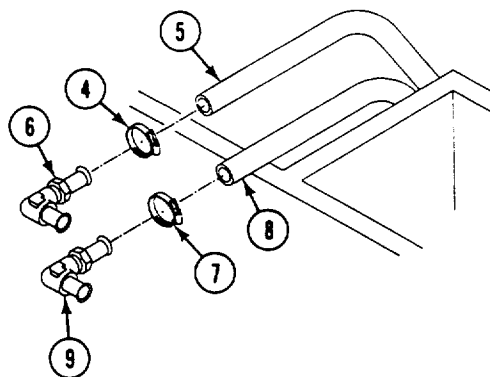
24. Install elbows (1 and 2) in power plant compartment bulkhead. Secure with two nuts (3).
25. Place two clamps (4) on hose (5). Install hose on elbow (6) and elbow (2). Secure with clamps.
26. Place two clamps (7) on hose (8). Install hose on elbow (9) and elbow (1). Secure with clamps.
27. Place two clamps (10) on hoses (8 and 5). Align clamps with personnel heater duct. Secure with two screws (11).

28. Place clamp (12) on hose (13). Install hose on elbow (2). Secure with clamp.
29. Place tube (14) and clamp (15) on hose (16). Install hose on elbow (1). Secure with clamp. Wrap ends of insulated tube with overlapping turns of insulation tape to prevent unraveling.
30. Apply a light coat of sealing compound to external tapered threads.

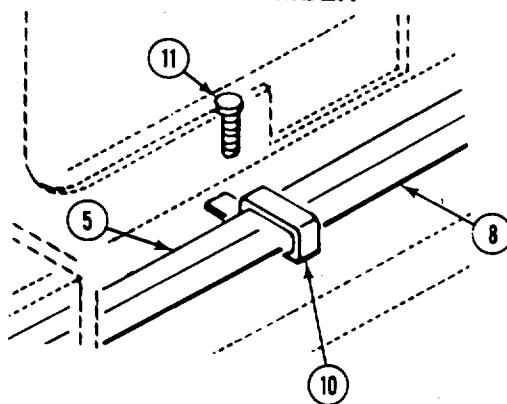
POWER PLANT BULKHEAD



BATTERY BOX



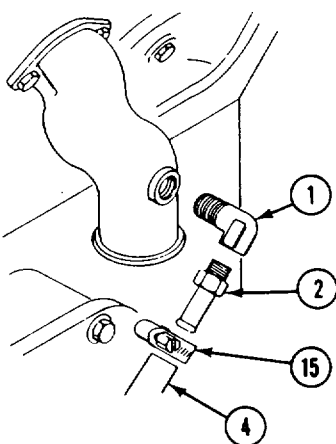
CROSSMEMBER



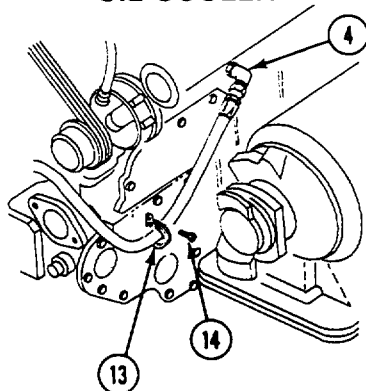
GO TO NEXT PAGE

31. Install elbow (1) on engine coolant tube. Install adapter (2) in elbow.
32. Place two clamps (3) on hose (4). Align clamps with hull weldnuts. Secure with two screws (5).
33. Place five clamps (6) on hose (7). Align clamps with holes in sponson. Secure with five screws (8).
34. Place two clamps (9) on hose (4). Align clamps with two engine brackets (10). Secure with two screws (11) and nuts (12).
35. Place clamp (13) on hose (4). Align with oil cooler housing. Secure with screw (14).
36. Place clamp (15) on hose (4). Install hose on adapter (2). Secure with clamp.
37. Install bushing (16) in coolant pump. Install shutoff valve (17) in bushing.
38. Place clamp (18) on hose (7). Install hose on shutoff valve (17). Secure with clamp.

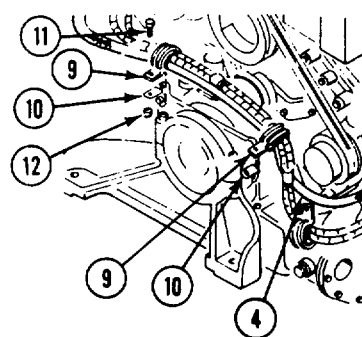
ENGINE BLOCK



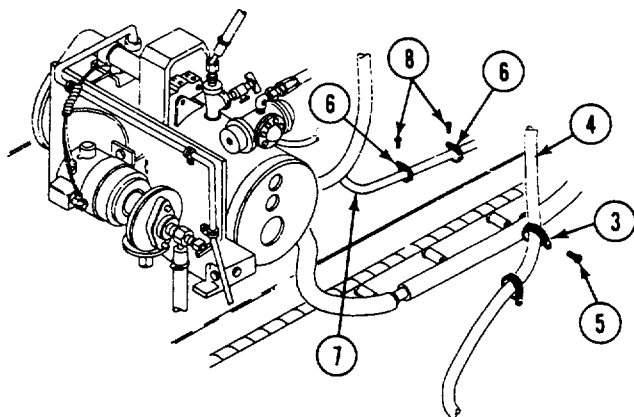
OIL COOLER



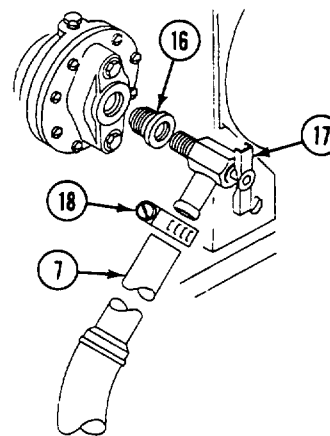
FRONT OF ENGINE



COOLANT HEATER

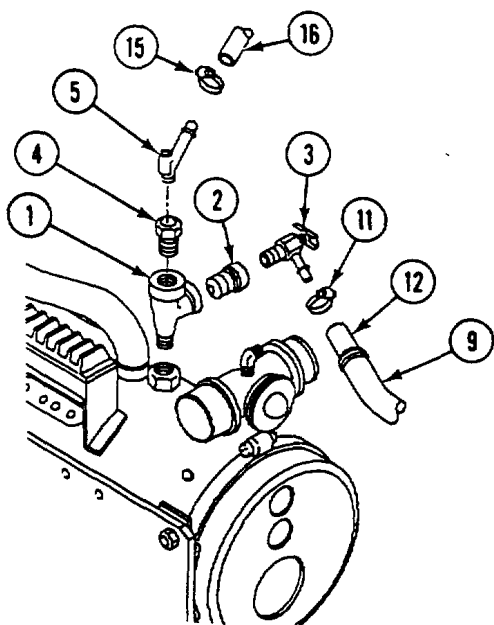


COOLANT PUMP



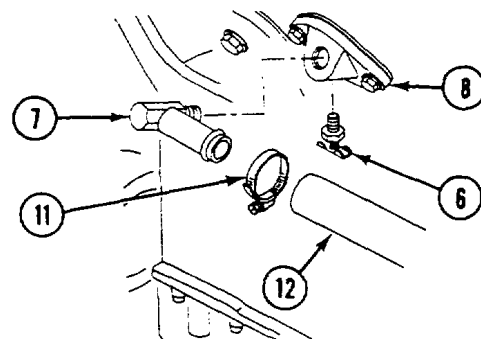
39. Install tee (1) on coolant heater.
40. Install bushing (2) in tee (1). Install shutoff valve (3) in bushing.
41. Install bushing (4) in tee (1). Install adapter (5) in bushing.
42. Install draincock (6) and elbow (7) in mount (8).

COOLANT HEATER

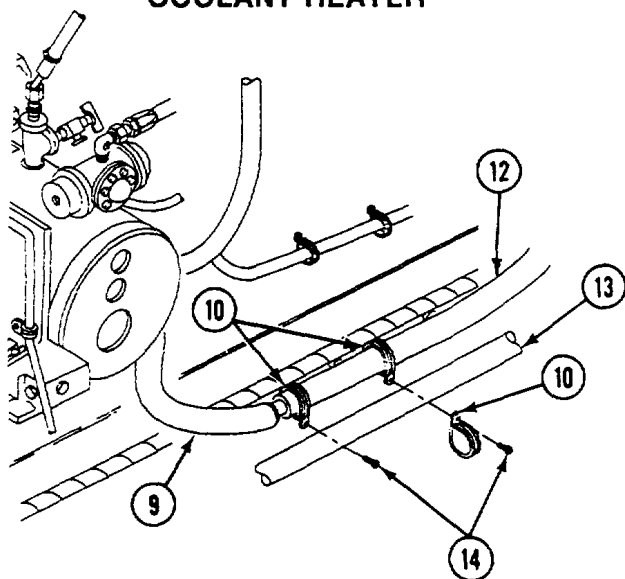


43. Slide tubing (9), two clamps (10), and two clamps (11) on hose (12). Install hose on elbow (7) and shutoff valve (3). Secure with two clamps (11).
44. Place clamp (10) on hose (13). Align three clamps (10) with two bulkhead weldnuts. Secure with two screws (14).
45. Place six clamps (15) on hoses (16, 17, and 18). Install tee (19) in hoses. Secure with three clamps.
46. Install hose (16) on adapter (5). Install hose (17) on radiator auxiliary tank (20). Install hose (21) on thermostat. Secure with remaining three clamps (15).

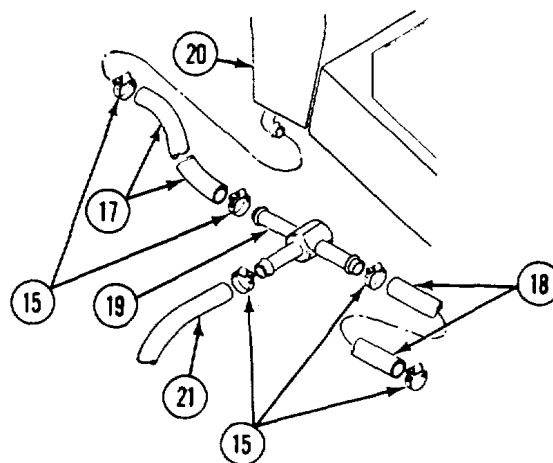
ENGINE BLOCK



COOLANT HEATER



AUXILIARY TANK AND RADIATOR



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Fill carrier cooling system (page 9-5).
2. Fill coolant heater system (page 32-10).
3. Start coolant heater (see your -10). Check for coolant leaks. Turn heater off.
4. Close power plant from access door and raise trim vane (see your -10).
5. Install power plant rear access panel (page 24-31).
6. Raise and lock ramp (see your -10).
7. Stop engine (see your -10).

END OF TASK

REPLACE COOLANT HEATER EXHAUST ELBOW AND PIPES

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Gasket

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
 Carrier blocked (see your -10)
 Trim vane lowered (see your -10)
 Power plant front access door open
 (see your -10)

REMOVE

1. Loosen three clamps (1) on upper exhaust pipe (2), lower exhaust pipe (3), and exhaust elbow (4).



WARNING
 The gasket is made out of asbestos. Handle with care. Discard gasket properly as a hazardous material per local standard operating procedure.

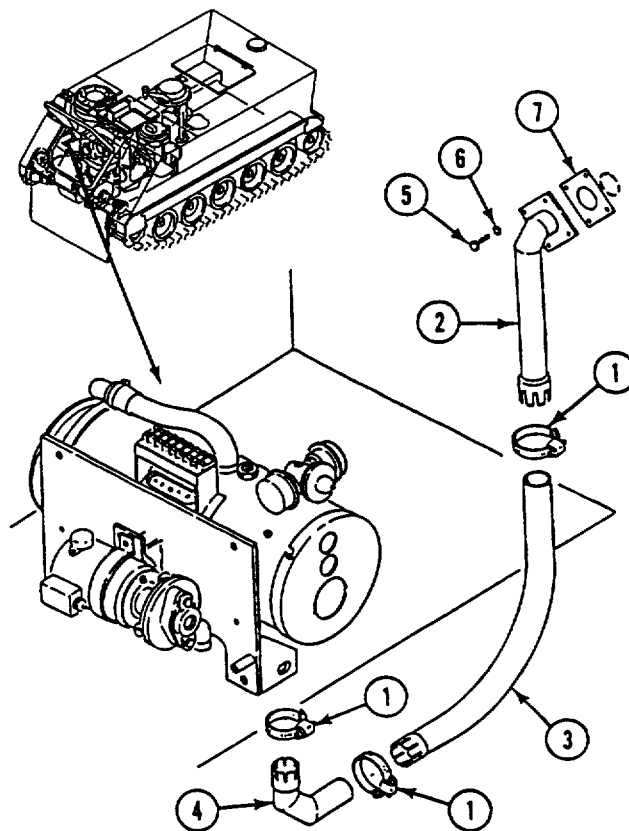
material per local standard operating procedure.

2. Remove four screws (5), washers (6), upper pipe (2), and gasket (7) from exhaust grill housing. Discard gasket.
3. Remove upper pipe (2) from lower pipe (3). Remove lower pipe (3) from elbow (4).
4. Remove elbow (4) from coolant heater.

INSTALL

5. Place clamp (1) on elbow (4). Install elbow on coolant heater. Tighten clamp.
6. Place clamp (1) on lower pipe (3). Install pipe in elbow (4). Tighten clamp.

7. Place clamp (1) on upper pipe (2). Install upper pipe in lower pipe (3). Tighten clamps.
8. Align new gasket (7) and upper pipe (2) with exhaust grill housing. Secure with four washers (6) and screws (5).



FOLLOW-THROUGH STEPS

1. Start coolant heater (see your -10). Check for exhaust leaks. Turn heater off.
2. Close power plant front access door (see your -10).
3. Raise trim vane (see your -10).

END OF TASK

REPLACE/REPAIR ENGINE COOLANT HEATER CONTROL BOX

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (page 13-2)

REMOVE

1. Disconnect circuit 400A lead (1) from heater control box lead (2).
2. Disconnect heater wiring harness (3) from heater control box (4).
3. Remove two screws (5) and heater control box from control box case (6).
4. Remove two screws (7), lockwashers (8), and case (6) from support bracket. Discard lockwashers.

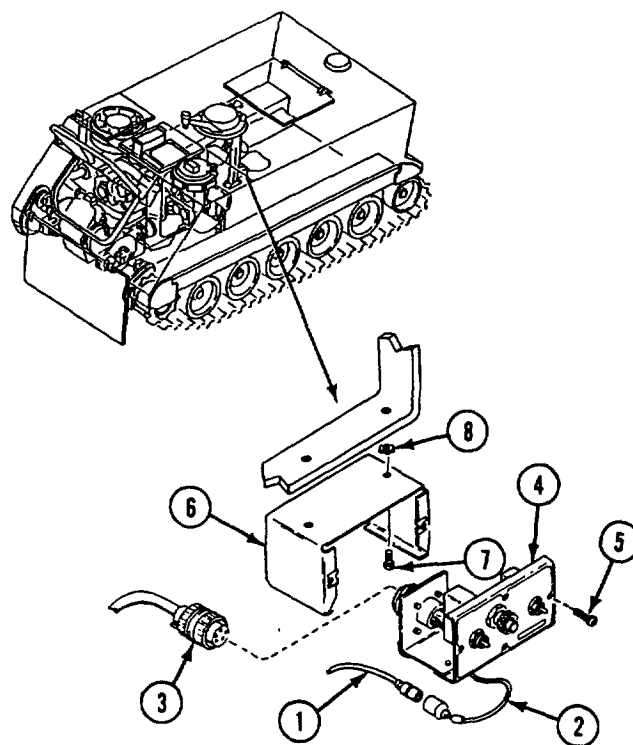
CLEAN, INSPECT, AND REPAIR

5. Check control box and components. See troubleshooting (page 3-217). Replace bad control box or components.

INSTALL

6. Place control box case (6) on support bracket. Secure with two new lockwashers (8) and screws (7).
7. Install heater control box (4) in case (6). Secure with two screws (5).

8. Connect heater wiring harness (3) to heater control box (4).
9. Connect circuit 400A lead (1) to heater control box lead (2).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
 2. Start heater (see your -10). Check that heater control box operates properly. Turn heater off.
-

END OF TASK

REPLACE ENGINE COOLANT PUMP TO COOLANT HEATER WIRING HARNESS

DESCRIPTION

This task covers: Remove (page 32-43). Install (page 32-44).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)
Multimeter (Item 43, App D)

Materials/Parts:

Lockwasher
Self-locking nut

Personnel Required:

Unit Mechanic

References:

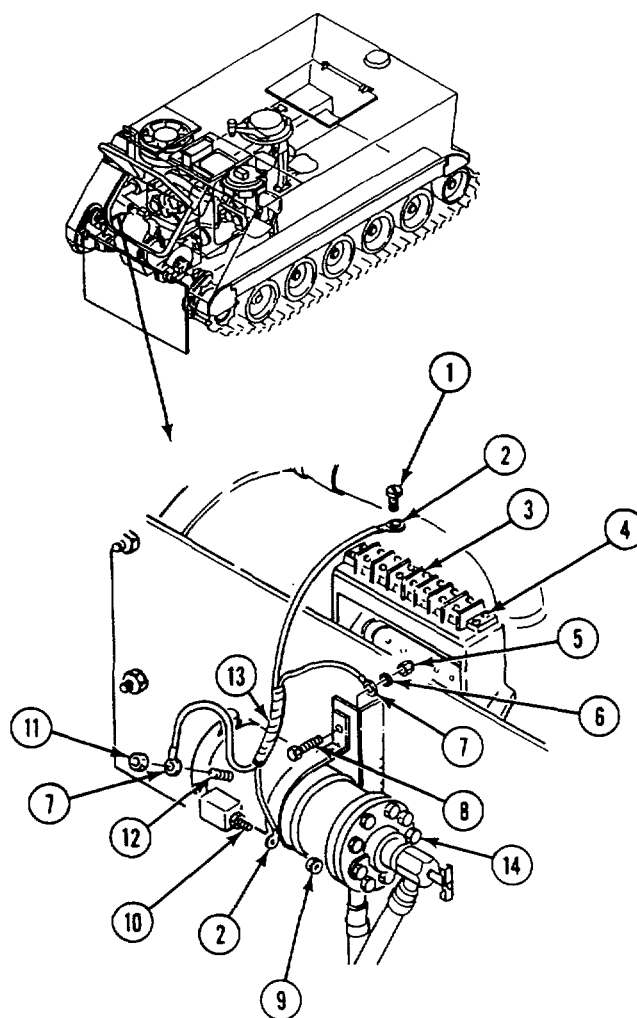
See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Trim vane lowered (see your -10)
Power plant front access door opened
(see your -10)
Battery ground lead disconnected (page 13-2)

REMOVE

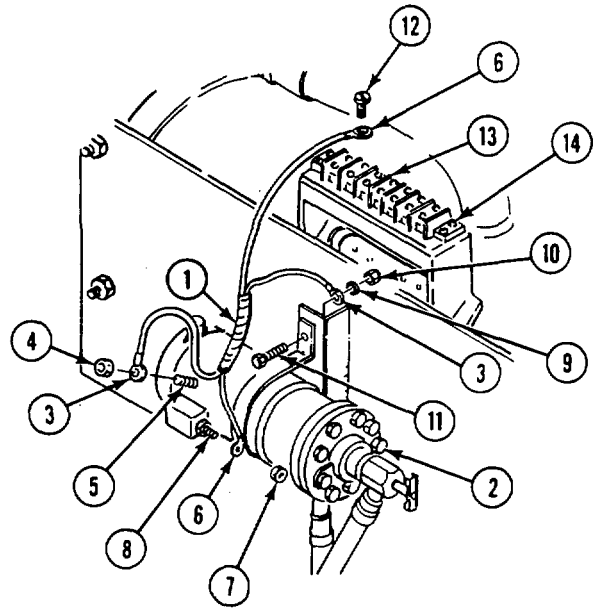
1. Remove screw (1) and circuit lead (2) from terminal No. 4 (3) of heater terminal strip (4).
2. Remove locknut (5), lockwasher (6), and ground lead (7) from coolant pump mount screw (8). Discard lockwasher and locknut.
3. Remove nut (9) and circuit 402B lead (2) from coolant pump terminal (10).
4. Remove nut (11) and ground lead (7) from coolant pump terminal (12). Remove wiring harness (13) from pump (14).



GO TO NEXT PAGE

INSTALL

7. Place wiring harness (1) on coolant pump (2).
8. Install ground lead (3) and nut (4) on pump terminal (5).
9. Install circuit 402B lead (6) and nut (7) on pump terminal (8).
10. Install ground lead (3), new lockwasher (9), and new locknut (10) on coolant pump mount screw (11).
11. Install circuit 402B lead (6) and screw (12) on terminal No. 4 (13) of terminal strip (14).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
2. Start coolant heater (see your -10). Check that wiring harness is installed properly. Turn heater off.
3. Close power plant front access door (see your -10).
4. Raise trim vane (see your -10).

END OF TASK

REPLACE COOLANT HEATER AND PUMP UNIT**DESCRIPTION**

This task covers: Remove (page 32-45). Install (page 32-47).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Wiping rags (Item 61, App C)
Lockwasher

Personnel Required:

Unit Mechanic

References:

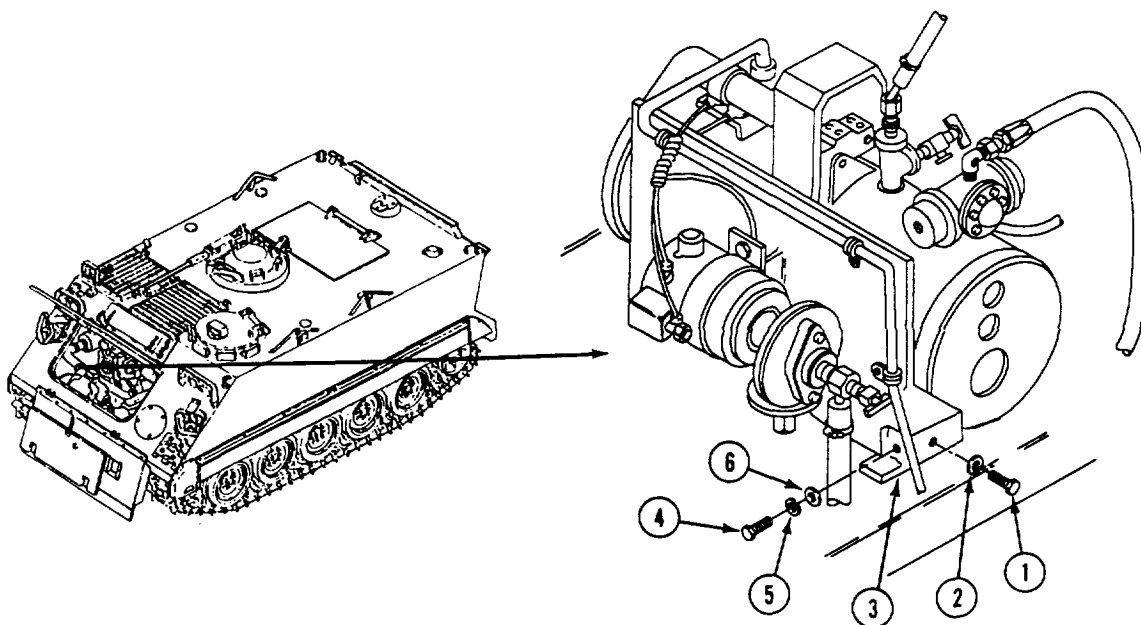
See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Trim vane lowered (see your -10)
Power plant front access door open
(see your -10)
Personnel heater fuel tank shutoff valve closed
(see your -10)
Carrier cooling system drained (page 8-3)
Battery ground lead disconnected (page 13-2)

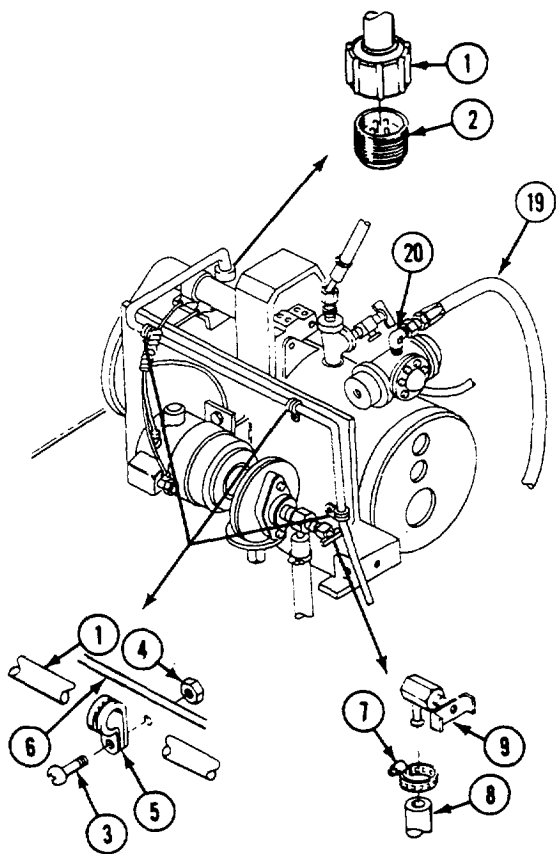
REMOVE

1. Remove two screws (1) and flat washers (2) from each end of bracket (3).
2. Remove two screws (4), lockwashers (5), and flat washers (6) from each side of bracket (7). Discard lockwasher.

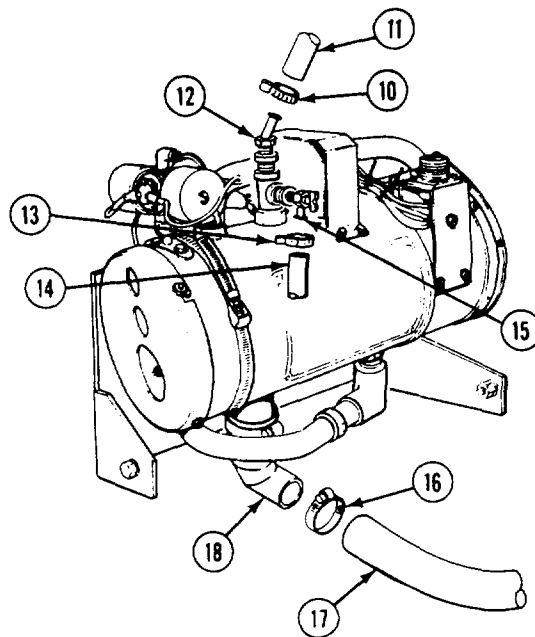


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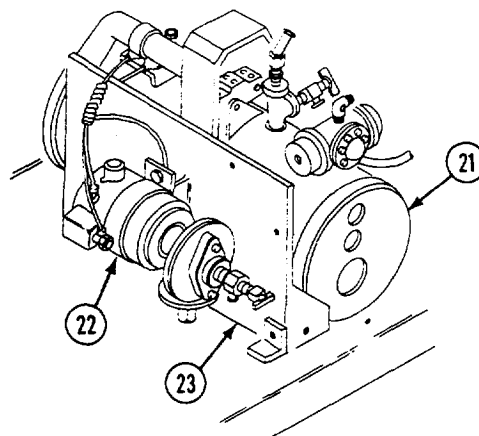
3. Disconnect wiring harness (1) from receptacle (2).
4. Remove three screws (3), nuts (4), clamps (5), and harness (1) from bracket (6).
5. Loosen clamp (7). Remove hose (8) from coolant pump (9).



6. Loosen clamp (10). Remove hose (11) from elbow (12).
7. Loosen clamp (13). Remove hose (14) from shutoff valve (15).
8. Loosen clamp (16). Remove exhaust pipe (17) from elbow (18).



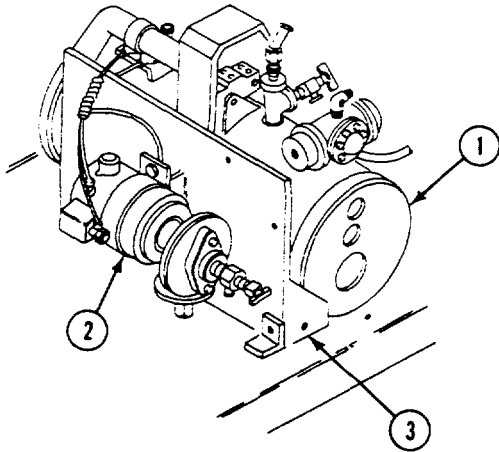
9. Remove fuel supply hose (19) from elbow (20).
10. Remove heater (21), pump (22), and bracket (23) from carrier as an assembly.



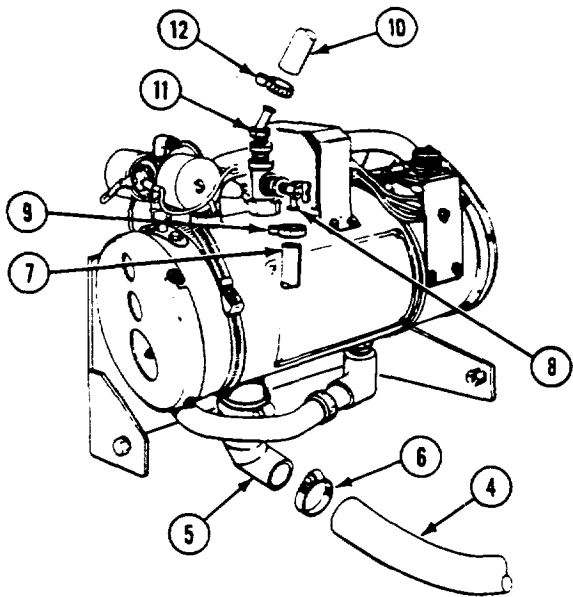
WARNING
 Fuel can catch fire and burn you. Do not smoke. Wipe up spilled fuel.

INSTALL

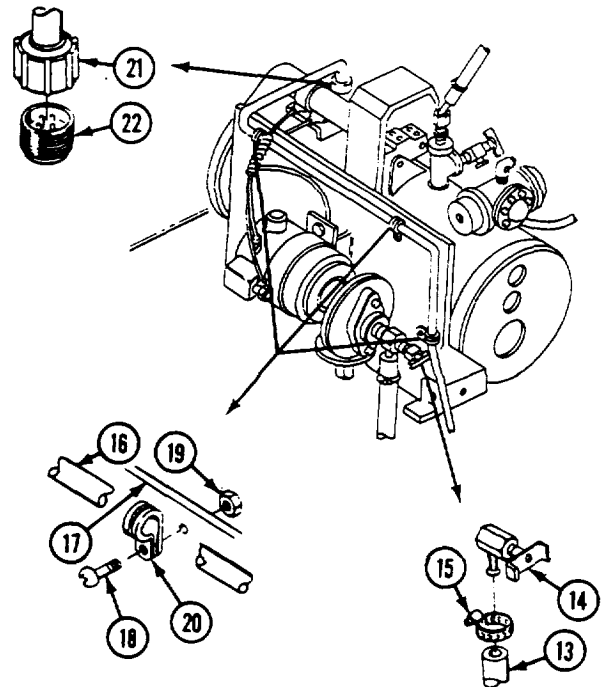
11. Place heater (1), pump (2), and bracket (3) assembly in carrier on right front sponson. Align bracket (3) with four hull brackets.
12. Connect exhaust pipe hose (4) to elbow (5). Secure with clamp (6)



13. Install hose (7) on shutoff valve (8). Secure with clamp (9).
14. Install hose (10) on elbow (11). Secure with clamp (12).

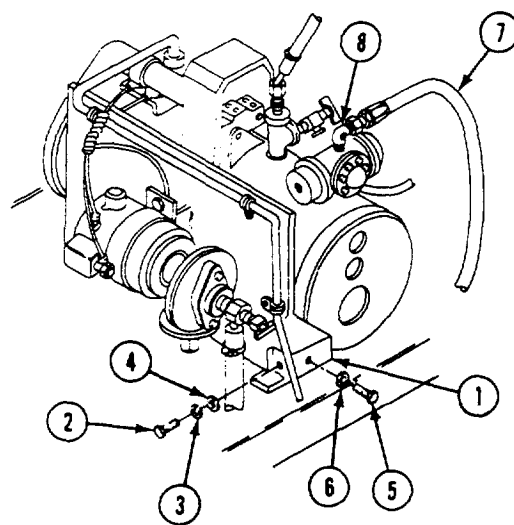


15. Install hose (13) on coolant pump (14). Secure with clamp (15).
16. Install harness (16) on bracket (17). Secure with three screws (18), nuts (19), and clamps (20).
17. Connect harness (21) to receptacle (22).



GO TO NEXT PAGE

18. Align bracket (1) with four hull brackets. Secure with two screws (2), new lockwashers (3), and two flat washers (4) in outboard end of bracket (1) and brackets on hull.
19. Install two screws (5), and two flat washers (6), in inboard end of bracket (1) and brackets on hull.
20. Install fuel supply hose (7) on elbow (8).



FOLLOW-THROUGH STEPS

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Connect battery ground lead (page 13-2). 2. Fill carrier cooling system (page 8-5). 3. Open personnel heater fuel shutoff valve (see your -10). 4. Start coolant heater (see your -10). Check to make sure heater is installed properly. Check for leaks. Turn heater off. | <ol style="list-style-type: none"> 5. Close power plant front access door (see your -10). 6. Raise trim vane (see your -10). 7. Raise and lock ramp (see your -10). 8. Stop/shutdown engine (see your -10) |
|--|--|

END OF TASK

REPLACE COOLANT HEATER

DESCRIPTION

This task covers: Remove (page 32-49). Install (page 32-50).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Sealing compound (Item 46, App C)

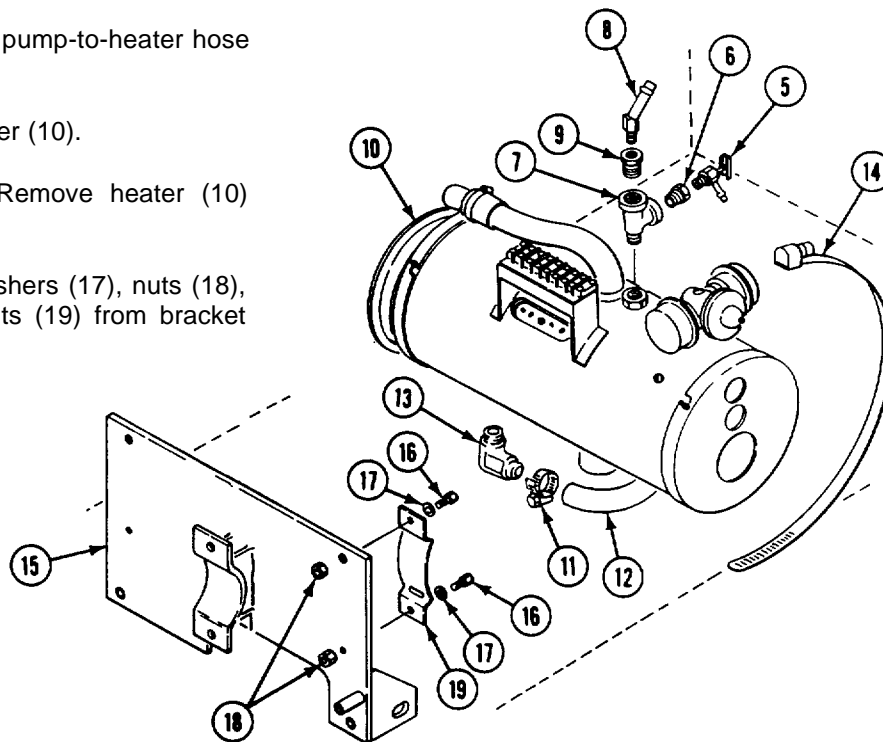
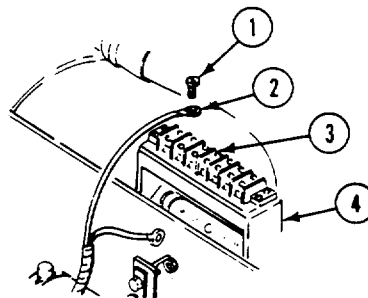
Equipment Conditions:

Coolant heater and pump unit removed from carrier (page 32-13 to 32-17)

Coolant heater pump removed (page 32-51)

REMOVE

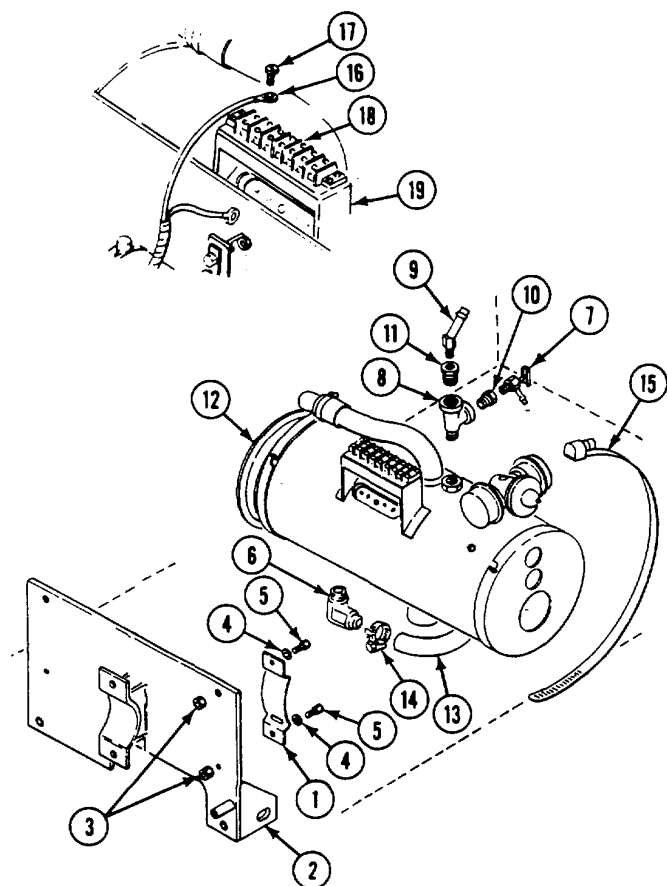
1. Remove screw (1) and circuit lead (2) from terminal No. 4 (3) of heater terminal strip (4).
2. Remove shutoff valve (5) and bushing (6) from tee (7).
3. Remove elbow (8), bushing (9), and tee (7) from heater (10).
4. Loosen clamp (11). Remove pump-to-heater hose (12) from elbow (13).
5. Remove elbow (13) from heater (10).
6. Loosen two clamps (14). Remove heater (10) from bracket (15).
7. Remove four screws (16), washers (17), nuts (18), and two heater saddle mounts (19) from bracket (15).



GO TO NEXT PAGE

INSTALL

8. Install saddle mounts (1) on bracket (2). Secure with four nuts (3), washers (4) and screws (5).
9. Apply sealing compound to threads of elbow (6), shutoff valve (7), tee (8), elbow (9), and bushings (10 and 11).
10. Install elbow (6) in heater (12).
11. Install hose (13) on elbow (6). Secure with clamp (14).
12. Install heater (12) on bracket (2). Secure with two clamps (15).
13. Install bushing (10) in tee (8).
14. Install shutoff valve (7) in bushing (10).
15. Install tee (8) in heater (12).
16. Install bushing (11) in tee (8).
17. Install elbow (9) in bushing (11).
18. Install circuit lead (16) and screw (17) on terminal No. 4 (18) of heater terminal strip (19).



FOLLOW-THROUGH STEPS

1. Install coolant heater pump (page 32-51).
2. Install coolant heater and pump unit (page 32-13 to 32-17).

END OF TASK

REPLACE COOLANT]HEATER PUMP**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Sealing compound (Item 46, App C)
Self-locking nut (2)

Personnel Required:

Unit Mechanic

References:

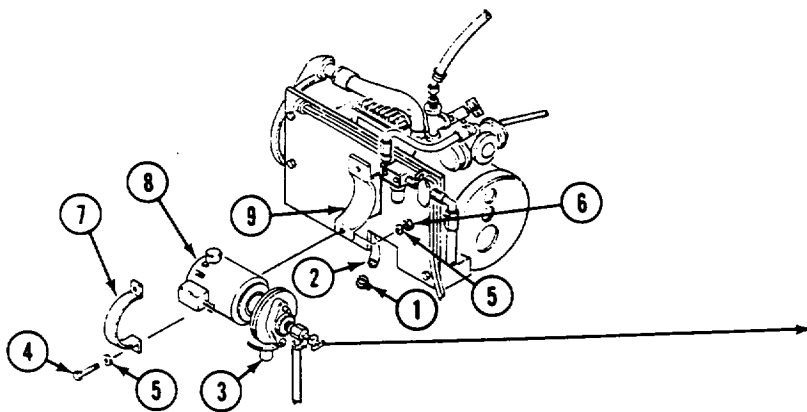
See your -10

Equipment Conditions:

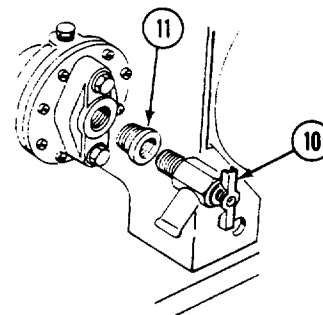
Coolant heater and pump unit removed from carrier (page 32-45)
Wiring harness removed (page 32-43)

REMOVE

1. Loosen clamp (1). Remove hose (2) from elbow (3).
2. Remove two screws (4), four washers (5), two locknuts (6), retaining strap (7), and pump (8) from support bracket (9). Discard locknuts.
3. Remove elbow (3) from pump (8).
4. Remove shutoff valve (10) from bushing (11).
5. Remove bushing (11) from coolant pump (8).

**INSTALL**

6. Apply sealing compound to threads of elbow (3) and shutoff valve (10).
7. Install bushing (11) in coolant pump (8).
8. Install shutoff valve (10) in bushing (11).
9. Install elbow (3) in coolant pump (8).
10. Install pump (8) on bracket (9). Secure with retaining strap (7), two screws (4), four washers (5), and two new locknuts (6).
11. Install hose (2) on elbow (3). Secure with clamp (1).

**FOLLOW-THROUGH STEPS**

1. Install wiring harness (page 32-43).
2. Install coolant heater and pump unit (page 32-45).

END OF TASK

**CHAPTER 33
RAMP NON-SKID WINTERIZATION KIT MAINTENANCE
(M106A2, M125A2, AND M1064 ONLY)**

TASK INDEX

Task	Page	Task	Page
Replace Interior Door Handle Stop (M106A2 and M125A2 Only)	33-2	Replace Non-Skid Plates (M106A2, M125A2, and M1064 Only)	33-4
Replace Interior Door Handle and Release (M106A2 and M125A2 Only)	33-3		

**REPLACE INTERIOR DOOR HANDLE STOP
(M106A2 AND M125A2 ONLY)**

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Key washer (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

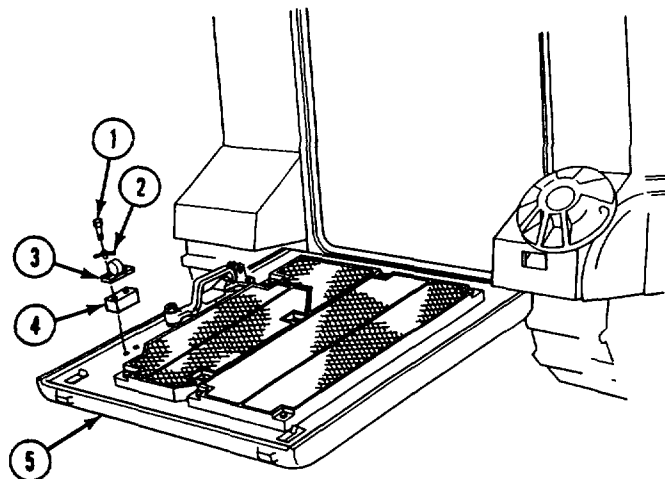
Ramp lowered (see your -10)

REMOVE

1. Straighten tabs on key washers and remove two screws (1), key washers (2), stop (3), and spacer (4) from ramp (5). Discard key washers.

INSTALL

2. Position spacer (4) and stop (3) on ramp (5). Secure with two new key washers (2) and screws (1). Bend tabs on key washers against screw flats.



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
 2. Stop engine (see your -10).
-

END OF TASK

**REPLACE INTERIOR DOOR HANDLE AND RELEASE
(M106A2 AND M125A2 ONLY)**

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Open End Wrench 1 x 1-1/8"
(Item 83, App D)

Materials/Parts:

- Key washer (3)
- Self-locking nut
- Spring pin

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)

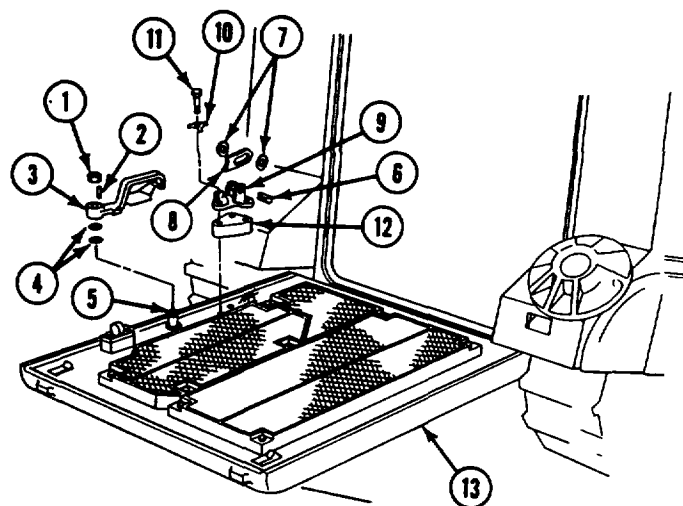
REMOVE

NOTE

Note location and number of washers to ensure proper installation.

1. Remove locknut (1), key (2), door handle (3), and two washers (4) from shaft (5). Discard locknut.
2. Remove spring pin (6), two spacers (7), and release (8) from bracket (9). Discard spring pin.
3. Straighten tabs on three key washers (10). Remove three screws (11), key washers (10), bracket (9), and spacer (12) from ramp (13). Discard key washers.

5. Install release (8) and two spacers (7) on bracket (9). Secure with new spring pin (6).
6. Install two washers (4) and door handle (3) on shaft (5). Secure with key (2) and new locknut (1).



INSTALL

4. Install spacer (12) and bracket (9) on ramp (13). Secure with three new key washers (10) and screws (11). Bend key washer tabs against screw flats.

FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE NON-SKID PLATES (M106A2, M125A2, AND M1064 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Key washer (9)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

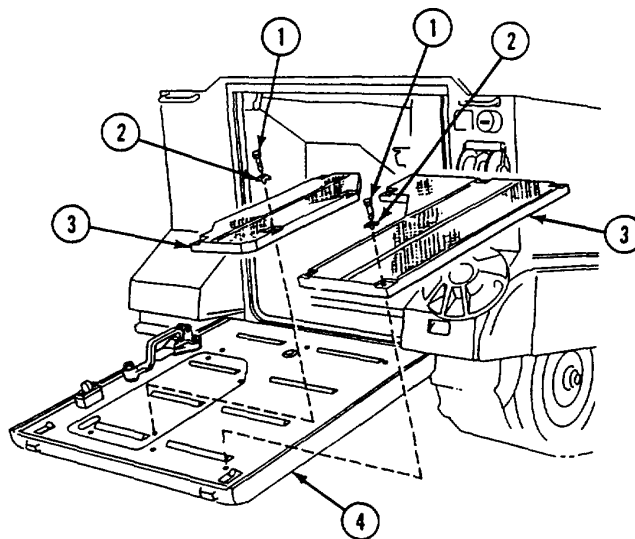
Ramp lowered (see your -10)

REMOVE

1. Straighten tabs on key washers. Remove nine screws (1) key washers (2), and two non-skid plates (3) from ramp (4). Discard key washers.

INSTALL

2. Secure two non-skid plates (3) to ramp (4) with nine screws (1) and new key washers (2). Bend washer keys against screw flats.



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).
 2. Stop engine (see your -10).
-

END OF TASK

**CHAPTER 34
CAPSTAN KIT**

TASK INDEX

Task	Page	Task	Page
Replace Drum Assembly (M113A2 and M1059 Only)	34-2	Replace Drum Adapter (M113A2 and M1059 Only)	34-3

REPLACE DRUM ASSEMBLY (M113A2 AND M1059 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Spring pin

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

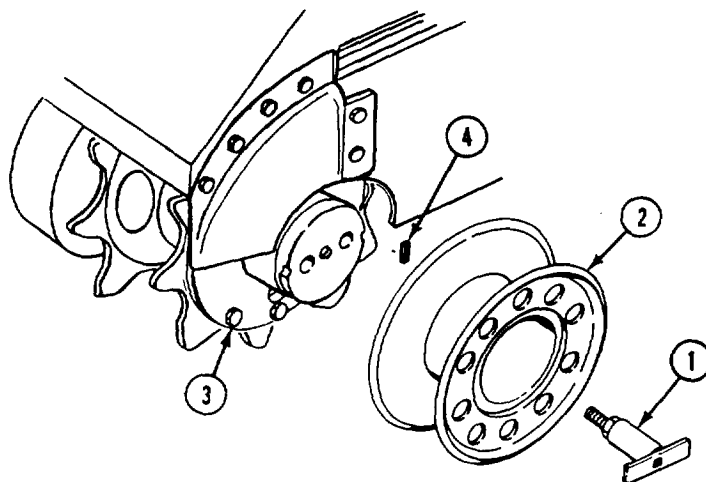
Personnel Required:Unit Mechanic

REMOVE

1. Loosen retainer (1). Remove drum (2) from adapter (3).
2. Remove spring pin (4) and retainer (1) from drum (2). Discard spring pin.

INSTALL

3. Secure retainer (1) in drum (2) with new spring pin (4).
4. Install drum (2) on adapter (3). Secure wrench tight with retainer (1).



END OF TASK

REPLACE DRUM ADAPTER (M113A2 AND M1059 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Torque Wrench (Item 96, App C)

Material/Parts:

Screw (10)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

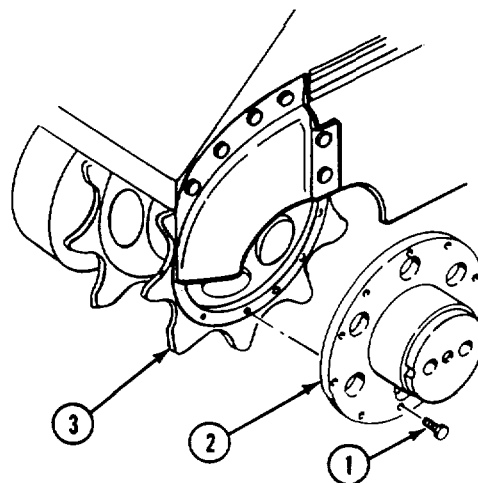
Engine stopped (see your -10)
Carrier blocked (see your -10)
Drum assembly removed (page 34-2)

REMOVE

1. Remove 10 screws (1) and adapter (2) from drive sprocket (3). Discard screws.

INSTALL

2. Secure adapter (2) to drive sprocket (3) with 10 new screws (1). Tighten screws to 110-115 lb-ft (149-156 N•m) torque. Use torque wrench.



FOLLOW-THROUGH STEPS

1. Install drum assembly (page 34-2).
-

END OF TASK

**CHAPTER 35
MARINE RECOVERY KIT**

TASK INDEX

Task	Page	Task	Page
Replace Tarpaulin and Straps (M113A2 and M1059 Only)	35-2	Repair Towlines (M113A2 and M1059 Only)	35-4
Replace Stowage Hooks and Brackets (M113A2 and M1059 Only)	35-3		

REPLACE TARPULIN AND STRAPS (M113A2 AND M1059 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

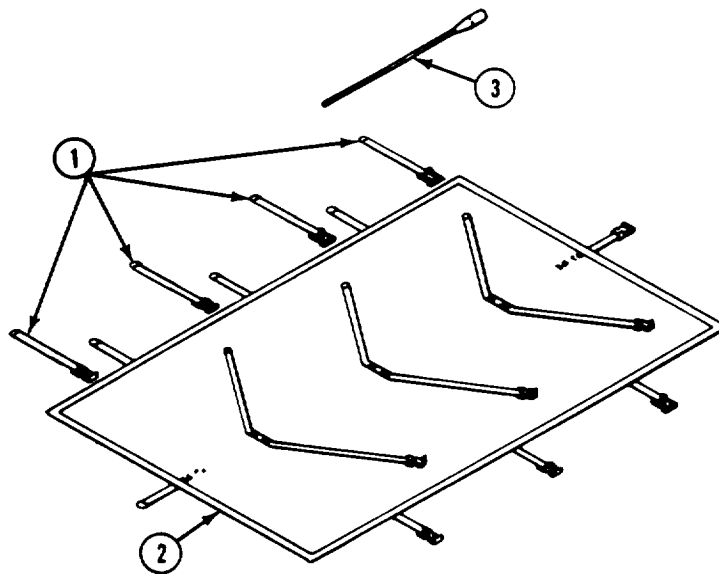
Carrier blocked (see your -10)

REMOVE

1. Remove four stowage straps (1), tarpaulin (2), and fid (3) from carrier.

INSTALL

2. Keep tarpaulin (2), fid (3), and four stowage straps (1) in carrier until kit is stowed (see your -10).



END OF TASK

**REPLACE STOWAGE HOOKS AND BRACKETS
(M113A2 AND M1059 ONLY)**

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

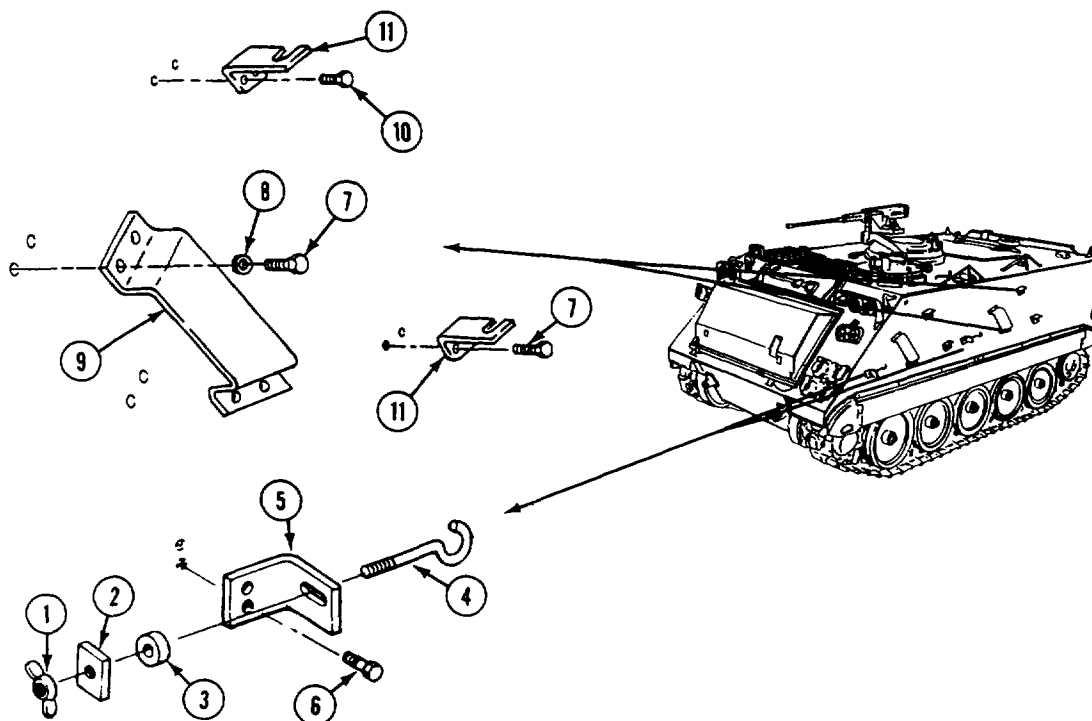
Carrier blocked (see your -10)

REMOVE

1. Remove two wing nuts (1), plates (2), spacers (3), and hooks (4) from brackets (5).
2. Remove four screws (6) and two brackets (5) from carrier.
3. Remove eight screws (7), washers (8), and two brackets (9) from carrier.
4. Remove eight screws (10) and four brackets (11) from carrier.

INSTALL

5. Install four brackets (11) on carrier. Secure with eight screws (10).
6. Install two brackets (9) on carrier. Secure with eight washers (8) and screws (7).
7. Install two brackets (5) on carrier. Secure with four screws (6).
8. Install two hooks (4) in two brackets (5). Secure with two spacers (3), plates (2), and wing nuts (1). Deform last two threads of hooks to retain wing nuts.



END OF TASK

REPAIR TOWLINES (M113A2 AND M1059 ONLY)

DESCRIPTION

This task covers: Remove (page 35-4). Clean, Inspect, and Repair (Page 35-5).
Install (page 35-5).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)
Leather gloves (Item 31, App D)

References:

See your -10

Personnel Required:
Unit Mechanic

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

REMOVE

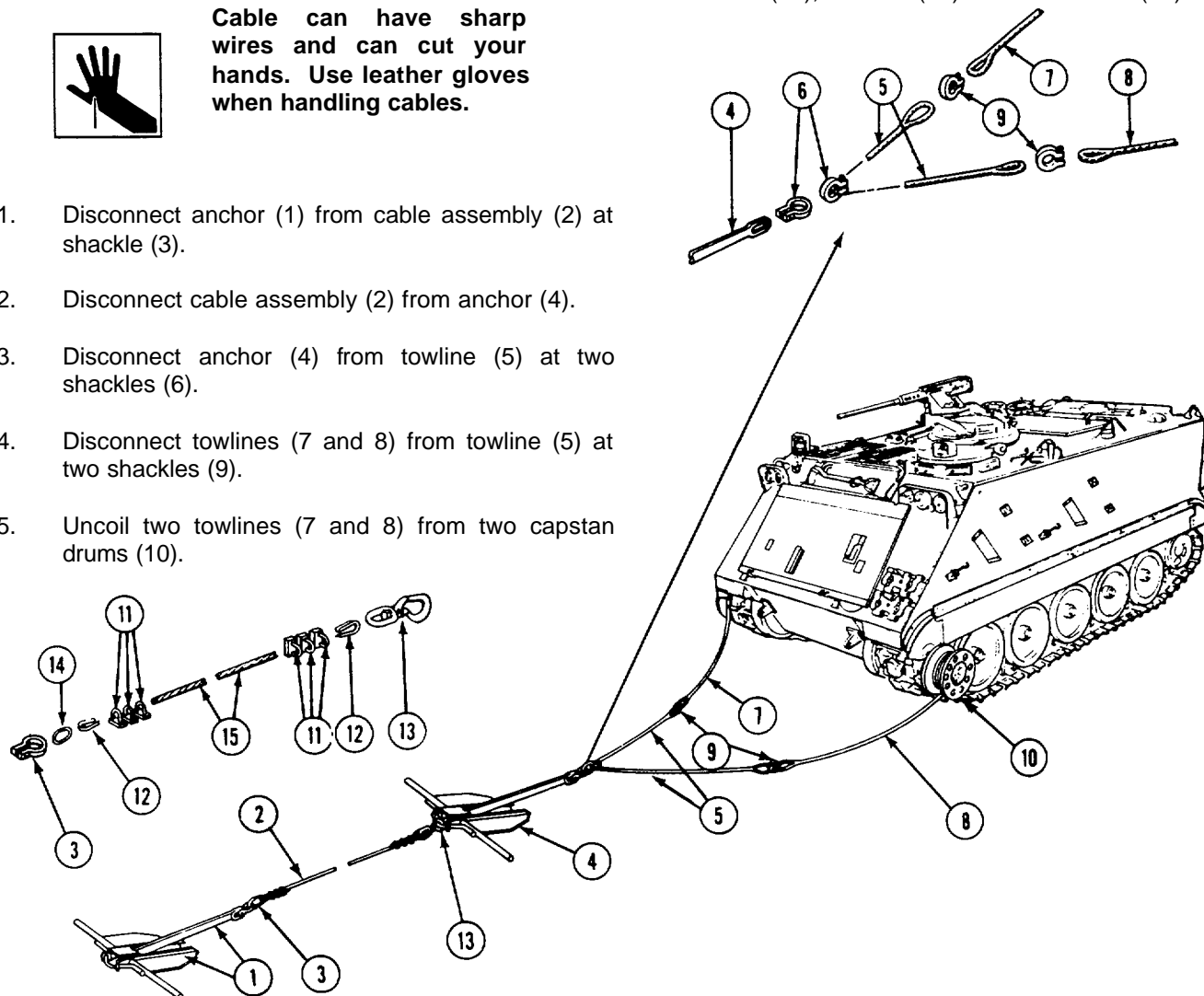
WARNING

Cable can have sharp wires and can cut your hands. Use leather gloves when handling cables.



1. Disconnect anchor (1) from cable assembly (2) at shackle (3).
2. Disconnect cable assembly (2) from anchor (4).
3. Disconnect anchor (4) from towline (5) at two shackles (6).
4. Disconnect towlines (7 and 8) from towline (5) at two shackles (9).
5. Uncoil two towlines (7 and 8) from two capstan drums (10).

6. Remove six clamps (11), two thimbles (12), hook (13), and link (14) from wire cable (15).

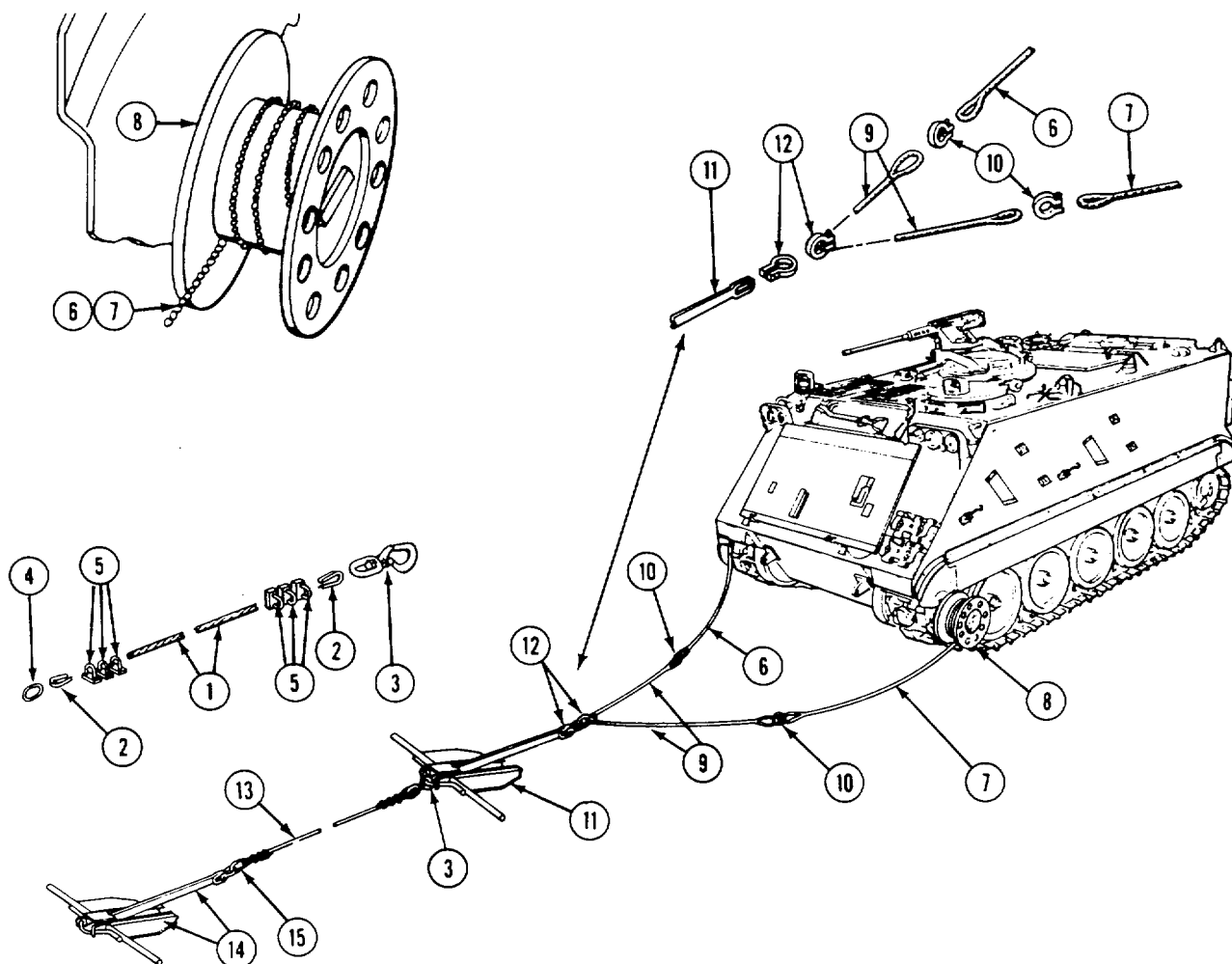


CLEAN, INSPECT, AND REPAIR

7. Clean and lubricate cables.
8. Check towlines. Replace worn or damaged towlines.
9. Check wire cable. Replace worn or damaged cable.
10. Check cable clamps. Replace clamps that have stripped threads.

INSTALL

11. Install wire cable (1) to two thimbles (2), hook (3), and link (4). Secure with six clamps (5).
12. Coil two towlines (6 and 7) on two capstan drums (8).
13. Connect two towlines (6 and 7) to towline (9) with two shackles (10).
14. Connect towline (9) to anchor (11) with two shackles (12).
15. Connect cable assembly (13) to two anchors (11 and 14) with hook (3) and shackle (15).



END OF TASK

CHAPTER 36
LITTER KIT MAINTENANCE (M113A2 ONLY)

TASK INDEX

Task	Page	Task	Page
Replace Chain Assembly (M113A2 Only)	36-2	Replace Post Assembly (M113A2 Only)	36-5
Repair Chain Assembly (M113A2 Only)	36-3	Repair Post Assembly (M113A2 Only)	36-6

REPLACE CHAIN ASSEMBLY (M113A2 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

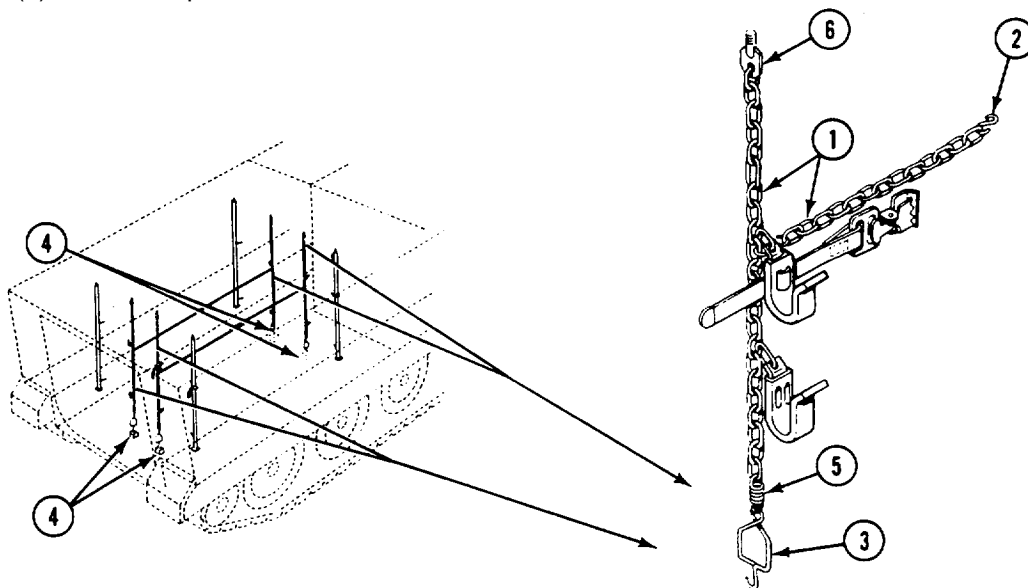
REMOVE**NOTE**

The four chain assemblies are all removed and installed in the same way.

1. Disconnect four chain assemblies (1) at two S hooks (2).
2. Remove four hooks (3) from four anchors (4) by extending spring (5).
3. Remove four hangers (6) and four chain assemblies (1) from hull top.

INSTALL

4. Suspend four chain assemblies (1) by installing four hangers (6) in hull top.
5. Attach four hooks (3) to four anchors (4).
6. Connect four horizontal chain assemblies (1) with two S hooks (2).

**FOLLOW-THROUGH STEPS**

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPAIR CHAIN ASSEMBLY (M113A2 ONLY)

DESCRIPTION

This task covers: Disassemble (page 36-3). Assemble (page 36-4).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Equipment Conditions:

Chain assembly removed (page 36-2)

Personnel Required:

Unit Mechanic

DISASSEMBLE

NOTE

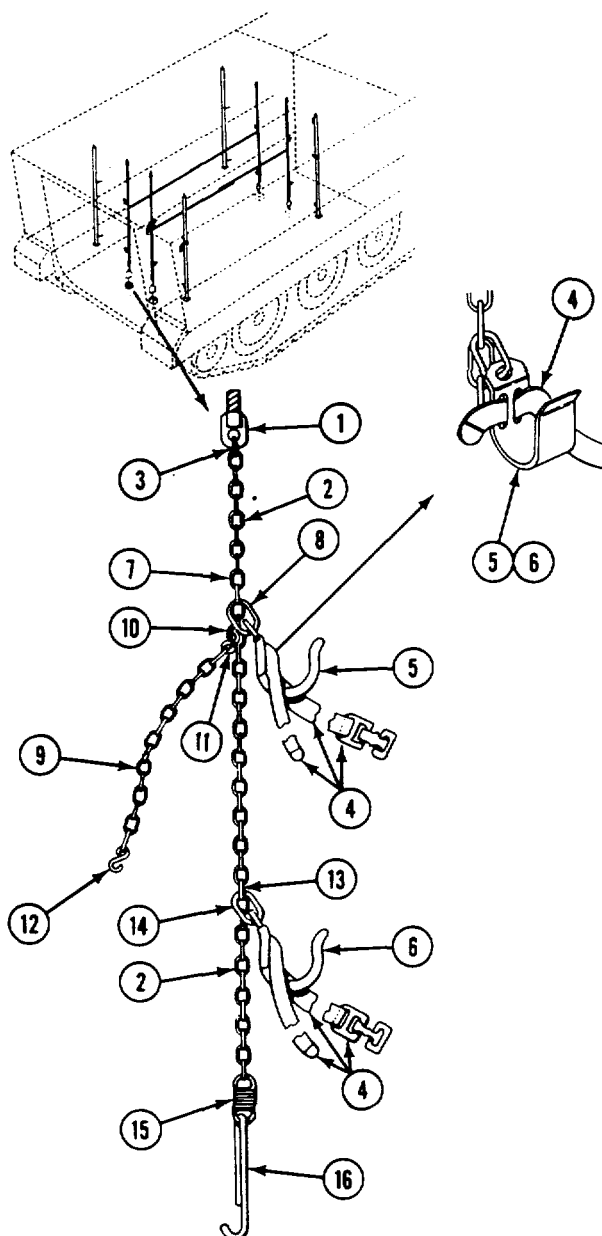
All four chain assemblies are disassembled and assembled in the same way.

1. Remove hanger (1) from chain assembly (2) by opening repair link (3).
2. Remove two straps (4) from two litter hooks (5 and 6).

NOTE

Chain link 1 is at the top.

3. Remove upper litter hook (5) from chain link 18 (7) by opening repair link (8).
4. Remove chain (9) from chain link 24 (10) by opening S hook (11).
5. Remove S hook (12) from chain (9).
6. Remove lower litter hook (6) from chain link 47 (13) by opening repair link (14).
7. Remove spring (15) from chain assembly (2).
8. Remove hook (16) from spring (15).



GO TO NEXT PAGE

ASSEMBLE

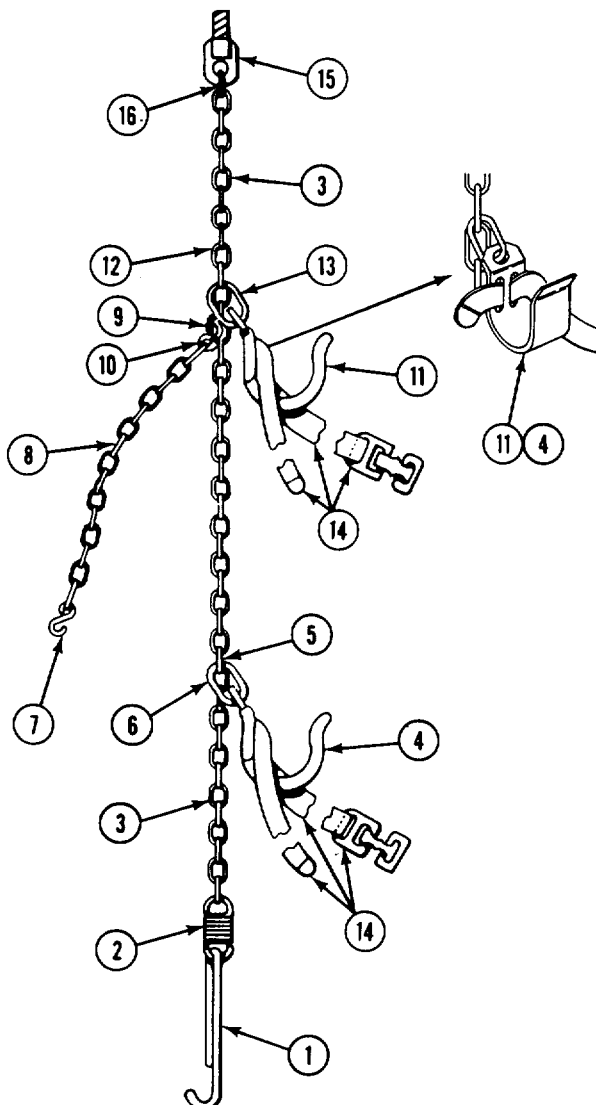
9. Install hook (1) on spring (2).
10. Install spring (2) on chain assembly (3).



WARNING
 To prevent litter tilt, which could cause injury, be sure to install repair link at chain link 47.

NOTE
 Chain link 1 is at the top.

11. Install lower litter hook (4) on chain link 47 (5) with repair link (6).
12. Install S hook (7) on chain (8). Crimp S hook (7).
13. Connect chain (8) to chain link 24 (9) with S hook (10).
14. Connect upper litter hook (11) to chain link 18 (12) with repair link (13).
15. Install two litter straps (14) in upper and lower litter hooks (11 and 4). Install straps through both slots in litter hooks and tie straps.
16. Connect hanger (15) to top link of chain assembly (3) with repair link (16).



FOLLOW-THROUGH STEPS

1. Install chain assembly (page 36-2).

END OF TASK

REPLACE POST ASSEMBLY (M113A2 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Spring pin (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

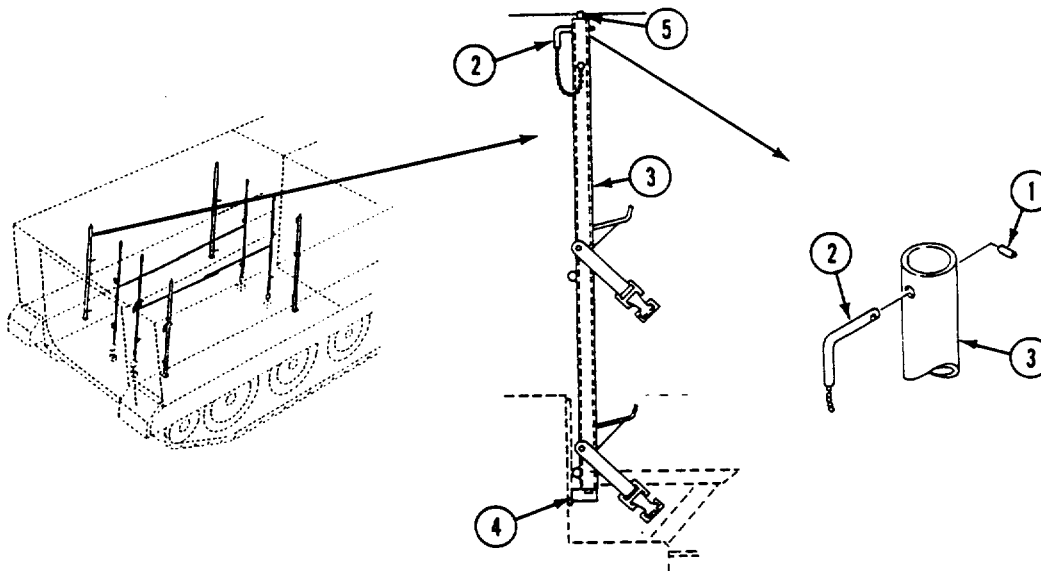
REMOVE**NOTE**

All four posts are removed and installed in the same way.

1. Remove spring pin (1) and pin (2) from post (3). Discard spring pin.
2. Lift bottom of post (3) until it clears personnel seat bracket (4). Lower post until it clears stud (5) in hull top.

INSTALL

3. Install post (3) in stud (5) located in hull top.
4. Install bottom of post (3) into personnel seat bracket (4).
5. Insert pin (2) through post (3). Secure with new spring pin (1). Turn end of spring pin down.

**FOLLOW-THROUGH STEPS**

1. Raise and lock ramp (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPAIR POST ASSEMBLY (M113A2 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Drive screw
S hook

Equipment Conditions:

Post assembly removed (page 36-5)

REMOVE**NOTE**

All four posts are repaired the same way.

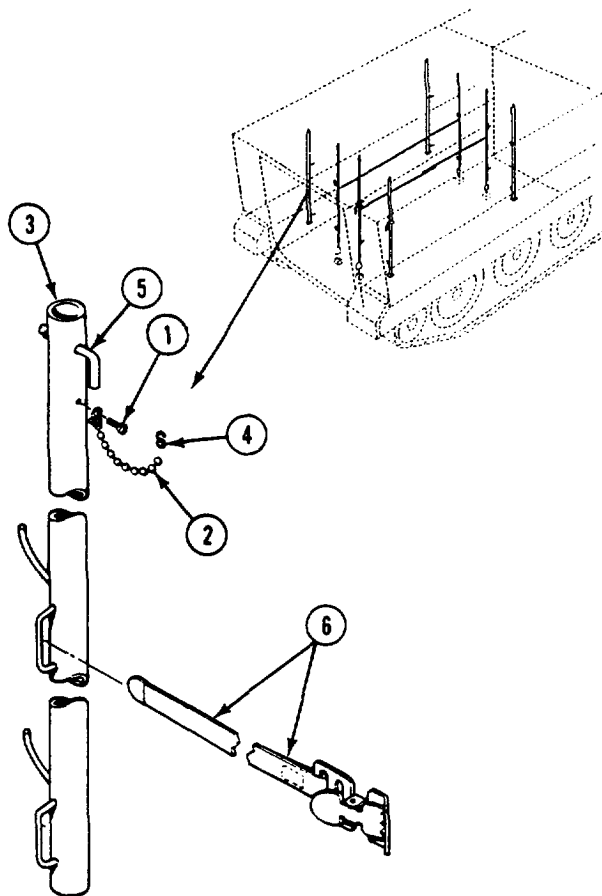
1. Remove drive screw (1) and bead chain (2) from post (3). Discard drive screw.
2. Remove S hook (4) and bead chain (2) from pin (5). Discard S hook.
3. Remove two straps (6) from post (3).

CLEAN, INSPECT, AND REPAIR

4. Inspect parts for corrosion, distortion, cracks, breaks, and loose or missing parts. Repair or replace damaged and missing parts.

INSTALL

5. Install two straps (6) on post (3).
6. Install bead chain (2) on pin (5). Secure with S hook (4).
7. Install bead chain (2) on post (3). Secure with new drive screw (1).

**FOLLOW-THROUGH STEPS**

1. Install post assembly (page 36-5).

END OF TASK

CHAPTER 37
ARTILLERY COMMUNICATION KITS (M577A2 ONLY) I
Section I. DELETED



Section II. ARTILLERY COMMUNICATION KIT (M577A2 ONLY)

REPLACE ARTILLERY COMMUNICATION INSIDE CABLE (M577A2 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)
Adjustable Wrench (Item 80, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

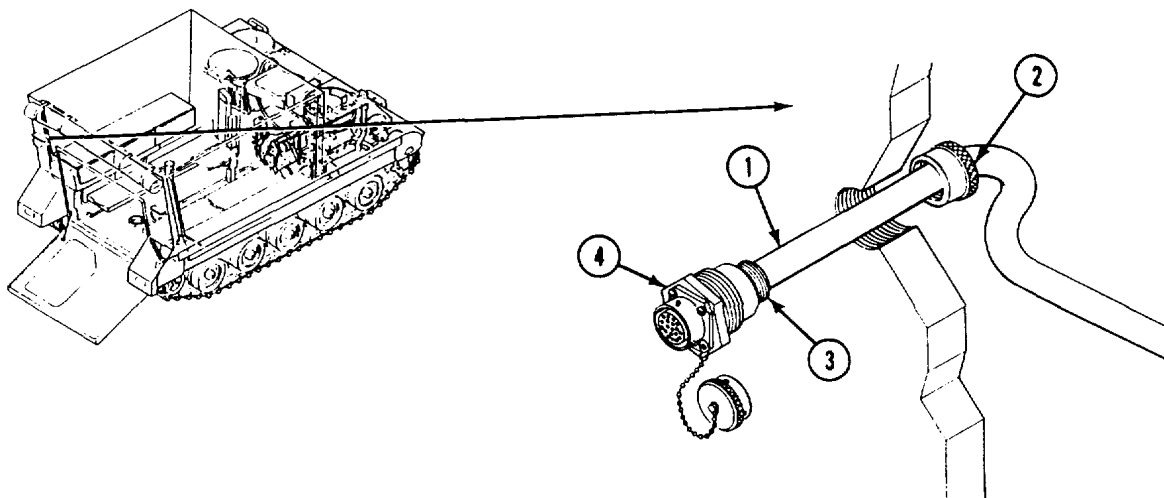
Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Battery ground lead disconnected (page 13-2)

REMOVE

1. Disconnect inside cable assembly (1) from artillery controls terminal board.
2. Remove retainer (2) from nipple (3).
3. Remove adapter (4) and cable assembly (1) from hull left rear plate threaded opening. Use adjustable wrench.

INSTALL

4. Install adapter (4) and cable assembly (1) in hull left rear plate threaded opening. Use adjustable wrench.
5. Install retainer (2) on nipple (3). Secure with retainer (2).
6. Connect inside cable (1) to artillery controls terminal board.



FOLLOW-THROUGH STEPS

1. Connect ground lead (page 13-2).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

CHAPTER 38
MACHINE GUN ARMOR SHIELD KIT MAINTENANCE

TASK INDEX

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**REPLACE COMMANDER'S CUPOLA ARMOR SHIELDS
(M113A2, M106A2, M125A2, M1064, AND M1059 ONLY)**

DESCRIPTION

This task covers: Remove (page 38-2). Install (page 38-3).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (4)
Self-locking nut

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

REMOVE

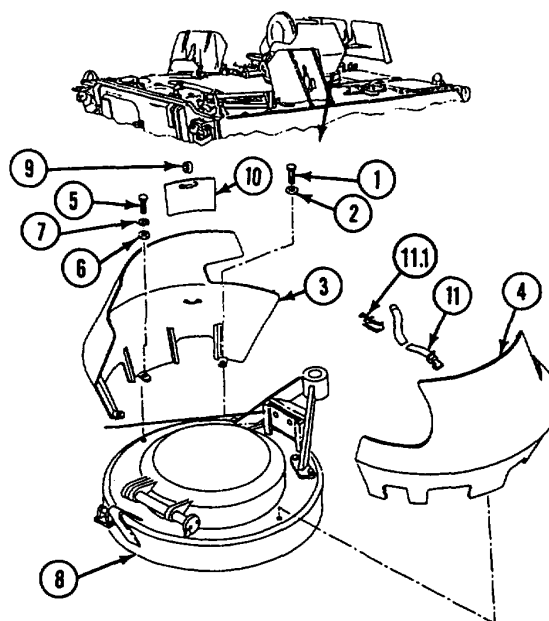
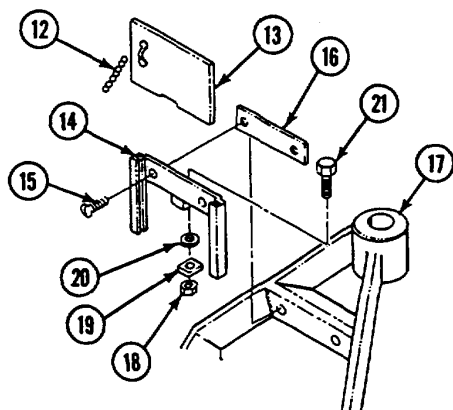
NOTE

Screws (1) and (5) are different lengths. Tag screws to ensure proper installation.

1. Remove two screws (1) and washers (2) from two shields (3 and 4).
2. Remove four screws (5), washers (6), lockwashers (7), and two shields (3 and 4) from the commander's cupola (8). Discard lockwashers.
3. Release four clips (9) and remove four doors (10) from two shields (3 and 4).
4. If damaged, remove clip (9) from door (10).

5. Remove strap (11) from loop on right shield (4) and clamp (11.1) on machine gun. Remove clamp from machine gun bracket.

6. Remove chain (12) and door (13) from bracket (14). Remove chain from door.
7. Remove two screws (15), bracket (14), and spacer (16) from gun mount (17).
8. Remove locknut (18), plate (19), washer (20), and screw (21) from bracket (14). Discard locknut.



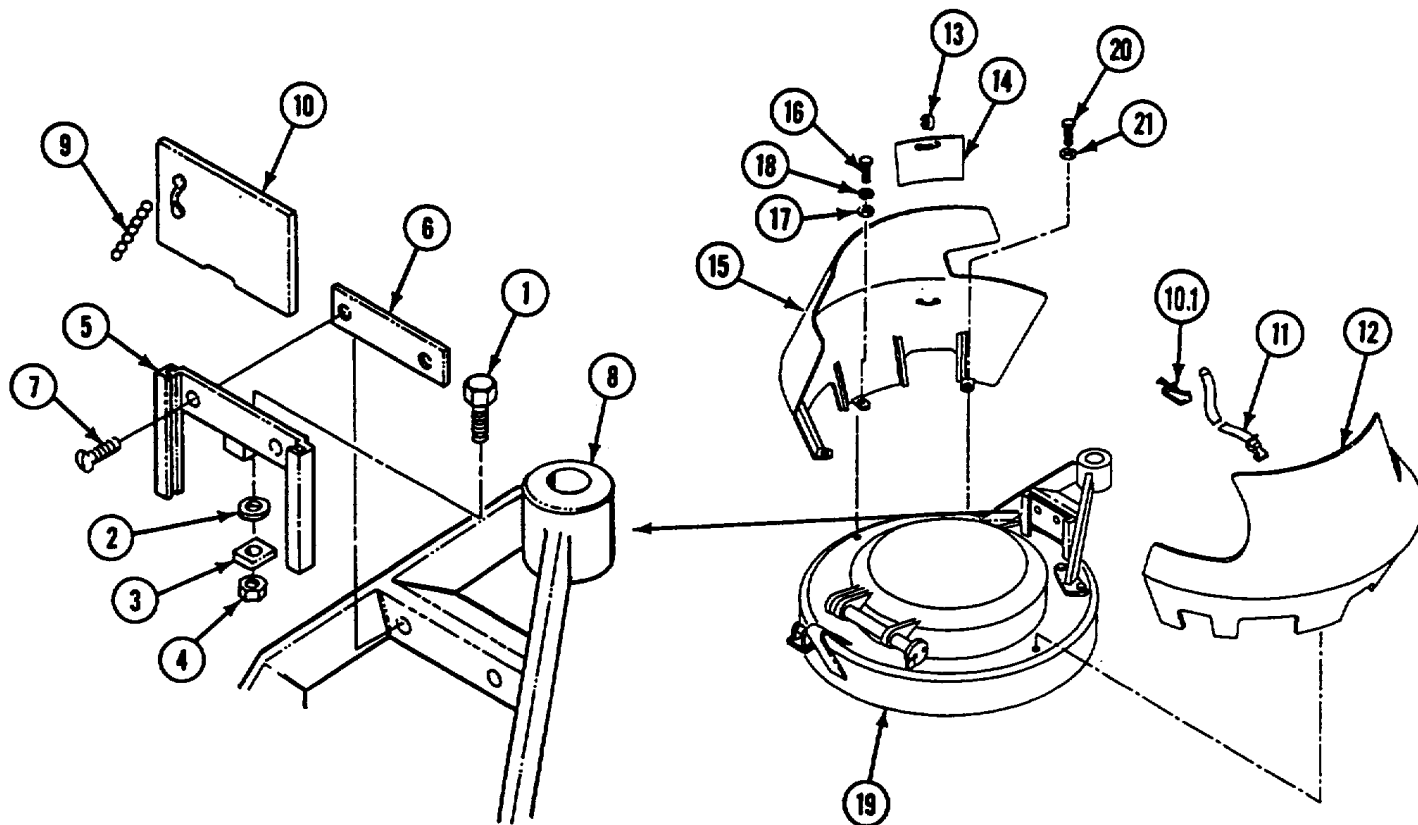
INSTALL

NOTE

**Plate (3) must be able to turn freely.
Do not over tighten locknut (4).**

9. Install screw (1), washer (2), plate (3), and new locknut (4) on bracket (5).
10. Install spacer (6), bracket (5), and two screws (7) on gun mount (8).
11. Install chain (9) on bracket (5) and door (10). Deform ends of chain to secure chain on door and bracket.

- 11.1 Install clamp (10.1) on lower bracket of machine gun.
12. Install strap (11) through loop on right shield (12) and clamp (10.1) on machine gun. Tighten strap.
13. If removed, install clips (13) on doors (14). Deform ends of clip (13) over loops on each door (14).
14. Install four doors (14) on two shields (15 and 12).
15. Install four screws (16), washers (17), new lockwashers (18), and two shields (15 and 12) on commander's cupola (19).
16. Install two screws (20) and washers (21) on two shields (15 and 12).



END OF TASK

REPLACE 7.62-MM M60 MACHINE GUN PLATFORM MOUNT ASSEMBLY (M113A2 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

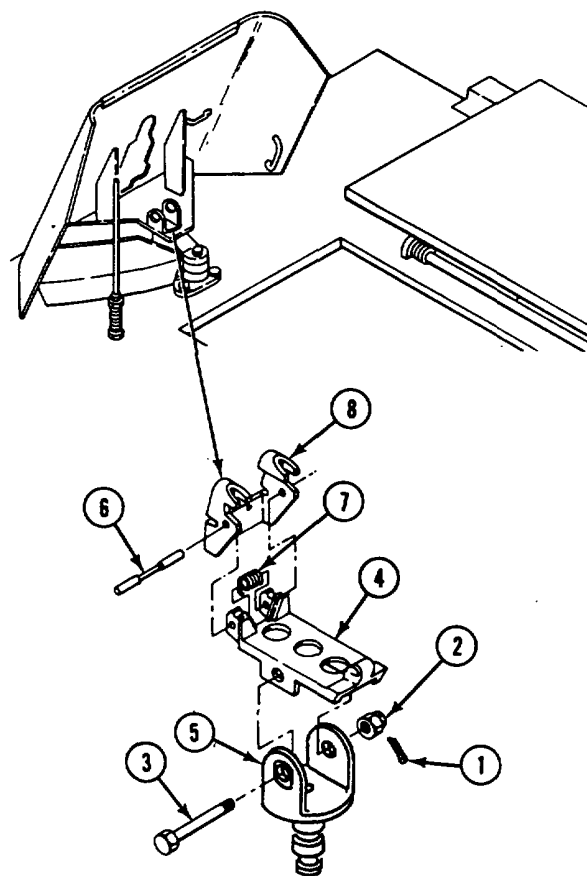
Carrier blocked (see your -10)

REMOVE

1. Remove cotter pin (1), nut (2), screw (3), and mount (4) from pintle (5). Discard cotter pin.
2. Remove pin (6), spring (7), and latch (8) from mount (4).

INSTALL

3. Install latch (8) and spring (7) on mount (4). Secure with pin (6).
4. Install mount (4) on pintle (5). Secure with screw (3), nut (2), and new cotter pin (1).

**END OF TASK**

REPLACE 30 CAL. GUN MOUNT ADAPTER ASSEMBLY

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

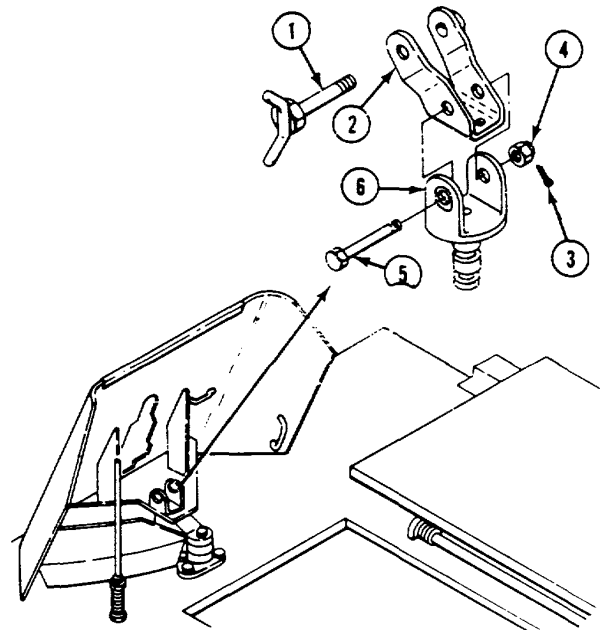
Carrier blocked (see your -10)

REMOVE

1. Remove wing bolt (1) from adapter (2).
2. Remove cotter pin (3), nut (4), screw (5), and adapter (2) from pintle (6). Discard cotter pin.

INSTALL

3. Install adapter (2) on pintle (6). Secure with screw (5), nut (4), and new cotter pin (3).
4. Install wing bolt (1) in adapter (2).



END OF TASK

REPLACE REAR GUN PINTLE SOCKET (M113A2 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Personnel Required:

Unit Mechanic

Carrier blocked (see your -10)

Equipment Conditions:

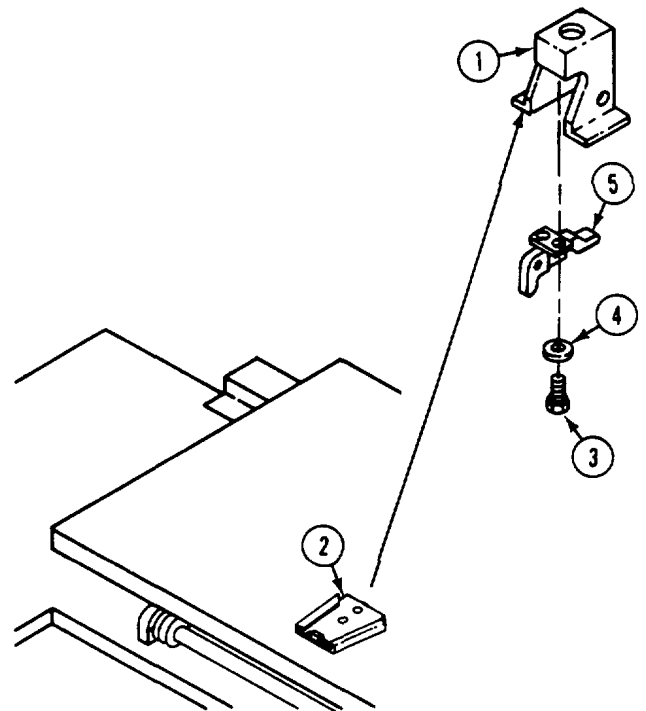
Engine stopped (see your -10)

REMOVE

1. Remove socket assembly (1) from mounting plate (2).
2. Remove two screws (3), washers (4), and lock assembly (5) from socket assembly (1).

INSTALL

3. Install lock assembly (5) on socket assembly (1). Secure with two washers (4) and screws (3).
4. Install socket assembly (1) in mounting plate (2).



END OF TASK

REPLACE GUN TRAVERSE RESTRICTOR

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Personnel Required:

Unit Mechanic

Equipment Conditions:

Engine stopped (see your -10)

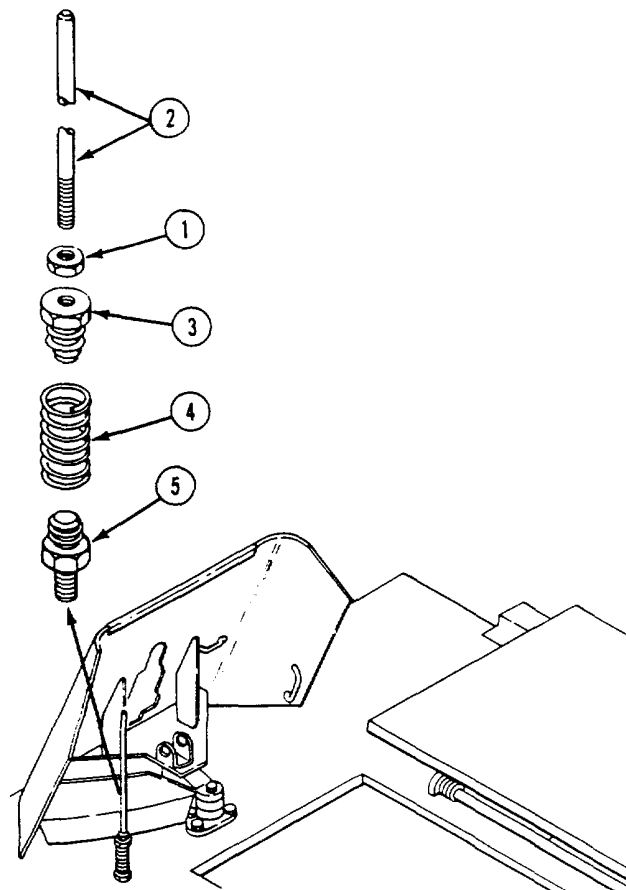
Carrier blocked (see your -10)

REMOVE

1. Loosen nut (1) on rod (2). Remove rod from adapter (3).
2. Remove nut (1) from rod (2).
3. Remove adapter (3) from spring (4).
4. Remove spring (4) from adapter (5).
5. Remove adapter (5) from hull.

INSTALL

6. Install adapter (5) in hull.
7. Install spring (4) on adapter (5).
8. Install adapter (3) in spring (4).
9. Install nut (1) on rod (2).
10. Install rod (2) in adapter (3). Secure with nut (1).



END OF TASK

REPLACE REAR ARMOR SHIELDS (M113A2 ONLY)

DESCRIPTION

This task covers: Remove (page 38-8). Install (page 38-9).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (9)
Self-locking nut (2)

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

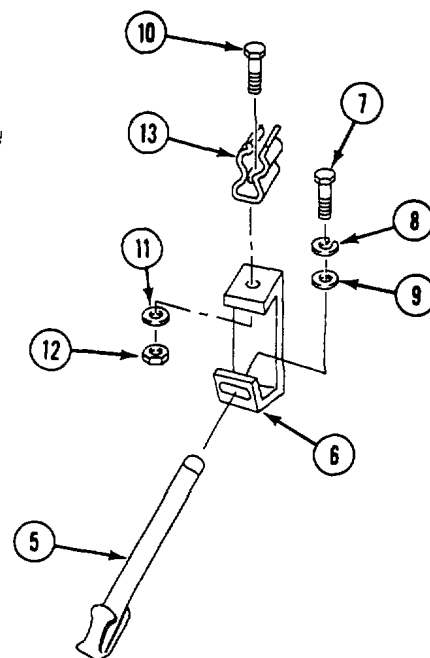
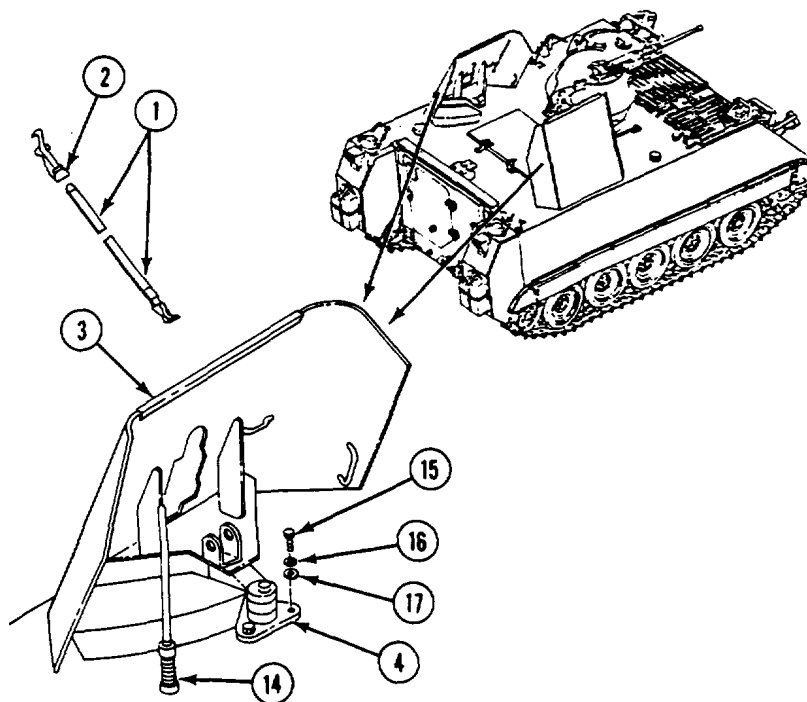
REMOVE

NOTE

Both rear armor shields are removed and installed in the same way.

1. Remove two straps (1) and clamps (2) securing rear armor shield (3) to hull.
2. Release locking clamp on mounting arm (4). Remove rear armor shield (3) from mounting arm.
3. Remove strap (5) from bracket (6).

4. Remove two screws (7), lockwashers (8), flat washers (9), and bracket (6) from hull. Discard lockwashers.
5. If damaged remove two screws (10), washers (11), locknuts (12), and clip (13) from bracket (6). Discard locknuts.
6. Remove gun traverse restrictor (14) from hull (page 38-7).
7. Remove three screws (15), lockwashers (16), flat washers (17), and mounting arm (4) from hull. Discard lockwashers.

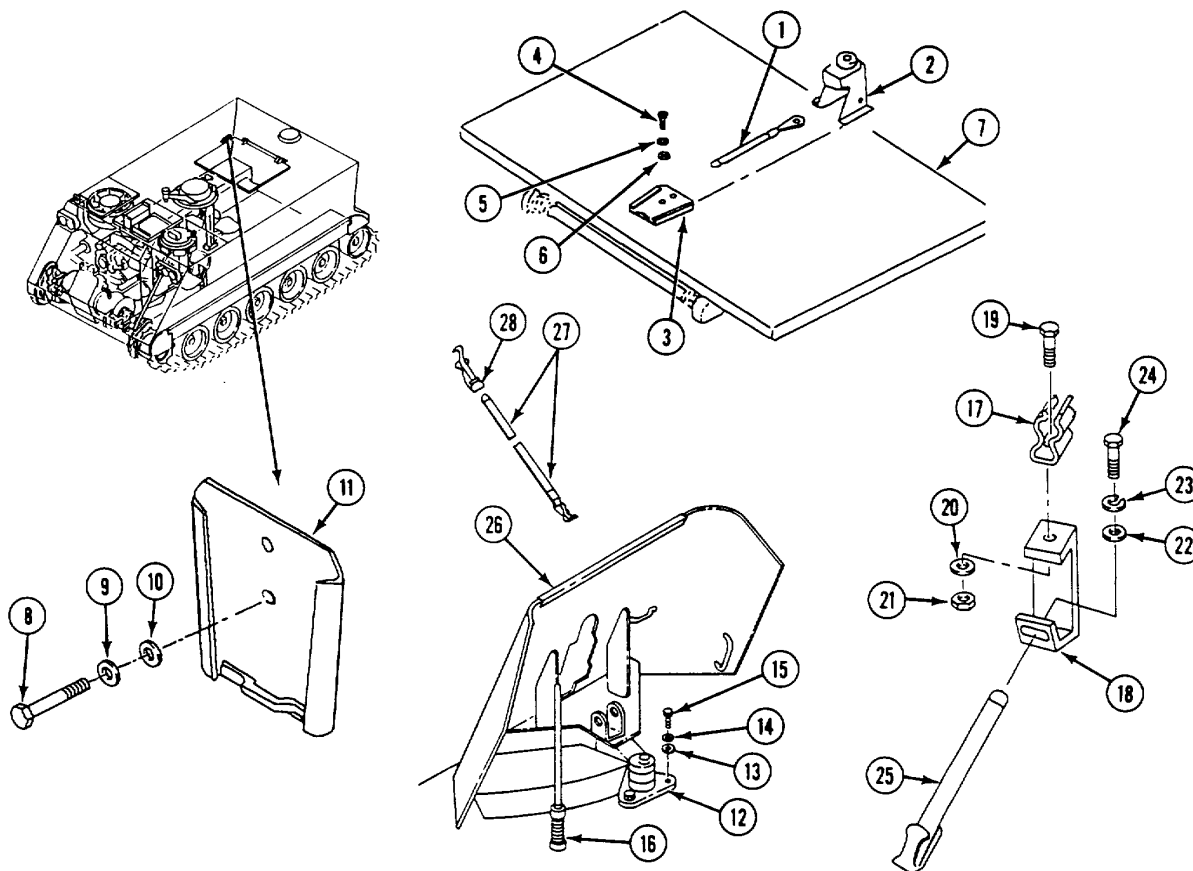


8. Remove strap (1) and pintle socket (2) from pintle mounting plate (3).
9. Remove two screws (4), lockwashers (5), flat washers (6), and pintle mounting plate (3) from cargo hatch cover (7). Discard lockwashers.
10. Remove two screws (8), lockwashers (9), flat washers (10), and pintle mounting plate (11) from inside hull. Discard lockwashers.

INSTALL

11. Install pintle mounting plate (11) on hull. Secure with two flat washers (10), new lockwashers (9), and screws (8).
12. Install pintle mounting plate (3) on cargo hatch cover (7). Secure with two flat washers (6), new lockwashers (5), and screws (4).
13. Install pintle socket (2) on pintle mounting plate (3). Secure with strap (1).

14. Install mounting arm (12) on hull. Secure with three flat washers (13), new lockwashers (14), and screws (15).
15. Install gun traverse restrictor (16) in hull (page 38-7).
16. If removed, install clip (17) on bracket (18) with two screws (19), washers (20), and new locknuts (21).
17. Install bracket (18) on hull. Secure with two flat washers (22), new lockwashers (23), and screws (24).
18. Secure strap (25) to bracket (18).
19. Install rear armor shield (26) in mounting arm (12). Secure with mounting arm locking clamp.
20. Install rear armor shield (26) on hull. Secure with two straps (27) and clamps (28).



END OF TASK

REPLACE REAR ARMOR SHIELD MOUNTING ARM LOCK ASSEMBLY AND MOUNT

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (2)

Equipment Conditions:

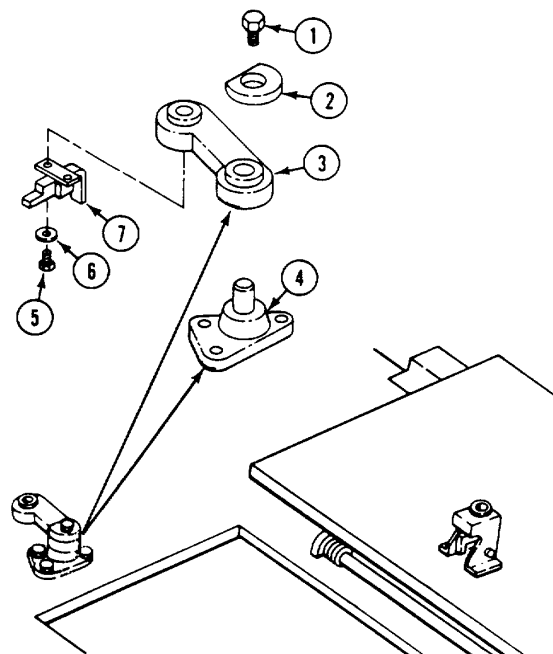
Engine stopped (see your -10)

Carrier blocked (see your -10)

Personnel Required:Unit Mechanic

REMOVE**NOTE****Mounting arm is not repairable at unit level.**

1. Remove screw (1), resilient mount (2), and mounting arm (3) from bracket (4).
2. Remove two screws (5), lockwashers (6), and lock assembly (7) from mounting arm (3). Discard lockwashers.

**INSTALL**

3. Install lock assembly (7) on mounting arm (3). Secure with two new lockwashers (6) and screws (5).
4. Install mount (2) and mounting arm (3) on bracket (4). Secure with screw (1).

END OF TASK

**CHAPTER 39
NBC KIT MAINTENANCE
(ALL VEHICLES EXCEPT M1064)**

**Section I. NBC KITS
(ALL VEHICLES EXCEPT M1064 AND M981)**

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Cables and Switch Assembly
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REPLACE M13 NBC HEATER WIRING HARNESS (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-3). Install (page 39-4).

INITIAL SETUP

Tools:

- General Mechanic's Tool Kit (Item 30, App D)
- Materials/Parts:
 - Locknut
 - Lockwasher (4)
 - Strap (as required)
 - Grommet

Personnel Required:

- Unit Mechanic
- References:
 - See your -10

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Battery ground strap disconnected (page 13-2)

REMOVE

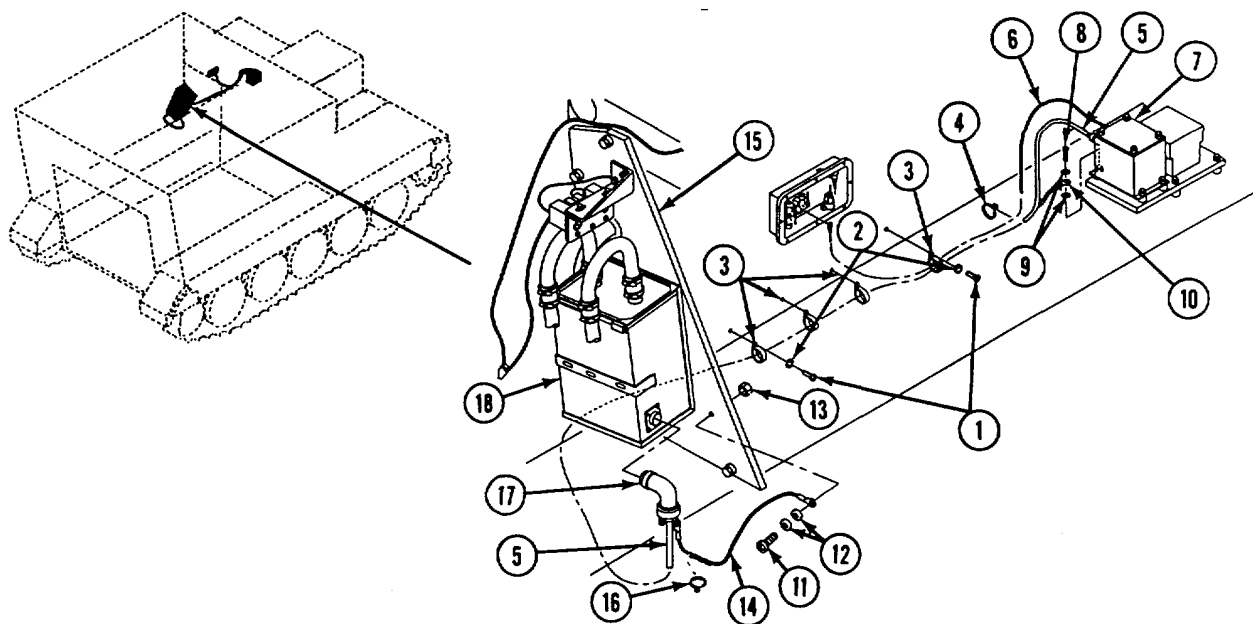
1. Remove four screws (1), lockwashers (2), four clamps (3) and straps (4) from weldnuts in driver's compartment. Remove clamps from wiring harness (5) and cable (6). Discard lockwashers and straps.

NOTE

Tag all leads and cables before removing.

2. Disconnect wiring harness (5) from control box (7).

3. Remove screw (8), two lockwashers (9), and ground lead (10) from control box (7).
4. Remove screw (11), two washers (12), locknut (13), and ground lead (14) from panel (15). Discard locknut.
5. Cut strap (16) from ground lead (14) and wiring harness (5). Discard strap.
6. Loosen screw on cable connector (17) and remove ground lead (14).
7. Remove cable connector (17) from air purifier (18).



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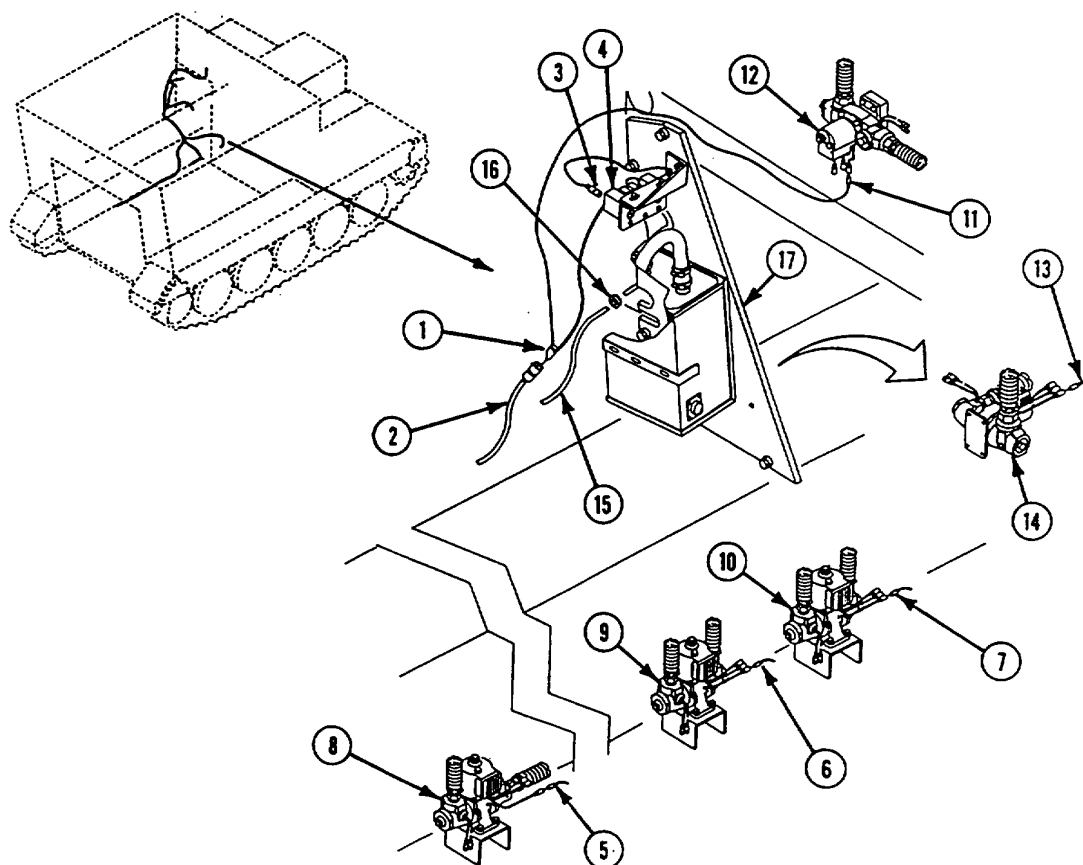
8. Remove lead 537A (1) from connector (2).
9. Remove lead 537B (3) from air filter switch (4).
10. Remove leads 537C (5), 537D (6), and 537E (7) from heaters (8, 9, and 10 respectively).
11. Remove lead 537G (11) from commander's heater (12) and connector (2).
12. Remove lead 579C (13) from driver's heater (14).
13. Cut and remove all straps along wiring harness (15) and adjacent wiring harness. Discard straps.
14. Cut grommet (16) and pull wiring harness (15) through hole in panel (17). Discard grommet.

INSTALL

NOTE

Leads 579C and 537G must remain on driver's side of panel.

15. Install new grommet (16) on wiring harness (15). Route wiring harness through panel (17).
16. Install lead 579C (13) on driver's heater (14).
17. Install lead 537G (11) on commander's heater (12) and connector (2).
18. Install leads 537E (7), 537D (6), and 537C (5) on heaters (10, 9, and 8 respectively).
19. Install lead 537B (3) on air filter switch (4).
20. Install lead 537A (1) on connector (2).
21. Install new straps along wiring harness (15) and adjacent wiring harness as required.



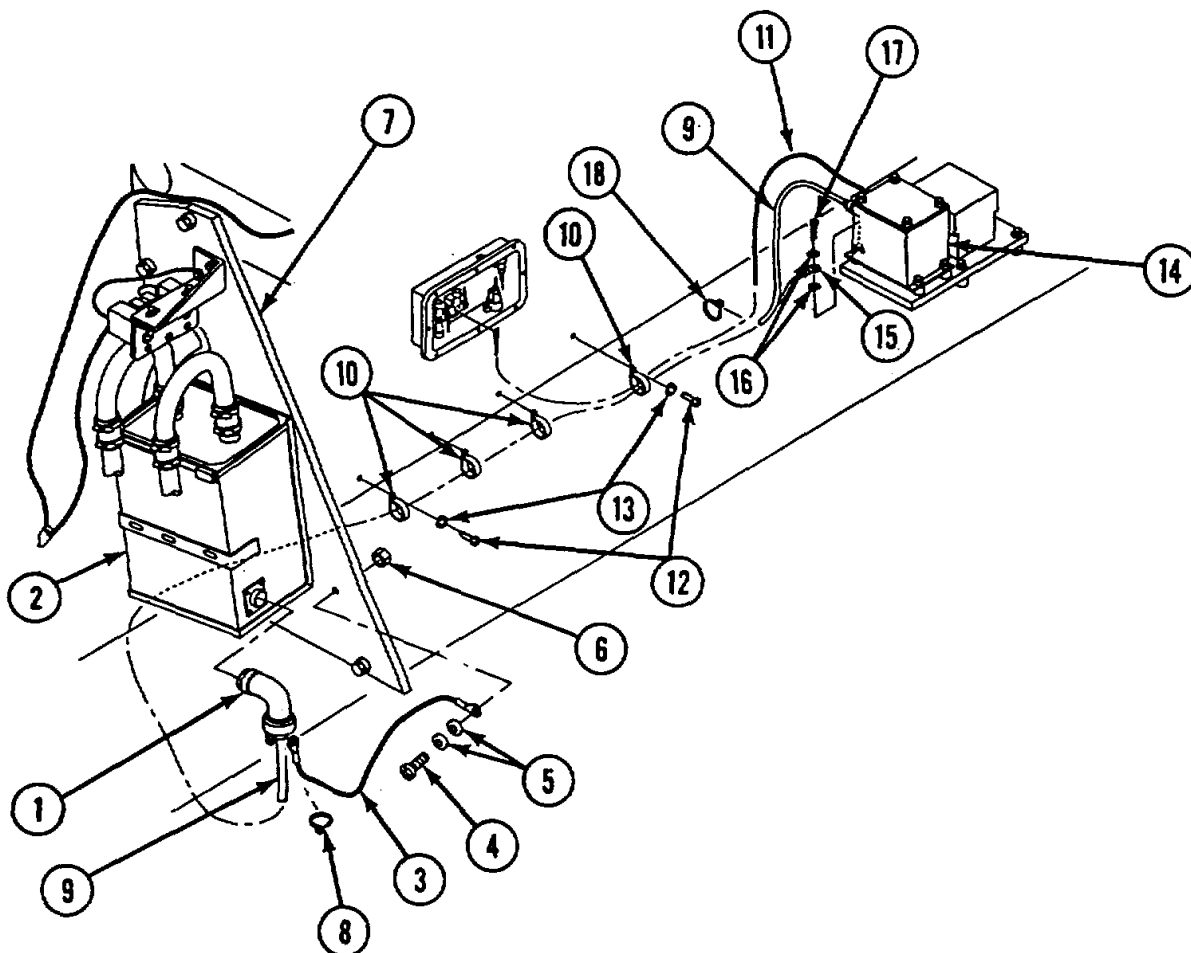
- 22. Install cable connector (1) on air purifier (2).
- 23. Install forked end of ground lead (3) on cable connector (1) and tighten screw on cable connector.

NOTE

To ensure proper grounding, remove any paint from panel at ground point.

- 24. Install ground lead (3), screw (4), two washers (5), and new locknut (6) on panel (7).
- 25. Install strap (8) on ground lead (3) and wiring harness (9).

- 26. In driver's compartment, install four clamps (10) on cable (11) and wiring harness (9).
- 27. Install four screws (12), new lockwashers (13), and four clamps (10) on weldnuts.
- 28. Connect wiring harness (9) to control box (14).
- 29. Install ground lead (15), two lockwashers (16), and screw (17) on control box (14).
- 30. Install new straps (18) along cable (11) and adjacent wiring harness (9).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M13 NBC FILTERS AND HOSES (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-6). Install (page 39-11).

INITIAL SETUP

Personnel Required

Unit Mechanic

Tools

General Mechanic's Tool Kit (Item 30, App D)

References

See your -10

Materials/Parts

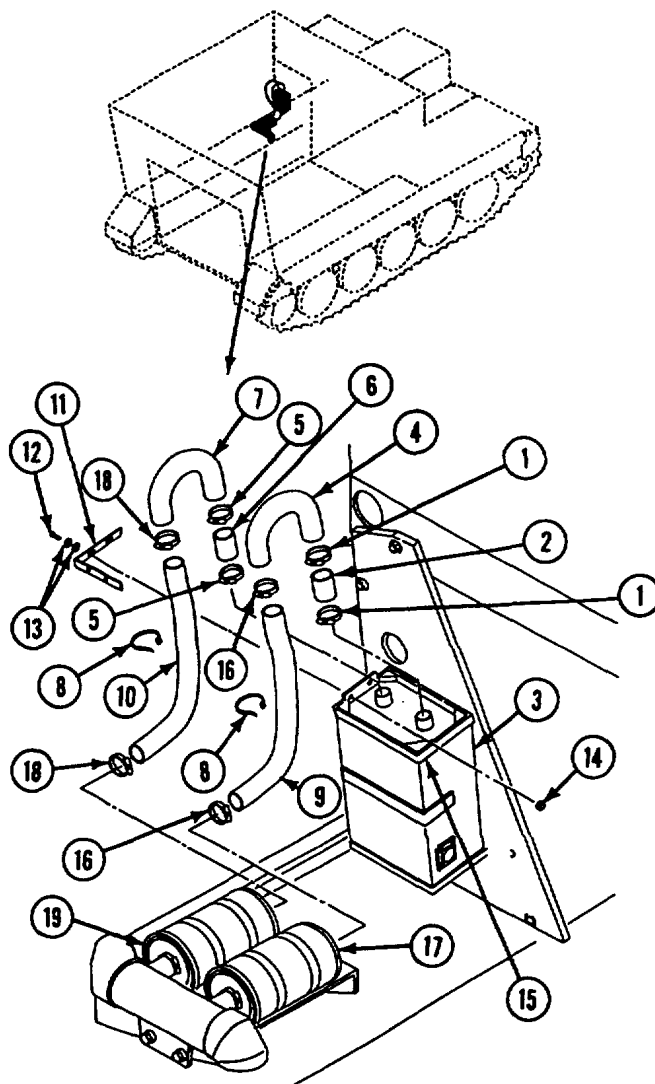
- Locknut (2)
- Lockwasher (3)
- Strap (as required)

Equipment Conditions

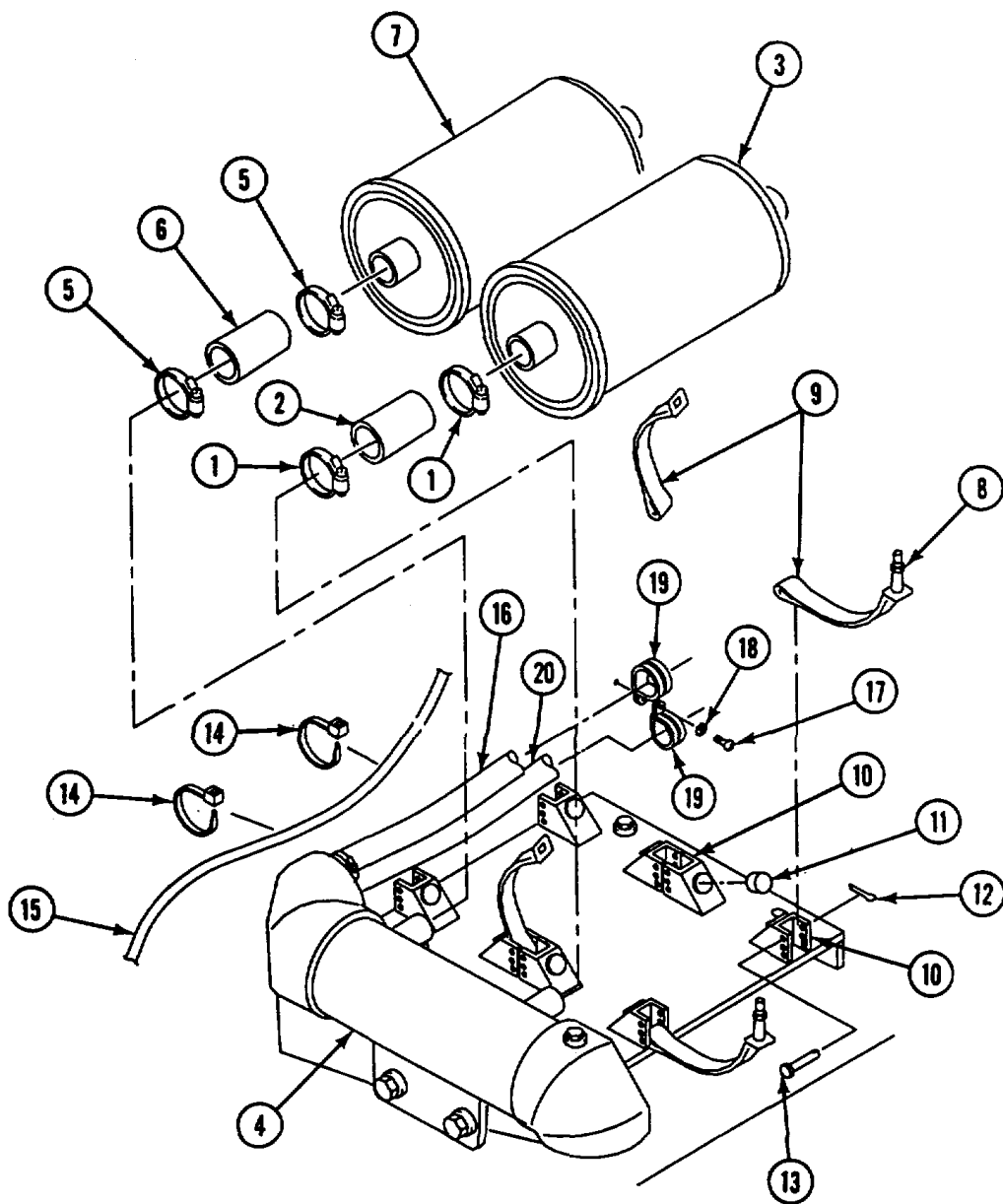
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Battery ground leads disconnected (page 13-2)

REMOVE

1. Loosen two clamps (1) and remove hose (2) from precleaner (3) and tube (4).
2. Loosen two clamps (5) and remove hose (6) from precleaner (3) and tube (7).
3. Cut straps (8) that secure hoses (9 and 10) to bracket (11). Discard straps.
4. If bracket (11) is damaged, remove two screws (12), four washers (13), two locknuts (14), and bracket from frame (15). Discard locknuts.
5. Loosen two clamps (16) and remove hose (9) from tube (4) and filter (17).
6. Loosen two clamps (18) and remove hose (10) from tube (7) and filter (19).

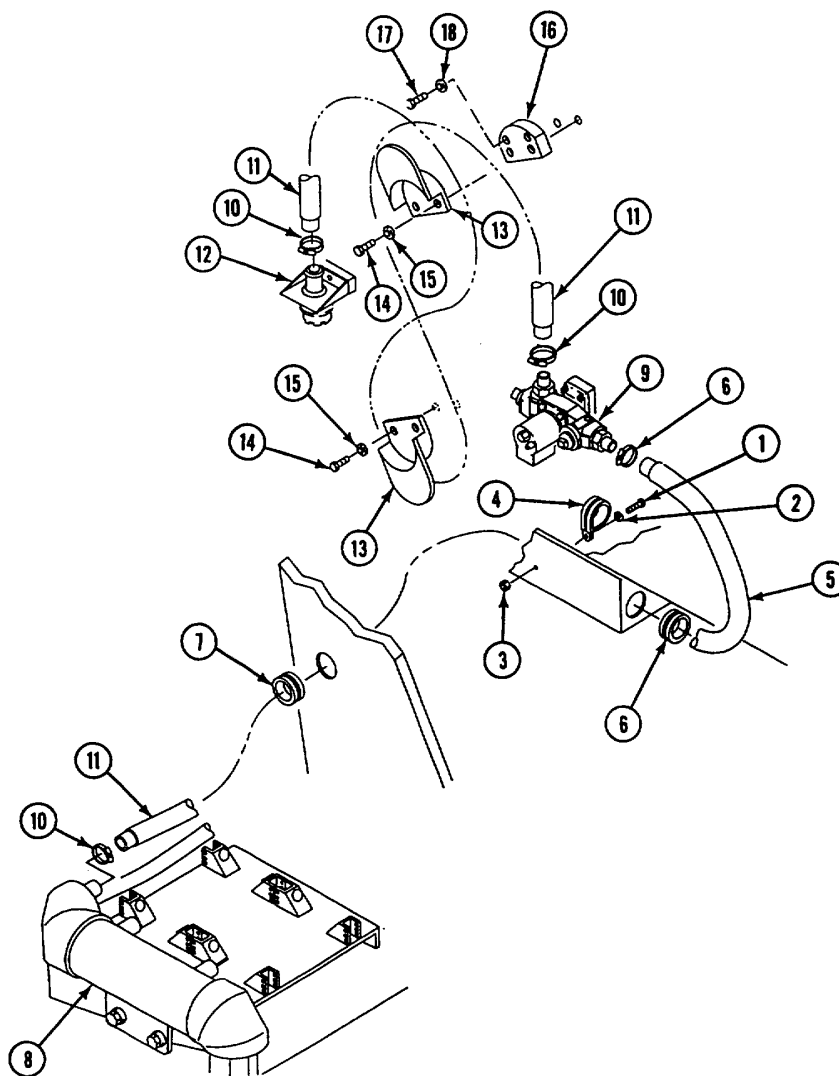


7. Loosen two clamps (1) and remove hose (2) from filter (3) and manifold (4).
8. Loosen two clamps (5) and remove hose (6) from filter (7) and manifold (4).
9. Loosen four nuts (8), open four clamps (9), and remove filters (3 and 7) from bracket (10).
10. If damaged, remove rubber bumpers (11) from bracket (10) as required. Discard rubber bumpers.
11. If any cotter pin (12) is damaged, remove cotter pin, straight pin (13), and clamps (9) from bracket (10) as required. Discard cotter pin.
12. Cut straps (14) that secure wiring harness (15) to hose (16) and manifold (4). Discard straps.
13. Remove screw (17), lockwasher (18), and two clamps (19) from side bulkhead. Remove clamps from hoses (16 and 20). Discard lockwasher.

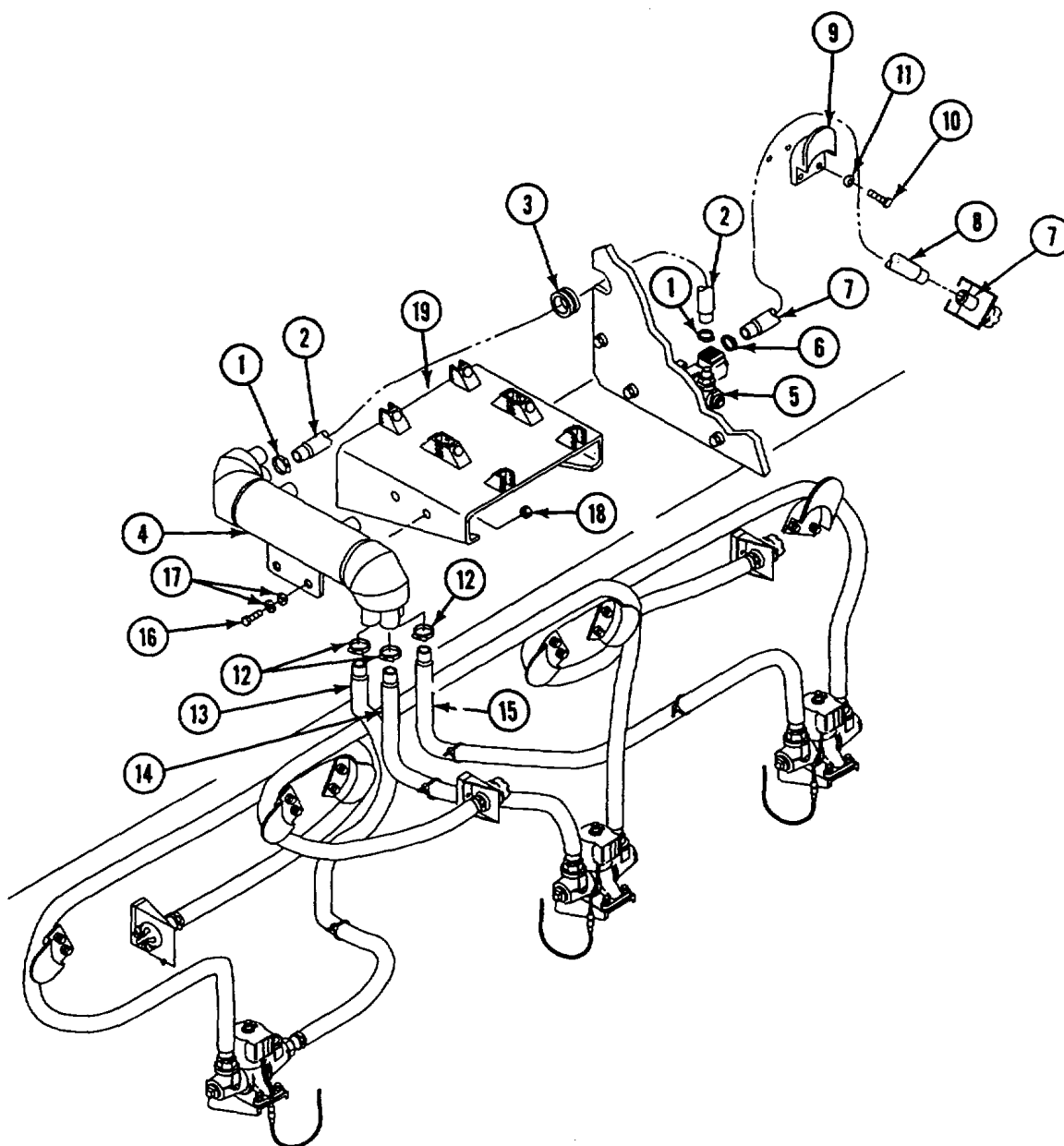


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14. Remove two screws (1), lockwashers (2), nuts (3), and clamps (4) from upper bulkhead. Remove clamps from hose (5). Discard lockwashers.
15. Loosen two clamps (6) and remove hose (5) with two grommets (7) from manifold (8) and commander's heater (9).
16. If damaged, remove grommets (7) from hose (5), as required. Discard grommets.
17. Loosen two clamps (10) and remove hose (11) from commander's heater (9) and connector (12).
18. If either bracket (13) is damaged, remove two screws (14), lockwashers (15), and bracket from front bulkhead or spacer (16), as required. Discard lockwashers.
19. If spacer (16) is damaged, remove two screws (14), lockwashers (15), and bracket (13) from spacer, then remove two screws (17), lockwashers (18), and spacer from front bulkhead, as required. Discard lockwashers.

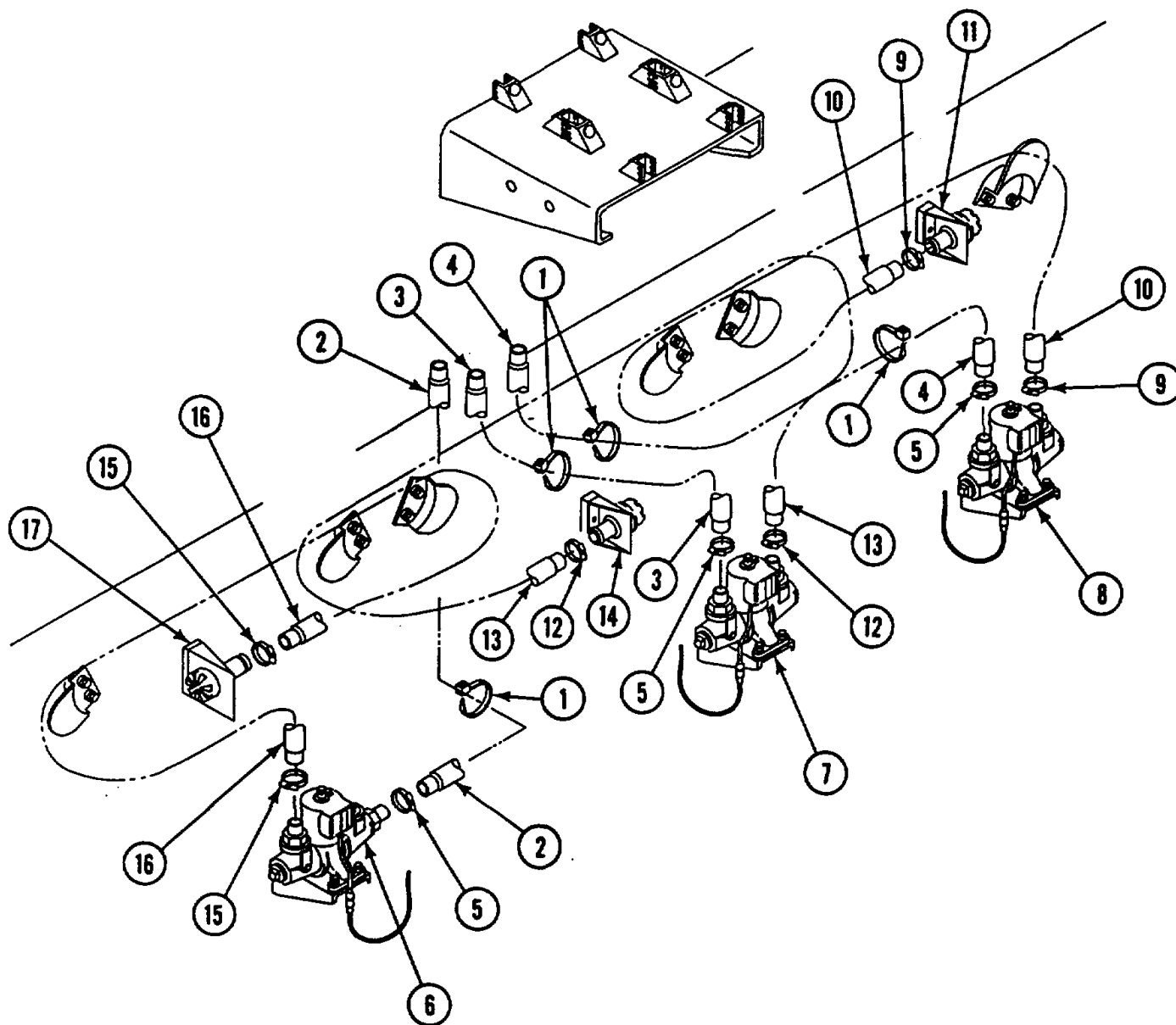


20. Loosen two clamps (1) and remove hose (2) with grommet (3) from manifold (4) and driver's heater (5).
21. If damaged, remove grommet (3) from hose (2). Discard grommet.
22. Loosen clamp (6) and remove hose (7) from driver's heater (5) and pull off connector (8).
23. If bracket (9) is damaged, remove two screws (10), washers (11), and bracket from front bulkhead.
24. Loosen three clamps (12) and remove three hoses (13, 14, and 15) from manifold (4).
25. Remove two screws (16), four washers (17), two locknuts (18), and manifold (4) from bracket (19). Discard locknuts.



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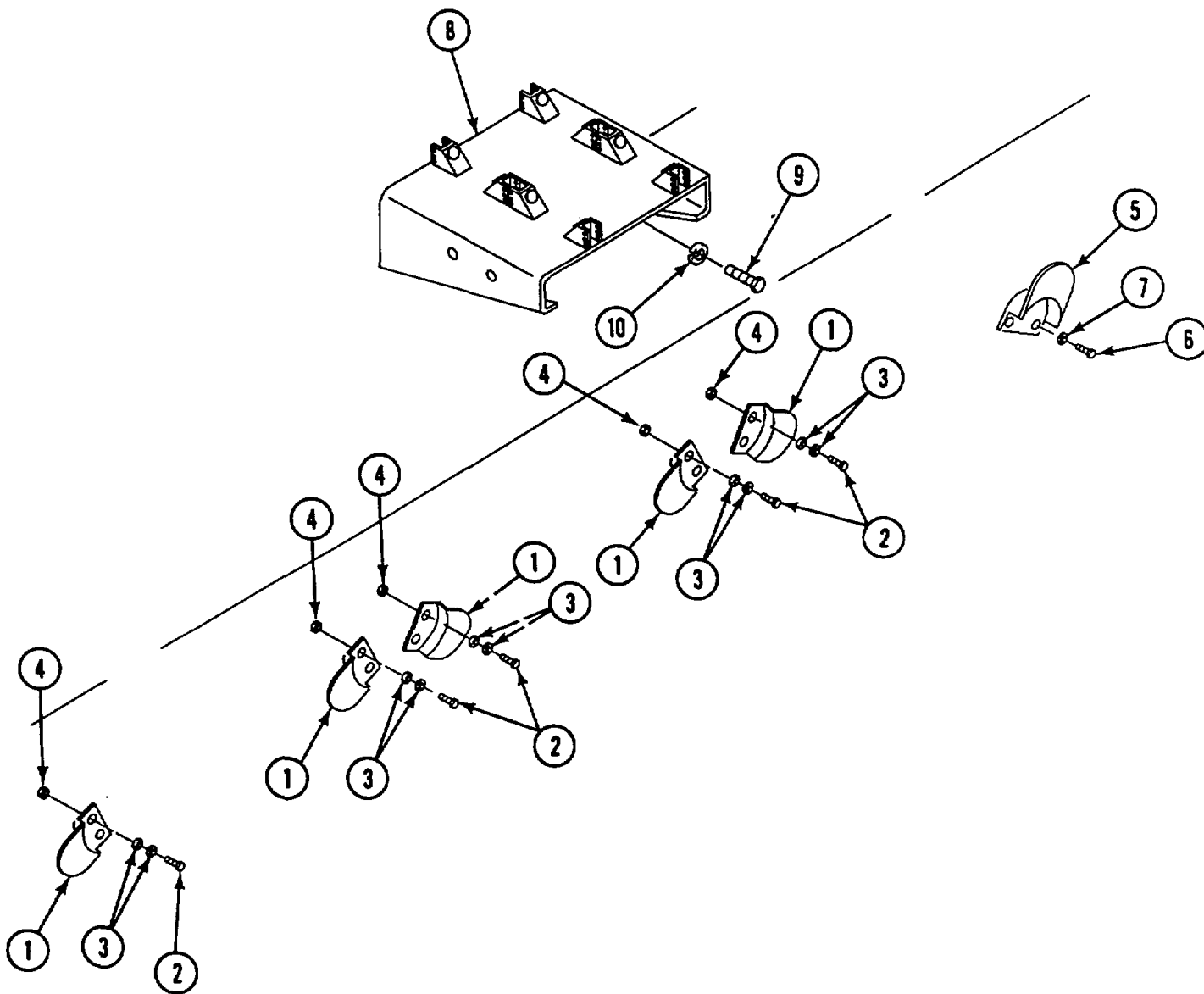
26. Cut straps (1) that secure wiring harness to hoses (2, 3, and 4). Discard straps.
27. Loosen three clamps (5) and remove three hoses (2, 3, and 4) from three heaters (6, 7, and 8), respectively.
28. Loosen two clamps (9) and remove hose (10) from heater (8) and connector (11).
29. Loosen two clamps (12) and remove hose (13) from heater (7) and connector (14).
30. Loosen two clamps (15) and remove hose (16) from heater (6) and connector (17).



31. If any of five brackets (1) are damaged, remove two screws (2), four washers (3), and two locknuts (4) and bracket from table support. Discard locknuts.
32. If bracket (5) is damaged, remove two screws (6), washers (7), and bracket from sponson.
33. If bracket (8) is damaged, remove four screws (9), lockwashers (10), and bracket from bulkhead.

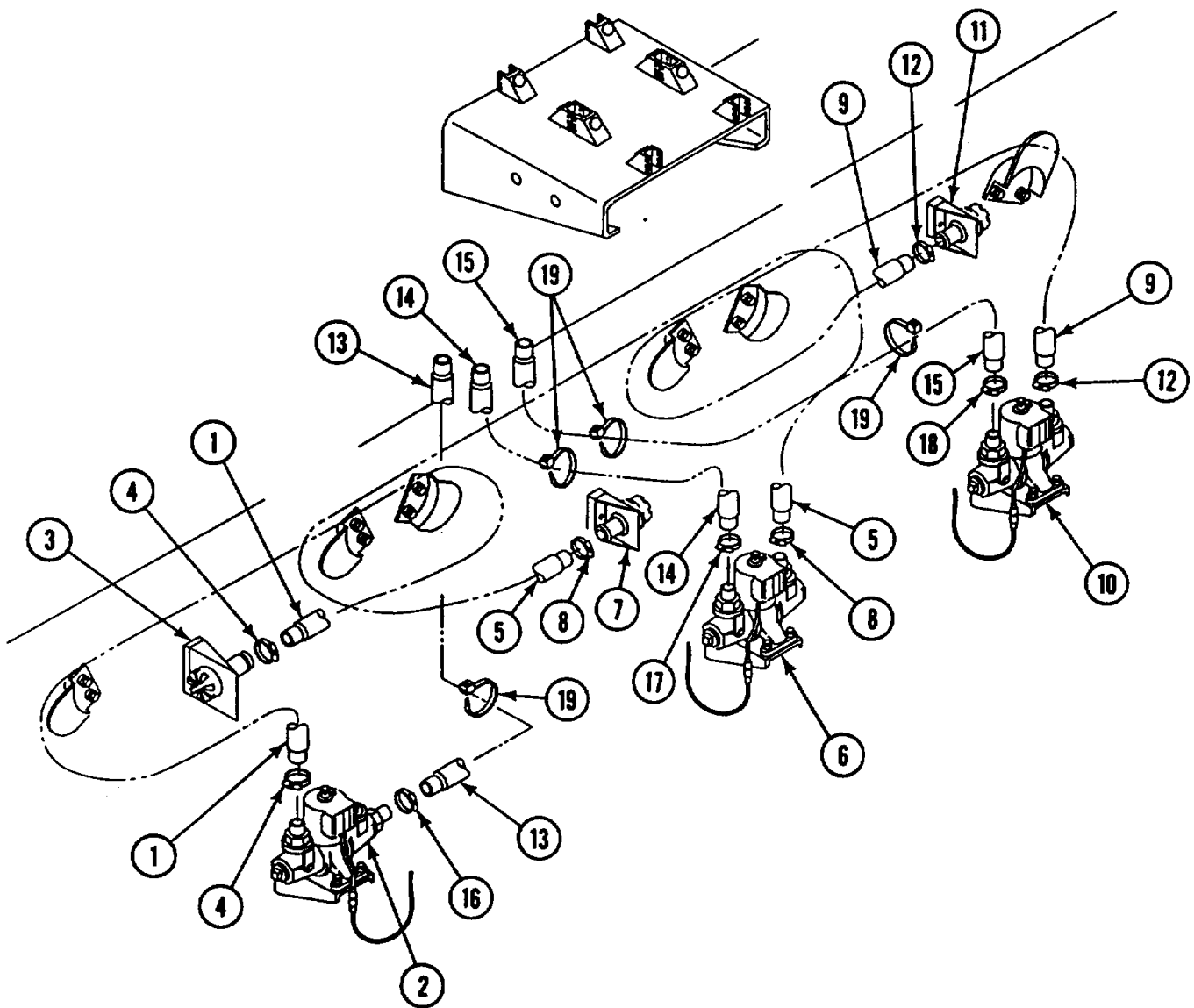
INSTALL

34. If bracket (8) was removed, install on bulkhead with four screws (9) and new lockwashers (10).
35. If bracket (5) was removed, install on sponson with two screws (6) and washers (7).
36. If any of five brackets (1) were removed, install on table support with two screws (2), four washers (3), and two new locknuts (4).

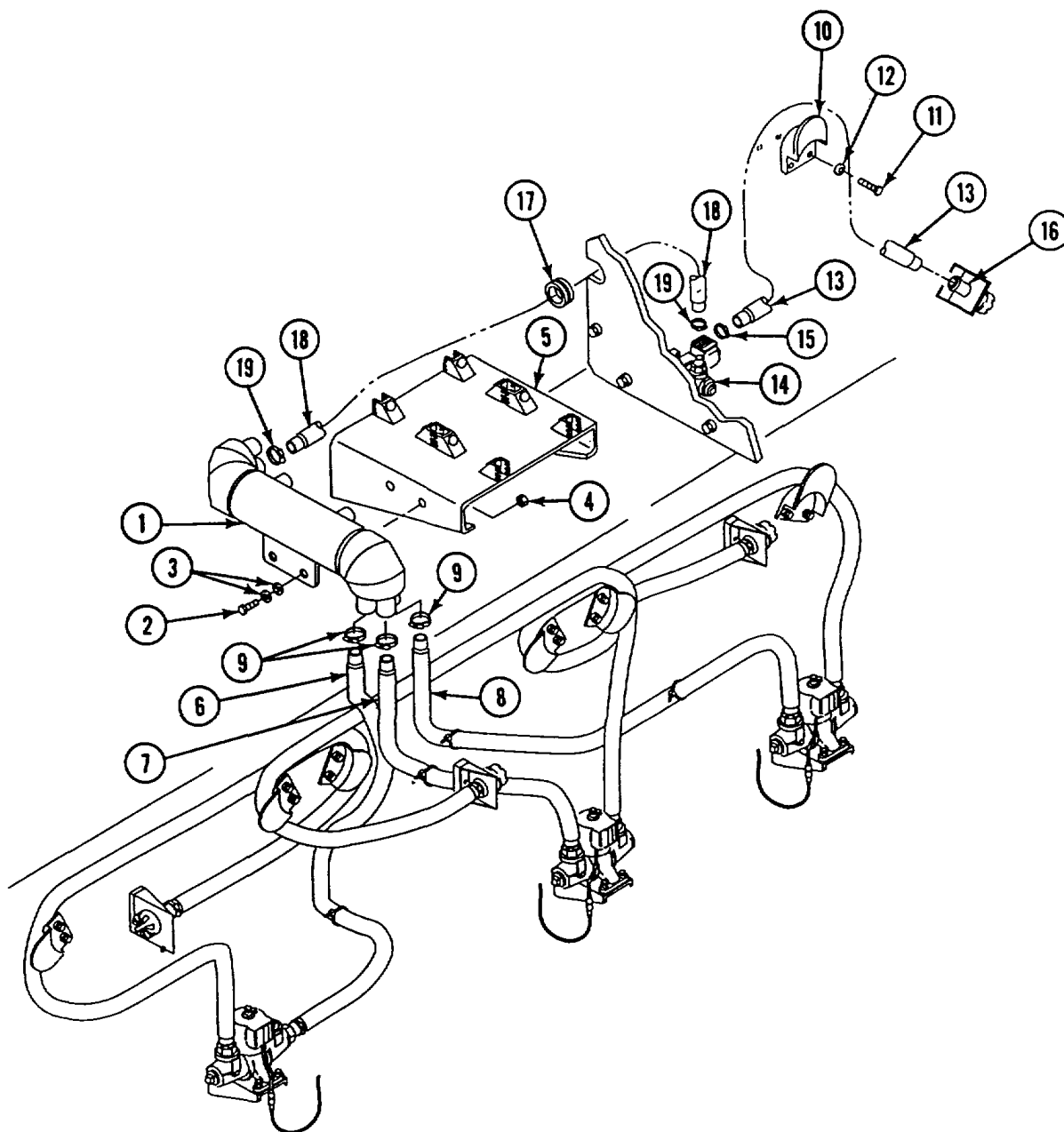


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37. Install hose (1) on heater (2) and connector (3) and tighten two clamps (4).
38. Install hose (5) and on heater (6) and connector (7) and tighten two clamps (8).
39. Install hose (9) on heater (10) and connector (11) and tighten two clamps (12).
40. Install three hoses (18, 14, and 15) on heaters (2, 6, and 10) and tighten three clamps (16, 17, and 18), respectively.
41. Secure wiring harness to three hoses (13, 14, and 15) with new straps (19).

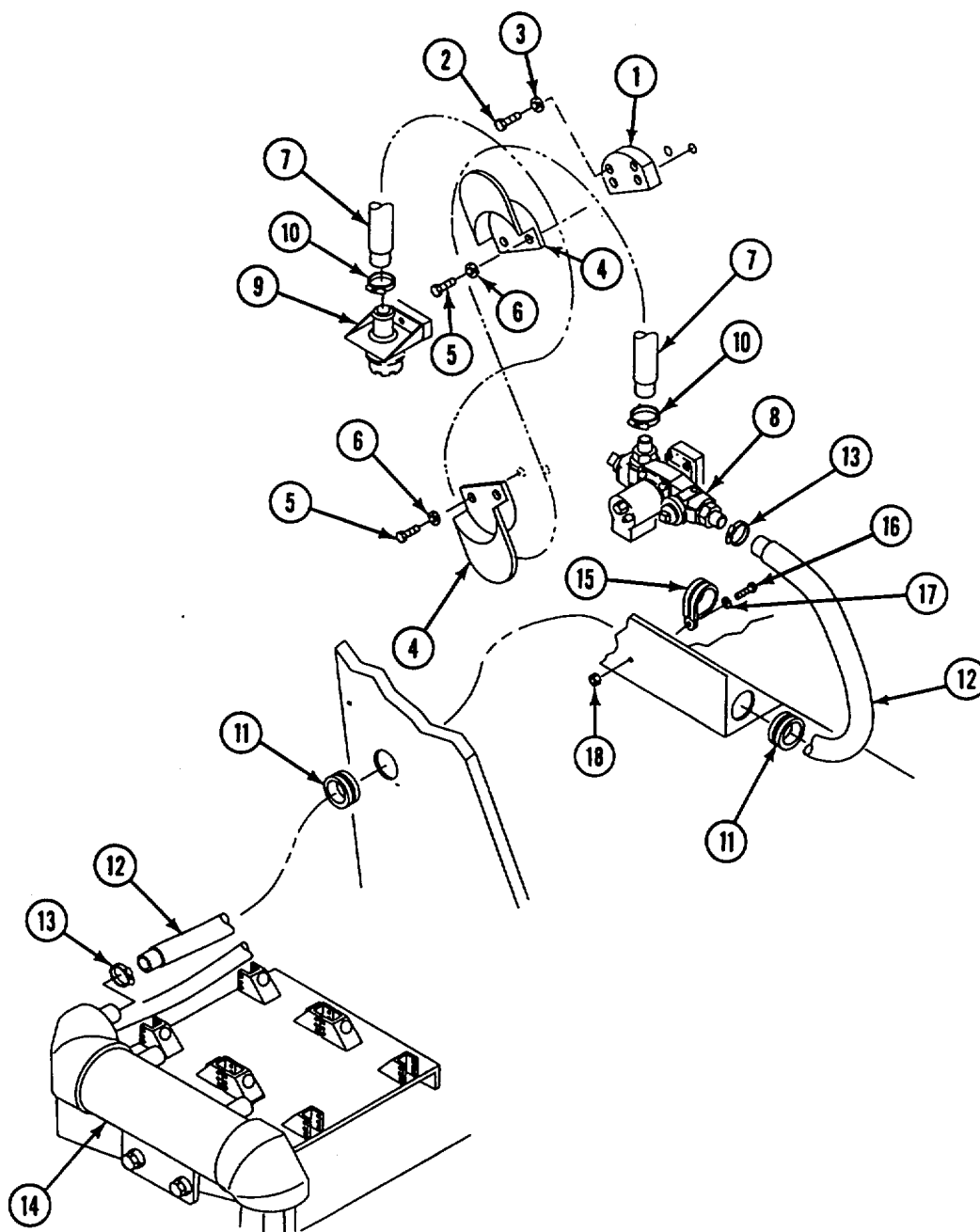


42. Install manifold (1), two screws (2), four washers (3), and two new locknuts (4) on bracket (5).
43. Install three hoses (6, 7, and 8) on manifold (1) and tighten three clamps (9).
44. If bracket (10) was removed, install on front bulkhead with two screws (11) and washers (12).
45. Install hose (13) on driver's heater (14), and tighten clamp (15), then push on connector (16).
46. If removed, install new grommet (17) on hose (18).
47. Install hose (18) and grommet (17) on manifold (1) and driver's heater (14) and tighten two damp (19).

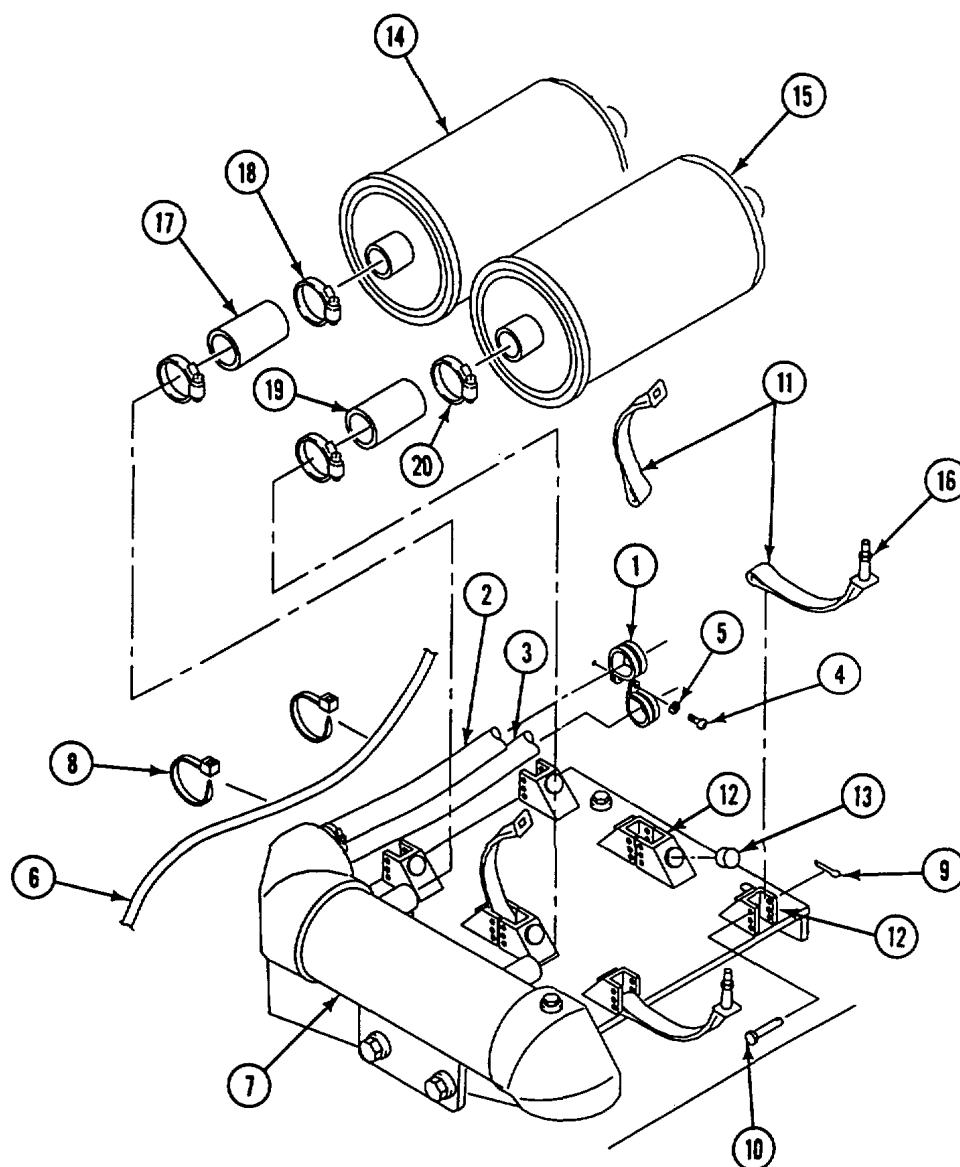


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48. If spacer (1) was removed, install on front bulkhead with two screws (2) and new lockwashers (3).
49. If either bracket (4) was removed, install on front bulkhead or spacer (1), as required, with two screws (5) and new lockwashers (6).
50. Install hose (7) on commander's heater (8) and connector (9) and tighten two clamps (10).
51. If removed, install new grommets (11) on hose (12), as required.
52. Install hose (12), two dampers (13), and grommets (11) on manifold (14) and commander's heater (8). Insert grommets in frame. Tighten clamps.
53. Install two clamps (15) on hose (12). Secure clamps to upper bulkhead with two screws (16), new lockwashers (17), and two nuts (18).

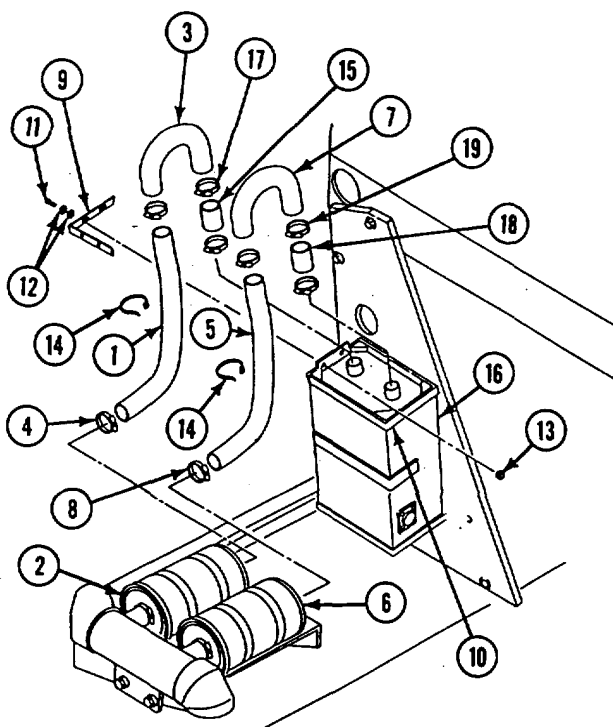


54. Install two clamps (1) on hoses (2 and 3). Secure clamps to side bulkhead with screw (4) and new lockwasher (5).
55. Secure wiring harness (6) to hose (2) and manifold (7) with new straps (8).
56. If removed, install new cotter pins (9), straight pins (10), and clamps (11) on bracket (12).
57. If missing or removed, install new rubber bumpers (13) on bracket (12), as required.
58. Install filters (14 and 15) on brackets (12) and tighten nuts (16) on four clamps (11).
59. Install hose (17) on filter (14) and manifold (7) and tighten two clamps (18).
60. Install hose (19) on filter (15) and manifold (7) and tighten two clamps (20).



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61. Install hose (1) on filter (2) and tube (3) and tighten two clamps (4).
62. Install hose (5) on filter (6) and tube (7) and tighten two clamps (8).
63. If bracket (9) was removed, install on frame (10). Secure with two screws (11), four washers (12), and two new locknuts (13).
64. Secure hoses (1 and 5) to bracket (9) with new straps (14).
65. Install hose (15) on precleaner (16) and tube (3) and tighten two clamps (17).
66. Install hose (18) on precleaner (16) and tube (9) and tighten two clamps (19).



FOLLOW-THROUGH STEPS

- | | |
|--|--|
| 1. Connect battery ground leads (page 13-2). | 3. Raise and lock ramp (see your -10). |
| 2. Start engine (see your -10). | 4. Stop engine (see your -10). |

END OF TASK

REPLACE M13 NBC HEATERS AND MOUNTS (M577A2 ONLY)**DESCRIPTION**

This task covers: Remove (page 39-17).

Install (page 39-19).

INITIAL SETUP**Tools:**

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Locknut (2)
 Locknut (4)
 Locknut (6)
 Locknut (16)
 Lockwasher (2)
 Lockwasher (4)
 Grommet (as required)

Personnel required:

Unit Mechanic

References:

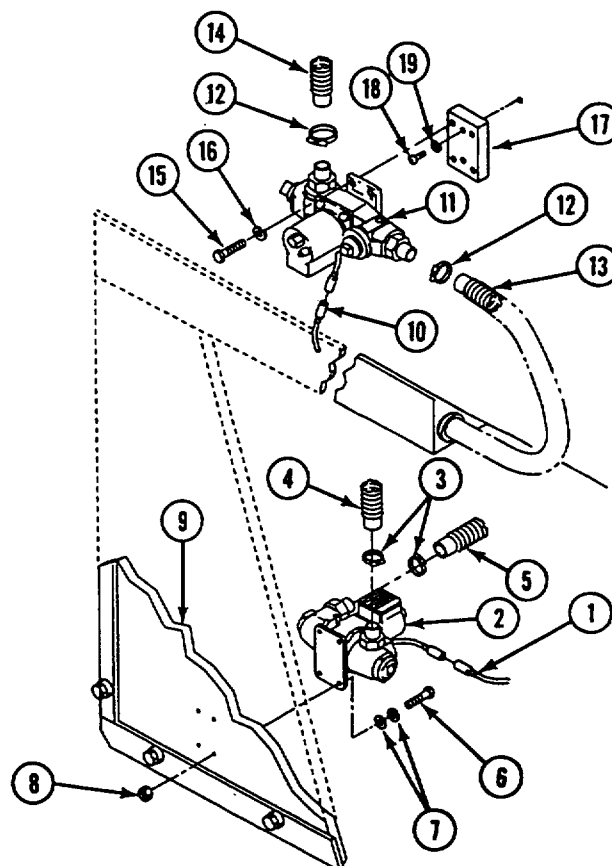
See your -10

Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 Battery ground leads disconnected (page 13-2)

REMOVE

1. Disconnect circuit 579C lead (1) from driver's heater (2).
2. Loosen two clamps (3) and remove inlet and outlet hoses (4 and 5) from driver's heater (2).
3. Remove four screws (6), eight washers (7), four locknuts (8), and driver's heater (2) from panel (9). Discard locknuts.
4. Disconnect circuit 537G lead (10) from commander's heater (11).
5. Loosen two clamps (12) and remove inlet and outlet hoses (13 and 14) from commander's heater (11).
6. Remove four screws (15), lockwashers (16), and commander's heater (11) from support bracket (17). Discard lockwashers.
7. If support bracket (17) is damaged, remove two screws (18), washers (19), and support bracket from forward bulkhead.

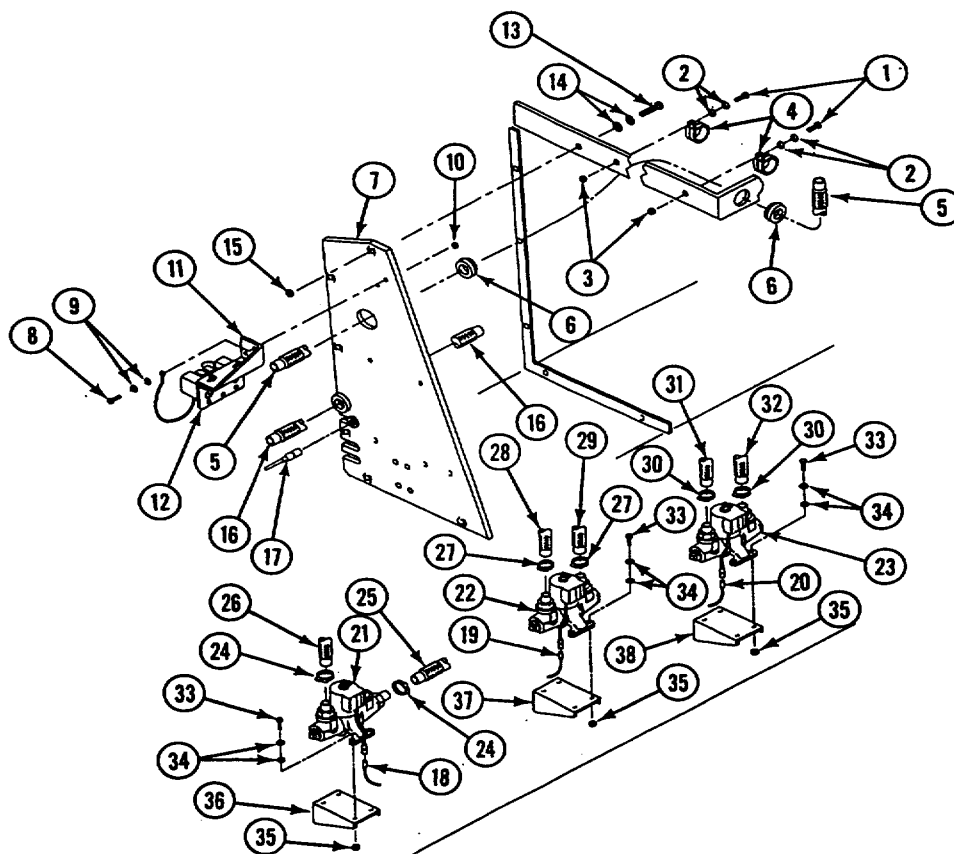
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Change 4 39-17

NOTE

If removing frame, see Replace Air Purifier and Frame (page 39-25).

8. Remove two screws (1), four washers (2), two locknuts (3), and clamps (4) from crossbeam. Remove clamps from hose (5). Discard locknuts.
9. Remove hose (5) with two grommets (6) from panel (7).
10. If either grommet (6) is damaged, remove damaged grommet from hose (5). Discard grommet.
11. Remove two screws (8), four washers (9), four locknuts (10), and bracket (11) with switch assembly (12) from panel (7). Discard locknuts.
12. Remove six screws (13), 12 washers (14), six locknuts (15), and panel (7) from welded molding.
13. Remove hose (16) and circuit 579C lead (17) from panel (7).
14. Remove circuit 537E, 537D, and 537C leads (18, 19, and 20) from operator's heaters (21, 22, and 23) respectively.
15. Loosen two clamps (24) and remove inlet and outlet hoses (25 and 26) from heater (21).
16. Loosen two clamps (27) and remove inlet and outlet hoses (28 and 29) from heater (22).
17. Loosen two clamps (30) and remove inlet and outlet hoses (31 and 32) from heater (23).
18. Remove four screws (33), eight washers (34), and four locknuts (35) from each operator's heater (21, 22, and 23). Discard locknuts.
19. Remove heaters from welded mounts (36, 37, and 38).



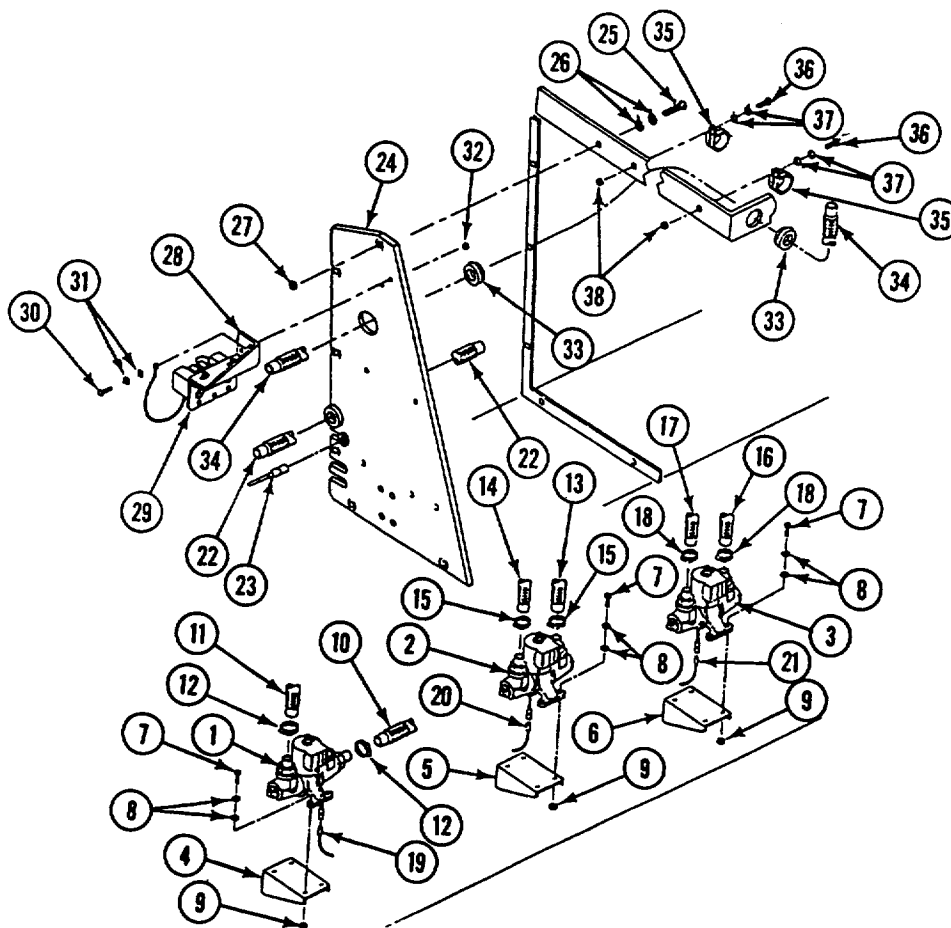
INSTALL

20. Install operator's heaters (1, 2, and 3) on welded mounts (4, 5, and 6). Secure each heater with four screws (7), eight washers (8), and four new locknuts (9).
21. Install inlet and outlet hoses (10 and 11) and two clamps (12) on operator's heater (1). Tighten clamps.
22. Install inlet and outlet hoses (13 and 14) and two clamps (15) on operator's heater (2). Tighten clamps.
23. Install inlet and outlet hoses (16 and 17) and two clamps (18) on operator's heater (3). Tighten clamps.
24. Install circuit 537C lead (19) on operator's heater (1), circuit 537D lead (20) on operator's heater (2), and circuit 537E lead (21) on operator's heater (3).

NOTE

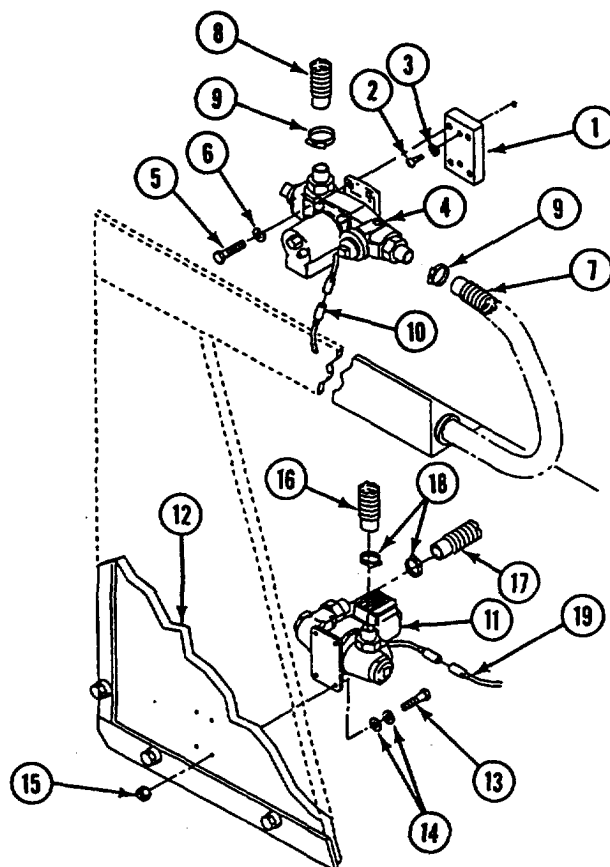
If frame was removed, see Replace Air Purifier and Frame (page 39-25).

25. Install hose (22) and circuit 579C lead (23) in panel (24).
26. Install panel on welded molding with six screws (25), 12 washers (26), and six new locknuts (27).
27. Install bracket (28) with switch assembly (29) on panel (24). Secure with two screws (30), four washers (31), and four new locknuts (32).
28. If either grommet (33) was removed, install new grommet on hose (34).
29. Install hose (34) with grommets (33) on panel (24).
30. Install two clamps (35) on hose (34). Secure clamps to crossbeam with two screws (36), four washers (37), and two new locknuts (38).



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31. If support (1) was removed, install support bracket on forward bulkhead with two screws (2) and washers (3).
32. Install commander's heater (4) on support bracket (1) with four screws (5) and new lockwashers (6).
33. Install inlet and outlet hoses (7 and 8) and two clamps (9) on commander's heater (4). Tighten clamps.
34. Install circuit 537G lead (10) on commander's heater (4).
35. Install driver's heater (11) on panel (12). Secure with four screws (13), eight washers (14), and four new locknuts (15).
36. Install inlet and outlet hoses (16 and 17) and two clamps (18) on driver's heater (11). Tighten clamps.
37. Install circuit 579C lead (19) on driver's heater (11).



FOLLOW-THROUGH STEPS

- | | |
|--|--|
| 1. Connect battery ground leads (page 13-2). | 3. Raise and lock ramp (see your -10). |
| 2. Start engine (see your -10). | 4. Stop engine (see your -10). |

END OF TASK

REPLACE M13 NBC FILTER SWITCH AND MOUNT BRACKET (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-21).

Install (page 39-22).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Locknut (4)

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

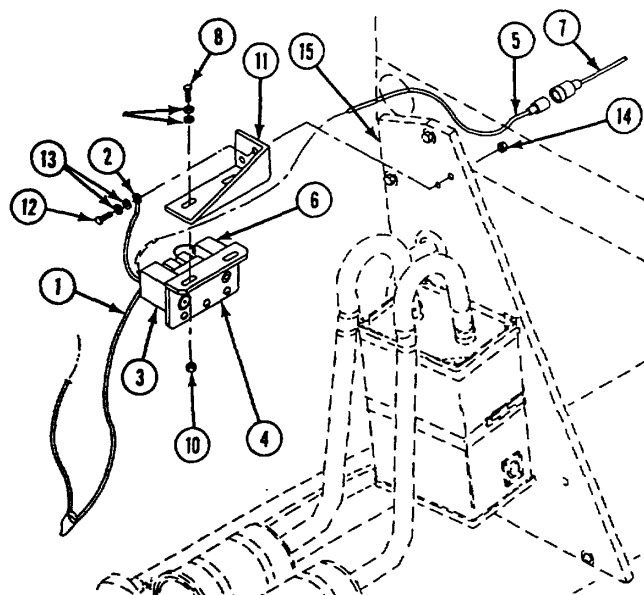
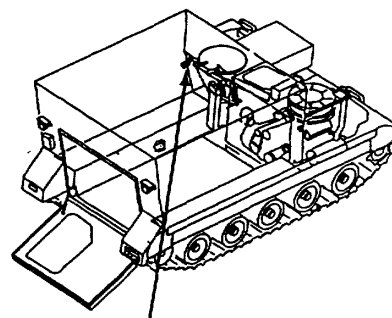
Battery ground strap disconnected (page 13-2)

Personnel Required:

Unit Mechanic

REMOVE

1. Disconnect circuit 537F (1) and ground lead (2) from light (3) on switch assembly (4).
2. Disconnect circuit 579A (5) from circuit breaker (6) on switch assembly (4) and circuit lead 415 (7).
3. Remove two screws (8), four washers (9), two locknuts (10), and switch assembly (4) from bracket (11). Discard locknuts.
4. Remove two screws (12), four washers (13), two locknuts (14), ground lead (2), and bracket (11) from frame (15). Discard locknuts.

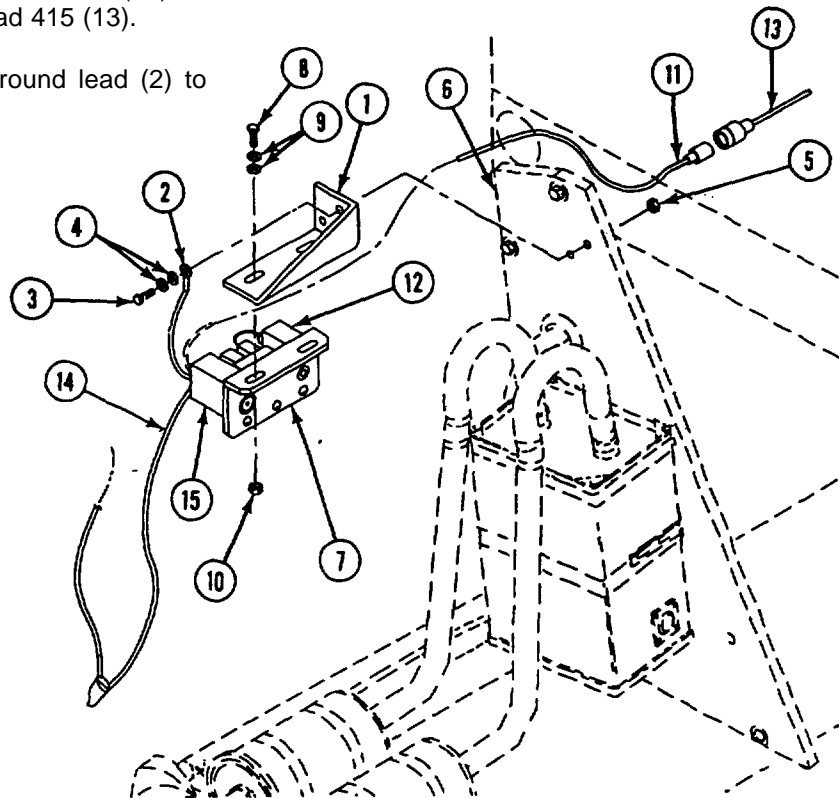


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Change 4 39-21

INSTALL

5. Install bracket (1), ground lead (2), two screws (3), four washers (4), and two new locknuts (5) on frame (6).
6. Install switch assembly (7), two screws (8), four washers (9), and two new locknuts (10) on bracket (1).
7. Connect circuit 579A (11) to circuit breaker (12) on switch assembly (7) and circuit lead 415 (13).
8. Connect circuit 537F (14) and ground lead (2) to light (15) on switch assembly (7).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M3 NBC FILTER SWITCH AND MOUNT BRACKET (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-23).

Install (page 39-24).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Locknut (4)
Lockwasher (3)
Tie straps (5)

Equipment Conditions:

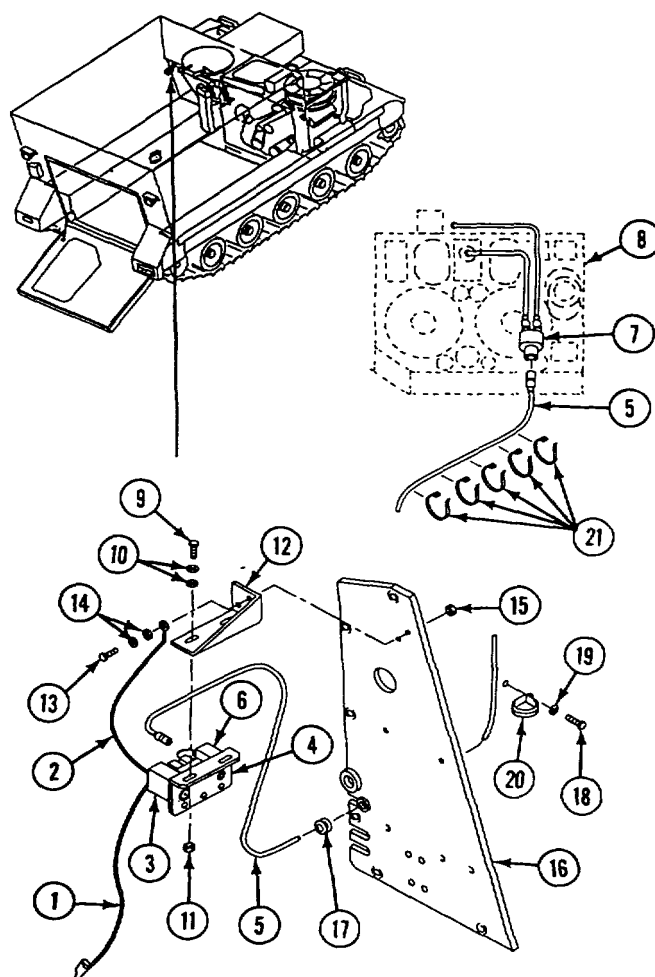
Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground strap disconnected (page 13-2)
Remove instrument panel (page 11-2)

Personnel Required:

Unit Mechanic

REMOVE

1. Disconnect circuit 537B (1) and ground lead (2) from light (3) on switch assembly (4).
2. Disconnect circuit 579A (5) from circuit breaker (6) and connector (7) on instrument panel (8).
3. Remove two screws (9), four washers (10), two locknuts (11), and switch assembly (4) from bracket (12). Discard locknuts.
4. Remove two screws (13), four washers (14), two locknuts (15), ground lead (2), and bracket (12) from frame (16). Discard locknuts.
5. Remove circuit 579A (5) and grommet (17) from frame (16).
6. Remove three screws (18), lockwashers (19), and clamps (20) from circuit 579A (5). Discard lockwashers.
7. Remove five tie straps (21) from circuit 579A (5). Discard tie straps.

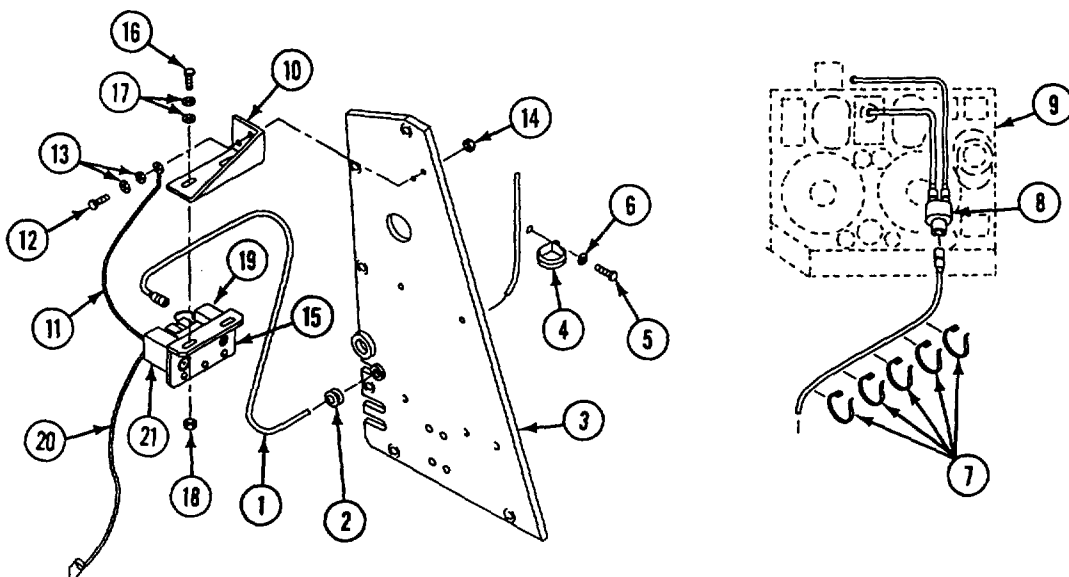


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Change 4 39-23

INSTALL

8. Install circuit 579A (1) and grommet (2) through frame (3).
9. Install three clamps (4), screws (5), and new lockwashers (6) on circuit 579A (1).
10. Install five tie straps (7) on circuit 579A (1).
11. Connect circuit 579A (1) to connector (8) on instrument panel (9).
12. Install bracket (10), ground lead (11), two screws (12), four washers (13), and two new locknuts (14) on frame (3).
13. Install switch assembly (15), two screws (16), four washers (17), and two new locknuts (18) on bracket (10).
14. Connect circuit 579A (1) to circuit breaker (19) on switch assembly (15) and connector (8) at instrument panel (9).
15. Connect circuit 537B (20) and ground lead (11) to light (21) on switch assembly (15).



FOLLOW-THROUGH STEPS

1. Connect battery ground strap (page 13-2).
2. Install instrument panel (page 11-2).

END OF TASK

REPLACE M3 NBC HEATER CONTROL BOX (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-25). Install (page 39-26).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Locknut (4)
Lockwasher

Equipment Conditions:

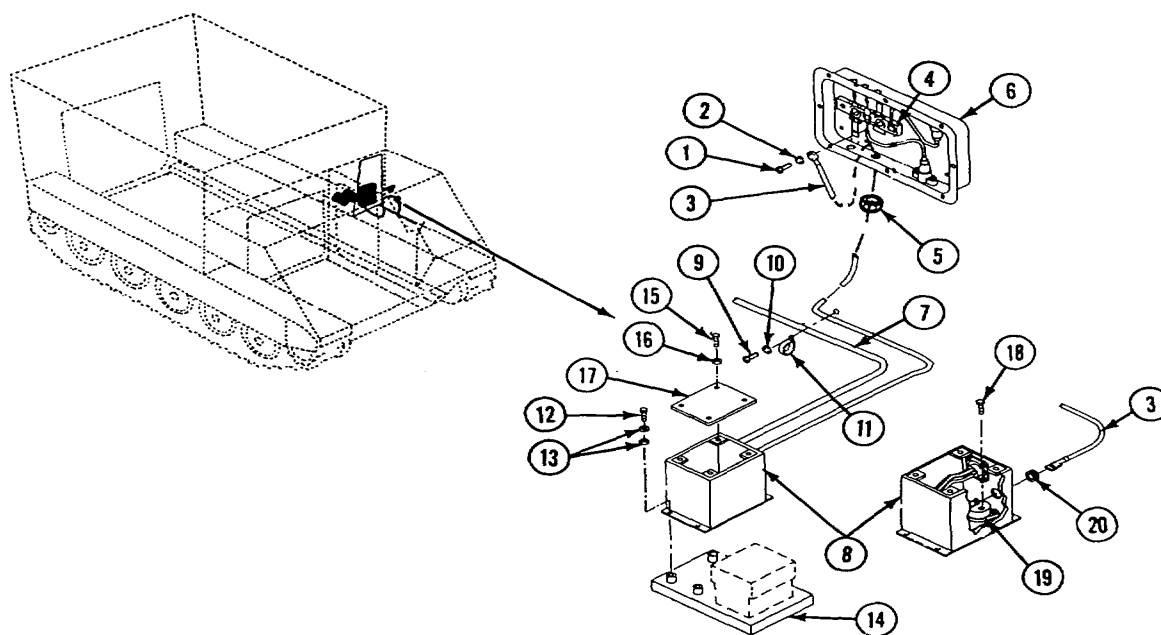
Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground strap disconnected (page 13-2)
Master switch panel assembly removed (page 9-22)

Personnel Required:

Unit Mechanic

REMOVE

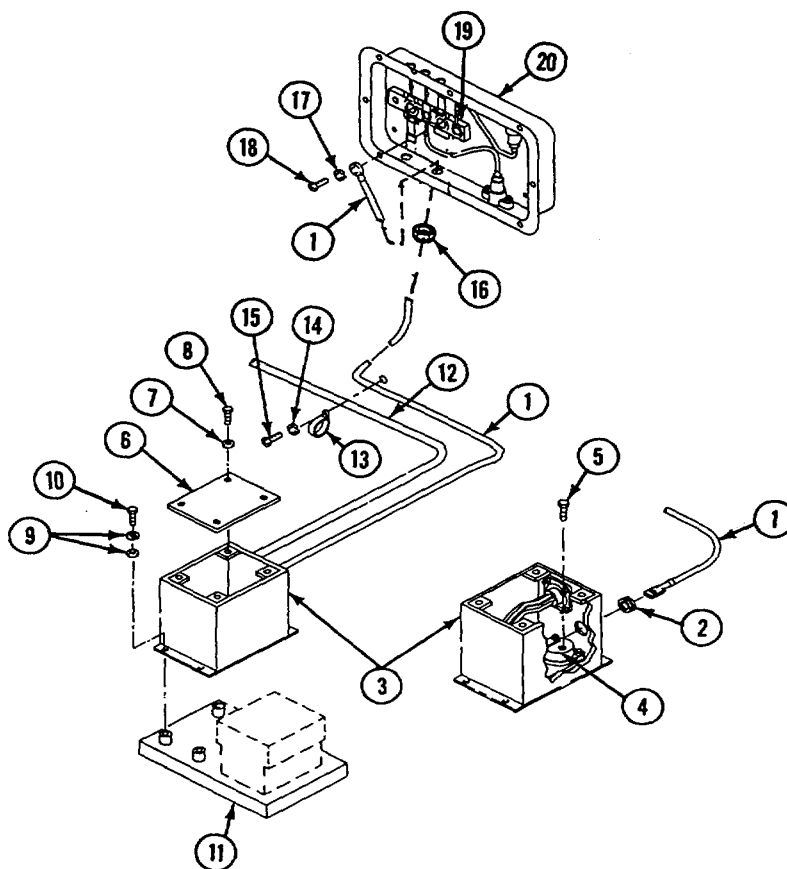
1. Remove screw (1), washer (2), and cable (3) from bus bar (4) and grommet (5) in distribution box (6).
2. Disconnect cable (7) from control box (8).
3. Remove screw (9), lockwasher (10), and clamp (11) with cables (3 and 7) from weldnut. Discard lockwasher. Remove clamp from cables.
4. Remove four screws (12), eight lockwashers (13), and control box (8) from bracket (14). Discard lockwashers.
5. Remove four screws (15), washers (16), and cover (17) from control box (8).
6. Remove screw (18) and terminal of cable (3) on circuit breaker (19). Pull cable and grommet (20) from control box (8).



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INSTALL

7. Install cable (1) and grommet (2) in control box (3). Position terminal of cable on circuit breaker (4). Install cable and screw (5) on circuit breaker.
8. Install cover (6), four washers (7), and screws (8) on control box (3).
9. Install control box (3), eight new lockwashers (9), and four screws (10) on bracket (11).
10. Connect cable (12) to control box (3).
11. Install clamp (13) on cables (1 and 12). Secure clamp to weldnut with new lockwasher (14) and screw (15).
12. Install cable (1) and grommet (16), washer (17), and screw (18) on bus bar (19) in distribution box (20).



FOLLOW-THROUGH STEPS

1. Install master switch panel (page 9-22).
2. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M8A3 NBC CABLES, SWITCH ASSEMBLY, AND BRACKETS (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-27).

Install (page 39-28).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Locknut (5)
Lockwasher (3)
Tie straps (5)
Grommet

Equipment Conditions:

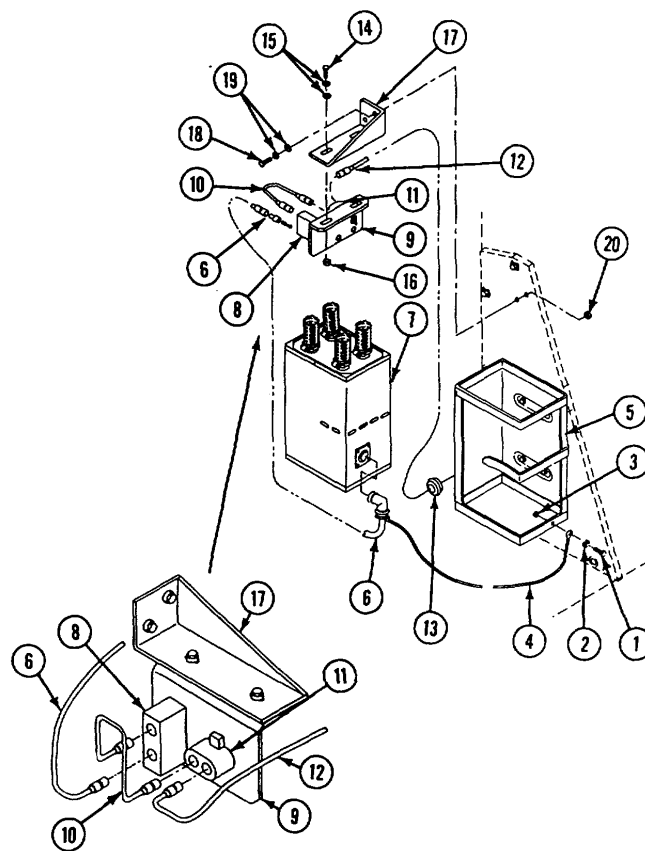
Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground strap disconnected (page 13-2)
Drop instrument panel. See Replace Panel Mounts and Ground Lead (page 11-2).

Personnel Required:

Unit Mechanic

REMOVE

1. Remove screw (1), washer (2), locknut (3), and ground lead (4) from frame assembly (5). Discard locknut.
2. Remove power cable (6) from air purifier (7), and switch (8) on switch assembly (9).
3. Remove cable (10) from switch (8) and circuit breaker (11) on switch assembly (9).
4. Remove cable (12) with grommet (13) from circuit breaker (11) on switch assembly (9).
5. Remove two screws (14), four washers (15), two locknuts (16), and switch assembly (9) from bracket (17). Discard locknuts.
6. Remove two screws (18), four washers (19), two locknuts (20), and bracket (17) from forward bulkhead.

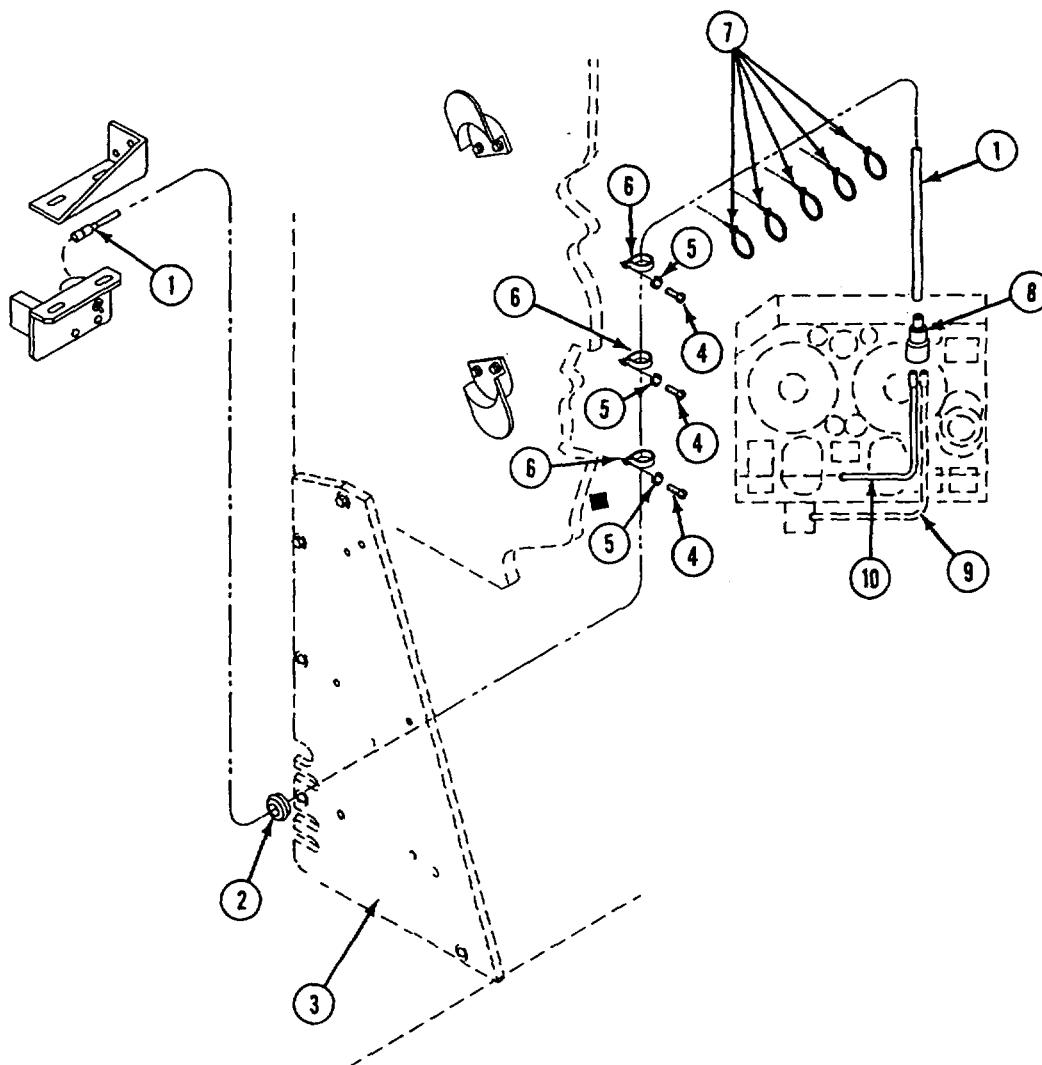


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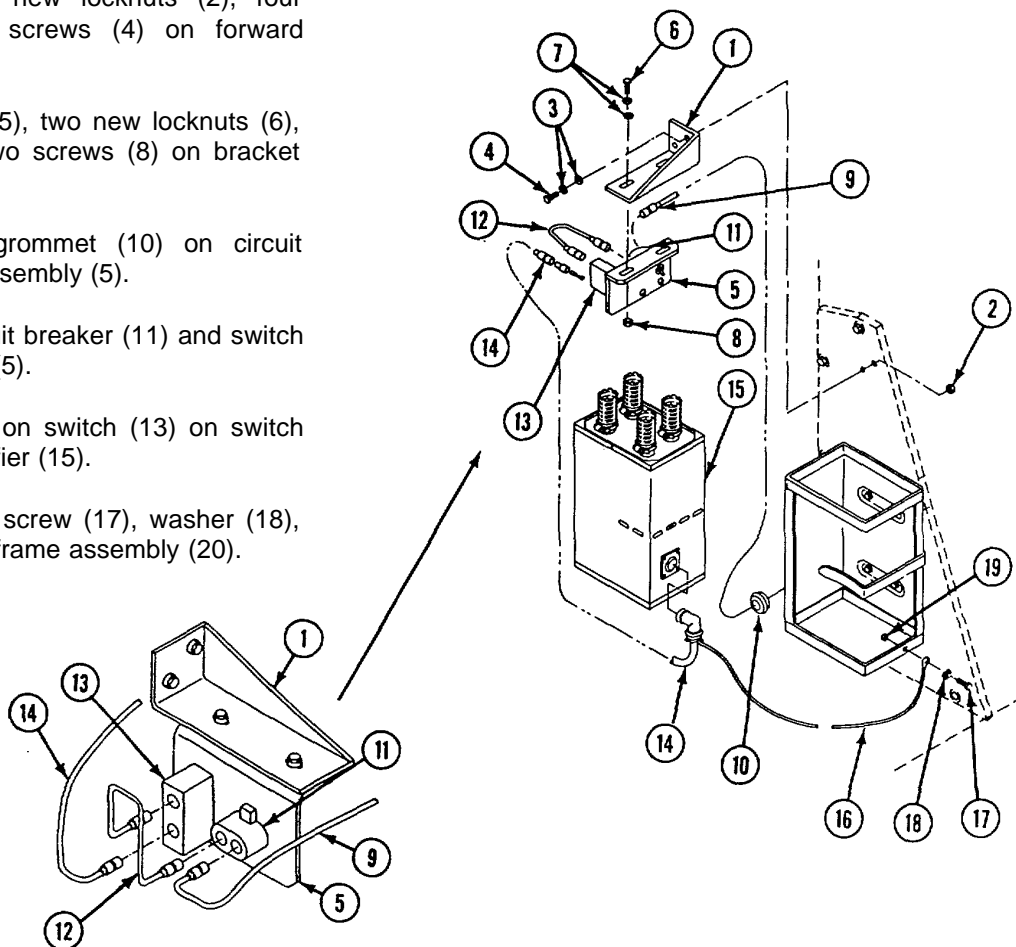
7. Pull cable (1) with grommet (2) from panel (3). Discard grommet, if damaged.
8. Remove three screws (4), lockwashers (5), and clamps (6) from driver's rear bulkhead. Remove three clamps from cable (1). Discard lockwashers.
9. Cut five tie straps (7) securing cable (1) to adjacent wiring harness. Discard tie straps.
10. Remove cable (1) from connector (8).
11. Disconnect circuit 10 lead (9) and lead (10) from connector (8).

INSTALL

12. Connect lead (10) and circuit 10 lead (9) to connector (8).
13. Install cable (1) in connector (8).
14. Route cable (1) along adjacent wiring harness. Secure with five new tie straps (7).
15. Install three clamps (6) on cable (1). Secure clamps to driver's rear bulkhead with three screws (4) and new lockwashers (5).
16. If damaged, install new grommet (2) on cable (1). Route cable through panel (3) and insert grommet.



17. Install bracket (1) two new locknuts (2), four washers (3), and two screws (4) on forward bulkhead.
18. Install switch assembly (5), two new locknuts (6), four washers (7), and two screws (8) on bracket (1).
19. Install cable (9) with grommet (10) on circuit breaker (11) on switch assembly (5).
20. Install cable (12) on circuit breaker (11) and switch (13) on switch assembly (5).
21. Install power cable (14) on switch (13) on switch assembly (5) and air purifier (15).
22. Install ground lead (16), screw (17), washer (18), and new locknut (19) on frame assembly (20).



FOLLOW-THROUGH STEPS

1. Install driver's instrument panel (page 11-2).
2. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE 8A3 NBC HOSES AND BRACKETS (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-30).

Install (page 39-31).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (6)
Locknut (6)

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

Personnel Required:

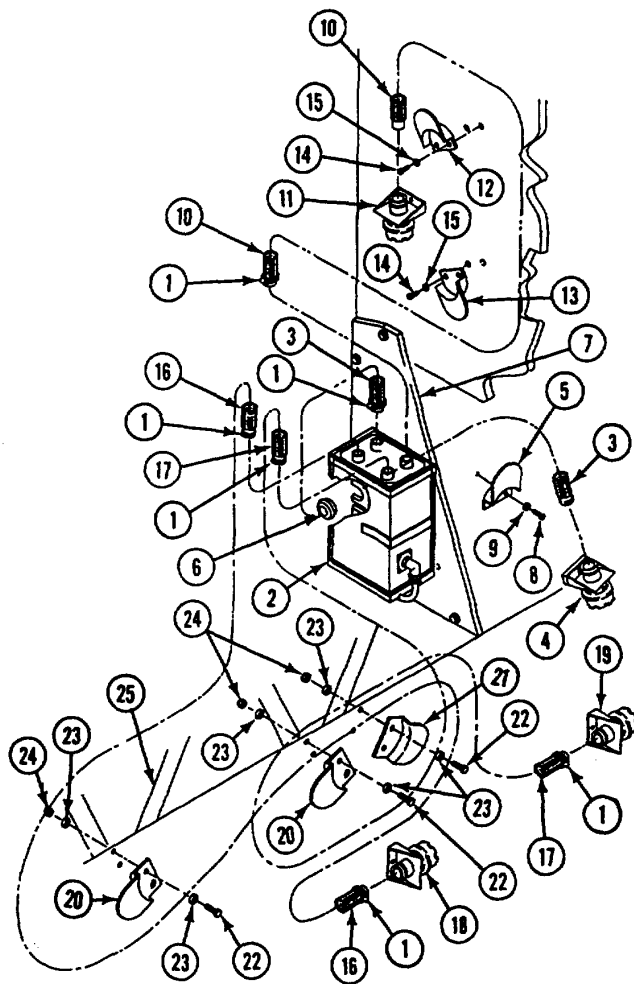
Unit Mechanic

REMOVE

NOTE

Hose location may vary on air purifier.

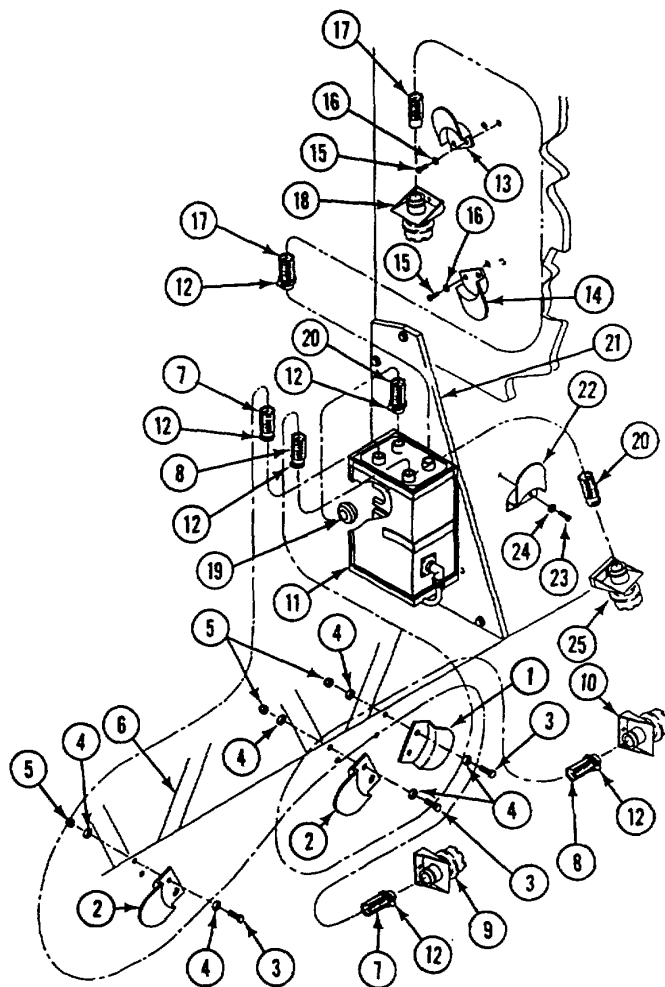
1. Loosen clamp (1) at air purifier (2) and remove driver's station hose (3) from connector (4), bracket (5), and air purifier.
2. Push hose (3) with grommet (6) through frame (7). If damaged, remove grommet.
3. Remove two screws (8), lockwashers (9), and bracket (5) from driver's bulkhead. Discard lockwashers.
4. Loosen clamp (1) at air purifier (2), and remove commander's station hose (10) from connector (11), bracket (12), bracket (13), and air purifier (2).
5. Remove four screws (14), lockwasher (15), bracket (12), and bracket (13) from forward compartment bulkhead. Discard lockwashers.
6. Loosen clamps (1) at air purifier (2), and remove two crew hoses (16 and 17) from connectors (18 and 19), two brackets (20), and bracket (21).
7. Remove six screws (22), 12 washers (23), six locknuts (24), two brackets (20), and bracket (21) from table supports (25). Discard locknuts.



INSTALL**NOTE**

Hose location may vary on air purifier.

8. Install bracket (1), two brackets (2), six screws (3), 12 washers (4), and six new locknuts (5) on table supports (6).
9. Install two crew hoses (7 and 8) on connectors (9 and 10).
10. Route hose (7) over bracket (2) and under bracket (1), and install in air purifier (11). Tighten clamp (12).
11. Route hose (8) over bracket (2) and under bracket (1), and install in air purifier (11). Tighten clamp (12).
12. Install bracket (13), bracket (14), four screws (15), and new lockwashers (16) on forward compartment bulkhead.
13. Install commander's station hose (17) on connector (18).
14. Install commander's station hose (17) over and under brackets (13 and 14) and install in air purifier (11). Tighten clamp (12).
15. If removed, install new grommet (19) on driver's station hose (20). Route hose through frame (21).
16. Install driver's station hose (20) on air purifier (11) and tighten clamp (12).
17. Install bracket (22), two screws (23), and new lockwashers (24) on driver's bulkhead.
18. Loop hose (20) over bracket (22) and install on connector (25).

**FOLLOW-THROUGH STEPS**

1. Start engine (see your -10).
2. Stop engine (see your -10).

END OF TASK

REPLACE M8A3/M13 AIR PURIFIER AND FRAME (M577A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-32). Install (page 39-33).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Locknut (4)

Personnel Required:

Unit Mechanic

References:

See your -10
See FM 21-40
See TM 3-6680-316-10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground leads disconnected (page 13-2)

REMOVE

WARNING

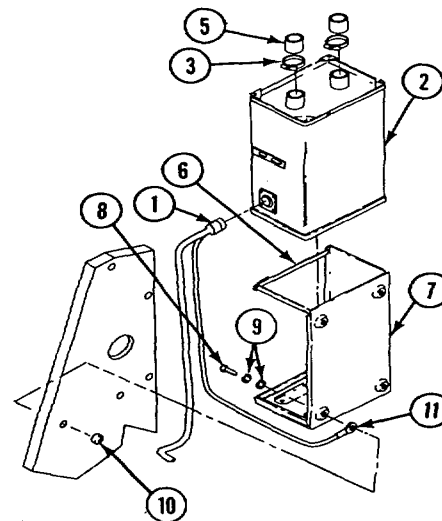
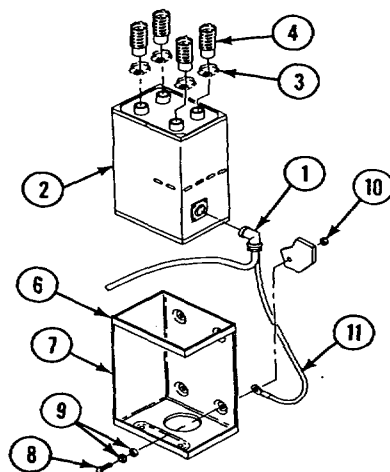
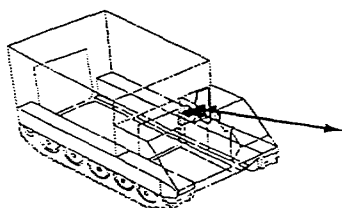


Contaminated filters are hazardous to personnel. Use precautions when handling filters (see FM 21-40). Dispose of filters using trained chemical environment personnel.

NOTE

This task covers replacement of the M8A3 and the M13 air purifier and frame. Differences are noted in respective steps.

1. Disconnect power cable (1) from air purifier (2).
2. For M8A3 purifier, loosen four clamps (3) and remove four hoses (4) and clamps from air purifier (2). For M13 purifier, loosen two clamps and remove two couplings (5) and clamps from air purifier.
3. Unfasten latch (6) and lift air purifier (2) from frame assembly (7).
4. Remove four screws (8), eight washers (9), four locknuts (10), ground lead (11), and frame assembly (7) from panel. Discard locknuts.



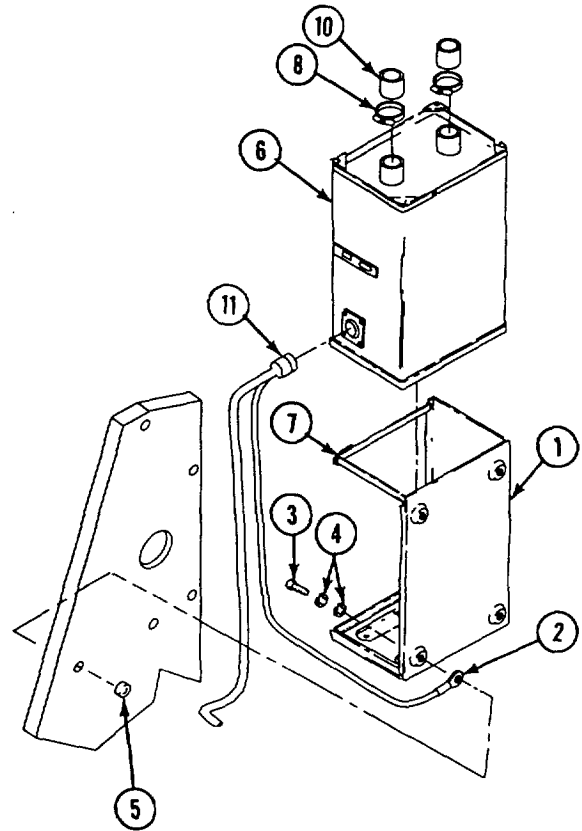
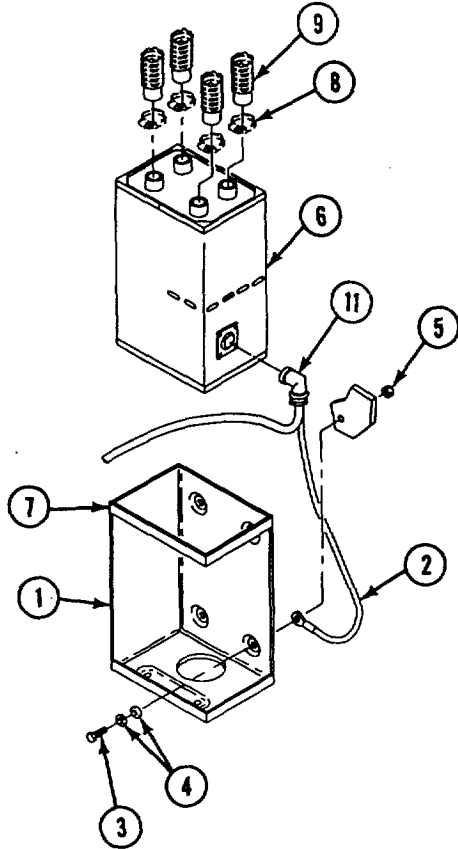
INSTALL

NOTE

Air purifier must be adjusted before installation. See TM 3-6680-316-10.

5. Install frame assembly (1), ground lead (2), four screws (3), eight washers (4), and four new locknuts (5) on panel.

6. Place air purifier (6) in frame assembly (1) and close latch (7).
7. For M8A3 purifier, install four clamps (8) and hoses (9) on air purifier (6) and tighten clamps. For M13 purifier, install two clamps and couplings (10) on air purifier (6) and tighten clamps.
8. Connect power cable (11) to air purifier (6).



FOLLOW-THROUGH STEPS

1. Connect battery ground leads (page 13-2).

END OF TASK

**REPLACE M8A3/M13/M14ORIFICE CONNECTOR ASSEMBLY,
SUPPORT, AND QUICK COUPLING HALF
(M113A2, M1059, M577A2, AND M1068 ONLY)**

DESCRIPTION

This task covers: Remove (page 39-34).

Install (page 39-35).

INITIAL SETUP**Tools:**

General Mechanic's Tool Kit (Item 30, App D)
Retaining Ring Pliers Set (Item 45, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Materials/Parts:

Lockwasher
Lockwasher (2)

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

NOTE

Orifice connector assembly, mounting bracket, and support are replaced in the same way in the M8A3 NBC kit and the M13 NBC kit.

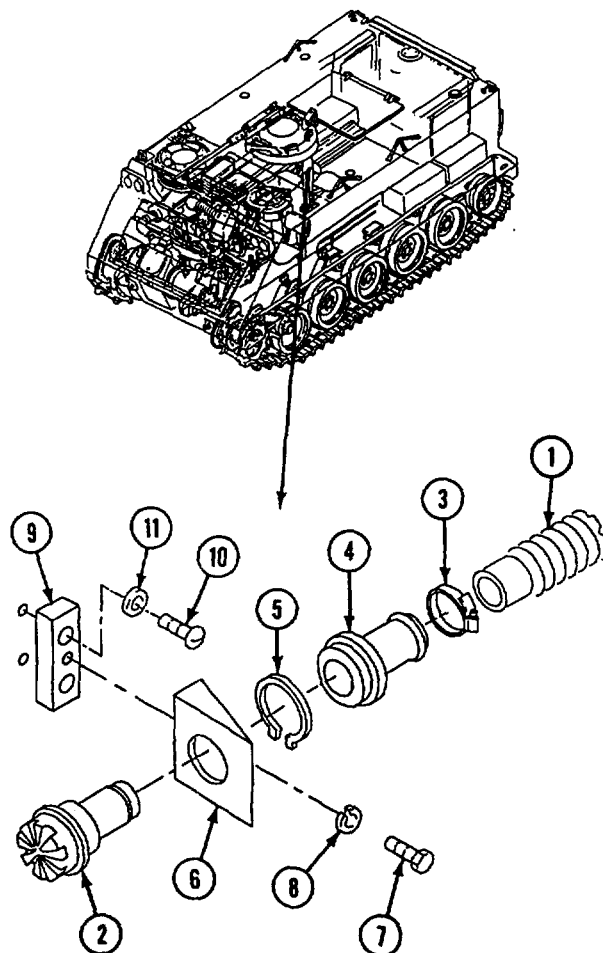
REMOVE

1. Remove hose (1) from orifice connector assembly (2).
2. Disassemble clamp (3), quick coupling half (4) and hose (1).
3. Remove retaining ring (5) from orifice connector assembly (2).
4. Remove orifice connector assembly (2) from mounting bracket (6).

NOTE

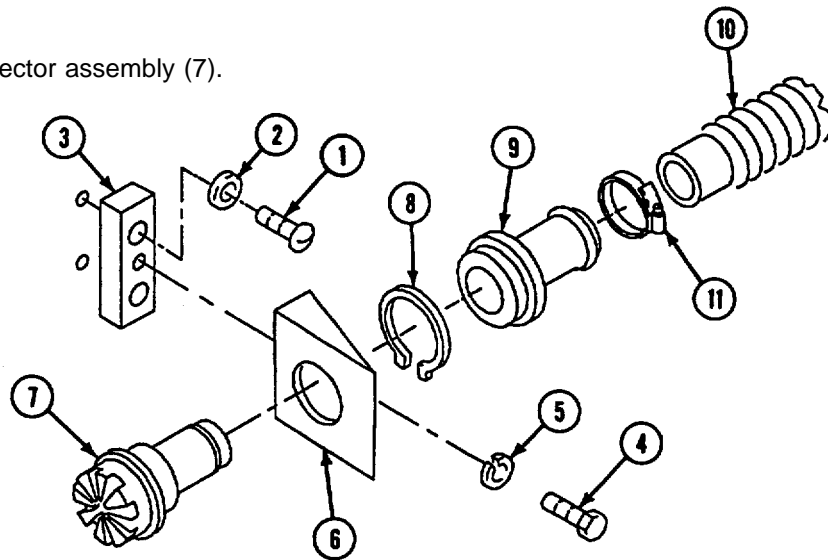
Mounting brackets are secured directly to the vehicle bulkhead or a support. Both options are covered in this task.

5. Remove screw (7), lockwasher (8), and mounting bracket (6) from bulkhead or support (9). Discard lockwasher.
6. Remove two screws (10), lockwashers (11), and support (9). Discard lockwashers.



INSTALL

7. Install two screws (1), new lockwashers (2), and support (3) on bulkhead.
8. Install screw (4), new lockwasher (5), and mounting bracket (6) on support (3).
9. Install orifice connector assembly (7) into mounting bracket (6). Secure with retaining ring (8).
10. Assemble quick coupling half (9), hose (10), and clamp (11).
11. Install hose (10) on orifice connector assembly (7).



END OF TASK

REPLACE M8A3 NBC HOSES AND BRACKETS (M106A2 AND M125A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-36).

Install (page 39-39).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Grommet (6)
Locknut (4)
Lockwasher (2)
Lockwasher (9)
Lockwasher (12)
Tie down strap (AR)

References:

See your -10

Equipment Conditions:

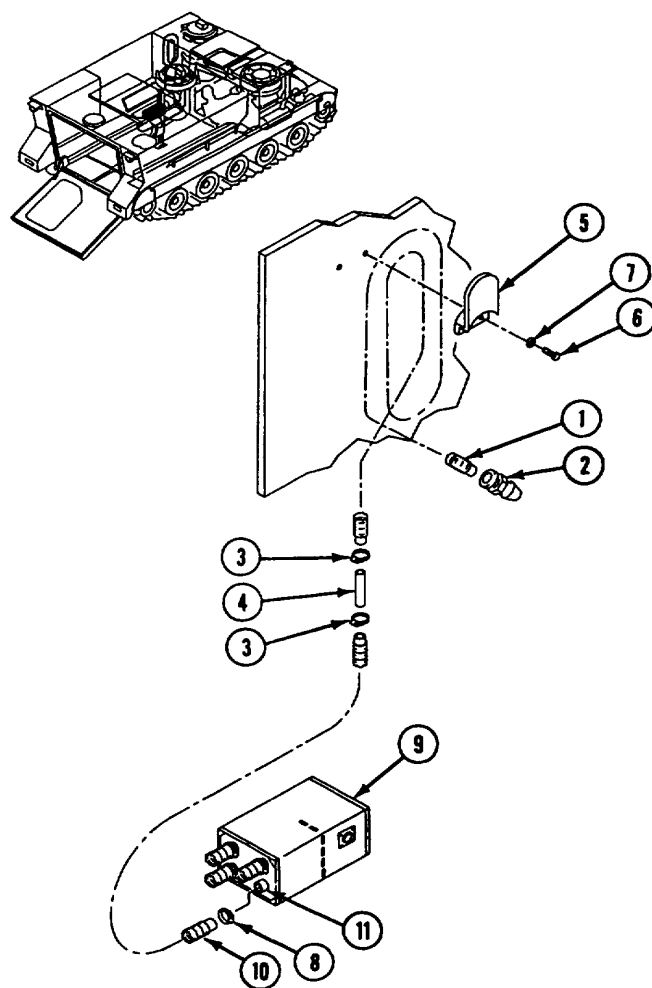
Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)

REMOVE

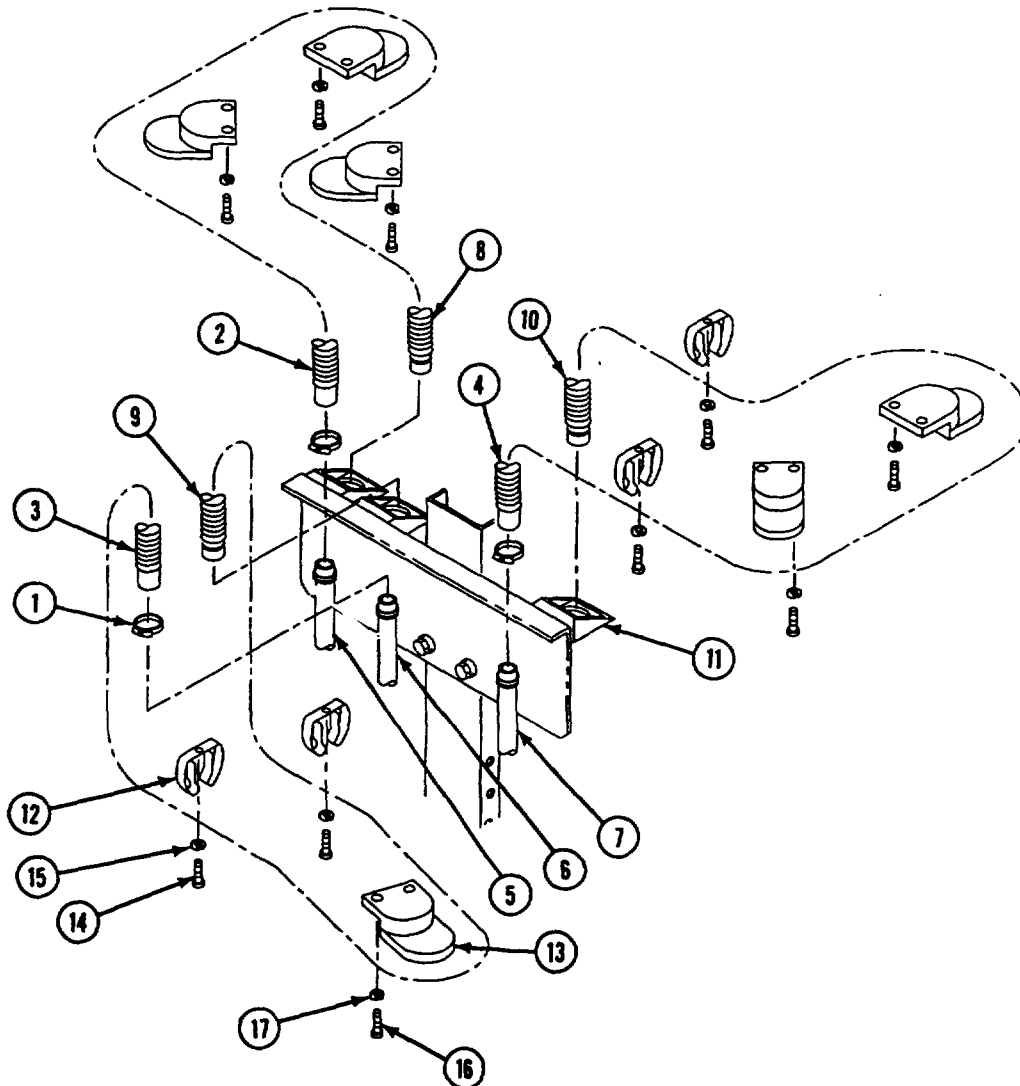
NOTE

Hose location may vary on air purifier.

1. Remove driver's station hose (1) from orifice connector assembly (2).
2. Loosen clamp (3). Remove driver's station hose (1) and clamp (3) from tube (4) and bracket (5).
3. Remove two screws (6), lockwashers (7), and bracket (5) from driver's bulkhead. Discard lockwashers.
4. Loosen clamp (8) at air purifier (9) and remove driver's station hose (10) and clamp from air purifier.
5. Remove hose (10) from clip (11).

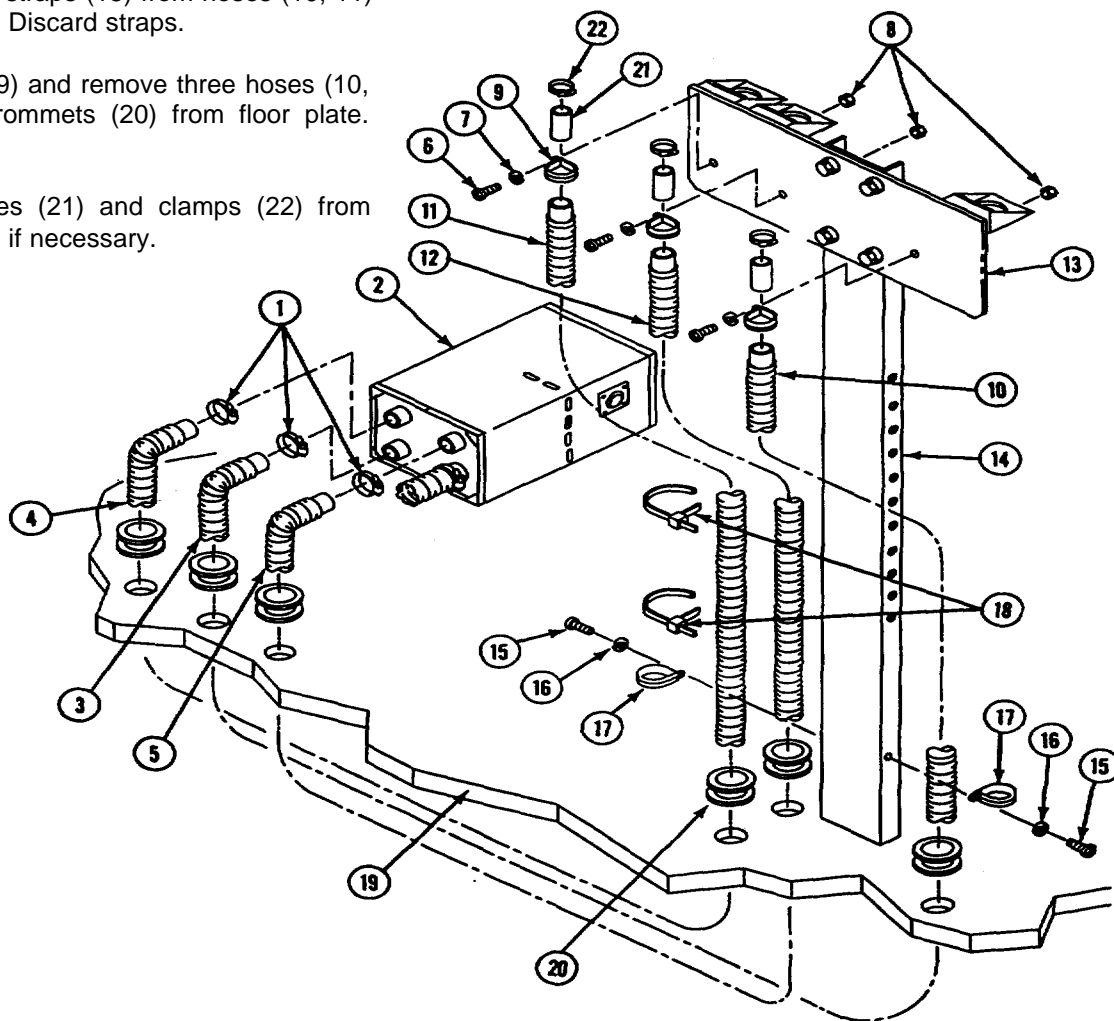


6. Loosen three clamps (1) and remove three hoses (2, 3, 4) and clamps from tubes (5, 6, 7).
7. Remove three hoses (8, 9, 10) from orifice connector assemblies (11), clips (12), and brackets (13).
8. Remove four screws (14), lockwashers (15), and clips (12) from overhead compartment bulkhead.
9. Remove twelve screws (16), lockwashers (17), and six brackets (13) from overhead compartment bulkhead. Discard lockwashers.



GO TO NEXT PAGE

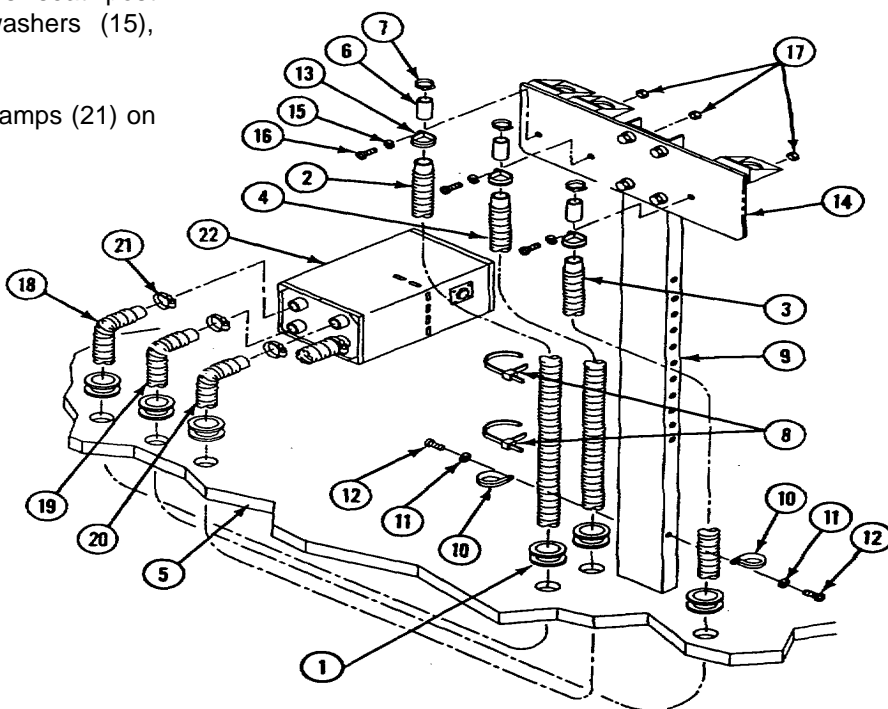
10. Loosen three clamps (1) at air purifier (2) and remove three hoses (3, 4, 5) and clamps from air purifier.
11. Remove three screws (6), lockwashers (7), nuts (8), and clamps (9) from hoses (10, 11, 12) and bracket (13) on commander's seat post (14). Discard lockwashers.
12. Remove two screws (15), lockwashers (16), and clamps (17) from two hoses (11, 12) and commander's seat post (14). Discard lockwashers.
13. Cut and remove tie straps (18) from hoses (10, 11) and seat post (14). Discard straps.
14. Raise floor plate (19) and remove three hoses (10, 11, 12) and six grommets (20) from floor plate. Discard grommets.
15. Remove three tubes (21) and clamps (22) from hoses (10, 11, 12), if necessary.



INSTALL**NOTE**

Hose location may vary on air purifier.

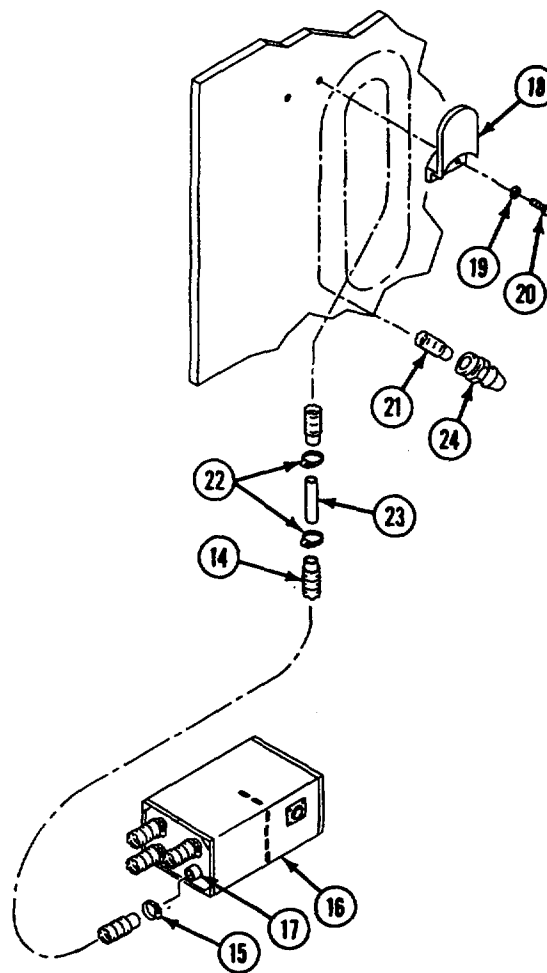
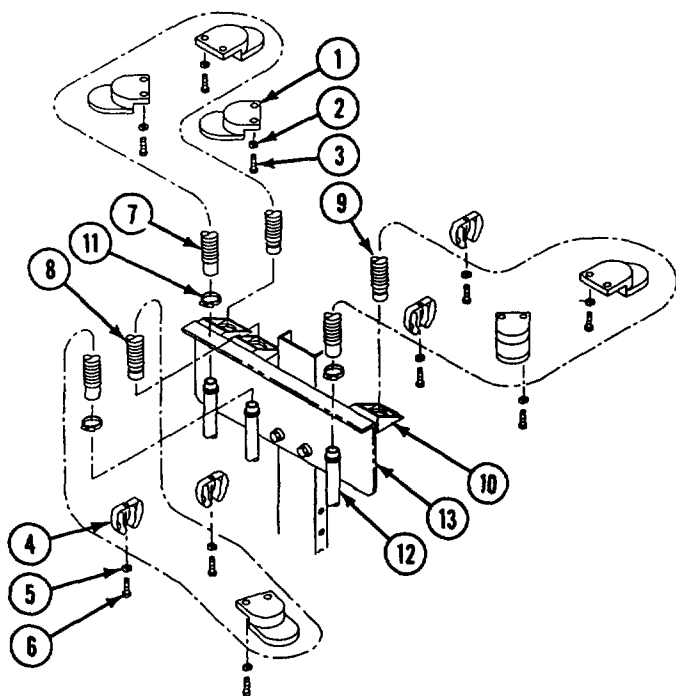
16. Install six new grommets (1) and three hoses (2, 3, 4) in floor plate (5). Install floor plate.
17. Install three tubes (6) and clamps (7) on hoses (2, 3, 4).
18. Install new tie straps (8) on hoses (3, 4) and commander's seat post (9).
19. Install two clamps (10) on hoses (2, 3). Install clamps (10) and hoses (2, 3) on commander's seat post (9) with new lockwashers (11) and screws (12).
20. Install three clamps (13) on hoses (2, 3, 4). Install clamps and hoses on commander's seat post bracket (14) with three new lockwashers (15), screws (16), and nuts (17).
21. Install three hoses (18, 19, 20) and clamps (21) on air purifier (22). Tighten clamps.



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Change 4 39-39

22. Install six brackets (1), twelve new lockwashers (2), and screws (3) on overhead compartment bulkhead.
23. Install four clips (4), new lockwashers (5), and screws (6) on overhead compartment bulkhead.
24. Install three hoses (7, 8, 9) on orifice connector assemblies (10), clips (4), and brackets (1).
25. Install three hoses (7, 8, 9) and clamps (11) on tubes (12) on seat post bracket (13). Tighten clamps.
26. Install driver's station hose (14) and clamp (15) on air purifier (16). Tighten clamp.
27. Install hose (14) in clip (17).
28. Install bracket (18), two new lockwashers (19), and screws (20) on driver's bulkhead.
29. Install driver's station hoses (14, 21) and two clamp (22) on tube (23). Tighten clamps.
30. Install driver's station hose (21) on bracket (18), and orifice connector assembly (24).



FOLLOW-THROUGH STEPS

1. Start engine (see your -10).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

**REPLACE M8A3 NBC ORIFICE CONNECTOR ASSEMBLIES,
SUPPORTS, AND QUICK DISCONNECT COUPLINGS
(M106A2 AND M125A2 ONLY)**

DESCRIPTION

This task covers: Remove (page 39-41). Install (page 39-42).

INITIAL SETUP

Tools:
General Mechanic's Tool Kit (Item 30, App D)

References:
See your -10

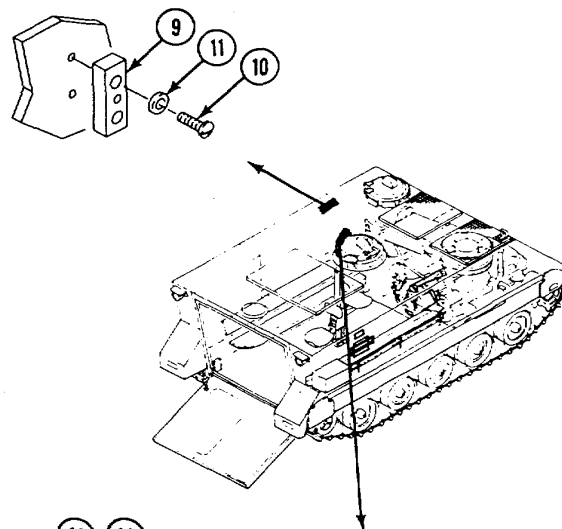
Materials/Parts:
Locknut (3)
Lockwasher (2)
Lockwasher (4)

Equipment Conditions:
Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)

Personnel Required:
Unit Mechanic

REMOVE

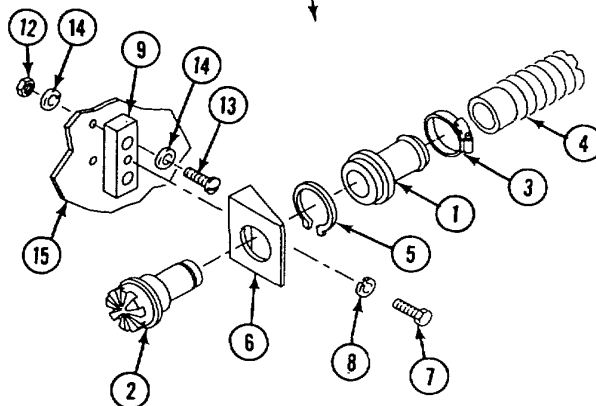
1. Remove quick disconnect coupling (1) from orifice connector assembly (2).
2. Loosen clamp (3) and remove clamp and hose (4) from quick disconnect coupling (1).
3. Remove retaining ring (5) from orifice connector assembly (2).
4. Remove orifice connector assembly (2) from mounting bracket (6).
5. Remove screw (7), lockwasher (8), and mounting bracket (6) from support (9). Discard lockwasher.



NOTE

To replace support on driver's bulkhead do steps 6 and 9. For supports on commander's seat post bracket do steps 7 and 8.

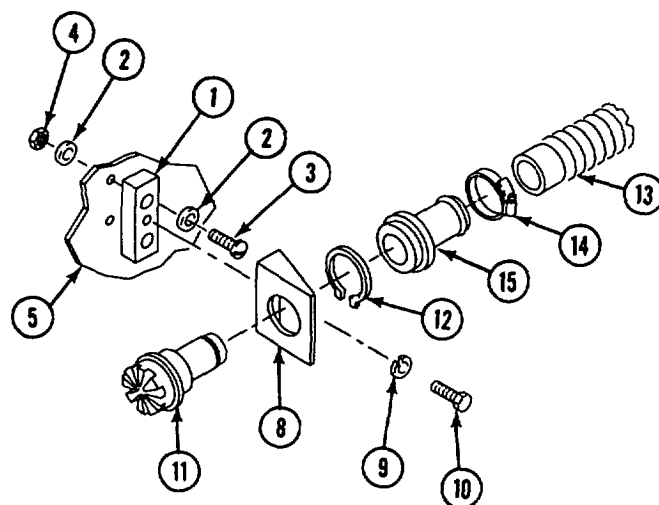
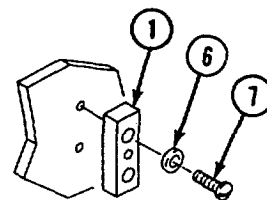
6. Remove two screws (10), lockwashers (11), and support (9) from driver's bulkhead. Discard lockwashers.
7. Remove two locknuts (12), screws (13), four washers (14), and support (9) from commander's seat post bracket (15). Discard locknuts.



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INSTALL

8. Install support (1), four washers (2), two screws (3), and new locknuts (4) on commander's seat post bracket (5).
9. Install support (1), two new lockwashers (6), and screws (7) on driver's bulkhead.
10. Install mounting bracket (8), new lockwasher (9), and screw (10) on support (1).
11. Install orifice connector assembly (11) in mounting bracket (8). Install retaining ring (12) on orifice connector assembly.
12. Install hose (13) and clamp (14) on quick disconnect coupling (15). Tighten clamp.
13. Install quick disconnect coupling (15) on orifice connector assembly (11).



FOLLOW-THROUGH STEPS

1. Start engine (see your -10).
2. Raise and secure ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

REPLACE M8A3 NBC CABLES AND SWITCH ASSEMBLY (M106A2 AND M125A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-43). Install (page 39-44).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

- Locknut (2)
- Lockwasher
- Tie straps (AR)

Equipment Conditions:

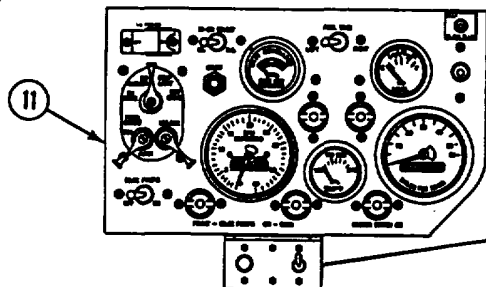
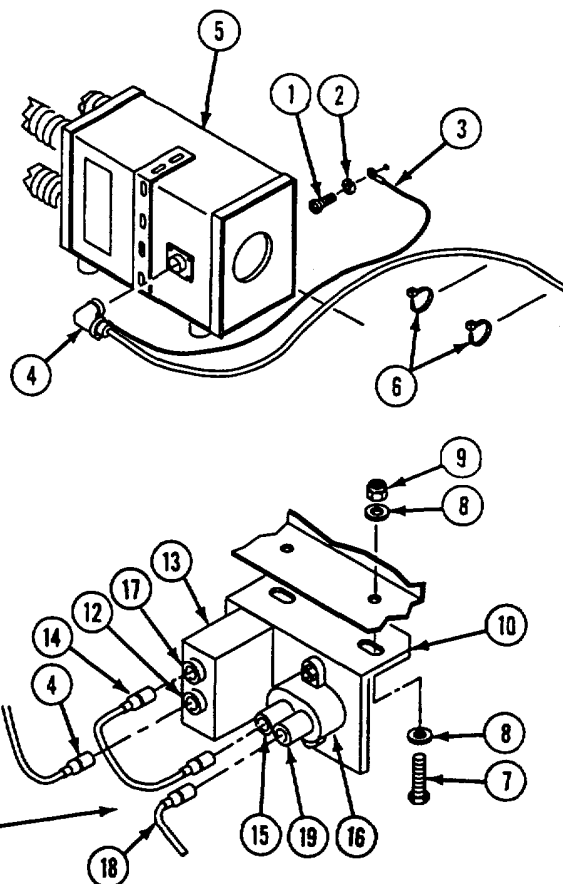
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Battery ground strap disconnected (page 13-2)
- Drop instrument panel. See replace panel mounts and ground lead. (page 11-2)

Personnel Required:

Unit Mechanic

REMOVE

1. Remove screw (1), lockwasher (2), and ground lead (3) from sponson. Discard lockwasher.
2. Remove power cable (4) with ground lead (3) from air purifier (5).
3. Cut tie straps (6) securing cable (4) to wiring harness on side plate. Discard tie straps.
4. Remove two screws (7), four washers (8), two locknuts (9), and switch assembly (10) from instrument panel (11). Discard locknuts.
5. Remove power cable (4) from jack (12) on switch (13).
6. Remove short cable assembly (14) from jack (15) on circuit breaker (16) and jack (17) on switch (13).
7. Remove circuit 579A lead (18) from jack (19) on circuit breaker (16).

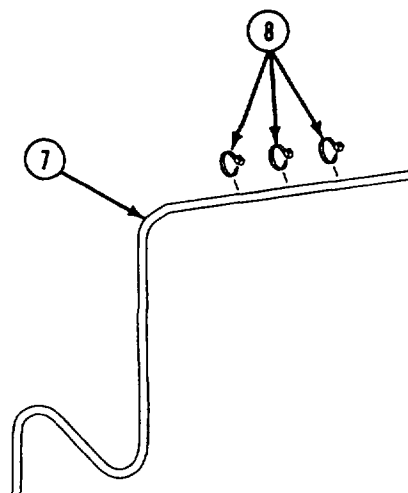
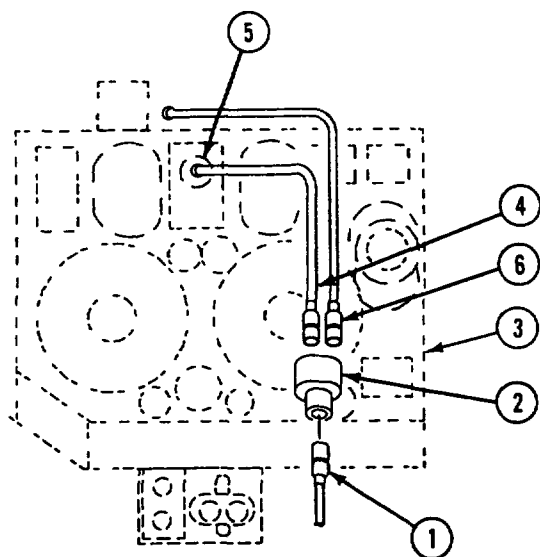


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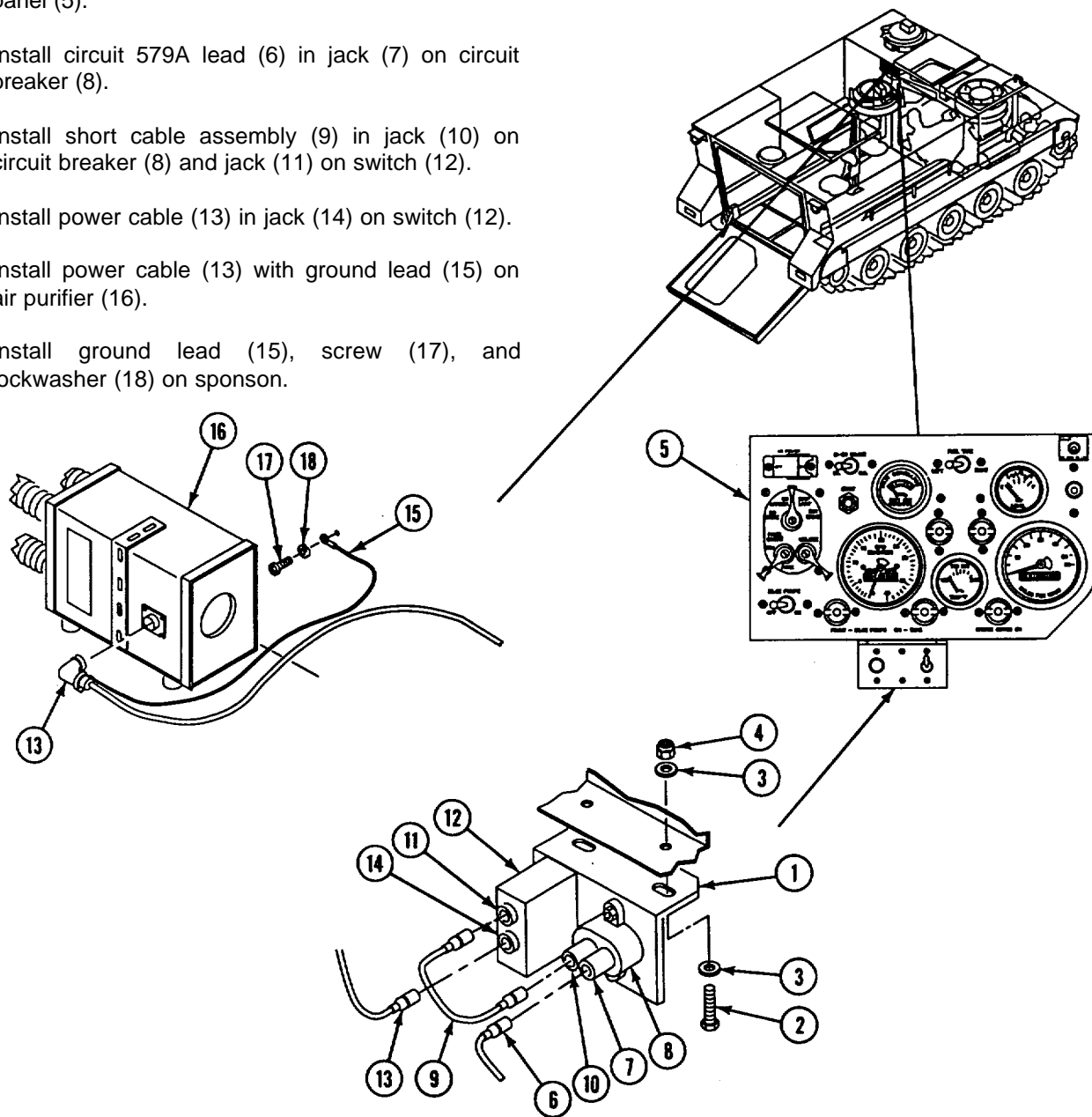
8. Remove circuit 579A lead (1) from connector (2) on back of instrument panel (3).
9. Remove circuit 10A lead (4) from connector (2) and circuit breaker (5).
10. Remove circuit 10 lead (6) from connector (2).

INSTALL

11. Install circuit lead 10 (6) on connector (2).
12. Install circuit 10A lead (4) on connector (2) and circuit breaker (5).
13. Install circuit 579A lead (1) on connector (2) at back of instrument panel (3).
14. Route power cable (7) along wiring harness on side plate. Secure cable to wiring harness with new tie straps (8).



15. Install switch assembly (1), two screws (2), four washers (3), and two locknuts (4) on instrument panel (5).
16. Install circuit 579A lead (6) in jack (7) on circuit breaker (8).
17. Install short cable assembly (9) in jack (10) on circuit breaker (8) and jack (11) on switch (12).
18. Install power cable (13) in jack (14) on switch (12).
19. Install power cable (13) with ground lead (15) on air purifier (16).
20. Install ground lead (15), screw (17), and lockwasher (18) on sponson.



FOLLOW-THROUGH STEPS

1. Install driver's instrument panel (page 11-2).
2. Connect battery ground strap (page 13-2).
3. Raise and lock ramp (see your -10).

END OF TASK

**REPLACE M8A3/M3 NBC AIR PURIFIER AND FRAME
(M106A2 AND M125A2 ONLY)**

DESCRIPTION

This task covers: Remove (page 39-46).

Install (page 39-47).

INITIAL SETUP**Tools:**

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Locknut (4)

Personnel Required:

Unit Mechanic

References:

See your -10

FM 21-40

TM 3-6680-316-10

Equipment Conditions:

Engine stopped (see your -10)

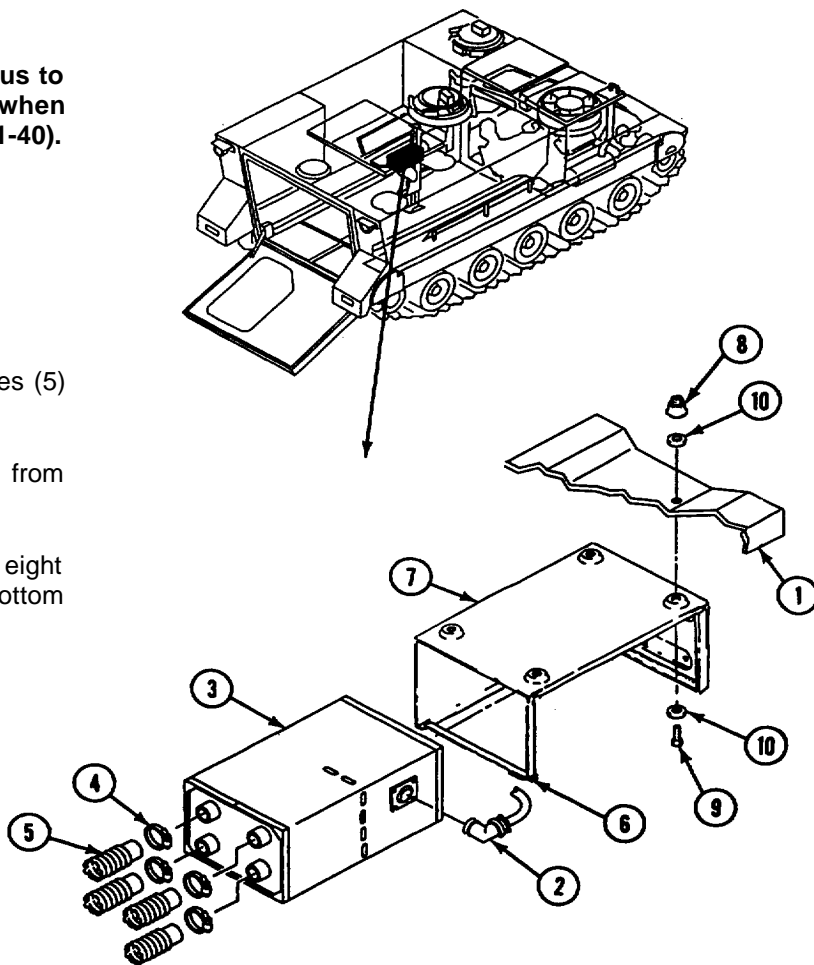
Carrier blocked (see your -10)

Battery ground strap disconnected (page 13-2)

REMOVE**WARNING**

Contaminated filters are hazardous to personnel. Use precautions when handling filters (see FM 21-40). Dispose of filters using trained chemical environment personnel.

1. Remove seat pad from seat (1).
2. Remove power cable (2) from air purifier (3).
3. Loosen four clamps (4) and remove four hoses (5) and clamps from air purifier (3).
4. Open latch (6) and remove air purifier (3) from frame assembly (7).
5. Remove four locknuts (8), screws (9), eight washers (10), and frame assembly (7) from bottom of seat (1). Discard locknuts.



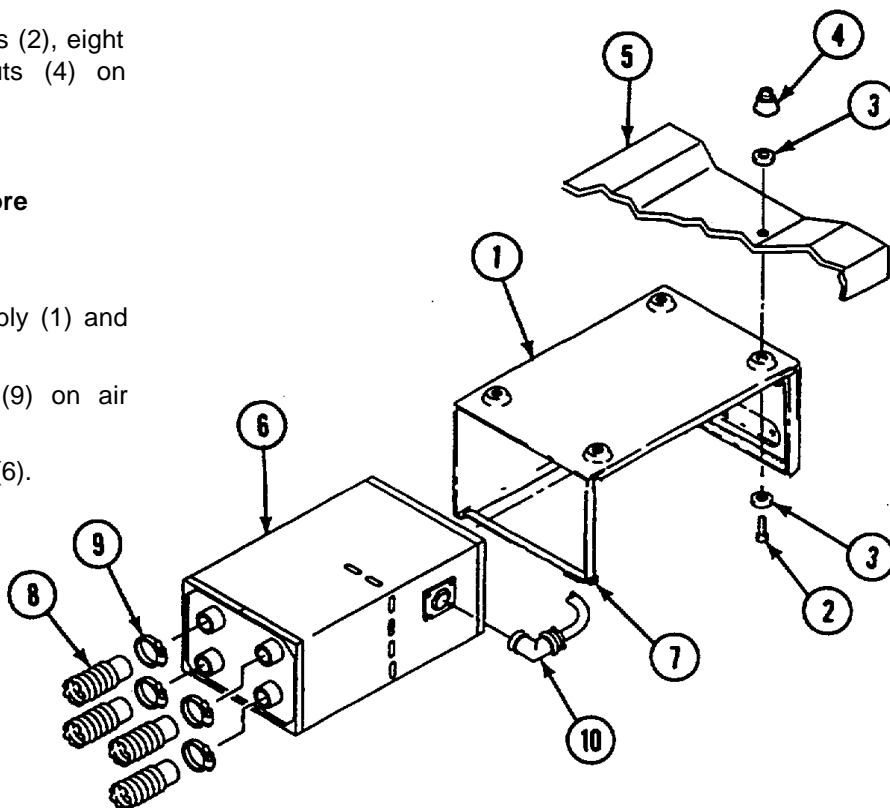
INSTALL

6. Install frame assembly (1), four screws (2), eight washers (3), and four new locknuts (4) on bottom of seat (5).

NOTE

Air purifier must be adjusted before installation. See TM 3-6680-316-10.

7. Install air purifier (6) in frame assembly (1) and close latch (7).
8. Install four hoses (8) and clamps (9) on air purifier (6). Tighten clamps.
9. Install power cable (10) on air purifier (6).
10. Install seat pad on seat (5).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M8A3/M3 NBC COMMANDER'S SEAT POST BRACKET (M106A2 AND M125A2 ONLY)**INITIAL SETUP****Tools:**

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Locknut (4)

Personnel Required:

Unit Mechanic

References:

See your -10

FM 21-40

References (cont):

TM 3-6680-316-10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Orifice connector assemblies removed from bracket (page 39-32).

NBC air hoses removed from bracket (page 39-40).

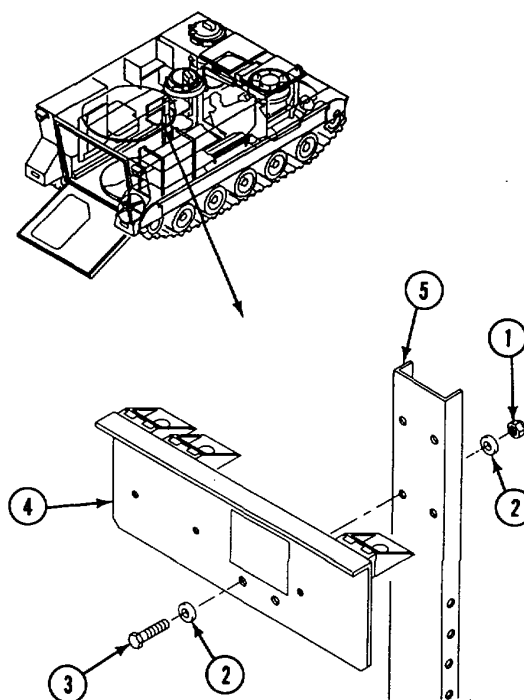
(If installed) M3 NBC heaters removed from bracket (page 39-60).

REMOVE

1. Remove four locknuts (1), eight washers (2), screws (3), and bracket (4) from commander's seat post (5). Discard locknuts.

INSTALL

2. Install bracket (4), four screws (3), eight washers (2), and new locknuts (1) on commanders seat post (5).

**FOLLOW-THROUGH STEPS**

1. Install M3 NBC heaters on bracket, (if removed) (page 39-60).
2. Install NBC air hoses on bracket (page 39-40).
3. Install NBC orifice connector assemblies on bracket (page 39-34).

END OF TASK

REPLACE M3 NBC FILTER SWITCH ASSEMBLY (M106A2 AND M125A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-49). Install (page 39-50).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

- Locknut (4)
- Lockwasher (2)
- Lockwasher (2)
- Lockwasher (2)

References:

See your -10

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Battery ground strap disconnected (page 13-2)

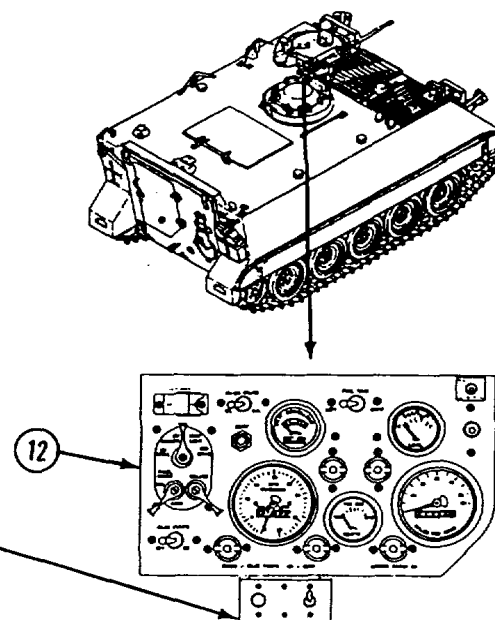
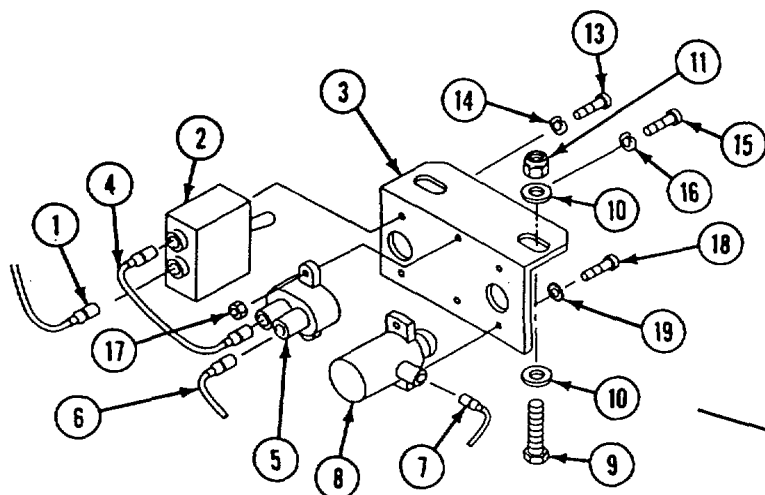
REMOVE

1. Remove circuit 579C lead (1) from air filter switch (2) on switch assembly (3).
2. Remove jumper lead (4) from air filter switch (2) and circuit breaker (5) on switch assembly (3).
3. Remove circuit 579A lead (6) from circuit breaker (5) on switch assembly (3).
4. Remove circuit 537A lead (7) from air filter ON lamp (8) on switch assembly (3).
5. Remove two mounting screws (9), four washers (10), two locknuts (11), and switch assembly (3) from instrument panel (12). Discard locknuts.

NOTE

Remove following components, as needed, for repair of switch assembly.

6. Remove two screws (13), lockwashers (14), and air filter switch (2) from switch assembly (3). Discard lockwashers.
7. Remove two screws (15), lockwashers (16), nuts (17), and circuit breaker (5) from switch assembly (3). Discard lockwashers.
8. Remove two screws (18), lockwashers (19), and air filter ON lamp (8) from switch assembly (3). Discard lockwashers.



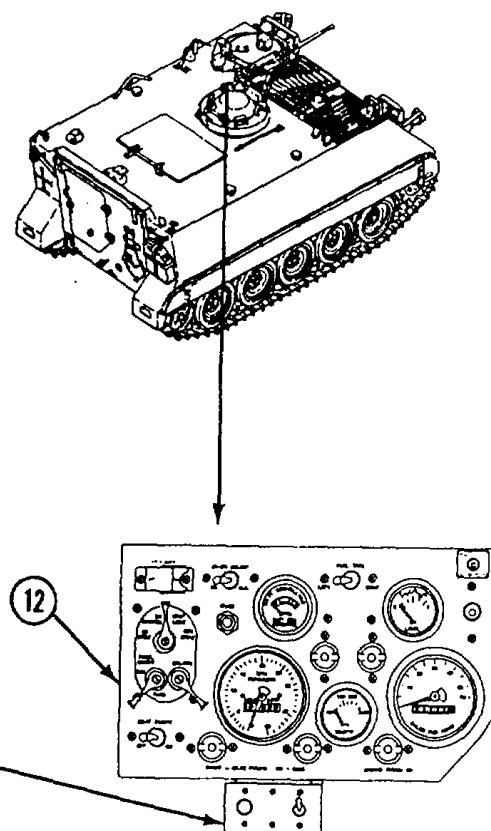
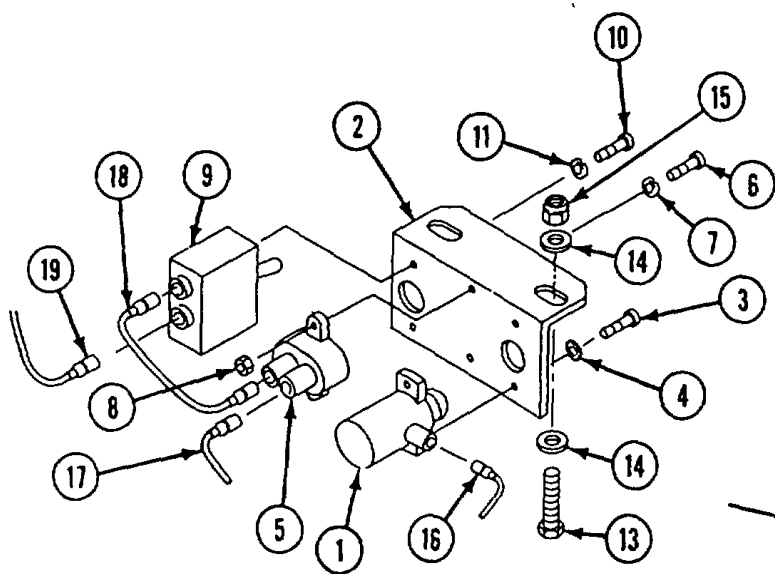
GO TO NEXT PAGE

INSTALL

NOTE

Install following components, as needed, for repair of switch assembly.

9. Install air filter ON lamp (1) on switch assembly (2). Secure with two screws (3) and new lockwashers (4).
10. Install circuit breaker (5) on switch assembly (2). Secure with two screws (6), new lockwashers (7), and nuts (8).
11. Install air filter switch (9) on switch assembly (2). Secure with two screws (10) and new lockwashers (11).
12. Install switch assembly (2) on instrument panel (12). Secure with two mounting screws (13), four washers (14), and new locknuts (15).
13. Install circuit 537A lead (16) on air filter ON lamp (1) on switch assembly (2).
14. Install circuit 579A lead (17) on circuit breaker (5) on switch assembly (2).
15. Install jumper lead (18) on air filter switch (9) and circuit breaker (5).
16. Install circuit 579C lead (19) on air filter switch (9) on switch assembly (2).



FOLLOW-THROUGH STEPS

1. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M3 NBC HEATER (M106A2 AND M125A2 ONLY) DESCRIPTION**DESCRIPTION**

This task covers: Remove (page 39-51). Install (page 39-52).

INITIAL SETUP**Tools:**

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Locknut (8)
Lockwasher (2)
Tie straps (as required)

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground strap disconnected (page 13-2)

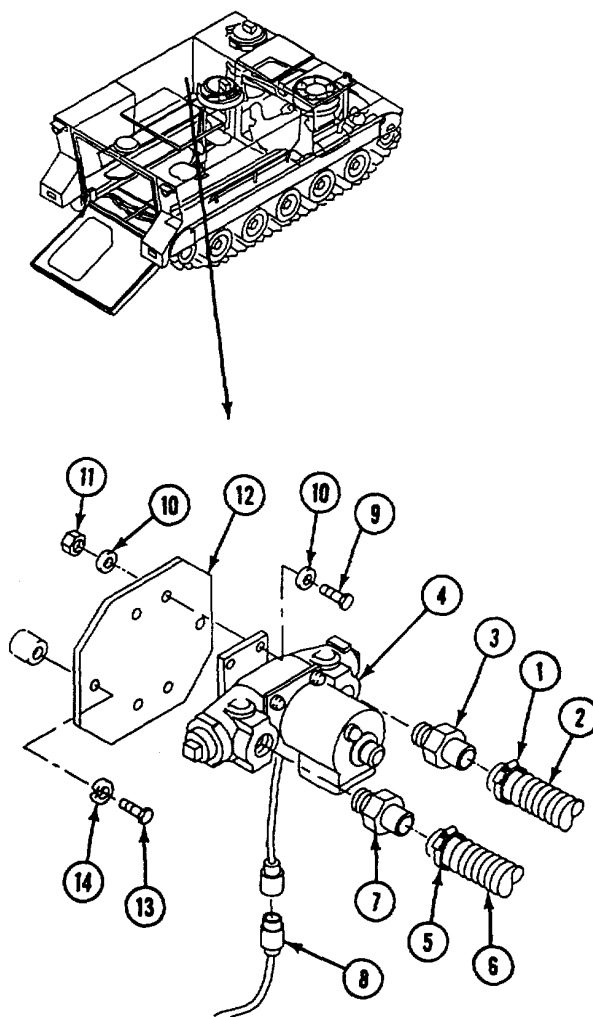
Personnel Required:

Unit Mechanic

REMOVE**NOTE**

Tag all leads before removal.

1. Loosen clamp (1). Remove driver's outlet hose (2) and clamp from adapter (3) on driver's heater (4).
2. Loosen clamp (5). Remove driver's inlet hose (6) and clamp from adapter (7) on driver's heater (4).
3. Remove two adapters (3 and 7) from driver's heater (4).
4. Remove circuit lead 537B (8) from driver's heater (4). Tag lead.
5. Remove four screws (9), eight washers (10), four locknuts (11), and driver's heater (4) from bracket (12). Discard locknuts.
6. Remove two screws (13), lockwashers (14), and bracket (12) from hull. Discard lockwashers.



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Change 4 39-51

NOTE

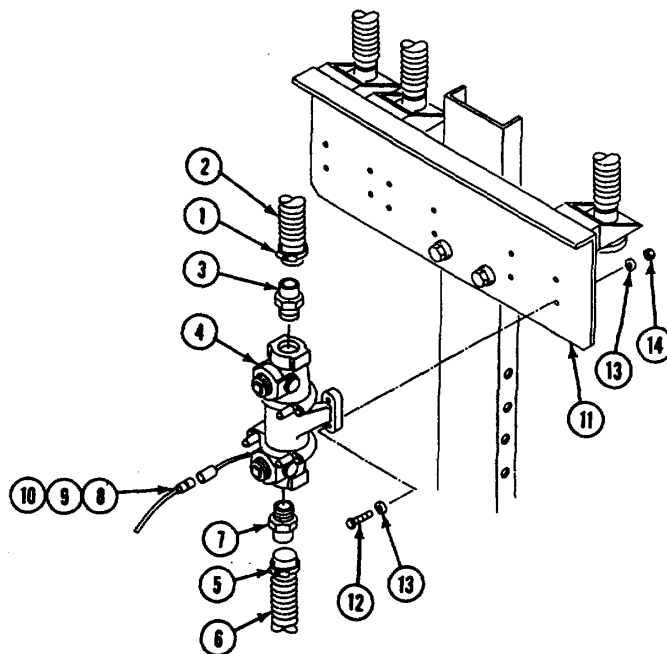
There are three M3 NBC heaters on commander's seat post bracket. All are removed and installed in the same way.

7. Loosen clamp (1). Remove outlet hose (2) and clamp from adapter (3) on heater (4).
8. Loosen clamp (5). Remove inlet hose (6) and clamp from adapter (7) on heater (4).
9. Remove two adapters (3 and 7) from heater (4).
10. Remove circuit lead 537C (8), 537D (9), or 537E (10) from heater (4) on commander's seat post bracket (11). Tag leads.
11. Remove four screws (12), eight washers (13), four locknuts (14), and heater (4) from bracket (11). Discard locknuts.

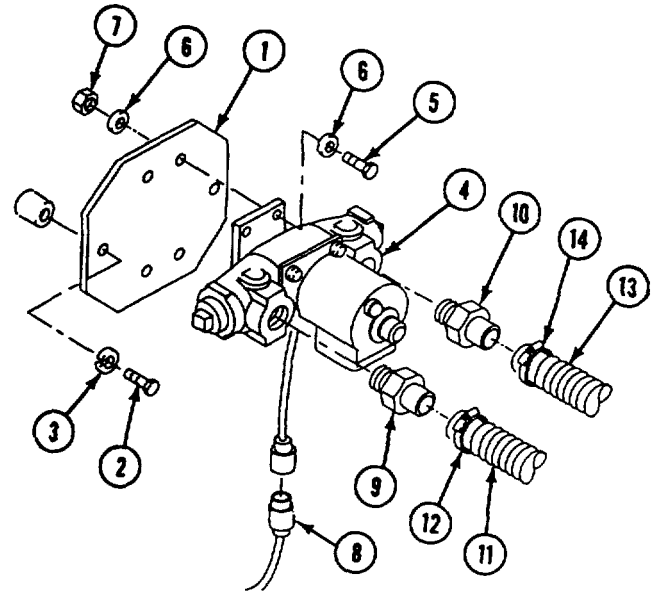
INSTALL**NOTE**

Remove tags from leads before installation.

12. Install heater (4), four screws (12), eight washers (13), and four new locknuts (14) on bracket (11).
13. Install circuit lead 537E (10), 537D (9), or 537C (8) on heater (4).
14. Install two adapters (3 and 7) in heater (4).
15. Install inlet hose (6) and clamp (5) on adapter (7). Tighten clamp.
16. Install outlet hose (2) and clamp (1) on adapter (3). Tighten clamp.



17. Install bracket (1), two screws (2), and new lockwashers (3) on hull.
18. Install driver's heater (4), four screws (5), eight washers (6), and four new locknuts (7) on bracket (1).
19. Install circuit lead 537B (8) on driver's heater (4). Remove tag.
20. Install two adapters (9 and 10) on driver's heater (4).
21. Install driver's inlet hose (11) and clamp (12) on adapter (9). Tighten clamp.
22. Install driver's outlet hose (13) and clamp (14) on adapter (10). Tighten clamp.



FOLLOW-THROUGH STEPS

1. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M3 NBC POWER CABLE HARNESS (M106A2 AND M125A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-54). Install (page 39-55).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

- Lockwasher
- Lockwasher (2)
- Tie strap (as required)

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Battery ground strap disconnected (page 13-2)

Personnel Required:

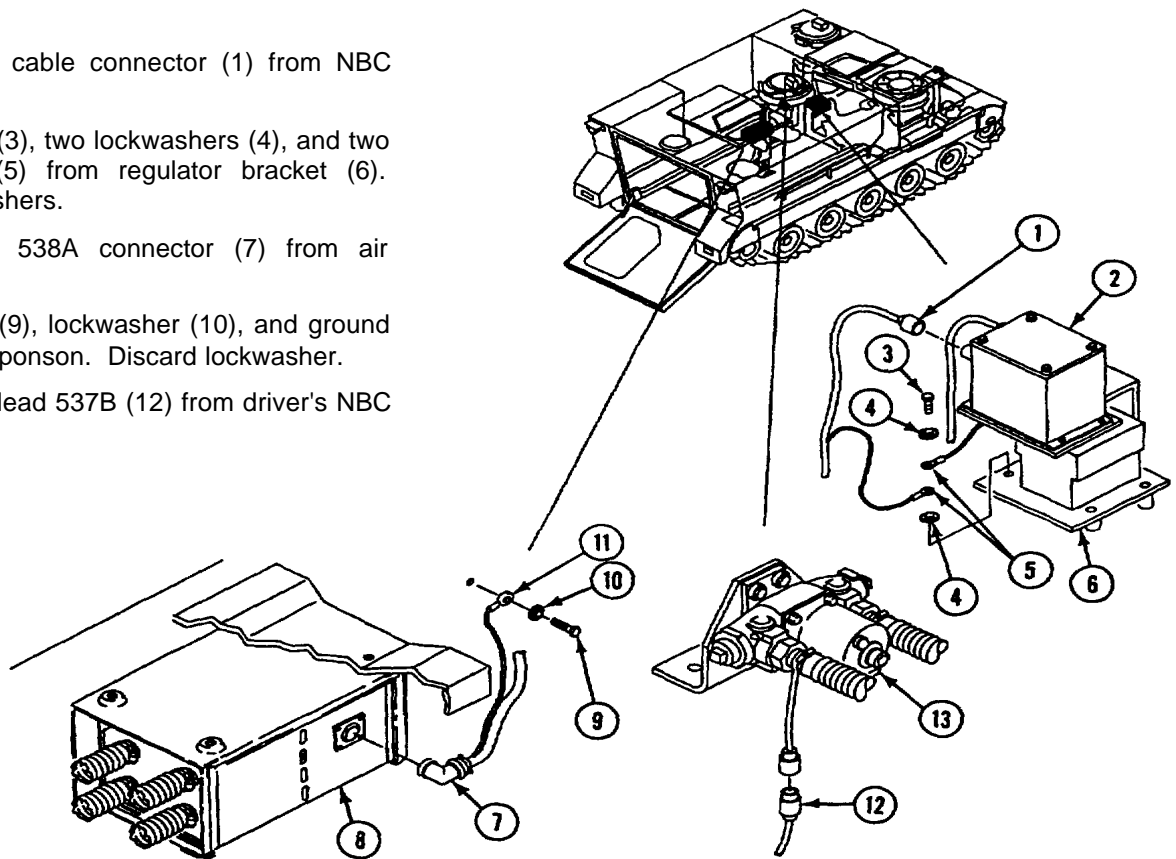
Unit Mechanic

REMOVE

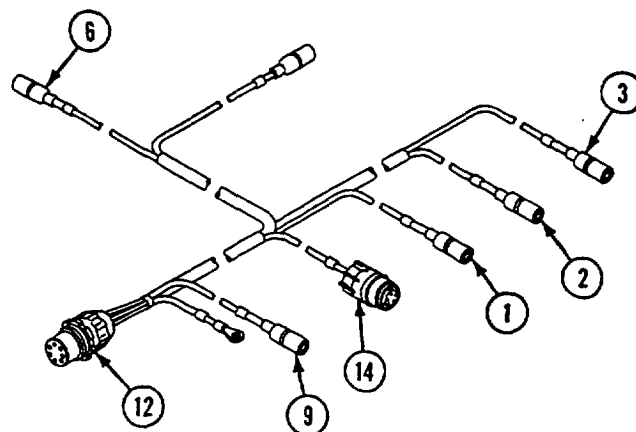
NOTE

Tag all leads before removal.

1. Remove power cable connector (1) from NBC control box (2).
2. Remove screw (3), two lockwashers (4), and two ground leads (5) from regulator bracket (6). Discard lockwashers.
3. Remove circuit 538A connector (7) from air purifier (8).
4. Remove screw (9), lockwasher (10), and ground lead (11) from sponson. Discard lockwasher.
5. Remove circuit lead 537B (12) from driver's NBC heater (13).



6. Remove circuit leads 537C (1), 537D (2), and 537E (3) from three heaters (4) on commander's seat post bracket (5).
7. Remove circuit lead 537A (6) from air filter ON lamp (7) in switch assembly (8).
8. Remove circuit lead 579C (9) from air filter switch (10) in switch assembly (8).
9. Cut tie straps (11) that hold NBC wiring harness (12) to adjacent cables and commander's seat post. Discard tie straps.
10. Remove wiring harness (12) from carrier.



NOTE

**Inspect ground lead after removal.
Discard damaged lead.**

11. Loosen screw (13) on circuit 538A connector (14) and remove ground lead (15).

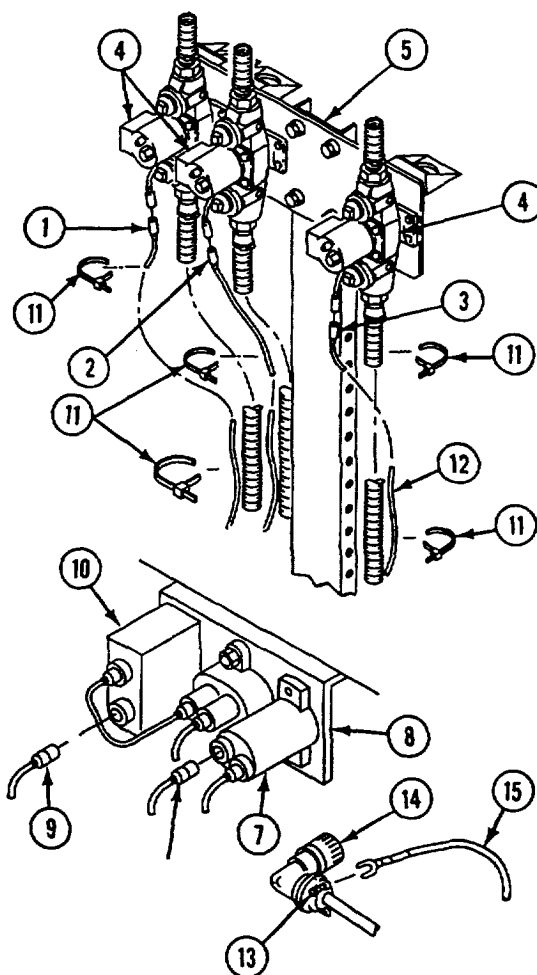
INSTALL

NOTE

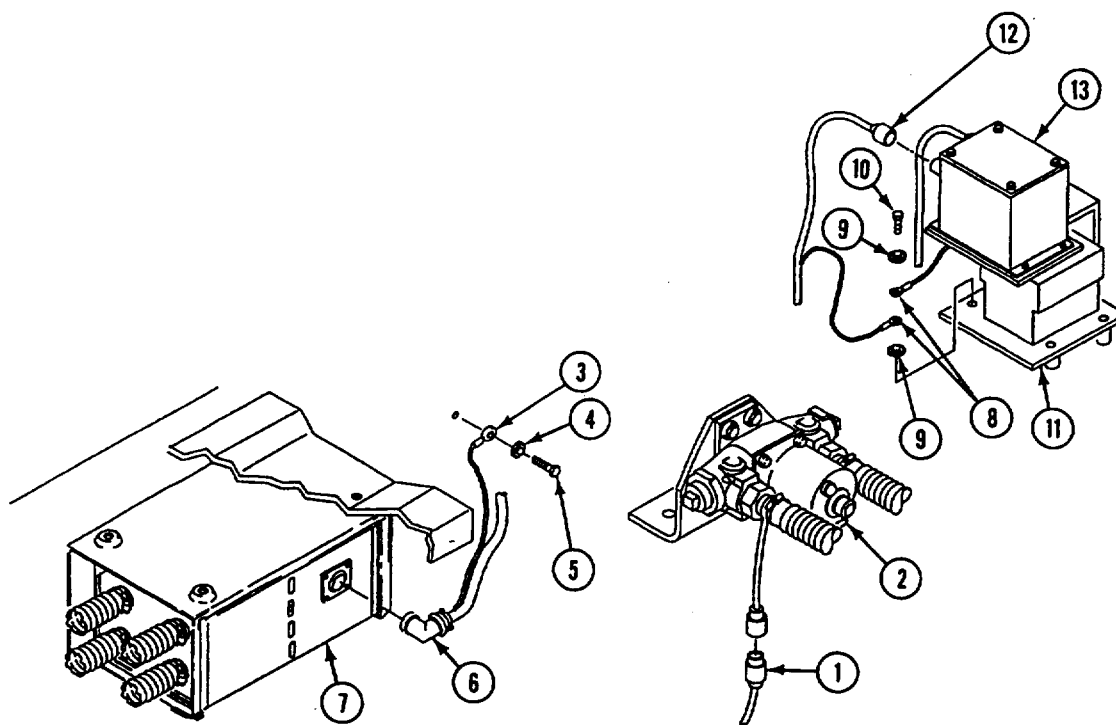
Remove tags from leads before installation.

Inspect ground lead before installation. Replace damaged lead.

12. Loosen screw (13) on circuit 538A connector (14) and install ground lead (15) on screw. Tighten screw.
13. Lay out wiring harness (12) in carrier.
14. Secure wiring harness (12) to adjacent cables with new tie straps (11).
15. Connect circuit lead 579C (9) to air filter switch (10) on switch assembly (8).
16. Connect circuit lead 537A (6) to air filter ON lamp (7) on switch assembly (8).
17. Connect circuit leads 537C (1), 537D (2), and 537E (3) to three heaters (4) on commander's seat post bracket (5).
18. Secure circuit leads (1, 2, and 3) and NBC air hoses to commander's seat post with new tie straps (11).



19. Connect circuit lead 537B (1) to driver's heater (2).
20. Install ground lead (3), new lockwasher (4), and screw (5) on sponson.
21. Connect circuit 538A connector (6) to air filter purifier (7).
22. Install two ground leads (8), two new lockwashers (9), and screw (10) on regulator bracket (11).
23. Connect wiring harness connector (12) to NBC control box (13).



FOLLOW-THROUGH STEPS

1. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M3 NBC HEATER CONTROL BOX (M106A2 AND M125A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-57). Install (page 39-58).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

- Locknut (4)
- Lockwasher
- Lockwasher (2)

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Battery ground strap disconnected (page 13-2)
- Master switch panel assembly open (page 9-13)

Personnel Required:

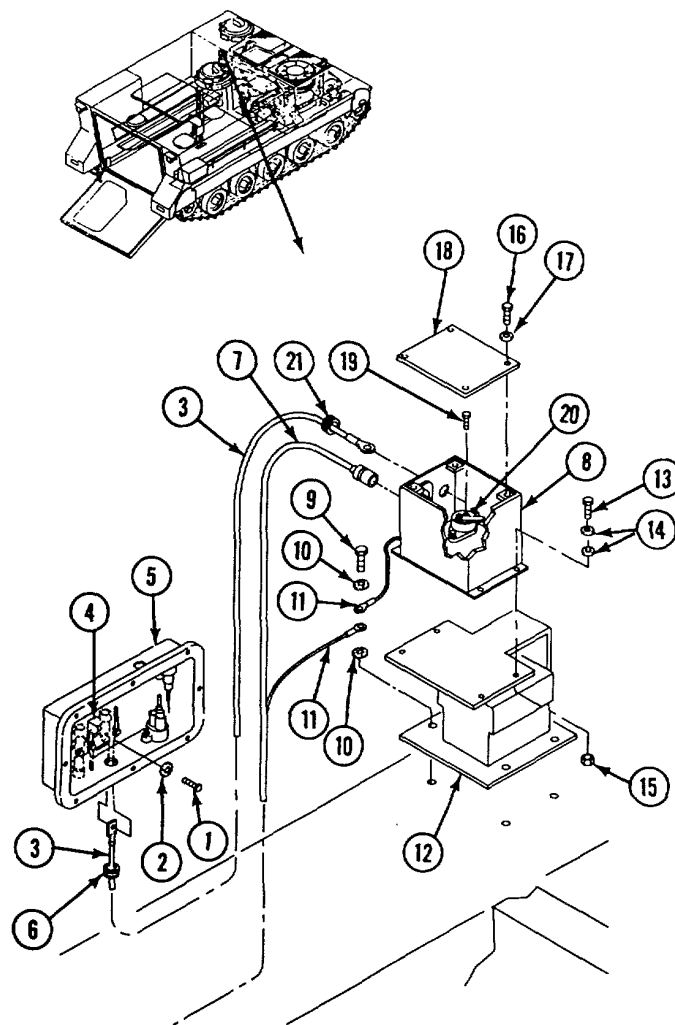
Unit Mechanic

REMOVE

NOTE

Tag all leads and cables before removing.

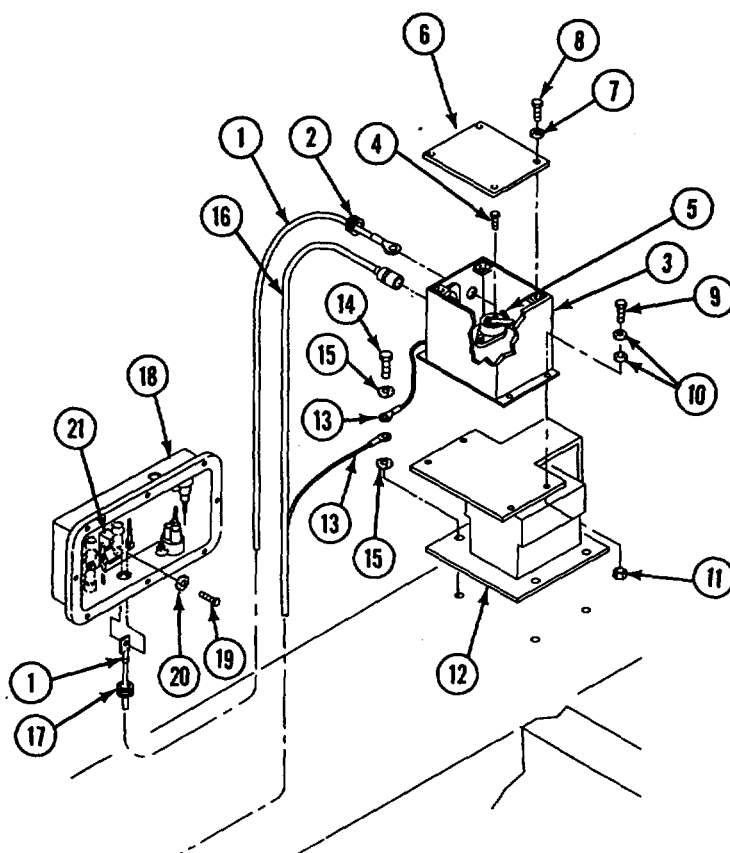
1. Remove screw (1), lockwasher (2), and circuit 536 cable (3) from bus bar (4) in distribution box (5). Pull cable with grommet (6) from distribution box. Discard lockwasher.
2. Disconnect wiring harness (7) from control box (8).
3. Remove screw (9), two lockwashers (10), and two ground leads (11) from bracket (12). Discard lockwashers.
4. Remove four screws (13), eight washers (14), four locknuts (15) and control box (8) from bracket (12). Discard locknuts.
5. Remove four screws (16), washers (17), and cover (18) from control box (8).
6. Remove screw (19) and circuit 536 cable (3) from circuit breaker (20). Pull cable with grommet (21) from control box (8).



GO TO NEXT PAGE

INSTALL

7. Install circuit 536 cable (1) and grommet (2) in control box (3). Install cable and screw (4) on circuit breaker (5).
8. Install cover (6), four washers (7), and screws (8) on control box (3).
9. Install control box (3), four screws (9), eight washers (10), and four new locknuts (11) on bracket (12).
10. Install two ground leads (13), screw (14), and two new lockwashers (15) on bracket (12).
11. Connect wiring harness (16) to control box (3).
12. Install circuit 536 cable (1) and grommet (17) in distribution box (18). Install cable, screw (19), and new lockwasher (20) on bus bar (21) in distribution box.



FOLLOW-THROUGH STEPS

1. Install master switch panel (page 9-13).
2. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M13 AIR PURIFIER AND FRAME (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 39-59). Install (page 39-60).

INITIAL SETUP**Tools:**

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (4)

Personnel Required:

Unit Mechanic

References:

See your -10

See FM 21-40

See TM 3-6680-316-10

Equipment Conditions:

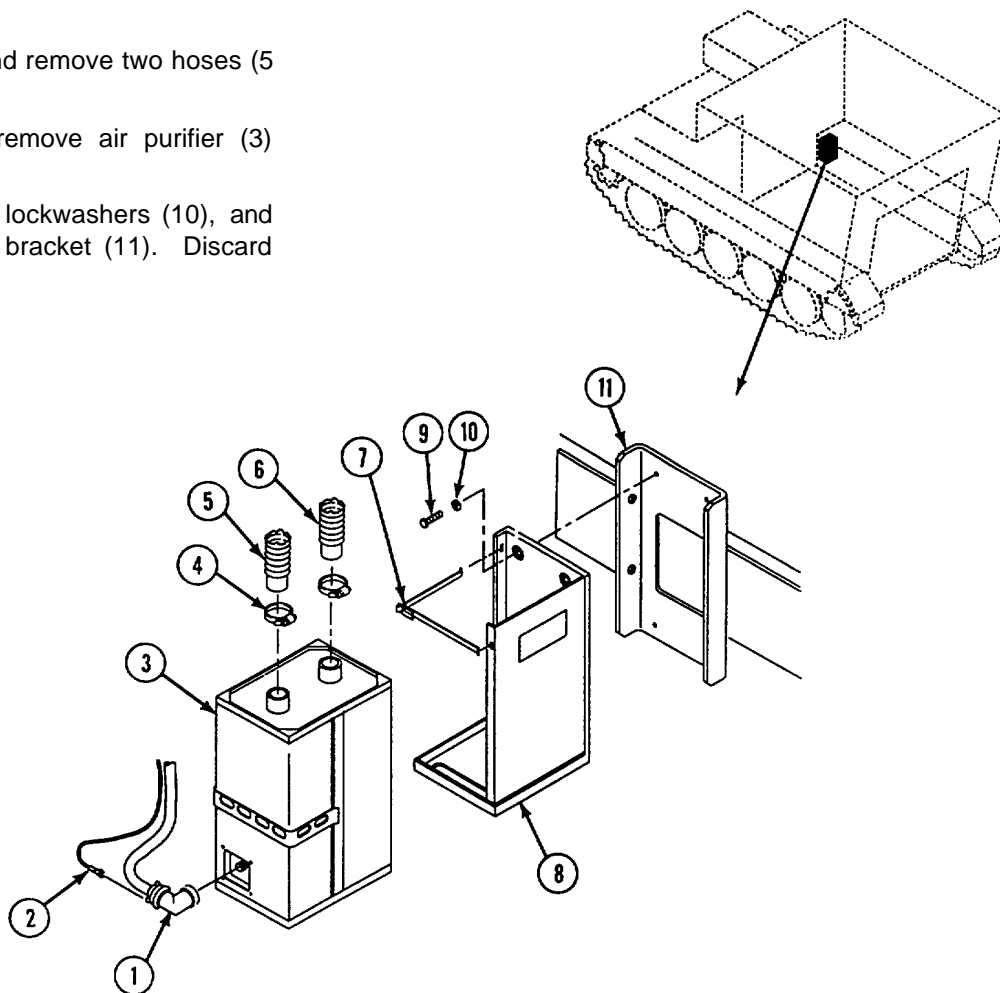
Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground strap disconnected (page 13-2)

REMOVE

1. Remove circuit lead 538A (1) with ground lead (2) from air purifier (3).
2. Loosen two clamps (4) and remove two hoses (5 and 6) from air purifier (3).
3. Unfasten latch (7) and remove air purifier (3) from frame (8).
4. Remove four screws (9), lockwashers (10), and frame (8) from mounting bracket (11). Discard lockwashers.



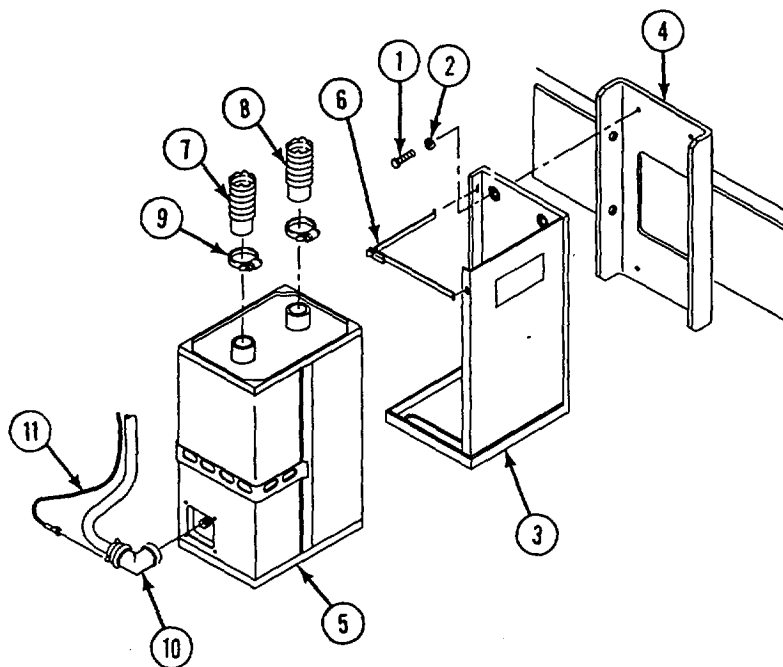
GO TO NEXT PAGE

INSTALL

NOTE

The precleaner must be adjusted before installation. See TM 3-6680-316-10.

5. Install new lockwashers (1), four screws (2), and frame (3) on mounting bracket (4).
6. Install air purifier (5) in frame (3) and secure with latch (6).
7. Install two hoses (7 and 8) and clamps (9) on air purifier (5). Tighten clamps.
8. Install circuit lead 538A (10) with ground lead (11) on air purifier (5).



FOLLOW-THROUGH STEPS

1. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M13 NBC FILTERS AND HOSES (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 39-61). Install (page 39-63).

INITIAL SETUP**Tools**

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts

Lockwasher (4)
Strap (as required)

Personnel Required

Unit Mechanic

References

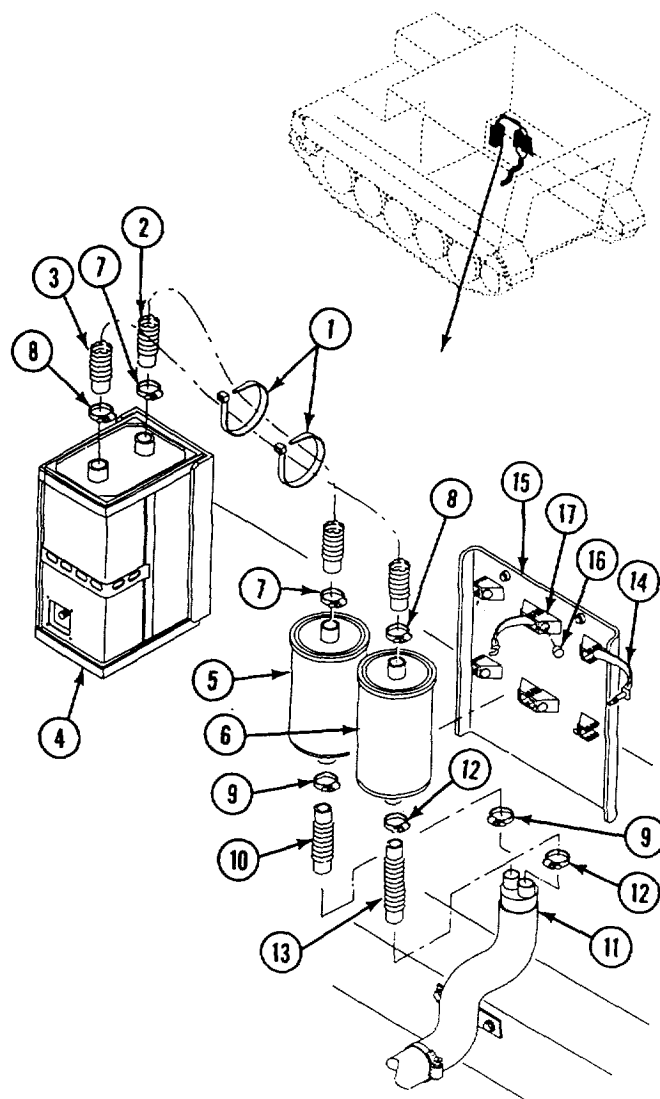
See your -10

Equipment Conditions

Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground lead disconnected
(page 13-2)
Radio operators' seats removed
(page 24-151.3)
Compartment floor plates removed
(page 24-44.1)

REMOVE

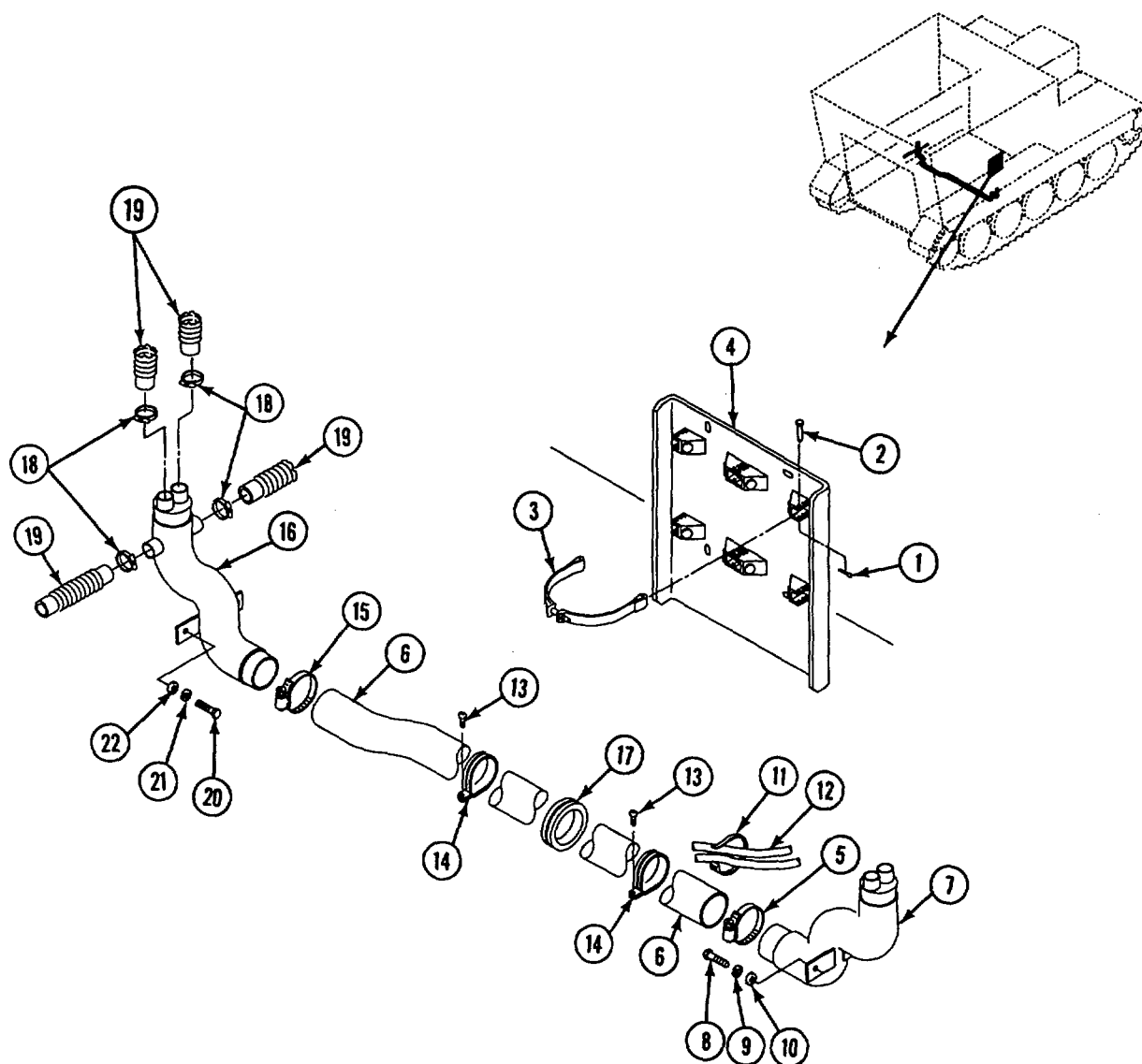
1. Cut two straps (1) from two hoses (2 and 3) between precleaner (4) and filters (5 and 6). Discard straps.
2. Loosen two clamps (7) and remove hose (2) from precleaner (4) and filter (5).
3. Loosen two clamps (8) and remove hose (3) from precleaner (4) and filter (6).
4. Loosen two clamps (9) and remove hose (10) and clamps from filter (5) and manifold (11).
5. Loosen two clamps (12) and remove hose (13) and clamps from filter (6) and manifold (11).
6. Loosen four clamps (14). Open clamps and remove filters (5 and 6) from mount (15).
7. If damaged, remove rubber bumper (16) from bracket (17). Discard bumpers.



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Change 4 39-61

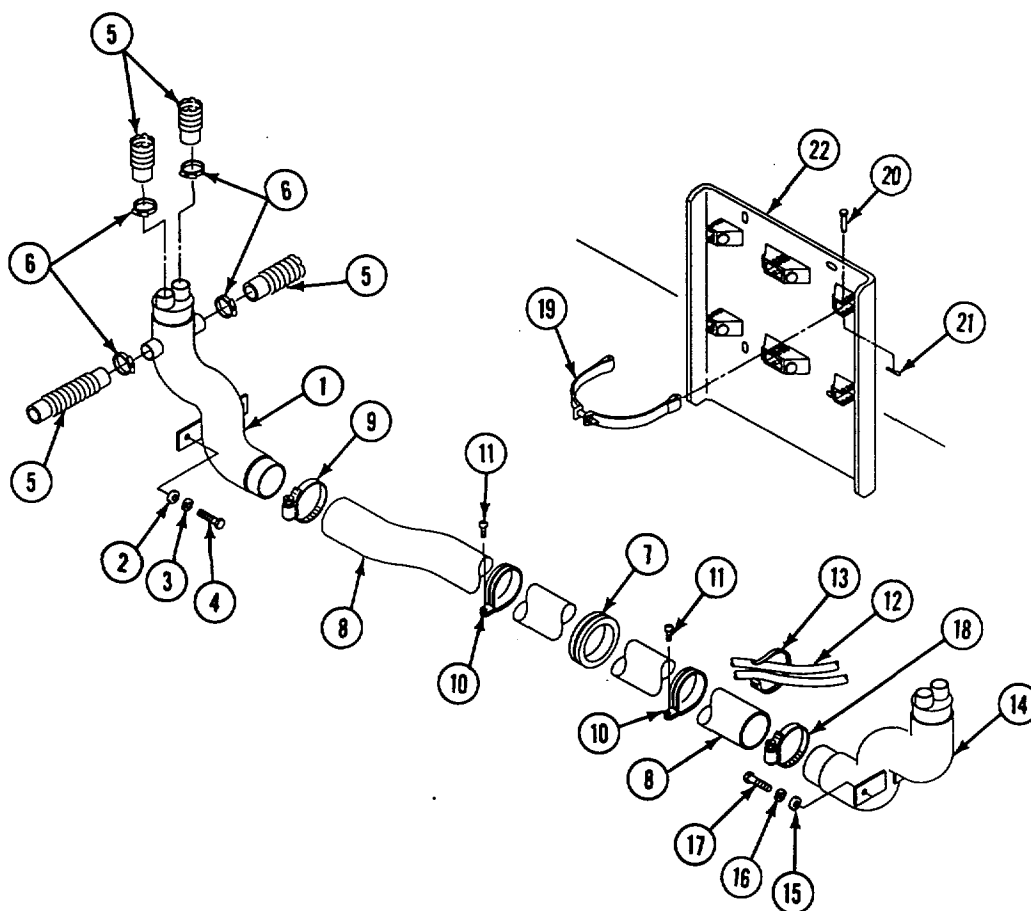
8. If is damaged, remove cotter pin (1), straight pin (2), and clamp (3) from bracket (4). Discard cotter pins.
9. Loosen clamp (5) and remove hose (6) from manifold (7).
10. Remove two screws (8), lockwashers (9), washers (10), and manifold (7) from sponson. Discard lockwashers.
11. Cut strap (11) securing two personnel heater fuel lines (12) to hose (6). Discard strap.
12. Remove two screws (13) and clamps (14) from hose (6).
13. Loosen clamp (15) and remove hose (6) from manifold (16).
14. Remove hose (6) with grommet (17) from hull.
15. If damaged, remove grommet (17) from hose (6). Discard grommet.
16. Loosen four clamps (18) and remove four heater inlet hoses (19) from manifold (16).
17. Remove two screws (20), lockwashers (21), washers (22), and manifold (16) from sponson. Discard lockwashers.



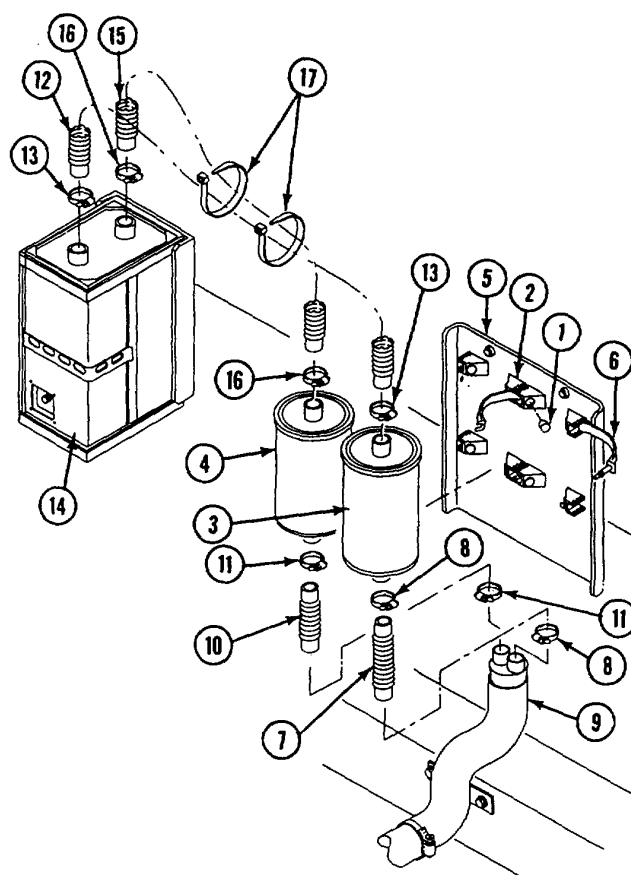
GO TO NEXT PAGE

INSTALL

18. Install manifold (1) on sponson. Secure with new lockwashers (2), washers (3), and two screws (4).
19. Install four heater inlet hoses (5) and clamps (6) on manifold (1). Tighten clamps.
20. If removed, install new grommet (7) on hose (8). Route hose through hull and insert grommet in hull.
21. Install hose (8) and clamp (9) on manifold (1). Tighten clamp.
22. Install two clamps (10) on hose (8). Secure clamps and hose to hull with two screws (11).
23. Secure two personnel heater fuel lines (12) to hose (8) with new strap (13).
24. Install manifold (14) on sponson. Secure with washers (15), new lockwashers (16), and two screws (17).
25. Install hose (8) and clamp (18) on manifold (14). Tighten clamp.
26. If removed, install clamps (19), straight pins (20), and new cotter pins (21) on bracket (22).



27. If removed or missing, install new rubber bumpers (1) on bracket (2), as required.
28. Install filters (3 and 4) on mount (5). Close and tighten four clamps (6).
29. Install hose (7) and two clamps (8) on filter (3) and manifold (9). Tighten clamps.
30. Install hose (10) and two clamps (11) on filter (4) and manifold (9). Tighten clamps.
31. Install hose (12) and two clamps (13) on precleaner (14) and filter (3). Tighten clamps.
32. Install hose (15) and two clamps (16) on precleaner (14) and filter (4). Tighten clamps.
33. Install two new straps (17) to secure two hoses (12 and 15) together between precleaner (14) and filters (3 and 4).



FOLLOW-THROUGH STEPS

1. Install crew compartment floor plates (page 24-44.1).
2. Install radio operators' seats (page 24-151.3).
3. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE M13 NBC HEATER HOSES (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 39-65). Install (page 39-67).

INITIAL SETUP**Tools**

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts

Grommet (2)
 Locknut (2)
 Locknut (4)
 Locknut (10)
 Lockwasher (4)
 Lockwasher (4)
 Lockwasher (6)
 Strap (as required)

Personnel Required

Unit Mechanic

References

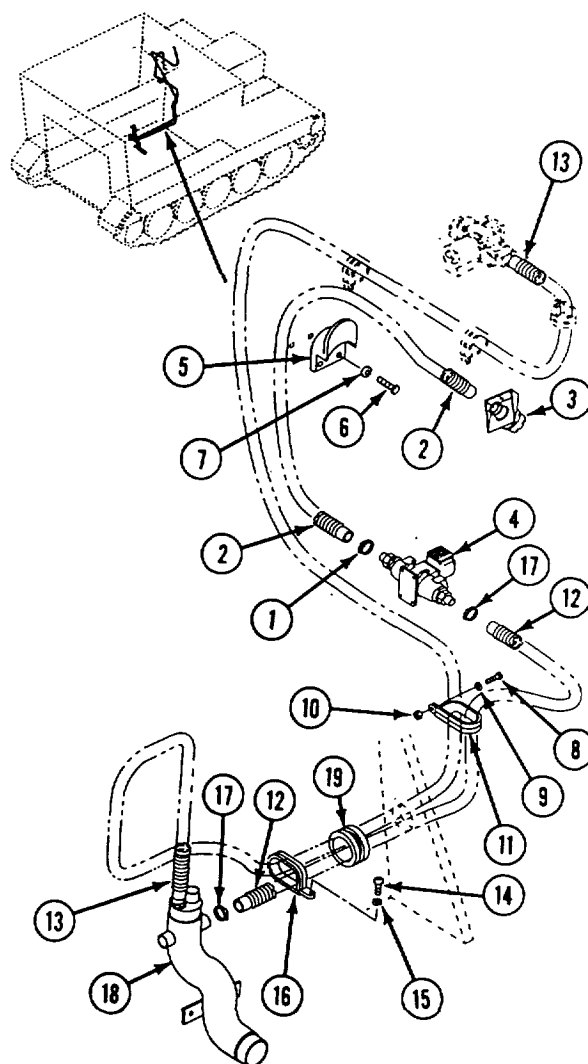
See your -10

Equipment Conditions

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 Battery ground strap disconnected (page 13-2)

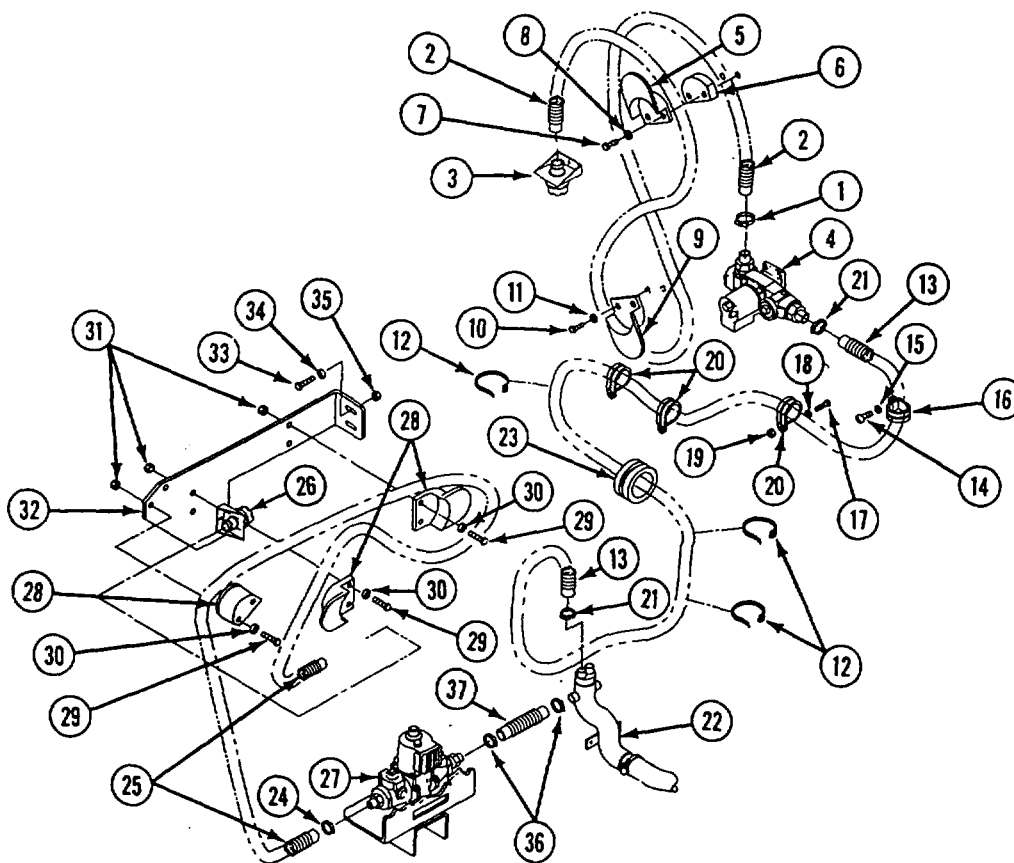
REMOVE

1. Loosen two clamps (1) on driver's outlet hose (2). Remove hose from connector (3) and driver's heater (4).
2. If bracket (5) is damaged, remove two screws (6), lockwashers (7), and bracket from driver's bulkhead. Discard lockwashers.
3. Remove screw (8), washer (9), locknut (10), and clamp (11) from welded bracket. Remove clamp from driver's inlet hose (12) and commander's inlet hose (13). Discard locknut.
4. Remove screw (14), lockwasher (15), and clamp (16) from sponson. Remove clamp from driver's inlet hose (12) and commander's inlet hose (13). Discard lockwasher.
5. Loosen two clamps (17) on driver's inlet hose (12). Remove hose from heater (4) and manifold (18).
6. Remove driver's inlet hose (12), with grommet (19), from welded frame. Discard grommet if damaged.



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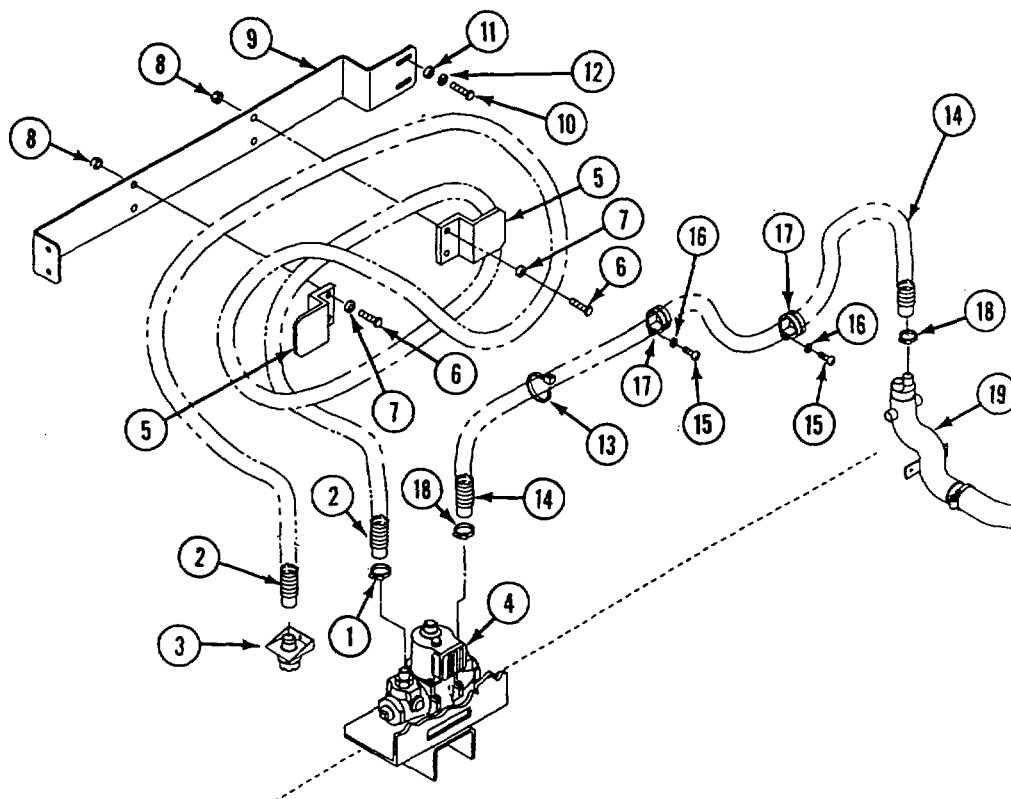
7. Loosen clamp (1) on commander's outlet hose (2). Remove hose from connector (3) and commander's heater (4).
8. If upper bracket (5) or spacer (6) are damaged, remove two screws (7), lockwashers (8), bracket, and spacer from commander's bulkhead. Discard lockwashers.
9. If lower bracket (9) is damaged, remove two screws (10), lockwashers (11), and bracket from commander's bulkhead. Discard lockwashers.
10. Cut all straps (12) securing commander's inlet hose (13) to electrical leads. Discard straps.
11. Remove screw (14), lockwasher (15), and clamp (16) from commander's bulkhead. Remove clamp from commander's inlet hose (13). Discard lockwasher.
12. Remove three screws (17), washers (18), locknuts (19), and clamps (20) from crossbeam. Remove clamps from commander's inlet hose (13). Discard locknuts.
13. Loosen two clamps (21) on commander's inlet hose (13). Remove hose from commander's heater (4) and manifold (22).
14. Remove commander's inlet hose (13), with grommet (23), from welded frame. Discard grommet if damaged.
15. Loosen clamp (24) on forward operator's outlet hose (25). Remove hose from connector (26) and forward operator's heater (27).
16. If any of three brackets (28) are damaged, remove two screws (29), washers (30), locknuts (31) and damaged bracket (28) from bracket (32). Discard locknuts.
17. If bracket (32) is damaged, remove two screws (33), washers (34), locknuts (35) and damaged bracket from table supports. Discard locknuts.
18. Loosen two clamps (36) on forward operator's inlet hose (37). Remove hose from forward operator's heater (27) and manifold (22).



19. Loosen clamp (1) on rear operator's outlet hose (2). Remove hose from connector (3) and rear operator's heater (4).
20. If either of two brackets (5) are damaged, remove two screws (6), washers (7), locknuts (8) and damaged bracket (5) from bracket (9). Discard locknuts.
21. If bracket (9) is damaged, remove four screws (10), washers (11), lockwashers (12) and bracket from table supports. Discard lockwashers.
22. Cut straps (13) securing electrical leads to rear operator's inlet hose (14). Discard straps.
23. Remove two screws (15), lockwashers (16), and clamps (17) from sponson. Remove clamps (17) from rear operator's inlet hose (14). Discard lockwashers.
24. Loosen two clamps (18) on rear operator's inlet hose (14). Remove hose from rear operator's heater (4) and manifold (19).

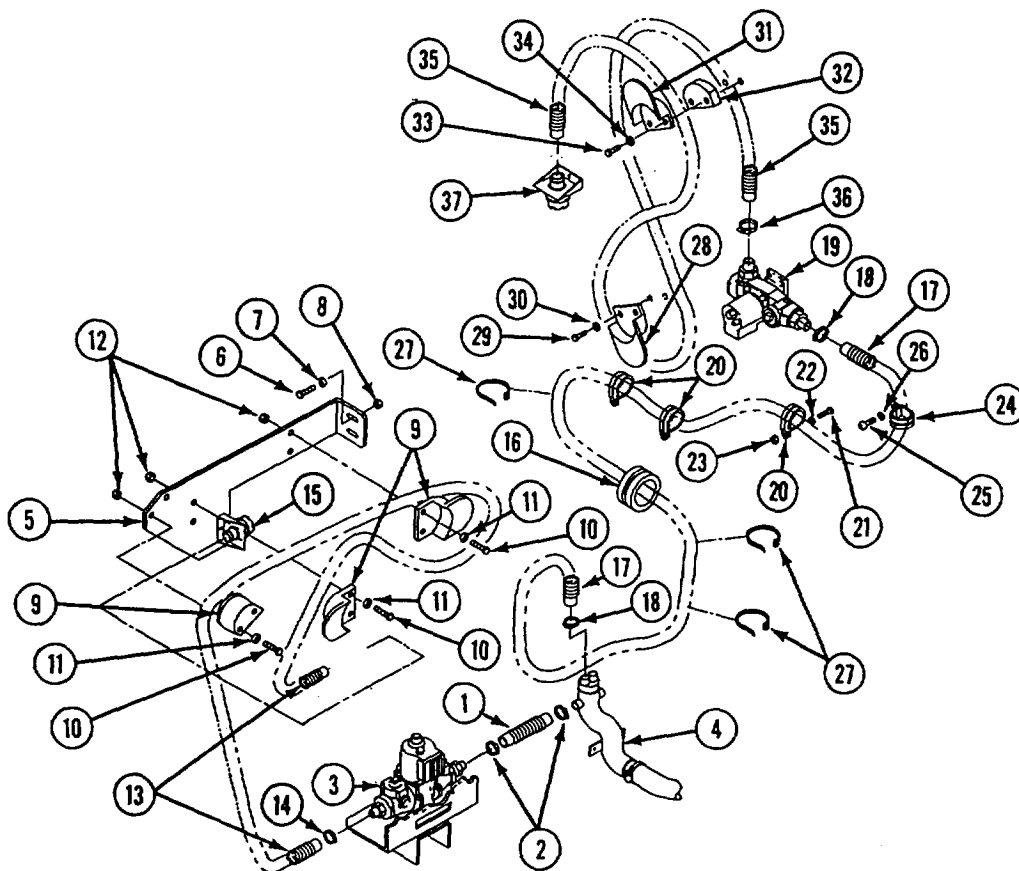
INSTALL

25. Install rear operator's inlet hose (14) and two clamps (18) on rear operator's heater (4) and manifold (19). Tighten clamps.
26. Install two clamps (17) on rear operator's inlet hose (14). Secure clamps on sponson with two screws (15) and new lockwashers (16).
27. Secure electrical leads to rear operator's inlet hose (14) with new straps (13).
28. If bracket (9) was removed, install bracket on table supports with four screws (10), washers (11), and new lockwashers (12).
29. If either bracket (5) was removed, install bracket (5) on bracket (9) with two screws (6), washers (7), and new locknuts (8).
30. Install rear operator's outlet hose (2) and two clamps (1) on connector (3) and rear operator's heater (4). Tighten clamps.

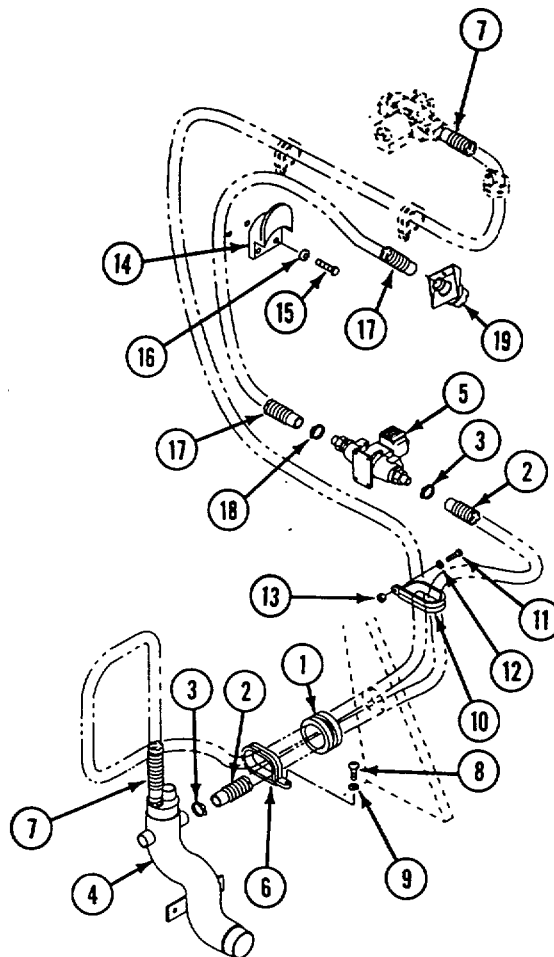


GO TO NEXT PAGE

31. Install forward operator's inlet hose (1) and two clamps (2) on forward operator's heater (3) and manifold (4). Tighten clamps.
32. If bracket (5) was removed, install bracket on table supports with two screws (6), washers (7), and new locknuts (8).
33. If any of three brackets (9) was removed, install bracket (9) on bracket (5) with two screws (10), washers (11), new locknuts (12).
34. Install forward operator's outlet hose (13) and clamp (14) on connector (15) and forward operator's heater (3). Tighten clamp.
35. If grommet (16) was removed, install new grommet on commander's inlet hose (17). Route hose through welded frame and insert grommet.
36. Install commander's inlet hose (17) and two clamps (18) on commander's heater (19) and manifold (4). Tighten clamps.
37. Install three clamps (20) on commander's inlet hose (17). Secure clamps on crossbeam with three screws (21), washers (22), and new locknuts (23).
38. Install clamp (24) on commander's inlet hose (17). Secure clamp on commander's bulkhead with screw (25) and new lockwasher (26).
39. Secure electrical leads to commander's inlet hose (17) with new straps (27).
40. If lower bracket (28) was removed, install bracket on commander's bulkhead with two screws (29) and new lockwashers (30).
41. If upper bracket (31) and spacer (32) were removed, install bracket and spacer on commander's bulkhead with two screws (33) and new lockwashers (34).
42. Install commander's outlet hose (35) and clamp (36) on connector (37) and commander's heater (19). Tighten clamp.



43. If grommet (1) was removed, install new grommet on driver's inlet hose (2). Route hose through welded frame and insert grommet in frame.
44. Install driver's inlet hose (2) and two clamps (3) on manifold (4) and driver's heater (5). Tighten clamps.
45. Install clamp (6) on driver's inlet hose (2) and commander's inlet hose (7). Secure clamp on sponson with screw (8) and new lockwasher (9).
46. Install clamp (10) on driver's inlet hose (2) and commander's inlet hose (7). Secure clamp on welded bracket with screw (11), washer (12), and new locknut (13).
47. If bracket (14) was removed, install bracket on driver's bulkhead with two screws (15) and new lockwashers (16).
48. Install driver's outlet hose (17) and clamp (18) on connector (19) and driver's heater (5). Tighten clamp.



FOLLOW-THROUGH STEPS

1. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M3 NBC HEATER CONTROL BOX (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 39-70). Install (page 39-71).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

- Lockwasher
- Lockwasher (4)
- Tie Strap

Personnel Required:

Unit Mechanic

References:

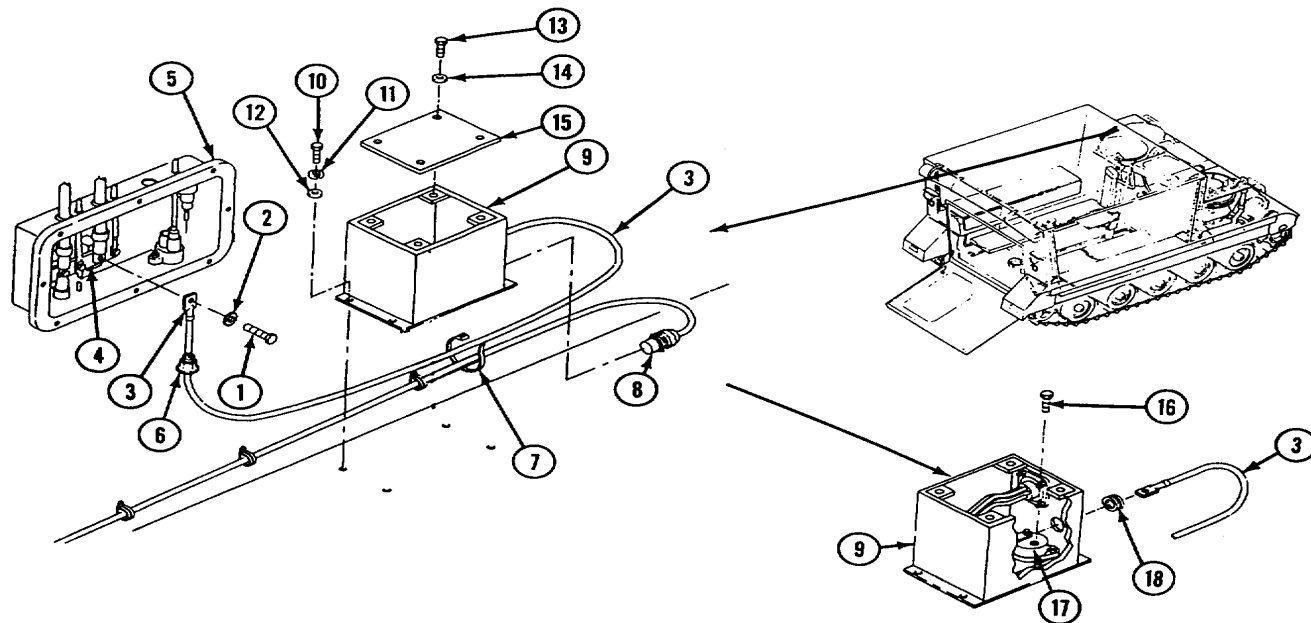
See your -10

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Battery ground strap disconnected (page 13-2)
- Open master switch panel assembly (page 9-13)

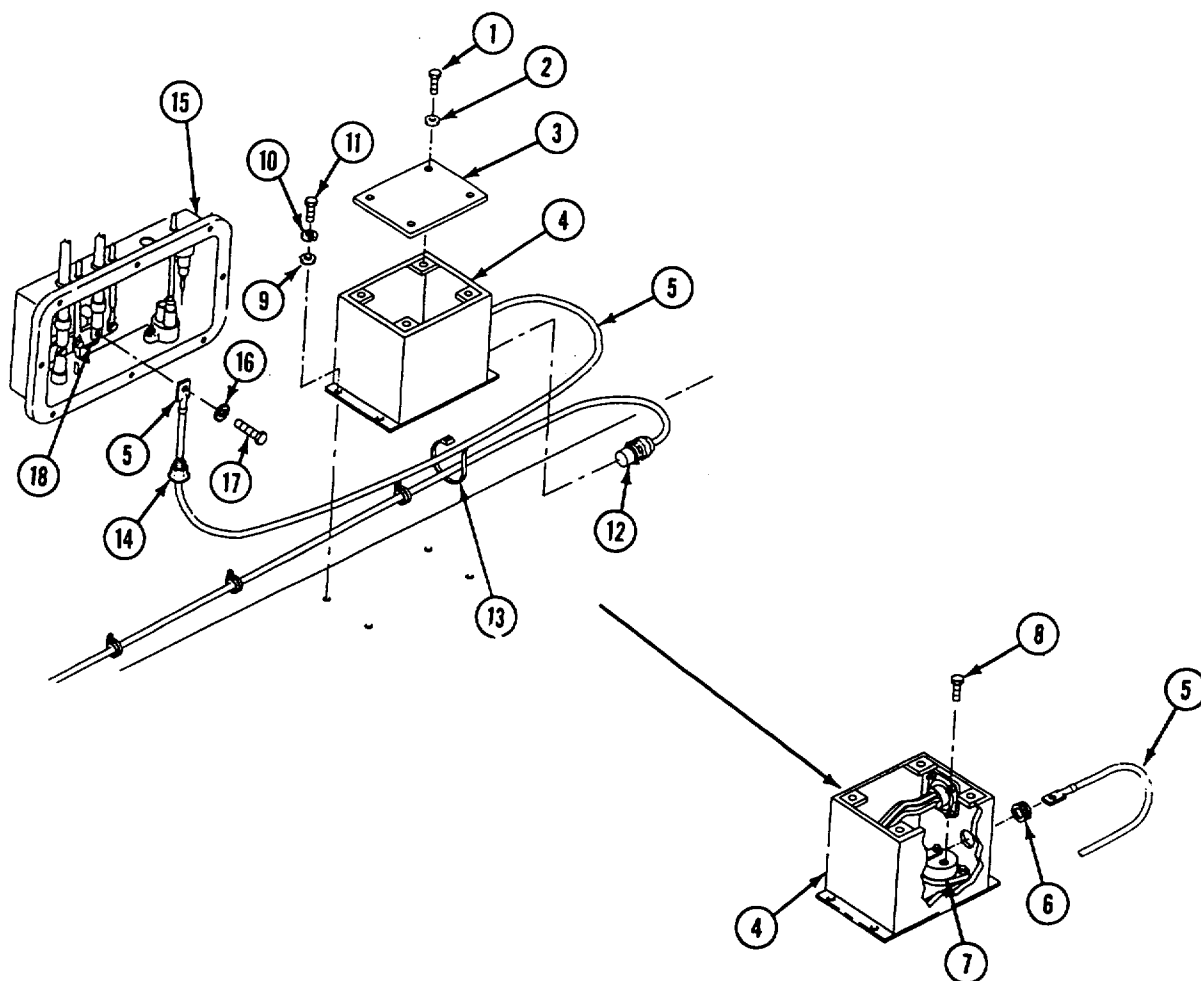
REMOVE

1. Remove screw (1), lockwasher (2), and circuit 536 cable (3) from bus bar (4) in distribution box (5). Remove cable and grommet (6) from distribution box. Discard lockwasher.
2. Cut strap (7) that secures cable (3) to wiring harness (8). Discard strap.
3. Disconnect wiring harness (8) from control box (9).
4. Remove four screws (10), lockwashers (11), washers (12), and control box (9) from driver's sponson. Discard lockwashers.
5. Remove four screws (13), washers (14), and cover (15) from control box (9).
6. Remove screw (16) and circuit 536 cable (3) from circuit breaker (17). Remove cable and grommet (18) from control box (9).
7. Install cover (15), four washers (14), and screws (13) on control box (9).



INSTALL

8. Remove four screws (1), washers (2), and cover (3) from control box (4).
9. Install circuit 536 cable (5) and grommet (6) in control box (4). Install cable terminal and screw (7) on circuit breaker (8).
10. Install cover (3), four washers (2), and screws (1) on control box (4).
11. Install control box (4), four washers (9), new lockwashers (10), and screws (11) on driver's sponson.
12. Connect wiring harness (12) to control box (4).
13. Secure circuit 536 cable (5) to wiring harness (12) with new strap (13).
14. Install circuit 536 cable (5) with grommet (14) in distribution box (15). Install cable, new lockwasher (16), and screw (17) on bus bar (18) in distribution box (15).



FOLLOW-THROUGH STEPS

1. Install master switch panel (page 9-13).
2. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M13 NBC HEATER WIRING HARNESS (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 39-72). Install (page 39-74).

INITIAL SETUP**Tools:**

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Locknut (4)
Locknut
Lockwasher (8)
Lockwasher
Strap (as required)

Personnel Required:

Unit Mechanic

References:

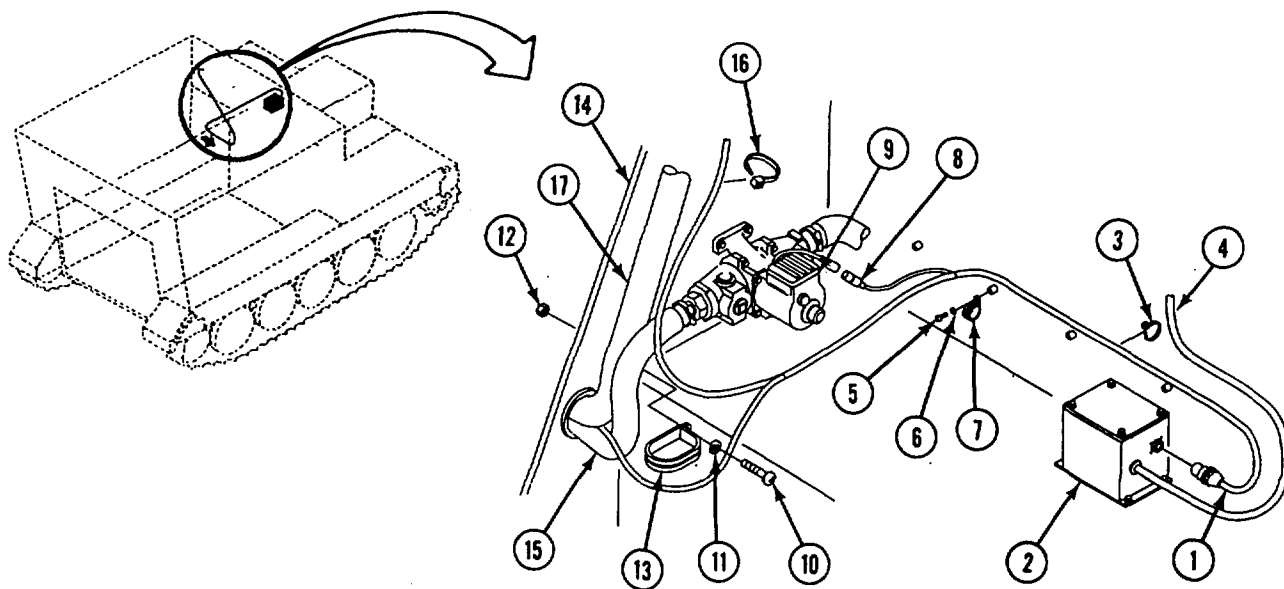
See your -10

Equipment Conditions:

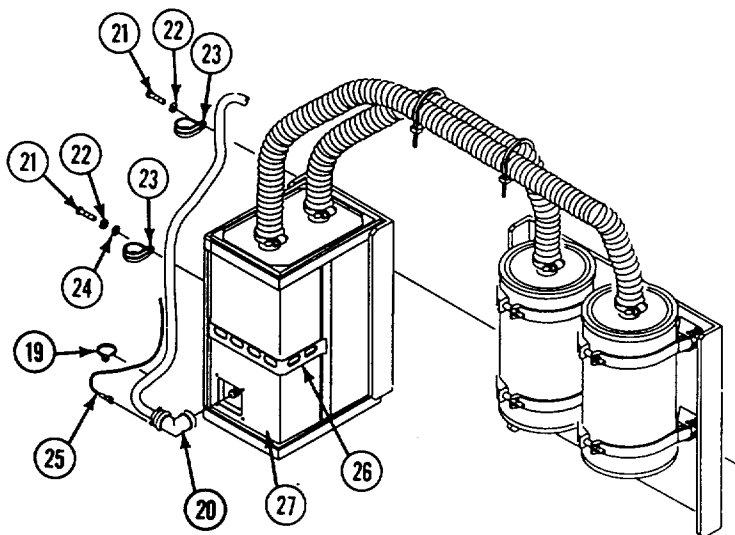
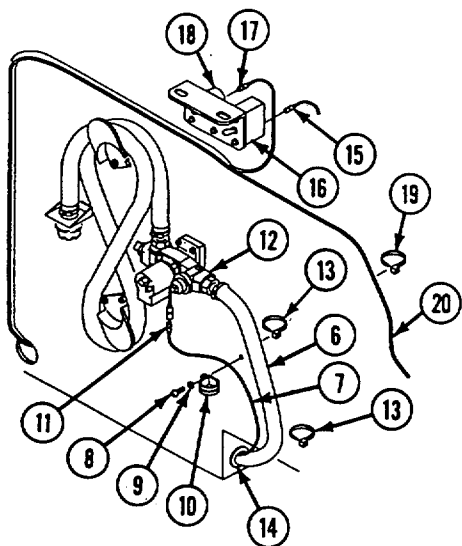
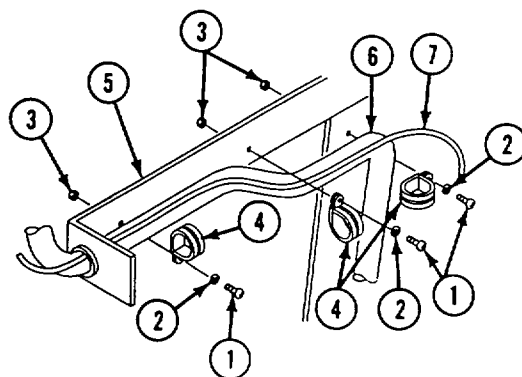
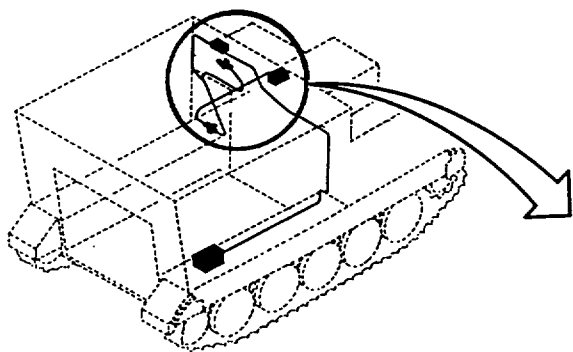
Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground strap disconnected (page 13-2)

REMOVE

1. Disconnect wiring harness (1) from heater control box (2).
2. Cut tie strap (3) that secures cable (4) to wiring harness (1). Discard tie strap.
3. Remove four screws (5), lockwashers (6), clamps (7), and wiring harness (1) from bulkhead weldnuts. Remove clamps from wiring harness. Discard lockwashers.
4. Remove circuit lead 537A(8) from driver's heater (9).
5. Remove screw (10), washer (11), locknut (12), and clamp (13) from frame (14). Remove clamp from driver's heater inlet hose (15) and wiring harness (1). Discard locknut.
6. Cut tie straps (16) that secure wiring harness (1) to commander's heater inlet hose (17). Discard tie straps.



7. Remove three screws (1), washers (2), locknuts (3), and clamps (4) from frame (5) and crossbeam. Remove clamps from commander's heater inlet hose (6) and wiring harness (7). Discard locknuts.
8. Remove screw (8), lockwasher (9), and clamp (10) from forward bulkhead. Remove clamp from hose (6) and wiring harness (7). Discard lockwasher.
9. Remove circuit lead 537B (11) from commander's heater (12).
10. Cut tie straps (13) that secure wiring harness (7) to adjacent wiring harnesses and hoses. Discard tie straps.
11. Pull circuit lead 537B (11) through grommet (14) on hose (6).
12. Remove circuit lead 579C (15) from air filter switch (16).
13. Remove circuit lead 537C (17) from air filter ON lamp (18).
14. Cut and remove all tie straps (19) along circuit lead 538A (20) and adjacent wiring harnesses. Discard tie straps.
15. Remove two screws (21), lockwashers (22), clamps (23), one lockwasher (24), and ground lead (25) from precleaner mounting bracket (26). Discard lockwashers.
16. Remove two clamps (23) from circuit lead 538A (20).
17. Remove circuit lead 538A (20) with ground lead (25) from precleaner (27).

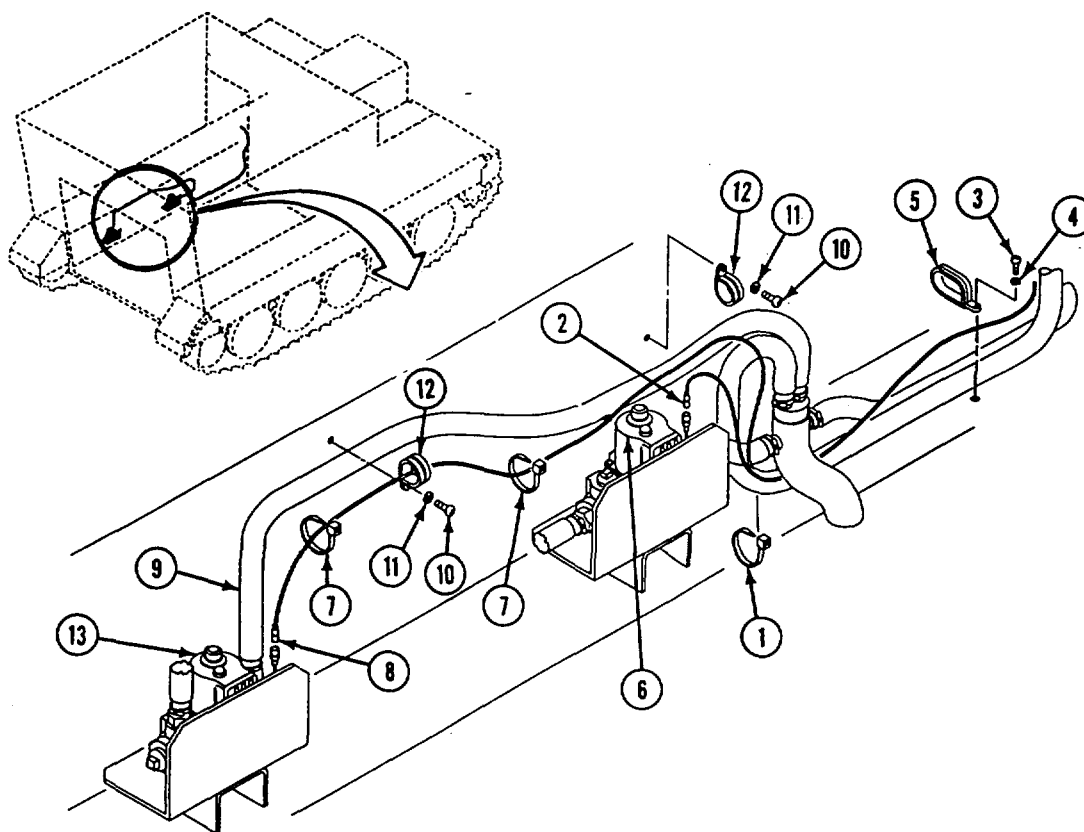


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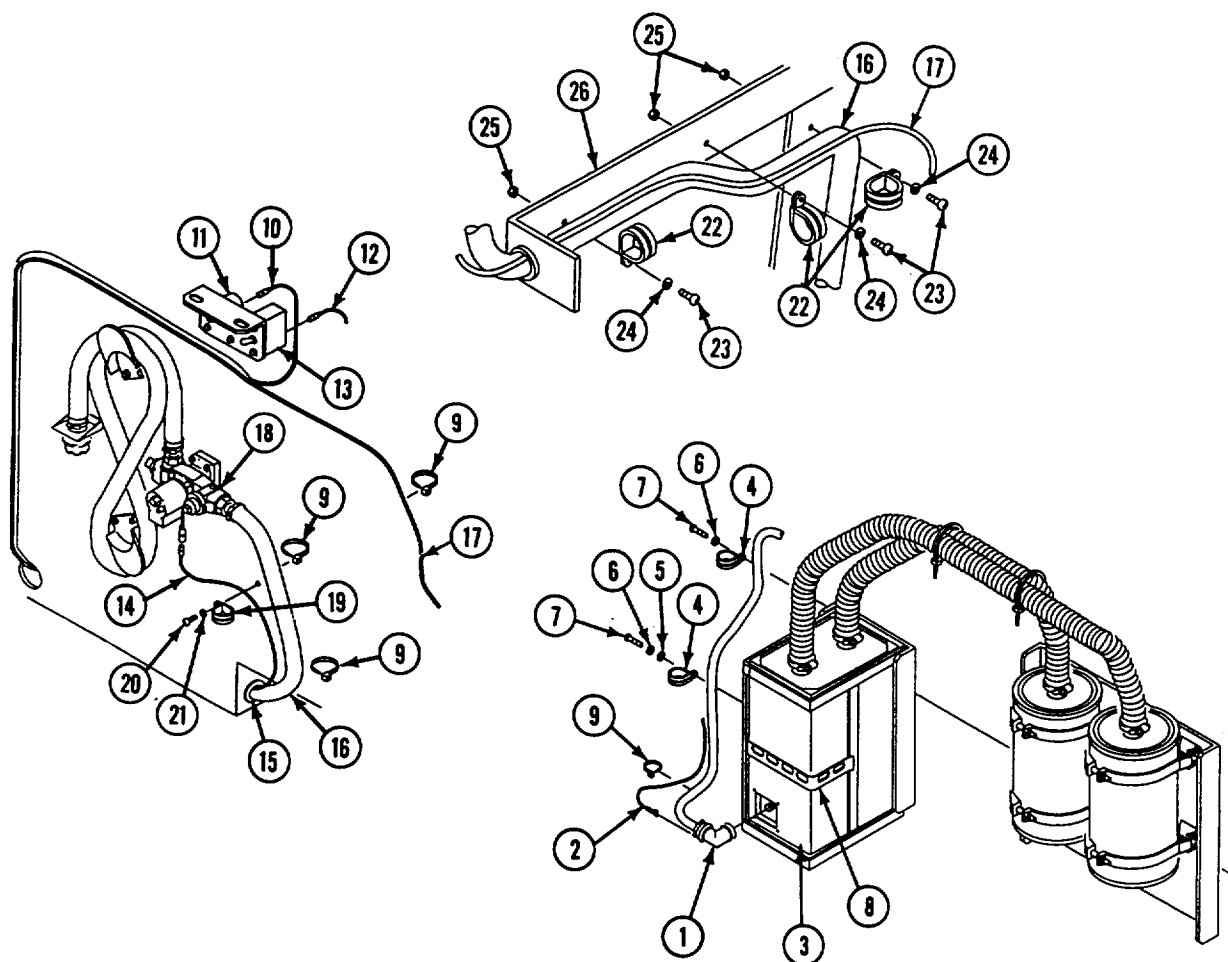
18. Cut tie straps (1) that secure circuit lead 537D (2) to adjacent hoses. Discard tie straps.
19. Remove screw (3), lockwasher (4), and clamp (5) from right sponson. Remove clamp from circuit lead 537D (2) and adjacent hoses. Discard lockwasher.
20. Remove circuit lead 537D (2) from front operator's heater (6).
21. Cut tie straps (7) that secure circuit lead 537E (8) to rear operator's heater inlet hose (9). Discard tie straps.
22. Remove two screws (10), lockwashers (11), and clamps (12) from right sponson. Remove clamps from circuit lead 537E (8) and rear operator's heater inlet hose (9). Discard lockwasher.
23. Remove circuit lead 537E (8) from rear operator's heater (13).

INSTALL

24. Install circuit lead 537E (8) on rear operator's heater (13).
25. Install two clamps (12) on circuit lead 537E (8) and rear operator's heater inlet hose (9). Secure clamps to right sponson with two screws (10) and new lockwashers (11).
26. Secure circuit lead 537E (8) to rear operator's heater inlet hose (9) with new tie straps (7).
27. Install circuit lead 537D (2) on front operator's heater (6).
28. Install clamp (5) on circuit lead 537D (2) and adjacent hoses. Secure with screw (3), new lockwasher (4), and clamp (5) on right sponson.
29. Secure circuit lead 537D (2) to adjacent hoses with new tie straps (1).

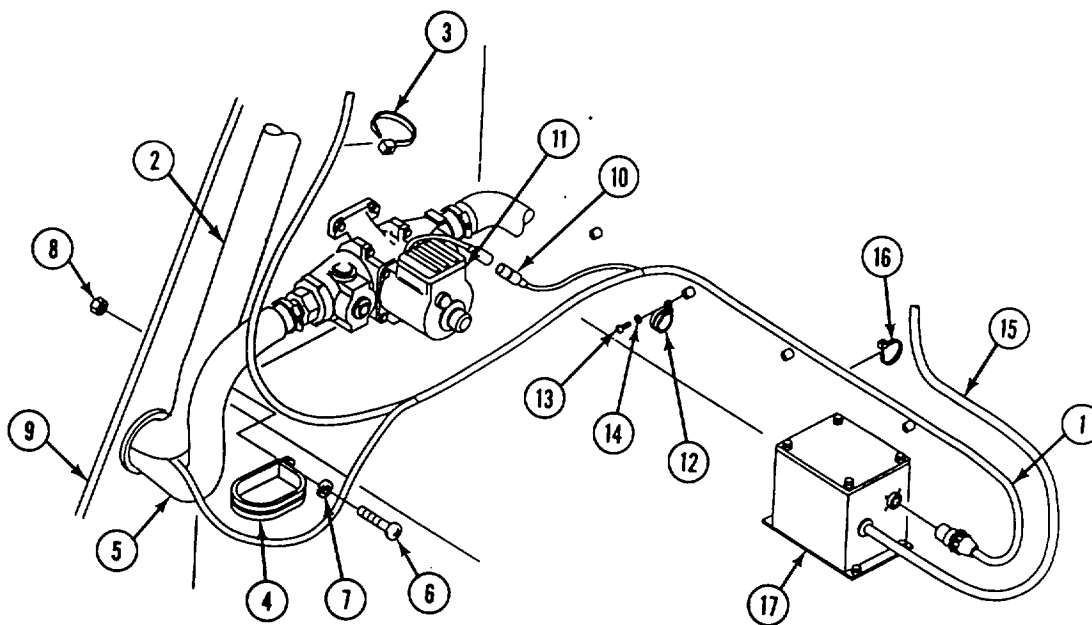


30. Install circuit lead 538A (1) with ground lead (2) on precleaner (3).
31. Install two clamps (4) on circuit lead 538A (1).
32. Install ground lead (2), new lockwasher (5), two clamps (4), new lockwashers (6), and screws (7) on precleaner mounting bracket (8).
33. Secure lead 538A (1) to adjacent wiring harnesses with new tie straps (9).
34. Install circuit lead 579C (10) on air filter ON lamp (11).
35. Install circuit lead 537C (12) on air filter switch (13).
36. Push circuit lead 537B (14) through grommet (15) on commander's heater inlet hose (16).
37. Secure wiring harness (17) to adjacent wiring harnesses and hoses with new tie straps (9).
38. Install circuit lead 537B (14) on commander's heater (18).
39. Install clamp (19) on hose (16) and circuit lead 537B (14). Secure clamp with screw (20) and new lockwasher (21) on forward bulkhead.
40. Install three clamps (22) on hose (16) and wiring harness (17). Secure clamps with three screws (23), washers (24), and new locknuts (25) on frame (26) and crossbeam.



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41. Secure wiring harness (1) to commander's heater inlet hose (2) with new tie straps (3).
42. Install clamp (4) on driver's heater inlet hose (5) and wiring harness (1). Secure clamp with screw (6), washer (7), and new locknut (8) on frame (9).
43. Install circuit lead 537A (10) on driver's heater (11).
44. Install four clamps (12) on wiring harness (1). Secure clamps with four screws (13) and new lockwashers (14) on bulkhead weldnuts.
45. Secure cable (15) to wiring harness (1) with new tie strap (16).
46. Install wiring harness (1) on control box (17).



FOLLOW-THROUGH STEPS

1. Connect battery ground strap (page 13-2).

END OF TASK

**REPLACE M3 NBC HEATER HOSES AND FITTINGS
(M113A2 AMBULANCE ONLY)**

DESCRIPTION

This task covers: Remove (page 39-77). Install (page 39-80).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Grommet
Lockwasher (23)
Tie straps (as required)

Personnel Required:

Unit Mechanic

References:

See your -10

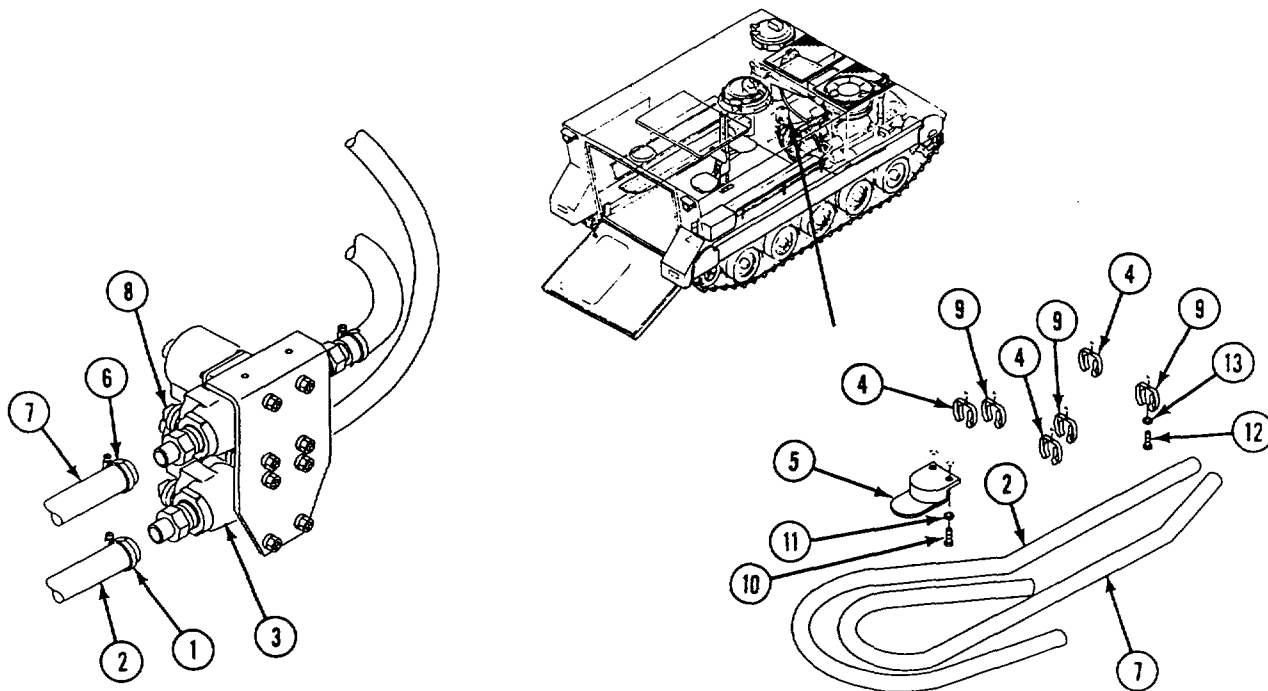
Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground strap disconnected (page 13-2)

REMOVE

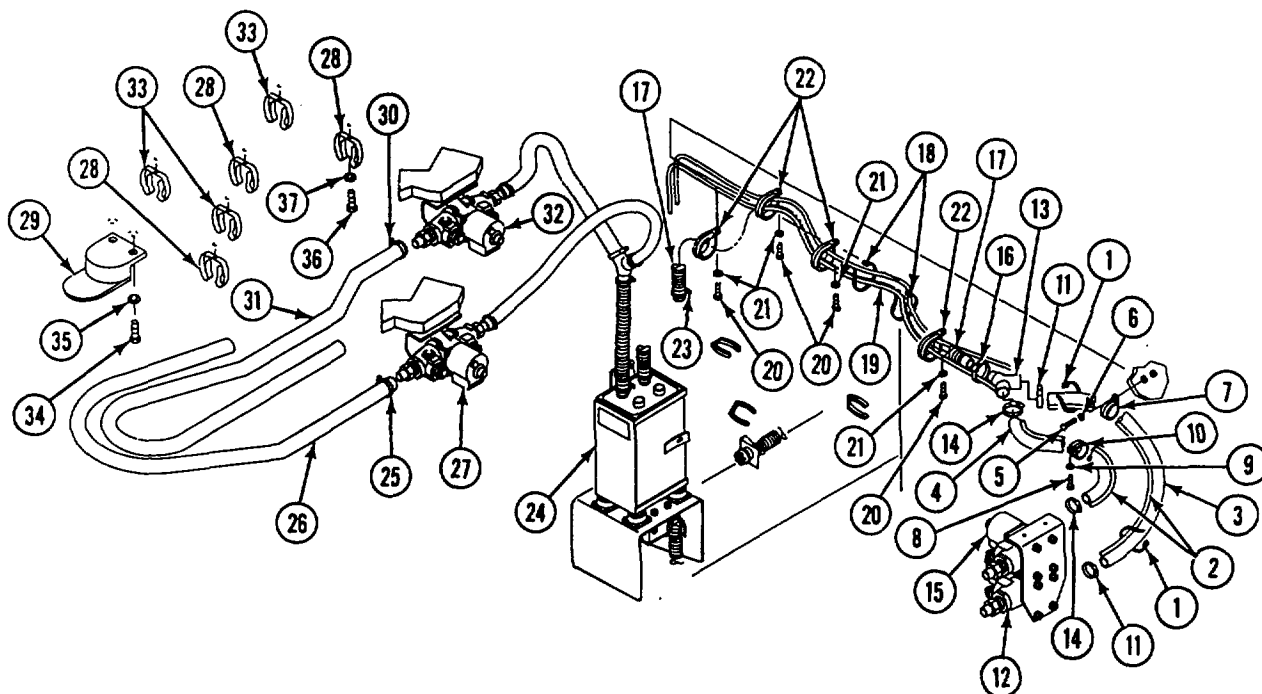
1. Loosen clamp (1) on patient's lower right outlet hose (2). Remove hose from lower right heater (3), three spring clips (4) and right bracket (5).
2. Loosen clamp (6) on patient's upper right outlet hose (7). Remove hose from upper right heater (8), three spring clips (9) and right bracket (5).
3. If right bracket (5) is damaged, remove two screws (10), lockwashers (11), and bracket from top plate. Discard lockwashers.
4. If any spring clip (4 or 9) is damaged, remove screw (12), lockwasher (13), and damaged clip from front bulkhead and top plate. Discard lockwashers.

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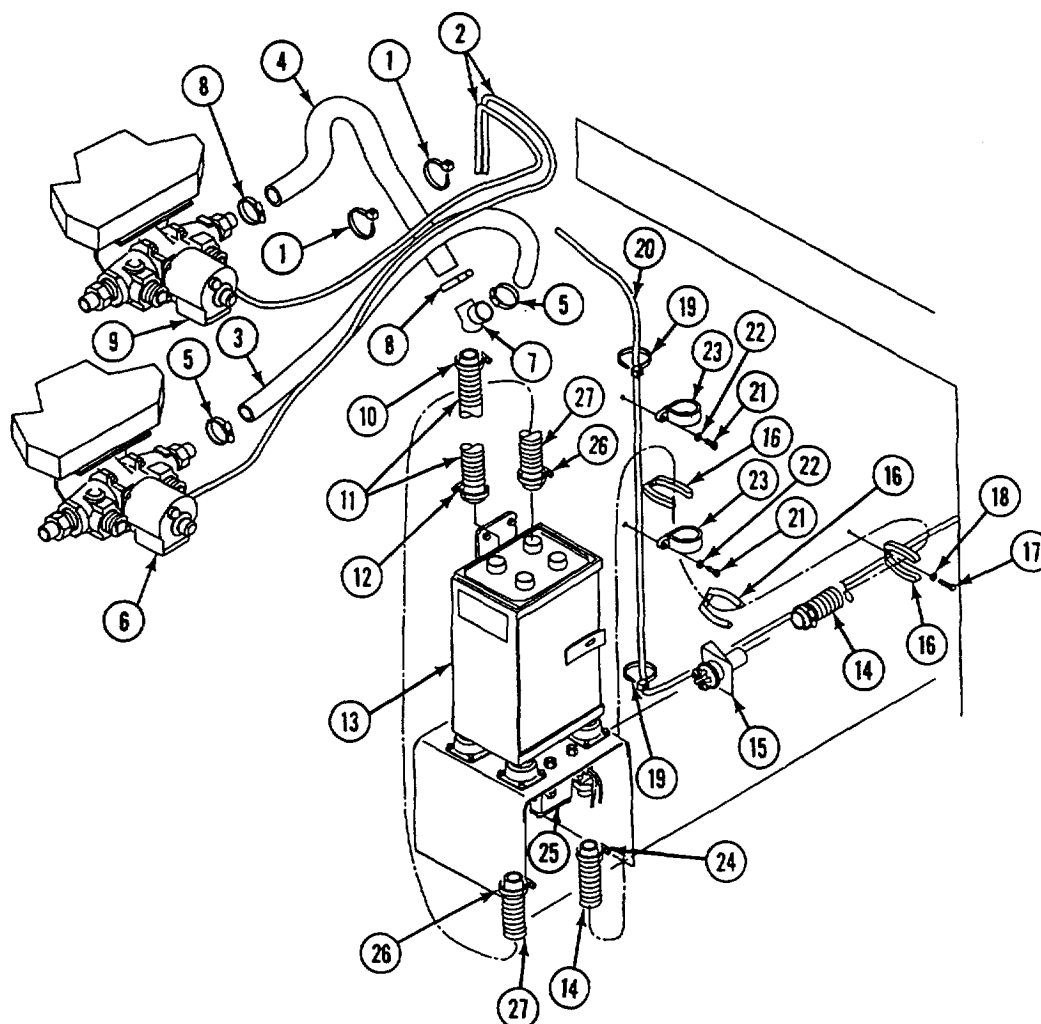


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5. Cut and remove all straps (1) securing electrical leads (2) to right inlet hoses (3,4). Discard straps.
6. Remove screw (5), lockwasher (6), and clamp (7) from top plate. Remove clamp from patient's lower right inlet hose (8). Discard lockwasher.
7. Remove screw (8), lockwasher (9), and clamp (10) from top plate. Remove clamp from patient's upper right inlet hose (4). Discard lockwasher.
8. Loosen two clamps (11) on patient's lower right inlet hose (3). Remove hose from lower right heater (12) and Y-fitting (13).
9. Loosen two clamps (14) on patient's upper right inlet hose (4). Remove hose from upper right heater (15) and Y-fitting (13).
10. Loosen clamp (16) on right inlet hose (17). Remove hose from Y-fitting (13).
11. Cut and remove all straps (18) securing wiring harness (19) to right inlet hose (17). Discard straps.
12. Remove four screws (20), lockwashers (21), and clamps (22) from top plate. Remove clamps from right inlet hose (17). Discard lockwashers.
13. Loosen clamp (23) on right inlet hose (17). Remove hose from air purifier (24).
14. Loosen clamp (25) on patient's left rear outlet hose (26). Remove hose from left rear heater (27), three spring clips (28) and left bracket (29).
15. Loosen clamp (30) on patient's left forward outlet hose (31). Remove hose from left forward heater (32), three spring clips (33) and left bracket (29).
16. If left bracket (29) is damaged, remove two screws (34), lockwashers (35), and bracket from top plate. Discard lockwashers.
17. If any spring clip (28 or 33) is damaged, remove screw (36), lockwasher (37), and damaged clip from front bulkhead and top plate. Discard lockwashers.



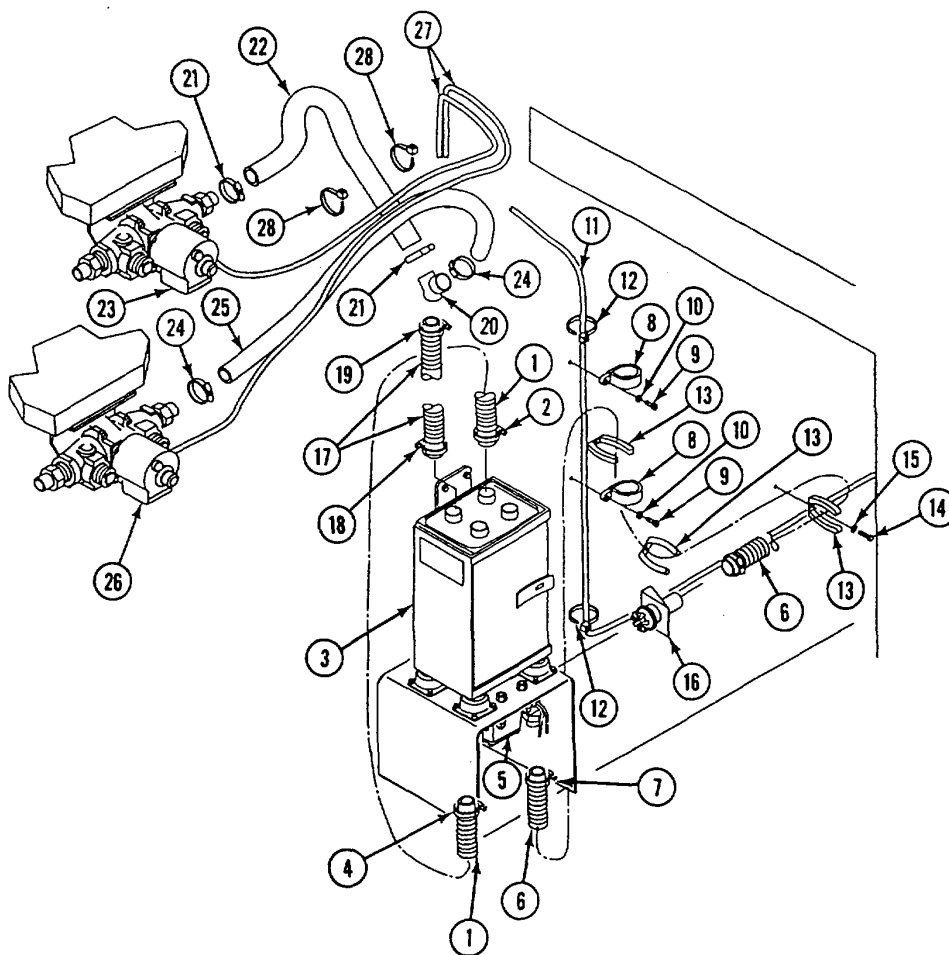
18. Cut and remove all straps (1) securing electrical leads (2) to left inlet hoses (3,4). Discard straps.
19. Loosen two clamps (5) on patient's left rear inlet hose (3). Remove hose from left rear heater (6) and Y-fitting (7).
20. Loosen two clamps (8) on patient's left forward inlet hose (4). Remove hose from left forward heater (9) and Y-fitting (7).
21. Loosen clamp (10) on left inlet hose (11). Remove hose from Y-fitting (7).
22. Loosen clamp (12) on left inlet hose (11). Remove hose from air purifier (13).
23. Remove hose (14) from connector (15) and three spring clips (16).
24. If any spring clip (16) is damaged, remove screw (17), lockwasher (18), and damaged clip from driver's bulkhead. Discard lockwashers.
25. Cut and remove all straps (19) securing electrical leads (20) to outlet hose (14); Discard straps.
26. Remove two screws (21), lockwashers (22), and clamps (23) from bulkhead. Remove clamps from outlet hose (14). Discard lockwashers.
27. Loosen clamp (24) on outlet hose (14). Remove hose from heater (25).
28. Loosen two clamps (26) on inlet hose (27). Remove hose from heater (25) and air purifier (13).



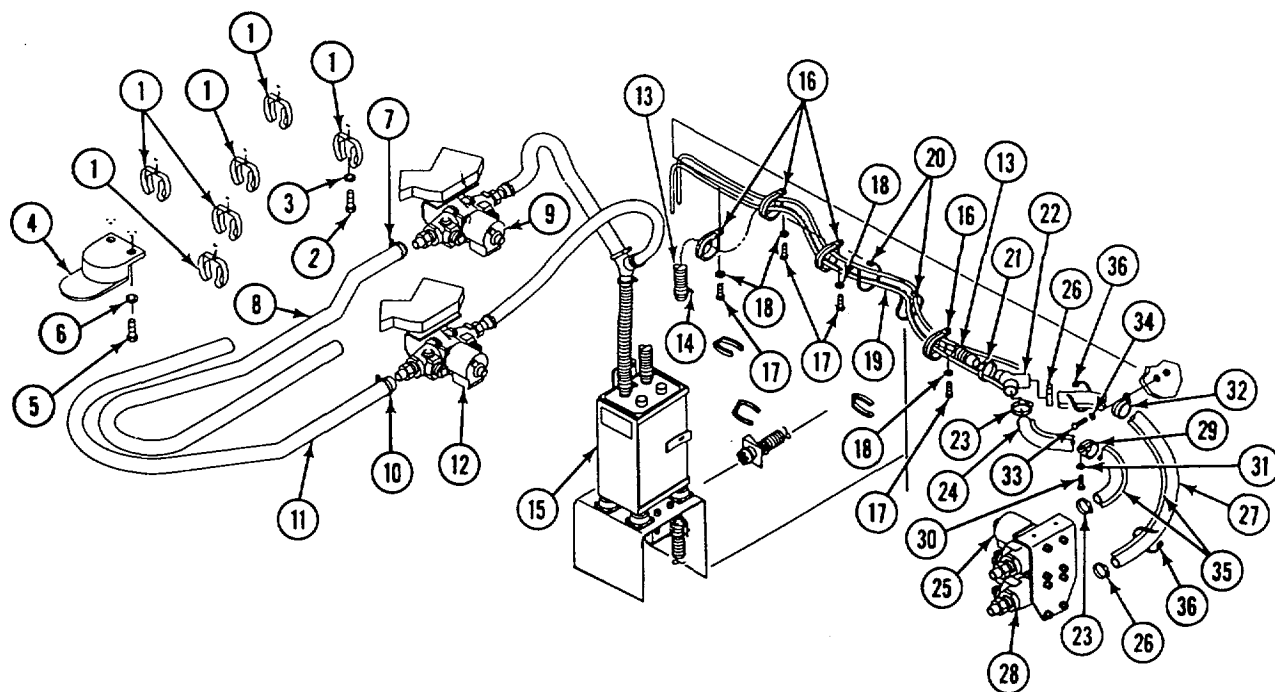
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INSTALL

29. Install inlet hose (1) and clamp (2) on air purifier (3). Tighten clamp.
30. Install inlet hose (1) and clamp (4) on heater (5). Tighten clamp.
31. Install outlet hose (6) and clamp (7) on heater (5). Tighten clamp.
32. Install two clamps (8) on outlet hose (6). Secure clamps to bulkhead with two screws (9) and new lockwashers (10).
33. Secure electrical leads (11) to outlet hose (6) with new straps (12) as required.
34. If removed, install spring clips (13) on driver's bulkhead with screws (14) and new lockwashers (15).
35. Install outlet hose (6) in three spring clips (13) on driver's bulkhead.
36. Install outlet hose (6) on connector (16).
37. Install inlet hose (17) and clamp (18) on air purifier (3). Tighten clamp.
38. Install inlet hose (17) and clamp (19) on Y-fitting (20). Tighten clamp.
39. Install two clamps (21) and patient's left forward inlet hose (22) on Y-fitting (20) and left forward heater (23). Tighten clamps.
40. Install two clamps (24) and patient's left rear inlet hose (25) on Y-fitting (20) and left rear heater (26). Tighten clamps.
41. Secure wiring harness (27) to inlet hoses new straps (28) as required.

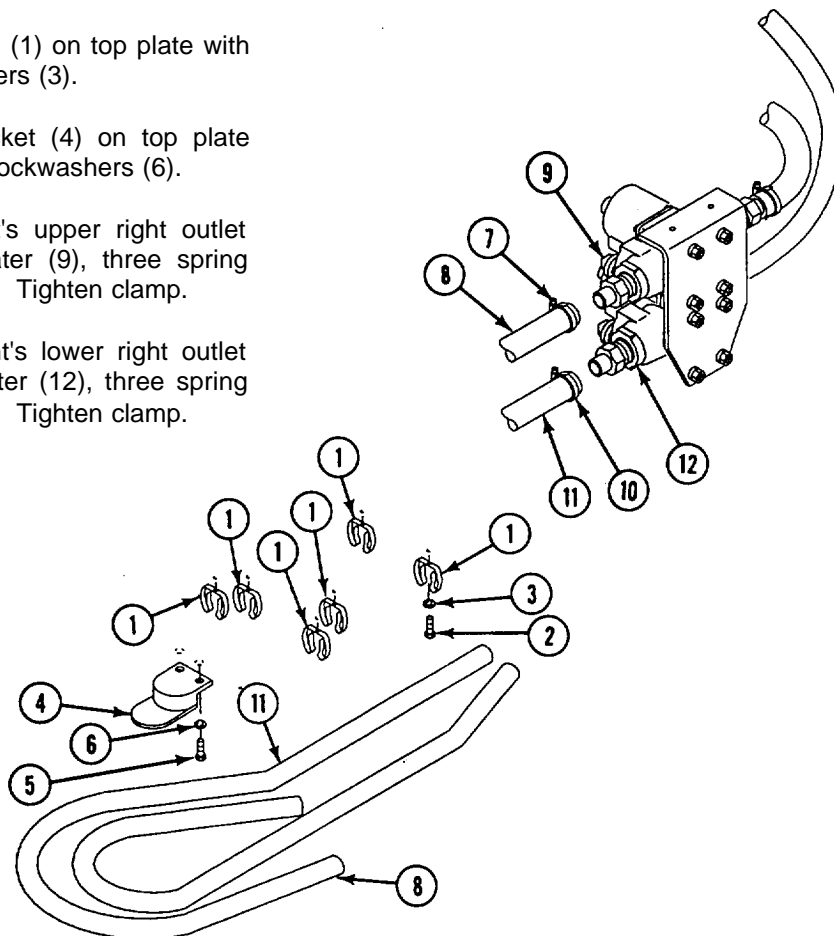


42. If removed, install spring clips (1) on top plate with screws (2) and new lockwashers (3).
43. If removed, install left bracket (4) on top plate with two screws (5) and new lockwashers (6).
44. Install clamp (7) and patient's left forward outlet hose (8) on left forward heater (9), three spring clips (1) and left bracket (4). Tighten clamp.
45. Install clamp (10) and patient's left rear outlet hose (11) on left rear heater (12), three spring clips (1) and left bracket (4). Tighten clamp.
46. Install patients right inlet hose (13) and clamp (14) on air purifier (15). Tighten clamp.
47. Install four clamps (16) on patients right inlet hose (13). Secure clamps to top plate with four screws (17) and new lockwashers (18).
48. Secure wiring harness (19) to right inlet hose (13) with new straps (20) as required.
49. Install right inlet hose (13) and clamp (21) on Y-fitting (22). Tighten clamp.
50. Install two clamps (23) and patient's upper right inlet hose (24) on Y-fitting (22) and upper right heater (25). Tighten clamps.
51. Install two clamps (26) and patient's lower right inlet hose (27) on Y-fitting (22) and lower right heater (28). Tighten clamps.
52. Install clamp (29) on patient's upper right inlet hose (24). Secure clamp to top plate with screw (30) and new lockwasher (31).
53. Install clamp (32) on patient's lower right inlet hose (27). Secure clamp to top plate with screw (33) and new lockwasher (34).
54. Secure electrical leads (35) to inlet hoses (24,27) with new straps (36) as required.



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55. If removed, install spring clips (1) on top plate with screws (2) and new lockwashers (3).
56. If removed, install right bracket (4) on top plate with two screws (5) and new lockwashers (6).
57. Install clamp (7) and patient's upper right outlet hose (8) on upper right heater (9), three spring clips (1), and right bracket (4). Tighten clamp.
58. Install clamp (10) and patient's lower right outlet hose (11) on lower right heater (12), three spring clips (1), and right bracket (4). Tighten clamp.



FOLLOW-THROUGH STEPS

1. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M3 NBC FILTER SWITCH ASSEMBLY (M113A2 AMBULANCE ONLY)

DESCRIPTION

This task covers: Remove (page 39-83). Install (page 39-84).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (2)
Lockwasher (2)
Lockwasher (2)
Lockwasher (4)
Locknut (2)

Personnel Required:

Unit Mechanic

References:

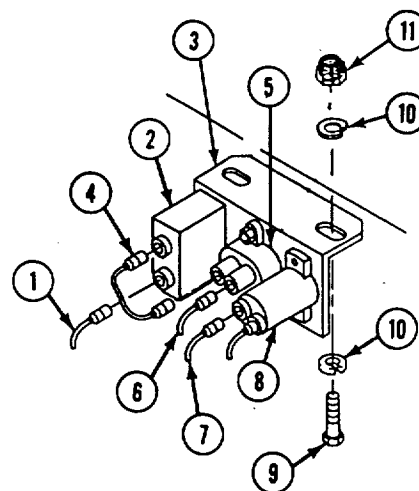
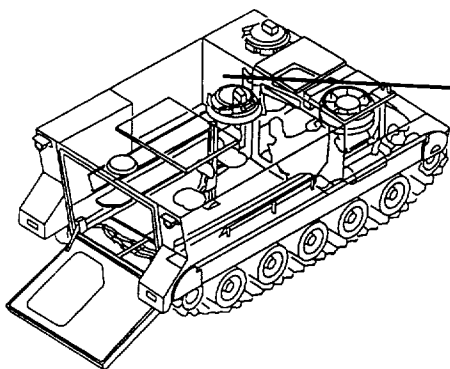
See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground strap disconnected (page 13-2)

REMOVE

1. Remove circuit 579C lead (1) from air filter switch (2) on switch assembly (3).
2. Remove jumper lead (4) from air filter switch (2) and circuit breaker (5).
3. Remove circuit 579A lead (6) from circuit breaker (5).
4. Remove circuit 537F lead (7) from air filter ON lamp (8).
5. Remove two mounting screws (9), four lockwashers (10), two locknuts (11), and switch assembly (3) from instrument panel. Discard lockwashers and locknuts.



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NOTE

Remove following components, as needed, for repair of switch assembly.

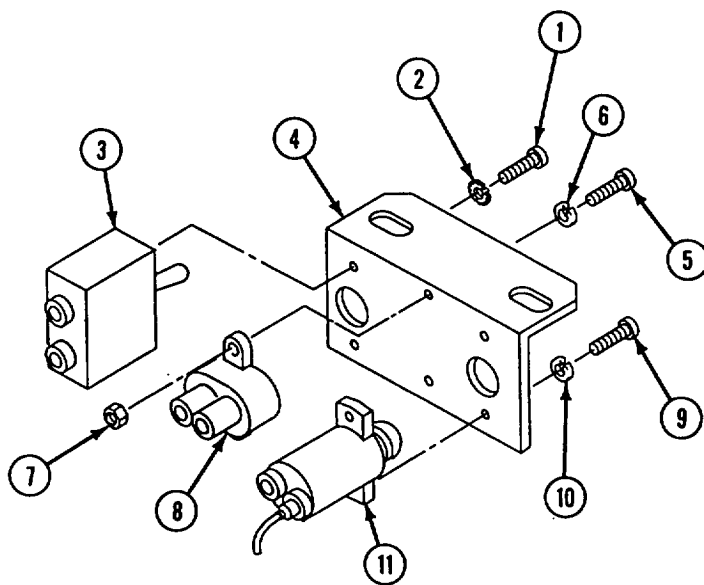
6. Remove two screws (1), lockwashers (2), and air filter switch (3) from switch assembly (4). Discard lockwashers.
7. Remove two screws (5), lockwashers (6), nuts (7), and circuit breaker (8) from switch assembly (4). Discard lockwashers.
8. Remove two screws (9), lockwashers (10), and air filter ON lamp (11) from switch assembly (4). Discard lockwashers.

INSTALL

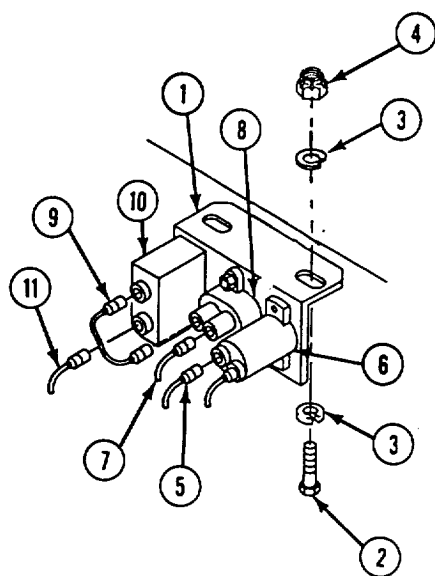
NOTE

Install following components, as needed, for repair of switch assembly.

9. Install air filter ON lamp (11) on switch assembly (4). Secure with two screws (9) and new lockwashers (10).
10. Install circuit breaker (8) on switch assembly (4). Secure with two screws (5), new lockwashers (6), and nuts (7).
11. Install air filter switch (3) on switch assembly (4). Secure with two screws (1) and new lockwashers (2).



12. Install switch assembly (1) on instrumental panel. Secure with two mounting screws (2), four new lockwashers (3), and two new locknuts (4).
13. Install circuit 537F lead (5) on air filter ON lamp (6).
14. Install circuit lead 579A (7) on circuit breaker (8).
15. Install jumper lead (9) on air filter switch (10) and circuit breaker (8).
16. Install circuit 579C lead (11) on air filter switch (10).



FOLLOW-THROUGH STEPS

1. Connect battery ground strap (page 13-2).

END OF TASK

**REPLACE M3 NBC HEATERS AND CONTROLLERS
(M113A2 AMBULANCES ONLY)**

DESCRIPTION

This task covers: Remove (page 39-86). Install (page 39-88).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Locknut (20)
Lockwasher (8)
Tie straps (as required)

Equipment Conditions:

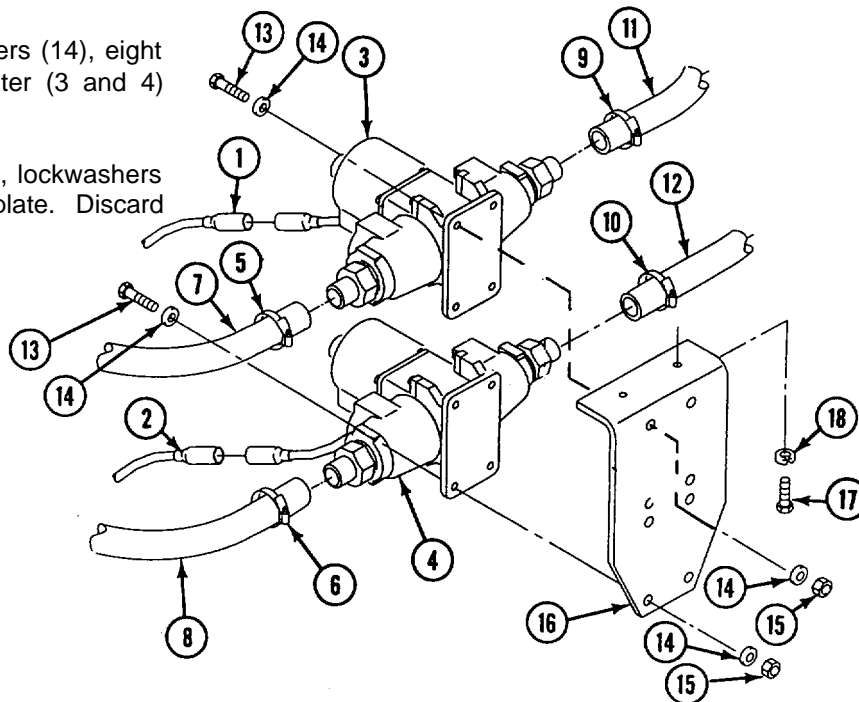
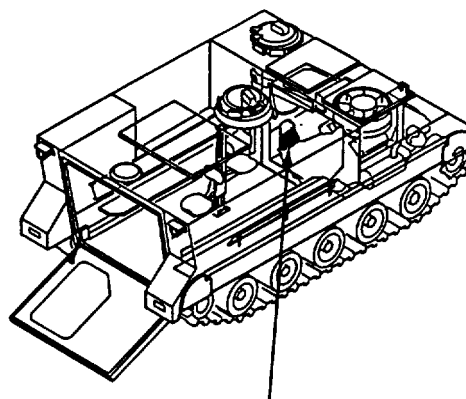
Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground strap disconnected (page 13-2)

Personnel Required:

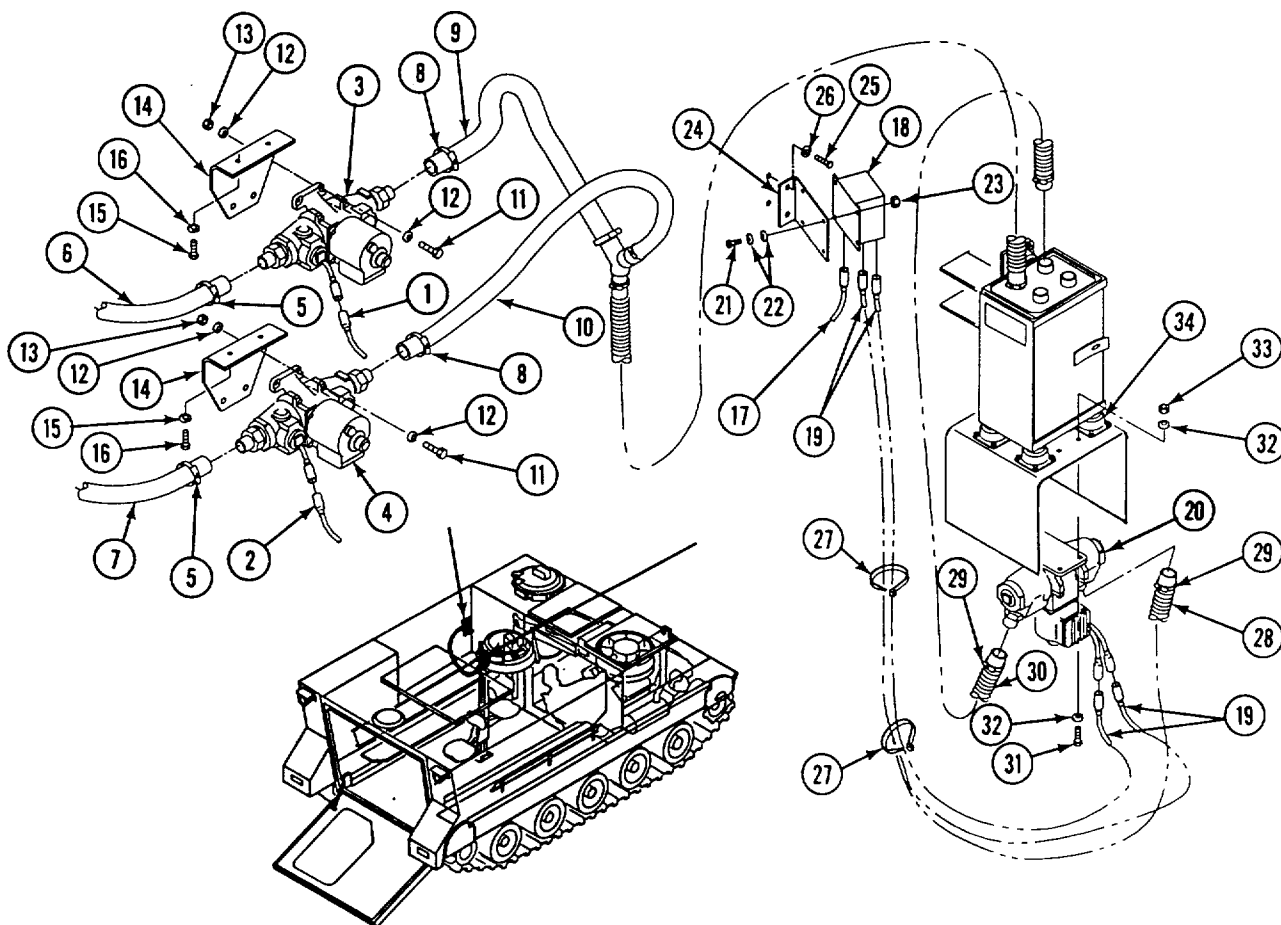
Unit Mechanic

REMOVE

1. Disconnect circuit lead 537A (1) and circuit lead 537B (2) from upper and lower heaters (3 and 4) on right side of vehicle.
2. Loosen clamps (5 and 6). Remove upper and lower outlet hoses (7 and 8) from upper and lower heater (3 and 4).
3. Loosen clamps (9 and 10). Remove upper and lower inlet hoses (11 and 12) from upper and lower heaters (3 and 4).
4. Remove eight screws (13), 16 washers (14), eight locknuts (15), upper and lower heater (3 and 4) from bracket (16). Discard locknuts.
5. If damaged, remove two screws (17), lockwashers (18), and bracket (16) from hull top plate. Discard lockwashers.



6. Disconnect circuit lead 537C (1) and circuit lead 537D (2) from forward and rear heaters (3 and 4) on left side of vehicle.
7. Loosen clamps (5). Remove forward and rear outlet hoses (6 and 7) from forward and rear heaters (3 and 4).
8. Loosen clamps (8). Remove forward and rear inlet hoses (9 and 10) from forward and rear heaters (3 and 4).
9. Remove eight screws (11), 16 washers (12), eight locknuts (13), and upper heater (3), and lower heater (4) from two brackets (14). Discard locknuts.
10. If damaged, remove four screws (15), lockwashers (16), and brackets (14) from bulkhead. Discard lockwashers.
11. Disconnect circuit lead 537G (17) from driver's controller (18).
12. Disconnect two leads (19) from driver's controller (18) and driver's heater (20).
13. Remove four screws (21), eight washers (22), four locknuts (23), and driver's controller (18) from bracket (24). Discard locknuts.
14. If damaged, remove two screws (25), lockwashers (26), and bracket (24) from bulkhead. Discard lockwashers.
15. Cut tie straps (27) and remove two leads (19) from adjacent driver's outlet hose (28). Discard tie straps.
16. Loosen clamps (29). Remove driver's outlet hose (28) and driver's inlet hose (30) from driver's heater (20).
17. Remove four screws (31), eight washers (32), four locknuts (33), and driver's heater (20) from welded mount (34). Discard locknuts.

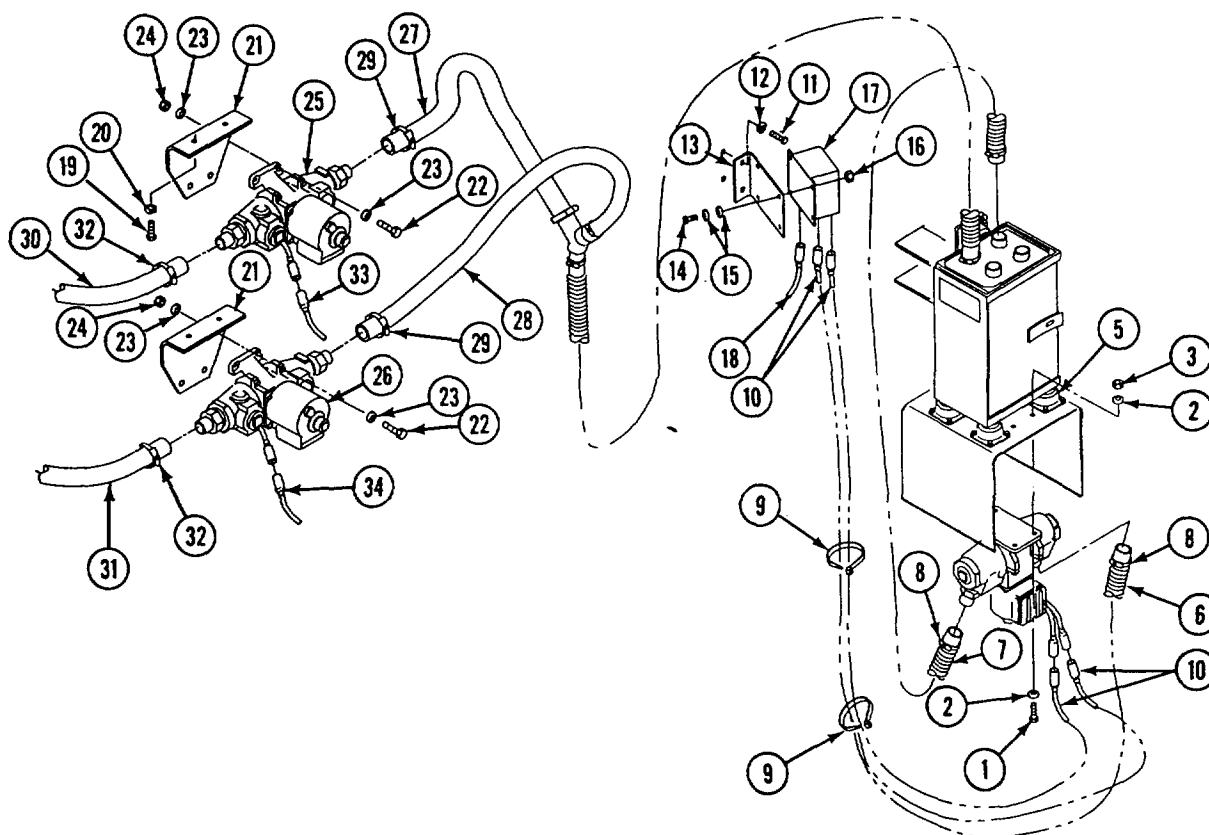


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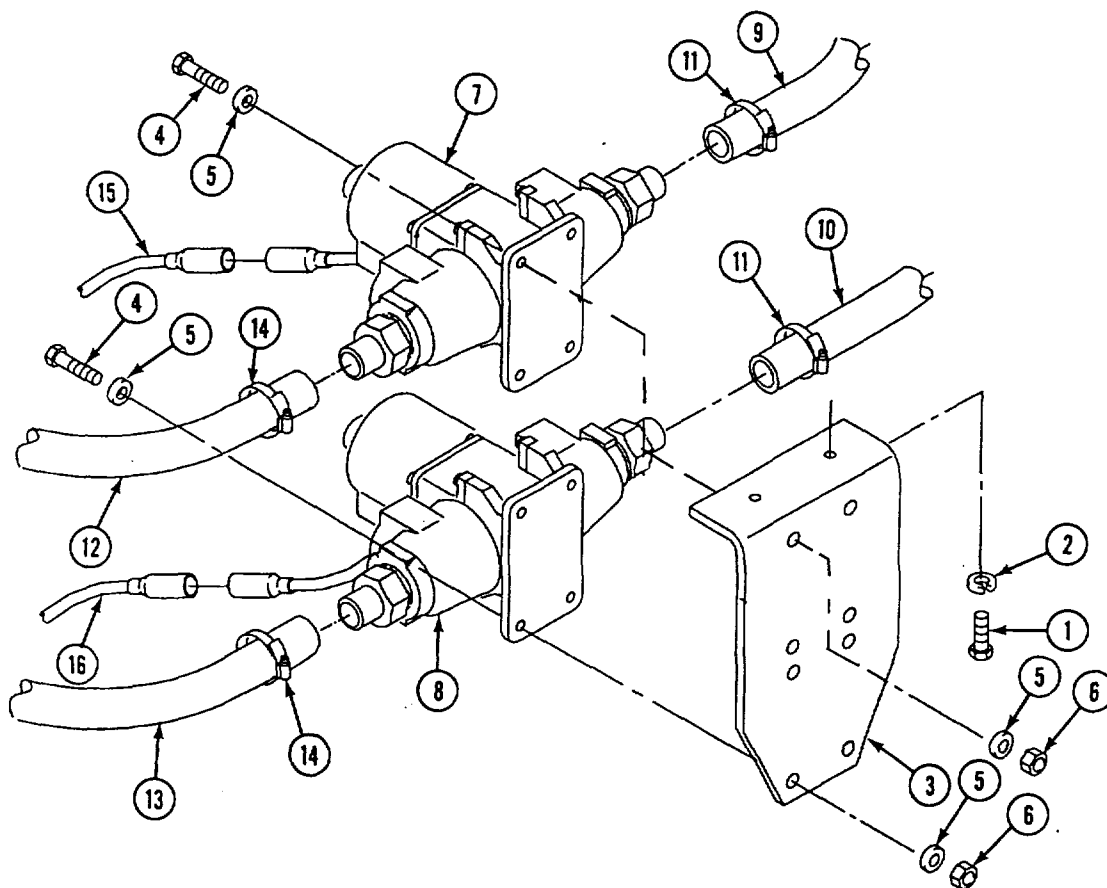
INSTALL

18. Install four screws (1), eight washers (2), four new locknuts (3), and driver's heater (4) on welded mount (5).
19. Install driver's outlet hose (6) and driver's inlet hose (7) on driver's heater (4). Tighten clamps (8).
20. Install new tie straps (9) on two leads (10) and adjacent heater hose (6).
21. If removed, install two screws (11), new lockwashers (12), and bracket (13) on bulkhead.
22. Install four screws (14), eight washers (15), four new locknuts (16), and driver's controller (17) on bracket (13).
23. Connect two leads (10) to driver's controller (17) and driver's heater (4).

24. Connect circuit lead 537G (18) to driver's controller (17).
25. If removed, install four screws (19), new lockwashers (20), and brackets (21) on bulkhead.
26. Install eight screws (22), 16 washers (23), eight new locknuts (24), and two heaters (25 and 26) on two brackets (21).
27. Install forward and rear inlet hoses (27 and 28) on forward and rear heaters (25 and 26). Tighten clamps (29).
28. Install forward and rear outlet hoses (30 and 31) on forward and rear heaters (25 and 26). Tighten clamps (32).
29. Connect circuit lead 537C (33) and circuit lead 537D (34) to forward and rear heaters (25 and 26) on left side of vehicle.



30. If removed, install two screws (1), new lockwashers (2), and bracket (3) on hull top plate.
31. Install eight screws (4), 16 washers (5), eight new locknuts (6), upper and lower heater (7 and 8) on bracket (3) 32. Install upper and lower inlet hoses (9 and 10) on upper and lower heater (7 and 8). Tighten clamps (11).
33. Install upper and lower outlet hoses (12 and 13) on upper and lower heater (7 and 8). Tighten clamps (14).
34. Connect circuit lead 537A (15) and circuit lead 537B (16) to upper and lower heaters (7 and 8) on right side of vehicle.



FOLLOW-THROUGH STEPS

1. Connect battery ground strap (page 13-2).

END OF TASK

**REPLACE M14 NBC HOSES AND BRACKETS
(M113A2 AMBULANCE ONLY)**

DESCRIPTION

This task covers: Remove (page 39-90). Install (page 39-91).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (21)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground strap disconnected (page 13-2)

REMOVE

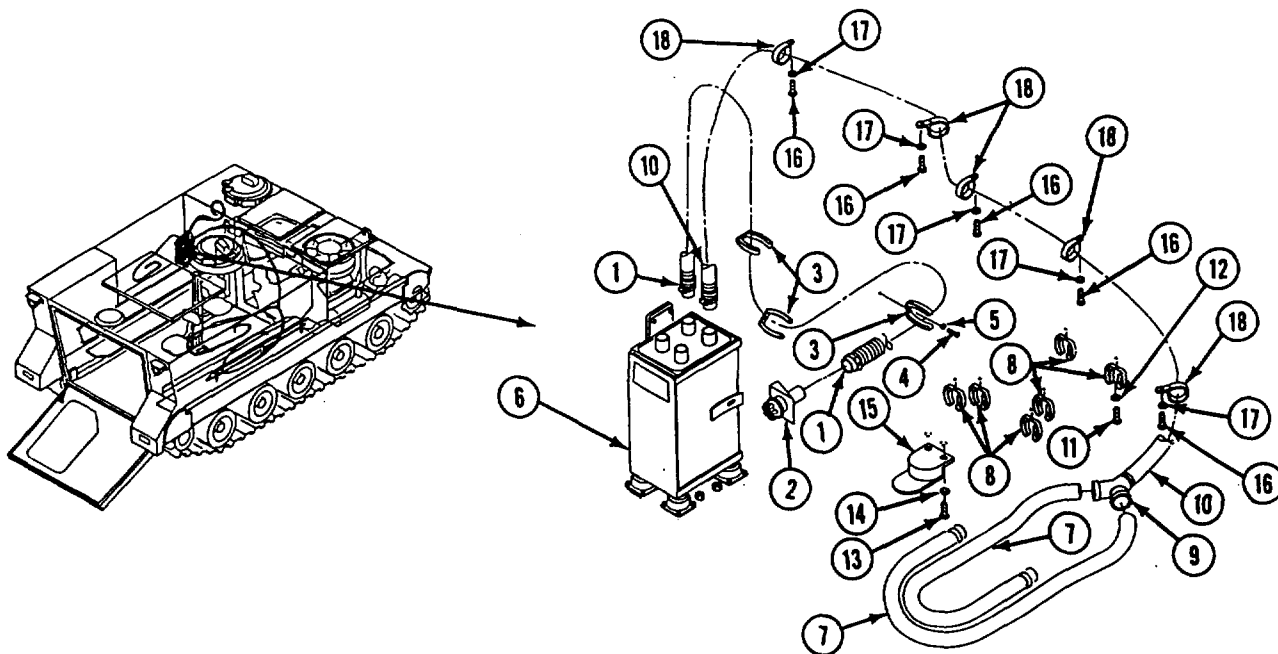
1. Remove driver's hose (1) from connector (2) and three clips (3).
2. Remove three screws (4), lockwashers (5), and clips (3) from driver's bulkhead. Discard lockwashers.
3. Loosen clamp and remove hose (1) from air purifier (6).

5. Remove six screws (11), lockwashers (12), and clips (8) from top plate. Discard lockwashers.
6. Remove two screws (13), washers (14), and bracket (15) from top plate.
7. Release quick-disconnect coupling and remove hose (10) from air purifier (6).
8. Remove five screws (16), lockwashers (17), and clamps (18) from top plate. Remove clamps from hose assembly (10). Discard lockwashers.

NOTE

**Hospital headpiece not shown.
Remove headpiece, if connected.**

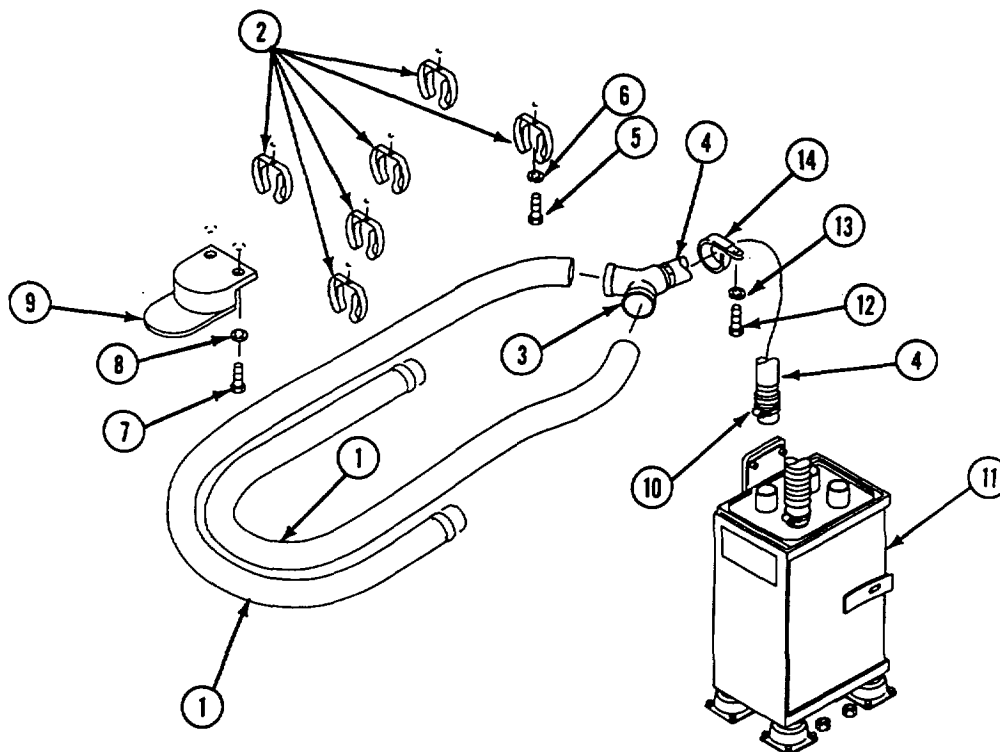
4. Remove two hoses (7) from six spring clips (8) and Y-connector (9) on hose assembly (10).



9. Remove two hoses (1) from six spring clips (2) and Y-connector (3) on hose assembly (4).
10. Remove six screws (5), lockwashers (6), and clips (2) from top plate. Discard lockwashers.
11. Remove two screws (7), washers (8), and bracket (9) from top plate.
12. Release quick-disconnect coupling and remove hose (4) from air purifier (11).
13. Remove screw (12), lockwasher (13), and clamp (14) from top plate. Remove clamps from hose assembly (4). Discard lockwashers.

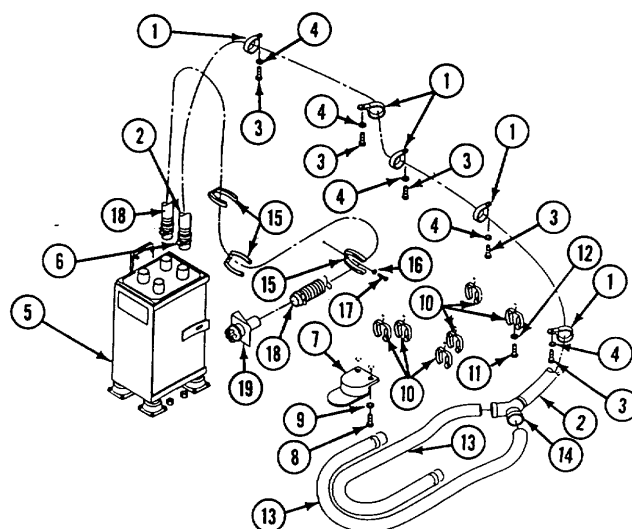
INSTALL

14. Install clamp (14) on hose assembly (4). Secure clamp to top plate with screw (12) and new lockwasher (13).
15. Install hose assembly (4) on air purifier (11).
16. Install bracket (9), two screws (7) and washers (8) on top plate.
17. Install six clips (2), screws (5), and new lockwashers (6) on top plate.
18. Install two hoses (1) on Y-connector (3) of hose assembly (4).
19. Route two hoses (1) around bracket (9) and insert in six clips (2).



GO TO NEXT PAGE

20. Install five clamps (1) on hose assembly (2). Secure clamp to top plate with five screws (3) and new lockwashers (4).
21. Install hose assembly (2) on air purifier (5).
22. Install bracket (7), two screws (8) and washers (9) on top plate.
23. Install six clips (10), screws (11), and new lockwashers (12) on top plate.
24. Install two hoses (13) on Y-connector (14) of hose assembly (2).
25. Route two hoses (13) around bracket (7) and insert in six clips (10).
26. Install three clips (15), new lockwashers (16) and screws (17) on driver's bulkhead.
27. Install driver's hose (18) on air purifier (5), three clips (15), and connector (19).



FOLLOW-THROUGH STEPS

1. Connect battery ground strap (page 13-2).

END OF TASK

REPLACE M8A3/M14 AIR PURIFIER AND FRAME (M113A2 ONLY)

DESCRIPTION

This task covers: Remove (page 39-93). Install (page 39-94).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Locknuts (24)

Locknuts (5)

Personnel Required:

Unit Mechanic

References:

See your -10

See FM 21-40

See TM 3-6680-316-10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground strap disconnected (page 13-2)

REMOVE

WARNING

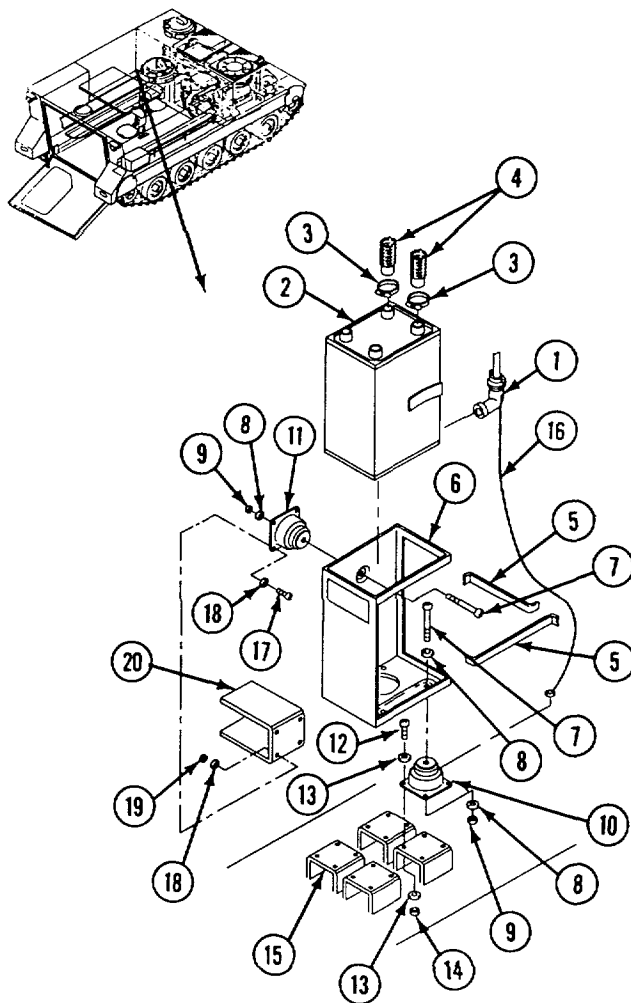
Contaminated filters are hazardous to personnel. Do not handle filters (see FM 21-40). Dispose of filters using trained chemical environment



personnel.

1. Disconnect power cable (1) from air purifier (2).
2. For the M8A3 purifier, loosen two clamps (3) and remove two hoses (4) and clamps from air purifier (2). For the M14 purifier, loosen three clamps (3), and remove three hoses (4) and clamps from air purifier (2).
3. Unfasten latch (5) and lift air purifier (2) from frame assembly (6).
4. Remove five screws (7), 10 washers (8), five locknuts (9), and frame assembly (6) from five mounts (10 and 11). Discard locknuts.
5. Remove 16 screws (12), 32 washers (13), 16 locknuts (14), and four mounts (10) from welded frame (15). Discard locknuts.
6. Remove ground wire lead (16).

7. Remove four screws (17), eight washers (18), four locknuts (19), and mount (11) from welded frame (20). Discard locknuts.



GO TO NEXT PAGE

INSTALL**NOTE**

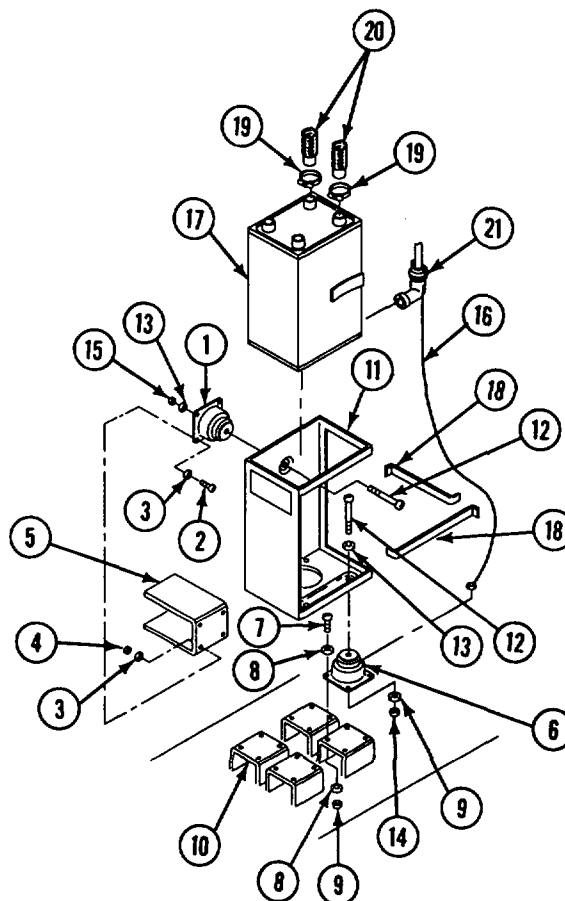
Remove 1/4 to 1/2 inch of paint around mounting hole to ensure proper grounding.

8. Install mount (1), four screws (2), eight washers (3), and four new locknuts (4) on welded frame (5).
9. Install four mounts (6), 16 screws (7), 32 washers (8), and 16 new locknuts (9) on welded frame (10).
10. Install frame assembly (11), five screws (12), 10 washers (13), and five new locknuts (14, 15) on five mounts (1, 6). Do not tighten one outside locknut (14) for ground wire lead (16) connection.
11. Insert ground wire lead (16) and tighten locknut (14).

NOTE

The air purifier must be adjusted before installation. See TM 3-6680-316-10.

12. Place air purifier (17) in frame assembly (11) and close latch (18).
13. Install three clamps (19) and hoses (20) onto the air purifier (17) and tighten clamps.
14. Connect power cable (21) to air purifier (17).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground strap (page 13-2).

END OF TASK

**REPLACE M8A3/M14 NBC CABLES AND SWITCH ASSEMBLY
(M113A2 AND M1059A2 ONLY)**

DESCRIPTION

This task covers: Remove (page 39-95). Install (page 39-96).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

- Locknut (2)
- Lockwasher (2)
- Strap (3)

Personnel Required:

Unit Mechanic

References:

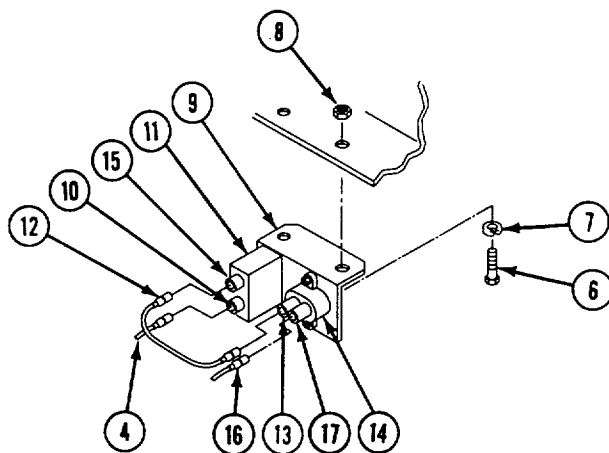
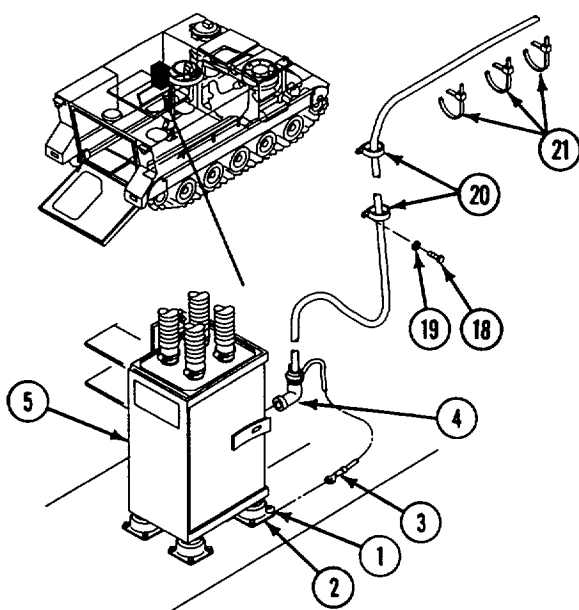
See your -10

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Battery ground strap disconnected (page 13-2)
- Drop instrument panel. See Replace Panel Mounts and Ground Leads (page 11-2).

REMOVE

1. Loosen screw (1) on mount (2) and remove ground lead (3).
2. Remove power cable and ground assembly (4) from air purifier (5).
3. Remove two screws (6), washers (7), locknuts (8), and circuit breaker switch assembly (9) from instrument panel. Discard locknuts.
4. Remove power cable (4) from jack (10) on switch (11).
5. Remove short cable assembly (12) from jack (13) on circuit breaker (14) and jack (15) on switch (11).
6. Remove circuit 579A cable assembly (16) from jack (17) on circuit breaker (14).
7. Remove two screws (18), lockwashers (19), and clamps (20) from bulkhead. Remove clamps from circuit 579A cable assembly (16). Discard lockwashers.
8. Remove three straps (21) securing circuit 579A cable assembly (16) to wiring harness on side plate. Discard straps.



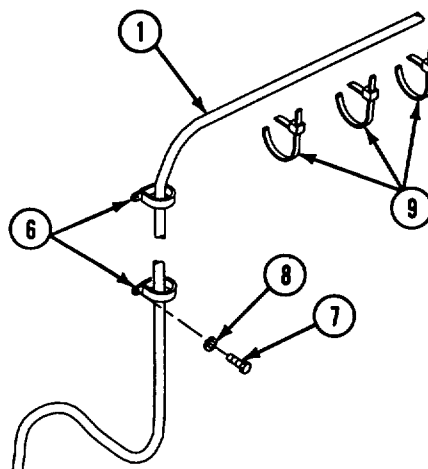
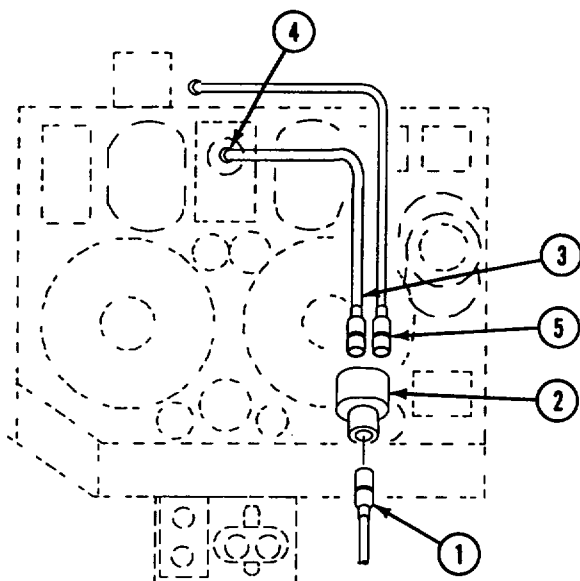
GO TO NEXT PAGE

9. Remove circuit 579A lead (1) from connector (2) on back of instrument panel.
10. Remove circuit 10A lead (3) from connector (2) and circuit breaker (4).
11. Remove circuit 10 lead (5) from connector (2).

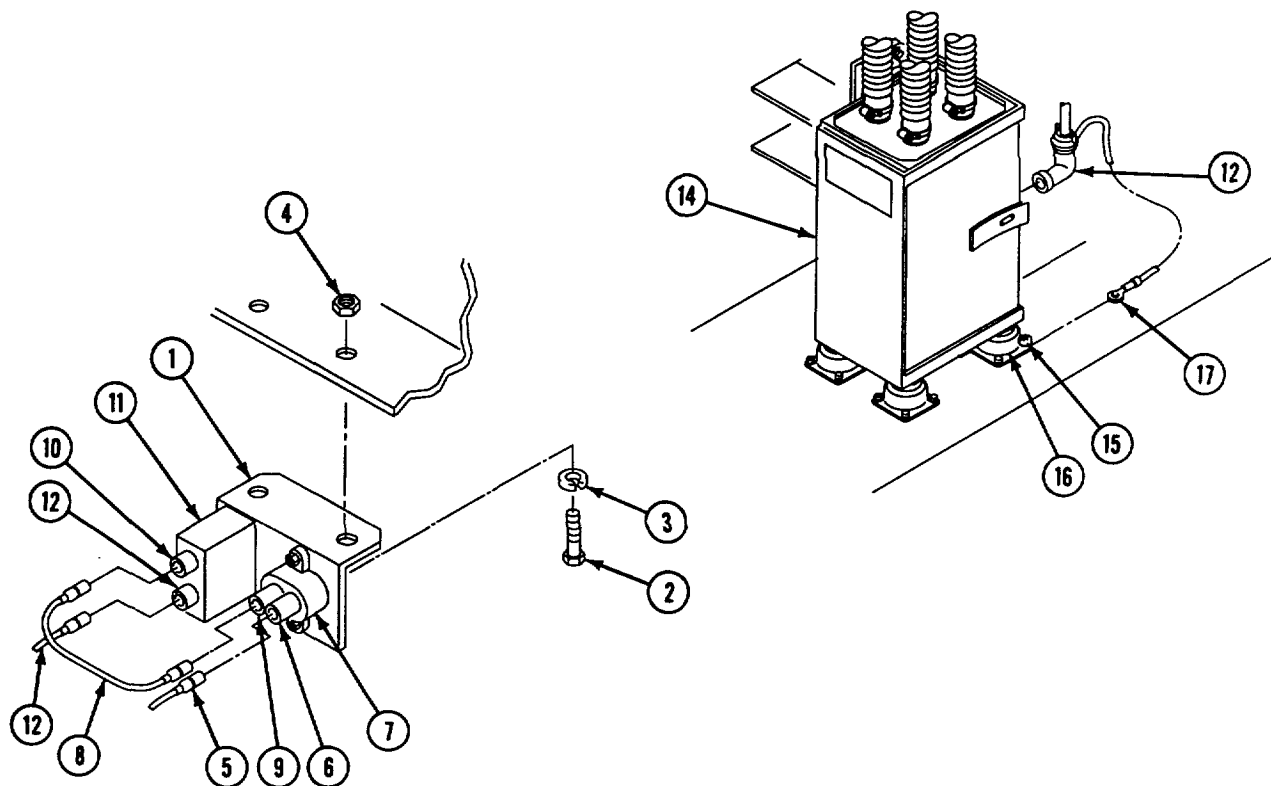
15. Install clamps (6) on circuit 579A cable (1). Secure clamps (6) to bulkhead with two screws (7) and new lockwashers (8).
16. Route circuit 579A cable (1) along existing wiring harness on side plate. Secure cable (1) to harness with three new straps (9).

INSTALL

12. Install circuit 10 lead (5) on connector (2).
13. Install circuit 10A lead (3) on connector (2) and circuit breaker (4).
14. Install circuit 579A lead (1) on connector (2).



17. Align circuit breaker switch assembly (1) to threaded inserts under left side of instrument panel, with controls facing front of vehicle. Secure with two screws (2), washers (3), and new locknuts (4).
18. Install circuit 579A lead (5) on jack (6) of circuit breaker (7).
19. Install short cable assembly (8) on jack (9) of circuit breaker (7) and jack (10) of switch (11).
20. Install power cable assembly (12) on jack (13) of switch (11).
21. Install power and ground cable assembly (12) on air purifier assembly (14).
22. Loosen screw (15) on shock mount insulator (16). Insert slotted end of ground cable (17) under screw (15). Tighten screw.



FOLLOW-THROUGH STEPS

1. Install driver's instrument panel (page 11-2).
2. Connect battery ground strap (page 13-2).

END OF TASK

Section II. VENTILATION SYSTEM MAINTENANCE (M981 ONLY)

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace M25/M42 Ventilated Face		Replace M25/M42 Ventilated Face	
Mask Hose Assembly	39-99	Mask Gas Filter	39-101
Replace Orifice Connector Assembly		Replace M25/M42 Ventilated Face	
NBC Equipment	39-100	Mask Heater	39-102

REPLACE M25/M42 VENTILATED FACE MASK HOSE ASSEMBLY**INITIAL SETUP****Tools**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required

Unit Mechanic

References

See your -10

Equipment Conditions

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

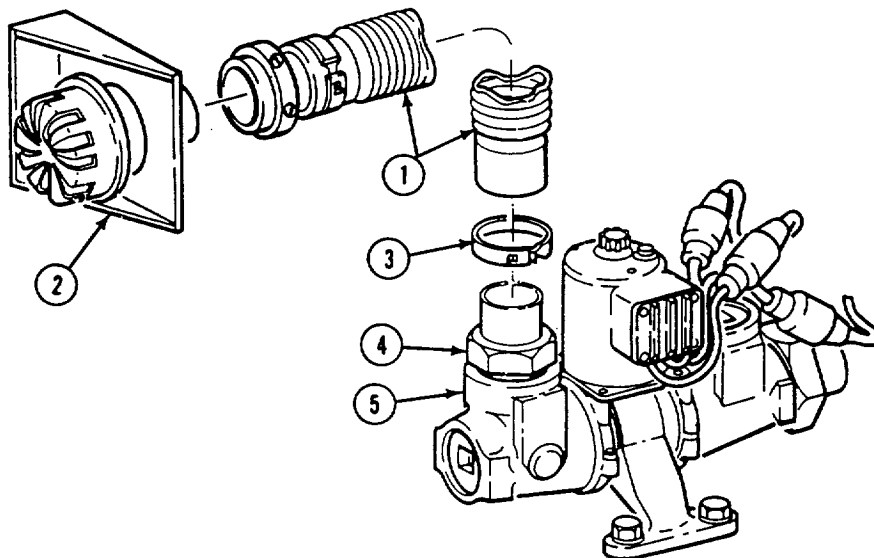
Ramp lowered (see your -10)

REMOVE

1. Remove hose assembly (1) from each orifice connector assembly (2).
2. Loosen clamp (3) and remove clamp and hose assembly (1) from adapter (4) on each heater (5).

INSTALL

3. Install hose assembly (1) and clamp (3) on adapter (4) of each heater (5). Lock clamp (3).
4. Install hose assembly (1) on each orifice connector assembly (2).

**FOLLOW-THROUGH STEPS**

1. Raise and lock ramp (see your -10).
2. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE ORIFICE CONNECTOR ASSEMBLY NBC EQUIPMENT**INITIAL SETUP****Tools**

General Mechanics Tool Kit (Item 30, App D)
Snap Ring Pliers (Item 45, App D)

Materials/Parts

Corrosion preventive compound
(Item 11, App C)
Lockwasher

Personnel Required

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shut down (see your -10)
Carrier blocked (see your -10)

REMOVE

1. Remove hose assembly (1) from orifice connector assembly (2).
2. Remove retaining ring (3) from orifice connector assembly (2).
3. Remove orifice connector assembly (2) from bracket (4).

NOTE

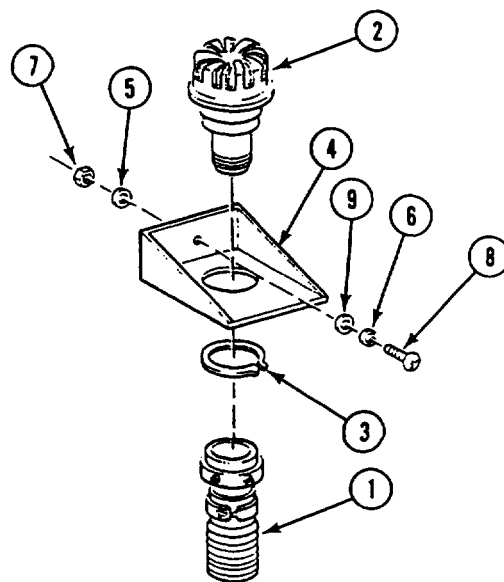
There are two methods of attaching bracket, washer, lockwasher, and nut. All parts may or may not be there.

4. Remove screw (8), lockwasher (6), washer (9), and bracket (4). Discard lockwasher.
5. Remove screw (8), washer (9), washer (5), nut (7), and bracket (4).

INSTALL

6. Apply corrosion preventive compound to all threaded fasteners.
7. Install bracket (4), washer (5), washer (9), screw (8), and nut (7).
8. Install bracket (4), washer (9), new lockwasher (6), and screw (8).

9. Insert orifice connector assembly (2) into bracket (4) and install retaining ring (3). Use snap ring pliers.
10. Install hose assembly (1) on orifice connector assembly (2).



END OF TASK

REPLACE M25/1M42 VENTILATED FACE MASK GAS FILTER

INITIAL SETUP

Tools

General Mechanics Tool Kit (Item 30, App D)

Personnel Required

Unit Mechanic

References:

See your -10

Equipment Conditions:

Ramp lowered (see your -10)

MASTER SWITCH OFF (see your -10)

Carrier blocked (see your -10)

REMOVE

WARNING

To avoid injury to personnel, contaminated filters must be handled using adequate precautions (FM 21-40) and must be disposed of by trained personnel (chemical environment).



1. Loosen and remove clamp (1) and coupling (2) from gas filter (3).
2. Loosen and remove clamp (4) and coupling (5) from gas filter (3).
3. Loosen clamps (6) and (7), slide clamps off bracket (8) and gas filter (3), and remove gas filter.

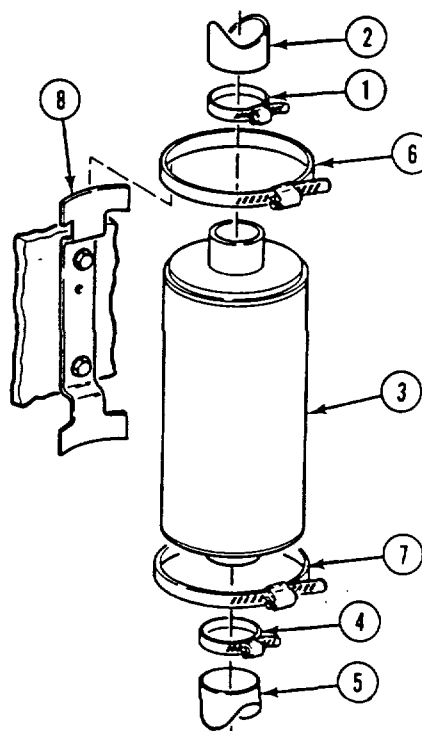
INSTALL

NOTE

When positioning gas filter against bracket, ensure that the direction of airflow as marked on gas filter is toward the VFM heaters.

4. Place gas filter (3) into position against bracket (8), slide clamps (7) and (6) over bracket (8) and gas filter (3). Tighten clamps securely.

5. Install coupling (5) and clamp (4) to gas filter (3). Tighten clamp securely.
6. Install coupling (2) and clamp (1) to gas filter (3). Tighten clamp securely.



FOLLOW-THROUGH STEPS

1. Raise and lock ramp (see your -10).

END OF TASK

REPLACE M25/M42 VENTILATED FACE MASK HEATER**INITIAL SETUP****Tools**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts

Corrosion preventive compound
(Item 11, App C)

Personnel Required

Unit Mechanic

References

See your -10

Equipment Conditions

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (page 13-2)

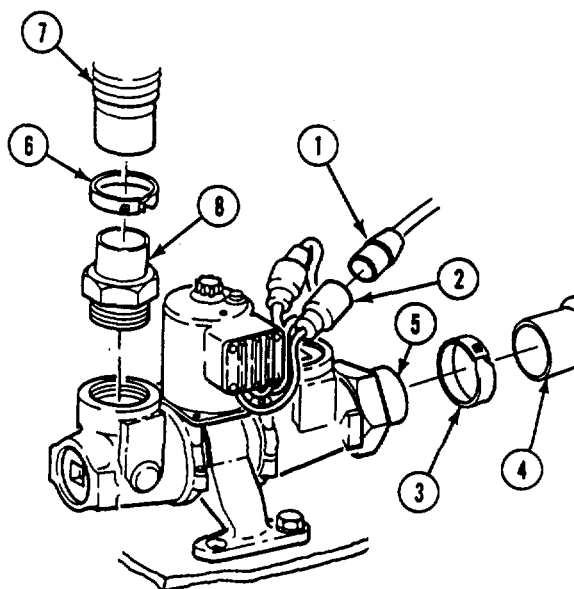
REMOVE

1. Unplug power lead (1) from heater jack (2).
2. Loosen clamp (3) and remove clamp and hose assembly (4) from adapter (5).
3. Loosen clamp (6) and remove clamp and hose assembly (7) from adapter (8).

INSTALL**NOTE**

Apply corrosion preventive compound to all threaded fasteners.

4. Install hose assembly (7) and clamp (6) on adapter (8). Tighten clamp securely.
5. Install hose assembly (4) and clamp (3) on adapter (5). Tighten clamp securely.
6. Connect power lead (1) to heater jack (2).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).

END OF TASK

**CHAPTER 40
MAINTENANCE OF M1059 SMOKE GENERATOR EQUIPMENT**

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace Fog Oil Tank Module (M1059 Only)	40-2	Replace Fog Oil Pump Assembly (M1059 Only)	40-21
Replace Smoke Generator Breather Hose Assembly (M1059 Only)	40-5	Replace Smoke Generator Fuel Tank Plug (M1059 Only)	40-23
Replace Smoke Generator Assembly and Support Bracket (M1059 Only)	40-6	Replace Smoke Generator Fuel Lines and Guards (M1059 Only)	40-25
Replace Smoke Generator Control Panel Assembly (M1059 Only)	40-9	Replace Smoke Generator Adapter Access Plate and Gasket (M1059 Only)	40-27
Replace Smoke Generator System Power Supply Cable Assembly (M1059 Only)	40-11	Replace Smoke Generator Compressor Reservoir to Adapter Access Plate Air Hose (M1059 Only)	40-29
Replace Air Compressor Electrical Cable Assembly (M1059 Only)	40-13	Replace Smoke Generator Adapter Access Plate to Cover Assembly Alt Hose (M1059 Only)	40-30
Replace Fog Oil Pump Electrical Cable Assembly (M1059 Only)	40-14	Replace Fog Oil Tank Quick Disconnect to Adapter Access Plate Hose (M1059 Only)	40-31
Replace Smoke Generator Control Panel to Adapter Access Plate Electrical Cable Assembly (M1059 Only)	40-16	Replace Cover Assembly Fog Oil Quick Disconnect to Adapter Access Plate Hose (M1059 Only)	40-33
Replace Adapter Access Plate to Generator Electrical Cable Assembly (M1059 Only)	40-18	Replace Smoke Generator Armor (M1059 Only)	40-34
Replace Air Compressor Assembly (M1059 Only)	40-19		

REPLACE FOG OIL TANK MODULE (M1059 ONLY)**DESCRIPTION**

This task covers: Remove (page 40-2). Install (page 40-3).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
Suitable Lifting Device

Personnel Required:

Unit Mechanic
Helper

References:

See your -10
TM 3-1040-279-12&P

Equipment Conditions:

Circuit breaker CB1 to OFF (see your -10)
Engine stopped (see your -10)
Battery ground lead disconnected (page 13-2)
Carrier blocked (see your -10)
Ramp level and blocked (see your -10)
Air pressure released from compressor reservoir (see your -10)
Fog oil tank drained (TM 3-1040-279-12&P)

REMOVE**WARNING**

Fog oil is slippery and can cause soldiers to fall and get injured. Clean up all spillage or leakage of fog oil as soon as possible by washing the area or

absorbing the fog oil with sand or other absorbent material.

NOTE

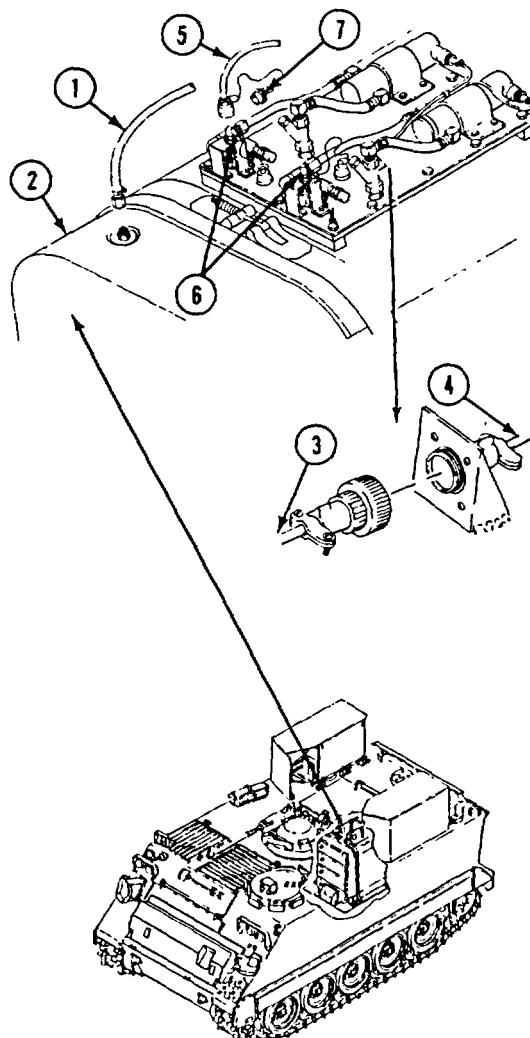
Before you do any maintenance, discharge all capacitors to ground.

1. Remove breather hose (1) from fog oil tank (2).
2. Disconnect cable (3) from fog oil pump electrical cable assembly (4).
3. Disconnect two fog oil hoses (5) at quick disconnects (6).

NOTE

Do not install dust covers on quick disconnects until fog oil tank is clear of air compressor.

4. Install two safety caps (7) on two fog oil hoses (5).



- Remove six screws (1) and washers (2) that secure tank module (3) to hull.

WARNING

You could be killed or injured by accidental carrier movement. Before you perform maintenance, make sure to properly block the carrier.



WARNING

Hanging loads can kill or injure you. Keep away from hanging loads and overhead equipment. Keep hands away from pinch points.



NOTE

Slide fog oil tank all the way to the left side of the carrier to clear air compressor for removal of tank from carrier.

- Slide fog oil tank module (3) on to ramp. Have helper assist.
- Install two dust covers (4) on quick disconnect couplings (5).

WARNING

Lifting or moving objects in excess of 70 pounds could injure you. Make sure to get an assistant or use a lifting device to move fog oil tank, armor, or other heavy objects.



- Using a suitable lifting device, lower tank module (3) from ramp to ground.

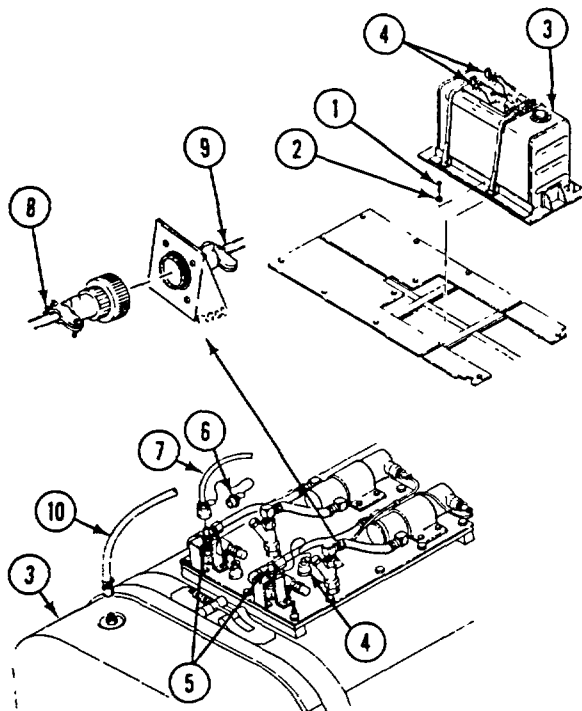
INSTALL

- Using a suitable lifting device, raise tank module (3) from ground to ramp.
- Remove two dust covers (4) from two quick disconnect couplings (5).

NOTE

Slide tank all the way to the left side of carrier to clear air compressor for installation of tank.

- Slide tank module (3) on to hull cross-members. Have helper assist. Secure to hull with six screws (1) and washers (2).
- Remove two safety caps (6) from two fog oil hoses (7).
- Connect two fog oil hoses (7) to two quick disconnect couplings (5).
- Connect cable assembly (8) to fog oil pump electrical cable assembly (9).
- Install breather hose (10) on tank module (3).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Set circuit breaker CB1 to ON (see your -10).
3. Service fog oil tank as required (TM 3-1040-279-12&P).
4. Raise and lock ramp (see your -10).
5. Stop engine (see your -10).

END OF TASK

REPLACE SMOKE GENERATOR BREATHER HOSE ASSEMBLY (M1059 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

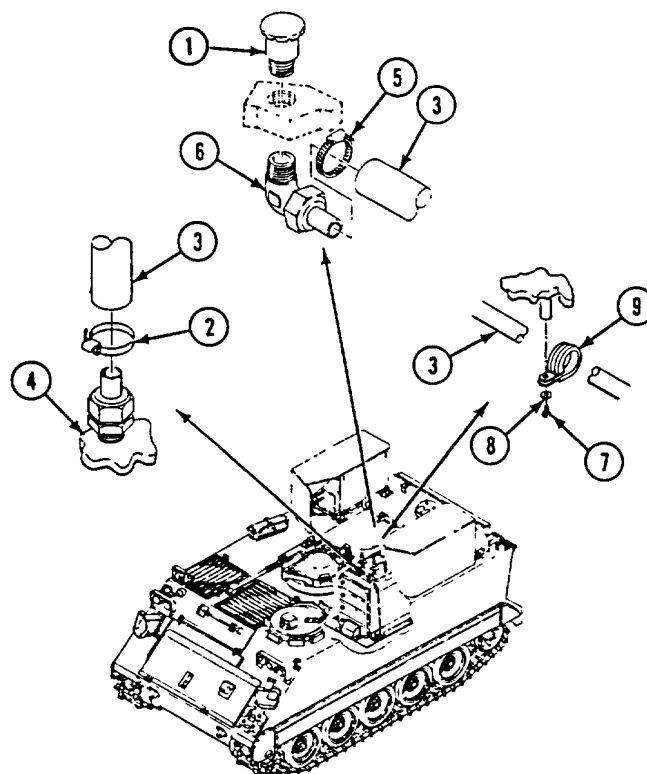
Engine stopped (see your -10)

REMOVE

1. Remove breather (1).
2. Loosen clamp (2) and remove hose assembly (3) from front of fog oil tank (4).
3. Loosen clamp (5) and remove hose assembly (3) from elbow (6) on hull ceiling.
4. Remove two screws (7), lockwashers (8), clamps (9), and hose assembly (3) from hull ceiling. Discard lockwashers.

INSTALL

5. Secure hose assembly (3) to hull ceiling with two clamps (9), screws (7), and new lockwashers (8).
6. Install hose assembly (3) on elbow (6) on hull ceiling. Tighten clamp (5).
7. Install hose assembly (3) on fog oil tank tube (4). Tighten clamp (2).
8. Install breather (1).

**END OF TASK**

REPLACE SMOKE GENERATOR ASSEMBLY AND SUPPORT BRACKET (M1059 ONLY)

DESCRIPTION

This task covers: Remove (page 40-6). Install (page 40-7).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 96, App D)

References:

- See your -10
- TM 3-1040-279-12&P

Materials/Parts:

- Self-locking nut (2)
- Lockwasher (4)

Equipment Conditions:

- Circuit breaker CB1 OFF (see your -10)
- Engine stopped (see your -10)
- Battery ground lead disconnected (page 13-2)
- Carrier blocked (see your -10)
- Air pressure released from compressor reservoir (TM 3-1040-279-12&P)
- Shield lowered (page 40-34)

Personnel Required:

- Unit Mechanic
- Helper

REMOVE

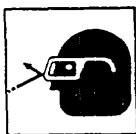
NOTE

Before you do any maintenance, discharge all capacitors to ground.

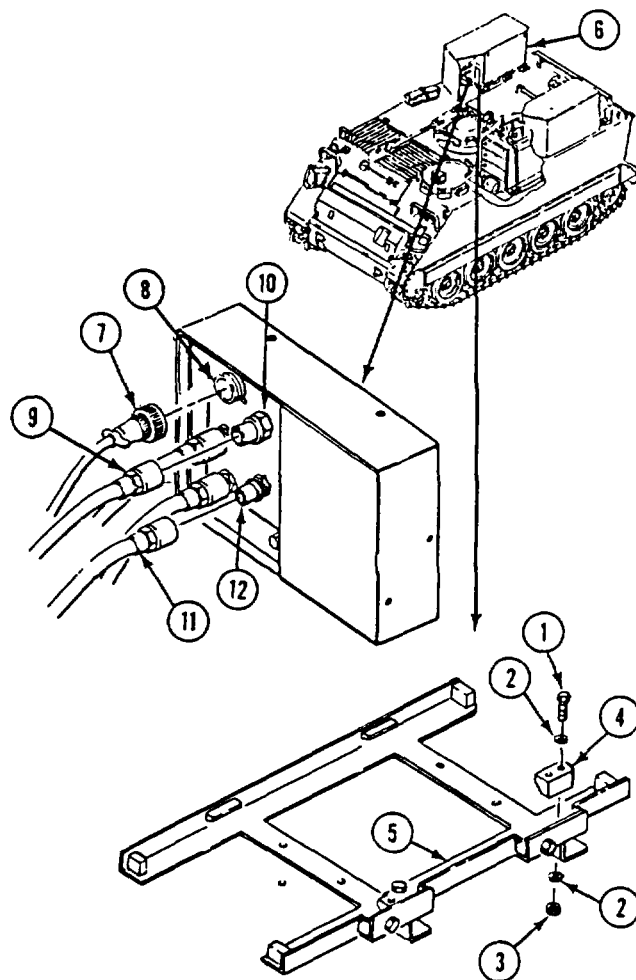
1. Remove two screws (1), four washers (2), two locknuts (3), and wedges (4) from support bracket (5) and generator (6). Discard locknuts.
2. Slide generator (6) out and onto shield. Have helper assist.
3. Disconnect electrical cable assembly (7) from cover assembly connector 5J1 (8).

WARNING

Compressed air pressure from smoke generator can cause serious injury or death. To avoid accidents, bleed air before working on air compressor assembly or disconnecting any air hose.



4. Disconnect air hose (9) from cover assembly connector (10).
5. Disconnect fog oil hose (11) from cover assembly connector (12).



6. Remove fuel supply hose (1) and fuel return hose (2) from fuel supply connector (3) and fuel return connector (4).

WARNING

You could be killed or injured by accidental carrier movement. Before you perform maintenance, make sure to properly block the carrier. Do not stand under suspended heavy objects. Keep hands away from pinch points.



7. Using suitable lifting device, remove generator (5) from carrier.
8. Remove four screws (6), lockwashers (7), and support bracket (8) from hull top. Discard lockwashers.

INSTALL

9. Position generator support bracket (8) on hull top. Secure with four screws (6) and new lockwashers (7). Tighten screws to 54-59 lb-ft (73-80 N-m) torque.

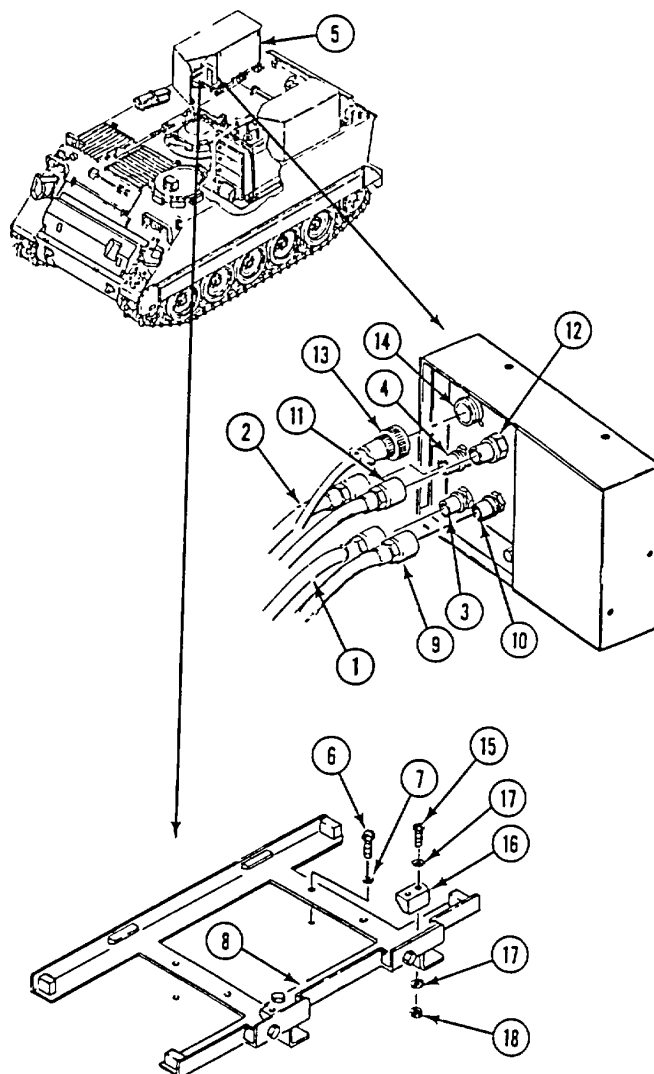
WARNING

You could be killed or injured by accidental carrier movement. Before you perform maintenance, make sure to properly block the carrier. Do not stand under suspended heavy objects. Keep hands away from pinch points.



10. Using a suitable lifting device, install smoke generator (5) on armor shield.
11. Connect fuel supply hose (1) and fuel return hose (2) to fuel supply connector (3) and fuel return connector (4).
12. Connect fog oil hose (9) to cover assembly connector (10).
13. Connect air hose (11) to cover assembly connector (12).

14. Connect electrical cable assembly (13) to cover connector 5J1 (14).
15. Slide generator (5) onto support bracket (8). Have helper assist.
16. Secure generator (5) to support (8) with two screws (15), wedges (16), four washers (17), and two new locknuts (18).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Raise shield (page 40-34).
(see your -10).
2. Connect battery ground lead (page 13-2).
3. Set circuit breaker CB1 to ON

END OF TASK

REPLACE SMOKE GENERATOR CONTROL PANEL ASSEMBLY(M1059 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (4)

Equipment Conditions:

Engine stopped (see your -10)

Battery ground lead disconnected (page 13-2)

Circuit breaker CB1 OFF (see your -10)

Personnel Required:

Unit Mechanic

REMOVE

NOTE

Before you do any maintenance, discharge all capacitors to ground.

Tag all cables to match their respective connectors before removal.

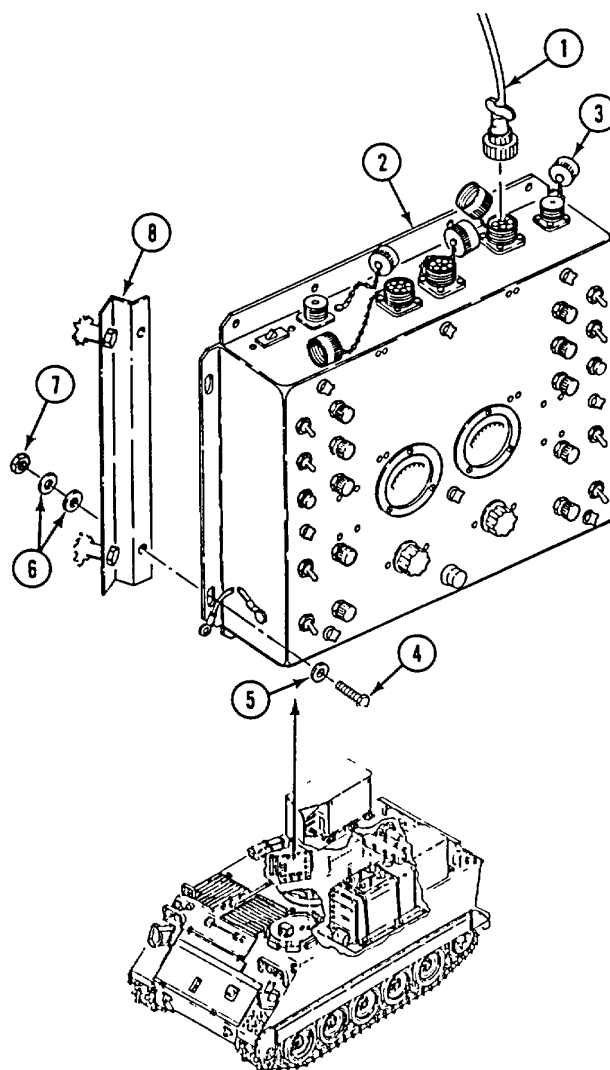
1. Disconnect five cable assembly plugs (1) from control panel (2). Install associated dust caps (3).
2. Remove four screws (4), lockwashers (5), eight washers (6), four nuts (7), and control panel (2) from two brackets (8). Discard lockwashers.

INSTALL

NOTE

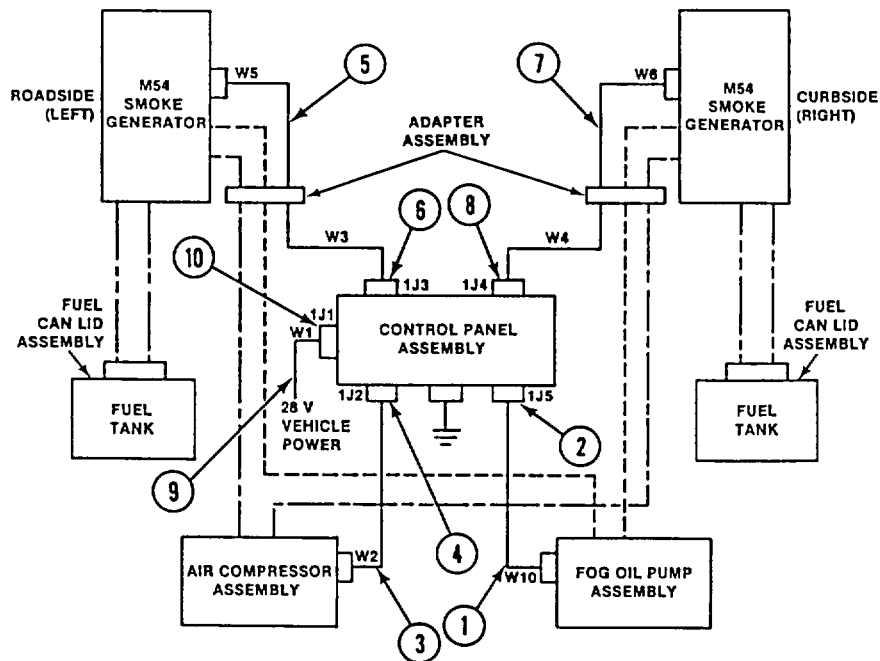
Ground strap should be secured with lower left mounting screw that holds control assembly to bracket.

3. Install control panel (2) on two brackets (8). Secure with four screws (4), new lockwashers (5), eight washers (6), and four nuts (7).
4. Remove dust caps (3) from five connectors.



GO TO NEXT PAGE

5. Connect fog oil pump cable assembly (1) to control panel assembly connector marked 1J5 (2).
6. Connect air compressor cable assembly (3) to control panel assembly connector marked 1J2 (4).
7. Connect smoke generator number 1 (left) cable assembly (5) to control panel assembly connector marked 1J3 (6).
8. Connect smoke generator number 2 (right) cable assembly (7) to control panel assembly connector marked 1J4 (8).
9. Connect main power cable assembly (9) to control panel assembly connector marked J1 (10).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Set circuit breaker CB1 to ON (see your -10).

END OF TASK

REPLACE SMOKE GENERATOR SYSTEM POWER SUPPLY CABLEASSEMBLY (M1059 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (4)
Self-locking nut

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground lead disconnected (page 13-2)
Circuit breaker CB1 to OFF (see your -10)

REMOVE

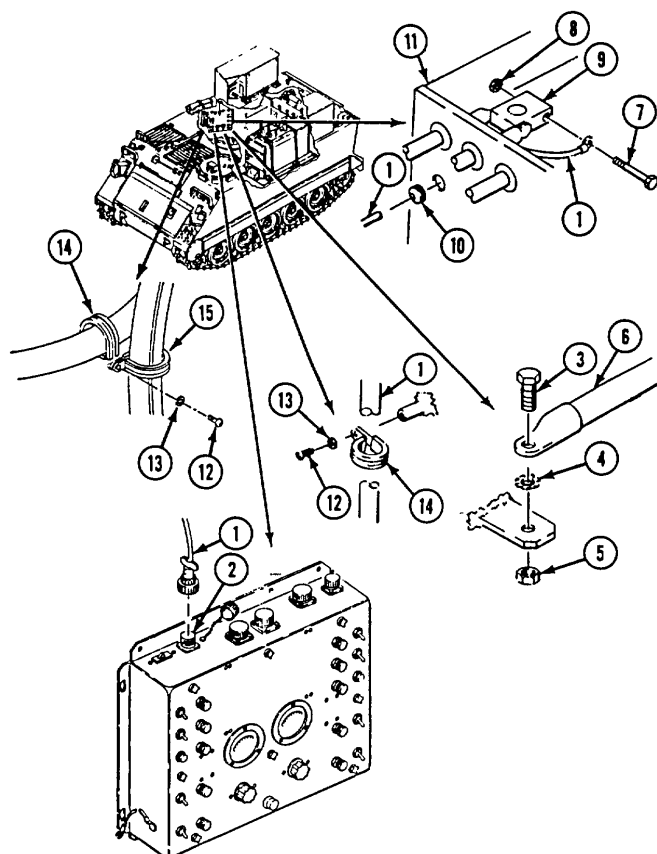
NOTE

Before you do any maintenance, discharge all capacitors to ground.

For repair of electrical cables, see Chapter 14.

1. Disconnect cable assembly (1) from control panel assembly connector 1J1 (2).
2. Remove screw (3), washer (4), locknut (5), and ground lead (6) from hull bracket. Discard locknut.
3. Remove screw (7), nut (8), and cable assembly (1) from positive battery terminal (9).
4. Remove cable assembly (1) and grommet (10) from battery box (11). If damaged, replace grommet.
5. Remove three screws (12), lockwashers (13), and clamps (14) from cable assembly (1). Discard lockwashers.
- 5.1. Remove other screw (12), lockwashers (13), clamps (14,15), and cable assembly (1) from hull. Discard lockwasher.

6. Secure cable assembly (1) to hull with four clamps (14), screws (12), clamp (15), and new lockwashers (13).
7. Install grommet (10) on cable assembly (1). Route cable through hole in battery box (11).



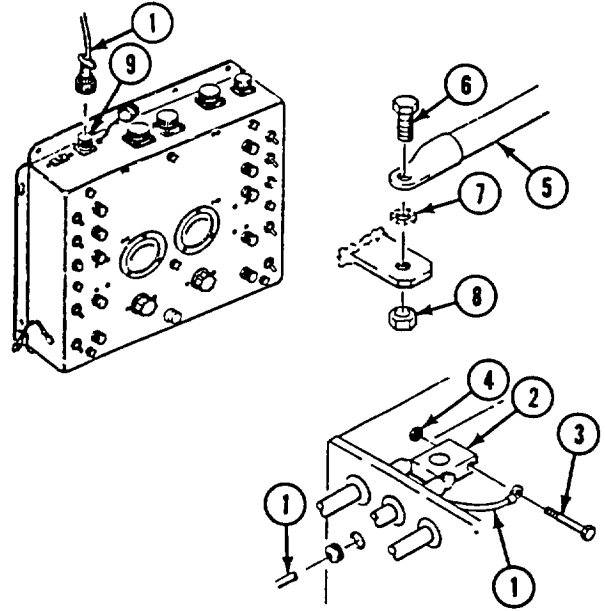
INSTALL

NOTE

Before you do any maintenance, discharge all capacitors to ground.

GO TO NEXT PAGE

8. Install cable assembly (1) on positive battery terminal (2). Secure with screw (3) and nut (4).
9. Install ground lead (5) on clean, paint-free hull bracket. Secure with screw (6), washer (7), and new locknut (8).
10. Connect cable assembly (1) to control panel assembly connector 1J1 (9).



FOLLOW-THROUGH STEPS

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Connect battery ground lead (page 13-2).
(see your -10). | <ol style="list-style-type: none"> 2. Set circuit breaker CB1 to ON |
|---|--|

END OF TASK

REPLACE AIR COMPRESSOR ELECTRICAL CABLE ASSEMBLY (M1059 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item-30, App D)

Materials/Parts:

Lockwasher (6)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Battery ground lead disconnected (page 13-2)

Carrier blocked (see your -10)

Circuit breaker CB1 OFF (see your -10)

REMOVE

(6), screws (4), and new lockwashers

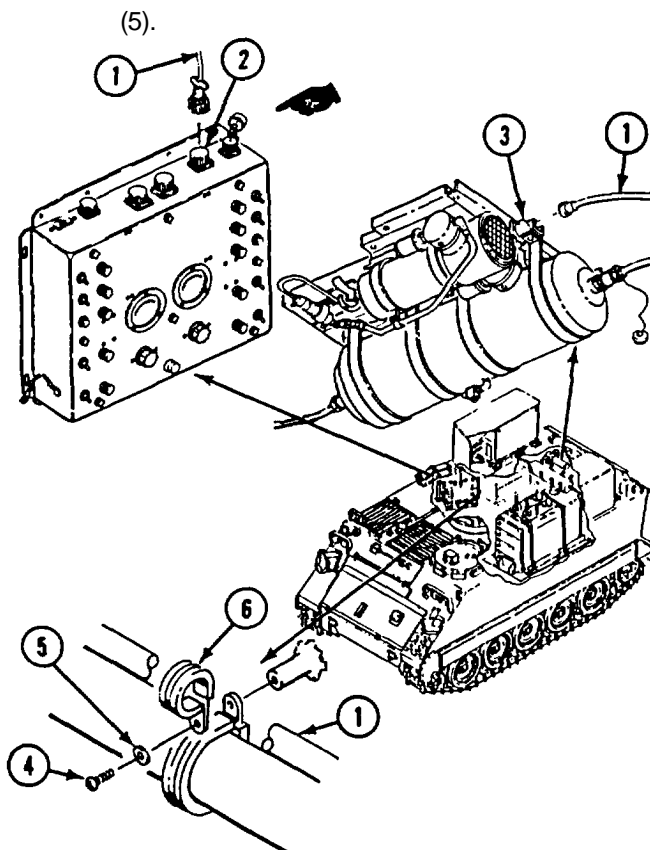
NOTE

Before you do any maintenance, discharge all capacitors to ground.

For repair of electrical cables, see Chapter 14.

1. Disconnect cable assembly (1) from control panel connector 1J2 (2).
2. Disconnect cable assembly (1) from air compressor cable assembly connector (3).
3. Remove six screws (4), lockwashers (5), clamps (6), and cable assembly (1) from carrier hull. Discard lockwashers.

6. Secure cable assembly (1) to hull with six clamps

**INSTALL****NOTE**

Before you do any maintenance, discharge all capacitors to ground.

4. Connect cable assembly (1) to air compressor cable assembly connector (3).
5. Connect cable assembly (1) to control panel assembly connector 1J2 (2).

FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Set circuit breaker CB1 to ON (see your -10).

END OF TASK

REPLACE FOG OIL PUMP ELECTRICAL CABLE ASSEMBLY (M1059 ONLY)

DESCRIPTION

This task covers: Remove (page 40-14). Install (page 14-15).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (4)

Equipment Conditions:

Engine stopped (see your -10)

Battery ground lead disconnected (page 13-2)

Circuit breaker CB1 OFF (see your -10)

Personnel Required:

Unit Mechanic

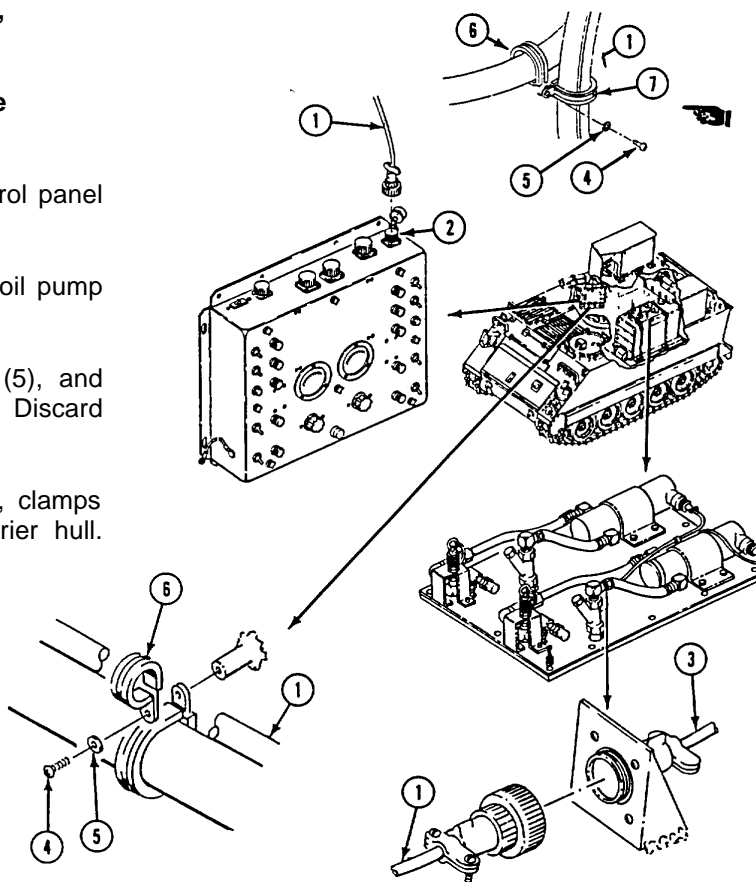
REMOVE

NOTE

Before you do any maintenance, discharge all capacitors to ground.

For repair of electrical cables, see Chapter 14.

1. Disconnect cable assembly (1) from control panel connector 1J5 (2).
2. Disconnect cable assembly (1) from fog oil pump cable assembly (3).
3. Remove three screws (4), lockwashers (5), and clamps (6), from cable assembly (1). Discard lockwashers.
4. Remove other screw (4), lockwasher (5), clamps (6,7), and cable assembly (1) from carrier hull. Discard lockwasher.

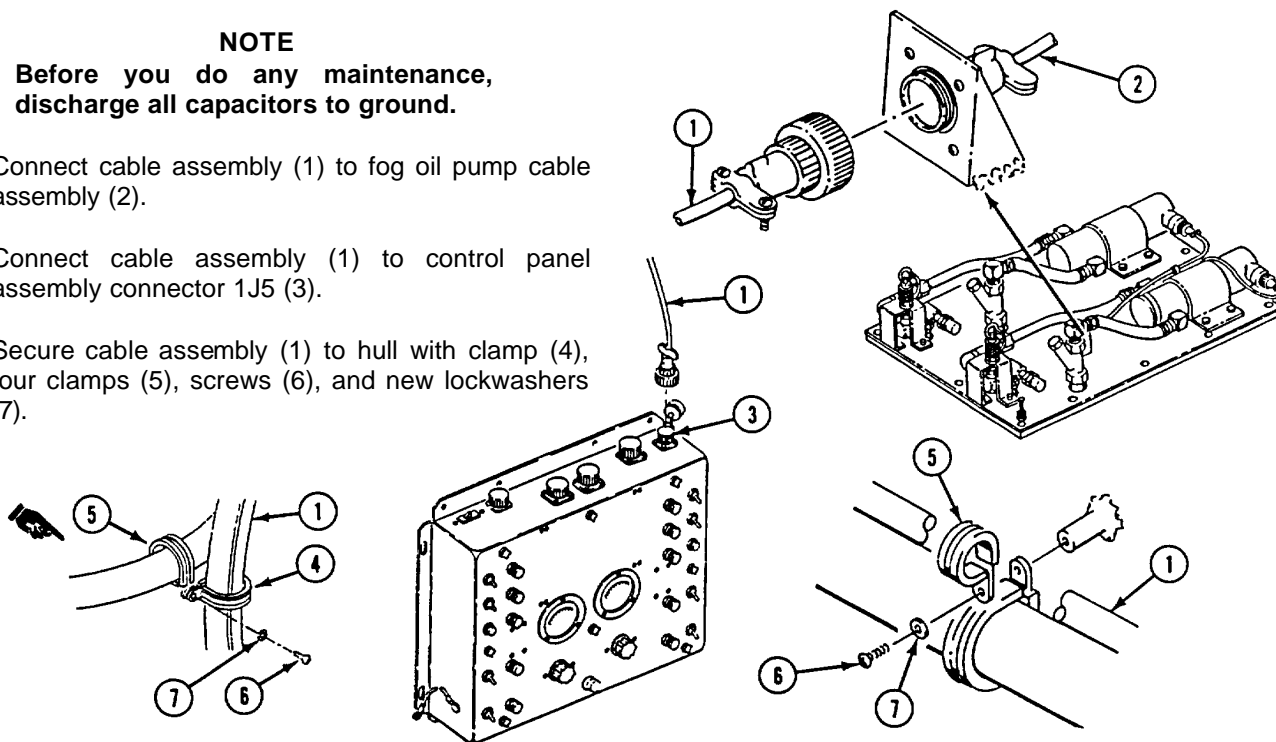


INSTALL

NOTE

Before you do any maintenance, discharge all capacitors to ground.

5. Connect cable assembly (1) to fog oil pump cable assembly (2).
6. Connect cable assembly (1) to control panel assembly connector 1J5 (3).
7. Secure cable assembly (1) to hull with clamp (4), four clamps (5), screws (6), and new lockwashers (7).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2). (see your -10).
2. Set circuit breaker CB1 to ON

END OF TASK

REPLACE SMOKE GENERATOR CONTROL PANEL TO ADAPTER ACCESS PLATE ELECTRICAL CABLE ASSEMBLY (M1059 ONLY)

DESCRIPTION

This task covers: Remove (page 40-16). Install (page 40-17).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

- Self-locking nut (4)
- Lockwasher (7)
- Gasket

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

- Circuit breaker CB1 OFF (see your -10)
- Engine stopped(see your -10)
- Battery ground lead disconnected (page 13-2)
- Smoke generator assembly removed from bracket (page 40-6)

REMOVE

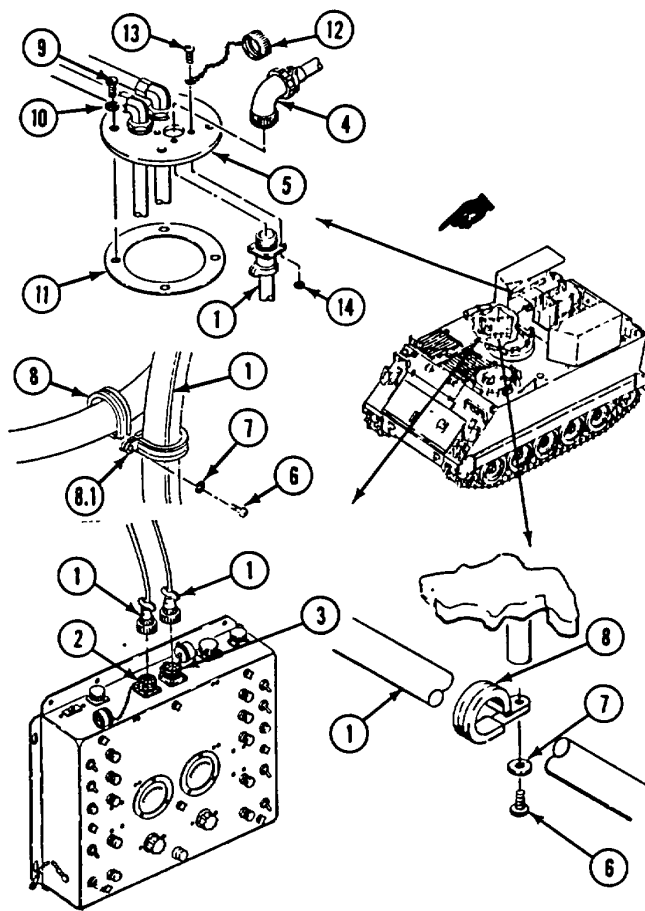
NOTE

Before you do any maintenance, discharge all capacitors to ground.

Left and right adapter plates and cable assemblies are removed in the same way; however, the left side cable assembly has eight clamps, but the right side only has one. Left side shown. For repair of electrical cables, see Chapter 14.

1. Disconnect cable assembly (1) from control panel assembly connector 1J3 (left) (2) or 1J4 (right) (3).
2. Disconnect cable (4) from cable assembly (1) in adapter access plate (5).
3. Remove six screws (6), lockwashers (7), and clamps (8) from cable assembly (1). Discard lockwashers.
 - 3.1 Remove other screw (6), lockwasher (7), clamps (8, 8.1), and cable assembly (1) from carrier hull. Discard lockwasher.
4. Remove four screws (9), washers (10), adapter plate (5), and gasket (11) from carrier. Discard gasket.

5. Remove dust cap (12), four screws (13), locknuts (14), and cable assembly (1) from adapter access plate (5). Discard locknuts.



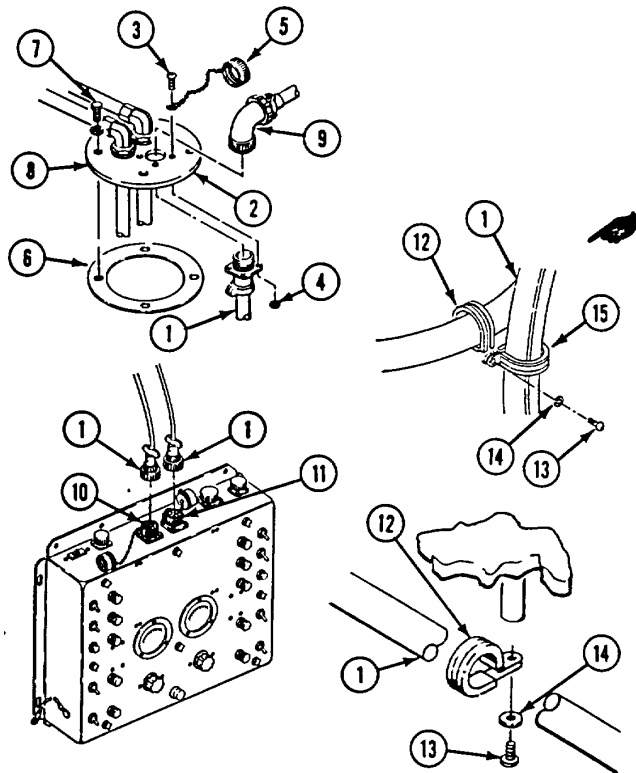
INSTALL

NOTE

Before you do any maintenance, discharge all capacitors to ground.

Left and right adapter plates and cable assemblies are installed in the same way; however, the left side cable assembly has eight clamps, but the right side only has one. Left side shown.

6. Secure cable assembly (1) to adapter access plate (2) with four screws (3) and new locknuts (4). Install dust cap (5).
7. Install adapter access plate (2) and new gasket (6) on carrier hull. Secure with four screws (7) and washers (8).
8. Connect cable (9) to cable assembly (1) on adapter access plate (2).
9. Connect cable assembly (1) to control panel assembly connector 1J3 (left) (10) or 1J4 (right) (11).
10. Secure cable assembly (1) to carrier hull with seven clamps (12), screws (13), new lockwashers (14) and clamp (15).



FOLLOW-THROUGH STEPS

1. Install smoke generator assembly on bracket (page 40-6).
2. Connect battery ground lead (page 13-2).
3. Set circuit breaker CB1 to ON (see your -10)

END OF TASK

REPLACE ADAPTER ACCESS PLATE TO GENERATOR ELECTRICAL CABLE ASSEMBLY (M1059 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (page 13-2)

Smoke generator assembly removed from bracket (page 40-6)

Circuit breaker CB1 OFF (see your -10)

REMOVE**NOTE**

Before you do any maintenance, discharge all capacitors to ground.

Left and right cable assemblies are removed in the same way.

For repair of electrical cables, see Chapter 14.

1. Disconnect cable assembly (1) from adapter access plate connector (2).
2. Disconnect cable assembly (1) from smoke generator cover assembly connector 5J1 (3).

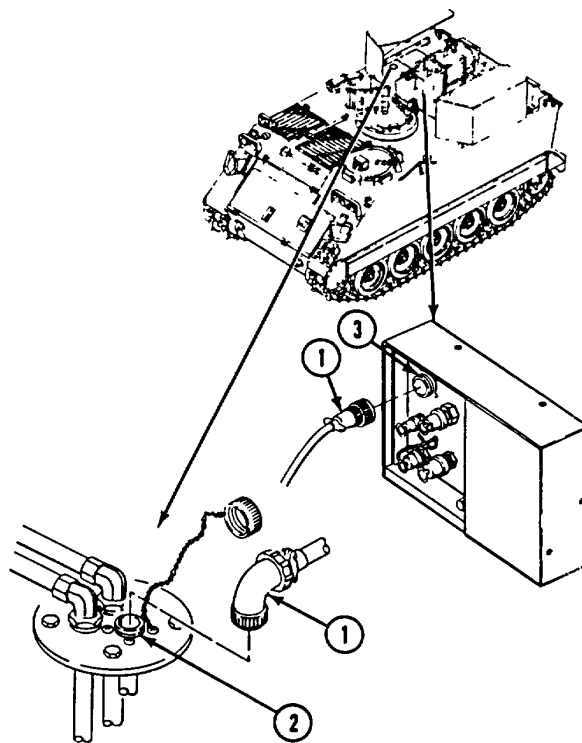
INSTALL**NOTE**

Before you do any maintenance, discharge all capacitors to ground.

Left and right cable assemblies are installed in the same way.

3. Connect cable assembly (1) to smoke generator cover assembly connector 5J1 (3).

4. Connect cable assembly (1) to adapter access plate connector (2).

**FOLLOW-THROUGH STEPS**

1. Install smoke generator assembly on bracket (page 40-6).
2. Connect battery ground lead (page 13-2).
3. Set circuit breaker CB1 to ON (see your -10).

END OF TASK

REPLACE AIR COMPRESSOR ASSEMBLY (M1059 ONLY)

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Socket Wrench Set, 3/8 inch drive (Item 89, App D)
- Torque Wrench (Item 95, App D)

Materials/Parts:

- Lockwasher (8)

Personnel Required:

- Unit Mechanic
- Helper (2)

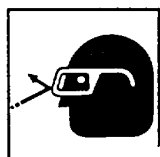
References:

- See your -10
- TM 3-1040-279-12&P

Equipment Conditions:

- Circuit breaker CB1 OFF (see your -10)
- Engine stopped (see your -10)
- Battery ground lead disconnected (page 13-2)
- Air pressure released from compressor reservoir (TM 3-1040-279-12&P)
- Ramp lowered (see your -10)

REMOVE

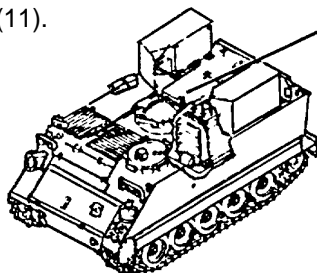


WARNING
Compressed air pressure from smoke generator can cause serious injury or death. To avoid accidents, bleed air before working on air compressor assembly or disconnecting any air hose.

NOTE

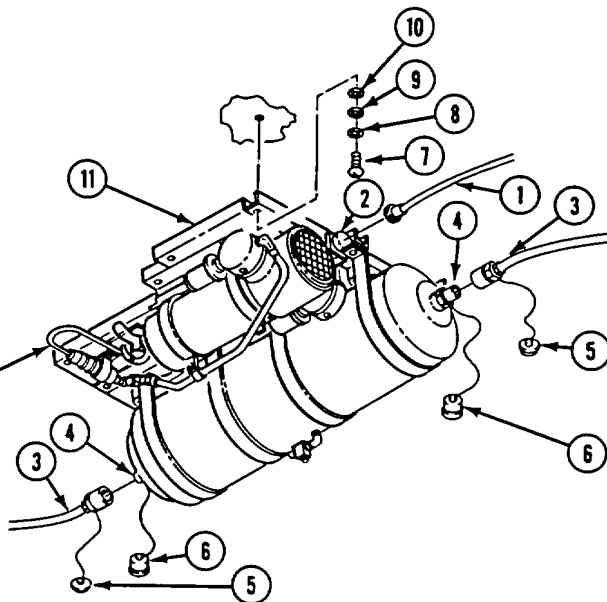
Before you do any maintenance, discharge all capacitors to ground.

1. Disconnect air compressor electrical cable assembly (1) from compressor cable assembly connector (2).
2. Disconnect two air lines (3) from two compressor air reservoir fittings (4). Install safety caps (5) on air lines and dust covers (6) on fittings.
3. Remove eight screws (7), lockwashers (8), washers (9), and washers (10) securing compressor unit (11) to ceiling of carrier. Have helpers assist. Discard lockwashers.
4. Remove compressor unit (11).



INSTALL

5. Position air compressor assembly (11) on ceiling of carrier. Secure with eight screws (7), new lockwashers (8), washers (9), and washers (10). Have helper assist. Tighten screws to 284-288 lb-in (32-33 N-m) torque. Use torque wrench and socket wrench set.
6. Remove safety caps (5) from two air lines (3) and dust covers (6) from two air compressor reservoir fittings (4). Connect lines to fittings.
7. Connect air compressor electrical cable assembly (1) to compressor cable assembly connector (2).



GO TO NEXT PAGE

FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Set circuit breaker CB1 to ON (see your -10).
3. Raise and lock ramp (see your -10).
4. Stop engine (see your -10).

END OF TASK

REPLACE FOG OIL PUMP ASSEMBLY (M1059 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (12)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Circuit breaker CB1 OFF (see your -10)

Engine stopped (see your -10)

Battery ground lead disconnected (page 13-2)

REMOVE

WARNING

Fuel and fog oil can burn and could poison you. Read warning on front page of this manual.



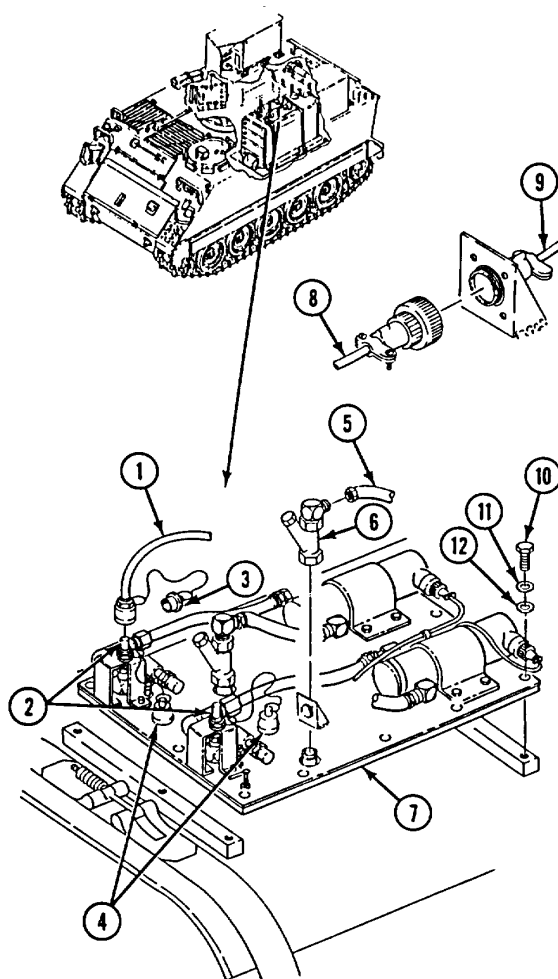
NOTE

Before you do any maintenance, discharge all capacitors to ground.

1. Disconnect two fog oil hoses (1) from two quick disconnect fittings (2). Tag hoses.
2. Install safety caps (3) on hoses (1) and dust caps (4) on fittings (2).
3. Disconnect two fog oil hoses (5) from two strainers (6).
4. Remove strainers (6) from fog oil pump assembly (7).
5. Disconnect cable assembly (8) from fog oil pump cable assembly (9).
6. Remove 12 screws (10), lockwashers (11), washers (12), and pump assembly (7) from fog oil tank (13). Discard lockwashers.

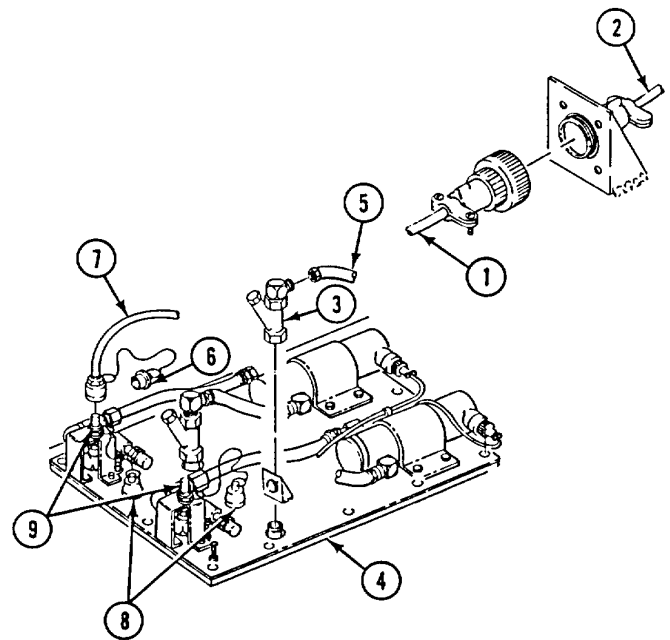
INSTALL

7. Install fog oil pump assembly (7) on fog oil tank (13). Secure with 12 screws (10), new lockwashers (11), and washers (12).



GO TO NEXT PAGE

8. Connect cable assembly (1) to fog oil pump cable assembly (2).
9. Install two strainers (3) on pump assembly (4).
10. Connect two fog oil hoses (5) to two strainers (3).
11. Remove safety caps (6) from two fog oil hoses (7) and dust caps (8) from two quick disconnect couplings (9).
12. Connect two fog oil hoses (7) to two quick disconnect couplings (9).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Set circuit breaker CB1 to ON (see your -10).

END OF TASK

REPLACE SMOKE GENERATOR FUEL TANK PLUG (M1059 ONLY)**DESCRIPTION**

This task covers: Remove (page 40-23). Install (page 40-24).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Preformed packing (2)

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

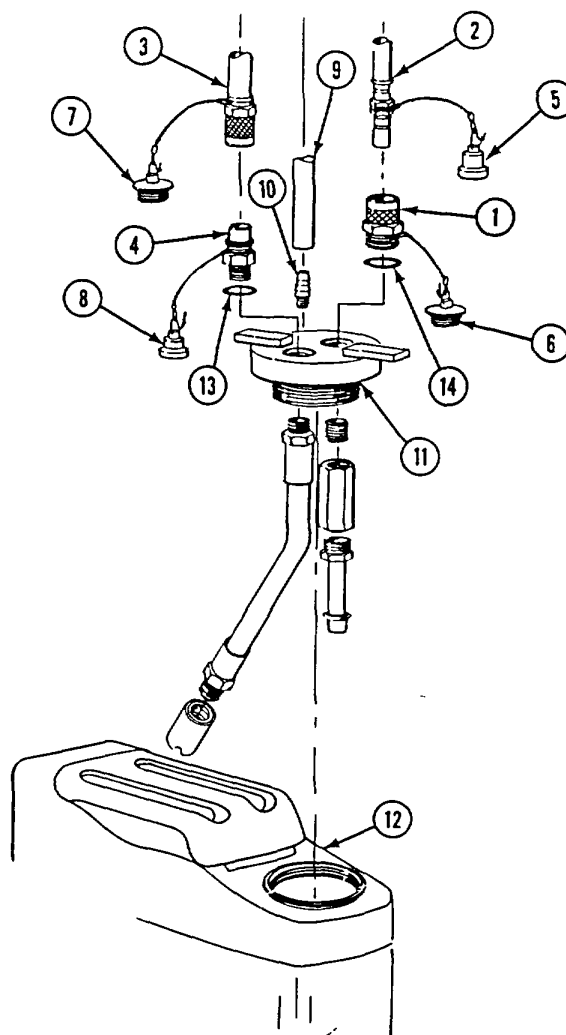
Personnel Required:

Unit Mechanic

REMOVE

WARNING
Fuel and fog oil can burn
and could poison you.
Read warning on front
page of this manual.

1. Separate quick-disconnect coupling (1 and 2).
2. Separate quick-disconnect coupling (3 and 4).
3. Install dust caps (5 and 6) on quick-disconnect coupling (1 and 2).
4. Install dust caps (7 and 8) on quick-disconnect coupling (3 and 4) 5. Disconnect vent hose (9) from vent fitting (10).
6. Remove plug assembly (11) from fuel can (12).
7. Remove quick-disconnect coupling half (4), dust cap (8), and preformed packing (13) from plug assembly (11). Discard packing.
8. Remove quick-disconnect coupling half (1), dust cap (6), and preformed packing (14) from plug assembly (11). Discard packing.

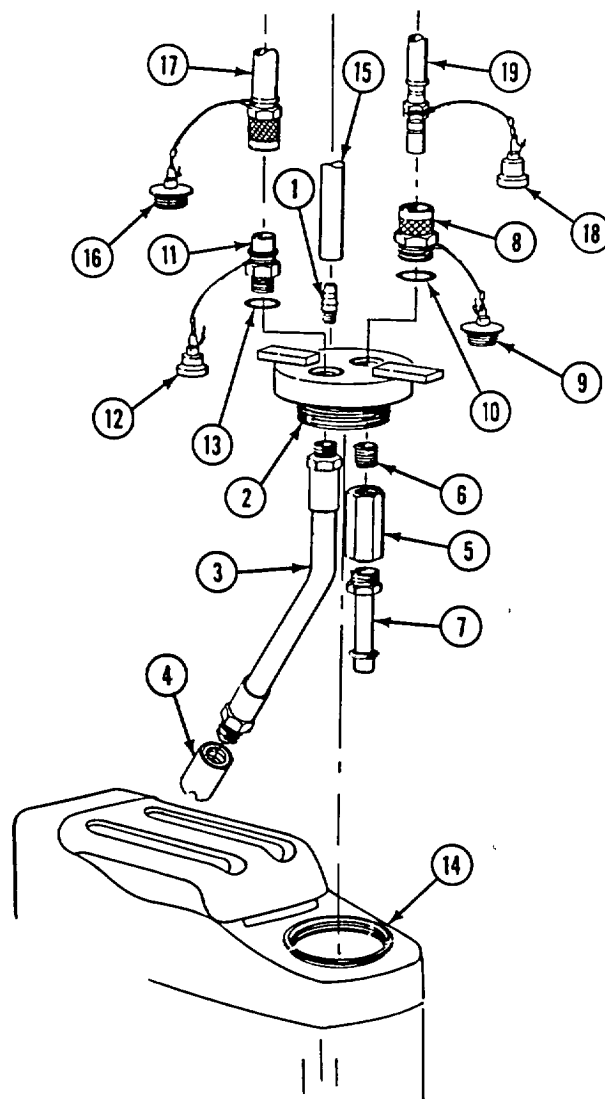


GO TO NEXT PAGE

9. Remove vent fitting (1) from plug assembly (2).
10. Remove hose assembly (3) and strainer (4) from plug assembly (2). Remove strainer from hose assembly.
11. Remove check valve (5), nipple (6), and adapter (7) from plug assembly (2). Remove adapter from check valve.

INSTALL

12. Install nipple (6) and check valve (5) on plug assembly (2), and install adapter (7) on check valve.
13. Install hose assembly (3) on plug assembly (2), and install strainer (4) on hose assembly.
14. Install vent fitting (1) on plug assembly (2).
15. Install quick-disconnect coupling half (8), with dust cap (9), and new preformed packing (10) on plug assembly (2).
16. Install quick-disconnect coupling half (11), with dust cap (12), and new preformed packing (13) on plug assembly (2).
17. Install plug assembly (2) on fuel can (14).
18. Connect vent hose (15) to vent fitting (1).
19. Remove dust caps (12 and 16) from quick-disconnect coupling halves (11 and 17). Connect quick-disconnect coupling.
20. Remove dust caps (9 and 18) from quick-disconnect coupling halves (8 and 19). Connect quick-disconnect coupling.



END OF TASK

REPLACE SMOKE GENERATOR FUEL LINES AND GUARDS (M1059 ONLY)

DESCRIPTION

This task covers: Remove (Page 40-25). Install (Page 40-26).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)
Torque wrench (Item 97, App D)

References:

See your -10

Materials/Parts:

Lockwasher (14)

Equipment Conditions:

Smoke generator assembly removed from bracket (page 40-6)

Personnel Required:

Unit Mechanic

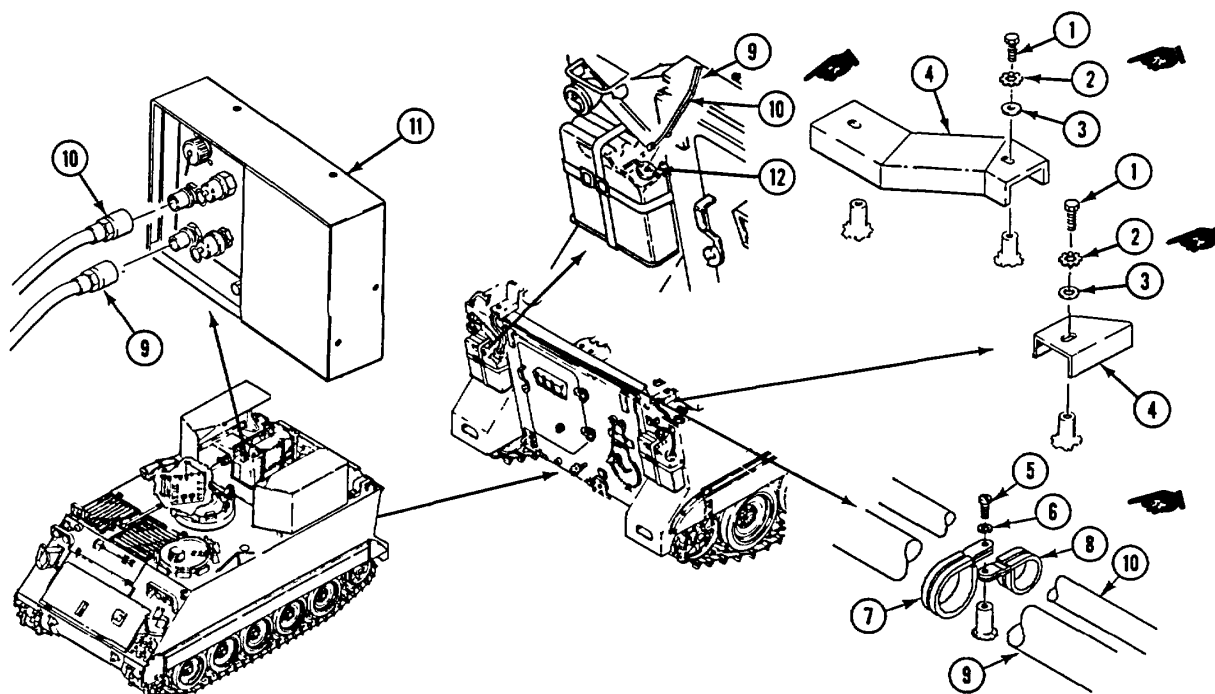
REMOVE



WARNING
Fuel and fog oil can burn and could poison you. Read warning on front page of this manual.

1. Remove three screws (1), lockwashers (2), washers (3), and two guards (4) from hull. Discard lockwashers.

2. Remove 11 screws (5), lockwashers (6), and clamps (7,8) that secure fuel supply line (9) 3 and return line (10) to hull. Discard lockwashers.
3. Disconnect fuel supply line (9) and return line (10) from two smoke generator cover assemblies (11).
4. Disconnect fuel lines (9,10) from two plugs (12). Remove fuel lines from carrier.

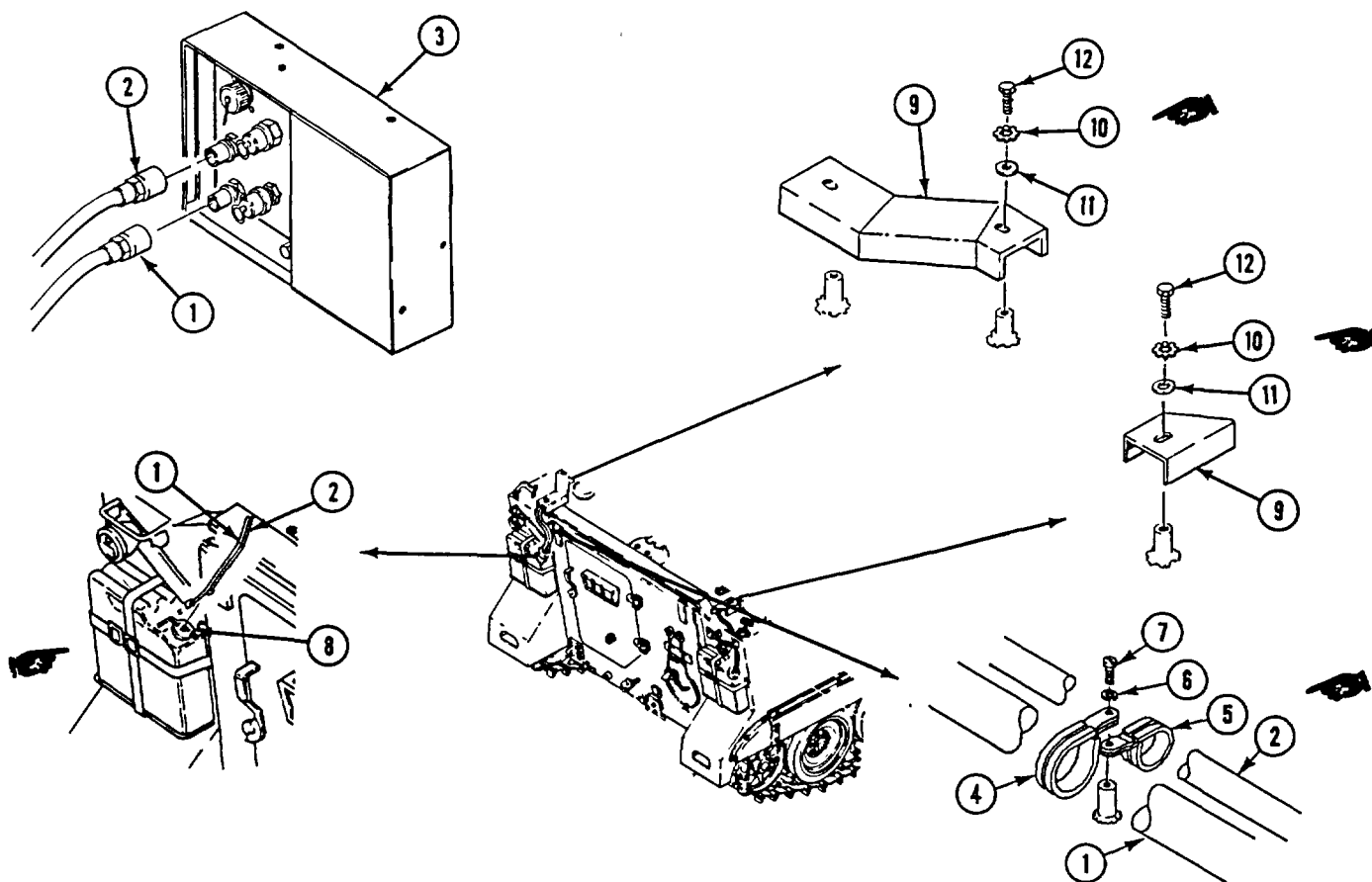


GO TO NEXT PAGE

INSTALL

5. Connect fuel lines (1,2) to two smoke generator cover assemblies (3).
6. Secure fuel supply line (1) and return line (2) to hull with 11 clamps (4,5), new lockwashers (6), and screws (7).

7. Connect fuel lines (1,2) to two fuel plugs (8).
8. Install two guards (9) on hull. Secure with three new lockwashers (10), washers (11), and screws (12). Tighten screws to 8-10 lb-ft (11-14 N•m) torque.



FOLLOW-THROUGH STEPS

1. Install smoke generator assembly on bracket (page 40-6).

END OF TASK

REPLACE SMOKE GENERATOR ADAPTER ACCESS PLATE AND GASKET (M1059 ONLY)

DESCRIPTION

This task covers: Remove (page 40-27). Install (page 40-28).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (6)
Self-locking nut (4)

Personnel Required:

Unit Mechanic

References:

See your -10

References: (cont):

TM 3-1040-279-12&P

Equipment Conditions:

Circuit breaker CB1 OFF (see your -10)
Engine stopped (see your -10)
Battery ground lead disconnected (page 13-2)
Air pressure released from compressor reservoir (TM 3-1040-279-12&P)
Smoke generator assembly removed from bracket (page 40-6)

REMOVE

WARNING

Compressed air pressure from smoke generator can cause serious injury or death. To avoid accidents, bleed air before working on air compressor assembly or disconnecting any air hose.



NOTE

Before you do any maintenance, discharge all capacitors to ground.

Left and right access plates and gasket are removed in the same way.

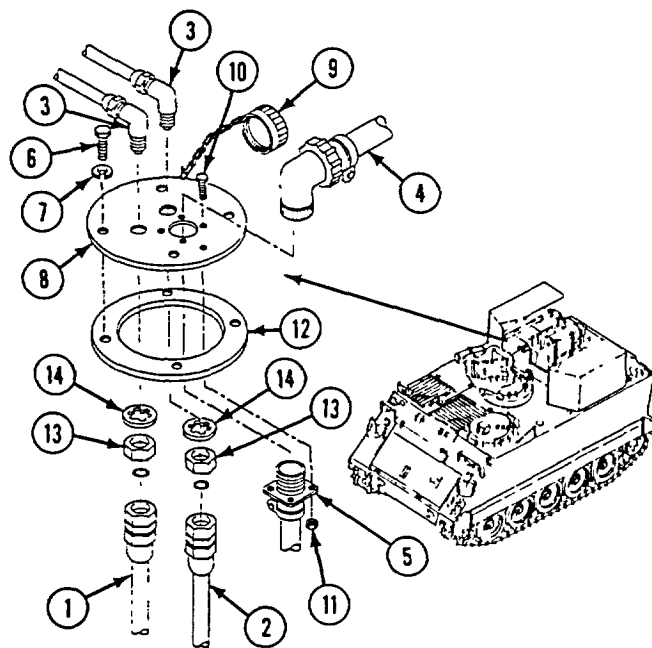
1. Disconnect air hose (1) and fog oil hose (2) from two elbows (3).
2. Disconnect electrical cable assembly (4) from adapter access plate fitting (5).
3. Remove four screws (6), lockwashers (7), and adapter access plate (8) from hull. Discard lockwashers.
4. Remove dust cover (9), four screws (10), locknuts (11), and fitting (5) from access plate (8). Discard locknuts.

5. Remove gasket (12) from plate (8). Replace if damaged.

NOTE

If only gasket is to be replaced, go to installation steps.

6. Remove two jam nuts (13) and lockwashers (14) from two elbows (3). Remove elbows from plates (8). Discard lockwashers.



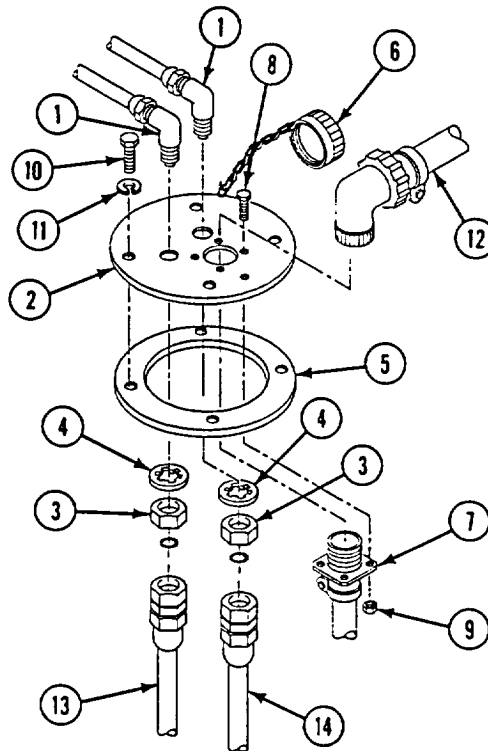
GO TO NEXT PAGE

INSTALL

NOTE

Left and right access plates and gaskets are installed in the same way.

7. Install two elbows (1) on adapter access plate (2). Secure with two jam nuts (3) and new lockwashers (4).
8. Install gasket (5) on plate (2).
9. Install dust cover (6) and fitting (7) on plate (2). Secure with four screws (8) and new locknuts (9).
10. Install plate (2) on hull. Secure with four screws (10) and new lockwashers (11).
11. Connect electrical cable assembly (12) to plate fitting (7).
12. Connect air hose (13) and fog oil hose (14) to two elbows (1).



FOLLOW-THROUGH STEPS

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Install smoke generator assembly on bracket (page 40-6). 2. Connect battery ground lead (page 13-2). | <ol style="list-style-type: none"> 3. Set circuit breaker CB1 to ON (see your -10). |
|--|--|

END OF TASK

REPLACE SMOKE GENERATOR COMPRESSOR RESERVOIR TO ADAPTER ACCESS PLATE AIR HOSE (M1059 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (3)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Circuit breaker CB1 OFF (see your -10)

Engine stopped (see your -10)

Battery ground lead disconnected (page 13-2)

REMOVE

WARNING

Compressed air pressure from smoke generator can cause serious injury or death. To avoid accidents, bleed air before working on air compressor assembly or disconnecting any air hose.

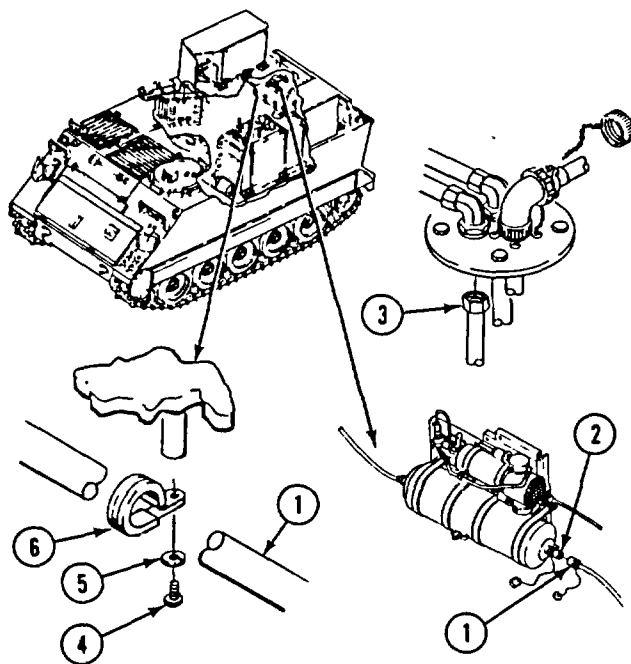


NOTE

Left and right hoses are removed in the same way for two adapter access plates.

1. Disconnect air hose (1) from compressor reservoir fitting (2).
2. Disconnect air hose (1) from adapter plate fitting (3).
3. Remove three screws (4), lockwashers (5), clamps (6), and air hose (1) from carrier hull. Discard lockwashers.

4. Secure air hose (1) to carrier hull with three clamps (6), new lockwashers (5), and three screws (4).
5. Connect air hose (1) to adapter plate fitting (3).
6. Connect air hose (1) to compressor reservoir (2).



INSTALL

NOTE

Left and right hoses are installed in the same way for two adapter access plates.

FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2). (see your -10).
2. Set circuit breaker CB1 to ON

END OF TASK

REPLACE SMOKE GENERATOR ADAPTER ACCESS PLATE TO COVER ASSEMBLY AIR HOSE (M1059 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Circuit breaker CB1 OFF (see your -10)

Engine stopped (see your -10)

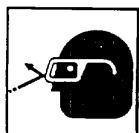
Battery ground lead disconnected (page 13-2)

Smoke generator assembly removed from bracket (page 40-6)

REMOVE

WARNING

Compressed air pressure from smoke generator can cause serious injury or death. To avoid accidents, bleed air before working on air compressor assembly or disconnecting any air hose.

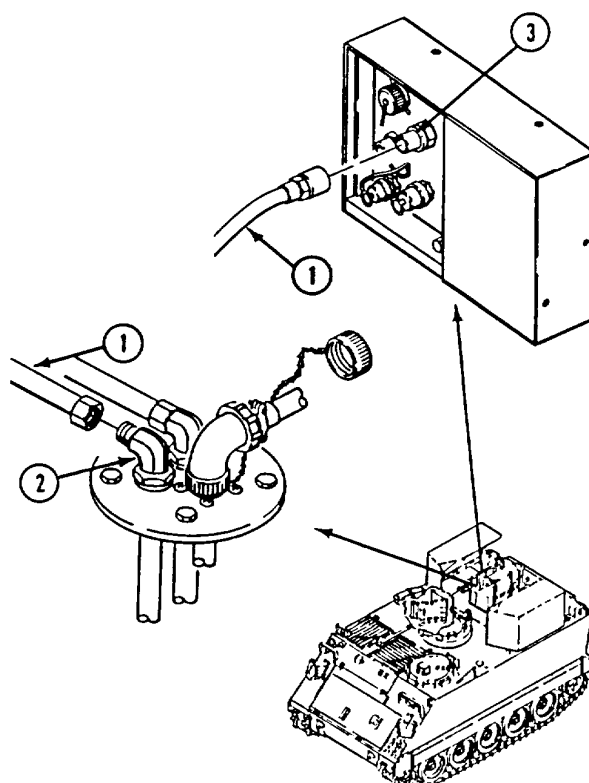


NOTE

Left and right hoses are removed in the same way for two adapter access plates.

1. Disconnect air hose (1) from adapter plate elbow (2).
2. Disconnect air hose (1) from cover assembly quick disconnect coupling (3).

4. Connect air hose (1) to adapter assembly elbow (2).



INSTALL

NOTE

Left and right hoses are installed in the same way for two adapter access plates.

3. Connect air hose (1) to cover assembly quick disconnect coupling (3).

FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2) (page 40-6).
2. Set circuit breaker CB1 to ON (see your -10).
3. Install smoke generator assembly on bracket

END OF TASK

REPLACE FOG OIL TANK QUICK DISCONNECT TO ADAPTERACCESS PLATE HOSE (M1059 ONLY)

DESCRIPTION

This task covers: Remove (page 40-31). Install (page 40-32).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Circuit breaker CB1 OFF (see your -10)

Engine stopped (see your -10)

Battery ground lead disconnected (page 13-2)

REMOVE



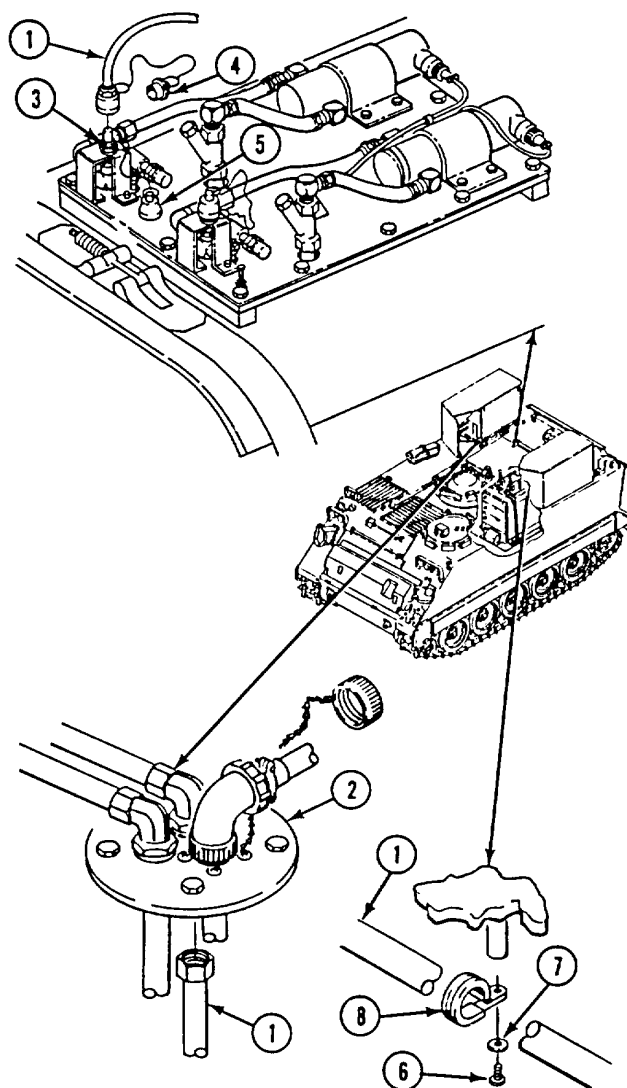
WARNING

Fog oil is slippery and can cause soldiers to fall and get injured. Clean up all spillage or leakage of fog oil as soon as possible by washing the area, or absorbing the fog oil with sand or other absorbent material.

NOTE

Left and right hoses are removed in the same way for two adapter access plates.

1. Disconnect fog oil hose assembly (1) from access plate adapter (2).
2. Disconnect fog oil hose assembly (1) from fog oil tank at quick disconnect coupling (3).
3. Install safety cap (4) on hose (1) and dust cap (5) on quick disconnect coupling (3).
4. Remove four screws (6), lockwashers (7), clamps (8), and fog oil hose assembly (1) from carrier hull (right side: remove five screws, lockwashers, and clamps). Discard lockwashers.



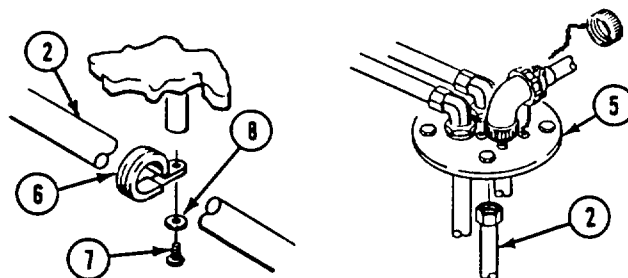
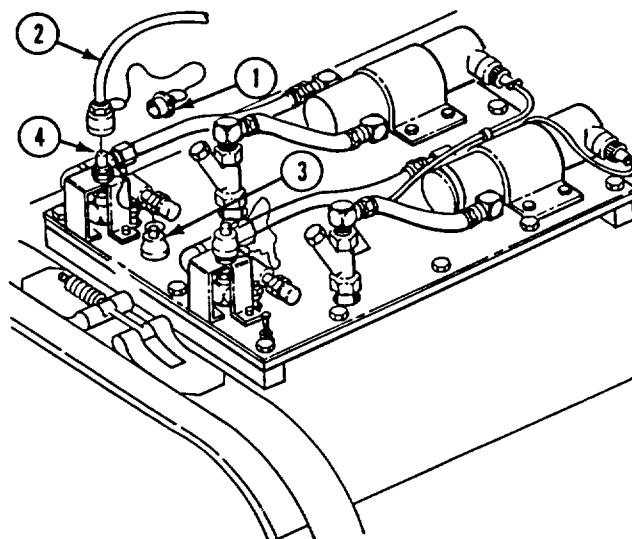
GO TO NEXT PAGE

INSTALL

NOTE

Left and right hoses are installed in the same way for two adapter access plates.

5. Remove safety cap (1) from hose (2) and dust cap (3) from quick disconnect coupling (4).
6. Connect fog oil hose assembly (2) to fog oil tank quick disconnect coupling (4).
7. Connect fog oil hose assembly (2) to access plate adapter (5).
8. Secure hose assembly (2) to hull with four clamps (6), screws (7), and new lockwashers (8) (right side: secure with five clamps, screws, and new lockwashers).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2). (see your -10).
2. Set circuit breaker CB1 to ON

END OF TASK

REPLACE COVER ASSEMBLY FOG OIL QUICK DISCONNECT TO ADAPTER ACCESS PLATE HOSE (M1059 ONLY)

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Circuit breaker CB1 OFF (see your -10)
 Engine stopped (see your -10)
 Battery ground lead disconnected (page 13-2)
 Smoke generator assembly removed from bracket (page 40-6)

REMOVE



WARNING

Fog oil is slippery and can cause soldiers to fall and get injured. Clean up all spillage or leakage of fog oil as soon as possible by washing the area, or absorbing the fog oil with sand or other absorbent material.

NOTE

Left and right hoses are removed in the same way for two adapter access plates.

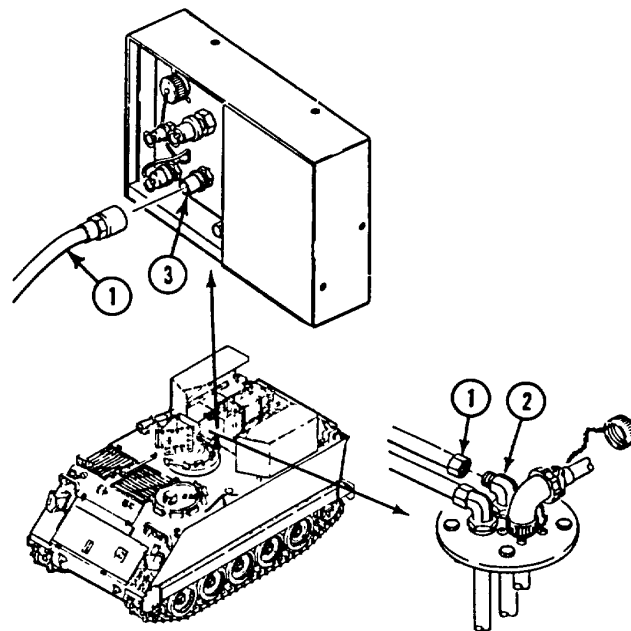
1. Disconnect fog oil hose assembly (1) from adapter assembly elbow (2).
2. Disconnect fog oil hose assembly (1) from cover assembly quick disconnect coupling (3).

INSTALL

NOTE

Left and right hoses are installed in the same way for two adapter access plates.

3. Connect fog oil hose assembly (1) to adapter plate elbow (2).
4. Connect fog oil hose assembly (1) to cover assembly quick disconnect coupling (3).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2). (page 40-6).
2. Set circuit breaker CB1 to ON (see your -10).
3. Install smoke generator assembly on bracket

END OF TASK

REPLACE SMOKE GENERATOR ARMOR (M1059 ONLY)

DESCRIPTION

This task covers: Remove (page 40-34). Install (page 40-35).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 97, App D)
- Lifting Device

Personnel Required:

Unit Mechanic

References:

See your-10

Materials/Parts

- Lockwasher
- Self-locking nut (3)

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)

REMOVE

WARNING

You could be killed or injured by accidental carrier movement. Before you perform maintenance make sure to properly block the carrier. Do not stand under

suspended heavy objects. Keep hands away from pinch points.



1. Remove inboard armor shield.
 - a. Remove two screws (1) and washers (2) from two angle brackets (3) at top of inboard armor shield (4).
 - b. Lower shield (4).
 - c. Remove three screws (5), locknuts (6), six washers (7), and inboard shield from three hinge assemblies (8). Discard locknuts.
 - d. Remove four screws (9) and washers (10) securing two angle brackets (11) and shims (11.1) to shield (4).
 - e. Remove six screws (12) flat washers (13) securing three hinges (8) and shims (14) to hull.

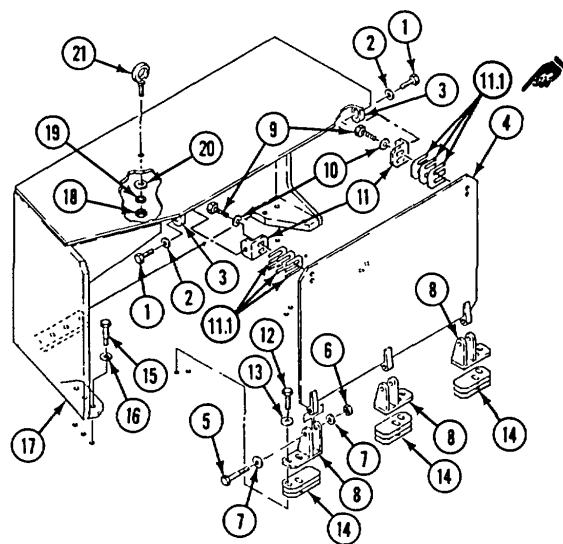
2. Remove outboard armor shield.

WARNING

Hanging loads can kill or injure you. Keep away from hanging loads and overhead equipment. Keep hands clear while armor is being lifted for removal or lowered for installation.

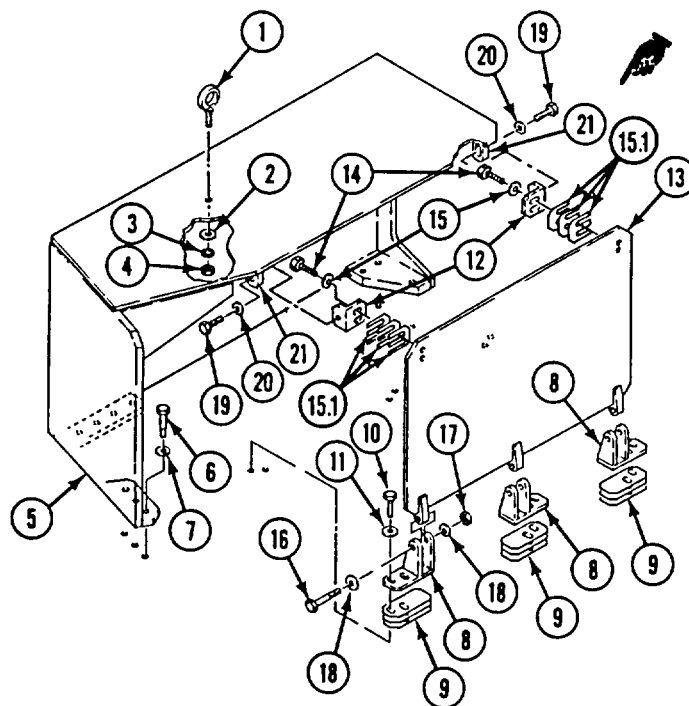


- a. Remove ten screws (15), washers (16), and outboard shield (17) from hull.
- b. Remove nut (18), lockwasher (19), washer (20), and eyebolt (21) from outboard shield (17). Discard lockwasher.



INSTALL

3. Install outboard armor shield.
 - a. Install eyebolt (1), washer (2), new lockwasher (3), and nut (4).
 - b. Install outboard shield (5) on hull. Secure with ten screws (6) and washers (7).
4. Install inboard armor shield.
 - a. Position three hinges (8) and shims (9) on hull and secure with six screws (10) and washers (11). Tighten screws to 51-54 lb-ft (68-73 N•m) torque.
 - b. Position two angle brackets (12) on shield (13). Secure with four screws (14) and washers (15). If necessary, add shims (15.1). Tighten screws to 22-24 lb-ft (28-33 N•m) torque.
 - c. Install armor shield (13) in three hinge assemblies (8). Secure with three screws (16), new locknuts (17), and six washers (18).
 - d. Raise armor shield (13). Secure with two screws (19) and washers (20) to angle brackets (21). Tighten screws to 54-59 lb-ft (73-80 N•m) torque.



END OF TASK

**CHAPTER 40.1
ELECTRICAL/COMMUNICATION EQUIPMENT MAINTENANCE
(M1068 ONLY)**

**Section I. CURBSIDE ELECTRICAL/COMMUNICATION
EQUIPMENT (M1068 ONLY)**

TASK INDEX

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REPLACE/REPAIR FACSIMILE MACHINE MOUNT ASSEMBLY

(M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-2). Disassemble (page 40.1-2).
 Assemble (page 40.1-3). Install (page 40.1-3).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)
 See TM 11-7010-256-12&P

References:

See your -10

Material/Parts:

Locknut (18)
 Lockwasher (16)

Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 FAX equipment removed
 (see TM 11-7010-256-12&P)

Personnel Required:

Unit Mechanic

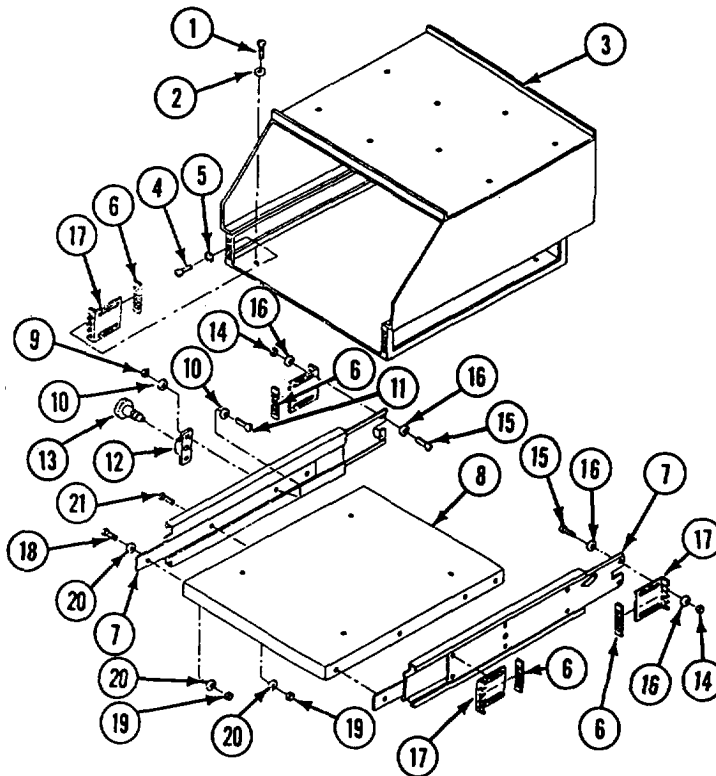
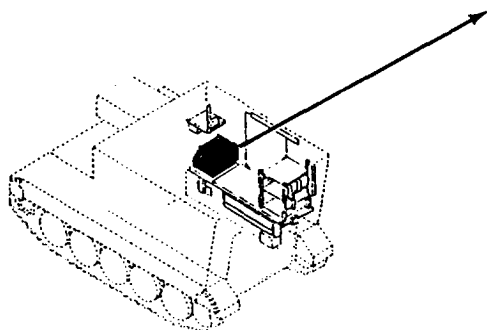
REMOVE

1. Remove four screws (1), washers (2), and facsimile machine mount (3) from base extension.

DISASSEMBLE

2. Remove 16 screws (4), lockwashers (5), four nut bars (6), two slides (7), and tray (8) from facsimile machine mount (3). Discard lockwashers.
3. Remove two locknuts (9), four washers (10), screws (11), and adapter (12) with plunger (13) from slide (7). Discard locknuts.
4. Remove plunger (13) from adapter (12).
5. Remove eight locknuts (14), screws (15), 16 washers (16), and four brackets (17) from two slides (7). Discard locknuts.

6. Remove two screws (18), locknuts (19), and four washers (20) from two slides (7) and tray (8). Discard locknuts.
7. Remove six locknuts (19), washers (20), and screws (21) from two slides (7) and tray (8). Discard locknuts.



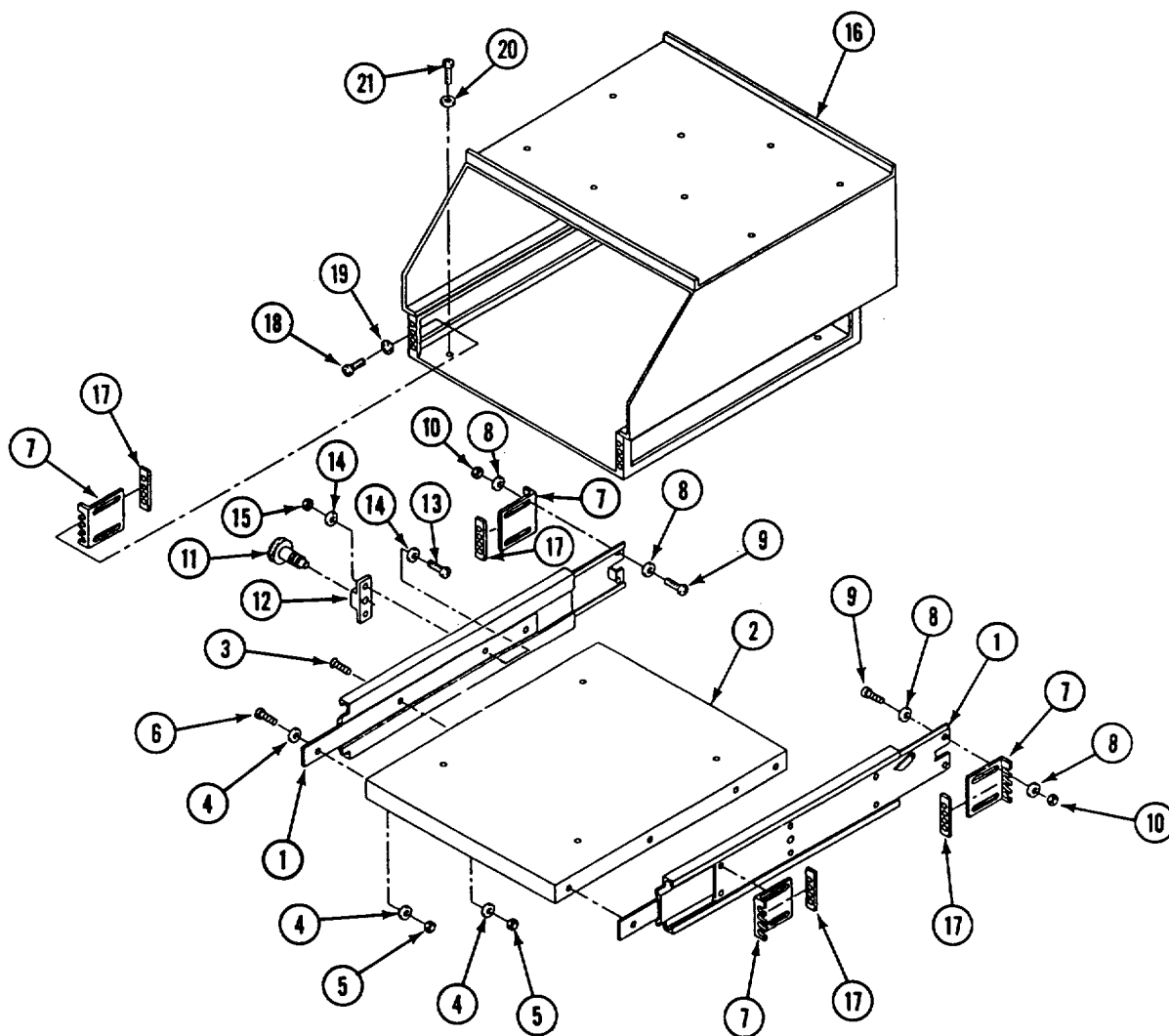
ASSEMBLE

8. Install two slides (1) on tray (2) with six screws (3), washers (4), and new locknuts (5).
9. Secure two slides (1) on tray (2) with two screws (6), four washers (4), and new locknuts (5).
10. Install four brackets (7) on slides (1) with 16 washers (8), eight screws (9), and new locknuts (10).
11. Install plunger (11) in adapter (12).

12. Install adapter (12) with plunger (11) on slide (1) with two screws (13), four washers (14), and new locknuts (15).
13. Install two slides (1) and tray (2) on facsimile machine mount (16) with four nut bars (17), 16 screws (18), and new lockwashers (19).

INSTALL

14. Install facsimile machine mount (16) on base extension with four washers (20) and screws (21).



FOLLOW-THROUGH STEPS

1. Install FAX equipment (See TM 11-7010-256-12&P).

END OF TASK

REPLACE CURBSIDE DATA PANEL ASSEMBLY (M1068 ONLY)

INITIAL SETUP

Tools:

Radio Electronic Equipment Tool Kit
(Item 75.1, App D)

Materials/Parts:

Self-locking nut (2)
Personnel Required:
Signal Support System Specialist 31U10

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

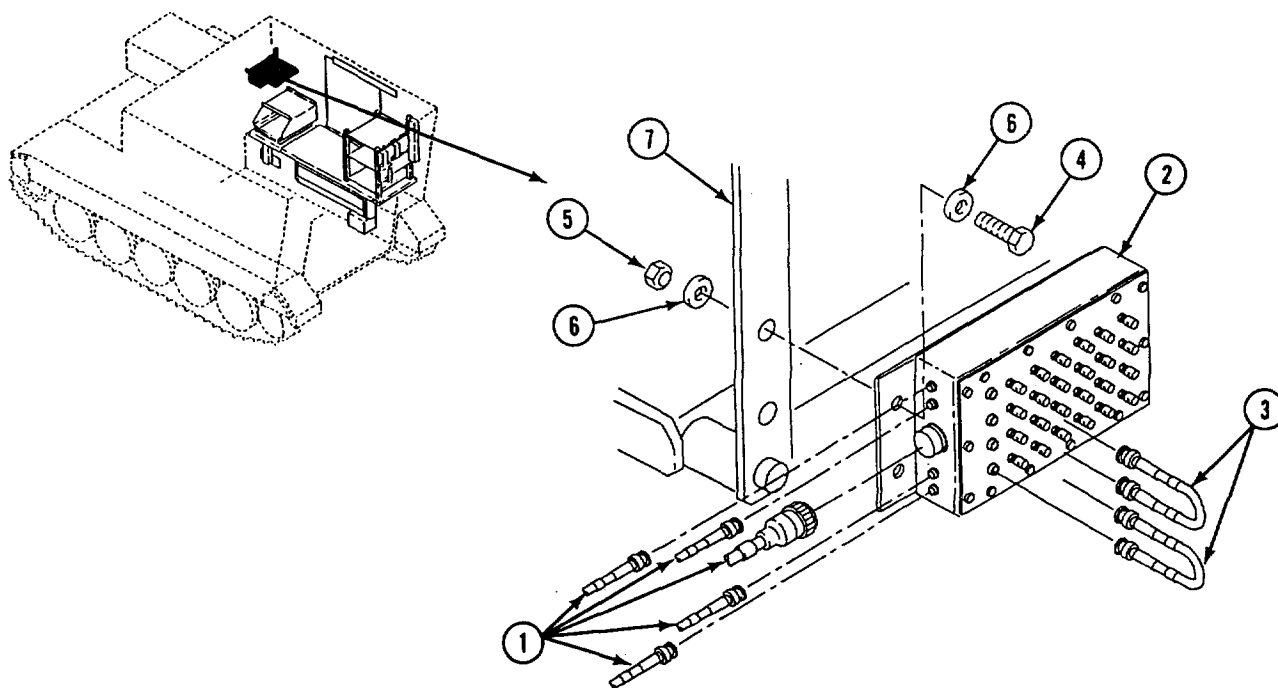
REMOVE

NOTE
Tag all cables for reassembly.

1. Disconnect five cables (1) from curbside data panel assembly (2).
2. Remove two cables (3) from curbside data panel assembly (2).
3. Remove two screws (4), locknuts (5), four washers (6), and curbside data panel assembly (2) from hanger (7). Discard locknuts.

INSTALL

4. Install curbside data panel assembly (2), two screws (4), four washers (6), and two new locknuts (5) on hanger (7).
5. Install two cables (3) on curbside data panel assembly (2).
6. Connect five cables (1) to curbside data panel assembly (2).



END OF TASK

REPLACE EXTERNAL COMMUNICATION BOX ALL LID AND LATCHES (M1068 ONLY)

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Locknut (2)
Locknut (8)

Personnel Required:

Unit Mechanic

References:

See your -10
TM 11-7010-256-12&P

Equipment Conditions:

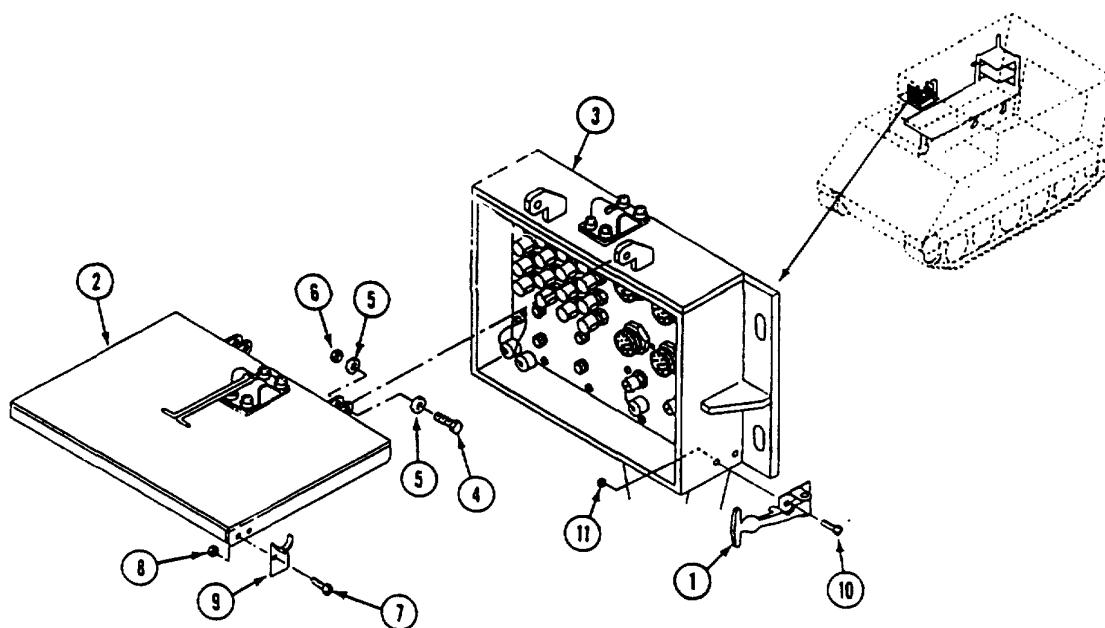
Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power cables disconnected
(see TM 11-7010-256-12&P)

REMOVE

1. Pull out and away two latches (1) from lid (2) on external communication box All (3).
2. Remove two screws (4), four washers (5), locknuts (6), and lid (2). Discard locknuts.
3. Remove four screws (7), locknuts (8), and two catches (9) from lid (2). Discard locknuts.
4. Remove four screws (10), locknuts (11), and two latches (1) from external communication box All (3). Discard locknuts.

INSTALL

5. Install two latches (1), four screws (10), and new locknuts (11) on external communication box All (3).
6. Install two catches (9), four screws (7) and new locknuts (8) on lid (2).
7. Install lid (2), two screws (4), four washers (5), and new locknuts (6) on external communication box All (3).
8. Secure lid (2) on external communication box All (3) with latches (1).



END OF TASK

REPLACE RIGHT EQUIPMENT RACK BRACKETS AND MOUNTS (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-6). Install (page 40.1-7).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (3)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

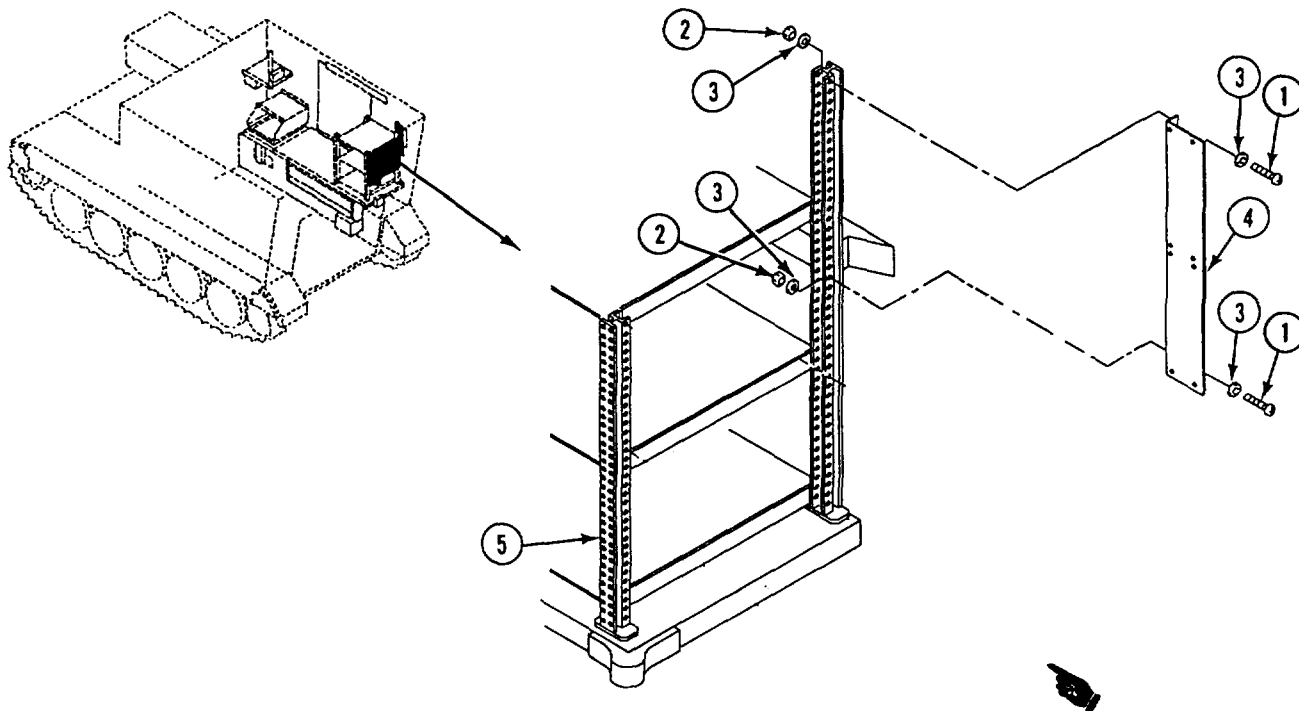
AC power extension box A19 removed
(page 40.1-13)

AC power extension box A7 removed
(page 40.1-12)

REMOVE

Steps 2 thru 4 deleted.

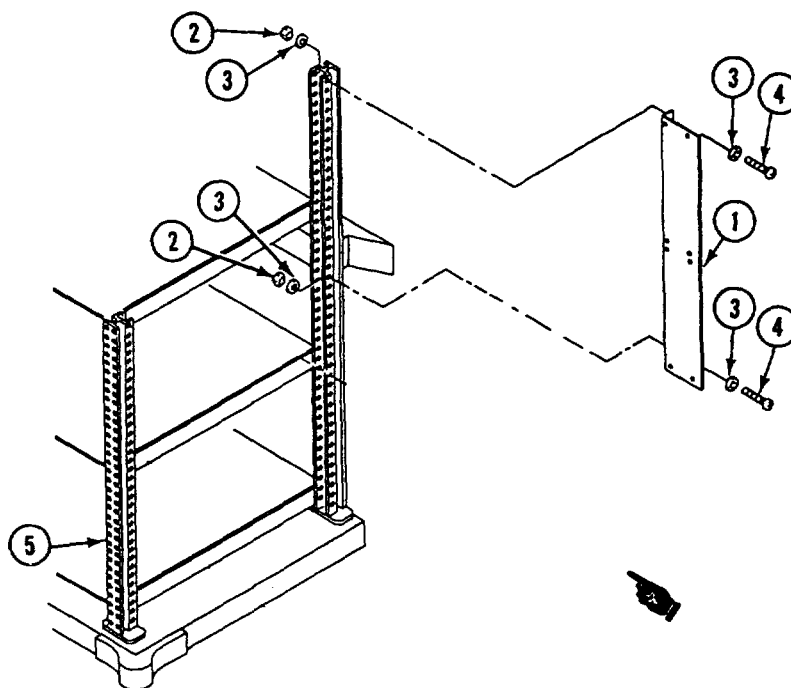
1. Remove three screws (1), locknuts (2), six washers (3), and mount (4) from right equipment rack (5). Discard locknuts.



Steps 5 thru 7 deleted.

INSTALL

8. Install mount (1), three new locknuts (2), six washers (3), and three screws (4) on right equipment rack (5).



FOLLOW-THROUGH STEPS

1. Install AC power extension box A7 (page 40.1-12).
2. Install AC power extension box A19 (page 40.1-13).

END OF TASK

REPLACE AC POWER EXTENSION BOX A7 (M1068 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (4)

Personnel Required:

Power-Generation Equipment Repairer 52D10

References:

See your -10
TM 11-7010-256-12&P

Equipment Conditions:

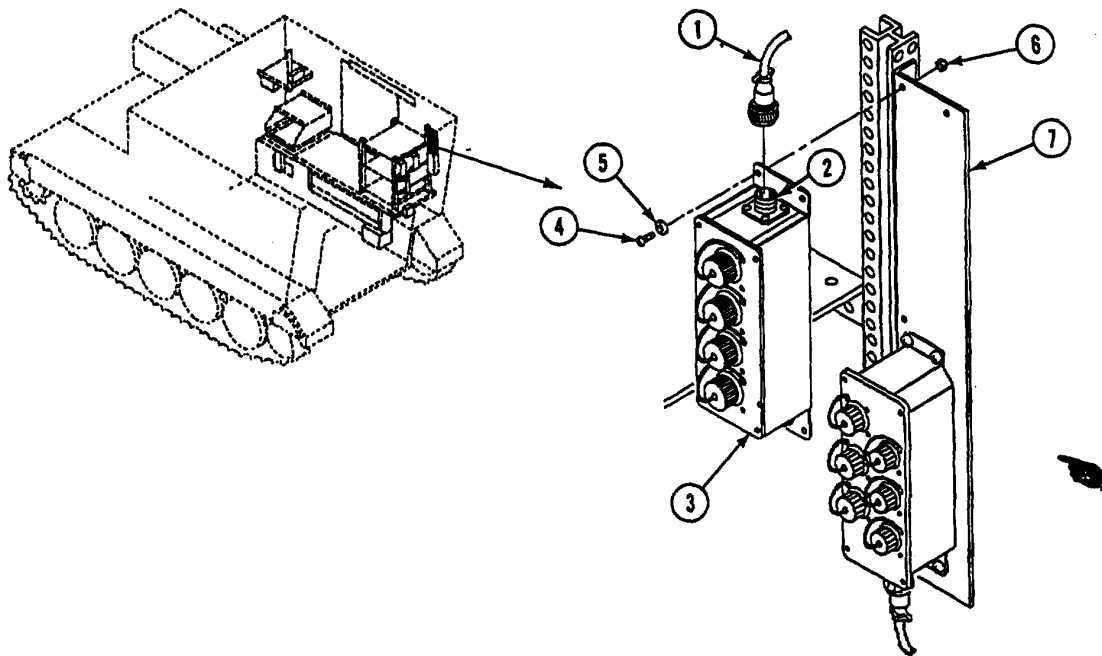
Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

REMOVE

1. Disconnect cable W8 (1) from connector J1 (2) on AC power extension box A7 (3).
2. Remove four screws (4), washers (5), locknuts (6), and AC power extension box A7 (3) from mount (7). Discard locknuts.

INSTALL

3. Install AC power extension box A7 (3), four washers (5), screws (4), and new locknuts (6) on mount (7).
4. Connect cable W8 (1) to connector J1 (2) on AC power extension box A7 (3).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground cable (page 13-2).

END OF TASK

REPLACE AC POWER EXTENSION BOX A19 (M1068 ONLY)**INITIAL SETUP****Tools:**

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts

Locknut (4)

Personnel Required:

Power-Generation Equipment Repairer 52D10

References

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

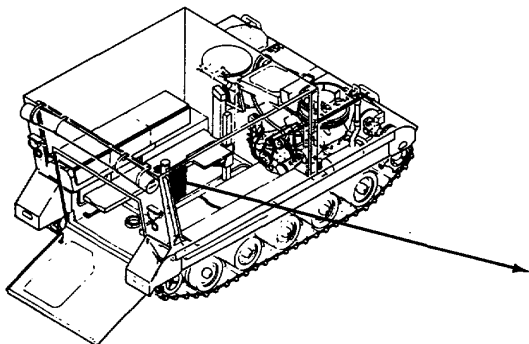
All external power disconnected

(See TM 11-7010-256-12&P)

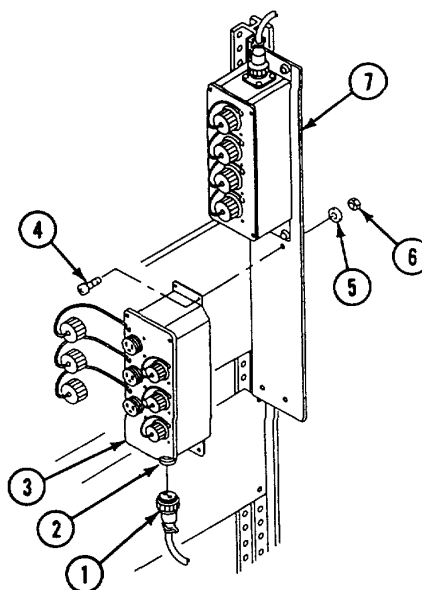
Battery ground lead disconnected (page 13-2)

REMOVE

1. Disconnect cable W252 (1) from connector J15 (2) on AC power extension box A19 (3).
2. Remove four screws (4), washers (5), locknuts (6), and AC power extension box A19 (3) from mount (7). Discard locknuts.

**INSTALL**

3. Install AC power extension box A19 (3), four washers (5), screws (4), and new locknuts (6) on mount (7).
4. Connect cable W252 (1) to connector J15 (2) on AC power extension box A19 (3).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE LAN GROUND BOX ASSEMBLY A15 (M1068 ONLY)

INITIAL SETUP**Tools:**

Radio Electronic Equipment Tool Kit
(Item 75.1, App D)

Personnel Required:

Signal Support System Specialist 31U10

References:

See your -10

References (cont.):

TM 11-7010-256-12&P

Equipment Conditions:

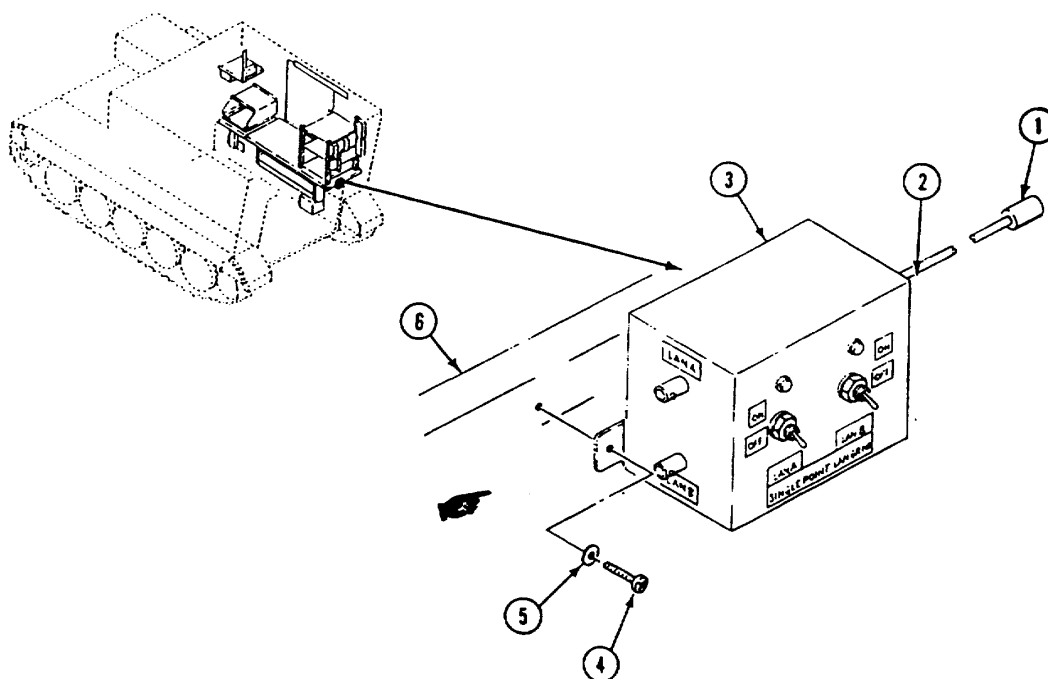
Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

REMOVE

1. Disconnect cable W40 (1) from connector J1 (2) on LAN ground box (3).
2. Remove two screws (4), washers (5), and LAN ground box (3) from work station rack base (6).

INSTALL

3. Install LAN ground box (3), two washers (5), and screws (4) on work station rack base (6).
4. Connect cable W402 (1) to connector J1 (2) on LAN ground box (3).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground cable (page 13-2).
-

END OF TASK

REPAIR LAN GROUND BOX ASSEMBLY A15 (M1068 ONLY)

DESCRIPTION

This task covers: Disassemble (page 40.1-16). Assemble (page 40.1-17).

INITIAL SETUP

Tools:

Radio Electronic Equipment Tool Kit
(Item 75.1, App D)

Personnel Required:

Signal Support System Specialist 31U10

References:

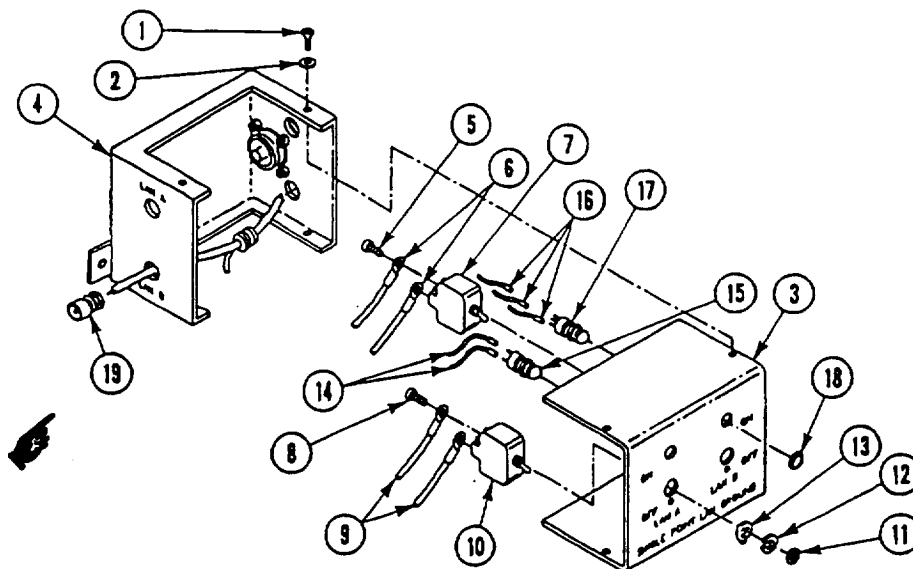
See your -10
TM 11-7010-256-12&P

Equipment Conditions:

LAN ground box assembly removed
(page 40.1-15)

DISASSEMBLE

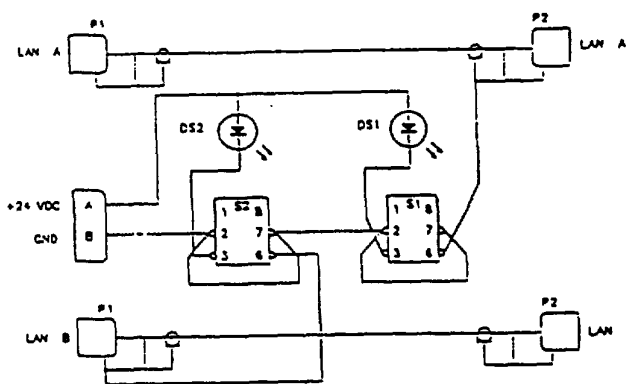
1. Remove four screws (1), washers (2), and box (3) from box mount (4).
2. Remove four screws (5) and five leads (6) from switch S2 (7).
3. Remove four screws (8) and leads (9) from switch S1 (10).
4. Remove two jamnuts (11), lockwashers (12), locking (13), and switches (7 and 10) from box (3).
5. Disconnect two leads (14) from light DS1 (15).
6. Disconnect three leads (16) from light DS2 (17).
7. Remove two nuts (18) and lights (15 and 17) from box (3).
8. Remove any of four connectors (19) from box mount (4) only if necessary.



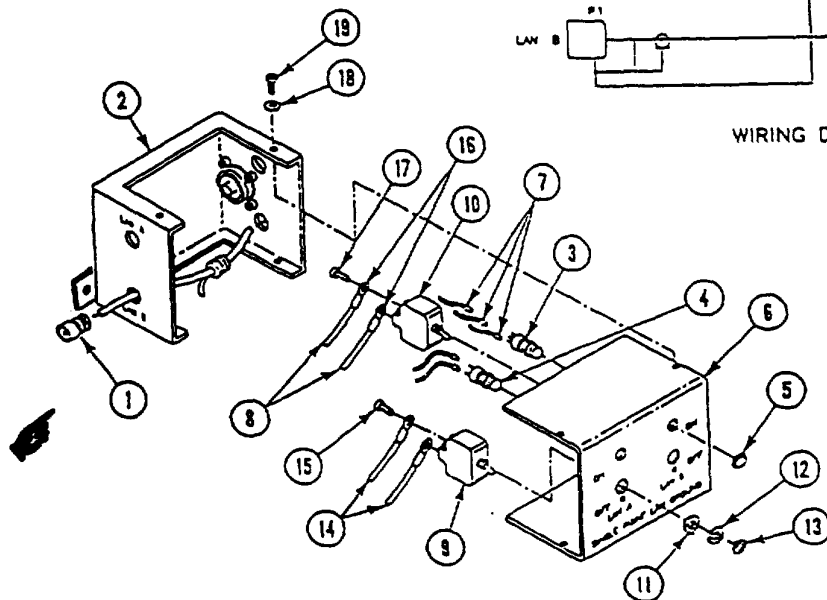
ASSEMBLE

NOTE
Use wiring diagram.

9. If any of four connectors (1) were removed from box mount (2), install as necessary.
10. Install two lights (3 and 4) and nuts (5) on box (6).
11. Connect three leads (7) to light DS2 (3).
12. Connect two leads (8) to light DS1 (4).
13. Install two switches (9 and 10), two lockings (11), lockwashers (12), and jamnuts (13) on box (6).
14. Install four leads (14) and screws (15) on switch S1 (9).
15. Install five leads (16) and four screws (17) on switch S2 (10).
16. Install box (6), four washers (18), and screws (19) on box mount (2).



WIRING DIAGRAM



FOLLOW-THROUGH STEPS

1. Install LAN ground box assembly (page 40.1-15).

END OF TASK

REPLACE EXTERNAL COMMUNICATION BOX AII (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-18). Install (page 40.1-19).

INITIAL SETUP

Tools:

Radio Equipment Tool Kit (Item 75.1, App D)

Materials/Parts:

Strap (3)

Personnel Required:

Signal Support System Specialist 31U10
 Helper (H)

References:

See your -10
 TM 11-7010-256-12&P

Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 AU external power disconnected
 (see TM 11-7010-256-12&P)
 Battery ground lead disconnected (page 13-2)

REMOVE

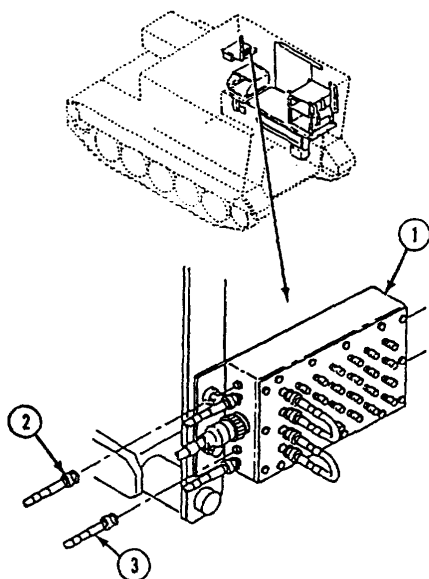
NOTE

Tag all cables for identification before removing them. Replace pads only if damaged.

1. Disconnect two cables from curbside data panel assembly (1):

W101 (2) from J1

W102 (3) from J4



2. Disconnect six cables from signal patch panel box A10 (4):

W111 (5) from J125

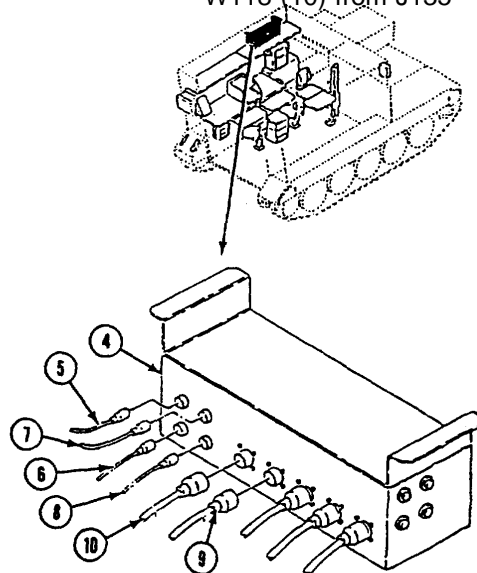
W112 (6) from J123

W113 (7) from J126

W114 (8) from J124

W115 (9) from J136

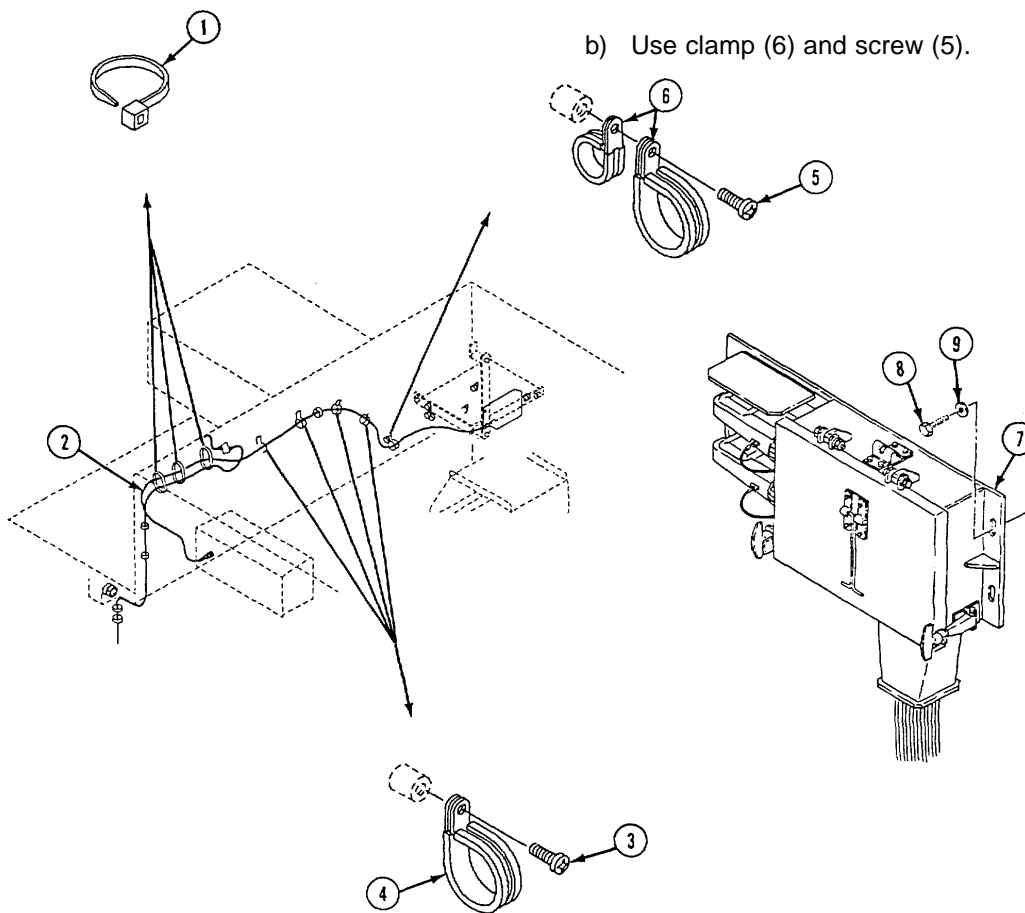
W118 (10) from J135



3. Remove three straps (1) from cable bundle (2). Discard straps.
4. Remove four screws (3) and clamps (4) from cable bundle (2) and carrier.
5. Remove screw (5) and clamp (6) from cable bundle (2) and carrier.
6. Have helper hold external communication box All (7) in place. Remove four screws (8) and washers (9) holding box to front bulkhead.
7. Remove external communication box All (7). Have helper guide cables through hull opening.

INSTALL

8. Position external communication box All (7) on front bulkhead. Have helper guide cables through hull opening.
9. Have helper hold external communication box All (7) in place. Secure box to front bulkhead with four screws (8) and washers (9).
10. Route cable bundle (2) in carrier. Secure with new three straps (1).
11. Secure cable bundle (2) to carrier.
 - a) Use four clamps (4) and screws (3).
 - b) Use clamp (6) and screw (5).



GO TO NEXT PAGE

12. Connect two cables to curbside data panel assembly (1):

W101 (2) to J1

W102 (3) to J4

13. Connect six cables to signal patch panel box A10 (4):

w111 (5) to J125

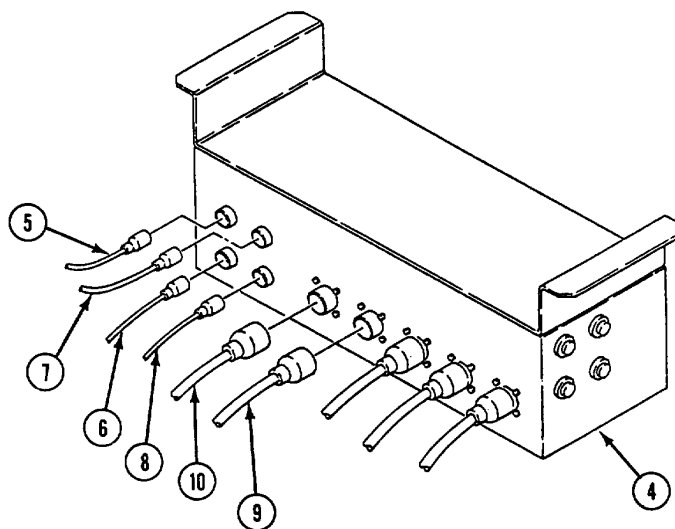
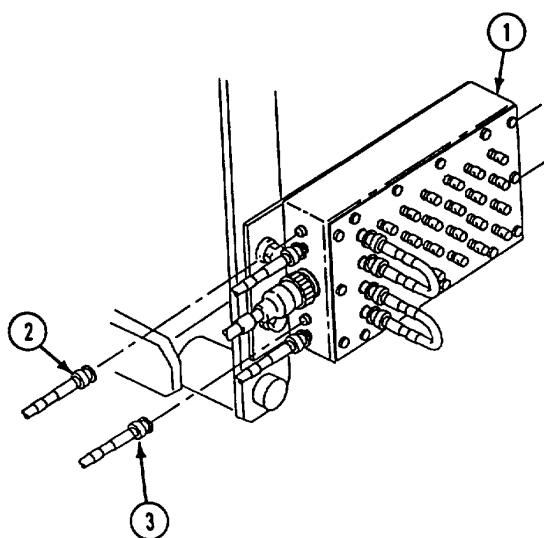
W112 (6) to J123

W113 (7) to J126

W114(8) to J124

W115(9) to J136

W118(10) to J135



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
-

END OF TASK

REPLACE SIGNAL PATCH PANEL BOX A10 (M1068 ONLY)**INITIAL SETUP****Tools:**

Radio Electronic Equipment Tool Kit
(Item 75.1, App D)

References:

See your -10
TM 11-7010-256-12&P

Materials/Parts:

Lockwasher (4)

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

Personnel Required:

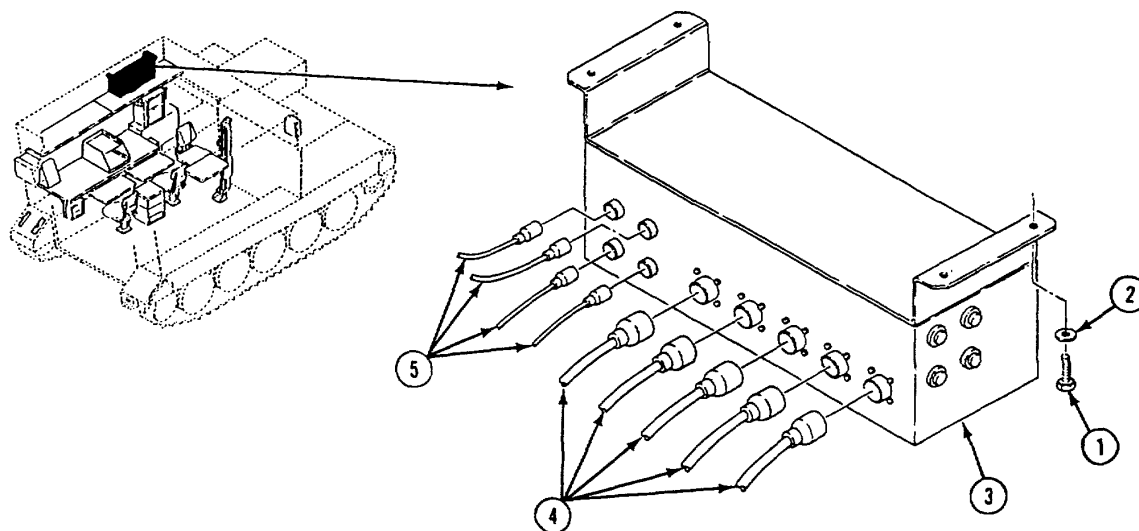
Signal Support System Specialist 31U10

REMOVE

1. Remove four screws (1), lockwashers (2), and patch panel box (3) from hull top. Discard lockwashers.
2. Tag and remove five cables (4) from rear of patch panel box (3).
3. Tag and remove four leads (5) from rear of patch panel box (3).

INSTALL

4. Install four leads (5) on rear of patch panel box (3).
5. Install five cables (4) to connectors on rear of patch panel box (3).
6. Install patch panel box (3), four new lockwashers (2), and screws (1) on hull top.

**FOLLOW-THROUGH STEPS**

1. Connect battery ground cable (page 13-2).

END OF TASK

REPLACE APIU RACK MOUNT AND BRACKET (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-22). Install (page 40.1-23).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (15)

Personnel Required:

Unit Mechanic

References:

See your -10

References (cont.):

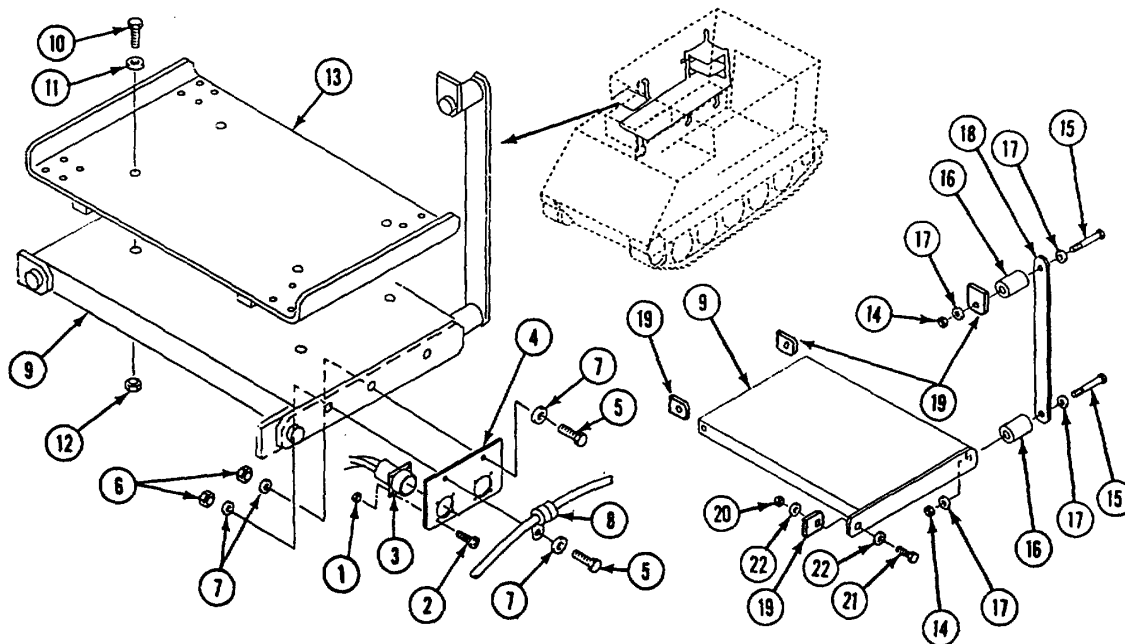
TM 11-7010-256-12&P

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- All external power disconnected
- Electronic communication equipment removed (see TM 11-7010-256-12&P)
- Curbside data box removed (page 40.1-4)
- Battery ground lead disconnected (page 13-2)

REMOVE

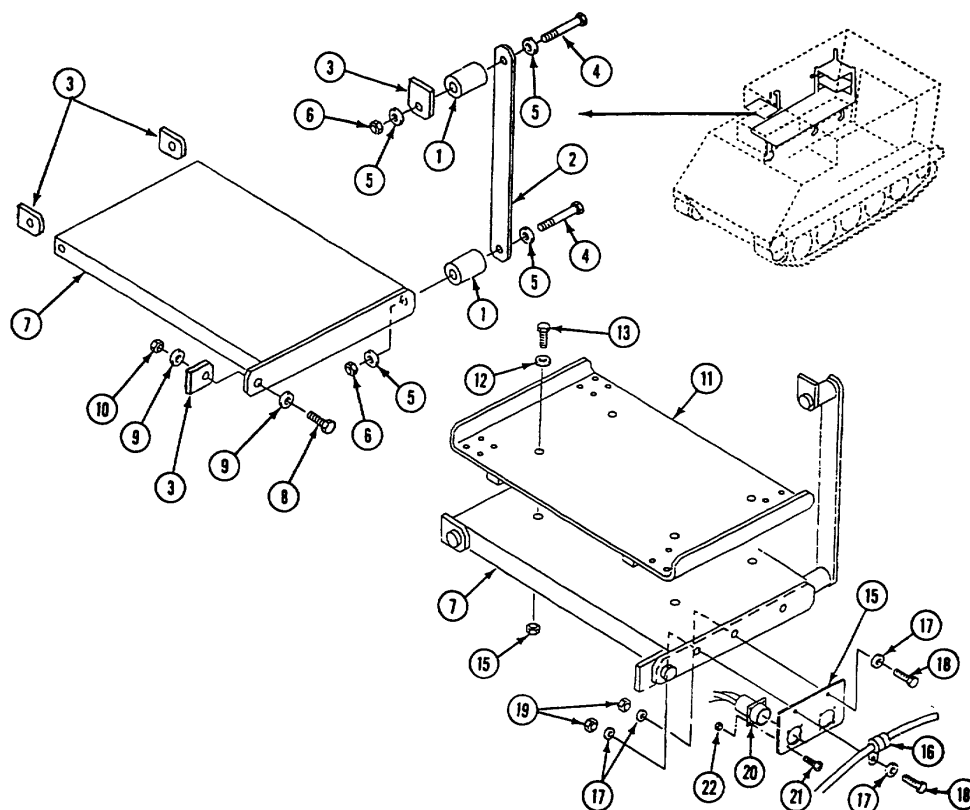
1. Remove four locknuts (1), screws (2), and receptacle (3) from bracket (4). Discard locknuts.
2. Remove two screws (5), locknuts (6), four washers (7), clamp (8), and bracket (4) from APIU rack (9). Discard locknuts.
3. Remove four screws (10), washers (11), locknuts (12), and mount (13) from APIU rack (9). Discard locknuts.
4. Remove two locknuts (14), screws (15), spacers (16), washers (17) and hanger (18) from bulkhead mount (19) and rack (9). Discard locknut.
5. Remove three locknuts (20), screws (21), six washers (22), and rack (9) from bulkhead mounts (19). Discard locknuts.



INSTALL

6. Align spacer (1) and hanger (2) with bulkhead mount (3). Secure with screw (4), two washers (5), and new locknut (6).
7. Align rack (7) with three bulkhead mounts (3). Secure with three screws (8), six washers (9), and new locknuts (10).
8. Position spacer (1) between rack (7) and hanger (2). Secure with screw (4), two washers (5), and new locknut (6).

9. Install mount (11) on APIU rack (7). Secure with four washers (12), screws (13), and new locknuts (14).
10. Install bracket (15) and clamp (16), on APIU rack (7). Secure with four washers (17), two screws (18), and new locknuts (19).
11. Install receptacle (20) on bracket (15). Secure with four screws (21), and new locknuts (22).



FOLLOW-THROUGH STEPS

1. Connect battery ground cable (page 13-2).
2. Install electronic communication equipment (see TM 11-7010-256-12&P).
3. Install curbside data panel assembly A12 (page 40.1-4).

END OF TASK

REPAIR POWER ENTRY PANEL ASSEMBLY (M1068 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut (2)

Self-locking nut (8)

Personnel Required:

Unit Mechanic

References:

See your -10

See TM 11-7010-256-12&P

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

All external power cables disconnected (See

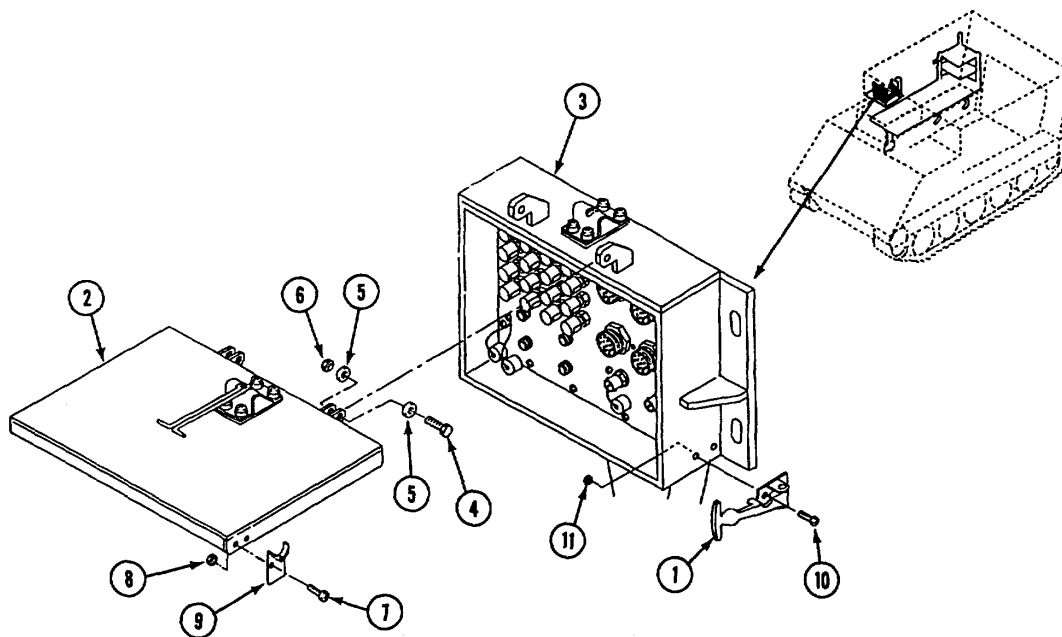
TM 11-7010-256-12&P)

REMOVE

1. Pull out and away the two latches (1) from lid (2) on power entry box (3).
2. Remove two screws (4), four washers (5), locknuts (6), and lid (2). Discard locknuts.
3. Remove four screws (7), locknuts (8), and two catches (9) from lid (2). Discard locknuts.
4. Remove four screws (10), locknuts (11), and two latches (1) from power entry box (3). Discard locknuts.

INSTALL

5. Install two latches (1), four screws (10), and new locknuts (11) on power entry box (3).
6. Install two catches (9), four screws (7) and new locknuts (8) on lid (2).
7. Install lid (2), two screws (4), four washers (5), and new locknuts (6) on power entry box (3).
8. Secure lid (2) with the latches (1) from power entry box (3).



END OF TASK

**Section II. ROADSIDE ELECTRICAL/COMMUNICATION
EQUIPMENT (M1068 ONLY)**

TASK INDEX

Task	Page	Task	Page
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Replace Roadside Data Panel Assembly A13 and Bracket (M1068 Only)	40.1-27	Replace Tent Interface Panel Box Assembly A5 (M1068 Only)	40.1-46
Replace Inverter Housing A2 Terminal Blocks TB1 and TB2 (M1068 Only)	40.1-28	Replace AC Power Extension Box A6 and DC Power Extension Box A9 and Mount (M1068 Only)	40.1-48
Replace Power Control Enclosure AC and DC Meters and Light Indicators (M1068 Only)	40.1-29	Replace/Repair Power Distribution Box A3 (M1068 Only)	40.1-49
Repair Power Control Enclosure, Faceplate, and Bracket (M1068 Only)	40.1-33	Replace/Repair Printer Mount (M1068 Only)	40.1-52
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Replace Power Control Enclosure Circuit 44A Lead (M1068 Only)	40.1-42.1	Replace Fluorescent Light Assemblies (M1068 Only)	40.1-56
		Replace Power Extension Box A18 and Bracket (M1068 Only)	40.1-56.1

REPLACE AC POWER EXTENSION BOX A18 AND BRACKET (M1068 ONLY)**INITIAL SETUP****Tools:**

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Locknut (4)
Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

See your -10
TM 11-7010-256-12&P

Equipment Conditions:

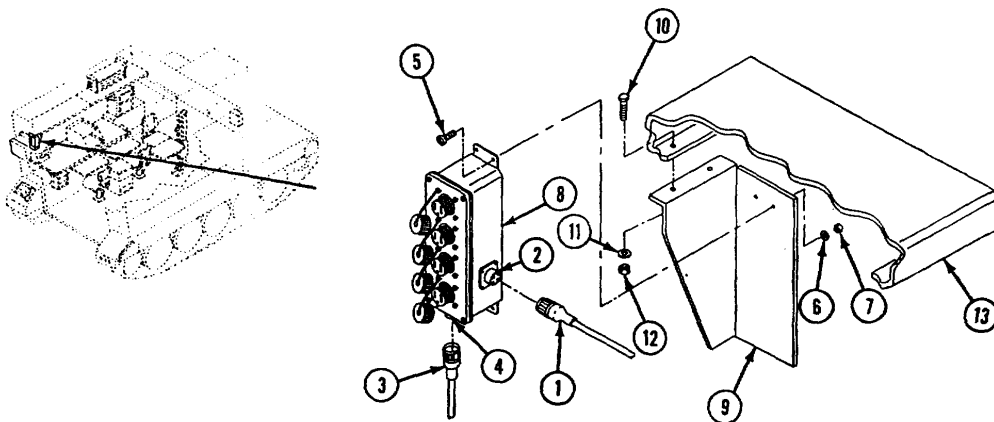
Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

REMOVE

1. Disconnect cable W252 plug P1 (1) from Power extension box A18 jack J1 (2).
2. Disconnect cable W251 plug P1 (3) from Power extension box A18 jack J6 (4).
3. Remove four screws (5), washers (6), locknuts (7), and power extension box A18 (8) from bracket (9). Discard locknuts.
4. Remove two screws (10), lockwashers (11), nuts (12), and bracket (9) from radio shelf (13). Discard lockwashers.

INSTALL

5. Install bracket (9) on radio shelf (13). Secure with two screws (10), new lockwashers (11), and nuts (12).
6. Install power extension box A18 (8) on bracket (9). Secure with four screws (5), washers (6), and new locknuts (7).
7. Connect cable W251 plug P1 (3) to power extension box A18 jack J5 (4).
8. Connect cable W252 plug P1 (1) to power extension box A18 jack J1 (2).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE ROADSIDE DATA PANEL ASSEMBLY A13 AND BRACKET (M1068 ONLY)**INITIAL SETUP****Tools:**

Radio Equipment Tool Kit (Item 75.1, App D)

Materials/Parts:

Locknut (2)

Personnel Required:

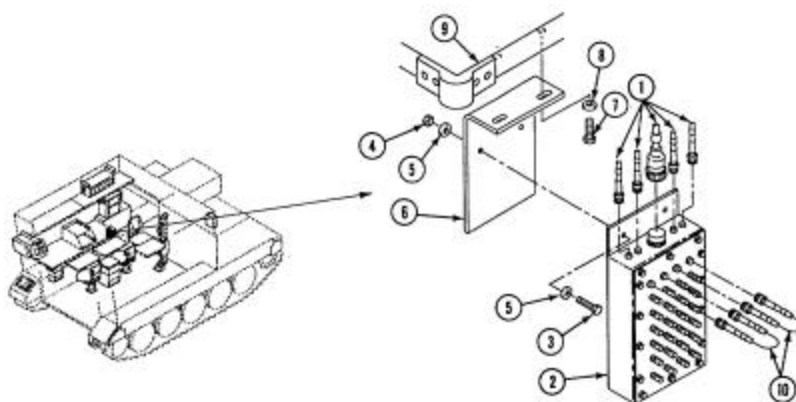
Signal Support System Specialist 31U10

References:See your -10
TM 11-7010-256-12&P**Equipment Conditions:**Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)**REMOVE****NOTE****Tag all cables before removal for installation later.**

1. Disconnect five cables (1) from roadside data panel assembly (2).
2. Remove two screws (3), locknuts (4), four washers (5), and roadside data panel assembly (2) from mounting bracket (6). Discard locknuts.
3. Remove two screws (7), washers (8), and mounting bracket (6) from extension base (9).
4. Remove two cables (10) from roadside data panel assembly (2).

INSTALL

5. Install two cables (10) on roadside data panel assembly (2).
6. Install bracket (6), two washers (8), and screws (7) on extension base (9).
7. Install roadside data panel assembly (2), four washers (5), two screws (3), and new locknuts (4) on mounting bracket (6).
8. Connect five cables (1) to roadside data panel assembly (2).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).

END OF TASK**Change 4 40.1-27**

REPLACE INVERTER HOUSING A2 TERMINAL BLOCKS TB1 AND TB2 (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-28). Install (page 40.1-28.1).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Material/Parts:

Locknut (2)
 Locknut (4)
 Lockwasher (10)

Personnel Required:

Power-Generation Equipment Repairer 52D10

References:

See your -10
 See TM 11-7010-256-12&P

Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 All external power disconnected
 (see TM 11-7010-256-12&P)
 Battery ground lead disconnected (page 13-2)

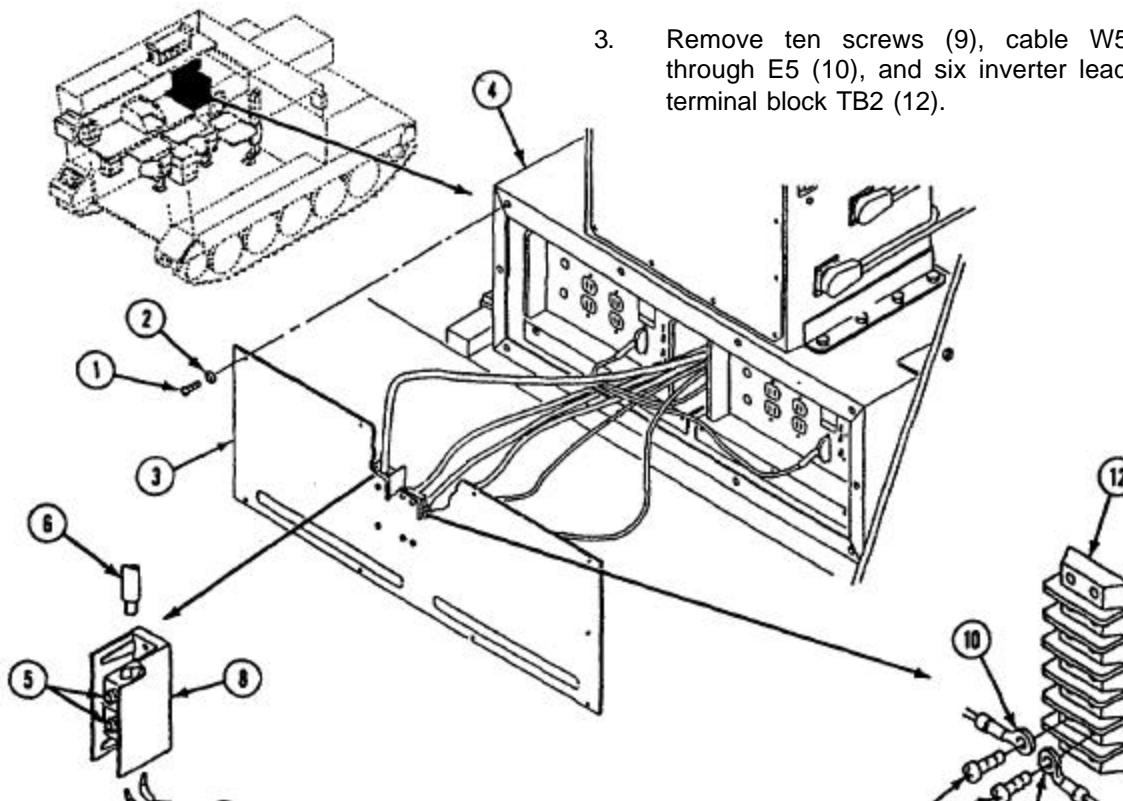
REMOVE

1. Remove ten screws (1), lockwashers (2), and cover (3) from inverter housing (4). Discard lockwashers.

NOTE

Tag all leads before disconnecting.

2. Loosen two set screws (5) and remove cable W6 lead E2 (6) and two inverter leads E4 (7) from terminal block TB1 (8).
3. Remove ten screws (9), cable W5 leads E1 through E5 (10), and six inverter leads (11) from terminal block TB2 (12).

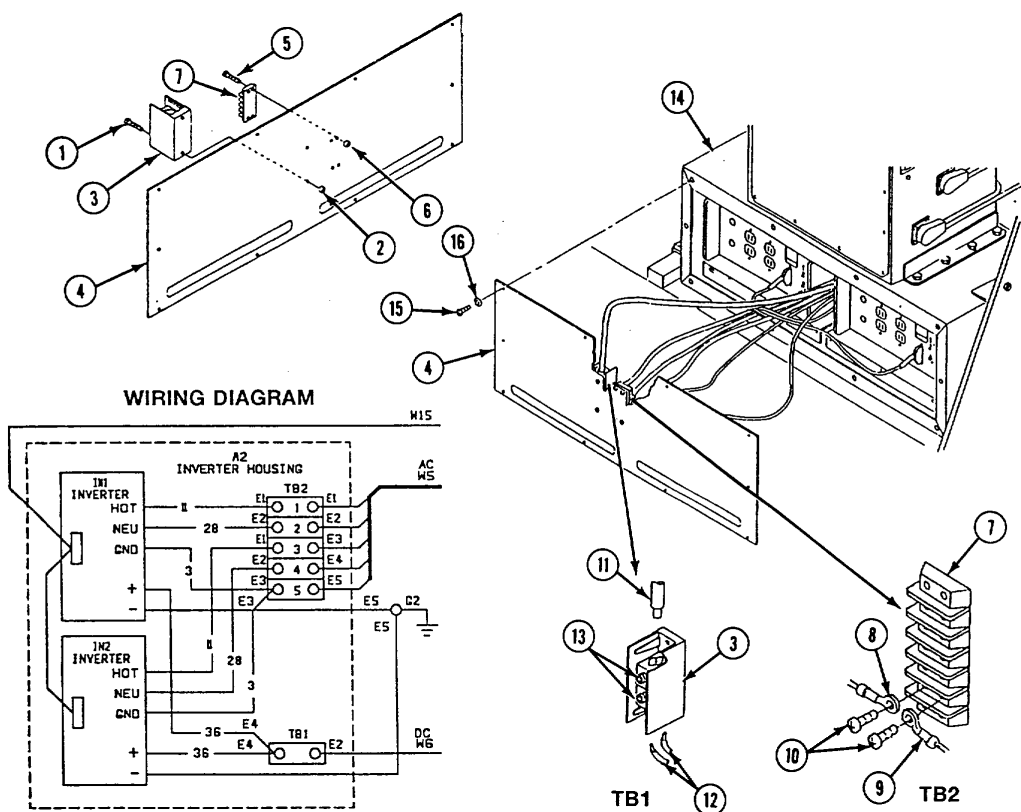


4. Remove two screws (1), locknuts (2), and terminal block TB1 (3) from cover (4). Discard locknuts.
5. Remove four screws (5), locknuts (6), and terminal block TB2 (7) from cover (4). Discard locknuts.

INSTALL

6. Install terminal block TB2 (7) on cover (4). Secure with four screws (5) and new locknuts (6).

7. Install terminal block TB1 (3) on cover (4). Secure with two screws (1) and new locknuts (2).
8. Connect cable W5 leads E1 through E5 (8) and six inverter leads (9) to terminal block TB2 (7). Use wiring diagram. Secure with ten screws (10).
9. Insert cable W6 lead E2 (11) and two inverter leads E4 (12) into terminal block TB1 (3). Use wiring diagram. Secure with two set screws (13).
10. Install cover (4) on inverter housing (14). Secure with ten screws (15) and new lockwashers (16).



FOLLOW-THROUGH STEPS

Connect battery ground lead (page 13-2).

END OF TASK

REPLACE POWER CONTROL ENCLOSURE AC AND DC METERS AND LIGHT INDICATORS (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-29). Install (page 40.1-31).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

- Primer
- Sealing Compound (item 52.1, App C)
- Locknut (6)
- Lockwasher (10)

Personnel Required:

Power-Generation Equipment Repairer 52D10

References:

See your -10
TM 11-7010-256-12&P

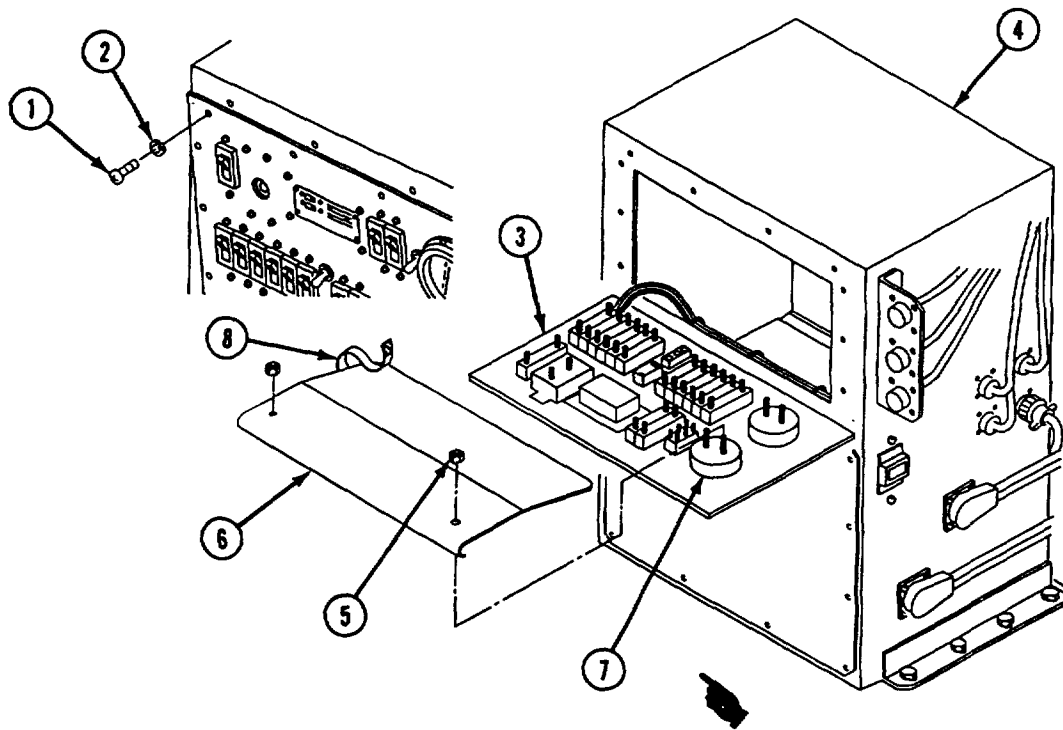
Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- All external power disconnected
(see TM 11-7010-256-12&P)
- Battery ground lead disconnected (page 13-2)

REMOVE

1. Remove ten screws (1), lockwashers (2), and lower faceplate assembly (3) from power enclosure (4). Discard lockwashers.

- 1.1. Remove nut (5) and safety cover (6) from terminal 2 on meter M1 (7). Unwrap velcro strap (8) from around local wiring.

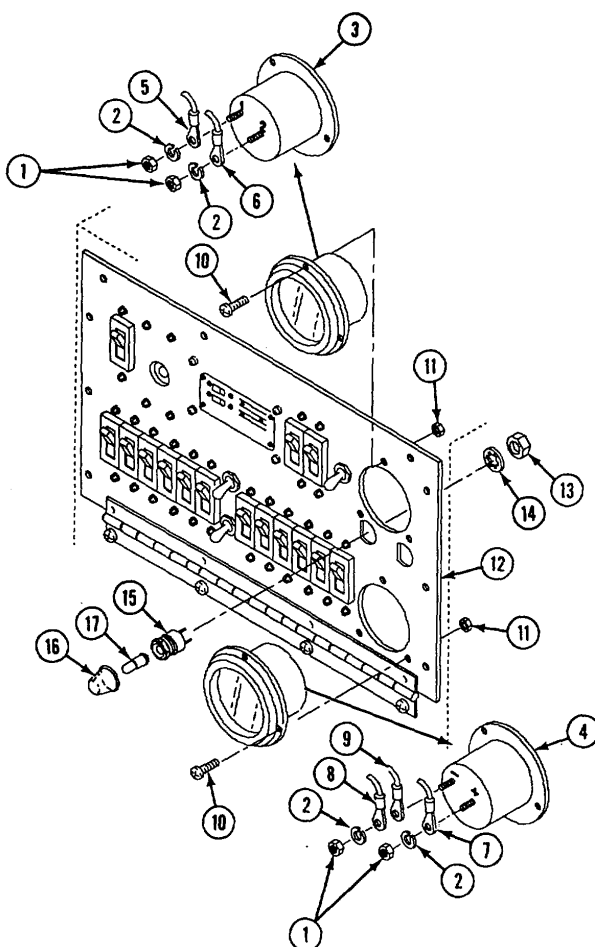


GO TO NEXT PAGE

NOTE

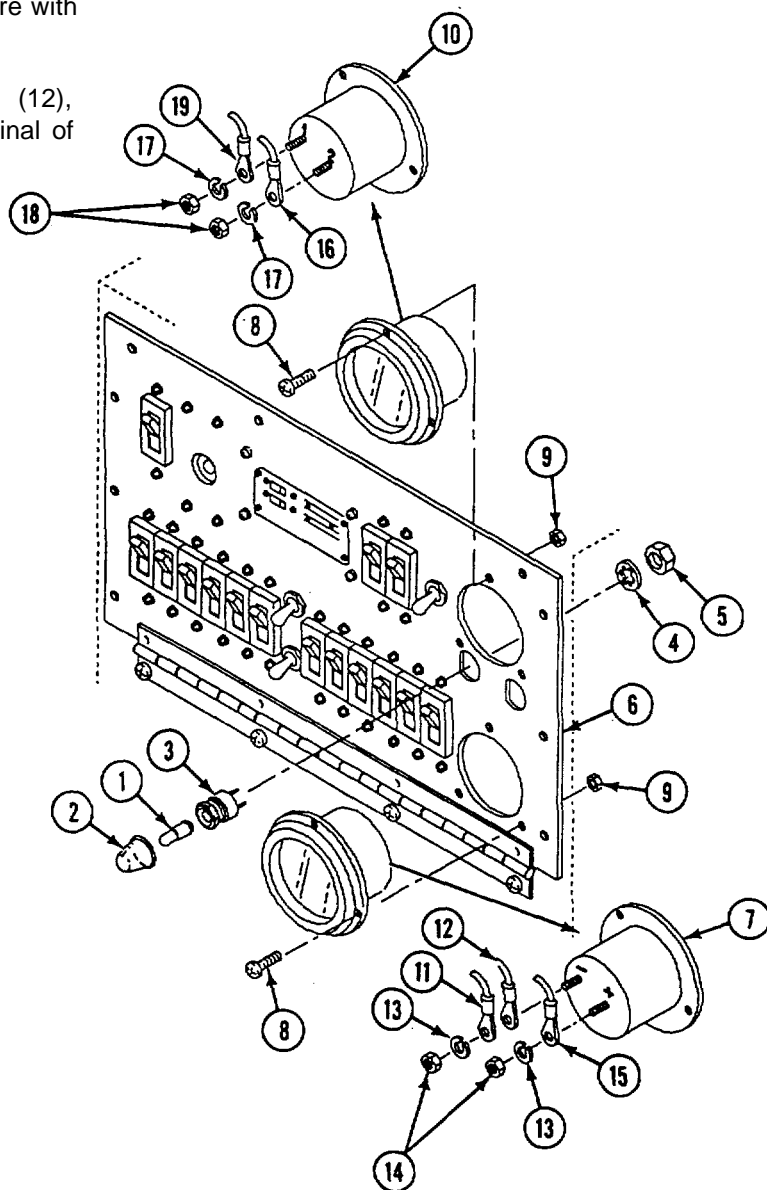
Tag all leads before removing them.

2. Remove two nuts (1) and washers (2) from meter M1 (3).
3. Remove two nuts (1) and washers (2) from meter M2 (4).
4. Remove circuits 29A lead (5) and 30A lead (6) from meter M1 (3).
5. Remove circuits 31F lead (7), 32F lead (8), and 28C lead (9) from meter M2 (4).
6. Remove three screws (10), locknuts (11), and meter M1 (3) from faceplate (12). Discard locknuts.
7. Remove three screws (10), locknuts (11), and meter M2 (4) from faceplate (12). Discard locknuts.
8. Remove two jamnuts (13) and lockwashers (14) from two indicator lights (15). Remove lights from faceplate (12).
9. If necessary, remove lens (16) and bulb (17) from indicator light (15).



INSTALL

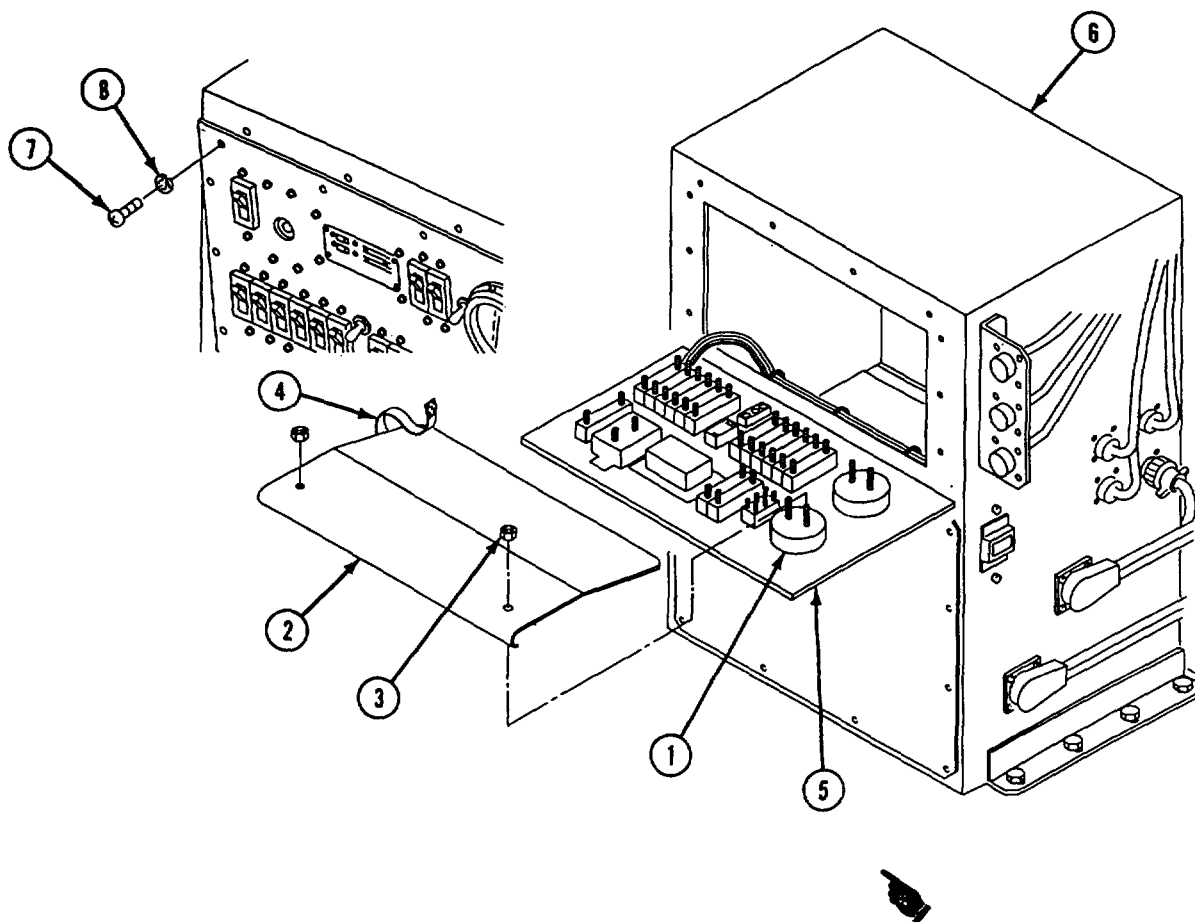
10. If bulb (1) or lens (2) were removed, install on indicator light (3).
11. Install two indicator lights (3) on faceplate (4). Secure with lockwashers (5) and jamnuts (6).
12. Install meter M2 (7) on faceplate (4). Secure with three screws (8) and new locknuts (9).
13. Install meter M1 (10) on faceplate (4). Secure with three screws (8) and new locknuts (9).
14. Install circuits 32F (11) and 28C leads (12), washer (13), and nut (14) on negative terminal of meter M2 (7).
15. Install circuit 31F lead (15), washer (13), and nut (14) on positive terminal of meter M2 (7).
16. Install circuit 30A lead (16), washer (17), and nut (18) on terminal 1 of meter M1 (10).
17. Install circuit 29A lead (19), washer (17), and nut (18) on terminal 2 of meter M1 (10).



GO TO NEXT PAGE

17.1. Apply primer and sealing compound to threads of terminal 2 of meter M1 (1). Install safety cover (2) and nut (3) on terminal 2 of meter M1. Wrap velcro strap (4) around local wiring.

18. Install faceplate (5) on power enclosure (6). Secure with ten screws (7) and new lockwashers (8).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
-

END OF TASK

REPAIR POWER CONTROL ENCLOSURE FACEPLATE AND BRACKET (M1068 ONLY)**DESCRIPTION**

This task covers: Disassemble (page 40.1-33). Assemble (page 40.1-37).

INITIAL SETUP**Tools:**

General Mechanic's Tool Kit (Item 60, App D)

Personnel Required:

Power-Generation Equipment Repairer 52D10

Materials/Parts:

Primer
Sealing Compound (Item 52.1, App C)
Locknut (4)
Locknut (4)
Lockwasher (4)
Lockwasher (6)
Lockwasher (10)
Strap (AR)

References:

See your -10
TM 11-7010-256-12&P

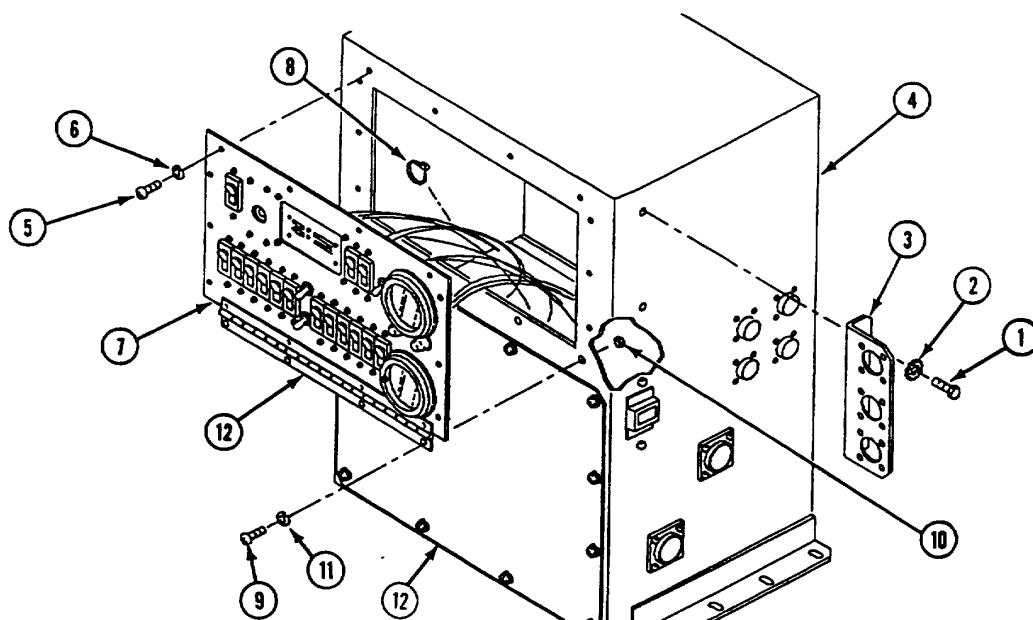
Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

DISASSEMBLE

1. Remove two screws (1), lockwashers (2), and bracket (3) from enclosure (4). Discard lockwashers.
2. Remove ten screws (5), lockwashers (6), and faceplate assembly (7) from enclosure (4). Lower faceplate (7). Discard lockwashers.

3. Remove straps (8) from leads as required. Discard straps.
4. Remove four screws (9), locknuts (10), and washers (11) from faceplate hinge (12). Discard locknuts.



GO TO NEXT PAGE

NOTE

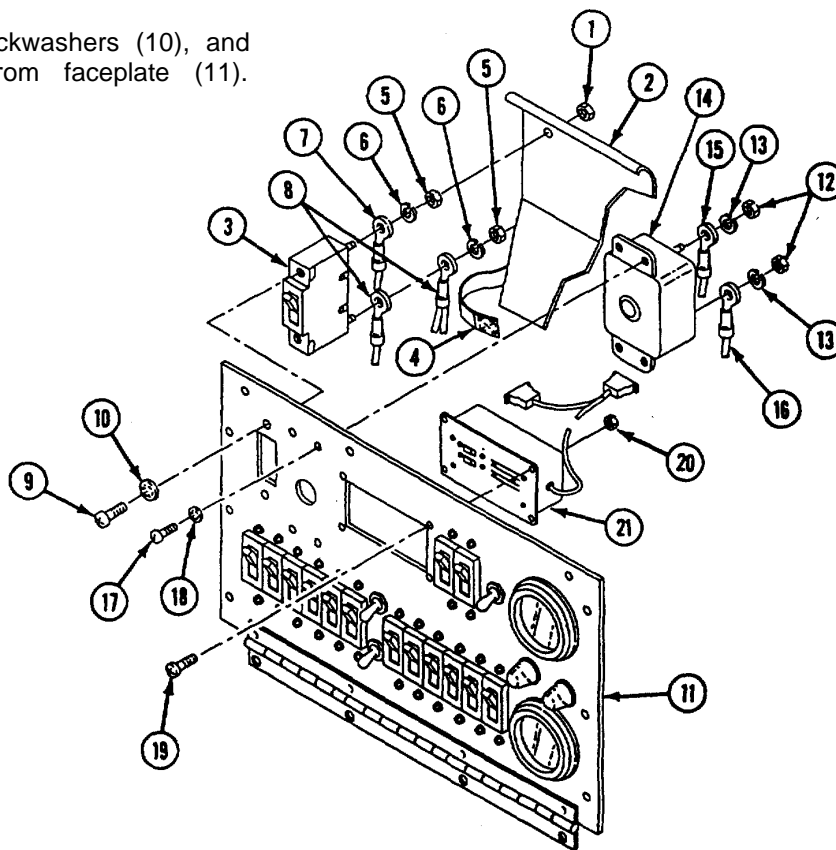
Tag all leads before removal.

NOTE

There are 14 circuit breakers. All circuit breakers are removed in the same way. The art work shows the removal of only one circuit breaker. Use wiring diagram (see FO-11).

- 4.1. Remove nut (1) and safety cover (2) from terminal 1 of circuit breaker CB1 (3). Unwrap velcro strap (4) from around local wiring.
5. Remove two nuts (5) and lockwashers (6) from circuit breaker CBI (3).
6. Remove circuit 7A lead (7) from terminal 1 of circuit breaker CB1 (3).
7. Remove circuits 9A, 9E, and 9D leads (8) from terminal 2 of circuit breaker CB1 (3).
8. Remove two screws (9), lockwashers (10), and circuit breaker CB1 (3) from faceplate (11). Discard lockwashers.

9. Remove two nuts (12) and lockwashers (13) from circuit breaker CB2 (14).
10. Remove circuit 31B lead (15) from terminal 1 of circuit breaker CB2 (14).
11. Remove circuit 36C lead (16) from terminal 2 of circuit breaker CB2 (14).
12. Remove four screws (17), lockwashers (18), and circuit breaker CB2 (14) from faceplate (11). Discard lockwashers.
13. Remove four screws (19), locknuts (20), and cascade remote harness RP1 (21) from faceplate (11) and two inverters. Discard locknuts.



NOTE

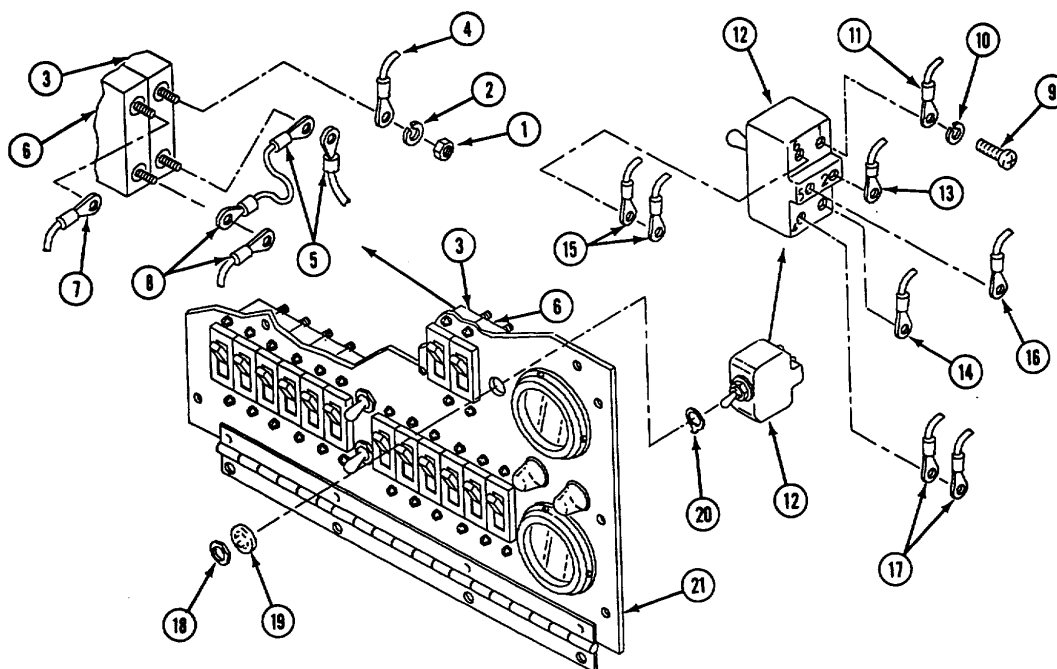
All leads for CB3 and CB4 are secured with a washer and a nut. Art work shows the removal of only one washer and one nut.

14. Remove two nuts (1) and lockwashers (2) from circuit breaker CB3 (3).
15. Remove circuit 11A lead (4) from terminal 1 of circuit breaker CB3 (3).
16. Remove circuits 13A and 13B leads (5) from terminal 2 of circuit breaker CB3 (3).
17. Remove two nuts (1) and lockwashers (2) from circuit breaker CB4 (6).
18. Remove circuit 12A lead (7) from terminal 1 of circuit breaker CB4 (6).
19. Remove circuits 13B and 13C leads (8) from CB4 (6).

20. Remove screw (9), lockwasher (10), and circuit 9E lead (11) from terminal 1 of toggle switch S2 (12).
21. Remove screw (9), lockwasher (10), and circuit 30A lead (13) from terminal 2 of toggle switch S2 (12).
22. Remove screw (9), lockwasher (10), and circuit 13C lead (14) from terminal 3 of toggle switch S2 (12).
23. Remove screw (9), lockwasher (10), and circuit 8D and 8F leads (15) from terminal 4 of toggle switch S2 (12).
24. Remove screw (9), lockwasher (10), and circuit 29A lead (16) from terminal 5 of toggle switch S2 (12).
25. Remove screw (9), lockwasher (10), and circuit 28C and 28F leads (17) from terminal 6 of toggle switch S2 (12).
26. Remove nut (18), lockwasher (19), locking ring (20), and toggle switch S2 (12) from faceplate (21).

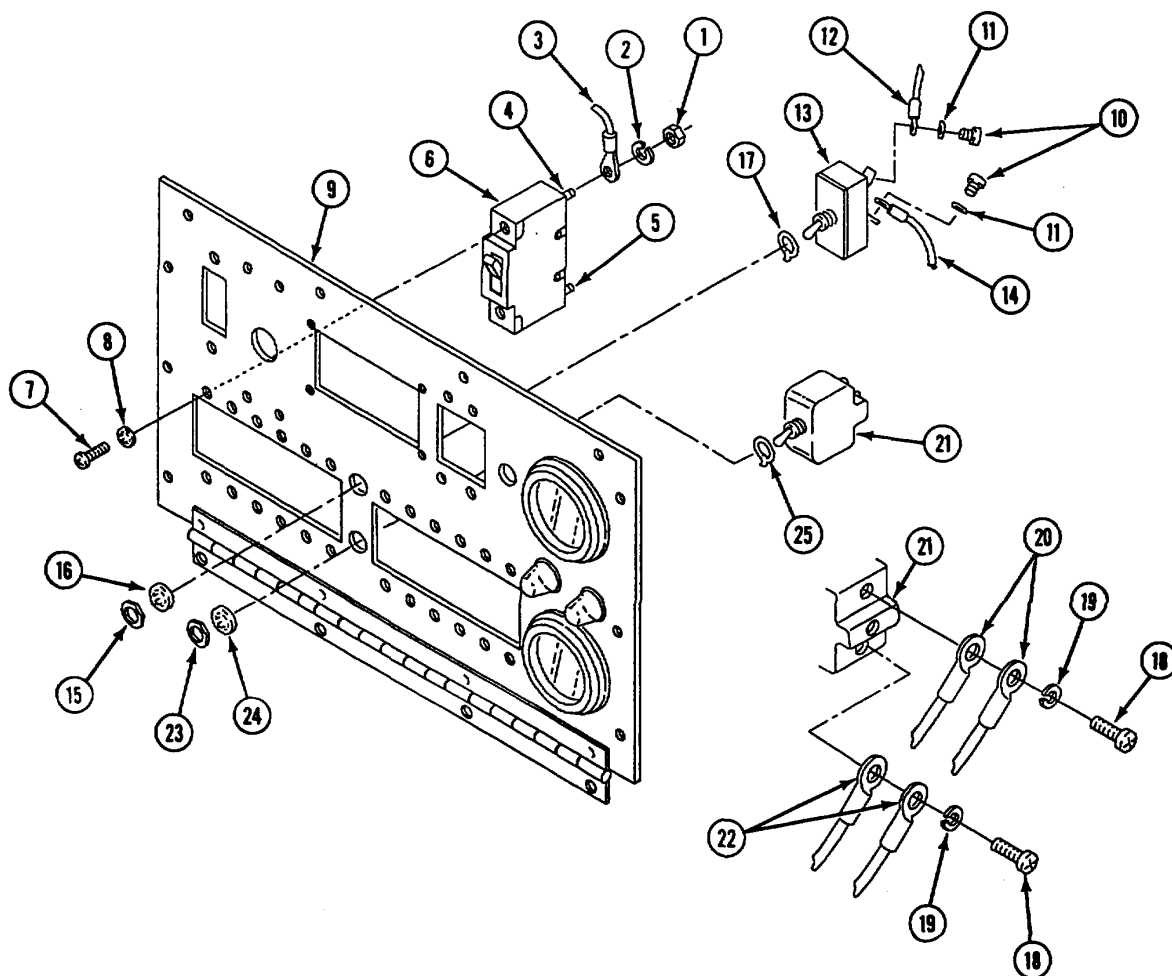
NOTE

All leads are secured to S2 with a screw and a washer. The art work shows the removal of only one washer and one screw.



GO TO NEXT PAGE

27. Remove two nuts (1) and lockwashers (2) and circuit lead(s) (3) from terminal 1 (4) and terminal 2 (5) of circuit breaker (6).
28. Remove circuit breaker (6) by removing two screws (7) and lockwashers (8) from faceplate (9). Discard lockwashers.
29. Remove screw (10), lockwasher (11), and circuit 19A lead (12) from terminal 2 of circuit breaker CB17 (13).
30. Remove screw (10), lockwasher (11), and circuit 17C lead (14) from terminal 1 of circuit breaker CB17 (13).
31. Remove nut (15), lockwasher (16), locking ring (17), and circuit breaker CB17 (13) from faceplate (9).
32. Remove screw (18), lockwasher (19), and circuits 19A and 19B leads (20) from terminal 2 of toggle switch S1 (21).
33. Remove screw (18), lockwasher (19), and circuits 20A and 20B leads (22) from terminal 3 of toggle switch S1 (21).
34. Remove nut (23), lockwasher (24), locking ring (25), and toggle switch S1 (21) from faceplate (9).



ASSEMBLE

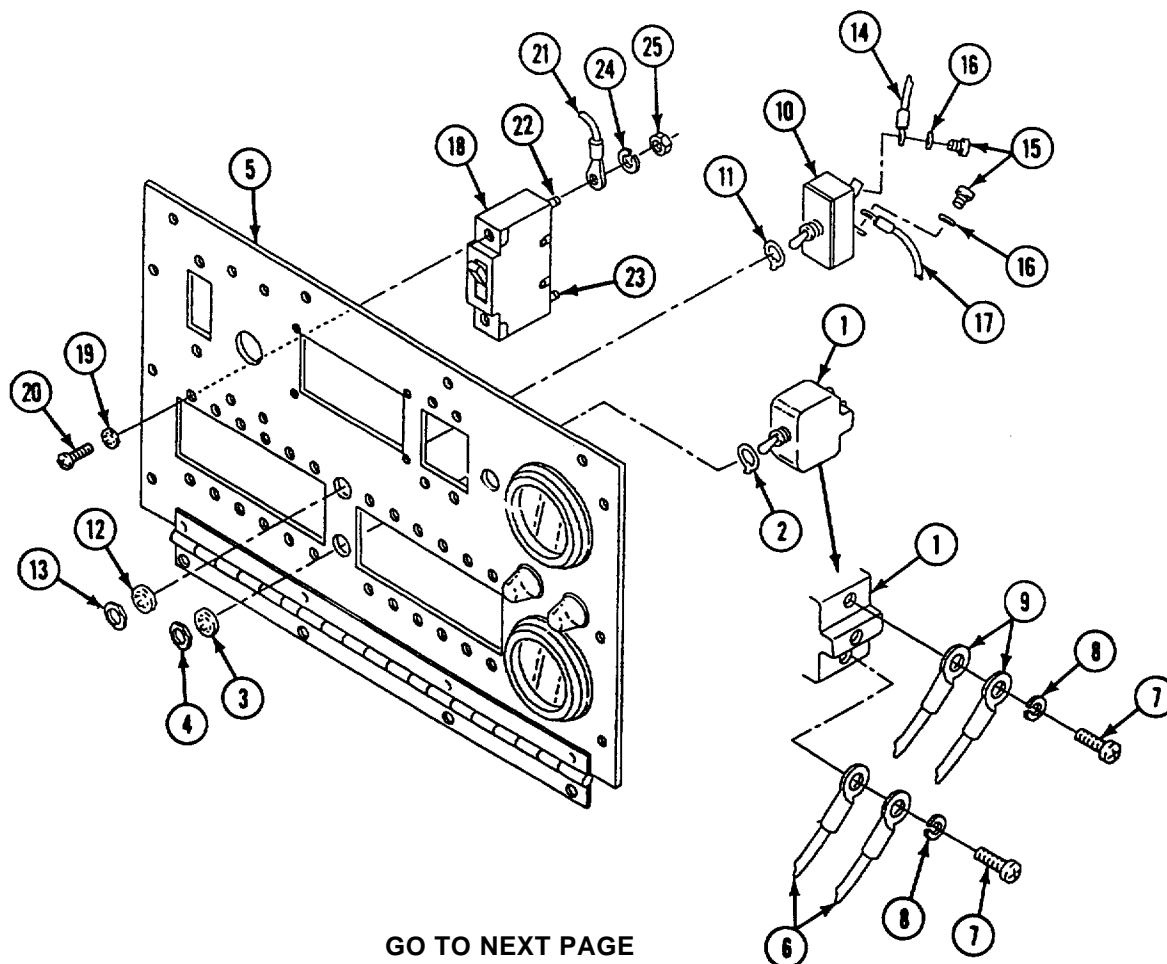
- 35. Install toggle switch S1 (1), locking ring (2), lockwasher (3), and nut (4) on faceplate (5).
- 36. Install circuits 20A and 20B leads (6), screw (7), and lockwasher (8) on terminal 3 of toggle switch S1 (1).
- 37. Install circuits 19A and 19B leads (9), screw (7), and lockwasher (8) on terminal 2 of toggle switch S1 (1).

NOTE

There are 14 circuit breakers. All circuit breakers are installed in the same way. Art work shows the installation of one circuit breaker. Use wiring diagram (see FO-11).

- 39. Install circuit 19A lead (14), screw (15), and lockwasher (16) on terminal 2 of circuit breaker CB17 (10).
- 40. Install circuit 17C lead (17), screw (15), and lockwasher (16) on terminal 1 of circuit breaker CB17 (10).
- 41. Install circuit breaker (18) on faceplate (5). Secure with two new lockwashers (19) and screws (20).
- 42. Install circuit lead(s) (21) to terminal 1 (22) and terminal 2 (23) with two lockwashers (24) and nuts (25).

- 38. Install circuit breaker CB17 (10), locking ring (11), lockwasher (12), and nut (13) on faceplate (5).



GO TO NEXT PAGE

NOTE

All S2 leads are secured with a washer and a screw. The art work shows the installation of only one washer and one screw.

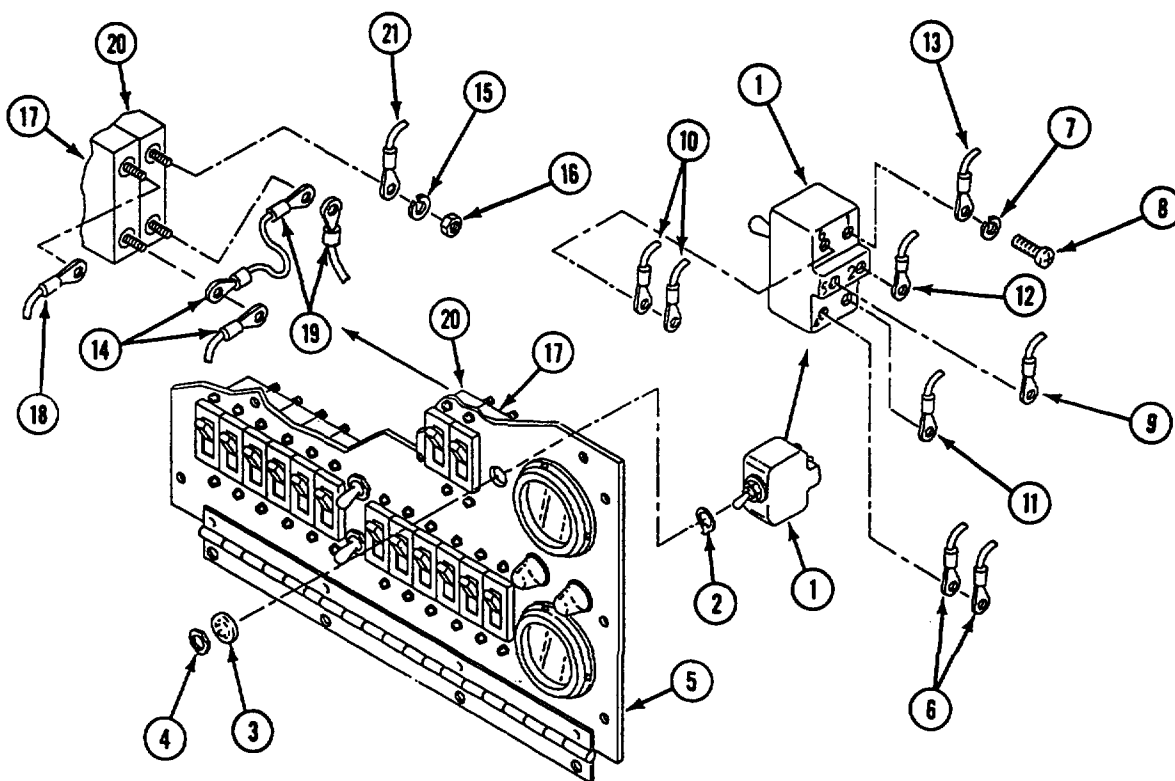
43. Install toggle switch S2 (1), locking ring (2), lockwasher (3), and nut (4) on faceplate (5).
44. Install circuits 28C and 28F leads (6), lockwasher (7), and screw (8) on terminal 6 of toggle switch S2 (1).
45. Install circuit 29A lead (9), lockwasher (7), and screw (8) on terminal 5 of toggle switch S2 (1).
46. Install circuits 8D and 8F leads (10), lockwasher (7), and screw (8) on terminal 4 of toggle switch S2 (1).
47. Install circuit 13C lead (11), lockwasher (7), and screw (8) on terminal 3 of toggle switch S2 (1).
48. Install circuit 30A lead (12), lockwasher (7), and screw (8) on terminal 2 of toggle switch S2 (1).

49. Install circuit 9E lead (13), lockwasher (7), and screw (8) on terminal 1 of toggle switch S2 (1).

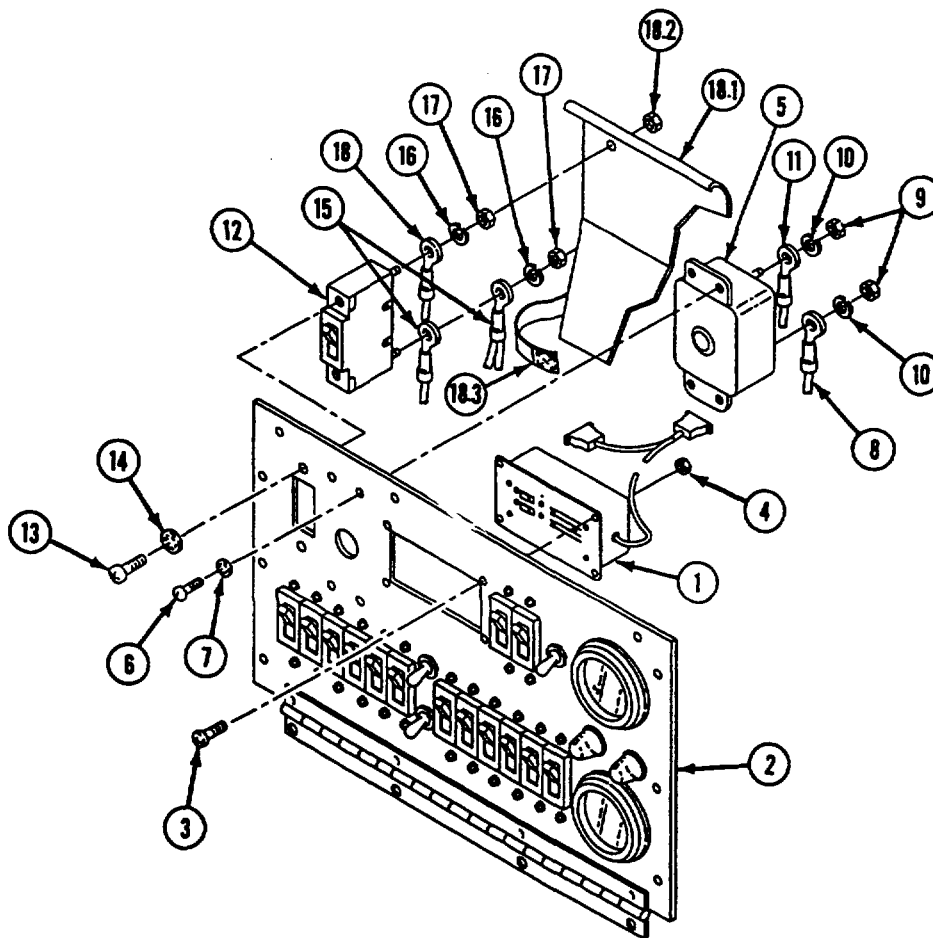
NOTE

All circuit leads for CB3 and CB4 are secured with a washer and a nut. The art work shows the installation of only one washer and one nut.

50. Install circuits 13B and 13C leads (14), lockwasher (15), and nut (16) on terminal 2 of circuit breaker CB4 (17).
51. Install circuit 12A lead (18), lockwasher (15), and nut (16) on terminal 1 of circuit breaker CB4 (17).
52. Install circuits 13B and 13A leads (19), lockwasher (15), and nut (16) on terminal 2 of circuit breaker CB3 (20).
53. Install circuit 11A lead (21), lockwasher (15), and nut (16) on terminal 1 of circuit breaker CB3 (20).

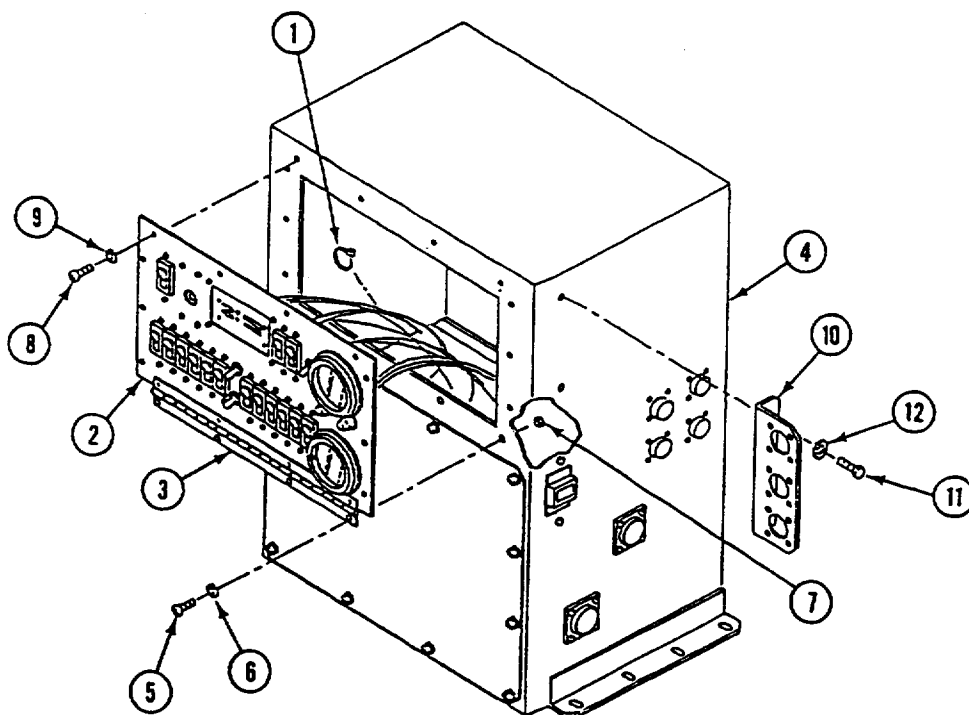


54. Install cascade remote harness RP1 (1) on faceplate (2) and two inverters. Secure with four screws (3) and new locknuts (4).
55. Install circuit breaker CB2 (5), four screws (6), and new lockwashers (7) on faceplate (2).
56. Install circuit 36C lead (8), nut (9), lockwasher (10) on terminal 2 of circuit breaker CB2 (5).
57. Install circuit 31B lead (11), lockwasher (10), and nut (9) on terminal 1 of circuit breaker CB2 (5).
58. Install circuit breaker CB1 (12), two screws (13), and new lockwashers (14) on faceplate (2).
59. Install circuits 9A, 9E, and 9D leads (15), lockwasher (16), and nut (17) on terminal 2 of circuit breaker CB1 (12).
60. Install circuit 7A lead (18), lockwasher (16), and nut (17) on terminal 1 of circuit breaker CB1 (12).
- 60.1. Apply primer and sealing compound to threads of terminal 1 of circuit breaker CB1 (12).
- 60.2. Install safety cover (18.1) and nut (18.2) on terminal 2 of circuit breaker CB1 (12). Wrap velcro strap (18.3) around local wiring.



GO TO NEXT PAGE

61. Install new straps (1) on leads as required.
62. Lift faceplate assembly (2) into place. Secure faceplate hinge (3) to enclosure (4) with four screws (5), washers (6), and new locknuts (7).
63. Close faceplate assembly (2). Secure to enclosure (4) with ten screws (8) and new lockwashers (9).
64. Install bracket (10) on enclosure (4). Secure with two screws (11) and new lockwashers (12).



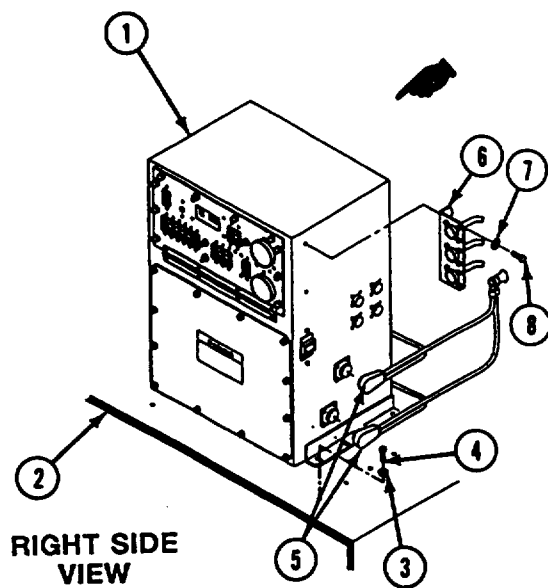
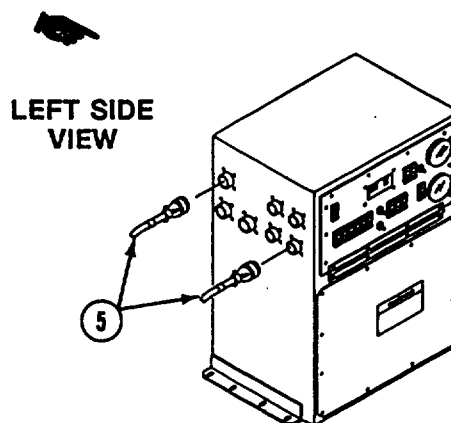
FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
-

END OF TASK

INSTALL

4. Install power control enclosure (1) on inverter housing (2). Secure with eight washers (3) and screws (4). Have helper assist.
5. Connect all cables/connectors (5) to left/right sides of power control enclosure (1).
6. Install bracket (6) on power control enclosure (1). Secure with two new lockwashers (7) and screws (8).



FOLLOW-THROUGH STEPS

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Install cascade remote harness W15 (page 40.1-71). | <ol style="list-style-type: none"> 2. Install roadside data panel A13 (page 40.1-27). 3. Connect battery ground lead (page 13-2). |
|---|---|

END OF TASK

REPLACE POWER CONTROL ENCLOSURE CIRCUIT 44A LEAD (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-42.1).

Install (page 40.1-42.2).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App B)

Materials/Parts:

Locknut (4)
Lockwasher (10)
Strap (AR)

Personnel Required:

Power-Generation Equipment Repairer 52D10

References:

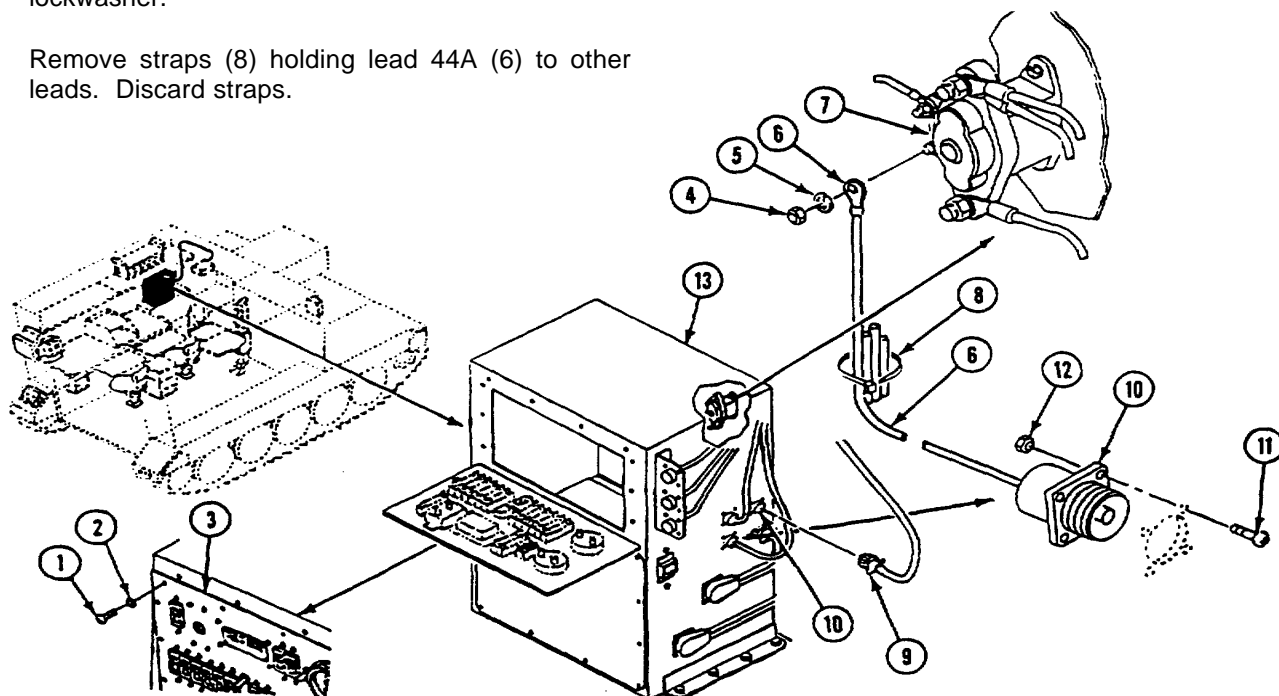
See your -10
TM 11-7010-256-12&P

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

REMOVE

1. Remove ten screws (1) and lockwashers (2), and lower faceplate (3). Discard lockwashers.
2. Remove nut (4), lockwasher (5), and lead 44A (6) from terminal X1 of relay K6 (7). Do not discard lockwasher.
3. Remove straps (8) holding lead 44A (6) to other leads. Discard straps.
4. Disconnect cable plug W38P7 (9) from power control enclosure jack J28 (10).
5. Remove four screws (11), locknuts (12), and connector J28 (10) with lead 44A (6) from power control enclosure (13). Discard locknuts.

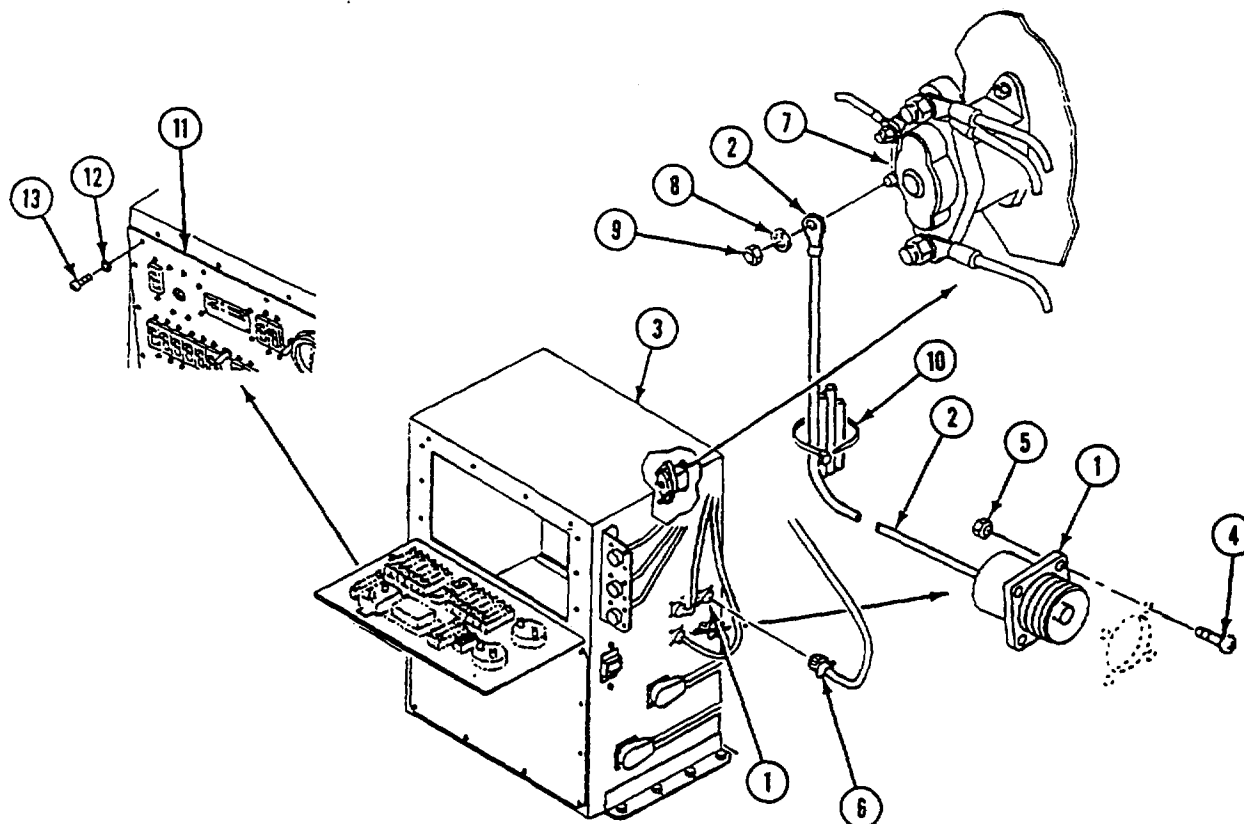


GO TO NEXT PAGE

Change 4 40.1-42.1

INSTALL

6. Install connector J28 (1) with lead 44A (2) in power control enclosure (3). Secure connector to right panel with four screws (4) and new locknuts (5).
7. Connect cable plug W38P7 (6) to power Control enclosure jack J28 (1).
8. Install lead 44A (2) on terminal X1 of relay K6 (7) and secure with retained lockwasher (8) and nut (9).
9. Secure lead 44A (2) to other leads with new straps (10) as required.
10. Raise faceplate (11) and secure to power control enclosure (3) with 10 new lockwashers (12) and screws (13).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

**REPLACE/REPAIR POWER SUPPLY STORAGE BOX ASSEMBLY
(M1068 ONLY)**

DESCRIPTION

This task covers: Remove (page 40.1-43).
 Assemble (page 40.1-44).

Disassemble (page 40.1-43).
Install (page 40.1-45).

INITIAL SETUP

Tools:
General Mechanic's Tool Kit (Item 30, App D)

References (cont):
TM 11-7010-256-12&P

Materials/Parts:
Locknut (5)
Lockwasher (15)

Equipment Conditions:
Engine stopped (see your -10)
Carrier blocked (see your -10)
UPS power supply removed
(see TM 11-7010-256-12&P)
Cables W42, W43 and W251 disconnected
(page 40.1-88)
Stowage items removed from stowage box

Personnel Required:
Unit Mechanic

References:
See your -10

REMOVE

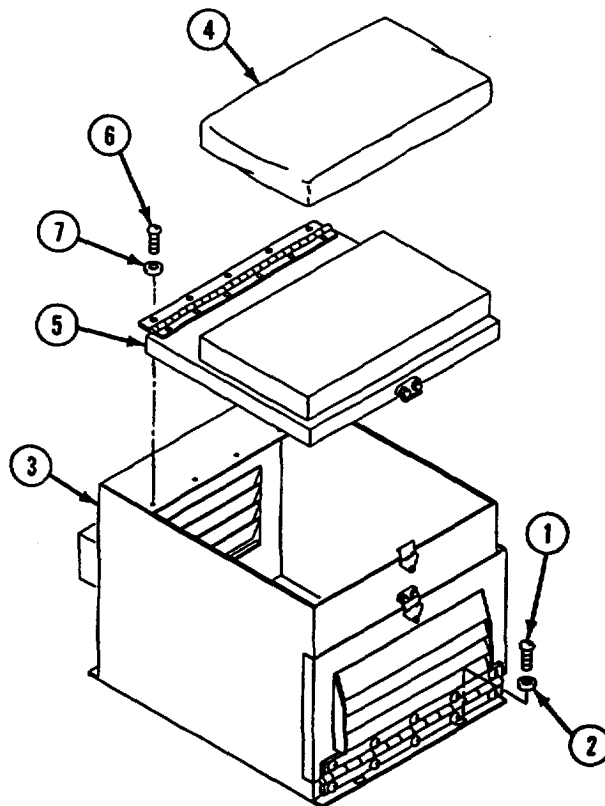
1. Remove four screws (1), washers (2), and storage box (3) from carrier.

DISASSEMBLE

NOTE

Remove seat cushion pad from seat cushion cover only if necessary.

2. Remove seat cushion (4) from lid (5).
3. Remove five screws (6), lockwashers (7), and lid (5) from box (3). Discard lockwashers.

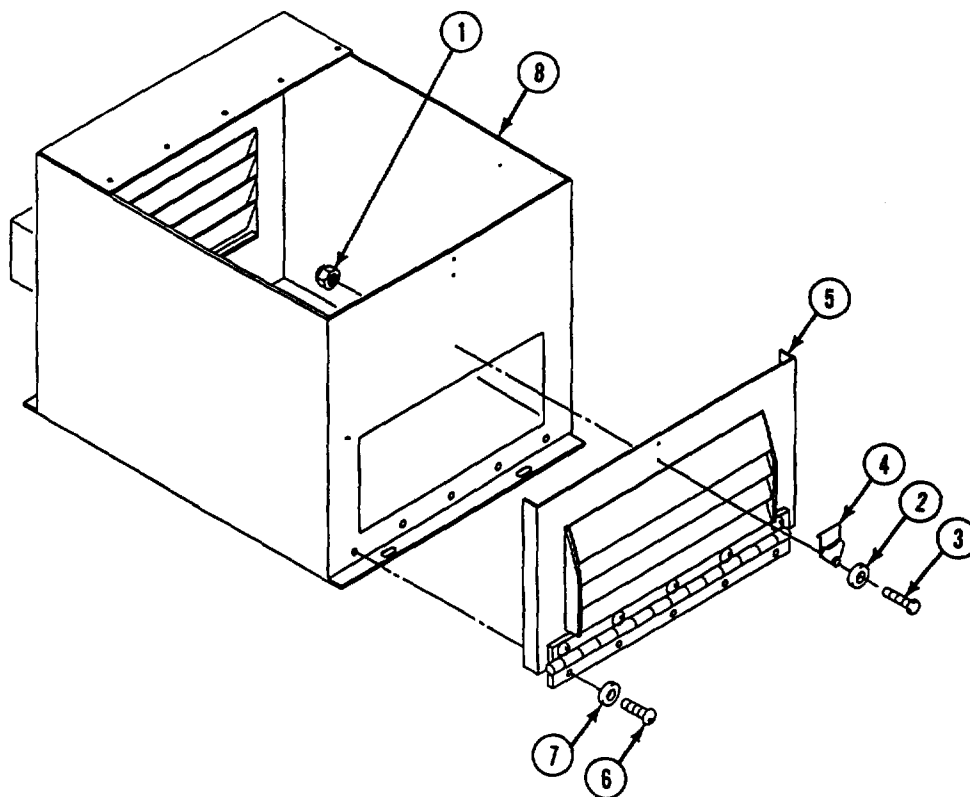


GO TO NEXT PAGE

4. Remove locknut (1), washer (2), screw (3), and catch (4) from cover (5). Discard locknut.
5. Remove four screws (6), washers (7), and cover (5) from box (8.)

ASSEMBLE

6. Install cover (5) on box (8). Secure with four washers (7) and screws (6).
7. Install catch (4) on cover (5). Secure with screw (3), washer (2), and new locknut (1).



8. Install lid (1) on storage box (2). Secure with five washers (3) and screws (4).

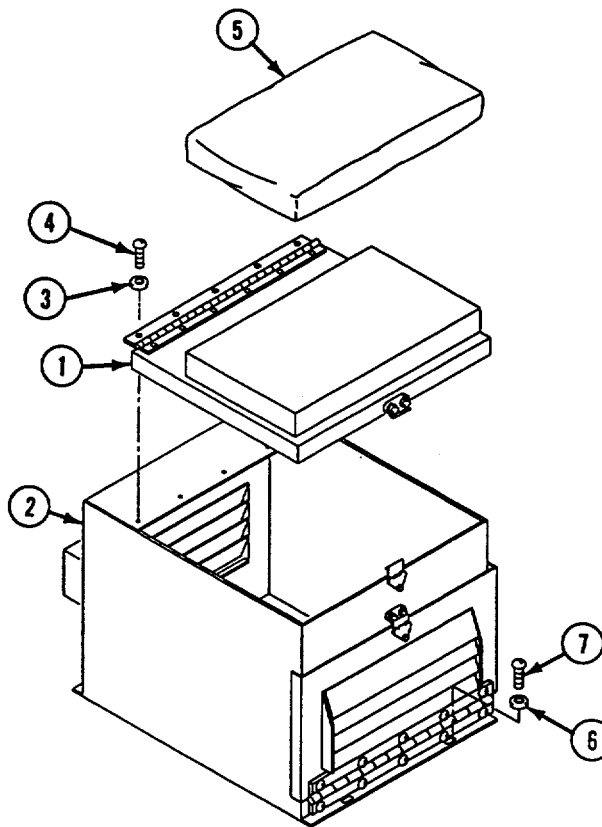
NOTE

If removed, install seat cushion pad in seat cushion cover.

9. Install seat cushion (5) on lid (1).

INSTALL

10. Install storage box (2) in carrier. Secure with four washers (6) and screws (7).



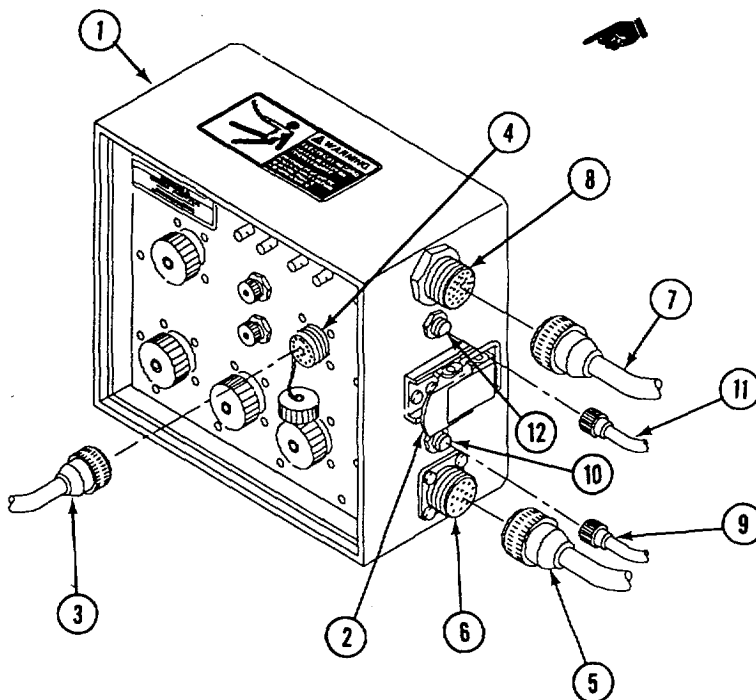
FOLLOW-THROUGH STEPS

1. Install cables W42, W43 and, W251 (page 40.1-88).
2. Replace items/contents into storage box.
3. Install UPS power supply (see TM 11-7010-256-12&P).

END OF TASK

INSTALL

7. Install tent interface panel (1) in carrier and secure with two catches (2).
8. Connect W129P1 (3) to J137 (4) of tent interface panel (1).
9. Connect W32P6 (5) to J7 (6) of tent interface panel (1).
10. Connect W32P7 (7) to J8 (8) of tent interface panel (1).
11. Connect W32P9 (9) to J9 (10) of tent interface panel (1).
12. Connect W32P8 (11) to J10 (12) of tent interface panel (1).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
-

END OF TASK

REPLACE AC POWER EXTENSION BOX A6 AND DC POWER EXTENSION BOX A9 AND MOUNT (M1068 ONLY)

INITIAL SETUP

Tools:

General Mechanic's Tool Kit
(Item 30, App D)

Materials/Parts:

Locknut (8)

Personnel Required:

Power-Generation Equipment Repairer 52D10

References:

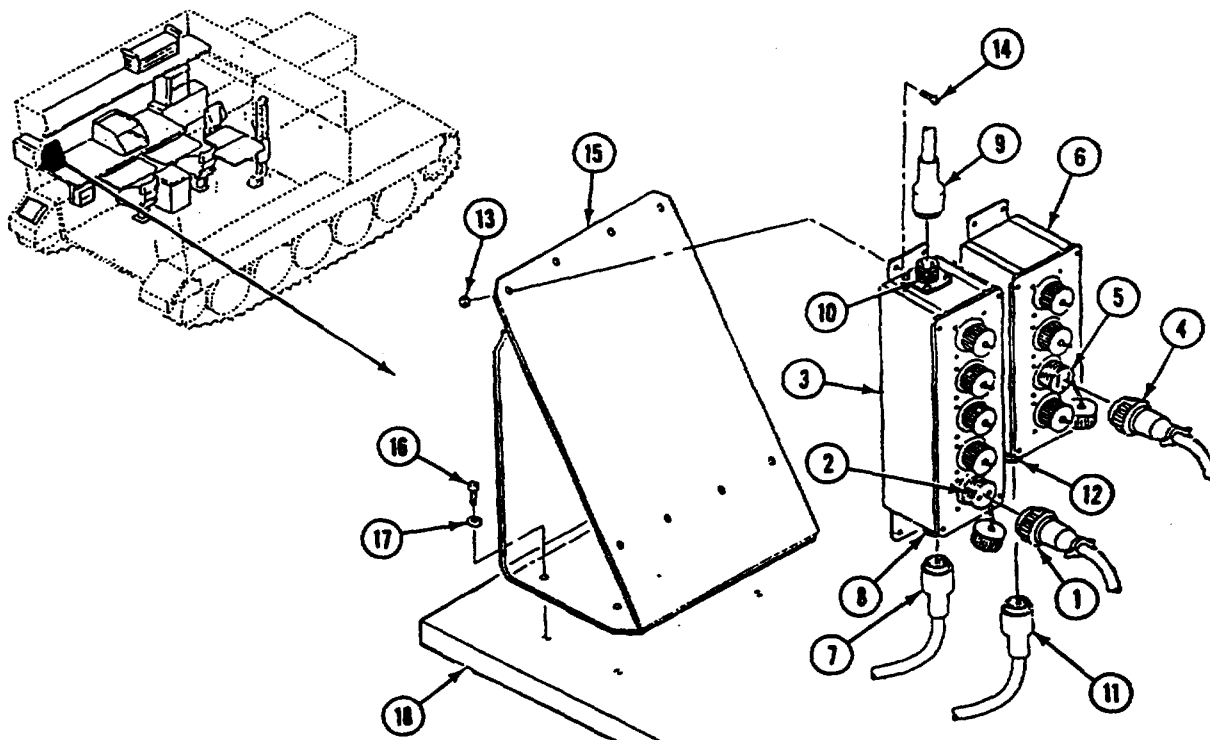
See your -10
TM 11-7010-256-12&P

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

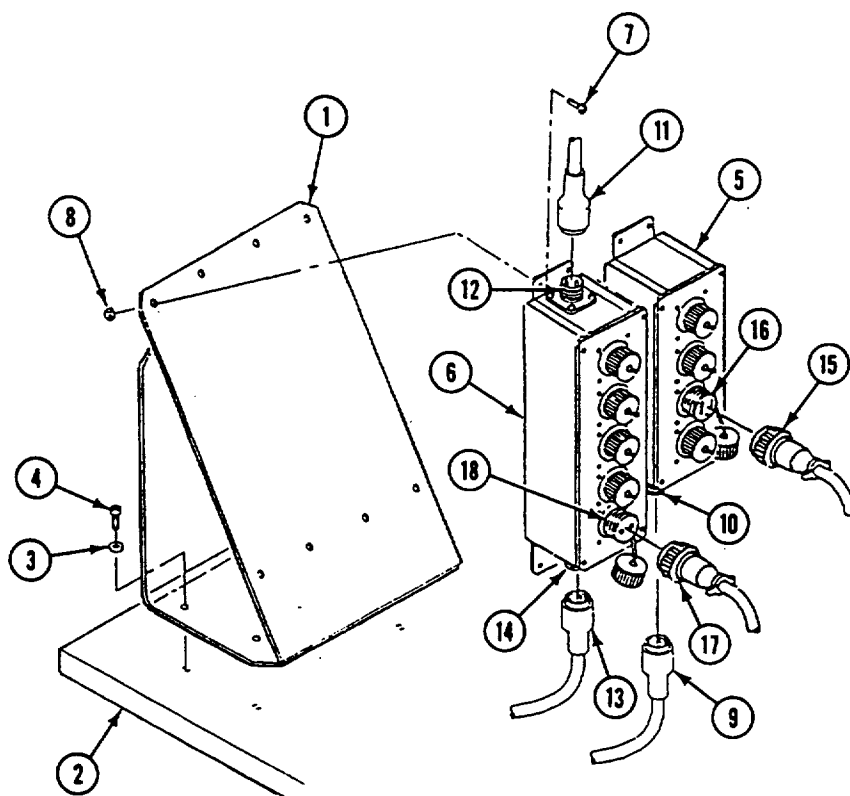
REMOVE

1. Disconnect UPS cable W42 (1) from connector (2) on DC power extension box (3).
2. Disconnect UPS cable W43 (4) from connector (5) on AC power extension box (6).
3. Disconnect cable W10 (7) from connector (8) on DC power extension box (3).
4. Disconnect cable W45 (9) from connector (10) on DC power extension box (3).
5. Disconnect cable W7 (11) from connector (12) on AC power extension box (6).
6. Remove eight locknuts (13), screws (14), and two power extension boxes (3 and 6) from mount (15). Discard locknuts.
7. Remove four screws (16), washer (17), and mount (15) from work station (18).



INSTALL

8. Install mount (1) on work station (2) with four washers (3) and screws (4).
9. Install two power extension boxes (5 and 6) on mount (1) with eight screws (7) and new locknuts (8).
10. Connect cable W7 (9) to connector (10) on AC power extension box (5).
11. Connect cable W45 (11) to connector (12) on DC power extension box (6).
12. Connect cable W10 (13) to connector (14) on DC power extension box (6).
13. Connect UPS cable W43 (15) to connector (16) on AC power extension box (5).
14. Connect UPS cable W42 (17) to connector (18) on DC power extension box (6).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

**REPLACE/REPAIR POWER DISTRIBUTION BOX A3
(M1068 ONLY)**

DESCRIPTION

This task covers: Remove (page 40.1-49).
Assemble (page 40.1-50).

Disassemble (page 40.1-50).
Install (page 40.1-51).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit
(Item 30, App D)

References:

See your -10
TM 11-7010-256-12&P

Materials/Parts:

Lockwasher (12)
Locknut (4)

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

Personnel Required:

Power-Generation Equipment Repairer 52D10
Helper (H)

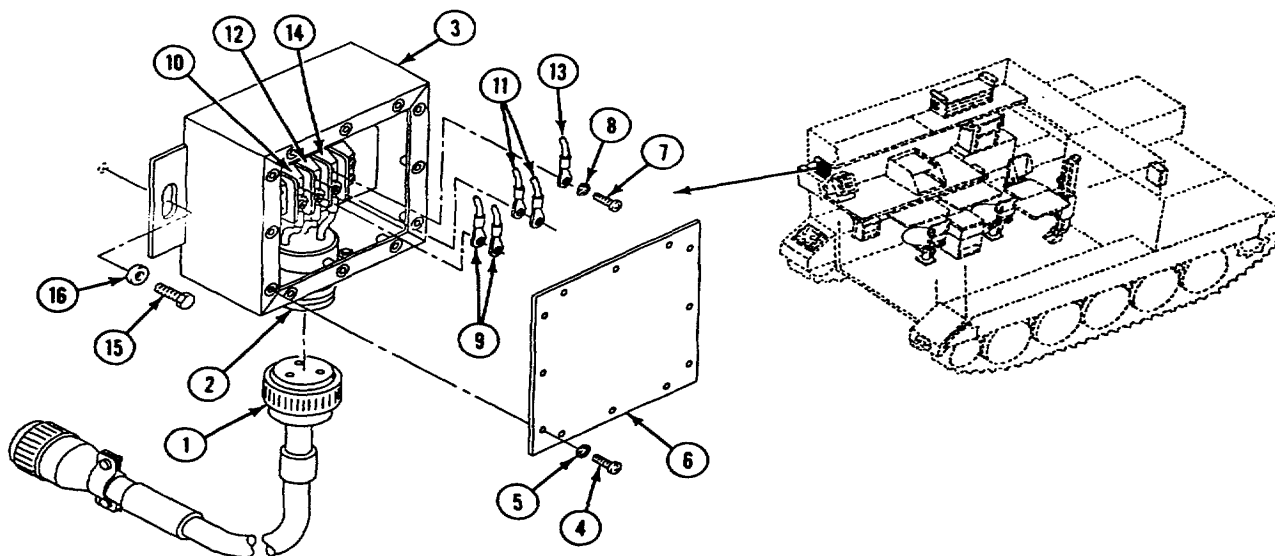
REMOVE

NOTE

Tag all wires before removal.

1. Disconnect cable (1) from connector (2) on power distribution box (3).
2. Remove 12 screws (4), lockwashers (5), and lid (6) from power distribution box (3). Discard lockwashers.

3. Remove screw (7), washer (8), and two circuit 1 leads (9) from terminal 1 (10).
4. Remove screw (7), washer (8), and two circuit 2 leads (11) from terminal 2 (12).
5. Remove screw (7), washer (8), and circuit 3 lead (13) from terminal 3 (14).
6. Remove two screws (15), washers (16), and power distribution box (3) from bulkhead.



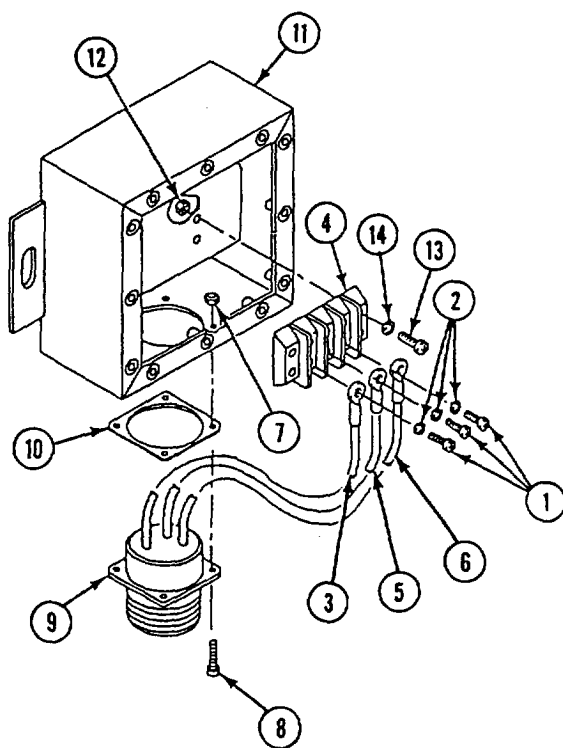
GO TO NEXT PAGE

DISASSEMBLE

7. Remove screw (1), lockwasher (2), and circuit 1 lead (3) from terminal 1 of terminal block (4).
8. Remove screw (1), lockwasher (2), and circuit 2 lead (5) from terminal 2 of terminal block (4).
9. Remove screw (1), lockwasher (2), and circuit 3 lead (6) from terminal 3 of terminal block (4).
10. Remove four locknuts (7), screws (8), connector (9), and gasket (10) from power distribution box (11). Discard locknuts.
11. Remove four nuts (12), screws (13), lockwashers (14), and terminal block (4) from power distribution box (11).

ASSEMBLE

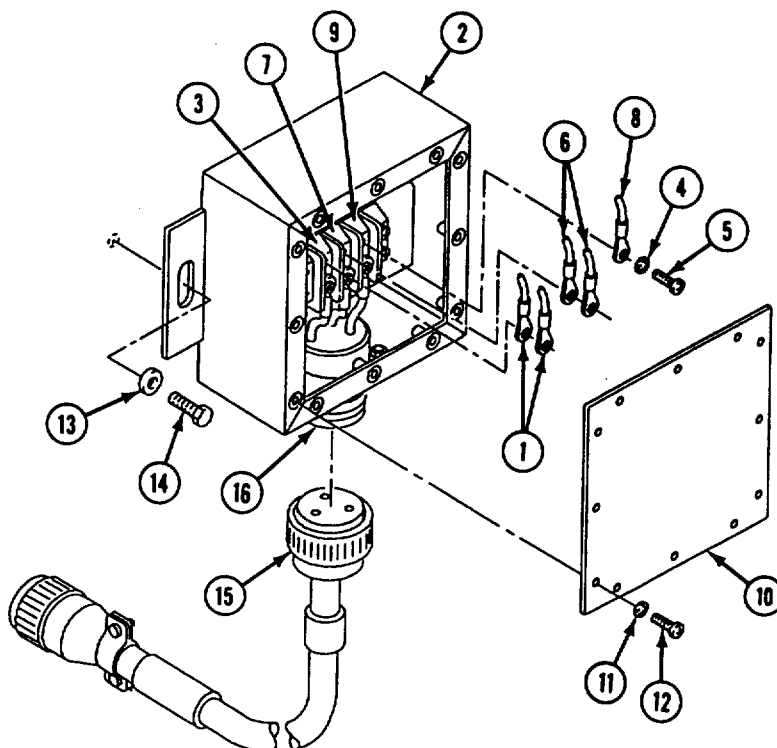
12. Install terminal block (4), four lockwashers (14), screws (13), and nuts (12) on power distribution box (11).
13. Install gasket (10), connector (9), four screws (8), and new locknuts (7) on power distribution box (11).
14. Install circuit 3 lead (6), lockwasher (2), and screw (1) on terminal 3 of terminal block (4).
15. Install circuit 2 lead (5), lockwasher (2), and screw (1) on terminal 2 of terminal block (4).
16. Install circuit 1 lead (3), lockwasher (2), and screw (1) on terminal 1 of terminal block (4).



INSTALL

17. Install two circuit 1 leads (1) through back of power distribution box (2). Secure to terminal (3) with washer (4) and screw (5). Have helper assist.
18. Install two circuits 2 leads (6) through back of power distribution box (2). Secure to terminal (7) with washer (4) and screw (5). Have helper assist.
19. Install circuit 3 lead (8) through back of power distribution box (2). Secure to terminal (9) with washer (4) and screw (5). Have helper assist.

20. Install lid (10) on power distribution box (2). Secure with 12 new lockwashers (11) and screws (12).
21. Install power distribution box (2) on bulkhead. Secure with two washers (13) and screws (14).
22. Connect cable (15) to connector (16) on power distribution box (2).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE/REPAIR PRINTER MOUNT (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-52). Install (page 40.1-53).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Locknut (40)
Lockwasher (16)

Personnel Required:

Unit Mechanic

References:

See your -10
TM 11-7010-256-12&P

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Electronic equipment removed
(see TM 11-7010-256-12&P)

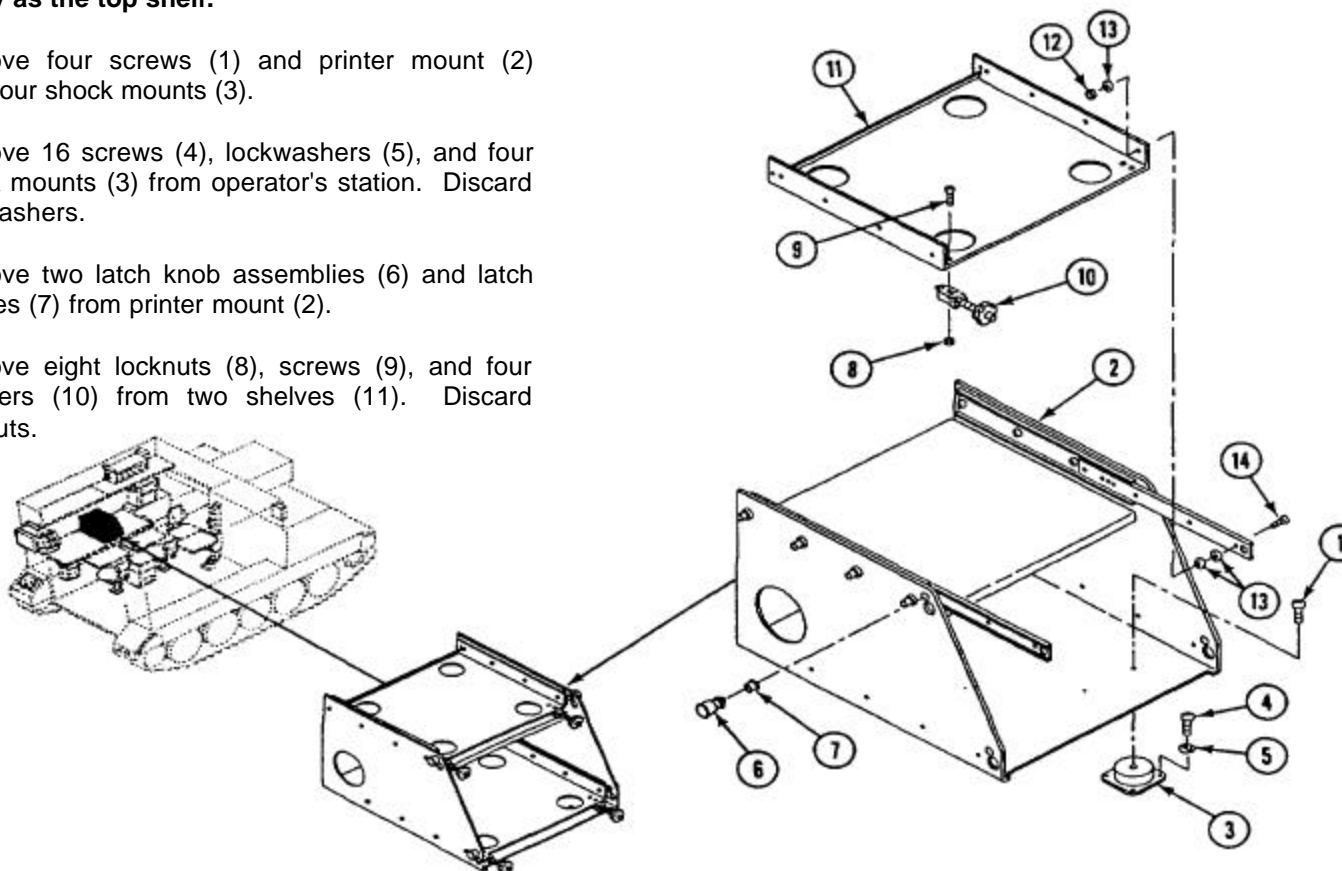
REMOVE

NOTE

Art is shown for top shelf only. The bottom shelf is replaced in the same way as the top shelf.

1. Remove four screws (1) and printer mount (2) from four shock mounts (3).
2. Remove 16 screws (4), lockwashers (5), and four shock mounts (3) from operator's station. Discard lockwashers.
3. Remove two latch knob assemblies (6) and latch sleeves (7) from printer mount (2).
4. Remove eight locknuts (8), screws (9), and four retainers (10) from two shelves (11). Discard locknuts.

5. Extend top shelf (11) and remove eight locknuts (12), washers and shims (13), screws (14), and shelf from printer mount (2). Discard locknuts.



6. Extend bottom shelf (1) and remove eight locknuts (2), washers and shims (3), screws (4), and shelf from printer mount (5). Discard locknuts.
7. Remove 16 locknuts (6), washers (7), screws (8), and four slides (9) from printer mount (5). Discard locknuts.

12. Install two latch sleeves (13) and latch knob assemblies (14) on printer mount (5).
13. Install four shock mounts (15), 16 new lockwashers (16), and screws (17) on operator's station.
14. Install printer mount (5) and four screws (18) on four shock mounts (15).

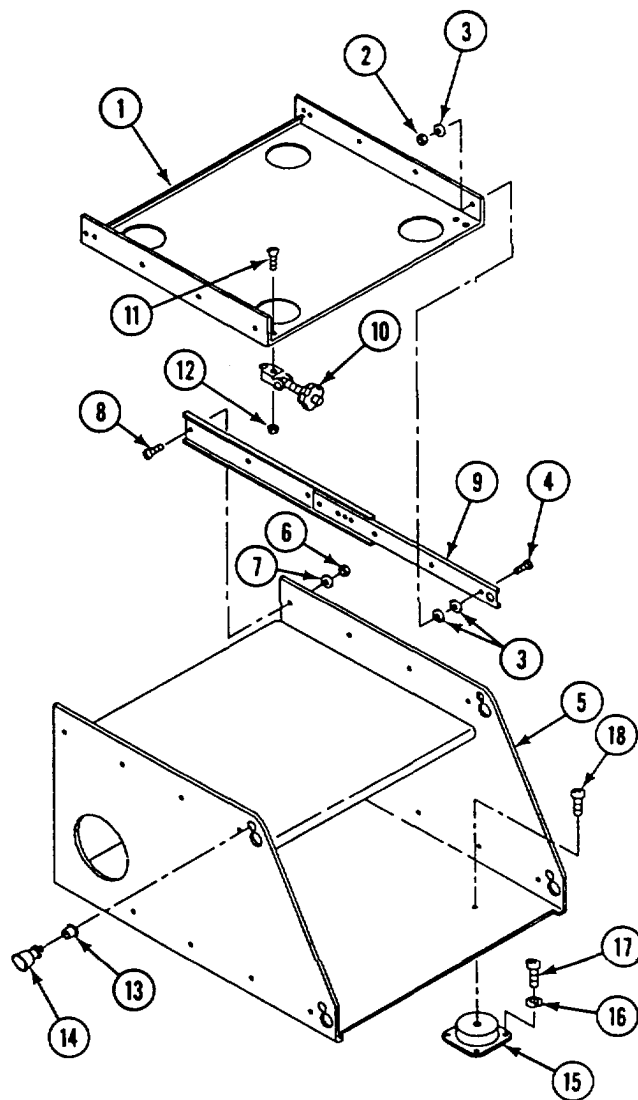
INSTALL

8. Install four slides (9), 16 screws (8), washers (7), and new locknuts (6) on printer mount (5).

NOTE

Additional washers are used as shims. Separate the washers evenly on each side of the shelf.

9. Install bottom shelf (1), eight screws (4), washers and shims (3) as required, and new locknuts (2) on printer mount (5).
10. Install top shelf (1), eight screws (4), washers and shims (3) as required, and new locknuts (2) on printer mount (5).
11. Install four retainers (10), eight screws (11), and new locknuts (12) on two shelves (1).



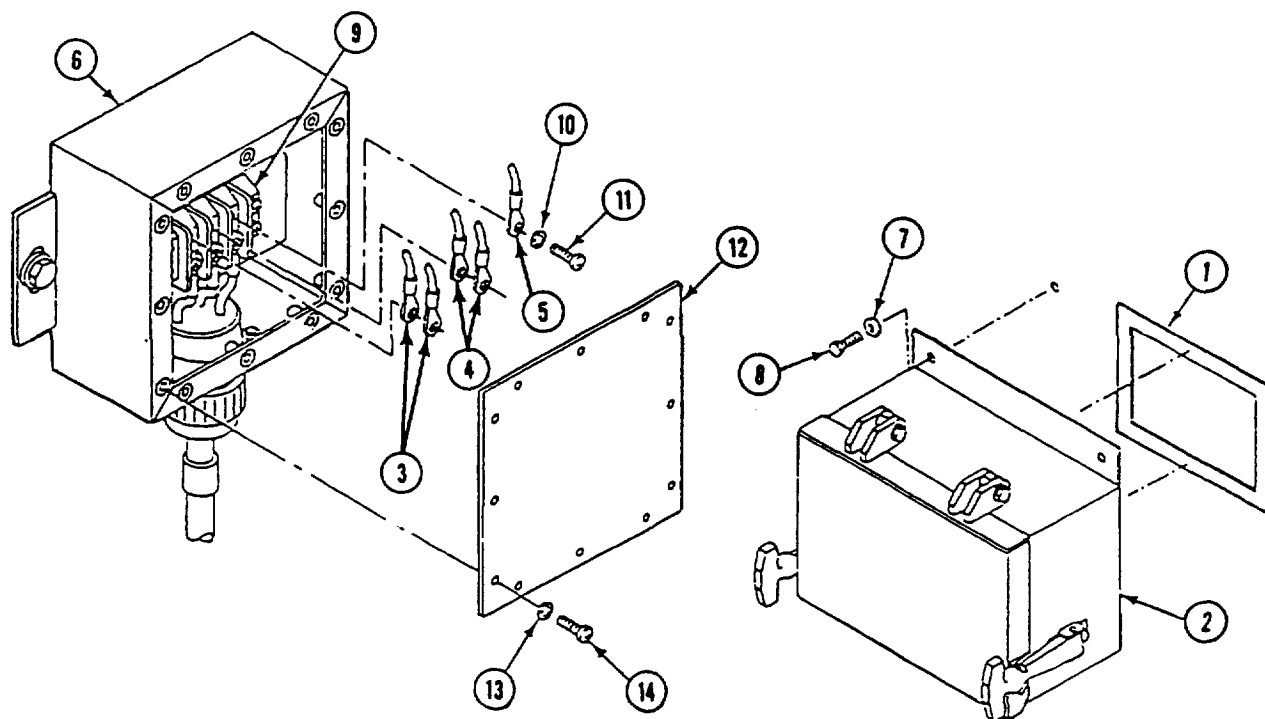
FOLLOW-THROUGH STEPS

1. Install electronic equipment (see TM 11-7010-256-12&P).

END OF TASK

INSTALL

6. If gasket (1) was removed in step 5, cement new gasket on rear of power entry box (2).
7. Insert cables W13 (3), W14 (4), and ground lead (5) into power distribution box (6). Feed leads through rear of bulkhead. Have helper assist.
8. Install power entry box (2) on external rear bulkhead. Secure with three washers (7) and screws (8).
9. Install two cable W13 leads (3) on terminal 1 of terminal block (9). Secure with lockwasher (10) and screw (11).
10. Install two cable W14 leads (4) on terminal 2 of terminal block (9). Secure with lockwasher (10) and screw (11).
11. Install ground cable lead (5) on terminal 3 of terminal block (9). Secure with lockwasher (10) and screw (11).
12. Install lid (12) on power distribution box (6). Secure with 12 new lockwashers (13) and screws (14).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE FLUORESCENT LIGHT ASSEMBLIES (M1068 ONLY)

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Personnel Required:

Power-Generation Equipment Repairer 52D10

References:

See your -10
TM 10-5410-229-13&P

References (cont):

TM 11-7010-256-12&P

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

REMOVE

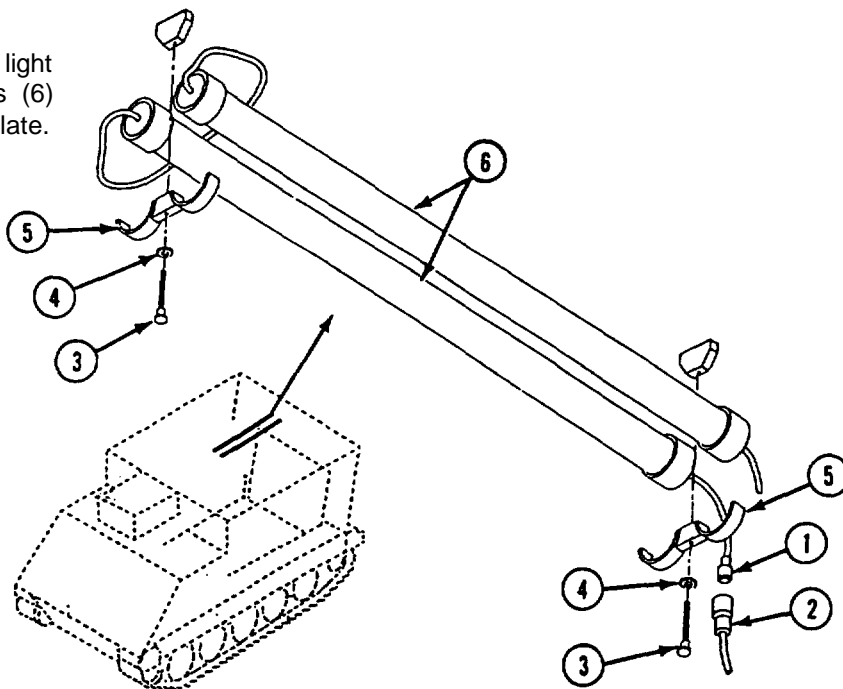
NOTE

For repair of fluorescent light assemblies, see TM 10-5410-229-13&P.

1. Disconnect fluorescent light assembly electrical connector P1 (1) from cable W11P2 (2).
2. Remove two thumbscrews (3), washers (4), light holders (5), and fluorescent light assemblies (6) from light holder mounts welded to overhead plate.

INSTALL

3. Install two fluorescent light assemblies (6), light holders (5), washers (4), and thumbscrews (3) on light holder mounts welded to overhead plate.
4. Connect fluorescent light assembly electrical connector P1 (1) to cable W11P2 (2).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE POWER EXTENSION BOX A18 AND BRACKET (M1068 ONLY)

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Locknut (4)
Lockwasher (2)

Personnel Required:

Unit Mechanic

References:

See your -10
TM 11-7010-256-12&P

Equipment Conditions:

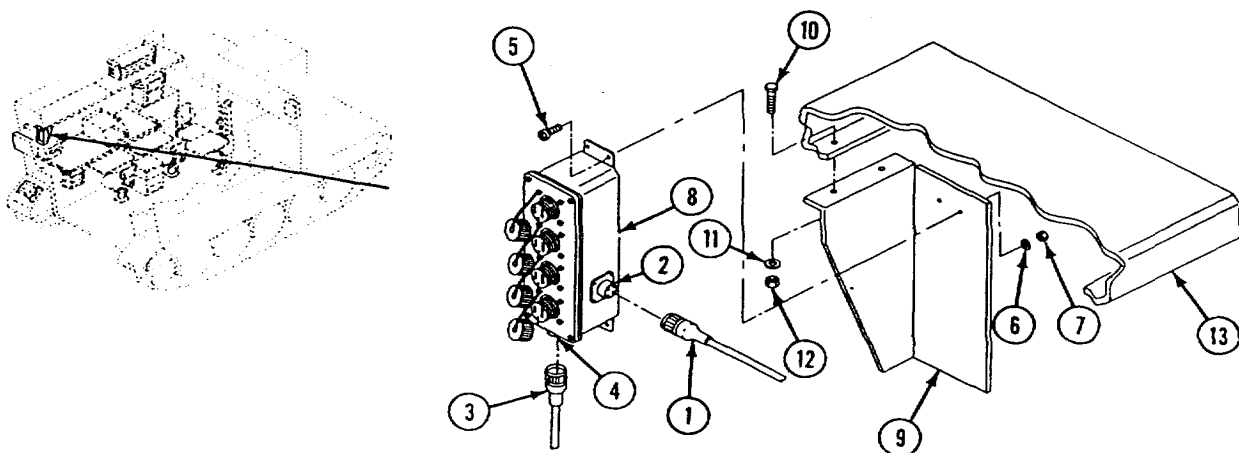
Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

REMOVE

1. Disconnect cable W252 plug P1 (1) from Power extension box A18 jack J1 (2).
2. Disconnect cable W251 plug P2 (3) from Power extension box A18 jack J6 (4).
3. Remove four screws (5), washers (6), locknuts (7), and power extension box A18 (8) from bracket (9). Discard locknuts.
4. Remove two screws (10), lockwashers (11), nuts (12), and bracket (9) from radio shelf (13). Discard lockwashers.

INSTALL

5. Install bracket (9) on radio shelf (13). Secure with two screws (10), new lockwashers (11), and nuts (12).
6. Install power extension box A18 (8) on bracket (9). Secure with four screws (5), washers (6), and new locknuts (7).
7. Connect cable W251 plug P2 (3) to power extension box A18 jack J6 (4).
8. Connect cable W252 plug P1 (1) to power extension box A18 jack J1 (2).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

**Section III. ELECTRICAL/COMMUNICATION EQUIPMENT
CABLES (M1068 ONLY)**

TASK INDEX

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Replace AC Power Extension Cable (W7) (M1068 Only)	40.1-66	Replace Cable W45 (M1068 Only)	40.1-90
Replace AC Power Extension Cable (W8) (M1068 Only)	40.1-68	Replace AC Cable Assembly (W252) (M1068 Only).....	40.1-92
Replace Cascade Remote Harness (M1068 Only)	40.1-70	Replace LAN A or B Cable (W103/W104) (M1068 Only)	40.1-94
Replace DC Power Extension Cable (W10) (M1068 Only)	40.1-73	Replace Cable W124 (M1068 Only)	40.1-97
Replace AC Light Cable (W11) (M1068 Only)	40.1-75	Replace Cable W126 (M1068 Only)	40.1-100
Replace Ground Strap (W12) (M1068 Only)	40.1-77	Replace Cable Assembly (W4/W6) (M1068 Only)	40.1-102
Replace Harness W32 (M1068 Only)	40.1-78		

REPLACE POWER DISTRIBUTION CABLE (W3) (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-58). Install (page 40.1-59).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10
TM 11-7010-256-12&P

Materials/Parts:

Strap (6)

Equipment Conditions:

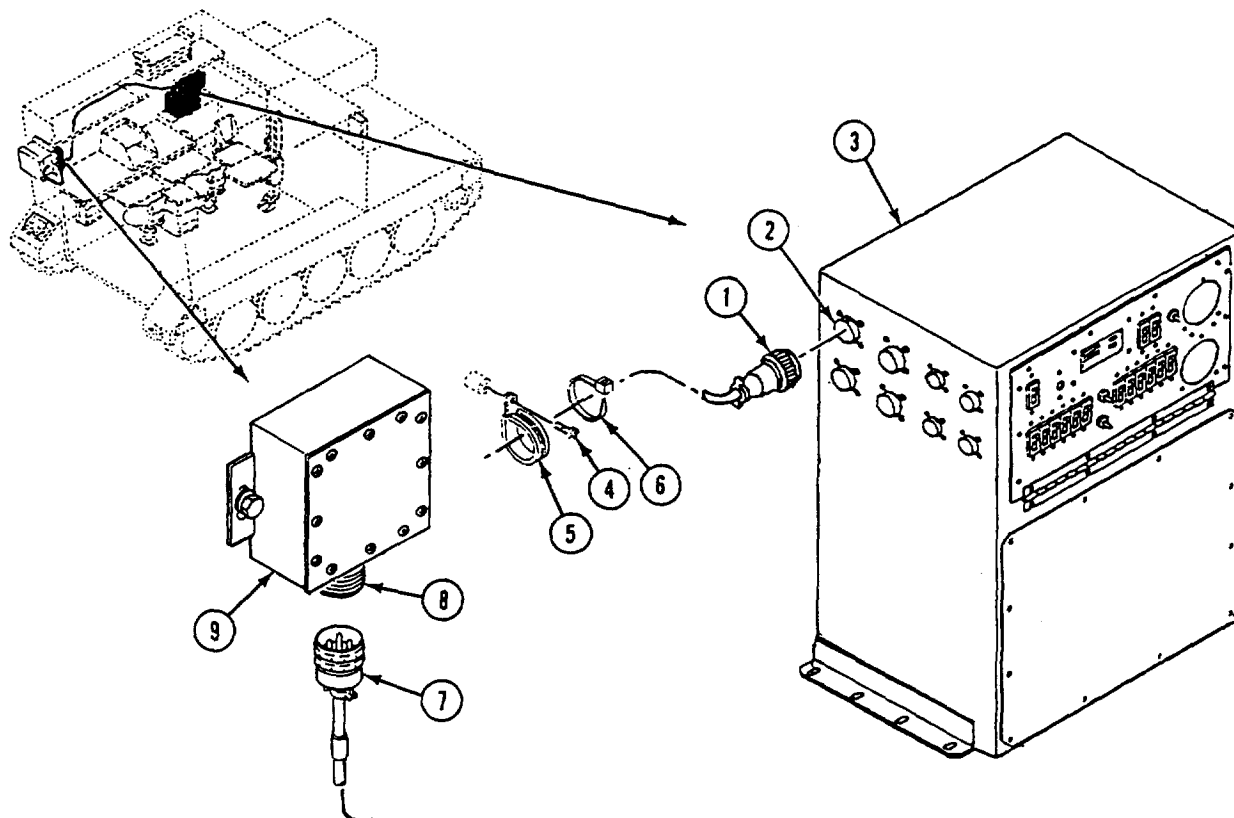
Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

Personnel Required:

Power-Generation Equipment Repairer 52D10

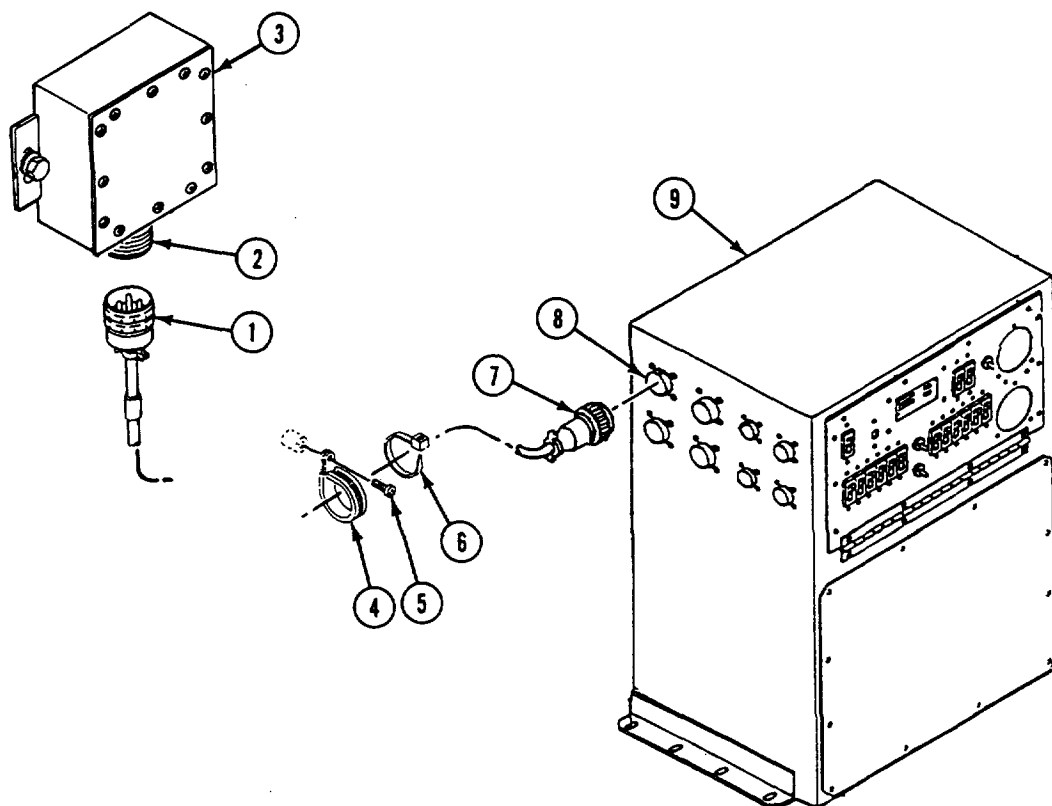
REMOVE

1. Disconnect W3 cable plug P3 (1) from jack J24 (2) on power control enclosure A1 (3).
2. Remove four screws (4) and clamps (5) from hull weldnut. Remove clamps (5) from harness W3.
3. Cut six plastic cable straps (6). Discard straps.
4. Disconnect W3 cable plug P1 (7) from jack J1 (8) on power distribution box A3 (9).
5. Remove cable W3 (7) from carrier.



INSTALL

6. Install new W3 cable (1) in carrier.
7. Connect cable W3 plug P1 (1) to jack J1 (2) on power distribution box A3 (3).
8. Install four clamps (4) on cable W3 and secure to hull weldnuts with screws (5).
9. Install six new plastic cable straps (6) on cable W3.
10. Connect cable W3 plug P3 (7) to jack J24 (8) on power distribution enclosure A1 (9).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Turn MASTER SWITCH to ON. Check that electrical system works properly.
3. Stop engine (see your -10).

END OF TASK

REPLACE DC BATTERY CABLE (W4) (M1068 ONLY) I**DESCRIPTION**

This task covers: Remove (page 40.1-60).

Install (page 40.1-61).

INITIAL SETUP**Tools:**

General Mechanic's Tool Kit (Item 30, App D)
 Digital Multimeter (Item 43, App D)
 Electrical Tool Kit (Item 75, App D)

References:

See your -10
 TM 11-7010-256-12&P

Materials/Parts:

Lockwasher
 Strap (8)

Equipment Conditions:

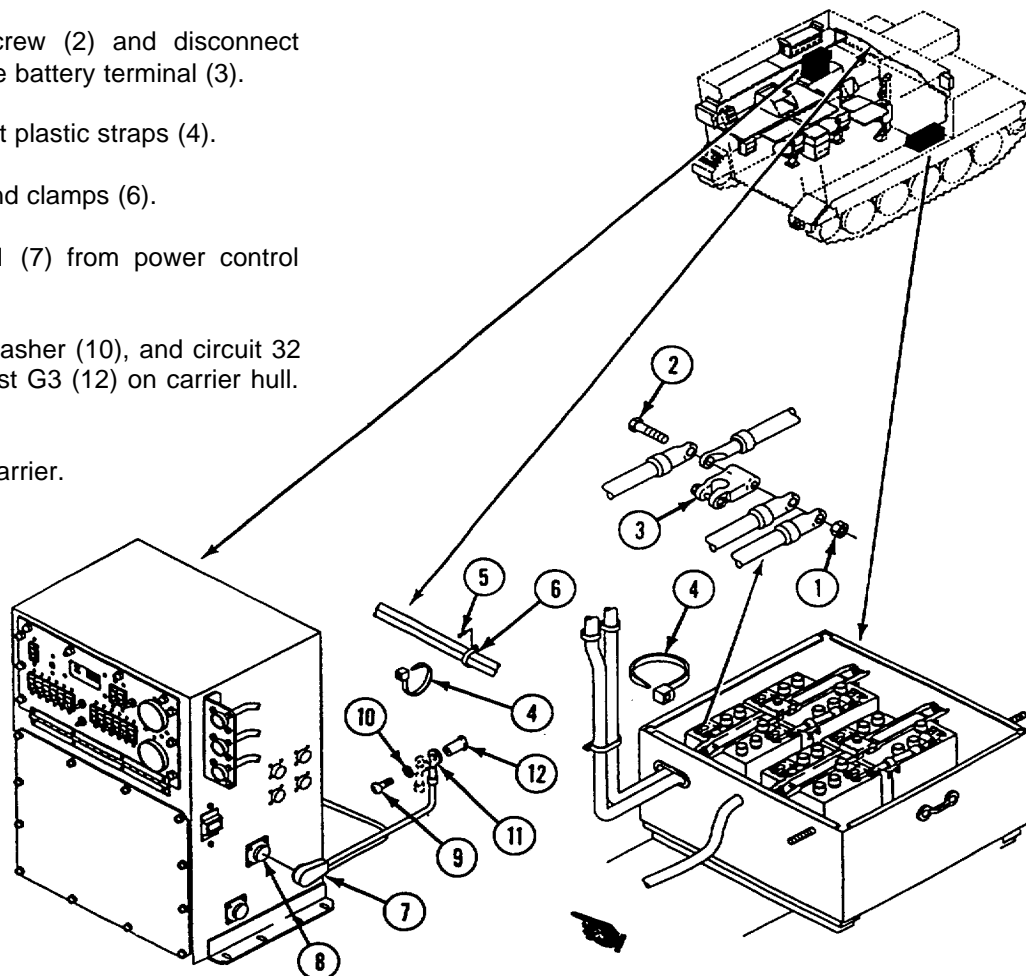
Engine stopped (see your -10)
 Carrier blocked (see your -10)
 All external power disconnected
 (see TM 11-7010-256-12&P)
 Battery ground lead disconnected (page 13-2)

Personnel Required:

Power-Generation Equipment Repairer 52D10

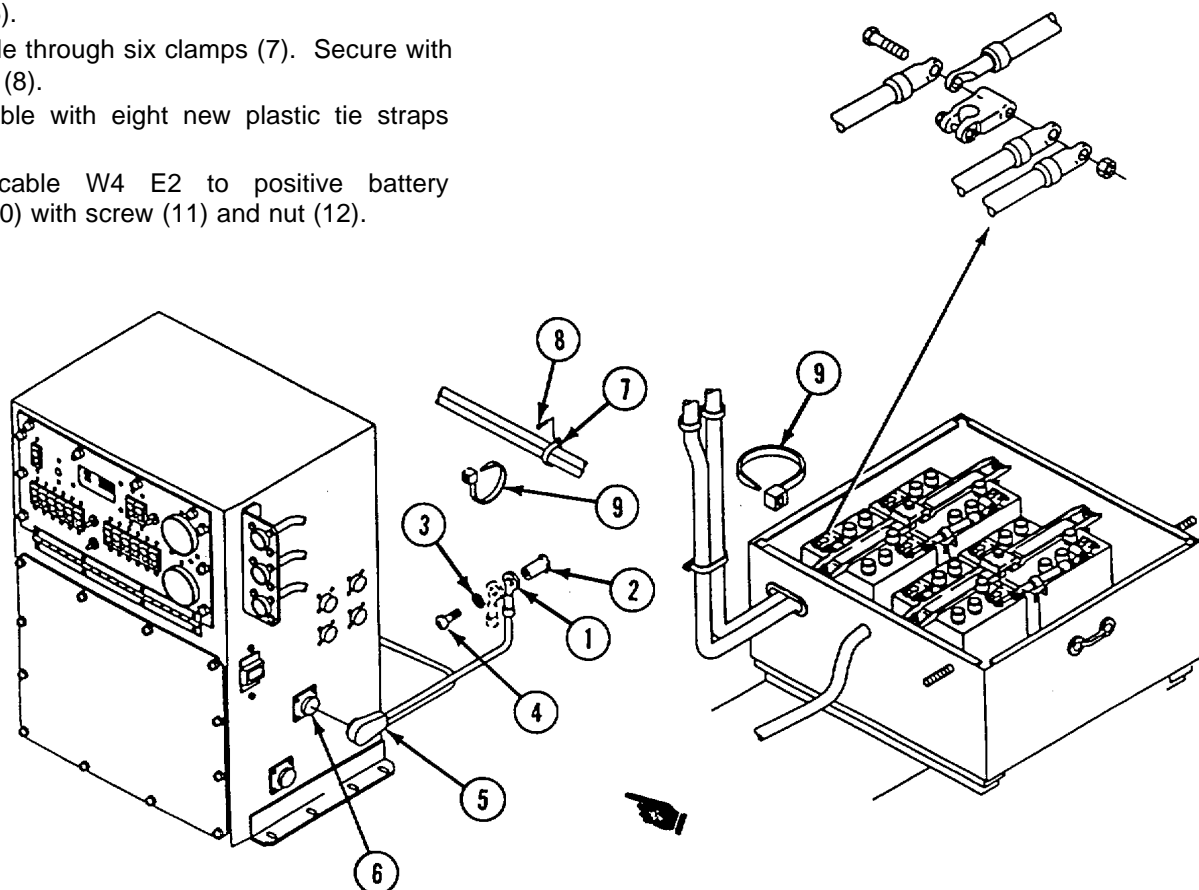
REMOVE

1. Remove nut (1) and screw (2) and disconnect cable W4 E2 from positive battery terminal (3).
2. Remove and discard eight plastic straps (4).
3. Remove six screws (5) and clamps (6).
4. Disconnect cable W4 P1 (7) from power control box A1 jack J25 (8).
5. Remove screw (9), lockwasher (10), and circuit 32 ground lead (11) from post G3 (12) on carrier hull. Discard lockwasher.
6. Remove cable W4 from carrier.



INSTALL

7. Install cable W4 in carrier.
8. Install circuit ground lead 32 (1) to post G3 (2) on carrier hull. Secure with new lockwasher (3) and screw (4).
9. Connect cable W4 P1 (5) to power control box jack J25 (6).
10. Route cable through six clamps (7). Secure with six screws (8).
11. Secure cable with eight new plastic tie straps (9).
12. Connect cable W4 E2 to positive battery terminal (10) with screw (11) and nut (12).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
2. Turn MASTER SWITCH ON (see your -10). Check that electrical system works properly.
3. Stop engine (see your -10).

END OF TASK

REPLACE/REPAIR INVERTER AC CABLE (W5) (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 40.1-62).

Install (page 40.1-63).

INITIAL SETUP**Tools:**

General Mechanic's Tool Kit (Item 30, App D)
 Digital Multimeter (Item 43, App D)
 Electrical Tool Kit (Item 75, App D)

References:

See your -10
 TM 11-7010-256-12&P

Materials/Parts:

Lockwasher (10)

Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 All external power disconnected
 (see TM 11-7010-256-12&P)
 Battery ground lead disconnected (page 13-2)

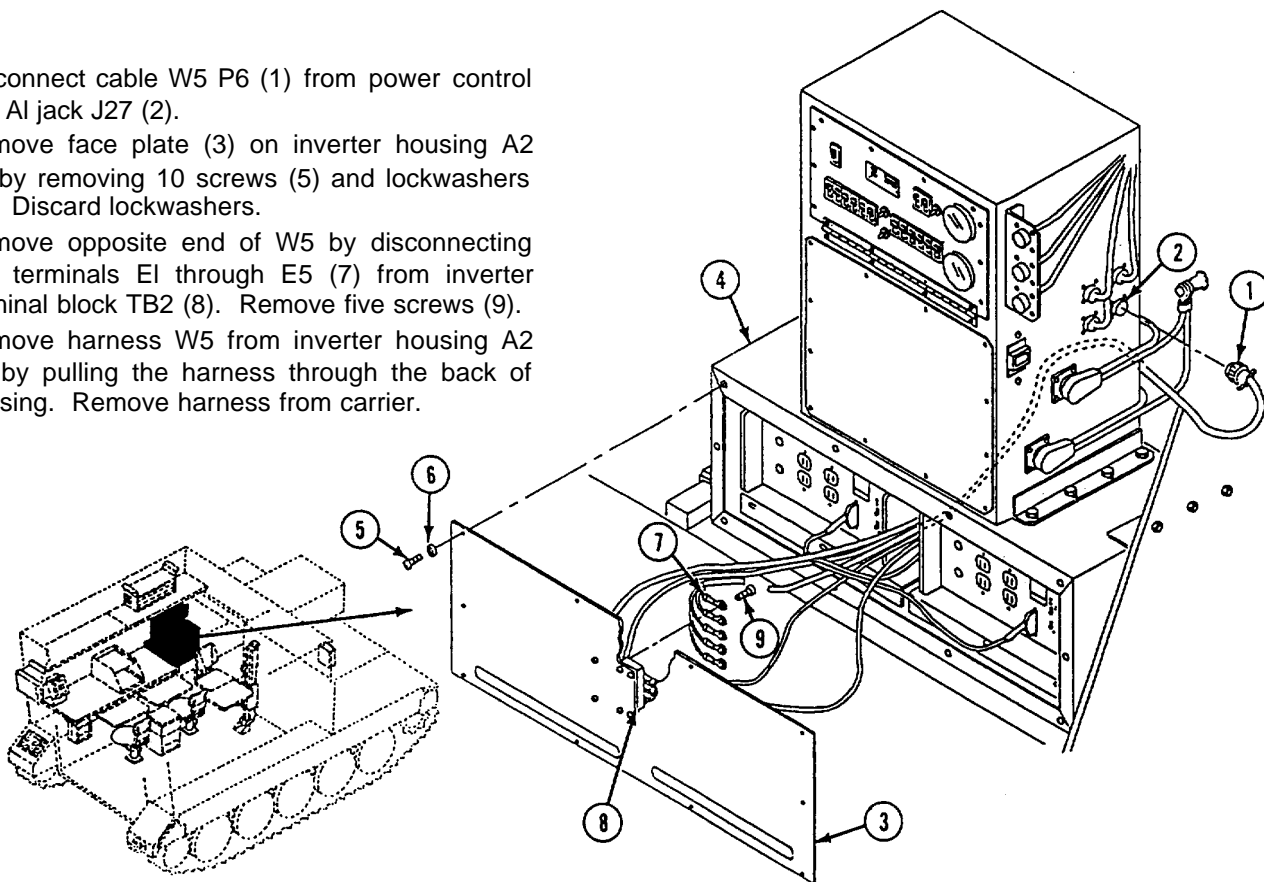
Personnel Required:

Power-Generation Equipment Repairer 52D10

REMOVE**NOTE**

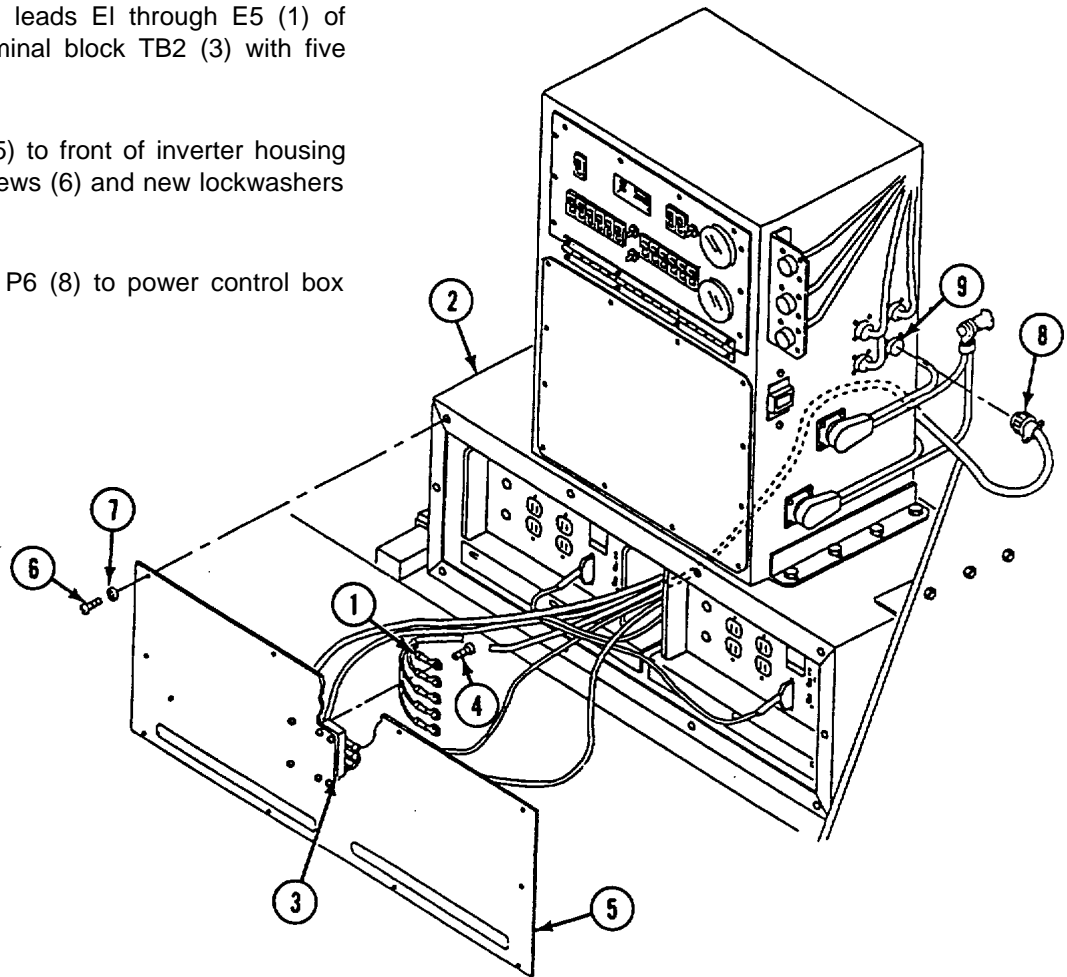
Tag all cables and leads before removal.

1. Disconnect cable W5 P6 (1) from power control box AI jack J27 (2).
2. Remove face plate (3) on inverter housing A2 (4) by removing 10 screws (5) and lockwashers (6). Discard lockwashers.
3. Remove opposite end of W5 by disconnecting five terminals E1 through E5 (7) from inverter terminal block TB2 (8). Remove five screws (9).
4. Remove harness W5 from inverter housing A2 (4) by pulling the harness through the back of housing. Remove harness from carrier.



INSTALL

5. Install new or repaired harness W5 in carrier. Route terminal ends (1) of W5 through back of inverter housing A2 (2) to the front for connection.
6. Install five terminal leads EI through E5 (1) of W5 to inverter terminal block TB2 (3) with five screws (4).
7. Attach face plate (5) to front of inverter housing A2 (1) using 10 screws (6) and new lockwashers (7).
8. Connect cable W5 P6 (8) to power control box AI jack J27 (9).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
2. Turn MASTER SWITCH ON (see your -10). Check that electrical system works properly.
3. Turn MASTER SWITCH OFF (see your -10).

END OF TASK**Change 4 40.1-63**

REPLACE INVERTER DC CABLE (W6) (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 40.1-64). Install (page 40.1-65).

INITIAL SETUP**Tools:**

General Mechanic's Tool Kit (Item 30, App D)
 Digital Multimeter (Item 43, App D)
 Electrical Repair Kit (Item 75, App D)

References:

See your -10
 TM 11-7010-256-12&P

Materials/Parts:

Lockwasher (10)
 Lockwasher (1)

Equipment Conditions:

Engine stopped (see your -10)
 Carrier blocked (see your -10)
 All external power disconnected
 (see TM 11-7010-256-12&P)
 Battery ground lead disconnected (page 13-2)

Personnel Required:

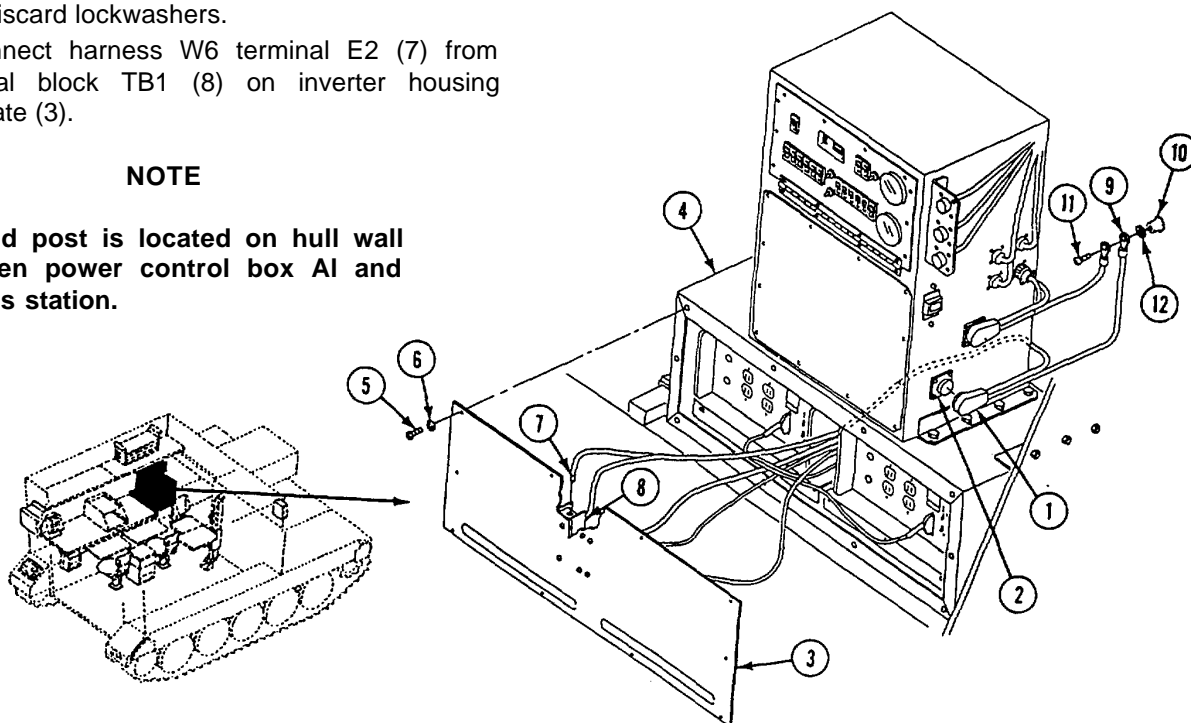
Power-Generation Equipment Repairer 52D10

REMOVE

1. Disconnect cable W6 plug (1) from power control box AI jack J26 (2).
2. Remove face plate (3) on inverter housing A2 (4) by removing 10 screws (5) and lockwashers (6). Discard lockwashers.
3. Disconnect harness W6 terminal E2 (7) from terminal block TB1 (8) on inverter housing faceplate (3).
4. Disconnect harness W6 terminal EI (9) from ground post G3 (10). Remove screw (11) and lockwasher (12). Discard lockwasher.
5. Remove harness from carrier.

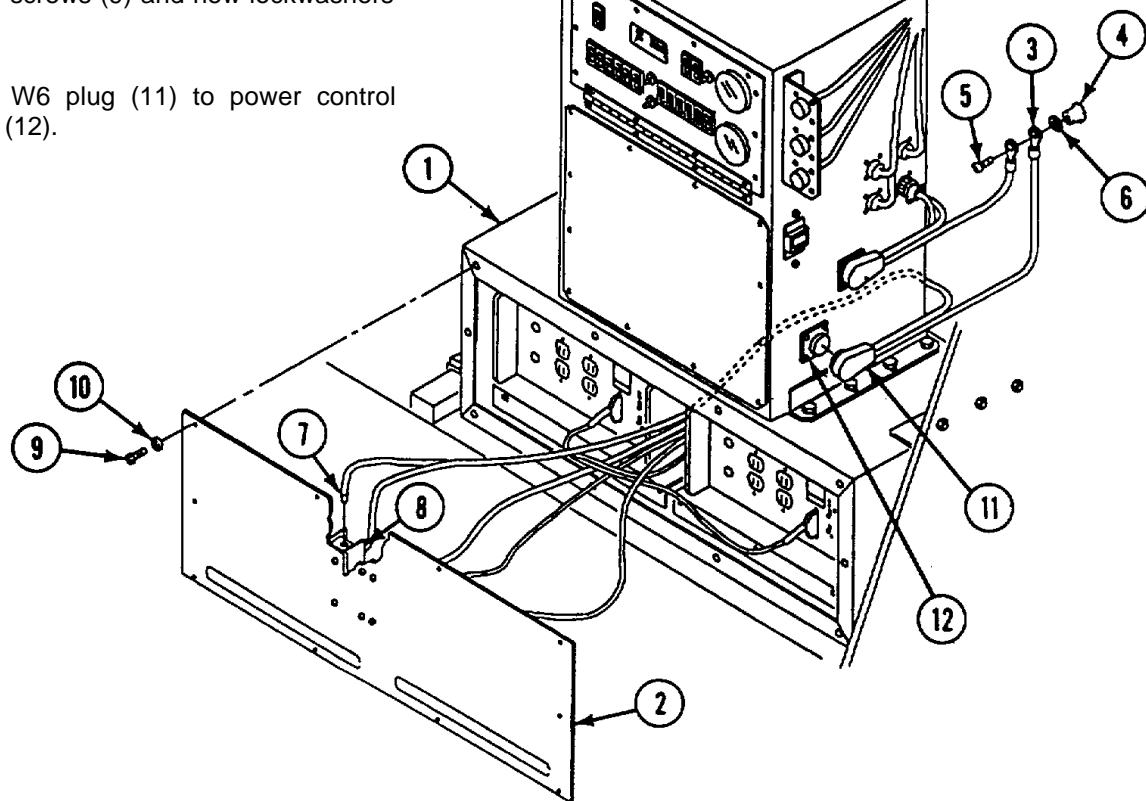
NOTE

Ground post is located on hull wall between power control box AI and driver's station.



INSTALL

6. Install harness W6 in carrier. Route leads behind inverter housing A2 (1) to front face plate (2).
7. Connect harness W6 terminal E1 (3) to ground post G3 (4). Use screw (5) and new lockwasher (6). Make sure there are two leads connected to ground post G3.
8. Connect harness W6 terminal E2 (7) to terminal block TB1 (8) on inverter housing faceplate (2).
9. Attach face plate (2) to front of inverter housing A2 (1) using 10 screws (9) and new lockwashers (10).
10. Connect cable W6 plug (11) to power control box AI jack J26 (12).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
2. Turn MASTER SWITCH ON. Check that electrical system works properly.
3. Turn MASTER SWITCH OFF.

END OF TASK

REPLACE AC POWER EXTENSION CABLE (W7) (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-66). Install (page 40.1-67).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10
TM 11-7010-256-12&P

Materials/Parts:

Strap (6)

Personnel Required:

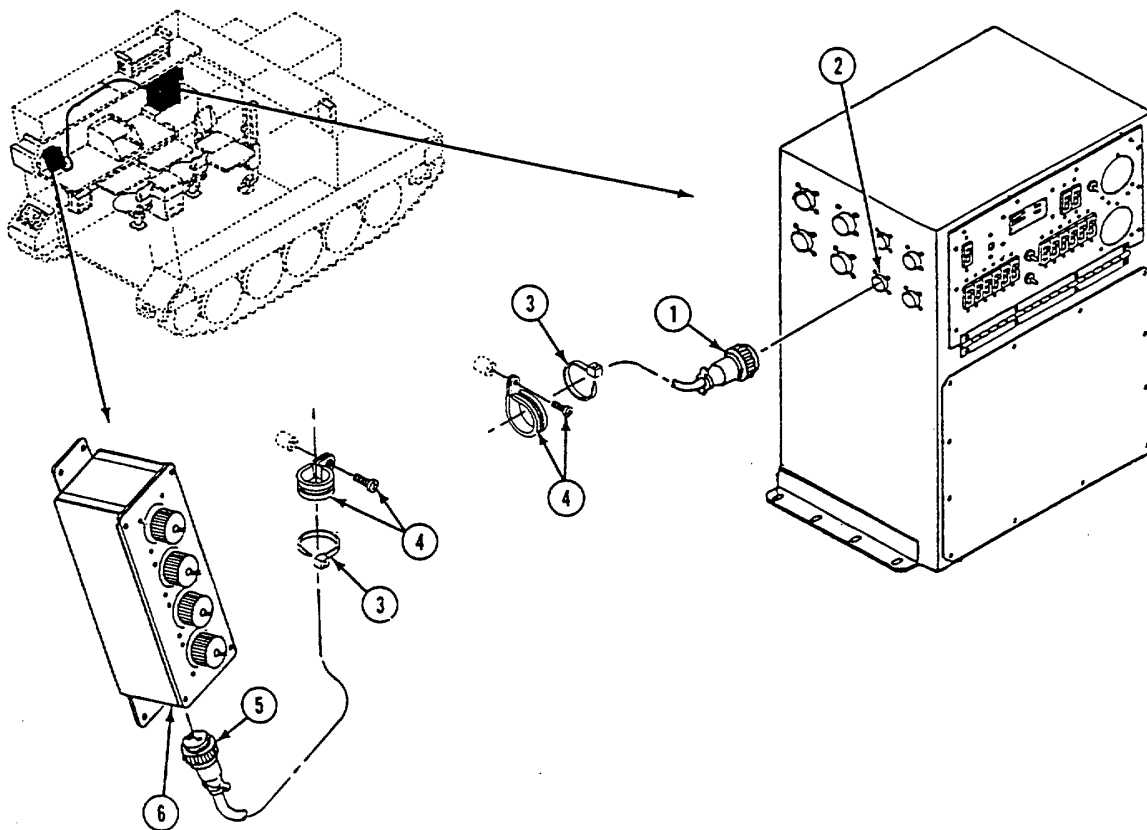
Power-Generation Equipment Repairer 52D10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
AI external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

REMOVE

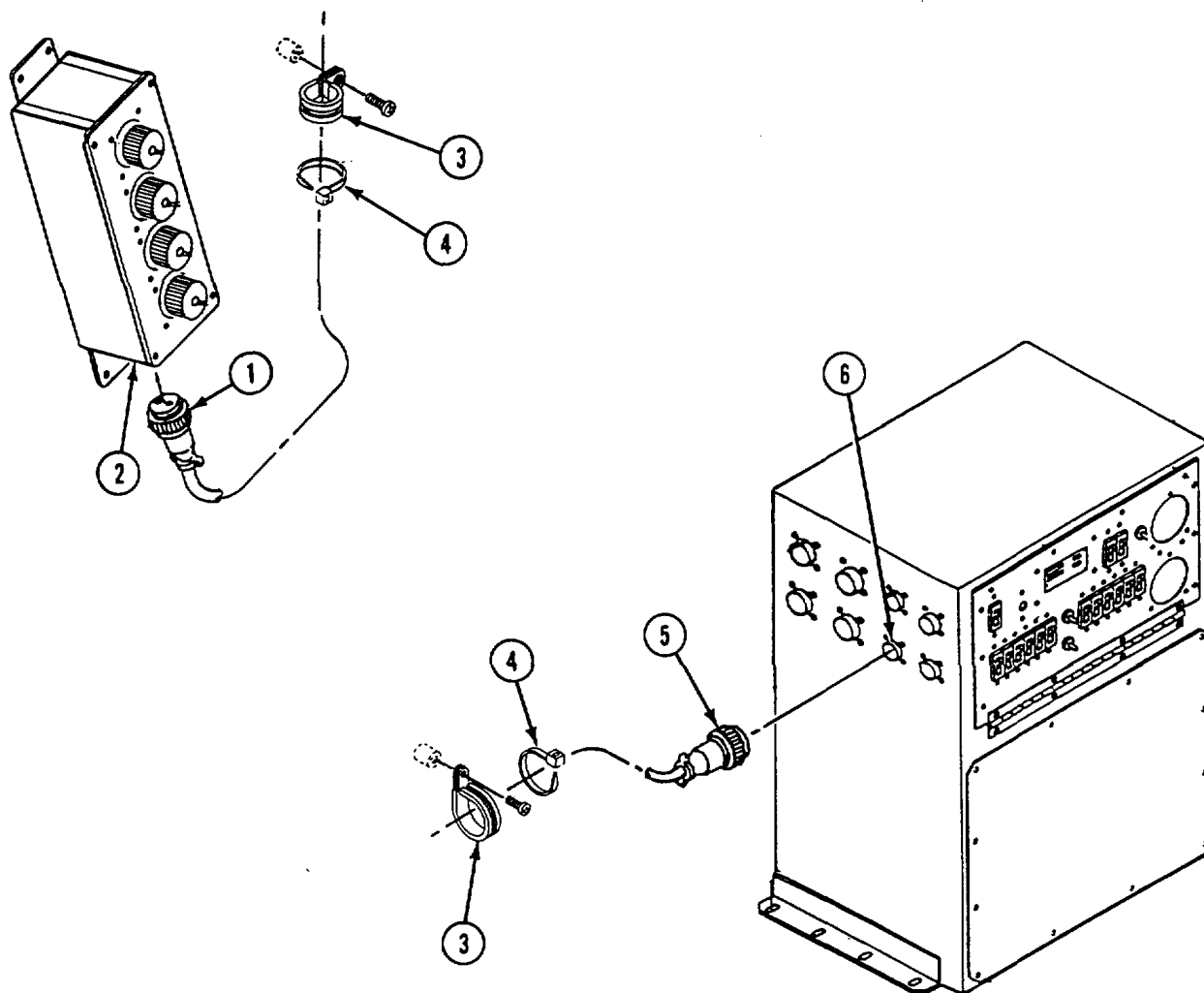
1. Disconnect cable W7 plug P10 (1) from power control box AI jack J30 (2).
2. Remove and discard six plastic straps (3).
3. Remove four screws and loop clamps (4).
4. Disconnect cable W7 plug P1 (5) from roadside AC power extension box A6 jack J1 (6).
5. Remove cable from carrier.



INSTALL

6. Install new cable in carrier.
7. Connect cable W7 plug P1 (1) to roadside AC power extension box A6 jack J1 (2).

8. Install cable through four loop clamps (3) and secure with four screws.
9. Attach six new plastic straps (4).
10. Connect cable W7 plug P10 (5) to power control box A1 jack J30 (6).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Turn MASTER SWITCH ON (see your -10). Check that electrical system works properly.
3. Turn MASTER SWITCH OFF (see your -10).

END OF TASK

REPLACE AC POWER EXTENSION CABLE (W8) (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-68). Install (page 40.1-69).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10
TM 11-7010-256-12&P

Materials/Parts:

Strap (16)

Equipment Conditions:

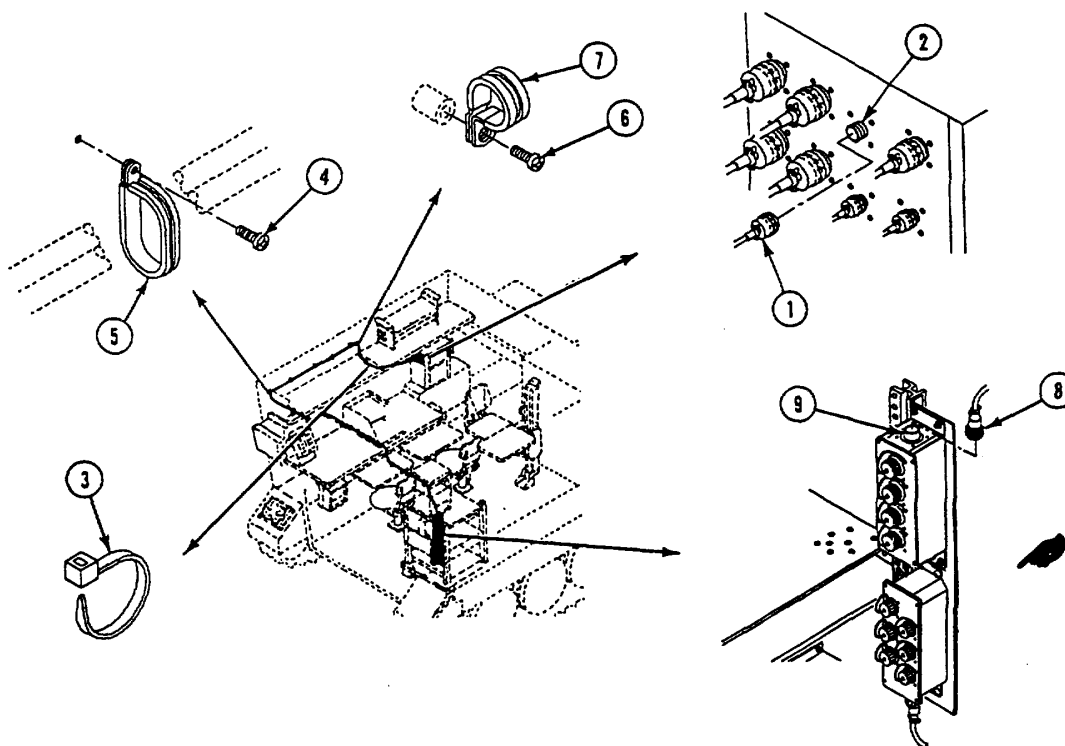
Engine stopped (see your -10)
Carrier blocked (see your -10)
AI external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

Personnel Required:

Power-Generation Equipment Repairer 52D10

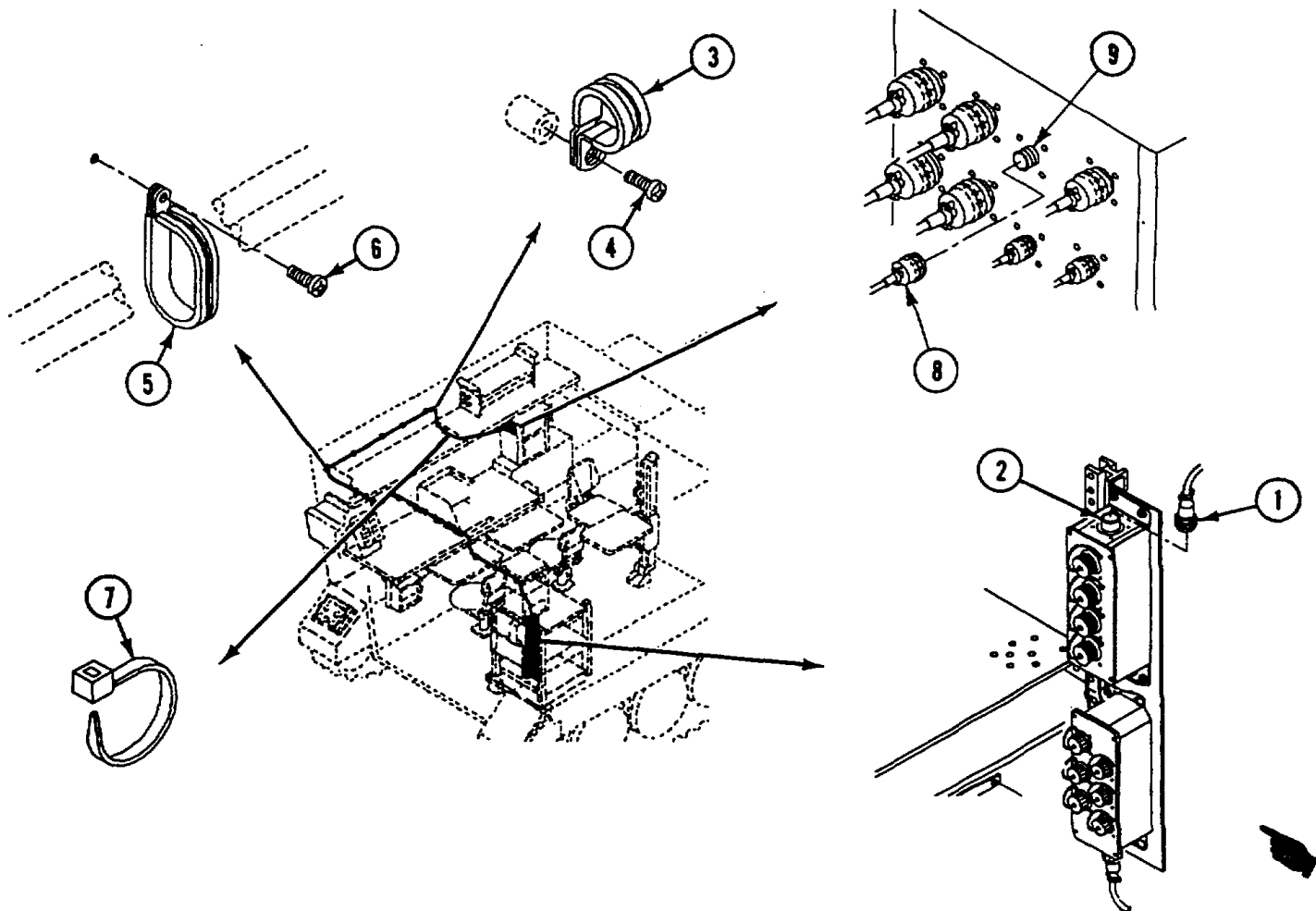
REMOVE

1. Disconnect cable WS plug P11 (1) from power control box AI jack J31 (2).
2. Remove and discard 16 plastic straps (3).
3. Remove five screws (4) and loop clamps (5).
4. Remove screw (6) and loop clamp (7).
5. Disconnect cable W8 plug P1 (8) from curbside power box A7 jack J1 (9).
6. Remove cable W8 from vehicle.



INSTALL

7. Install cable W8 in vehicle.
8. Connect cable W8 plug P1 (1) to curbside power box A7 jack J1 (2).
9. Install harness W8, clamp (3), and screw (4) to hull wall.
10. Install harness W8 with five loop clamps (5) and screws (6).
11. Attach 16 new plastic straps (7).
12. Connect cable W8 plug P11 (8) to power control box A1 jack J31 (9).



FOLLOW-THROUGH STEPS

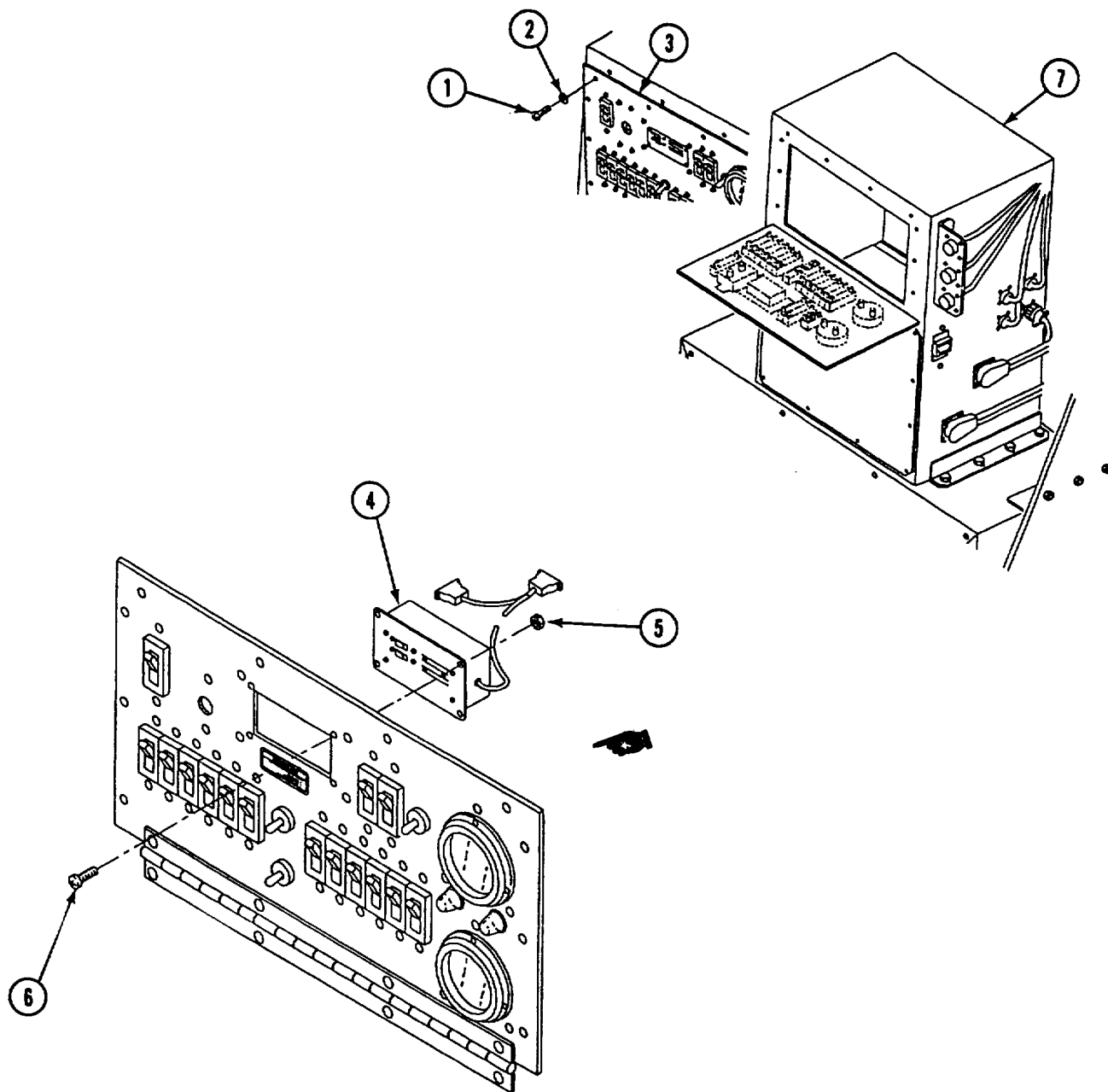
1. Connect battery ground lead (page 13-2).
2. Turn MASTER SWITCH ON (see your -10). Check that electrical system works properly.
3. Turn MASTER SWITCH OFF (see your -10).

END OF TASK

INSTALL

3. Remove 10 screws (1), and lockwashers (2), from faceplate (3). Lower faceplate (3) to gain access to RP1 harness (4). Discard lockwashers.
4. Remove four locknuts (5), screws (6), and RP1 remote harness (4) from faceplate (3). Remove harness. Discard locknuts.

5. Install RP1 harness (4), four screws (6), and new locknuts (5) on faceplate (3). Route RP1 harness leads down through power enclosure (7) and behind inverter housing A2 to front face of inverters. Avoid interfering with other components in power enclosure.

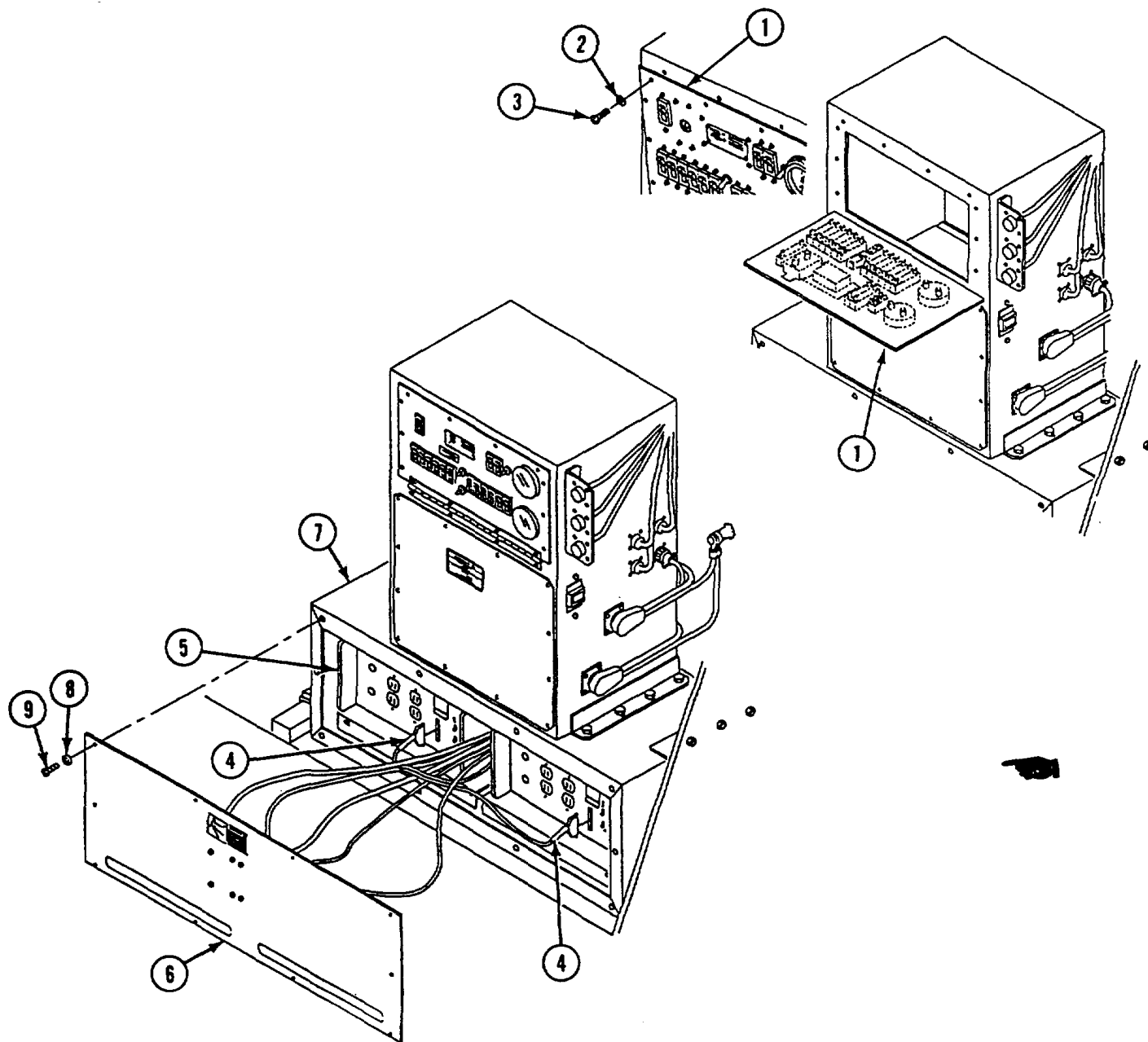


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6. Lift faceplate (1) in place and install 10 new lockwashers (2) and screws (3).

7. Connect RP1 harness (4) to front of inverters (5). Tighten captive screws on connectors.

8. Attach face plate (6) to front of inverter housing A2 (7) with 10 new lockwashers (8) and screws (9).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
-

END OF TASK

REPLACE DC POWER EXTENSION CABLE (W10) (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-73). Install (page 40.1-74).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10
TM 11-7010-256-12&P

Materials/Parts:

Strap (6)

Equipment Conditions:

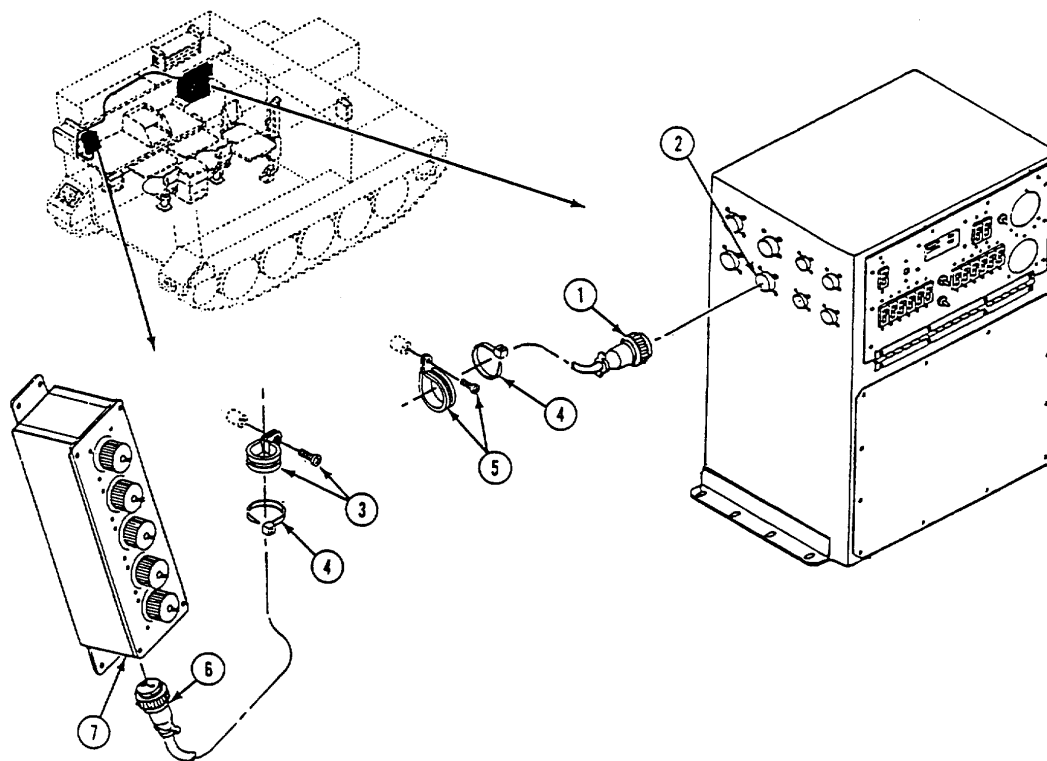
Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

Personnel Required:

Power-Generation Equipment Repairer 52D10

REMOVE

1. Disconnect cable W10 plug P14 (1) from power control box AI jack J34 (2).
2. Remove screw and loop clamp (3).
3. Remove and discard six straps (4).
4. Remove three screws and loop clamps (5).
5. Disconnect cable W10 plug P1 (6) from DC power extension box A9 jack J1 (7).
6. Remove cable W10 from carrier.

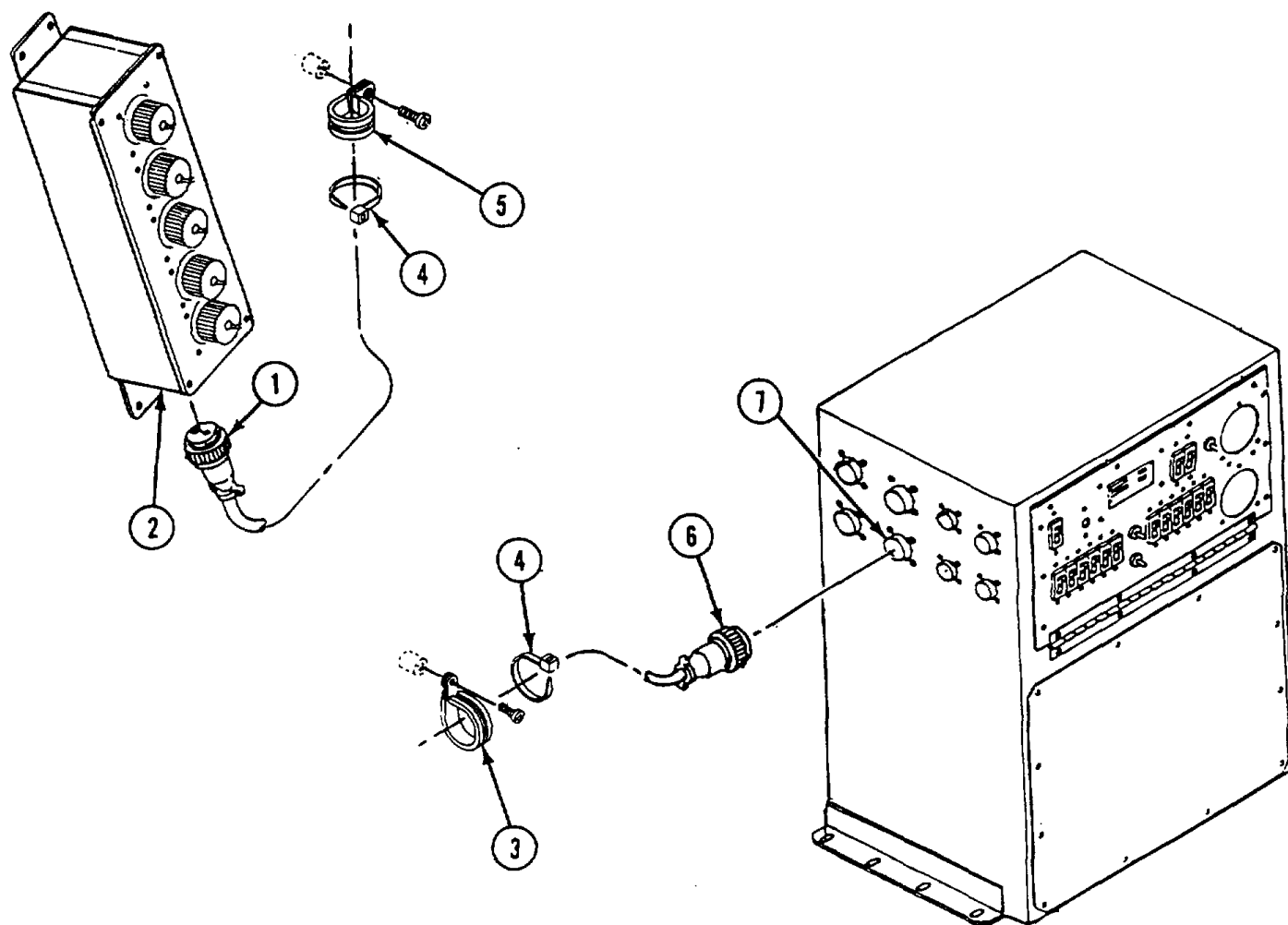


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INSTALL

7. Install cable W10 in carrier.
8. Connect cable W10 plug P1 (1) to DC power extension box A9 jack J1 (2).

9. Route cable through three loop clamps (3) and attach to hull wall with three screws.
10. Attach six new straps (4) to secure slack in cable W10.
11. Attach loop clamp (5) to cable W10 and secure to hull wall with screw.
12. Connect cable W10 plug P14 (6) to power control box AI jack J34 (7).



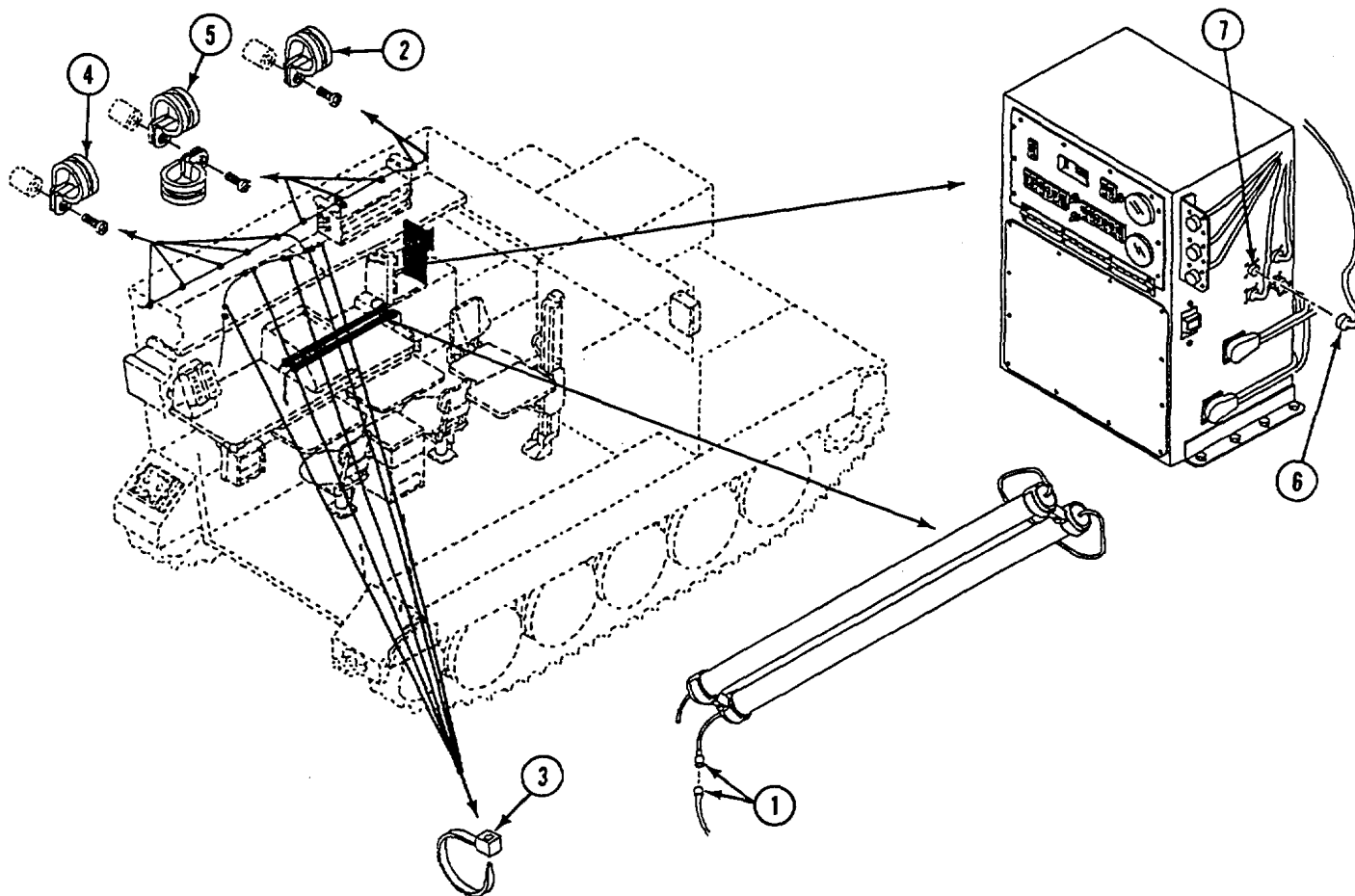
FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Turn MASTER SWITCH ON. Check that electrical system works properly.
3. Turn MASTER SWITCH OFF.

END OF TASK

INSTALL

8. Install cable W11 in carrier.
9. Connect cable W11 plug P2 to AC light plug P1 (1).
10. Install two loop clamps (2) and secure to hull with two screws.
11. Secure cable with five new straps (3).
12. Install five loop clamps (4) and secure to hull with five screws.
13. Install three loop clamps (5) and secure to hull with three screws.
14. Connect cable W11 plug P17 (6) to power control box AI jack J37 (7).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Turn MASTER SWITCH ON. Check that electrical system works properly.
3. Turn MASTER SWITCH OFF.

END OF TASK

REPLACE GROUND STRAP (W12) (M1068 ONLY)**INITIAL SETUP****Tools:**

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher
Lockwasher

Personnel Required:

Power-Generation Equipment Repairer 52D10

References:

See your -10
TM 11 7010-256-12&P

Equipment Conditions:

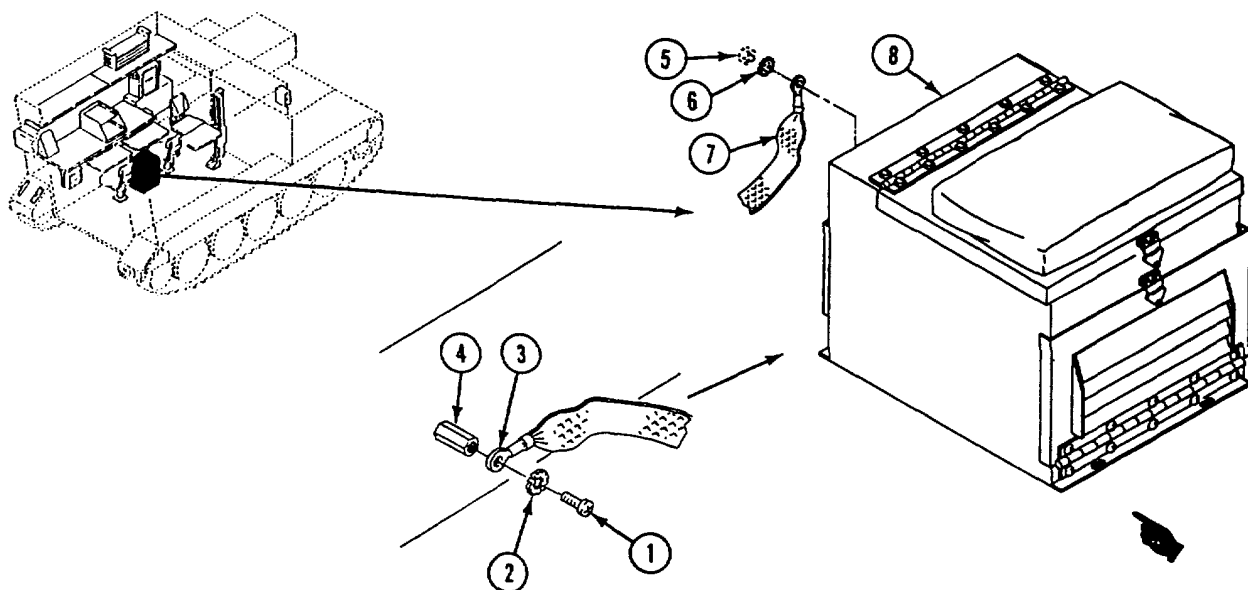
Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

REMOVE

1. Remove screw (1), lockwasher (2) and ground strap W12 terminal (3) from ground lug G1 (4). Discard lockwasher.
2. Remove nut (5), lockwasher (6), and ground strap (7) from ATCCS UPS box (8). Discard lockwasher.

INSTALL

3. Install ground strap (7), new lockwasher (6), and nut (5) on ATCCS UPS box (8).
4. Install ground strap W12 terminal (3), new lockwasher (2), and screw (1) on ground lug G1 (4).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).
2. Turn MASTER SWITCH ON (see your -10). Check that electrical system works properly.
3. Turn MASTER SWITCH OFF (see your -10).

END OF TASK

Change 4 40.1-77

REPLACE HARNESS W32 (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 40.1-78).

Install (page 40.1-80).

INITIAL SETUP**Tools:**

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Strap (11)

Personnel Required:

Power-Generation Equipment Repairer 52D10

References:

See your -10

TM 11-7010-256-12&P

Equipment Conditions:

Engine stopped (see your -10)

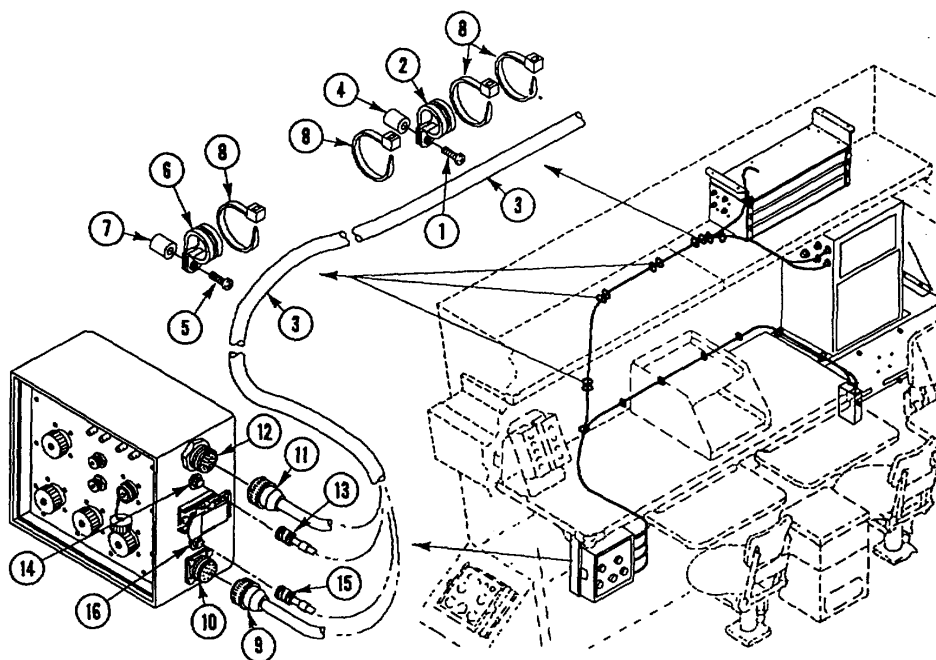
Carrier blocked (see your -10)

Disconnect all external power
(see TM 11-7010-256-12&P)

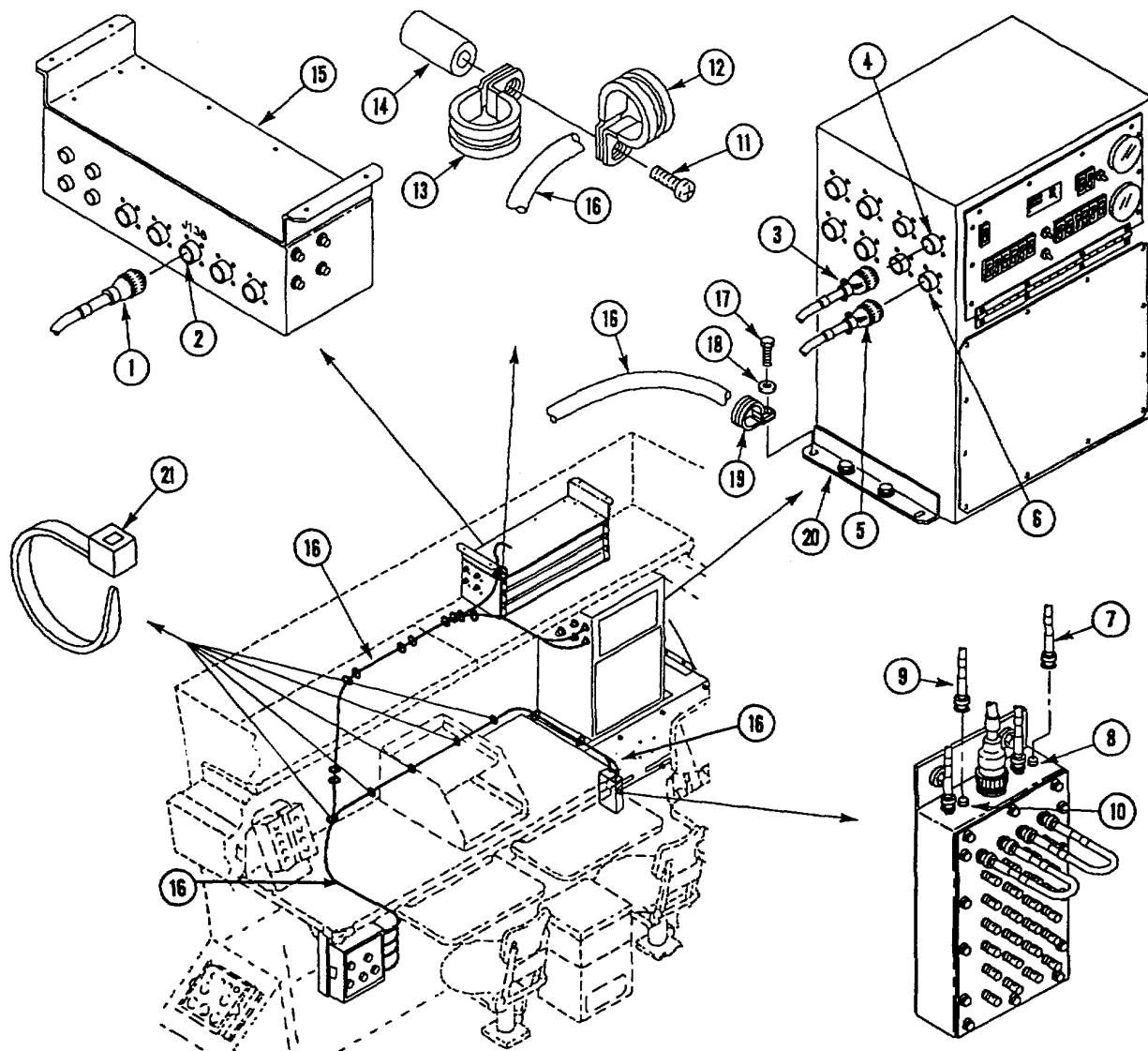
Battery ground lead disconnected (page 13-2)

REMOVE

1. Remove screw (1) and clamp (2) from W32 harness (3) and weldnut (4).
2. Remove three screws (5) and clamps (6) from W32 harness (3) and weldnuts (7).
3. Remove six straps (8) from W32 harness (3). Discard straps.
4. Disconnect W32 harness plug P6 (9) from tent interface panel box A5 jack J7 (10).
5. Disconnect W32 harness plug P7 (11) from tent interface panel box A5 jack J8 (12).
6. Disconnect W32 harness plug P8 (13) from tent interface panel box A5 jack J10 (14).
7. Disconnect W32 harness plug P9 (15) from tent interface panel box A5 jack J9 (16).



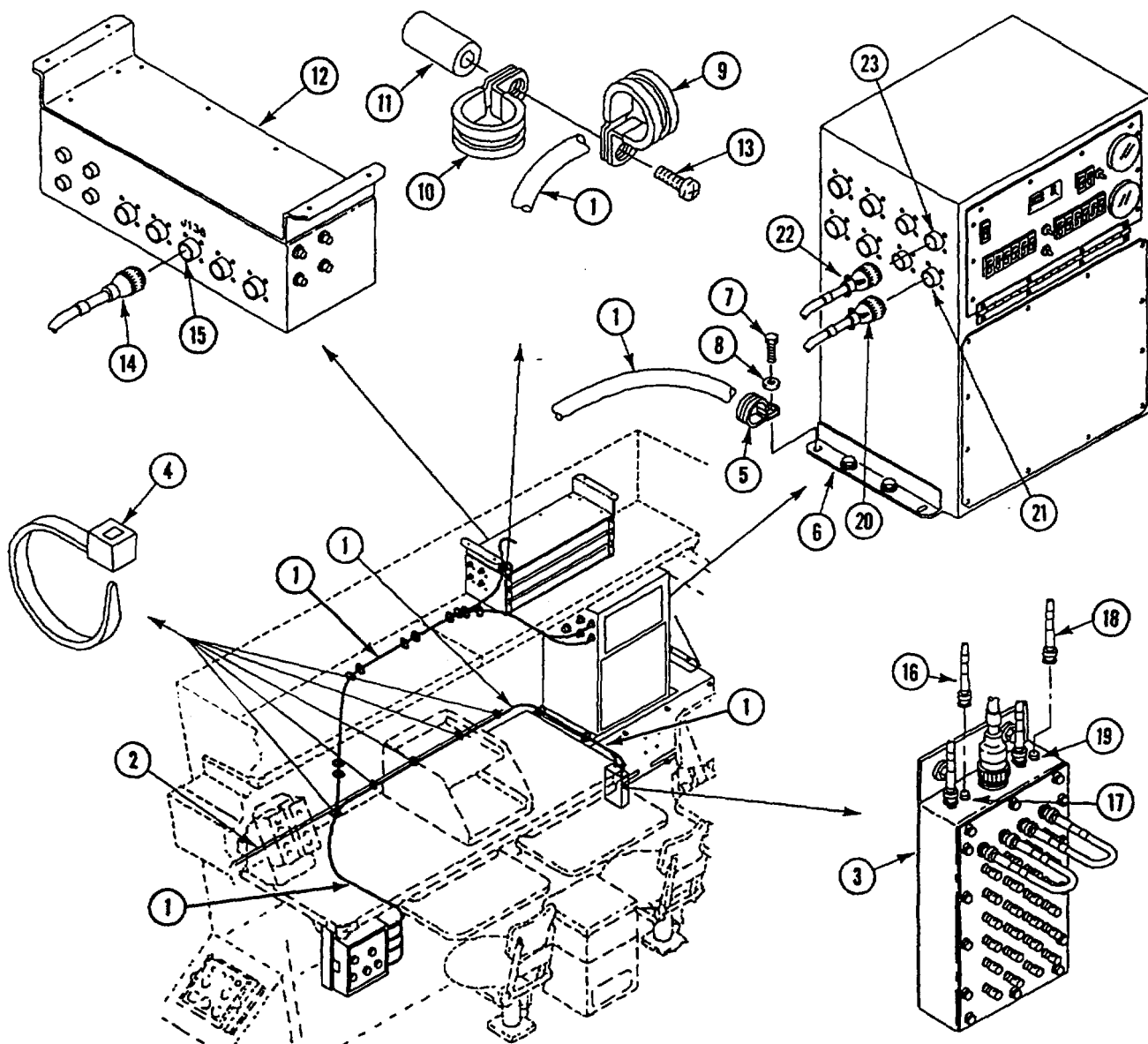
8. Disconnect W32 harness plug P107 (1) from patch panel box A10 jack J138 (2).
9. Disconnect W32 harness plug P16 (3) from power control enclosure A1 jack J36 (4).
10. Disconnect W32 harness plug P15 (5) from power control enclosure A1 jack J32 (6).
11. Disconnect W32 harness plug P5 (7) from data panel assembly A13 jack J1 (8).
12. Disconnect W32 harness plug P4 (9) from data panel assembly A13 jack J4 (10).
13. Remove screw (11) and clamps (12 and 13) from weldnut (14) below patch panel box A10 (15). Remove clamp (12) from W32 harness (16).
14. Remove two screws (17), washers (18), and clamps (19) from power control enclosure A1 (20) and W32 harness (16).
15. Remove five straps (21) and W32 harness (16) from carrier. Discard straps.



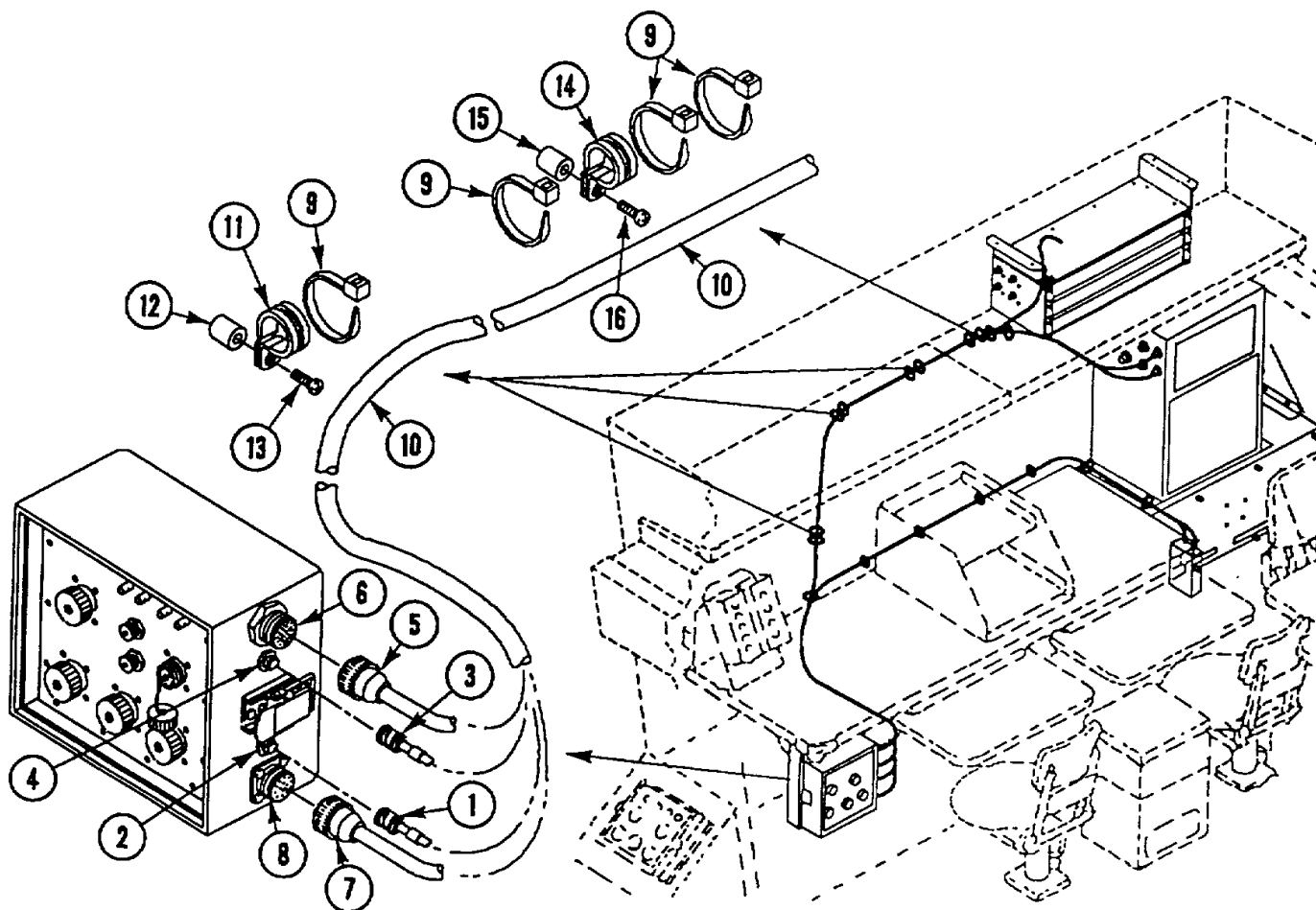
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INSTALL

16. Route branch of W32 harness (1) along fuel line (2) to data panel assembly A13 (3). Secure W32 harness with five new straps (4).
17. Install two clamps (5) on W32 harness (1) and secure to power control enclosure A1 (6) with two screws (7) and washers (8).
18. Install clamp (9) on W32 harness (1) and secure clamps (9 and 10) to weldnut (11) below patch panel box A10 (12) with screw (13).
19. Connect W32 harness plug P107 (14) to patch panel box A10 jack J138 (15).
20. Connect W32 harness plug P4 (16) to data panel assembly A13 jack J4 (17)
21. Connect W32 harness plug P6 (18) to data panel assembly A13 jack J1 (19).
22. Connect W32 harness plug P15 (20) to power control enclosure A1 jack J32 (21).
23. Connect W32 harness plug P16 (22) to power control enclosure A1 jack J36 (23).



24. Connect W32 harness plug P9 (1) to tent interface panel box A5 jack J9 (2).
25. Connect W32 harness plug P8 (3) to tent interface panel box A5 jack J10 (4).
26. Connect W32 harness plug P7 (5) to tent interface panel box A5 jack J8 (6).
27. Connect W32 harness plug P6 (7) to tent interface panel box A5 jack J7 (8).
28. Install six new straps (9) on W32 harness (10).
29. Install three clamps (11) on W32 harness (10) and secure to weldnuts (12) with screws (13).
30. Install clamp (14) on W32 harness (10) and secure to weldnut (15) with screw (16).



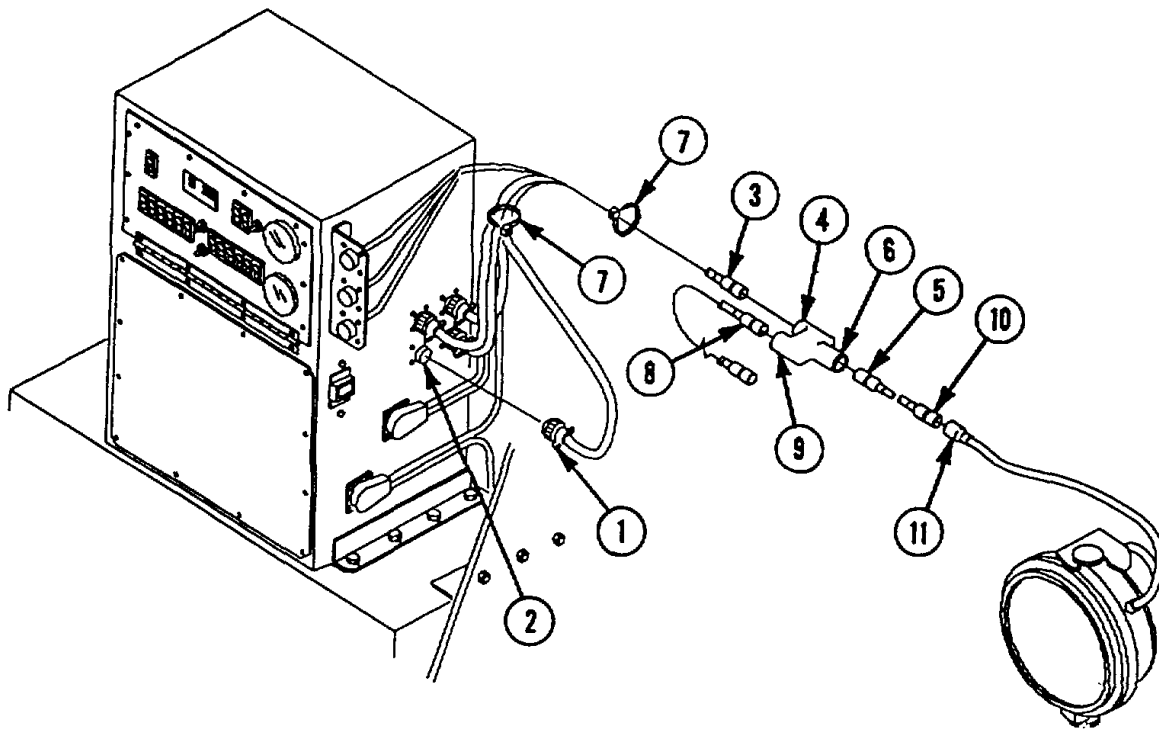
FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

INSTALL

7. Connect cable plug W35P9 (1) to power control enclosure jack A1J29 (2).
8. Connect cable plug W35P1 (3) to connector adapter plug T1P2 (4).
9. Connect cable plug W28P1 (5) to connector adapter plug T1P1 (6).
10. Secure cable W35 with five new straps (7).
11. Connect circuit 38B lead (8) to connector adapter plug T1P3 (9).
12. Connect circuit 38B lead (10) to cable plug W28P2 (11).



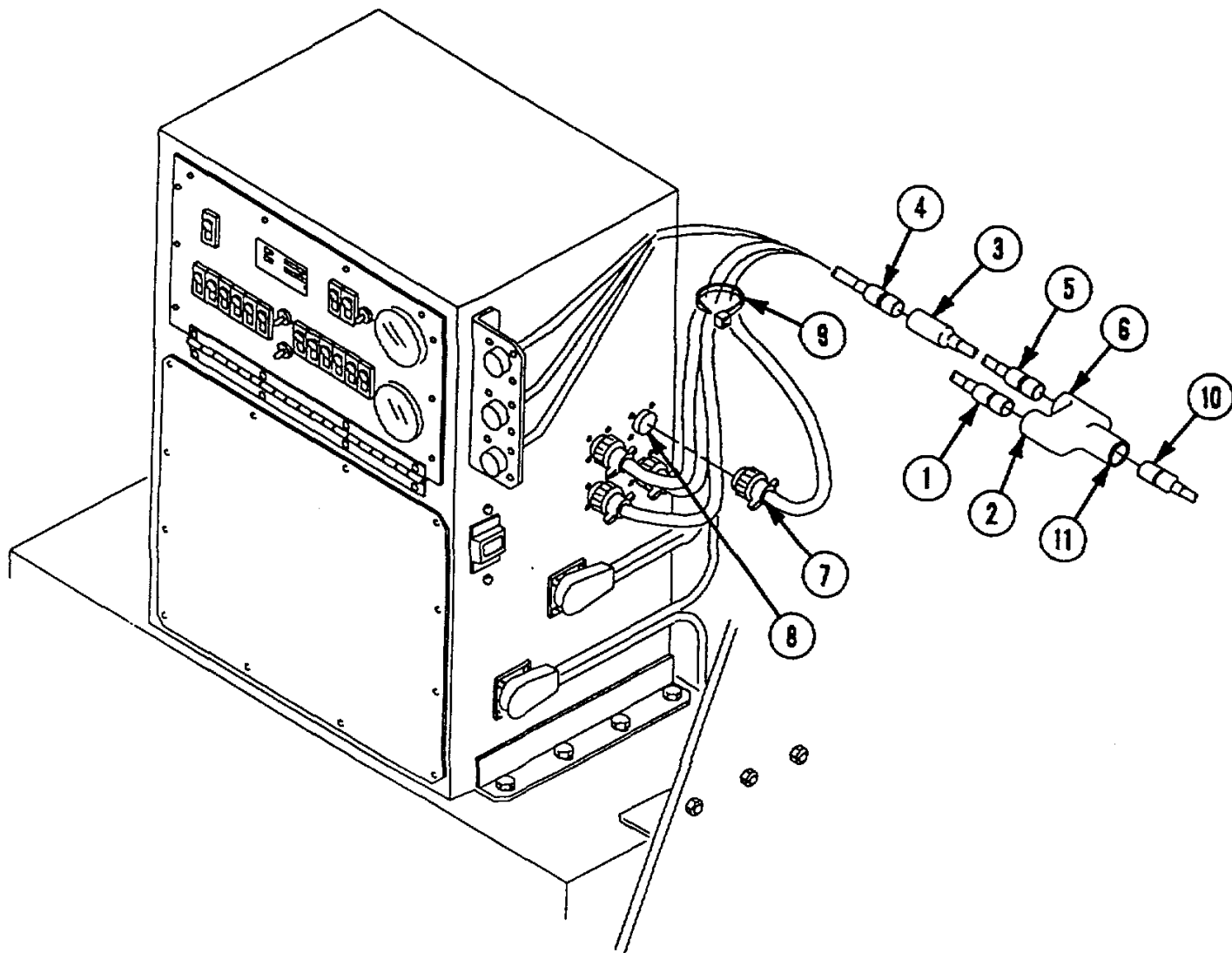
FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
-

END OF TASK

INSTALL

6. Install dummy connector plug (1) in connector adapter plug T2P3 (2).
7. Connect cable plug W29P2 (3) to cable plug W38P6 (4).
8. Connect cable plug W29P1 (5) to connector adapter plug T2P2 (6).
9. Connect cable plug W38P7 (7) to power control enclosure jack A1J28 (8).
10. Secure cables with new strap (9).
11. Connect connector adapter plug T2P1 (10) to circuit 415 lead (11).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE SINGLE POINT LAN CABLE (W40) (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-86). Install (page 40.1-87).

INITIAL SETUP

Tools:

Electronic Equipment Tool Kit
(Item 75.1, App D)

References:

See your -10
TM 11-7010-256-12&P

Materials/Parts:

Electrical tiedown straps (10)

Equipment Conditions:

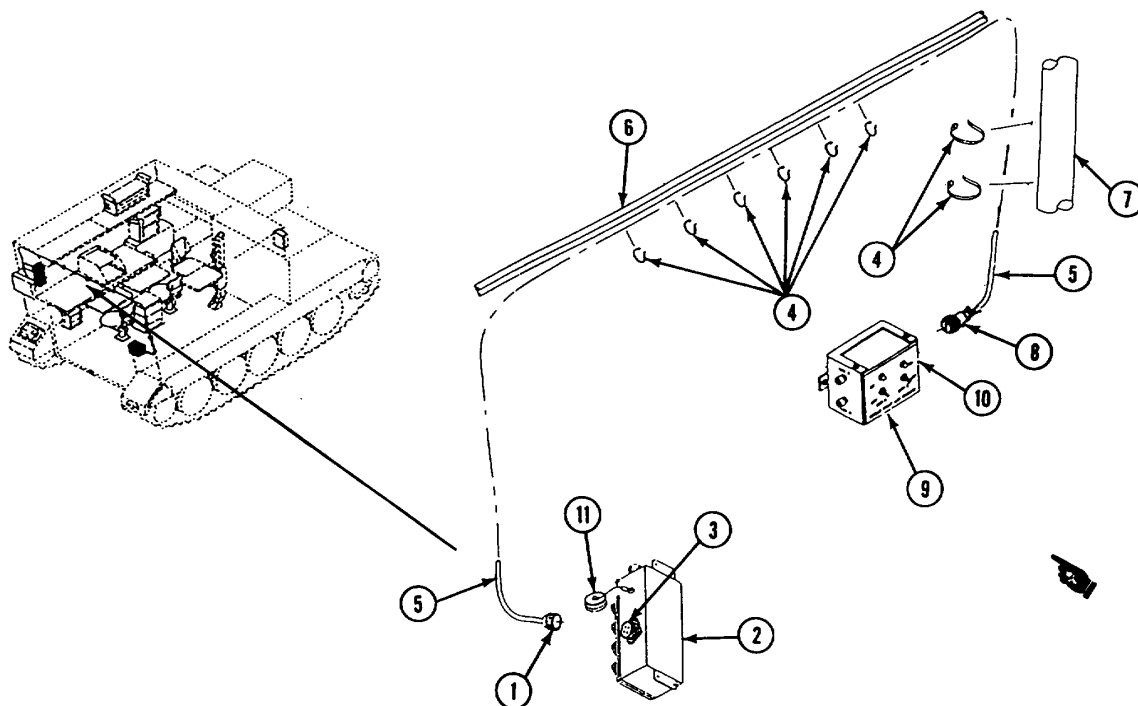
Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

Personnel Required:

Signal Support System Specialist 31U10

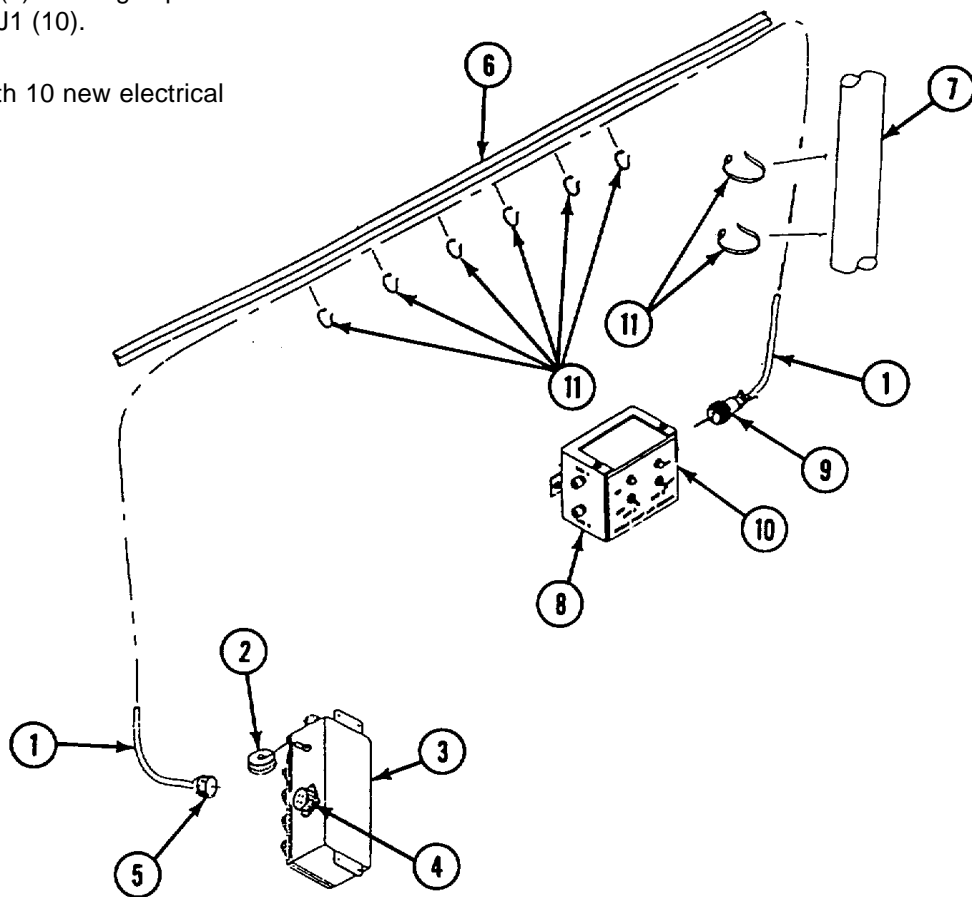
REMOVE

1. Disconnect cable W40 plug P1 (1) from DC power extension box A9 (2) jack 18 (3).
2. Remove seven tiedown straps (4) and cable W40 (5) from existing wiring harness (6) along top rear hull. Discard straps.
3. Remove three tiedown straps (4) and cable W40 (5) from fuel filler tube (7). Discard tiedown straps.
4. Disconnect cable W40 plug P2 (8) from single point LAN ground box A15 (9) jack J1 (10).
5. Install dust cap (11) on DC power extension box A9 (2) jack 18 (3).
6. Remove cable W40 (5) from carrier.



INSTALL

7. Install cable W40 (1) in carrier.
8. Remove dust cap (2) from DC power extension box (3) jack J18 (4).
9. Connect cable W40 plug (5) to DC power extension box (3) jack J18 (4).
10. Route cable W40 (1) along the rear wiring harness (6) across top of hull and down fuel filler tube (7) to single point LAN ground box A15 (8).
11. Connect cable W40 plug 2 (9) to single point LAN ground box A15 (8) jack J1 (10).
12. Secure excess cable slack with 10 new electrical tiedown straps (11).



FOLLOW-THROUGH STEPS

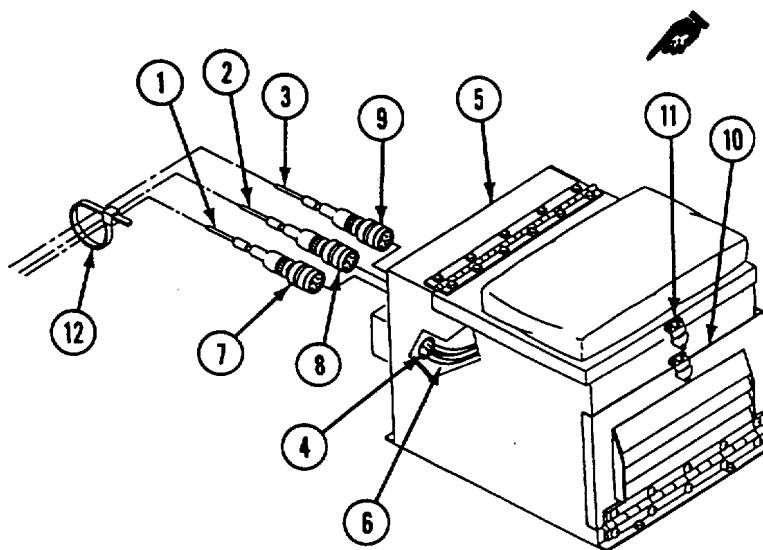
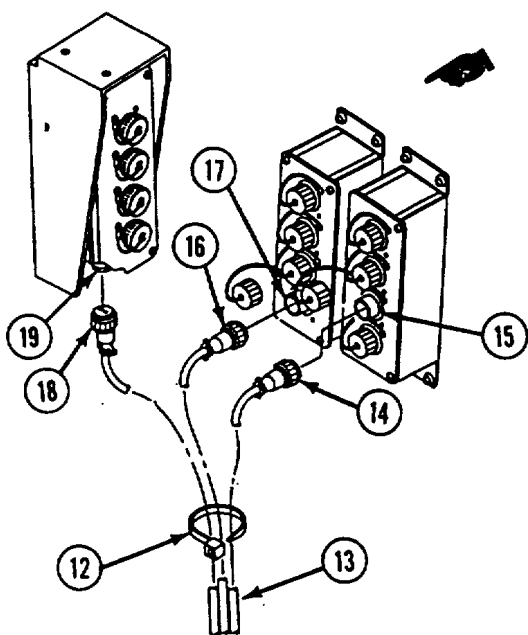
1. Connect battery ground lead (page 13-2).
2. Turn MASTER SWITCH ON (see your -10).
Check that electrical system works properly.
3. Turn MASTER SWITCH OFF (see your -10).

END OF TASK

INSTALL

8. Insert plugs P1 of three cables W251 (1), W42 (2), and W43 (3) through opening (4) in back of power supply storage box (5).
9. Connect cables to UPS (6) as follows: W251 plug P1 (7) to AC OUT W42 plug P1 (8) to DC IN W43 plug P1 (9) to AC IN 10. Close cover (10) on power supply storage box (5) and secure catch (11).

11. Install six new straps (12) on cables (13).
12. Connect cable W43 plug P2 (14) to AC power extension box A7 jack J6 (15).
13. Connect cable W42 plug P2 (16) to DC power extension box A8 jack J21 (17).
14. Connect cable W251 plug P2 (18) to UPS power extension box A18 jack J6 (19).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE CABLE W45 (M1068 ONLY)

DESCRIPTION

This task covers: Remove (page 40.1-90). Install (page 40.1-91).

INITIAL SETUP

Tools:

General Mechanic's Tool Kit (Item 30, App D)

Materials/Parts:

Strap (6)

Personnel Required:

Power-Generation Equipment Repairer 52D10

References:

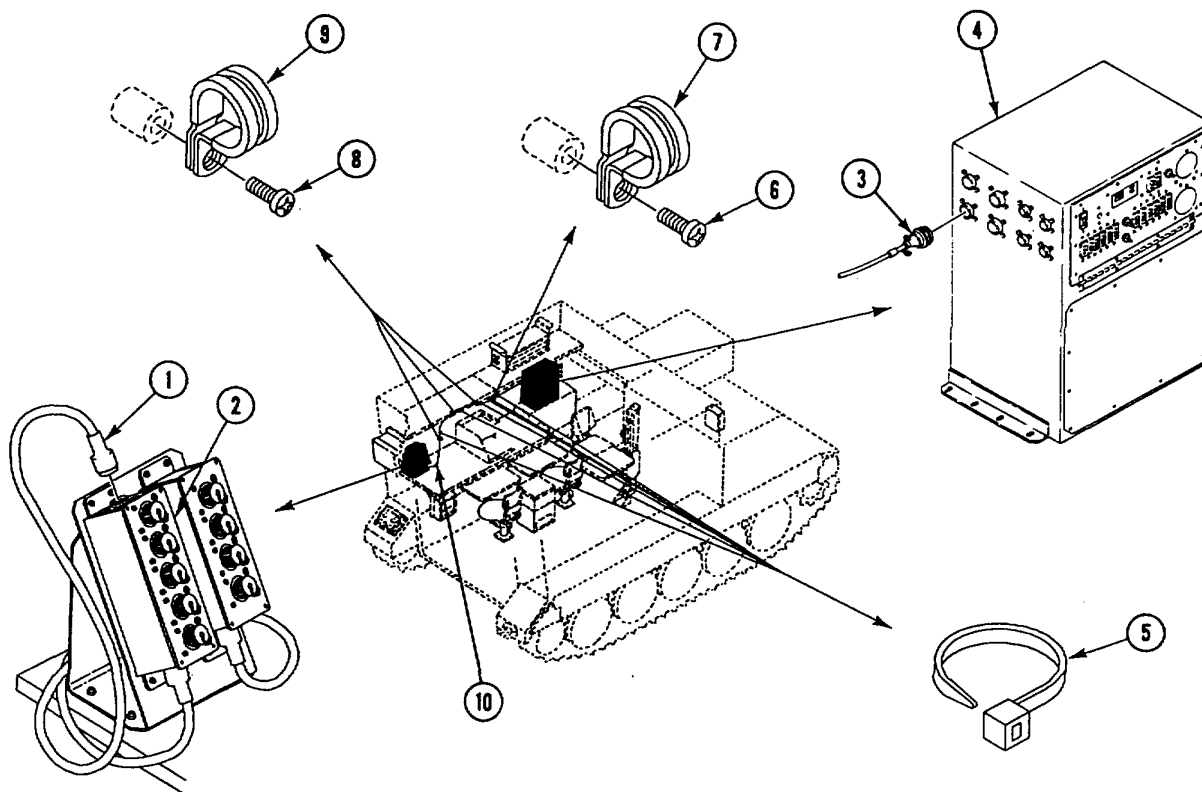
See your -10
TM 11-7010-256-12&P

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
All external power disconnected
(see TM 11-7010-256-12&P)
Battery ground lead disconnected (page 13-2)

REMOVE

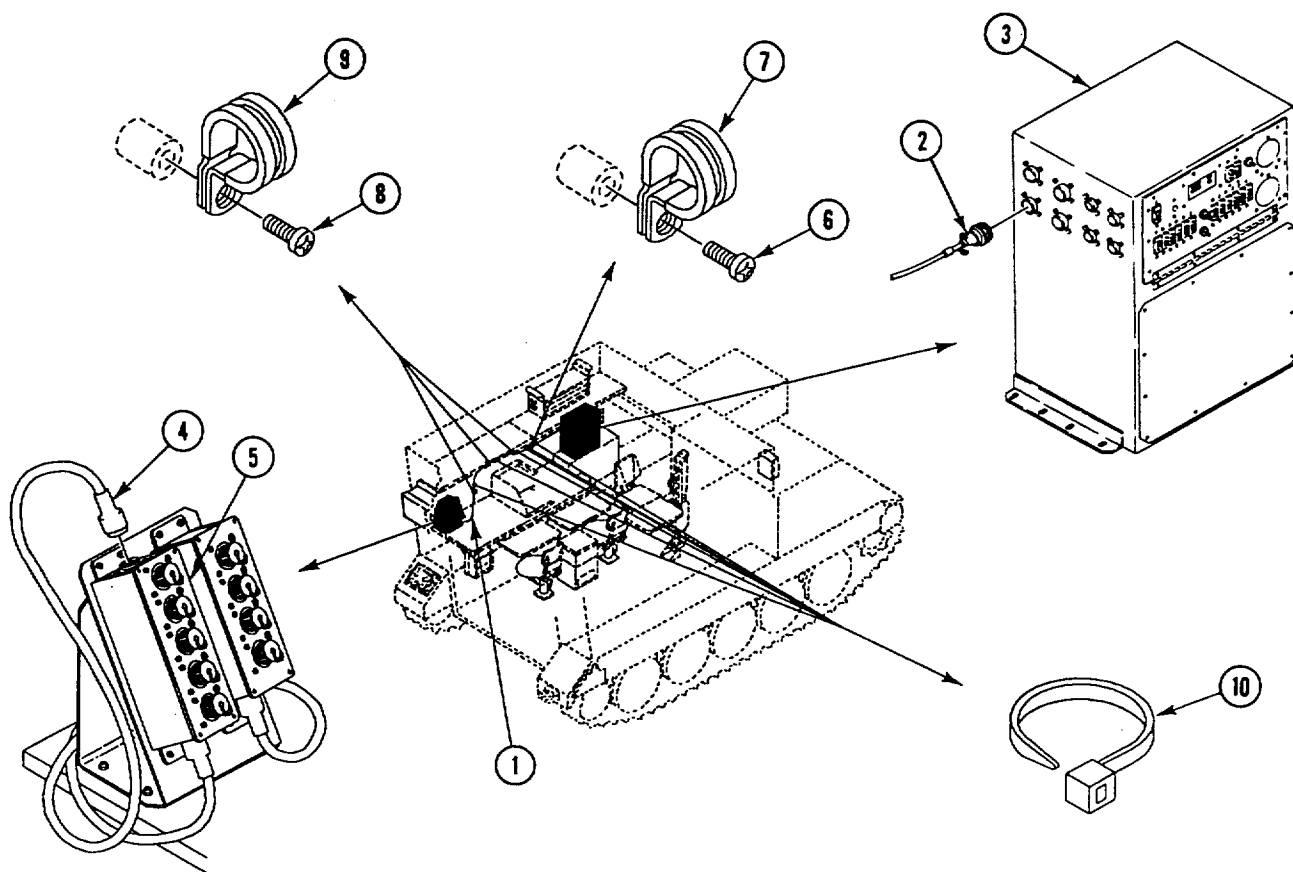
1. Disconnect cable plug W45P1 (1) from DC power extension box jack A9J2 (2).
2. Disconnect cable plug W45P13 (3) from power control enclosure jack A1J33 (4).
3. Remove six straps (5) from cables. Discard straps.
4. Remove screw (6) and clamp (7) from cables.
5. Remove three screws (8) and clamps (9) from cables. Remove cable W45 (10) from carrier.



INSTALL

6. Position cable W45 (1) in carrier. Connect cable plug W45P13 (2) into power control enclosure jack A1J33 (3).
7. Connect cable plug W45P1 (4) into DC power extension box jack A9J2 (5).

8. Connect cables with screw (6) and clamps (7) to bulkhead.
9. Secure cables with three screws (8) and clamps (9) to bulkhead.
10. Secure remaining cable W45 with six new straps (10) evenly between clamps (9).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE AC CABLE ASSEMBLY (W252) (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 40.1-92). Install (page 40.1-93).

INITIAL SETUP**Tools:**

General Mechanic's Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Strap (2)

Strap (6)

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

All external power disconnected

(see TM 11-7010-256-12&P)

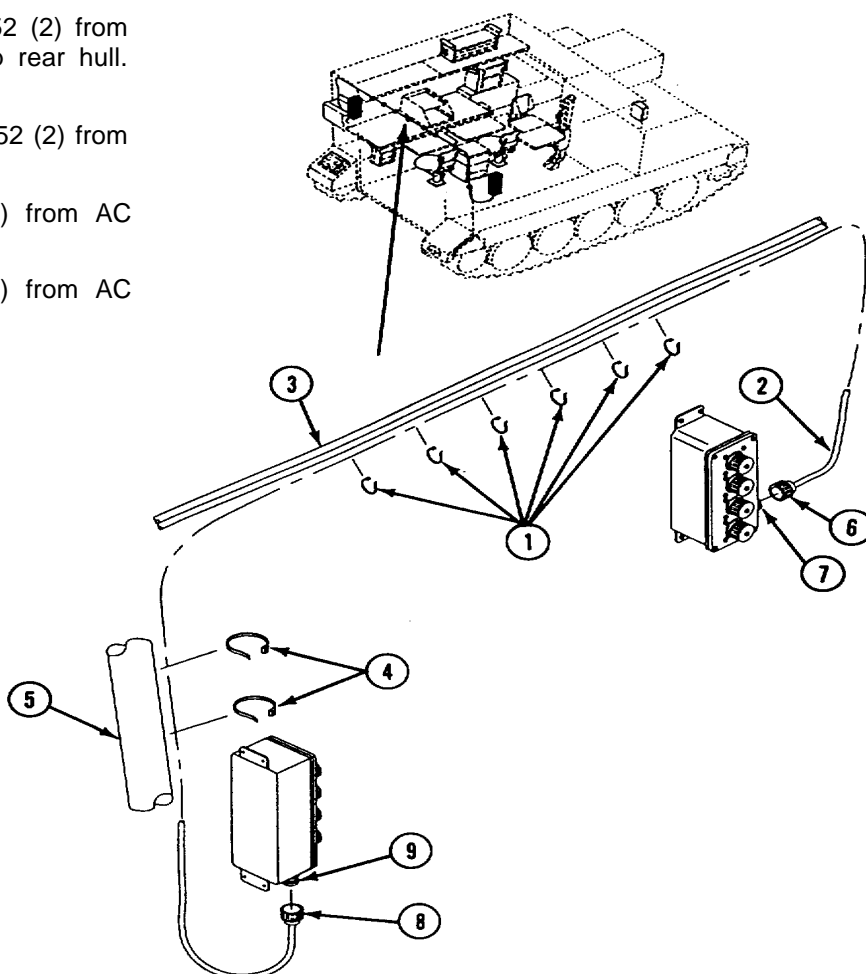
Battery ground lead disconnected (page 13-2)

Personnel Required:

Unit Mechanic

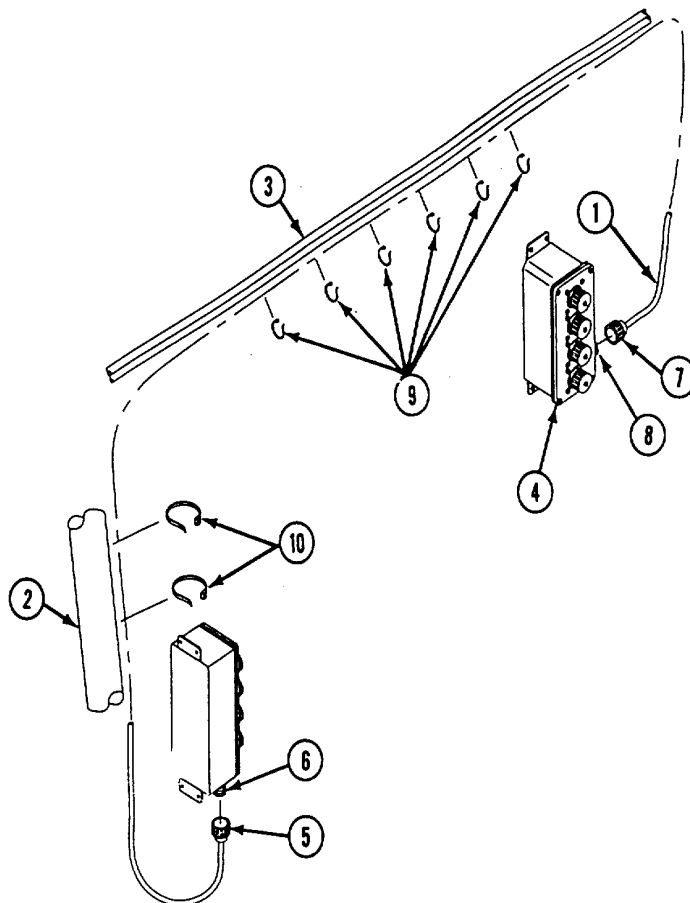
REMOVE

1. Remove 6 straps (1) and cable W252 (2) from existing wiring harness (3) along top rear hull. Discard straps.
2. Remove two straps (4) and cable W252 (2) from fuel filler tube (5). Discard straps.
3. Disconnect cable W252 plug P1 (6) from AC power extension box A18 jack J1 (7).
4. Disconnect cable W252 plug P2 (8) from AC power extension box A19 jack J15 (9).
5. Remove cable W252 (2) from carrier.



INSTALL

6. Install cable W252 (1) in carrier. Route cable along fuel filler tube (2), along the rear wiring harness (3) across the rear top of hull, and down to power extension box A18 (4).
7. Connect cable W252 plug P2 (5) to AC power extension box A19 jack J15 (6).
8. Connect cable W252 plug P1 (7) to power extension box A18 jack J1 (8).
9. Secure cable W252 (1) to rear wiring harness (3) above ramp with 6 new straps (9) and to fuel filler tube (2) with two new straps (10).

**FOLLOW-THROUGH STEPS**

1. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE LAN A OR B CABLE (W103/W104) (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 40.1-94). Install (page 40.1-96).

INITIAL SETUP**Tools:**

Radio Equipment Tool Kit (Item 75.1, App D)

Materials/Parts:

Locknut (2)

Strap (9)

Personnel Required:

Unit Level Communications Maintainer 31V10

References:

See your -10

TM 11-7010-256-12&P

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

All external power disconnected

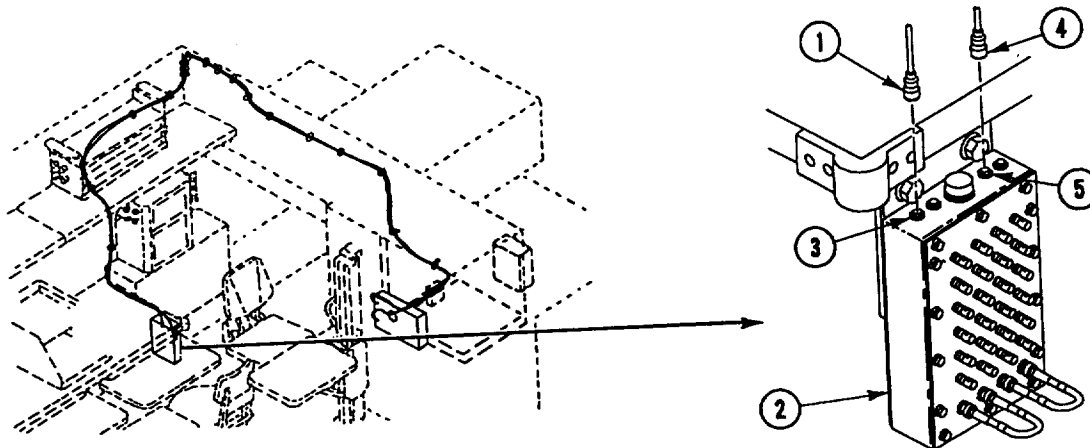
(see TM 11-7010-256-12&P)

Battery ground lead disconnected (page 13-2)

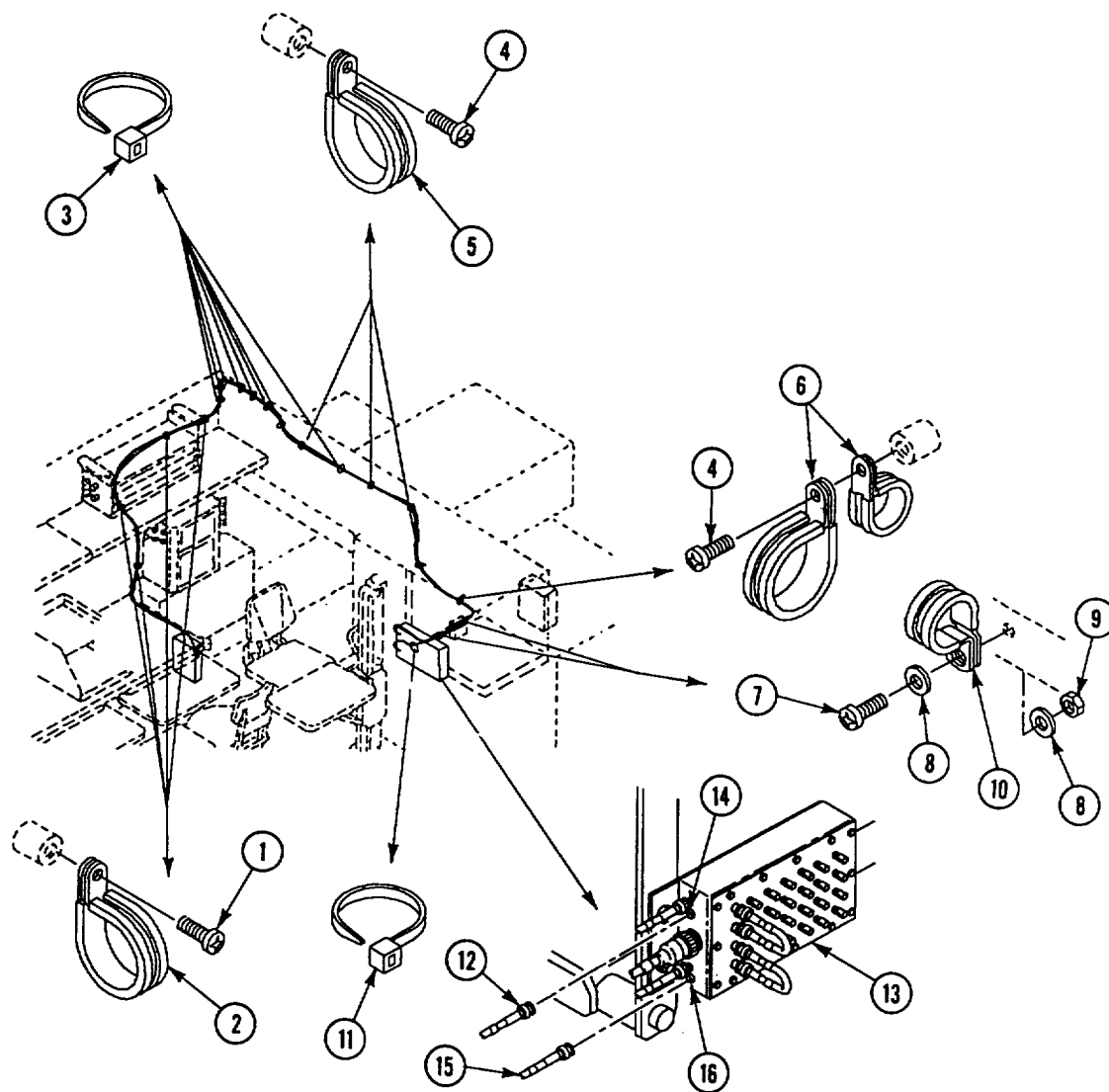
REMOVE**NOTE**

Cables W103 and W104 are routed together. They can be removed and installed using the same procedure.

1. Remove cable W103 plug P2 (1) from roadside data box A13 (2) jack J5 (3) or W104 plug P2 (4) from roadside data box A13 (2) jack J2 (5).



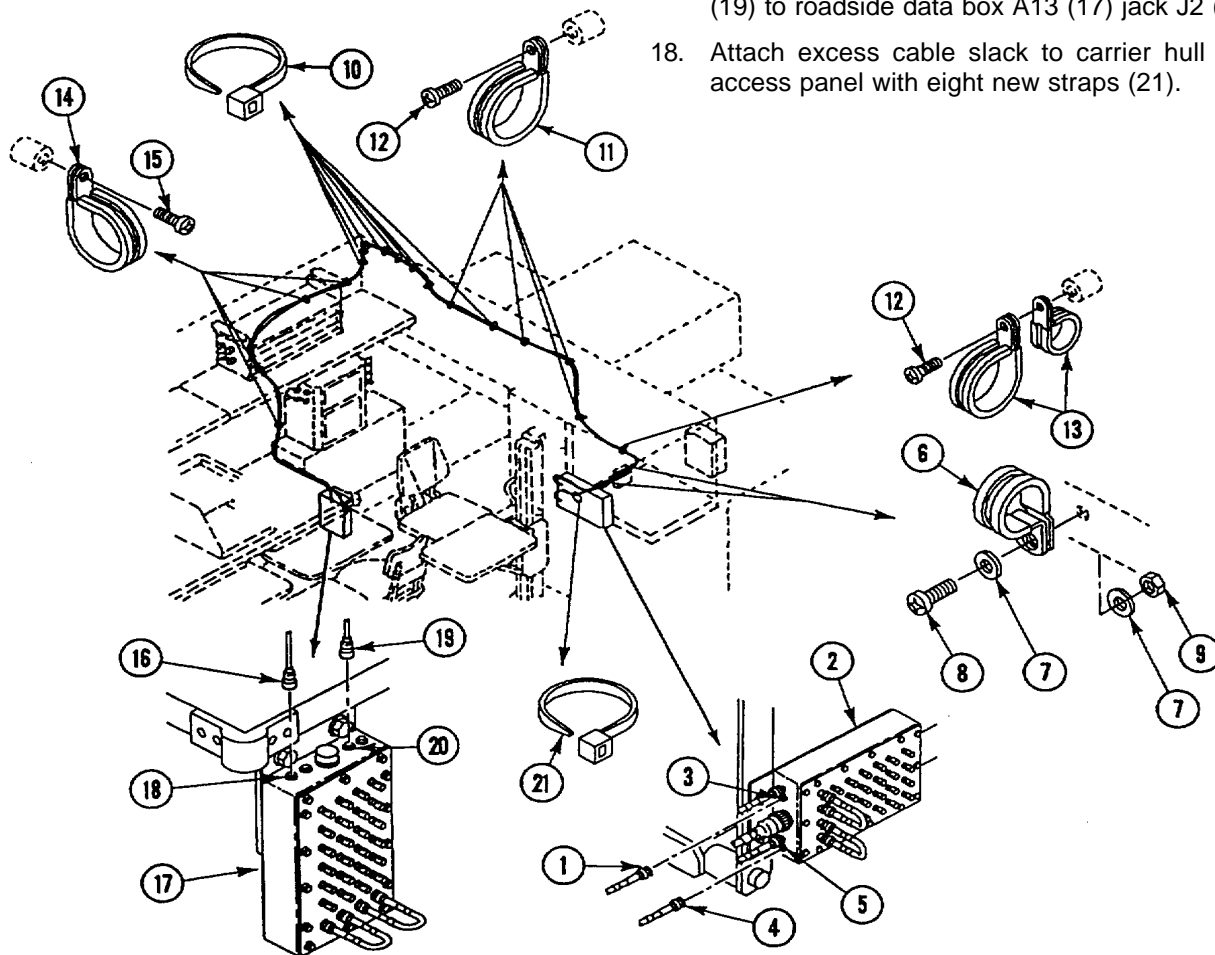
2. Remove four screws (1) and clamps (2).
3. Remove eight straps (3). Discard straps.
4. Remove five screws (4) and clamps (5).
5. Remove screw (4) and two clamps (6) from weldnut.
6. Remove two screws (7), washers (8), locknuts (9), and clamps (10). Discard locknuts.
7. Remove strap (11). Discard strap.
8. Disconnect cables W103 plug P1 (12) from data panel assembly A12 (13) jack J2 (14) or W104 plug P1 (15) from data panel assembly A12 (13) jack J5 (16).
9. Remove cable W103 or W104 from carrier.



GO TO NEXT PAGE

INSTALL

10. Install cable W103 or W104 in carrier.
11. Connect cable W103 plug P1 (1) to data panel assembly A12 (2) jack 2 (3) or W104 plug P1 (4) to data panel assembly A12 (2) jack J5 (5).
12. Attach cable to carrier with two clamps (6), washers (7), two screws (8), and new locknuts (9).
13. Secure excess slack in cable with new strap (10).
14. Attach cable to carrier hull above engine access panel with four clamps (11) and screws (12).
15. Install two clamps (13) and screws (12) on weldnut.
16. Attach cable to left side of carrier hull with four clamps (14) and screws (15).
17. Connect cable W103 plug P2 (16) to roadside data box A13 (17) jack J5 (18) or W104 plug P2 (19) to roadside data box A13 (17) jack J2 (20).
18. Attach excess cable slack to carrier hull above access panel with eight new straps (21).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Turn MASTER SWITCH ON. Check that electrical system works properly.
3. Turn MASTER SWITCH OFF.

END OF TASK

REPLACE CABLE W124 (M1068 ONLY)**DESCRIPTION**

This task covers :Remove (page 40.1-97). Install (page 40.1-98).

INITIAL SETUP**Tools:**

Radio Equipment Tool Kit (Item 75.1, App D)

Materials/Parts:

Locknut (2)
Strap (6)

Personnel Required:

Signal Support System Specialist 31U10

References:

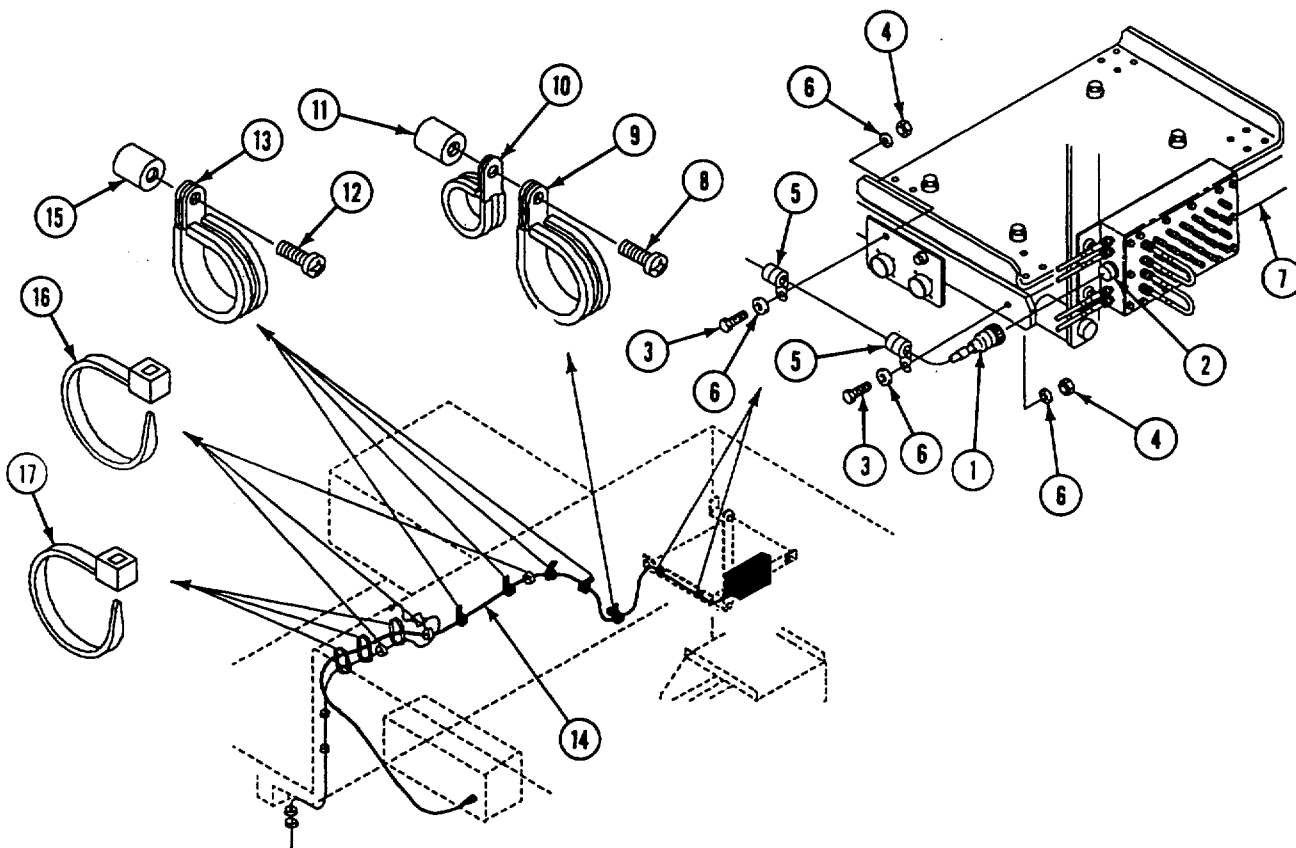
See your -10

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground lead disconnected (page 13-2)

REMOVE

1. Disconnect cable W124 plug P1 (1) from Data Panel Assembly A12 jack J3 (2).
2. Remove two screws (3), locknuts (4), clamps (5), and four washers (6) from APIU rack (7). Discard locknuts.
3. Remove screw (8), clamp (9), and clamp (10) from weldnut (11).
4. Remove four screws (12) and clamps (13) from cables (14) and weldnuts (15).
5. Remove three straps (16) from cables (14). Discard straps.
6. Remove three straps (17) from cables (14). Discard straps.

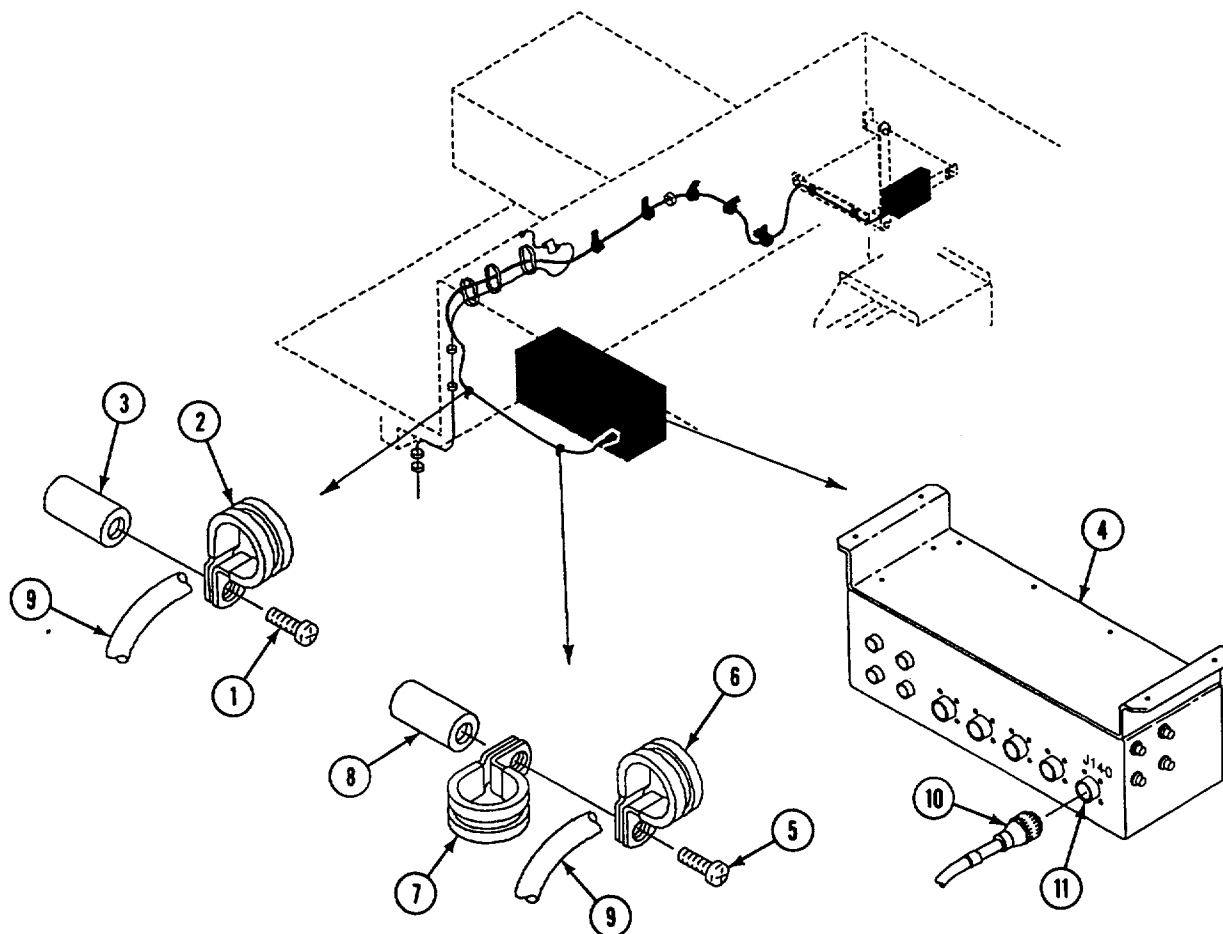


GO TO NEXT PAGE

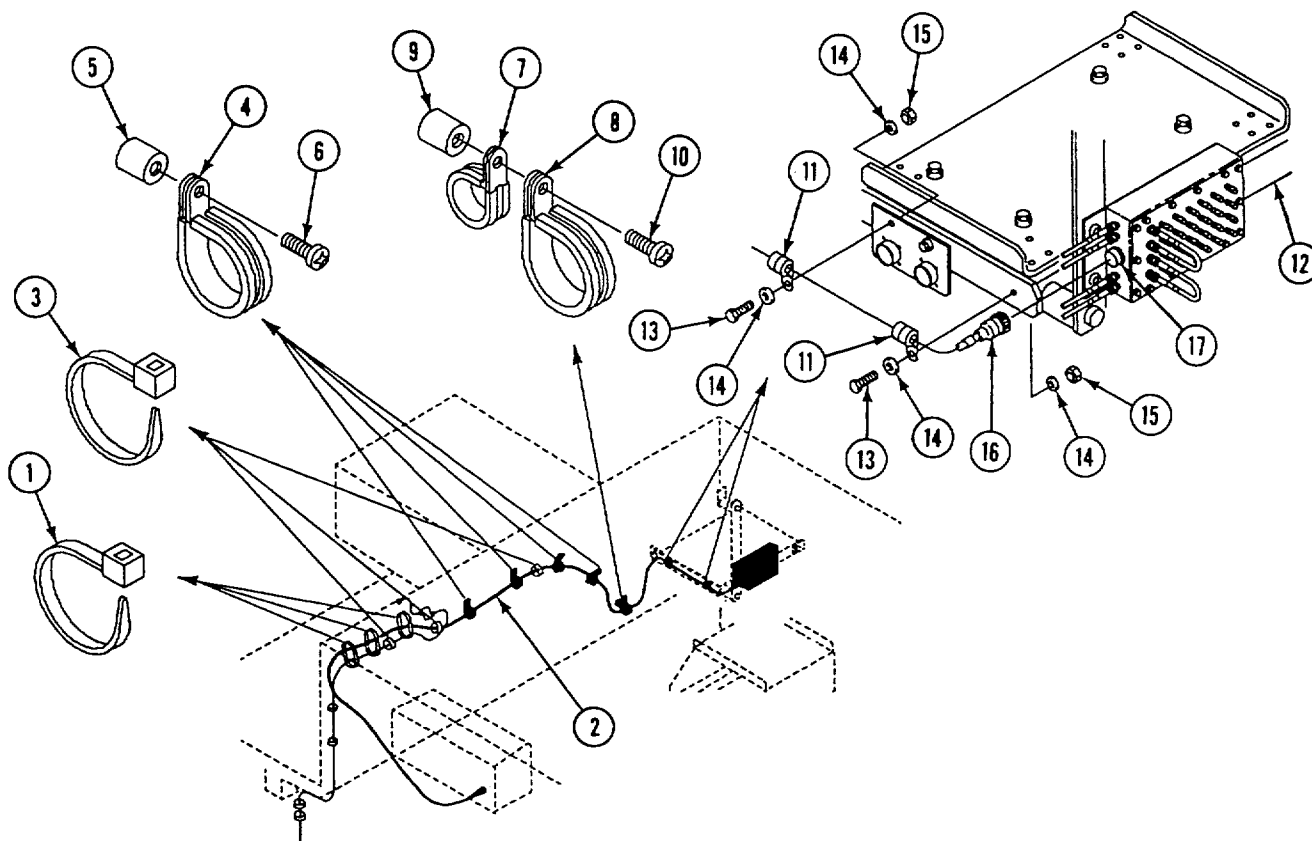
7. Remove screw (1) and clamp (2) from weldnut (3) near end of Patch Panel Box A10 (4).
8. Remove screw (5), clamp (6), and clamp (7) from weldnut (8) below Patch Panel Box A10 (4). Remove clamp (6) from cables (9).
9. Disconnect cable W124 plug P109 (10) from Patch Panel Box A10 jack J140 (11).

INSTALL

10. Connect cable W124 plug P109 (10) to Patch Panel Box A10 jack J140 (11).
11. Install clamp (6) on cables (9).
12. Secure clamp (7) and clamp (6) to weldnut (8) below Patch Panel Box A10 (4) with screw (5).
13. Install clamp (2) on cables (9) and secure to weldnut (3) near end of Patch Panel Box A10 (4) with screw (1).



14. Install three new straps (1) on cables (2).
15. Install three new straps (3) on cables (2).
16. Install four clamps (4) on cables (2) and secure to weldnuts (5) with screws (6).
17. Install clamp (7) on cables (2).
18. Secure clamp (8) and clamp (7) to weldnut (9) with screw (10).
19. Install two clamps (11) on cables (2) and secure to APIU rack (12) with two screws (13), four washers (14), and two new locknuts (15).
20. Connect cable W124 plug P1 (16) to Data Panel Assembly A12 jack J3 (17).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE CABLE W126 (M1068 ONLY)**DESCRIPTION**

This task covers: Remove (page 40.1-100). Install (page 40.1-101).

INITIAL SETUP**Tools:**

Radio Equipment Tool Kit (Item 75.1, App D)

References:

See your -10

Personnel Required:

Signal Support System Specialist 31U10

Equipment Conditions:

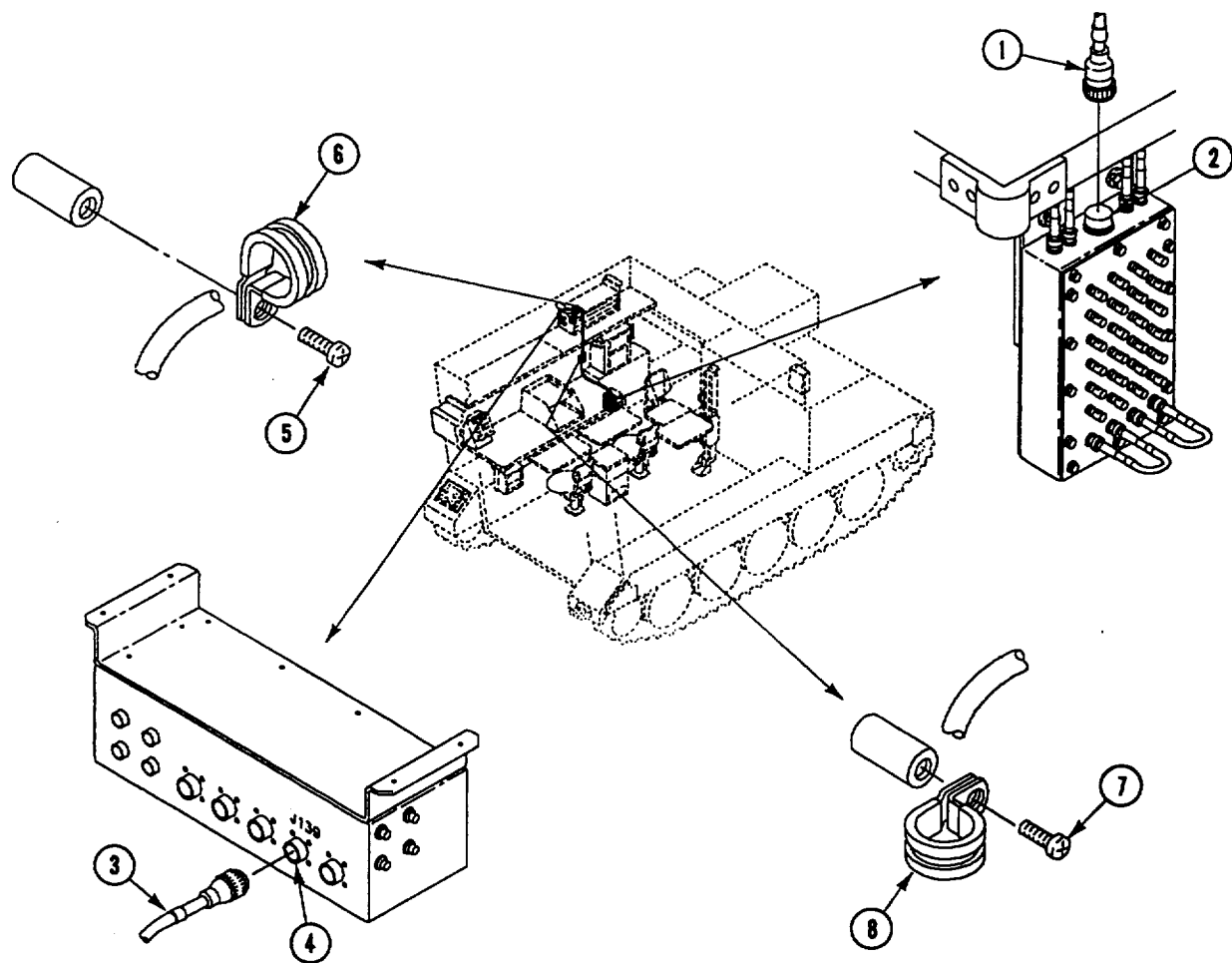
Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (page 13-2)

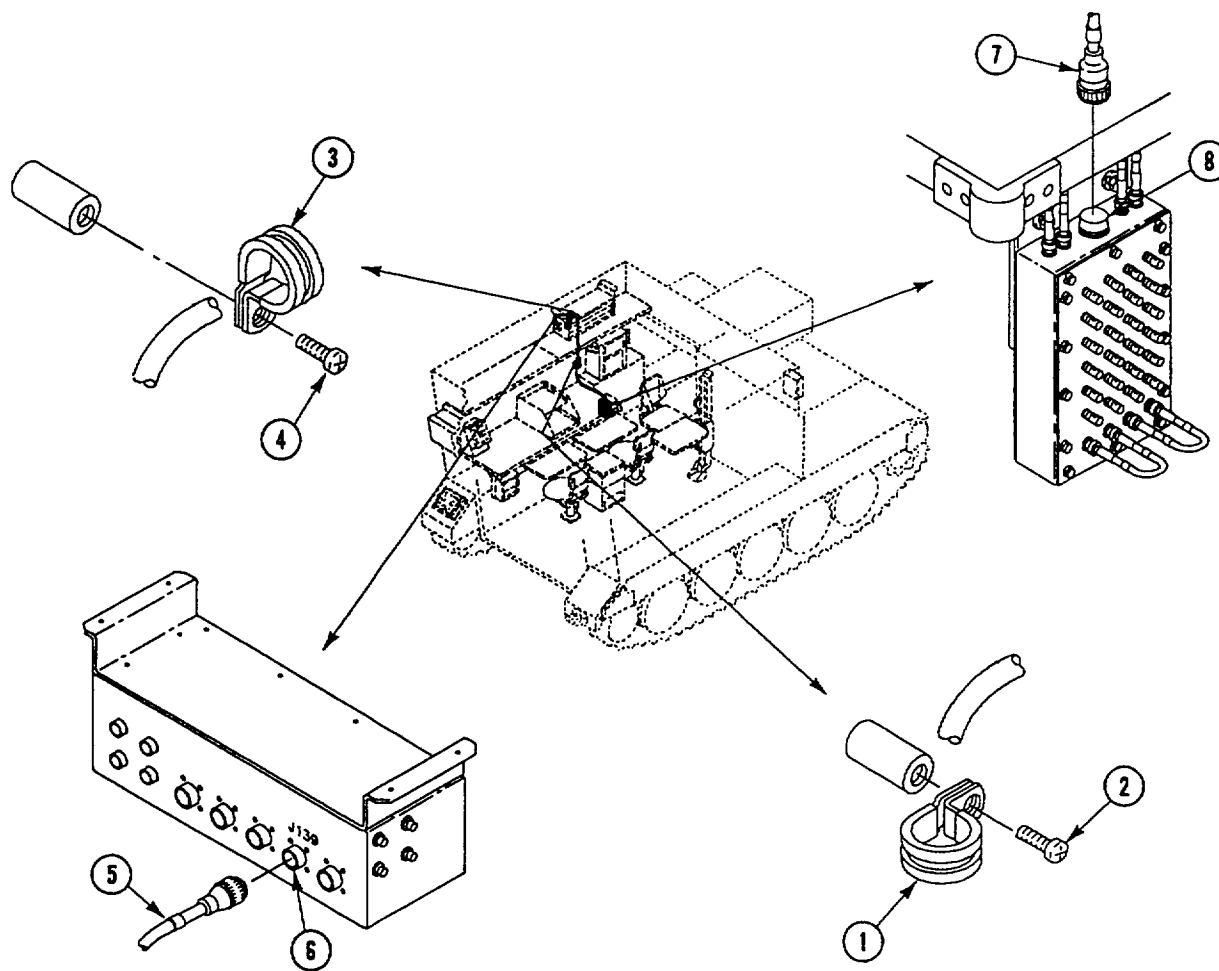
REMOVE

1. Disconnect cable plug W126P1 (1) from data panel assembly jack A13J3 (2).
2. Disconnect cable plug W126P108 (3) from patch panel box jack A10J139 (4).
3. Remove screw (5) and clamp (6) from cables.
4. Remove screw (7) and clamp (8) from cables.
Remove cable W126 from other cables.



INSTALL

5. Position cable W126 with other cables and secure with clamp (1) and screw (2).
6. Install clamp (3) and screw (4) on cables.
7. Connect cable plug W126P108 (5) to patch panel box jack A10J139 (6).
8. Connect cable plug W126P1 (7) to data panel assembly jack A13J3 (8).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

REPAIR CABLE ASSEMBLY (W4/W6) (M1068 ONLY)

INITIAL SETUP

Tools:

- General Mechanic's Tool Kit (Item 30, App D)
- Soldering Torch Kit (Item 68, App D)

Personnel Required:

- Unit Mechanic

References:

- See your -10

Equipment Conditions:

- Cable Assembly W4 removed (page 40.1-60)
- Cable Assembly W6 removed (page 40.1-64)

DISSAMBLE

NOTE

The W4 cable assembly has four terminals. The W6 cable assembly has three terminals and a bare wire end.

1. Remove six screws (1), washers (2), and cover (3) from connector (4).
2. Loosen two adapters (5) securing cables (6) in connector (4).
3. Remove two screws (7), washers (8), and two cables (6) from connector (4).
4. Remove four terminals (9) from cable assembly W4 or three terminals (9) from cable assembly W6.

ASSEMBLE

NOTE

The W4 cable assembly has two negative (-) terminals and two positive (+) terminals.

The W6 cable assembly has two negative (-) terminals and one positive (+) terminal and a positive (+) bare end wire.

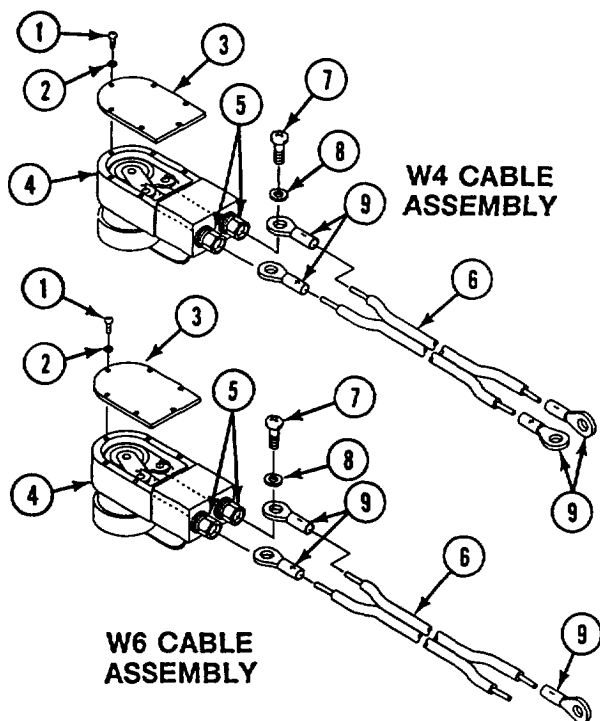
Position the terminals on the cables as shown.

5. Install terminals (9) on cables (6) (8-367).
6. Strip 1 inch to 1 1/2 inches of insulation from one end of positive cable of assembly W6.

NOTE

Observe cable polarity when securing cables to connectors. The terminal on the positive (+) (longer) cable connects to the center post of connector on the W4 and the W6 cable assembly.

7. Insert each cable (6) into adapter (5) on connector (4). Secure to connector with two screws (7) and washers (8). Tighten two adapters (5).
8. Secure cover (3) on connector (4) with six screws (1) and washers (2).



END OF TASK

**CHAPTER 41
COMMUNICATION SYSTEM MAINTENANCE**

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Replace C-2298/VRC Intercom Station Bracket (M901A1 Only)	41-2	Replace MX-7777B/GRC or MX-7778A/GRC Transient Suppressor Mounts and Ground Lead (M901A1 Only)	41-4
Replace AS-1729/VRC Antenna Guard (M901A1 Only)	41-3		

REPLACE C-2298/VRC INTERCOM STATION BRACKET (M901A1 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (2)

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Intercom removed

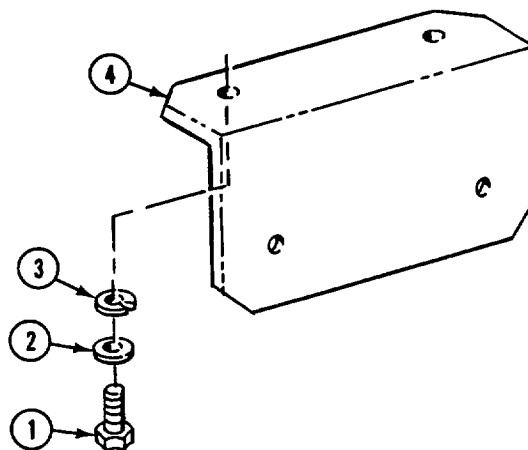
Personnel Required:Unit Mechanic

REMOVE

1. Remove two screws (1), washers (2), lockwashers (3), and bracket (4) from hull. Discard lockwashers.

INSTALL

2. Install bracket (4), on hull with two new lockwashers (3), washers (2), and screws (1).



FOLLOW-THROUGH STEPS

1. Install intercom.
-

END OF TASK

REPLACE AS-1729/VRC ANTENNA GUARD (M901A1 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (3)

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

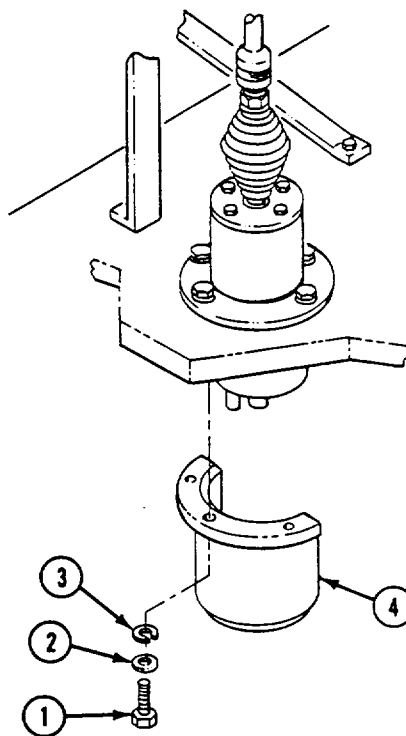
Personnel Required:Unit Mechanic

REMOVE

1. Remove three screws (1), lockwashers (2), washers (3), and guard (4). Discard lockwashers.

INSTALL

2. Install guard (4) on hull with three washers (3), new lockwashers (2), and screws (1).



END OF TASK-

REPLACE MX-777B/GRC OR MX-778A/GRC TRANSIENT SUPPRESSOR MOUNTS AND GROUND LEAD (M901A1 ONLY)**DESCRIPTION**

This task covers: Remove (page 41-4). Install (page 41-5).

INITIAL SETUP**Tools**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts

Lockwasher
Lockwasher (4)

Personnel Required

Unit Mechanic

References

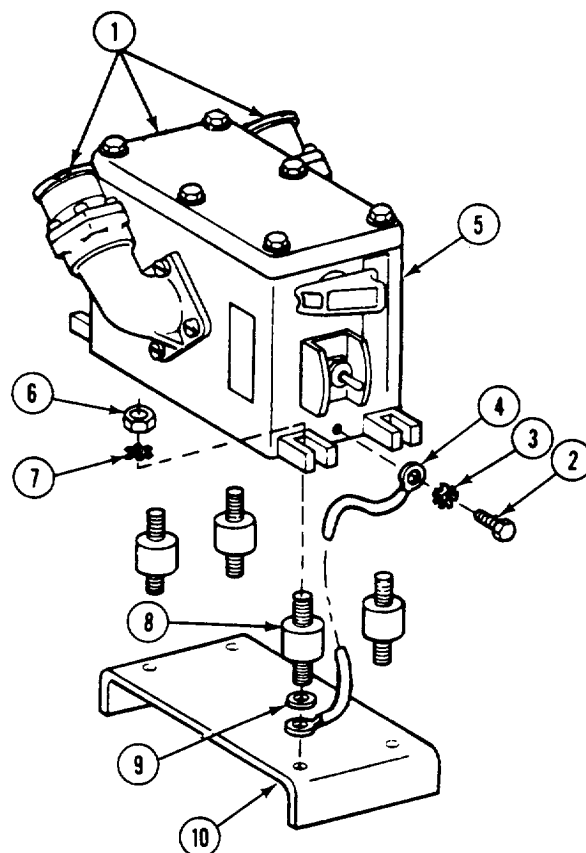
See your -10
TM 11-5915-223-12
TM 11-5915-224-14

Equipment Conditions

Engine shutdown (see your -10).
Carrier blocked (see your -10)
Ramp lowered (see your -10)

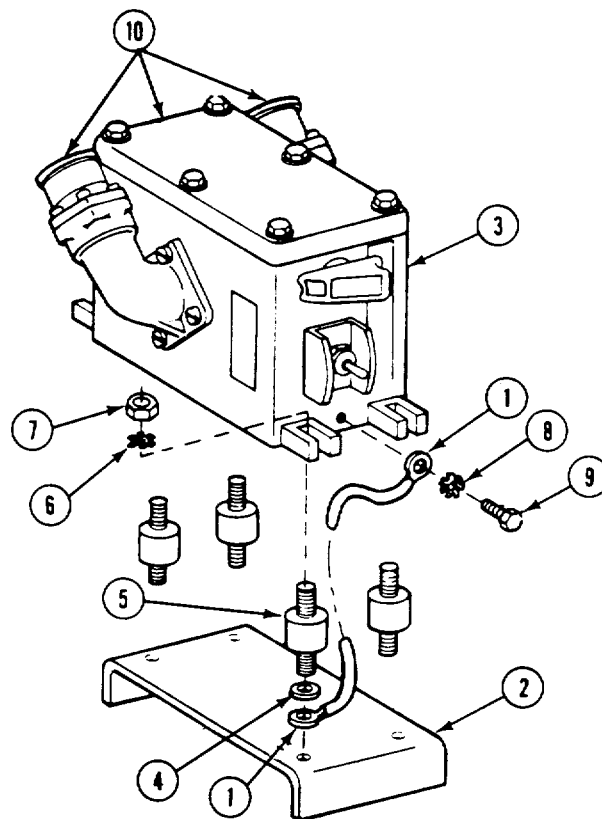
REMOVE

1. Tag and disconnect three electrical connectors from three connectors (1).
2. Remove screw (2), lockwasher (3), and upper end of ground strap (4) from transient suppressor (5). Discard lockwasher.
3. Remove four nuts (6), lockwashers (7), and transient suppressor (5) from four mounts (8). Discard lockwashers.
4. Remove four mounts (8), washers (9), and lower end of ground strap (4) from mount (10).



INSTALL

5. Remove paint where ground strap (1) lug contacts mount (2) and transient suppressor (3) before attaching ground strap.
6. Install lower end of ground strap (1), four washers (4), on mounts (5) and mount (2).
7. Install transient suppressor (3), four new lockwashers (6), and nuts (7) on four mounts (5).
8. Install upper end of ground strap (1), new lockwasher (8), and screw (9) on transient suppressor (3).
9. Connect three electrical cables to three connectors (10) per tagged identification.



END OF TASK

**CHAPTER 42
FIRE EXTINGUISHER SYSTEM MAINTENANCE**

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
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Replace External Handle Shield (M577A2 and M1068 Only)	42-3	Replace Cylinder Discharge Tubes	42-11
Replace External Handle Shield (M106A2, M1064, and M125A2 Only)	42-4	Replace Fire Extinguisher Cylinder and Mount	42-13
Replace Fire Extinguisher Control Valve and External Handle	42-5	Replace Portable Fire Extinguisher Mount	42-15
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REPLACE EXTERNAL HANDLE SHIELD (M113A2, M741A1, M901A1, AND M1059 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Lockwasher (2)
Self-locking nut
Shield

References:

See your -10

Equipment Conditions:

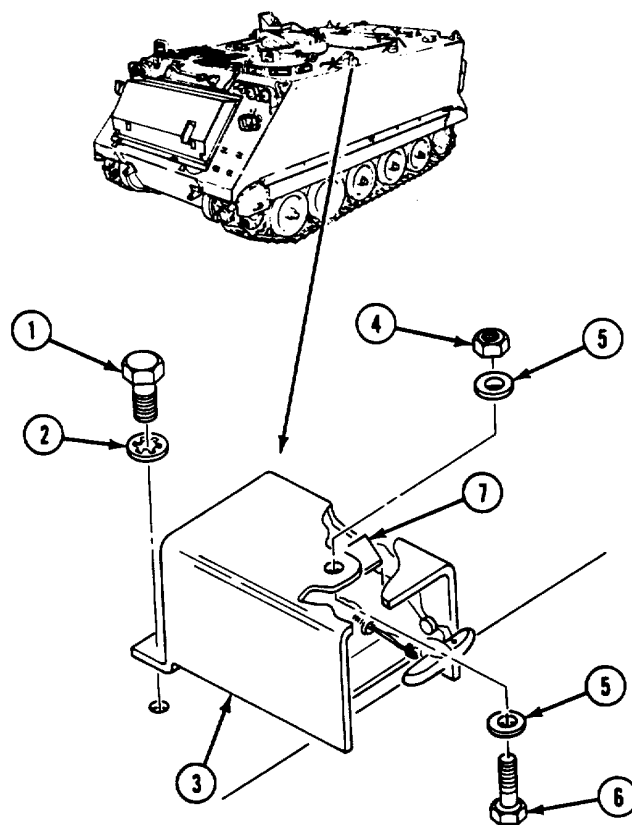
Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)

REMOVE

1. Remove two screws (1) and lockwashers (2) from shield (3) and hull top plate. Discard lockwashers.
2. Remove locknut (4), two washers (5), screw (6), and shield (3) from support bracket (7). Discard locknut and shield.

INSTALL

3. Place new shield (3) on support bracket (7). Secure with screw (6), two washers (5), and new locknut (4).
4. Secure shield (3) to hull top plate with two new lockwashers (2) and screws (1).



END OF TASK

REPLACE EXTERNAL HANDLE SHIELD (M577A2 AND M1068 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (4)

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

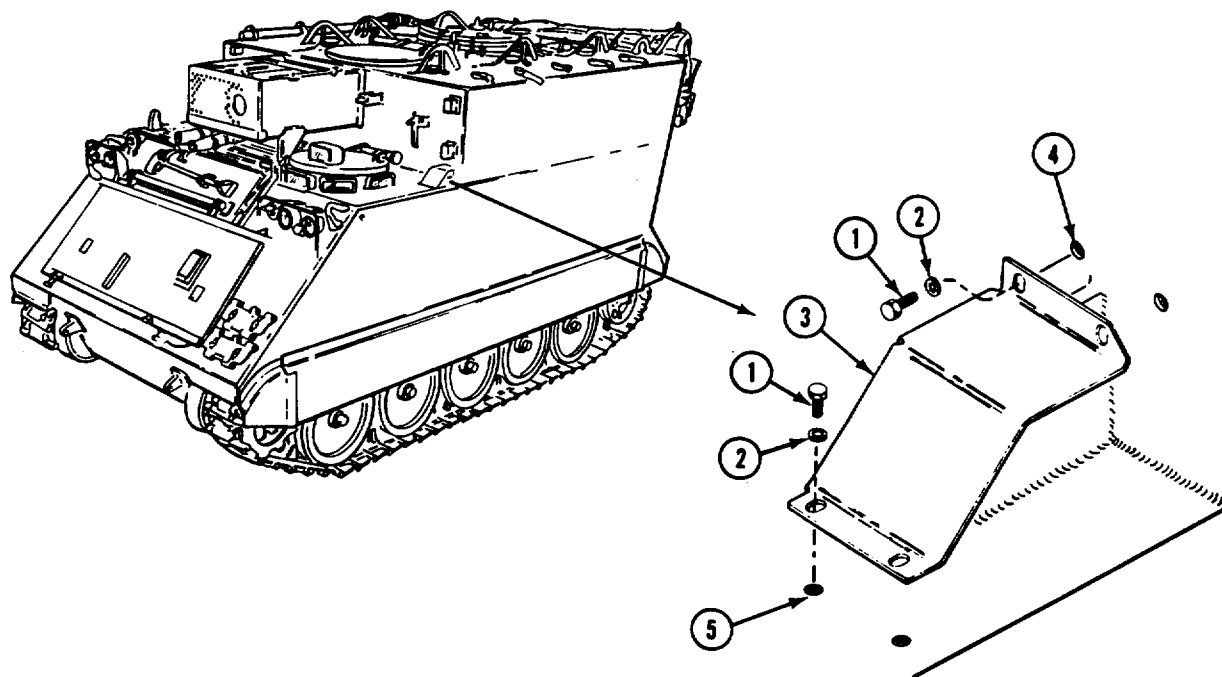
Personnel Required:Unit Mechanic

REMOVE

1. Remove four screws (1) and lockwashers (2) and shield (3) from upper front bulkhead (4) and hull top plate (5). Discard lockwashers.

INSTALL

2. Place shield (3) on hull top plate (5) and upper front bulkhead (4). Secure with four new lockwashers (2) and screws (1).



END OF TASK

REPLACE EXTERNAL HANDLE SHIELD (M106A2, M1064, AND M125A2 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Lockwasher (2)
Self-locking nut

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)

Personnel Required:

Unit Mechanic

REMOVE

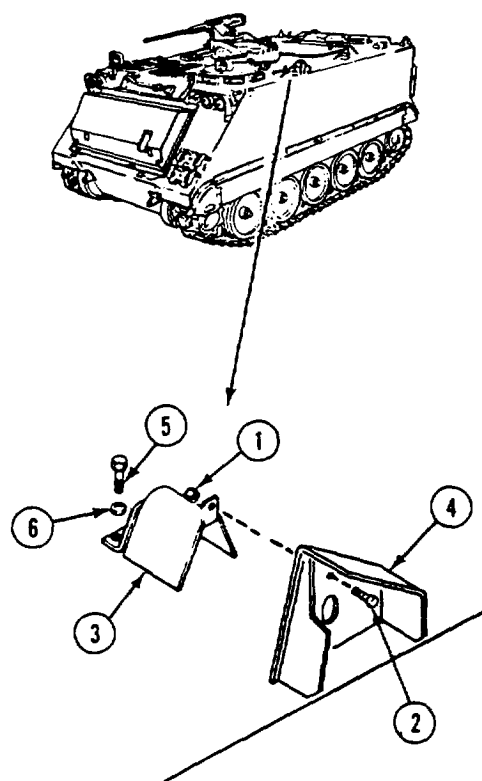
1. Remove locknut (1) and screw (2) from shield (3) and support bracket (4). Discard locknut.
2. Remove two screws (5), lockwashers (6), and shield (3) from hull top plate. Discard lockwashers.

CLEAN, INSPECT AND REPAIR

3. Check shield. Replace cracked shield.
4. Check threaded parts. Remove burrs. Replace parts that have stripped threads.

INSTALL

5. Place shield (3) on top hull plate. Secure with two new lockwashers (6) and screws (5).
6. Secure shield (3) to support bracket (4) with screw (2) and new locknut (1).



END OF TASK

REPLACE FIRE EXTINGUISHER CONTROL VALVE AND EXTERNAL HANDLE

DESCRIPTION

This task covers: Remove (page 42-5). Install (page 42-6)

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Lead Seal Hand Press

Materials/Parts:

- Anti-pilferage seal

Personnel Required:

- Unit Mechanic

References:

- See your -10

Equipment Conditions:

- Engine stopped/shutdown (see your -10)
- Carrier blocked (see your -10)
- External handle shield removed (page 42-2)

REMOVE

WARNING

You could be injured if cylinder discharges when it is out of its mounting brackets or is dropped. Discharge cylinder completely before removing from its



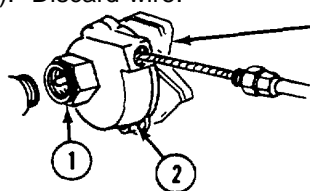
mount. Handle with great care.

1. Loosen captive nut (1) on control valve (2). Remove valve from fire extinguisher cylinder (3).

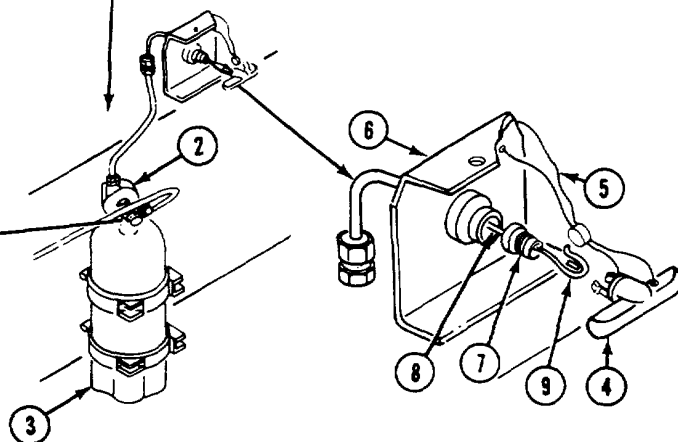
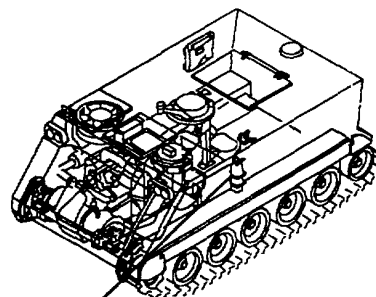
NOTE

There are two types of control valves. Remove and install both valves the same way.

2. Pull external handle (4) to break the anti-pilferage seal (5). Remove wire from handle and support bracket (6). Discard wire.

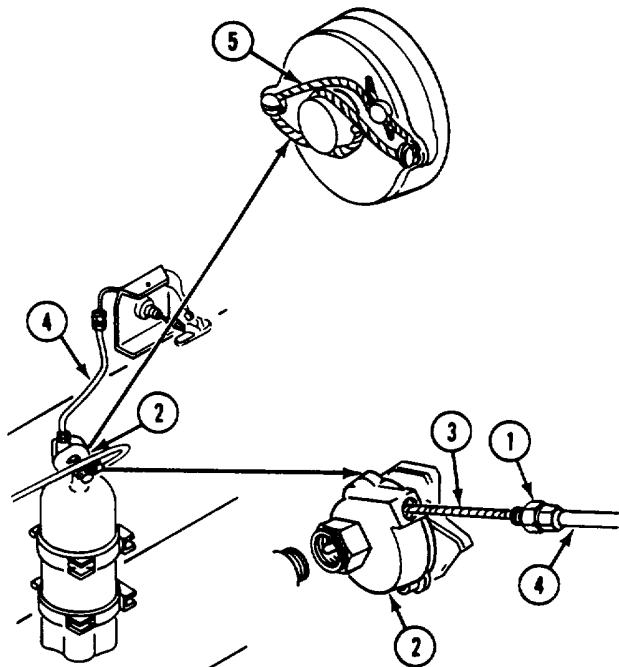


3. Remove insert (7) from handle (4).
4. Slide insert (7) down cable (8) until wedge (9) can be seen. Remove wedge and cable from insert.

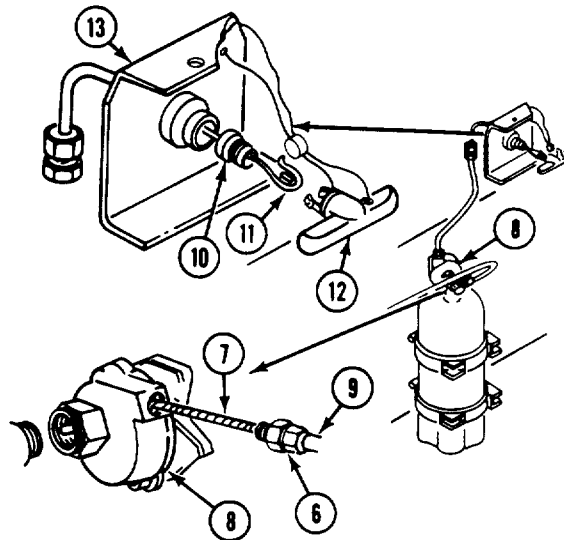


GO TO NEXT PAGE

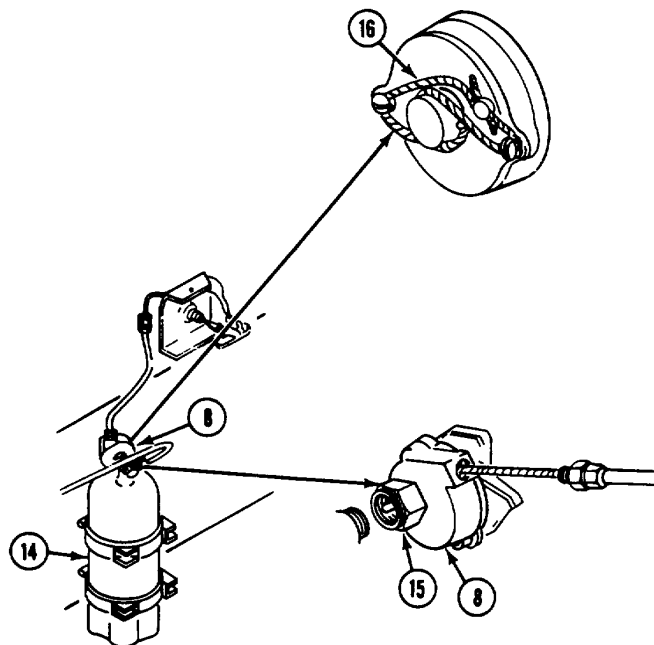
5. Remove adapter (1) from control valve (2).
6. Gently pull control valve (2) until cable (3) is free from cable tube (4). Remove valve from carrier.
7. Remove broken anti-pilferage seal (5) from control valve (2).



12. Pull control valve (8) until handle (12) is in place on support bracket (13).



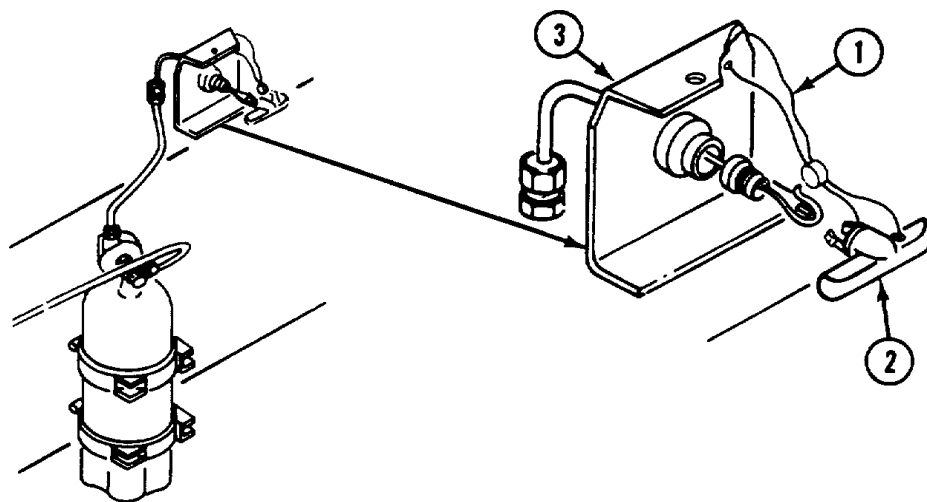
13. Install valve (8) on fire extinguisher cylinder (14). Secure with captive nut (15).
14. Install new antipilferage seal (16) on control valve (8). See illustration. Use lead seal hand press.



INSTALL

8. Slide adapter (6) over cable (7). Install adapter in control valve (8).
9. Route cable (7) through cable tube (9) and insert (10).
10. Bend cable (7) over wedge (11). Slide insert (10) over cable and wedge.
11. Install insert (10) in handle (12).

15. Install new anti-pilferage seal (1) between handle (2) and support bracket (3). Use lead seal hand press.



FOLLOW-THROUGH STEPS

1. Install external handle shield (page 42-2).

END OF TASK

REPLACE EXTERNAL CABLE TUBE

DESCRIPTION

This task covers Remove (page 42-8). Install (page 42-9).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Adapter
Nut
Sleeve
Sleeve
Tube

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
External handle shield removed (page 42-2)
External handle and insert removed (page 42-5)

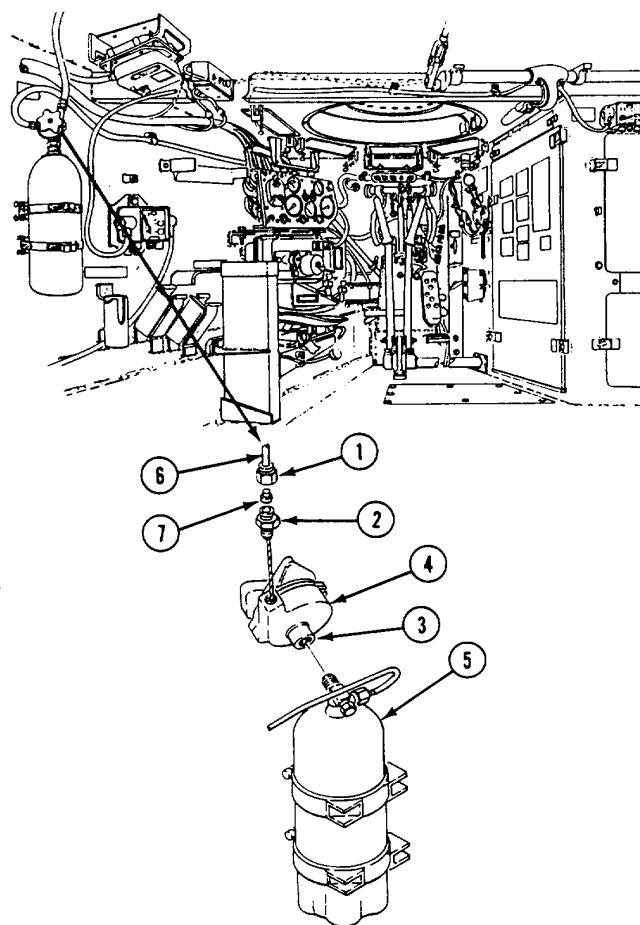
Personnel Required:

Unit Mechanic

REMOVE**WARNING**

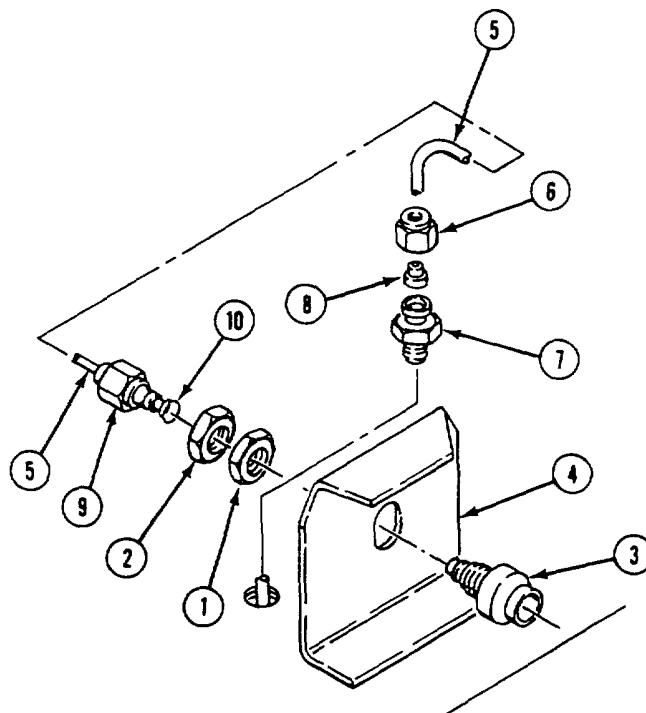
You could be injured by discharging cylinder if dropped or mounting bracket is not in place.

1. Loosen nut (1) on control valve adapter (2).
2. Loosen captive nut (3) on control valve (4). Remove valve from fire extinguisher cylinder (5).
3. Remove adapter (2) from control valve (4). Discard adapter.
4. Remove control valve (4) and cable from tube (6).
5. Cut sleeve (7) and nut (1) from tube (6). Discard sleeve and nut.



6. Remove nut (1) and jam nut (2) from adapter (3). Remove adapter from support bracket (4).
7. Remove cable tube (5) from support bracket (4). Slide nut (1) and jam nut (2) from tube (5).
8. Loosen nut (6) on adapter (7).
9. Pull tube (5) through adapter (7). Remove adapter from hull plate.
10. Cut tube (5) above sleeve (8). Remove two nuts (6 and 9), and remove tube with sleeve (10). Discard tube and sleeves.

14. Install tube (5) on adapter (3). Secure with flared sleeve (10) and nut (9).



INSTALL

11. Install new sleeve (8), two nuts (9 and 6), and adapter (7) on new tube (5).

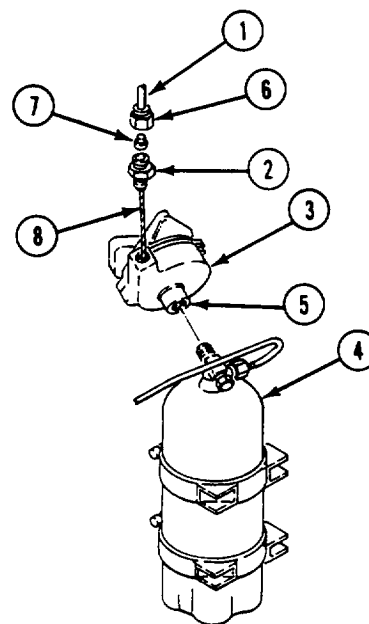
NOTE

Make sure nuts, sleeves, and adapter are installed in the proper order and facing the right direction as in illustration.

12. Install adapter (7) in hull plate. Secure tube (5) to adapter with sleeve (8) and nut (6).
13. Install adapter (3) in support bracket (4). Secure with nut (1) and jam nut (2).

GO TO NEXT PAGE

15. Slide tube (1) through hole in hull plate.
16. Install new adapter (2) on control valve (3).
17. Install control valve (3) on cylinder (4). Secure with captive nut (5).
18. Install new nut (6) and new sleeve (7) on tube (1).
19. Route cable (8) through tube (1). Tighten nut (6) on adapter (2).



FOLLOW-THROUGH STEPS

1. Install external handle shield (page 42-2).

2. Install external handle and insert (page 42-5).

END OF TASK

REPLACE CYLINDER DISCHARGE TUBES

DESCRIPTION

This task covers Remove (page 42-11). Install (page 42-12).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Lockwasher (6)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered (see your -10)

Power plant front access door open
(see your -10)

Power plant removed (page 5-11) if bottom
discharge tube is to be removed.

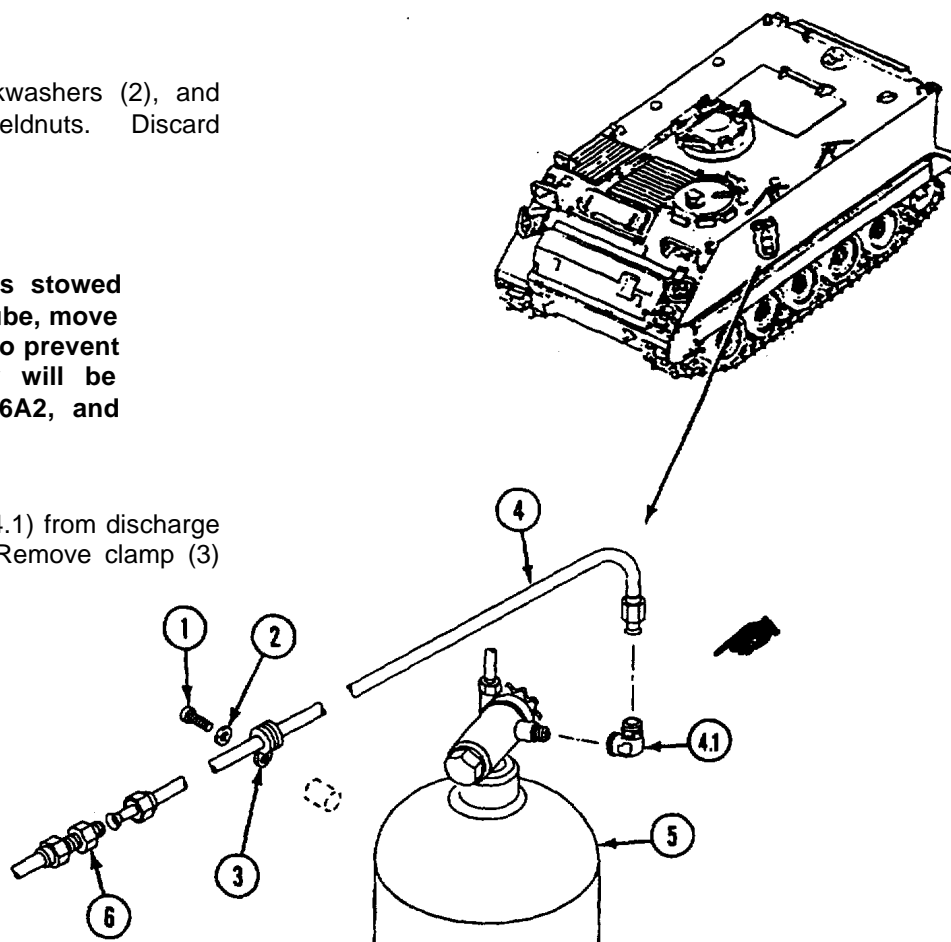
REMOVE

1. Remove six screws (1), lockwashers (2), and clamps (3) from six hull weldnuts. Discard lockwashers.

NOTE

If periscope power cable is stowed behind cylinder discharge tube, move cable away from work area to prevent damage to cable. Elbow will be removed for M125A2, M106A2, and M1064 only.

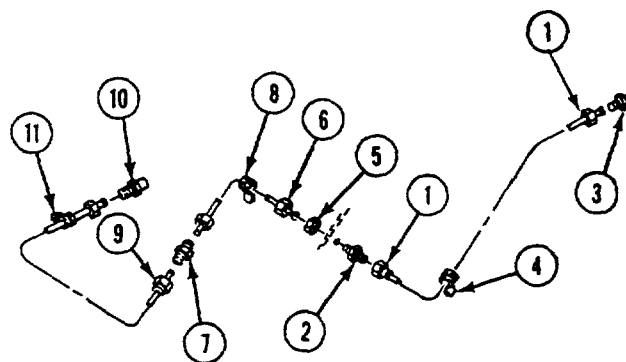
2. Remove tube (4) and elbow (4.1) from discharge cylinder (5) and nipple (6). Remove clamp (3) from tube.



GO TO NEXT PAGE

Change 4 42-11

3. Remove tube (1) from nipple (2). Remove nipple (3) and clamp (4) from tube.
4. Remove nut (5) and nipple (2) from driver's bulkhead.
5. Remove tube (6) from nut (5) and nipple (7). Remove clamp (8) from tube.
6. Remove tube (9) from nipple (7).
7. Remove nozzle (10) and three clamps (11) from tube (9).

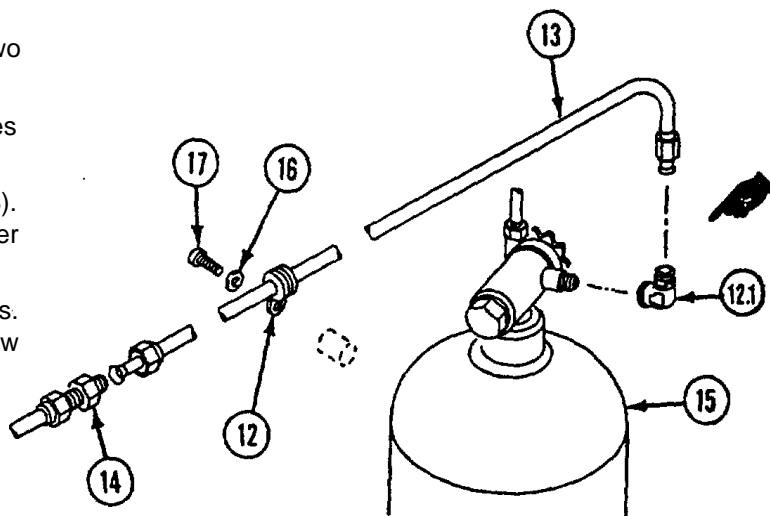


NOTE

If periscope power cable was removed, stow excess cable behind fire extinguisher.

INSTALL

8. Place three clamps (11) on tube (9). Install nozzle (10) and nipple (7) on tube.
9. Install nipple (2) in driver's bulkhead. Secure with nut (5).
10. Place clamp (8) on tube (6). Install tube on two nipples (7 and 2).
11. Place clamp (4) on tube (1). Install two nipples (2 and 3) on tube.
12. Place clamp (12) and elbow (12.1) on tube (13). Install tube on nipple (14) and discharge cylinder (15).
13. Align six clamps (12) with six hull weldnuts. Secure clamps to weldnuts with six new lockwashers (16) and screws (17).



FOLLOW-THROUGH STEPS

1. If removed, install power plant (page 5-11).
2. Close power plant front access door (see your -10).
3. Raise trim vane (see your -10).

END OF TASK

REPLACE FIRE EXTINGUISHER CYLINDER AND MOUNT

DESCRIPTION

This task covers

Remove (page 42-13).

Install (page 42-14).

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)
 Socket Wrench Set (Item 92, App D)
 Torque Wrench (Item 99, App D)

Materials/Parts:

Cotter pin (4)
 Support bracket bumper (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

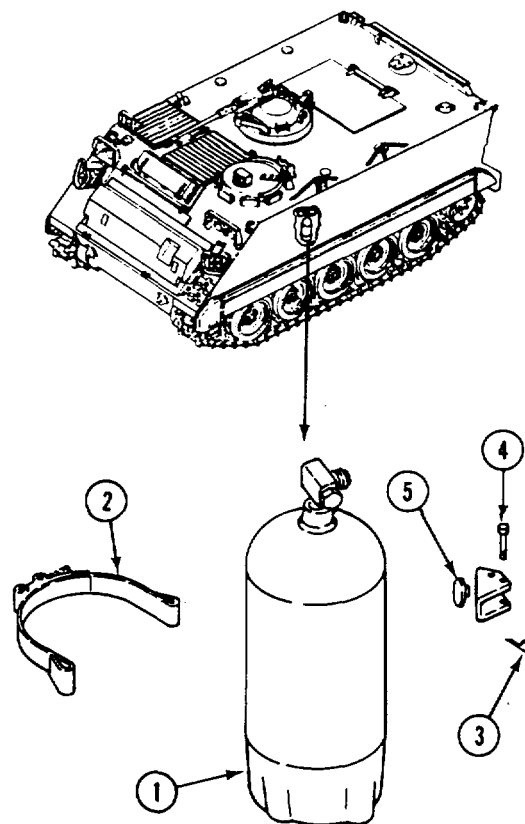
Engine stopped/shutdown (see your -10)
 Carrier blocked (see your -10)
 Control valve removed (page 42-5)
 Discharge tube removed from cylinder
 (page 42-11)

REMOVE**WARNING**

You could be injured if cylinder discharges when it is out of its mounting brackets or is dropped.

Discharge cylinder completely before removing from its mount. Handle with great care.

1. Support cylinder (1) and loosen two clamps (2). Remove cylinder from four hull brackets.
2. Remove four cotter pins (3), pins (4), and two clamps (2) from hull brackets. Discard cotter pins.
3. If needed, remove four bumpers (5) from hull brackets.

**GO TO NEXT PAGE**

INSTALL**NOTE**

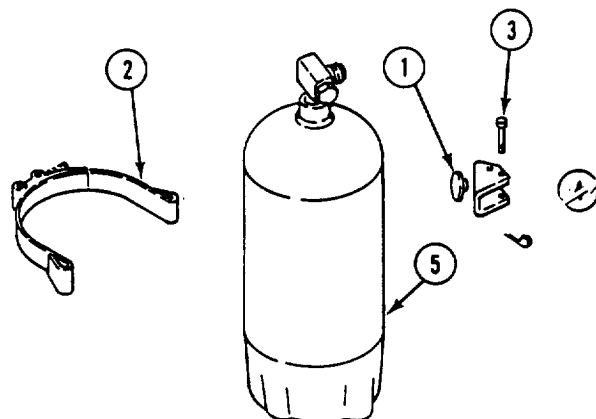
The carbon dioxide (CO₂) cylinder has a 5-pound (2 kg) capacity with a maximum weight of 18 pounds (8 kg). Weigh cylinder before installation. If weight loss is more than 10 percent (2 pounds) (1 kg), replace with a fully charged cylinder.

4. If removed, install four bumpers (1) in hull brackets.
5. Place two clamps (2) on hull brackets. Secure with four pins (3) and new cotter pins (4).

WARNING

You could be injured if cylinder discharges when it is out of its mounting brackets or is dropped. Handle with great care.

6. Hold cylinder (5) on hull brackets. Secure with two clamps (2). Tighten clamps to 51-59 lb-in (5-6 N•m) torque. Use torque wrench and socket set.

**FOLLOW-THROUGH STEPS**

1. Install discharge tube on cylinder (page 42-11).
2. Install control valve (page 42-5).

END OF TASK

REPLACE PORTABLE FIRE EXTINGUISHER MOUNT

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Cotter pin (4)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine shutdown (see your -10)

Carrier blocked (see your -10)

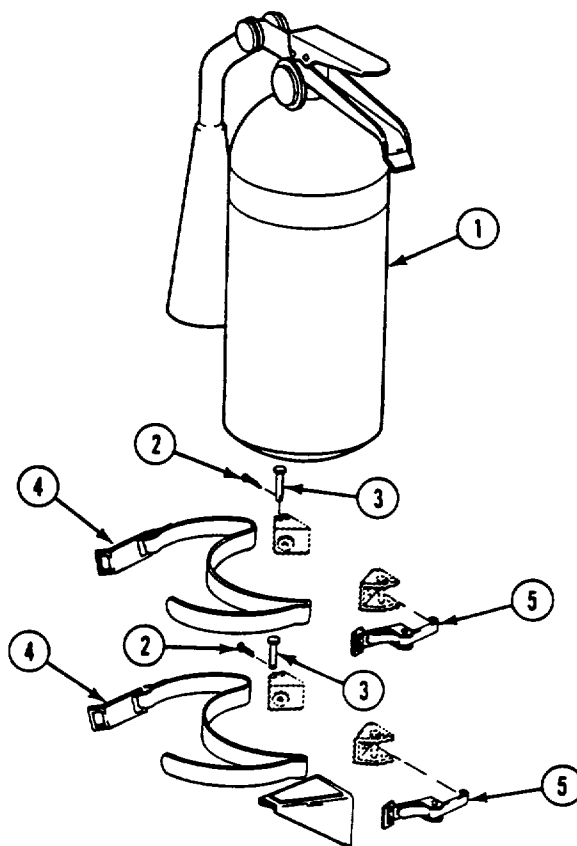
REMOVE**WARNING**

You could be injured if cylinder discharges when it is out of its mounting brackets or is dropped. Discharge cylinder completely before removing from its mount. Handle with great care.

1. Remove fire extinguisher (1).
2. Remove four cotter pins (2), pins (3) and two straps (4). Discard cotter pins.
3. Remove two clamps (5) from two straps (4).

INSTALL

4. Install two clamps (5) on two straps (4).
5. Install four pins (3), new cotter pins (2), and two straps (4).
6. Install fire extinguisher (1).

**END OF TASK**

REPLACE FIRE EXTINGUISHER AND MOUNT (M1059 ONLY)**INITIAL SETUP****Tools:**

General Mechanics Tool Kit (Item 30, App D)

Materials/Parts:

Self-locking nut

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

REMOVE**WARNING**

You could be injured if cylinder discharges when it is out of its mounting brackets or is dropped. Discharge cylinder completely before removing from its mount. Handle with great care.

NOTE

Two fire extinguishers are removed in the same way.

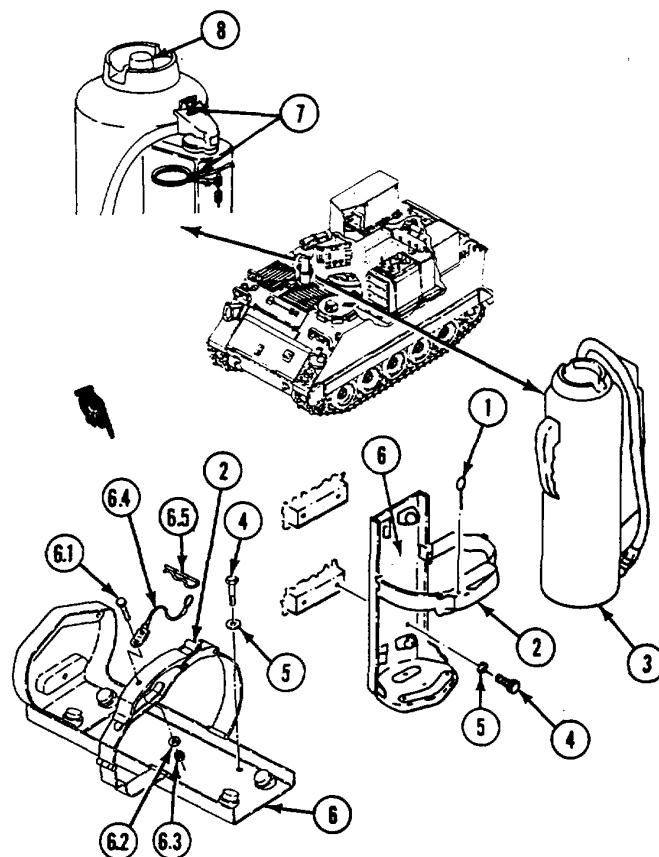
1. Remove pin (1) from strap (2).
2. Loosen retaining strap (2) and remove fire extinguisher (3).
3. Remove four screws (4) and four washers (5) securing mount (6) to hull.
- 3.1. Remove screw (6.1), washer (6.2), locknut (6.3), and lanyard (6.4) with pin (6.5) from strap (2). Discard locknut.

CLEAN, INSPECT, AND REPAIR

4. Inspect fire extinguisher trigger seal (7) and cap indicator (8). If cap indicator is extended or seal wire is broken, notify Direct Support Maintenance.
- 4.1. Install lanyard (6.4) with pin (6.5) attached on strap (2) with screw (6.1), washer (6.2), and new locknut (6.3).

INSTALL

5. Install mount (6) on hull. Secure with four screws (4) and washers (5).
6. Place fire extinguisher in mount (6). Secure with strap (2).
7. Install pin (1) in strap (2).

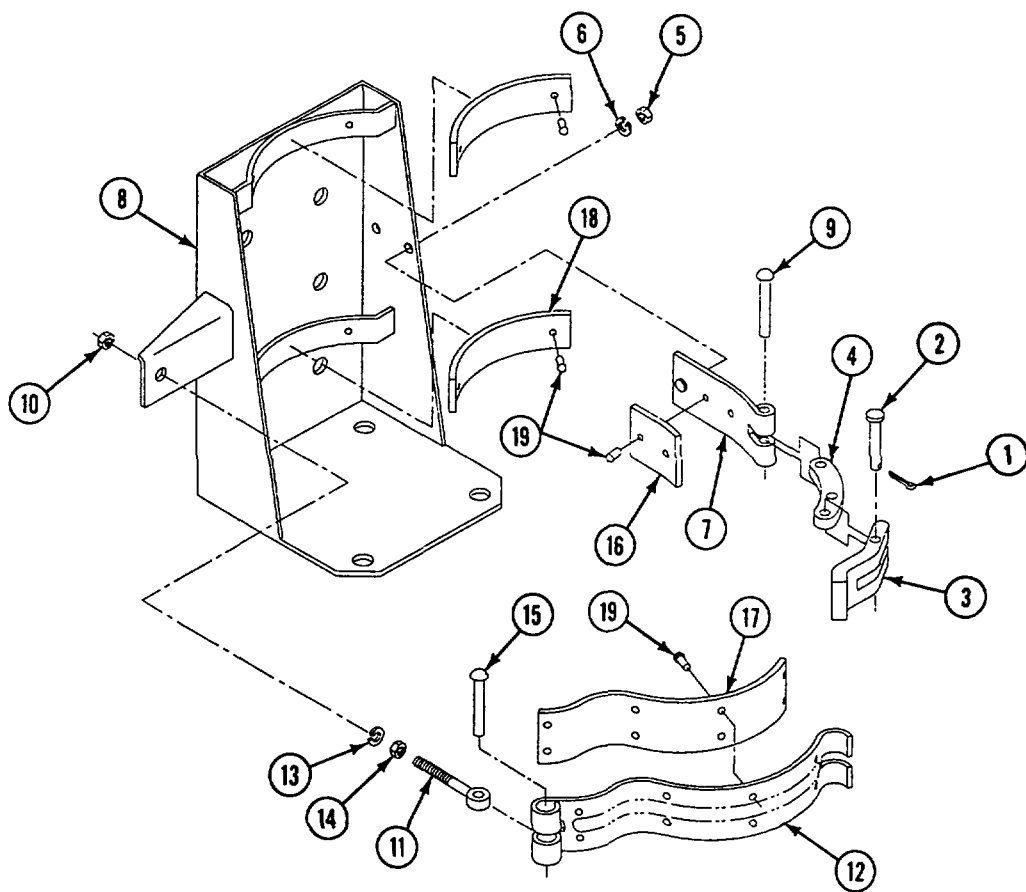
**END OF TASK**

DISASSEMBLE

3. Remove cotter pin (1), headed pin (2), and latch (3) from link (4). Discard cotter pin.
4. Remove nut (5), lockwasher (6), and fixed arm assembly (7) with link (4) from bracket (8). Discard lockwasher.
5. Remove rivet (9) and link (4) from fixed arm assembly (7). Discard rivet.
6. Remove nut (10) and rod end connector (11) with movable arm assembly (12) from bracket (8). Then remove lockwasher (13) and nut (14) from connector. Discard lockwasher.
7. Remove rivet (15) and rod end connector (11) from movable arm assembly (12). Discard rivet.
8. If lining (16 or 17 or 18) on arm assembly (7 or 12) or bracket (8) needs to be replaced, drill out rivets (19) and remove lining. Use portable drill and drill bit set. Discard rivets.

ASSEMBLE

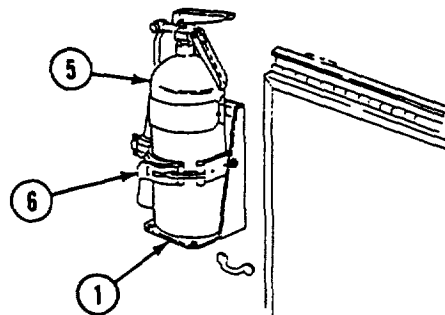
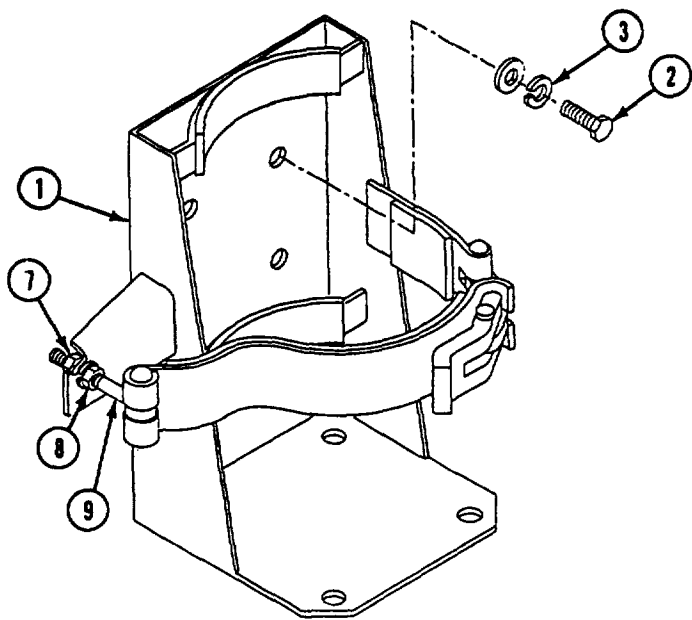
9. If lining (16 or 17 or 18) was removed from arm assembly (7 or 12) or bracket (8), install new lining and secure with new rivets (19).
10. Install rod end connector (11) on movable arm assembly (12) and secure with new rivet (15).
11. Install nut (14) and new lockwasher (13) on rod end connector (11). Insert connector into bracket (8) and secure with nut (10).
12. Install link (4) on fixed arm assembly (7) and secure with new rivet (9).
13. Install fixed arm assembly (7) on bracket (8) and secure with nut (5) and new lockwasher (6).
14. Install latch (3) on link (4) and secure with headed pin (2) and new cotter pin (1).



INSTALL

15. Install bracket (1) on hull wall next to mapboard. Secure with four screws (2), new lockwashers (3), and washers (4).

16. Install fire extinguisher (5) in bracket (1) and close latch (6). If needed, adjust nuts (7, 8) on rod end connector (9) to clamp fire extinguisher securely.



END OF TASK

CHAPTER 44
CHEMICAL AGENT AUTOMATIC ALARM KIT (M113A2 ONLY)

TASK INDEX

<u>Task</u>	<u>Page</u>	<u>Task</u>	<u>Page</u>
Replace M8 Chemical Alarm Distribution Box (M113A2 Only)	44-2	Replace Chemical Agent Wiring Harnesses (M113A2 Only)	44-6
Repair M8 Chemical Alarm Distribution Box (M113A2 Only)	44-4	Replace Alarm Kit Mounting Brackets (M113A2 Only)	44-8
Replace M42 Alarm Unit Cable (M113A2 Only)	44-5		

**REPLACE M8 CHEMICAL ALARM DISTRIBUTION BOX
(M113A2 ONLY)**

DESCRIPTION

This task covers: Remove (page 44-2). Install (page 44-3).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Socket Wrench Set (Item 89, App D)
- Torque Wrench (Item 93, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Materials/Parts:

- Grommet
- Lockwasher
- Lockwasher (2)

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Battery ground lead disconnected (page 13-2)

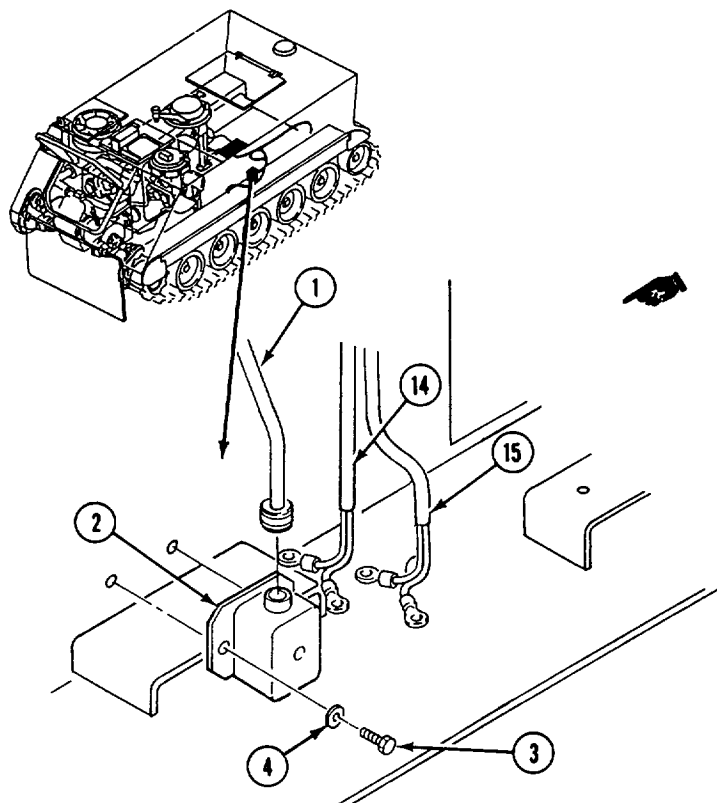
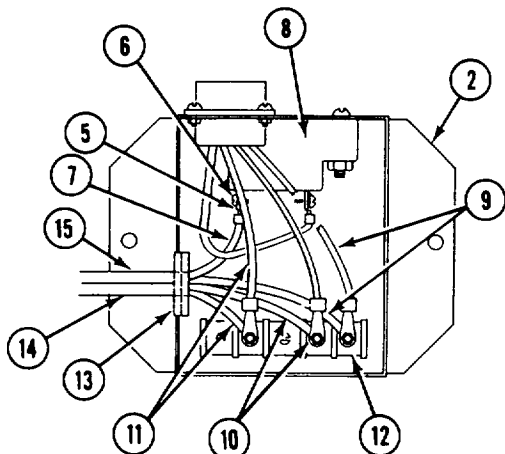
REMOVE

NOTE

Tag leads for later installation.

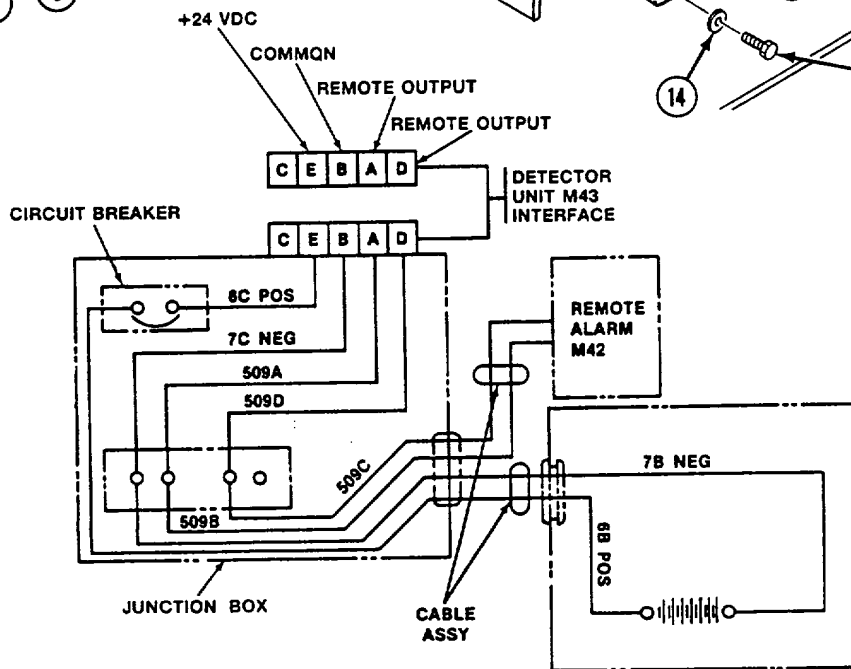
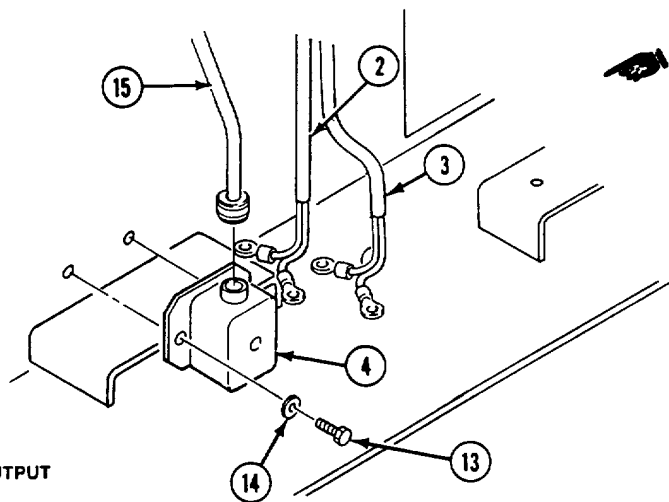
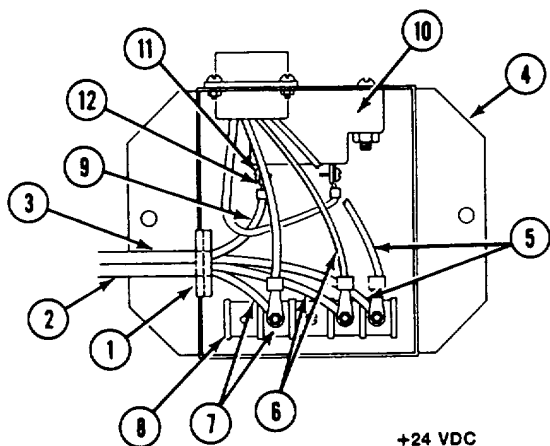
1. Disconnect wiring harness (1) from distribution box (2).
2. Remove two mounting screw (3), lockwashers (4), from distribution box (2). Remove distribution box. Discard lockwashers.
3. Remove screw (5), lockwasher (6), and circuit 6B lead (7) from circuit breaker (8). Discard lockwasher.

4. Disconnect circuits 7B and 7C (9), 509A and 509B (10), and 509C and 509D (11) from terminal board (12).
5. Remove grommet (13) and harnesses (14) and (15) from distribution box (2). Discard grommet.



INSTALL

6. Place new grommet (1) on harnesses (2) and (3). Install grommet (1) and harnesses (2) and (3) in distribution box (4).
7. Pair up circuit leads 7B and 7C (5) and 509A and 509B (6) and 509C and 509D (7), and install on terminal board (8) as shown.
8. Install circuit lead 6B (9) on circuit breaker (10) terminal. Secure with screw (11) and new lockwasher (12).
9. Install two mounting screws (13) and new lockwashers (14) on distribution box (4). Torque screws 73-79 lb-in (8-9 N•m). Use torque wrench and socket wrench set.
10. Connect wiring harness (15) to distribution box (4).



FOLLOW-THROUGH STEPS

1. Battery ground lead connected (page 13-2).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

**REPAIR M8 CHEMICAL ALARM DISTRIBUTION BOX
(M113A2 ONLY)**

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

Materials/Parts:

Locknut (3)

Locknut (4)

Equipment Conditions:

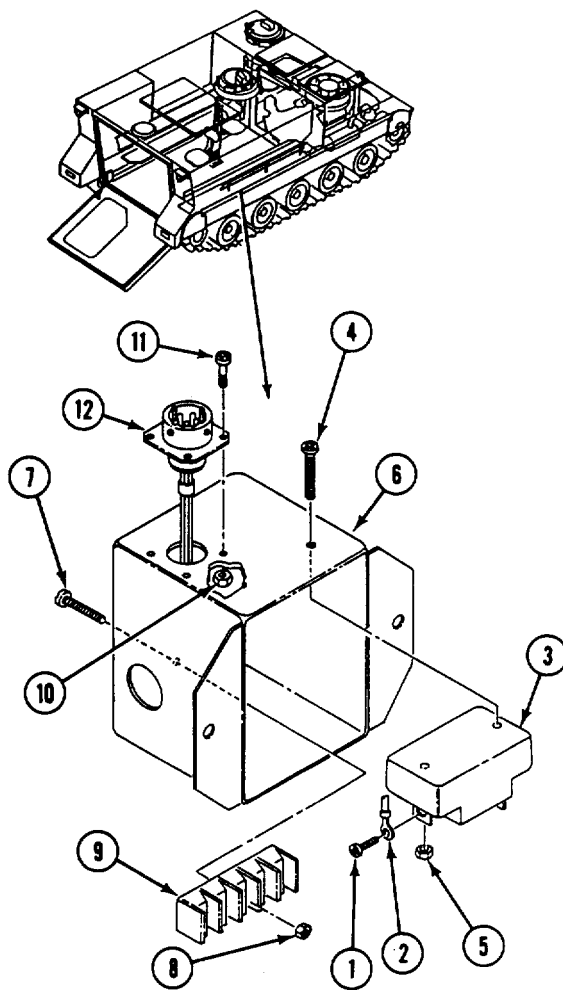
Distribution box removed (page 44-2)

REMOVE

1. Remove screw (1) and lead (2) from circuit breaker (3).
2. Remove two screws (4) and locknuts (5) from circuit breaker (3) and distribution box (6). Remove circuit breaker. Discard locknuts.
3. Remove screw (7), locknut (8), and terminal board (9) from distribution box (6). Discard locknut.
4. Remove four locknuts (10), screws (11), and receptacle (12) from distribution box (6). Discard locknuts.

INSTALL

5. Install receptacle (12), four screws (11), and new locknuts (10) on distribution box (6).
6. Install circuit breaker (3) on distribution box (6). Secure with two screws (4) and new locknuts (5).
7. Secure lead (2) to circuit breaker (3) with screw (1).
8. Install terminal board (9), screw (7), and new locknut (8) in distribution box (6).

**FOLLOW-THROUGH STEPS**

1. Install distribution box (page 44-2).
-

END OF TASK

REPLACE M42 ALARM UNIT CABLE (M113A2 ONLY)

INITIAL SETUP**Tools:**

General Mechanics Tool Kit (Item 30, App D)

Personnel Required:

Unit Mechanic

References:

See your -10

Equipment Conditions:

Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (page 13-2)

Distribution box removed (page 44-2)

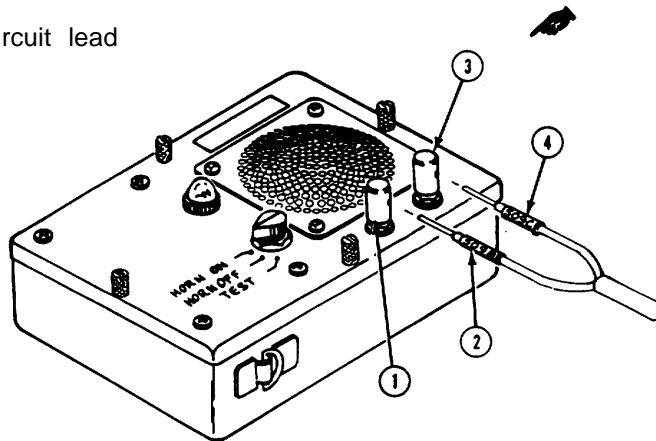
Circuit 509B and 509C leads disconnected
(page 44-2)

REMOVE

1. Push in on terminal (1) and remove circuit lead 509B (2).
2. Push in on terminal (3) and remove circuit lead 509C (4).

INSTALL

3. Push in on terminal (3) and install circuit lead 509C (4).
4. Push in on terminal (1) and install circuit lead 509B (2).

**FOLLOW-THROUGH STEPS**

1. Connect circuit 509B and 509C leads to terminal board (page 44-2).
2. Install distribution box (page 44-2).
3. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE CHEMICAL AGENT WIRING HARNESES (M113A2 ONLY)

DESCRIPTION

This task covers: Remove (page 44-6). Install (page 44-7).

INITIAL SETUP

Tools:

General Mechanics Tool Kit (Item 30, App D)

References:

See your -10

Materials/Parts:

Locknut (2)
Lockwasher (2)

Equipment Conditions:

Engine stopped (see your -10)
Carrier blocked (see your -10)
Battery ground lead disconnected (page 13-2)

Personnel Required:

Unit Mechanic
Helper

REMOVE

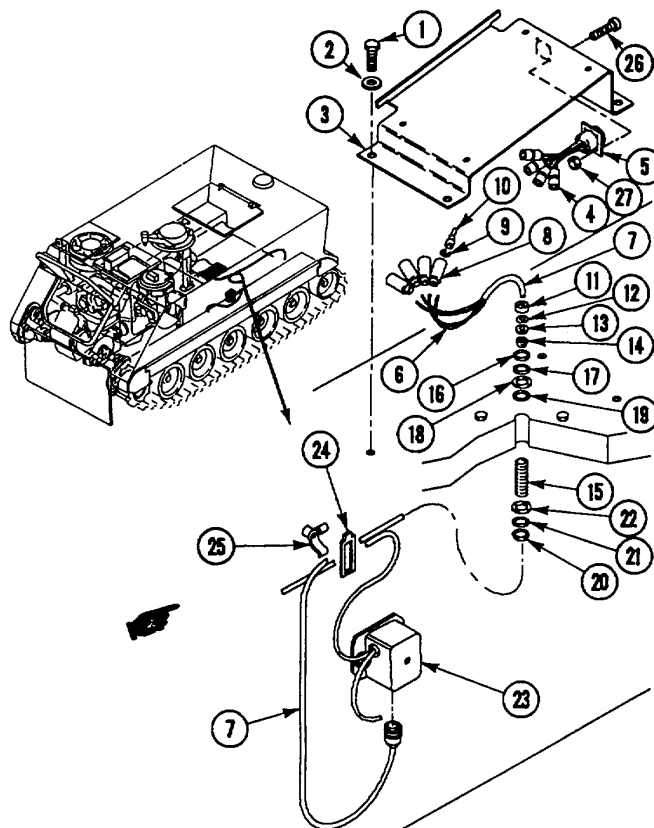
1. Remove four screws (1) and washers (2) from hull and bracket (3).
2. Disconnect and tag four leads (4) of extension harness (5) from four leads (6) of main harness (7).

8. Remove clip (24) and main harness (7) from cradle (25).
9. Remove four screws (26), nuts (27), and extension harness (5) from detector bracket (3).

NOTE

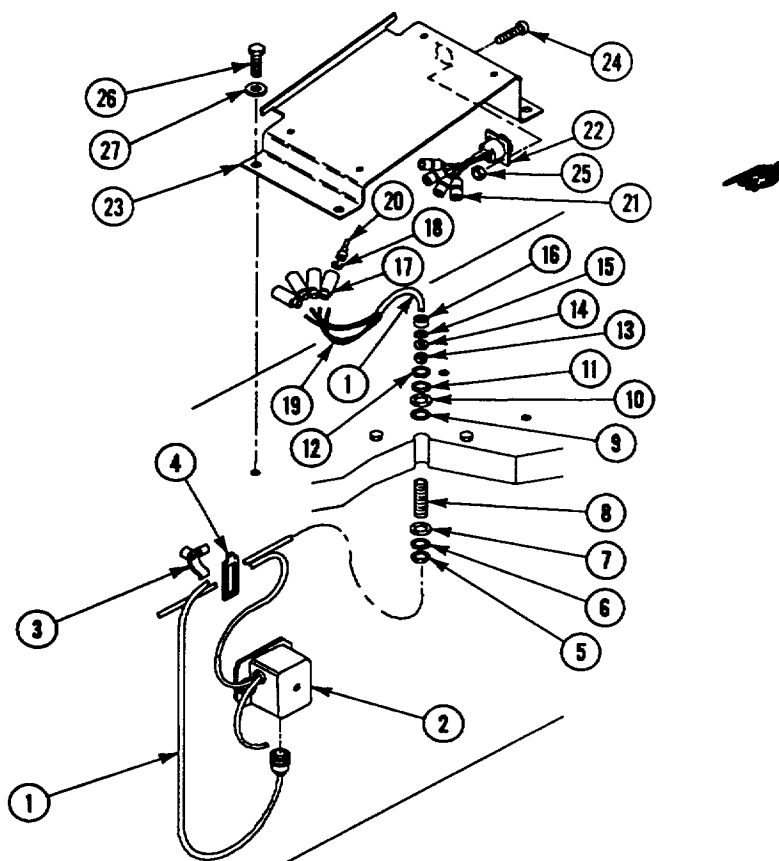
If extension harness only is being replaced, go to steps 9 and 19.

3. Slide four shells (8) back on leads (6). Remove four slotted washers (9) and shells (8) from four leads (6) and contacts (10).
4. Remove coupling nut (11), spring washer (12), packing (13), and rubber bushing (14) from main harness (7) and bushing (15).
5. Remove locknut (16), lockwasher (17), washer (18), and washer insulator (19) from main harness (7) and bushing (15). Discard locknut and lockwasher.
6. Remove locknut (20), lockwasher (21), washer (22), and bushing (15) from hull and main harness (7). Remove and discard locknut and lockwasher from bushing.
7. Disconnect main harness (7) from distribution box (23).



INSTALL

10. Connect main harness (1) to distribution box (2).
11. Secure main harness (1) to cradle (3) with clip (4).
12. Slide new locknut (5), new lockwasher (6), washer (7), and bushing (8) on main harness (1).
13. Insert main harness (1) and bushing (8) through top.
14. Install washer insulator (9) washer (10), new lockwasher (11), and new locknut (12) on main harness (1) and bushing (8).
15. Install rubber bushing (13), packing (14), spring washer (15), and coupling nut (16) on main harness (1) and bushing (8).
16. Tighten locknut (5).
17. Install four shells (17) and slotted washers (18) on leads (19) and contacts (20).
18. Connect four leads (19) of main harness (1) to four leads (21) of extension harness (22).
19. Install extension harness (22) on detector bracket (23) with four screws (24) and nuts (25).
20. Install detector bracket (23) on hull with four screws (26) and washers (27).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).

END OF TASK

REPLACE ALARM KIT MOUNTING BRACKETS (M113A2 ONLY)

DESCRIPTION

This task covers: Remove (page 44-8). Install (page 44-9).

INITIAL SETUP

Tools:

- General Mechanics Tool Kit (Item 30, App D)
- Torque Wrench (Item 95, App D)
- Wrench Set (Item 89, App D)

Personnel Required:

Unit Mechanic

References:

See your -10
TM 3-6665-225-12

Materials/Parts:

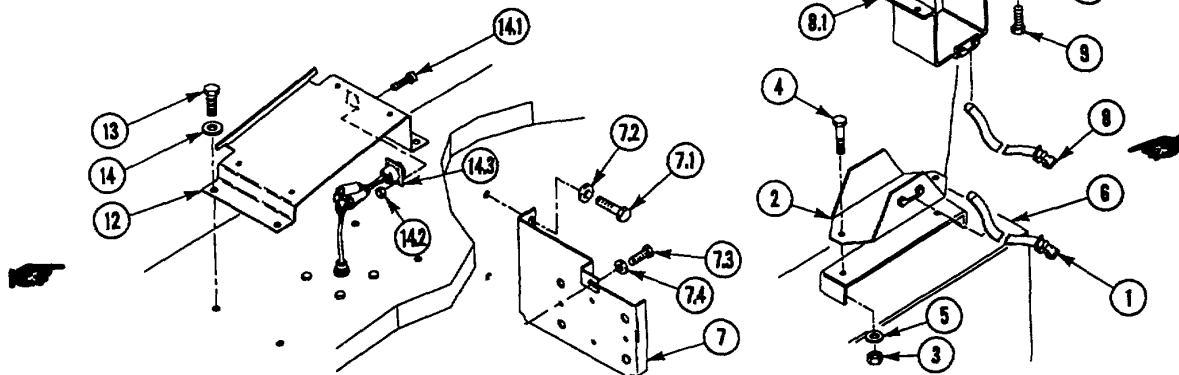
- Adhesive
- Lock washer (3)
- Pad
- Self-locking nut (2)

Equipment Conditions:

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered (see your -10)
- Battery ground lead disconnected (page 13-2)

REMOVE

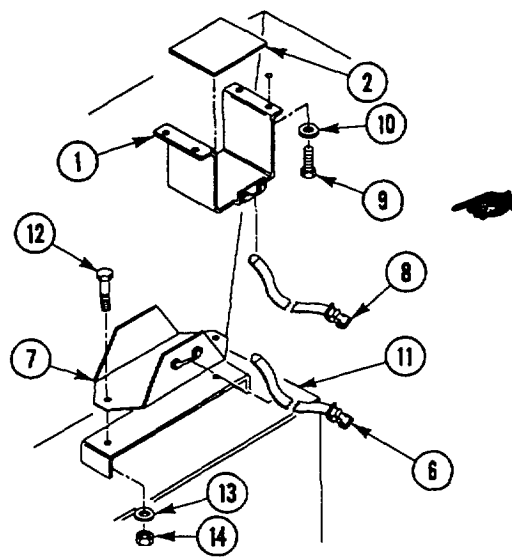
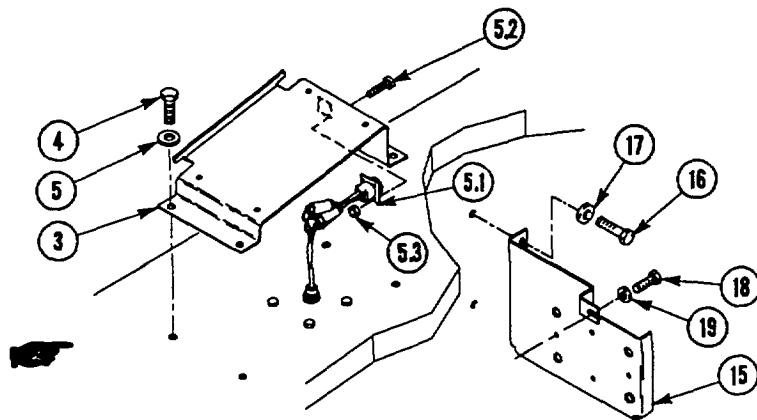
1. Remove strap (1) from refill bracket (2).
2. Remove refill unit from refill bracket (2) (TM 3-6665-225-12).
3. Remove two locknuts (3), screws (4), washers (5), and refill bracket (2) from battery box cover (6). Discard locknuts.
4. Remove alarm unit from bracket (7) (TM 3-6665-225-12).
 - 4.1. Remove two screws (7.1), lockwashers (7.2), and bracket (7) from bulkhead. Discard lockwashers.
 - 4.2. Remove screw (7.3), lockwasher (7.4), and bracket (7) from radio shelf. Discard lockwasher.
5. Remove strap (8) and battery from bracket (8.1).
 6. Remove five screws (9), washers (10), and bracket (8.1) from hull top.
 7. If damaged, remove pad (11) from bracket (8.1). Discard pad.
 8. Remove detector unit from bracket (12) (TM 3-6665-225-12).
 9. Remove four screws (13), washers (14), and bracket (12) from hull.
 - 9.1. Remove four screws (14.1), nuts (14.2), and harness connector (14.3) from bracket (12).



INSTALL

10. Apply a thin coat of adhesive to mating surfaces of bracket (1) and new pad (2). Allow 10-20 minutes drying time. Press surfaces together firmly.
11. Secure bracket (3) to top of carrier with four screws (4) and washers (5). Tighten screws to 264-284 lb-in (30-32 N•m) torque. Use torque wrench.
 - 11.1. Install harness connector (5.1) on bracket (3). Secure with four screws (5.2) and nuts (5.3).
12. Install detector unit in bracket (3) (TM 3-6665-225-12).
13. Install strap (6) on bracket (7). Install strap (8) on bracket (1).
14. Secure bracket (1) to hull top with four screws (9) and washers (10). Tighten screws to 264-284 lb-in (30-32 N•m) torque. Use torque wrench.
15. Install battery in bracket (1). Secure with strap (8) (TM 3-6665-225-12).

16. DELETED.
17. Secure refill bracket (7) to battery box cover (11) with two screws (12), washers (13), and new locknuts (14).
18. Install refill unit in bracket (7) Secure with strap (6). (TM 3-6665-225-12).
19. Install alarm unit bracket (15) on bulkhead. Secure with two screws (16) and new lockwashers (17).
20. Secure alarm unit bracket (15) to radio shelf with screw (18) and washer (19).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (page 13-2).
2. Raise and lock ramp (see your -10).
3. Stop engine (see your -10).

END OF TASK

**APPENDIX A
REFERENCES**

INDEXES

The following indexes should be consulted for the latest changes or revisions to references given in this appendix and for new publications relating to material covered in this technical manual.

Index of Army Motion Pictures and Related Audio Visual Aids DA Pam 108-4
 Index of Charging Systems Troubleshooting DA Pam 750-33
 Consolidated Index of Army Publications and Blank Forms DA Pam 25-30

TECHNICAL MANUALS

Ammunition and Explosives Standards TM 9-1300-206
 Destruction of Conventional Ammunition and Improved Conventional Munitions to Prevent Enemy Use (excluding toxic and incapacitating chemical agents for combat units) TM 750-244-5-1
 Inspection, Care, and Maintenance of Antifriction Bearings TM 9-214
 Operator's and Organizational Maintenance Manual Radio Sets, AN/VRC-50 (5820-00-273-7487), AN/VRC-64 (5820-00-273-7485), AN/GRC-125 (5820-00-223-7411) and AN/GRC-160 (5820-00-223-7473) and Amplifier Power Supply Groups OA-5633/GRC and 3336A/GRC (5820-00-073-3383)..... TM 11-5820-498-12
 Operator's and Organizational Maintenance Manual; Radio Set AN/PRC-77 TM 11-5820-667-12
 Operator's and Organizational Maintenance Manual; Suppressor, Electrical Transient, MX-7778/GRC TM 11-5915-223-12
 Operator's, Organizational, Direct Support and General Support Maintenance Manual For Antenna, AS-1729/VRC (NSN 5985-00-985-9024) TM 11-5985-262-14
 Operator, Organizational, Direct Support, General Support, and Depot Maintenance Manual (Including Repair Parts and Special Tool Lists) for Mast, AB-903/G (NSN 5965-00-933-2197) (Reprinted w/Basic Incl C1-2) TM 11-5985-263-15
 Organizational, Direct Support, and General Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools) for Mast, AB-903/G (NSN 5965-00-933-2197) TM 11-5985-263-24P
 Operator's and Organizational Maintenance Manual (including repair parts and special tool list) TM 11-7010-256-12&P
 Operator's Manual; Carrier, Personnel, Full Tracked, Armored M113A2; Carrier, Command Post, Light, Tracked M577A2; Carrier, Mortar, 107-MM, Self-Propelled M106A2; Carrier, Mortar, 81-MM, Self-Propelled M125A2; Carrier, Smoke Generator, Full-Tracked, M1059; Carrier, Mortar, 120-MM, Self-Propelled M1064; Carrier, Command Post System, Standardized Integrated M1068 TM 9-2350-261-10

Operator's Manual; Gun, Anti-Aircraft Artillery, 20-MM Self-Propelled, M163 TM 9-2350-300-10

Operator's Organizational, and Field Maintenance Manual for Generator Set, Gasoline Engine (6115-00-699-6248) Composed of: Generator (Delco Model GMV 85A5) and Engine (Detroit Diesel Model A41-2), Generator Set, Engine Driven, 4.2 kW, 150 amp, 28 vdc (Model DC 4.2 Ord/28) (Y115-857-1297) Composed of: Starter, Generator (Jack and Heinz Model 23041-001), and Engine (Military Standard Model 4A032-1) TM 5-6115-596-14

Unit Maintenance (Including Repair Parts and Special Tools List); 81-MM Mortar M29A1 TM 9-1015-200-20&P

Unit and Intermediate Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) 107-MM Mortar Turntable and Mount; 81-MM Mortar Turntable and Mount; and 81-MM Mortar Bipod Assembly TM 9-1015-232-23&P

Operator, Organizational, DS and GS Maintenance Manual, Including Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools): Various Machine Gun Mounts and Combinations Used on Tactical and Armored Vehicles TM 9-1005-245-14

Operator, Organizational, DS and GS Maintenance Manual for Lead-Acid Storage Batteries TM 9-6140-200-14

Unit Maintenance (Including Repair Parts and Special Tools List); Mortar, 4.2 in.; M30 TM 9-1015-215-20&P

Operator's Manual for 120-MM Mortar, M285, Trailer-Mounted, M120, and Carrier Mounted, M121 TM 9-1015-250-10

Unit and Direct Support Maintenance Manual for 120-MM Mortar, Towed, M120 Mortar; 120-MM, Carrier-Mounted, M121 Mortar TM 9-1015-250-23

Unit and Direct Support Maintenance Manual (Including Depot Repair Parts) for 120-MM, Towed, M120 Mortar; 120-MM, Carrier-Mounted, M121 Mortar TM 9-1015-250-23P

Operator's Manual: Welding Theory and Application..... TM 9-237

Operator, Organizational, DS, GS, and Depot Maintenance Manual: Welding Set, Arc, Inert-Gas Shielded; Plastic or Metal-Lined Gun; for 3/64-Inch Wire; DC, 115 V (Westinghouse Model SA-135) (FSN 3431-879-9709) TM 5-3431-200-15

Operator, Organizational, DS and GS Maintenance Manual; Standards for Inspection and Classification of Tracks, Track Components and Solid-Rubber Tires..... TM 9-2530-200-24

Operator's and Organizational Manual; Alarm, Chemical Agent, Automatic, Portable TM 3-6665-225-12

Operator's, Unit, and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Modular Command Post System (MCPS) TM 10-5410-229-13&P

Operator's Manual for Tester, Airflow, Gas-Particulate Filter Unit: M39..... TM 3-6680-316-10

Organizational Maintenance Manual (Including Repair Parts and Special Tools List) for Launcher, Grenade, Smoke: Screening, RP, M243 (1040-01-070-1213); Launcher, Grenade, Smoke: Screening, RP, M257 (1040-01-070-1213); and, Launcher, Grenade, Smoke: Screening, RP, M259 (1040-01-107-7501) TM 9-1040-267-20&P

Operator's and Organizational Maintenance Manual (Including Repair Parts and Special Tools List) Generator Set, Smoke, Mechanical: Pulse Jet M157 TM 3-1040-279-12&P

Organizational and Field Maintenance Repair Parts List for Generator Set, Gasoline Engine TM 9-6115-202-24P

Organizational, Direct Support, and General Support Maintenance Repair Parts and Special Tools List: Engine, Gasoline, Military Standard Models (Model 4A032-I) (NSN 2805-00-776-0483) (Model 4A032-II) (NSN 2805-00-608-7512) TM 5-2805-203-24P

Organizational, Direct Support and General Support Maintenance Manual: Engine, Gasoline: Military Standard Models (Model 4A032-I and Model 4A032-II) TM 5-2805-203-24

Organizational Maintenance Manual for Gun, Anti-Aircraft Artillery, Self-Propelled 20-MM, M163A1: Cannon, M168; Mount, M157A1; Sight M61; and Radar Set, AN/VPS-2 (NSN 2350-01-017-2113) TM 9-2350-300-20-1

Operator's and Organizational Maintenance Manual Including Repair Parts and Special Tools List for Decontaminating Apparatus: Portable, 14 Liter, M13 NSN 4230-01-133-4124 TM 9-4230-214-12&P

Organizational, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for: Heaters, Vehicular Compartment TM 9-2540-205-24&P

Organizational, Direct Support, General Support, and Depot Maintenance Manual, Including Repair Parts and Special Tools Lists: Machine Gun, Caliber .50 Browning, M2 Heavy Barrel, Flexible TM 9-1005-213-25

Organizational Maintenance Repair Parts and Special Tools Lists: Welding Set, Arc, Inert-Gas Shielded; Plastic or Metal-Lined Gun; for 3/64-inch Wire; DC, 115V (Westinghouse Model SA-135) (FSN 3431-879-9709) TM 5-3431-200-20P

Organizational Maintenance Manual: Installation Kits for Alarm Chemical Agent, Automatic, Portable TM 3-6665-274-20

Organizational Manual: Combat Vehicle Anti-Tank, Improved TOW Vehicle M901 (NSN 2350-01-045-1123) TM 9-2350-259-20

Organizational Maintenance Manual (Including Repair Parts and Special Tools Lists) for Launcher, Grenade, Smoke: Screening, RP, M243 (1040-01-059-0560), Launcher, Grenade, Smoke: Screening, RP, M257 (1040-01-070-1213), and Launcher, Grenade, Smoke: Screening, RP, M259 (2040-01-107-7501) TM 9-1040-267-20&P

Painting Instructions for Field Use TM 43-0139

Preservation, Packaging, and Packing of Military Supplies and Equipment (Packing, Vols I and II) TM 38-230-1 and -2

Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use (U.S. Army Tank-Automotive Command) TM 750-244-6

Unit Maintenance, Direct Support and General Support Maintenance
 Repair Parts and Special Tools List (Including Depot Maintenance
 Repair Parts and Special Tools List) for Carrier, Personnel, Full
 Tracked, Armored, M113A2, 2350-01-068-4077; Carrier, Command Post,
 Light Tracked, M577A2, 2350-01-068-4089; Carrier, Mortar, 107-MM,
 M30, Self-Propelled, M106A2, 2350-01-069-6931; Carrier, Mortar,
 81-MM, M29A1, Self-Propelled, M125A2, 2350-01-068-4087; Chassis,
 Gun, Anti-Aircraft Artillery, M741A1, 2350-01-099-8929; Carrier,
 Smoke Generator, Full Tracked, M1059, 2350-01-203-0188; Combat
 Vehicle, Anti-Tank, Improved Tow Vehicle, M901A1, 2350-01-103-5641;
 Carrier, Mortar, 120-MM, M121, Self-Propelled, M1064,
 2350-01-338-3116; Carrier, Standardized Integrated Command Post
 System, M1068, 2350-01-354-5657 TM 9-2350-261-24P
 Use and Care of Hand Tools and Measuring Tools TM 9-243

LUBRICATION ORDERS

Lubrication Order: Carrier, Personnel, Full Tracked, Armored, M113A2;
 Carrier, Command Post, Light Tracked, M577A2; Carrier, Mortar,
 107-MM, Self-Propelled, M106A2; Carrier, Mortar, 81-MM, Self-
 Propelled, M125A2; Carrier, Smoke Generator, Full-Tracked, M1059;
 Carrier, Mortar, 120-MM, Self-Propelled, M1064; Carrier, Standardized
 Integrated Command Post System, M1068 LO 9-2350-261-12
 Lubrication Order: Combat Vehicle, Anti-Tank, Improved TOW M901 LO 9-2350-259-12
 Lubrication Order: Gun, Anti-Aircraft Artillery,
 Self-Propelled 20-MM, M163 (M741A1 Chassis) LO 9-2350-300-13
 Lubrication Order: Gun, Carrier, Personnel,
 Full Tracked, Armored Fire Support, M981 LO 9-2350-266-12

OTHER PUBLICATIONS

Accident Reporting and Records AR 385-55
 Army Oil Analysis Program (AOAP) TB 43-0211
 Basic Cold Weather Manual FM 31-70
 Carrier, Command Post, Light Tracked, M577 and M577A1;
 Processing for Storage and Shipment of MIL-C-46746D(AT)
 Carriers, Personnel, Full-Tracked: Armored, M113A2 and M113A3;
 Mortars, Self-Propelled, 107MM, M106, M106A2, and 81MM, M125A1
 and M125A2, and 120MM, M1064; and Smoke Generator, M1059;
 Processing for Storage and Shipment of MIL-C-45360G(AT)
 Carriers, Armored, Full-Tracked, M901 TOW Vehicle
 (Less TOW Weapon) and M981 FISTV;
 Processing for Storage and Shipment of MIL-C-62327A(AT)
 Chassis, Weapon, Full-Tracked, M741 and M741A1;
 Processing for Storage and Shipment of MIL-C-62074C(AT)
 Chemical, Biological, Radiological, and Nuclear Defense FM 21-40

Color, Marking, and Camouflage-Painting of Military Vehicles,
 Construction Equipment, and Materials-Handling Equipment TB 43-0209
 Description, Use, Bonding Techniques, and Properties
 of Adhesives TB ORD 1032
 Desert Operations (How to Fight) FM 90-3
 Expendable Items (except Medical, Class V, Repair Parts
 and Heraldic Items) CTA 50-970
 Explosives and Demolitions FM 5-25
 First Aid for Soldiers FM 21-11
 General Repair of Tents, Canvas, and Webbing FM 10-16
 Malfunctions Involving Ammunition and Explosives AR 75-1
 Manual for Tracked Combat Vehicle Driver FM 21-306
 Mountain Operations FM 90-6
 Operation and Maintenance of Ordnance Materiel
 in Cold Weather (0° F to -65° F) FM 9-207
 The Army Maintenance Management System (TAMMS) DA Pam 738-750
 Use of Antifreeze Solutions, Antifreeze Extender, Cleaning Compounds,
 and Test Kit in Engine Cooling Systems TB 750-651

FORMS

Refer to DA Pam 25-30 for index of blank forms and to DA Pam 738-750 for explanation of use.

Army Oil Analysis Program (AOAP) Log DA Form 2408-20
 Equipment Control Record DA Form 2408-9
 Equipment Inspection and Maintenance Worksheet DA Form 2404
 Equipment Modification Record DA Form 2408-5
 Maintenance Work Request DA Form 2407
 Preventive Maintenance Schedule and Record DD Form 314
 Processing and Deprocessing Record for Shipment, Storage,
 and Issue of Vehicles and Spare Engines DD Form 1397
 Quality Deficiencies Report SF 368
 Recommended Changes to Publications and Blank Forms DA Form 2028 or DA Form 2028-2
 Report of Discrepancy (ROD) SF Form 364
 Uncorrected Fault Record DA Form 2408-14

APPENDIX B MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

GENERAL

This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.

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.

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.

Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

Section V. The Maintenance Allocation Chart (MAC) for the mounts and turntables used on the M106A2 and M125A2 vehicles is in TM 9-1015-232-23&P. The MAC for the M29A1, 81-mm mortar is in TM 9-1015-200-20&P. The MAC for the M30, 4.2-in. (107-mm) mortar is in TM 9-1015-215-20&P. The MAC for the M121, 4.7-in. (120-mm) mortar is in TM 9-1015-250-23.

MAINTENANCE FUNCTIONS

Maintenance functions will be 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, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gasses.
- d. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper or exact position or by setting the operating characteristics to specified parameters.
- e. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.
- f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

- g. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, 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 is shown as the 3rd position code of the SMR code.
- i. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, and disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.
- j. Overhaul. That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like-new condition.
- k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like-new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

EXPLANATION OF COLUMNS IN THE MAC, SECTION III

- 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. End item group number shall be "00."
- b. Column 2, Component/Assembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.
- c. Column 3, Maintenance Function. Column 3 lists the functions to be performed on the item listed in column 2. (For detailed explanation of these functions, see MAINTENANCE FUNCTIONS, page B-1).
- d. Column 4, Maintenance Level. This column specifies the average total manhours required to do the job. For example, if it takes 2 people 5 hours to complete the job, the figure would be 10. This figure represents the time required to perform the job at the lowest indicated level of maintenance and restore the item to a serviceable condition. It includes disassembly, troubleshooting, quality assurance and assembly. The symbol designations for the various maintenance levels are as follows:

- C Operator or Crew
- O Unit Maintenance
- F Direct Support Maintenance
- H General Support Maintenance
- D Depot Maintenance

- e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.
- f. Column 6, Remarks. This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in section IV.

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 the tool or test equipment.
- e. Column 5, Tool Number. The manufacturer's part number.

EXPLANATION OF COLUMNS IN REMARKS, SECTION IV

- a. Column 1, Reference Code. The code recorded in column 6, section II.
- b. Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, section II.

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM
			C	O	F	H	D		
01	ENGINE								
0100	POWER PLANT	REMOVE		2.5				1	A
		INSTALL		3.0				1	
0100	ENGINE	TEST		0.1				2-6	
		SERVICE	0.2						J
		REPLACE			7.0			1	
		REPAIR				*		7-9	B
		OVERHAUL					50		
	HEAD CYLINDER	INSPECT			0.5				
		REPLACE			0.9			10	
		REPAIR			12.0			11-13	
		OVERHAUL					12.0		
	SLEEVE, CYLINDER	REPLACE					7.2	14	
0102	SEAL, OIL, CRANKSHAFT, FRONT	REPLACE			4.0			15	
	SEAL, OIL, CRANKSHAFT, REAR	REPLACE			4.0			16	
	CRANKSHAFT	REPLACE					17.0		
		REPAIR					0.5		
0103	FLYWHEEL	REPLACE			5.2			17	
		REPAIR					0.5		
	HOUSING, FLYWHEEL	REPLACE					3.5	18	
0104	PISTONS	REPLACE					16.0	19-20	
	RINGS	REPLACE					16.5	21	
	RETAINER, PISTON PIN	REPLACE					16.5	22	
0105	ARM, ROCKER	ADJUST			1.0				
		REPLACE			2.0				
		REPAIR			2.0				
	CAMSHAFT	REPLACE					26.0	23	
	GEAR, TIMING, CAMSHAFT	REPLACE					4.0	24	
	GEAR, TIMING, CRANKSHAFT	REPLACE					4.0	25-26	
	GUIDE, VALVE	REPLACE			12.0			27-28	
	INSERT, VALVE SEATS	REPLACE					12.0	29-30	
	SPRING, VALVE	REPLACE			12.0			31-32	
	VALVE, EXHAUST	ADJUST			2.0			33	
		REPLACE			12.0				
0106	FILTER, ENGINE OIL	SERVICE		0.1					
		REPLACE		0.5					
		REPAIR		0.8					
	GEAR, DRIVE, OIL PUMP	REPLACE					6.1	34	C
	PUMP, ENGINE OIL	REPLACE					3.0		
		REPAIR					3.6		
	OIL COOLER, ENGINE	INSPECT			0.2				
		REPLACE			2.0				
		REPAIR			2.0				
0108	MANIFOLD, EXHAUST	REPLACE			0.5				

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM
			C	O	F	H	D		
03 0301	FUEL SYSTEM INJECTOR, FUEL, ENGINE	TEST				0.2		35-36	
		ADJUST			0.3			44	
0302	LEVER, CONTROL, FUEL INJECTOR	REPLACE			0.6			37	
		REPAIR				2.0		38-43	
		ADJUST			0.3				
		REPLACE			1.0				
0304	TUBES, FUEL INJECTOR PUMP, FUEL, ENGINE.	REPLACE			0.2				
		TEST			0.5			46	
		REPLACE		1.5					
0305	LINES, FUEL, INJECTOR CLEANER, AIR, ENGINE	REPAIR				2.0			
		REPLACE			1.5			45	
0306	ELEMENT	SERVICE	0.3						
		REPLACE		1.0					
		REPAIR			0.2				D
0307	VALVE, AIR CONTROL	SERVICE	0.1						
		REPLACE		0.1					
0308	BLOWER, AIR, ENGINE	REPLACE					1.0		D
		REPAIR					4.0		
		REPLACE			1.6				
0309	COUPLING, BLOWER DRIVE	REPAIR						47	
		REPLACE			0.9				
0310	GEAR, DRIVE, AIR BLOWER	REPLACE			0.9				
		REPLACE			0.2			48	
0311	FUEL RETURN LINE TANK, FUEL, BOLT-ON	REPLACE		0.2				49	
		REPLACE		1.1	1.6				
0312	GOVERNOR	REPAIR			0.5				
		ADJUST			0.2				
0313	FILTER, FUEL, PRIMARY	REPLACE			0.5				
		REPAIR				2.0			
		SERVICE	0.1						J
0314	FILTER, FUEL, SECONDARY	REPLACE		0.2					
		REPAIR		0.2					J
0315	HEATER ASSEMBLY, AIR BOX	SERVICE	0.1						
		REPLACE		0.2					
		REPAIR		0.2					
		REPLACE		0.5					
		REPAIR		0.6					E
0316	BRACKET, ASSEMBLY, THROTTLE CONTROL	REPLACE			0.5				
		REPAIR			0.6				
		REPLACE		0.5					
0317	THROTTLE LINKAGE	REPAIR		1.5					
		ADJUST		0.5					
		REPLACE		0.5					
04 0401	EXHAUST SYSTEM JOINT, EXHAUST	REPAIR		0.1					
		REPLACE		0.2					
				0.2					

MAINTENANCE ALLOCATION CHART (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM
			C	O	F	H	D		
05	COOLING SYSTEM								
0501	RADIATOR	TEST			0.2				
		SERVICE	0.2	0.5				50	
		REPLACE		3.0					
		REPAIR			2.0				
	THERMOSTAT	TEST		0.9					
		REPLACE		0.8					
0504	PUMP, COOLANT	REPLACE		1.2					
		REPAIR			1.8				
	BELT, PUMP DRIVE	ADJUST		0.2					
	REPLACE			0.9					
0505	BELT, FAN DRIVE	ADJUST		0.1					
		REPLACE		0.2					
	FAN ASSEMBLY, VENTILATING	SERVICE	0.2	0.5					
	REPAIR	REPLACE		3.2			4.7	J	
	GEAR BOX ASSEMBLY, FAN	REPLACE			2.0				
		REPAIR				2.0			
06	ELECTRICAL SYSTEM								
0601	BUILT, DRIVE, GENERATOR	ADJUST		0.1					
	GENERATOR	REPLACE		0.2					
	GENERATOR	REPLACE		1.2					
		REPAIR			2.0			F	
0602	REGULATOR (SOLID STATE)	ADJUST		0.1					
		REPLACE		0.3					
		REPAIR			2.0				
0603	STARTER	TEST		0.2					
		REPLACE		1.0					
		REPAIR			2.4				
	CABLES, ELECTRICAL, STARTER	REPLACE		0.3					
		REPAIR		0.2					
0606	SOLENOID, SUSPENSION SWITCH, NEUTRAL START	ADJUST		0.2					
		ADJUST		0.1					
		REPLACE		0.3					
0607	PANEL, MASTER SWITCH	REPLACE			0.4				
		REPAIR		0.2				C	
	PANEL ASSEMBLY, WARNING LIGHT	REPLACE		0.3					
	REPAIR					0.2		D	
	PANEL ASSEMBLY, INSTRUMENT	REPLACE			0.5				
	REPAIR			0.5				E	
	HARNESS, WIRING, INSTRUMENT PANEL	REPLACE			2.0			E	
	REPAIR			0.2					
0608	DISTRIBUTION BOX	REPLACE			0.8				
		REPAIR			1.2				
	POWER SUPPLY INFRARED	TEST		0.1					
		REPLACE		0.9					
		REPAIR			2.0			E	
0609	DOME LIGHT	REPLACE		0.2					
		REPAIR		0.5				C	

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM
			C	O	F	H	D		
0610	BLACKOUT MARKER	REPLACE		0.3					
	LIGHT	REPAIR		0.2				C	
	LIGHT ASSEMBLY, TAIL	REPLACE		0.3					
		REPAIR		0.2				C	
	HEADLIGHT, BLACKOUT	REPLACE		0.3					
		REPAIR		0.2				C	
	INFRARED HEADLIGHT	REPLACE		0.3					
		REPAIR		0.2				C	
	SERVICE HEADLIGHT	REPLACE		0.3					
		REPAIR		0.2				C	
0611	SWITCH, STOP LIGHT	ADJUST		0.2					
		REPLACE		0.3					
0611	LEAD, DIFFERENTIAL OIL	REPLACE		0.3					
	TEMPERATURE	REPAIR		0.2				C	
0612	HORN	REPLACE		0.2					
	LEAD, HORN	REPLACE		0.3					
0613	BATTERY	REPAIR		0.2				C	
		TEST		0.2					
		SERVICE	0.1	0.2				U	
		REPLACE		0.5					
		REPAIR			3.0				
	BOX ASSEMBLY, BATTERY	SERVICE		0.3					
	(M106A2, M1064, & M125A2)	REPLACE		0.3					
		REPAIR		0.2				C	
	LEAD, BATTERY	REPLACE		0.4					
		REPAIR		0.9				C	
0613	RECEPTACLE, AUXILIARY	REPLACE		0.5					
		REPAIR		0.8				C	
	WIRE HARNESS, BATTERY	REPLACE			0.3				
	TO RADIO	REPAIR		0.2				C	
	WIRING HARNESS, MAIN	REPLACE			0.4				
	FORWARD	REPAIR		0.2				C	
	WIRING HARNESS, MAIN	REPLACE			0.4				
	REAR	REPAIR		0.2				C	
	WIRING HARNESS,	REPLACE			0.5				
	HEADLIGHT	REPAIR		0.2				C	
0613	LEAD ASSEMBLY, MASTER	REPLACE		0.3					
	SWITCH TO DISTRIBUTION BOX (M577A2)	REPAIR		0.2				C	
	LEAD ASSEMBLY,	REPLACE		0.3					

MAINTENANCE ALLOCATION CHART (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM	
			C	O	F	H	D			
0614	LEAD ASSEMBLY, UTILITY OUTLET (M577A2)	REPLACE REPAIR		0.3 0.2					C	
	LEAD ASSEMBLY, AUXILIARY POWER UNIT (M577A2)	REPLACE REPAIR		0.3 0.2					C	
	LEAD ASSEMBLY, MASTER SWITCH TO DOME LIGHT (M577A2)	REPLACE REPAIR		0.3 0.2					C	
	LEAD ASSEMBLY, WIRE HARNESS TO DOME LIGHT (M1059)	REPLACE REPAIR		0.3 0.2					C	
	WIRE HARNESS, RADIO	REPLACE REPAIR		0.3 0.2					C	
	WIRE HARNESS, RADIAC	REPLACE REPAIR		0.2 0.2					C	
	WIRE HARNESS, TRAILER LIGHT	REPLACE REPAIR		0.4 0.6					C	
	RECEPTACLE, GENERATOR SET (M577A2)	REPLACE REPAIR			1.2					
	RECEPTACLE, TRAILER COUPLING	REPLACE REPAIR		0.4 0.6						
	HARNESS, RING, TRANSMISSION	REPLACE			1.2					
	LINKAGE, TRANSMISSION CONTROL	ADJUST REPLACE REPAIR		0.3 0.2 0.3						
	SELECTOR, TRANSMISSION RANGE	ADJUST REPLACE REPAIR		0.3 0.5 0.7						
	0710	TRANSMISSION ASSEMBLY	SERVICE REPLACE REPAIR OVERHAUL	0.2		10.0	14.6	25.0	52-62	G
	0713	OIL SEAL, REAR CLUTCH PACK	REPLACE REPAIR			1.0	6.5		59-60 63-66	K
0714	CONTROL VALVE	REPLACE REPAIR				1.5 5.5				
0721	OIL TRANSFER PLATE ASSEMBLY PUMP	REPLACE REPAIR REPLACE				1.5 2.2 1.2		67-68		

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM
			C	O	F	H	D		
08	TRANSFERS AND FINAL DRIVE ASSEMBLIES								
0801	MOUNT, TRANSFER GEARCASE	REPLACE		1.6				69-70	
	TRANSFER GEARCASE	SERVICE	0.1		12.4				
	FINAL DRIVE ASSEMBLY	REPLACE REPAIR	0.1			6.2		71	H
		SERVICE		1.6				72	
0802	ENGINE QUICK DISCONNECT LINKAGE	ADJUST REPLACE		0.2 1.6		5.2		73-75	H
09	PROPELLER SHAFTS, U-JOINTS & CLAMPS								
0900	SPIDERS	SERVICE REPLACE	0.2					76	
11	REAR AXLE			0.6					
1124	BAND, STEERING, BRAKE DIFFERENTIAL	ADJUST REPLACE REPAIR		0.3 1.1	1.6				
	OIL FILTER, DIFFERENTIAL	SERVICE REPLACE REPAIR		0.2 0.9 0.3					C
	DIFFERENTIAL, CONTROL	SERVICE REPLACE REPAIR	0.1	3.8					
	MOUNT, DIFFERENTIAL WHEELS AND TRACKS	REPLACE		0.5		16.0		1, 77-81 69	H
13	BAR, TORSION	REPLACE		0.9				82-84	
1301	BEARING, TRUNNION, SUPPORT ARM ASSEMBLY	REPLACE		0.7				81	
	SEAL, TRUNNION, SUPPORT ARM ASSEMBLY	REPLACE		0.6				81	
	BEARING, SPINDLE, SUPPORT ARM ASSEMBLY	REPLACE		0-6				86, 87	
	SEAL, SPINDLE, SUPPORT ARM ASSEMBLY	REPLACE		0.6				86	
1303	SUPPORT ARM ASSEMBLY, ROAD WHEEL	SERVICE REPAIR	0.2	2.0					
	ADJUSTER ASSEMBLY, TRACK TENSION	ADJUST REPLACE REPAIR	0.2	0.6					
	ARM ASSEMBLY, IDLER	SERVICE REPLACE	0.2		1.1				E
		REPAIR		0.7					
	BEARING, IDLER HUB	REPLACE		0.8	1.0			99	

MAINTENANCE ALLOCATION CHART (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM
			C	O	F	H	D		
1305	SEAL, SPINDLE IDLER	REPLACE		0.8				86	
	ARM ASSEMBLY								
	TRACK ASSEMBLY	ADJUST	0.2					84, 85, 89, 90	I
	SHOE, TRACK	INSPECT		0.2				88	C
1311	ROAD WHEEL	REPLACE		0.3				91	
		REPAIR		0.2					
14	STEERING								
1403	ARM ASSEMBLY,	ADJUST		0.3				92	C
	STEERING	REPLACE		0.5					
		REPAIR		0.3					
		REPLACE		0.4					
15	BRAKE ASSEMBLY, PIVOT	REPLACE			0.6		93	E	
	STEER	REPAIR							
	CYLINDER, MASTER,	SERVICE		0.1					
	PIVOT STEER	ADJUST		0.6					
16	REPLACE	REPAIR		0.8			94	C	
	REPAIR	INSPECT	0.2		1.0				
	CONTROLS AND LINKAGE,								
	DIFFERENTIAL STEERING								
18	TOWING ATTACHMENTS						100		
	PINTLE, TOWING	SERVICE	0.2						
1604	SHOCK ABSORBER	REPLACE		0.2			94	C	
		REPAIR		0.4					
		ASSEMBLY		0.4					
18	HULL								
1800	TRIM VANE ASSY	ADJUST		0.2			2.2		
1801	GRILL ASSEMBLY, POWER	REPLACE							
1801	PLANT	REPAIR			1.8		95, 96	C	
	DOOR ASSEMBLY, POWER	REPLACE		0.5					
	PLANT	REPAIR		1.0					
	TRIM VANE ASSEMBLY	REPLACE		0.3					
1801	RELEASE ASSEMBLY,	REPAIR		0.5			89	C	
	TRIM VANE	ADJUST		0.1					
		REPLACE		0.3					
		REPAIR		0.5					
1801	COVER, ENGINE ACCESS	REPLACE		0.2			95, 96	C	
		REPAIR		1.0					
	INSERT, THREADED	REPLACE			0.3				
	SHROUD ASSEMBLY,	REPLACE		0.5					
1801	TRACK	REPLACE					89	L	
	COVER, CARGO HATCH	REPAIR		0.5					
1801	CUPOLA ASSEMBLY,	REPLACE		0.3			95, 96	C	
		COMMANDER'S	REPAIR		2.1				
		REPAIR		3.1				C	

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM
			C	O	F	H	D		
1803	RAMP ASSEMBLY	REPLACE					3.5		
		REPAIR			0.6			E	
	DOOR ASSEMBLY, RAMP	REPLACE			0.7				
		REPAIR			0.2			E	
	COVER ASSEMBLY, COMMANDER'S HATCH	ADJUST		0.2					
		REPLACE		0.5					
		REPAIR		0.2				C	
	RELEASE ASSEMBLY, PERISCOPE	REPLACE		0.3					
		REPAIR		0.6				C	
		ADJUST		0.2					
1806	COVER ASSEMBLY, DRIVER'S HATCH	REPLACE		0.5					
		REPAIR		0.2				C	
	SEAT, COMMANDER'S	REPLACE		0.5					
		REPAIR		1.5				C	
	PLATFORM, COMMANDER'S	REPLACE		0.5					
		REPAIR		1.5				C	
	SEAT, DRIVER'S	REPLACE		0.5					
		REPAIR		1.5				C	
	ASSEMBLY, STOWAGE BOX (M1068)	REPLACE		0.2					
		REPAIR		0.5					
1807	ASSY, WORKSURFACE (M1068)	REPLACE		0.3					
		REPAIR		0.2					
	SEAT, COMMANDER'S (M1068)	REPLACE		0.5					
		REPAIR		1.5					
	SEAT, CREW STATION (M1068)	REPLACE		0.5					
		REPAIR		1.5					
	CONTAINER ASSEMBLY, AMMO	REPLACE		0.5					
		REPAIR		0.1				C	
	1808	RACK, AMMO	REPLACE		0.9				
		REPAIR		0.4					
22	HOLDER, CABLE REEL	REPLACE		0.4					
		REPAIR		0.3					
	MISCELLANEOUS HULL ACCESSORIES								
2201	COVERED EXTENSION (M577A2)	REPLACE		1.0					
		REPAIR			3.0			E	
2205	CURTAIN, BLACKOUT (M577A2)	REPLACE		0.2					
		REPAIR			0.2				
24	PUMP, BILGE	SERVICE	0.3						
		REPLACE		0.8					
		REPAIR			1.2				
2404	HYDRAULIC LIFT COMPONENTS								
	TANK, HYDR FLUID	SERVICE		0.7			37		
		REPLACE		0.8			37		
		REPAIR		0.9			37		

MAINTENANCE ALLOCATION CHART (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM
			C	O	F	H	D		
2407	TANK, RAMP SYSTEM	REPLACE		0.7					D
	CYLINDER, RAMP	REPAIR				1.0			
29 2901	AUXILIARY GENERATOR GENERATOR SET (M577A2)	REPLACE		1.3	0.8				
		REPAIR							
33 3301	SPECIAL PURPOSE KITS SHIPPING CONTAINERS, ENGINE	SERVICE	0.1						
		ADJUST		0.2					
3303	BOX, CONTROL, HEATER	REPLACE		0.2					
		REPAIR		1.5					
3307	FILTER, FUEL	REPLACE		0.2					
		REPAIR		0.2					
3307	HEATER, COOLANT	SERVICE		0.2					
		REPLACE		0.3					
3307	HEATER, PERSONNEL (ALL CARRIERS)	REPLACE		0.4					
		REPAIR			1.2				
3307	PUMP, FUEL, HEATERS	REPLACE		0.3				97-98	
		SERVICE		0.1					
3307	HEATER CONTROL BOX	REPLACE		0.2					
		REPAIR		0.5				37	
3307	HEATER, PERSONNEL DRIVER'S WINDSHIELD KIT	REPLACE		1.9				37 74	
		INSTALL		0.3				97-98	
3307	ELECTRONIC EQUIPMENT WINTERIZATION HEATER KIT (M577A2 ONLY)	REPAIR		0.1					
		REPLACE		0.2					
3307	ENGINE COOLANT HEATER KIT (ALL CARRIERS)	INSTALL			6.0				
		REPAIR			8.2				
3307	FUEL SUPPLY ADAPTER KIT (M577A2 ONLY)	REPLACE			20.0				
		INSTALL			5.3				
3307	PERSONNEL HEATER KIT (ALL CARRIERS EXCEPT M577A2)	REPAIR			0.6				
		REPLACE			0.5				
3307	ANCHOR KIT (M113A2, M1059)	INSTALL			10.0				
		REPAIR			10.6				
3307	APU COVER (M577A2)	REPLACE			1.0				
		REPAIR		0.2					
3307	ADAPTER ASSEMBLY	REPLACE		0.1					
		REPAIR		0.1				37	
3307	ARTILLERY COMMUNI- CATION KIT (M577A2)	INSTALL			0.5				
		REPAIR			6.0			37	
3307	BRACKET, DOOR	REPLACE			1.2				
		REPAIR		0.1				37	
				0.1				37	

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM
			C	O	F	H	D		
	CAPSTAN KIT (M113A2, M1059)	INSTALL REPAIR		0.3	3.0				
	CHAIN ASSY LITTER C	REPLACE REPAIR		0.1 0.5			37 37		
	CHEMICAL ALARM KIT	INSTALL REPLACE REPAIR							
	COOLANT HEATER	TEST ADJUST INSTALL REPLACE REPAIR			0.8 0.5 3.3 4.0 0.7		29 41 32 34 37 44 53 67 32 34 37-44 53 67 32 34 37 44 53 67 27 29 31 32 34 37 41 44 53 67		
	GUN SHIELD KIT (M113A2)	INSTALL REPAIR REPLACE			10.0 0.8				
	HTR KIT, ENG COOL	SERVICE REMOVE/ INSTALL REPAIR		0.2	10.0		32 37 41		
	DUCT ASSY	REPLACE REPAIR		0.3 0.2			31 32 37 44 74 37		
	LITTER KIT (M113A2)	REPAIR INSTALL REPAIR REPLACE		0.2 0.3 0.5			37		
	LITTER KIT	INSPECT REMOVE/ INSTALL	0.1	0.3			37		
	MACHINE GUN SHIELD KIT	REMOVE/ INSTALL REPAIR			10.0		29 37		
	MOUNTING ARM ASSY	REPLACE REPAIR		0.6 0.1			37 37		
	NON-SKID RAMP KIT (M125A2, M106A2, AND M1064)	REPAIR INSTALL REPAIR		0.4	0.9 4.0 1.3		29 37		
	PLATFORM ASSY GUN M	REPLACE REPLACE REPAIR		0.1 0.5			37 37		
	RESTRICTOR ASSY	REPLACE REPAIR		0.2 0.2			37 37		
	SMOKE GENERATOR ASSEMBLY (M1059)	SERVICE REPLACE REPAIR	*	0.5 *				M	
	SOCKET ASSY, PINTLE	REPAIR REPLACE REPAIR		0.1 0.1	0.1		37 29 37	M	

MAINTENANCE ALLOCATION CHART (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM
			C	O	F	H	D		
42 4202	SUPPORT ASSEMBLY, SMOKE GENERATOR (M1059)	REPLACE REPAIR		1.0 0.5					
	SUPPORT POST LITTER	REPLACE REPAIR		0.5 0.5				37 37	
	ADAPTER, FUEL TANK (M1059)	SERVICE REPLACE REPAIR	0.1	0.2 0.5					
	PANEL ASSEMBLY OPERATORS (M1059)	REPLACE REPAIR		0.5 *					M N
	FOG OIL TANK MODULE (M1059)	REPLACE REPAIR		1.0 0.5					N M
	CABLE ASSEMBLY, OPERATOR'S PANEL, MAIN POWER (M1059)	REPLACE REPAIR		0.2 0.5					C D
	CABLE ASSEMBLY, PANEL TO COMPRESSOR (M1059)	REPLACE REPAIR		0.2 0.5					C D
	CABLE ASSEMBLY, PANEL TO PUMP (M1059)	REPLACE REPAIR		0.3	0.5				D D
	CABLE ASSEMBLY, PANEL TO ACCESS PLATE (M1059)	REPLACE REPAIR		0.8	0.5				D
	CABLE ASSEMBLY, SMOKE GENERATOR TO ACCESS PLATE (M1059)	REPLACE REPAIR		0.5	0.5				D
	PUMP ASSEMBLY, FOG OIL (1M1059)	REPLACE REPAIR		0.8 *					M N
	AIR COMPRESSOR ASSEMBLY (M1059)	REPLACE		0.5			*		M
	ELECTRICAL EQUIPMENT								
	CABLE ASSY, AC POWER EXT (W7, W8) (M1068)	REPLACE REPAIR		0.4		0.3			
	CABLE ASSY (W4) (M1068)	REPLACE REPAIR		0.3 0.3					
	POWER DISTRIBUTION ASSY (A3) (M1068)	REPLACE REPAIR		0.1 0.3					
	INVERTER (IN1, IN2) (M1068)	REPLACE			0.6				
	CABLE ASSY, INVERTER (W5) (M1068)	REPLACE REPAIR		0.4		0.3			
	CABLE ASSY (W6) (M1068)	REPLACE REPAIR		0.2 0.2					
	HOUSING ASSY, INVERTER (A2) (M1068)	REPLACE REPAIR			0.6 0.8				
	CABLE ASSY, DC POWER EXT (W9, W10) (M1068)	REPLACE REPAIR		0.4		0.3			
	CABLE ASSY, AC LIGHT CORD (W11) (M1068)	REPLACE REPAIR		0.4		0.3			
	CABLE ASSY (W3) (M1068)	REPLACE REPAIR		0.4		0.3			
	CABLE ASSY, SINGLE POINT LAN (W40) (M1068)	REPAIR REPLACE		0.1 0.2					

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM
			C	O	F	H	D		
	CABLE ASSY, DC INPUT (W42) (M1068)	REPLACE		0.4					
		REPAIR			0.3				
	CABLE ASSY, AC INPUT (W43) (M1068)	REPLACE		0.4					
		REPAIR			0.3				
	CABLE ASSY (W32) (M1068)	REPLACE		0.6					
		REPAIR			0.5				
	BOX ASSY, EXT, COMM (AII) (M1068)	REPLACE		0.3					
		REPAIR			1.1				
	CABLE ASSY, LAN (W101, W102) (M1068)	REPLACE		0.2					
		REPAIR		0.1					
	CABLE, RADIO FREQUENCY (M1068)	REPLACE		0.2			*		
		REPAIR		0.1					
	BOX ASSY, POWER ENTRY (A4) (M1068)	REPLACE		0.3					
		REPAIR			0.6				
	CABLE ASSY, POWER ENTRY INPUT (W13) (M1068)	REPLACE		0.3					P
		REPAIR		0.2	0.4				
	CABLE ASSY, POWER ENTRY OUTPUT (W14) (M1068)	REPLACE		0.3					P
		REPAIR		0.2	0.4				
	ENCLOSURE ASSY, POWER CONTROL (AI) (M1068)	REPLACE		0.2					
		REPAIR		0.6	1.1				
	FACEPLATE ASSY, POWER CONTROL (M1068)	REPLACE		0.4					
		REPAIR		0.5					
	CABLE ASSY, EXT POWER INPUT (W1) (M1068)	REPLACE		0.1					
		REPAIR		0.2	0.4				
	CABLE ASSY, POWER, EXT AC (W2) (M1068)	REPLACE		0.1					
		REPAIR		0.1					
	PANEL ASSY, TENT INT BOX (A5) (M1068)	REPLACE		0.2					
		REPAIR			0.5				
	MOUNT ASSY, FACSIMILE MACH (M1068)	REPLACE		0.1					
		REPAIR		0.2					
	BOX ASSY, POWER SUPPLY STORAGE (M1068)	REPLACE		0.1					
		REPAIR		0.2					
	BOX, AC POWER (A6, A7) (M1068)	REPLACE		0.1					
		REPAIR			0.3				
	BOX, DC POWER (A8, A9) (M1068)	REPLACE		0.1					
		REPAIR			0.4				
	GROUND BOX, SINGLE POINT LAN (A15) (M1068)	REPLACE		0.1					
		REPAIR		0.2					
	MOUNT, V2 PRINTER (12383945) (M1068)	REPLACE		0.1					
		REPAIR		0.3					
	PATCH PANEL BOX (A10) (M1068)	REPLACE		0.2					
		REPAIR		0.5					
	DATA PANEL ASSY (A12) (M1068)	REPLACE		0.6					
		REPAIR			0.8				
	DATA PANEL ASSY (A13) (M1068)	REPLACE		0.2					
		REPAIR			0.8				
	BOX ASSY, POWER EXT (A16, A17) (M1068)	REPLACE		0.3					
		REPAIR		0.7					

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REM
			C	O	F	H	D		
47	GAGES (NONELECTRICAL)								
4701	SHAFT, ASSEMBLY	REPLACE		0.5					
	FLEXIBLE SPEEDOMETER OR TACHOMETER	REPAIR		0.2					
76	FIXED FIRE EXTINGUISHER SYSTEM								
7603	CONTROLS, FIXED FIRE EXTINGUISHER	ADJUST		0.2					
		REPLACE		0.4					
		REPAIR		0.5					
	CYLINDER	SERVICE			0.4				
		REPLACE		0.2					
		TEST		0.2					
7638	PORTABLE FIRE EXTINGUISHER (M1059)	INSPECT	0.1						
		SERVICE			0.5				
		REPLACE		0.1					
		REPAIR			1.0			D	
91	CHEMICAL BIOLOGICAL AND RADIOLOGICAL (CBR) EQUIPMENT								
9116	SHOCK MTG INSTL, CRB	REPAIR		0.7			37		
9131	CHEMICAL AGENT AUTO	REMOVE/ INSTALL		1.8			4 32 37		
	DISTRIBUTION BOX	REPLACE		0.2			31 37		
		REPAIR		0.3			31 37		
	RPR PAD, BTRY BRK	REPAIR		0.1			4 3137		

Section III. TOOLS AND TEST EQUIPMENT REQUIREMENTS

REFERENCE CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL PART NUMBER
1	0	SLING, POWER PACK: USED TO LIFT POWER PLANT, ENGINE AND DIFFERENTIAL	4910-00-646-6893	10942647
2	F	MANOMETER, U-TUBE: USED W/4720-271-9839 HOSE, 6810-00-285-3450 MERCURY, AND 8950-00-823-7664 FOOD COLORING TO CHECK CRANKCASE PRESSURE, EXHAUST BACK PRESSURE, AIR BOX PRESSURE, AND AIR INTAKE RESTRICTIONS	6685-00-857-4895	KM-J21478-1
3	F	TUBING, NONMETAL: USED W/6685-00-857-4895 MANOMETER	4720-00-271-9839	MIL-R-6855
4	F	MERCURY, REAGENT: USED W/6685-00-857-4895 MANOMETER	6810-00-285-3450	MIL-M191 GR2
5	F	GAGE ASSEMBLY: USED W/4910-00-019-5241 ADAPTER TO CHECK CYLINDER COMPRESSION	4910-00-870-6283	10899180
6	F	ADAPTER, CYLINDER: USED W/4910-00-870-6283 GAGE ASSEMBLY TO CHECK CYLINDER COMPRESSION	4910-00-019-5241	10934456, J 7915-03
7	H	CRADLE ASSEMBLY: USED W/4910-00-737-0432 AND 2520-01-006-4589 BRACKETS AND 4910-00-795-0189 STAND TO SUPPORT ENGINE OUT OF CARRIER FOR MAINTENANCE	4910-00-795-0198	7950198
8	H	STAND, MAINTENANCE: USED W/4910-00-795-0198 CRADLE ASSEMBLY, 2520-00-006-4589 BRACKETS TO SUPPORT ENGINE OUT OF CARRIER FOR MAINTENANCE	4910-00-795-0189	7950189, MIL-45004
9	H	BRACKET: USED FOR MOUNTING ENGINE IN 4910- 00-795-0189 CRADLE ASSEMBLY	2520-01-006-4589	11678105
10	F	STUD, CYLINDER HEAD: USED TO ALINE CYLINDER HEAD	4910-00-591-6634	KM-J-9965
11	H	INSTALLER BODY, INJECTOR: USED W/4940-00-711-1919 INSTALLER BODY TO INSTALL INJECTOR TUBE	4940-00-711-1918	10881893
12	H	INSTALLER PILOT, INJECTOR: USED W/4940-00-711-1918 INSTALLER BODY TO INSTALL INJECTOR TUBE	4940-00-711-1919	10881896
13	H	INSTALLER FLARING DIE, INJECTOR: USED W/4910-00-711-1918 TO FLARE SMALL END OF INJECTOR TUBE	4940-00-711-1920	10881892
14	H	REMOVER, CYLINDER LINER	5120-00-937-6140	J-22490

TOOLS AND TEST EQUIPMENT REQUIREMENTS (cont)

REFERENCE CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL PART NUMBER
15	H	EXPANDER, FRONT OIL SEAL: USED TO EXPAND CRANKSHAFT FRONT OIL SEAL WHEN INSTALLING	4910-00-491-6640	10949378
16	H	ENGINE LOWER FRONT COVER EXPANDER, REAR OIL SEAL: USED TO EXPAND REAR OIL SEAL	5120-00-918-0587	KM-J-9769
17	F	HOOK, LIFTING: USED TO LIFT FLYWHEEL	4910-40-722-3877	10881880
18	H	STUD, FLYWHEEL ALINING: USED TO ALINE FLYWHEEL HOUSING OR ENGINE LOWER FRONT COVER	5120-00-872-6015	KM-J-7540
19	H	CLAMP SET, HOLD DOWN CYLINDER: USED TO LOCATE CYLINDER LINES WHEN INSTALLING PISTONS	5120-00-999-8618	J-21793-01
20	H	COMPRESSOR, PISTON RING: USED TO COMPRESS PISTON RINGS WHEN INSTALLING PISTON IN CYLINDER LINER	5120-00-901-8651	KM-J-6883-01
21	H	REMOVER AND REPLACER: USED TO REMOVE AND REPLACE PISTON RINGS	5120-00-494-1846	KM4-8128
22	H	REPLACER, PISTON PIN RETAINERS: USED TO REPLACE PISTON PIN RETAINERS	5120-00-733-8874	10881874
23	H	REMOVER AND REPLACER: USED TO REMOVE AND REPLACE CAMSHAFT BEARINGS	5180-00-591-6630	10949461
24	H	PULLER KIT, MECHANICAL: USED TO REMOVE CAMSHAFT GEAR AND BLOWER GEARS	5120-00-338-6721	8708724
25	H	PULLER, MECHANICAL: USED TO REMOVE CRANKSHAFT TIMING GEAR	5120-00-740-3345	KM-J-4871
26	H	REPLACER, CRANKSHAFT TIMING GEAR: USED TO INSTALL CRANKSHAFT TIMING GEAR ON CRANKSHAFT (INSTALLING TOOL)	4910-00-736-1371	10949377
27	F	REMOVER, VALVE GUIDE: USED TO REMOVE VALVE GUIDE	4910-00-591-6632	10949450
28	F	REPLACER, VALVE GUIDE: USED TO INSTALL VALVE GUIDE (INSTALLING TOOL)	5120-00-872-6014	KM-J-9729
29	H	REPLACER, VALVE SEAT INSERT: USED TO INSTALL VALVE SEAT INSERTS IN CYLINDER HEAD (INSTALLING TOOL)	4910-00-603-8925	10949451
30	H	TOOL KIT, VALVE SEAT INSERT: USED TO REMOVE VALVE SEAT INSERTS	5180-00-591-6631	10949470
31	F	COMPRESSOR, VALVE SPRING: USED W/4910-00-918-0583 ADAPTER TO REMOVE EXHAUST VALVE SPRINGS	5120-00-733-8888	10881882

REFERENCE CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL PART NUMBER
32	F	ADAPTER, VALVE SPRING COMPRESSOR. USED W/5120-00-733-8888 COMPRESSOR TO REMOVE EXHAUST VALVE SPRINGS	4910-00-918-0583	KM-J-7455-4
33	F	GAGE, THICKNESS: USED TO CHECK VALVE CLEARANCE (VALVE GAGE ADJUSTING)	5220-00-176-0638	KM-J-9708
34	H	INSTALLER, OIL PUMP DRIVE GEAR	5120-00-591-6639	10949379
35	H	TEST FIXTURE: USED W/4910-00-255-8641 TESTER TO TEST INJECTORS	4910-00-355-6248	65-9288-9237
36	H	TESTER, INJECTOR: USED W/4910-00-355-6248	4910-00-255-8641	3YFL-05008
37	H	ADAPTER, NEEDLE VALVE: USED W/4910-00-355-6248 TEST FIXTURE	4910-00-764-5626	YA-396
38	F	REMOVER, INJECTOR: USED TO REMOVE INJECTOR ASSEMBLY FROM CYLINDER HEAD	5120-00-219-8400	10881891
39	H	REAMER: USED TO CLEAN FLAT PORTION OF INJECTOR NUT SPRAY TIP SEAT	5110-00-019-5240	10881903
40	H	REAMER, SECOND OPERATION: USED TO CLEAN INJECTOR COPPER TUBE	5110-00-294-4606	10881907
41	H	REAMER, USED TO REAM CARBON FROM INJECTOR SPRAY TIP	5110-00-219-8399	5344968
42	H	REAMER, FIRST OPERATION: USED TO CLEAN INJECTOR TUBE	5110-00-785-1016	10881897
43	H	REMOVER, SPRAY TIP: USED TO REMOVE SPRAY TIP FROM INJECTOR NUT	5120-00-355-6167	10919988
44	H	REFINISHER, INJECTOR TUBE TIP: USED TO FACE SMALL END OF INJECTOR TUBE	5120-00-785-1017	10881902
45	H	GAGE: USED ^{vo} TIME INJECTOR	5220-00-387-9581	10881887
46	F	WRENCH: USED TO TORQUE FUEL LINE NUTS	5120-00-019-5232	10881875
47	F	GAGE, FUEL PRESSURE: USED TO CHECK FUEL PUMP OUTPUT PRESSURE	6620-00-671-4509	10934455
48	H	INSTALLING HOOK, BLOWER DRIVE CAM: USED TO INSTALL BLOWER DRIVE CAM IN SPRING	4910-00-591-6633	KM-J-5209
49	O	WRENCH, OPEN END AND BOX: USED TO TORQUE FUEL RETURN LINE NUTS	5120-00-740-3347	10949344
50	O	HOSE ASSEMBLY: USED TO DRAIN BOLT-ON FUEL TANK	4720-00-454-8608	11633323
51	O	TOOL, RADIATOR CLEANING	4910-00-611-6559	11678393

TOOLS AND TEST EQUIPMENT REQUIREMENTS (cont)

REFERENCE CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL PART NUMBER
52	H	LIFTING STRAP: USED W/4910-00-673-3801 EYE TO CHECK CONVERTER MOUNTING SPACING OR REMOVE OR INSTALL	4910-00-572-8608	8356175
53	H	CONVERTER DRIVE COVER HOLDER, STATOR ROLLERS: USED TO HOLD STATOR ROLLERS AND SPRING DURING ASSEMBLY	4910-00-572-8688	8356195
54	H	EYE, LIFTING, ADAPTER HOIST: USED W/4910-00-572-8608 STRAP TO LIFT HIGH RANGE CLUTCH PACKAGE & CONVERTER DRIVE COVER	4910-00-673-3801	10865773
55	H	HANDLE, REPLACERS: USED W/5120-0-572-8660, 5120-00-572-8615, 5120-00-572-8656 AND 5120-40-572-8658, REPLACERS TO INSTALL FRONT OIL PUMP SEAL, HIGH CLUTCH HOUSING BUSHING, OUTPUT BEARING AND SEAL, CONVERTER DRIVE COVER BUSHING AND OUTPUT SHAFT BUSHING	5120-00-316-9182	7950864
56	H	REPLACER: USED W/5120-00-316-9182 HANDLE TO INSTALL HIGH CLUTCH HOUSING BEARING (DRIVER PLUG)	5120-00-572-8656	8356202
57	H	SNAP RING DRIVER KIT: USED TO INSTALL TURBINE SHAFT SNAP RINGS	5120-00-572-8663	8356191
58	H	PULLER BOLT: USED TO REMOVE GROUND SLEEVE DIAPHRAGM ASSEMBLY	4910-00-572-8699	8356200
59	F	REPLACER: USED W/5120-00-316-9182 HANDLE TO INSTALL OUTPUT BEARING AND OIL SEAL (DRIVER PLUG BEARING)	5120-00-572-8615	8356185
60	F	PULLER: USED TO REMOVE REAR SEAL	5120-00-572-8712	8356201
61	F	PRESSURE GAGE KIT: USED TO CHECK TRANSMISSION OIL PRESSURE	4910-00-572-8612	8356176
62	F	SLING, TRANSMISSION: USED TO LIFT TRANSMISSION AND TO MOUNT TRANSMISSION IN STAND (ADAPTER HOIST)	4910-00-572-8614	8356184
63	H	COMPRESSOR, CLUTCH PACKAGE: USED TO COMPRESS AND HOLD CLUTCH PACKAGE DURING INSTALLATION AND REMOVAL OR TO COMPRESS REVERSE CLUTCH PACKAGE TO REMOVE OR INSTALL HOLDING PIN	4910-00-572-8643	8356187
64	H	REMOVER AND REPLACER, TOOL KIT: USED TO REMOVE AND REPLACE CLUTCH PISTON RETURN SPRING RETAINING RING	5120-00-572-8607	8356170

REFERENCE CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL PART NUMBER
65	H	REPLACER: USED W/5120-00-316-9182 HANDLE TO INSTALL HIGH CLUTCH HOUSING BEARING (DRIVER PLUG BEARING)	5120-00-572-8658	8356174
66	H	BOLT, CLAMPING: USED TO HOLD INTERMEDIATE CLUTCH BACK PLATE IN POSITION DURING BUILD UP AND DISASSEMBLY	4910-00-572-8701	8356186
67	H	GUIDE BOLT SET: USED TO POSITION FRONT AND REAR OIL PUMPS AND FRONT AND REAR PILOT TUBES AND DIAPHRAGM	4910-00-572-8710	8356165
68	H	REPLACER: USED W/5120-00316-9182 HANDLE TO INSTALL FRONT OIL PUMP SEAL (DRIVER PLUG BEARING)	5120-00-572-8660	8356173
69	O	REMOVER AND REPLACER: USED TO REMOVE AND REPLACE TRANSFER GEARCASE AND DIFFERENTIAL RESILIENT MOUNTS	5120-00-740-3346	10943279
70	O	ADAPTER: APPLY TORQUE TO TRANSFER GEARCASE LEFT MOUNT	1025-00-215-8200	11663358-2
71	H	REPLACER: USED TO INSTALL TRANSFER GEARCASE RETAINER AND HOUSING BEARING CUPS	5120-00-776-1864	10886353
72	O	LIFTING BAR: USED TO REMOVE AND REPLACE FINAL DRIVE	5120-00-918-0586	11589384
73	H	REMOVER AND REPLACER: USED TO REMOVE AND REPLACE OUTPUT SHAFT BEARING	5120-00-771-7019	10874765
74	H	REMOVER AND REPLACER, OIL SEAL: USED TO REMOVE AND REPLACE FINAL DRIVE OUTPUT SHAFT OIL SEAL	5120-00-771-7020	10875335
75	F	REMOVER AND REPLACER, OIL SEAL: USED TO REMOVE AND REPLACE FINAL DRIVE OUTPUT SHAFT SPACER, .RETAINER AND BEARING; AND USED W/5315-00-834-0118 PIN AND 5120-00-678-2796 REPLACER COMPENSATING IDLER ARM SPINDLE INNER AND OUTER BEARING	5120-00-771-7018	10875326
76	O	ADAPTER, TORQUE WRENCH: USED TO TORQUE POWER TRAIN UNIVERSAL JOINT SCREWS	5120-00-977-7421	10917666
77	H	TOOL, GAGE, DIFFERENTIAL BACKLASH: USED AS ALINING TOOL IN CONJUNCTION WITH DIAL INDICATOR	5120-00-074-1164	10942815

TOOLS AND TEST EQUIPMENT REQUIREMENTS (cont)

REFERENCE CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL PART NUMBER
78	H	DRIVER PLUG, BEARING AND BUSHING: USED TO REMOVE AND REPLACE RIGHT ANGLE DRIVE PINION INNER AND OUTER BEARINGS	5120-00-649-8126	10865981
79	H	REMOVER AND REPLACER: USED W/5120-00-678-798 REMOVER AND REPLACER TO REMOVE RIGHT ANGLE PINION GEAR FROM HOUSING	5120-00-649-8140	10865984
80	H	REMOVER AND REPLACER, SLEEVE, SNAP RING: USED TO REPLACE RIGHT ANGLE DRIVE HUB BEARING	5120-00-678-2789	10865770
81	O	REMOVE RIGHT ANGLE DRIVE PINION GEAR: USED W/5120-00-649-8140 SLEEVE TO REMOVE RIGHT DRIVE CARRIER AND OUTER BEARING, AND TO REPLACE RIGHT ANGLE DRIVE PINION BEARING CAP OIL SEAL OR DIFFERENTIAL SHAFT BEARING CAP OIL SEAL; REMOVE AND REPLACE IDLER AND ROAD WHEEL ARM HOUSING BEARINGS AND OIL SEAL		
82	O	WRENCH, PLUG: USED TO REMOVE AND REPLACE TORSION BAR PLUG	5120-00-053-3625	10932504
83	O	ADAPTER, MECHANICAL PULLER: USED W/5120-00-557-3615	5120-00-322-5953	7083703
84	O	PULLER TO REMOVE TORSION BAR PULLER, SLIDE HAMMER TYPE: USED W/5120-00-322-5953 ADAPTER TO REMOVE TORSION BAR; AND W/5120-00-933-8458 TO REMOVE TRACK PIN	5120-00-557-3615	5573615
85	O	ADAPTER, PULLER, TO PULL TRACK PIN: USED WITH PULLER 5120-00-557-3615	5120-00-933-8458	11592843
86	O	REPLACER, OIL SEAL: USED TO INSTALL IDLER AND ROAD WHEEL HUB OIL SEALS	5365-00-004-0763	10863001
87	O	REPLACER, WHEEL HUB: USED TO INSTALL ROAD WHEEL HUB INNER AND OUTER BEARING CUPS	5120-01-102-4627	12269371
88	O	GAGE, SPROCKET WEAR: USED TO CHECK DRIVE SPROCKET WEAR, AND TRACK BUSHING WEAR	5120-01-041-9920	12253280
89	O	FIXTURE, TRACK CONNECTION: USED TO DISCONNECT AND CONNECT TRACKS AND TO INSTALL TRACK SHROUD (2 REQUIRED PER OPERATION)	5120-01-041-4624	12253183
90	O	DRIFT PIN: USED TO DISCONNECT TRACKS AND CHECK TRACK	5120-01-006 8847	11678718

REFERENCE CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL PART NUMBER
91	O	LIFTER, ROAD WHEEL: USED TO LIFT ROAD WHEELS	5120-01-062-5607	11268612
92	F	REMOVER AND REPLACER: USED TO REMOVE AND REPLACE PIVOT STEER PISTON DRAG UNIT	5120-00-966-5951	10932469
93	F	SOCKET, SOCKET WRENCH: REMOVE AND REPLACE MASTER CYLINDER RESILIENT VALVE	5120-00-557-8171	11633523
94	O	REMOVER, SHOCK ABSORBER: USED TO REMOVE SHOCK ABSORBER	5120-01-102-4628	12269380
95	H	TOOL SET: USED TO REMOVE AND REPLACE OVERSIZE ROSAN INSERTS	5180-00-966-5961	10932474
96	H	HOLDER KIT, OVERSIZE ROSAN INSERT	5180-00-966-5958	10932383
97	H	REMOVER, FUEL VALVE SCREEN: USED TO REMOVE HEATER FUEL VALVE SCREEN	5120-00-735-5871	7355871
98	H	SCRAPER, CARBON: USED TO REMOVE CARBON FROM HEATER COMBUSTION CHAMBER	5120-00-735-5872	7355872
99	O	REPLACER, IDLER HUB BEARING: USED TO INSTALL IDLER HUB BEARING	5120-01-102-4627	12269371
100	O	SCALE, SPRING DIAL INDICATOR: USED TO ADJUST DIFFERENTIAL STEERING BRAKES	6670-00-259-4634	AAA-S-133

Section IV. REMARKS

REFERENCE CODE	REMARKS
A.	<ol style="list-style-type: none"> 1. THE POWER PLANT IS REMOVED AND INSTALLED FOR AUTHORIZED MAINTENANCE THAT CANNOT BE DONE ON ITEMS IN THE POWER PLANT COMPARTMENT WITH THE POWER PLANT IN PLACE. 2. THE POWER PLANT IS NOT AN AUTHORIZED REPLACEMENT PART.
B.	COMPLETE REPAIR IS AUTHORIZED AT GENERAL SUPPORT MAINTENANCE. SEE TM 9-2350-261-24P FOR PARTS REPLACED AT UNIT MAINTENANCE. SEE TM 9-2815-205-34P FOR PARTS REPLACED AT DIRECT SUPPORT MAINTENANCE.
C.	REPAIR IS LIMITED TO PARTS LISTED IN TM 9-2350-261-24P.
D.	REPAIR IS LIMITED TO PARTS AUTHORIZED IN TM 9-2350-261-24P.
E.	COMPLETE REPAIR IS AUTHORIZED AT DIRECT SUPPORT MAINTENANCE. SEE TM 9-2350-261-24P FOR PARTS REPLACED AT UNIT MAINTENANCE.
F.	REPAIR IS LIMITED TO PARTS LISTED IN TM 9-2920-225-34P.
G.	COMPLETE REPAIR IS AUTHORIZED AT GENERAL SUPPORT MAINTENANCE. SEE TM 9-2350-261-24P FOR PARTS REPLACED BY UNIT MAINTENANCE. SEE TM 9-2520-254-34P FOR PARTS REPLACED BY DIRECT SUPPORT MAINTENANCE.
H.	COMPLETE REPAIR IS AUTHORIZED AT GENERAL SUPPORT MAINTENANCE. SEE TM 9-2350-261-24P FOR PARTS REPLACED BY UNIT MAINTENANCE. SEE TM 9-2520-238-34P FOR PARTS REPLACED BY DIRECT SUPPORT MAINTENANCE.
I.	<ol style="list-style-type: none"> 1. TRACK SHOE REMOVAL MAY BE REQUIRED TO ADJUST THE TRACK PROPERLY. 2. THE TRACK ASSEMBLY IS NOT AUTHORIZED AS A REPAIR PART.
J.	SEE TM 9-2350-261-10 AND TB 750-651 FOR CREW SERVICE.
K.	THE ASSEMBLY IS NOT AUTHORIZED AS A REPAIR PART.
L.	EARLY MODEL CARRIER SHROUDS REQUIRE SPECIAL TOOL USE.
M.	SEE TM 3-1040-279-12 & P FOR CREW SERVICES, UNIT REPAIR, AND MAINTENANCE ALLOCATION CHART (MAC).
N.	SEE TM 3-1040-279-12 & P FOR REPAIR PARTS.
O.	SEE TM 9-6140-200-14 FOR CREW AND UNIT SERVICES.
P.	PART OF POWER ENTRY BOX (A4).
Q.	SEE TM 9-2540-205-24 & P FOR UNIT REPAIR, DIRECT SUPPORT REPAIR AND MAINTENANCE ALLOCATION CHART (MAC).

APPENDIX C

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

SCOPE

This appendix lists expendable supplies and materials you will need to maintain the M113A2, M577A2, M125A2, M106A2, M901A1, M1059, M1064, and M1068 carriers. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

The expendable supplies and materials you will need to maintain mortar mounts and turntables used on the M106A2 and M125A2 carriers are listed in TM 9-1015-232-23&P. The expendable supplies and materials for the M29A1, 81-mm mortar and M30, 4.2-inch (107-mm) mortar are listed in TM 9-1015-200-20&P and TM 9-1015-215-20&P respectively. The expendable supplies and materials you will need to maintain the 4.7-inch (120-mm) M285 mortar, mortar mounts, and turntable used on the M1064 carrier are listed in TM 9-1015-250-23.

EXPLANATION OF COLUMNS

- a. *Column 1 Item Number.* This number is assigned to the entry in the listing and is referenced in the Initial Setup section of the task under Materials/Parts to identify the material (e.g., Automotive grease (Item 5, App C)).
- b. *Column 2 Level.* This column identifies the lowest level of maintenance that requires the listed item.

O - Unit Maintenance
- c. *Column 3 National Stock Number.* This is the National Stock Number (NSN) assigned to the item; use it to request or requisition the item.
- d. *Column 4 Description.* Indicates the federal item name and, if required, a description to identify the item. The last line for each item indicates the Commercial And Government Entity codes (CAGE) in parentheses followed by the part number.
- e. *Column 5 Unit of Measure (U/M).* Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION CAGEC & PART NUMBER	(5) U/M
0.1	O	8040-00-664-4318	ADHESIVE (18876) 9995460	CA
0.2	O	8040-01-068-2423	ADHESIVE (94960) 2141PT	PT
1	O	9150-00-985-7244	AIRCRAFT GREASE (81349) MILG23827	OZ
2	O	4720-01-074-4978	AIR DUCT HOSE (19207) 87247833	FT
3	O	6850-00-181-7940	ANTIFREEZE (81349) MILA46153	GL
4	O	8030-00-251-3980	ANTISEIZE COMPOUND (81349) MIL-A-907	LB
5	O	9150-01-197-7692	AUTOMOTIVE GREASE (81349) MIL-G-10924	LB
6	O	8030-00-290-5141	BITUMINOUS COMPOUND (81349) MIL-C-450	GL
7	O	8020-00-297-6657	BRUSH, PAINT, SASH & TRIM (81348) H-B-491	EA
8	O	8030-00-577-4740	CALKING COMPOUND (81349) TT-C-1796	GL
9	O	7920-00-044-9281	CLEANING CLOTH (51200) MIRACLEWIPEL001	LB
10	O	6850-00-227-1887	CLEANING COMPOUND (81349) MILC43454	QT
11	O	8030-00-244-1299	CORROSION PREVENTATIVE COMPOUND (81349) MILC16173	GL
12	O	8020-00-720-9739	CORROSION RESISTANT COMPOUND (81349) MIL-C-81706	OZ
13	O	6850-00-285-8011	DRY CLEANING SOLVENT (81348) P-D-680	GL
14	O	9150-01-152-4119	ENGINE LUBRICATING OIL (81349) MILL2104GRADE15W40	GL
15	O	8010-00-959-4661	EPOXY COATING KIT (81349) MIL-C-22750	EA
16	O	9150-00-231-9062	GENERAL LUBRICATING OIL (81348) VVL800	GL
17	O	7930-00-531-9715	GENERAL PURPOSE DETERGENT (81349) MIL-D-16791	GL
18	O	9150-01-197-7690	GREASE, AUTOMOTIVE 1.75 LB (81349) MIL-G-10924	CN
	O	9150-01-197-7689	GREASE, AUTOMOTIVE 6.5 LB (81349) MIL-G-10924	CN
	O	9150-01-190-0906	GREASE, AUTOMOTIVE 25 LB (81349) MIL-G-10924	CN
19	O	9150-01-131-3324	HYDRAULIC FLUID (FRH) (81349) MIL-H-46170	QT
19	O	9150-00-935-9807	HYDRAULIC FLUID (OHT) (81349) MIL-H-6083	QT
20	O	5970-01-159-8000	INSULATING COMPOUND (83574) PR1568AEROSOL	OZ
21	O	5970-00-063-1495	INSULATION SLEEVING (81349) M23053/1-103-0	FT
22	O	5970-00-063-1499	INSULATION SLEEVING (81349) M23053/1-102-0	FT
23	O	5970-00-063-1496	INSULATION SLEEVING (81349) M23053/1-105-0	FT
24	O	5970-00-954-1624	INSULATION SLEEVING (81349) M23053/5-107-0	FT
25	O	5970-01-044-4531	INSULATION SLEEVING (81349) M23053/1-104-0	FT
26	O	5970-00-816-6056	INSULATION TAPE (81348) HH-I-595-B-108-0	FT
27	O	6640-00-285-4694	LENS PAPER (81348) NNN-P-40	EA
28	O	9150-00-292-9689	LUBRICATING OIL, WEAPONS (81349) MIL-L-14107	QT
29	O	6810-00-286-3785	METHYL ISOBUTYL KETONE (81349) D1153	GL
30	O	9150-00-754-2595	MOLYBDENUM D GREASE (81349) MIL-G-21164	LB
31	O	9505-00-293-4208	NONELECTRICAL WIRE (96906) MS20995C32	LB
32	O	4720-00-177-0671	NONMETALLIC HOSE (19207) 11662995	EA
33	O	4720-01-114-7686	NONMETALLIC HOSE (19207) 11662995-2	EA
34	O	4720-01-106-6616	NONMETALLIC HOSE (19207) 11662995-3	EA
35	O	4720-00-177-0672	NONMETALLIC HOSE (19207) 11662996	EA
36	O	5330-00-807-2874	NONMETALLIC SPECIAL SEAL (19207) 10861633	EA
37	O	4720-01-063-1848	NONMETALLIC TUBING (19207) 11678025	FT
38	O	8125-01-082-9697	OIL SAMPLE BOTTLES (81996) PD8125-1	EA
39	O	5350-01-127-6855	PAPER, ABRASIVE (58536) A-A-1201	EA
40	O	8105-00-837-7754	PLASTIC BAG (58536) A-A-1779	EA
41	O	9330-00-614-9056	PLASTIC SHEET (19207) 10943241	EA
42	O	4720-00-491-0102	HOSE NONMETALLIC (96906) MS521301A203R	FT
43	O	8030-00-900-2373	SEALING COMPOUND PRIMER (05972) 764-55-MIL-S-22473	GL
44	O	9390-01-142-6414	RUBBER SPECIAL SEAL (19207) 10932464	EA
45	O	8030-00-656-1426	SEALING COMPOUND (62377) MIL-S-45180TY3	PT
46	O	8030-01-166-0675	SEALING COMPOUND (05972) 567-47	TU

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (cont)

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION CAGEC & PART NUMBER	(5) U/M
47	O	8030-00-159-8177	SEALING COMPOUND (81349) MIL-S-12158	KT
48	O	8030-00-081-2326	SEALING COMPOUND (05972) 078-21	CC
49	O	8030-00-753-5004	SEALING COMPOUND (83574) PR-1440B-1/2	OZ
50	O	8030-00-252-3391	SEALING COMPOUND (81349) MIL-S-45180TY2	OZ
51	O	8030-00-204-9149	SEALING COMPOUND (05972) 592-41	TU
52	O	8030-00-275-8110	SEALING COMPOUND, ADHESIVE CURING (81349) MIL-S-11031	KT
52.1	O	8030-00-081-2339	SEALING COMPOUND (05972) 088-21-MIL-S-22473	BX
53	O	8105-00-290-0340	SHIPPING SACK (58536) A-A-160	BX
54	O	6850-00-880-7616	SILICONE COMPOUND (81349) MILS8660	OZ
55	O	6810-00-264-6618	SODIUM BICARBONATE (81348) 0-S-576	LB
56	O	9320-00-272-2990	RUBBER ADHESIVE TAPE (81349) MIL-T-6841	FT
57	O	3439-00-453-5472	TIN ALLOY SOLDER (81348) SN60WRMAP2 0.036 1LB	LB
57.1	O		TWINE, FIBROUS (75678) 22340-9	SP
58	O	4010-00-724-8287	WELDED CHAIN (19207) 10932700P	FT
59	O	4010-00-585-2108	CHAIN END RING BEAD (16003) C43974	EA
59.1	O	5610-00-141-7838	WALKWAY COMPOUND - NON SKID (80244) MIL-W-5044TY2	GL
60	O	4010-01-029-8248	WELDLESS CHAIN (80205) NAS1455B1-600	EA
61	O	7920-00-205-1711	WIPING RAG (58536) A-A-2522	LB

**APPENDIX D
COMMON TOOLS AND SUPPLEMENTS AND SPECIAL
TOOLS/FIXTURES LIST**

Section I. INTRODUCTION

SCOPE

This appendix lists all common tools and supplements and special tools/fixtures needed to maintain the M113A2, M577A2, M125A2, M106A2, M741A1 M901A1, M1059, M1064, and M1068 carriers.

Common and special tools for mortar mounts and turntables used in the M106A2 and M125A2 vehicles are listed in TM 9-1015-232-23&P. Common and special tools for the M29A1 81-mm mortar and M30 4.2-inch (107-mm) mortar are listed in TM 9-1015-200-20&P and TM 9-1015-215-20&P respectively.

Common and special tools for the 120-mm (4.7-inch) M285 mortar, mortar mounts, and turntables are listed in TM 9-1015-250-23.

EXPLANATION OF COLUMNS

- a. *Column 1 - Item Number.* This number is assigned to the entry in the listing and is referenced in the Initial Setup in the task under Tools to identify the item (e.g., "Torque Wrench (Item 98, App D)").
- b. *Column 2 Name.* This column lists the item by noun nomenclature and other descriptive features (e.g., "Bracket, angle, lifting").
- c. *Column 3 National Stock Number.* This is the National Stock Number (NSN) assigned to the item; use it to requisition the item.
- d. *Column 4 Part Number.* This column indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.
- e. *Column 5 Reference.* This column identifies the authorizing Supply Catalog (SC) or Repair Parts and Special Tools List (RPSTL) for items listed in this appendix.

Section II. COMMON TOOLS AND SUPPLEMENTS AND SPECIAL TOOLS/FIXTURES LIST

(1) ITEM NO.	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) REFERENCE
1	Adapter	5120-0-933-8458	11592843	TM 9-2350-261-24P
2	Deleted			
3	Adapter, SPDL, sander	5130-00-293-2330	CP-50	SC4910-95-CL-A74
4	Adapter, socket, torque	5120-00-227-8088	A-A-2172	SC4910-95-CL-A72
5	Adapter, socket, torque, 1/2 to 3/8 inch drive	5120-00-240-8703	A-A-2172	SC4931-95-CL-A22
6	Adapter, socket wrench, 3/4 x 1/2 inch	5120-00-144-5207	11655788-3	SC4931-95-CL-A22
7	Adapter, torque wrench, 7C u-joint	5120-00-213-6976	11663358-1	TM 9-2350-261-24P
8	Adapter, torque wrench, 6C u-joint	5120-00-215-8200	11663358-2	TM 9-2350-261-24P
9	Adapter, torque wrench, 1/2 inch drive 9/16 inch	5120-00-977-7421	10917666	TM 9-2350-261-24P
10	Adapter, torsion bar	5120-01-017-5328	12251805	TM 9-2350-261-24P
11	Adjusting tool, steer centering	2530-01-249-6439	J35223	TM 9-2350-261-24P
12	Bar, lifting, final drive	5120-00-918-0586	11589384	TM 9-2350-261-24P
13	Battery terminal cleaner	5120-00-926-5175	BT1	SC4910-95-CL-A74
14	Blade, hand hacksaw	5110-00-277-4588	31-51024	SC4910-95-CL-A74
15	Bracket, angle, lifting	5340-01-264-5991	12354718	TM 9-2350-261-24P
16	Calking gun	5120-00-679-5655	101	TM 9-2350-261-24P
17	Can, radiator filling	7240-00-499-8028	MII-C43522	TM 9-2350-261-24P
18	Cleaning tool, radiator	4910-00-611-6559	11678393	TM 9-2350-261-24P
19	Crimping tool, terminal	5120-00-432-7836	MY28	TM 9-2350-261-24P
20	Crimping tool	5120-00-596-9313	M22520/5-100	SC 5180-95-CL-A52
21	Crow foot attachment	5120-00-184-8397	FC18A	TM 9-2350-261-24P
22	Drill, portable electric 1/4 inch	5130-00-889-8994	W-D-661	SC4910-95-CL-A72
23	Drill, portable electric 1/2 inch	5130-00-293-1849	W-D-661	SC4910-95-CL-A74
24	Drill set	5133-00-293-0983	DB129B	SC4910-95-CL-A74
25	Fitting kit, tube-pipe	4730-00-470-6625	51025	SC4910-95-CL-A74
26	Fixture, track connecting	5120-01-041-4624	12253183	TM 9-2350-261-24P
27	Frame, hacksaw	5110-00-289-9657	163-20	SC4910-95-CL-A74
28	Gage, oil pressure	6695-01-242-6795	11650182	TM 9-2350-261-24P
29	Gage, track and sprocket	5120-01-041-9920	12253280	TM 9-2350-261-24P
30	General mechanics tool kit	5185-00-177-7033	SC5180-90-CL-N26	SC5180-90-CL-N26
31	Gloves, welder's	8415-00-268-7859	A-A-50022	SC4910-95-CL-A72
32	Goggles, industrial	4240-00-052-3776	A-A-1110	SC4910-95-CL-A74
33	Gun, air blow	4940-00-333-5541	DGA520	SC4910-95-CL-A74
34	Gun, soldering	3439-00-618-6623	D550-3	SC4910-95-CL-A74
35	Heater, gun	4940-00-561-1002	500A	SC5180-95-CL-B19
36	Helmet, welder's	4240-00-540-0623	A-A-1994	SC4940-95-CL-A08
37	Hose assembly	4720-00-454-8608	11633323	TM 9-2350-261-24P
38	Jack, hydraulic, hand (12 ton capacity)	5120-00-224-7330		SC4910-95-CL-A74
39	Lifter, road wheel	5120-01-062-5607	12268612	TM 9-2350-261-24P
40	Lubricating gun, hand	4930-40-253-2478	1142	SC4910-95-CL-A74
41	Body and fender repair kit	5180-00-754-0643	SC5180-90-CL-N34	SC5180-90-CL-N34
42	Mirror, inspection	5120-00-596-1098	24	TM 9-2350-261-24P
43	Multimeter	6625-01-139-2512	T00377	SC4910-95-CL-A74
44	Pliers, electrical connector	5120-00-624-8065	AT508K	TM 9-2350-261-24P
45	Pliers set, retaining	5120-00-789-0492	4440R	SC4910-95-CL-A74
46	Puller, battery terminal	5120-00-944-4268	21	SC4910-95-CL-A74
47	Puller kit, universal	5180-01-148-2153	J24171	TM 9-2350-261-24P
48	Puller, mechanical	5120-00-557-3615	5573615	TM 9-2350-261-24P
49	Puller, mechanical	5120-00-595-9305	GGGP781	SC4910-95-CL-A74
50	Punch, drive pin	5120-01-006-8847	11678718	TM 9-2350-261-24P
51	Radiator testing kit	4910-00-728-8227	ST255A	TM 9-2350-261-24P
52	Removal tool, oil filter	5120-00-865-0933	2304	SC4910-95-CL-A74
53	Removal tool, shock	5120-01-102-4628	12269380	TM 9-2350-261-24P

(1) ITEM NO.	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) REFERENCE
54	Remover and replacer	4910-01-128-0092	12269522	TM 9-2350-261-24P
55	Remover and replacer	5120-00-740-3346	10943279	TM 9-2350-261-24P
56	Remover and replacer	5120-00-678-2789	10865770	TM 9-2350-261-24P
57	Replacer, grease cap	5120-00-678-2796	10863002	TM 9-2350-261-24P
58	Replacer, idler bearing	5120-01-102-4627	12269371	TM 9-2350-261-24P
59	Rivet, blind, hand	5120-00-017-2849	250K	TM 9-2350-261-24P
69.1	Rod Ground (comes in 3 sections)	5975-00-642-8937	6-1-1912-21-48A	TM 9-2350-261-24P
60	Sander, electrical disk	5130-00-596-9728	00-S-90	SC4910-95-CL-A73
61	Scale, weighing	6670-00-254-4634	AAA-S-133	TM 9-2350-261-24P
62	Screw, cap, socket head	5305-00-983-7456	MS16998-97	TM 9-2350-261-24P
63	Screwdriver set, cross-tip	5130-01-115-6873	SDDZ50	SC4910-95-CL-A74
64	Sling, endless	3940-00-675-5003	PD101-96	TM 9-2350-261-24P
65	Sling, engine and transmission	1450-01-240-2206	12350306	TM 9-2350-261-24P
66	Sling assembly	4910-00-646-6893	10942647	TM 9-2350-261-24P
67	Socket, universal	5120-00-237-0978	A-A-1401	SC4910-95-CL-A74
68	Solder torch kit	3439-00-542-0531	JT25	SC4910-95-CL-A74
69	Soldering gun	3439-00-618-6623	D650-3	SC4910-95-CL-A72
70	Spacer, ring	5365-00-004-0763	10863001	TM 9-2350-261-24P
71	Stand, test, radiator	4910-00-078-9190	MILS4534	TM 9-2350-261-24P
71.1	STE/ICE-R test set	4910-01-222-4589	12259266	TM 9-4910-571-12&P
72	Stripper, wire, hand	5110-00-268-4224	GA116	TM 9-2350-261-24P
73	Tape, measuring	5120-00-554-7085	GGG-T-106	TM 9-2350-261-24P
73.1	Tensiometer, v-belt	6635-00-921-6255	12998F	TM 9-2350-261-24P
74	Tester, antifreeze and battery	6630-00-105-1418	10425	SC4910-95-CL-A74
74.1	Test kit, alternator		12358697	TM 9-2350-261-24P
75	Tool kit, electrical	5180-00-876-9336	7550526	SC4910-95-CL-A74
75.1	Tool kit, electronic equipment	5180-00-064-5178	TK101/G	SC5180-91-CL-R13
76	Vise, machinist	5120-40-293-1439	504M2	SC4910-95-CL-A74
77	Welding machine, arc	3431-01-032-6289	7550000	TM 9-2350-261-24P
78	Welding shop, trailer mounted	3431-01-090-1231	11022000	SC3431-95-CL-A04
79	Wrench, adjustable	5120-00-423-6728	AC115	TM 9-2350-261-24P
80	Wrench, adjustable, 0 to 3-5/8 inch	5120-00-449-8083	WA615	SC4910-95-CL-A74
81	Wrench, adjustable, 1-5/16 x 12 inch	5120-00-264-3796	MPA339	SC4910-95-CL-A74
82	Insertor, screw	5120-01-159-6487	CR12W	TM 9-2350-261-24P
83	Wrench, open end 1 x 1 1/8 inch	5120-00-187-7133	S3236	SC4910-95-CL-A74
84	Wrench, open end, 1-15/16 x 1-1/2 inch	5120-00-277-2323	39A	TM 9-2350-261-24P
85	Wrench, open end box	5120-00-740-3347	10949344	TM 9-2350-261-24P
86	Wrench, pipe	5120-00-277-1461	MPA345	SC4910-95-CL-A74
87	Wrench set, open end, fixed	5120-00-148-7918	B107.6TY2	SC4910-95-CL-A74
88	Wrench set, socket, 1/4 inch drive	5120-00-081-2305	GGG-W-641	SC4910-95-CL-A74
89	Wrench set, socket, 3/8 inch drive	5120-00-322-6231	GGG-W-641	SC4910-95-CL-A74
90	Wrench set, socket, 3/4 inch drive	5120-00-204-1999	FED STD 353	SC4910-95-CL-A72
91	Wrench, socket, 3/4 inch drive, 15/16 inch	5120-00-181-6813	A-A-1394	SC4910-95-CL-A74
92	Wrench, socket attachment	5120-00-053-3625	10932504	TM 9-2350-261-24P
93	Wrench, torque, 3/8 drive, 0-150 lb-in	5120-00-230-6380	TE-12A	TM 9-2350-261-24P
94	Wrench, torque, 3/8 drive, 0-200 lb-in	5120-00-853-4538	F200-1	SC4910-95-CL-A72
95	Wrench, torque, 3/8 drive, 0-600 lb-in	5120-00-542-5681	B58	SC5180-95-CL-A12
96	Wrench, torque, 1/2 drive, 0-170 lb-ft	5120-00-640-6364	A-A-2411	SC4910-95-CL-A74
97	Wrench, torque, 1/2 drive, 0-150 lb-ft	5120-00-247-2540	F150	SC4910-95-CL-A74
98	Wrench, torque, 3/4 drive, 0-600 lb-ft	5120-00-221-7983	TE602A	SC4910-95-CL-A74
99	Wrench, torque, 1/4 drive, 0-75 lb-in	5120-01-112-9532	TQSC6A	SC4910-95-CL-A72

APPENDIX E

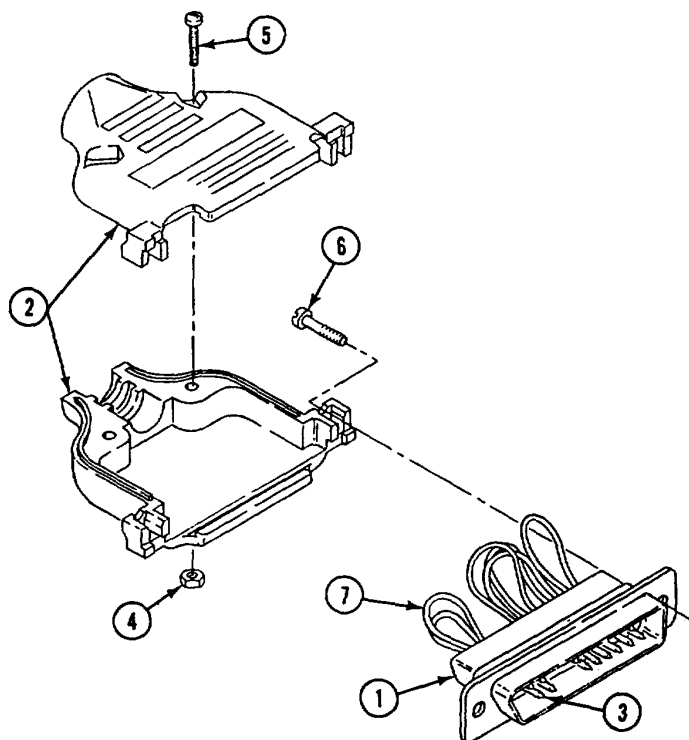
FABRICATED TOOLS'

SCOPE

This appendix includes instructions for making tools authorized to be fabricated at unit maintenance level. These tools are needed for special maintenance procedures, but are not available in the supply system. The tools are normally fabricated locally when required by the troubleshooting or maintenance task.

FABRICATION ILLUSTRATIONS

The following figures provide tool fabrication instructions. All parts and bulk materials needed for manufacturing the tool are listed on each figure. When needed, any special explanatory instructions are included in the notes on the figure.



PARTS REQUIRED:

<u>Item</u>	<u>Part Name</u>	<u>Part No.</u>	<u>NSN</u>	<u>Qty</u>
1	Connector	539409-5	5935-00-098-9135	1
2	Shell	TBD	TBD	1
3	Contact	330-5291-037	5999-00-350-8939	12
4	Nut	TBD	TBD	2
5	Screw	TBD	TBD	2
6	Screw	TBD	TBD	2
7	Wire	22 or 24 AWG	6145-01-042-4622	AR
8	Sealant	088-21-MIL-S-22473	8030-00-081-2339	AR

NOTES:

1. Install minimum length (1 to 1-1/2 inches each) jumper wires (7) between contacts (3), and insert contacts into connector (1) as follows:

2 - 3
6 - 21
11 - 24
15 - 16
19 - 23
20- 22

2. Leave contacts out of positions 1, 4, 5, 7, 8, 9, 10, 12, 13, 14, 17, 18, & 25.

CAUTION

The inverter under test may be damaged if plug connections are not exactly as specified or if wires are shorted to the shell/other wires. Make sure wires are not pinched by the connector shell.

3. Position two captive screws (6) in the ears of shell (2). Install shell over connector (1) and secure with two screws (5) and nuts (4).
4. Fill opening at the rear of shell (2) with sealant (8).

Figure 1. Inverter Test Solo Plug

ALPHABETICAL INDEX

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 Linkage:
 Lower, transmission, repair, 23-29
 Lower, transmission, replace, 23-25
 Transmission throttle valve and, adjust, 23-34
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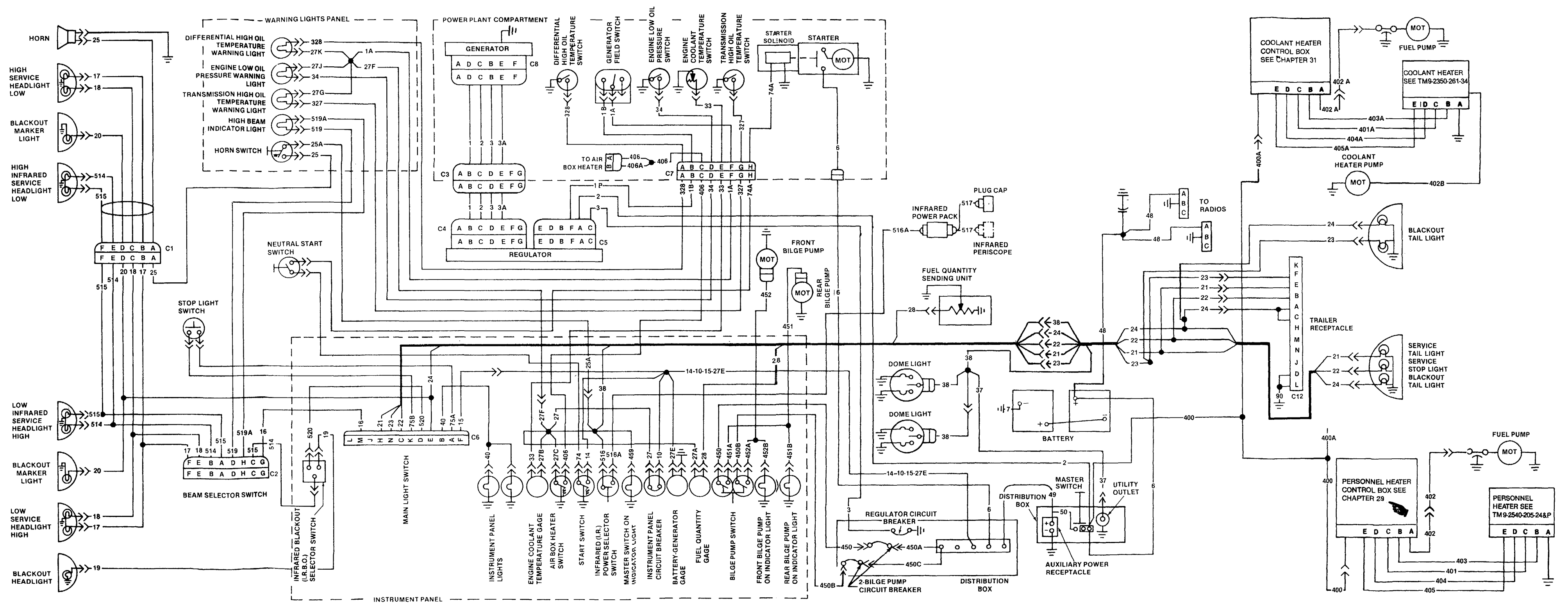
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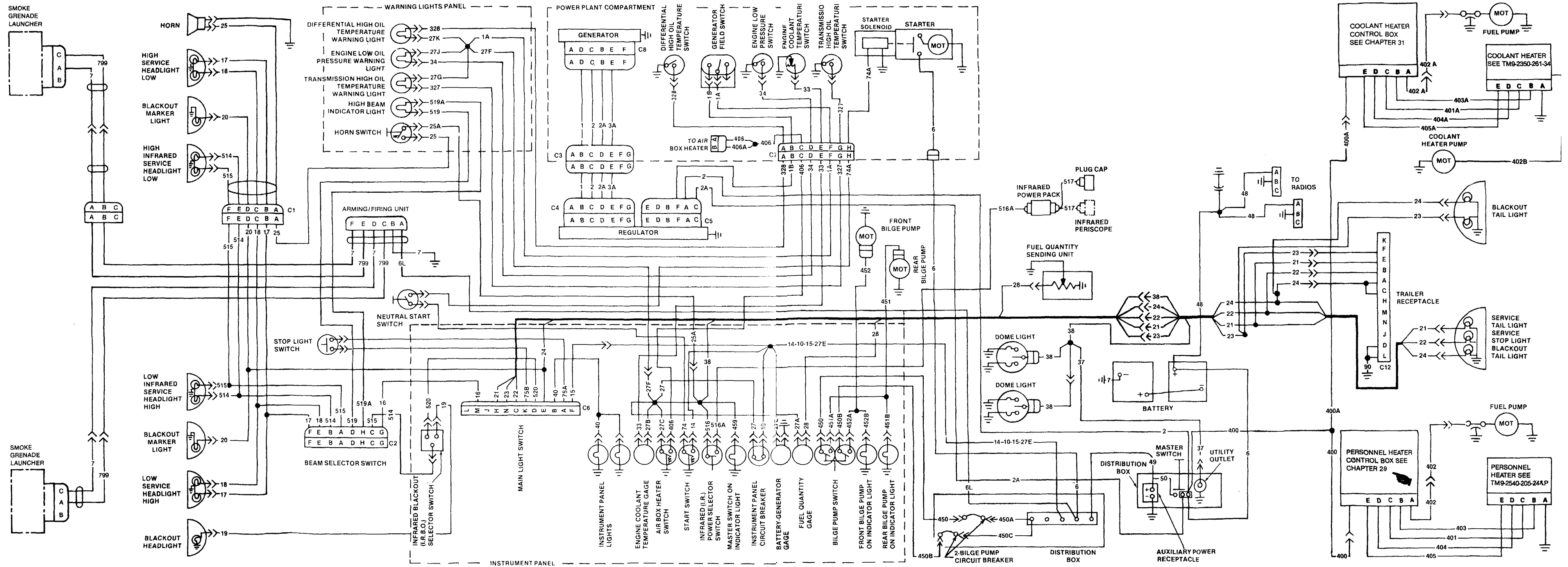
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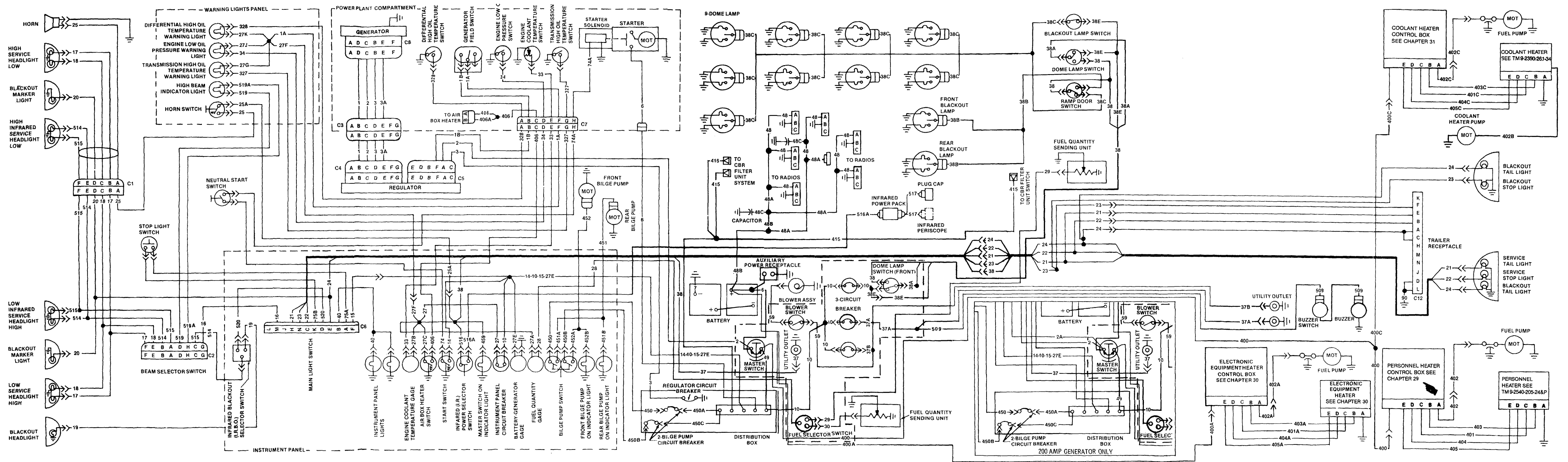
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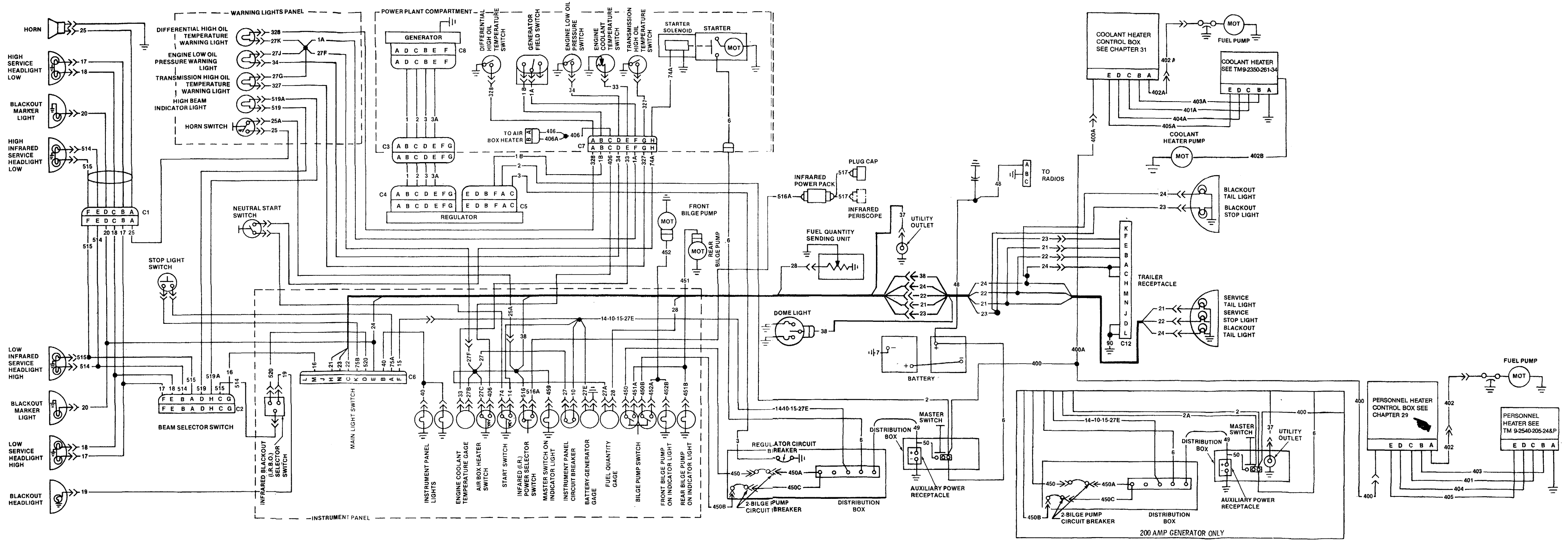
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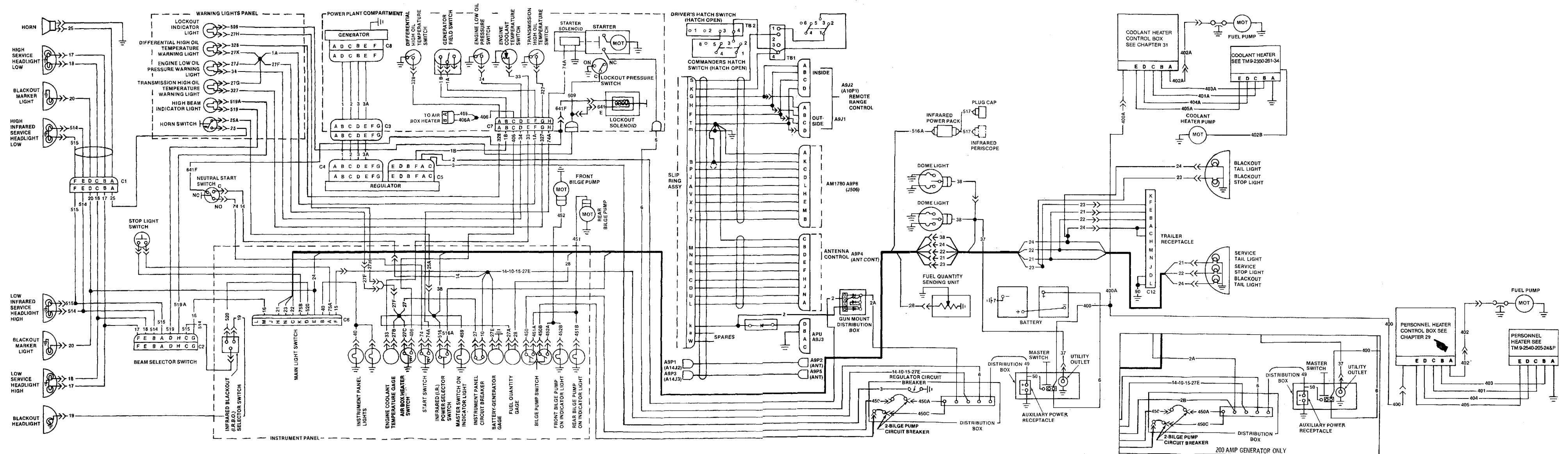
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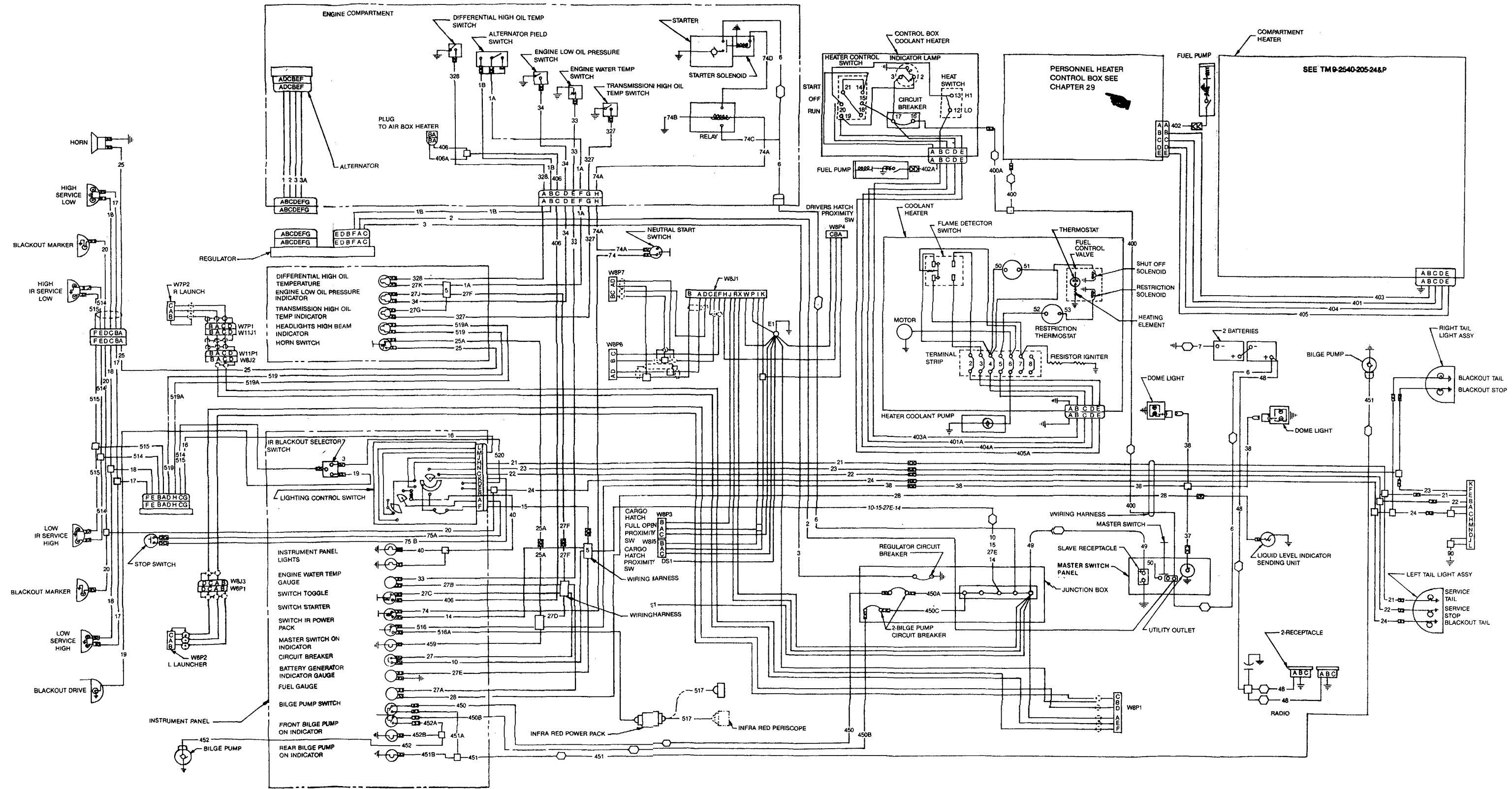
M577A2 ELECTRICAL WIRING DIAGRAM



M106A2/M125A2 ELECTRICAL WIRING DIAGRAM

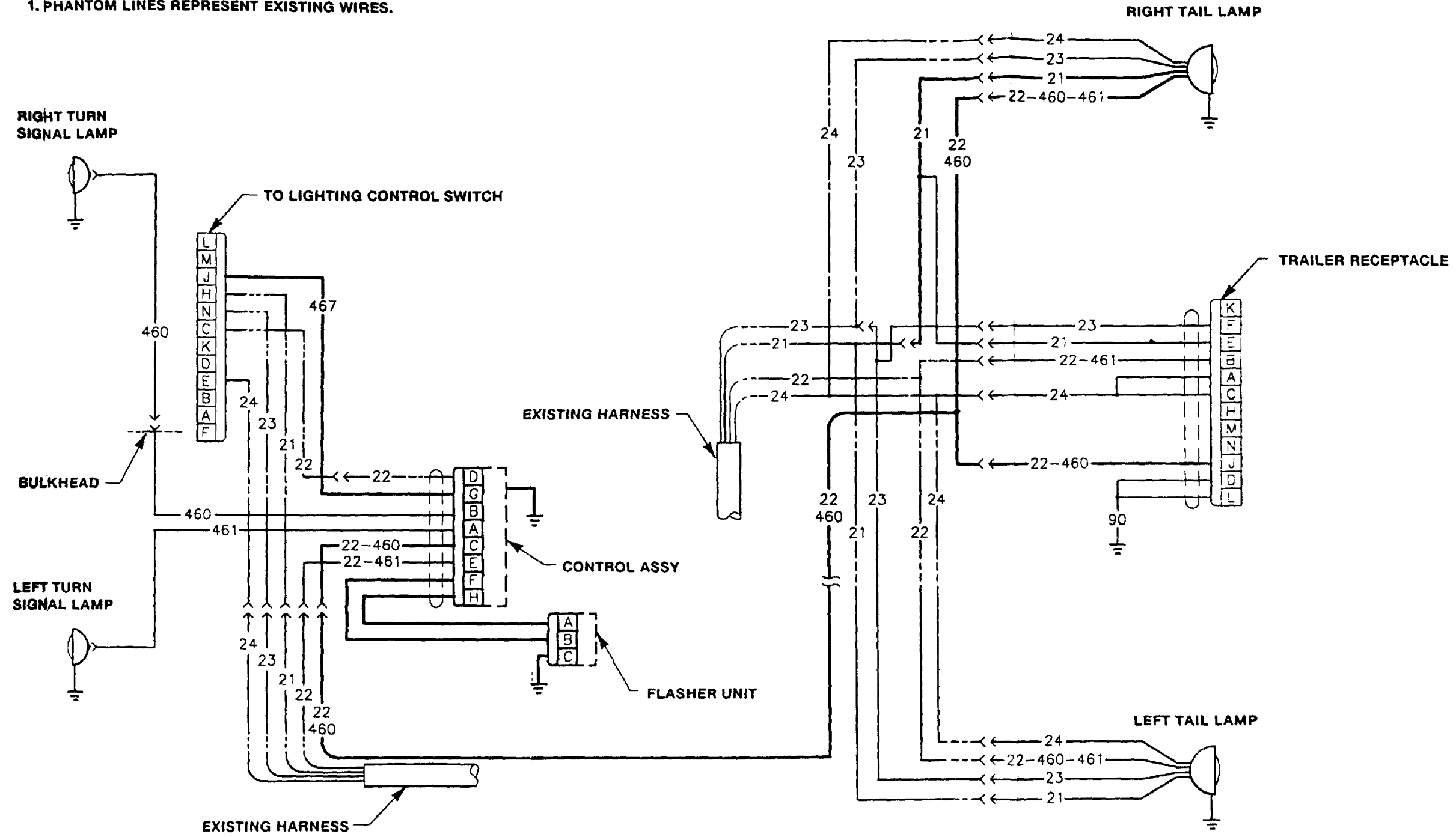


M741A1 ELECTRICAL WIRING DIAGRAM

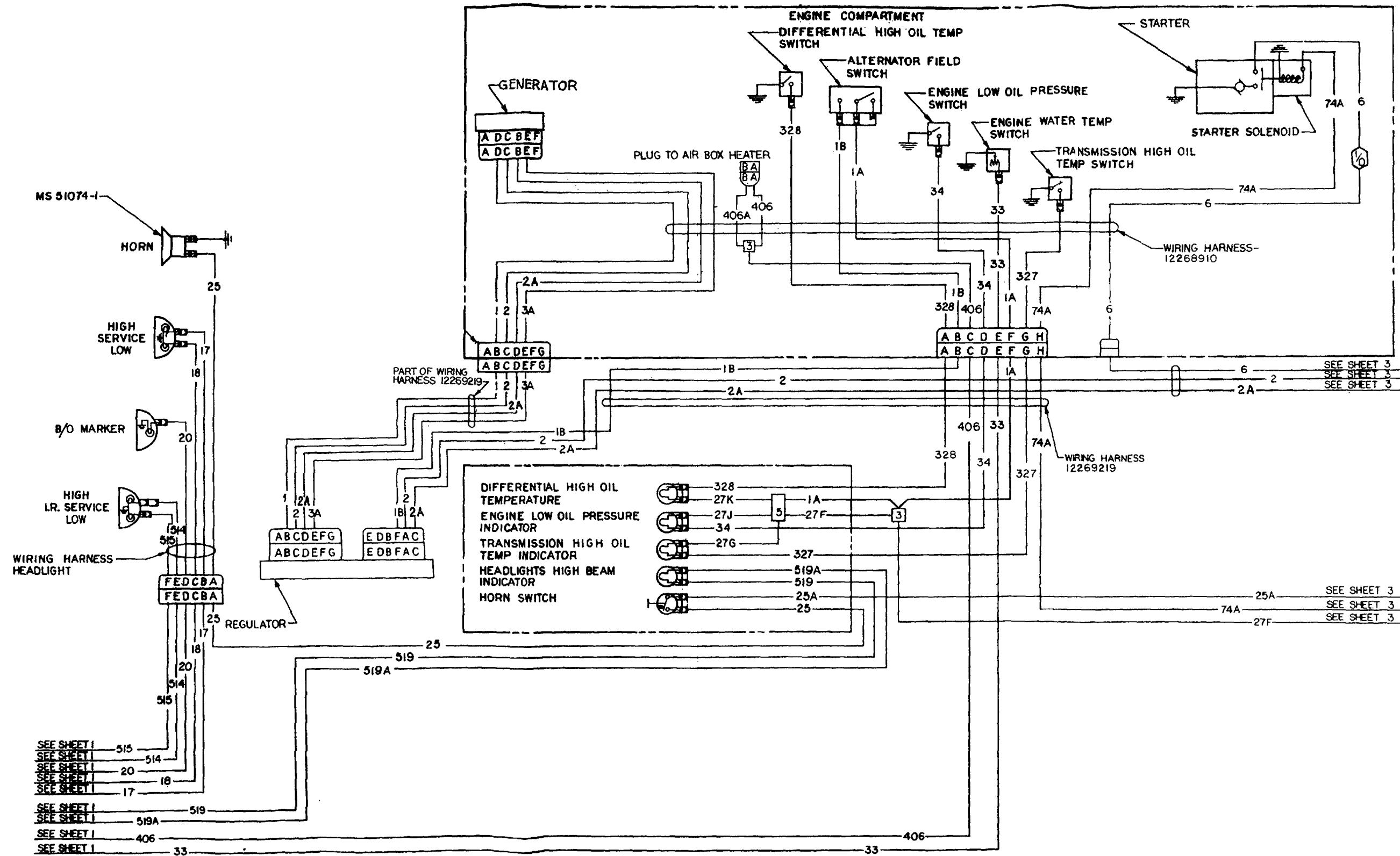


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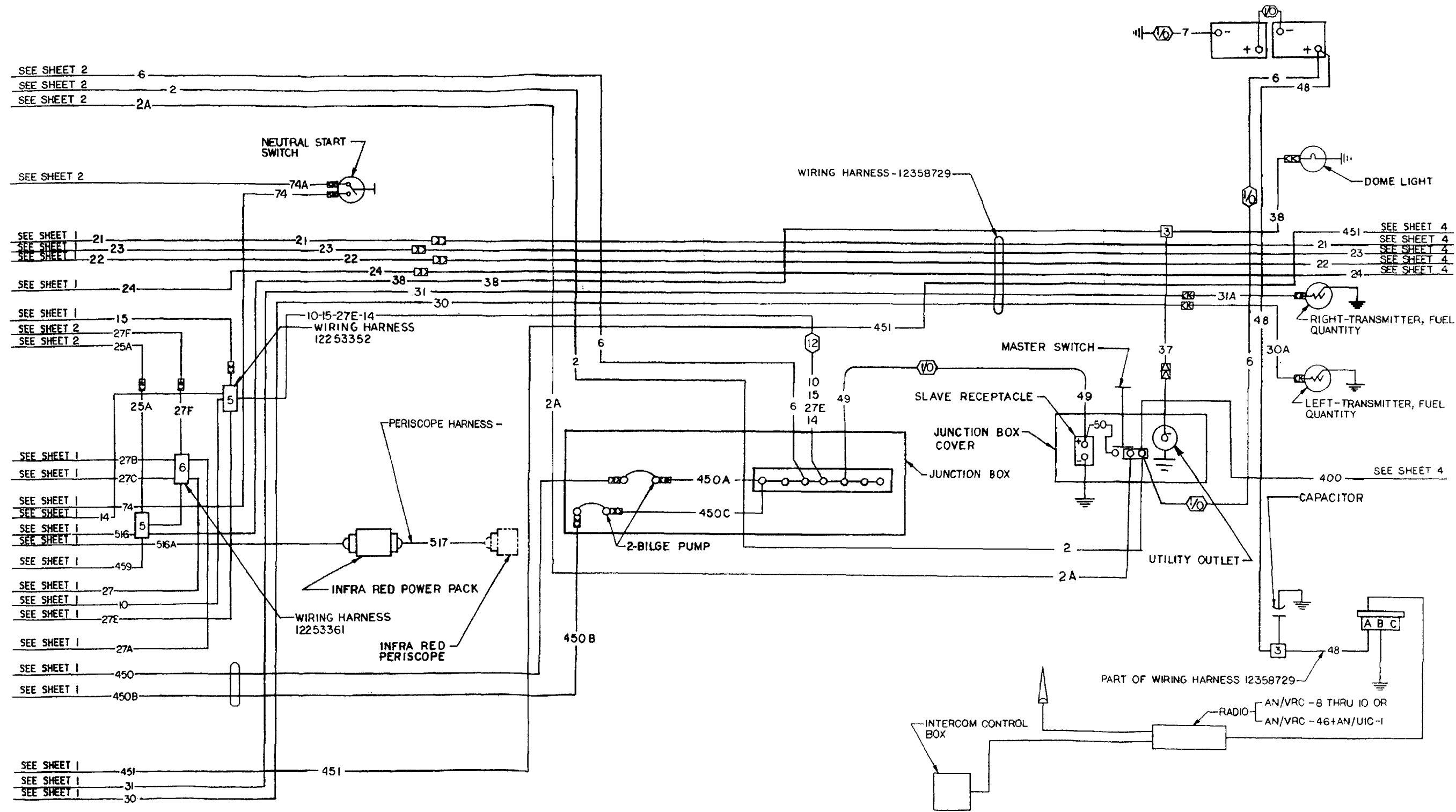
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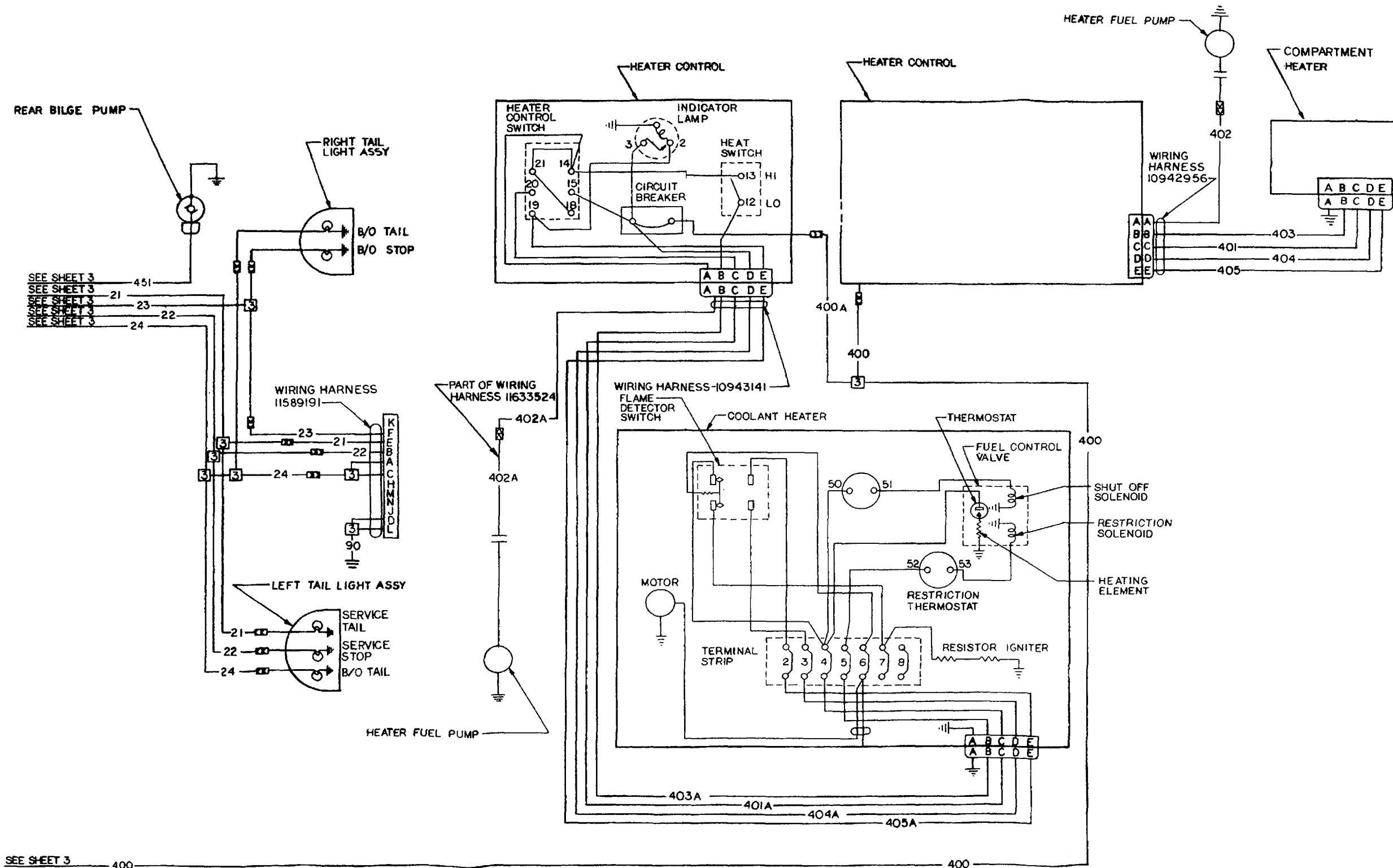


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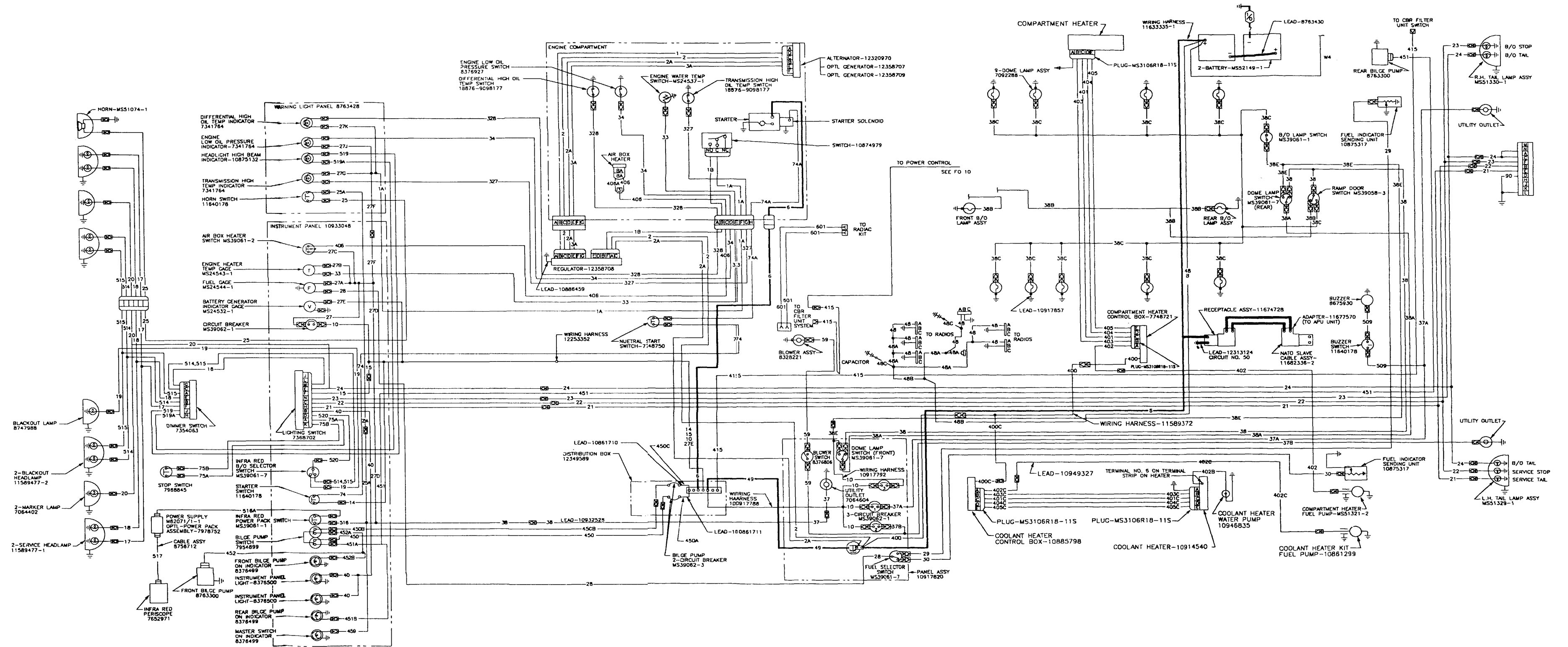
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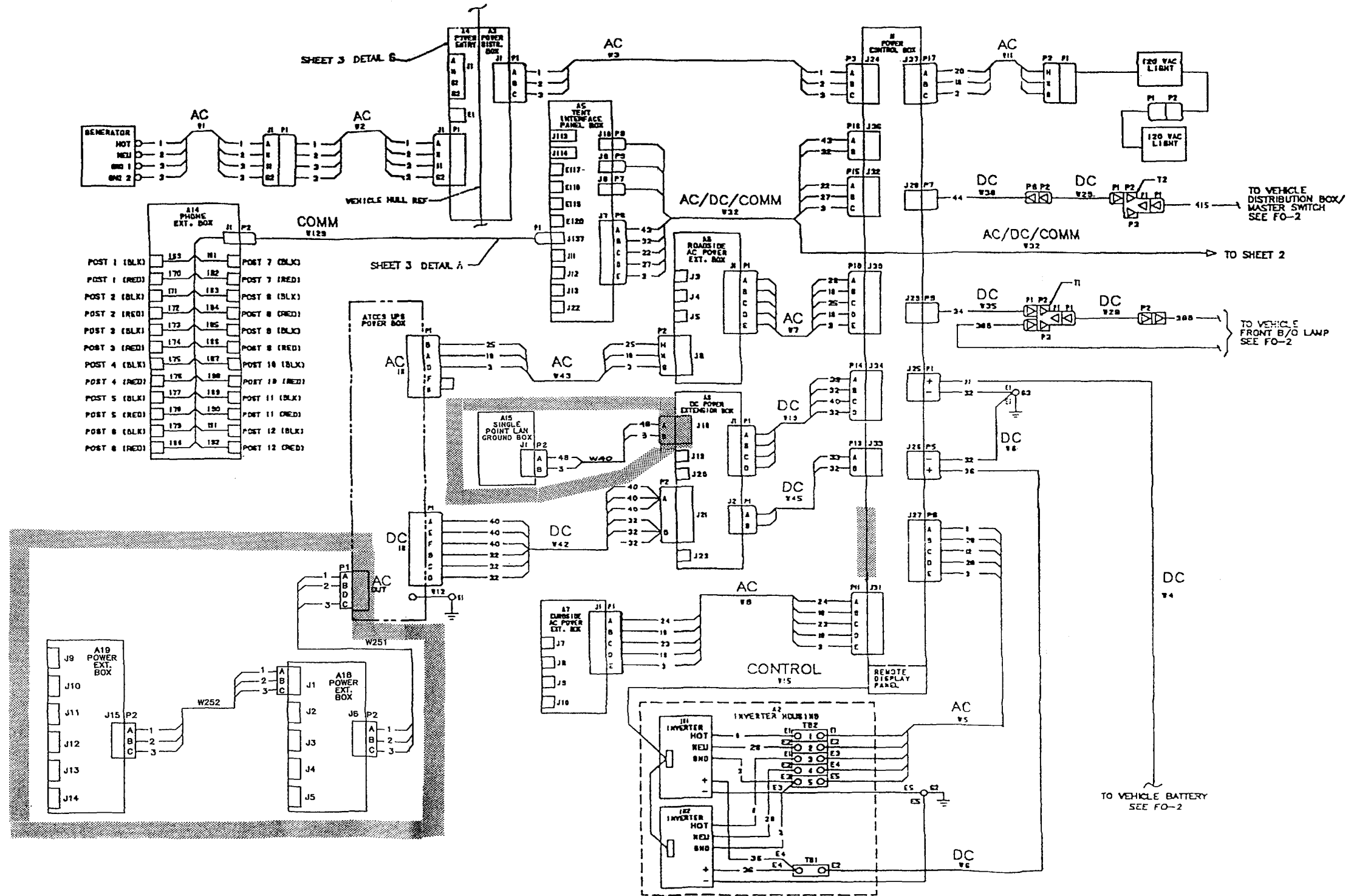
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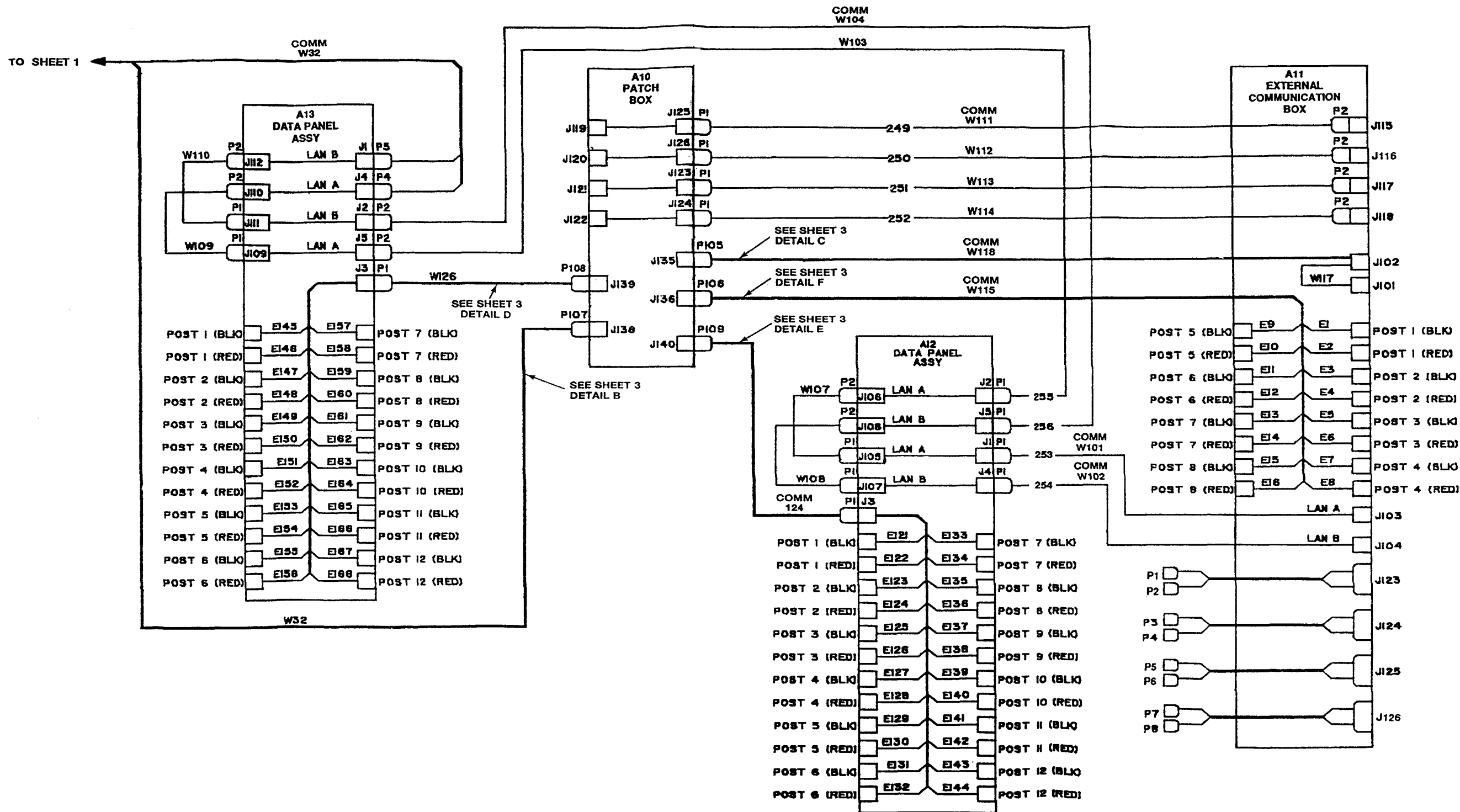
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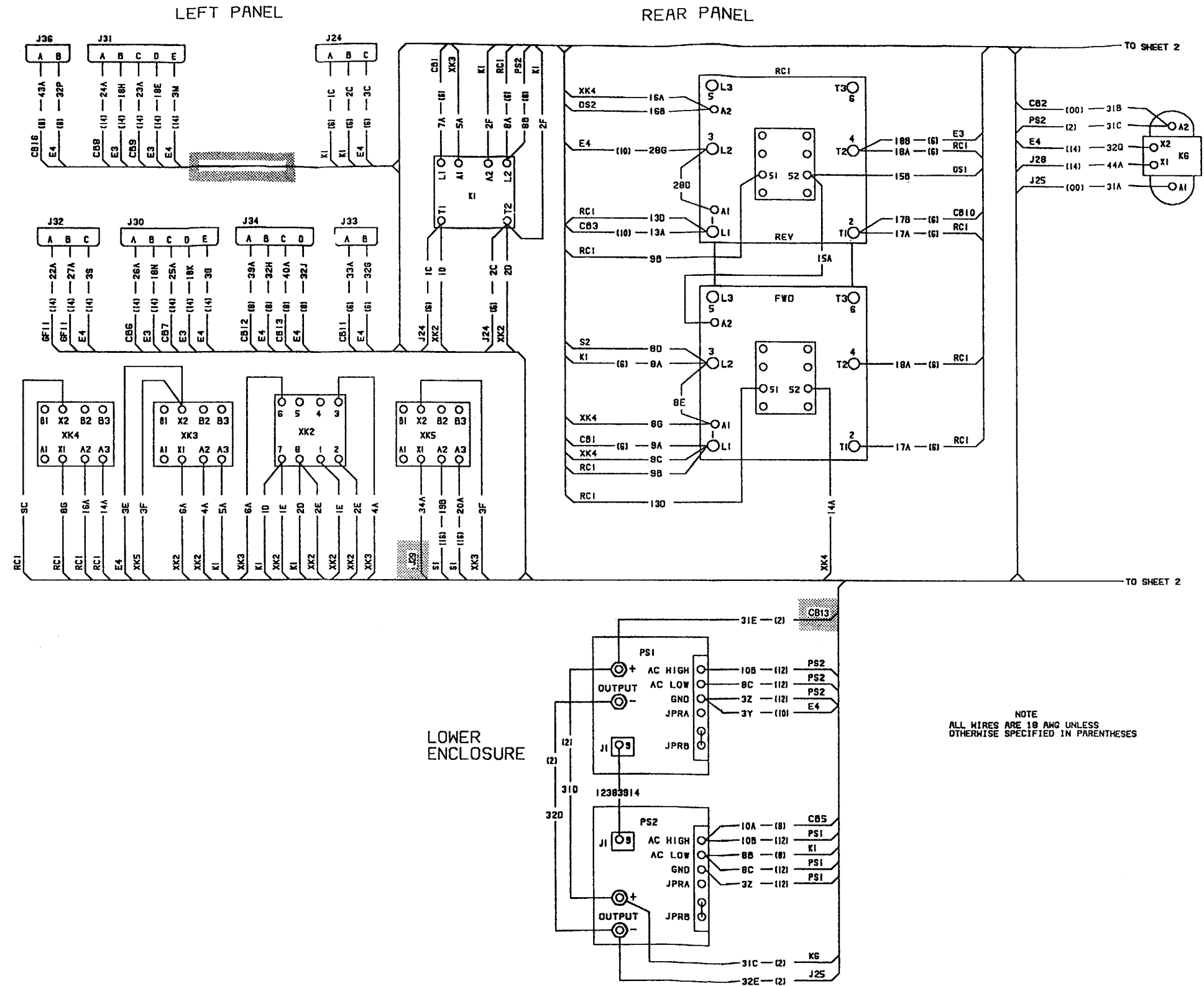
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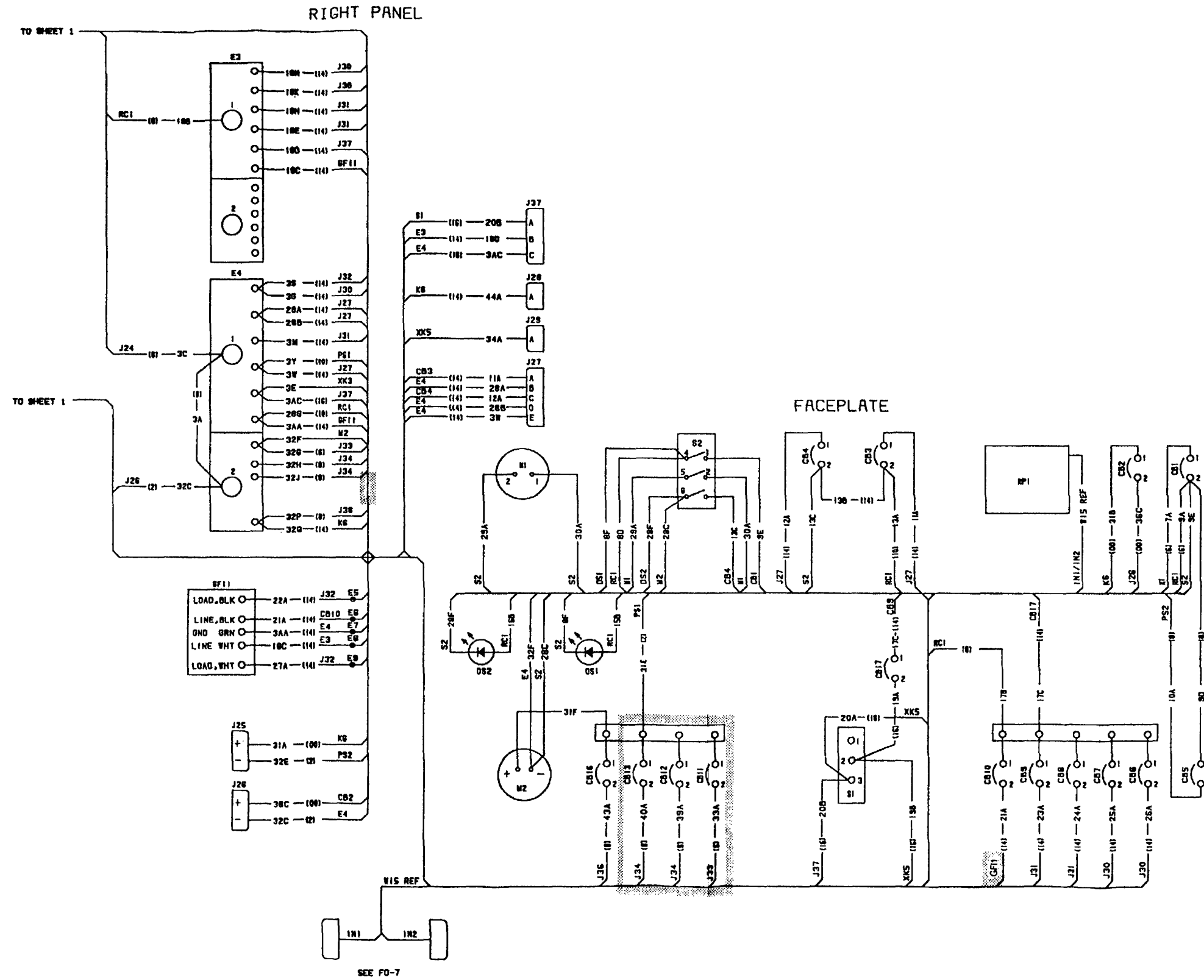


M1068 ELECTRICAL COMMUNICATION EQUIPMENT
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M1068 ELECTRICAL COMMUNICATION EQUIPMENT
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BE EXACT PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.
5-1-3	13		
6-2-4	11		

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Step 6. The screws (2) on bracket (1) must be torqued.
 Please add torque information.

Step 25. There are four clamps (8) and four straps (4) on wiring harness (7) not two.
 Please correct.

SAMPLE

PRINTED NAME GRADE OR TITLE AND TELEPHONE NUMBER
 John Doe DSN 344-1776

SIGN HERE

FILL IN YOUR
UNIT'S ADDRESS



SAMPLE

DEPARTMENT OF THE ARMY



OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

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TEAR ALONG PERFORATED LINE

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



THEN JOT DOWN THE DOPE ABOUT IT ON THIS FORM CAREFULLY TEAR IT OUT. FOLD IT AND DROP IT IN THE MAIL

SOMETHING WRONG WITH THIS PUBLICATION?

FROM (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER

TM 9-2350-261-20-3

PUBLICATION DATE

PUBLICATION TITLE

UNIT MAINT. MANUAL M113A2, M577A2,
M106A2, M125A2, M1059, M901A1

BE EXACT PIN-POINT WHERE IT IS

PAGE
NO

PARA
GRAPH

FIGURE
NO

TABLE
NO

IN THIS SPACE TELL WHAT IS WRONG
AND WHAT SHOULD BE DONE ABOUT IT:

PRINTED NAME GRADE OR TITLE AND TELEPHONE NUMBER

SIGN HERE

FILL IN YOUR
UNITS ADDRESS



FOLD BACK

DEPARTMENT OF THE ARMY

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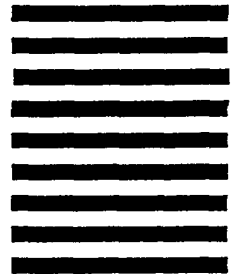


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TEAR ALONG PERFORATED LINE

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter=10m Millimeters=0.01 Meters=0.3937 Inches
 1 Meter=100 Centimeters=1000 Millimeters=39.37 Inches
 1 Kilometer=1000 Meters=0.621 Miles

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 Meter=0.386 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

CUBIC MEASURE

1 Cu Centimeter=1000 Cu Millimeters=0.06 Cu Inches
 1 Cu Meter=1,000 Cu Centimeters=35.31 Cu Feet

LIQUID MEASURE

1 Milliliter=0.001 Liters=0.0338 Fluid Ounces
 1 Liter=1000 Milliliters=33.82 Fluid Ounces

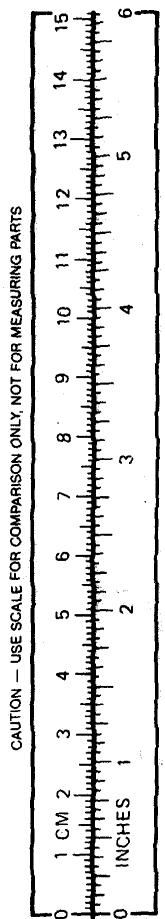
TEMPERATURE

$5/9 (°F - 32) = °C$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5 °C + 32 = °F$

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.....	0.756
Fluid Ounces.....	Milliliters.....	29.573
Pints.....	Liters.....	0.473
Quarts.....	Liters.....	0.946
Gallons.....	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.....	5.895
Miles per Gallon.....	Kilometers per Liters.....	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.....	0.385
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
Liters.....	Gallons.....	0.264
Grams.....	Ounces.....	0.035
Kilograms.....	Pounds.....	2.205
Metric-Tons.....	Short Tons.....	1.102
Newton-Meters.....	Pound Feet.....	0.738
Kilopascals.....	Pounds per Square Inch.....	0.145
Kilometers per Liter.....	Miles per Gallon.....	2.354
Kilometers per Hour.....	Miles per Hour.....	0.621



PIN: 067907-000