

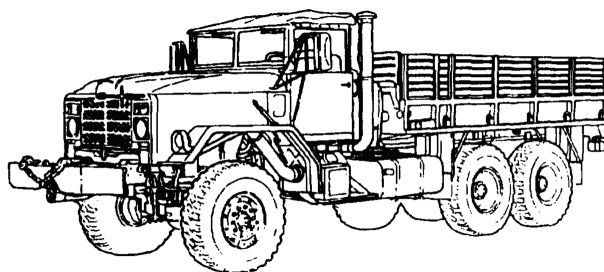
# ARMY \*TM 9-2320-272-23-5

## AIR FORCE \*TO 36A12-1C-1155-2-5

### TECHNICAL MANUAL FIELD MAINTENANCE MANUAL FOR

#### TRUCK, 5-TON, 6X6, M939, M939A1, AND M939A2 SERIES TRUCKS (DIESEL)

TRUCK, CARGO: 5-TON, 6X6 DROPSIDE M923 NSN 2320-01-050-2084 (EIC BRY) M923A1 NSN 2320-01-206-4087 (EIC BSS) M923A2 NSN 2320-01-230-0307 (EIC BS7) M925 NSN 2320-01-047-8769 (EIC BRT) M925A1 NSN 2320-01-206-4088 (EIC BST) M925A2 NSN 2320-01-230-0308 (EIC BS8)	TRUCK, DUMP: 5-TON, 6X6 M929 NSN 2320-01-047-8756 (EIC BTH) M929A1 NSN 2320-01-206-4079 (EIC BSY) M929A2 NSN 2320-01-230-0305 (EIC BSN) M930 NSN 2320-01-047-8755 (EIC BTG) M930A1 NSN 2320-01-206-4080 (EIC BSZ) M930A2 NSN 2320-01-230-0306 (EIC BT7)	TRUCK, VAN, EXPANSIBLE: 5-TON, 6X6 M934 NSN 2320-01-047-8750 (EIC BTB) M934A1 NSN 2320-01-205-2682 (EIC BS4) M934A2 NSN 2320-01-230-0300 (EIC BTR)
TRUCK, CARGO: 5-TON, 6X6 XLWB M927 NSN 2320-01-047-8771 (EIC BRV) M927A1 NSN 2320-01-206-4089 (EIC BSW) M927A2 NSN 2320-01-230-0309 (EIC BS9) M928 NSN 2320-01-047-8770 (EIC BRU) M928A1 NSN 2320-01-206-4090 (EIC BSX) M928A2 NSN 2320-01-230-0310 (EIC BTM)	TRUCK, TRACTOR: 5-TON, 6X6 M931 NSN 2320-01-047-8753 (EIC BTE) M931A1 NSN 2320-01-206-4077 (EIC BS2) M931A2 NSN 2320-01-230-0302 (EIC BTP) M932 NSN 2320-01-047-8752 (EIC BTD) M932A1 NSN 2320-01-205-2684 (EIC BSZ) M932A2 NSN 2320-01-230-0303 (EIC BTQ)	TRUCK, MEDIUM WRECKER: 5-TON, 6X6 M936 NSN 2320-01-047-8754 (EIC BTF) M936A1 NSN 2320-01-206-4078 (EIC BS6) M936A2 NSN 2320-01-230-0304 (EIC BTT)



**\*SUPERSEDURE NOTICE** - This manual supersedes TM 9-2320-272-24-1, TM 9-2320-272-24-2, TM 9-2320-272-24-3, TM 9-2320-272-24-4 and TO 36A12-1C-1155-2-1, TO 36A12-1C-1155-2-2, TO 36A12-1C-1155-2-3, & TO 36A12-1C-1155-2-4, dated 30 June 1998, including all changes

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HEADQUARTERS, DEPARTMENTS OF THE ARMY AND THE AIR FORCE  
10 SEPTEMBER 2012



## WARNING SUMMARY

This warning summary contains general safety warnings and hazardous materials warnings that must be understood and applied during operation and maintenance of the vehicle. Failure to observe these precautions or operating this vehicle without training or instruction may result in serious injury or death to personnel.

### FIRST AID DATA

For information on first aid, refer to FM 4-25.11, First Aid.

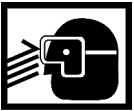
### EXPLANATION OF SAFETY WARNING ICONS



**EAR PROTECTION** - Headphones over ears show that noise level will harm ears.



**ELECTRICAL** - Electrical wire to hand with electricity symbol running through hand shows that shock hazard is present.



**EYE PROTECTION** - Person with goggles shows that the material will injure the eyes.



**FIRE** - Flame shows that a material may ignite and cause burns.



**HEAVY OBJECT** - Human figure stooping over heavy object shows physical injury potential from improper lifting technique.



**HEAVY PARTS** - Hand with heavy object on top shows that heavy parts can crush and harm.



**HEAVY PARTS** - Foot with heavy object on top shows that heavy parts can crush and harm.



**HEAVY PARTS** - Heavy object pinning human figure against wall shows that heavy, moving parts present a danger to life or limb.

## WARNING SUMMARY - Continued

### EXPLANATION OF SAFETY WARNING ICONS - Continued



**HEAVY PARTS** - Heavy object on human figure shows that heavy parts present a danger to life or limb.



**HOT AREA** - Hand over object radiating heat shows that part is hot and can burn.



**MOVING PARTS** - Hand with fingers caught between gears shows that the moving parts of the equipment present a danger to life or limb.



**RADIATION** - Three circular wedges shows that the material emits radioactive energy and can injure human tissue.



**SLICK FLOOR** - Wavy line on floor with legs prone shows that slick floor presents a danger for falling.



**VAPOR** - Human figure in a cloud shows that material vapors present a danger to life or health.

## WARNING SUMMARY - Continued

### GENERAL SAFETY WARNINGS DESCRIPTION

#### WARNING



Ensure electrical power is off prior to working on all electrical connections. Prior to working on or around vehicle, remove all jewelry, such as rings, ID tags, bracelets, etc. Jewelry, and tools can catch on equipment, contact positive electrical circuits, and cause a direct short, severe burns, or electrical shock. Failure to comply may result in injury or death to personnel.

#### WARNING



Personnel hearing can be permanently damaged if exposed to constant high noise levels of 85 dB or greater. Failure to comply may result in injury to personnel.

#### WARNING

Unless otherwise specified, perform all maintenance procedures with all attachments lowered to the ground, pilot shutoff lever in the up position, and engine shut off. Failure to comply may result in injury or death to personnel.

## WARNING SUMMARY - Continued

### EXPLANATION OF HAZARDOUS MATERIALS ICONS



**BIOLOGICAL** - Abstract symbol bug shows that a material may contain bacteria or viruses that present a danger to life or health.



**CHEMICAL** - Drops of liquid on hand shows that the material will cause burns or irritation to human skin or tissue.



**EXPLOSION** - Rapidly expanding symbol shows that the material may explode if subjected to high temperatures, sources of ignition, or high pressure.



**POISON** - Skull and crossbones symbol shows that dangerous gases, sprays, vapors, liquids, or materials contain compounds that present a danger to life or health.

## WARNING SUMMARY - Continued

### HAZARDOUS MATERIALS DESCRIPTIONS

#### WARNING



#### CARBON MONOXIDE

- Carbon monoxide is a colorless, odorless, deadly poison which, when breathed, deprives the body of oxygen and causes suffocation. Exposure to air containing carbon monoxide produces symptoms of headache, dizziness, loss of muscular control, apparent drowsiness, and coma. Permanent brain damage or death to personnel can result from severe exposure.
- Carbon monoxide occurs in exhaust fumes from internal combustion engines. It also occurs in exhaust fumes from engine coolant heater (arctic machine only). Carbon monoxide can become dangerously concentrated under conditions of inadequate ventilation. The following precautions must be observed to ensure safety of personnel when engine of vehicle is operated.
  1. DO NOT operate engine in enclosed area without adequate ventilation.
  2. DO NOT idle engine without adequate ventilation.
  3. DO NOT drive machine with inspection plates or cover plates removed.
  4. BE ALERT for exhaust poisoning symptoms. They are:
    - Headache
    - Dizziness
    - Sleepiness
    - Loss of muscular control
  5. If you see another person with exhaust poisoning symptoms:
    - Remove person from area
    - Expose to fresh air
    - Keep person warm
    - DO NOT permit physical exercise
    - Administer cardiopulmonary resuscitation (CPR) if necessary
    - Notify a Medic
  6. BE AWARE. The field protective mask for Nuclear-Biological-Chemical (NBC) protection will not protect you from carbon monoxide poisoning.

## WARNING SUMMARY - Continued

### HAZARDOUS MATERIALS DESCRIPTIONS - Continued

#### WARNING



#### CHEMICAL AGENT RESISTANT COATING (CARC) PAINT

Chemical Agent Resistant Coating (CARC) paint contains isocyanate which is highly irritating to skin and respiratory system. High concentrations of isocyanate can produce symptoms of itching and reddening of skin, a burning sensation in the throat and nose, and watering of the eyes. In extreme concentrations, isocyanate can cause cough, shortness of breath, pain during respiration, increased sputum production, and chest tightness. First aid for ingestion: do not induce vomiting. Seek immediate medical attention. First aid for skin contact: remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms persist, seek medical attention. First aid for inhalation: move to fresh air. If not breathing, provide artificial respiration. If symptoms persist, seek medical attention. Failure to comply may result in injury or death to personnel.



**WARNING SUMMARY - Continued****HAZARDOUS MATERIALS DESCRIPTIONS - Continued****WARNING****SOLVENT CLEANING COMPOUND**

Solvent cleaning compound MIL-PRF-680 type II and III may be irritating to the eyes and skin. Use protective gloves and goggles. Use in well ventilated areas. Use respirator as needed.

Accidental ingestion can cause irritation of digestive tract and repository tract, and may cause lung and central nervous system damage. Can be fatal if swallowed. First aid for ingestion: do not induce vomiting. Seek immediate medical attention.

First aid for skin contact: remove contaminated clothing, Wash skin thoroughly with soap and water. If symptoms persist, seek medical attention.

First aid for eye contact: flush with water for 15 minutes or until irritation subsides. If symptoms persist, seek medical attention.

Inhalation of high/massive concentrations can cause coma or be fatal. First aid for inhalation: move to fresh air. If not breathing, provide artificial respiration. If symptoms persist, seek medical attention.

Keep away from open flames and other sources of ignition. Failure to comply may result in injury or death to personnel. The flash point for type II solvent cleaning compound is 141°F to 198°F (61°C to 92°C) and type III is 200°F to 241°F (93°C to 116°C). Fire extinguishers should be placed nearby when using solvent cleaning compound.

Improper cleaning methods and use of unauthorized cleaning solvents may injure personnel and damage equipment.

Cloths or rags saturated with solvent cleaning compound must be disposed of using authorized facilities procedures.

Eye shields must be worn when cleaning with a wire brush. Flying rust and metal particles may cause injury.

## WARNING SUMMARY - Continued

### HAZARDOUS MATERIALS DESCRIPTIONS - Continued

#### WARNING



#### LUBRICATING OIL

Prolonged contact with lubricating oil may cause skin rash. Remove saturated clothing immediately and wash skin thoroughly that comes in contact with lubricating oil. Failure to comply may result in injury or death to personnel.

Spilled hydraulic oil is slippery and creates a hazardous condition. Clean up and properly dispose of hydraulic oil. Failure to comply may result in injury or death to personnel.

#### WARNING



#### NUCLEAR, BIOLOGICAL, OR CHEMICAL

If Nuclear, Biological, or Chemical (NBC) exposure is suspected, all filter media should be handled by personnel wearing protective equipment. Consult your unit NBC Officer or NBC NCO for appropriate handling or disposal instructions. Failure to comply may result in injury or death to personnel.

## WARNING SUMMARY - Continued

### HAZARDOUS MATERIALS DESCRIPTIONS - Continued

#### WARNING



#### LEAD-ACID BATTERIES

Avoid battery electrolyte contact with skin, eyes, and clothing. If battery electrolyte spills, take the following immediate action to stop burning effects:

**External** - If battery electrolyte contacts skin, immediately flush affected area with cold running water. Failure to comply may result in injury or death to personnel.

**Eyes** - If battery electrolyte contacts eyes, immediately flush eyes with cold water for 15 minutes and seek immediate medical attention. **IMPORTANT** - If only one eye is affected, ensure the affected eye is always kept lower than the unaffected eye, during both flushing and transport. This will keep the the affected eye from draining into and contaminating the unaffected eye. Failure to comply may result in injury or death to personnel.

**Internal** - If battery electrolyte is ingested, drink large amounts of water or milk. Follow with milk of magnesia, a beaten egg or vegetable oil and seek immediate medical attention. Failure to comply may result in injury or death to personnel.

**Clothing or vehicle** - immediately flush area with cold water and neutralize battery electrolyte with baking soda or household ammonia solution. Failure to comply may result in injury or death to personnel.

Batteries produce explosive gases. Do not smoke or use open flame near batteries. Do not allow hot, parking or glowing objects near batteries. If batteries are giving off gases, the presence of heat, flame, or spark may cause fire and/or explosion. Failure to comply may result in injury or death to personnel.

Wear proper eye protection, gloves, and an apron when working near batteries. Failure to comply may result in injury or death to personnel.

## WARNING SUMMARY - Continued

### HAZARDOUS MATERIALS DESCRIPTIONS - Continued

#### WARNING



#### DIESEL FUEL

- Diesel fuel is highly flammable and can be accidentally ignited. Do not smoke or allow open flame or sparks in the vicinity while working on any part of the fuel system. Keep fire extinguisher within easy reach when working with fuel. Failure to comply may result in injury or death to personnel.
- Spilled fuel is slippery and creates a hazardous condition. Clean up and properly disposed of spilled fuel as soon as possible. Failure to comply may result in injury or death to personnel.
- Do not work on fuel system when engine is hot. Failure to comply may result in injury or death to personnel.
- Safety glasses must be worn when working on pressurized systems. Failure to comply may result in injury or death to personnel.

#### WARNING



#### ADHESIVES AND SEALANTS

Adhesives and sealants are flammable, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive or sealant contacts eye, flush with large amounts of water, and seek medical attention. If adhesive or sealant get on skin or clothing, flush with large amounts of water. If irritation persists, seek medical attention. Failure to comply may result in serious injury or death to personnel.

## LIST OF EFFECTIVE PAGES/WORK PACKAGES

NOTE: This manual supersedes TM 9-2320-272-24-1, TM 9-2320-272-24-2, TM 9-2320-272-24-3, TM 9-2320-272-24-4, and TO 36A12-1C-1155-2-1, TO 36A12-1C-1155-2-2, TO 36A12-1C-1155-2-3, and TO 36A12-1C-1155-2-4, dated 30 June 1998. Zero in the change number column indicates an original page or work package.

Date of issue for the original manual is:

Original 10 September 2012

TOTAL NUMBER OF VOLUMES IS 5, TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 91 AND TOTAL NUMBER OF WORK PACKAGES IS 57 CONSISTING OF THE FOLLOWING:

Page/WP No.	Change No.	Page/WP No.	Change No.
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Front Cover (2 pages)	0	WP 0802 (10 pages)	0
WARNING SUMMARY (10 pages)	0	WP 0803 (4 pages)	0
i-xvii/xviii blank (18 pages)	0	WP 0804 (6 pages)	0
Chapter 10 Title Page	0	WP 0805 (2 pages)	0
WP 0771 (4 pages)	0	WP 0806 (20 pages)	0
WP 0772 (10 pages)	0	WP 0807 (6 pages)	0
WP 0773 (4 pages)	0	WP 0808 (4 pages)	0
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WP 0775 (42 pages)	0	WP 0810 (10 pages)	0
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WP 0779 (6 pages)	0	WP 0814 (8 pages)	0
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WP 0797 (6 pages)	0	(28 pages)	
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WP 0799 (6 pages)	0	Back Cover	0
WP 0800 (6 pages)	0		



HEADQUARTERS  
DEPARTMENTS OF THE ARMY AND THE AIR FORCE  
WASHINGTON, D.C., 10 SEPTEMBER 2012

TECHNICAL MANUAL  
FIELD MAINTENANCE MANUAL  
FOR

TRUCK, 5-TON, 6X6, M939, M939A1, AND M939A2 SERIES TRUCKS (DIESEL)

TRUCK, CARGO: 5-TON, 6X6 DROPSIDERUCK, DUMP: 5-TON, 6X6	TRUCK, VAN, EXPANSIBLE: 5-TON, 6X6
M923	M934
NSN 2320-01-050-2084 (EIC BRY)	NSN 2320-01-047-8750 (EIC BTB)
M923A1	M934A1
NSN 2320-01-206-4087 (EIC BSS)	NSN 2320-01-205-2682 (EIC BS4)
M923A2	M934A2
NSN 2320-01-230-0307 (EIC BS7)	NSN 2320-01-230-0300 (EIC BTR)
M925	
NSN 2320-01-047-8769 (EIC BRT)	TRUCK, MEDIUM WRECKER: 5-TON, 6X6
M925A1	M936
NSN 2320-01-206-4088 (EIC BST)	NSN 2320-01-047-8754 (EIC BTF)
M925A2	M936A1
NSN 2320-01-230-0308 (EIC BS8)	NSN 2320-01-206-4078 (EIC BS6)
	M936A2
TRUCK, CARGO: 5-TON, 6X6 XLWBTRUCK, TRACTOR: 5-TON, 6X6	NSN 2320-01-230-0304 (EIC BTT)
M927	M931
NSN 2320-01-047-8771 (EIC BRV)	NSN 2320-01-047-8753 (EIC BTE)
M927A1	M931A1
NSN 2320-01-206-4089 (EIC BSW)	NSN 2320-01-206-4077 (EIC BS2)
M927A2	M931A2
NSN 2320-01-230-0309 (EIC BS9)	NSN 2320-01-230-0302 (EIC BTP)
M928	M932
NSN 2320-01-047-8770 (EIC BRU)	NSN 2320-01-047-8752 (EIC BTD)
M928A1	M932A1
NSN 2320-01-206-4090 (EIC BSX)	NSN 2320-01-205-2684 (EIC BSZ)
M928A2	M932A2
NSN 2320-01-230-0310 (EIC BTM)	NSN 2320-01-230-0303 (EIC BTQ)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

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(A) Army - Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), located in the back of this manual directly to: U.S. Army TACOM Life Cycle Management Command, ATTN: AMSTA-LCL-MPP/ TECH PUBS, MS 727, 6501 E. 11 Mile Road, Warren, MI 48397-5000. You may also send in your recommended changes via electronic mail or by fax. Our fax number is DSN 786-1856 or Commercial (586) 282-1856. Our email address is [tacomlcmc.daform2028@us.army.mil](mailto:tacomlcmc.daform2028@us.army.mil).

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Index



## HOW TO USE THIS MANUAL

### WARNINGS, CAUTIONS, AND NOTES

Read all WARNINGS, CAUTIONS, and NOTES before performing any procedure.

Warnings, cautions, notes, subject headings, and other essential information is printed in **BOLD** type, making them easier for the user to see.

### GENERAL INFORMATION

This manual is divided into CHAPTERS and WORK PACKAGES. For a specific Chapter or Work Package, refer to the TABLE OF CONTENTS.

#### VOLUME 5

- CHAPTER 10 provides maintenance instructions.
- CHAPTER 11 provides supporting information. The supporting information includes tables listing **References** used in this manual, an **Introduction to the Standard Two-level MAC**, the **Two-level MAC**, a listing of **Expendable and Durable Items**, a **Tool Identification** list, and a **Mandatory Replacement Parts** list.

The illustrations throughout this manual contain numerical callouts pointing to various components mentioned in the procedural steps. Mandatory replacement parts must be discarded after removal and replaced with a new part, which is listed in the Materials/Parts section located at the beginning of the task.

Prior to performing any maintenance functions on the 5-ton, 6x6, M939, M939A1, and M939A2 Diesel Truck series, ALWAYS do the following:

- Read and follow all WARNINGS in all work packages.
- Read the Safety Summary.
- Read the Equipment Description and Data located in Chapter 1.
- Read completely through the maintenance procedure to familiarize yourself with the procedure and the affected parts before beginning work.

Troubleshooting section is setup by either how a physical problem is occurring or how an active or stored trouble code is read from a diagnostic tool. By following a prescribed flow path through making decisions will lead you to a solution to remedy the problem. RPSTL manual, TM 9-2320-272-24P, is to be used in conjunction with this manual to help find needed parts for procurement. RPSTL manual lists and authorized spares and repair parts; special tools, special Test, Measurement, and Diagnostic Equipment (TMDE); and other special support equipment required for performance of Field Maintenance on the 5-ton, 6x6, M939, M939A1, and M939A2 Diesel Truck series. It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the Source, Maintenance, and Recoverability (SMR) codes.

### METRIC SYSTEM

The equipment described herein contains metric components and requires metric, common, and special tools. Therefore, metric units and English units will be used throughout this publication. An English-to-Metric conversion table is included as the last page of this manual inside the back cover.





**CHAPTER 10**  
**MAINTENANCE INSTRUCTIONS**



---

**FIELD MAINTENANCE**  
**DEEPWATER FORDING REGULATOR VALVE REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition (cont.)**

Hood raised and secured. (TM 9-2320-272-10)  
Air reservoirs drained. (TM 9-2320-272-10)

**Materials/Parts**

Tape, Antiseizing  
(WP 0825, Table 1, Item 65)

**Equipment Condition**

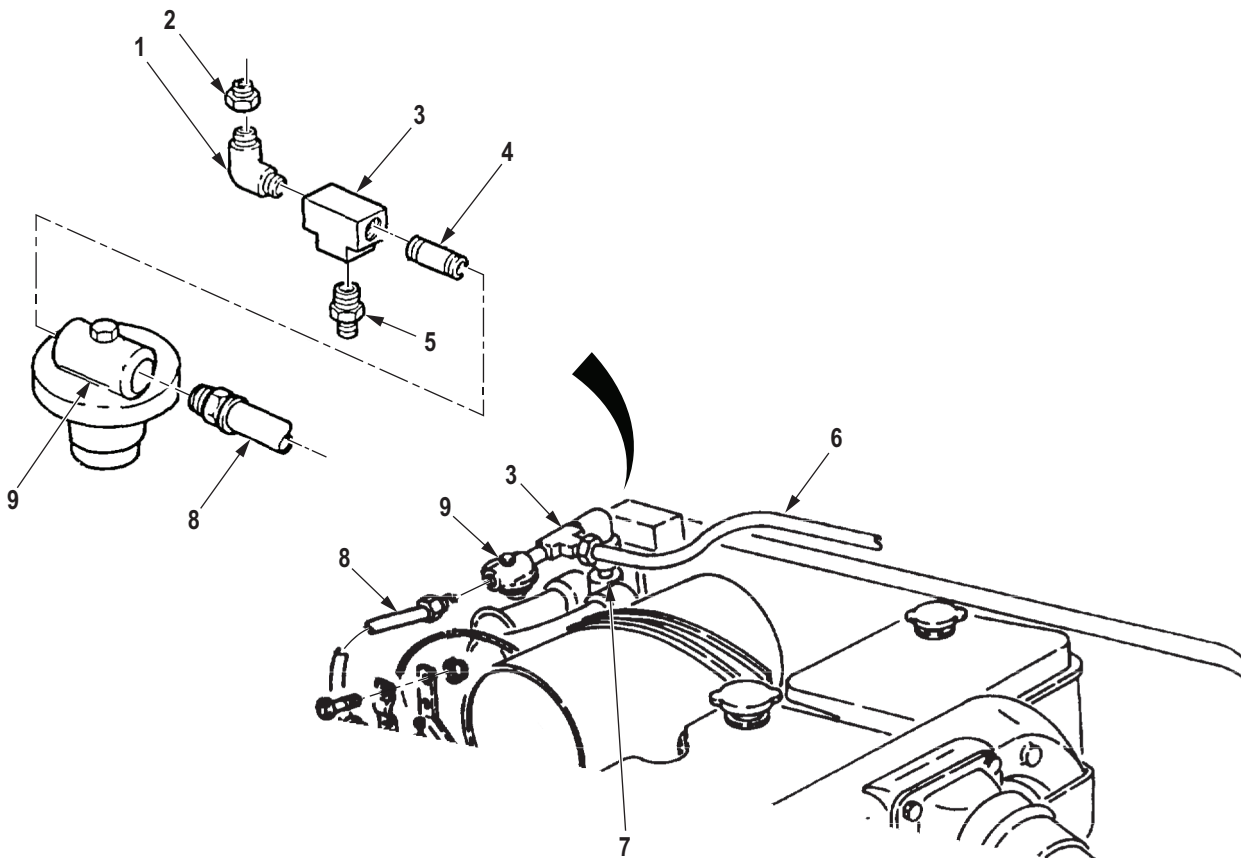
Parking brake set. (TM 9-2320-272-10)

---

**REMOVAL****WARNING**

Do not disconnect air lines before draining air reservoirs. Small parts under pressure may shoot out with high velocity. Failure to comply may result in injury or death to personnel.

1. Disconnect supply hose (Figure 1, Item 8) from regulator valve (Figure 1, Item 9).
2. Remove air line (Figure 1, Item 6) and adapter (Figure 1, Item 5) from tee (Figure 1, Item 3).
3. Remove regulator valve (Figure 1, Item 9), nipple (Figure 1, Item 2), tee (Figure 1, Item 3), elbow (Figure 1, Item 1), and reducer (Figure 1, Item 4) from air horn solenoid (Figure 1, Item 7).



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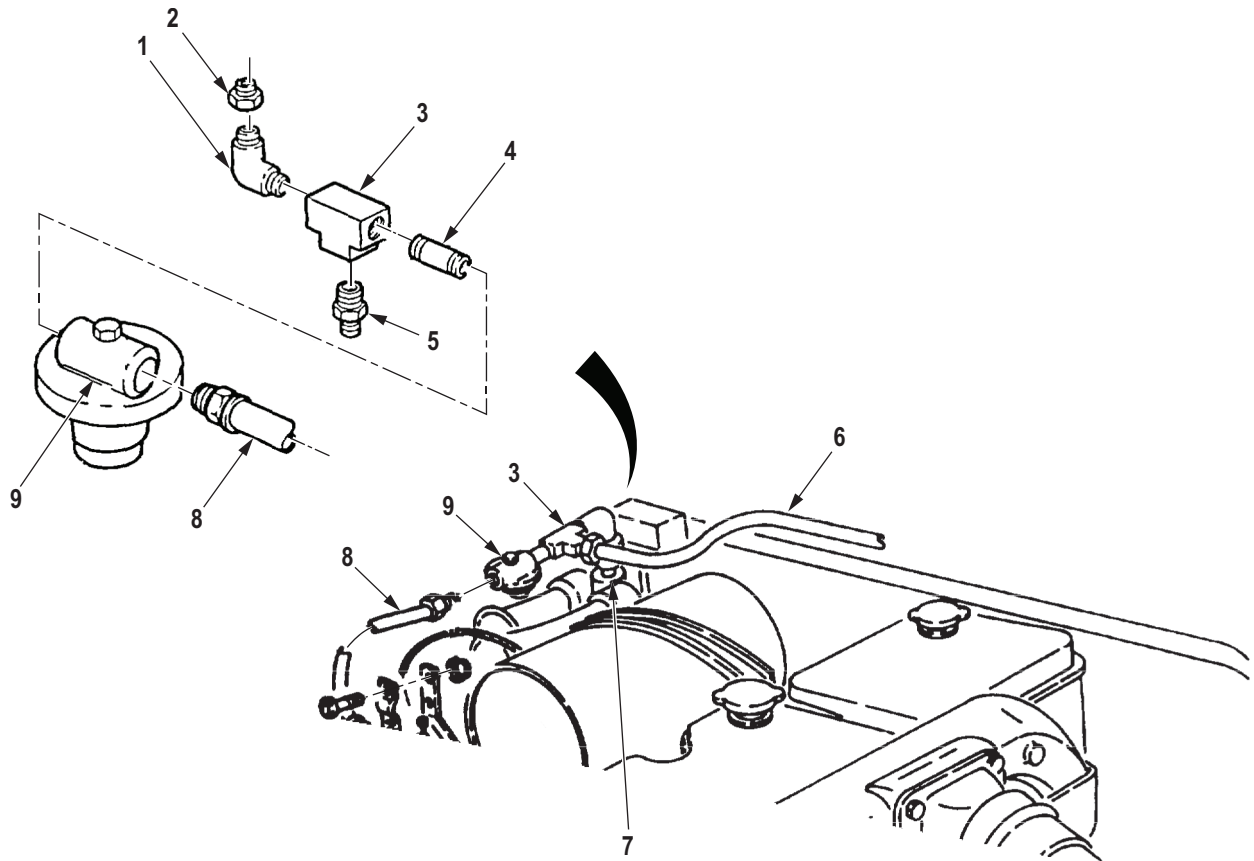
Figure 1. Deepwater Fording Regulator Valve Removal.

**END OF TASK**

**INSTALLATION****NOTE**

Wrap male pipe threads with antiseize tape before installation.

1. Install reducer (Figure 2, Item 4), elbow (Figure 2, Item 1), tee (Figure 2, Item 3), nipple (Figure 2, Item 2), and regulator valve (Figure 2, Item 9) on air horn solenoid (Figure 2, Item 7).
2. Install air line (Figure 2, Item 6) and adapter (Figure 2, Item 5) on tee (Figure 2, Item 3).
3. Connect supply hose (Figure 2, Item 8) to regulator valve (Figure 2, Item 9).



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Figure 2. Deepwater Fording Regulator Valve Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

1. Start engine and allow air pressure to build up to normal operating range. (TM 9-2320-272-10)
2. Check for air leaks. (TM 9-2320-272-10)
3. Road test vehicle. (TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**

---

**FIELD MAINTENANCE  
A-FRAME COMPONENTS REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts**

Lockwasher  
(WP 0827, Table 1, Item 406) Qty: 1

**Personnel Required**

(2)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

---

**Equipment Condition (cont.)**

Cab tarpaulin removed (task c. only).  
(TM 9-2320-272-10)

Windshield lowered (task c. only).  
(TM 9-2320-272-10)

Tailgate removed (except M932/A1/A2)  
(task c. only). (Volume 4, WP 0590)

Front lifting shackles removed (task c. only).  
(Volume 3, WP 0512)

**REMOVAL****WARNING**

Do not perform this procedure near high-voltage wires. Vehicle will become charged with electricity if A-frame contacts or breaks high-voltage wire. Do not leave vehicle while high-voltage line is in contact with A-frame or vehicle. Failure to comply may result in injury or death to personnel.

1. Remove snatch block (Figure 1, Item 11) from A-frame spreader tube (Figure 1, Item 1).
2. Remove setscrew (Figure 1, Item 8) from each A-frame leg (Figure 1, Item 9) and bracket (Figure 1, Item 10).

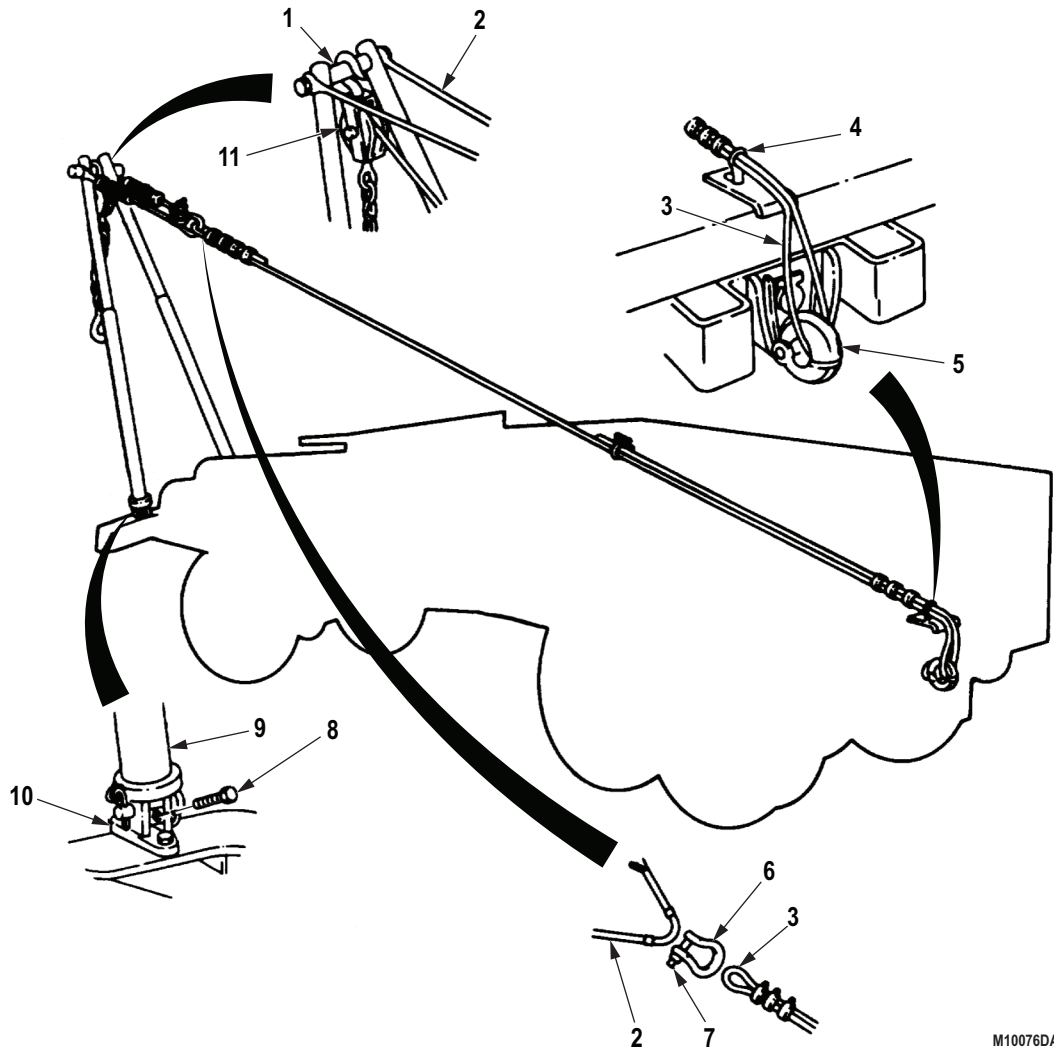
**NOTE**

Assistant will push A-frame toward cab during Steps (3) and (4).

3. Remove shackle pin (Figure 1, Item 7) from shackle (Figure 1, Item 6) and separate cable (Figure 1, Item 3) and harness (Figure 1, Item 2) from shackle (Figure 1, Item 6).
4. Remove cable (Figure 1, Item 3) from pintle hook (Figure 1, Item 5) and eyebolt (Figure 1, Item 4).



REMOVAL - Continued



M10076DAA

Figure 1. A-Frame Components Removal.

**REMOVAL - Continued****NOTE**

Step (5) is not required for M932/A1/A2 vehicles.

5. Remove nut (Figure 2, Item 4), lockwasher (Figure 2, Item 3), washer (Figure 2, Item 2), eyebolt (Figure 2, Item 1), washer (Figure 2, Item 2), and eyebolt plate (Figure 2, Item 6) from rear cargo bed (Figure 2, Item 5). Discard lockwasher.
6. Lower A-frame legs (Figure 2, Item 13) and (Figure 2, Item 18) on front bumper (Figure 2, Item 14) to ground.
7. Remove nut (Figure 2, Item 22), nut (Figure 2, Item 7), washer (Figure 2, Item 8), harness (Figure 2, Item 21), and leg spacer (Figure 2, Item 9) from each end of spreader tube stud (Figure 2, Item 10).
8. Remove spreader tube stud (Figure 2, Item 10) and spread tube (Figure 2, Item 12) from two leg extension tubes (Figure 2, Item 11).
9. Remove two safety pins (Figure 2, Item 19) from pins (Figure 2, Item 20).
10. Remove two pins (Figure 2, Item 20) and detach leg extension tubes (Figure 2, Item 11) from A-frame legs (Figure 2, Items 13 and 18).
11. Remove two safety pins (Figure 2, Item 16) from pins (Figure 2, Item 17).
12. Remove two pins (Figure 2, Item 17) from two front brackets (Figure 2, Item 15).
13. Remove A-frame legs (Figure 2, Items 13 and 18) from two front brackets (Figure 2, Item 15).

REMOVAL - Continued

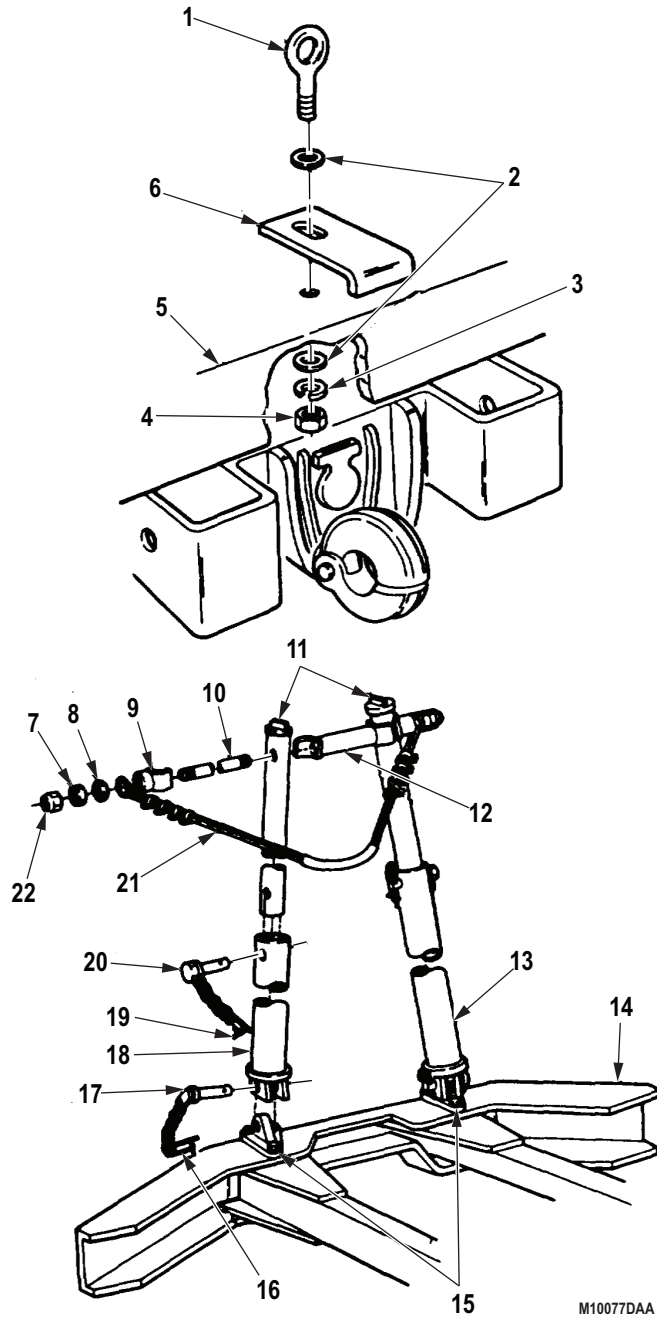


Figure 2. A-Frame Components Removal.

END OF TASK

**INSPECTION**

1. Inspect all metal components of A-frame kit. Replace if bent, cracked, or broken.
2. Inspect harness (Figure 3, Item 21). Replace frayed, broken, or loose or missing clamps.

**WARNING**

Do not perform this procedure near high-voltage wires. Vehicle will become charged with electricity if A-frame contacts or breaks high-voltage wire. Do not leave vehicle while high-voltage line is in contact with A-frame or vehicle. Failure to comply may result in injury or death to personnel.

**NOTE**

If A-frame kit is not to be installed, perform follow-on tasks. Do not perform installation.

3. Install A-frame legs (Figure 3, Items 13 and 18) on two front brackets (Figure 3, Item 15).
4. Install two pins (Figure 3, Item 17) on front brackets (Figure 3, Item 15).
5. Install two safety pins (Figure 3, Item 16) on pins (Figure 3, Item 17).
6. Install leg extension tubes (Figure 3, Item 11) on A-frame legs (Figure 3, Items 13 and 18) with two pins (Figure 3, Item 20).
7. Install two safety pins (Figure 3, Item 19) on pins (Figure 3, Item 20).
8. Install spreader tube (Figure 3, Item 12) and spreader tube stud (Figure 3, Item 10) on two leg extension tubes (Figure 3, Item 11).
9. Install leg spacer (Figure 3, Item 9), harness (Figure 3, Item 21), washer (Figure 3, Item 8), nut (Figure 3, Item 7), and nut (Figure 3, Item 22) on each end of spreader tube stud (Figure 3, Item 10).
10. Raise A-frame legs (Figure 3, Items 13 and 18) on front bumper (Figure 3, Item 14) to original position.

**NOTE**

Step (9) is not required for M932/A1/A2 vehicles.

11. Insert eyebolt plate (Figure 3, Item 6) on rear cargo bed (Figure 3, Item 5) with washer (Figure 3, Item 2), eyebolt (Figure 3, Item 1), washer (Figure 3, Item 2), lockwasher (Figure 3, Item 3), and nut (Figure 3, Item 4).

INSPECTION - Continued

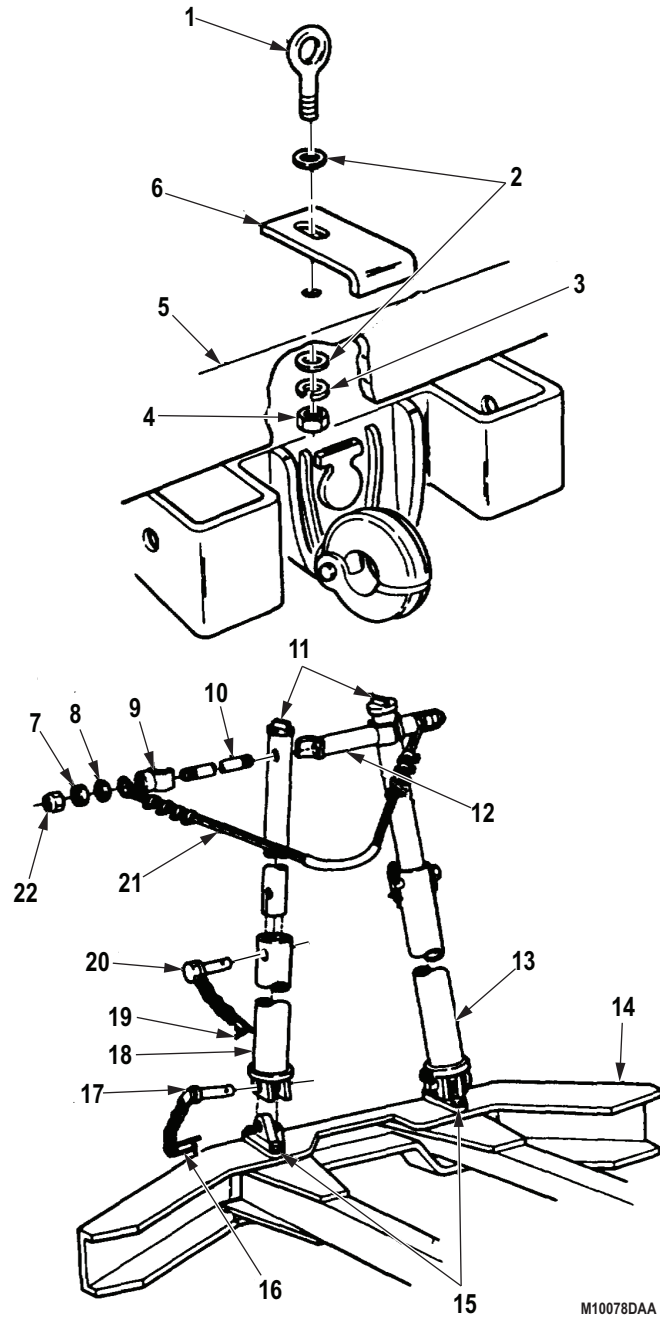


Figure 3. A-Frame Components Installation.

**INSPECTION - Continued****NOTE**

- Assistant will push A-frame toward cab during Steps (10) and (11).
- On M932/A1/A2 vehicles, cable is passed directly over rear crossmember and attached to pintle hook because vehicle is not equipped with eyebolt assembly.

12. Thread cable (Figure 4, Item 3) through eyebolt (Figure 4, Item 4) and install cable on pintle hook (Figure 4, Item 5).
13. Install shackle (Figure 4, Item 7) on cable (Figure 4, Item 3) and harness (Figure 4, Item 2) with shackle pin (Figure 4, Item 8).

**NOTE**

A-frame must be angled approximately 60 degrees from horizontal. Do not insert setscrews until adjustment is made.

14. Loosen clamp (Figure 4, Item 6) at cut end of cable (Figure 4, Item 3) and position A-frame legs (Figure 4, Item 10) at an angle of approximately 60 degrees from horizontal. Tighten clamp (Figure 4, Item 6).
15. Insert setscrew (Figure 4, Item 9) on each A-frame leg (Figure 4, Item 10) and bracket (Figure 4, Item 11). Tighten setscrew until cable (Figure 4, Item 3) slack is taken up.

**NOTE**

Do not perform follow-on tasks if A-frame kit has been installed.

16. Install snatch block (Figure 4, Item 12) on A-frame spreader tube (Figure 4, Item 1).

## INSPECTION - Continued

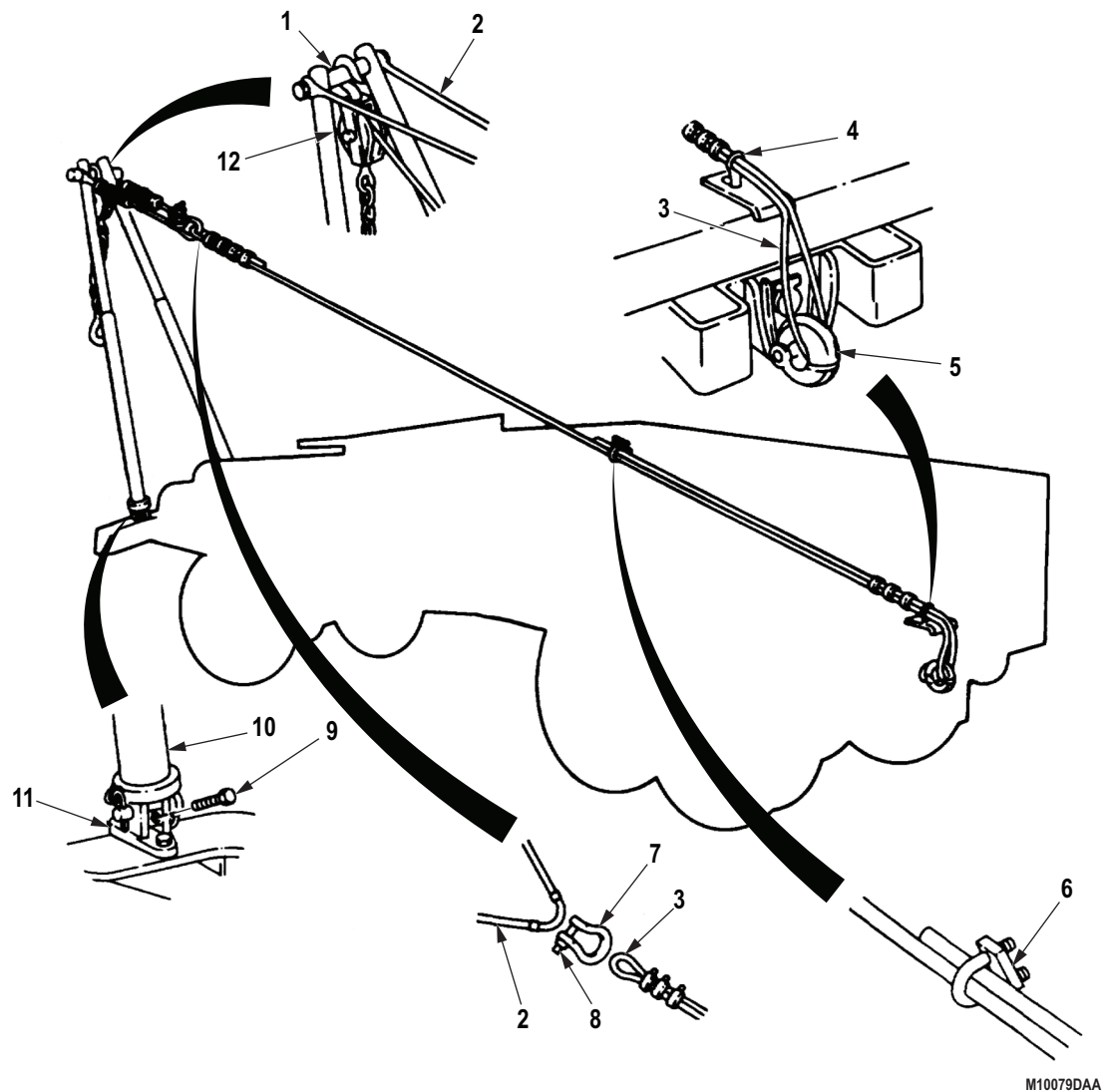


Figure 4. A-Frame Components.

## END OF TASK

## FOLLOW-ON MAINTENANCE

1. Install front lifting shackles (task c. only). (Volume 3, WP 0512)
2. Install tailgate (except M932/A1/A2) (task c. only). (Volume 4, WP 0590)
3. Raise windshield (task c. only). (TM 9-2320-272-10)
4. Install cab tarpaulin (task c. only). (TM 9-2320-272-10)

## END OF TASK

## END OF WORK PACKAGE





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**FIELD MAINTENANCE  
FIRE EXTINGUISHER MOUNTING BRACKET REPLACEMENT**

---

**INITIAL SETUP:**

**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

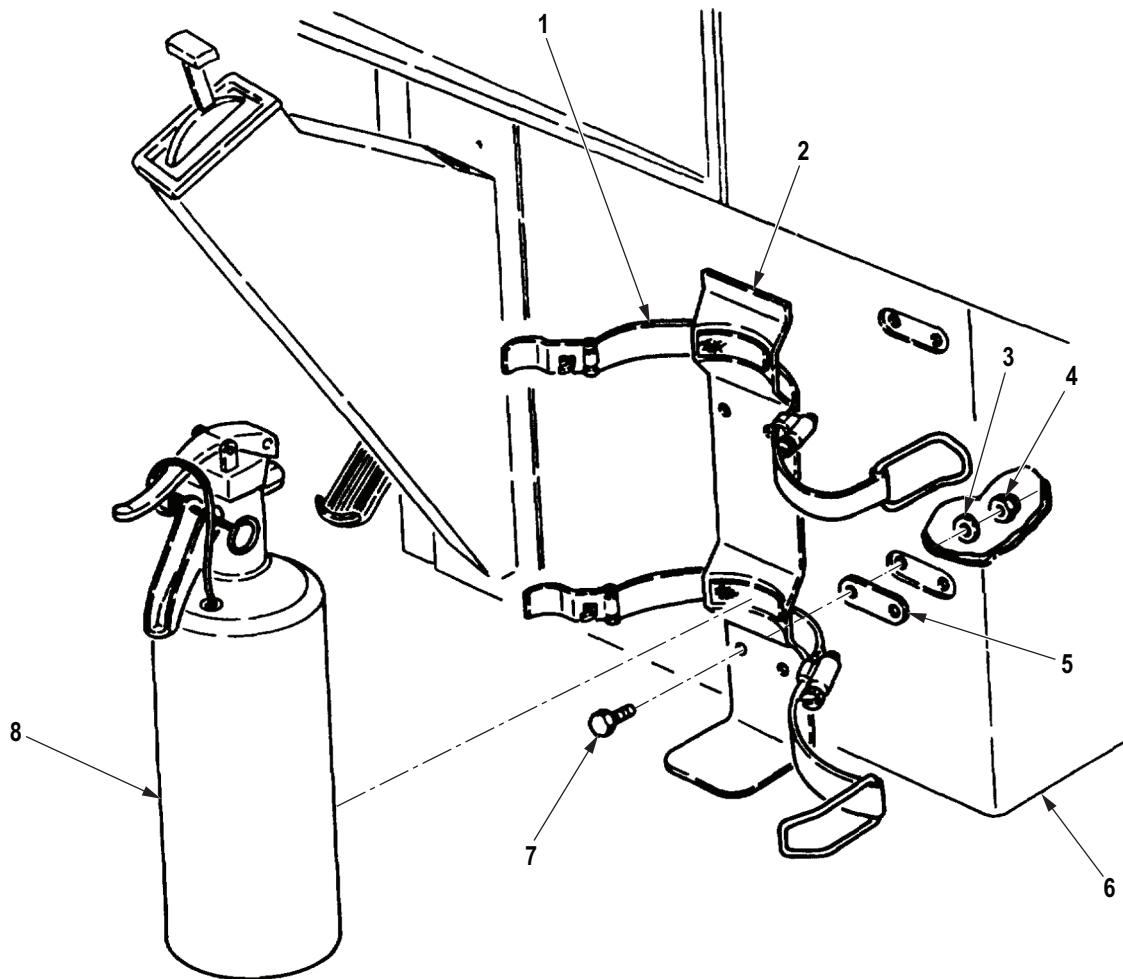
**Materials/Parts**

Locknut (WP 0827, Table 1, Item 282) Qty: 4

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**REMOVAL**

1. Loosen two clamps (Figure 1, Item 1) on bracket (Figure 1, Item 2).
2. Remove fire extinguisher (Figure 1, Item 8) from bracket (Figure 1, Item 2).
3. Remove four locknuts (Figure 1, Item 4), washers (Figure 1, Item 3), screws (Figure 1, Item 7), bracket (Figure 1, Item 2), and two spacers (Figure 1, Item 5) from engine cover (Figure 1, Item 6). Discard locknuts.



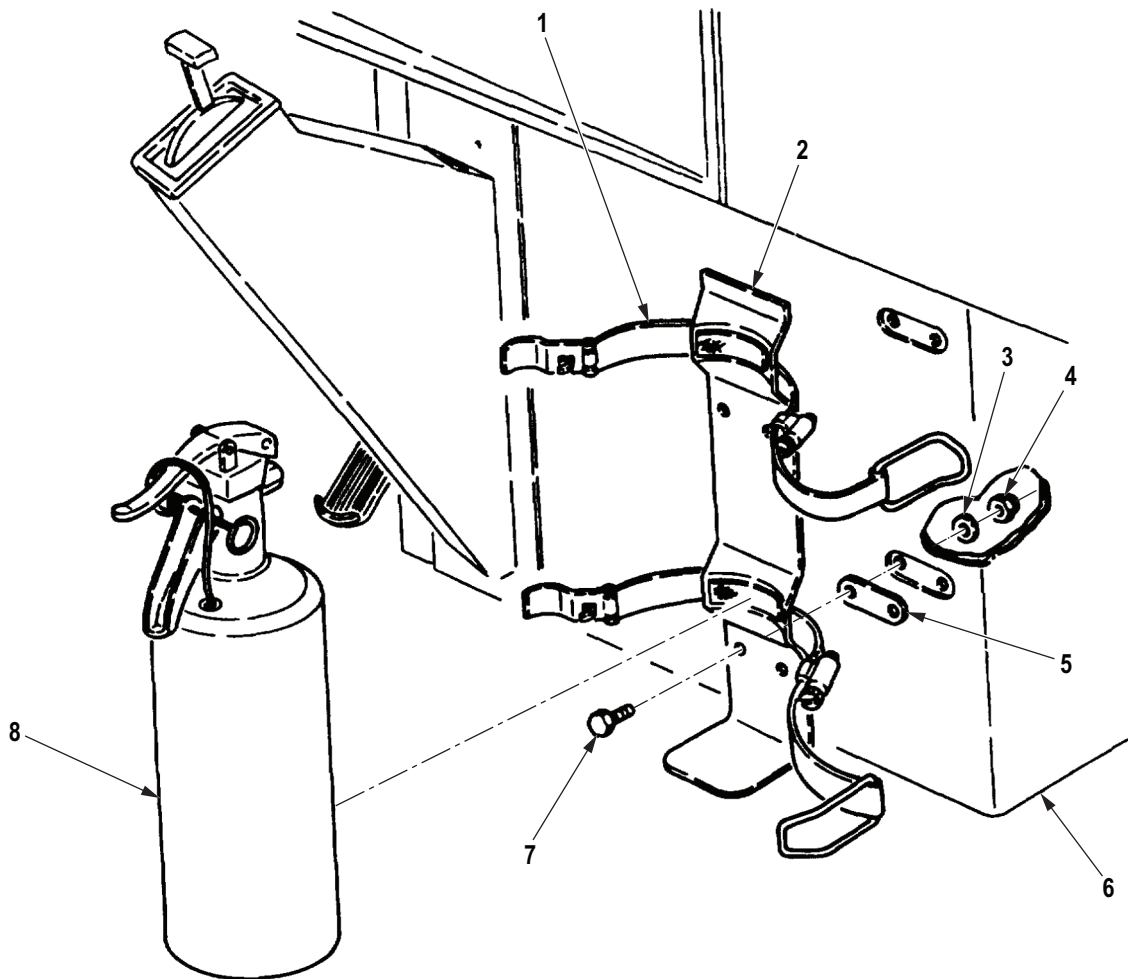
M4106DAA

Figure 1. Fire Extinguisher Mounting Bracket Removal.

**END OF TASK**

**INSTALLATION**

1. Install two spacers (Figure 2, Item 5) and bracket (Figure 2, Item 2) on engine cover (Figure 2, Item 6) with four screws (Figure 2, Item 7), washers (Figure 2, Item 3), and locknuts (Figure 2, Item 4).
2. Install fire extinguisher (Figure 2, Item 8) on bracket (Figure 2, Item 2).
3. Tighten two clamps (Figure 2, Item 1) on bracket (Figure 2, Item 2).



M4107DAA

Figure 2. Fire Extinguisher Mounting Bracket Installation.

**END OF TASK****END OF WORK PACKAGE**



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**FIELD MAINTENANCE  
CHEMICAL AGENT ALARM MOUNTING BRACKET REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts**

Tape, Insulation, Electrical  
(WP 0825, Table 1, Item 66)  
Locknut (WP 0827, Table 1, Item 283) Qty: 6  
Lockwasher  
(WP 0827, Table 1, Item 422) Qty: 1

**Equipment Condition (cont.)**

Hood raised and secured. (TM 9-2320-272-10)  
Battery ground cables disconnected.  
(Volume 2, WP 0350)  
Driver's seat removed. (Volume 4, WP 0582)

**Personnel Required**

(2)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

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**CHEMICAL AGENT ALARM WIRING HARNESS REMOVAL****NOTE**

The cable is provided in two sections. A short wire harness with a screw-on receptacle completes the circuit for the detector and alarm units to the main power source. This harness is only supplied when both chemical detector and alarm units are issued to the field.

1. Remove nut (Figure 1, Item 4) and receptacle (Figure 1, Item 1) from detector bracket (Figure 1, Item 3).
2. Remove screw (Figure 1, Item 6), clamp (Figure 1, Item 7), and cable (Figure 1, Item 2) from locations A, B, C, D, E, and F along left side fender (Figure 1, Item 5) and underside of vehicle.
3. Remove six clamps (Figure 1, Item 7) from cable (Figure 1, Item 2).

CHEMICAL AGENT ALARM WIRING HARNESS REMOVAL - Continued

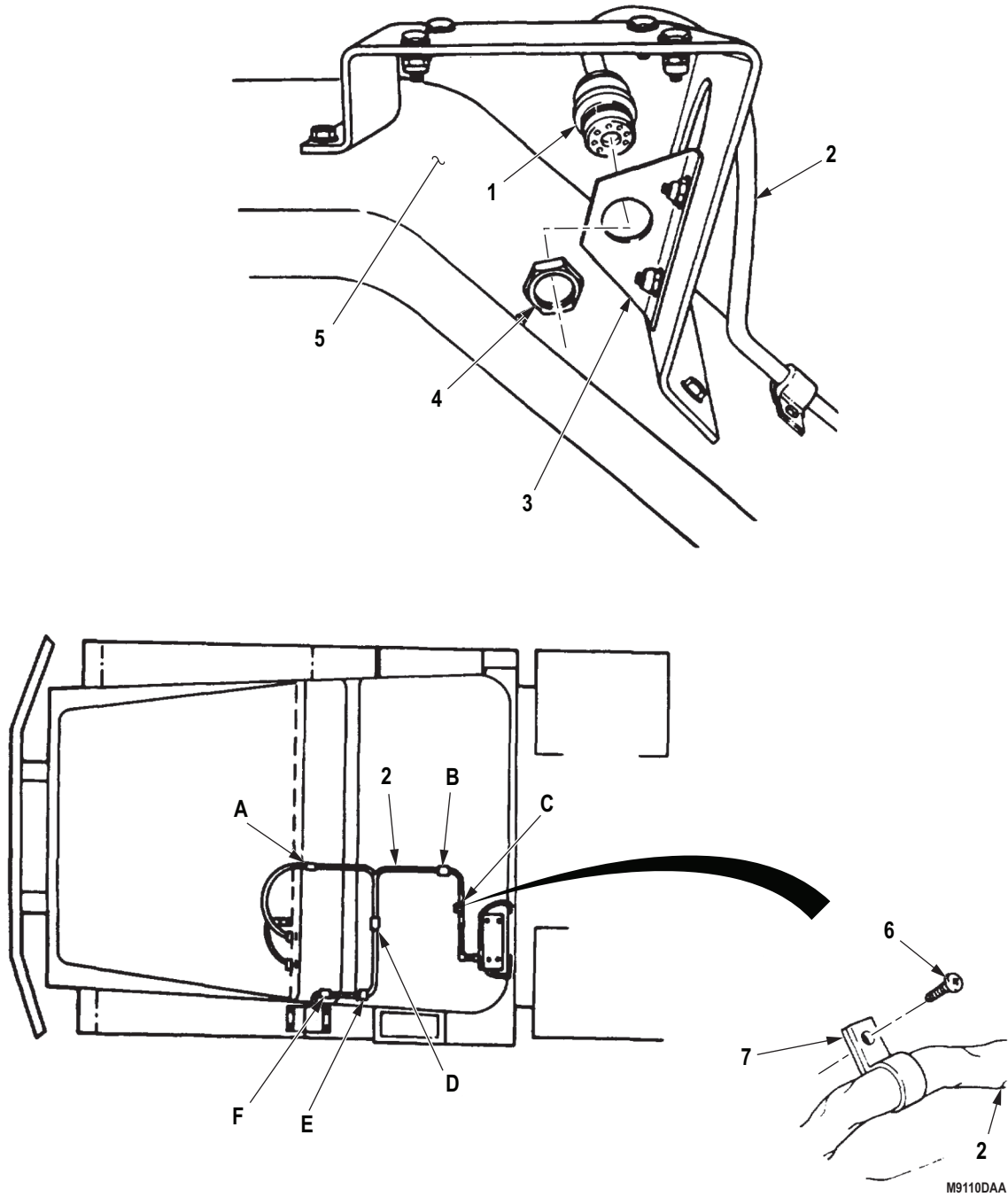


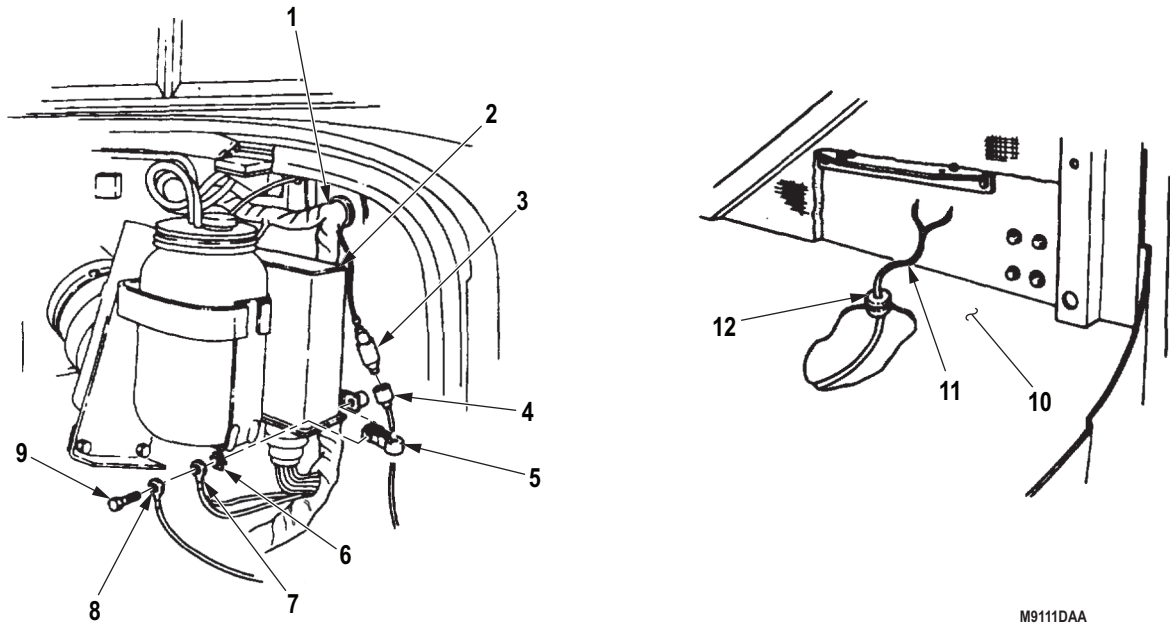
Figure 1. Chemical Agent Alarm Wiring Harness Removal.

**CHEMICAL AGENT ALARM WIRING HARNESS REMOVAL - Continued**

4. Disconnect harness cable positive wire (Figure 2, Item 4) from power circuit wire (Figure 2, Item 3) in engine compartment at wiring harness (Figure 2, Item 1).
5. Remove screw (Figure 2, Item 9), clamp (Figure 2, Item 5), lockwasher (Figure 2, Item 6), and ground wires (Figure 2, Item 7) and (Figure 2, Item 8) from protective control box (Figure 2, Item 2). Discard lockwasher.
6. Remove wire (Figure 2, Item 11) from grommet (Figure 2, Item 12) and floor (Figure 2, Item 10) behind driver's seat.



**CHEMICAL AGENT ALARM WIRING HARNESS REMOVAL - Continued**



M9111DAA

*Figure 2. Chemical Agent Alarm Wiring Harness Removal.*

**END OF TASK**

**DIRECTOR AND ALARM BRACKET REMOVAL**

1. Remove four locknuts (Figure 3, Items 3 and 5), support plate (Figure 3, Item 4), four screws (Figure 3, Item 1), and bracket (Figure 3, Item 2) from left front fender (Figure 3, Item 6). Discard locknuts.

**NOTE**

Assistant will help with Step 2.

2. Remove two locknuts (Figure 3, Item 10), mounting bracket (Figure 3, Item 7), two screws (Figure 3, Item 9), and washers (Figure 3, Item 8) from cab body (Figure 3, Item 11). Discard locknuts.

DIRECTOR AND ALARM BRACKET REMOVAL - Continued

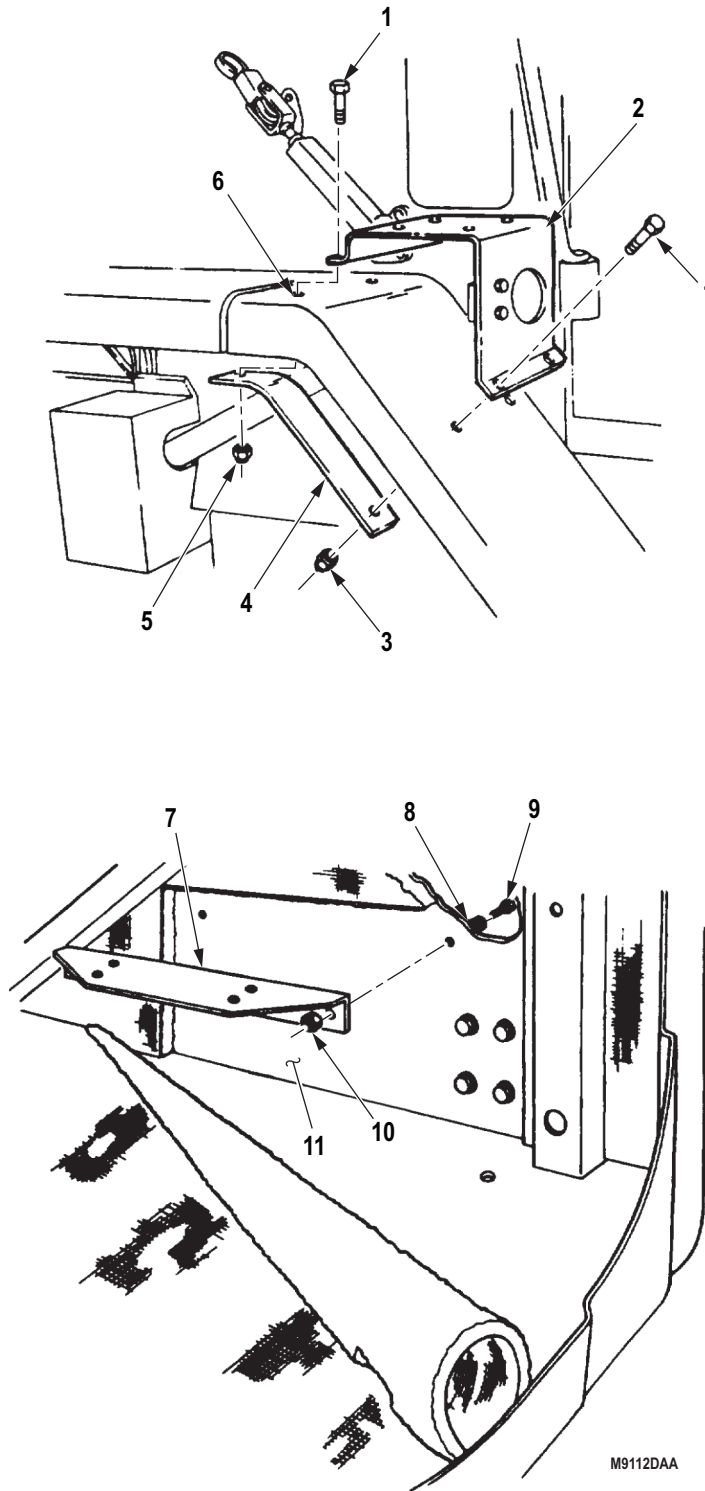


Figure 3. Detector and Alarm Bracket Removal.

END OF TASK

**DETECTOR AND ALARM BRACKET INSTALLATION**

1. Install bracket (Figure 4, Item 2) and support plate (Figure 4, Item 5) on left front fender (Figure 4, Item 3) with four screws (Figure 4, Item 1) and locknuts (Figure 4, Item 4).

**NOTE**

- Alarm unit bracket is mounted to the cab behind driver's seat.
  - Assistant will help with Step 2.
2. Install mounting bracket (Figure 4, Item 6) on cab body (Figure 4, Item 9) with two washers (Figure 4, Item 7), screws (Figure 4, Item 8), and locknuts (Figure 4, Item 10).

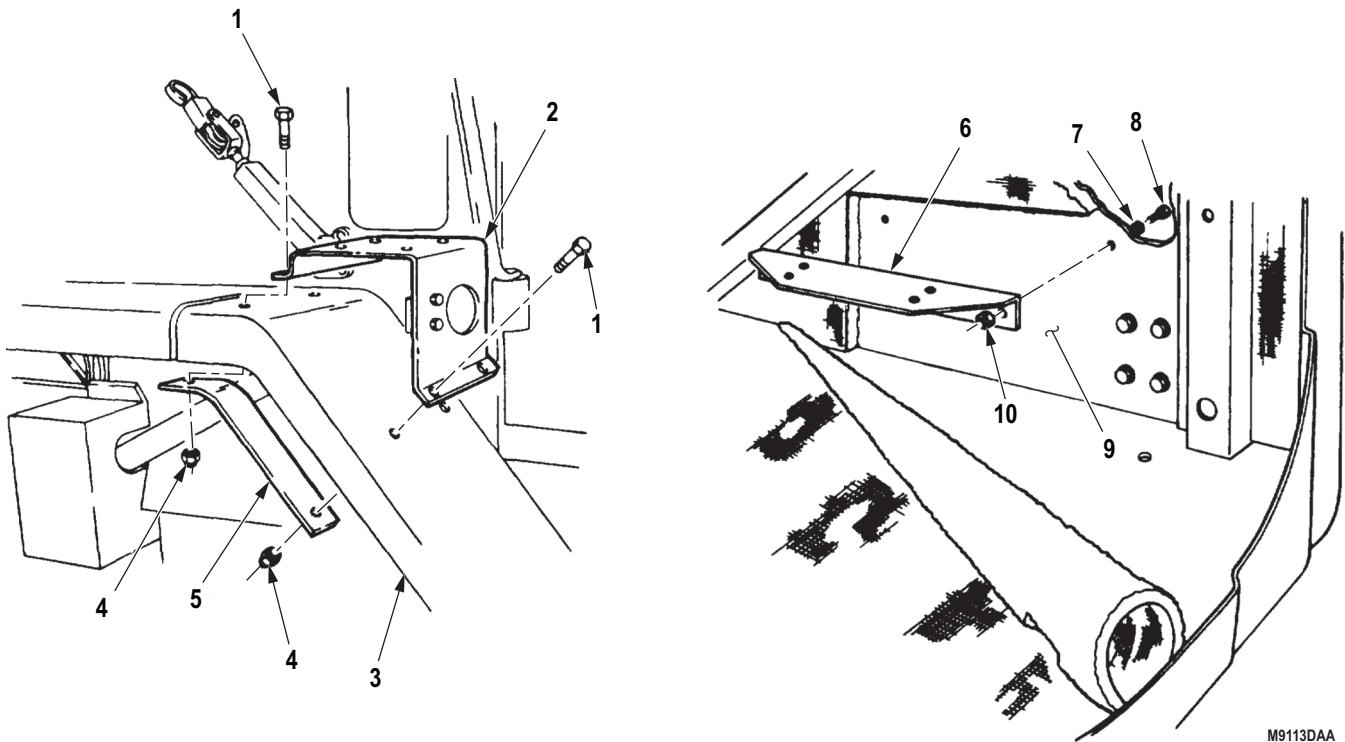
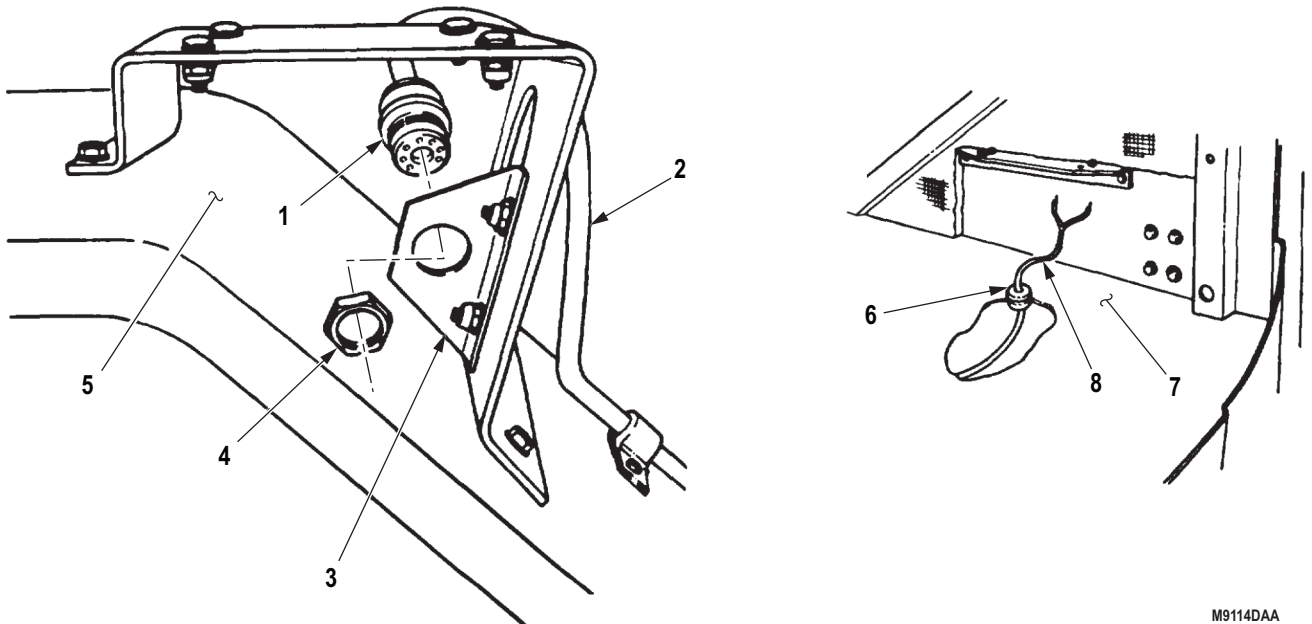


Figure 4. Detector and Alarm Bracket Installation.

**END OF TASK**

**CHEMICAL AGENT ALARM WIRING HARNESS INSTALLATION**

1. Insert wiring harness receptacle (Figure 5, Item 1) into detector bracket (Figure 5, Item 3) and install with nut (Figure 5, Item 4).
2. Insert split, tinned ends of alarm unit connector wire (Figure 5, Item 8) up through grommet (Figure 5, Item 6) and floor (Figure 5, Item 7) and tape tinned ends together for protection. Tinned ends will connect to alarm unit.



M9114DAA

Figure 5. Chemical Agent Alarm Wiring Harness Installation.

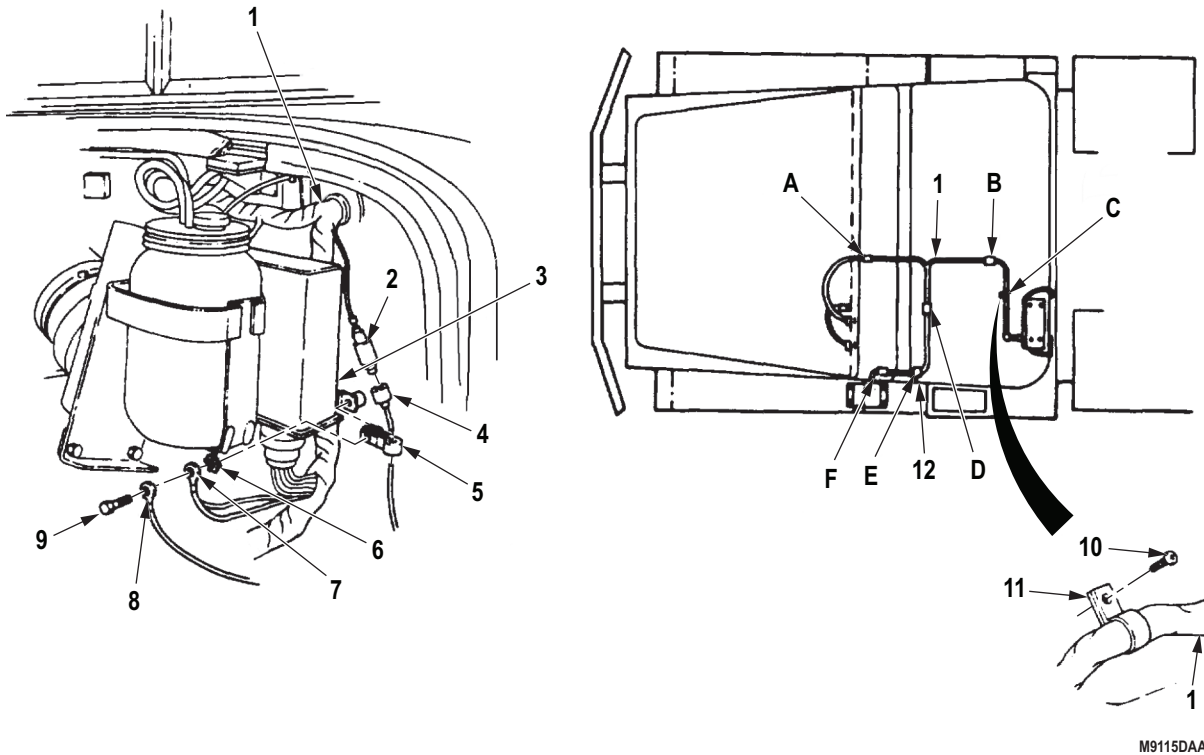
**CHEMICAL AGENT ALARM WIRING HARNESS INSTALLATION - Continued**

3. Connect harness cable positive wire (Figure 6, Item 4) to wire (Figure 6, Item 2) from wiring harness.
4. Position clamp (Figure 6, Item 5) around harness cable positive wire (Figure 6, Item 4).
5. Install chemical detector ground wire (Figure 6, Item 8), main harness ground wire (Figure 6, Item 7), and clamp (Figure 6, Item 5) on protective control box (Figure 6, Item 3) with lockwasher (Figure 6, Item 6) and screw (Figure 6, Item 9).

**NOTE**

Six clamp positions are provided to support a split cable harness routing to the underside of the vehicle.

6. Position six clamps (Figure 6, Item 11) over harness cable (Figure 6, Item 1) and install at cable clamp locations A, B, C, D, E, and F along left side fender (Figure 6, Item 12) with six screws (Figure 6, Item 10). Remove slack in cable (Figure 6, Item 1) for tightening.



M9115DAA

Figure 6. Chemical Agent Alarm Wiring Harness Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

1. Install driver's seat. (Volume 4, WP 0582)
2. Connect battery ground cables. (Volume 2, WP 0350)

**END OF TASK****END OF WORK PACKAGE**





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**FIELD MAINTENANCE  
LIGHTWEIGHT WEAPON STATION MODIFICATION COMPONENT REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)  
Chain Assembly  
(WP 0826, Table 1, Item 15)  
Hoist Assembly  
Wrench, Torque, Click, Ratcheting, 3/8" Drive,  
75 Ft-Lb  
(WP 0826, Table 1, Item 62)

**Materials/Parts**

Cotter Pin  
(WP 0827, Table 1, Item 65) Qty: 6  
Locknut (WP 0827, Table 1, Item 294) Qty: 4  
Locknut (WP 0827, Table 1, Item 296) Qty: 108  
Locknut (WP 0827, Table 1, Item 311) Qty: 1  
Locknut (WP 0827, Table 1, Item 429) Qty: 8  
Lockwasher  
(WP 0827, Table 1, Item 39) Qty: 8

**Personnel Required**

(2)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

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**Equipment Condition (cont.)**

Cab top removed. (TM 9-2320-272-10)  
Spare tire removed. (TM 9-2320-272-10)  
Backrest cushion on companion seat assembly  
folded down. (TM 9-2320-272-10)  
Companion seat and battery box moved forward to  
gain access to cab. (TM 9-2320-272-10)  
Batteries removed. (Volume 2, WP 0346)  
Muffler shield assembly removed.  
(Volume 2, WP 0274)  
Left and right cab door check rods removed.  
(Volume 4, WP 0555)  
Left and right door assemblies removed.  
(Volume 3, WP 0545)  
Left and right mirror assemblies removed.  
(Volume 3, WP 0545)  
Driver's seat removed. (Volume 4, WP 0582)  
Right and left cowl ventilation door screens  
removed. (Volume 4, WP 0572)

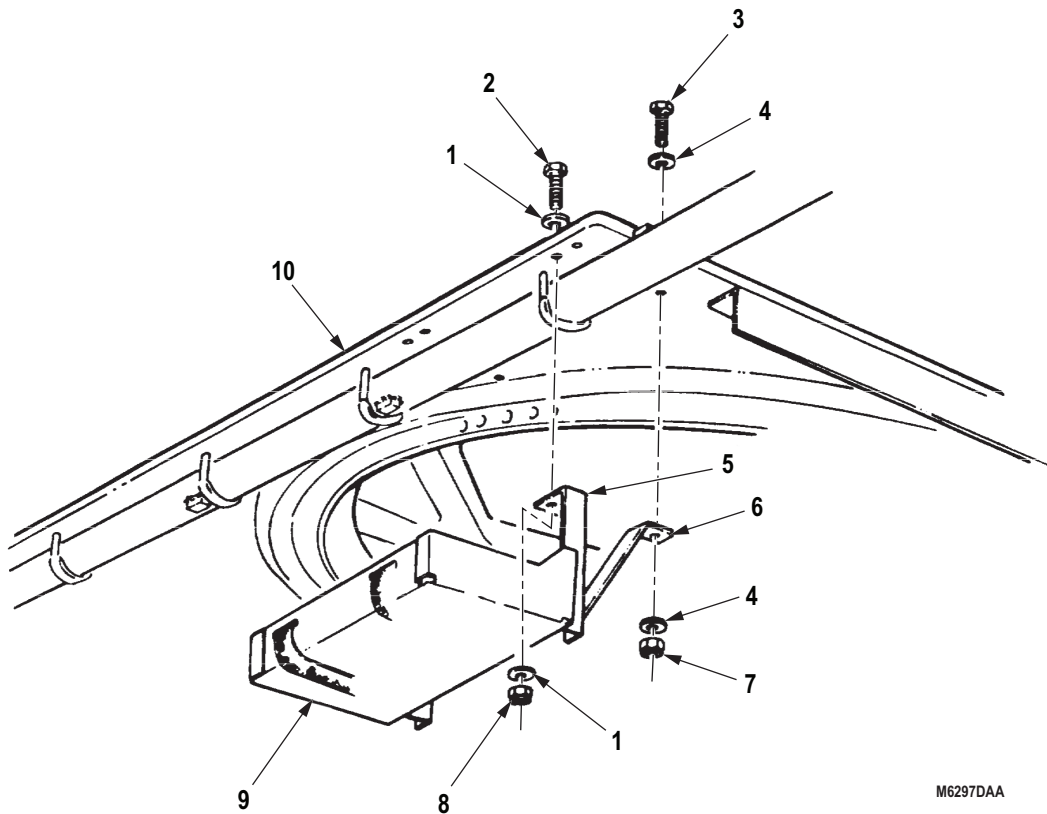
**REMOVAL****WARNING**

All personnel must stand clear during lifting operations. A snapped chain, or shifting or swinging load, may result in injury to personnel. Failure to comply may result in injury or death to personnel.

**NOTE**

It may be necessary to remove left and right reinforcement panels from rear of cab to gain access to U-bolt nuts.

1. Remove four locknuts (Figure 1, Item 7), eight washers (Figure 1, Item 4), four screws (Figure 1, Item 3), and braces (Figure 1, Item 6) from support assembly (Figure 1, Item 10). Discard locknuts.
2. Remove eight locknuts (Figure 1, Item 8), sixteen washers (Figure 1, Item 1), eight screws (Figure 1, Item 2), four ammo tray supports (Figure 1, Item 5) and ammo box tray (Figure 1, Item 9) from under left and right front sides of support assembly (Figure 1, Item 10). Discard locknuts.



M6297DAA

Figure 1. Weapon Station Removal.

**REMOVAL - Continued**

3. Attach four utility chains and lifting device to lightweight weapon station platform (Figure 2, Item 11).
4. Remove four locknuts (Figure 2, Item 9), washers (Figure 2, Item 8), plates (Figure 2, Item 7), roof mounts (Figure 2, Item 6), and spacers (Figure 2, Item 5) from screws (Figure 2, Item 1).
5. Remove four screws (Figure 2, Item 1) and washers (Figure 2, Item 2) from lightweight weapon station platform (Figure 2, Item 11).
6. Raise lightweight weapon station platform (Figure 2, Item 11) and remove four plates (Figure 2, Item 3) and roof mounts (Figure 2, Item 4) from four post assemblies (Figure 2, Item 10).

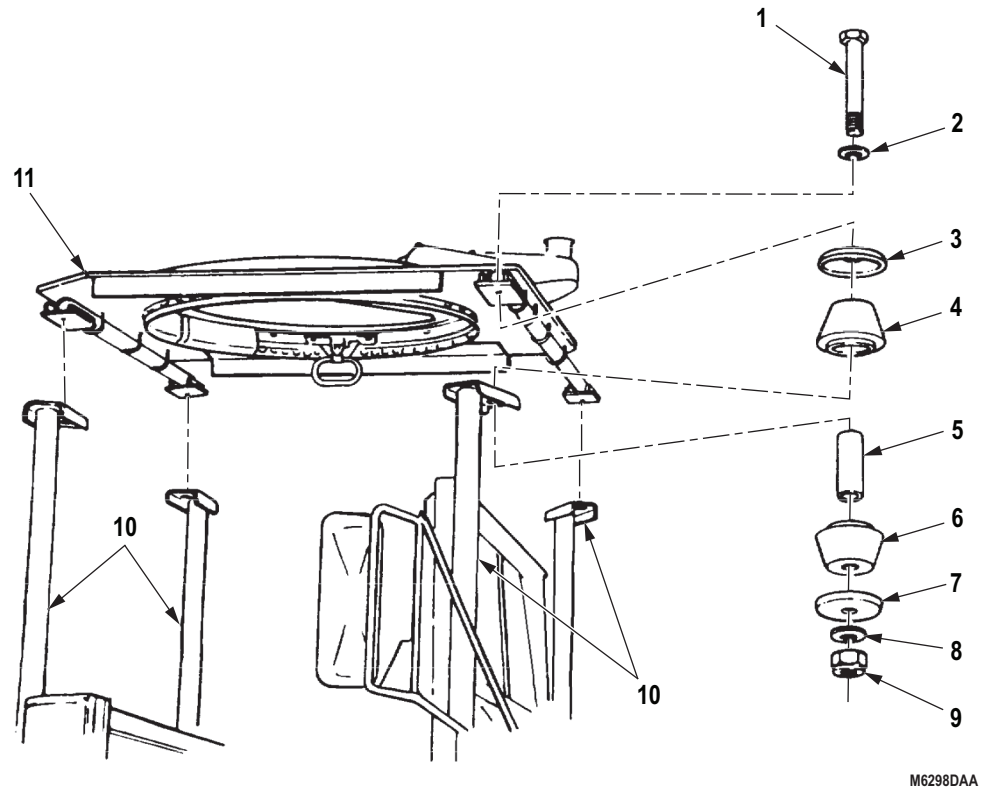


Figure 2. Weapon Station Removal.

**REMOVAL - Continued**

7. Remove 14 locknuts (Figure 3, Item 10), washers (Figure 3, Item 9), seven U-bolts (Figure 3, Item 6), short crossmember assembly (Figure 3, Item 7), and long crossmember assembly (Figure 3, Item 8) from lightweight weapon station platform (Figure 3, Item 4). Discard locknuts.
8. Place lightweight weapon station platform (Figure 3, Item 4) on blocking (Figure 3, Item 5) so inner ring (Figure 3, Item 1) of support assembly (Figure 3, Item 11) is accessible and remove lifting device from lightweight weapon station platform.

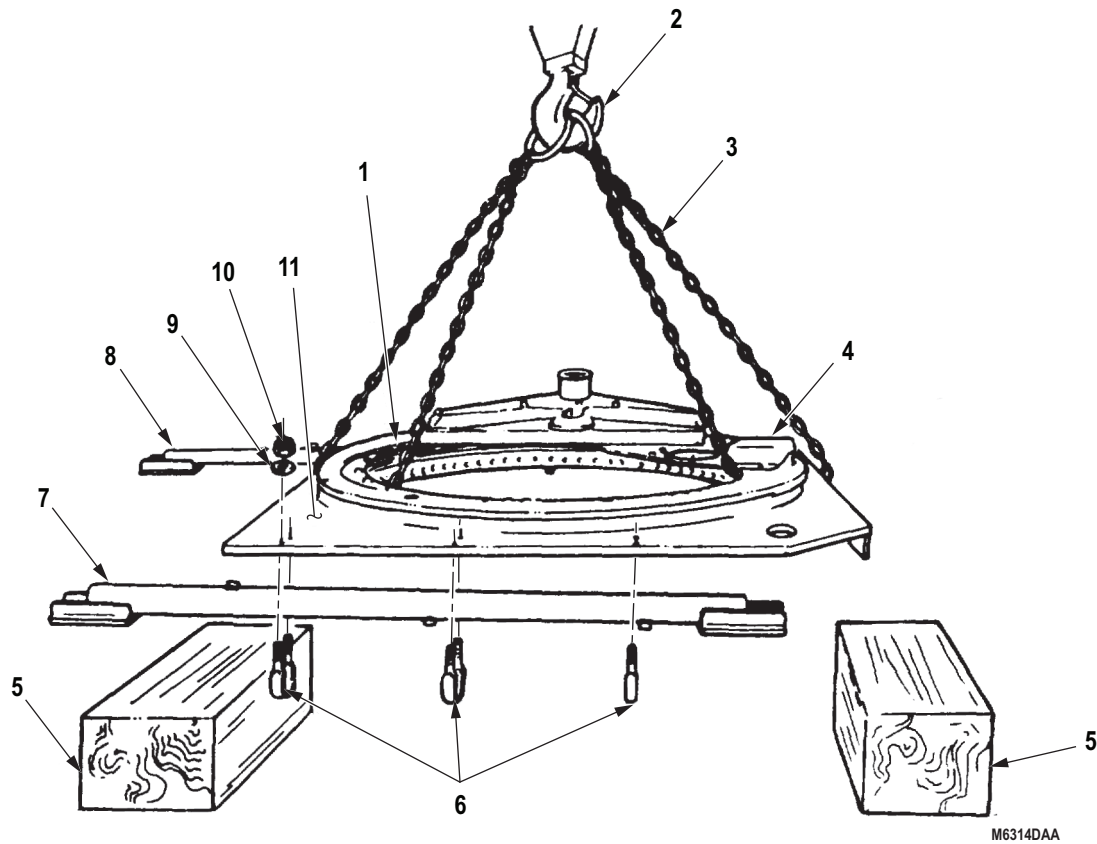


Figure 3. Weapon Station Removal.

**REMOVAL - Continued****NOTE**

Left and right rear post assemblies are removed the same way. This procedure is for the right rear post assembly.

9. Remove two locknuts (Figure 4, Item 3) and U-bolt (Figure 4, Item 7) from right rear cab support (Figure 4, Item 4). Discard locknuts.
10. Remove right rear post assembly (Figure 4, Item 2) from U-bolts (Figure 4, Item 7) and (Figure 4, Item 5) on right rear cab support (Figure 4, Item 4).
11. Remove two cotter pins (Figure 4, Item 1) and pin (Figure 4, Item 8) from bottom hole in right rear post assembly (Figure 4, Item 2). Discard cotter pins.
12. Remove four locknuts (Figure 4, Item 3) and U-bolts (Figure 4, Item 6) and (Figure 4, Item 5) from right rear cab support (Figure 4, Item 4). Discard locknuts.

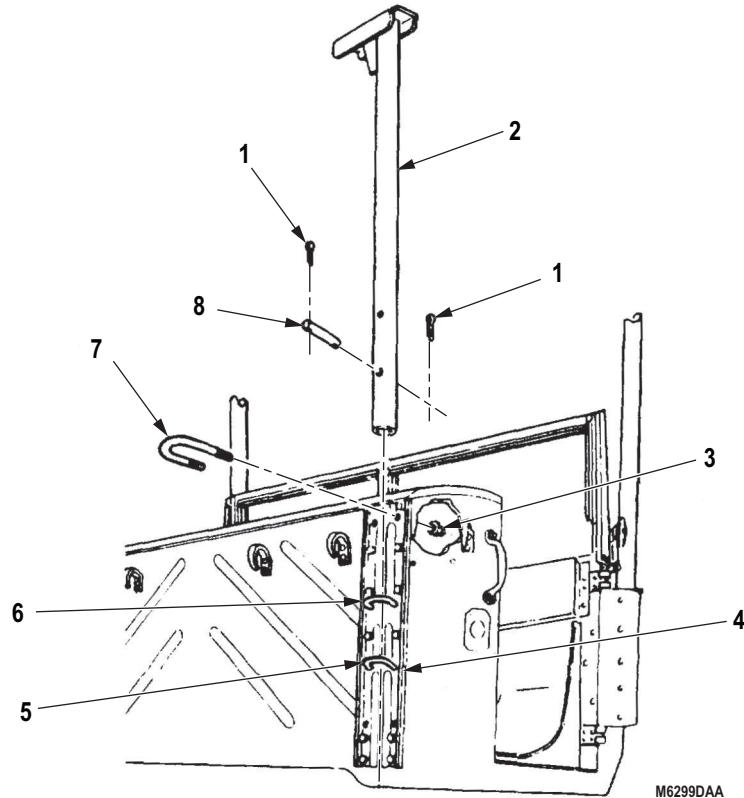
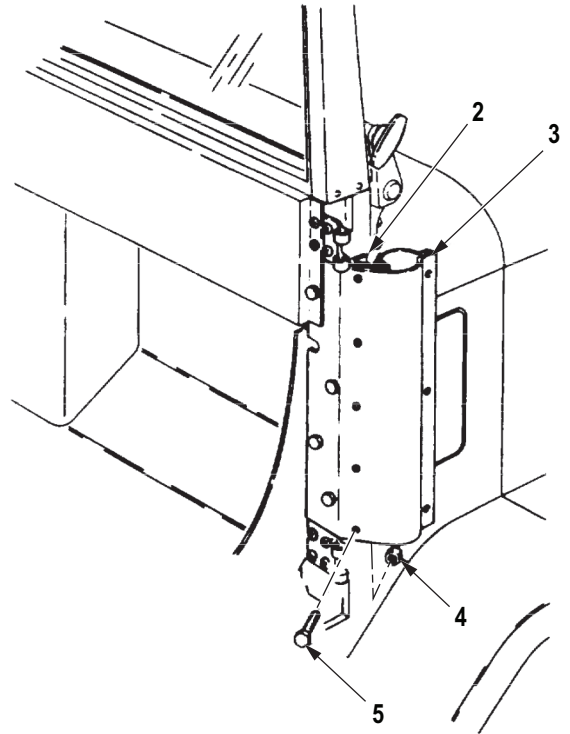
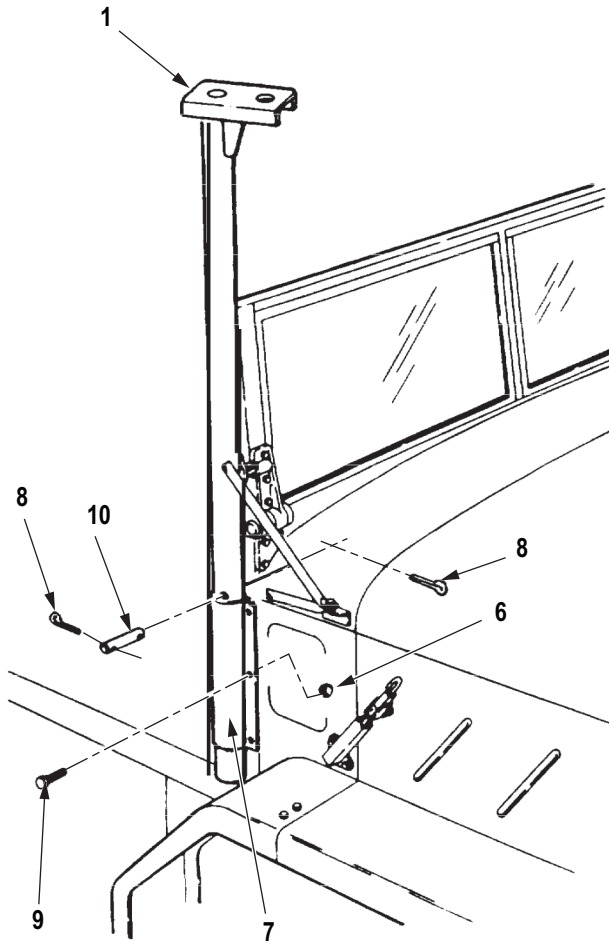


Figure 4. Weapon Station Removal.

**REMOVAL - Continued**

13. Remove two cotter pins (Figure 5, Item 8) and pin (Figure 5, Item 10) from top hole in right front post assembly (Figure 5, Item 1). Discard cotter pins.
14. Remove three locknuts (Figure 5, Item 6) and screws (Figure 5, Item 9) from right front post assembly (Figure 5, Item 1) and right post support (Figure 5, Item 7). Lift right front post assembly out of right front post support. Discard locknut.
15. Remove five locknuts (Figure 5, Item 4) and screws (Figure 5, Item 5) from right post support (Figure 5, Item 3) and right front brace assembly (Figure 5, Item 2). Discard locknuts.

REMOVAL - Continued



M6300DAA

Figure 5. Weapon Station Removal.

**REMOVAL - Continued**

16. Remove two screws (Figure 6, Item 18) and screw (Figure 6, Item 17) from instrument panel (Figure 6, Item 1) and right door pillar (Figure 6, Item 3).
17. Remove four screws (Figure 6, Item 16) and right post support (Figure 6, Item 2) from right door pillar (Figure 6, Item 3).
18. Remove four screws (Figure 6, Item 12), washers (Figure 6, Item 11), right front brace assembly (Figure 6, Item 13), and tapping plate (Figure 6, Item 15) from outer cowl wall (Figure 6, Item 10) and inside of door pillar wall (Figure 6, Item 14).
19. Remove two cotter pins (Figure 6, Item 6) and pin (Figure 6, Item 5) from top hole of left front post assembly (Figure 6, Item 4). Discard cotter pins.
20. Remove three locknuts (Figure 6, Item 9) and screws (Figure 6, Item 7) from left front post assembly (Figure 6, Item 4) and left post support (Figure 6, Item 8) and lift left front post assembly out of left post support. Discard locknuts.



REMOVAL - Continued

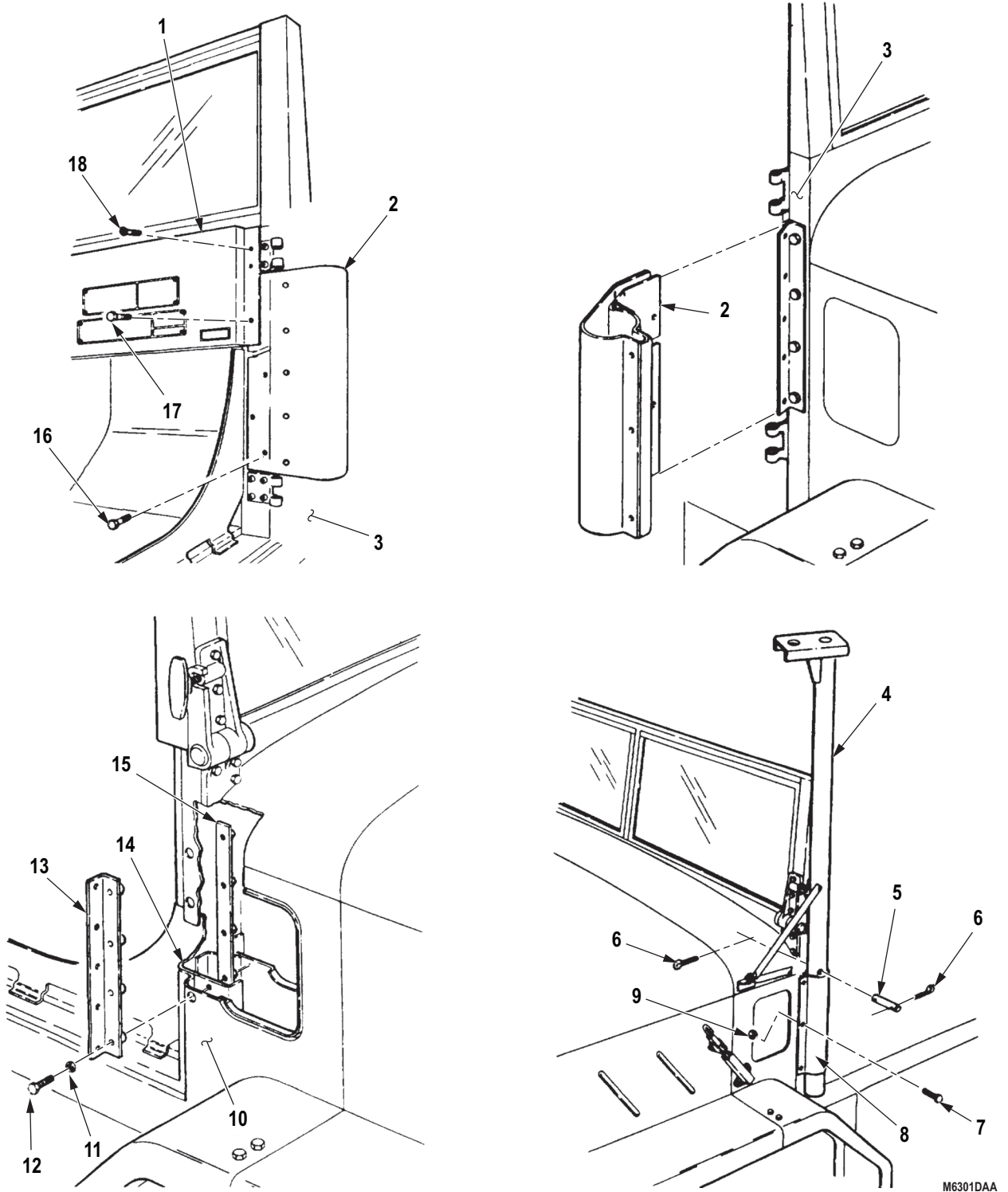
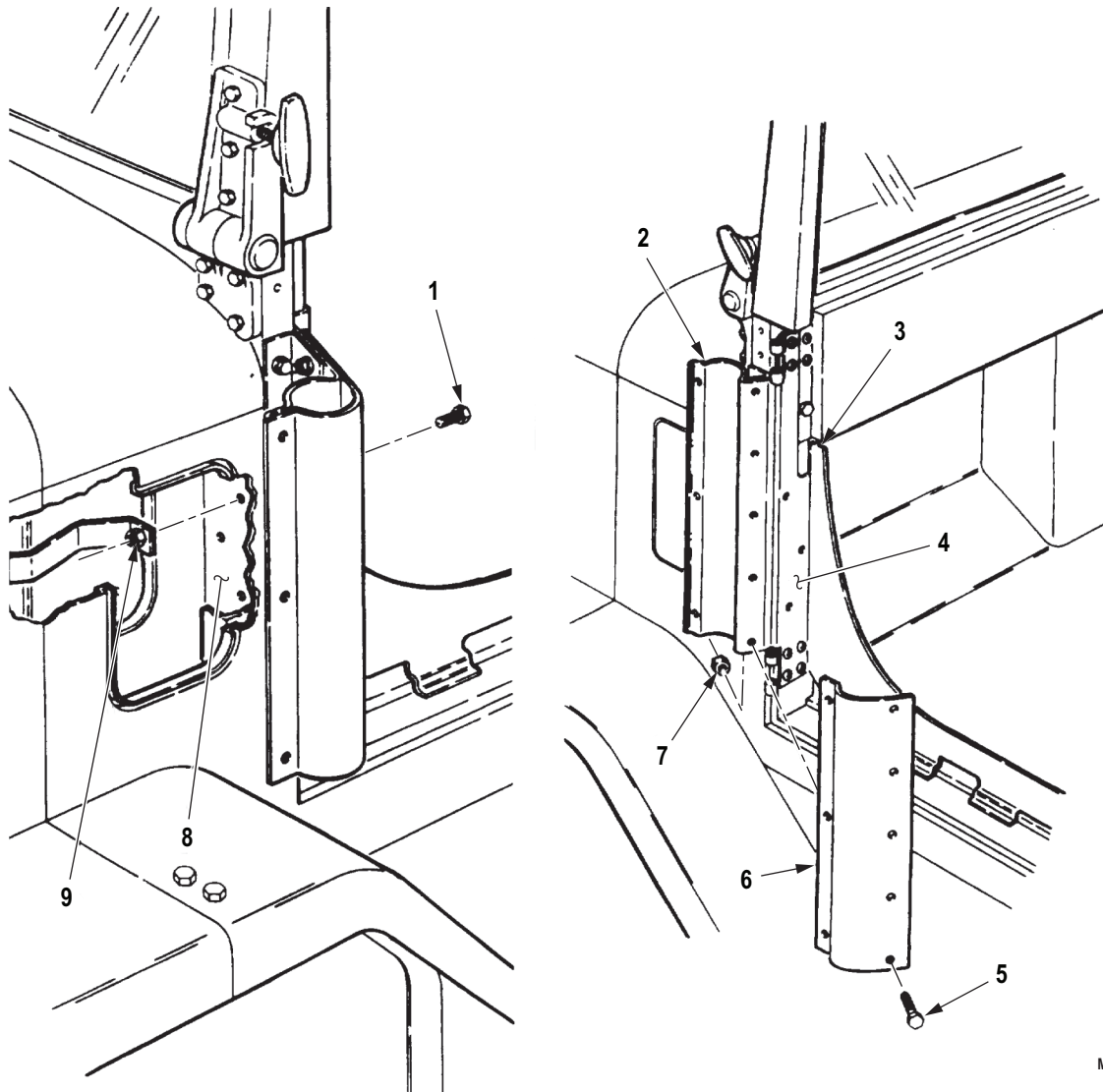


Figure 6. Weapon Station Removal.

**REMOVAL - Continued**

21. Remove three nut assemblies (Figure 7, Item 9) and screws (Figure 7, Item 1) from backside of left front pillar wall (Figure 7, Item 8).
22. Remove five locknuts (Figure 7, Item 7), screws (Figure 7, Item 5), and left post support bracket (Figure 7, Item 6) from left front brace assembly (Figure 7, Item 2) and left port support (Figure 7, Item 4). Discard locknuts.

REMOVAL - Continued



M6302DAA

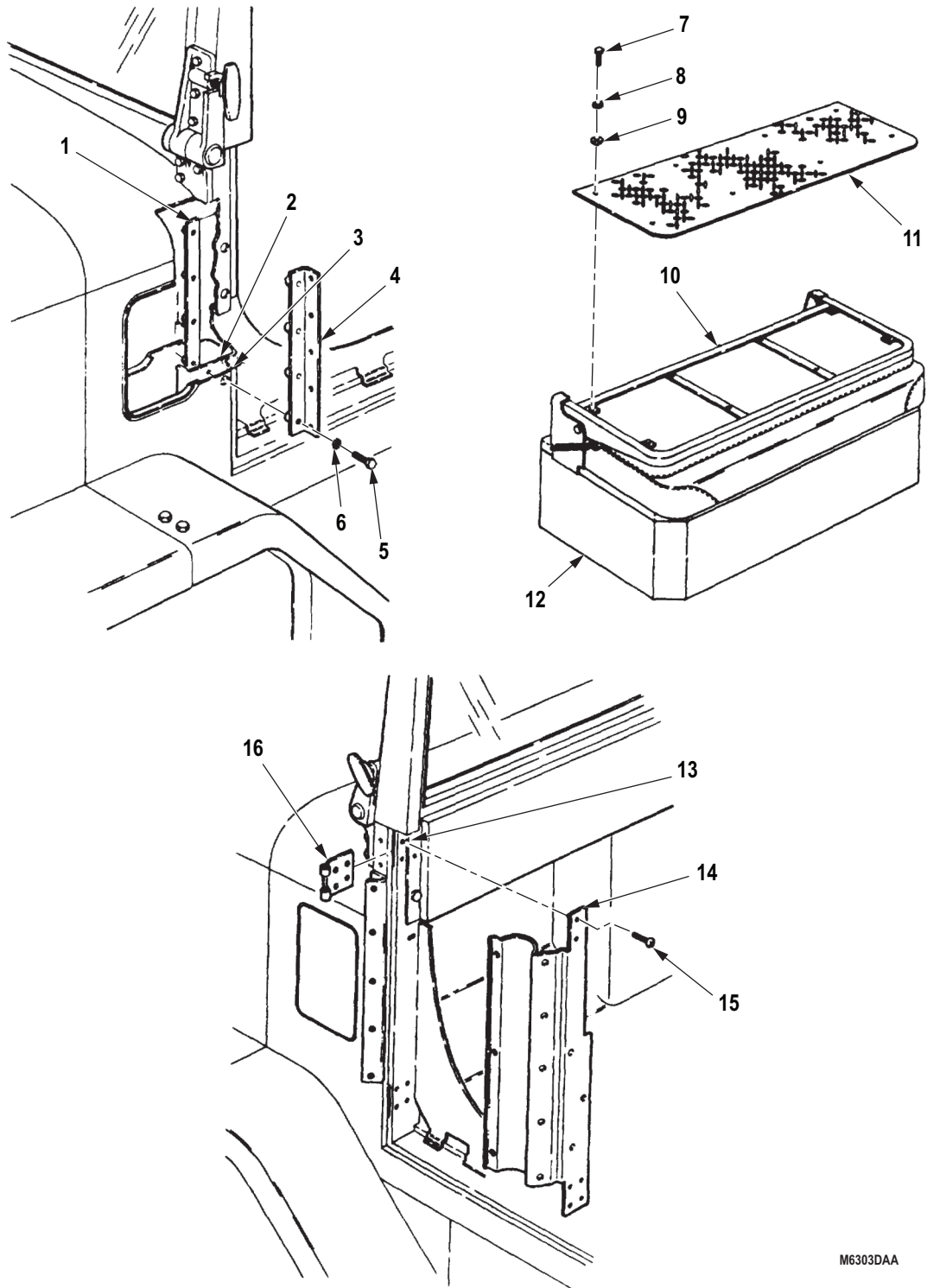
Figure 7. Weapon Station Removal.

**REMOVAL - Continued****NOTE**

Assistant will help with Steps (23) through (25).

23. Remove eight door hinge screws (Figure 8, Item 15), left post support (Figure 8, Item 14), and two door hinges (Figure 8, Item 16) from left door pillar (Figure 8, Item 13).
24. Remove four screws (Figure 8, Item 5), washers (Figure 8, Item 6), left front brace assembly (Figure 8, Item 4), and tapping plate (Figure 8, Item 1) from left door pillar wall (Figure 8, Item 2) and outer cowl wall (Figure 8, Item 3).
25. Remove eight screws (Figure 8, Item 7), lockwashers (Figure 8, Item 8), washers (Figure 8, Item 9), and seat back panel (Figure 8, Item 11) from backrest cushion frame (Figure 8, Item 10) and companion seat assembly (Figure 8, Item 12). Discard lockwashers.

REMOVAL - Continued



M6303DAA

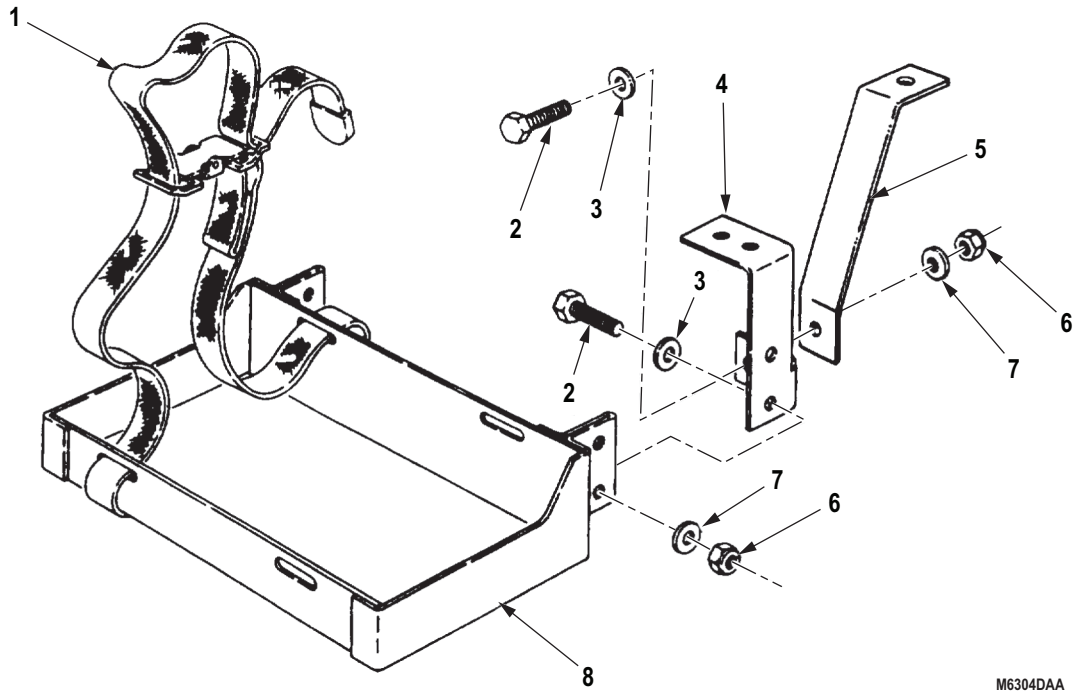
Figure 8. Weapon Station Removal.

END OF TASK

**DISASSEMBLY**

1. Remove 12 locknuts (Figure 9, Item 6), washers (Figure 9, Item 7), screws (Figure 9, Item 2), washers (Figure 9, Item 3), four braces (Figure 9, Item 5), and ammo tray supports (Figure 9, Item 4) from two ammo box trays (Figure 9, Item 8). Discard locknuts.
2. Remove four strap assemblies (Figure 9, Item 1) from two ammo box trays (Figure 9, Item 8).

DISASSEMBLY - Continued



M6304DAA

Figure 9. Weapon Station Disassembly.

**DISASSEMBLY - Continued****NOTE**

Spacers were used as needed to center lockpin in lockring. Number of spacers in bearing assembly and lockring may vary.

3. Remove two locknuts (Figure 10, Item 24), washers (Figure 10, Item 25), screws (Figure 10, Item 28), lock assembly (Figure 10, Item 26), and spacers (Figure 10, Item 27) from bearing assembly (Figure 10, Item 11) and lockring (Figure 10, Item 23). Discard locknuts.
4. Remove two locknuts (Figure 10, Item 32), washers (Figure 10, Item 33), screws (Figure 10, Item 3), four locknuts (Figure 10, Item 30), washers (Figure 10, Item 31), screws (Figure 10, Item 4), and armament mount panel (Figure 10, Item 2) from armament support assembly (Figure 10, Item 10). Discard locknuts.
5. Remove locknut (Figure 10, Item 34), washer (Figure 10, Item 35), screw (Figure 10, Item 1), and pin assembly (Figure 10, Item 36) from armament mount panel (Figure 10, Item 2). Discard locknut.

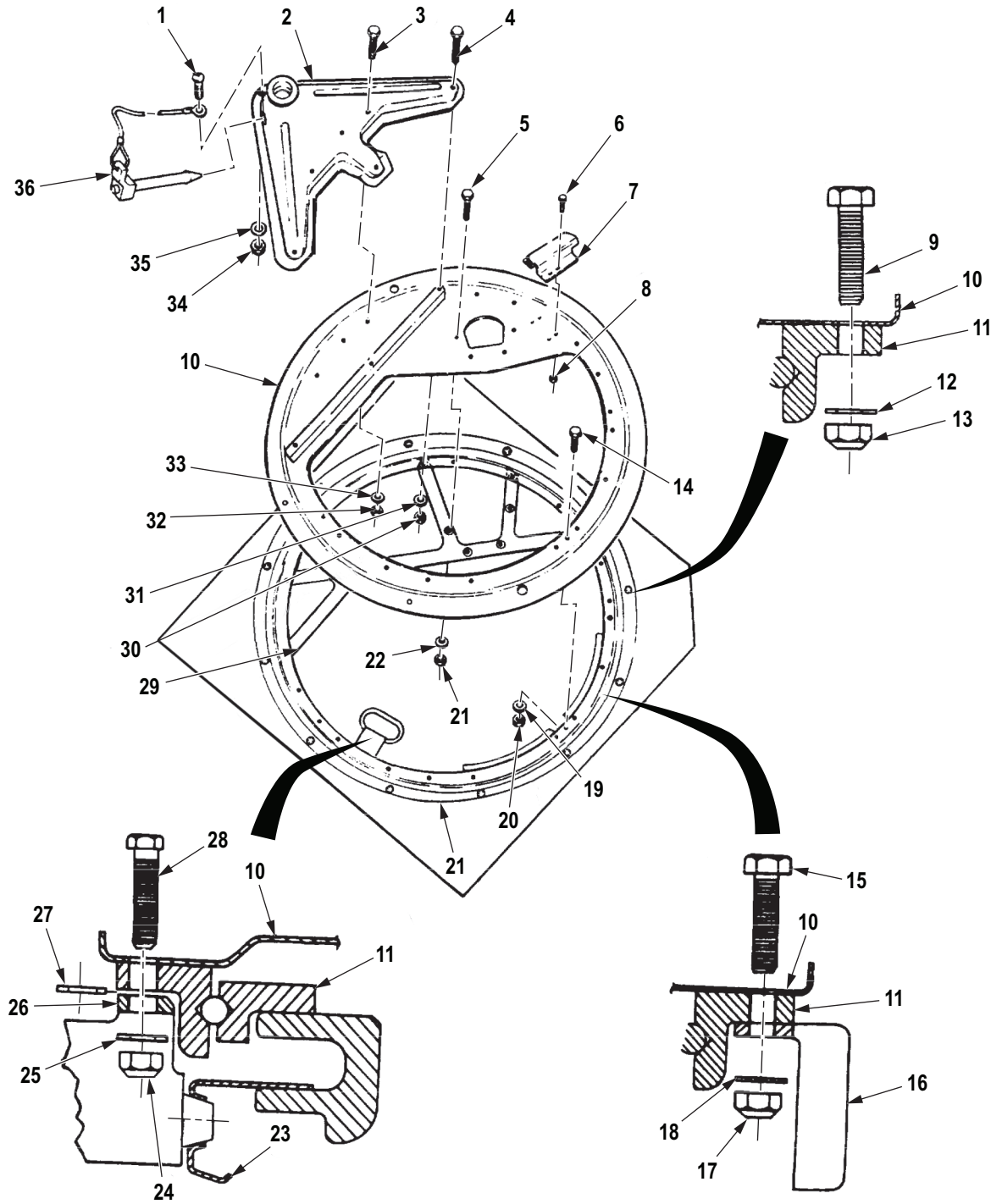
**NOTE**

Tag all hardware for assembly.

6. Remove six locknuts (Figure 10, Item 21), washers (Figure 10, Item 22), and screws (Figure 10, Item 5) from tube (Figure 10, Item 29), bearing assembly (Figure 10, Item 11), and armament support assembly (Figure 10, Item 10). Discard locknuts.
7. Remove two locknuts (Figure 10, Item 17), washers (Figure 10, Item 18), screws (Figure 10, Item 15), and backrests (Figure 10, Item 16) from bearing assembly (Figure 10, Item 11) and armament support assembly (Figure 10, Item 10). Discard locknuts.
8. Remove seven locknuts (Figure 10, Item 13), washers (Figure 10, Item 12), and screws (Figure 10, Item 9) from armament support assembly (Figure 10, Item 10) and bearing assembly (Figure 10, Item 11). Discard locknuts.
9. Remove locknut (Figure 10, Item 20), washer (Figure 10, Item 19), screw (Figure 10, Item 14), and armament support assembly (Figure 10, Item 10) from bearing assembly (Figure 10, Item 11). Discard locknut.
10. Remove four locknuts (Figure 10, Item 8), screws (Figure 10, Item 6), and handle (Figure 10, Item 7) from armament support assembly (Figure 10, Item 10). Discard locknuts.



DISASSEMBLY - Continued



M6305DAA

Figure 10. Weapon Station Disassembly.

**DISASSEMBLY - Continued**

11. Remove 18 screws (Figure 11, Item 10), washers (Figure 11, Item 9), and three lockrings (Figure 11, Item 2) from inner ring of support assembly (Figure 11, Item 1).
12. Remove 12 locknuts (Figure 11, Item 7), washers (Figure 11, Item 6), screws (Figure 11, Item 4), washers (Figure 11, Item 5), and bearing assembly (Figure 11, Item 3) from support assembly (Figure 11, Item 8). Discard locknut.

DISASSEMBLY - Continued

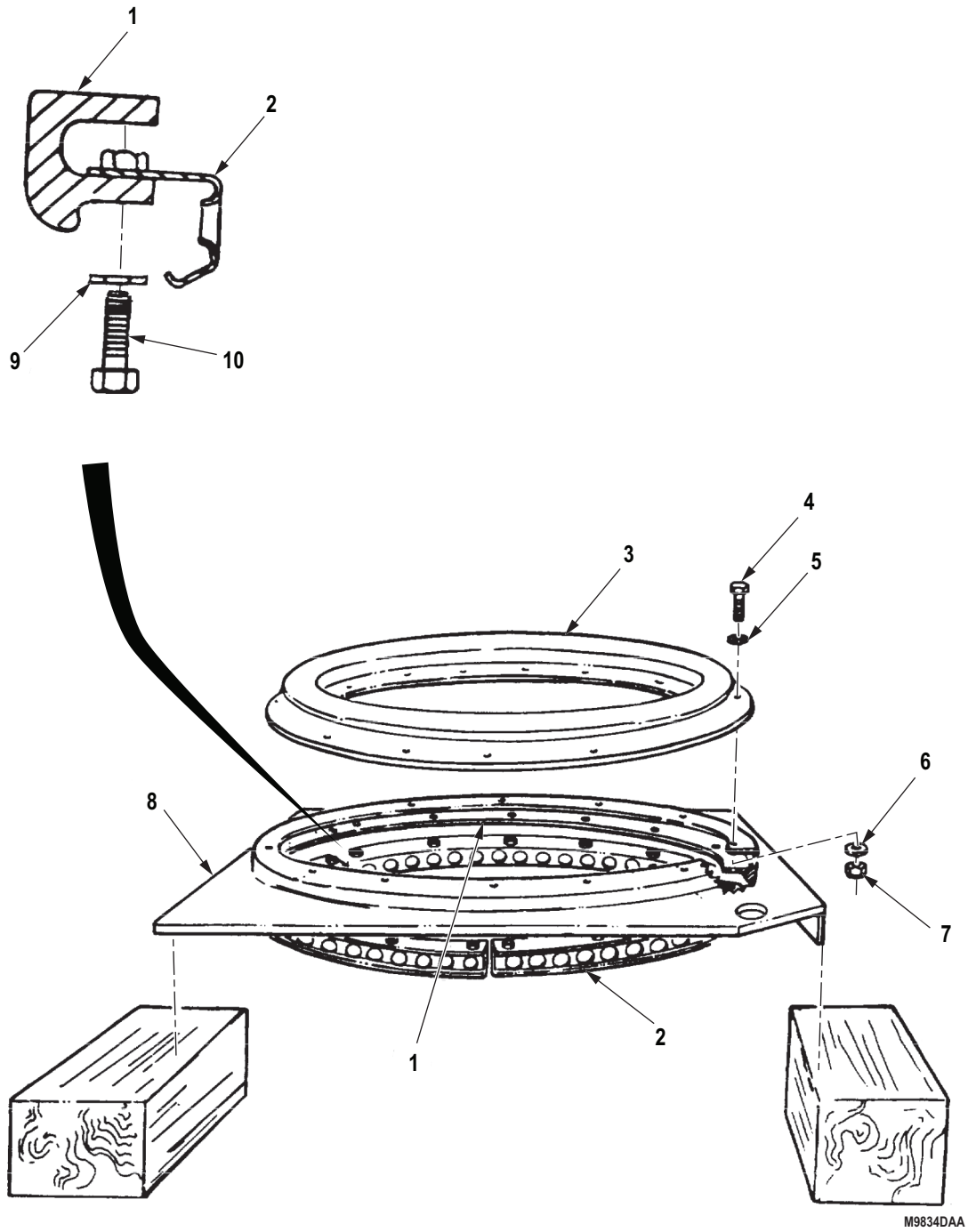
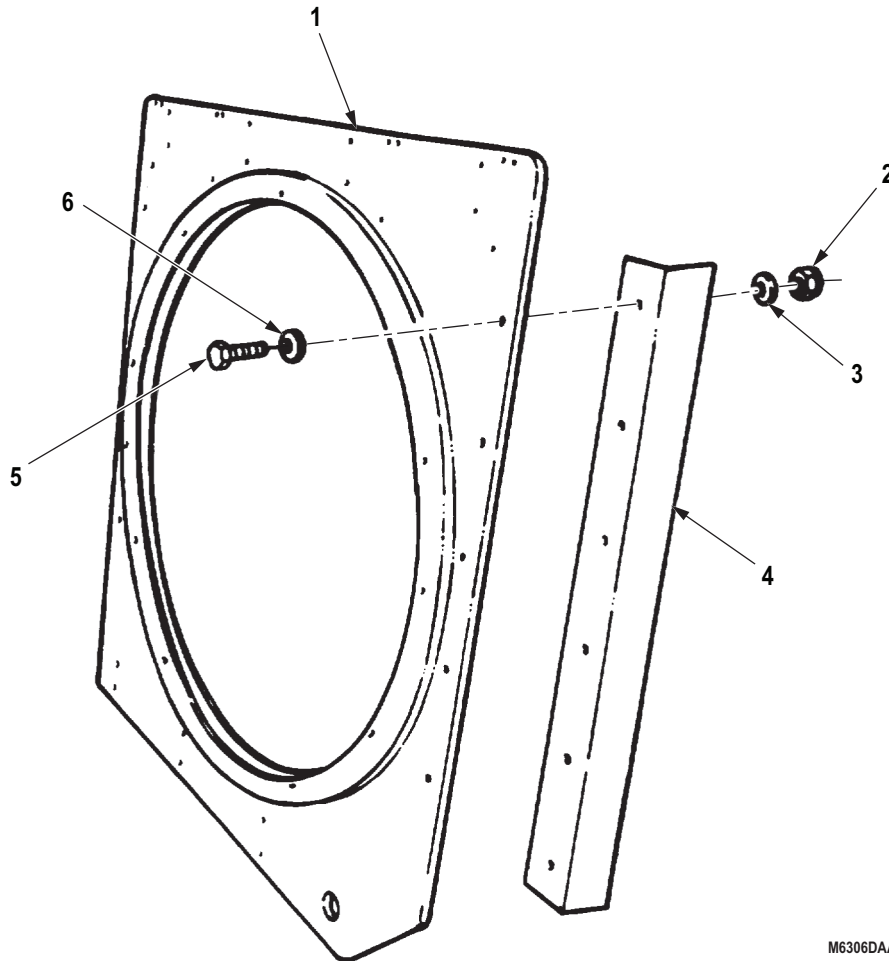


Figure 11. Weapon Station Disassembly.

**DISASSEMBLY - Continued**

13. Remove 12 locknuts (Figure 12, Item 2), washers (Figure 12, Item 3), screws (Figure 12, Item 5), washers (Figure 12, Item 6), and two reinforcements (Figure 12, Item 4) from support assembly (Figure 12, Item 1). Discard locknuts.



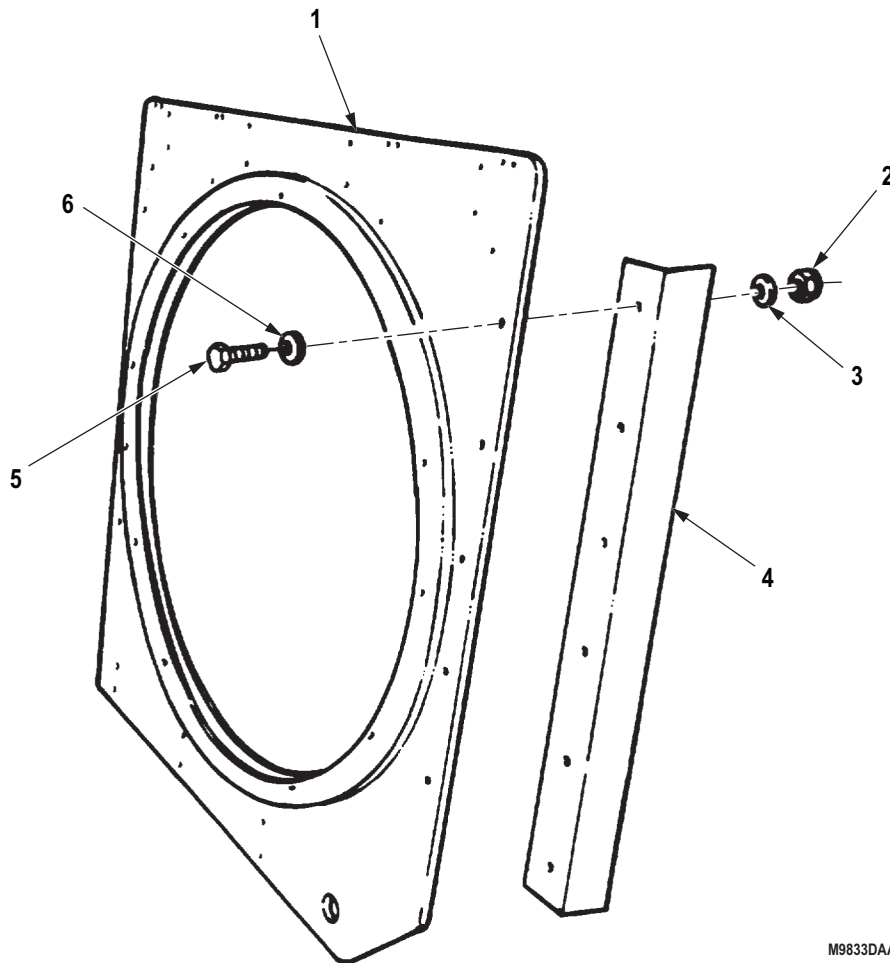
M6306DAA

Figure 12. Weapon Station Disassembly.

**END OF TASK**

**ASSEMBLY**

1. Install two reinforcements (Figure 13, Item 4) on support assembly (Figure 13, Item 1) with 12 washers (Figure 13, Item 6), screws (Figure 13, Item 5), washers (Figure 13, Item 3), and locknuts (Figure 13, Item 2).



M9833DAA

Figure 13. Lightweight Weapon Station Assembly.

**ASSEMBLY - Continued**

2. Install bearing assembly (Figure 14, Item 3) on support assembly (Figure 14, Item 8) with 12 washers (Figure 14, Item 5), screws (Figure 14, Item 4), washers (Figure 14, Item 6), and locknuts (Figure 14, Item 7).
3. Install three lockrings (Figure 14, Item 2) to inner ring of support assembly (Figure 14, Item 1) with 18 washers (Figure 14, Item 9) and screws (Figure 14, Item 10).

ASSEMBLY - Continued

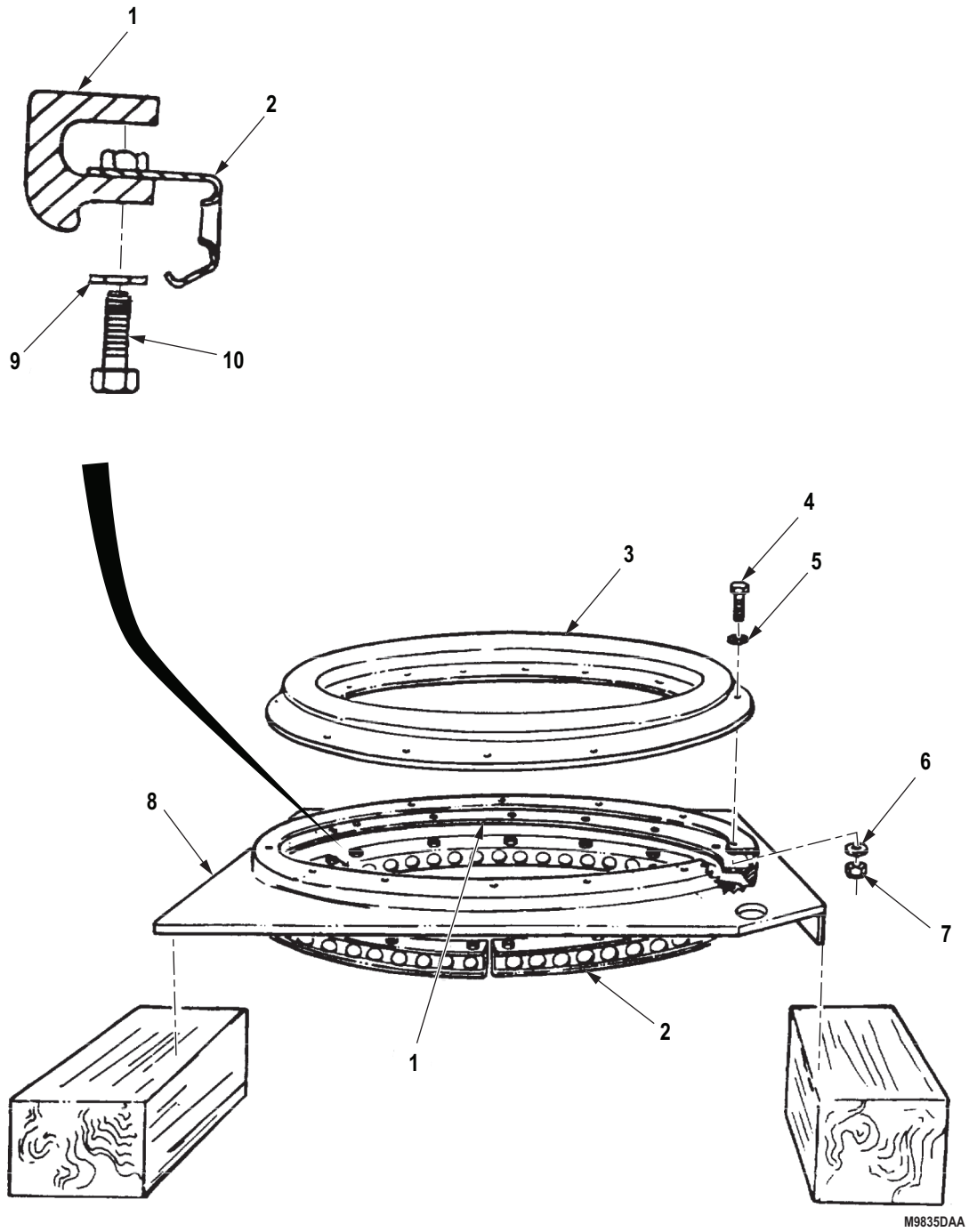


Figure 14. Lightweight Weapon Station Assembly.

**ASSEMBLY - Continued**

4. Install handle (Figure 15, Item 7) on armament support assembly (Figure 15, Item 10) with four screws (Figure 15, Item 6) and locknuts (Figure 15, Item 8).

**NOTE**

Finger-tighten locknuts in Steps (5) through (10).

5. Align three-hole pattern in armament support assembly (Figure 15, Item 10) with three-hole pattern of bearing assembly (Figure 15, Item 11) and install screw (Figure 15, Item 14), washer (Figure 15, Item 20), and locknut (Figure 15, Item 21) in center hole (Figure 15, Item 15).
6. Install two backrests (Figure 15, Item 17) on bearing assembly (Figure 15, Item 11) and armament support assembly (Figure 15, Item 10) with four screws (Figure 15, Item 16), washers (Figure 15, Item 19), and locknuts (Figure 15, Item 18).
7. Install tube (Figure 15, Item 31) on bearing assembly (Figure 15, Item 11) and armament support assembly (Figure 15, Item 10) with six screws (Figure 15, Item 5), washers (Figure 15, Item 23), and locknuts (Figure 15, Item 22).
8. Install pin assembly (Figure 15, Item 38) on armament mount panel (Figure 15, Item 2) with screw (Figure 15, Item 1), washer (Figure 15, Item 37) and locknut (Figure 15, Item 36).
9. Install armament mount panel (Figure 15, Item 2) on armament support assembly (Figure 15, Item 10) with four screws (Figure 15, Item 4), washers (Figure 15, Item 33), locknuts (Figure 15, Item 32), two screws (Figure 15, Item 3), washers (Figure 15, Item 35), and locknuts (Figure 15, Item 34).
10. Install seven screws (Figure 15, Item 9), washers (Figure 15, Item 12), and locknuts (Figure 15, Item 13) on armament support assembly (Figure 15, Item 10) and bearing assembly (Figure 15, Item 11).
11. Tighten locknuts (Figure 15, Items 13, 18, 21, 22, 32, 34, and 36).

**NOTE**

Use spacers as needed to center lockpin in lockring.

12. Position lock assembly (Figure 15, Item 28) between bearing assembly (Figure 15, Item 11) and lockring (Figure 15, Item 24), centering lockpin (Figure 15, Item 25) in lockring (Figure 15, Item 24) using spacers (Figure 15, Item 29) as needed.
13. Install lock assembly (Figure 15, Item 28) on bearing assembly (Figure 15, Item 11) with two screws (Figure 15, Item 30), washers (Figure 15, Item 27), and locknuts (Figure 15, Item 26).



ASSEMBLY - Continued

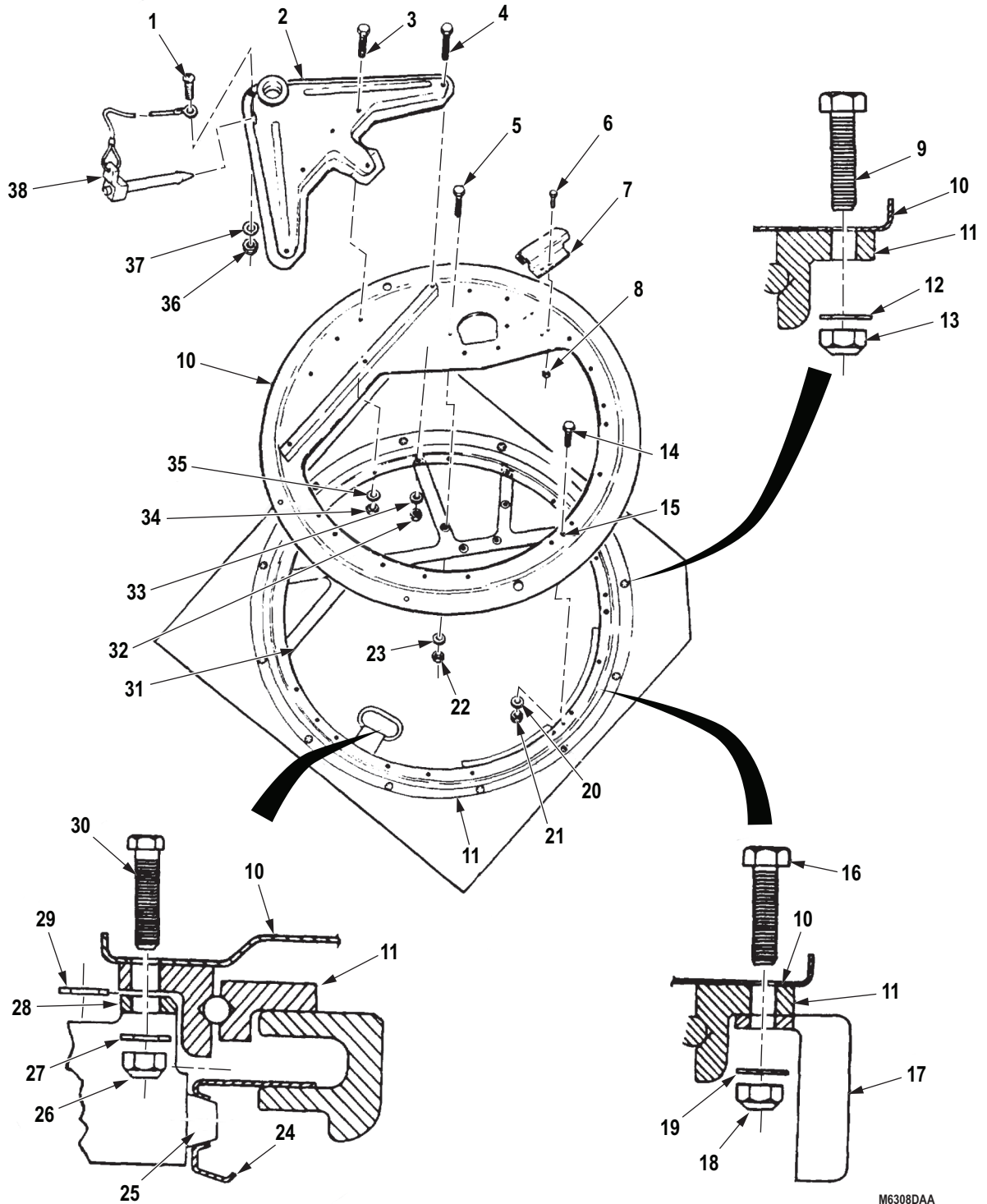
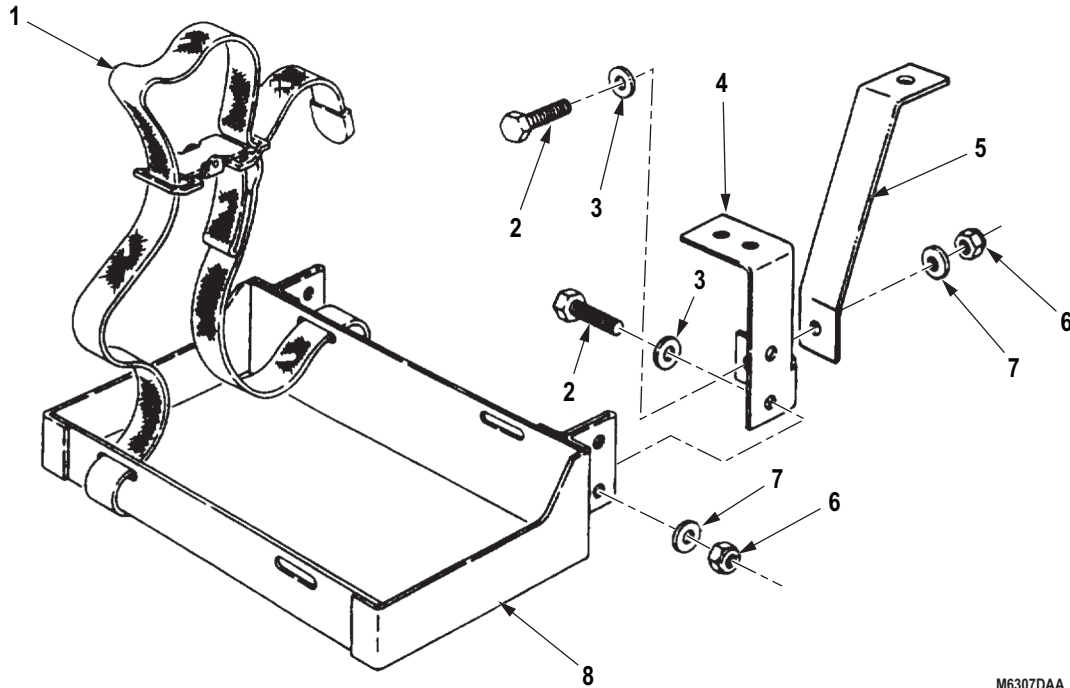


Figure 15. Lightweight Weapon Station Assembly.

**ASSEMBLY - Continued**

14. Install four strap assemblies (Figure 16, Item 1) on two ammo box trays (Figure 16, Item 8).
15. Install four ammo tray supports (Figure 16, Item 4) and braces (Figure 16, Item 5) on two ammo box trays (Figure 16, Item 8) with 12 washers (Figure 16, Item 3), screws (Figure 16, Item 2), washers (Figure 16, Item 7), and locknuts (Figure 16, Item 6). Do not tighten locknuts.



M6307DAA

Figure 16. *Lightweight Weapon Station Assembly.*

**END OF TASK**

**INSTALLATION**

1. Install seat back panel (Figure 17, Item 4) on backrest cushion frame (Figure 17, Item 6) and companion seat assembly (Figure 17, Item 5) with eight washers (Figure 17, Item 3), lockwashers (Figure 17, Item 2), and screws (Figure 17, Item 1).

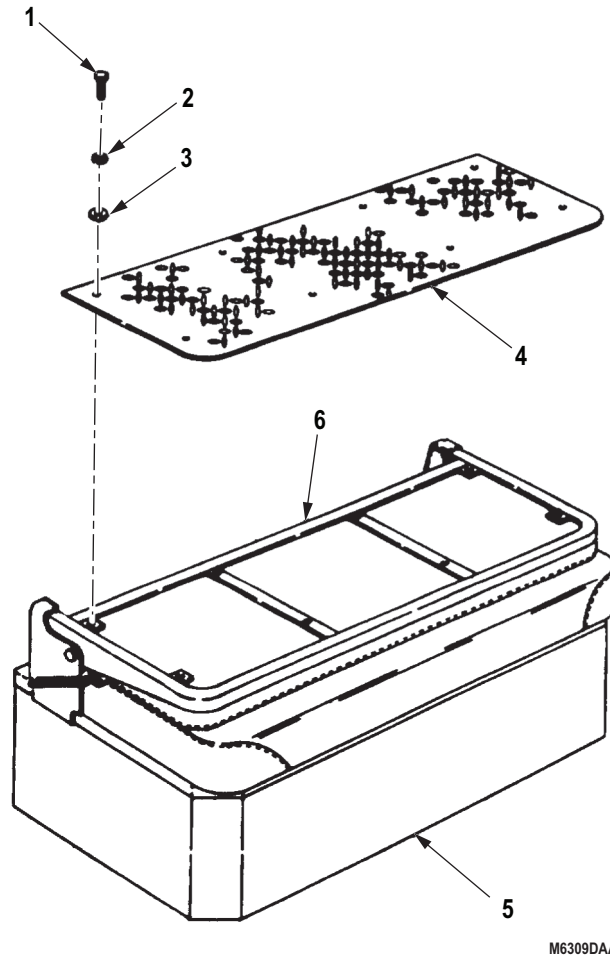


Figure 17. Lightweight Weapon Station Installation.

**INSTALLATION - Continued**

2. Position tapping plate (Figure 18, Item 1) inside left door pillar wall (Figure 18, Item 2) and install left front brace assembly (Figure 18, Item 4) on outer cowl wall (Figure 18, Item 3) with four washers (Figure 18, Item 6) and screws (Figure 18, Item 5).

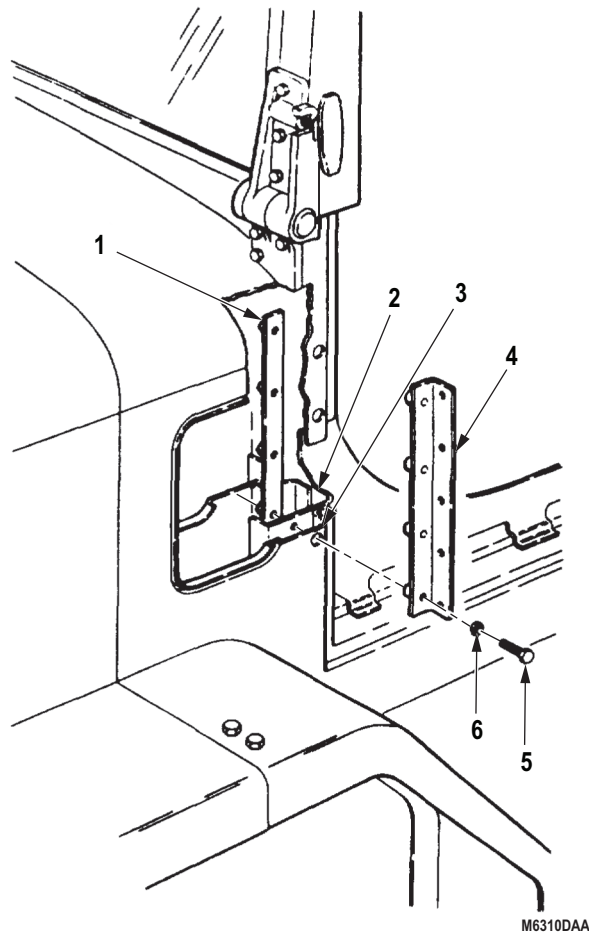
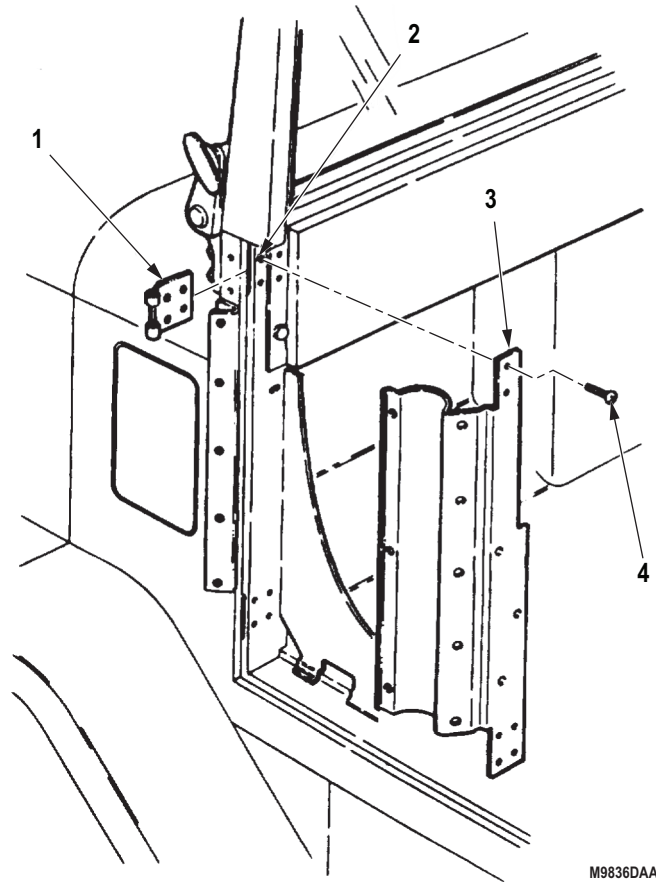


Figure 18. *Lightweight Weapon Station Installation.*

**INSTALLATION - Continued****NOTE**

Assistant will help with Steps (3) through (5).

3. Install left post support (Figure 19, Item 3) and two door hinges (Figure 19, Item 1) on left door pillar (Figure 19, Item 2) with eight door hinge screws (Figure 19, Item 4). Do not tighten door hinge screws.



M9836DAA

Figure 19. Lightweight Weapon Station Installation.

**INSTALLATION - Continued**

4. Position left post support bracket (Figure 20, Item 5) on left post support (Figure 20, Item 3) and install to left front brace assembly (Figure 20, Item 1) with five screws (Figure 20, Item 4) and locknuts (Figure 20, Item 6). Do not tighten locknuts.
5. Tighten screws (Figure 19, Item 4) and locknuts (Figure 20, Item 6).

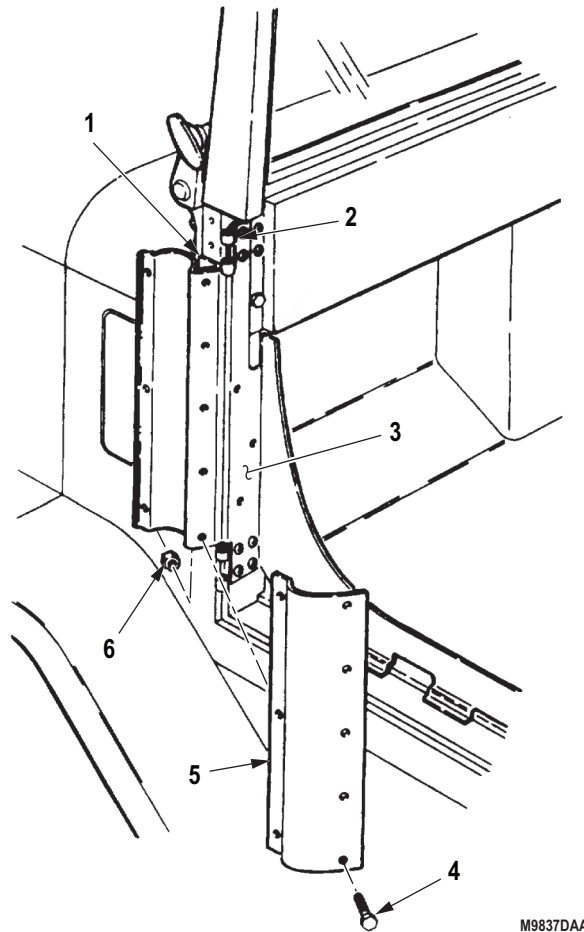


Figure 20. Lightweight Weapon Station Installation.

**INSTALLATION - Continued****NOTE**

Tabs on assemblies may require minor bending to fit during installation.

6. Install three screws (Figure 21, Item 2) and nut assemblies (Figure 21, Item 1) to backside of left pillar wall (Figure 21, Item 3).

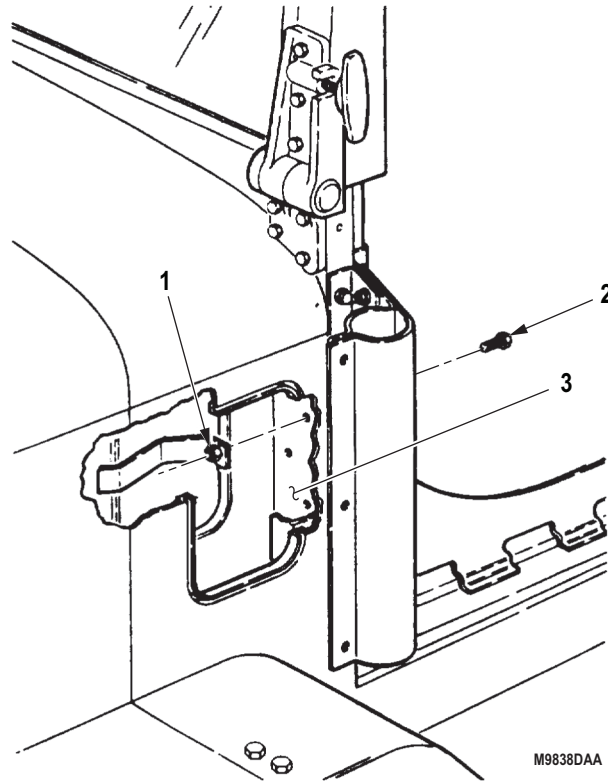


Figure 21. Lightweight Weapon Station Installation.

**INSTALLATION - Continued**

7. Install pin (Figure 22, Item 2) through top hole in left front post assembly (Figure 22, Item 1) with two cotter pins (Figure 22, Item 3).
8. Install left front post assembly (Figure 22, Item 1) on left post support (Figure 22, Item 5) with pin (Figure 22, Item 2) resting on left post support and install with three screws (Figure 22, Item 4) and locknuts (Figure 22, Item 6).

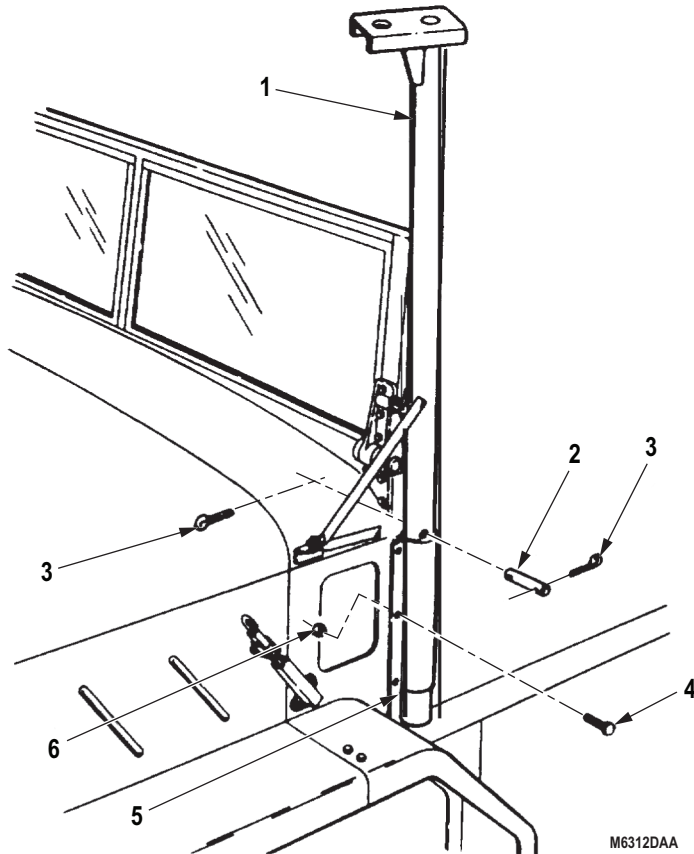


Figure 22. *Lightweight Weapon Station Installation.*



**INSTALLATION - Continued**

9. Position tapping plate (Figure 23, Item 1) inside right door pillar wall (Figure 23, Item 2) and install right front brace assembly (Figure 23, Item 5) on outer cowl wall (Figure 23, Item 6) with four washers (Figure 23, Item 4) and screws (Figure 23, Item 3).

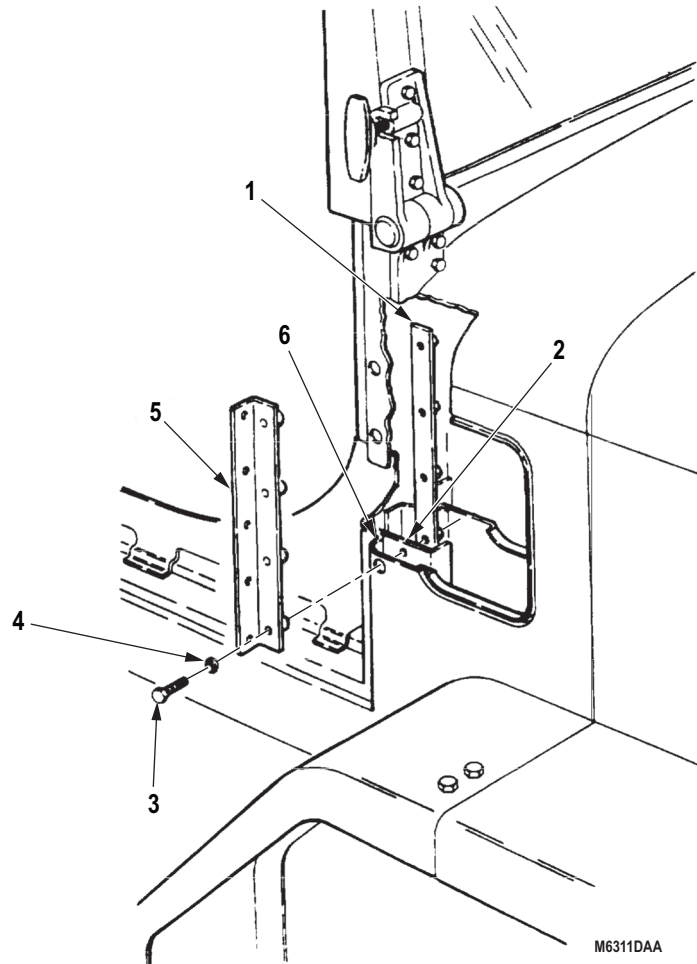


Figure 23. *Lightweight Weapon Station Installation.*

**INSTALLATION - Continued****NOTE**

Assistant will help with Steps (10) through (33).

10. Align right post brackets (Figure 24, Item 1) and (Figure 24, Item 2) and install right post support assembly (Figure 24, Item 7) on right door pillar (Figure 24, Item 3) with four screws (Figure 24, Item 4). Do not tighten screws.
11. Install instrument panel (Figure 24, Item 5) on right door pillar (Figure 24, Item 8) with two screws (Figure 24, Item 6). Do not tighten screws.
12. Loosely install right post support assembly (Figure 24, Item 7) to right front brace assembly (Figure 24, Item 16) with five screws (Figure 24, Item 15) and locknuts (Figure 24, Item 14). Do not tighten locknuts.
13. Install pin (Figure 24, Item 10) in right post assembly (Figure 24, Item 9) with two cotter pins (Figure 24, Item 11).
14. Install right post assembly (Figure 24, Item 9) on post support assembly (Figure 24, Item 7) with pin (Figure 4, Item 10) resting on top of support assembly (Figure 24, Item 13) and install three screws (Figure 24, Item 13) and locknuts (Figure 24, Item 12).
15. Tighten screws (Figure 24, Items 4 and 6) and locknut (Figure 24, Item 14).

INSTALLATION - Continued

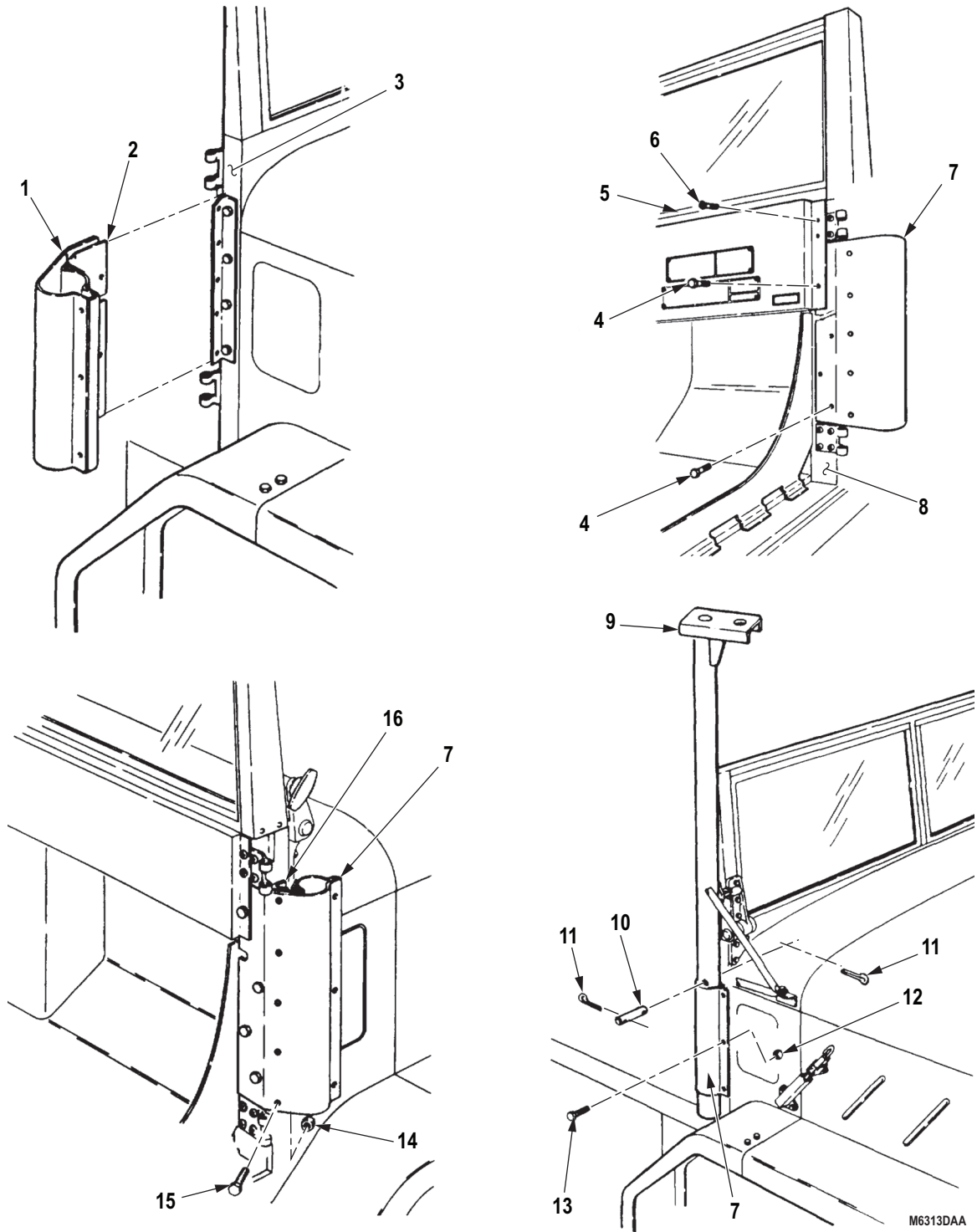


Figure 24. Lightweight Weapon Station Installation.

**INSTALLATION - Continued****NOTE**

- Left and right rear mounting posts are installed the same way. This procedure is for the right rear mounting post.
- It may be necessary to remove left and right reinforcement panels from rear of cab to gain access to U-bolt nuts.

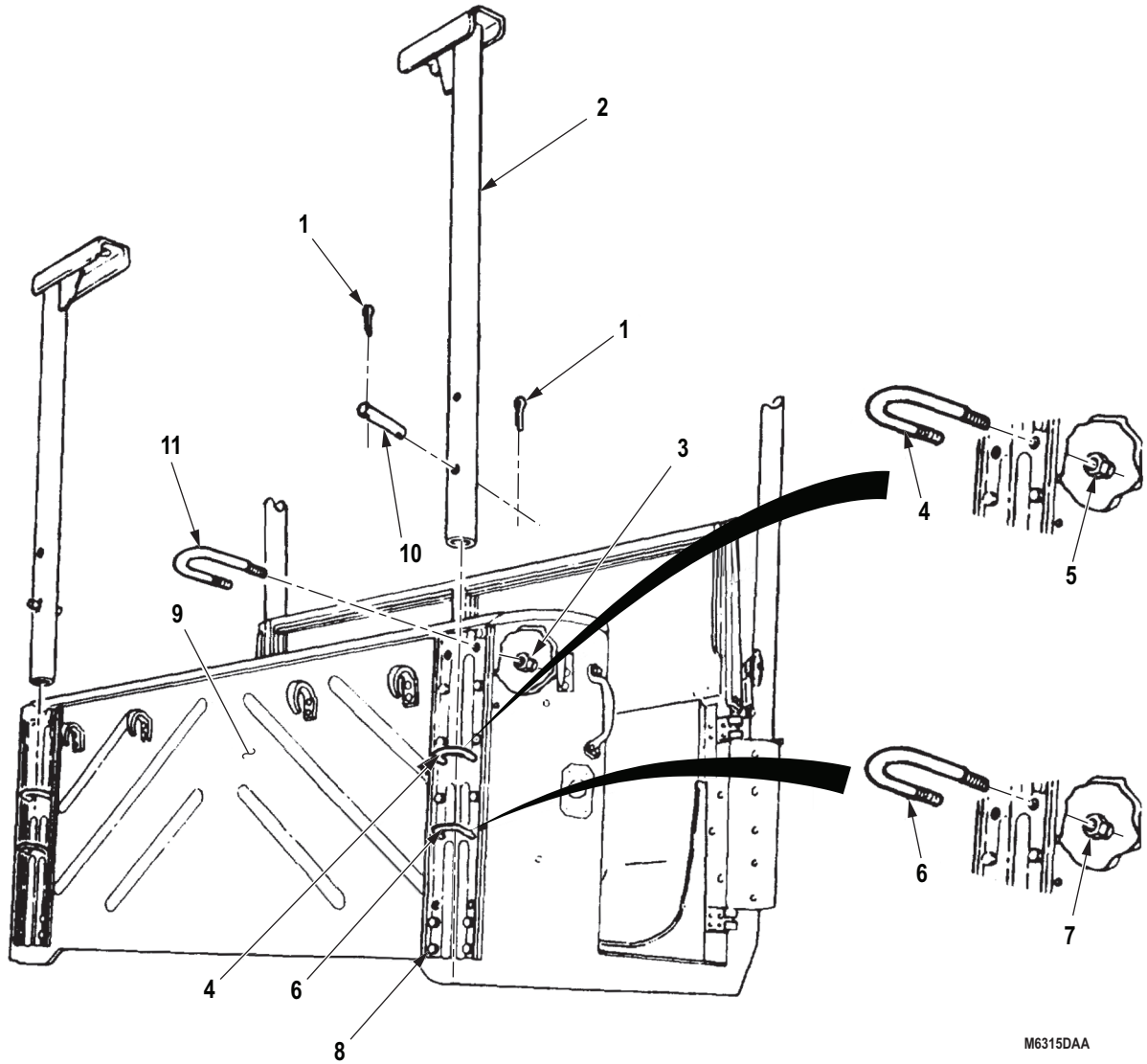
16. Install U-bolts (Figure 25, Items 4 and 6) in right rear cab support (Figure 25, Item 8) and cab (Figure 25, Item 9) with two locknuts (Figure 25, Items 5 and 7). Do not tighten locknuts.
17. Install pin (Figure 25, Item 10) in right rear mounting post assembly (Figure 25, Item 2) with two cotter pins (Figure 25, Item 1).

**NOTE**

Ensure pins installed on post assemblies do not slip through U-bolts.

18. Install right rear post assembly (Figure 25, Item 2) through U-bolts (Figure 25, Items 4 and 6) with pin (Figure 25, Item 10) resting on U-bolt (Figure 25, Item 4).
19. Install U-bolt (Figure 25, Item 11) through right rear cab support (Figure 25, Item 8) and cab (Figure 25, Item 9) with two locknuts (Figure 25, Item 3). Do not tighten locknuts.
20. Tighten locknuts (Figure 25, Items 3, 5, and 7).

INSTALLATION - Continued



M6315DAA

Figure 25. Lightweight Weapon Station Installation.

**INSTALLATION - Continued****WARNING**

All personnel must stand clear during lifting operations. A snapped chain, or shifting or swinging load, may result in injury to personnel. Failure to comply may result in injury or death to personnel.

21. Attach lifting device (Figure 26, Item 2) to lightweight weapon station platform (Figure 26, Item 3) with four utility chains (Figure 26, Item 1) and raise approximately 12 in. (30.48 cm).
22. Install long crossmember assembly (Figure 26, Item 8), with locator tab (Figure 26, Item 10) to left, on front of lightweight weapon station platform (Figure 26, Item 3) with four U-bolts (Figure 26, Item 11), eight washers (Figure 26, Item 12), and locknuts (Figure 26, Item 13). Do not tighten locknuts.
23. Install short crossmember assembly (Figure 26, Item 7), with locator tab (Figure 26, Item 5) to left, on rear of lightweight weapon station platform (Figure 26, Item 3) with three U-bolts (Figure 26, Item 4), six washers (Figure 26, Item 6), and locknuts (Figure 26, Item 9). Do not tighten locknuts.

INSTALLATION - Continued

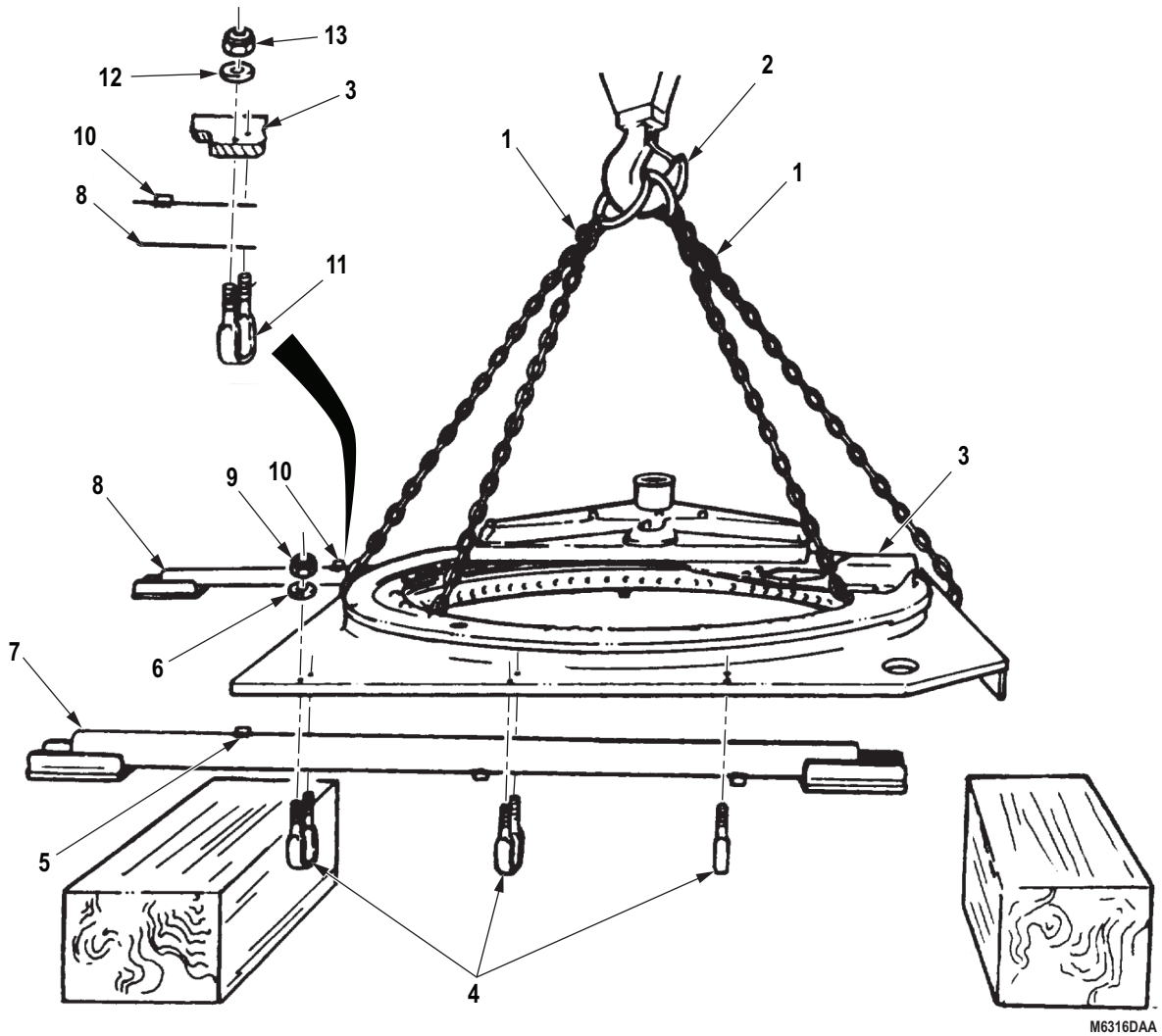


Figure 26. Light Weapon Station Installation.

**INSTALLATION - Continued**

24. Position four roof mounts (Figure 27, Item 5) and plates (Figure 27, Item 4) on top of post assemblies (Figure 27, Item 12).
25. Align holes in post assemblies (Figure 27, Item 12) with holes in crossmember pads (Figure 27, Item 7) and install lightweight weapon station platform (Figure 27, Item 1) on four post assemblies with four washers (Figure 27, Item 3) and screws (Figure 27, Item 2).
26. Install four spacers (Figure 27, Item 6), roof mounts (Figure 27, Item 8), plates (Figure 27, Item 9), washers (Figure 27, Item 10), and locknuts (Figure 27, Item 11) on four screws (Figure 27, Item 2). Do not tighten locknuts.

**NOTE**

Ensure locator tabs and lightweight weapon station platform are aligned before tightening U-bolts.

27. Tighten locknuts (Figure 26, Items 7 and 13) 32 to 40 lb-ft (43 to 54 N·m).
28. Tighten four locknuts (Figure 27, Item 11) 15 to 20 lb-ft (20 to 27 N·m).

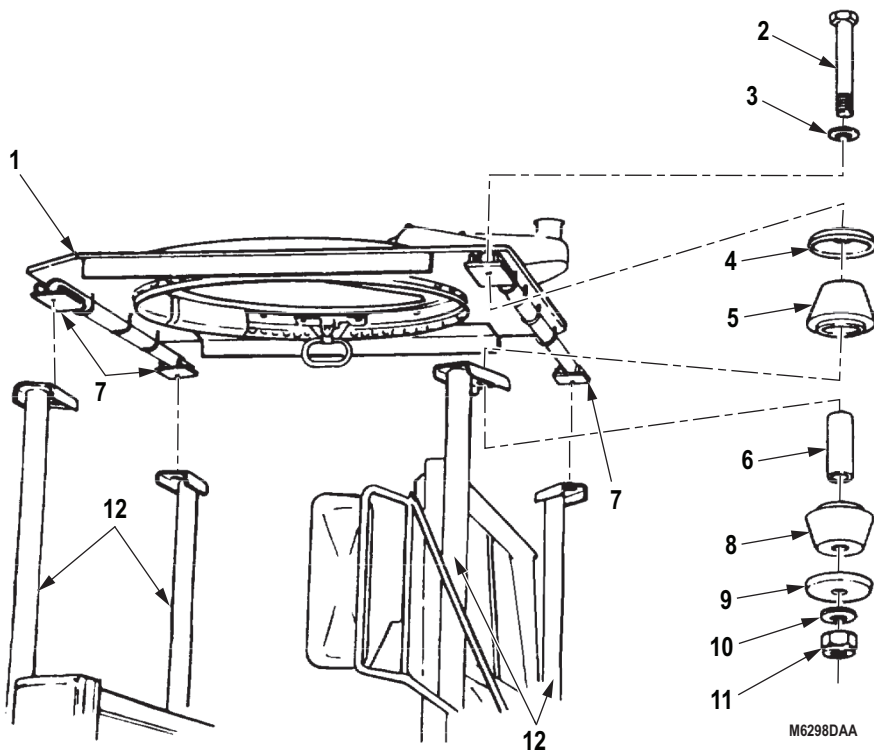


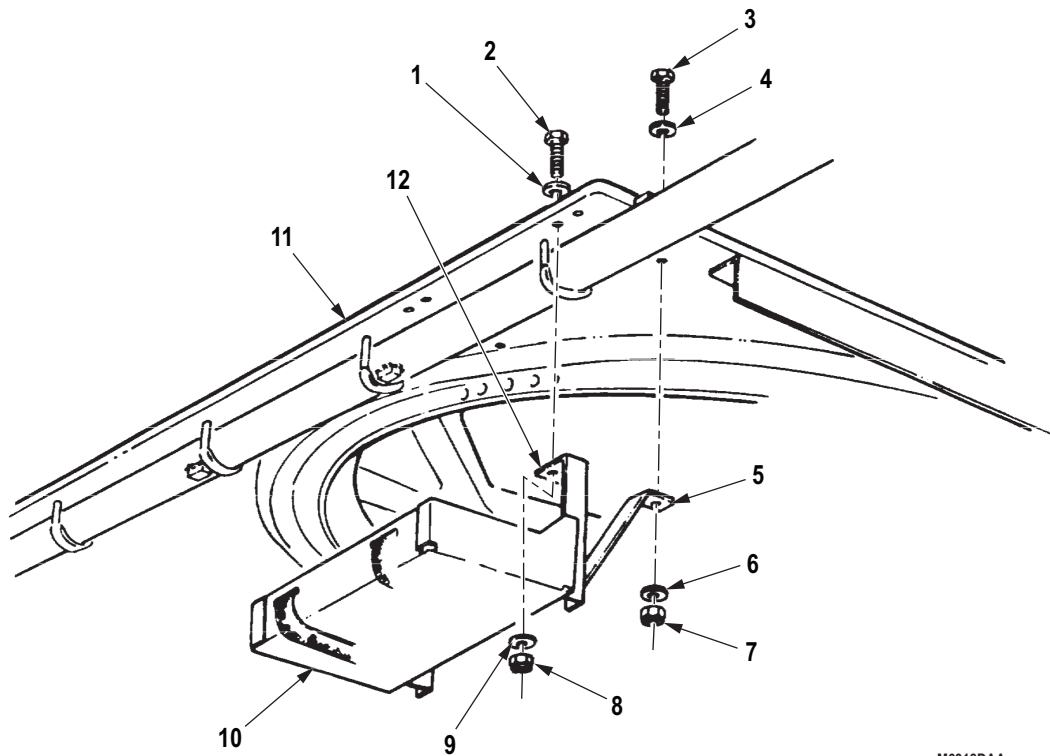
Figure 27. Lightweight Weapon Station Installation.



**INSTALLATION - Continued****CAUTION**

U-bolts and pins installed in Steps (18) through (22) must be aligned before tightening. Do not over-tighten or damage to cab will result.

29. Tighten all screws and nuts that remain loosely installed from Steps (2) through (19).
30. Install four ammo tray supports (Figure 28, Item 12) and ammo box tray (Figure 28, Item 10) on left and right front sides of support assembly (Figure 28, Item 11) with eight washers (Figure 28, Item 1), screws (Figure 28, Item 2), washers (Figure 28, Item 9), and locknuts (Figure 28, Item 8). Do not tighten locknuts.
31. Install four braces (Figure 28, Item 5) to support assembly (Figure 28, Item 11) with four washers (Figure 28, Item 4), screws (Figure 28, Item 3), washers (Figure 28, Item 6), and locknuts (Figure 28, Item 7). Do not tighten locknuts.
32. Tighten locknuts (Figure 28, Items 7 and 8).
33. Tighten locknuts (Figure 16, Item 6), installed in Assembly, Step (15), connecting four ammo tray supports (Figure 28, Item 12) and four braces (Figure 28, Item 5) to two ammo box trays (Figure 28, Item 10).



M6318DAA

Figure 28. Lightweight Weapon Station Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

1. Reposition companion seat and battery box. (TM 9-2320-272-10)
2. Reposition backrest cushion on companion seat assembly. (TM 9-2320-272-10)
3. Install right and left cowl ventilation door screens. (Volume 4, WP 0572)
4. Install driver's seat. (Volume 4, WP 0582)
5. Install left and right mirror assemblies. (Volume 3, WP 0545)
6. Install left and right cab door check rods. (Volume 4, WP 0555)
7. Install muffler shield assembly. (Volume 2, WP 0274)
8. Install batteries. (Volume 2, WP 0346)
9. Install spare tire. (TM 9-2320-272-10)
10. Install cab top. (TM 9-2320-272-10)
11. Adjust left side door hinges and install left and right door assemblies. (Volume 3, WP 0545)

**END OF TASK****END OF WORK PACKAGE**

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**FIELD MAINTENANCE  
DECONTAMINATION APPARATUS AND MOUNTING BRACKET REPLACEMENT (M13)**

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**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts**

Locknut (M929/A1/A2, M930/A1/A2, M931/A1/A2,  
M932/A1/A2)  
(WP 0827, Table 1, Item 285) Qty: 4  
Locknut (M934/A1/A2, M936/A1/A2)  
(WP 0827, Table 1, Item 285) Qty: 8  
Locknut (M934/A1/A2)  
(WP 0827, Table 1, Item 289) Qty: 4

**Materials/Parts (cont.)**

Locknut (M939/A1/A2)  
(WP 0827, Table 1, Item 285) Qty: 4  
Locknut (M923/A1/A2, M925/A1/A2, M927/A1/A2,  
M928/A1/A2)  
(WP 0827, Table 1, Item 285) Qty: 17

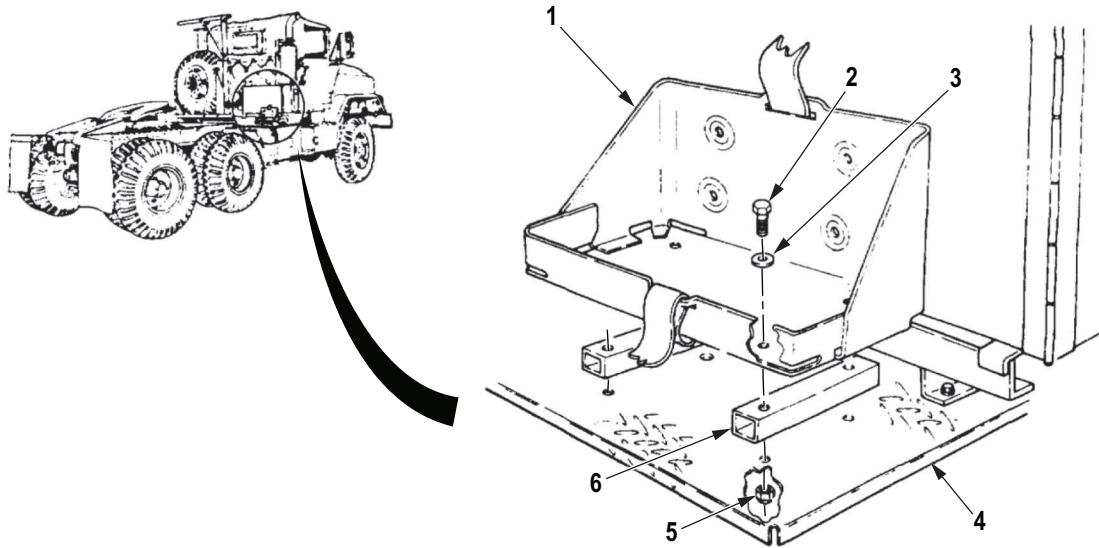
**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Spare tire removed. (TM 9-2320-272-10)

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**REMOVAL (M929/A1/A2, M930/A1/A2, M931/A1/A2, M932/A1/A2)**

Remove four locknuts (Figure 1, Item 5), screws (Figure 1, Item 2), washers (Figure 1, Item 3), mounting bracket (Figure 1, Item 1), and two supports (Figure 1, Item 6) from deck plate (Figure 1, Item 4). Discard locknuts.



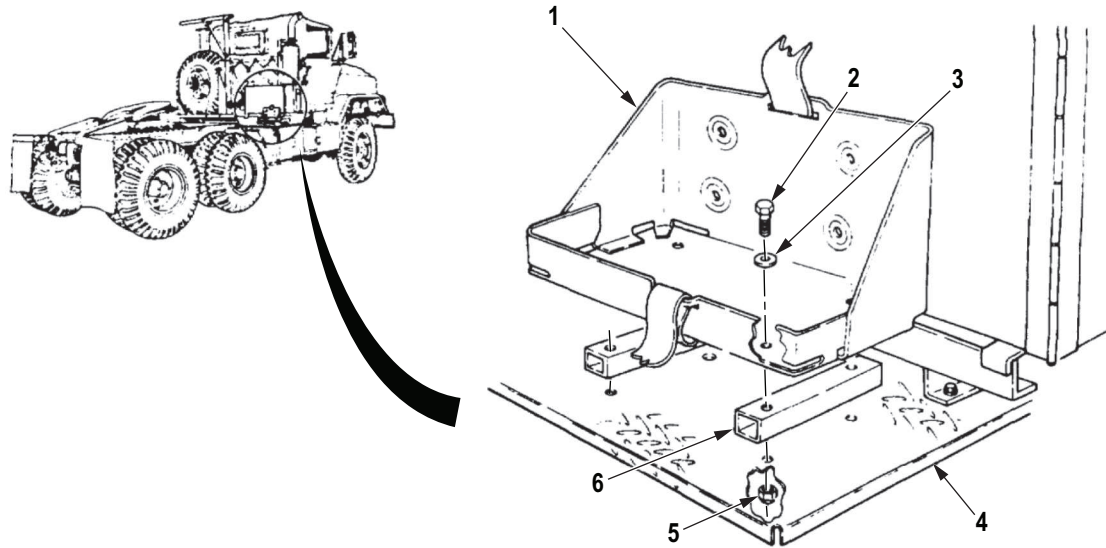
M9116DAA

Figure 1. Decontamination Apparatus and Mounting Bracket Removal (M929/A1/A2, M930/A1/A2, M931/A1/A2, M932/A1/A2).

**END OF TASK**

**INSTALLATION (M929/A1/A2, M930/A1/A2, M931/A1/A2, M932/A1/A2)**

Install two supports (Figure 2, Item 6) and mounting bracket (Figure 2, Item 1) on deck plate (Figure 2, Item 4) with four washers (Figure 2, Item 3), screws (Figure 2, Item 2), and locknuts (Figure 2, Item 5).



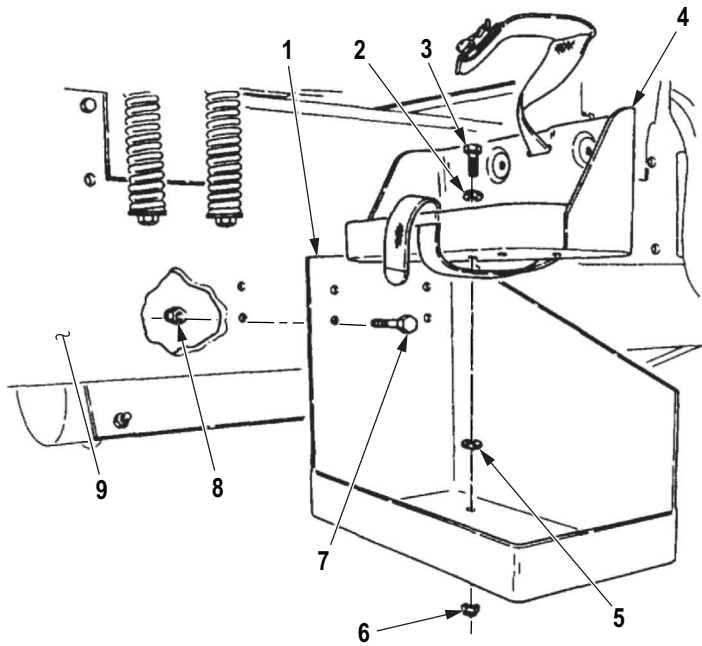
M9117DAA

Figure 2. Decontamination Apparatus and Mounting Bracket Installation (M929/A1/A2, M930/A1/A2, M931/A1/A2, M932/A1/A2).

**END OF TASK**

**REMOVAL (M934/A1/A2)**

1. Remove four locknuts (Figure 3, Item 6), screws (Figure 3, Item 3), washers (Figure 3, Item 2), mounting bracket (Figure 3, Item 4), and four washers (Figure 3, Item 5) from support bracket (Figure 3, Item 1). Discard locknuts.
2. Remove four locknuts (Figure 3, Item 8), screws (Figure 3, Item 7), and support bracket (Figure 3, Item 1) from right frame rail (Figure 3, Item 9). Discard locknuts.



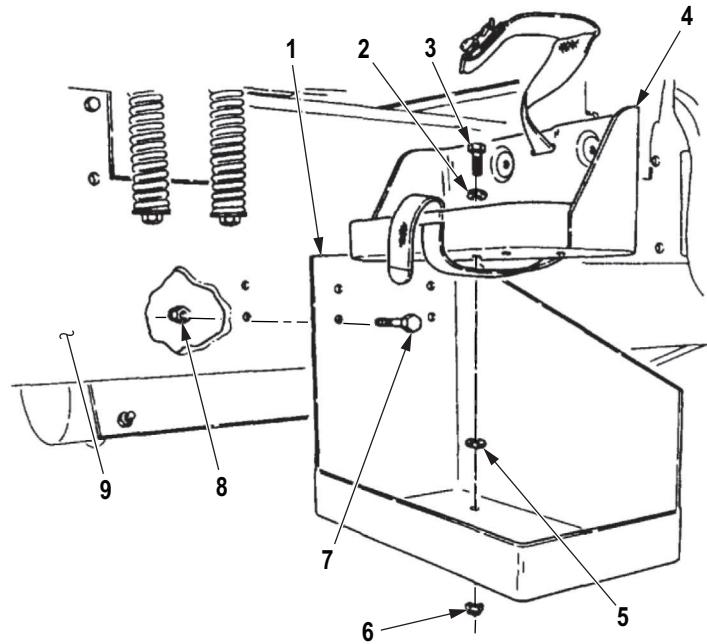
M9118DAA

Figure 3. Decontamination Apparatus and Mounting Bracket Removal (M934/A1/A2).

**END OF TASK**

**INSTALLATION (M934/A1/A2)**

1. Install support bracket (Figure 4, Item 1) on right frame rail (Figure 4, Item 9) with four screws (Figure 4, Item 7) and locknuts (Figure 4, Item 8).
2. Install four washers (Figure 4, Item 2) and mounting bracket (Figure 4, Item 4) on support bracket (Figure 4, Item 1) with four washers (Figure 4, Item 2), screws (Figure 4, Item 3), washers (Figure 4, Item 5), and locknuts (Figure 4, Item 6).



M9119DAA

Figure 4. Decontamination Apparatus and Mounting Bracket Installation (M934/A1/A2).

**END OF TASK**

**REMOVAL (M939/A1/A2)**

1. Remove four locknuts (Figure 5, Item 4), washers (Figure 5, Item 3), screws (Figure 5, Item 2), washers (Figure 5, Item 3), and mounting bracket (Figure 5, Item 1) from support bracket (Figure 5, Item 9). Discard locknuts.
2. Remove four locknuts (Figure 5, Item 8), two washers (Figure 5, Item 7), four screws (Figure 5, Item 6), washers (Figure 5, Item 7), and support bracket (Figure 5, Item 9) from body (Figure 5, Item 5). Discard locknuts.

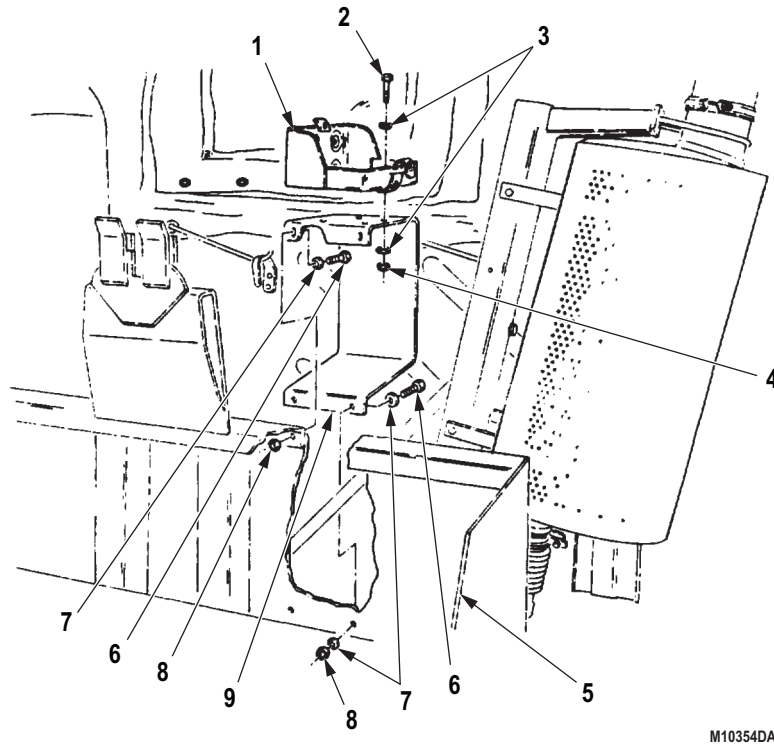


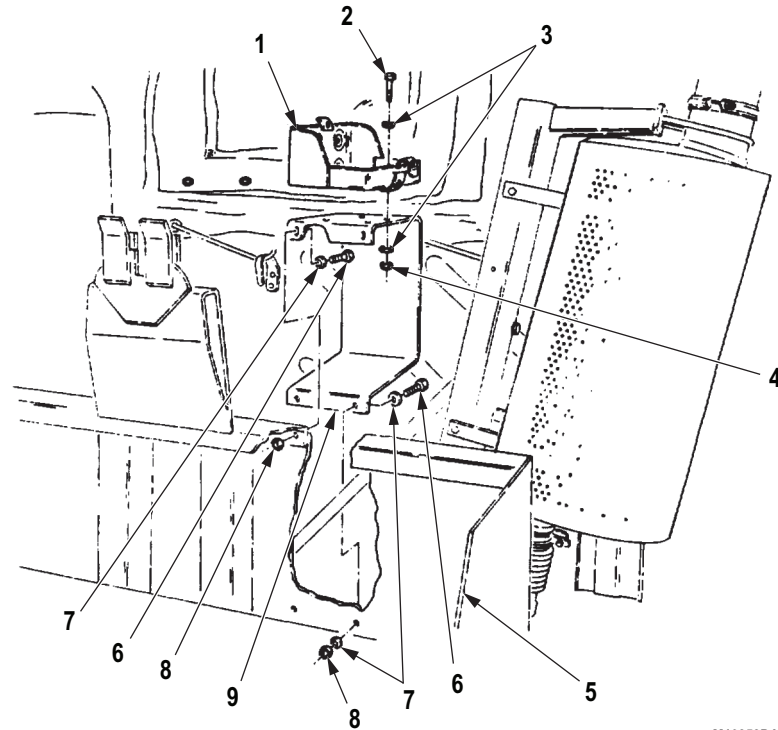
Figure 5. Decontamination Apparatus Components Removal (M939/A1/A2).

**END OF TASK**



**INSTALLATION (M939/A1/A2)**

1. Install support bracket (Figure 6, Item 9) on body (Figure 6, Item 5) with four washers (Figure 6, Item 7), screws (Figure 6, Item 6), two washers (Figure 6, Item 7), and four locknuts (Figure 6, Item 8).
2. Install mounting bracket (Figure 6, Item 1) on support bracket (Figure 6, Item 9) with four washers (Figure 6, Item 3), screws (Figure 6, Item 2), washers (Figure 6, Item 3), and locknuts (Figure 6, Item 4).



M10353DAA

Figure 6. Decontamination Apparatus Components Installation (M939/A1/A2).

**END OF TASK**

**REMOVAL (M923/A1/A2, M925/A1/A2, M927/A1/A2, M928/A1/A2)**

1. Remove six locknuts (Figure 7, Item 19), screws (Figure 7, Item 8), and support bracket (Figure 7, Item 14) with mounting bracket (Figure 7, Item 16) from upper splash guard (Figure 7, Item 2). Discard locknuts.
2. Remove four locknuts (Figure 7, Item 15), screws (Figure 7, Item 17), washers (Figure 7, Item 18), and mounting bracket (Figure 7, Item 16) from support bracket (Figure 7, Item 14). Discard locknuts.
3. Remove three locknuts (Figure 7, Item 13), screws (Figure 7, Item 9), brace (Figure 7, Item 10), retainer (Figure 7, Item 11), and lower splash guard (Figure 7, Item 12) from upper splash guard (Figure 7, Item 2). Discard locknuts.
4. Remove locknut (Figure 7, Item 6), screw (Figure 7, Item 7), and brace (Figure 7, Item 10) from cargo body (Figure 7, Item 4). Discard locknut.
5. Remove three locknuts (Figure 7, Item 20), washers (Figure 7, Item 1), upper splash guard (Figure 7, Item 2), reinforcement plate (Figure 7, Item 3), and three screws (Figure 7, Item 5) from cargo body (Figure 7, Item 4). Discard locknuts.

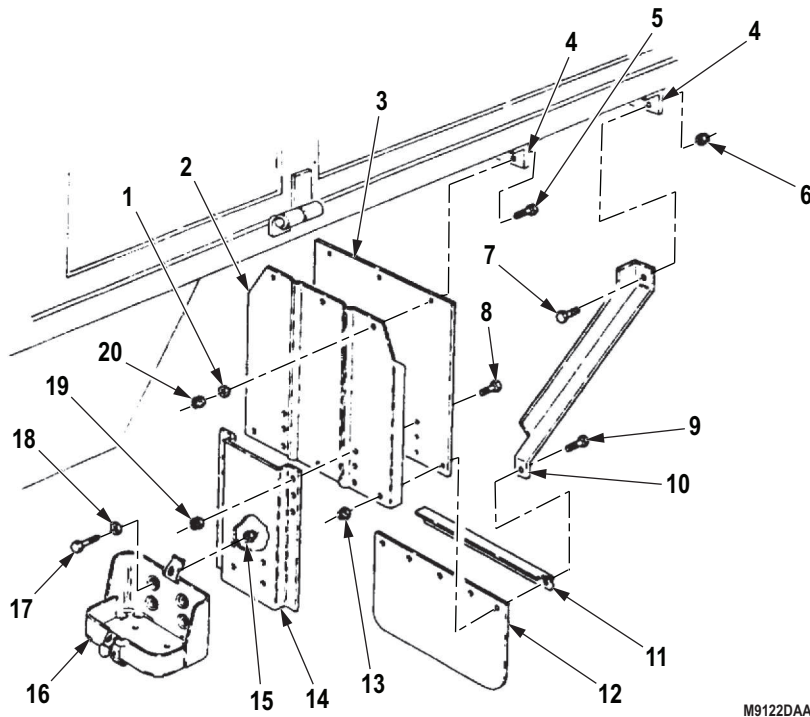
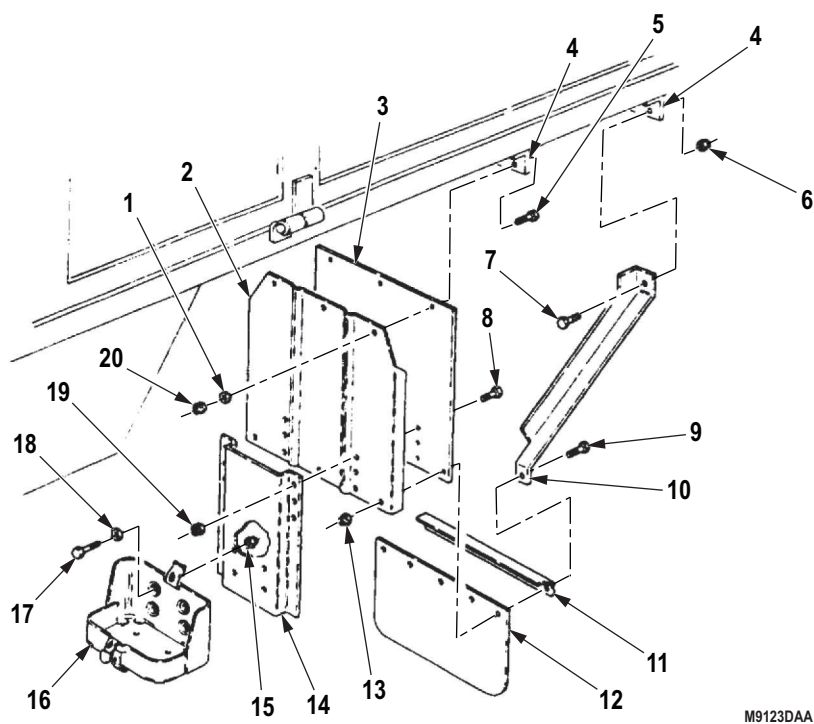


Figure 7. Decontamination Apparatus Components Removal (M923/A1/A2, M925/A1/A2, M927/A1/A2, M928/A1/A2).

**END OF TASK**

**INSTALLATION (M923/A1/A2, M925/A1/A2, M927/A1/A2, M928/A1/A2)**

1. Install reinforcement plate (Figure 8, Item 3) and upper splash guard (Figure 8, Item 2) on cargo body (Figure 8, Item 4) with three screws (Figure 8, Item 5), washers (Figure 8, Item 1), and locknuts (Figure 8, Item 20).
2. Install brace (Figure 8, Item 10) on cargo body (Figure 8, Item 4) with screw (Figure 8, Item 7) and locknut (Figure 8, Item 6).
3. Install lower splash guard (Figure 8, Item 12), retainer (Figure 8, Item 11), and brace (Figure 8, Item 10) on upper splash guard (Figure 8, Item 2) with three screws (Figure 8, Item 9) and locknuts (Figure 8, Item 13).
4. Install mounting bracket (Figure 8, Item 16) on support bracket (Figure 8, Item 14) with four washers (Figure 8, Item 18), screws (Figure 8, Item 17), and locknuts (Figure 8, Item 15).
5. Install support bracket (Figure 8, Item 14) with mounting bracket (Figure 8, Item 16) on upper splash guard (Figure 8, Item 2) with six screws (Figure 8, Item 8) and locknuts (Figure 8, Item 19).



M9123DAA

Figure 8. Decontamination Apparatus Components Installation (M923/A1/A2, M925/A1/A2, M927/A1/A2, M928/A1/A2).

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Install spare tire. (TM 9-2320-272-10)

**END OF TASK**

**END OF WORK PACKAGE**



**FIELD MAINTENANCE**  
**MUD GUARD KIT (M931/A1/A2, M932/A1/A2) REPAIR**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Pioneer tool kit mounting bracket removed.  
(WP 0801)

**Materials/Parts**

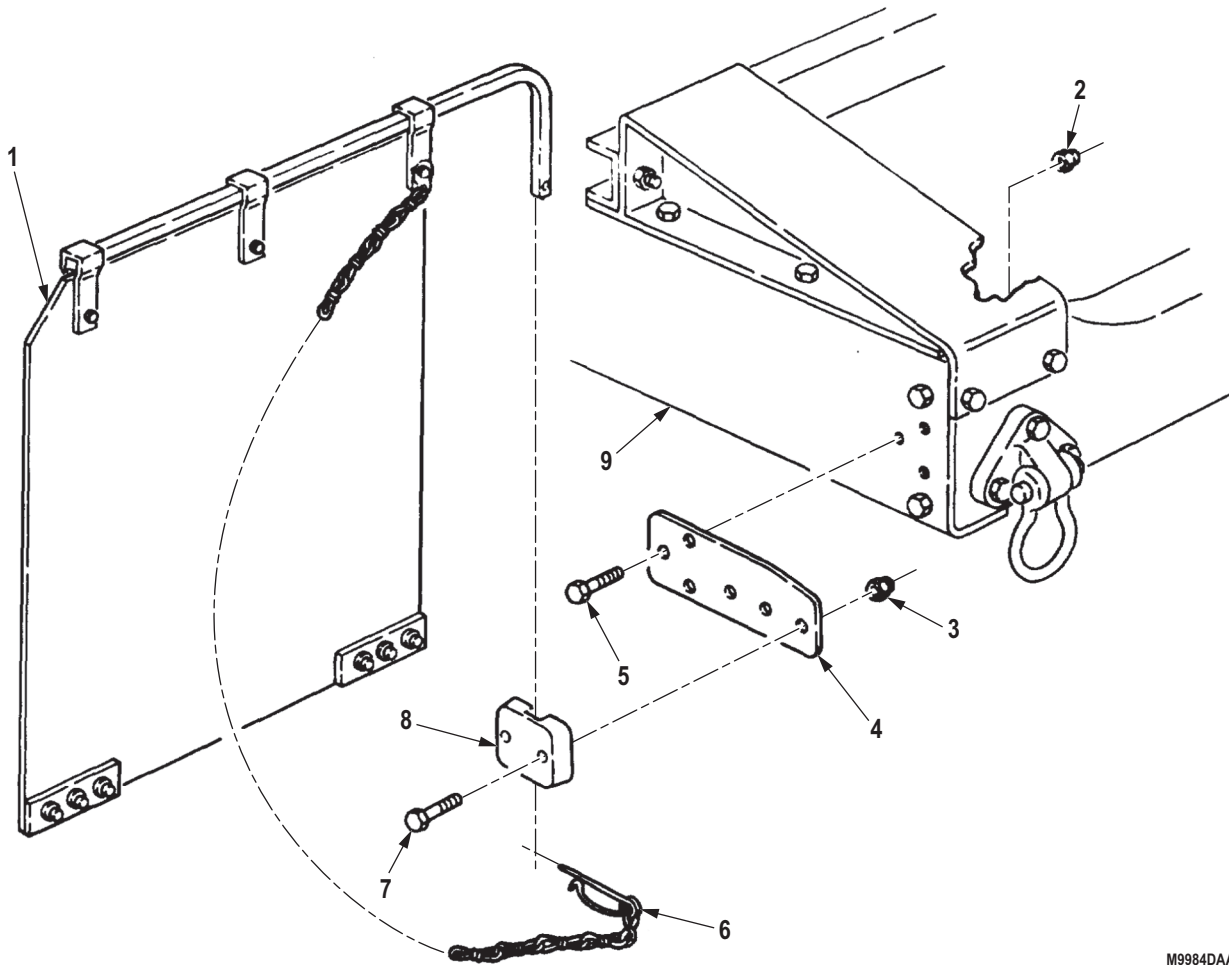
Locknut (WP 0827, Table 1, Item 289) Qty: 5

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**REMOVAL****NOTE**

Left and right mud guards are replaced the same way. This procedure covers the left mud guard.

1. Remove pin (Figure 1, Item 6) and mud guard (Figure 1, Item 1) from bracket (Figure 1, Item 8).
2. Remove two locknuts (Figure 1, Item 3), screws (Figure 1, Item 7), and bracket (Figure 1, Item 8) from plate (Figure 1, Item 4). Discard locknuts.
3. Remove three locknuts (Figure 1, Item 2), screws (Figure 1, Item 5), and plate (Figure 1, Item 4) from frame rail (Figure 1, Item 9). Discard locknuts.



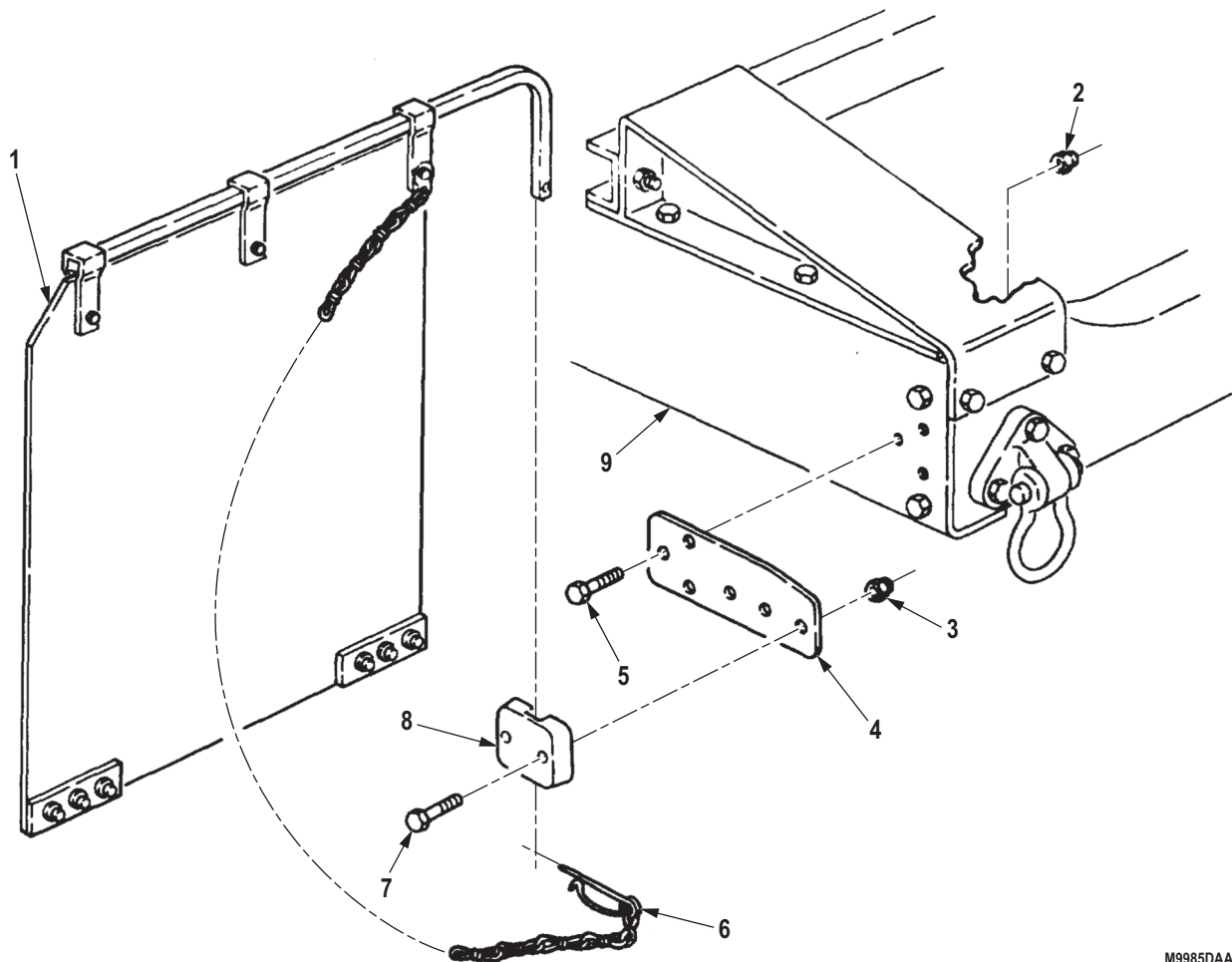
M9984DAA

Figure 1. Mud Guard Removal.

**END OF TASK**

**INSTALLATION**

1. Install plate (Figure 2, Item 4) on frame rail (Figure 2, Item 9) with three screws (Figure 2, Item 5) and locknuts (Figure 2, Item 2).
2. Install bracket (Figure 2, Item 8) on plate (Figure 2, Item 4) with two screws (Figure 2, Item 7) and locknuts (Figure 2, Item 3).
3. Install mud guard (Figure 2, Item 1) on bracket (Figure 2, Item 8) with pin (Figure 2, Item 6).



M9985DAA

*Figure 2. Mud Guard Installation.***END OF TASK****FOLLOW-ON MAINTENANCE**

Install pioneer tool kit mounting bracket. (WP 0801)

**END OF TASK****END OF WORK PACKAGE**





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**FIELD MAINTENANCE  
RIFLE MOUNTING COMPONENTS REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition (cont.)****Materials/Parts**

Locknut (dash and floor)  
(WP 0827, Table 1, Item 283) Qty: 4  
Locknut (left door)  
(WP 0827, Table 1, Item 283) Qty: 3

**Personnel Required**

(2)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

---

**REMOVAL FROM LEFT DOOR**

1. Remove four screws (Figure 1, Item 1) and bracket (Figure 1, Item 2) from door (Figure 1, Item 3).
2. Remove six screws (Figure 1, Item 7) and inspection cover (Figure 1, Item 4) from door (Figure 1, Item 3).
3. Remove three locknuts (Figure 1, Item 8), screws (Figure 1, Item 6), and rifle support (Figure 1, Item 5) from inspection cover (Figure 1, Item 4). Discard locknuts.

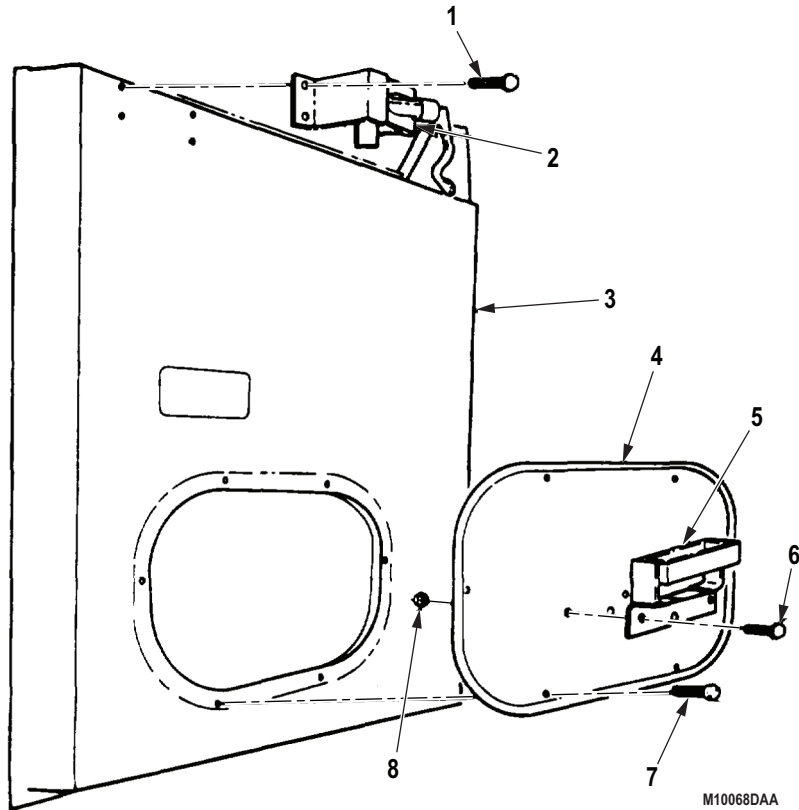


Figure 1. Left Door Rifle Mounting.

**END OF TASK**

**REMOVAL FROM DASH AND FLOOR**

1. Remove four screws (Figure 2, Item 2), two reinforcements (Figure 2, Item 6), and rifle catch brackets (Figure 2, Item 3) from dash (Figure 2, Item 1).

**NOTE**

Assistant will help with Step (2).

2. Remove two locknuts (Figure 2, Item 8), screws (Figure 2, Item 7) or (Figure 2, Item 9), and rifle supports (Figure 2, Item 5) from floor (Figure 2, Item 4). Discard locknuts.

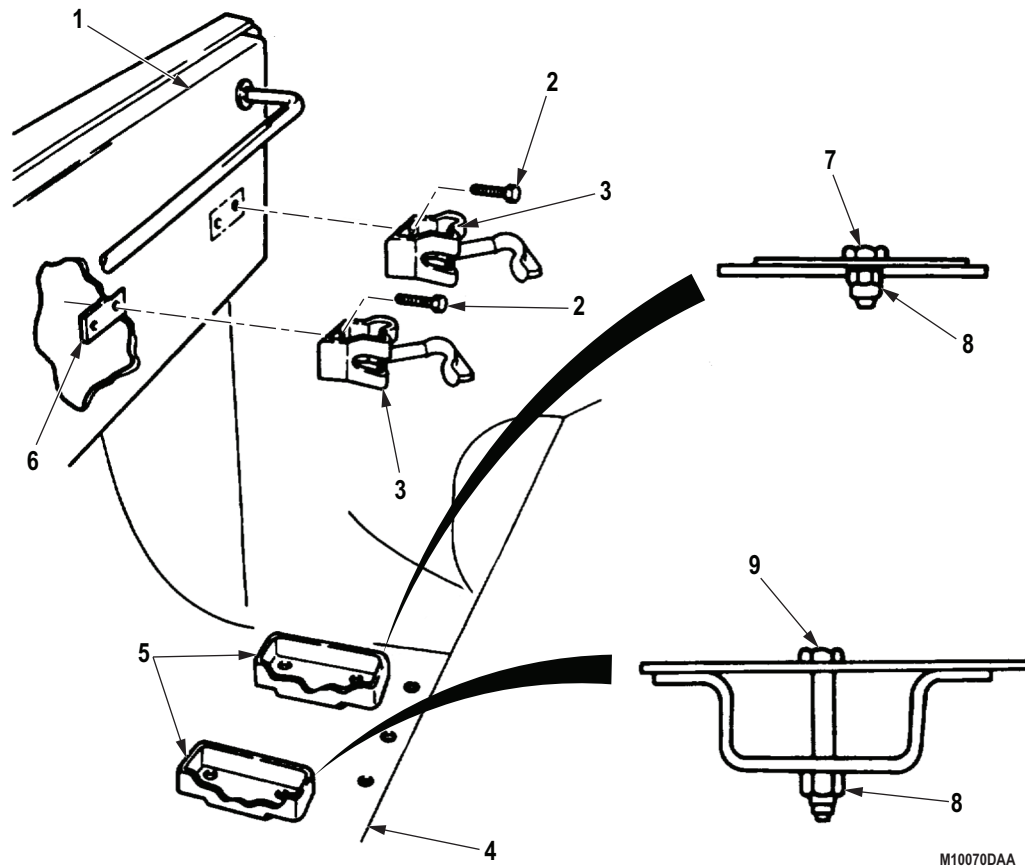


Figure 2. Dash and Floor Rifle Mounting.

**END OF TASK**

**INSTALLATION ON LEFT DOOR**

1. Position bracket (Figure 3, Item 3) to holes (Figure 3, Item 1) in door (Figure 3, Item 4) and install with four screws (Figure 3, Item 2).
2. Install rifle support (Figure 3, Item 6) on inspection cover (Figure 3, Item 5) with three screws (Figure 3, Item 7) and locknuts (Figure 3, Item 9).
3. Install inspection cover (Figure 3, Item 5) on door (Figure 3, Item 4) with six screws (Figure 3, Item 8).

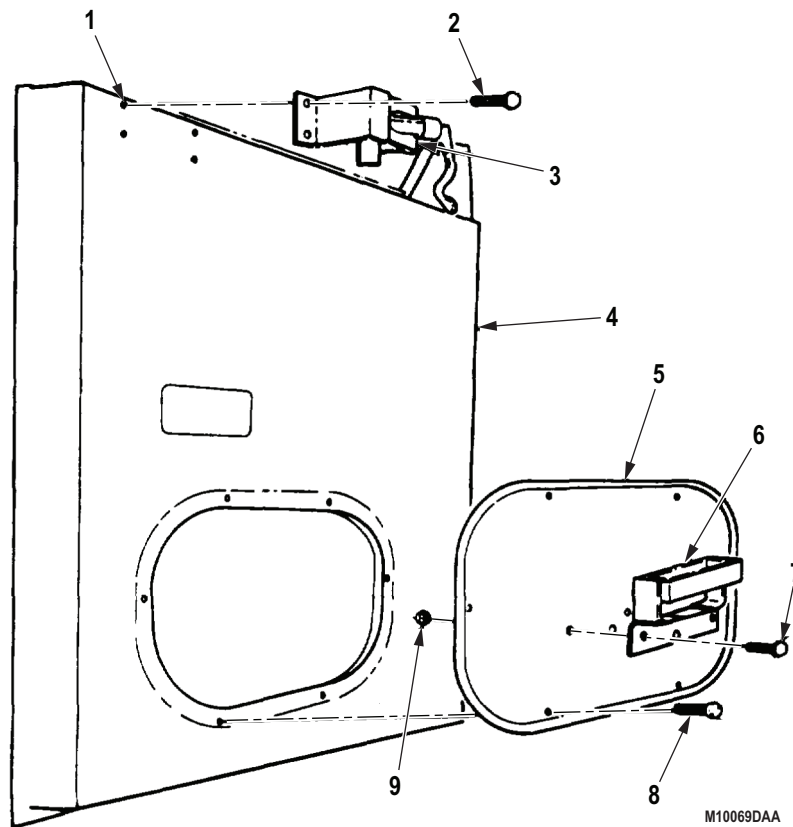


Figure 3. Left Door Rifle Mounting.

**END OF TASK**

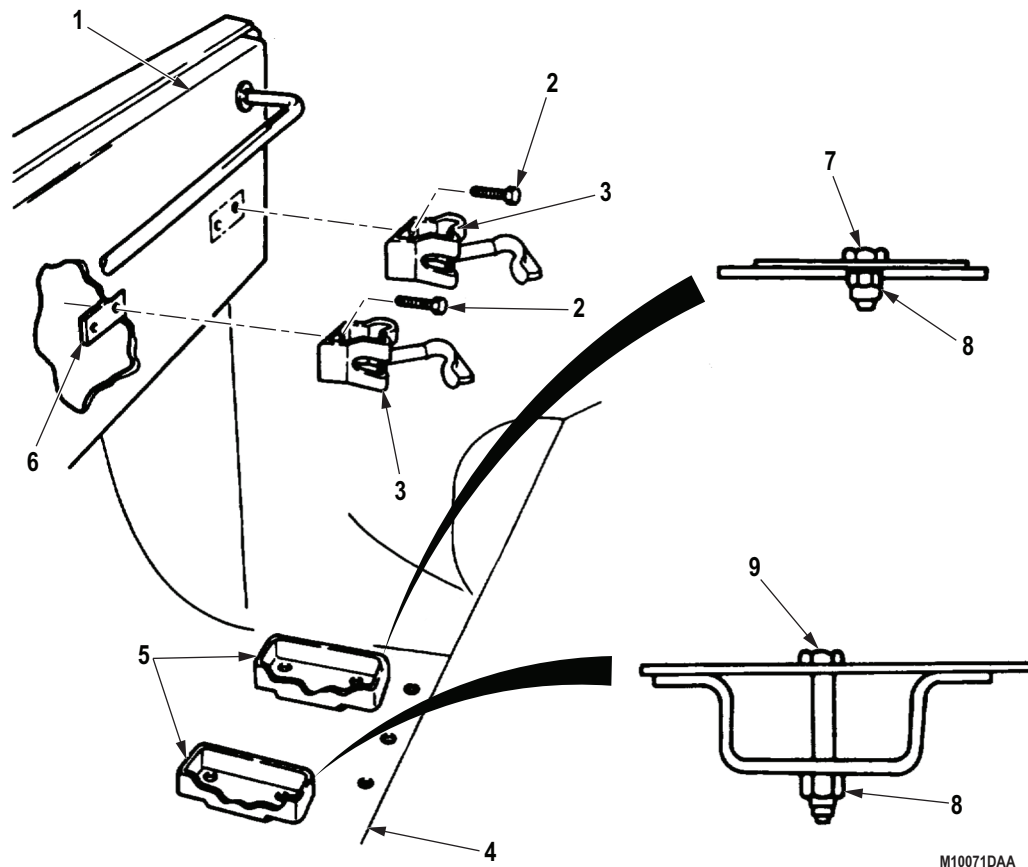
**INSTALLATION ON DASH AND FLOOR**

1. Position two reinforcements (Figure 4, Item 6) behind dash (Figure 4, Item 1) and align holes.
2. Install two rifle catch brackets (Figure 4, Item 3) on dash (Figure 4, Item 1) with four screws (Figure 4, Item 2).

**NOTE**

Assistant will help with Step (3).

3. Install two rifle supports (Figure 4, Item 5) on floor (Figure 4, Item 4) with two screws (Figure 4, Item 7 or 9) and locknuts (Figure 4, Item 8).



M110071DAA

Figure 4. Dash and Floor Rifle Mounting.

**END OF TASK**

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE  
HAND AIRBRAKE AIR SUPPLY VALVE REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition (cont.)**

Air reservoirs drained. (TM 9-2320-272-10)

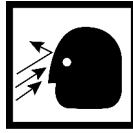
**Materials/Parts**

Tape, Antiseizing  
(WP 0825, Table 1, Item 65)  
Locknut (WP 0827, Table 1, Item 285) Qty: 2

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

---

**REMOVAL****WARNING**

Do not disconnect air lines or hoses before draining air reservoirs. Small parts under pressure may shoot out with high velocity. Failure to comply may result in injury or death to personnel.

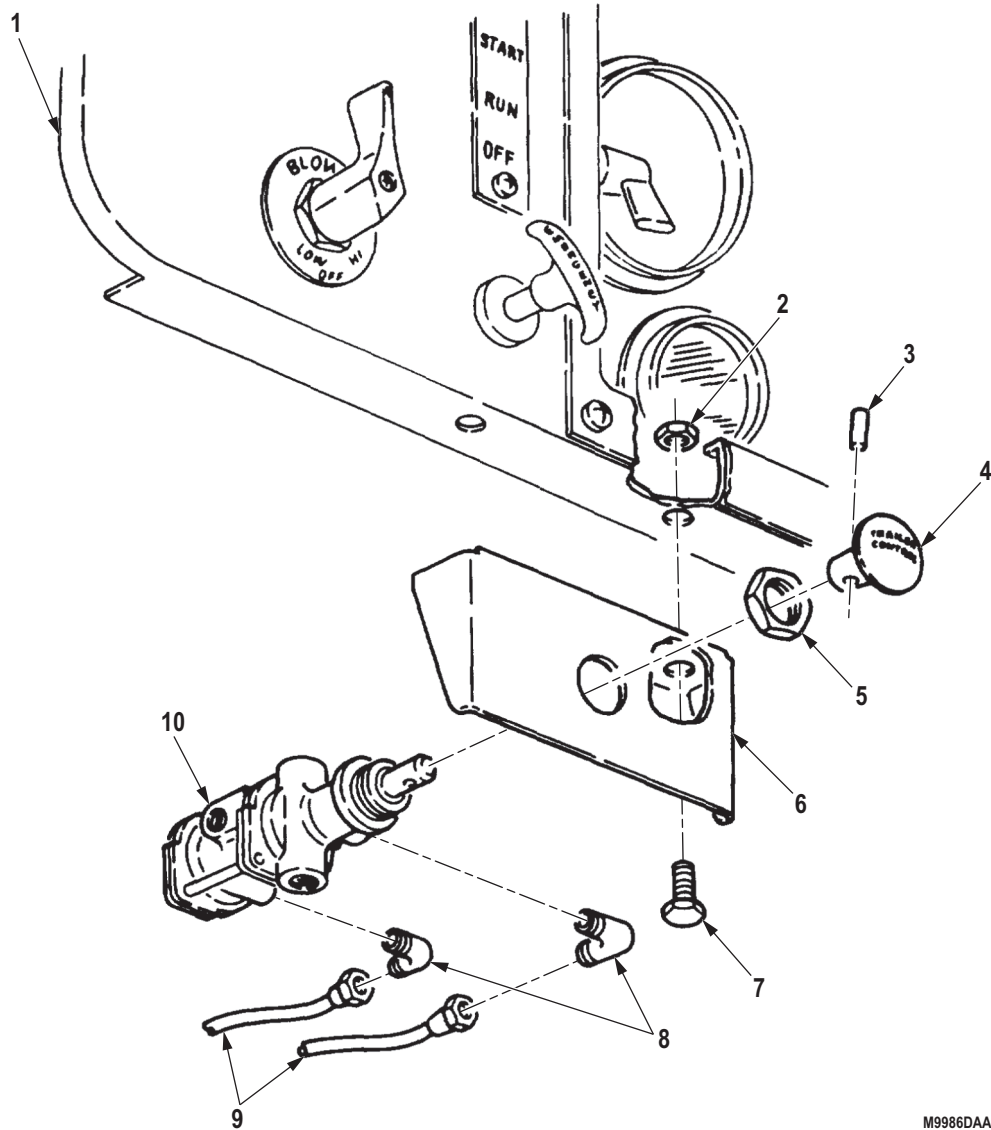
**NOTE**

Tag air lines for installation.

1. Disconnect two air lines (Figure 1, Item 9) from elbows (Figure 1, Item 8).
2. Remove two elbows (Figure 1, Item 8) from air supply valve (Figure 1, Item 10).
3. Remove pin (Figure 1, Item 3) from button (Figure 1, Item 4).
4. Remove button (Figure 1, Item 4), nut (Figure 1, Item 5), and air supply valve (Figure 1, Item 10) from mounting bracket (Figure 1, Item 6).
5. Remove two locknuts (Figure 1, Item 2), screws (Figure 1, Item 7), and mounting bracket (Figure 1, Item 6) from instrument panel (Figure 1, Item 1). Discard locknuts.



REMOVAL - Continued



M9986DAA

Figure 1. Hand Airbrake Air Supply Valve Removal.

END OF TASK

**INSTALLATION**

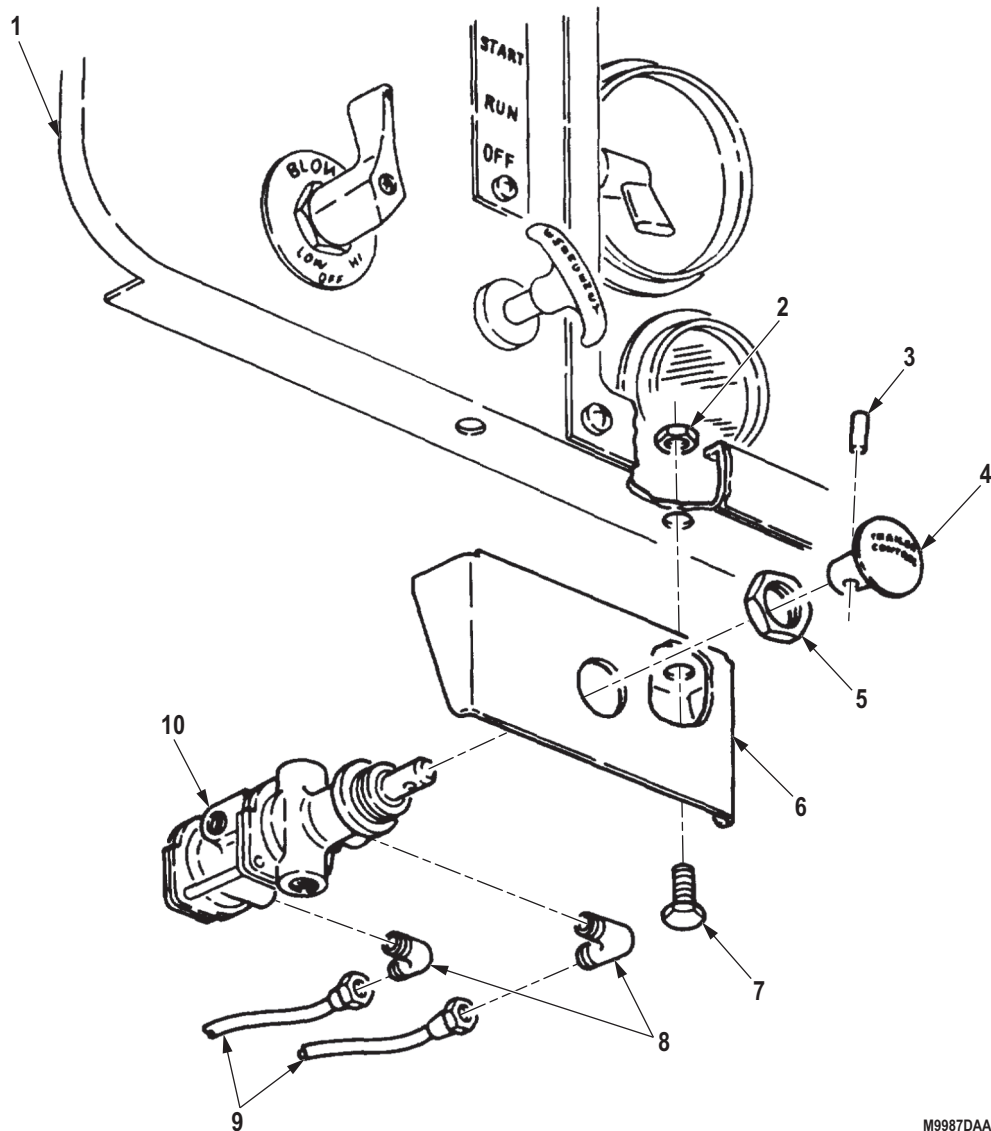
1. Install mounting bracket (Figure 2, Item 6) on instrument panel (Figure 2, Item 1) with two screws (Figure 2, Item 7) and locknuts (Figure 2, Item 2).

**NOTE**

Wrap all male pipe threads with antiseize tape before installation.

2. Install air supply valve (Figure 2, Item 10) on mounting bracket (Figure 2, Item 6) with nut (Figure 2, Item 5) and button (Figure 2, Item 4).
3. Install pin (Figure 2, Item 3) on button (Figure 2, Item 4).
4. Install two elbows (Figure 2, Item 8) on air supply valve (Figure 2, Item 10).
5. Connect two air lines (Figure 2, Item 9) to elbows (Figure 2, Item 8).

INSTALLATION - Continued



M9987DAA

Figure 2. Hand Airbrake Air Supply Valve Installation.

END OF TASK

FOLLOW-ON MAINTENANCE

Start engine and allow air pressure to build to normal operating range. Check air supply valve for leaks.  
(TM 9-2320-272-10)

END OF TASK

END OF WORK PACKAGE



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**FIELD MAINTENANCE**  
**100-AMP ALTERNATOR REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts**

Lockwasher  
(WP 0827, Table 1, Item 186) Qty: 1

**Equipment Condition (cont.)**

Hood raised and secured. (TM 9-2320-272-10)  
Left and right splash shield removed.  
(TM 9-2320-272-10)  
Battery ground cables disconnected.  
(Volume 2, WP 0350)  
Alternator drivebelts removed.  
(Volume 2, WP 0302)

**Personnel Required**

(2)

**References**

Volume 2, WP 0300

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

---

**REMOVAL**

1. Disconnect harness connector (Figure 1, Item 12) from alternator (Figure 1, Item 11).

**NOTE**

Assistant will help support alternator.

2. Remove screw (Figure 1, Item 1), washers (Figure 1, Items 3 and 4), lockwasher (Figure 1, Item 2), and alternator (Figure 1, Item 11) from adjusting arm (Figure 1, Item 5). Discard lockwasher.
3. Remove two nuts (Figure 1, Item 9), washers (Figure 1, Item 8), and screws (Figure 1, Item 7) from alternator (Figure 1, Item 11) and mounting bracket (Figure 1, Item 10).
4. Remove alternator pulley (Figure 1, Item 6) from alternator (Figure 1, Item 11) (Volume 2, WP 0300).

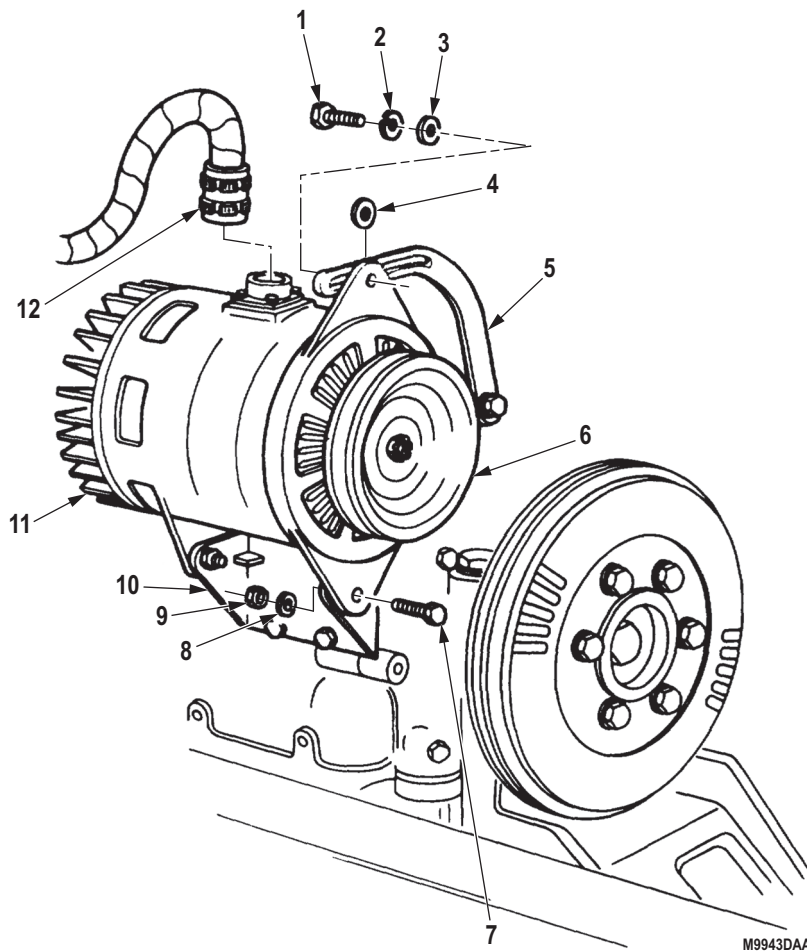


Figure 1. 100-Amp Alternator Removal.

**END OF TASK**

**INSTALLATION**

1. Install alternator pulley (Figure 2, Item 6) on alternator (Figure 2, Item 11) (Volume 2, WP 0300).
2. Install alternator (Figure 2, Item 11) on mounting bracket (Figure 2, Item 10) with two screws (Figure 2, Item 7), washers (Figure 2, Item 8), and nuts (Figure 2, Item 9).

**NOTE**

Assistant will help support alternator.

3. Install alternator (Figure 2, Item 11) on adjusting arm (Figure 2, Item 5) with lockwasher (Figure 2, Item 2), washers (Figure 2, Items 3 and 4), and screw (Figure 2, Item 1).
4. Connect harness connector (Figure 2, Item 12) to alternator (Figure 2, Item 11).

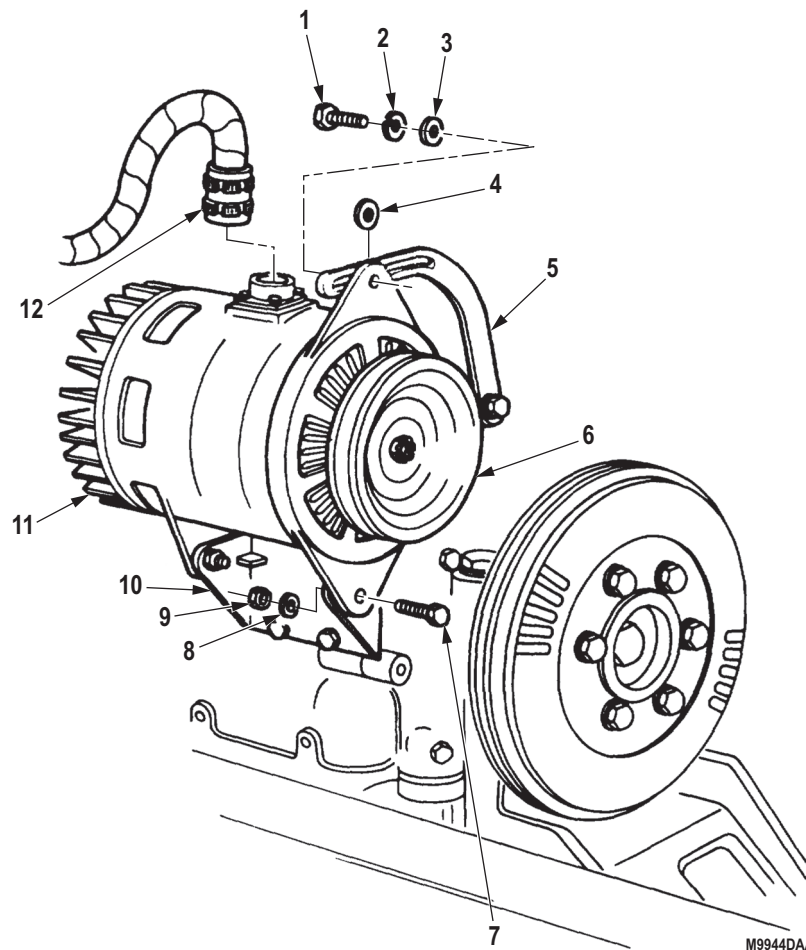


Figure 2. 100-Amp Alternator Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

1. Install alternator drivebelts. (Volume 2, WP 0302)
2. Connect battery ground cables. (Volume 2, WP 0350)
3. Install left and right engine splash shield. (TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**



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**FIELD MAINTENANCE  
CONVOY WARNING LIGHT MOUNT REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts (cont.)**

Locknut (WP 0827, Table 1, Item 313) Qty: 5  
Screw Assembled Lockwasher  
(WP 0827, Table 1, Item 170) Qty: 1

**Materials/Parts**

Locknut (WP 0827, Table 1, Item 274) Qty: 2

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Convoy warning light removed. (WP 0799)

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**REMOVAL****NOTE**

Left and right convoy warning light mounts are replaced the same. This procedure covers left convoy warning light mount only.

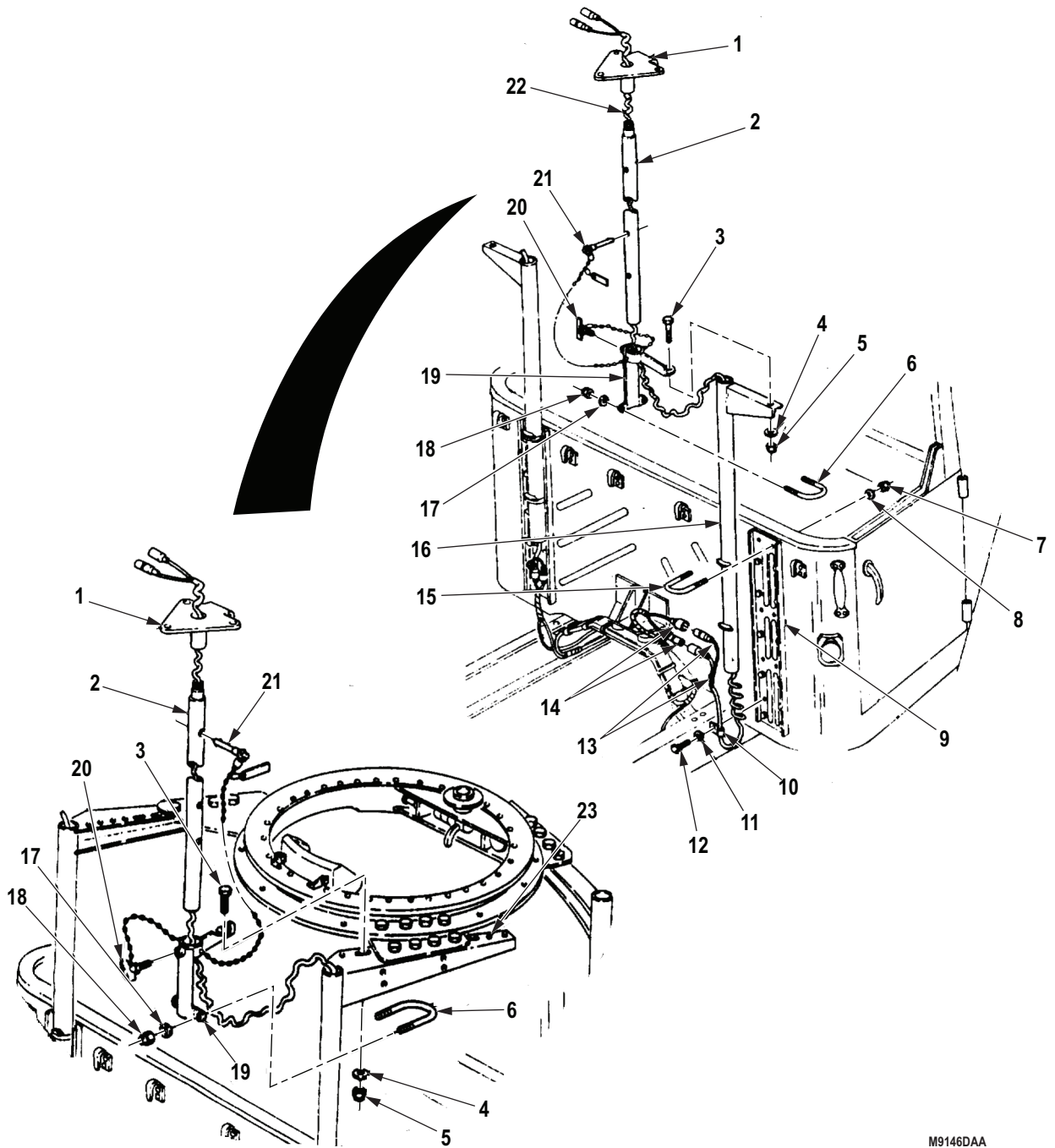
1. Disconnect two leads (Figure 1, Item 13) from connectors (Figure 1, Item 14).
2. Remove screw-assembled lockwasher (Figure 1, Item 12), washer (Figure 1, Item 11), and clamp (Figure 1, Item 10) with cable (Figure 1, Item 22) from bracket (Figure 1, Item 9). Discard screw-assembled lockwasher.
3. Remove mounting plate (Figure 1, Item 1) and cable (Figure 1, Item 22) from support tube (Figure 1, Item 2).
4. Remove wing screw (Figure 1, Item 20), pin (Figure 1, Item 21), and support tube (Figure 1, Item 2) from bracket tube (Figure 1, Item 16) and bracket (Figure 1, Item 19).
5. Remove two locknuts (Figure 1, Item 18), washers (Figure 1, Item 17), U-bolt (Figure 1, Item 6), locknut (Figure 1, Item 5), washer (Figure 1, Item 4), screw (Figure 1, Item 3), and bracket (Figure 1, Item 19) from bracket tube (Figure 1, Item 16). Discard locknuts.

**NOTE**

Perform Step (6) for vehicles equipped with machine gun mount kit.

6. Remove two locknuts (Figure 1, Item 18), washers (Figure 1, Item 17), U-bolt (Figure 1, Item 6), locknut (Figure 1, Item 5), washer (Figure 1, Item 4), screw (Figure 1, Item 3), and bracket (Figure 1, Item 19) from bracket post (Figure 1, Item 23). Discard locknuts.
7. Remove four locknuts (Figure 1, Item 7), washers (Figure 1, Item 8), two U-bolts (Figure 1, Item 15), and bracket tube (Figure 1, Item 16) from bracket (Figure 1, Item 9). Discard locknuts.

REMOVAL - Continued



M9146DAA

Figure 1. Convoy Warning Light Mount Removal.

END OF TASK

**INSTALLATION**

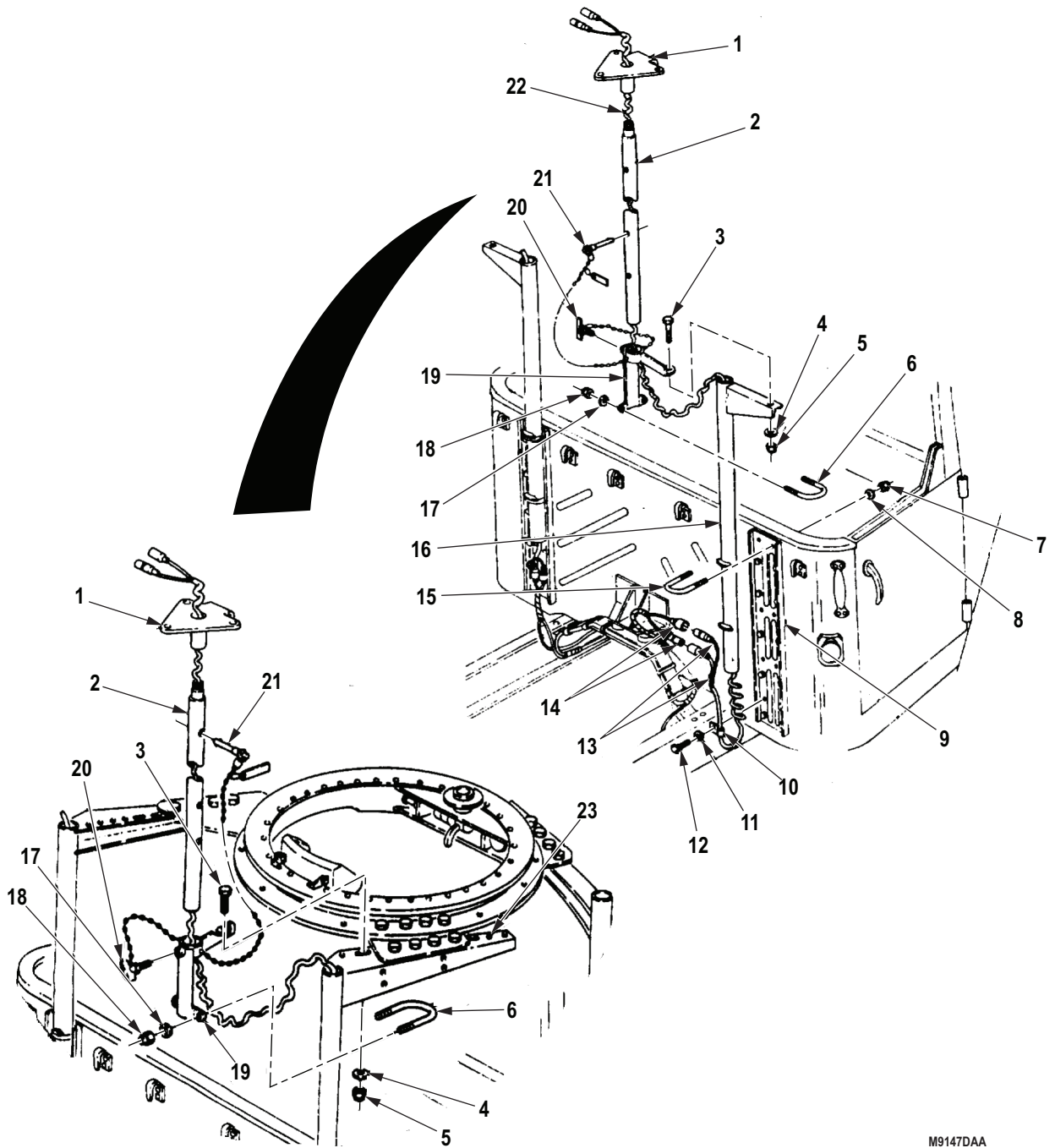
1. Install bracket tube (Figure 2, Item 16) on bracket (Figure 2, Item 9) with two U-bolts (Figure 2, Item 15), four washers (Figure 2, Item 8), and locknuts (Figure 2, Item 7).

**NOTE**

Perform Step (2) for vehicles equipped with machine gun mount kit.

2. Install bracket (Figure 2, Item 19) on bracket post (Figure 2, Item 23) with screw (Figure 2, Item 3), washer (Figure 2, Item 4), locknut (Figure 2, Item 5), U-bolt (Figure 2, Item 6), two washers (Figure 2, Item 17), and locknuts (Figure 2, Item 18)
3. Install bracket (Figure 2, Item 19) on bracket tube (Figure 2, Item 16) with screw (Figure 2, Item 3), washer (Figure 2, Item 4), locknut (Figure 2, Item 5), U-bolt (Figure 2, Item 6), two washers (Figure 2, Item 17), and locknuts (Figure 2, Item 18).
4. Install support tube (Figure 2, Item 2) on bracket tube (Figure 2, Item 16) and bracket (Figure 2, Item 19) with pin (Figure 2, Item 21) and wing screw (Figure 2, Item 20).
5. Insert cable (Figure 2, Item 22) and mounting plate (Figure 2, Item 1) on support tube (Figure 2, Item 2).
6. Install washer (Figure 2, Item 11), clamp (Figure 2, Item 10) with cable (Figure 2, Item 22), and screw-assembled lockwasher (Figure 2, Item 12) on bracket (Figure 2, Item 9).
7. Connect two leads (Figure 2, Item 13) to connectors (Figure 2, Item 14).

INSTALLATION - Continued



M9147DAA

Figure 2. Convoy Warning Light Mount Installation.

END OF TASK

**FOLLOW-ON MAINTENANCE**

Install convoy warning light. (WP 0799)

**END OF TASK**

**END OF WORK PACKAGE**

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**FIELD MAINTENANCE  
EUROPEAN MINI-LIGHTING COMPONENT REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts**

Locknut (WP 0827, Table 1, Item 283) Qty: 4  
Locknut (WP 0827, Table 1, Item 289) Qty: 1  
Lockwasher

**Materials/Parts (cont.)**

(WP 0827, Table 1, Item 389) Qty: 1  
O-ring (WP 0827, Table 1, Item 363) Qty: 2  
Screw Assembled Lockwasher  
(WP 0827, Table 1, Item 168) Qty: 2

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Battery ground cables disconnected.  
(Volume 3, WP 0362)

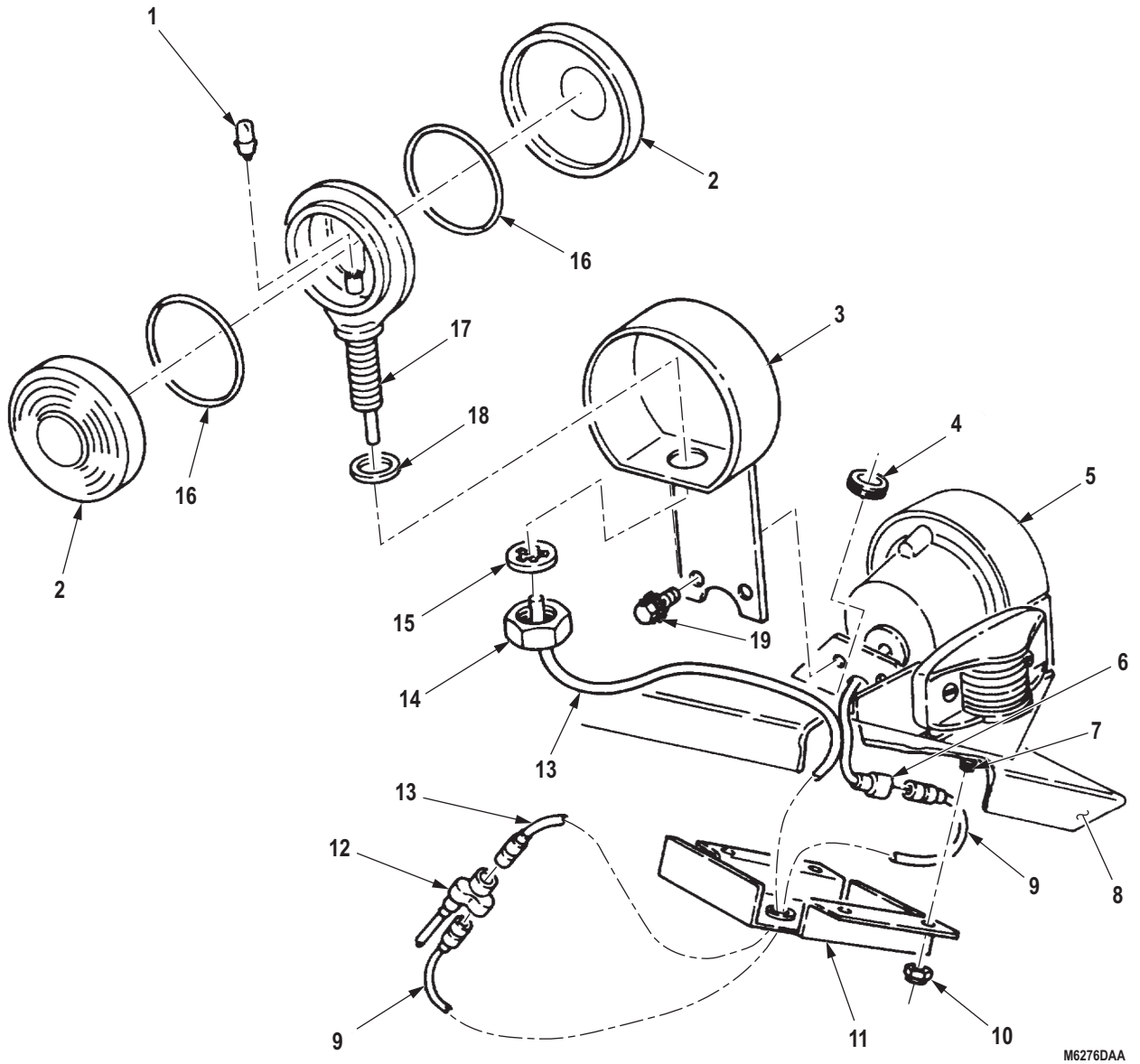
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**REMOVAL****NOTE**

- Right and left European mini-lights are replaced the same. This procedure covers the right side.
  - Note routing of leads through grommet and fender for installation.
1. Remove two lenses (Figure 1, Item 2), o-rings (Figure 1, Item 16), and lamp (Figure 1, Item 1) from lamp housing (Figure 1, Item 17). Discard o-rings.
  2. Remove four locknuts (Figure 1, Item 10) and protector box (Figure 1, Item 11) from four screws (Figure 1, Item 7) on fender (Figure 1, Item 8). Discard locknuts.
  3. Disconnect lead (Figure 1, Item 13) and cable (Figure 1, Item 9) from connector (Figure 1, Item 12).
  4. Disconnect cable (Figure 1, Item 9) from lead (Figure 1, Item 6).
  5. Remove grommet (Figure 1, Item 4) from leads (Figure 1, Items 6 and 13) and fender (Figure 1, Item 8).
  6. Remove locknut (Figure 1, Item 14), lockwasher (Figure 1, Item 15), lamp housing (Figure 1, Item 17), and washer (Figure 1, Item 18) from brush guard (Figure 1, Item 3). Discard locknut and lockwasher.
  7. Remove two screw assembled lockwashers (Figure 1, Item 19) and brush guard (Figure 1, Item 3) from brush guard (Figure 1, Item 5). Discard screw assembled lockwashers.



REMOVAL - Continued



M6276DAA

Figure 1. European Mini-Lighting Component Removal.

END OF TASK

**INSTALLATION**

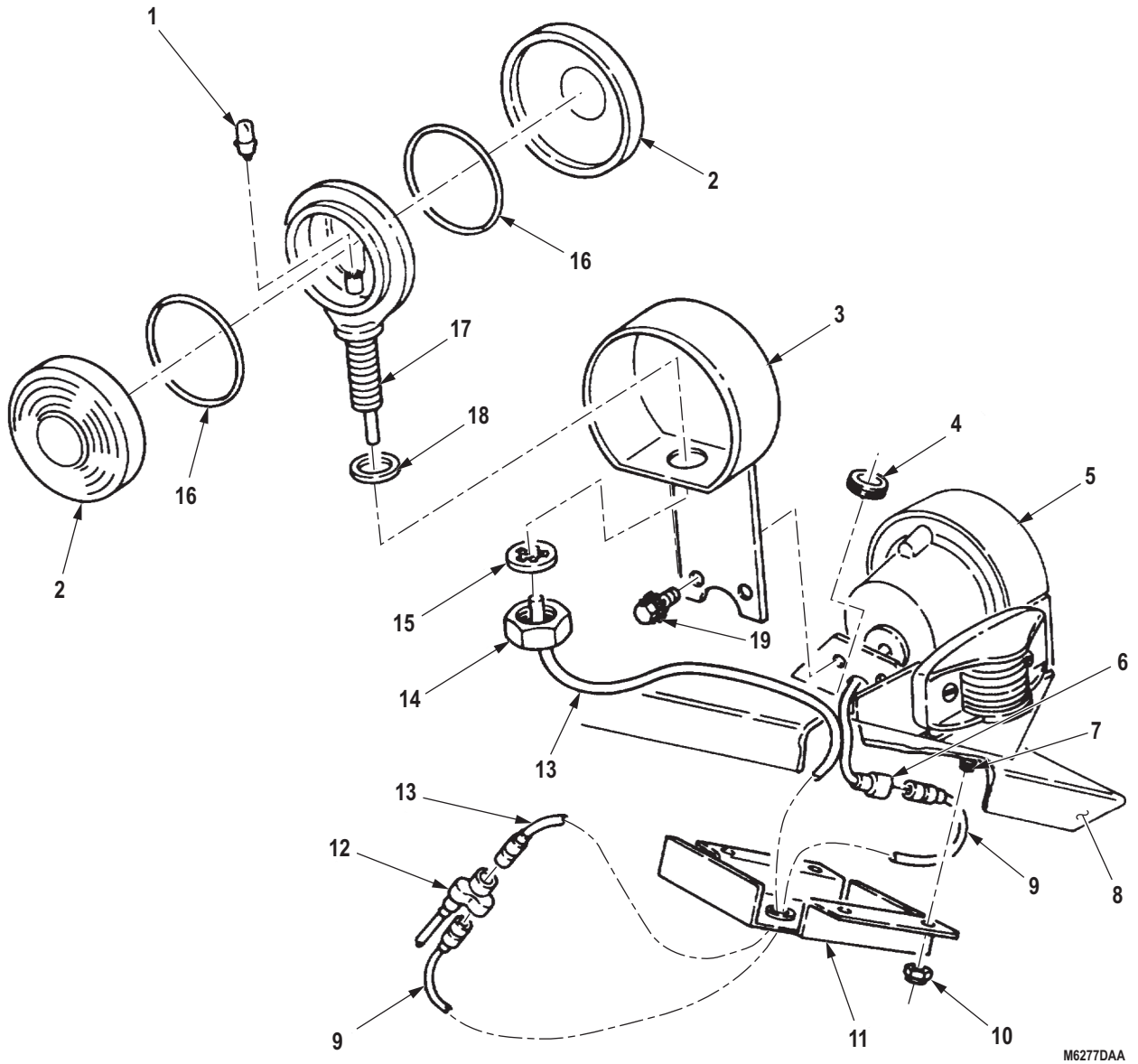
1. Install brush guard (Figure 2, Item 3) on brush guard (Figure 2, Item 5) with two screw assembled lockwashers (Figure 2, Item 19).
2. Install washer (Figure 2, Item 18) and lamp housing (Figure 2, Item 17) on brush guard (Figure 2, Item 3) with lockwasher (Figure 2, Item 15) and locknut (Figure 2, Item 14).
3. Install grommet (Figure 2, Item 4) on leads (Figure 2, Items 6 and 13) and fender (Figure 2, Item 8).
4. Connect cable (Figure 2, Item 9) to lead (Figure 2, Item 6).
5. Connect lead (Figure 2, Item 13) and cable (Figure 2, Item 9) to connector (Figure 2, Item 12).
6. Install protector box (Figure 2, Item 11) on fender (Figure 2, Item 8) and four screws (Figure 2, Item 7) with four locknuts (Figure 2, Item 10).

**NOTE**

Ensure red lens of light assembly is installed facing rear of vehicle.

7. Install lamp (Figure 2, Item 1), two o-rings (Figure 2, Item 16), and lenses (Figure 2, Item 2) on lamp housing (Figure 2, Item 17).

**INSTALLATION - Continued**



M6277DAA

*Figure 2. European Mini-Lighting Component Installation.*

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Connect battery ground cables. (Volume 2, WP 0350)

**END OF TASK**

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE**  
**AUTOMATIC THROTTLE COMPONENT REPLACEMENT (M936/A1)**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Personnel Required**

(2)

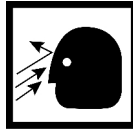
**Materials/Parts**

Tape, Antiseizing  
(WP 0825, Table 1, Item 65)  
Cotter Pin  
(WP 0827, Table 1, Item 331) Qty: 3  
Cotter Pin  
(WP 0827, Table 1, Item 335) Qty: 1

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Air reservoirs drained. (TM 9-2320-272-10)  
Air cleaner, air cleaner hose, air cleaner intake pipe  
removed. (Volume 2, WP 0246)

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**REMOVAL****WARNING**

Do not disconnect air lines or hoses before draining air reservoirs. Small parts under pressure may shoot out with high velocity. Failure to comply may result in injury or death to personnel.

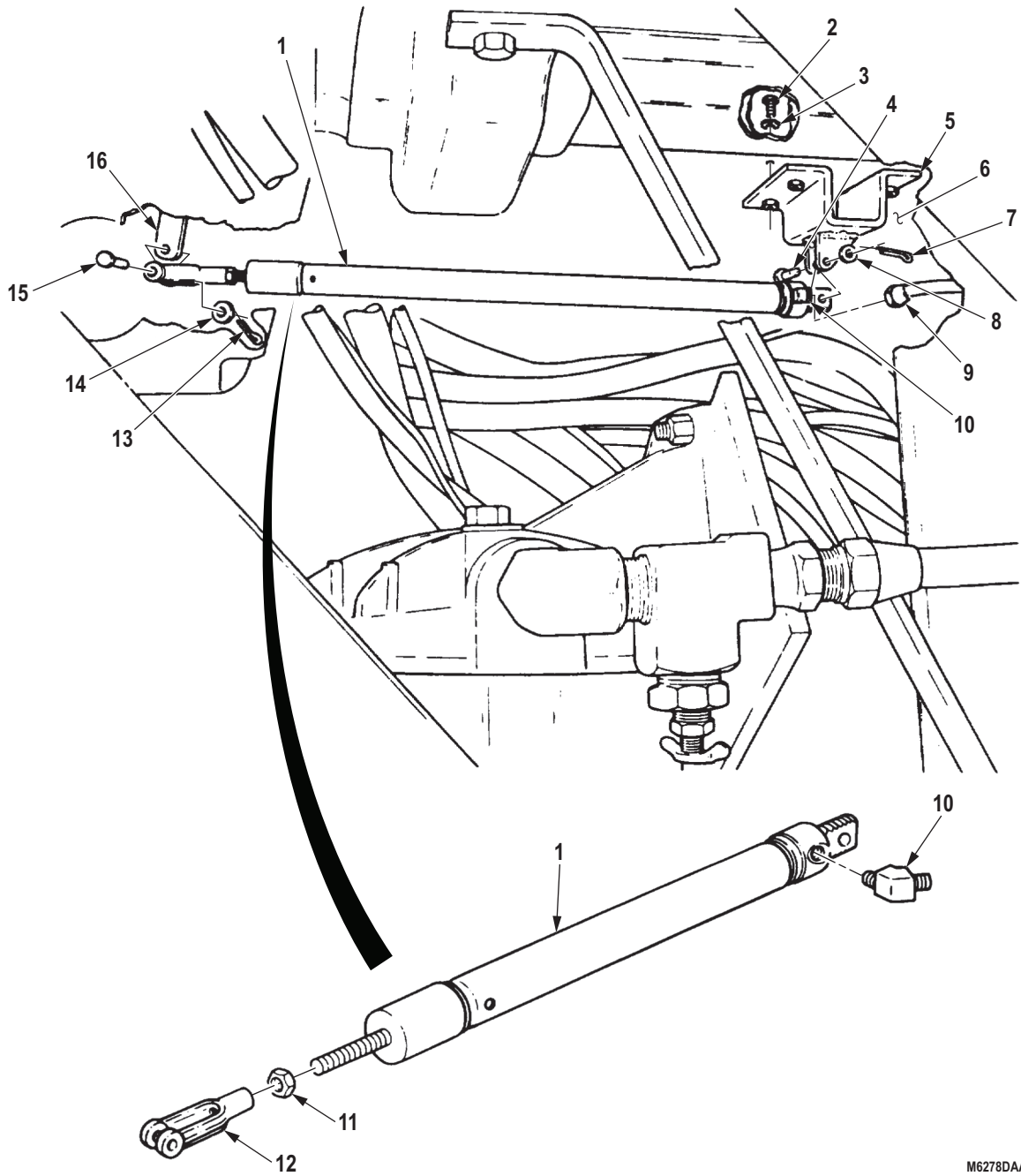
1. Remove cotter pin (Figure 1, Item 13), washer (Figure 1, Item 14), and pin (Figure 1, Item 15) from throttle lever (Figure 1, Item 16). Discard cotter pin.
2. Remove tube (Figure 1, Item 9) from elbow (Figure 1, Item 10).
3. Remove cotter pin (Figure 1, Item 7), washer (Figure 1, Item 8), pin (Figure 1, Item 4), and air cylinder (Figure 1, Item 1) from bracket (Figure 1, Item 5). Discard cotter pin.

**NOTE**

Assistant will help with Step (4).

4. Remove four screws (Figure 1, Item 2), washers (Figure 1, Item 3), and bracket (Figure 1, Item 5) from cab floor (Figure 1, Item 6).
5. Remove clevis (Figure 1, Item 12), jamnut (Figure 1, Item 11), and elbow (Figure 1, Item 10) from air cylinder (Figure 1, Item 1).

REMOVAL - Continued



M6278DAA

Figure 1. Automatic Throttle Component Removal.

**REMOVAL - Continued**

6. Remove cotter pin (Figure 2, Item 8), washer (Figure 2, Item 7), and accelerator pedal pushrod (Figure 2, Item 10) from bellcrank link (Figure 2, Item 6). Discard cotter pin.
7. Remove cotter pin (Figure 2, Item 3), washer (Figure 2, Item 2), throttle shaft (Figure 2, Item 9), and bellcrank link (Figure 2, Item 6) from throttle bracket (Figure 2, Item 1). Discard cotter pin.
8. Remove two bushings (Figure 2, Item 4) and throttle lever (Figure 2, Item 5) from bellcrank link (Figure 2, Item 6).

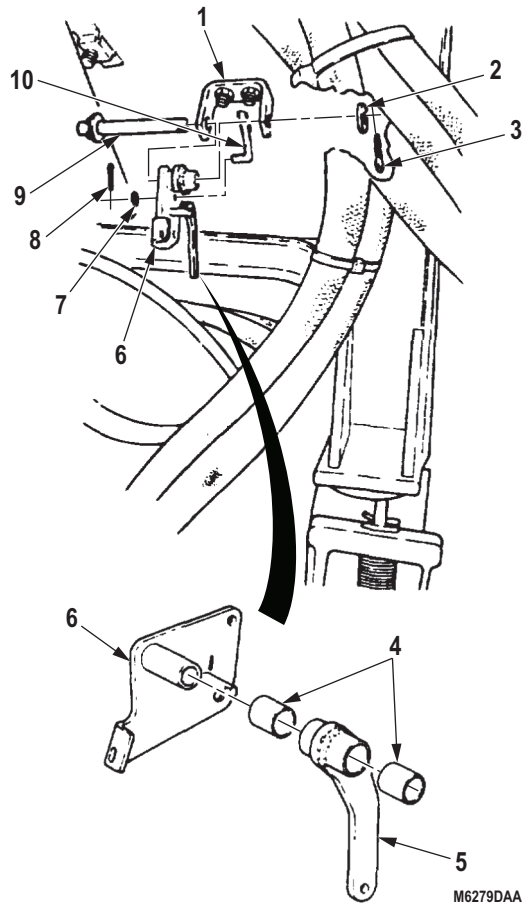
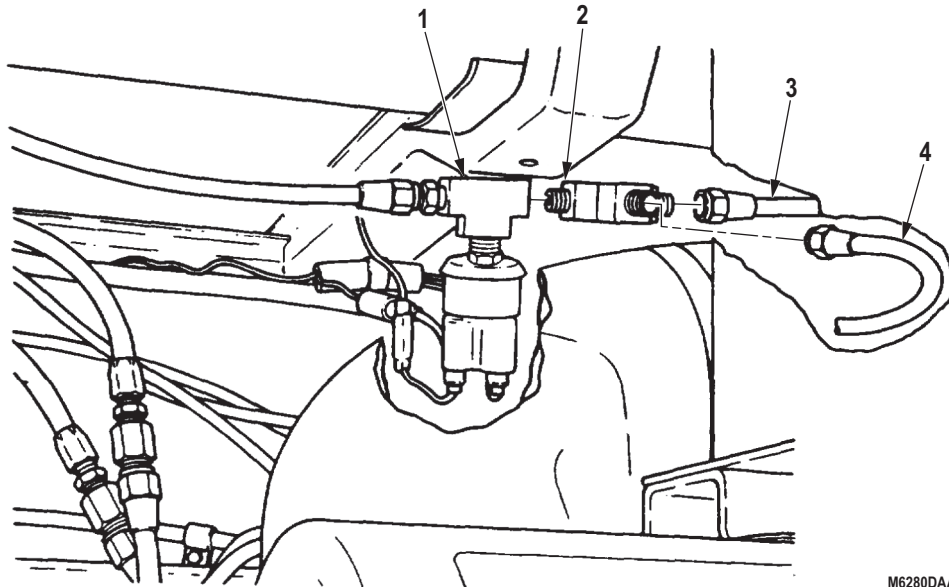


Figure 2. Automatic Throttle Component Removal.



**REMOVAL - Continued**

9. Remove tubes (Figure 3, Items 3 and 4) from tee (Figure 3, Item 2).
10. Remove tee (Figure 3, Item 2) from air pressure switch tee (Figure 3, Item 1).



M6280DAA

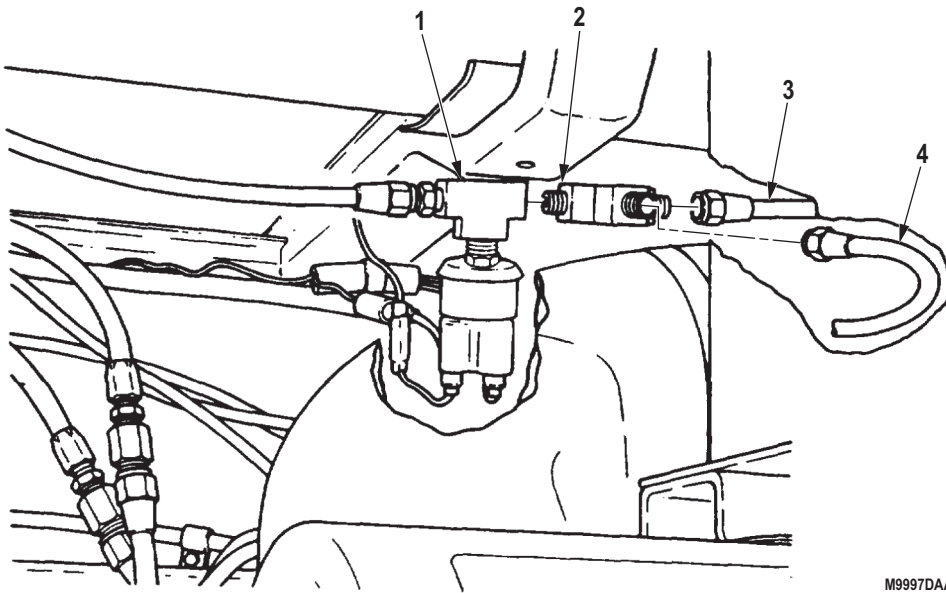
Figure 3. Automatic Throttle Component Removal.

**END OF TASK**

**INSTALLATION****NOTE**

Clean all male pipe threads and wrap with antiseize tape before installation.

1. Install tee (Figure 4, Item 2) on air pressure switch tee (Figure 4, Item 1).
2. Install tubes (Figure 4, Items 3 and 4) on tee (Figure 4, Item 2).



M9997DAA

Figure 4. Automatic Throttle Component Installation.

**INSTALLATION - Continued**

3. Install bushing (Figure 5, Item 4), throttle lever (Figure 5, Item 5), and bushing (Figure 5, Item 4) on bellcrank link (Figure 5, Item 6).
4. Install bellcrank link (Figure 5, Item 6) and throttle shaft (Figure 5, Item 9) on throttle bracket (Figure 5, Item 1) with washer (Figure 5, Item 2) and cotter pin (Figure 5, Item 3).
5. Install accelerator pedal pushrod (Figure 5, Item 10) on bellcrank link (Figure 5, Item 6) with washer (Figure 5, Item 7) and cotter pin (Figure 5, Item 8).

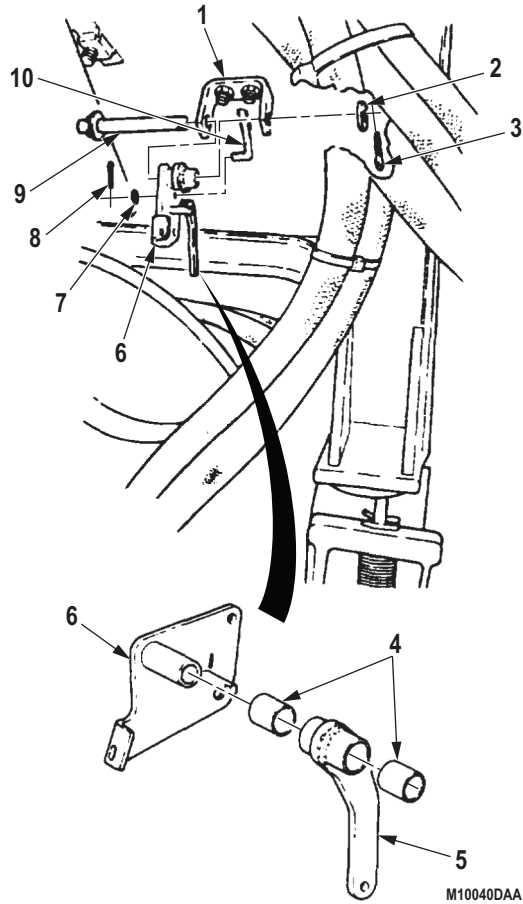
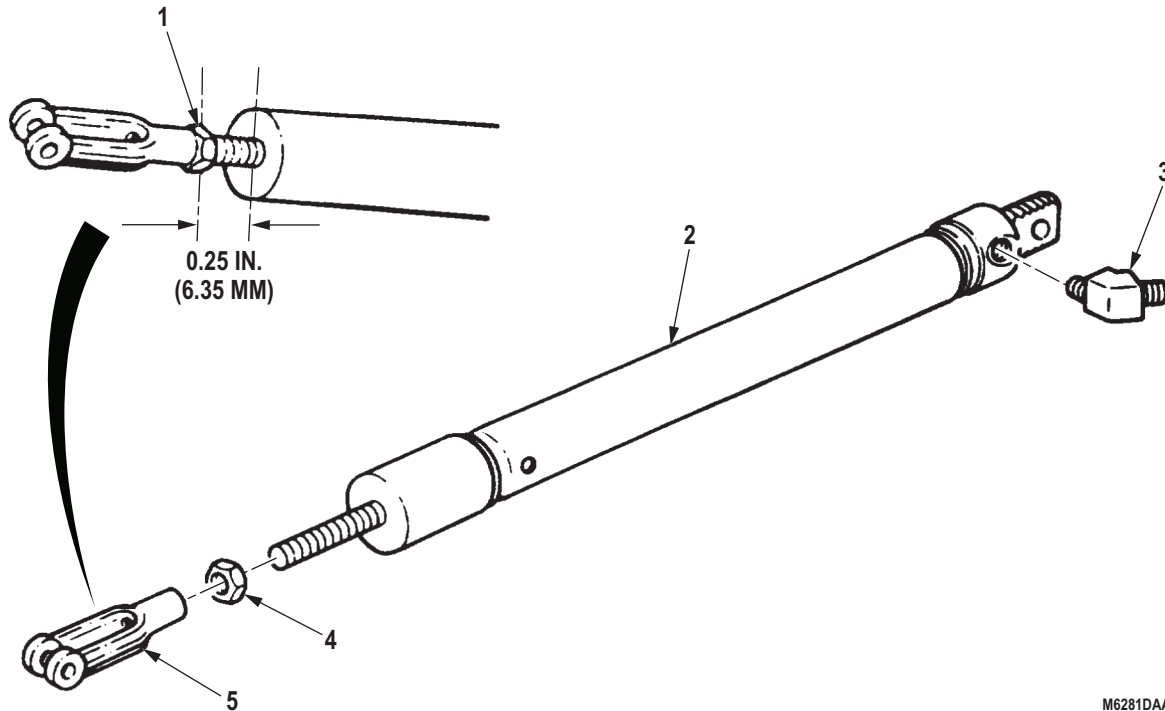


Figure 5. Automatic Throttle Component Installation.

**INSTALLATION - Continued**

6. Install elbow (Figure 6, Item 3), jamnut (Figure 6, Item 4), and clevis (Figure 6, Item 5) on air cylinder (Figure 6, Item 2). Tighten jamnut a distance of 0.25 in (6.35 mm) from air cylinder on air cylinder stud (Figure 6, Item 1).



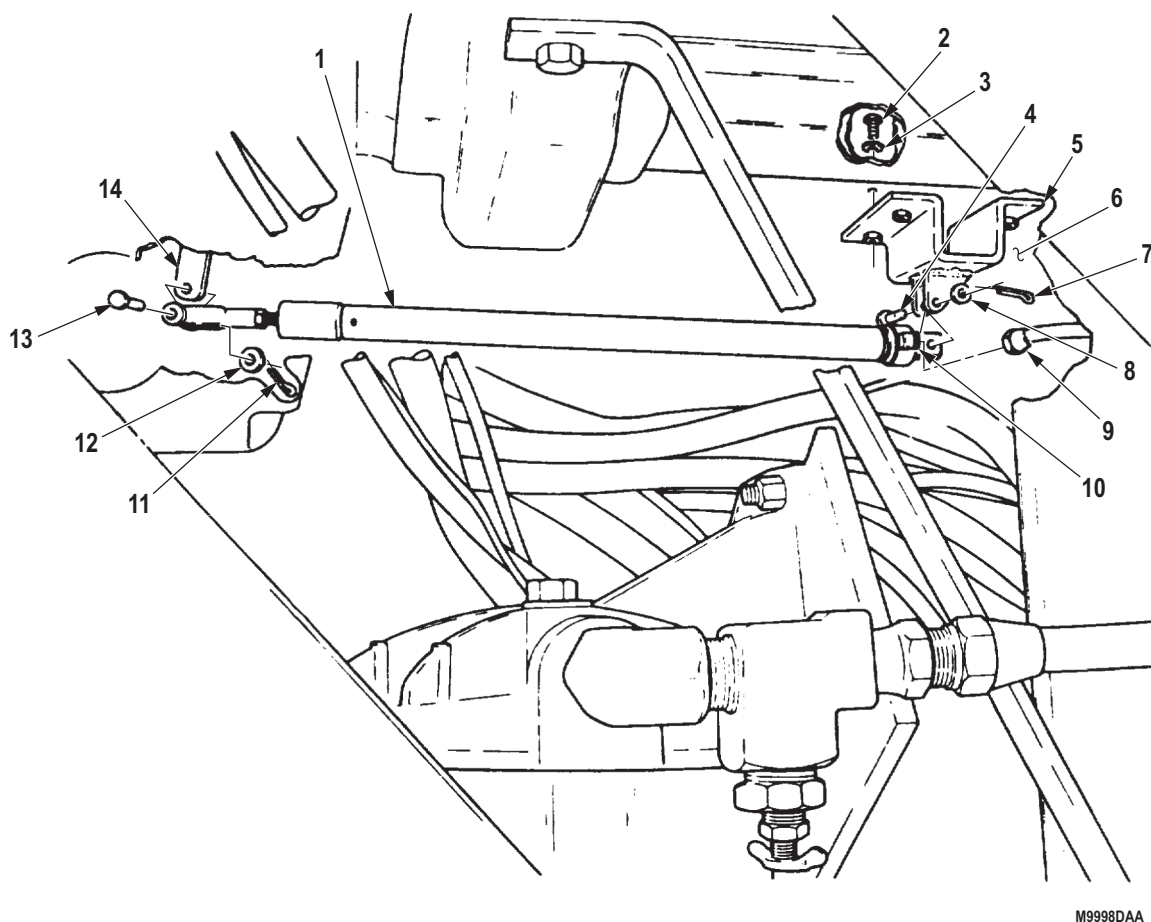
M6281DAA

Figure 6. Automatic Throttle Component Installation.

**NOTE**

Assistant will help with Step (7).

7. Install bracket (Figure 7, Item 5) on cab floor (Figure 7, Item 6) with four washers (Figure 7, Item 3) and screws (Figure 7, Item 2).
8. Install air cylinder (Figure 7, Item 1) on bracket (Figure 7, Item 5) with pin (Figure 7, Item 4), washer (Figure 7, Item 8), and cotter pin (Figure 7, Item 7).
9. Install tube (Figure 7, Item 9) on elbow (Figure 7, Item 10).
10. Install pin (Figure 7, Item 15) on throttle lever (Figure 7, Item 16) with washer (Figure 7, Item 14) and cotter pin (Figure 7, Item 13).

**INSTALLATION - Continued**

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*Figure 7. Automatic Throttle Component Installation.*

**END OF TASK****FOLLOW-ON MAINTENANCE**

1. Install air cleaner, air cleaner hose, air cleaner intake pipe. (Volume 2, WP 0246)
2. Start engine and allow air pressure to build to normal operating range. Check for air leaks at service brake chamber. (TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**



---

**FIELD MAINTENANCE  
ATMOSPHERIC FUEL TANK VENT SYSTEM REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition (cont.)**

Hood raised and secured. (TM 9-2320-272-10)  
Battery ground cables disconnected.  
(Volume 2, WP 0350)

**Materials/Parts**

Tape, Antiseizing  
(WP 0825, Table 1, Item 65)  
Locknut (WP 0827, Table 1, Item 320) Qty: 2

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

---

**REMOVAL****NOTE**

Perform Steps (1) through (3) for single fuel tank system.

1. Remove three fuel lines (Figure 1, Item 1) from adapters (Figure 1, Item 2).
2. Remove locknut (Figure 1, Item 5), screw (Figure 1, Item 4), and tee (Figure 1, Item 3) from rail (Figure 1, Item 6). Discard locknut.
3. Remove three adapters (Figure 1, Item 2) from tee (Figure 1, Item 3).

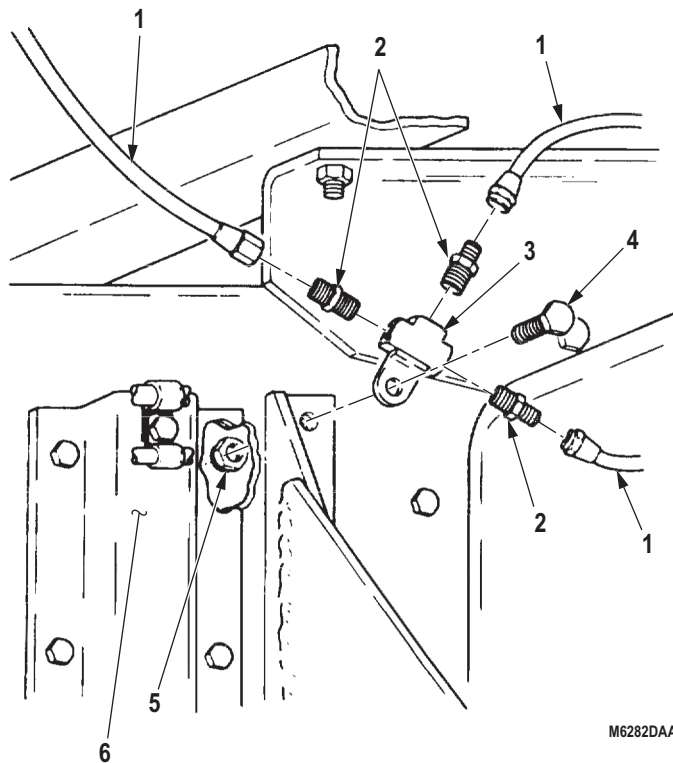


Figure 1. Atmospheric Fuel Tank Vent System Component Removal.



**REMOVAL - Continued**

4. Remove three fuel lines (Figure 2, Item 1) from adapters (Figure 2, Item 2).
5. Remove locknut (Figure 2, Item 6), screw (Figure 2, Item 4), and tee (Figure 2, Item 5) from rail (Figure 2, Item 7). Discard locknuts.
6. Remove three adapters (Figure 2, Item 2) from two elbows (Figure 2, Item 3) and tee (Figure 2, Item 5).
7. Remove two elbows (Figure 2, Item 3) from tee (Figure 2, Item 5).

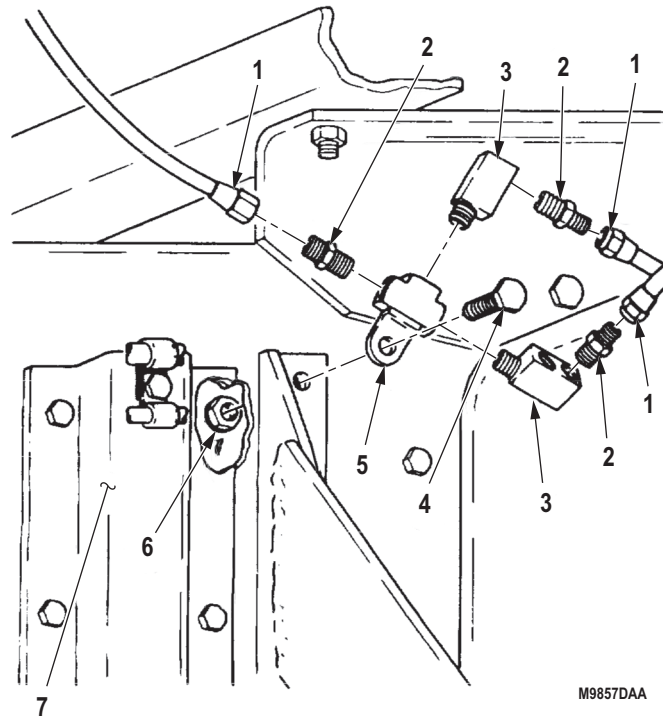


Figure 2. Atmospheric Fuel Tank Vent System Component Removal.

**REMOVAL - Continued**

8. Remove vent line (Figure 3, Item 3) from adapter (Figure 3, Item 4).
9. Remove adapter (Figure 3, Item 4) from adapter (Figure 3, Item 5).
10. Remove adapter (Figure 3, Item 5) from tube (Figure 3, Item 6).
11. Remove four clamps (Figure 3, Item 7), tubes (Figure 3, Items 6 and 9), and hose (Figure 3, Item 2) from air intake pipe (Figure 3, Item 1).
12. Remove two clamps (Figure 3, Item 8) and tubes (Figure 3, Items 6 and 9) from hose (Figure 3, Item 2).

REMOVAL - Continued

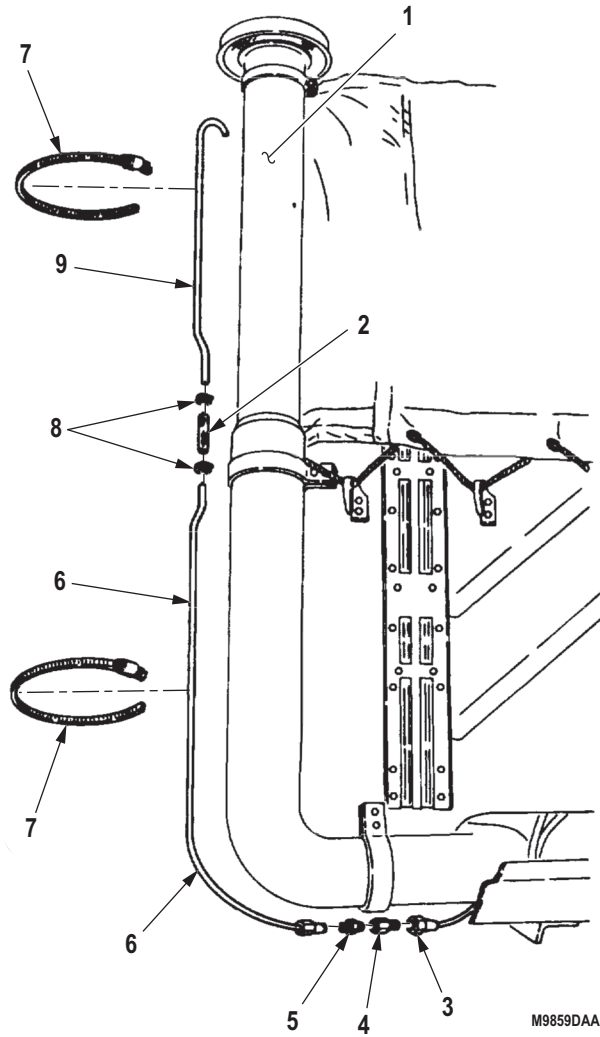


Figure 3. Atmospheric Fuel Tank Vent System Component Removal.

**REMOVAL - Continued**

13. Remove two nuts (Figure 4, Item 15), clamps (Figure 4, Item 14), screws (Figure 4, Item 13), and clamps from fuel return line (Figure 4, Item 19) and fuel supply line (Figure 4, Item 16).
14. Disconnect fuel return line (Figure 4, Item 19) from elbows (Figure 4, Items 11 and 18).
15. Disconnect fuel supply line (Figure 4, Item 16) from elbow (Figure 4, Item 17) and fuel pump (Figure 4 Item 9).
16. Disconnect tube (Figure 4, Item 7) from elbow (Figure 4, Item 1) and tee (Figure 4, Item 8).
17. Remove screw (Figure 4, Item 10) and bracket (Figure 4, Item 5) from engine (Figure 4, Item 12).
18. Remove elbows (Figure 4, Items 1 and 11) and two bushings (Figure 4, Item 2) from check valve (Figure 4, Item 6).
19. Remove locknut (Figure 4, Item 20), washer (Figure 4, Item 4), clamp (Figure 4, Item 21), bracket (Figure 4, Item 5), washer (Figure 24, Item 4), and screw (Figure 4, Item 3) from check valve (Figure 4, Item 2). Discard locknut.

REMOVAL - Continued

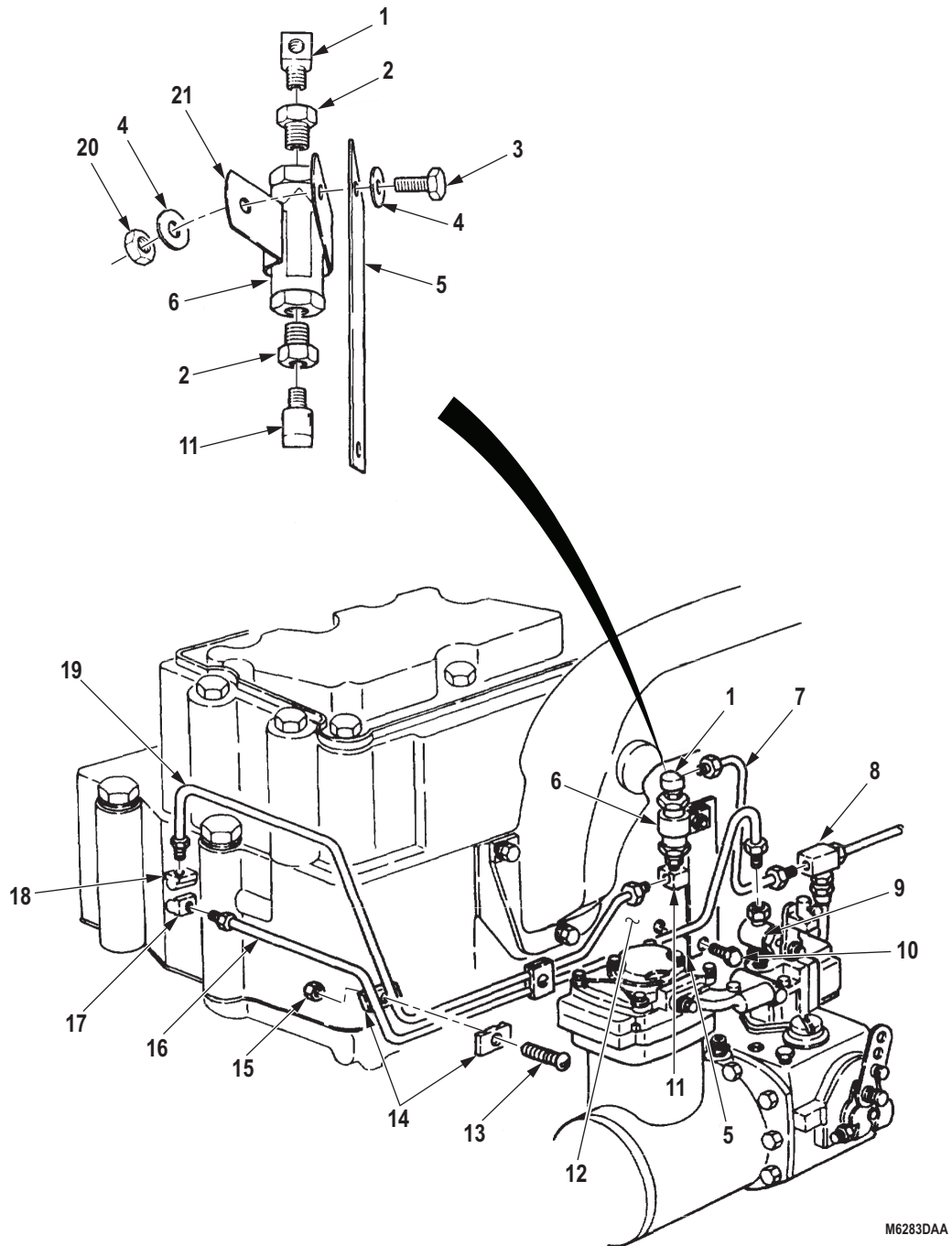


Figure 4. Atmospheric Fuel Tank Vent System Component Removal.

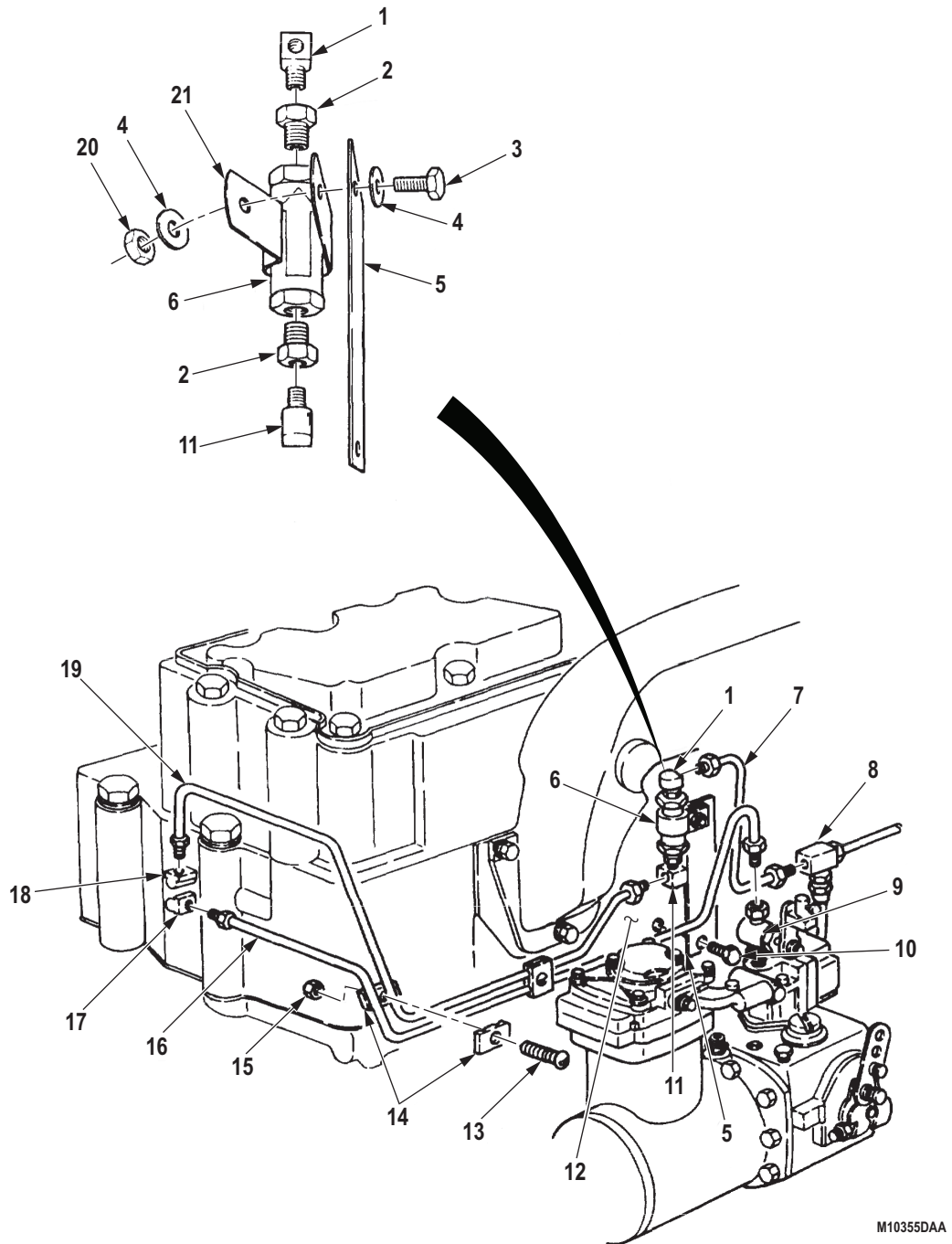
END OF TASK

**INSTALLATION****NOTE**

Apply sealant to all male pipe threads before installation.

1. Install clamp (Figure 5, Item 21) and bracket (Figure 5, Item 5) on check valve (Figure 5, Item 6) with washer (Figure 5, Item 4), screw (Figure 5, Item 3), washer (Figure 5, Item 4), and locknut (Figure 5, Item 20).
2. Install two bushings (Figure 5, Item 2) and elbows (Figure 5, Items 1 and 11) on check valve (Figure 5, Item 6).
3. Install bracket (Figure 5, Item 5) on engine (Figure 5, Item 12) with screw (Figure 5, Item 10).
4. Connect tube (Figure 5, Item 7) to elbow (Figure 5, Item 1) and tee (Figure 5, Item 8).
5. Connect fuel supply line (Figure 5, Item 16) to elbow (Figure 5, Item 17) and fuel pump (Figure 5, Item 9).
6. Connect fuel return line (Figure 5, Item 19) to elbows (Figure 5, Items 11 and 18).
7. Install two clamps (Figure 5, Item 14), screws (Figure 5, Item 13), clamps (Figure 5, Item 13), and nuts (Figure 5, Item 15) on fuel return line (Figure 5, Item 19) and fuel supply line (Figure 5, Item 16).

INSTALLATION - Continued



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Figure 5. Atmospheric Fuel Tank Vent System Component Installation.

**INSTALLATION - Continued**

8. Install tubes (Figure 6, Items 6 and 9) on hose (Figure 6, Item 2) with two clamps (Figure 6, Item 8).
9. Install tubes (Figure 6, Items 6 and 9) and hose (Figure 6, Item 2) on air intake pipe (Figure 6, Item 1) with four clamps (Figure 6, Item 7).
10. Install adapter (Figure 6, Item 5) on tube (Figure 6, Item 6).
11. Install adapter (Figure 6, Item 4) on adapter (Figure 6, Item 5).
12. Install vent line (Figure 6, Item 3) on adapter (Figure 6, Item 4).

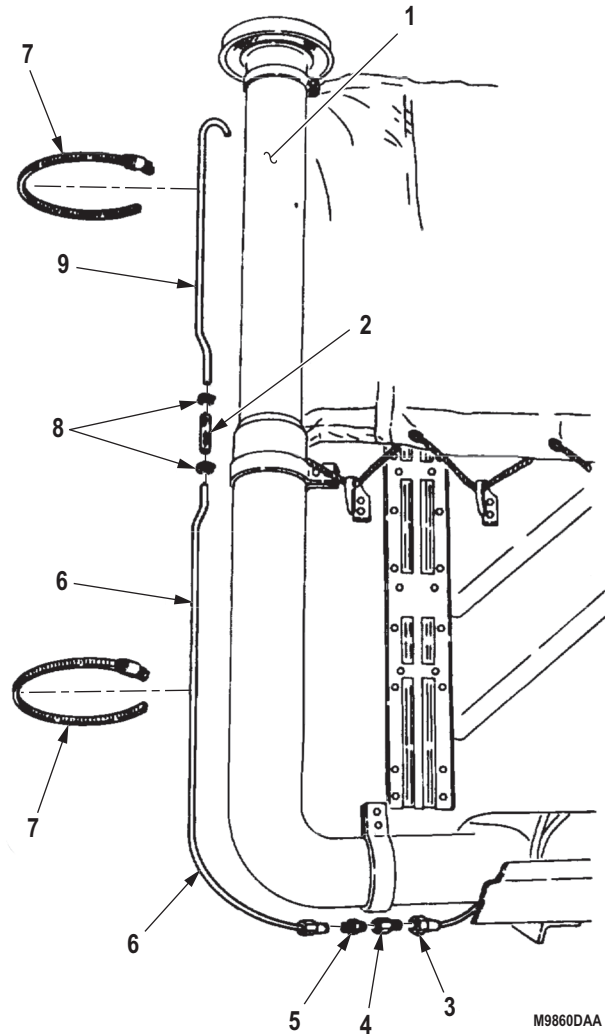


Figure 6. Atmospheric Fuel Tank Vent System Component Installation.



**INSTALLATION - Continued**

13. Install two elbows (Figure 7, Item 3) on tee (Figure 7, Item 5).
14. Install three adapters (Figure 7, Item 2) on two elbows (Figure 7, Item 3) and tee (Figure 7, Item 5).
15. Install tee (Figure 7, Item 5) on rail (Figure 7, Item 7) with screw (Figure 7, Item 4) and locknut (Figure 7, Item 6).
16. Install three fuel lines (Figure 7, Item 1) on three adapters (Figure 7, Item 2).

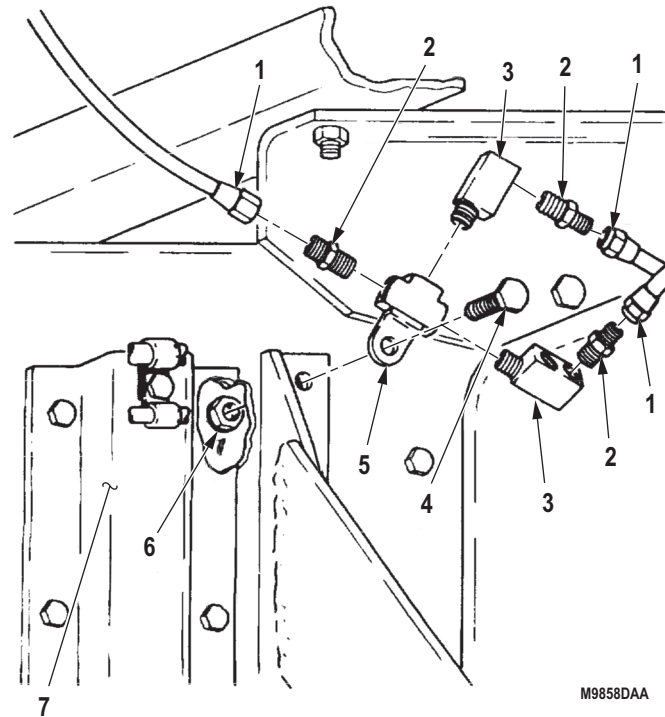


Figure 7. Atmospheric Fuel Tank Vent system component Installation.

**INSTALLATION - Continued****NOTE**

Perform Steps (17) through (19) for single fuel tank system only.

17. Install three adapters (Figure 8, Item 2) on tee (Figure 8, Item 3).
18. Install tee (Figure 8, Item 3) on rail (Figure 8, Item 6) with screw (Figure 8, Item 4) and locknut (Figure 8, Item 5).
19. Install three fuel lines (Figure 8, Item 1) on three adapters (Figure 8, Item 2).

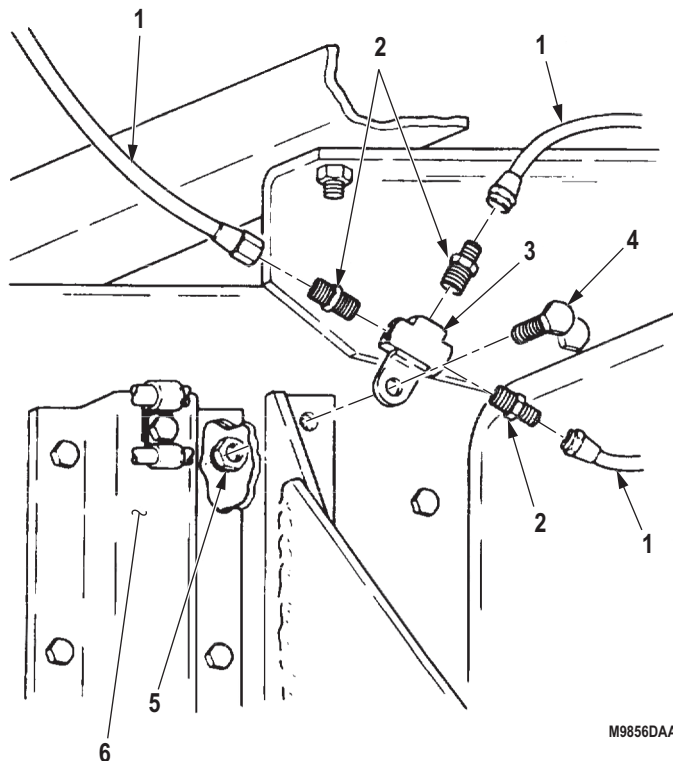


Figure 8. Atmospheric Fuel Tank Vent System Component Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Connect battery ground cables. (Volume 2, WP 0350)

**END OF TASK**

**END OF WORK PACKAGE**

---

**FIELD MAINTENANCE**  
**HYDRAULIC HOSE CHAFE GUARD COMPONENT REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts**

Cap Set, Protective, Dust and Moisture Seal  
(WP 0825, Table 1, Item 13)  
Sealing Compound  
(WP 0825, Table 1, Item 57)  
Locknut (WP 0827, Table 1, Item 289) Qty: 2

**Materials/Parts (cont.)**

O-ring (WP 0827, Table 1, Item 367) Qty: 2  
Tiedown Strap  
(WP 0827, Table 1, Item 377) Qty: 1

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Dump body raised and support braces in position.  
(TM 9-2320-272-10)  
Drain hydraulic oil reservoir. (WP 0820)

---

**REMOVAL****WARNING**

Dump body must be raised and secured with safety braces before removal and installation of chafe guard kit. Failure to comply may result in injury or death to personnel.

**CAUTION**

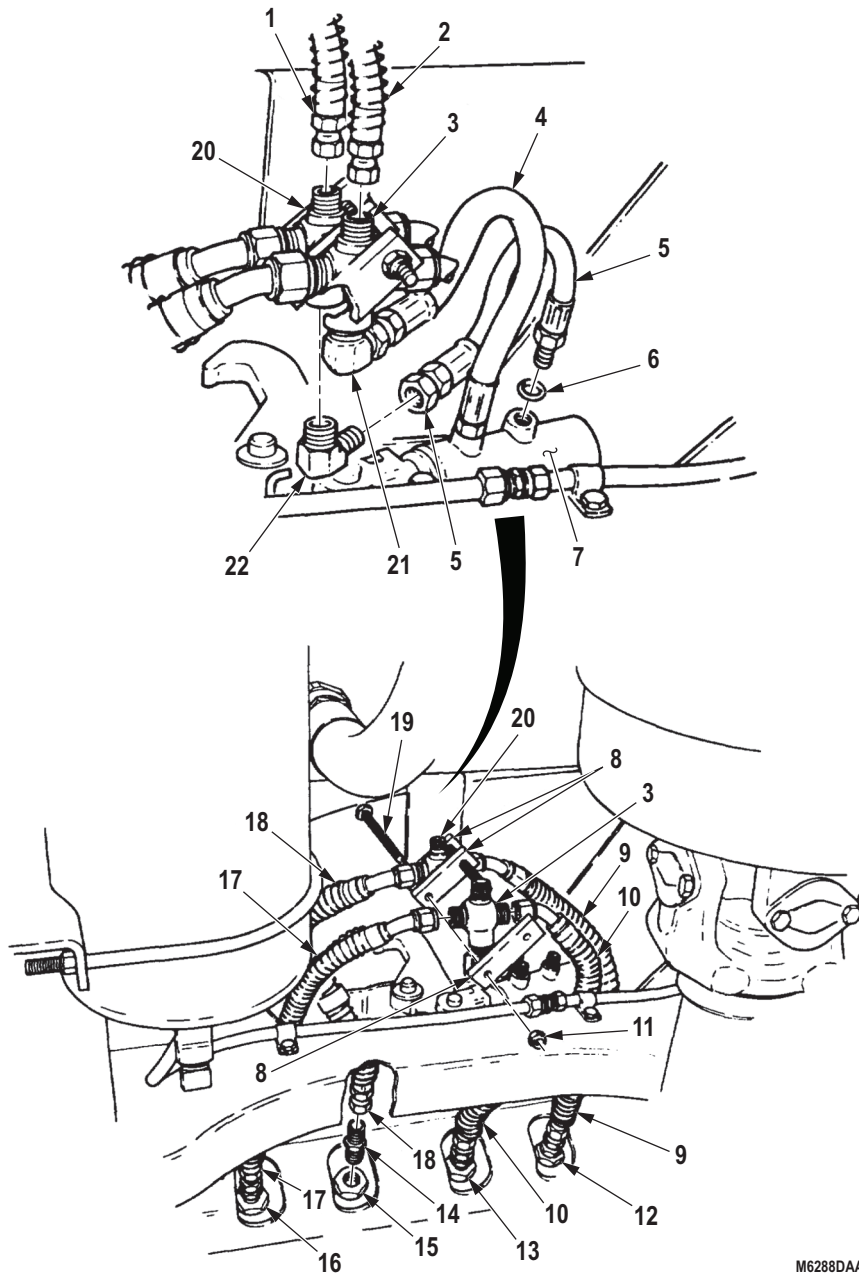
Plug all hydraulic openings and hoses to prevent contamination.

**NOTE**

Tag all hoses and tubes for proper installation.

1. Disconnect hoses (Figure 1, Items 4 and 5) from elbows (Figure 1, Items 21 and 22).
2. Remove hoses (Figure 1, Items 4 and 5) and o-rings (Figure 1, Item 6) from safety lock cylinder (Figure 1, Item 7). Discard o-rings.
3. Remove hoses (Figure 1, Items 1 and 2) from crosses (Figure 1, Items 3 and 20).
4. Remove hoses (Figure 1, Items 9, 10, 17, and 18) from four connectors (Figure 1, Item 14).
5. Remove four connectors (Figure 1, Item 14) from four cylinder ports (Figure 1, Items 12, 13, 15, and 16).
6. Remove two locknuts (Figure 1, Item 11), plate (Figure 1, Item 8), cross (Figure 1, Item 3), plate (Figure 1, Item 8), cross (Figure 1, Item 20), and plate (Figure 1, Item 8) from two screws (Figure 1, Item 19). Discard locknuts.
7. Remove hoses (Figure 1, Items 10 and 17) from cross (Figure 1, Item 3).
8. Remove hoses (Figure 1, Items 9 and 18) from cross (Figure 1, Item 20).
9. Remove elbows (Figure 1, Items 21 and 22) from crosses (Figure 1, Items 3 and 20).

REMOVAL - Continued



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Figure 1. Hydraulic Hose Chafe Guard Component Removal.

**REMOVAL - Continued**

10. Remove hoses (Figure 2, Items 2 and 5) from control valve ports (Figure 2, Items 3 and 4).
11. Remove tiedown strap (Figure 2, Item 1) from hoses (Figure 2, Items 2 and 5). Discard tiedown strap.

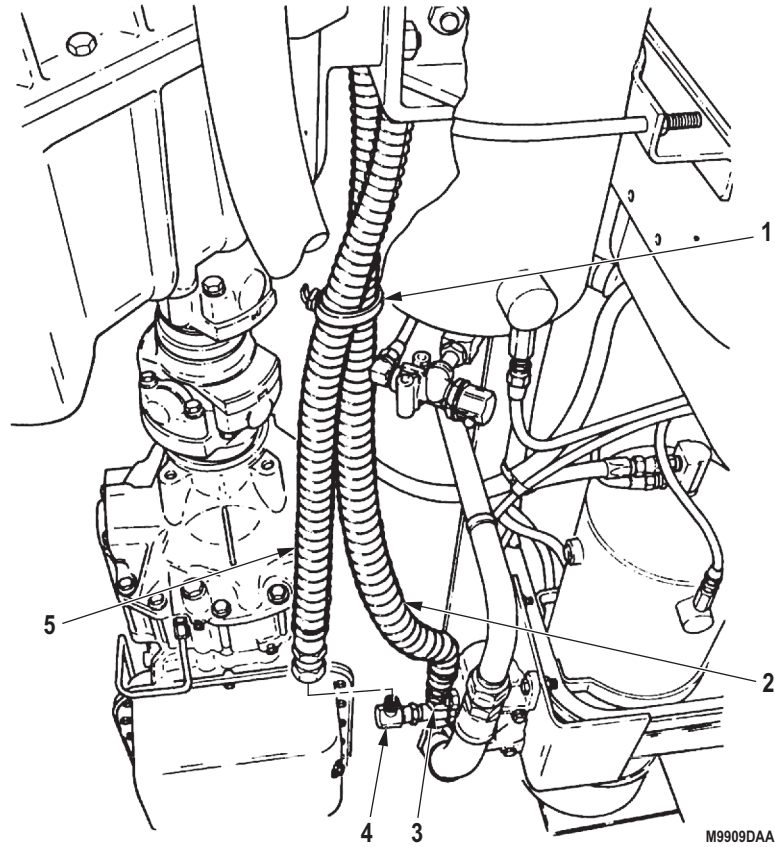


Figure 2. Hydraulic Hose Chafe Guard Component Removal.

**END OF TASK**

**INSTALLATION****NOTE**

Clean all male pipe threads and apply pipe sealant before installation.

1. Install tiedown strap (Figure 3, Item 1) on hoses (Figure 3, Items 2 and 5).
2. Install hoses (Figure 3, Items 2 and 5) on control valve ports (Figure 3, Items 3 and 4).

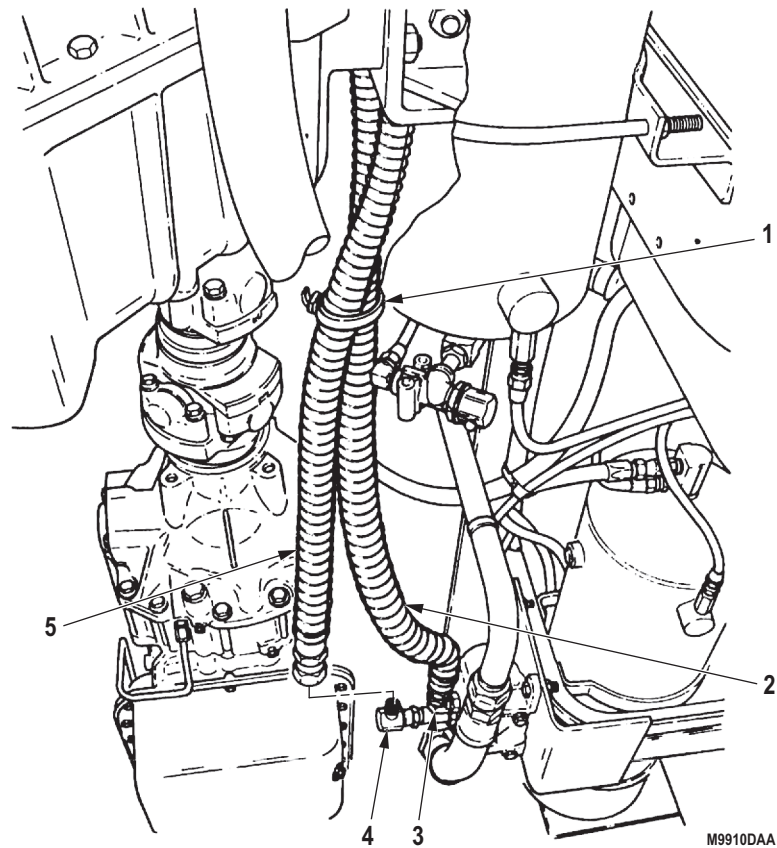


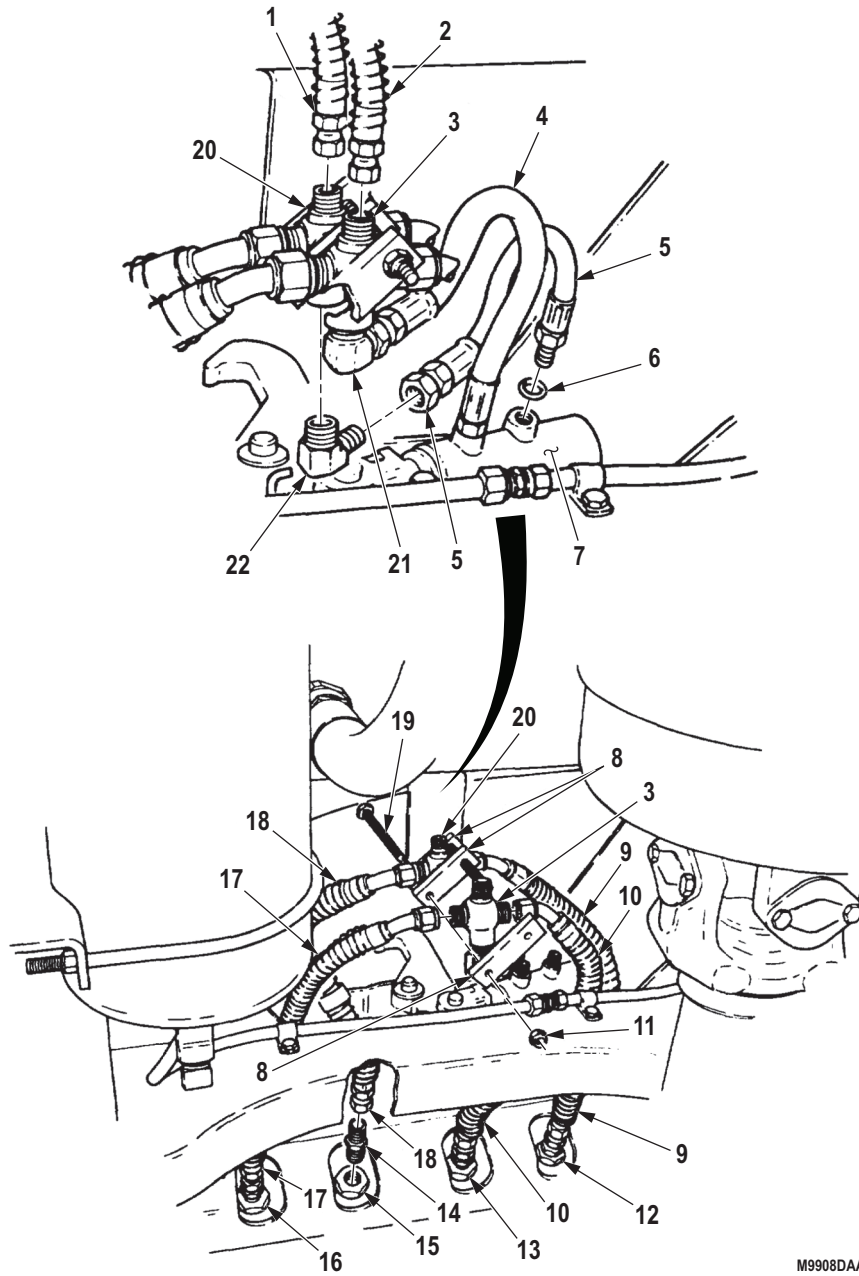
Figure 3. Hydraulic Hose Chafe Guard Component Installation.

**INSTALLATION - Continued**

3. Install elbows (Figure 4, Item 21 and 22) on crosses (Figure 4, Item 3 and 20).
4. Install hoses (Figure 4, Items 9 and 18) on cross (Figure 4, Item 20).
5. Install hoses (Figure 4, Items 10 and 17) on cross (Figure 4, Item 3).
6. Install plate (Figure 4, Item 8), cross (Figure 4, Item 20), plate (Figure 4, Item 8), cross (Figure 4, Item 3), plate (Figure 4, Item 8), and two locknuts (Figure 4, Item 11) on screws (Figure 4, Item 19).
7. Install four connectors (Figure 4, Item 14) on cylinder ports (Figure 4, Items 12, 13, 15, and 16).
8. Install hoses (Figure 4, Items 9, 10, 17, and 18) on connectors (Figure 4, Item 14).
9. Install hoses (Figure 4, Items 1 and 2) on crosses (Figure 4, Items 3 and 20).
10. Install two o-rings (Figure 4, Item 6) and hoses (Figure 4, Items 4 and 5) on safety lock cylinder (Figure 4, Item 7).
11. Connect hoses (Figure 4, Items 4 and 5) to elbows (Figure 4, Items 21 and 22).



INSTALLATION - Continued



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Figure 4. Hydraulic Hose Chafe Guard Component Installation.

END OF TASK

**FOLLOW-ON MAINTENANCE**

1. Fill hydraulic oil reservoir. (WP 0820)
2. Remove support braces and lower dump body. (TM 9-2320-272-10)
3. Check for proper operation of hydraulic system. (TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**

---

**FIELD MAINTENANCE  
HYDRAULIC RESERVOIR DRAIN REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)  
Wrench, Torque, Click, Ratcheting, 1/2" Drive,  
250 Ft-Lb  
(WP 0826, Table 1, Item 63)

**Materials/Parts**

Cap Set, Protective, Dust and Moisture Seal  
(WP 0825, Table 1, Item 13)

**Materials/Parts (cont.)**

Sealing Compound  
(WP 0825, Table 1, Item 61)  
Tape, Antiseizing  
(WP 0825, Table 1, Item 65)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Dump body raised and support braces in position.  
(TM 9-2320-272-10)

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**REMOVAL****WARNING**

Dump body must be raised and secured with safety braces before working under dump body. Failure to comply may result in injury or death to personnel.

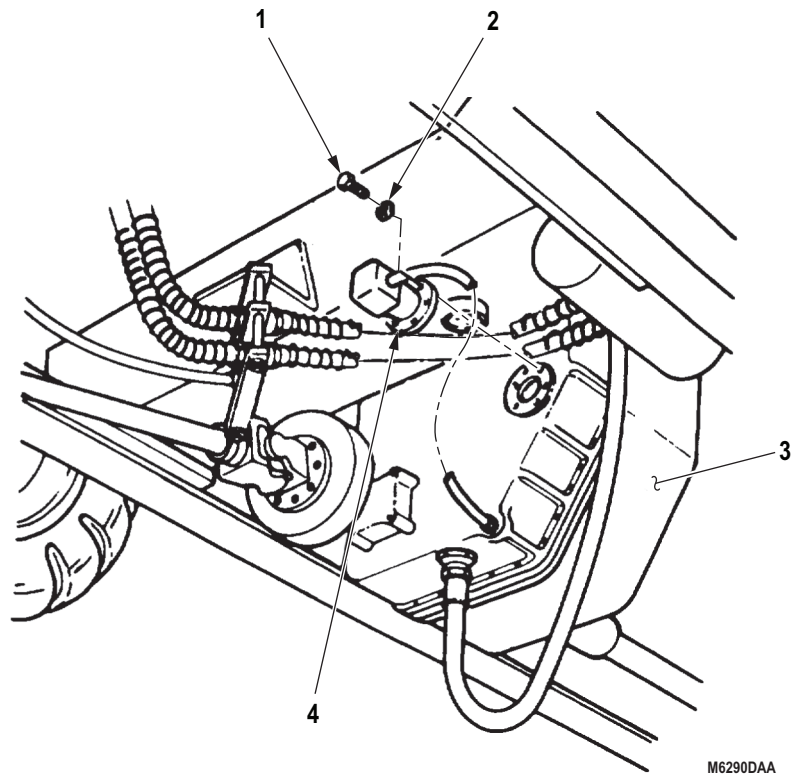
**CAUTION**

Wrap or plug hydraulic line openings to prevent dirt entering and causing damage. Position of transfer case oil pump should be marked to align with transfer case for installation. Improper alignment of transfer case oil pump housing to transfer case may damage components.

**NOTE**

- Steps (1) and (2) provide clearance for hydraulic reservoir drain removal.
  - Have drainage container ready to catch oil.
  - Use drain pans to retain leaking/draining fluids. Refer to local procedures and plans for preventing and responding to fluid spills or leaks. Comply with local regulations when disposing of clean up material and leaked and spilled fluids.
1. Remove six screws (Figure 1, Item 1) and washers (Figure 1, Item 2) from transfer case oil pump (Figure 1, Item 4).
  2. Remove transfer case oil pump (Figure 1, Item 4) from transfer case (Figure 1, Item 3).

REMOVAL - Continued



M6290DAA

Figure 1. Hydraulic Reservoir Drain Removal.

**REMOVAL - Continued**

3. Disconnect reservoir hydraulic tube (Figure 2, Item 3) from adapter (Figure 2, Item 5).
4. Remove adapter (Figure 2, Item 5) from Y-branch (Figure 2, Item 4).
5. Remove hex plug (Figure 2, Item 9), ball valve (Figure 2, Item 8), pipe nipple (Figure 2, Item 7), and reducer bushing (Figure 2, Item 6) from Y-branch (Figure 2, Item 4).
6. Remove Y-branch (Figure 2, Item 4) and pipe nipple (Figure 2, Item 2) from hydraulic reservoir (Figure 2, Item 1).

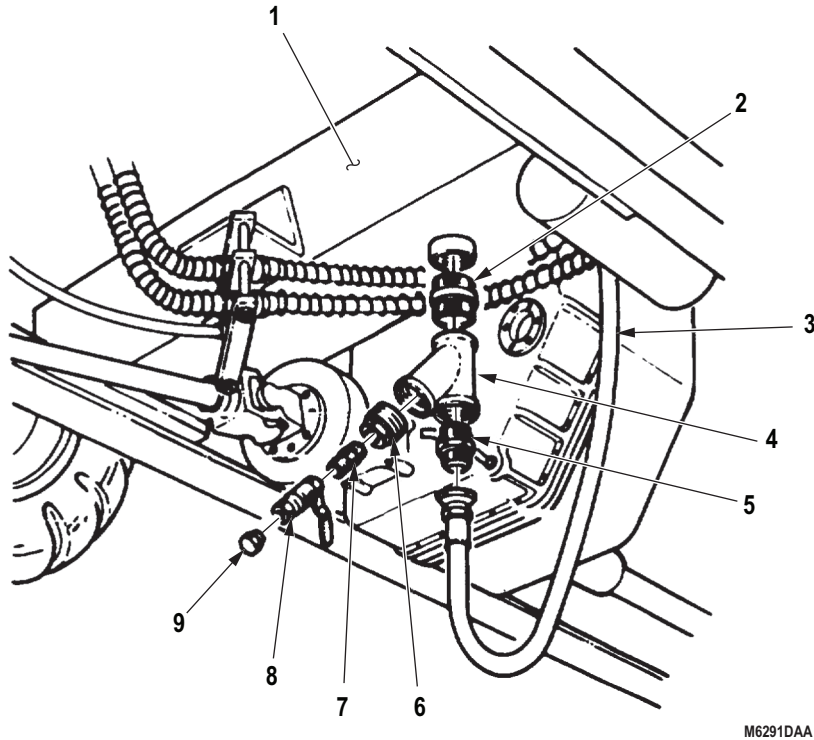


Figure 2. Hydraulic Reservoir Drain Removal.

**END OF TASK**

**INSTALLATION****NOTE**

Apply antiseize to all male pipe threads before installation.

1. Position pipe nipple (Figure 3, Item 2) in hydraulic reservoir (Figure 3, Item 1) and install Y-branch (Figure 3, Item 4) to pipe nipple (Figure 3, Item 2).
2. Install reducer bushing (Figure 3, Item 6), pipe nipple (Figure 3, Item 7), ball valve (Figure 3, Item 8), and hex plug (Figure 3, Item 9) on Y-branch (Figure 3, Item 4).
3. Install adapter (Figure 3, Item 5) in Y-branch (Figure 3, Item 4).
4. Connect reservoir hydraulic tube (Figure 3, Item 3) to adapter (Figure 3, Item 5).

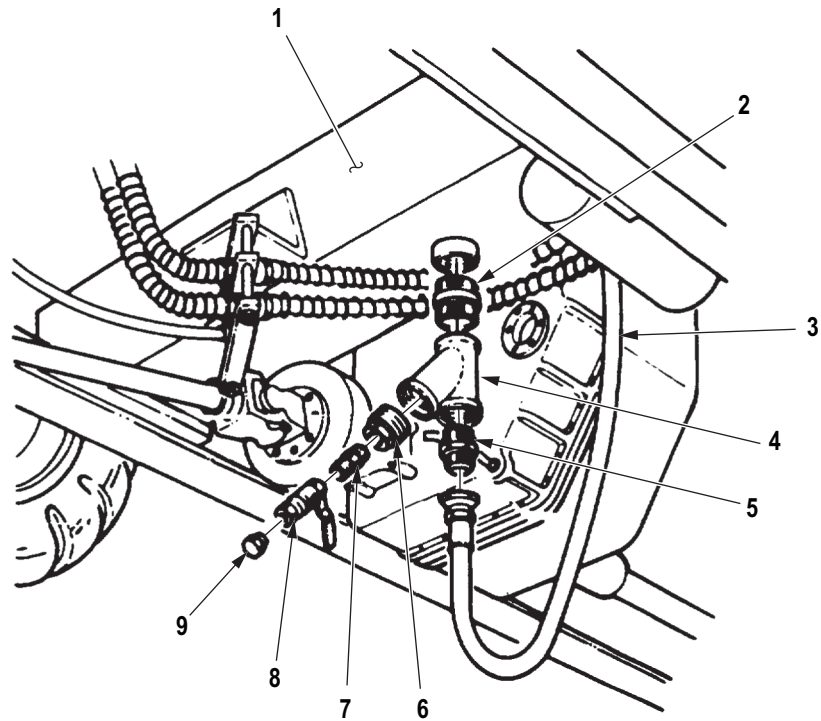


Figure 3. Hydraulic Reservoir Drain Installation.

**INSTALLATION - Continued**

5. Install transfer case oil pump (Figure 4, Item 4) on transfer case (Figure 4, Item 3) with six washers (Figure 4, Item 2) and screws (Figure 4, Item 1). Tighten screws 40 to 65 lb-ft (54 to 88 N-m).

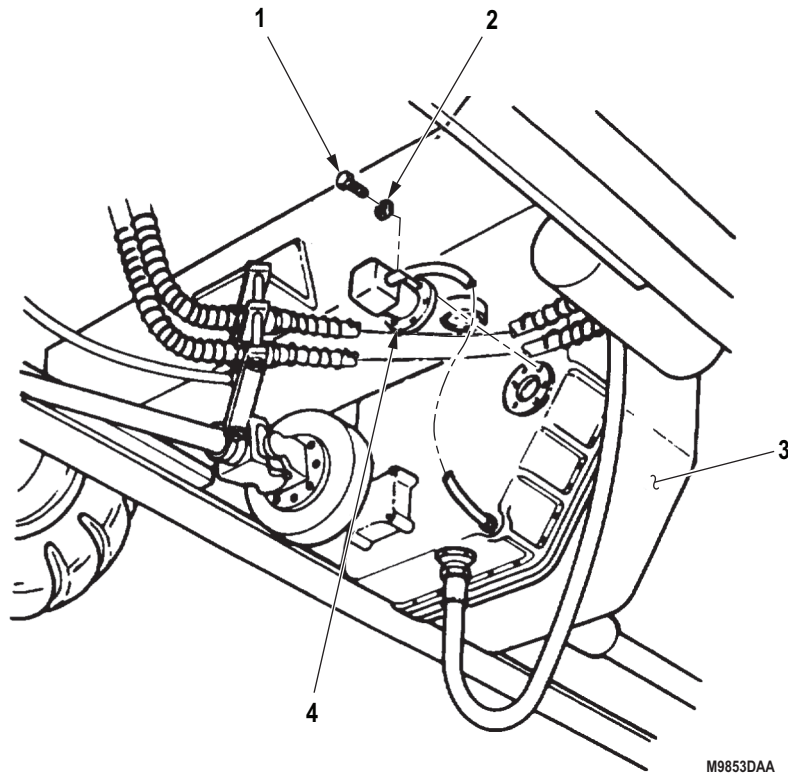


Figure 4. Reservoir Drain Installation.

**END OF TASK****FOLLOW-ON MAINTENANCE**

1. Fill hydraulic oil reservoir. (WP 0820)
2. Operate system and check for leaks. (TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**



---

**FIELD MAINTENANCE**  
**HYDRAULIC RESERVOIR SHUTOFF MODIFICATION REPLACEMENT (M936/A1/A2)**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)  
Wrench, Torque, Click, Ratcheting, 3/8" Drive,  
75 Ft-Lb  
(WP 0826, Table 1, Item 62)

**Materials/Parts**

Sealing Compound  
(WP 0825, Table 1, Item 58)

**Materials/Parts (cont.)**

O-ring (WP 0827, Table 1, Item 365) Qty: 2  
O-ring (WP 0827, Table 1, Item 300) Qty: 1

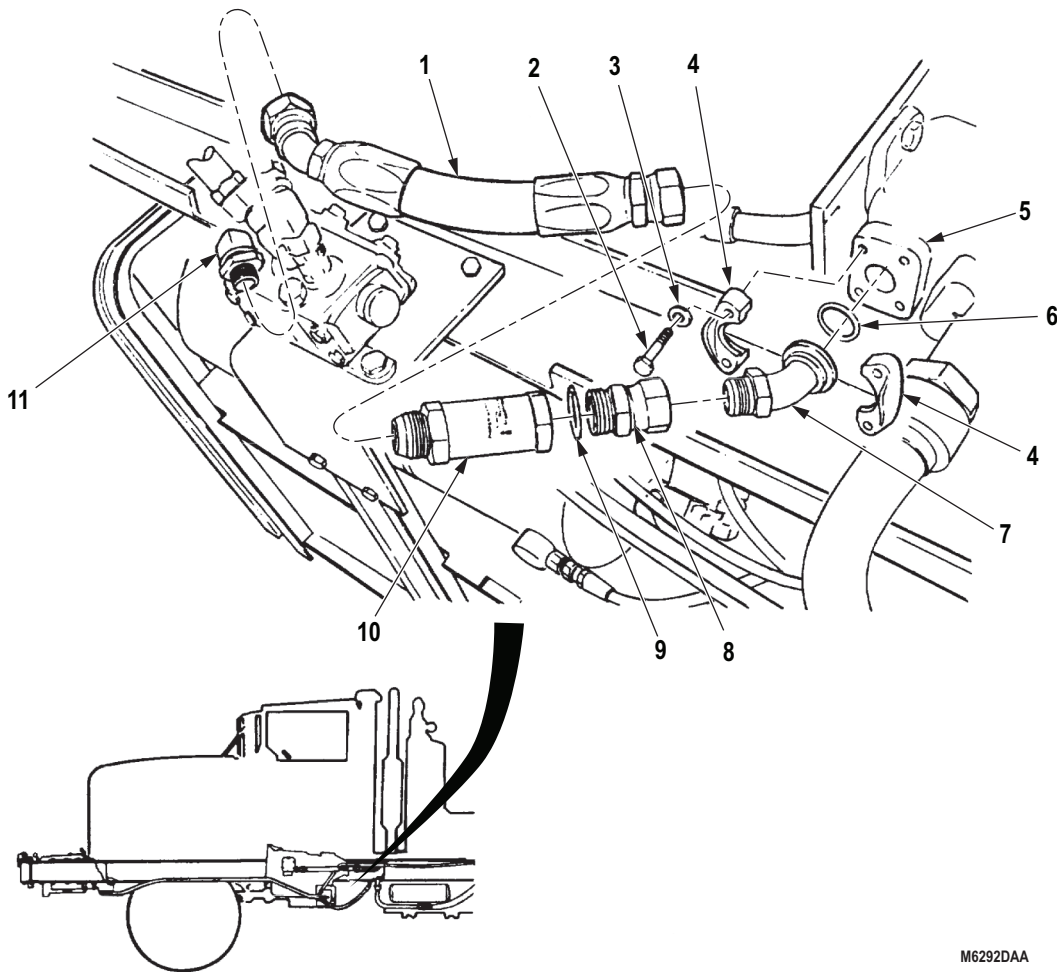
**Equipment Condition**

Battery ground cables disconnected.  
(Volume 2, WP 0350)  
Forward deck plate removed. (Volume 4,  
WP 0664)  
Hydraulic oil reservoir drained. (WP 0820)

---

**REMOVAL****NOTE**

- Have drainage container ready to catch oil.
  - Use drain pans to retain leaking/draining fluids. Refer to local procedures and plans for preventing and responding to fluid spills or leaks. Comply with local regulations when disposing of clean up material and leaked and spilled fluids.
1. Remove hose assembly (Figure 1, Item 1) from check valve (Figure 1, Item 10) and adapter (Figure 1, Item 11).
  2. Remove check valve (Figure 1, Item 10), o-ring (Figure 1, Item 9), and adapter assembly (Figure 1, Item 8) from adapter (Figure 1, Item 7). Discard o-ring.
  3. Remove four screws (Figure 1, Item 2), washers (Figure 1, Item 3), two swivel flanges (Figure 1, Item 4), adapter (Figure 1, Item 7), and o-ring (Figure 1, Item 6) from front winch pump outlet port (Figure 1, Item 5). Discard o-ring.



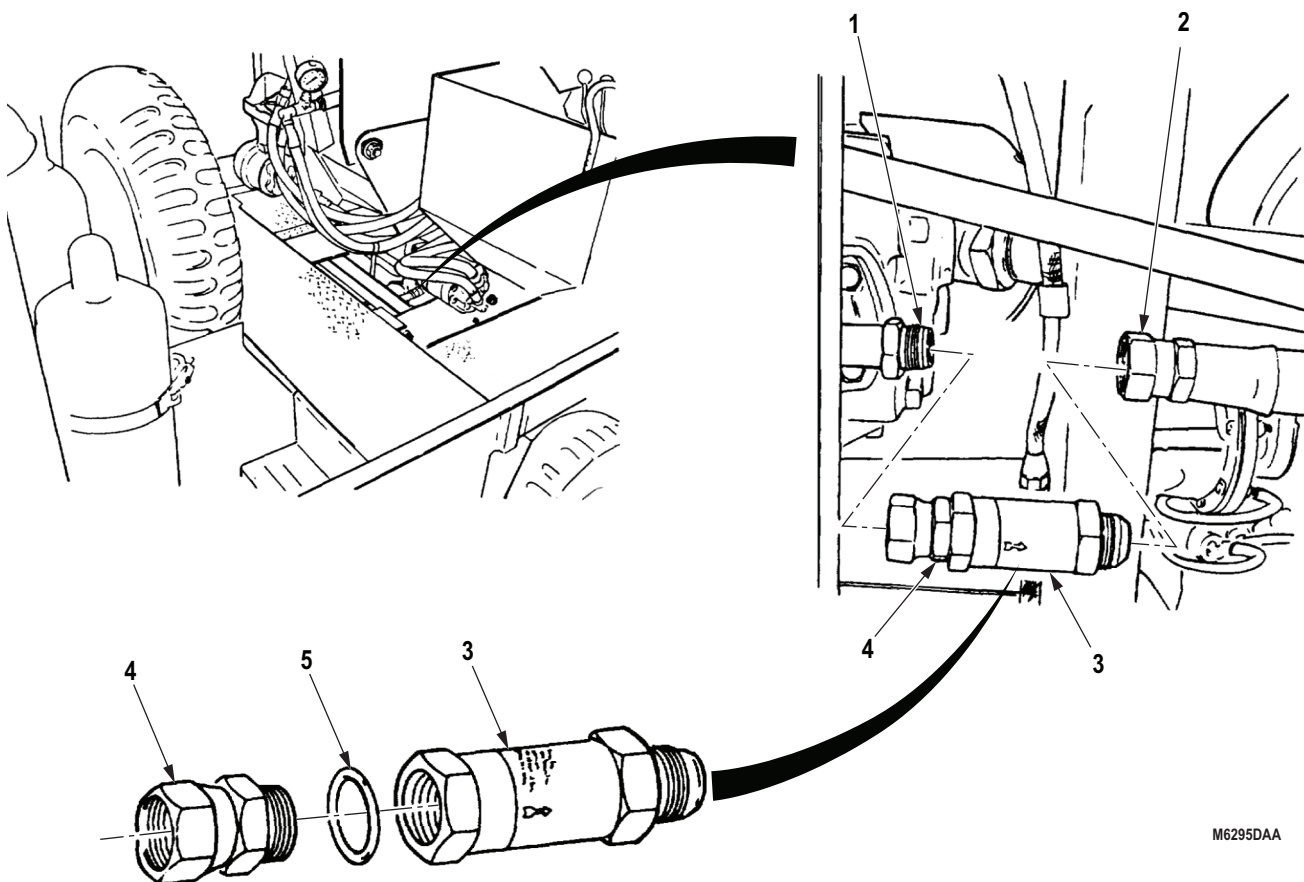
M6292DAA

Figure 1. Hydraulic Reservoir Shutoff Modification Component Removal (M936/A1/A2).

**REMOVAL - Continued****NOTE**

From under wrecker, pull hose assembly far enough to provide clearance for check valve removal.

4. Disconnect hose assembly (Figure 2, Item 2) from check valve (Figure 2, Item 3).
5. Remove adapter assembly (Figure 2, Item 4) and check valve (Figure 2, Item 3) from elbow (Figure 2, Item 1).
6. Remove adapter assembly (Figure 2, Item 4) and o-ring (Figure 2, Item 5) from check valve (Figure 2, Item 3). Discard o-ring.



M6295DAA

Figure 2. Hydraulic Reservoir Shutoff Modification Component Removal (M936/A1/A2).

**REMOVAL - Continued**

7. Remove hose assembly (Figure 3, Item 1), union assembly (Figure 3, Item 5), check valve (Figure 3, Item 2), and nipple (Figure 3, Item 3) from hydraulic oil reservoir (Figure 3, Item 4).

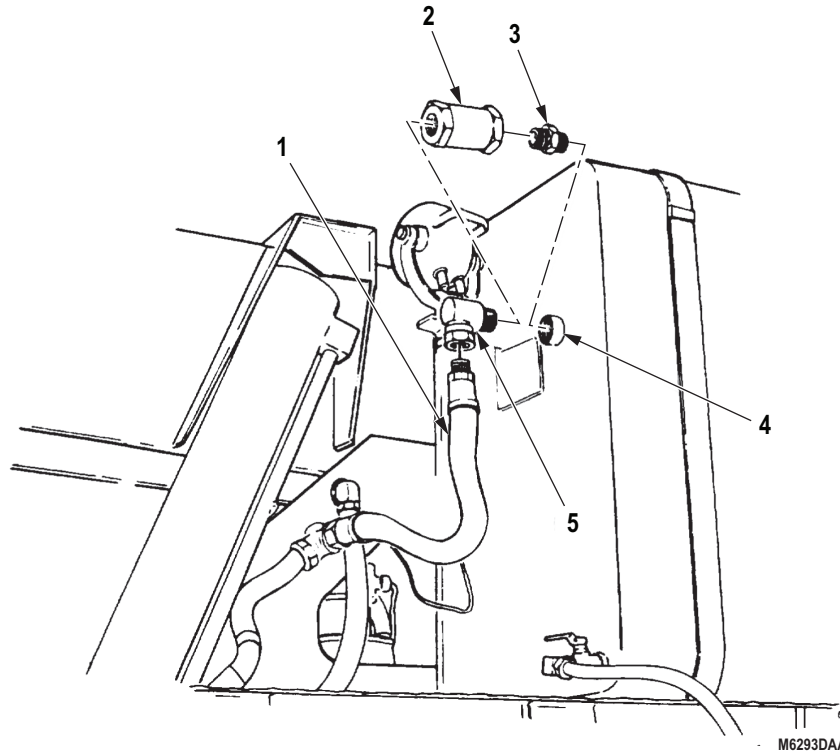


Figure 3. Hydraulic Oil Reservoir Shutoff Modification Component Removal (M936/A1/A2).

**END OF TASK**

**INSTALLATION****NOTE**

- When applying pipe sealant to male threads, leave first two starter threads clear of sealing compound before installing.
  - Sealing compound is not necessary on adapter assemblies with o-rings.
1. Install nipple (Figure 4, Item 3) on hydraulic oil reservoir (Figure 4, Item 4).

**WARNING**

Ensure directional arrow on check valve points toward the hydraulic oil reservoir. Failure to comply may result in injury or death to personnel.

2. Install check valve (Figure 4, Item 2) on nipple (Figure 4, Item 3). Ensure directional arrow on check valve points toward hydraulic reservoir (Figure 4, Item 4).
3. Install union assembly (Figure 4, Item 5) and hose assembly (Figure 4, Item 1) on check valve (Figure 4, Item 2).

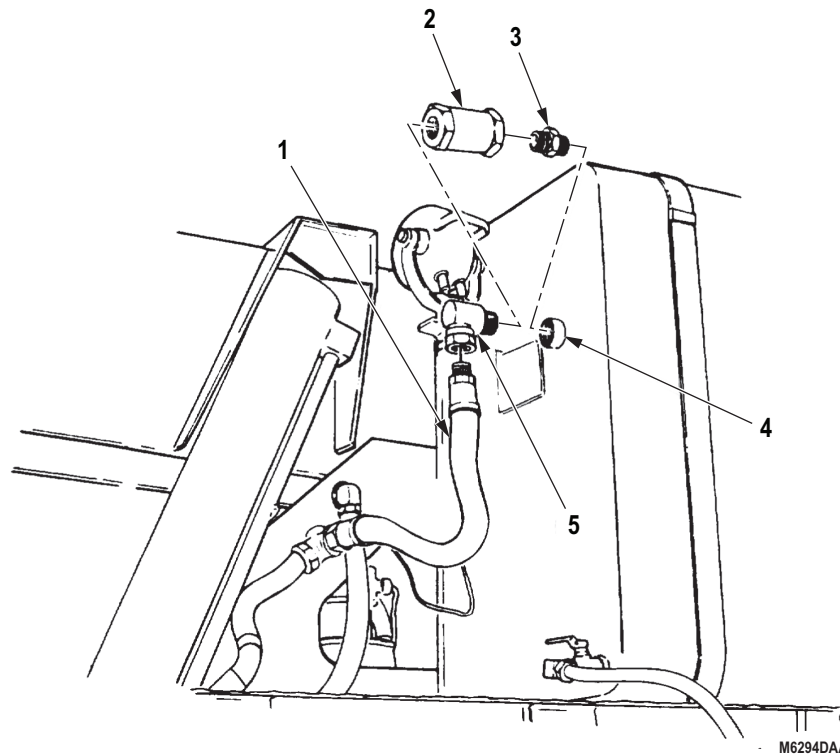
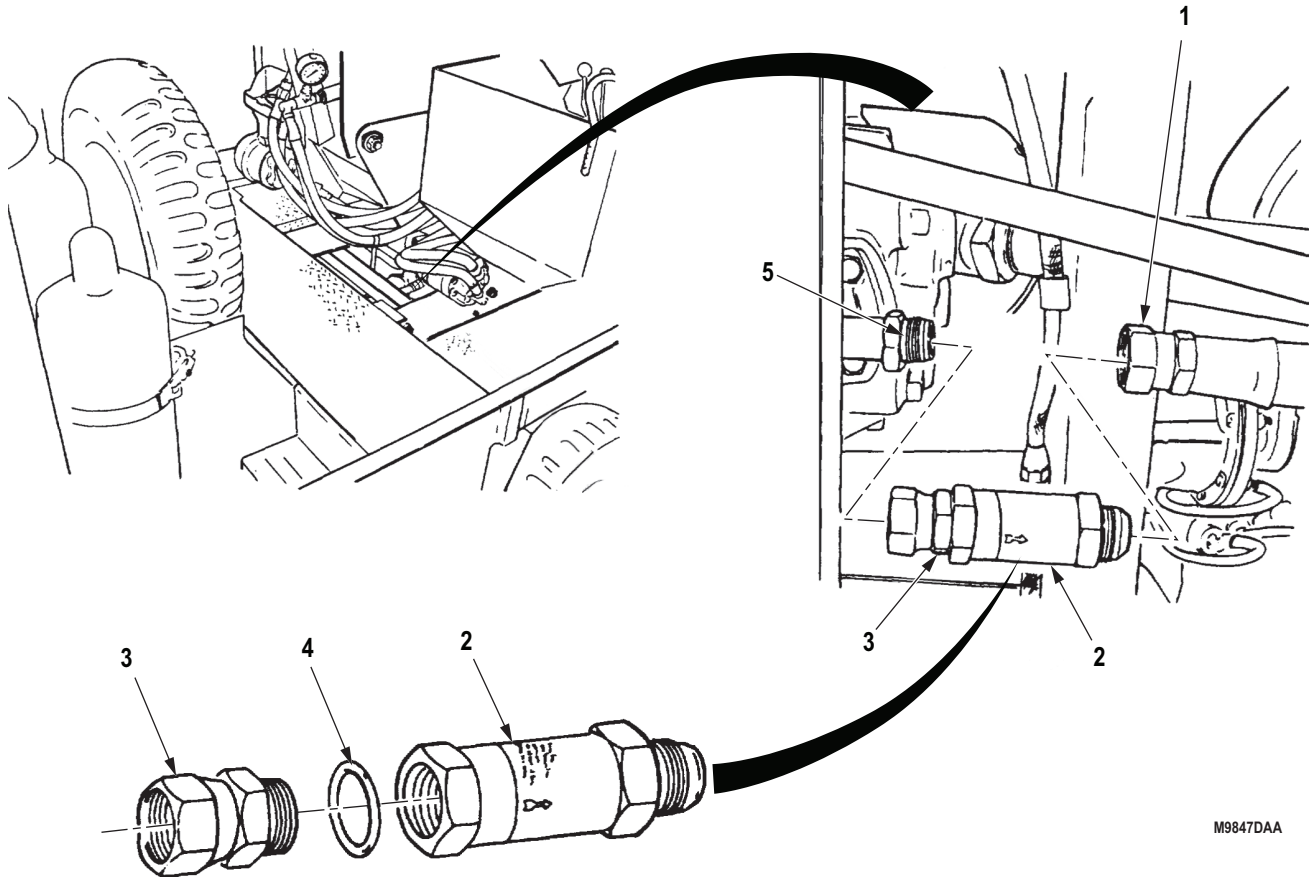


Figure 4. Hydraulic Oil Reservoir Shutoff Modification Component Installation (M936/A1/A2).

**INSTALLATION - Continued**

4. Position o-ring (Figure 5, Item 4) on threaded end of adapter assembly (Figure 5, Item 3).
5. Install check valve (Figure 5, Item 2) and adapter assembly (Figure 5, Item 3) on elbow (Figure 5, Item 5).
6. Connect hose assembly (Figure 5, Item 1) to check valve (Figure 5, Item 2).

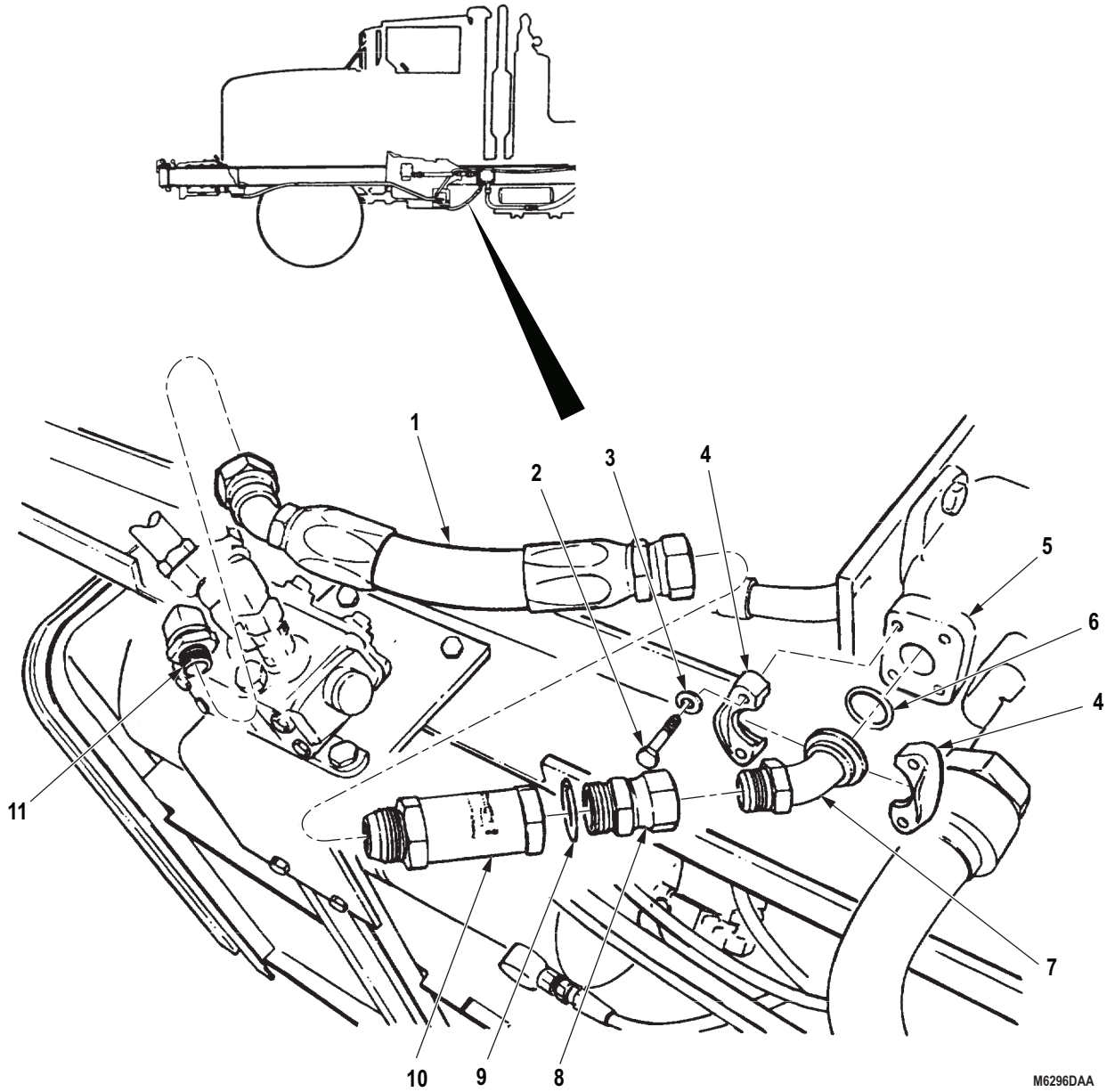


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*Figure 5. Hydraulic Reservoir Shutoff Modification Component Installation (M936/A1/A2).*

7. Position o-ring (Figure 6, Item 6) and adapter (Figure 6, Item 7) on front winch pump outlet port (Figure 6, Item 5) and install two swivel flanges (Figure 6, Item 4), four washers (Figure 6, Item 3), and screws (Figure 6, Item 2). Tighten screws 31 to 35 lb-ft (42 to 47 N·m).
8. Install adapter assembly (Figure 6, Item 8) on adapter (Figure 6, Item 7).
9. Position o-ring (Figure 6, Item 9) over threaded end of adapter assembly (Figure 6, Item 8) and install check valve (Figure 6, Item 10) on adapter assembly.
10. Install hose assembly (Figure 6, Item 1) on adapter (Figure 6, Item 11).
11. Install hose assembly (Figure 6, Item 1) on check valve (Figure 6, Item 10).

INSTALLATION - Continued



M6296DAA

Figure 6. Hydraulic Reservoir Shutoff Modification Component Installation (M936/A1/A2).

END OF TASK

**FOLLOW-ON MAINTENANCE**

1. Install forward deck plate. (Volume 4, WP 0664)
2. Connect battery ground cables. (Volume 2, WP 0350)
3. Fill hydraulic oil reservoir. (WP 0820)
4. Start engine and operate front winch and rear boom in all directions until air is completely purged from all lines. Check all hoses and fittings for leaks and tighten if necessary. (TM 9-2320-272-10)
5. Add additional hydraulic fluid as necessary. (WP 0820)

**END OF TASK****END OF WORK PACKAGE**



**FIELD MAINTENANCE**  
**VAN HANDRAIL COMPONENT REPLACEMENT (M934/A1/A2)**

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
 (WP 0826, Table 1, Item 56)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
 Ladders removed. (TM 9-2320-272-10)

**Materials/Parts**

Locknut (WP 0827, Table 1, Item 430) Qty: 4  
 Lockwasher  
 (WP 0827, Table 1, Item 403) Qty: 1

**LADDER HANDRAIL GUIDE REMOVAL****NOTE**

All ladder handrail guides are replaced the same way.

1. Remove four locknuts (Figure 1, Item 6), washers (Figure 1, Item 2), screws (Figure 1, Item 3), washers (Figure 1, Item 2), and handrail guide (Figure 1, Item 5) from ladder (Figure 1, Item 4). Discard locknuts.
2. Remove screw (Figure 1, Item 1) and pin assembly (Figure 1, Item 7) from ladder (Figure 1, Item 4).

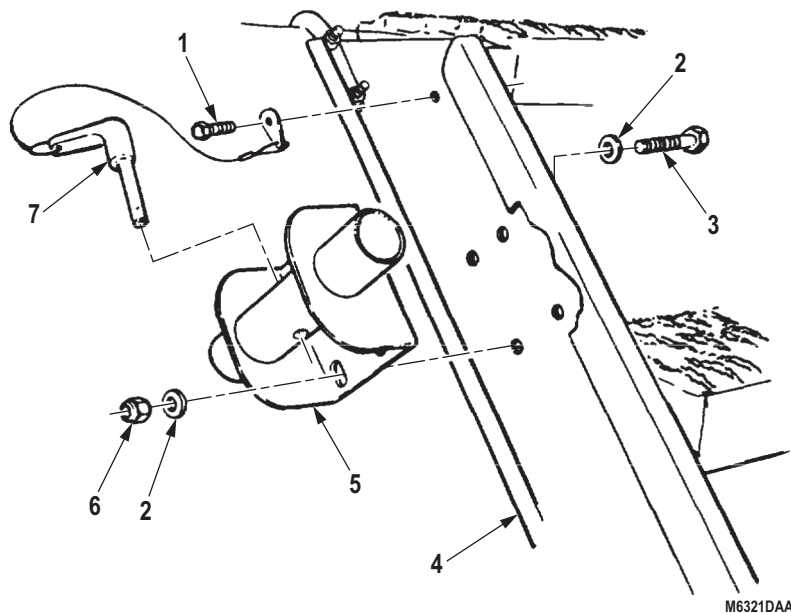


Figure 1. Van Handrail Component Removal (M934/A1/A2).

**END OF TASK**

**LADDER HANDRAIL GUIDE INSTALLATION**

1. Install handrail guide (Figure 2, Item 5) on ladder (Figure 2, Item 4) with four washers (Figure 2, Item 2), screws (Figure 2, Item 3), washers (Figure 2, Item 2), and locknuts (Figure 2, Item 6).
2. Install pin assembly (Figure 2, Item 7) on ladder (Figure 2, Item 4) with screw (Figure 2, Item 1).

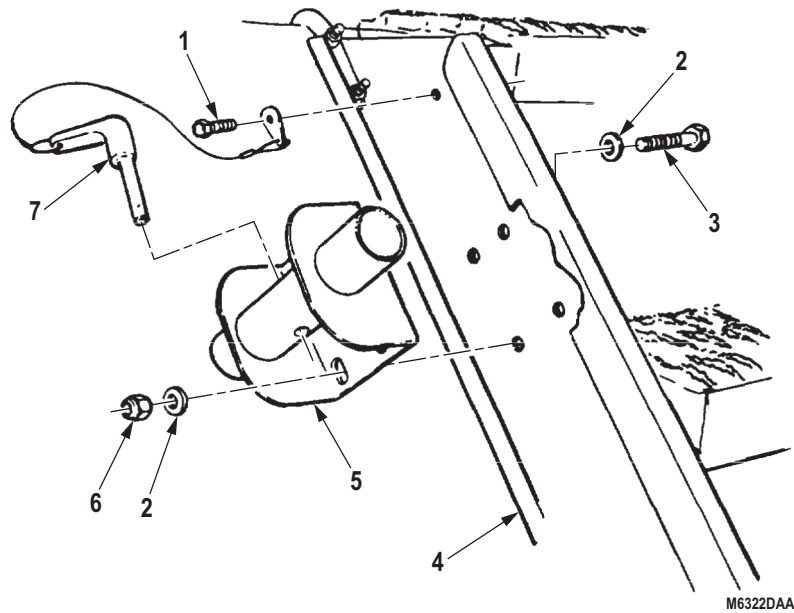


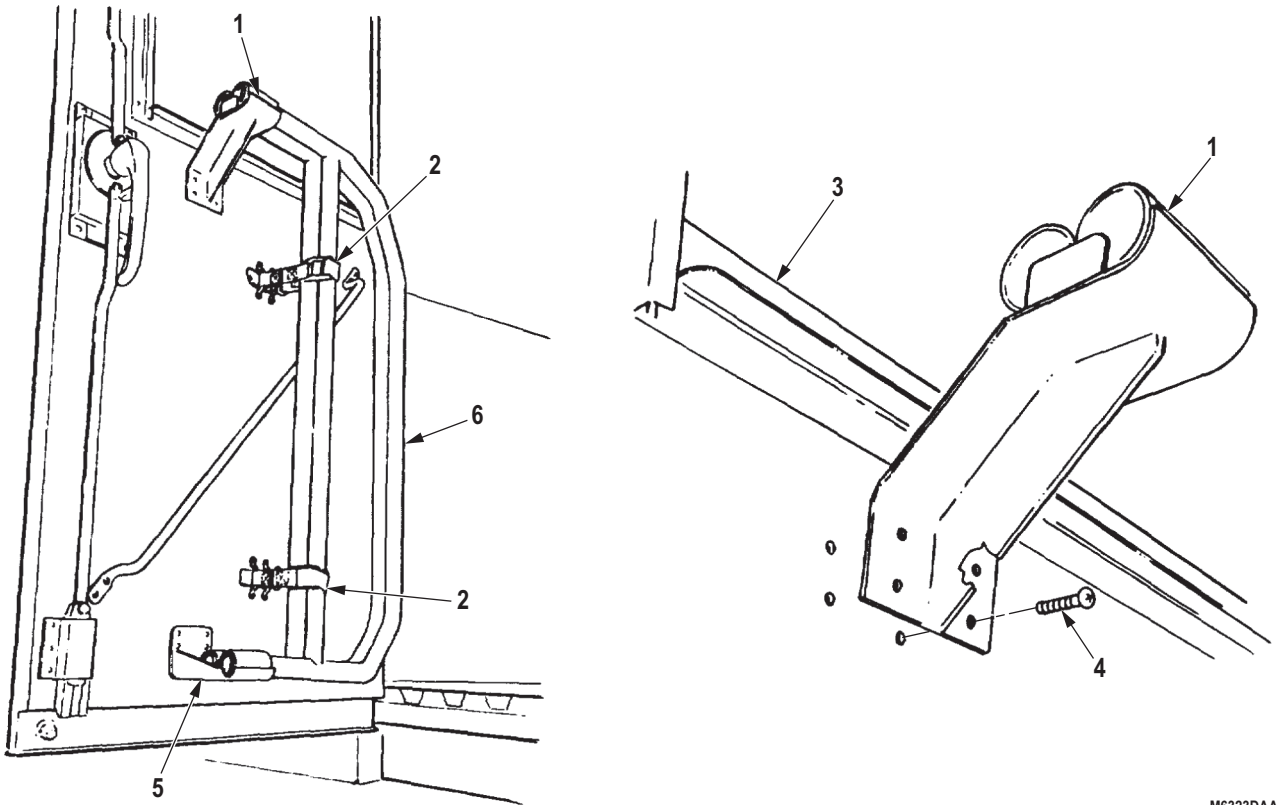
Figure 2. Van Handrail Component Installation (M934/A1/A2).

**END OF TASK**

**LADDER HANDRAIL HANGERS REMOVAL****NOTE**

Left and right van rear door handrail guides are replaced the same way. This procedure is for left van rear door handrail hangers.

1. Release two straps (Figure 3, Item 2) and remove handrail (Figure 3, Item 6) from upper (Figure 3, Item 1) and lower (Figure 3, Item 5) support brackets.
2. Remove four screws (Figure 3, Item 4) and upper support bracket (Figure 3, Item 1) from van rear door (Figure 3, Item 3).

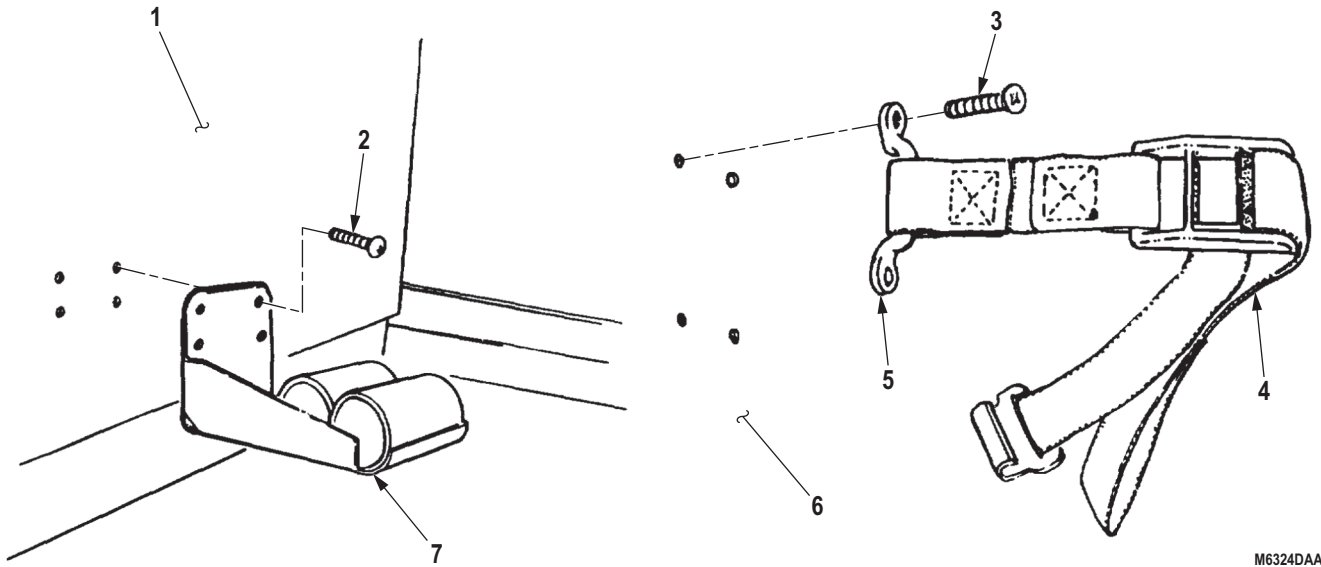


M6323DAA

Figure 3. Van Handrail Component Removal (M934/A1/A2).

**LADDER HANDRAIL HANGERS REMOVAL - Continued**

3. Remove four screws (Figure 4, Item 2) and lower support bracket (Figure 4, Item 7) from van rear door (Figure 4, Item 1).
4. Remove eight screws (Figure 4, Item 3), four footman loops (Figure 4, Item 5), and two straps (Figure 4, Item 4) from van rear door (Figure 4, Item 1).



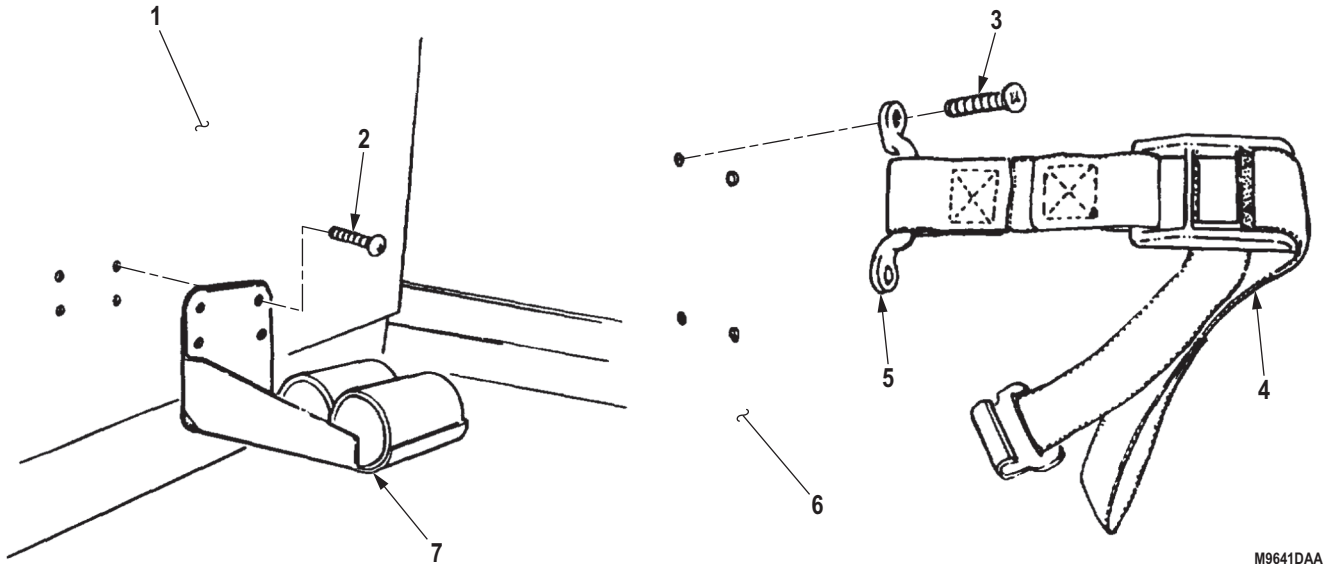
M6324DAA

Figure 4. Van Handrail Component Removal (M934/A1/A2).

**END OF TASK**

**LADDER HANDRAIL HANGERS INSTALLATION**

1. Install four footman loops (Figure 5, Item 5) and two straps (Figure 5, Item 4) on van rear door (Figure 5, Item 1) with eight screws (Figure 5, Item 3).
2. Install lower bracket (Figure 5, Item 7) on van rear door (Figure 5, Item 1) with four screws (Figure 5, Item 2).

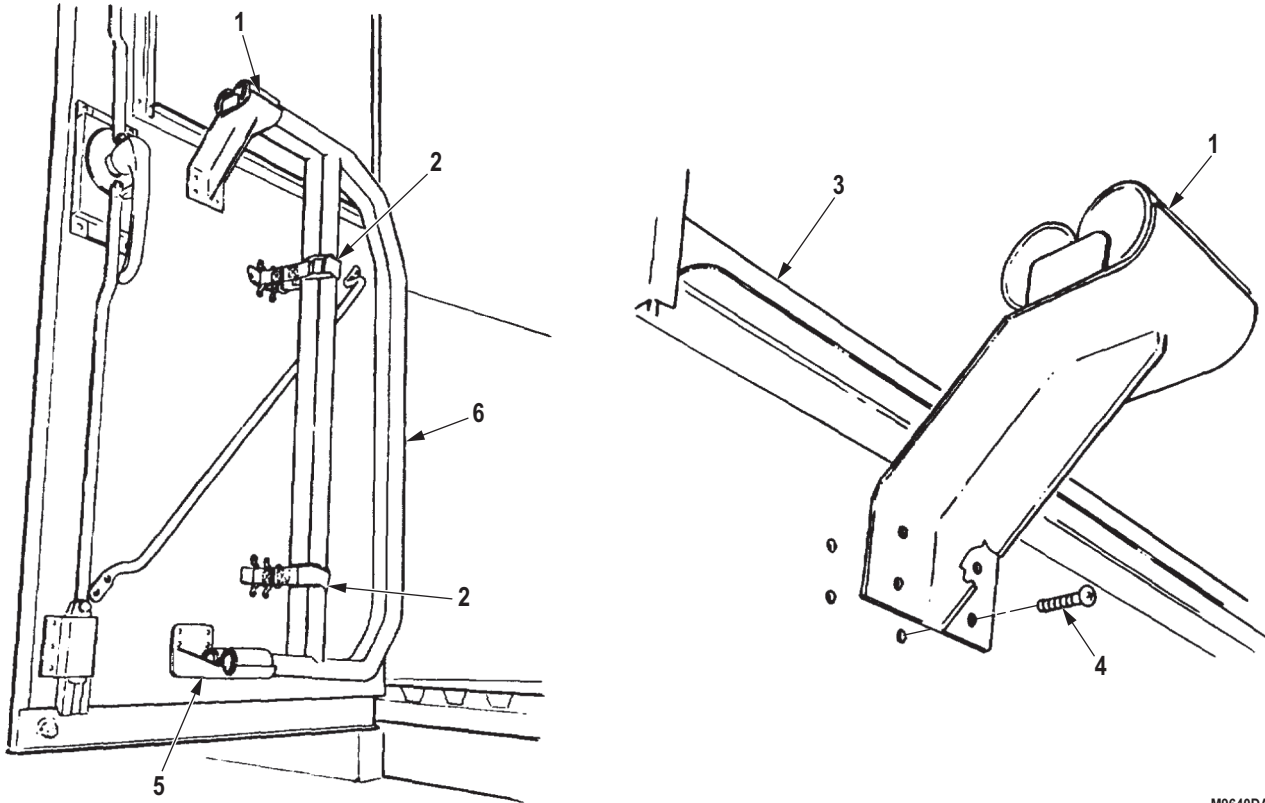


M9641DAA

Figure 5. Van Handrail Component Installation (M934/A1/A2).

**LADDER HANDRAIL HANGERS INSTALLATION - Continued**

3. Install upper bracket (Figure 6, Item 1) on van rear door (Figure 6, Item 3) with four screws (Figure 6, Item 4).
4. Position handrail (Figure 6, Item 6) on upper (Figure 6, Item 1) and lower (Figure 6, Item 5) support brackets and secure with two straps (Figure 6, Item 2).



M9640DAA

Figure 6. Van Handrail Component Installation (M934/A1/A2).

**END OF TASK**

**VAN DOOR GRAB HANDLES REMOVAL****NOTE**

Left and right van side door grab handles and swivel grab handles are replaced the same way. This procedure is for left van side door grab handle.

1. Remove four screws (Figure 7, Item 1) and grab handle (Figure 7, Item 7) from van rear door (Figure 7, Item 5).
2. Remove ten screws (Figure 7, Item 3), two swivel mounts (Figure 7, Item 2), and swivel grab handle (Figure 7, Item 6) from van side door (Figure 7, Item 4).

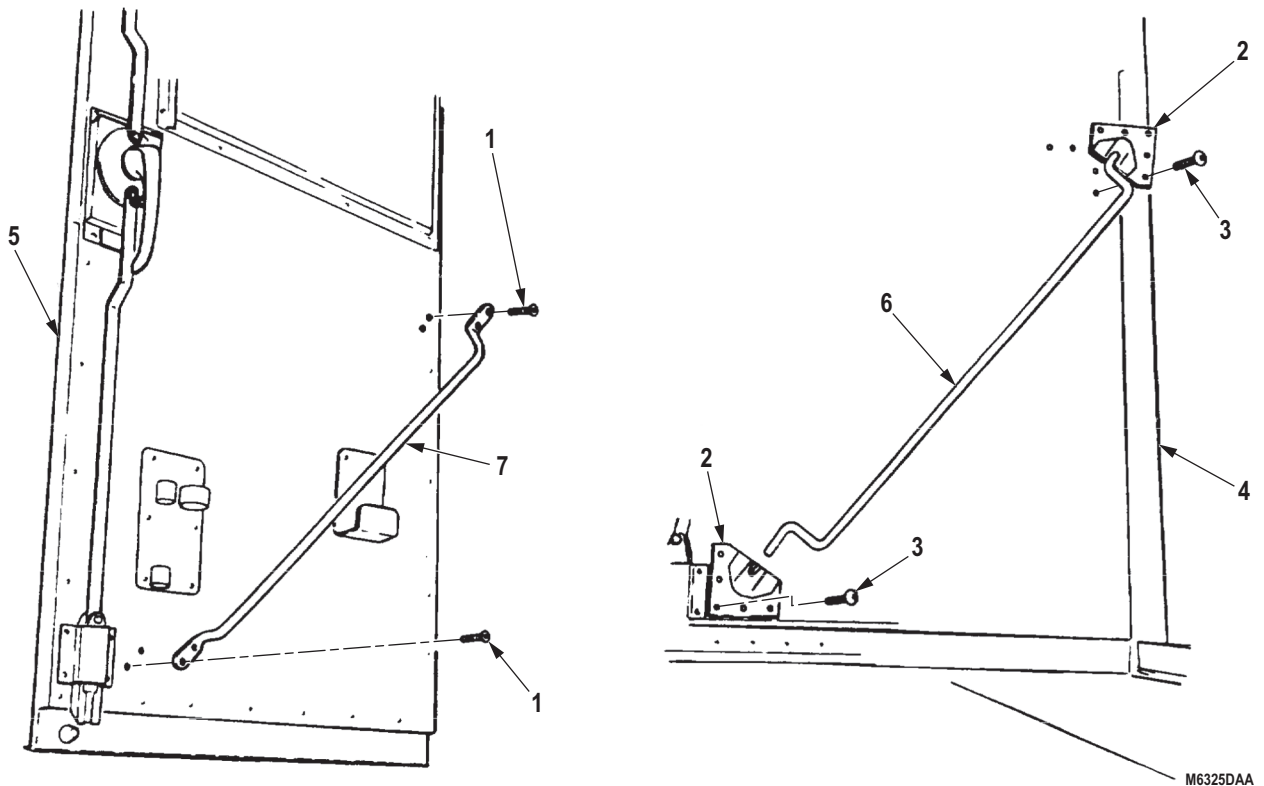


Figure 7. Van Handrail Component Removal (M934/A1/A2).

**END OF TASK**

**VAN DOOR GRAB HANDLES INSTALLATION**

1. Install grab handle (Figure 8, Item 7) on van rear door (Figure 8, Item 5) with four screws (Figure 8, Item 1).
2. Install swivel mount (Figure 8, Item 2) at bottom of van side door (Figure 8, Item 4) with five screws (Figure 8, Item 3).
3. Position swivel grab handle (Figure 8, Item 6) in swivel mount (Figure 8, Item 2).
4. Insert swivel mount (Figure 8, Item 2) on swivel grab handle (Figure 8, Item 6) and install on van side door (Figure 8, Item 4) with five screws (Figure 8, Item 3).

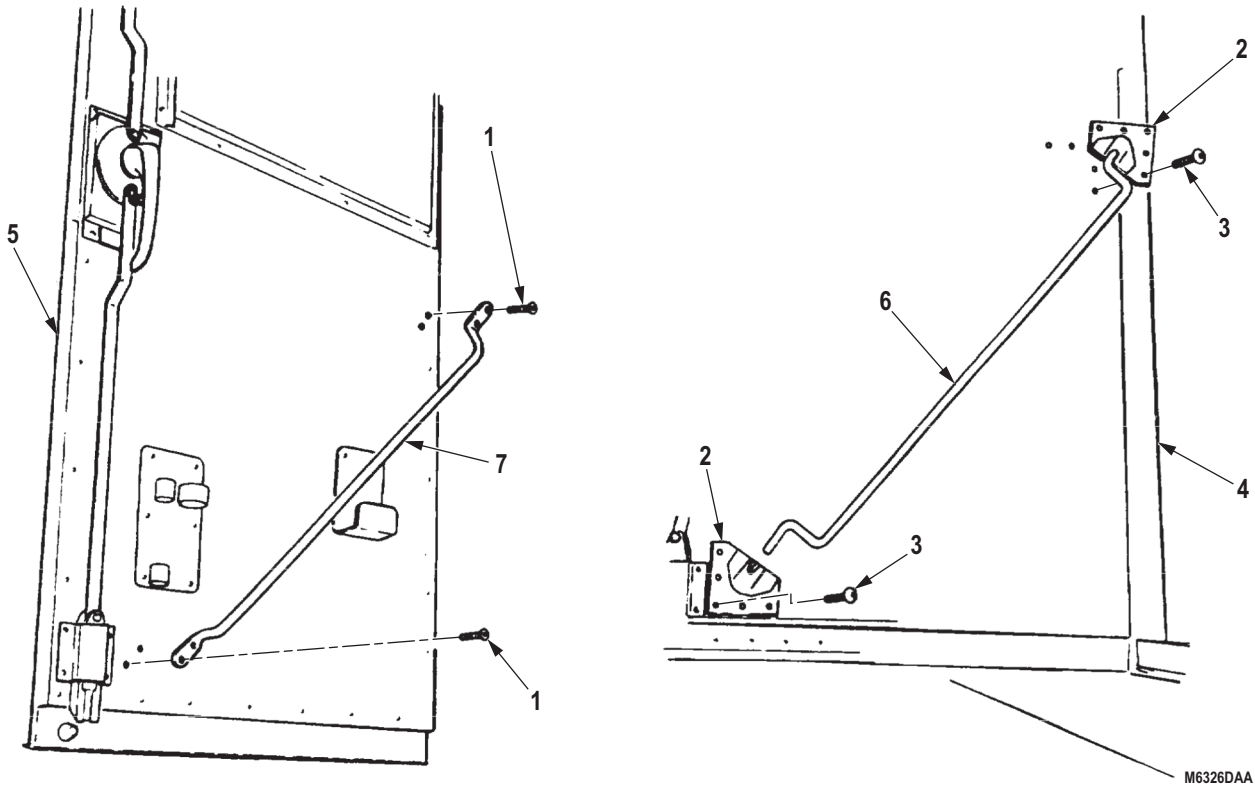


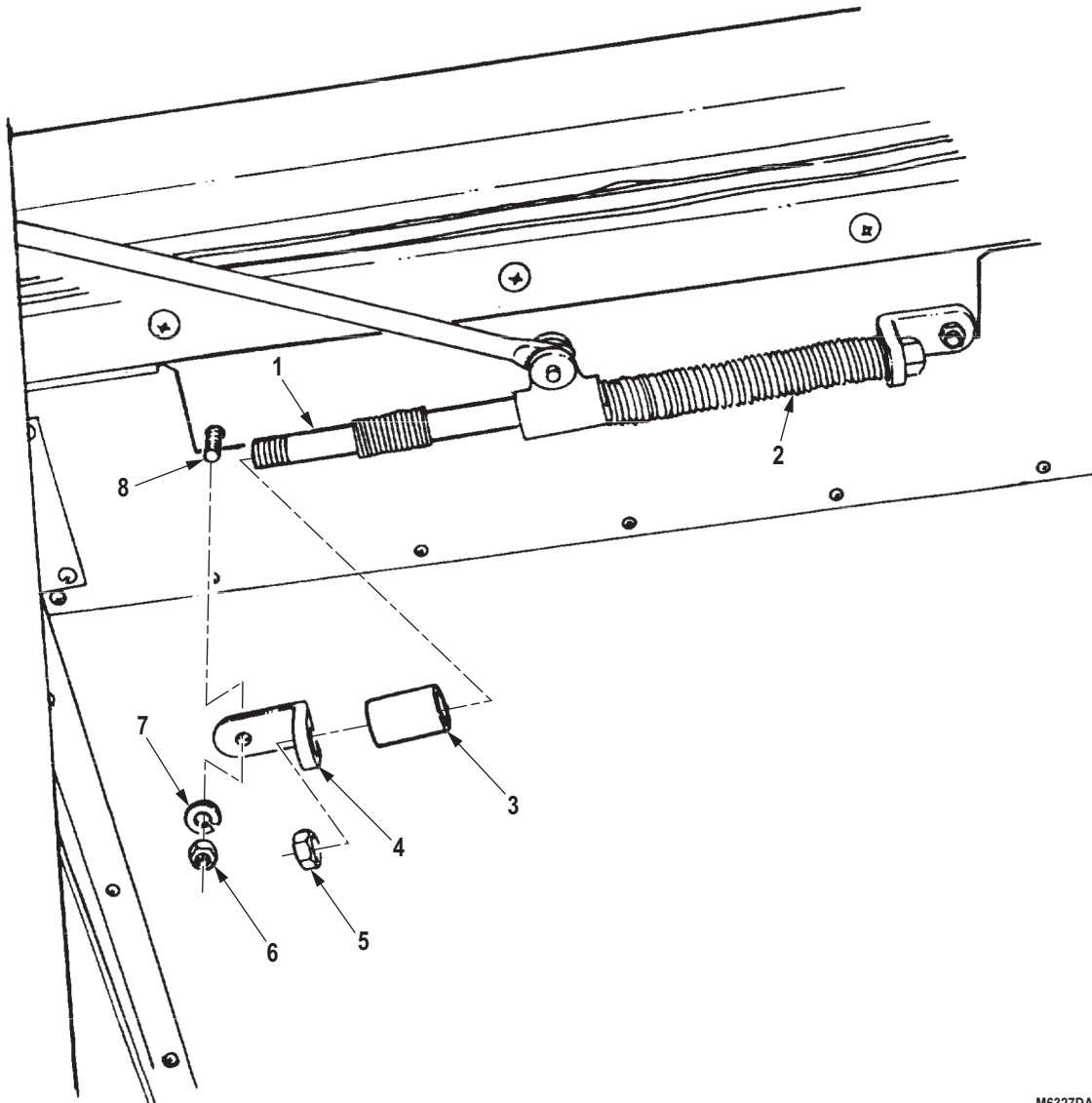
Figure 8. Van Handrail Component Installation (M934/A1/A2).

**END OF TASK**



**DOOR CHECK SPACER REMOVAL**

1. Remove nut (Figure 9, Item 5) from rod end (Figure 9, Item 1) of door check (Figure 9, Item 2).
2. Remove nut (Figure 9, Item 6), lockwasher (Figure 9, Item 7), and arm bracket (Figure 9, Item 4) from screw (Figure 9, Item 8). Discard lockwasher.
3. Remove arm bracket (Figure 9, Item 4) and spacer (Figure 9, Item 3) from rod end (Figure 9, Item 1) of door check (Figure 9, Item 2).



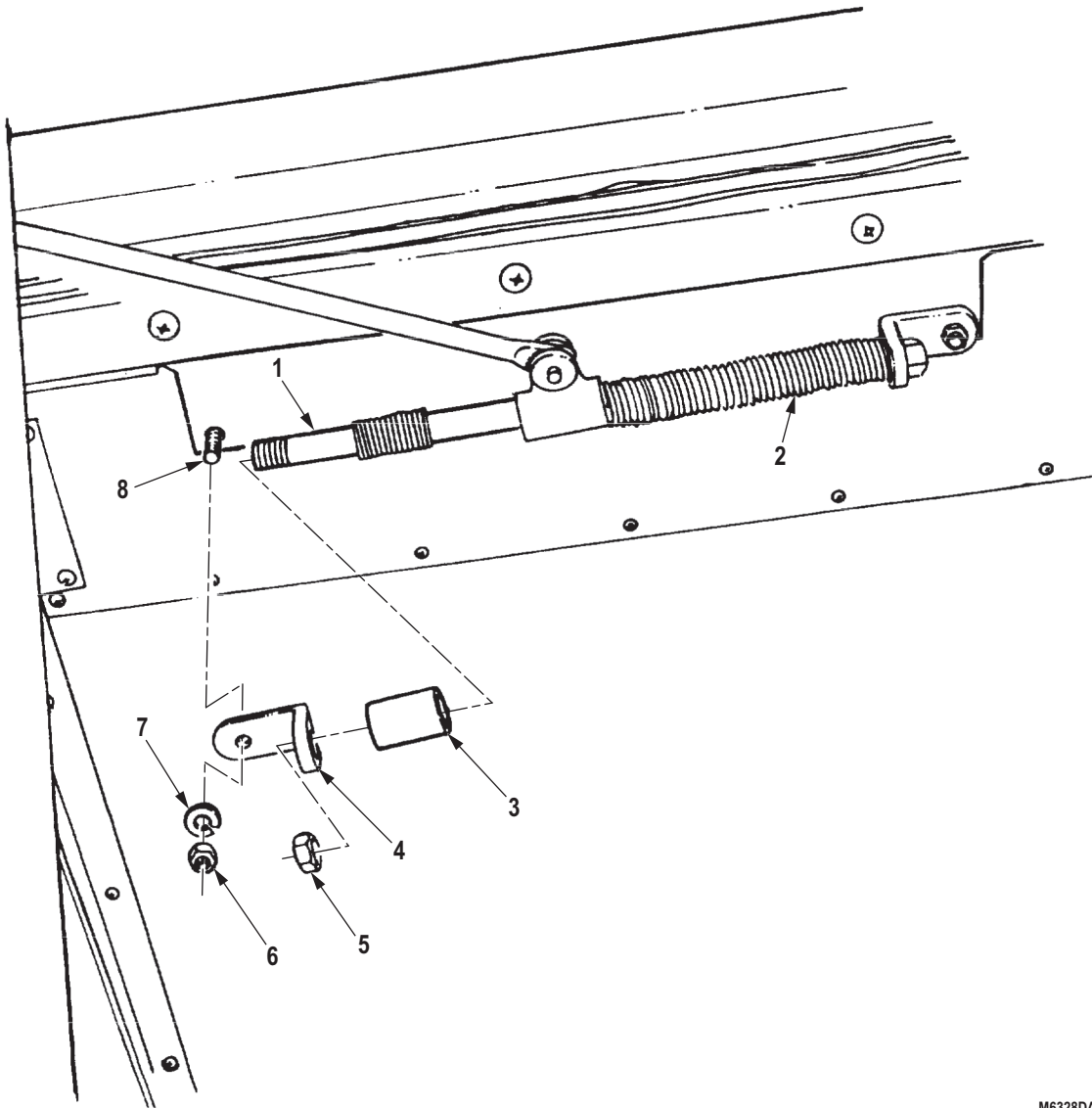
M6327DAA

Figure 9. Van Handrail Component Removal (M934/A1/A2).

**END OF TASK**

**DOOR CHECK SPACER INSTALLATION**

1. Install spacer (Figure 10, Item 3) and arm bracket (Figure 10, Item 4) on rod end (Figure 10, Item 1).
2. Install arm bracket (Figure 10, Item 4) on rod end (Figure 10, Item 1) with nut (Figure 10, Item 5). Do not tighten nut (Figure 10, Item 5).
3. Install arm bracket (Figure 10, Item 4) on screw (Figure 10, Item 8) with lockwasher (Figure 10, Item 7) and nut (Figure 10, Item 6).
4. Tighten nut (Figure 10, Item 5).



M6328DAA

Figure 10. Van Handrail Component Installation (M934/A1/A2).

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Install ladders. (TM 9-2320-272-10)

**END OF TASK**

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE**  
**EXHAUST HEAT SHIELD ACCESSORY KIT REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

**Materials/Parts**

Locknut (WP 0827, Table 1, Item 295) Qty: 2

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**REMOVAL**

1. Remove two locknuts (Figure 1, Item 7) and shield (Figure 1, Item 6) from U-bolt (Figure 1, Item 3). Discard locknuts.
2. Remove two nuts (Figure 1, Item 1), washers (Figure 1, Item 2), clamp (Figure 1, Item 5), and U-bolt (Figure 1, Item 3) from exhaust pipe (Figure 1, Item 4).

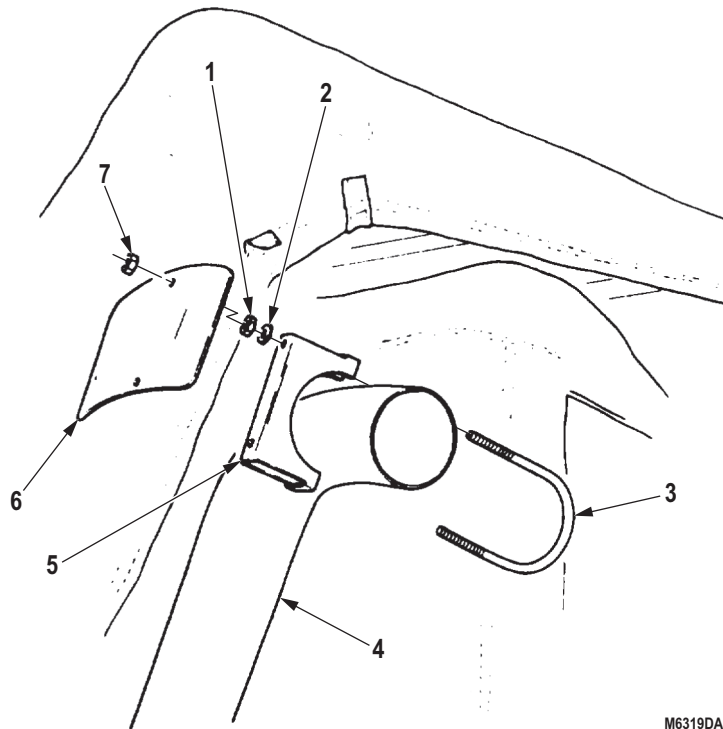
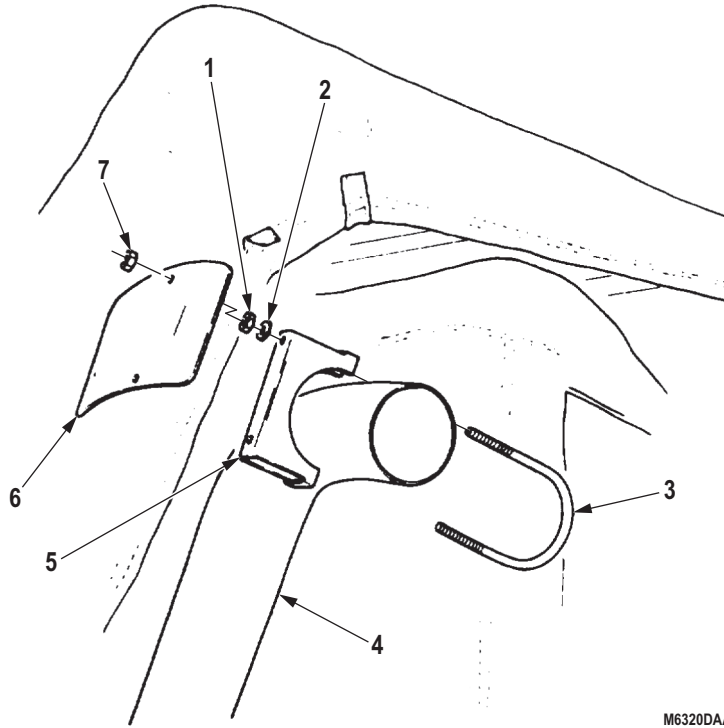


Figure 1. Exhaust Heat Shield Accessory Kit Removal.

**END OF TASK**

**INSTALLATION**

1. Install U-bolt (Figure 2, Item 3) and clamp (Figure 2, Item 5) on exhaust pipe (Figure 2, Item 4) with two washers (Figure 2, Item 2) and nuts (Figure 2, Item 1).
2. Install shield (Figure 2, Item 6) on U-bolt (Figure 2, Item 3) with two locknuts (Figure 2, Item 7).



M6320DAA

Figure 2. Exhaust Heat Shield Accessory Kit Installation.

**END OF TASK****END OF WORK PACKAGE**

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**FIELD MAINTENANCE  
SEATBELT REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)  
Wrench, Torque, Click, Ratcheting, 3/8" Drive,  
75 Ft-Lb  
(WP 0826, Table 1, Item 62)

**Equipment Condition (cont.)**

Companion seat removed. (Volume 4, WP 0581)  
Battery box removed. (Volume 2, WP 0347)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

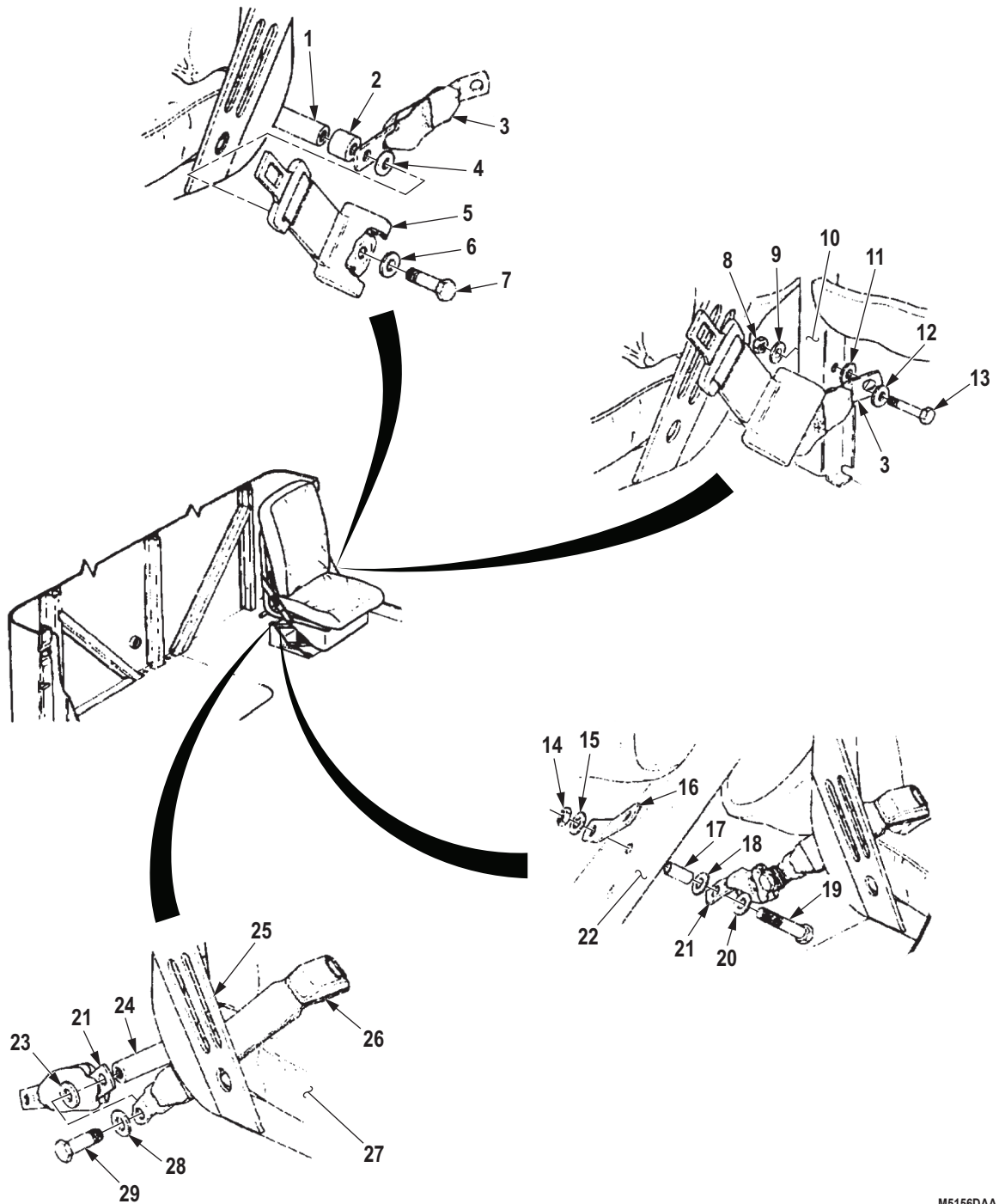
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**DRIVER'S SEATBELT REMOVAL**

1. Remove screw (Figure 1, Item 7), washer (Figure 1, Item 6), retractor (Figure 1, Item 5), washer (Figure 1, Item 4), tether assembly (Figure 1, Item 3), and spacer (Figure 1, Item 2) from seat rod (Figure 1, Item 1).
2. Remove nut (Figure 1, Item 8), washer (Figure 1, Item 9), screw (Figure 1, Item 13), washer (Figure 1, Item 12), tether assembly (Figure 1, Item 3), and washer (Figure 1, Item 11) from vertical channel (Figure 1, Item 10).
3. Remove nut (Figure 1, Item 14), washer (Figure 1, Item 15), bracket (Figure 1, Item 16), screw (Figure 1, Item 19), washer (Figure 1, Item 20), tether assembly (Figure 1, Item 21), washer (Figure 1, Item 18), and sleeve (Figure 1, Item 17) from left diagonal channel (Figure 1, Item 22).
4. Remove screw (Figure 1, Item 29), washer (Figure 1, Item 28), seatbelt buckle (Figure 1, Item 26), washer (Figure 1, Item 23), and tether assembly (Figure 1, Item 21) from seat rod (Figure 1, Item 24).
5. Remove seatbelt buckle (Figure 1, Item 26) from between driver's seat (Figure 1, Item 27) and seat backrest support (Figure 1, Item 25).



DRIVER'S SEATBELT REMOVAL - Continued



M5156DAA

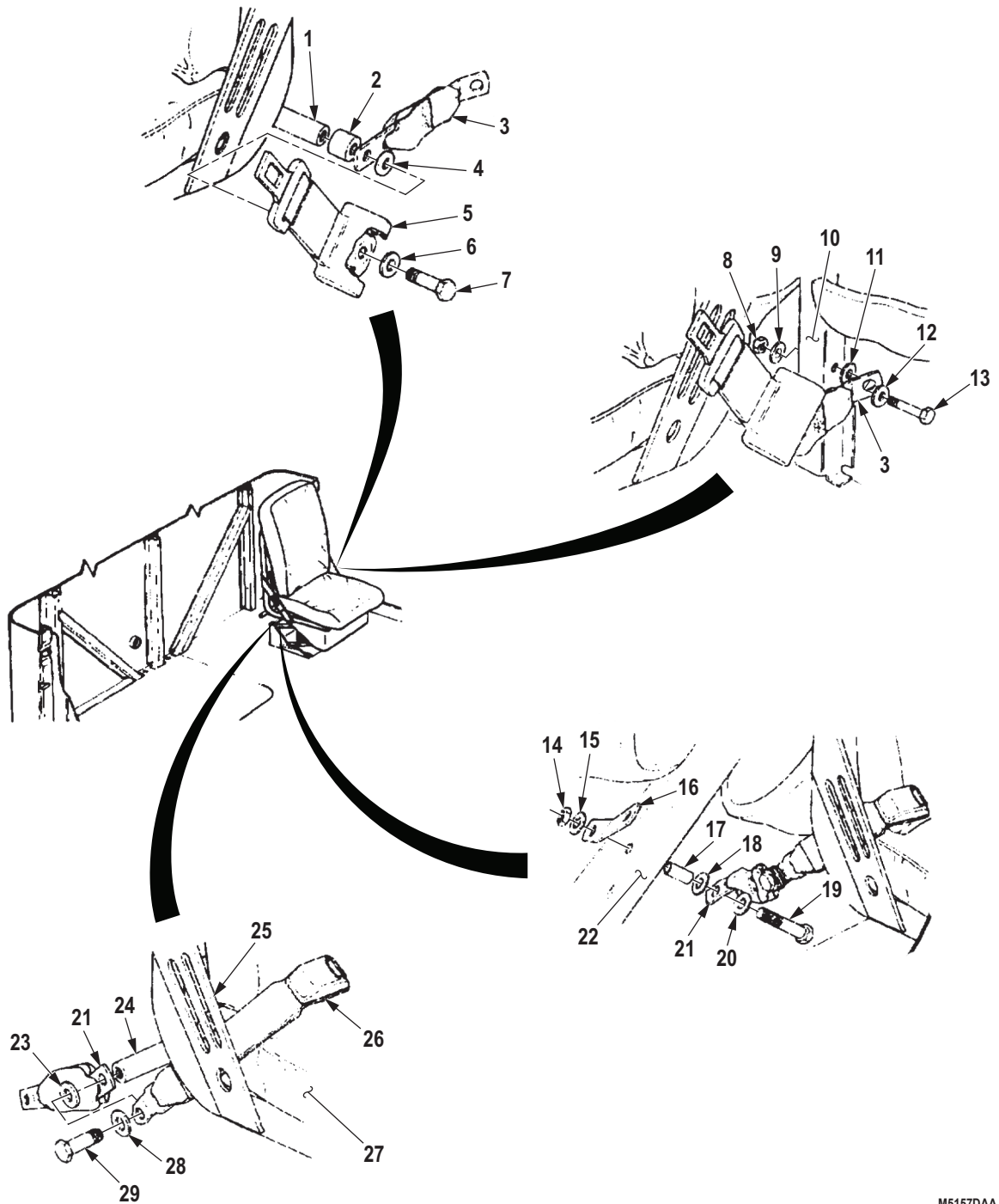
Figure 1. Driver's Seatbelt Removal.

END OF TASK

**DRIVER'S SEATBELT INSTALLATION**

1. Position seatbelt buckle (Figure 2, Item 26) between seat backseat support (Figure 2, Item 25) and driver's seat (Figure 2, Item 27).
2. Install tether assembly (Figure 2, Item 21), washer (Figure 2, Item 23), seatbelt buckle (Figure 2, Item 26), washer (Figure 2, Item 28), and screw (Figure 2, Item 29) on seat rod (Figure 2, Item 24).
3. Install sleeve (Figure 2, Item 17), washer (Figure 2, Item 18), tether assembly (Figure 2, Item 21), washer (Figure 2, Item 20), screw (Figure 2, Item 19), bracket (Figure 2, Item 16), washer (Figure 2, Item 15), and nut (Figure 2, Item 14) on left diagonal channel (Figure 2, Item 22). Tighten nut 20 to 25 lb-ft (27 to 34 N·m).
4. Install spacer (Figure 2, Item 2), tether assembly (Figure 2, Item 3), washer (Figure 2, Item 4), retractor (Figure 2, Item 5), washer (Figure 2, Item 6), and screw (Figure 2, Item 7) on seat rod (Figure 2, Item 1).
5. Install washer (Figure 2, Item 11), tether assembly (Figure 2, Item 3), washer (Figure 2, Item 12), screw (Figure 2, Item 13), washer (Figure 2, Item 9), and nut (Figure 2, Item 8) on vertical channel (Figure 2, Item 10). Tighten nut 40 to 45 lb-ft (54 to 61 N·m).

DRIVER'S SEATBELT INSTALLATION - Continued



M5157DAA

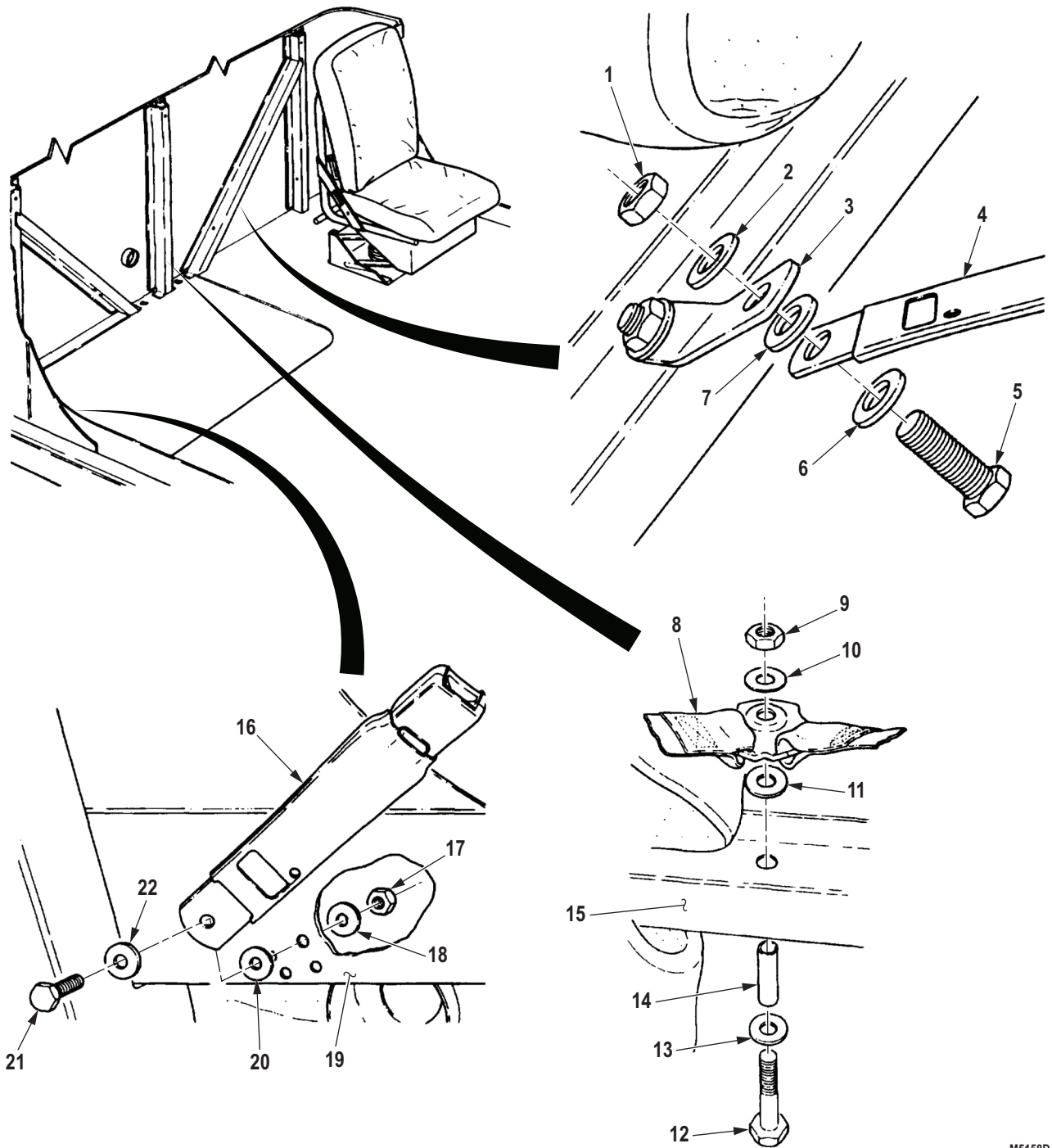
Figure 2. Driver's Seatbelt Installation.

END OF TASK

**COMPANION SEATBELTS REMOVAL**

1. Remove nut (Figure 3, Item 1), washer (Figure 3, Item 2), screw (Figure 3, Item 5), washer (Figure 3, Item 6), left seatbelt buckle (Figure 3, Item 4), and washer (Figure 3, Item 7) from bracket (Figure 3, Item 3).
2. Remove nut (Figure 3, Item 9), washer (Figure 3, Item 10), middle companion seatbelt (Figure 3, Item 8), washer (Figure 3, Item 11), screw (Figure 3, Item 12), washer (Figure 3, Item 13), and sleeve (Figure 3, Item 14) from right diagonal channel (Figure 3, Item 15).
3. Remove nut (Figure 3, Item 17), washer (Figure 3, Item 18), screw (Figure 3, Item 21), washer (Figure 3, Item 22), right seatbelt buckle (Figure 3, Item 16), and washer (Figure 3, Item 20) from B-pillar channel (Figure 3, Item 19).

COMPANION SEATBELTS REMOVAL - Continued



M5158DAA

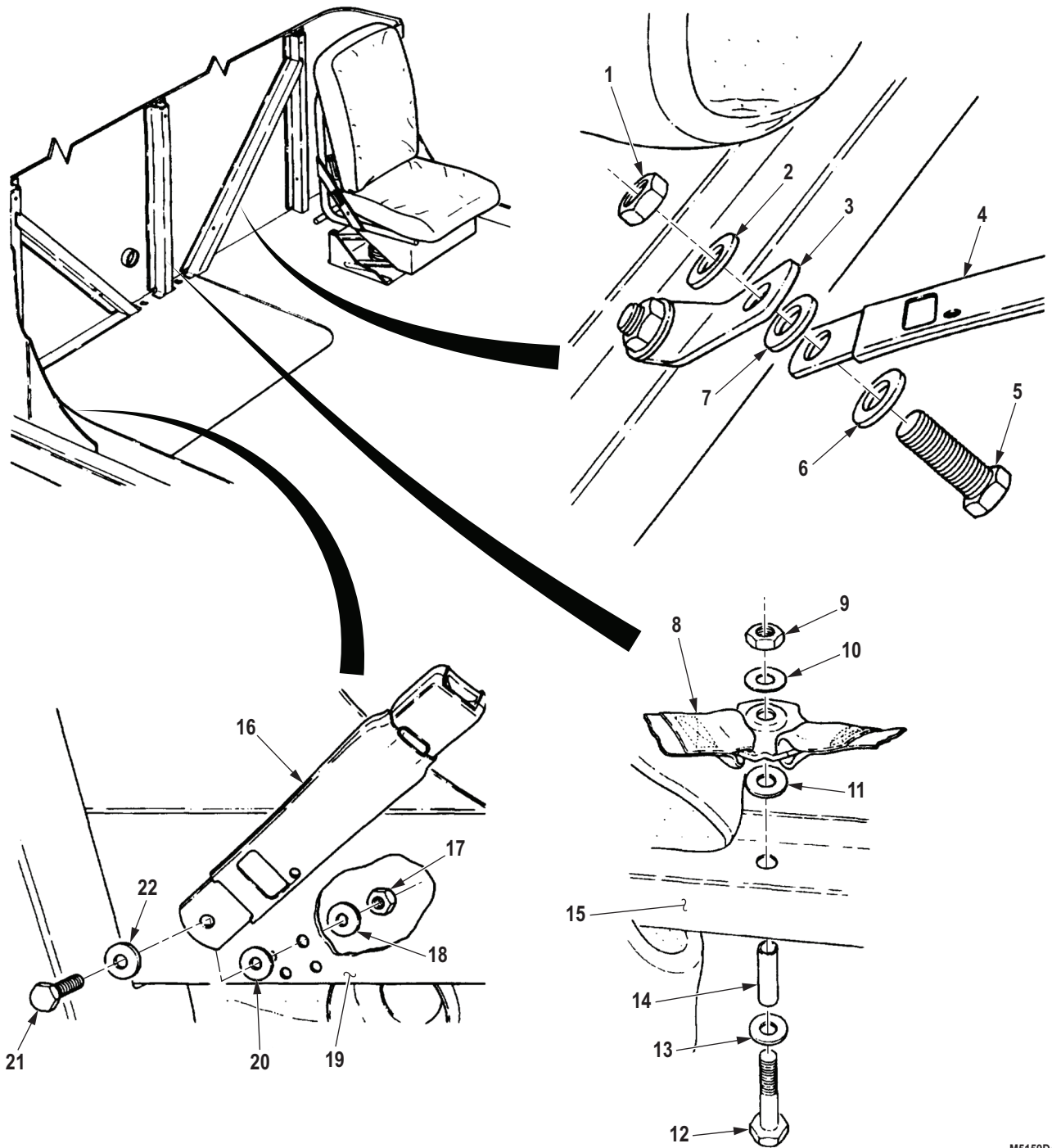
Figure 3. Companion Seatbelt Removal.

END OF TASK

**COMPANION SEATBELTS INSTALLATION**

1. Install washer (Figure 4, Item 20), right seatbelt buckle (Figure 4, Item 16), washer (Figure 4, Item 22), screw (Figure 4, Item 21), washer (Figure 4, Item 18), and nut (Figure 4, Item 17) on B-pillar channel (Figure 4, Item 19). Tighten nut 20 to 25 lb-ft (27 to 34 N·m).
2. Install sleeve (Figure 4, Item 14), washer (Figure 4, Item 13), screw (Figure 4, Item 12), washer (Figure 4, Item 11), middle companion seatbelt (Figure 4, Item 8), washer (Figure 4, Item 10), and nut (Figure 4, Item 9) on right diagonal channel (Figure 4, Item 15). Tighten nut 20 to 25 lb-ft (27 to 34 N·m).
3. Install washer (Figure 4, Item 7), left seatbelt buckle (Figure 4, Item 4), washer (Figure 4, Item 6), screw (Figure 4, Item 5), washer (Figure 4, Item 2), and nut (Figure 4, Item 1) on bracket (Figure 4, Item 3). Tighten nut 20 to 25 lb-ft (27 to 34 N·m).

COMPANION SEATBELTS INSTALLATION - Continued



M5159DAA

Figure 4. Companion Seatbelt Installation.

END OF TASK

**FOLLOW-ON MAINTENANCE**

1. Install companion seat. (Volume 4, WP 0581)
2. Install battery box. (Volume 2, WP 0347)

**END OF TASK****END OF WORK PACKAGE**



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**FIELD MAINTENANCE  
HAND AIRBRAKE CONTROLLER VALVE REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition (cont.)**

Air reservoirs drained. (TM 9-2320-272-10)

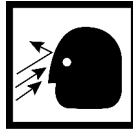
**Materials/Parts**

Tape, Antiseizing  
(WP 0825, Table 1, Item 65)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

---

**REMOVAL****WARNING**

Do not disconnect air lines or hoses before draining air reservoirs. Small parts under pressure may shoot out with high velocity. Failure to comply may result in injury or death to personnel.

**NOTE**

Tag air lines for installation.

1. Disconnect two air lines (Figure 1, Item 7) from adapters (Figure 1, Item 6).
2. Remove two adapters (Figure 1, Item 6) from controller valve (Figure 1, Item 5).
3. Remove two nuts (Figure 1, Item 1) from retainer bracket (Figure 1, Item 2) and controller valve (Figure 1, Item 5).
4. Remove retainer bracket (Figure 1, Item 2), strap (Figure 1, Item 3), and controller valve (Figure 1, Item 5) from steering column (Figure 1, Item 4).

REMOVAL - Continued

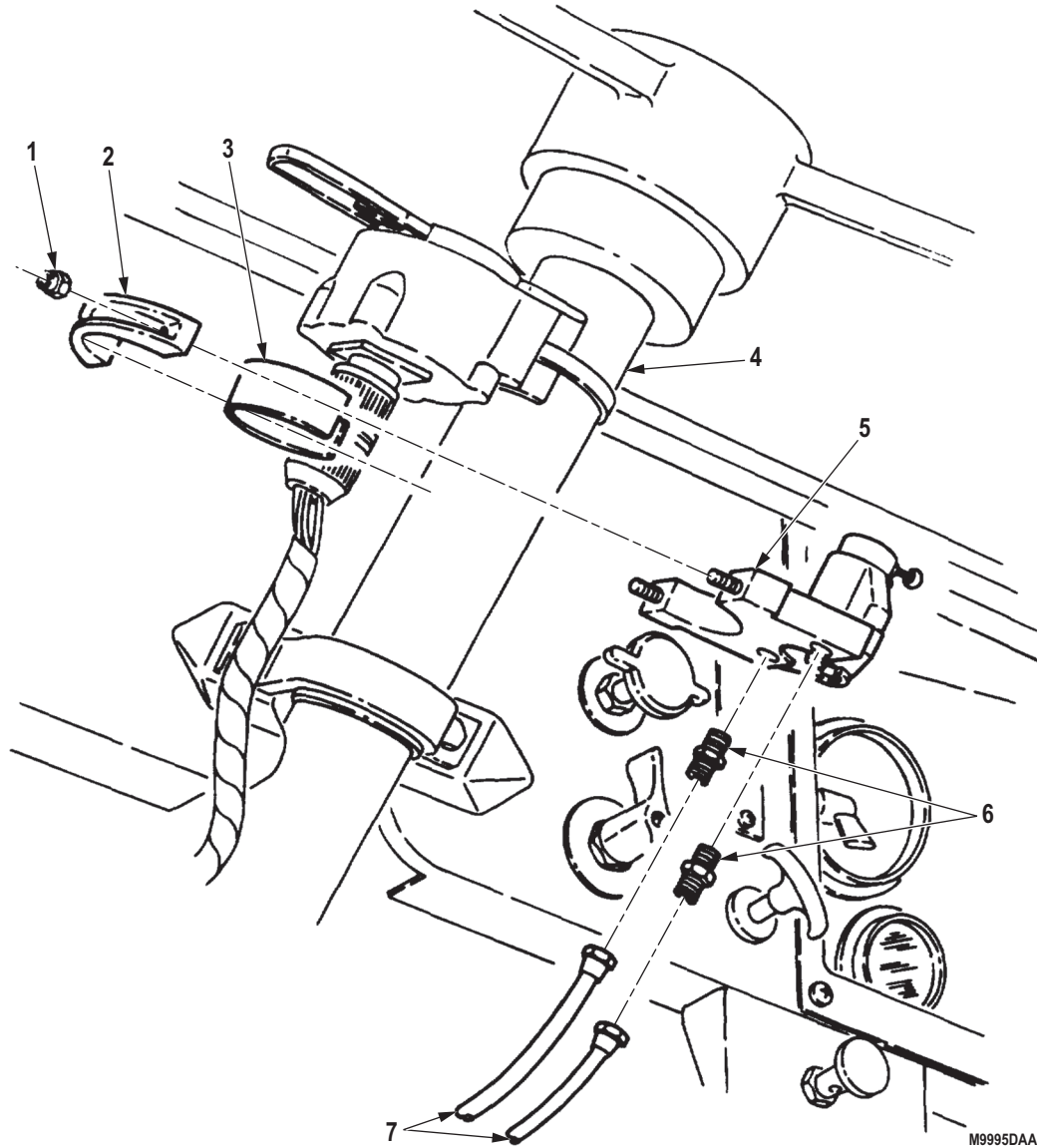


Figure 1. Hand Airbrake Controller Valve Removal.

END OF TASK

**INSTALLATION****NOTE**

Wrap all male pipe threads with antiseize tape before installation.

1. Install controller valve (Figure 2, Item 5), strap (Figure 2, Item 3), and retainer bracket (Figure 2, Item 2) on steering column (Figure 2, Item 4).
2. Install retainer bracket (Figure 2, Item 2) on controller valve (Figure 2, Item 5) with two nuts (Figure 2, Item 1).
3. Install two adapters (Figure 2, Item 6) on controller valve (Figure 2, Item 5).
4. Connect two air lines (Figure 2, Item 7) to adapters (Figure 2, Item 6).

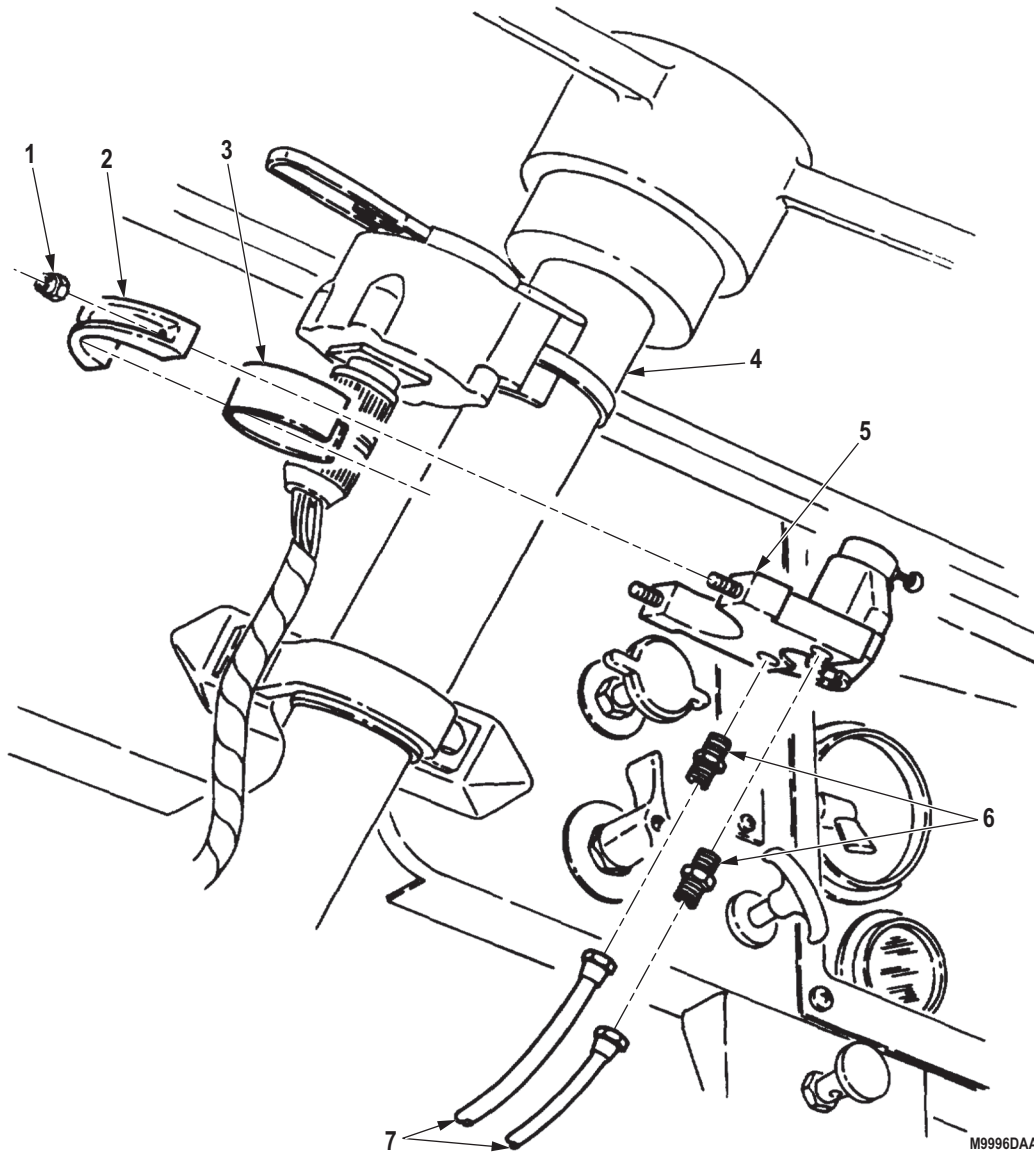


Figure 2. Hand Airbrake Controller Valve Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Start engine and allow air pressure to build to normal operating range. Check controller valve for leaks.  
(TM 9-2320-272-10)

**END OF TASK**

**END OF WORK PACKAGE**



---

**FIELD MAINTENANCE**  
**100-AMP ALTERNATOR HARNESS REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts**

Lockwasher  
(WP 0827, Table 1, Item 406) Qty: 1  
Lockwasher  
(WP 0827, Table 1, Item 425) Qty: 2  
Tiedown Strap  
(WP 0827, Table 1, Item 373) Qty: 5

**Equipment Condition (cont.)**

Hood raised and secured. (TM 9-2320-272-10)  
Left and right splash shields removed.  
(TM 9-2320-272-10)  
Battery ground cables disconnected.  
(Volume 2, WP 0350)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

---

**REMOVAL****NOTE**

Tag wires, connectors, and cables for installation.

1. Remove three screws (Figure 1, Item 6), washers (Figure 1, Item 5), and clamps (Figure 1, Item 4) from firewall (Figure 1, Item 2), front wiring harness (Figure 1, Item 22), and voltage regulator wiring harness (Figure 1, Item 3).
2. Remove four tiedown straps (Figure 1, Item 7) from front wiring harness (Figure 1, Item 22) and voltage regulator wiring harness (Figure 1, Item 3). Discard tiedown straps.
3. Remove two nuts (Figure 1, Item 18), washers (Figure 1, Item 17), and clamps (Figure 1, Item 16) from personnel heater (Figure 1, Item 1).
4. Remove tiedown strap (Figure 1, Item 15) from wiring harness (Figure 1, Item 10). Discard tiedown straps.
5. Disconnect harness connector (Figure 1, Item 8) from alternator (Figure 1, Item 9).
6. Disconnect connectors (Figure 1, Items 12 and 13) from wires (Figure 1, Items 11 and 14).
7. Disconnect harness connectors (Figure 1, Items 19 and 21) from regulator (Figure 1, Item 20).

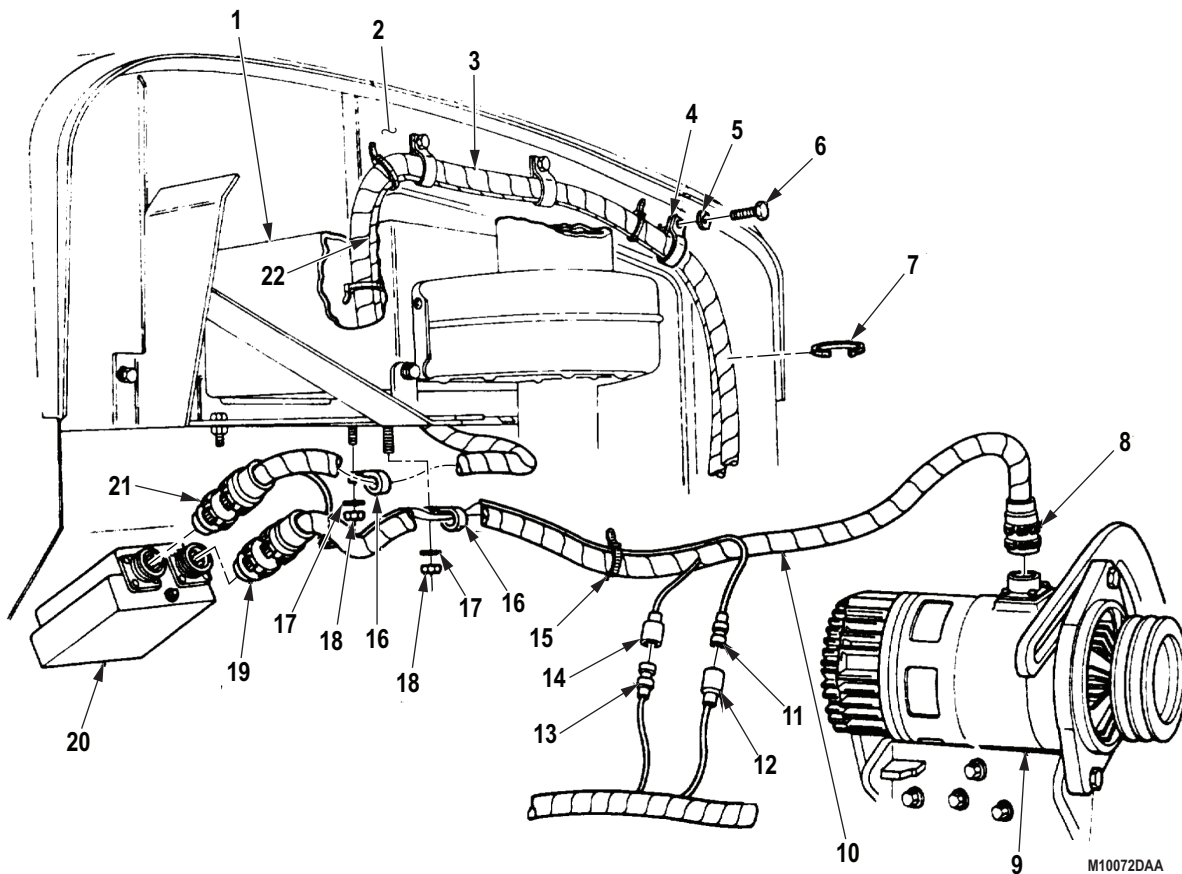


Figure 1. 100-AMP Alternator Harness.



**REMOVAL - Continued**

8. Remove screw (Figure 2, Item 5), lockwasher (Figure 2, Item 8), ground strap (Figure 2, Item 10), lockwasher (Figure 2, Item 8), ground wire (Figure 2, Item 7), and washer (Figure 2, Item 6) from engine (Figure 2, Item 9). Discard lockwashers.
9. Remove nut (Figure 2, Item 4), lockwasher (Figure 2, Item 3), and wire (Figure 2, Item 2) from starter solenoid (Figure 2, Item 1). Discard lockwasher.

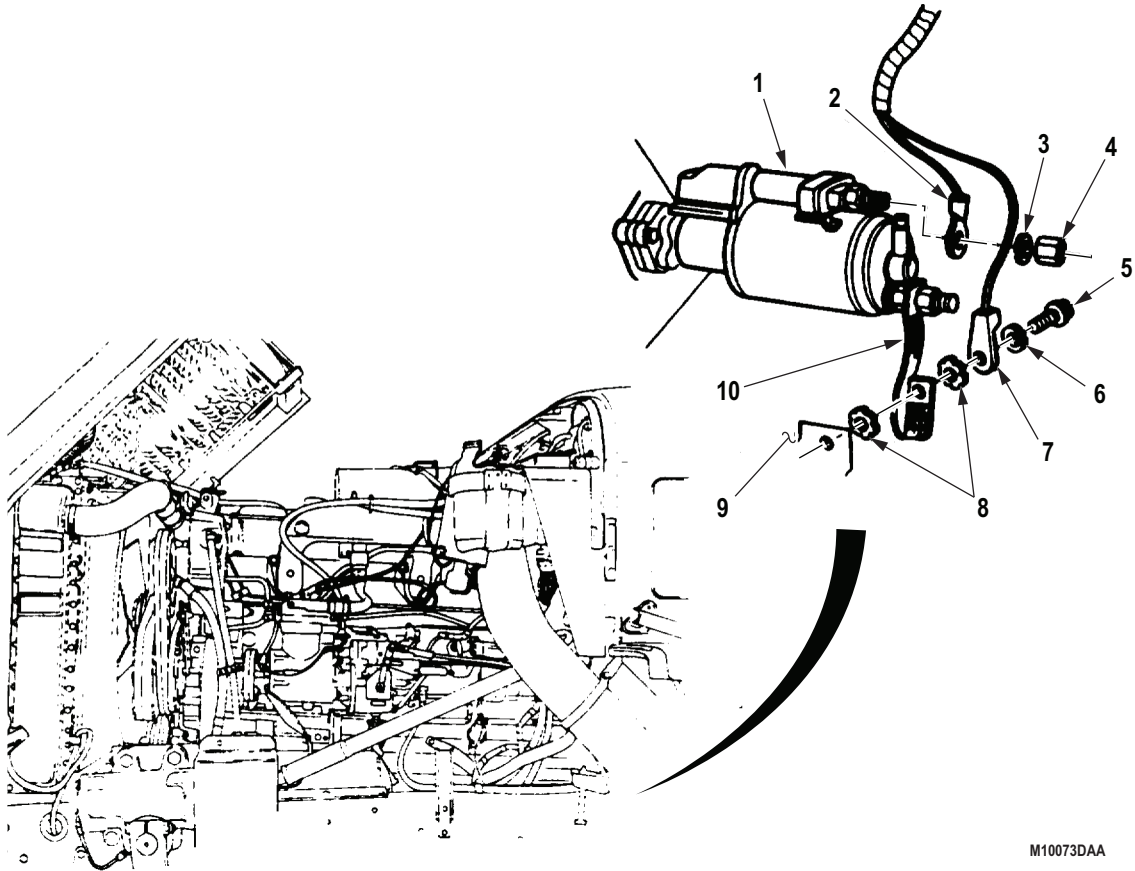
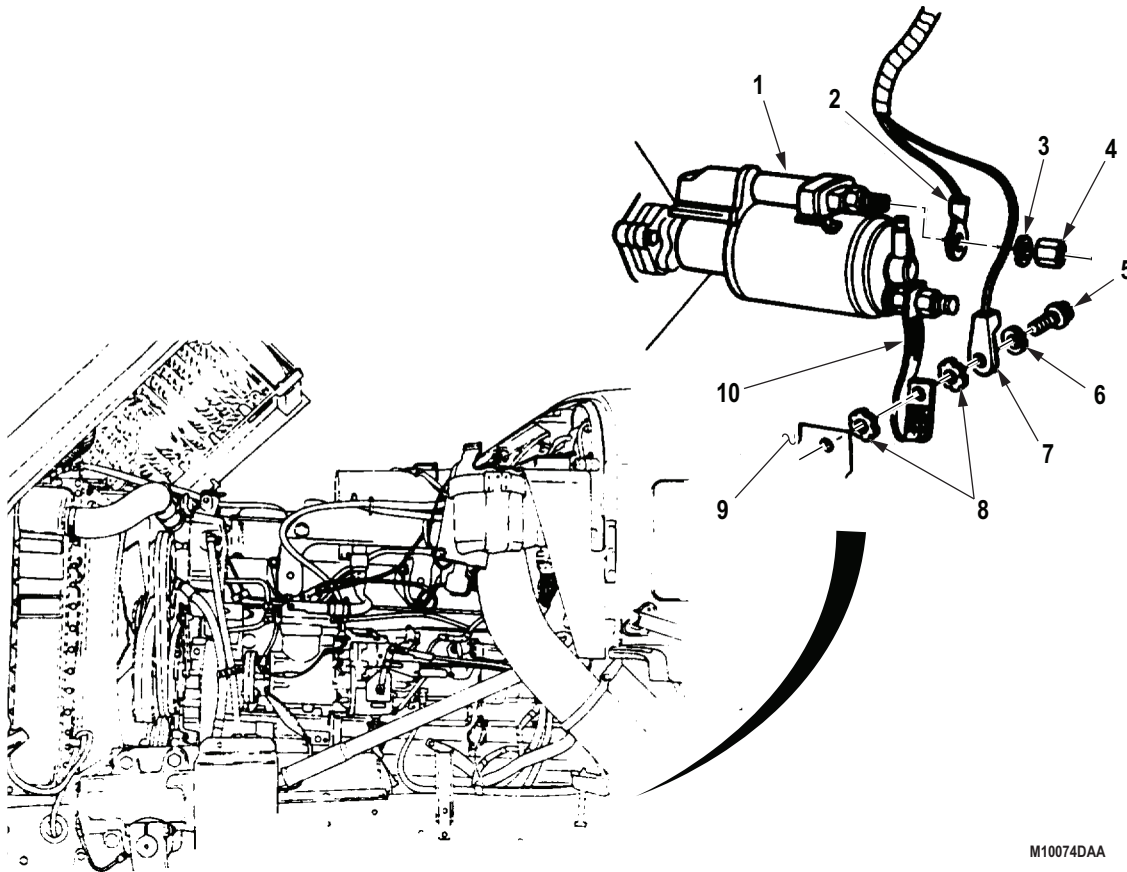


Figure 2. 100-AMP Alternator Ground Strap Removal.

**END OF TASK**

**INSTALLATION**

1. Install wire (Figure 3, Item 2) on starter solenoid (Figure 3, Item 1) with lockwasher (Figure 3, Item 3) and nut (Figure 3, Item 4).
2. Install washer (Figure 3, Item 6), ground wire (Figure 3, Item 7), lockwasher (Figure 3, Item 8), ground strap (Figure 3, Item 10), lockwasher (Figure 3, Item 8), and screw (Figure 3, Item 5) on engine (Figure 3, Item 9).



M10074DAA

Figure 3. 100-AMP Alternator Ground Strap Installation.

**INSTALLATION - Continued**

3. Connect harness connectors (Figure 4, Item 29) and (Figure 4, Item 31) to regulator (Figure 4, Item 30).
4. Connect connectors (Figure 4, Items 22 and 23) to wires (Figure 4, Items 21 and 24).
5. Connect harness connector (Figure 4, Item 18) to alternator (Figure 4, Item 19).
6. Install tiedown strap (Figure 4, Item 25) on harness (Figure 4, Item 20).
7. Install two clamps (Figure 4, Item 26) on personnel heater (Figure 4, Item 11) with two washers (Figure 4, Item 27) and nuts (Figure 4, Item 28).
8. Install four tiedown straps (Figure 4, Item 17) on front wiring harness (Figure 4, Item 32) and voltage regulator wiring harness (Figure 4, Item 13).
9. Install three clamps (Figure 4, Item 14) on firewall (Figure 4, Item 12), front wiring harness (Figure 4, Item 32), and voltage regulator wiring harness (Figure 4, Item 13) with three washers (Figure 4, Item 15) and screws (Figure 4, Item 16).

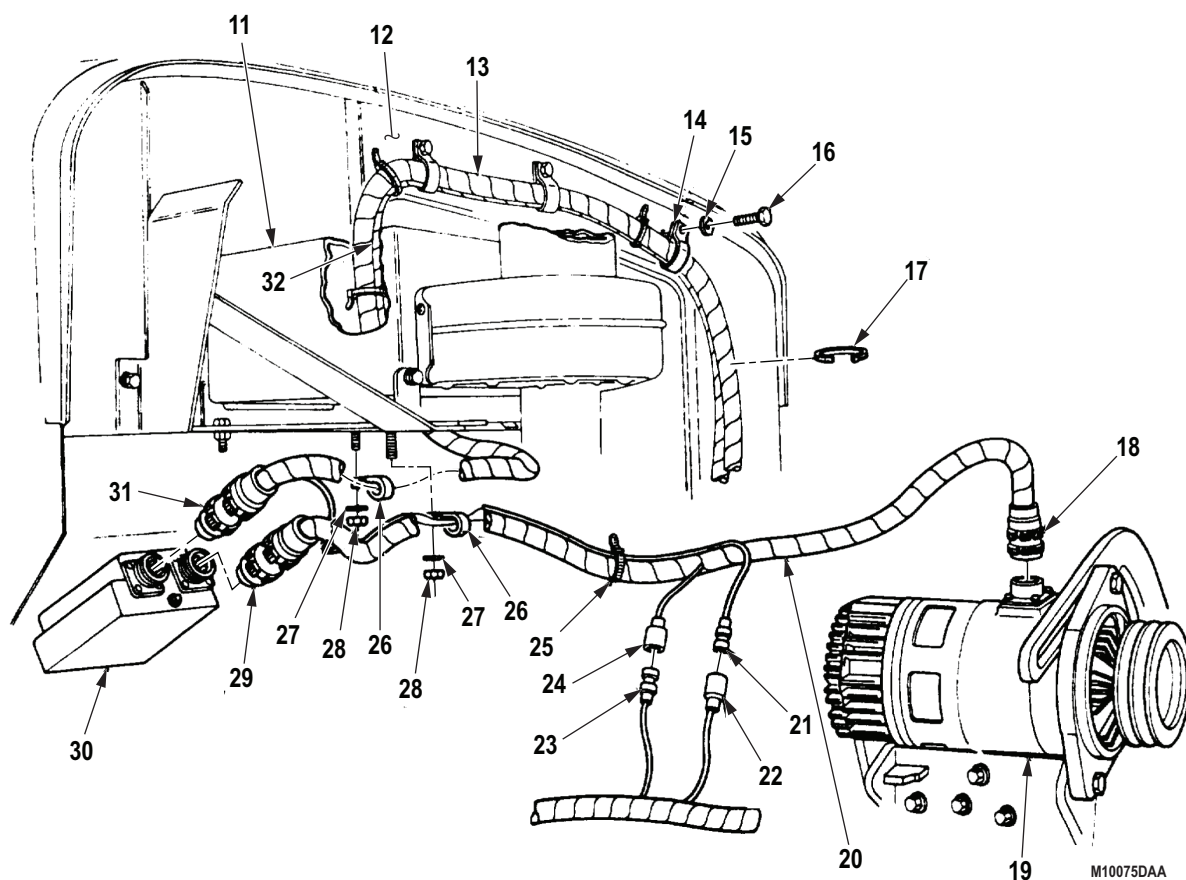


Figure 4. 100-AMP Alternator Harness.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

1. Connect battery ground cables. (Volume 2, WP 0350)
2. Install left and right splash shields. (TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**

---

**FIELD MAINTENANCE**  
**100-AMP VOLTAGE REGULATOR REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Personnel Required**

(2)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

**Equipment Condition (cont.)**

Hood raised and secured. (TM 9-2320-272-10)

Right splash shield removed.

(Volume 4, WP 0575)

Battery ground cables disconnected.

(Volume 2, WP 0350)

**REMOVAL****NOTE**

Tag wires, connectors, and cables for installation.

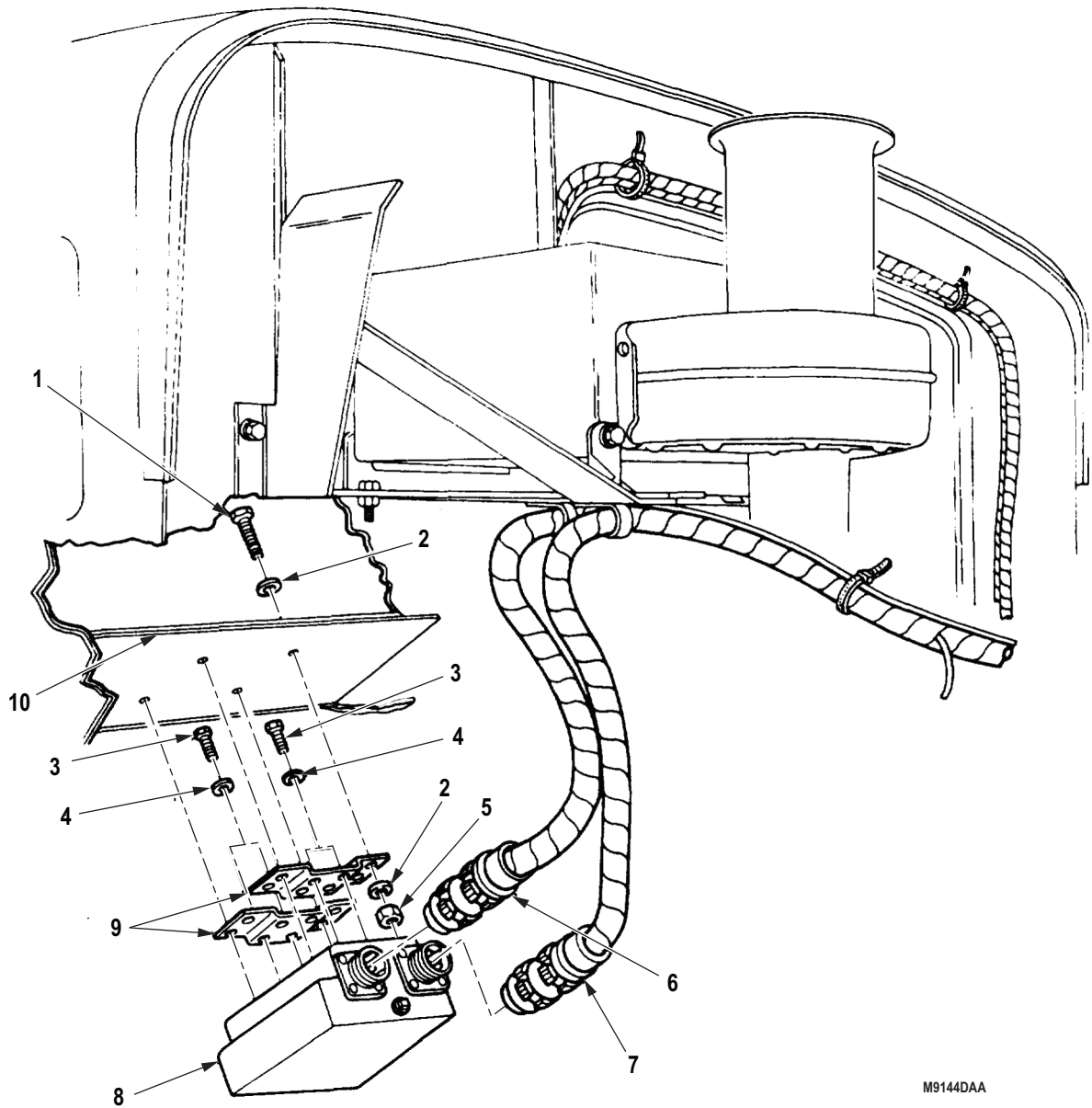
1. Disconnect harness connectors (Figure 1, Items 6 and 7) from voltage regulator (Figure 1, Item 8).

**NOTE**

Assistant will help with Step (2).

2. Remove four nuts (Figure 1, Item 5), washers (Figure 1, Item 2), screws (Figure 1, Item 1), washers (Figure 1, Item 2), and voltage regulator (Figure 1, Item 8) from floorboard (Figure 1, Item 10).
3. Remove four screws (Figure 1, Item 3), washers (Figure 1, Item 4), and two brackets (Figure 1, Item 9) from voltage regulator (Figure 1, Item 8).

REMOVAL - Continued



M9144DAA

Figure 1. 100-AMP Voltage Regulator Removal.

END OF TASK

**INSTALLATION**

1. Install two brackets (Figure 2, Item 9) on voltage regulator (Figure 2, Item 8) with four washers (Figure 2, Item 4) and screws (Figure 2, Item 3).

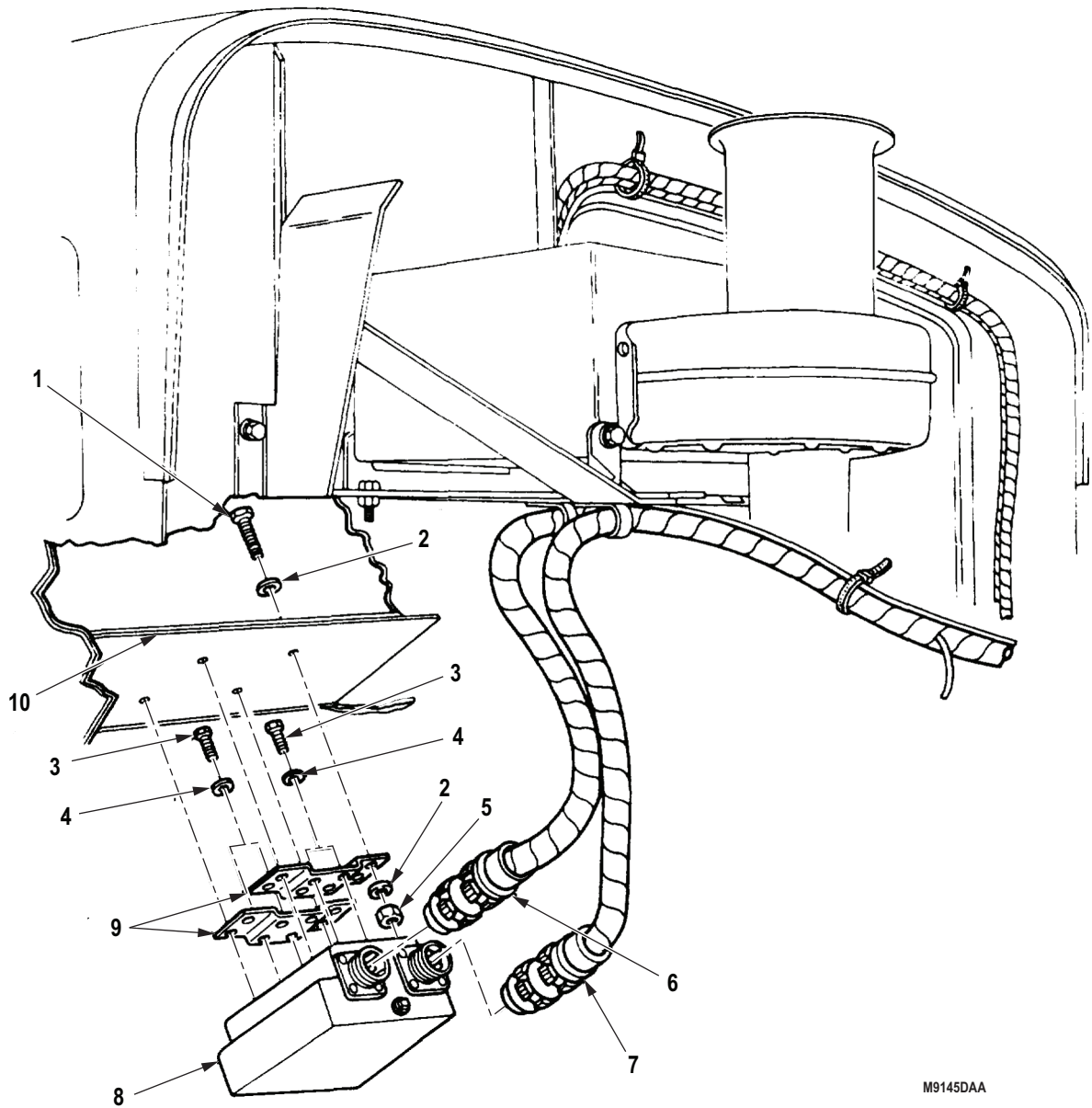
**NOTE**

Assistant will help with Step (2).

2. Install voltage regulator (Figure 2, Item 8) on floorboard (Figure 2, Item 10) with four washers (Figure 2, Item 2), screws (Figure 2, Item 1), washers (Figure 2, Item 2), and nuts (Figure 2, Item 5).
3. Connect harness connectors (Figure 2, Items 6 and 7) to voltage regulator (Figure 2, Item 8).
4. Connect battery ground cables (Volume 2, WP 0350).
5. Start engine (TM 9-2320-272-10).
6. Check battery generator indicator on instrument panel to ensure it is in green area. If adjustment is necessary, notify your supervisor.



INSTALLATION - Continued



M9145DAA

Figure 2. 100-AMP Voltage Regulator Installation.

END OF TASK

**FOLLOW-ON MAINTENANCE**

1. Install right splash shield. (Volume 4, WP 0575)
2. Connect battery ground cables. (Volume 2, WP 0350)

**END OF TASK****END OF WORK PACKAGE**

---

**FIELD MAINTENANCE**  
**CONVOY WARNING LIGHT MOUNT REPLACEMENT (M934/A1/A2)**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition (cont.)**

Convoy warning light removed. (WP 0799)

**Materials/Parts**

Lockwasher  
(WP 0827, Table 1, Item 408) Qty: 6  
Tiedown Strap  
(WP 0827, Table 1, Item 370) Qty: 2

**Equipment Condition**

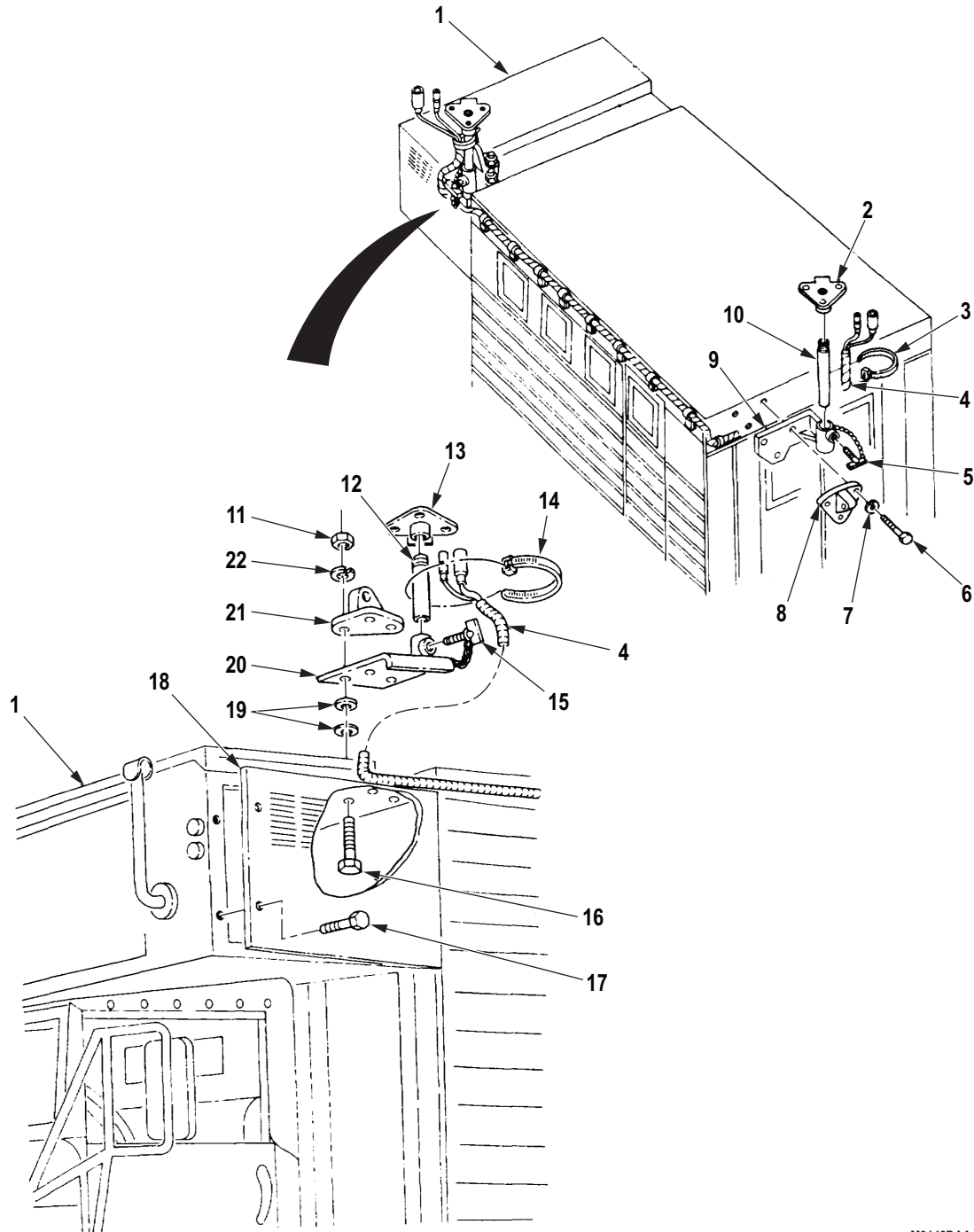
Parking brake set. (TM 9-2320-272-10)

---

**REMOVAL**

1. Remove tiedown strap (Figure 1, Item 3) and harness (Figure 1, Item 4) from support tube (Figure 1, Item 10). Discard tiedown strap.
2. Remove wing screw (Figure 1, Item 5) and support tube (Figure 1, Item 10) from mounting bracket (Figure 1, Item 9).
3. Remove mounting plate (Figure 1, Item 2) from support tube (Figure 1, Item 10).
4. Remove three screws (Figure 1, Item 6), lockwashers (Figure 1, Item 7), lifting bracket (Figure 1, Item 8), and mounting bracket (Figure 1, Item 9) from van body (Figure 1, Item 1). Discard lockwashers.
5. Remove tiedown strap (Figure 1, Item 14) and harness (Figure 1, Item 4) from support tube (Figure 1, Item 12). Discard tiedown strap.
6. Remove wing screw (Figure 1, Item 15) and support tube (Figure 1, Item 12) from mounting bracket (Figure 1, Item 20).
7. Remove mounting plate (Figure 1, Item 13) from support tube (Figure 1, Item 12).
8. Remove two screws (Figure 1, Item 17) from heater access door (Figure 1, Item 18) and open heater access door (Figure 1, Item 18).
9. Remove three nuts (Figure 1, Item 11), lockwashers (Figure 1, Item 22), screws (Figure 1, Item 16), lifting bracket (Figure 1, Item 21), mounting bracket (Figure 1, Item 20), and six washers (Figure 1, Item 19) from van body (Figure 1, Item 1). Discard lockwashers.

REMOVAL - Continued



M9148DAA

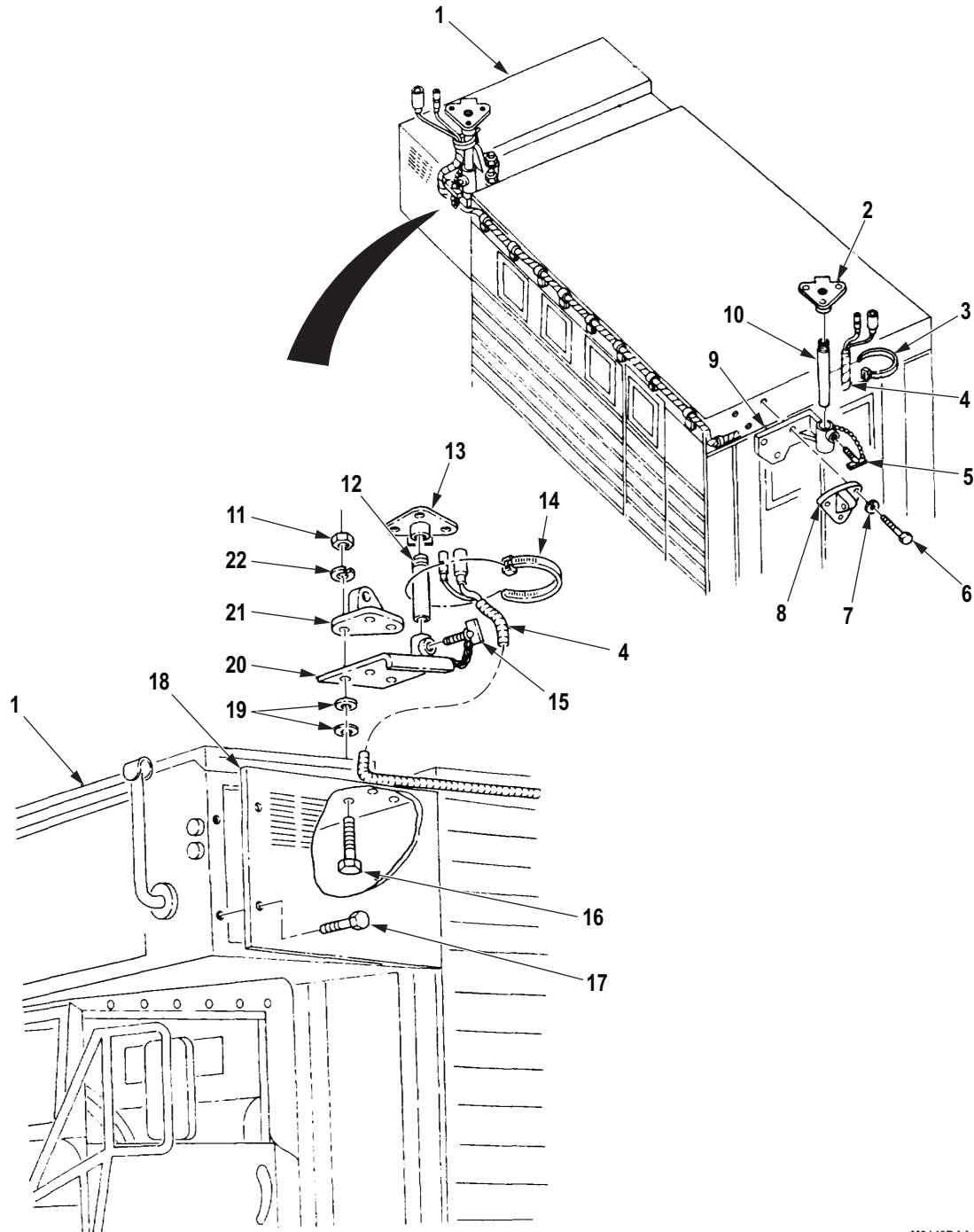
Figure 1. Convoy Warning Light (M934/A1/A2) Removal.

END OF TASK

**INSTALLATION**

1. Install six washers (Figure 2, Item 19), mounting bracket (Figure 2, Item 20), and lifting bracket (Figure 2, Item 21) on van body (Figure 2, Item 1) with three screws (Figure 2, Item 16), lockwashers (Figure 2, Item 22), and nuts (Figure 2, Item 11).
2. Close heater access door (Figure 2, Item 18) and install two screws (Figure 2, Item 17) on heater access door.
3. Install mounting plate (Figure 2, Item 13) on support tube (Figure 2, Item 12).
4. Install support tube (Figure 2, Item 12) on mounting bracket (Figure 2, Item 20) with wing screw (Figure 2, Item 15).
5. Install harness (Figure 2, Item 4) on support tube (Figure 2, Item 12) with tiedown strap (Figure 2, Item 14).
6. Install mounting bracket (Figure 2, Item 9) and lifting bracket (Figure 2, Item 8) on van body (Figure 2, Item 1) with three lockwashers (Figure 2, Item 7) and screws (Figure 2, Item 6).
7. Install mounting plate (Figure 2, Item 2) on support tube (Figure 2, Item 10).
8. Install support tube (Figure 2, Item 10) on mounting bracket (Figure 2, Item 9) with wing screw (Figure 2, Item 5).
9. Install harness (Figure 2, Item 4) on support tube (Figure 2, Item 10) with tiedown strap (Figure 2, Item 3).

INSTALLATION - Continued



M9149DAA

Figure 2. Convoy Warning Light (M934/A1/A2) Installation.

END OF TASK

**FOLLOW-ON MAINTENANCE**

Install convoy warning light. (WP 0799)

**END OF TASK**

**END OF WORK PACKAGE**



**FIELD MAINTENANCE**  
**CONVOY WARNING LIGHT MOUNT REPLACEMENT (M929/A1/A2, M930/A1/A2)**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Convoy warning light removed. (WP 0799)

**Materials/Parts**

Locknut (WP 0827, Table 1, Item 277) Qty: 4

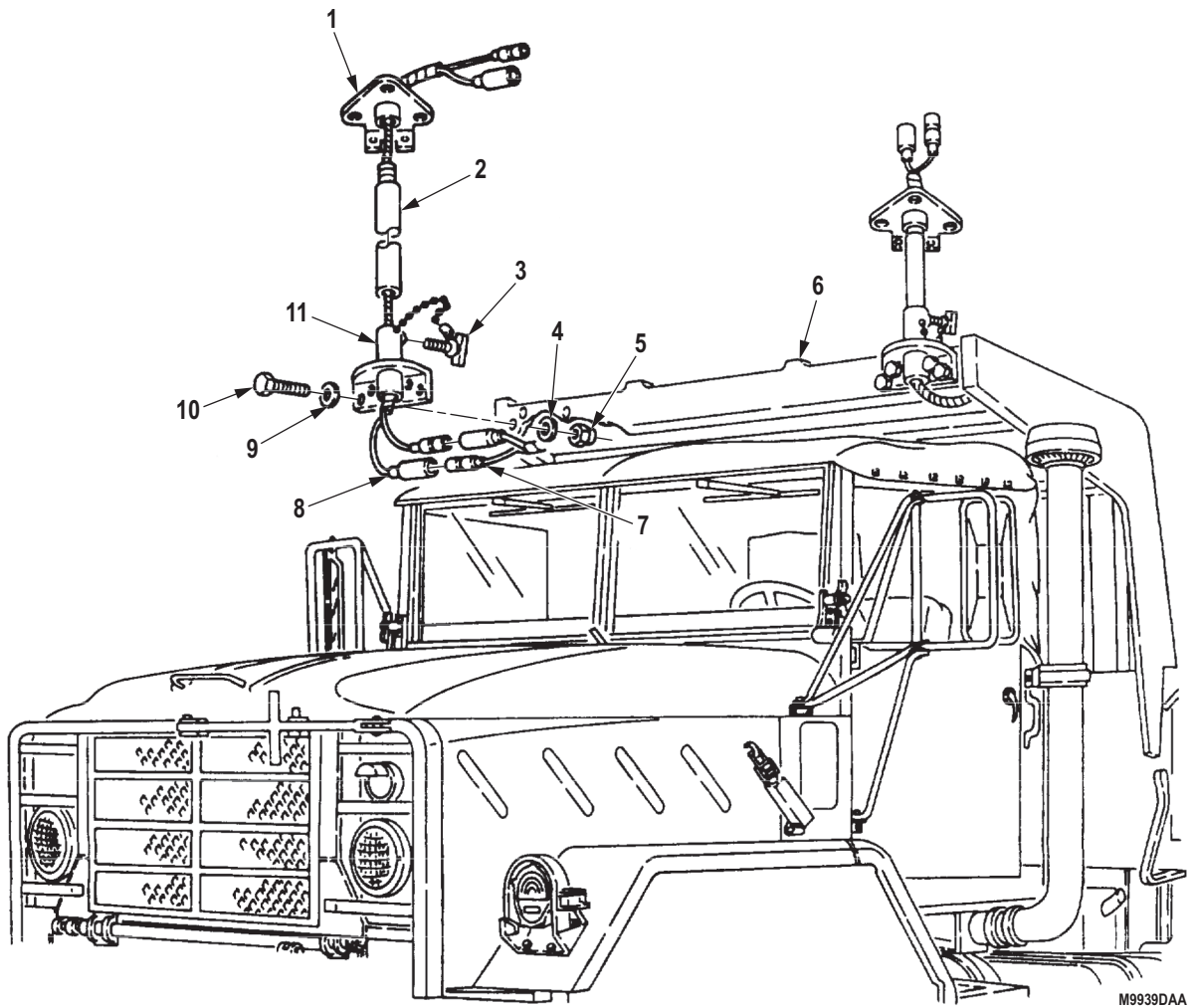
---

**REMOVAL****NOTE**

Right and left convoy warning light mounts are replaced the same. This procedure covers the right mount only.

1. Disconnect two cable leads (Figure 1, Item 8) from harness leads (Figure 1, Item 7).
2. Remove two cable leads (Figure 1, Item 8) from support tube (Figure 1, Item 2) and mounting bracket (Figure 1, Item 11).
3. Remove wing screw (Figure 1, Item 3) and support tube (Figure 1, Item 2) from mounting bracket (Figure 1, Item 11).
4. Remove mounting plate (Figure 1, Item 1) from support tube (Figure 1, Item 2).
5. Remove four locknuts (Figure 1, Item 5), washers (Figure 1, Item 4), screws (Figure 1, Item 10), washers (Figure 1, Item 9), and mounting bracket (Figure 1, Item 11) from cab protector (Figure 1, Item 6). Discard locknuts.

REMOVAL - Continued



M9939DAA

Figure 1. Convoy Warning Light Mount Removal.

END OF TASK

**INSTALLATION**

1. Install mounting bracket (Figure 2, Item 11) on cab protector (Figure 2, Item 6) with four washers (Figure 2, Item 9), screws (Figure 2, Item 10), washers (Figure 2, Item 4), and locknuts (Figure 2, Item 5).
2. Install mounting plate (Figure 2, Item 1) on support tube (Figure 2, Item 2).
3. Install support tube (Figure 2, Item 2) on mounting bracket (Figure 2, Item 11) with wing screw (Figure 2, Item 3).
4. Install two cable leads (Figure 2, Item 8) on support tube (Figure 2, Item 2) and mounting bracket (Figure 2, Item 11).
5. Connect two cable leads (Figure 2, Item 8) to harness leads (Figure 2, Item 7).

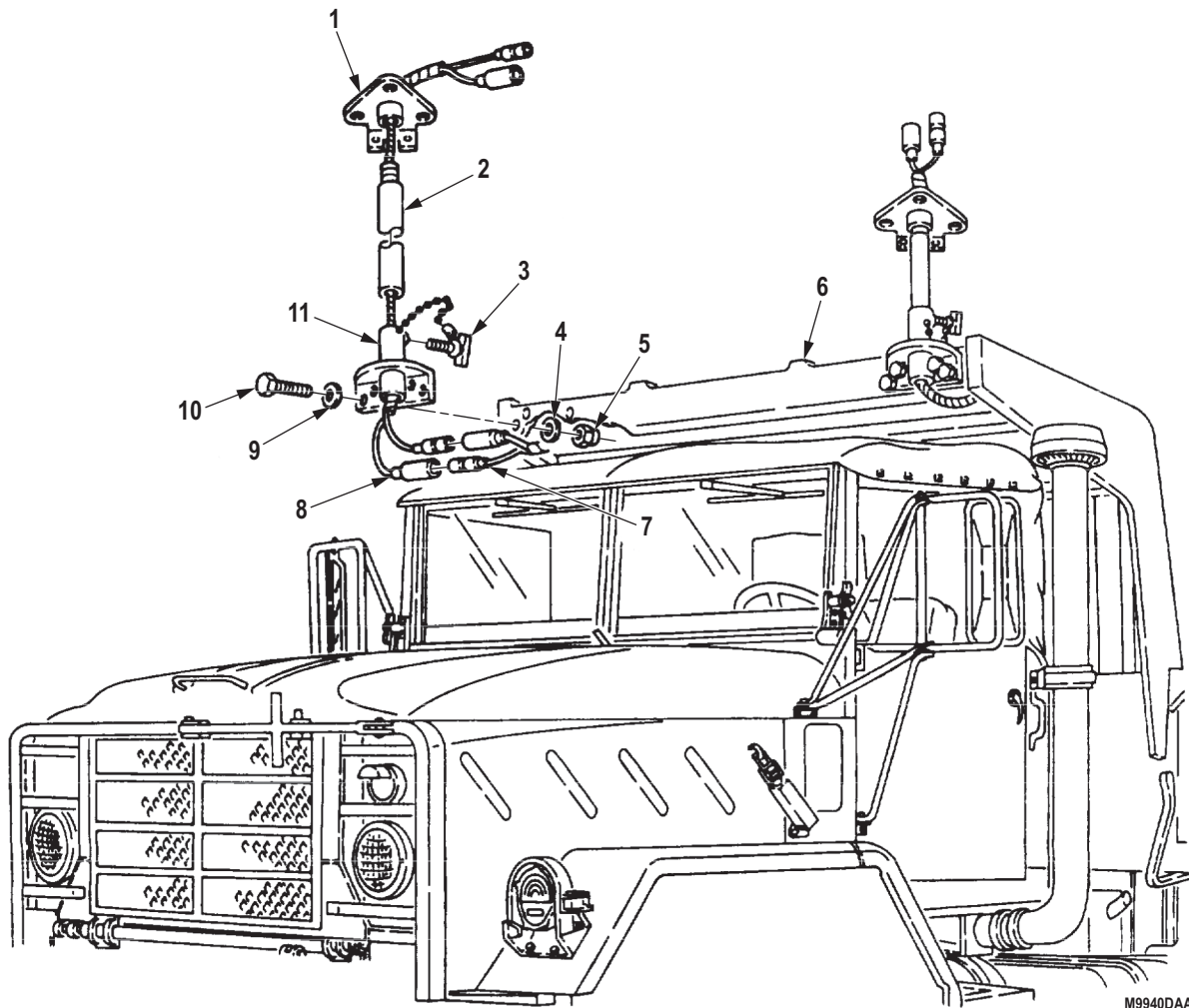


Figure 2. Convoy Warning Light Mount Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Install convoy warning light. (WP 0799)

**END OF TASK**

**END OF WORK PACKAGE**



---

**FIELD MAINTENANCE  
CONVOY WARNING LIGHT HARNESS REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition (cont.)**

Hood raised and secured. (TM 9-2320-272-10)  
Toolbox removed. (Volume 4, WP 0586)  
Battery ground cables disconnected.  
(Volume 2, WP 0350)

**Materials/Parts**

Locknut (WP 0827, Table 1, Item 277) Qty: 1  
Lockwasher  
(WP 0827, Table 1, Item 395) Qty: 1  
Tiedown Strap  
(WP 0827, Table 1, Item 372) Qty: 15  
Tiedown Strap  
(WP 0827, Table 1, Item 375) Qty: 6

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

---

**REMOVAL****NOTE**

Perform Steps (1) and (2) for left and right rear of cab.

1. Disconnect four cable leads (Figure 1, Item 6) from harness (Figure 1, Item 7).
2. Remove locknut (Figure 1, Item 5), ground lead (Figure 1, Item 4), washer (Figure 1, Item 3), lockwasher (Figure 1, Item 2), and screw (Figure 1, Item 10) from frame (Figure 1, Item 11) and rear step hanger (Figure 1, Item 9). Discard locknut and lockwasher.
3. Remove six tiedown straps (Figure 1, Item 1) and harness (Figure 1, Item 7) from cab crossmember (Figure 1, Item 8). Discard tiedown straps.

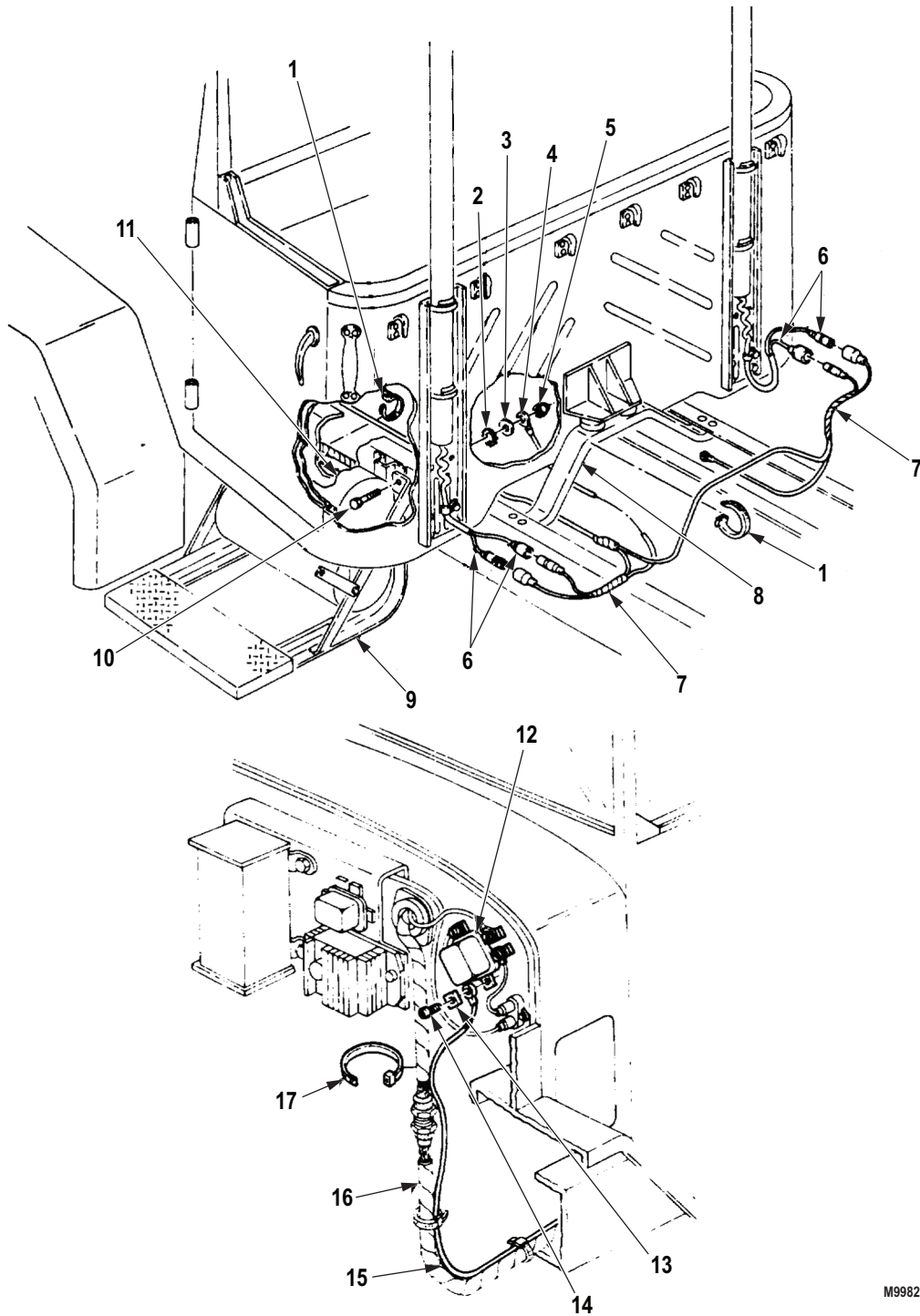
**NOTE**

Note routing of harness lead for installation.

4. Remove 15 tiedown straps (Figure 1, Item 17) and harness lead (Figure 1, Item 15) from front main wiring harness (Figure 1, Item 16). Discard tiedown straps.
5. Remove screw (Figure 1, Item 14), clip (Figure 1, Item 13), and harness lead (Figure 1, Item 15) from relay (Figure 1, Item 12).



REMOVAL - Continued



M9982DAA

Figure 1. Convoy Warning Light Harness Removal.

END OF TASK

**INSTALLATION**

1. Install lead (Figure 2, Item 15) on relay (Figure 2, Item 12) with clip (Figure 2, Item 13) and screw (Figure 2, Item 14).

**NOTE**

Perform Steps (2) and (3) for left and right rear of cab.

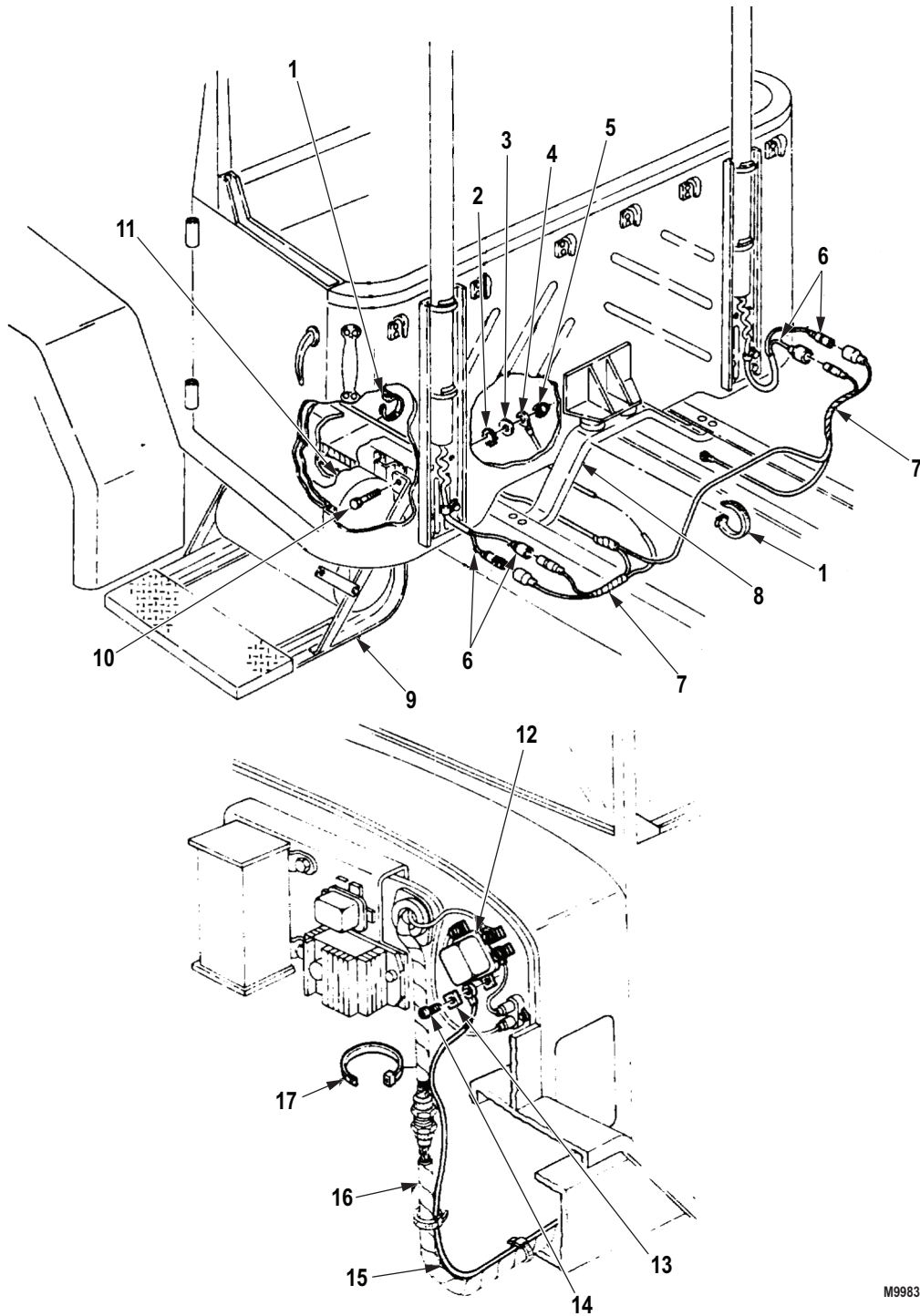
2. Install screw (Figure 2, Item 10), lockwasher (Figure 2, Item 2), washer (Figure 2, Item 3), ground lead (Figure 2, Item 4), and locknut (Figure 2, Item 5) on rear step hanger (Figure 2, Item 9) and frame (Figure 2, Item 11).
3. Connect four cable leads (Figure 2, Item 6) to harness (Figure 2, Item 7).

**NOTE**

Tiedown straps must be installed 10 in. (25 cm) apart.

4. Install harness (Figure 2, Item 7) on cab crossmember (Figure 2, Item 8) with six tiedown straps (Figure 2, Item 1).
5. Install harness lead (Figure 2, Item 15) on front main wiring harness (Figure 2, Item 16) with 15 tiedown straps (Figure 2, Item 17).

INSTALLATION - Continued



M9983DAA

Figure 2. Convoy Warning Light Harness Installation.

END OF TASK

**FOLLOW-ON MAINTENANCE**

1. Connect battery ground cables. (Volume 2, WP 0350)
2. Install toolbox. (Volume 4, WP 0586)

**END OF TASK****END OF WORK PACKAGE**

---

**FIELD MAINTENANCE**  
**CONVOY WARNING LIGHT HARNESS REPLACEMENT (M929/A1/A2, M930/A1/A2)**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts**

Locknut (WP 0827, Table 1, Item 277) Qty: 1  
Locknut (WP 0827, Table 1, Item 314) Qty: 29

**Materials/Parts (cont.)**

Lockwasher  
(WP 0827, Table 1, Item 425) Qty: 1  
Tiedown Strap  
(WP 0827, Table 1, Item 370) Qty: 2

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Raise dump bed and secure. (TM 9-2320-272-10)

---

**REMOVAL**

1. Disconnect four cable leads (Figure 1, Item 4) from two convoy warning lights (Figure 1, Item 3).
2. Remove eighteen locknuts (Figure 1, Item 1), screws (Figure 1, Item 10), clamps (Figure 1, Item 11), and conduit (Figure 1, Item 2) from cab protector (Figure 1, Item 12).
3. Remove ten locknuts (Figure 1, Item 7), screws (Figure 1, Item 5), clamps (Figure 1, Item 6), and conduit (Figure 1, Item 2) from dump body frame (Figure 1, Item 8) and cab protector (Figure 1, Item 12). Discard locknuts.

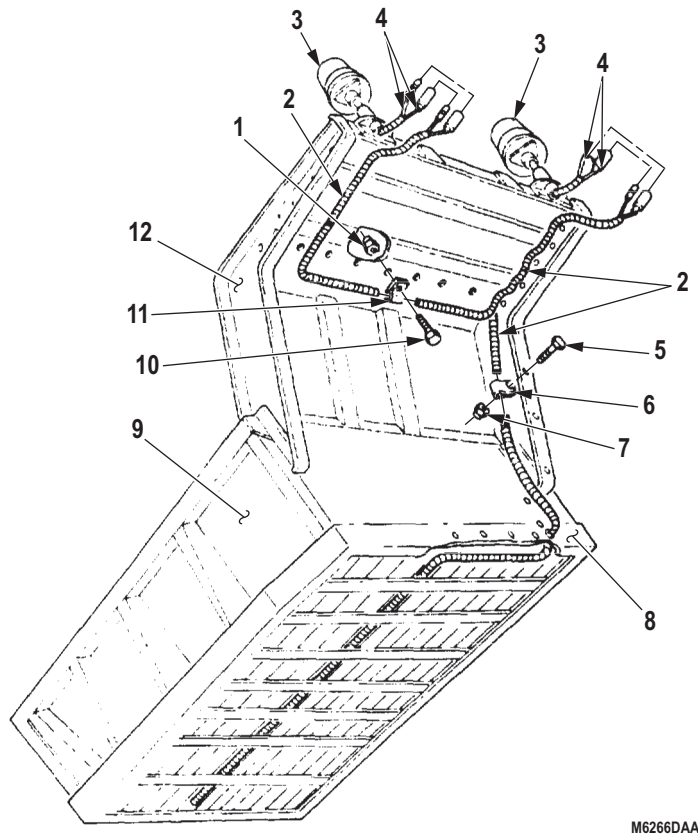


Figure 1. Convoy Warning Light Harness Removal.

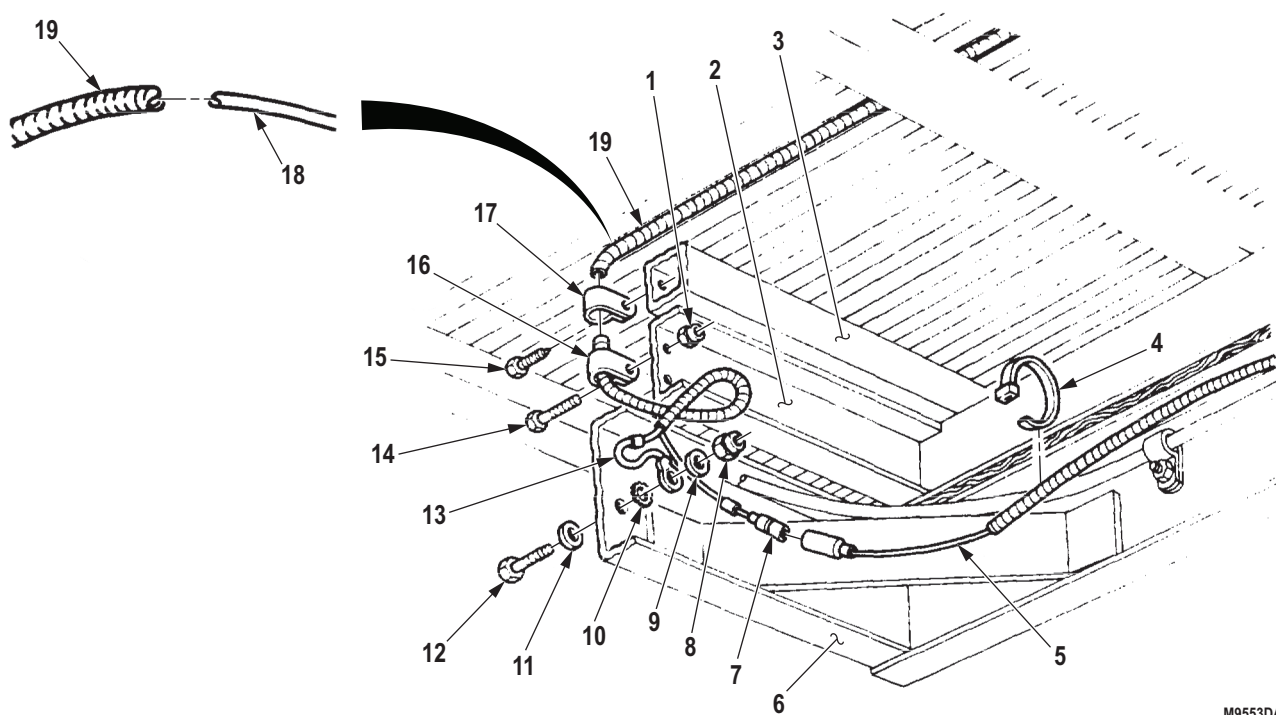
**REMOVAL - Continued**

4. Disconnect lead (Figure 2, Item 7) from cable (Figure 2, Item 5).
5. Remove locknut (Figure 2, Item 8), washer (Figure 2, Item 9), ground lead (Figure 2, Item 13), lockwasher (Figure 2, Item 10), screw (Figure 2, Item 12), and washer (Figure 2, Item 11) from crossmember (Figure 2, Item 6). Discard locknut and lockwasher.
6. Remove locknut (Figure 2, Item 1), screw (Figure 2, Item 14), clamp (Figure 2, Item 16), and conduit (Figure 2, Item 19) from crossmember (Figure 2, Item 2). Discard locknut.
7. Remove screw (Figure 2, Item 15), clamp (Figure 2, Item 17), and conduit (Figure 2, Item 19) from frame (Figure 2, Item 3).
8. Remove two tiedown straps (Figure 2, Item 4) from conduit (Figure 2, Item 19). Discard tiedown straps.

**NOTE**

Note routing of conduit for installation.

9. Remove conduit (Figure 2, Item 19) from front of cab protector (Figure 1, Item 12) and dump body (Figure 1, Item 9).
10. Remove conduit (Figure 2, Item 19) from harness (Figure 2, Item 18).



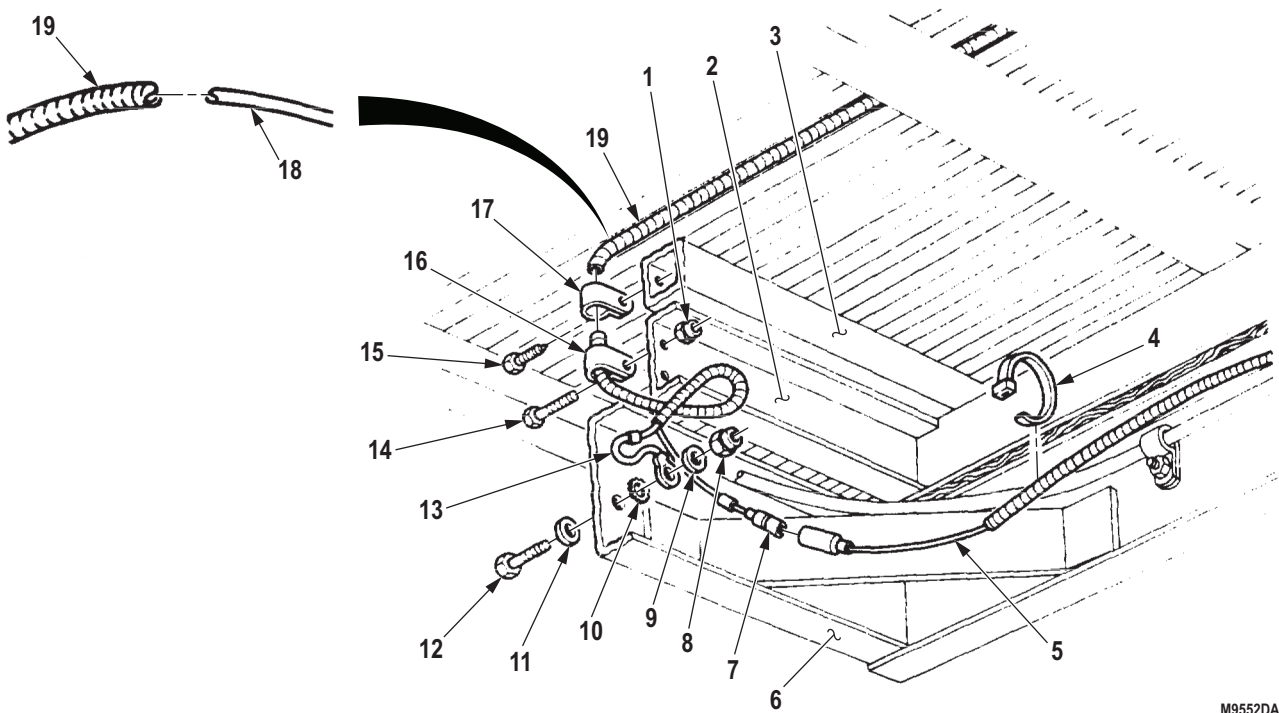
M9553DAA

Figure 2. Convoy Warning Light Harness Removal.

**END OF TASK**

**INSTALLATION**

1. Install conduit (Figure 3, Item 19) on harness (Figure 3, Item 18).
2. Install conduit (Figure 3, Item 19) on front of cab protector (Figure 1, Item 12) and dump body (Figure 4, Item 9).
3. Install two tiedown straps (Figure 3, Item 4) on conduit (Figure 3, Item 19).
4. Install conduit (Figure 3, Item 19) on frame (Figure 3, Item 3) with clamp (Figure 3, Item 17) and screw (Figure 3, Item 15).
5. Install conduit (Figure 3, Item 19) on crossmember (Figure 3, Item 2) with clamp (Figure 3, Item 16), screw (Figure 3, Item 14), and locknut (Figure 3, Item 1).
6. Install washer (Figure 3, Item 11), screw (Figure 3, Item 12), lockwasher (Figure 3, Item 10), ground lead (Figure 3, Item 13), washer (Figure 3, Item 9), and locknut (Figure 3, Item 8) on crossmember (Figure 3, Item 6).
7. Connect lead (Figure 3, Item 7) to cable (Figure 3, Item 5).



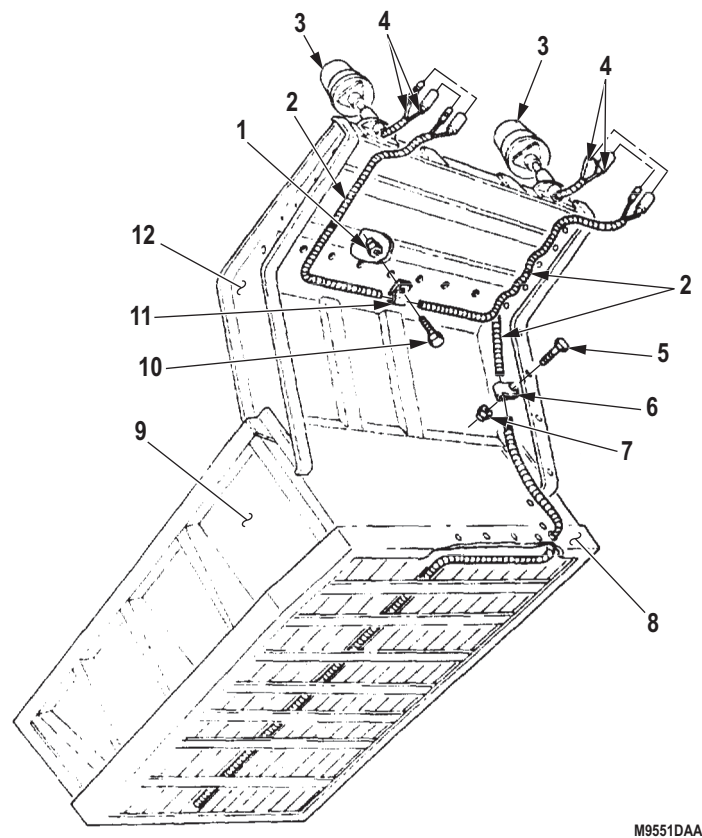
M9552DAA

Figure 3. Convoy Warning Light Harness Installation.



**INSTALLATION - Continued**

8. Install conduit (Figure 4, Item 2) on dump body frame (Figure 4, Item 8) and cab protector (Figure 4, Item 12) with ten clamps (Figure 4, Item 6), screws (Figure 4, Item 5), and locknuts (Figure 4, Item 7).
9. Install conduit (Figure 4, Item 2) on cab protector (Figure 4, Item 12) with eighteen clamps (Figure 4, Item 11), screws (Figure 4, Item 10), and locknuts (Figure 4, Item 1).
10. Connect four cable leads (Figure 4, Item 4) to two convoy warning lights (Figure 4, Item 3).



M9551DAA

Figure 4. Convoy Warning Light Harness Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Lower dump bed. (TM 9-2320-272-10)

**END OF TASK**

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE**  
**CONVOY WARNING LIGHT HARNESS REPLACEMENT (M934/A1/A2)**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts (cont.)**

(WP 0827, Table 1, Item 244) Qty: 7  
Tiedown Strap  
(WP 0827, Table 1, Item 370) Qty: 2

**Materials/Parts**

Locknut (WP 0827, Table 1, Item 277) Qty: 1  
Screw Assembled Lockwasher

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Convoy warning lights removed. (WP 0799)

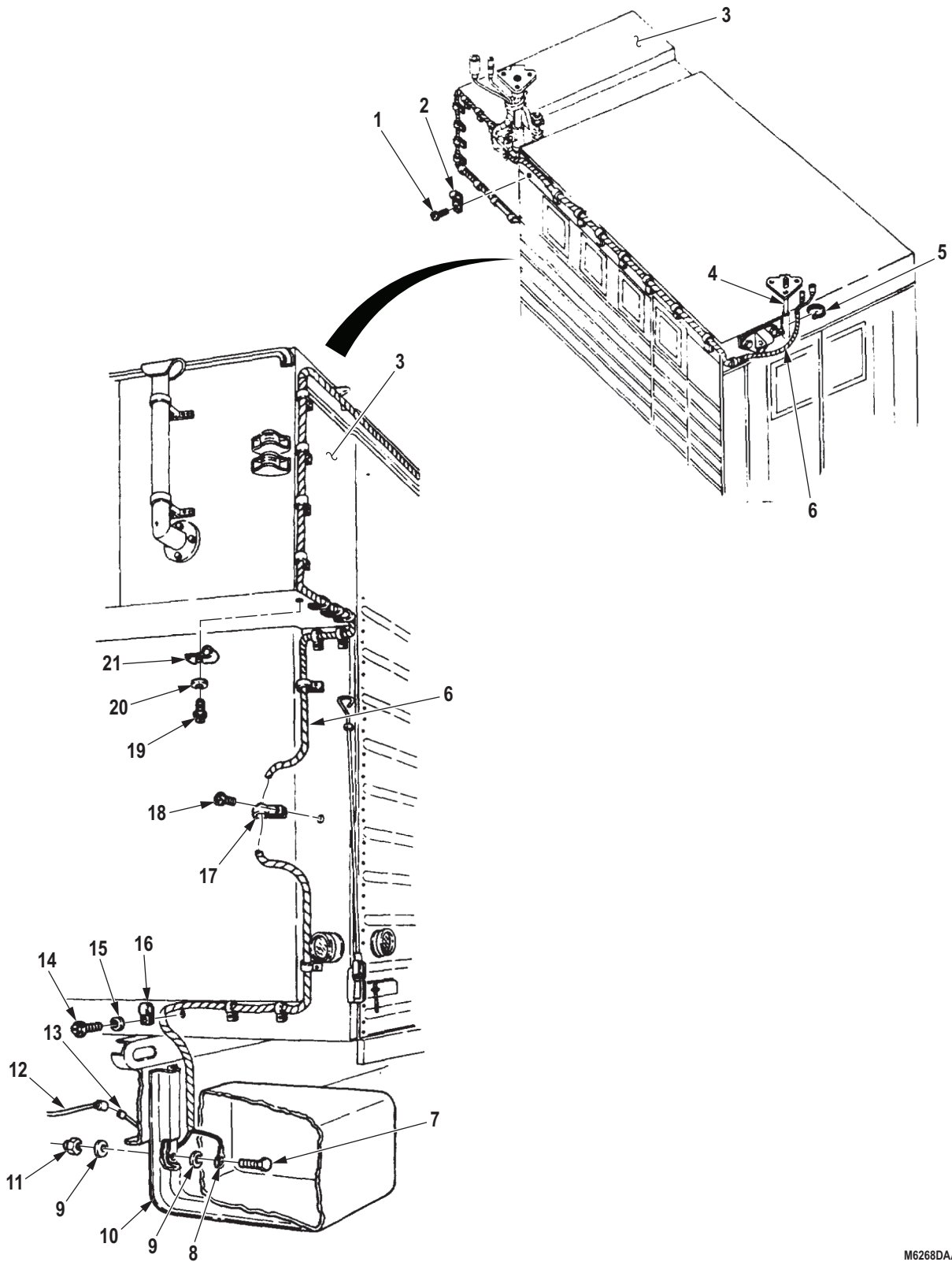
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**REMOVAL****NOTE**

Note routing of harness for installation.

1. Remove two tiedown straps (Figure 1, Item 5) and harness (Figure 1, Item 6) from two support tubes (Figure 1, Item 4) and van body (Figure 1, Item 3). Discard tiedown straps.
2. Remove 25 screws (Figure 1, Item 1), clamps (Figure 1, Item 2), and harness (Figure 1, Item 6) from van body (Figure 1, Item 3).
3. Remove four screw assembled lockwashers (Figure 1, Item 19), washers (Figure 1, Item 20), clamps (Figure 1, Item 21), and harness (Figure 1, Item 6) from van body (Figure 1, Item 3). Discard screw assembled lockwashers.
4. Remove five screws (Figure 1, Item 18), clamps (Figure 1, Item 17), and harness (Figure 1, Item 6) from van body (Figure 1, Item 3).
5. Remove three screw assembled lockwashers (Figure 1, Item 14), washers (Figure 1, Item 15), clamps (Figure 1, Item 16), and harness (Figure 1, Item 6) from van body (Figure 1, Item 3). Discard screw assembled lockwashers.
6. Disconnect harness lead (Figure 1, Item 13) from wire (Figure 1, Item 12).
7. Remove locknut (Figure 1, Item 11), washer (Figure 1, Item 9), screw (Figure 1, Item 7), washer (Figure 1, Item 9), and ground lead (Figure 1, Item 8) from fuel tank support (Figure 1, Item 10). Discard locknut.

REMOVAL - Continued



M6268DAA

Figure 1. Convoy Warning Light Harness Removal.

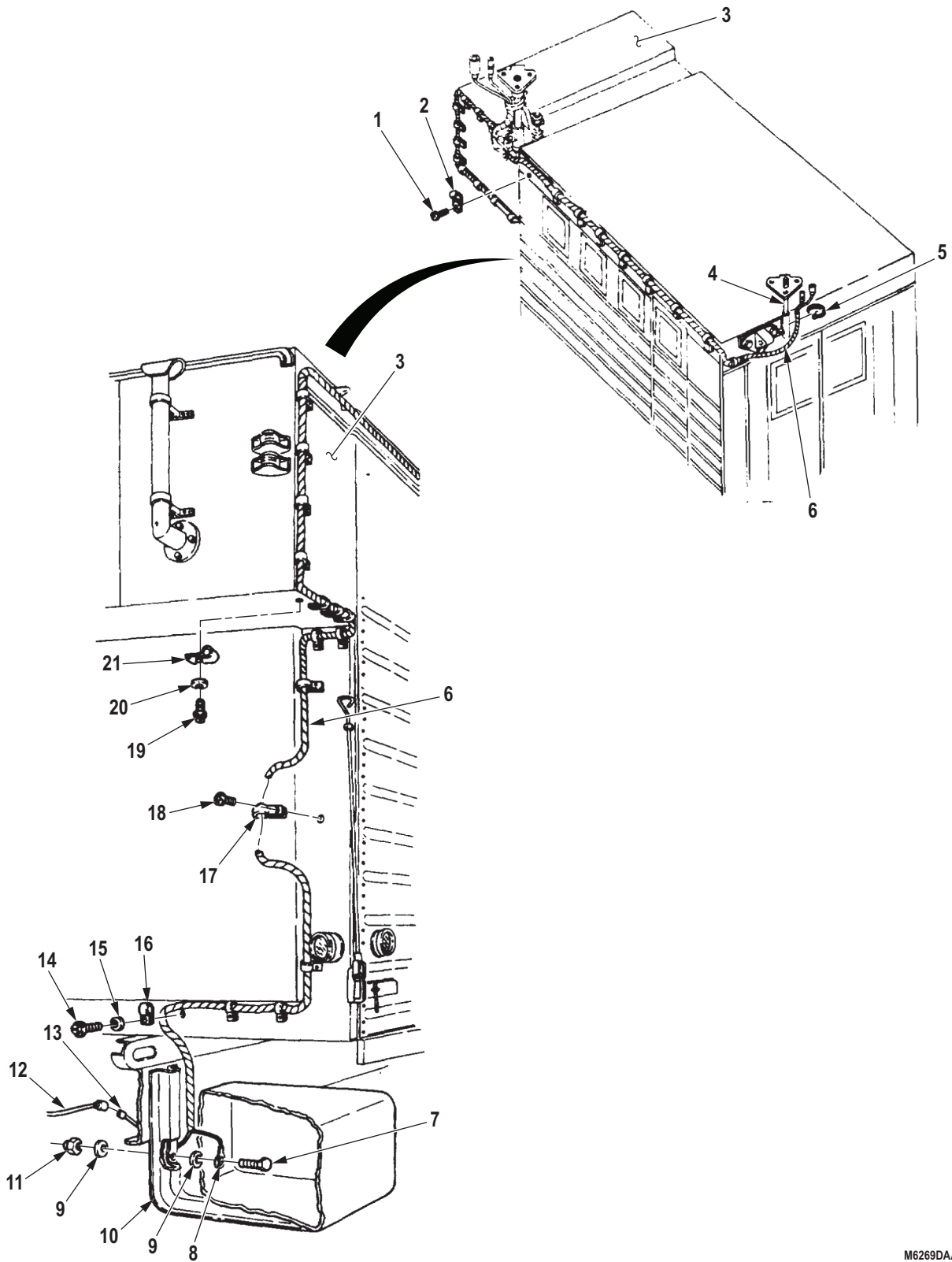
END OF TASK

0798-3

**INSTALLATION**

1. Install ground lead (Figure 2, Item 8) on fuel tank support (Figure 2, Item 10) with washer (Figure 2, Item 9), screw (Figure 2, Item 7), washer (Figure 2, Item 9), and locknut (Figure 2, Item 11).
2. Connect lead (Figure 2, Item 13) to wire (Figure 2, Item 12).
3. Install harness (Figure 2, Item 6) on van body (Figure 2, Item 3) with three clamps (Figure 2, Item 16), washers (Figure 2, Item 15), and screw assembled lockwashers (Figure 2, Item 14).
4. Install harness (Figure 2, Item 6) on van body (Figure 2, Item 3) with five clamps (Figure 2, Item 17) and screws (Figure 2, Item 18).
5. Install harness (Figure 2, Item 6) on van body (Figure 2, Item 3) with four clamps (Figure 2, Item 21), washers (Figure 2, Item 20), and screw assembled lockwashers (Figure 2, Item 19).
6. Install harness (Figure 2, Item 6) on van body (Figure 2, Item 3) with 25 clamps (Figure 2, Item 2) and screws (Figure 2, Item 1).
7. Install harness (Figure 2, Item 6) on two support tubes (Figure 2, Item 4) and van body (Figure 2, Item 3) with two tiedown straps (Figure 2, Item 5).

INSTALLATION - Continued



M6269DAA

Figure 2. Convoy Warning Light Harness Installation.

END OF TASK

0798-5

**FOLLOW-ON MAINTENANCE**

Install convoy warning lights. (WP 0799)

**END OF TASK**

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE  
CONVOY WARNING LIGHT REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Battery ground cables disconnected.  
(Volume 2, WP 0350)

**Materials/Parts**

Locknut (WP 0827, Table 1, Item 270) Qty: 3

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**REMOVAL**

1. Disconnect two leads (Figure 1, Item 13) from cable leads (Figure 1, Item 12).
2. Loosen three screws (Figure 1, Item 4), rotate clamps (Figure 1, Item 5) 1/2-turn counterclockwise, and remove dome (Figure 1, Item 3) from base (Figure 1, Item 6).
3. Remove three locknuts (Figure 1, Item 2), washers (Figure 1, Item 1), and base (Figure 1, Item 6) from support plate (Figure 1, Item 9). Discard locknuts.
4. Remove nut (Figure 1, Item 16), washer (Figure 1, Item 15), clamp (Figure 1, Item 14), and two leads (Figure 1, Item 13) from toggle bolt (Figure 1, Item 11).
5. Remove two leads (Figure 1, Item 13) and seal (Figure 1, Item 7) from support plate (Figure 1, Item 9).
6. Remove three oval nuts (Figure 1, Item 8), support plate (Figure 1, Item 9), and three toggle bolts (Figure 1, Item 11) from mounting plate (Figure 1, Item 10).

REMOVAL - Continued

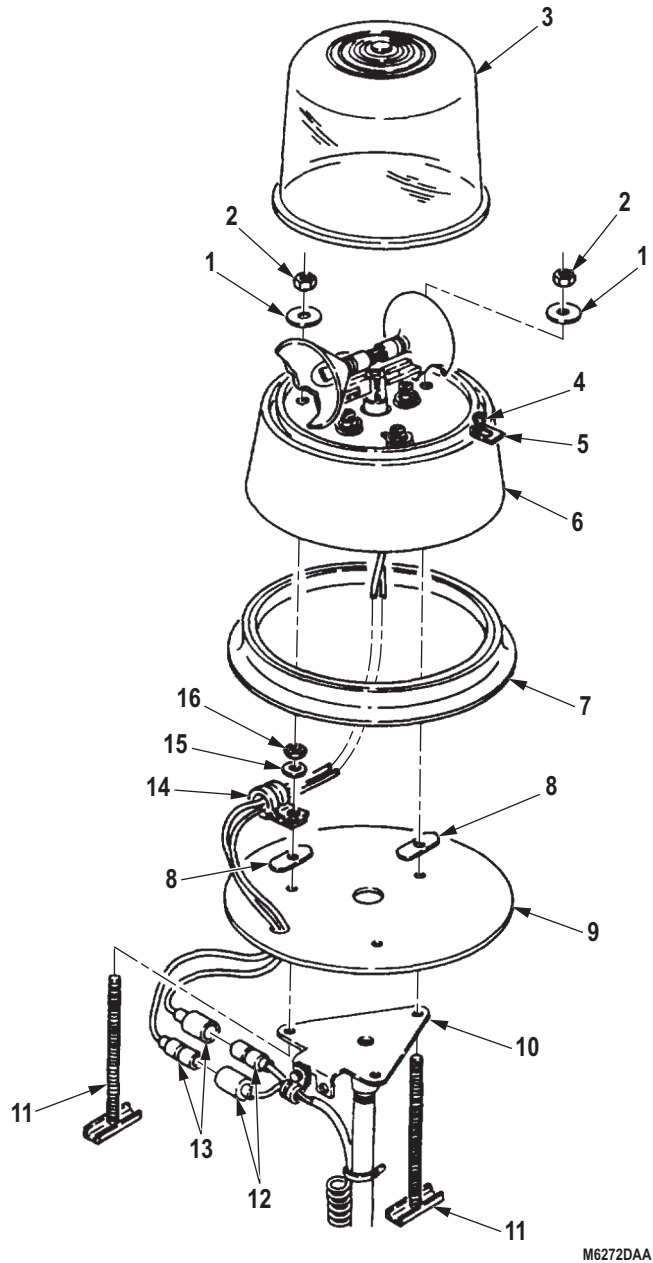


Figure 1. Convoy Warning Light Removal.

END OF TASK

**INSTALLATION**

1. Install support plate (Figure 2, Item 9) on mounting plate (Figure 2, Item 10) with three toggle bolts (Figure 2, Item 11) and oval nuts (Figure 2, Item 8).
2. Insert two leads (Figure 2, Item 13) and seal (Figure 2, Item 7) on support plate (Figure 2, Item 9).
3. Install two leads (Figure 2, Item 13) on toggle bolt (Figure 2, Item 11) with clamp (Figure 2, Item 14), washer (Figure 2, Item 15), and nut (Figure 2, Item 16).
4. Install base (Figure 2, Item 6) on support plate (Figure 2, Item 9) with three washers (Figure 2, Item 1) and locknuts.
5. Install dome (Figure 2, Item 3) on base (Figure 2, Item 6), rotate clamps (Figure 2, Item 5) 1/2-turn clockwise, and tighten three screws (Figure 2, Item 4).
6. Connect two leads (Figure 2, Item 13) to cable leads (Figure 2, Item 12).

**INSTALLATION - Continued**

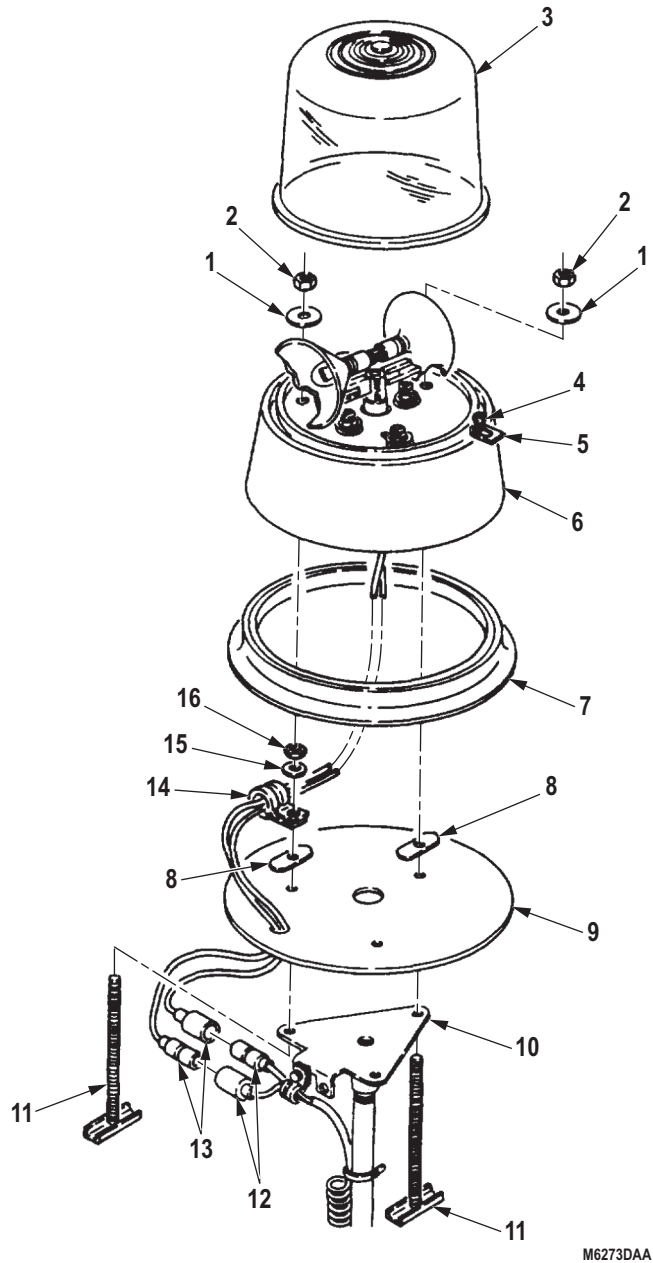


Figure 2. Convoy Warning Light Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Connect battery ground cables. (Volume 2, WP 0350)

**END OF TASK**

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE  
CONVOY WARNING LIGHT SWITCH REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Battery ground cables disconnected.  
(Volume 2, WP 0350)

**Materials/Parts**

Locknut (WP 0827, Table 1, Item 312) Qty: 2

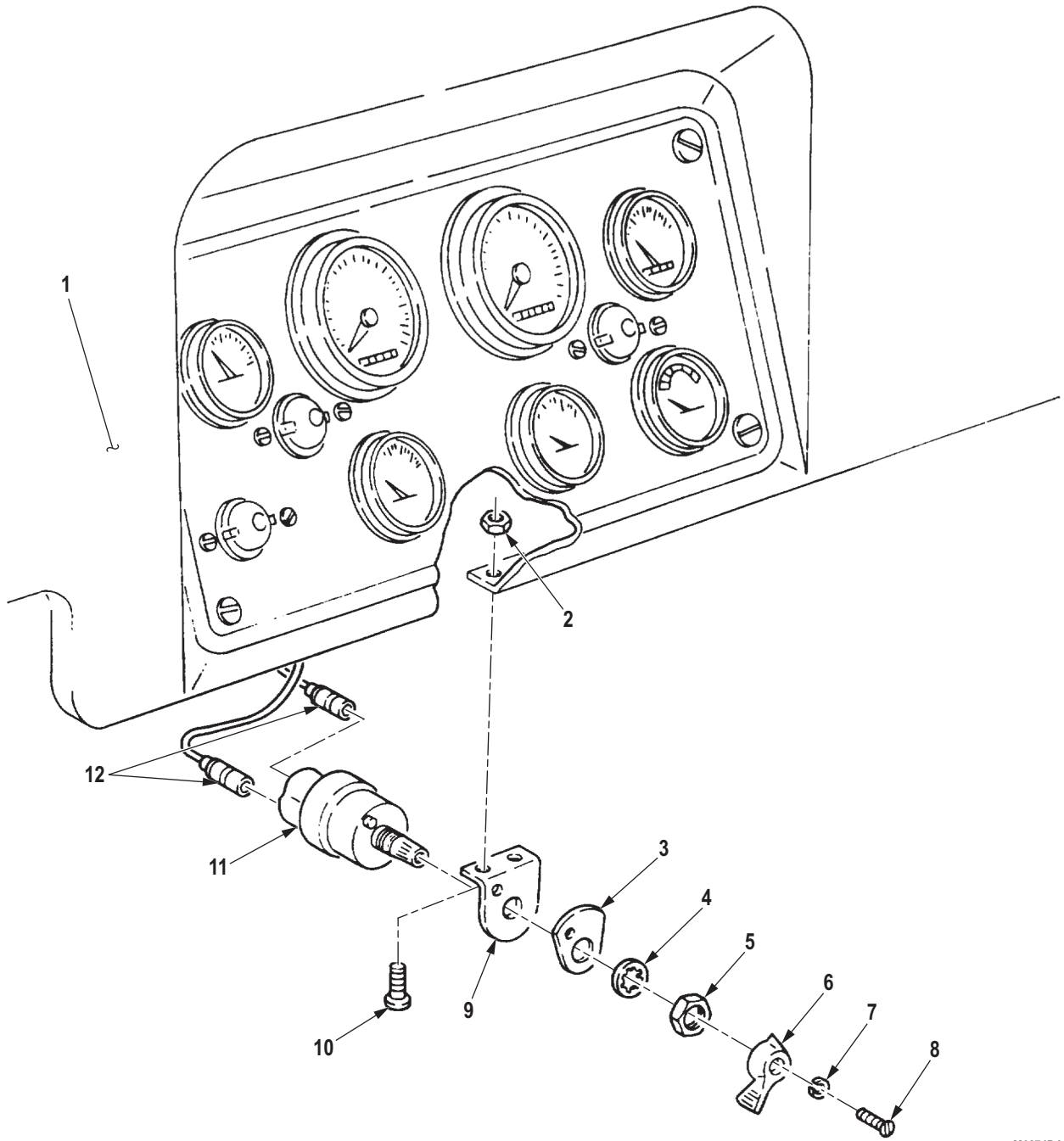
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**REMOVAL**

1. Remove screw (Figure 1, Item 8), lockwasher (Figure 1, Item 7), and lever (Figure 1, Item 6) from switch (Figure 1, Item 11). Discard lockwasher.
2. Remove nut (Figure 1, Item 5), lockwasher (Figure 1, Item 4), identification plate (Figure 1, Item 3), and switch (Figure 1, Item 11) from bracket (Figure 1, Item 9). Discard lockwasher.
3. Disconnect two leads (Figure 1, Item 12) from switch (Figure 1, Item 11).
4. Remove two locknuts (Figure 1, Item 2), screws (Figure 1, Item 10), and bracket (Figure 1, Item 9) from instrument panel (Figure 1, Item 1). Discard locknuts.



REMOVAL - Continued



M6274DAA

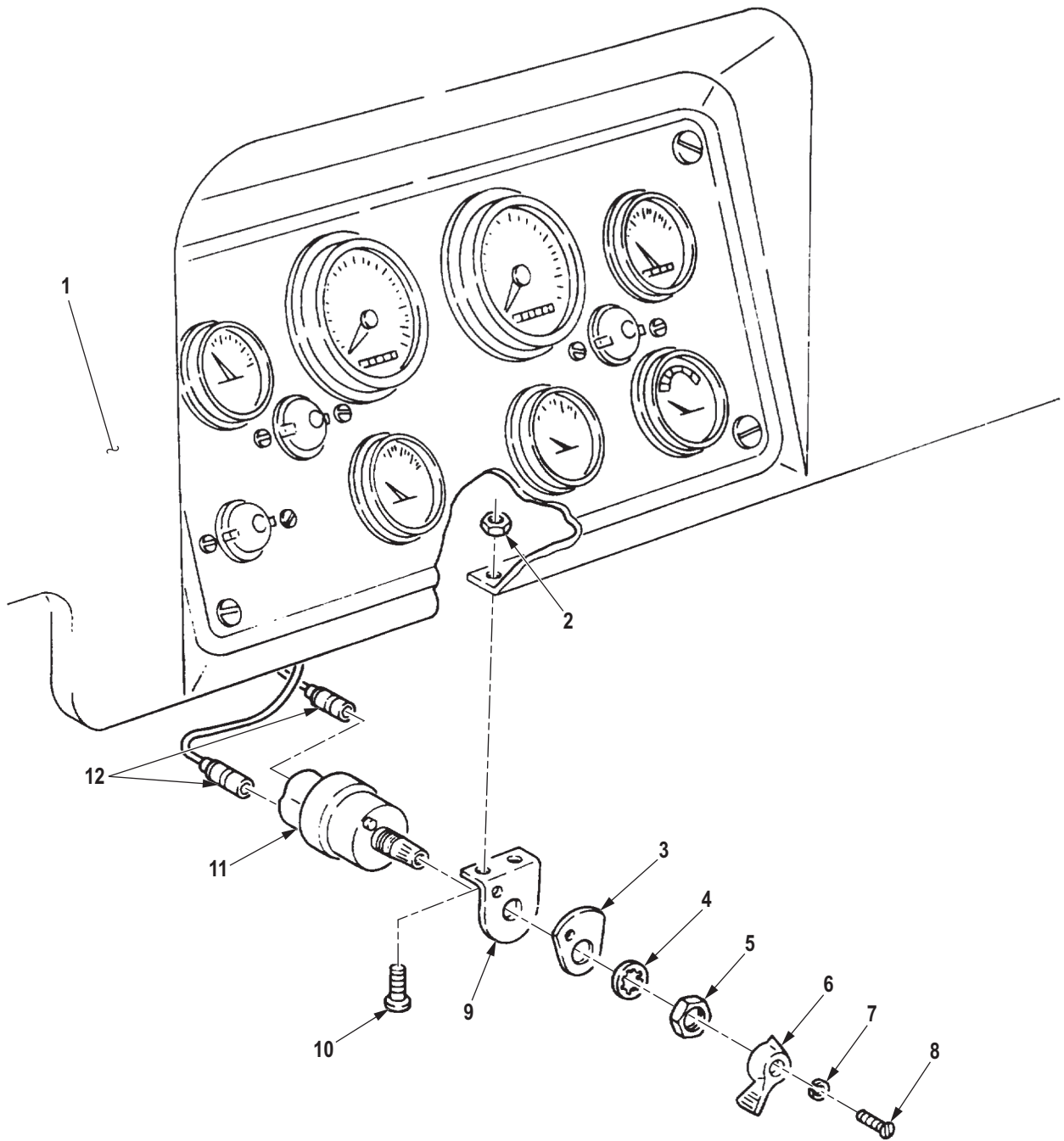
Figure 1. Convoy Warning Light Switch Removal.

END OF TASK

**INSTALLATION**

1. Install bracket (Figure 2, Item 9) on instrument panel (Figure 2, Item 1) with two screws (Figure 2, Item 10) and locknuts (Figure 2, Item 2).
2. Connect two leads (Figure 2, Item 12) to switch (Figure 2, Item 11).
3. Install switch (Figure 2, Item 11) and identification plate (Figure 2, Item 3) on bracket (Figure 2, Item 9) with lockwasher (Figure 2, Item 4) and nut (Figure 2, Item 5).
4. Install lever (Figure 2, Item 6) on switch (Figure 2, Item 11) with lockwasher (Figure 2, Item 7) and screw (Figure 2, Item 8).

INSTALLATION - Continued



M6275DAA

Figure 2. Convoy Warning Light Switch Installation.

END OF TASK

**FOLLOW-ON MAINTENANCE**

Connect battery ground cables. (Volume 2, WP 0350)

**END OF TASK**

**END OF WORK PACKAGE**

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**FIELD MAINTENANCE  
PIONEER TOOL KIT MOUNTING BRACKET REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts**

Locknut (M923, M925, M927, M928, M929A1,  
M930A1, M931, M932A1)  
(WP 0827, Table 1, Item 285) Qty: 4

**Materials/Parts (cont.)**

Locknut (M923, M925, M927, M928, M929A1,  
M930A1, M931, M932A1)  
(WP 0827, Table 1, Item 285) Qty: 5  
Locknut (M923, M925, M927, M928, M929A1,  
M930A1, M931, M932A1)  
(WP 0827, Table 1, Item 410) Qty: 8

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

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**REMOVAL (M923, M925, M927, M928)**

1. Open toolbox door (Figure 1, Item 3).
2. Remove four locknuts (Figure 1, Item 5), washers (Figure 1, Item 6), screws (Figure 1, Item 1), and bracket (Figure 1, Item 2) from toolbox (Figure 1, Item 4). Discard locknuts.

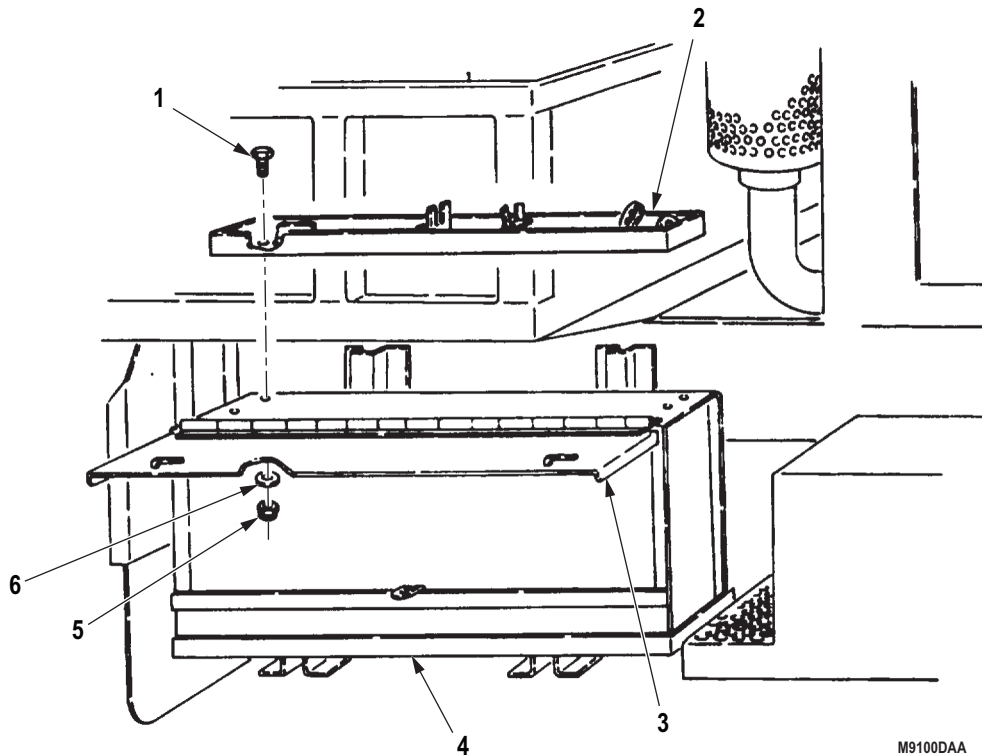


Figure 1. Pioneer Tool Kit Mounting Bracket Removal.

END OF TASK

**INSTALLATION (M923, M925, M927, M928)**

1. Install bracket (Figure 2, Item 2) on toolbox (Figure 2, Item 4) with four screws (Figure 2, Item 1), washers (Figure 2, Item 6), and locknuts (Figure 2, Item 5).
2. Close toolbox door (Figure 2, Item 3).

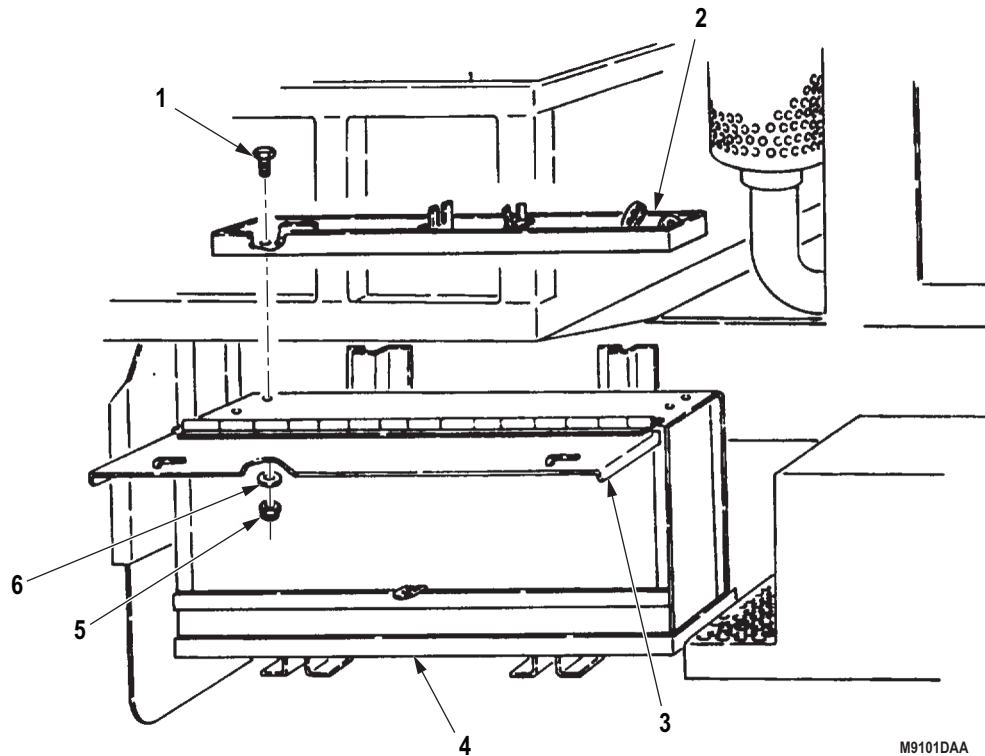


Figure 2. Pioneer Tool Kit Mounting Bracket Installation.

**END OF TASK**

**REMOVAL (M931, M932)**

1. Open toolbox door (Figure 3, Item 5).
2. Remove five locknuts (Figure 3, Item 4), washers (Figure 3, Item 3), screws (Figure 3, Item 2), and bracket (Figure 3, Item 1) from toolbox (Figure 3, Item 6). Discard locknuts.

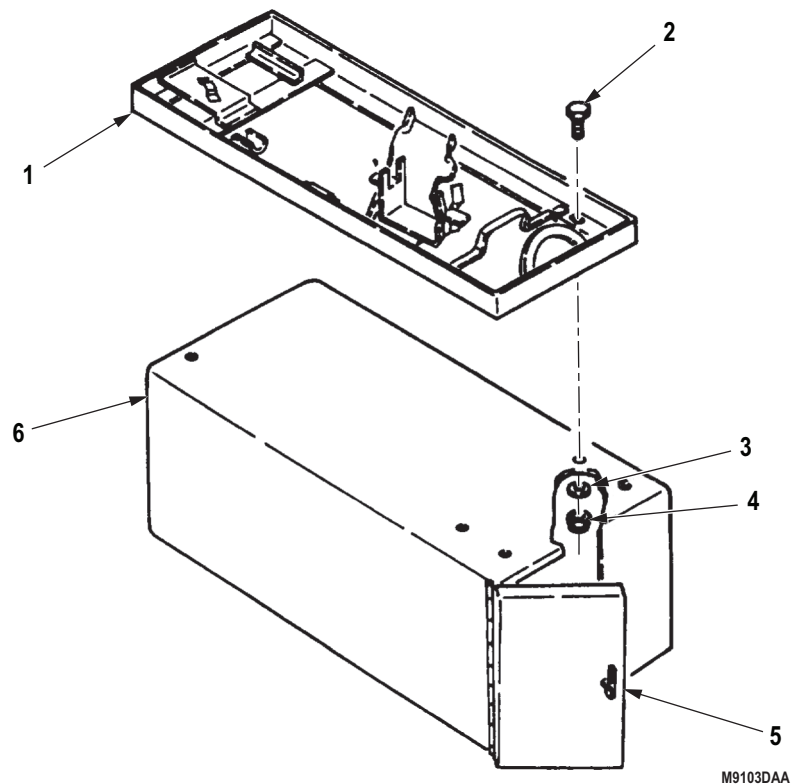


Figure 3. Pioneer Tool Kit Mounting Bracket Removal.

**END OF TASK**



**INSTALLATION (M931, M932)**

1. Install bracket (Figure 4, Item 1) on toolbox (Figure 4, Item 6) with five screws (Figure 4, Item 2), washers (Figure 4, Item 3), and locknuts (Figure 4, Item 4).
2. Close toolbox door (Figure 4, Item 5).

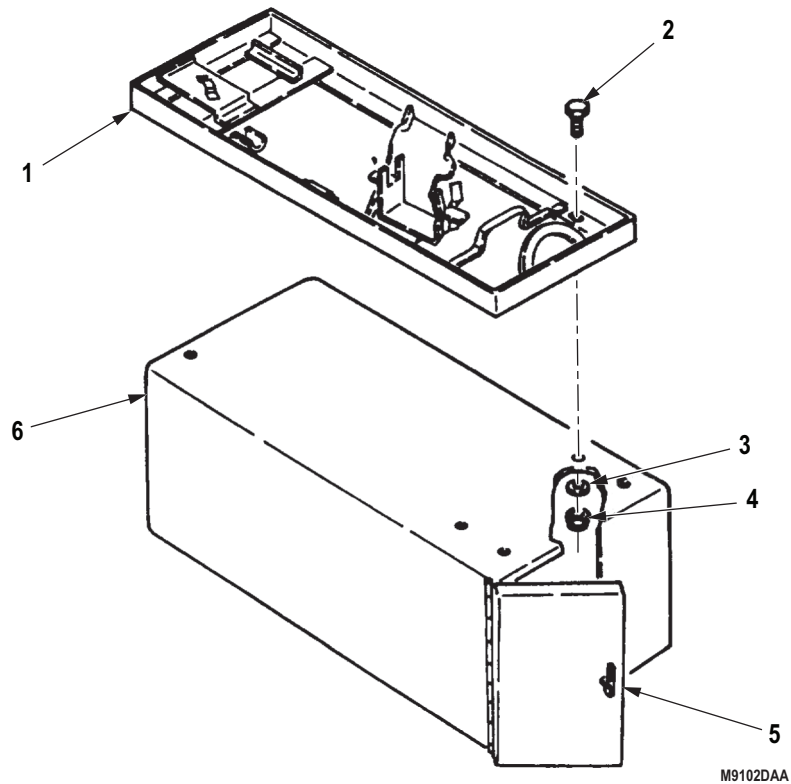
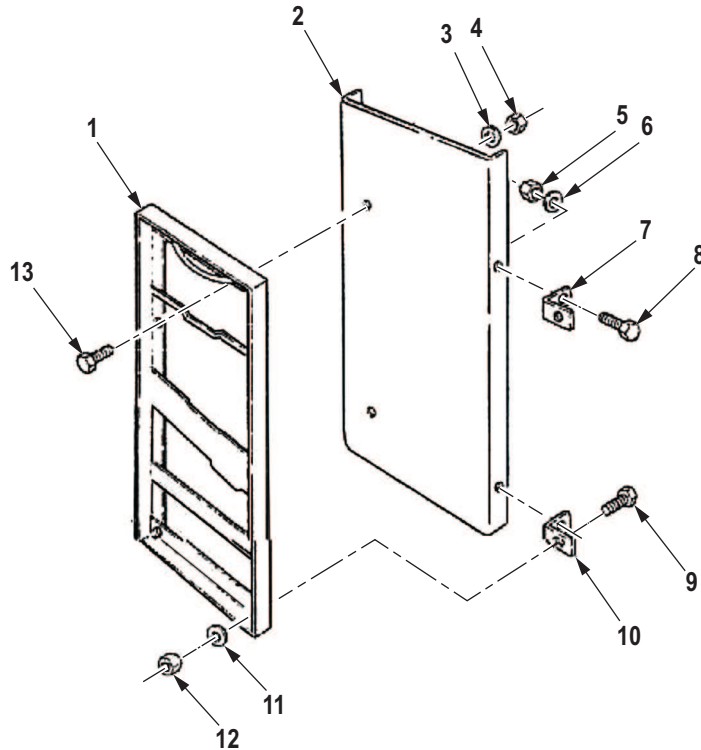


Figure 4. Pioneer Tool Kit Mounting Bracket Installation.

**END OF TASK**

**REMOVAL (M929, M930)**

1. Remove four locknuts (Figure 5, Item 4), washers (Figure 5, Item 3), and screws (Figure 5, Item 13) from spare tire support (Figure 5, Item 2) and bracket (Figure 5, Item 1). Discard locknuts.
2. Remove two locknuts (Figure 5, Item 12), washers (Figure 5, Item 11), screws (Figure 5, Item 9), and bracket (Figure 5, Item 10) from spare tire support (Figure 5, Item 2). Discard locknuts.
3. Remove two locknuts (Figure 5, Item 5), washers (Figure 5, Item 6), screws (Figure 5, Item 8), and angle brackets (Figure 5, Item 7) from spare tire support (Figure 5, Item 2). Discard locknuts.



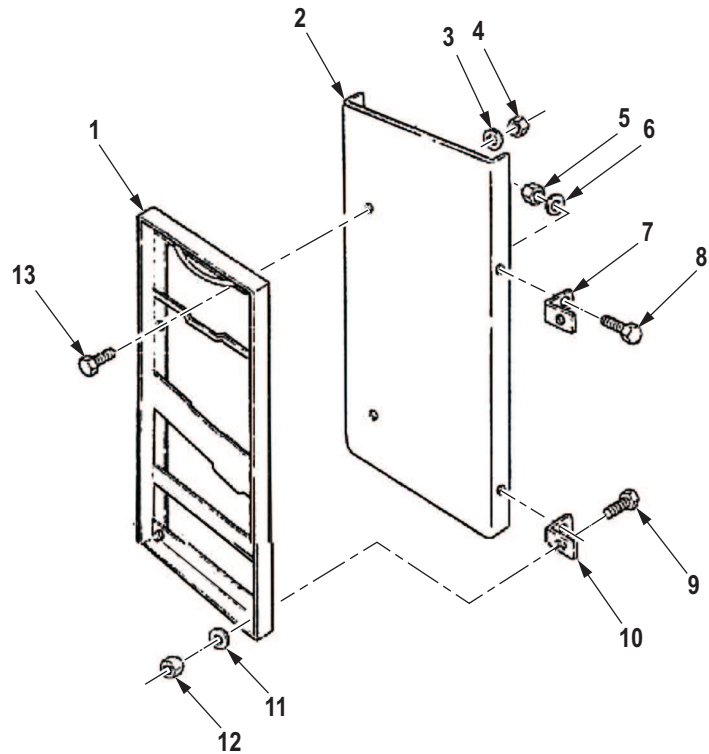
M10378DAA

Figure 5. Pioneer Tool Kit Mounting Bracket Removal.

**END OF TASK**

**INSTALLATION (M929, M930)**

1. Install two angle brackets (Figure 6, Item 7) on spare tire support (Figure 6, Item 2) with two screws (Figure 6, Item 8), washers (Figure 6, Item 6), and locknuts (Figure 6, Item 5).
2. Install bracket (Figure 6, Item 10) on spare tire support (Figure 6, Item 2) and bracket (Figure 6, Item 1) with two screws (Figure 6, Item 9), washers (Figure 6, Item 11), and locknuts (Figure 6, Item 12).
3. Install four screws (Figure 6, Item 13), washers (Figure 6, Item 3), and locknuts (Figure 5, Item 4) on spare tire support (Figure 6, Item 2) and bracket (Figure 6, Item 1).



M10379DAA

Figure 6. Pioneer Tool Kit Mounting Bracket Installation.

**END OF TASK**

**REMOVAL (M929A1, M930A1)**

Remove four locknuts (Figure 5, Item 2), screws (Figure 5, Item 3), and bracket (Figure 5, Item 4) from lower davit (Figure 5, Item 1). Discard locknuts.

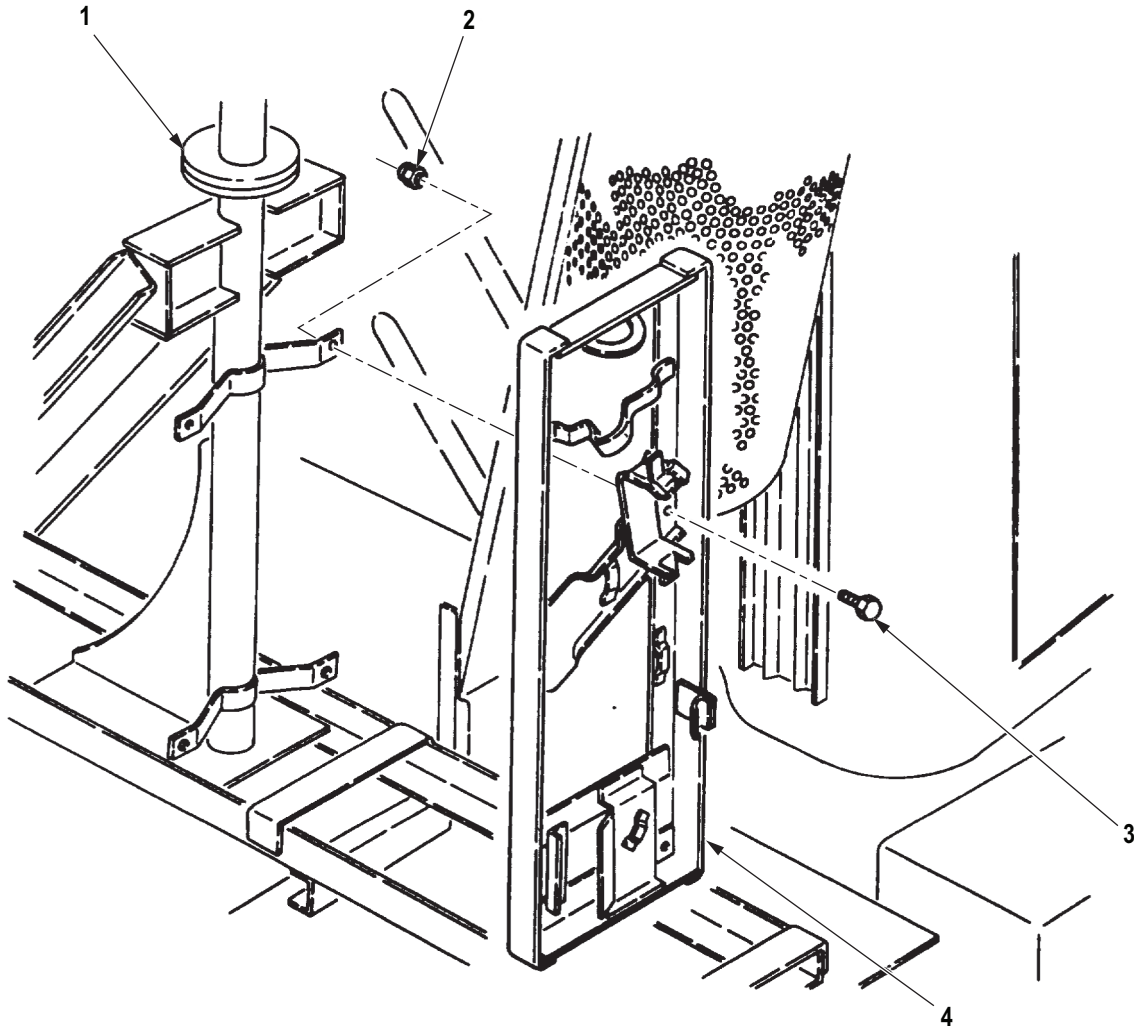


Figure 7. Pioneer Tool Kit Mounting Bracket Removal.

**END OF TASK**

**INSTALLATION**

Install bracket (Figure 6, Item 4) on lower davit (Figure 6, Item 1) with four screws (Figure 6, Item 3) and locknuts (Figure 6, Item 2).

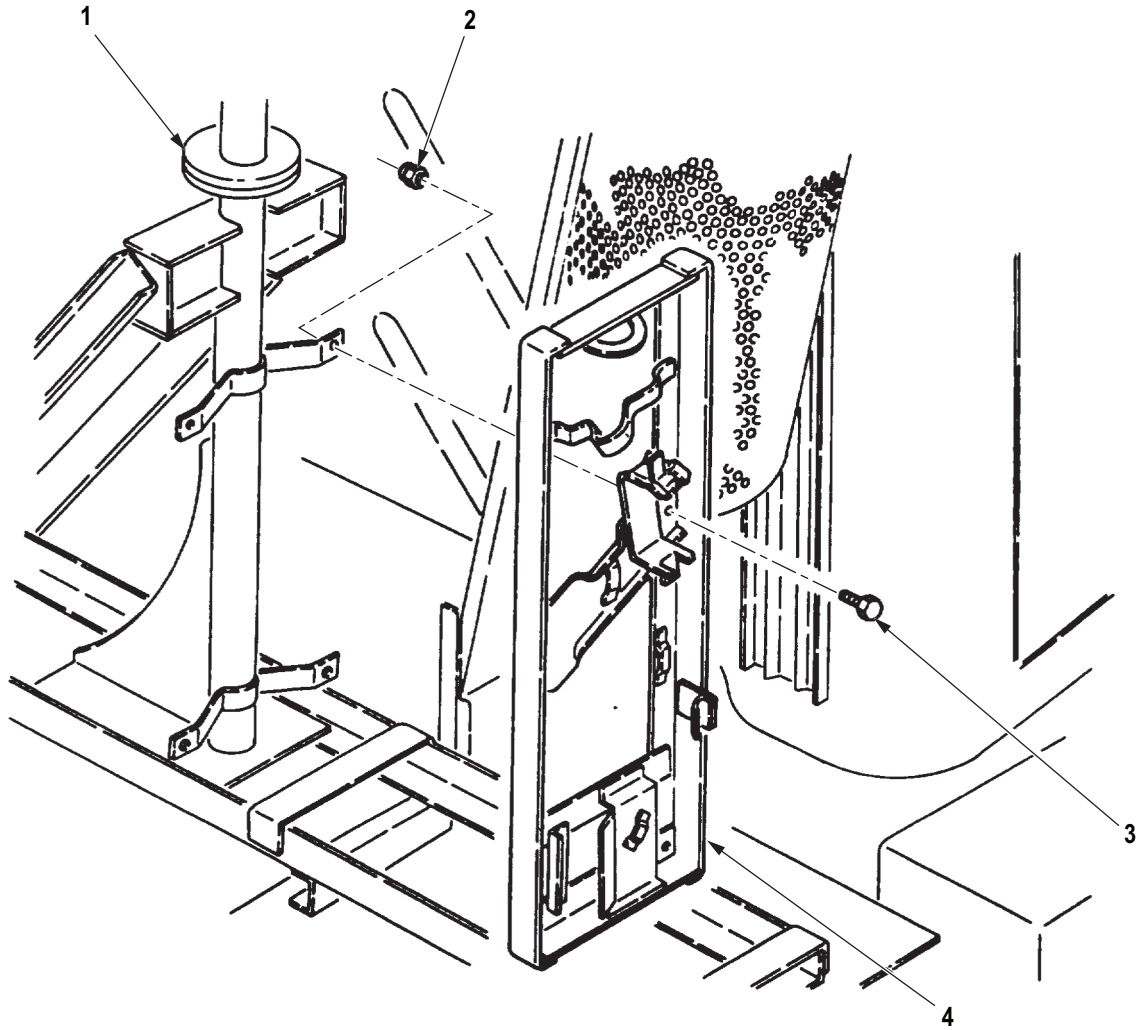


Figure 8. Pioneer Tool Kit Mounting Bracket Installation.

**END OF TASK**

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE  
HAND AIRBRAKE DOUBLE CHECK VALVES REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts (cont.)**

Locknut (WP 0827, Table 1, Item 283) Qty: 1  
Locknut (WP 0827, Table 1, Item 285) Qty: 1

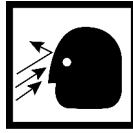
**Materials/Parts**

Tape, Antiseizing  
(WP 0825, Table 1, Item 65)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Air reservoirs drained. (TM 9-2320-272-10)

---

**REMOVAL (FORWARD-REAR AXLE DOUBLE CHECK VALVE)****WARNING**

Do not disconnect air lines or hoses before draining air reservoirs. Small parts under pressure may shoot out with high velocity. Failure to comply may result in injury or death to personnel.

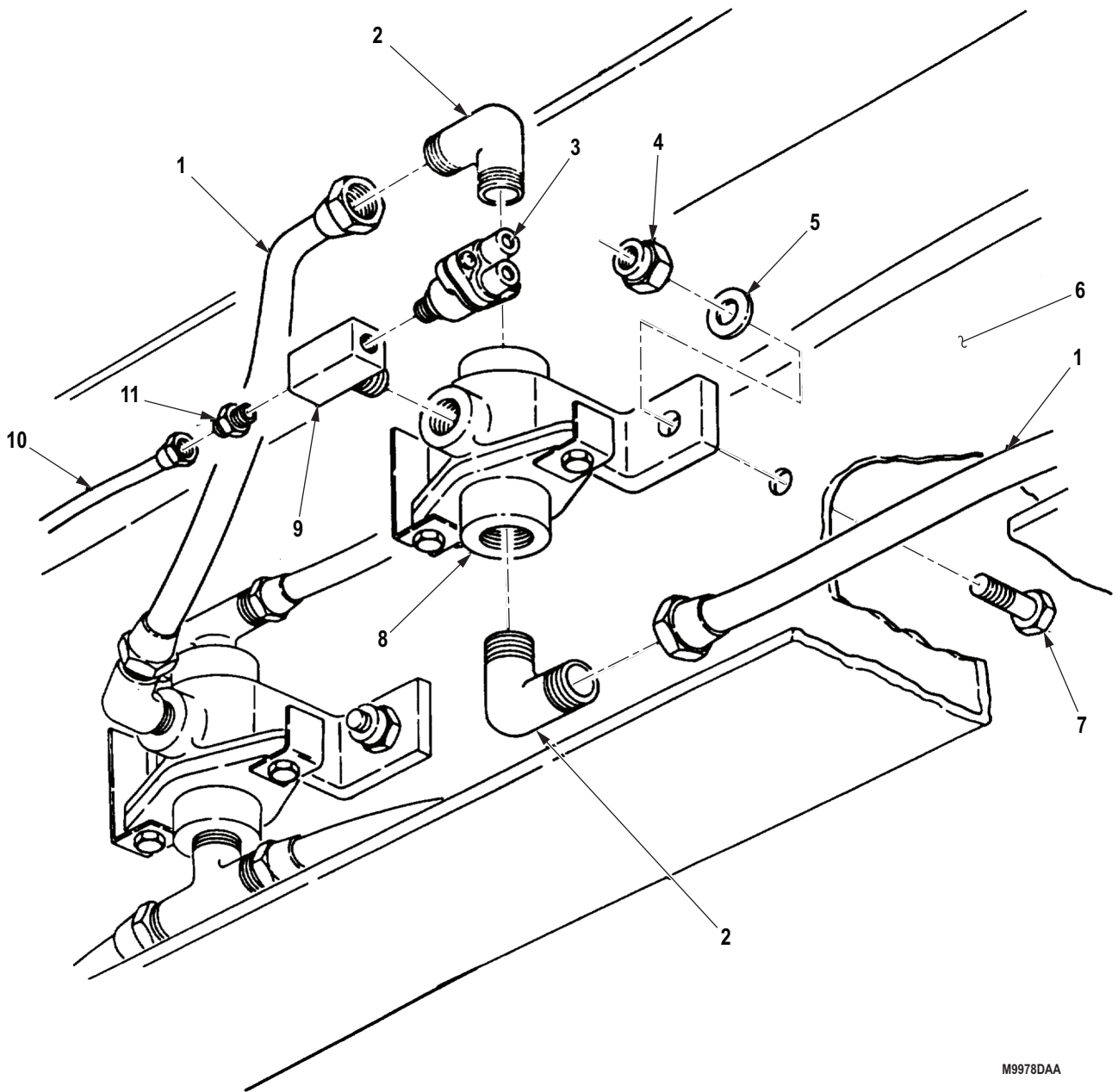
**NOTE**

Tag air lines for installation.

1. Disconnect air line (Figure 1, Item 10) from adapter (Figure 1, Item 11).
2. Disconnect two air lines (Figure 1, Item 1) from elbows (Figure 1, Item 2).
3. Remove two elbows (Figure 1, Item 2) from double check valve (Figure 1, Item 8).
4. Remove switch (Figure 1, Item 3) and adapter (Figure 1, Item 11) from tee (Figure 1, Item 9).
5. Remove tee (Figure 1, Item 9) from double check valve (Figure 1, Item 8).
6. Remove locknut (Figure 1, Item 4), washer (Figure 1, Item 5), double check valve (Figure 1, Item 8), and screw (Figure 1, Item 7) from frame rail (Figure 1, Item 6). Discard locknut.



REMOVAL (FORWARD-REAR AXLE DOUBLE CHECK VALVE) - Continued



M9978DAA

Figure 1. Forward-Rear Axle Double Check Valve Removal.

END OF TASK

**INSTALLATION (FORWARD-REAR AXLE DOUBLE CHECK VALVE)**

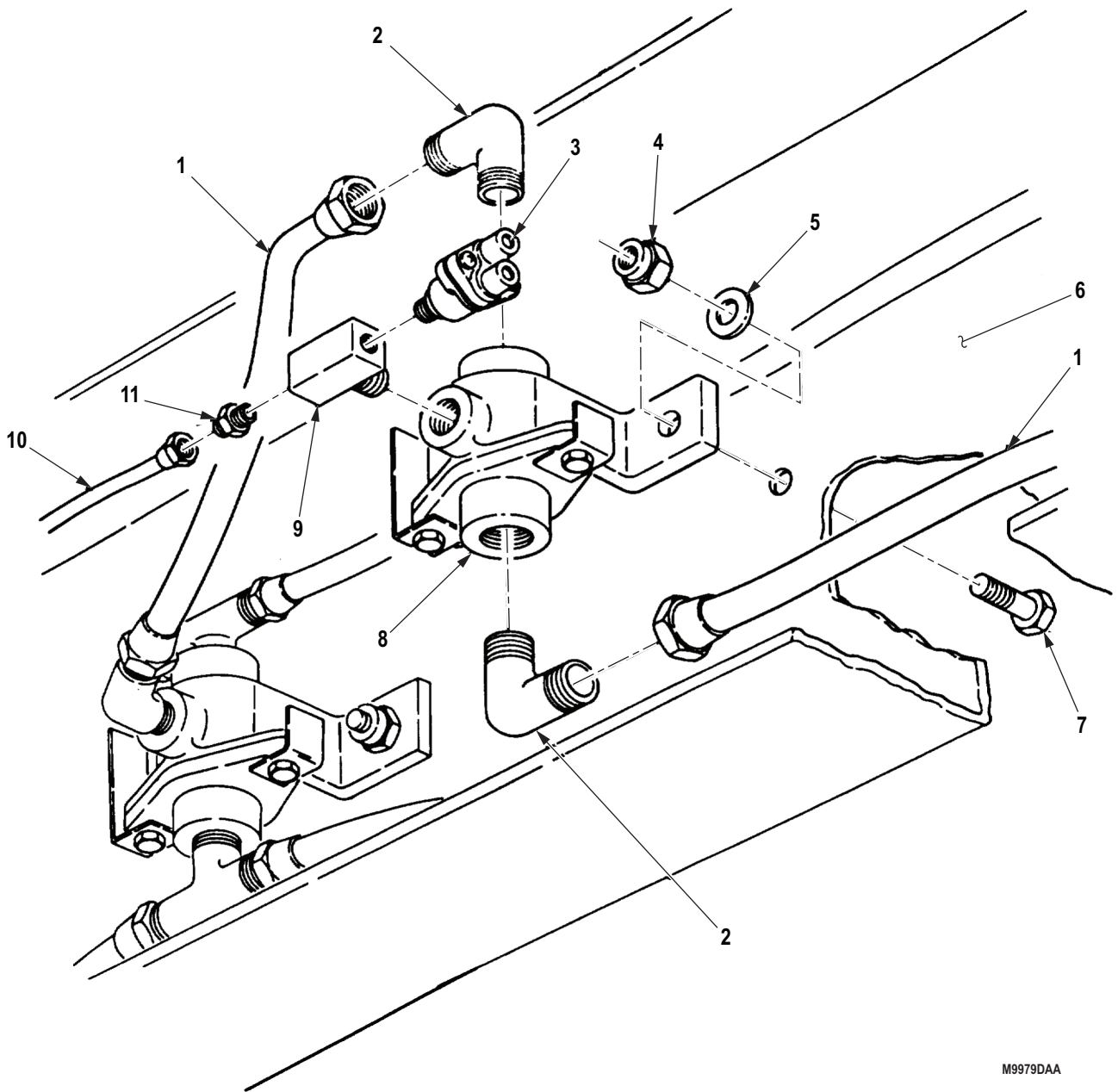
1. Install double check valve (Figure 2, Item 8) on frame rail (Figure 2, Item 6) with screw (Figure 2, Item 7), washer (Figure 2, Item 5), and locknut (Figure 2, Item 4).

**NOTE**

Wrap all male pipe threads with antiseize tape before installation.

2. Install tee (Figure 2, Item 9) on double check valve (Figure 2, Item 8).
3. Install adapter (Figure 2, Item 11) and switch (Figure 2, Item 3) on tee (Figure 2, Item 9).
4. Install two elbows (Figure 2, Item 2) on double check valve (Figure 2, Item 8).
5. Connect two air lines (Figure 2, Item 1) to elbows (Figure 2, Item 2).
6. Connect air line (Figure 2, Item 10) to adapter (Figure 2, Item 11).

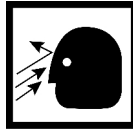
INSTALLATION (FORWARD-REAR AXLE DOUBLE CHECK VALVE) - Continued



M9979DAA

Figure 2. Forward-Rear Axle Double Check Valve Installation.

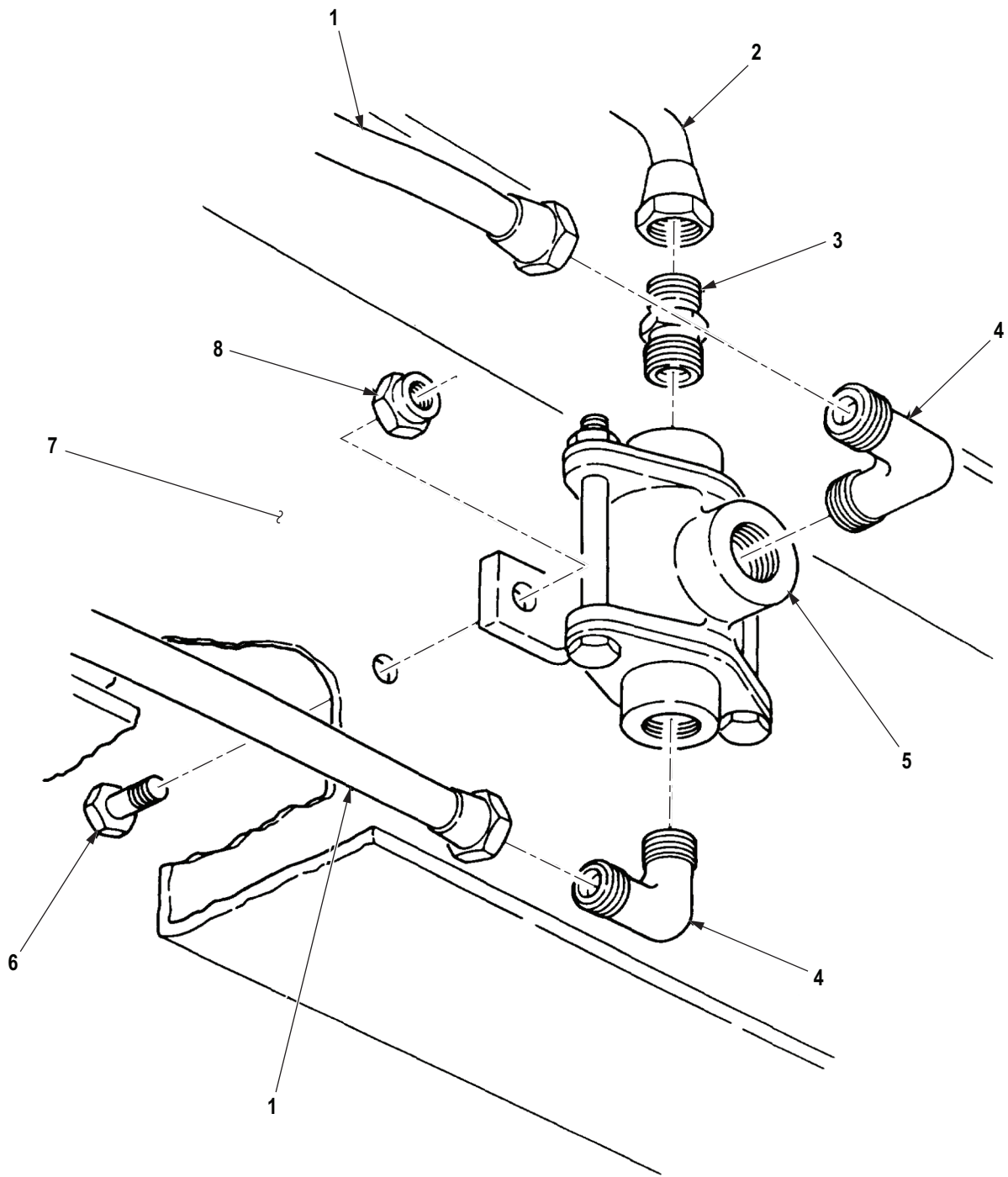
END OF TASK

**REMOVAL (REAR-REAR AXLE DOUBLE CHECK VALVE)****WARNING**

Do not disconnect air lines or hoses before draining air reservoirs. Small parts under pressure may shoot out with high velocity. Failure to comply may result in injury or death to personnel.

1. Disconnect air line (Figure 3, Item 2) from adapter (Figure 3, Item 3).
2. Disconnect two air lines (Figure 3, Item 1) from elbows (Figure 3, Item 4).
3. Remove two elbows (Figure 3, Item 4) and adapter (Figure 3, Item 3) from double check valve (Figure 3, Item 5).
4. Remove locknut (Figure 3, Item 8), double check valve (Figure 3, Item 5), and screw (Figure 3, Item 6) from frame rail (Figure 3, Item 7). Discard locknut.

REMOVAL (REAR-REAR AXLE DOUBLE CHECK VALVE) - Continued



M9980DAA

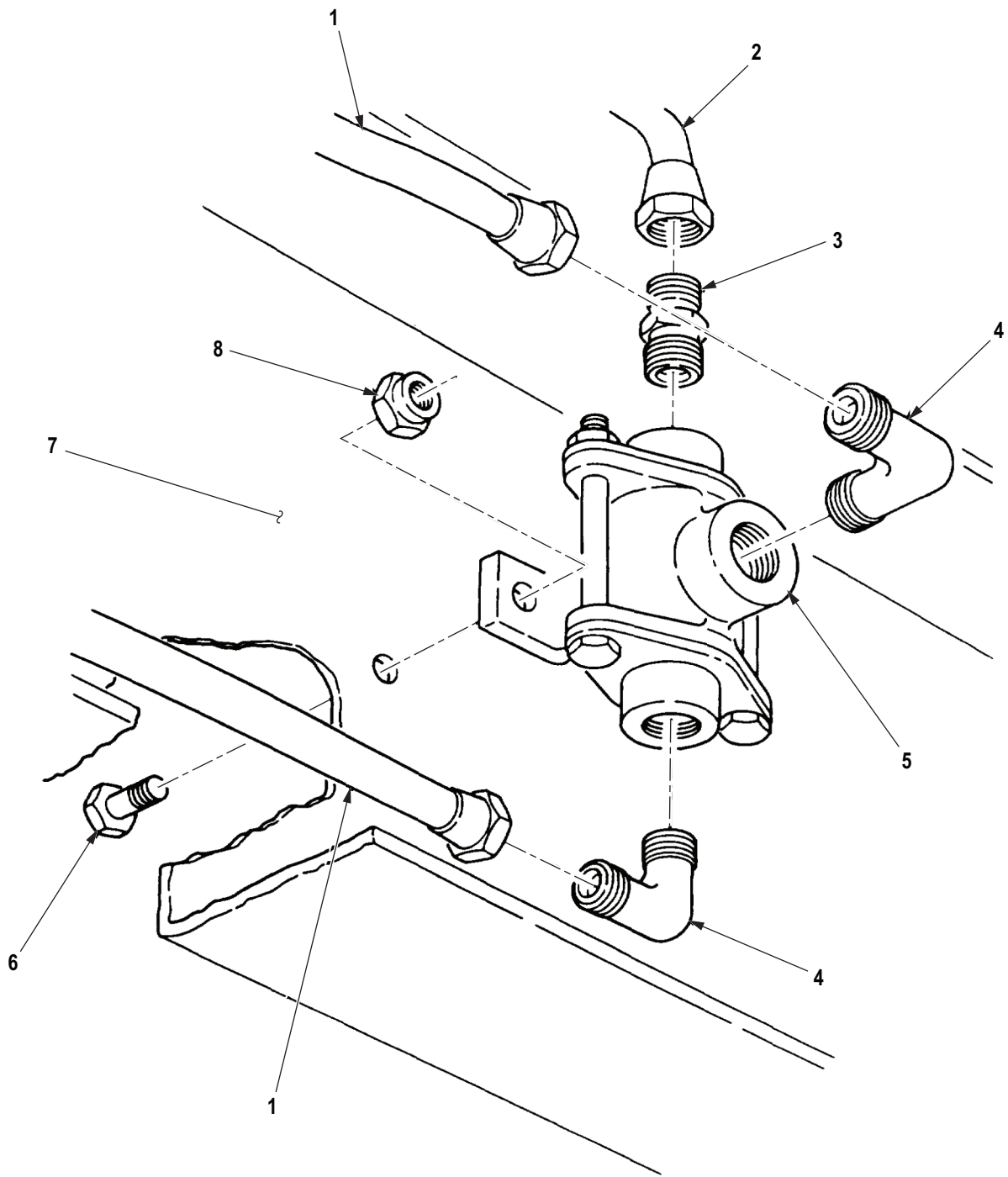
Figure 3. Rear-Rear Axle Double Check Valve Removal.

END OF TASK

**INSTALLATION (REAR-REAR-AXLE DOUBLE CHECK VALVE)**

1. Install double check valve (Figure 4, Item 5) on frame rail (Figure 4, Item 7) with screw (Figure 4, Item 6) and locknut (Figure 4, Item 8).
2. Install two elbows (Figure 4, Item 4) and adapter (Figure 4, Item 3) on double check valve (Figure 4, Item 5).
3. Connect two air lines (Figure 4, Item 1) to elbows (Figure 4, Item 4).
4. Connect air line (Figure 4, Item 2) to adapter (Figure 4, Item 3).

INSTALLATION (REAR-REAR-AXLE DOUBLE CHECK VALVE) - Continued



M9981DAA

Figure 4. Rear-Rear Axle Double Check Valve Installation.

END OF TASK

**FOLLOW-ON MAINTENANCE**

Start engine and allow air pressure to build to normal operating range. Check double check valves for leaks.  
(TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**



---

**FIELD MAINTENANCE**  
**HAND AIRBRAKE TRACTOR PROTECTION VALVE REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition (cont.)**

Air reservoirs drained. (TM 9-2320-272-10)

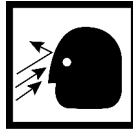
**Materials/Parts**

Tape, Antiseizing  
(WP 0825, Table 1, Item 65)  
Locknut (WP 0827, Table 1, Item 283) Qty: 2

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

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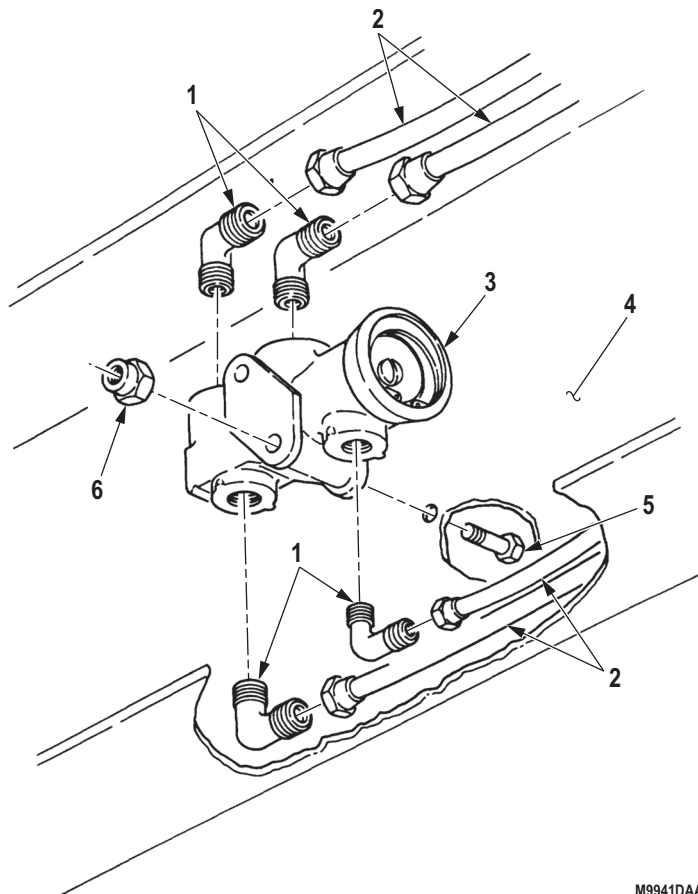
**REMOVAL****WARNING**

Do not disconnect air lines or hoses before draining air reservoirs. Small parts under pressure may shoot out with high velocity. Failure to comply may result in injury or death to personnel.

**NOTE**

Tag air lines for installation.

1. Disconnect four air lines (Figure 1, Item 2) from elbows (Figure 1, Item 1).
2. Remove four elbows (Figure 1, Item 1) from valve (Figure 1, Item 3).
3. Remove two locknuts (Figure 1, Item 6), valve (Figure 1, Item 3), and two screws (Figure 1, Item 5) from frame rail (Figure 1, Item 4). Discard locknuts.



M9941DAA

Figure 1. Hand Airbrake Tractor Protection Valve Removal.

**END OF TASK**

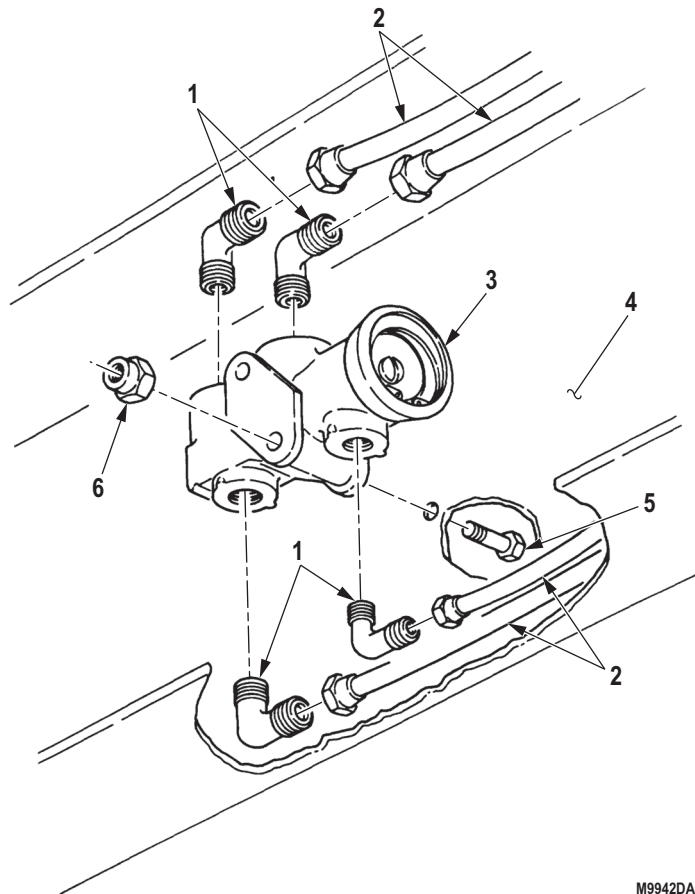
**INSTALLATION**

1. Install valve (Figure 2, Item 3) on frame rail (Figure 2, Item 4) with two screws (Figure 2, Item 5) and locknuts (Figure 2, Item 6).

**NOTE**

Wrap all male pipe threads with antiseize tape before installation.

2. Install four elbows (Figure 2, Item 1) on valve (Figure 2, Item 3).
3. Connect four air lines (Figure 2, Item 2) to elbows (Figure 2, Item 1).



M9942DAA

Figure 2. Hand Airbrake Tractor Protection Valve Installation.

**END OF TASK****FOLLOW-ON MAINTENANCE**

Start engine and allow air pressure to build to normal operating range. Check valve for leaks.  
(TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**



---

**FIELD MAINTENANCE  
CONVOY WARNING LIGHT RELAY AND LEADS REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition (cont.)**

Hood raised and secured. (TM 9-2320-272-10)  
Battery ground cables disconnected.  
(Volume 2, WP 0350)

**Materials/Parts**

Lockwasher  
(WP 0827, Table 1, Item 397) Qty: 2  
Lockwasher  
(WP 0827, Table 1, Item 424) Qty: 2  
Tiedown Strap  
(WP 0827, Table 1, Item 371) Qty: 1

**Personnel Required**

(2)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

---

**REMOVAL****NOTE**

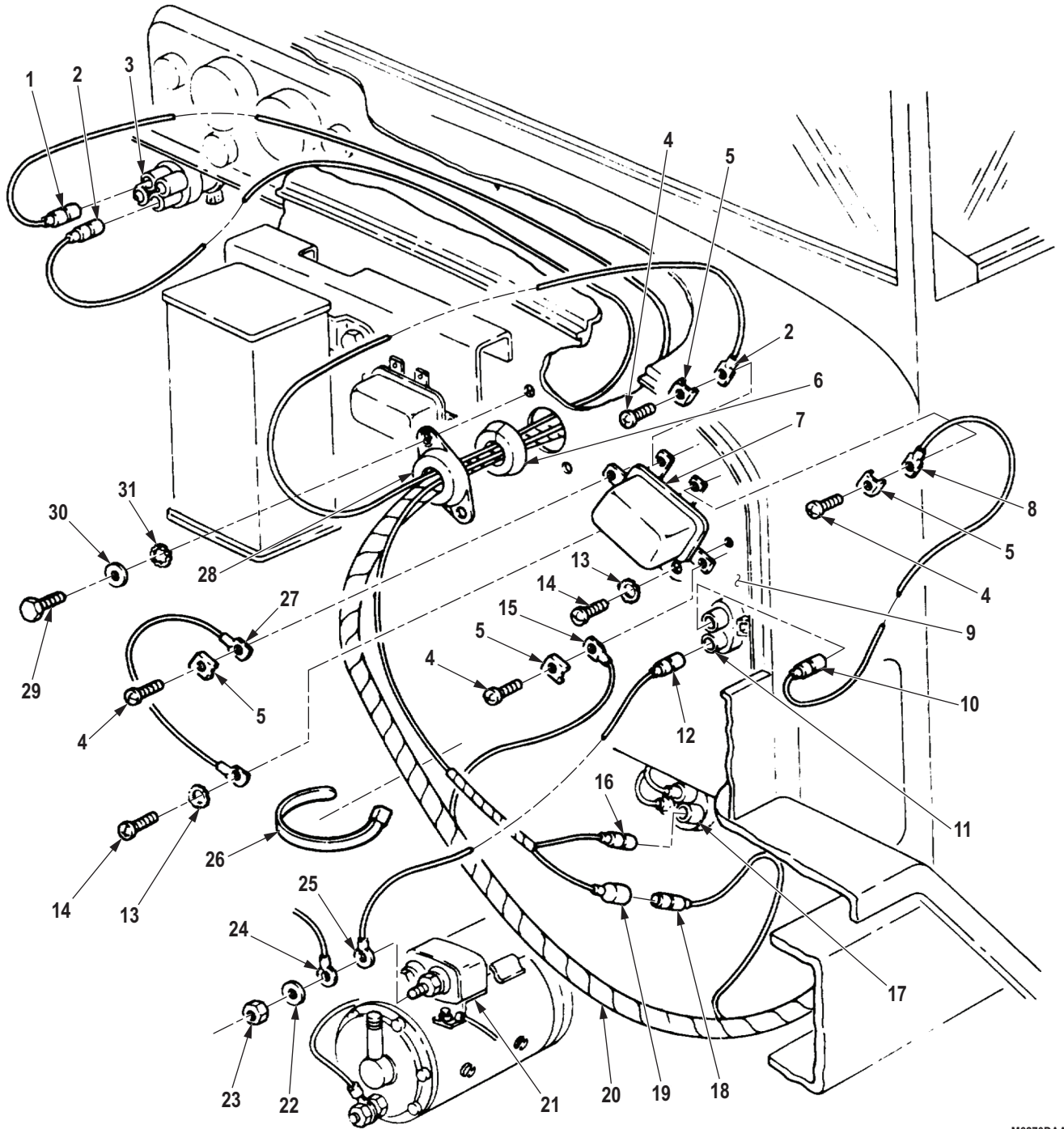
- Tag all leads for installation.
  - Note routing of all leads for installation.
1. Disconnect leads (Figure 1, Item 1) and (Figure 1, Item 2) from warning light switch (Figure 1, Item 3).
  2. Remove tiedown strap (Figure 1, Item 26) from front main wiring harness (Figure 1, Item 20) and leads (Figure 1, Item 16) and (Figure 1, Item 19). Discard tiedown strap.

**NOTE**

Assistant will help with Step (3).

3. Remove two screws (Figure 1, Item 29), washers (Figure 1, Item 30), lockwashers (Figure 1, Item 31), retainer (Figure 1, Item 28), and grommet (Figure 1, Item 6) from firewall (Figure 1, Item 9). Discard lockwashers.
4. Pull leads (Figure 1, Items 1 and 2) through hole in firewall (Figure 1, Item 9).
5. Remove four screws (Figure 1, Item 4), clips (Figure 1, Item 5), and leads (Figure 1, Items 2, 8, 15, and 27) from relay (Figure 1, Item 7).
6. Remove two screws (Figure 1, Item 14), lockwashers (Figure 1, Item 13), lead (Figure 1, Item 27), and relay (Figure 1, Item 7) from firewall (Figure 1, Item 9). Discard lockwashers.
7. Disconnect lead (Figure 1, Item 16) from high-beam selector switch (Figure 1, Item 17).
8. Disconnect leads (Figure 1, Item 10) and (Figure 1, Item 12) from circuit breaker (Figure 1, Item 11).
9. Remove nut (Figure 1, Item 23), lockwasher (Figure 1, Item 22), and wires (Figure 1, Items 24 and 25) from starter solenoid (Figure 1, Item 21). Discard lockwasher.
10. Disconnect lead (Figure 1, Item 18) from connector (Figure 1, Item 19).

REMOVAL - Continued



M6270DAA

Figure 1. Convoy Warning Light Relay and Leads Removal.

END OF TASK

**INSTALLATION**

1. Connect lead (Figure 2, Item 18) to connector (Figure 2, Item 19).
2. Install wires (Figure 2, Items 24 and 25) on starter solenoid (Figure 2, Item 21) with lockwasher (Figure 2, Item 22) and nut (Figure 2, Item 23).
3. Connect leads (Figure 2, Items 10 and 12) to circuit breaker (Figure 2, Item 11).
4. Connect lead (Figure 2, Item 16) to high-beam selector switch (Figure 2, Item 17).
5. Install lead (Figure 2, Item 27) and relay (Figure 2, Item 7) on firewall (Figure 2, Item 9) with two lockwashers (Figure 2, Item 13) and screws (Figure 2, Item 14).
6. Install four leads (Figure 2, Items 2, 8, 15, and 27) on relay (Figure 2, Item 7) with clips (Figure 2, Item 5) and screws (Figure 2, Item 4).

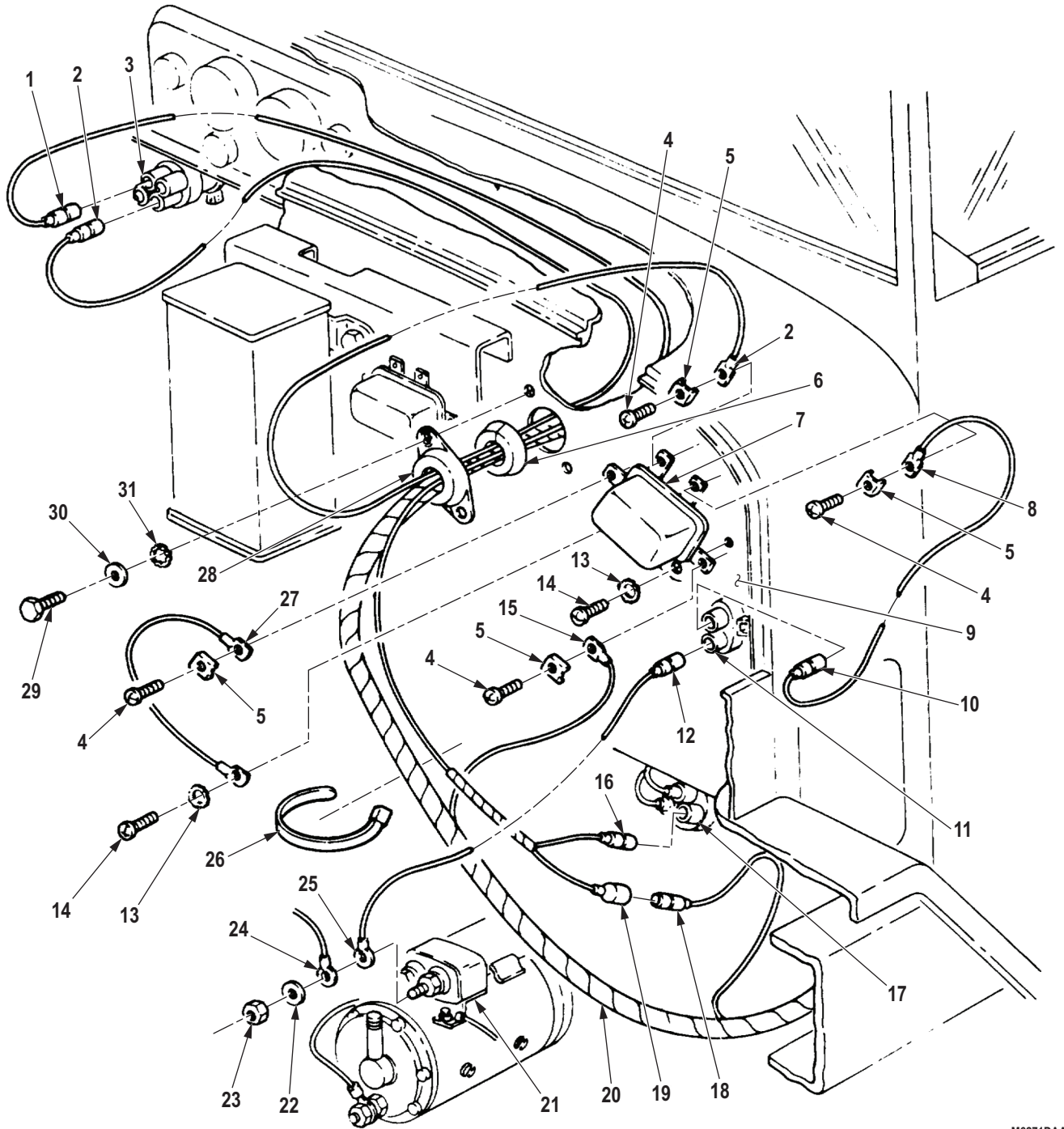
**NOTE**

Assistant will help with Step (7).

7. Install grommet (Figure 2, Item 6) and retainer (Figure 2, Item 28) on firewall (Figure 2, Item 9) with two lockwashers (Figure 2, Item 31), washers (Figure 2, Item 30), and screws (Figure 2, Item 29).
8. Pull leads (Figure 2, Items 1 and 2) through hole in firewall (Figure 2, Item 9).
9. Install tiedown strap (Figure 2, Item 26) on front main wiring harness (Figure 2, Item 20) and leads (Figure 2, Items 16 and 19).
10. Connect leads (Figure 2, Items 1 and 2) to warning light switch (Figure 2, Item 3).



INSTALLATION - Continued



M6271DAA

Figure 2. Convoy Warning Light Relay and Leads Installation.

END OF TASK

**FOLLOW-ON MAINTENANCE**

Connect battery ground cables. (Volume 2, WP 0350)

**END OF TASK**

**END OF WORK PACKAGE**

**FIELD MAINTENANCE  
AIR LINES FABRICATION**

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**INITIAL SETUP:**

Not Applicable

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For fabrication of air lines, refer to TM 9-243.

**END OF TASK**

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE  
AIR DRYER FILTER REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts**

Tape, Antiseizing  
(WP 0825, Table 1, Item 65)  
Locknut (M923/A1/A2, M925/A1/A2)  
(WP 0827, Table 1, Item 322) Qty: 9  
Locknut (M927/A1/A2, M928/A1/A2, M934/A1/A2)  
(WP 0827, Table 1, Item 322) Qty: 9  
Locknut (M927/A1/A2, M928/A1/A2, M934/A1/A2)  
(WP 0827, Table 1, Item 245) Qty: 1  
Lockwasher  
(WP 0827, Table 1, Item 77) Qty: 1

**Materials/Parts (cont.)**

Tiedown Strap (M923/A1/A2, M925/A1/A2)  
(WP 0827, Table 1, Item 377) Qty: 5  
Tiedown Strap (M927/A1/A2, M928/A1/A2, M934/  
A1/A2)  
(WP 0827, Table 1, Item 377) Qty: 7

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Air reservoirs drained. (TM 9-2320-272-10)  
Battery ground cables disconnected.  
(Volume 2, WP 0350)

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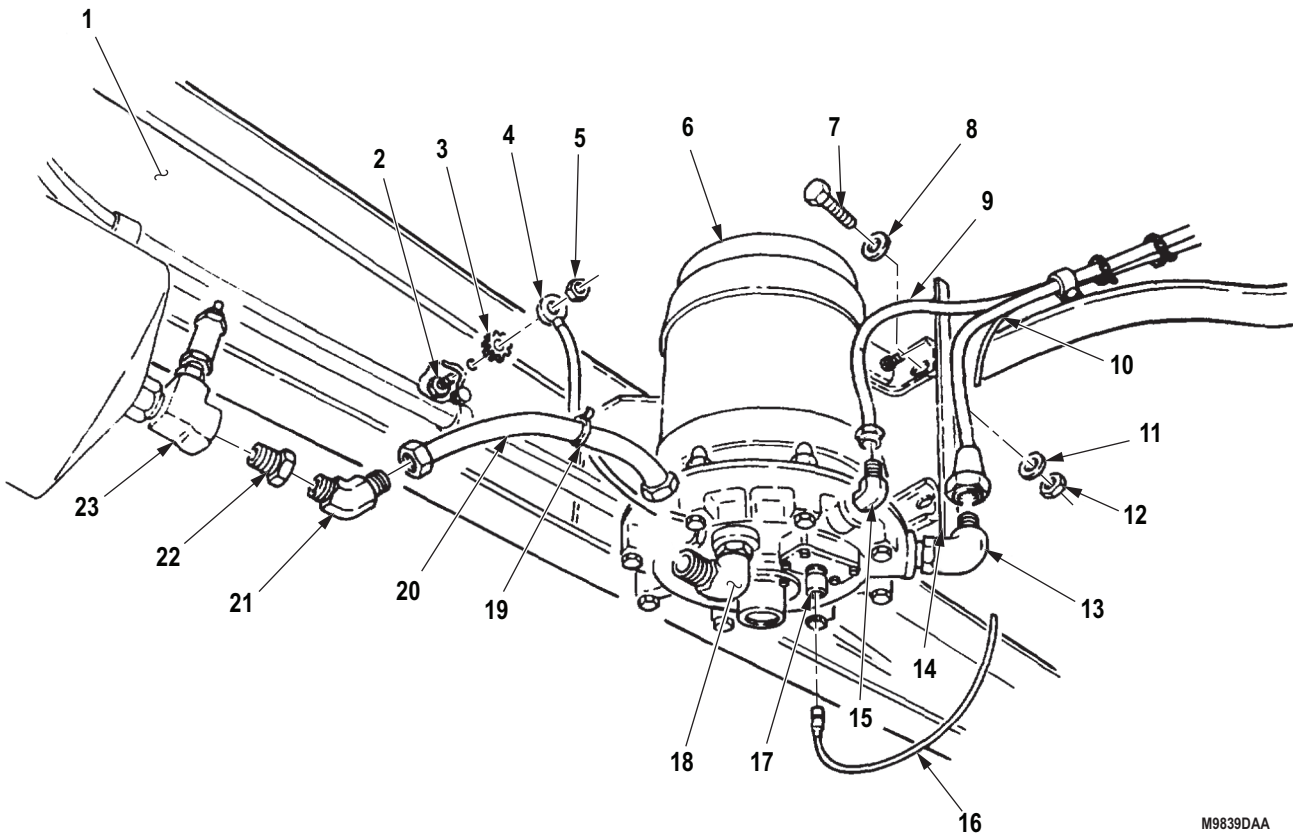
**REMOVAL**

1. Disconnect wire (Figure 1, Item 16) from thermostat connector (Figure 1, Item 17) on air dryer (Figure 1, Item 6).

**NOTE**

Perform Steps (2) through (4) for M923/A1/A2 and M925/A1/A2 vehicles.

2. Remove tube (Figure 1, Item 20) from elbow (Figure 1, Item 21).
3. Remove elbow (Figure 1, Item 21) from bushing (Figure 1, Item 22).
4. Remove bushing (Figure 1, Item 22) from wet reservoir adapter (Figure 1, Item 23).



M9839DAA

Figure 1. Air Dryer Kit Removal.

**NOTE**

Perform Steps (5) and (6) for M927/A1/A2, M928/A1/A2, and M934/A1/A2 vehicles.

5. Remove tube (Figure 2, Item 2) from adapter (Figure 2, Item 3).
6. Remove adapter (Figure 2, Item 3) from wet reservoir adapter (Figure 2, Item 1).

## REMOVAL - Continued

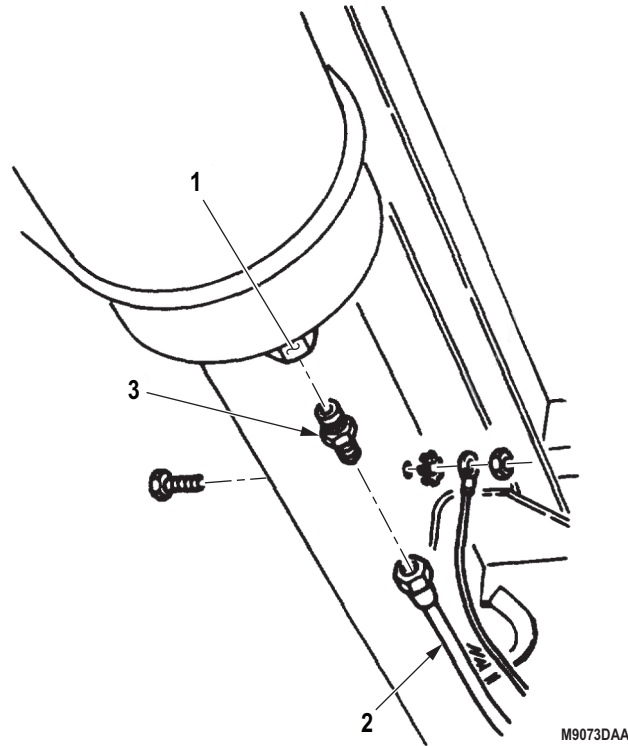


Figure 2. Air Dryer Kit Removal.

7. Remove tube (Figure 1, Item 20) from elbow (Figure 1, Item 18).
8. Remove tiedown strap (Figure 1, Item 19) from tube (Figure 1, Item 20) and ground wire (Figure 1, Item 4). Discard tiedown strap.
9. Remove locknut (Figure 1, Item 5), ground wire (Figure 1, Item 4), lockwasher (Figure 1, Item 3), and screw (Figure 1, Item 2) from right-side frame rail (Figure 1, Item 1). Discard locknut and lockwasher.
10. Remove tube (Figure 1, Item 10) from elbow (Figure 1, Item 13).
11. Remove line (Figure 1, Item 9) from elbow (Figure 1, Item 15).
12. Remove four locknuts (Figure 1, Item 12), washers (Figure 1, Item 11), screws (Figure 1, Item 7), washers (Figure 1, Item 8), and air dryer (Figure 1, Item 6) from mounting bracket (Figure 1, Item 14). Discard locknuts.

**REMOVAL - Continued**

13. Remove three locknuts (Figure 3, Item 7), washers (Figure 3, Item 6), clamp (Figure 3, Item 4), three screws (Figure 3, Item 3), mounting bracket (Figure 3, Item 2), and two air lines (Figure 3, Item 5) from frame crossmember (Figure 3, Item 1). Discard locknuts.

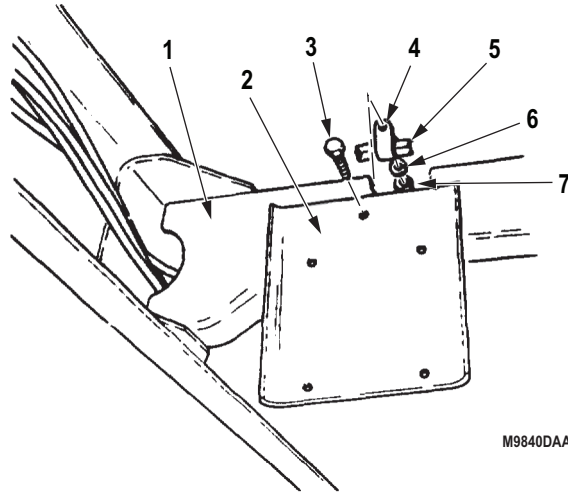


Figure 3. Air Dryer Kit Removal.

14. Remove elbow (Figure 4, Item 9) from bushing (Figure 4, Item 8) on air dryer (Figure 4, Item 2).
15. Remove bushing (Figure 4, Item 8) from outlet port (Figure 4, Item 1).
16. Remove elbow (Figure 4, Item 5) from bushing (Figure 4, Item 6).
17. Remove bushing (Figure 4, Item 6) from inlet port (Figure 4, Item 7).
18. Remove elbow (Figure 4, Item 3) from control port (Figure 4, Item 4).

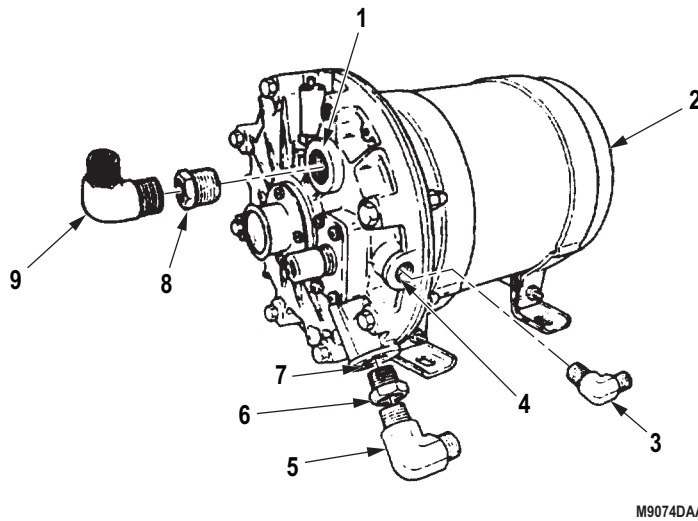


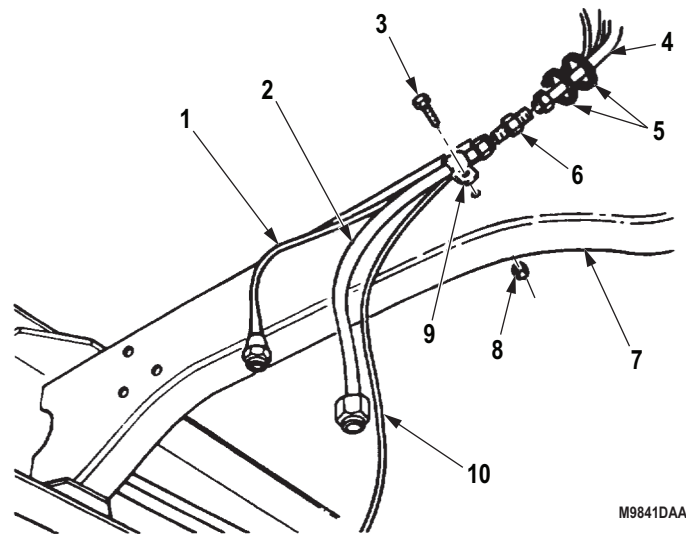
Figure 4. Air Dryer Kit Removal.



**REMOVAL - Continued****NOTE**

Perform Steps (19) through (21) for M923/A1/A2 and M925/A1/A2 vehicles.

19. Remove locknut (Figure 5, Item 8), screw (Figure 5, Item 3), clamp (Figure 5, Item 9), wire (Figure 5, Item 10), and tube (Figure 5, Item 2) from frame crossmember (Figure 5, Item 7). Discard locknut.
20. Remove two tiedown straps (Figure 5, Item 5) from tube (Figure 5, Item 2), line (Figure 5, Item 1), and wire (Figure 5, Item 10). Discard tiedown straps.
21. Remove two tubes (Figure 5, Item 2) from nipple (Figure 5, Item 6).



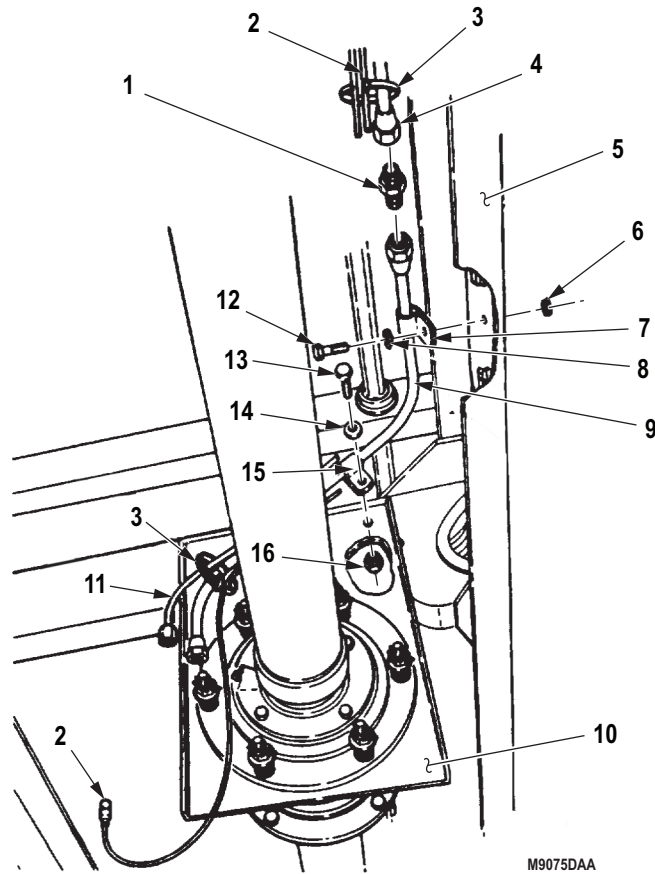
M9841DAA

Figure 5. Air Dryer Kit Removal.

**REMOVAL - Continued****NOTE**

Perform Steps (22) through (25) for M927/A1/A2, M928/A1/A2, and M934/A1/A2 vehicles.

22. Remove locknut (Figure 6, Item 16), screw (Figure 6, Item 13), clamp (Figure 6, Item 15), tube (Figure 6, Item 9), and washer (Figure 6, Item 14) from mounting bracket (Figure 6, Item 10). Discard locknut.
23. Remove locknut (Figure 6, Item 6), screw (Figure 6, Item 12), washer (Figure 6, Item 8), clamp (Figure 6, Item 7), and tube (Figure 6, Item 9) from left-side frame rail (Figure 6, Item 5). Discard locknut.
24. Remove four tiedown straps (Figure 6, Item 3) from tube (Figure 6, Item 9), line (Figure 6, Item 11), and wire (Figure 6, Item 2). Discard tiedown straps.
25. Remove two tubes (Figure 6, Items 4 and 9) from nipple (Figure 6, Item 1).



M9075DAA

Figure 6. Air Dryer Kit Removal.

**REMOVAL - Continued**

26. Disconnect wire (Figure 7, Item 1) from wire (Figure 7, Item 3) on frame crossmember (Figure 7, Item 2).

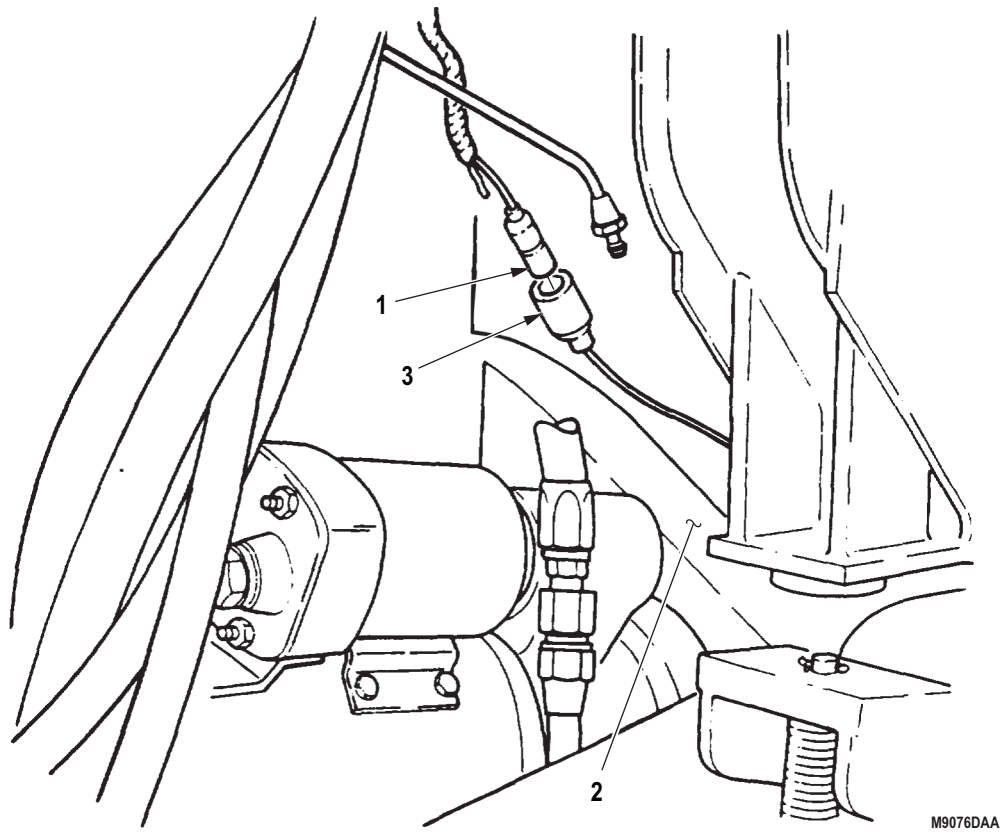
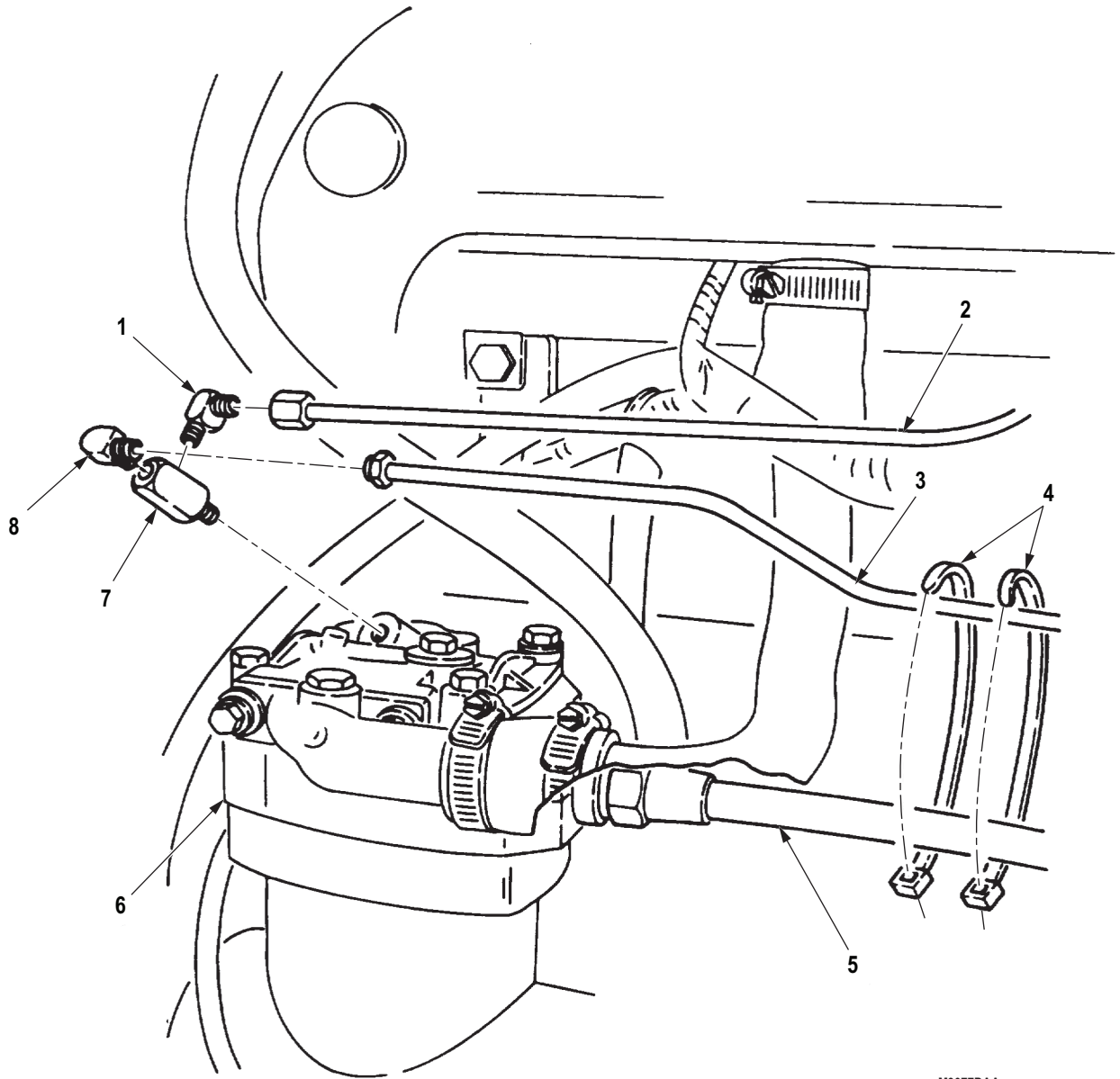


Figure 7. Air Dryer Kit Removal.

**REMOVAL - Continued**

27. Remove two tiedown straps (Figure 8, Item 4) from lines (Figure 8, Items 3 and 5). Discard tiedown straps.
28. Remove line (Figure 8, Item 3) from elbow (Figure 8, Item 8).
29. Remove tube (Figure 8, Item 2) from elbow (Figure 8, Item 1).
30. Remove elbows (Figure 8, Items 1 and 8) from tee (Figure 8, Item 7).
31. Remove tee (Figure 8, Item 7) from air compressor (Figure 8, Item 6).
32. Remove tube (Figure 8, Item 2) from frame crossmember.

REMOVAL - Continued



M9077DAA

Figure 8. Air Dryer Kit Removal.

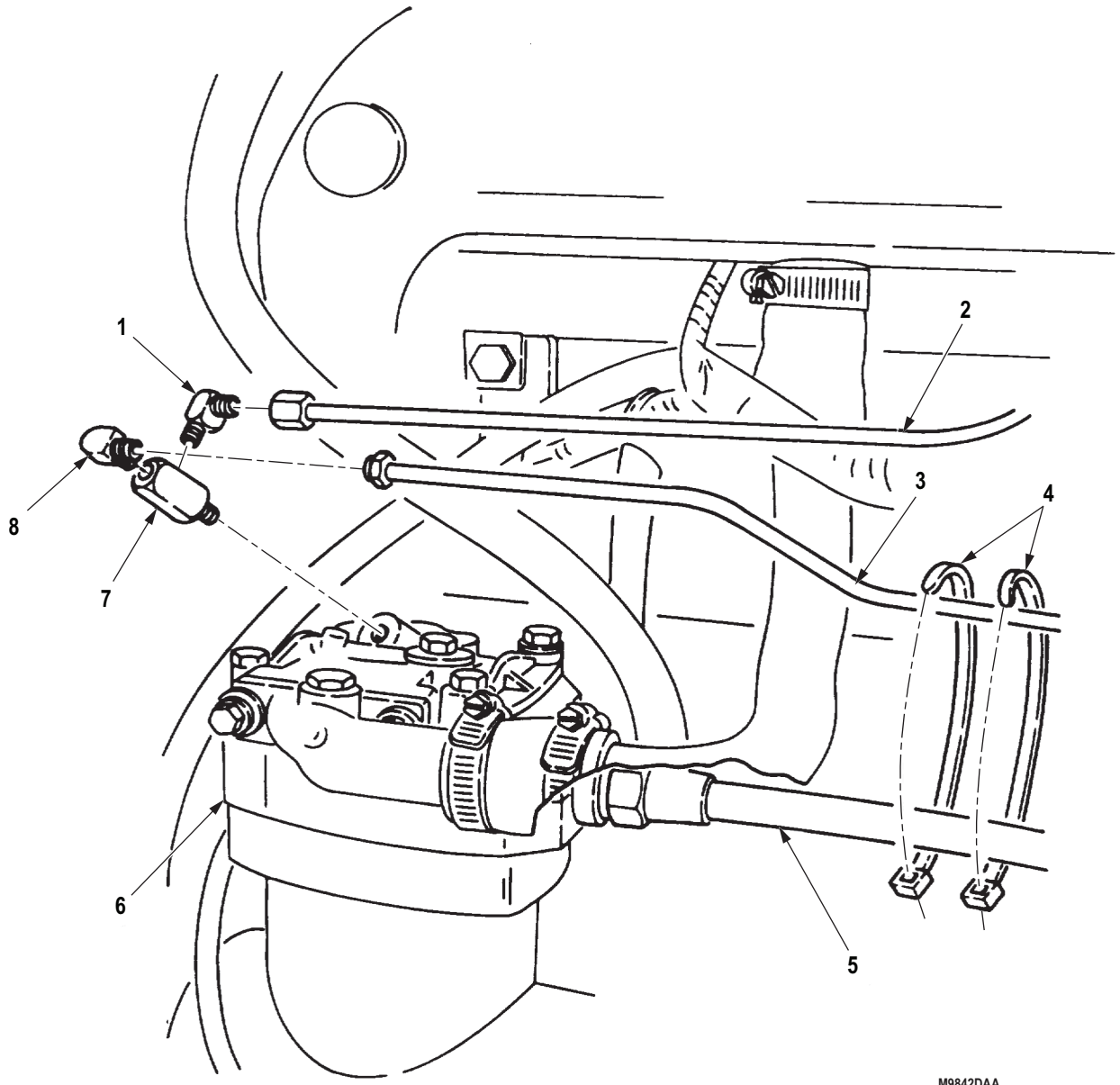
END OF TASK

**INSTALLATION****NOTE**

Clean all male pipe threads and wrap with antiseize tape before installation.

1. Install tube (Figure 9, Item 2) on frame crossmember.
2. Install tee (Figure 9, Item 7) on air compressor (Figure 9, Item 6).
3. Install elbows (Figure 9, Items 1 and 8) on tee (Figure 9, Item 7).
4. Install tube (Figure 9, Item 2) on elbow (Figure 9, Item 1).
5. Install line (Figure 9, Item 3) on elbow (Figure 9, Item 8).
6. Install two tiedown straps (Figure 9, Item 4) on lines (Figure 9, Items 3 and 5).

INSTALLATION - Continued



M9842DAA

Figure 9. Air Dryer Kit Installation.

**INSTALLATION - Continued**

7. Connect wire (Figure 10, Item 1) to wire (Figure 10, Item 3) on frame crossmember (Figure 10, Item 2).

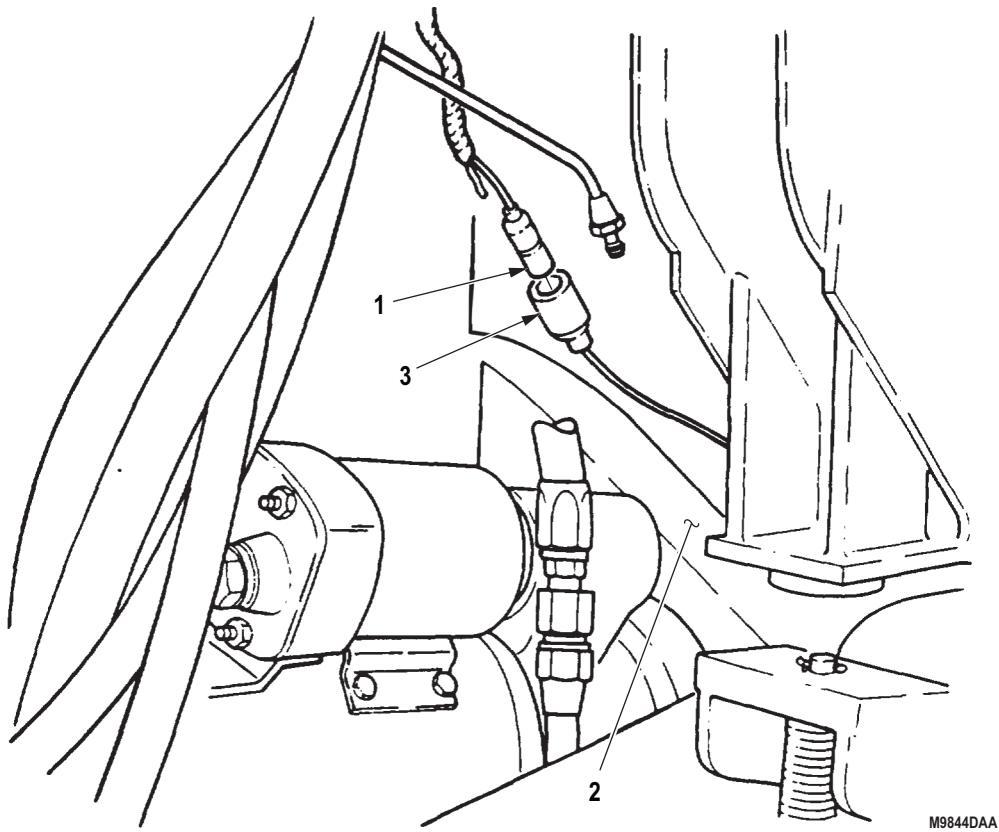


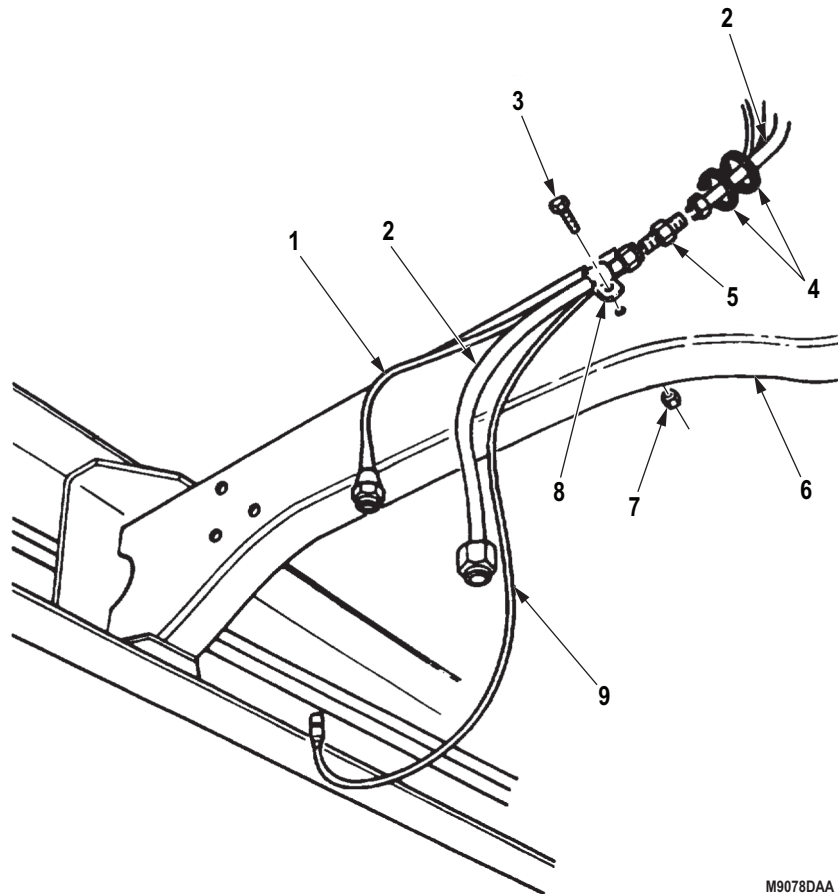
Figure 10. Air Dryer Kit Installation.



**INSTALLATION - Continued****NOTE**

Perform Steps (8) through (11) for M927/A1/A2, M928/A1/A2, and M934/A1/A2 vehicles.

8. Install two tubes (Figure 11, Item 2) on nipple (Figure 11, Item 5).
9. Install four tiedown straps (Figure 11, Item 4) on tube (Figure 11, Item 2), line (Figure 11, Item 1), and wire (Figure 11, Item 9).



M9078DAA

Figure 11. Air Dryer Kit Installation.

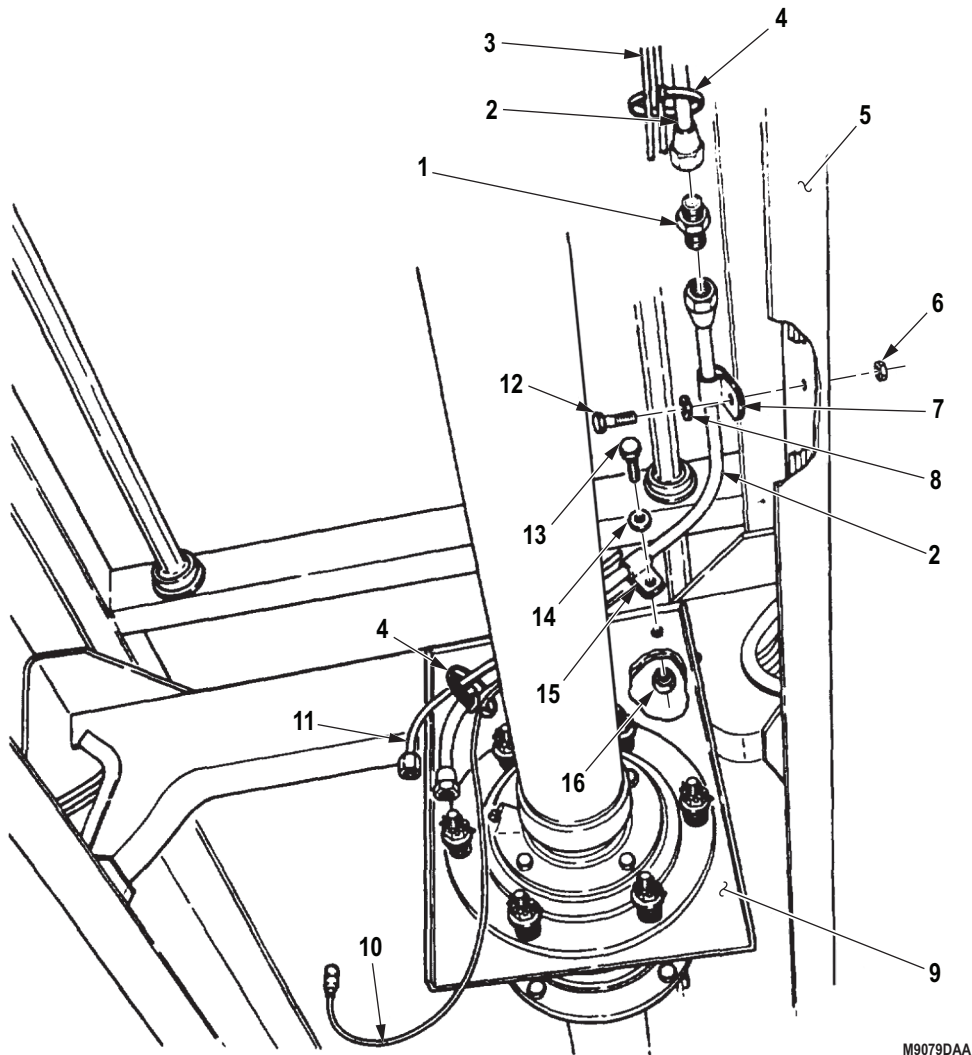
**INSTALLATION - Continued**

10. Install clamp (Figure 12, Item 7) and tube (Figure 12, Item 2) on left-side frame rail (Figure 12, Item 5) with washer (Figure 12, Item 8), screw (Figure 12, Item 12), and locknut (Figure 12, Item 6).
11. Install clamp (Figure 12, Item 15) and tube (Figure 12, Item 2) on mounting bracket (Figure 12, Item 9) with washer (Figure 12, Item 14), screw (Figure 12, Item 13), and locknut (Figure 12, Item 16).

**NOTE**

Perform Steps (12) through (14) for M923/A1/A2 and M925/A1/A2 vehicles.

12. Install two tubes (Figure 12, Item 2) on nipple (Figure 12, Item 1).
13. Install two tiedown straps (Figure 12, Item 4) on tube (Figure 12, Item 2), line (Figure 12, Item 11), and wire (Figure 12, Item 10).

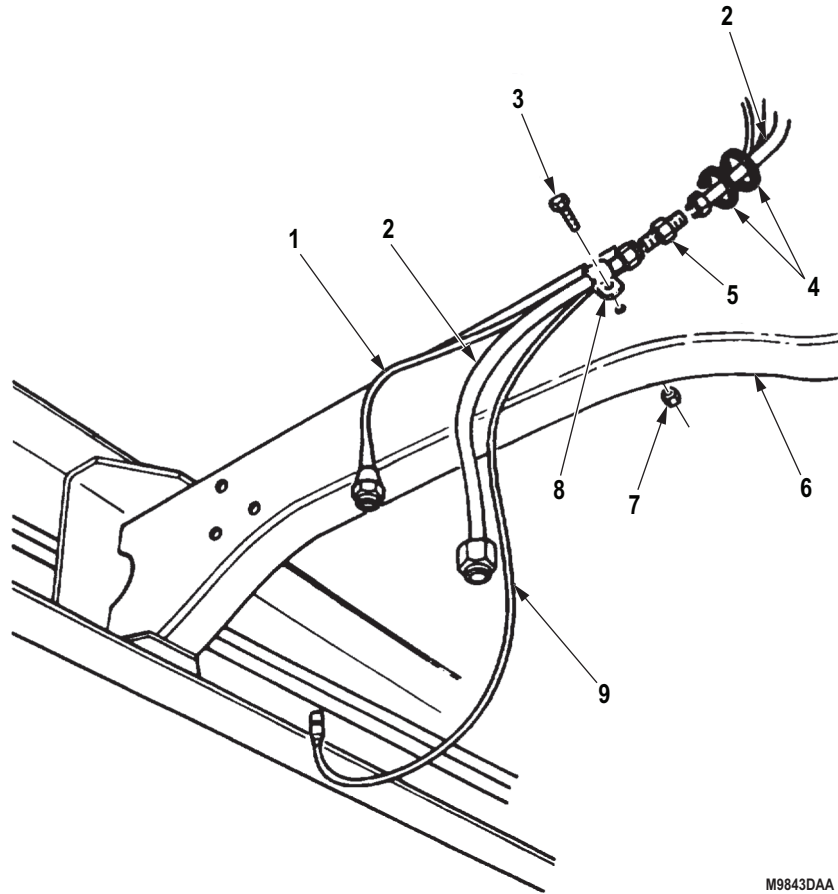


M9079DAA

Figure 12. Air Dryer Kit Installation.

**INSTALLATION - Continued**

14. Install clamp (Figure 13, Item 8), wire (Figure 13, Item 9), and tube (Figure 13, Item 2) on frame crossmember (Figure 13, Item 6) with screw (Figure 13, Item 3) and locknut (Figure 13, Item 7).



M9843DAA

Figure 13. Air Dryer Kit Installation.

**INSTALLATION - Continued**

15. Install elbow (Figure 14, Item 3) on control port (Figure 14, Item 4).
16. Install bushing (Figure 14, Item 6) on inlet port (Figure 14, Item 7).
17. Install elbow (Figure 14, Item 5) on bushing (Figure 14, Item 6).
18. Install bushing (Figure 14, Item 8) on outlet port (Figure 14, Item 1).
19. Install elbow (Figure 14, Item 9) on bushing (Figure 14, Item 8).

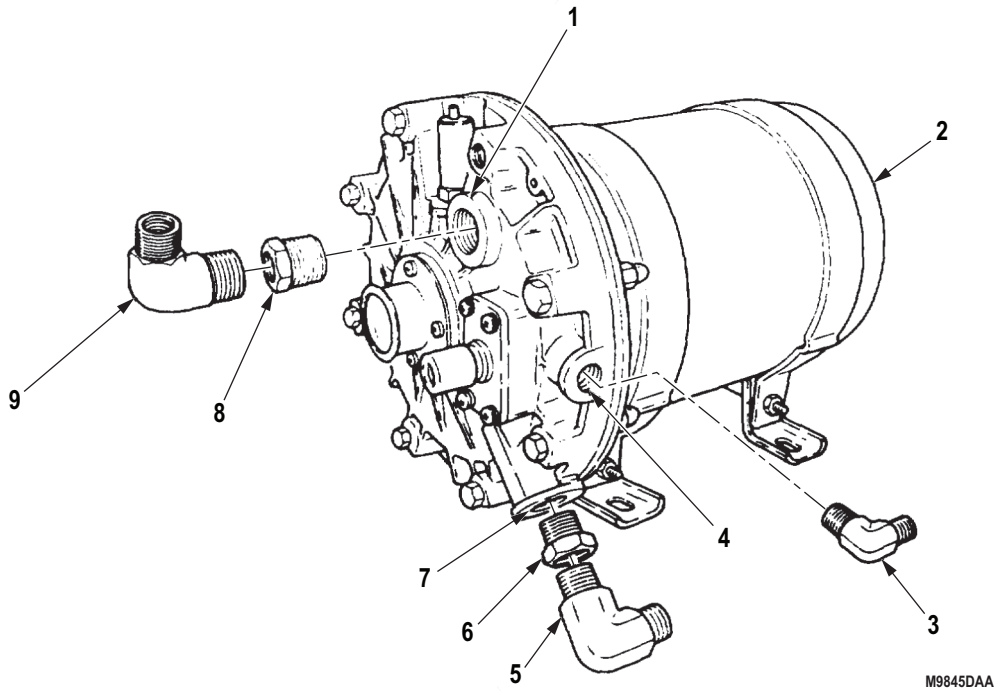


Figure 14. Air Dryer Kit Installation.

**INSTALLATION - Continued**

20. Install mounting bracket (Figure 15, Item 2), clamp (Figure 15, Item 4), and two air lines (Figure 15, Item 5) on frame crossmember (Figure 15, Item 1) with three screws (Figure 15, Item 3), washers (Figure 15, Item 6), and locknuts (Figure 15, Item 7).

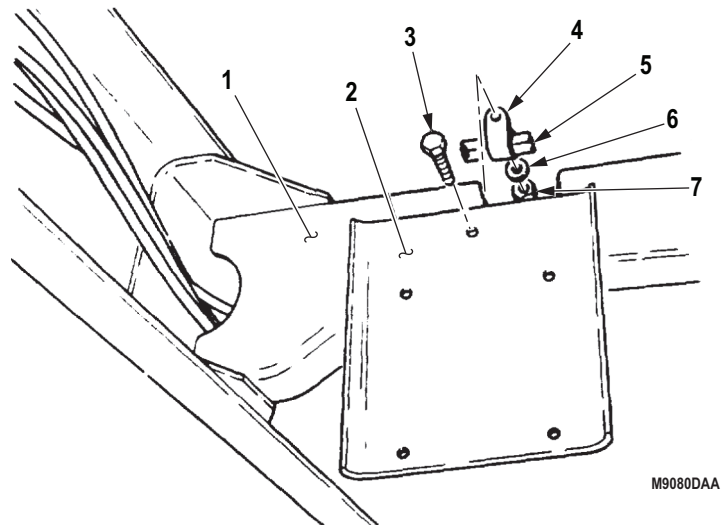
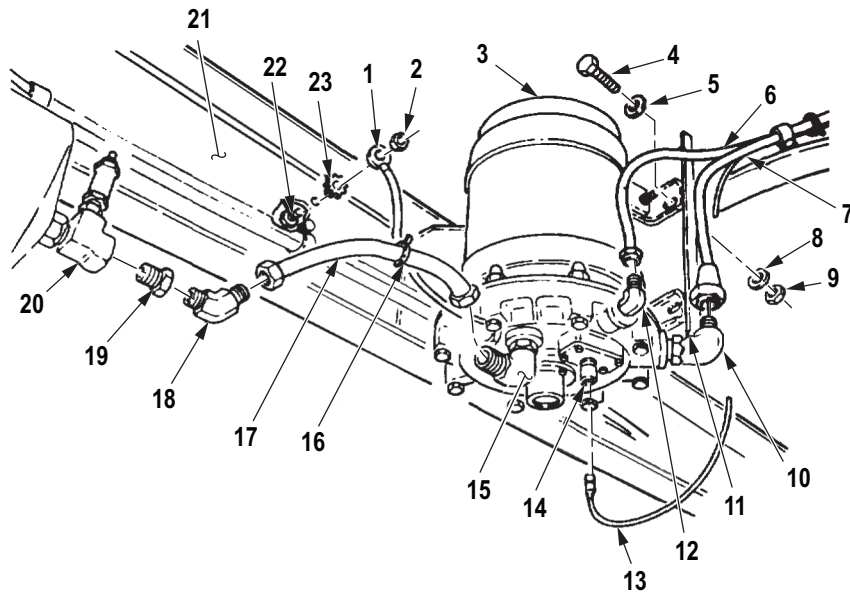


Figure 15. Air Dryer Kit Installation.

**INSTALLATION - Continued**

21. Install air dryer (Figure 16, Item 3) on mounting bracket (Figure 16, Item 11) with four washers (Figure 16, Item 5), screws (Figure 16, Item 4), washers (Figure 16, Item 8), and locknuts (Figure 16, Item 9).
22. Install line (Figure 16, Item 6) on elbow (Figure 16, Item 12).
23. Install tube (Figure 16, Item 7) on elbow (Figure 16, Item 10).
24. Install screw (Figure 16, Item 22), lockwasher (Figure 16, Item 23), ground wire (Figure 16, Item 1), and locknut (Figure 16, Item 2) on right-side frame rail (Figure 16, Item 21).
25. Install tiedown strap (Figure 16, Item 16) on tube (Figure 16, Item 17) and ground wire (Figure 16, Item 1).
26. Install tube (Figure 16, Item 17) on elbow (Figure 16, Item 15).



M9081DAA

Figure 16. Air Dryer Kit Installation.

**INSTALLATION - Continued****NOTE**

Perform Steps (27) and (28) for M927/A1/A2, M928/A1/A2, and M934/A1/A2 vehicles.

27. Install adapter (Figure 17, Item 8) on wet reservoir adapter (Figure 17, Item 1).
28. Install tube (Figure 17, Item 6) on adapter (Figure 17, Item 8).

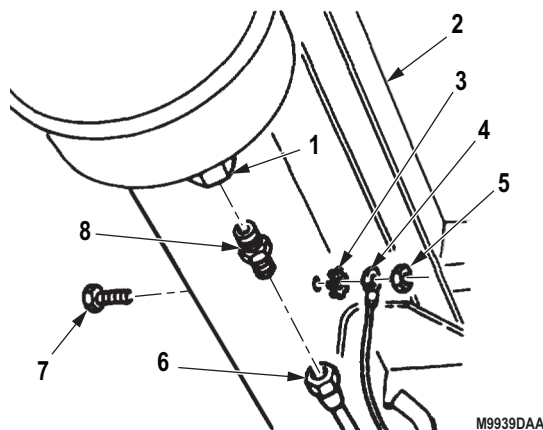


Figure 17. Air Dryer Kit Installation.

**NOTE**

Perform Steps (29) through (31) for M923/A1/A2 and M925/A1/A2 vehicles.

29. Install bushing (Figure 16, Item 19) on wet reservoir adapter (Figure 16, Item 20).
30. Install elbow (Figure 16, Item 18) on bushing (Figure 16, Item 19).
31. Install tube (Figure 16, Item 17) on elbow (Figure 16, Item 18).
32. Connect wire (Figure 16, Item 13) to thermostat connector (Figure 16, Item 14) on air dryer (Figure 16, Item 3).

**END OF TASK****FOLLOW-ON MAINTENANCE**

1. Connect battery ground cables. (Volume 2, WP 0350)
2. Start engine, allow air system to reach normal operating pressure, and check air system for leaks. (TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**





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**FIELD MAINTENANCE  
AIR DRYER AND MOUNTING BRACKETS REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)  
Oil Filter Wrench  
(WP 0826, Table 1, Item 36)

**Materials/Parts**

Cap Set, Protective, Dust and Moisture Seal  
(WP 0825, Table 1, Item 13)  
Sealing Compound

**Materials/Parts (cont.)**

(WP 0825, Table 1, Item 61)  
Locknut (WP 0827, Table 1, Item 285) Qty: 8  
Lockwasher  
(WP 0827, Table 1, Item 62) Qty: 1  
Tiedown Strap  
(WP 0827, Table 1, Item 298) Qty: 2

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Air reservoirs drained. (TM 9-2320-272-10)

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**AIR DRYER REMOVAL****WARNING**

Do not disconnect air lines before draining air reservoirs. Small parts under pressure may shoot out with high velocity. Failure to comply may result in injury or death to personnel.

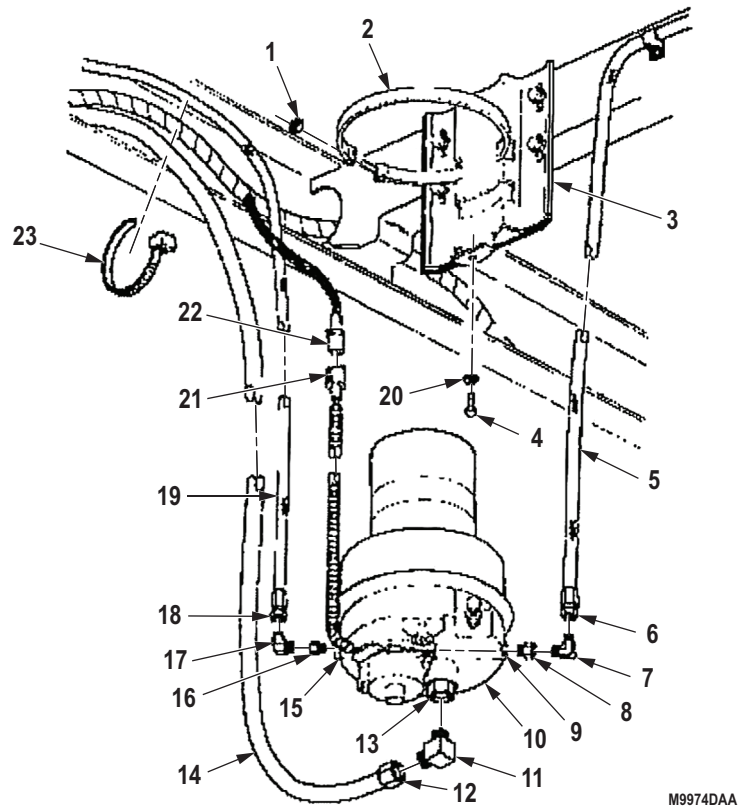
**CAUTION**

When disconnecting air lines and hoses, plug all openings to prevent dirt from entering and causing damage to internal parts. Remove all plugs prior to installation.

**NOTE**

- Tag lines and fittings for installation.
  - Mark fitting direction for installation.
  - M939/A1/A2 air dryer assemblies are mounted on frame crossmember under vehicle and M936 wrecker air dryer assemblies are mounted on outside of passenger side frame rail behind fuel tank.
1. Remove two tiedown straps (Figure 1, Item 23) and disconnect air dryer heater connector (Figure 1, Item 21) from ABS wiring connector (Figure 1, Item 22). Discard tiedown straps.
  2. Loosen nut (Figure 1, Item 6) and remove air inlet supply line (Figure 1, Item 5) from elbow (Figure 1, Item 7) on side of air dryer housing (Figure 1, Item 10).
  3. Loosen nut (Figure 1, Item 12) and remove air outlet supply line (Figure 1, Item 14) from elbow (Figure 1, Item 11) on bottom of air dryer housing (Figure 1, Item 10).
  4. Loosen nut (Figure 1, Item 18) and remove governor air supply line (Figure 1, Item 19) from elbow (Figure 1, Item 17) on side of air dryer housing (Figure 1, Item 10).
  5. Remove nut (Figure 1, Item 1), clamp (Figure 1, Item 2), and air dryer housing (Figure 1, Item 10) from air dryer support bracket (Figure 1, Item 3).
  6. Remove screw (Figure 1, Item 4) and lockwasher (Figure 1, Item 20) from bottom of air dryer housing (Figure 1, Item 10) and air dryer support bracket (Figure 1, Item 3). Discard lockwasher.
  7. Remove elbow (Figure 1, Item 7) and adapter (Figure 1, Item 8) from inlet port (Figure 1, Item 9) on side of air dryer housing (Figure 1, Item 10).
  8. Remove elbow (Figure 1, Item 17) and adapter (Figure 1, Item 16) from governor control port (Figure 1, Item 15) on side of air dryer housing (Figure 1, Item 10).
  9. Remove elbow (Figure 1, Item 11) from outlet port (Figure 1, Item 13) on bottom of air dryer housing (Figure 1, Item 10).

AIR DRYER REMOVAL - Continued



M9974DAA

Figure 1. Air Dryer Removal.

END OF TASK

## MOUNTING BRACKETS REMOVAL

### NOTE

This task covers M939/A1/A2 air dryer support brackets and air dryer mounting brackets. M936 wreckers use the same air dryer support brackets and only four mounting screws, locknuts, and eight washers.

1. Remove four locknuts (Figure 2, Item 5), washers (Figure 2, Item 4), screws (Figure 2, Item 9), washers (Figure 2, Item 8), and air dryer support bracket (Figure 2, Item 7) from air dryer mounting bracket (Figure 2, Item 6). Discard locknuts.
2. Remove four locknuts (Figure 2, Item 3), washers (Figure 2, Item 2), screws (Figure 2, Item 11), washers (Figure 2, Item 10), and air dryer mounting bracket (Figure 2, Item 6) from crossmember (Figure 2, Item 1). Discard locknuts.

### END OF TASK

## MOUNTING BRACKETS INSTALLATION

1. Install air dryer mounting bracket (Figure 2, Item 6) on crossmember (Figure 2, Item 1) with four washers (Figure 2, Item 10), screws (Figure 2, Item 11), washers (Figure 2, Item 2), and locknuts (Figure 2, Item 3).
2. Install air dryer support bracket (Figure 2, Item 7) on air dryer mounting bracket (Figure 2, Item 6) with four washers (Figure 2, Item 8), screws (Figure 2, Item 9), washers (Figure 2, Item 4), and locknuts (Figure 2, Item 5).

### END OF TASK

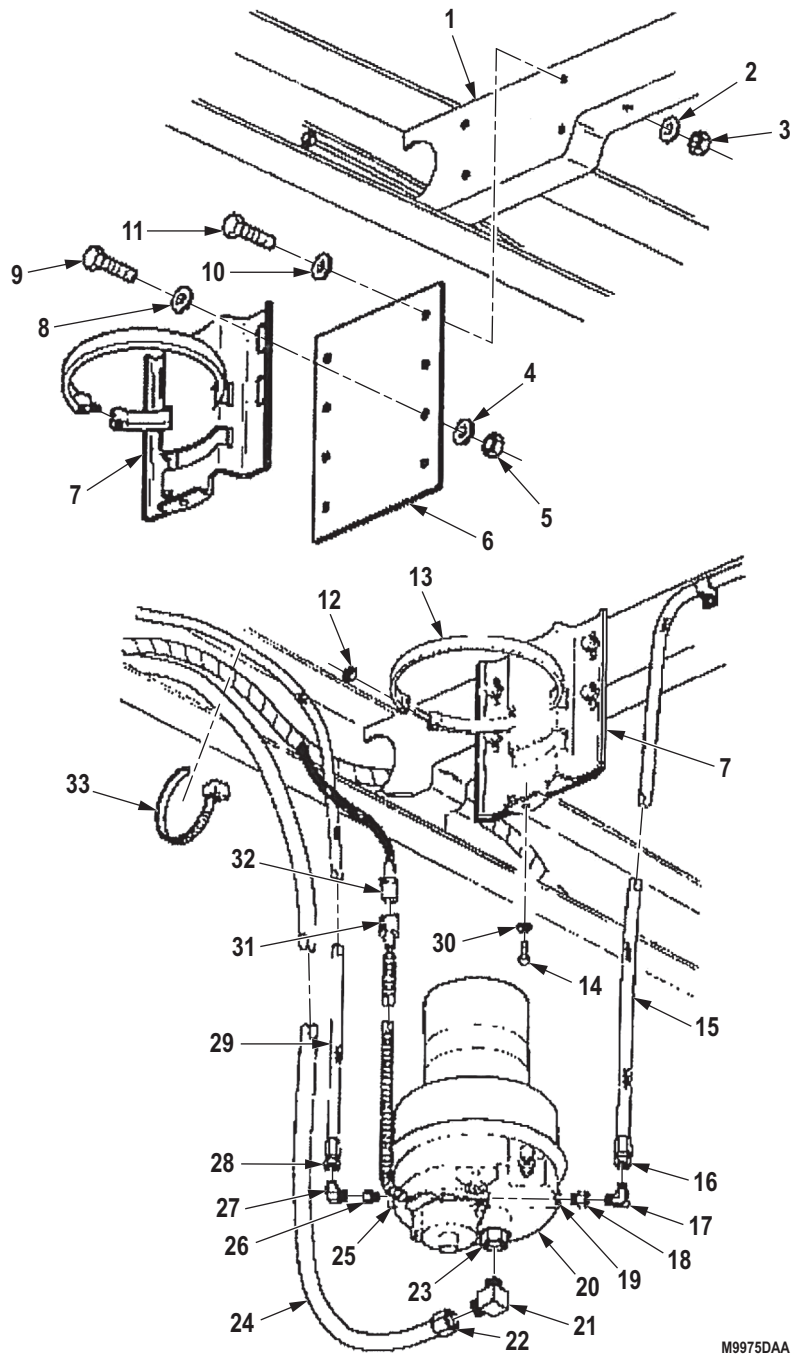
## AIR DRYER INSTALLATION

### NOTE

Apply sealing compound to all male pipe threads before installation.

1. Install elbow (Figure 2, Item 21) in outlet port (Figure 2, Item 23) on bottom of air dryer housing (Figure 2, Item 20).
2. Install adapter (Figure 2, Item 26) and elbow (Figure 2, Item 27) in governor control port (Figure 2, Item 25) on side of air dryer housing (Figure 2, Item 20).
3. Install adapter (Figure 2, Item 18) and elbow (Figure 2, Item 17) in inlet port (Figure 2, Item 19) on side of air dryer housing (Figure 2, Item 20).
4. Install lockwasher (Figure 2, Item 30) and screw (Figure 2, Item 14) in bottom of air dryer support bracket (Figure 2, Item 7) and air dryer housing (Figure 2, Item 20). Tighten screw 20 to 35 lb-ft (27 to 47 N·m).
5. Install air dryer housing (Figure 2, Item 20) on air dryer support bracket (Figure 2, Item 7) with clamp (Figure 2, Item 13) and nut (Figure 2, Item 12) and tighten nut on clamp.
6. Install governor air supply line (Figure 2, Item 29) on elbow (Figure 2, Item 27) and tighten nut (Figure 2, Item 28).
7. Install air outlet supply line (Figure 2, Item 24) on elbow (Figure 2, Item 21) and tighten nut (Figure 2, Item 22).
8. Install air inlet supply line (Figure 2, Item 15) on elbow (Figure 2, Item 17) and tighten nut (Figure 2, Item 16).
9. Connect air dryer heater connector (Figure 2, Item 31) to ABS wiring connector (Figure 2, Item 32) and install two tiedown straps (Figure 2, Item 33).

AIR DRYER INSTALLATION - Continued



M9975DAA

Figure 2. Air Dryer and Mounting Brackets Installation.

END OF TASK

**FOLLOW-ON MAINTENANCE**

1. Start engine and allow air pressure to build to normal operating range. Check for air leaks. (TM 9-2320-272-10)
2. Road test vehicle. (TM 9-2320-272-10)

**END OF TASK**

**END OF WORK PACKAGE**

---

**FIELD MAINTENANCE  
AIR DRYER HEATER REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)  
Wrench, Torque, Click, Ratcheting, 3/8" Drive,  
75 Ft-Lb  
(WP 0826, Table 1, Item 62)

**Equipment Condition**

Parking brake applied. (TM 9-2320-272-10)  
Battery ground cables disconnected.  
(Volume 2, WP 0350)

**Materials/Parts**

Tiedown Strap  
(WP 0827, Table 1, Item 298) Qty: 2

---

**REMOVAL**

1. Remove two tiedown straps (Figure 1, Item 10) and free up ABS wiring connector (Figure 1, Item 9) from air line (Figure 1, Item 1). Discard tiedown straps.
2. Disconnect air dryer heater connector (Figure 1, Item 8) from ABS wiring connector (Figure 1, Item 9).
3. Remove three screws (Figure 1, Item 3), retainer plate (Figure 1, Item 4), and purge shield (Figure 1, Item 5) from air dryer housing (Figure 1, Item 2).
4. Remove air dryer heater (Figure 1, Item 6) and temperature sensor (Figure 1, Item 7) from air dryer housing (Figure 1, Item 2).

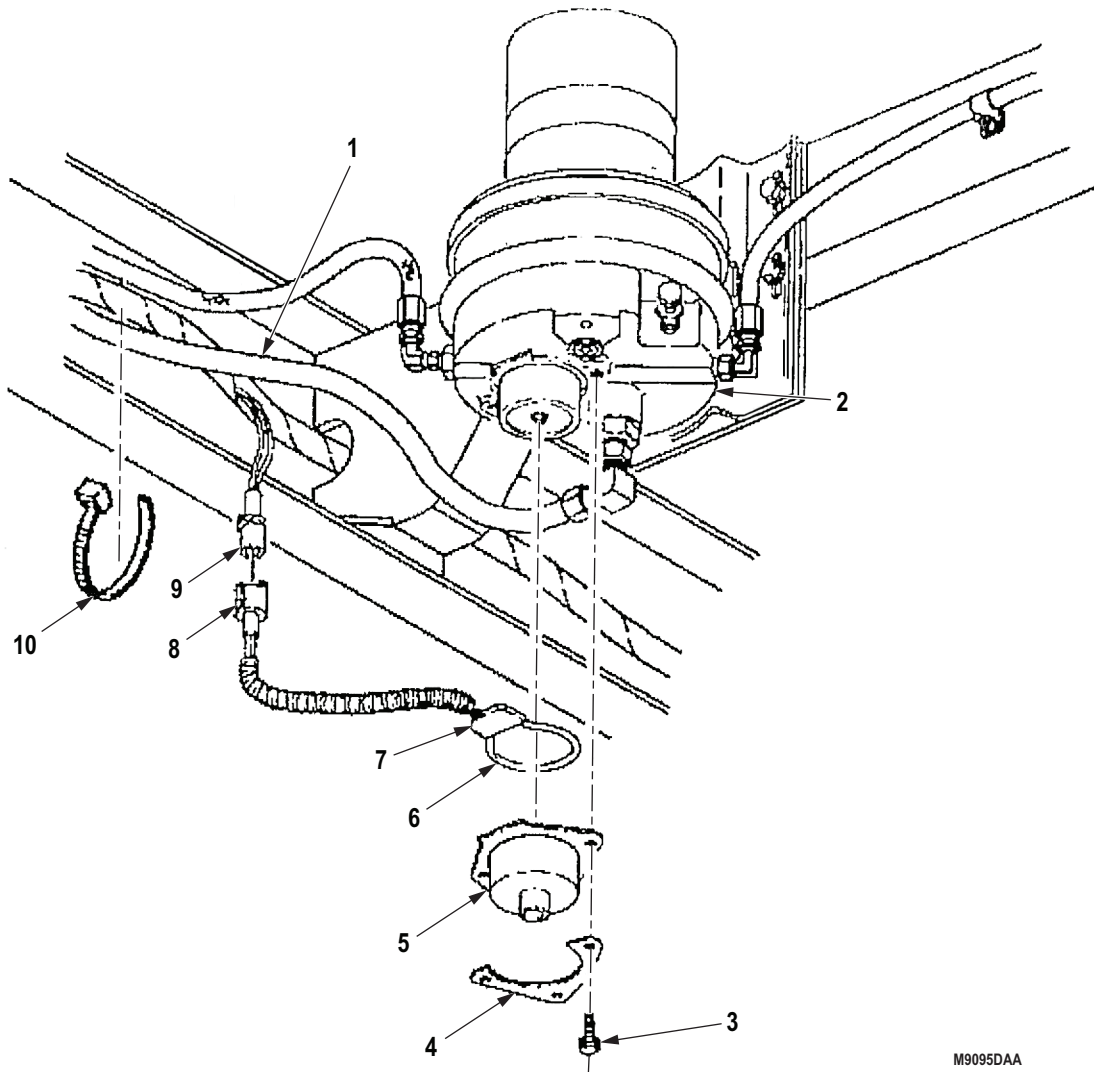


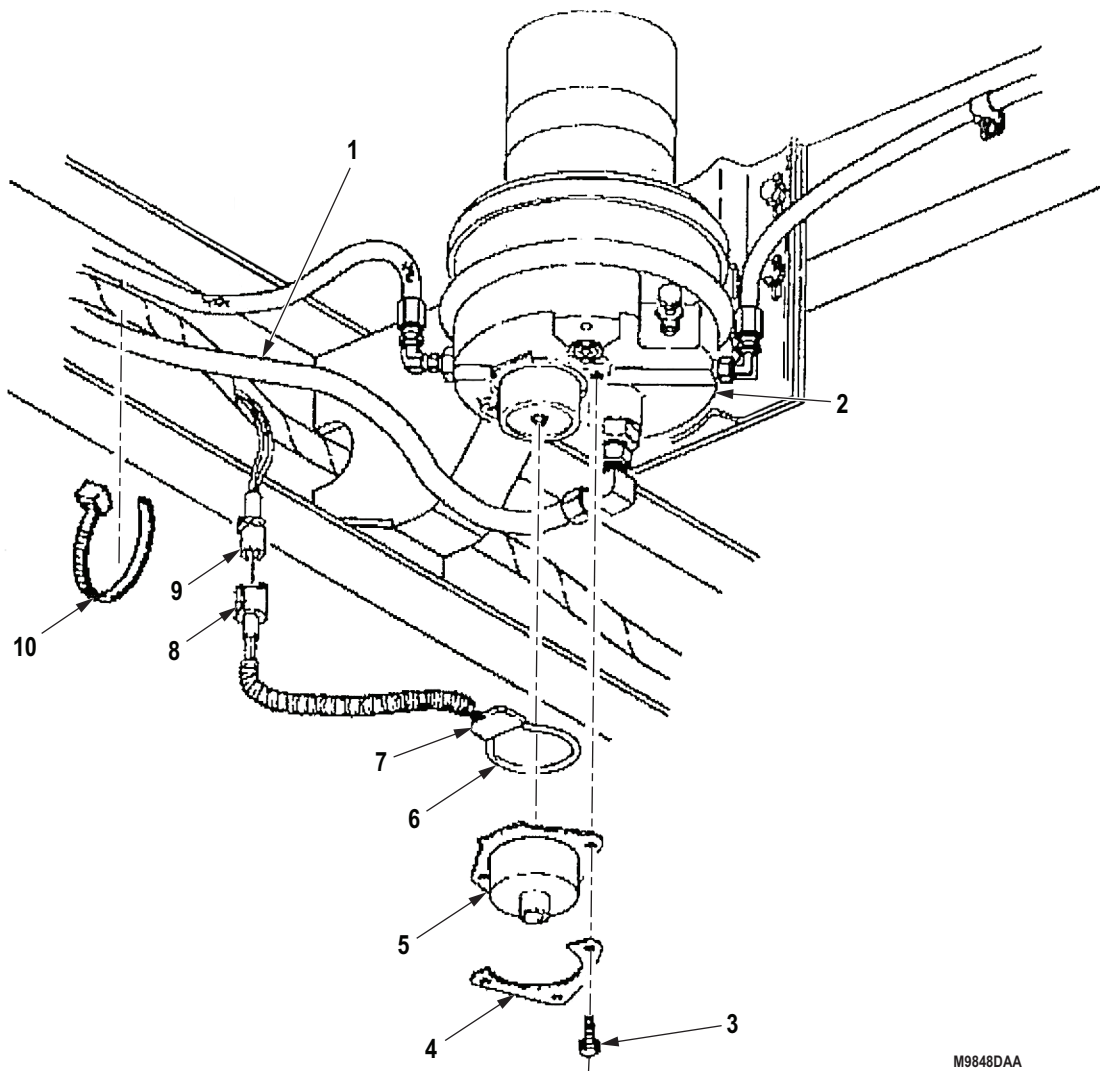
Figure 1. Air Dryer Heater Removal.

**END OF TASK**



**INSTALLATION**

1. Apply small amount of conductive lubricant (supplied in kit) to temperature sensor (Figure 2, Item 7) on air dryer heater (Figure 2, Item 6).
2. Position air dryer heater (Figure 2, Item 6) on air dryer housing (Figure 2, Item 2).
3. Install purge shield (Figure 2, Item 5) and retainer plate (Figure 2, Item 4) on air dryer housing (Figure 2, Item 2) with three screws (Figure 2, Item 3). Tighten screws 30 to 50 lb-in. (3.4 to 5.6 N·m).
4. Route ABS wiring connector (Figure 2, Item 9) along air hose (Figure 2, Item 1) and secure with two tiedown straps (Figure 2, Item 10).
5. Connect air dryer heater connector (Figure 2, Item 8) to ABS wiring connector (Figure 2, Item 9).



M9848DAA

Figure 2. Air Dryer Heater Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Connect battery ground cables. (Volume 2, WP 0350)

**END OF TASK**

**END OF WORK PACKAGE**

---

**FIELD MAINTENANCE  
RELIEF SAFETY VALVE REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts**

Cap Set, Protective, Dust and Moisture Seal  
(WP 0825, Table 1, Item 13)  
Tape, Antiseizing

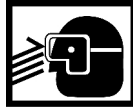
**Materials/Parts (cont.)**

(WP 0825, Table 1, Item 65)  
O-ring (WP 0827, Table 1, Item 96) Qty: 1  
Sleeve (WP 0827, Table 1, Item 234) Qty: 2  
Sleeve (WP 0827, Table 1, Item 259) Qty: 2

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Air reservoirs drained. (TM 9-2320-272-10)

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**REMOVAL****WARNING**

Air pressure may create airborne debris. Use eye protection. Failure to comply may result in injury or death to personnel.

**NOTE**

- There are three relief safety valves, one for each axle. Relief safety valves are mounted the same and perform the same function. This procedure covers maintenance of one relief valve.
  - When removing air lines, plug ends and tag for installation.
  - Perform Steps (1) and (2) for front axle relief safety valve.
1. Disconnect air lines (Figure 1, Items 15, 17, and 19) from connectors (Figure 1, Items 14 and 16) and elbow (Figure 1, Item 21).
  2. Remove sleeve (Figure 1, Item 20), elbow (Figure 1, Item 21), connectors (Figure 1, Item 14 and 16), and reducers (Figure 1, Items 13 and 18) from relief safety valve (Figure 1, Item 9). Discard sleeve.

**NOTE**

Perform Steps (3) and (4) for forward-rear axle relief safety valve.

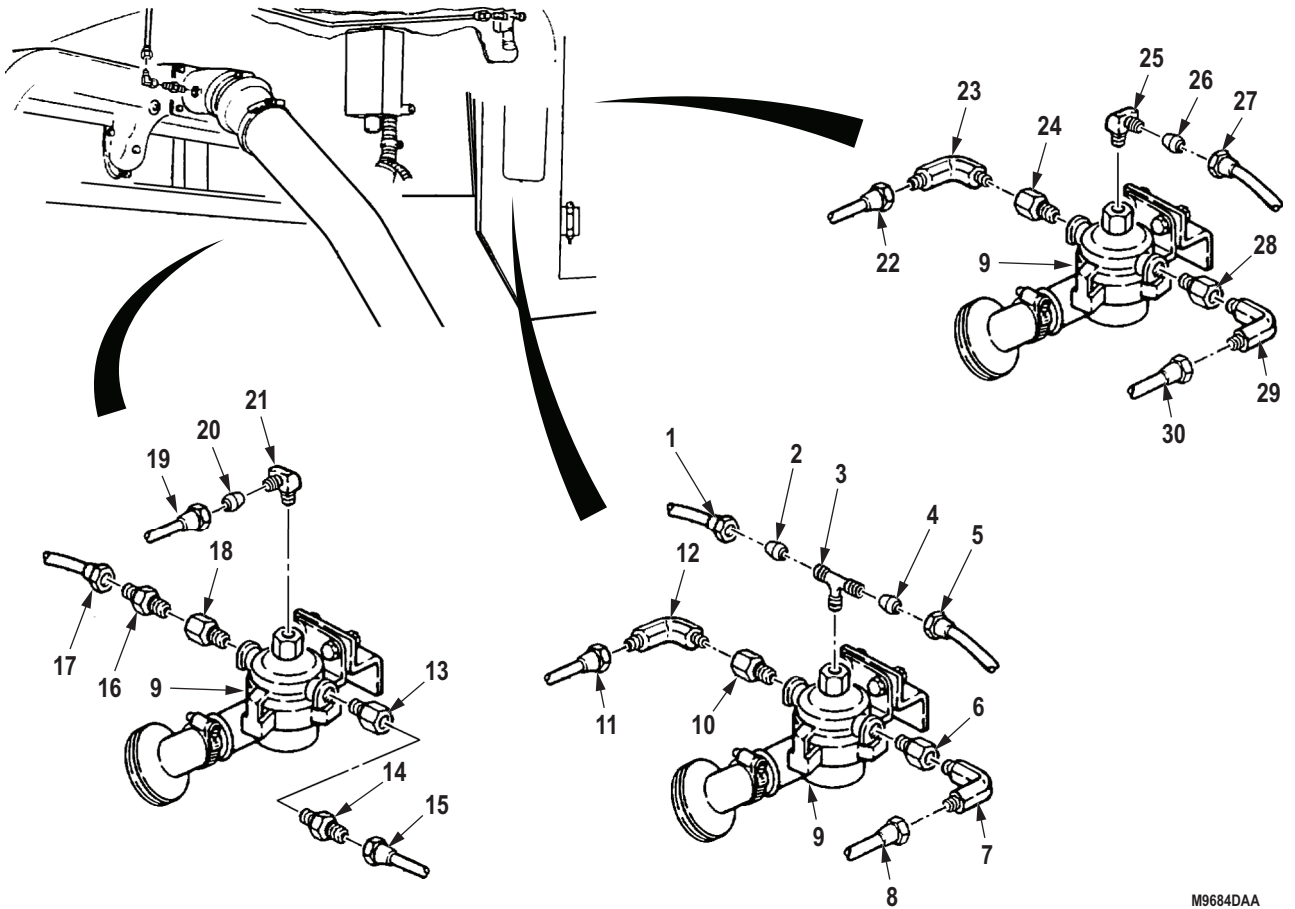
3. Disconnect air lines (Figure 1, Items 1, 5, 8, and 11) from tee (Figure 1, Item 3) and elbows (Figure 1, Items 7 and 12).
4. Remove sleeves (Figure 1, Items 2 and 4), tee (Figure 1, Item 3), elbows (Figure 1, Items 7 and 12), and reducers (Figure 1, Items 6 and 10) from relief safety valve (Figure 1, Item 9). Discard sleeves.

**NOTE**

Perform Steps (5) and (6) for rear-rear axle relief safety valve.

5. Disconnect air lines (Figure 1, Items 22, 27, and 30) elbows (Figure 1, Items 23, 25, and 29)
6. Remove sleeve (Figure 1, Item 26), elbows (Figure 1, Items 23, 25, and 29), and reducers (Figure 2, Items 24 and 28) from relief safety valve. Discard sleeve.

REMOVAL - Continued



M9684DAA

Figure 1. Relief Valve Removal.

**REMOVAL - Continued**

7. Remove two nuts (Figure 2, Item 3), washers (Figure 2, Item 2), screws (Figure 2, Item 16), washers (Figure 2, Item 17), and relief safety valve (Figure 2, Item 1) from bracket (Figure 2, Item 8).
8. Remove nut (Figure 2, Item 10), washer (Figure 2, Item 9), screw (Figure 2, Item 6), washer (Figure 2, Item 5), and bracket (Figure 2, Item 8) from frame (Figure 2, Item 7). Remove spacer (Figure 2, Item 4) (M936A2 vehicles only).
9. Remove clamp (Figure 2, Item 14), duckbill (Figure 2, Item 13), and hose (Figure 2, Item 12) from adapter (Figure 2, Item 11).
10. Remove adapter (Figure 2, Item 11) and o-ring (Figure 2, Item 15) from relief safety valve (Figure 2, Item 1). Discard o-ring.

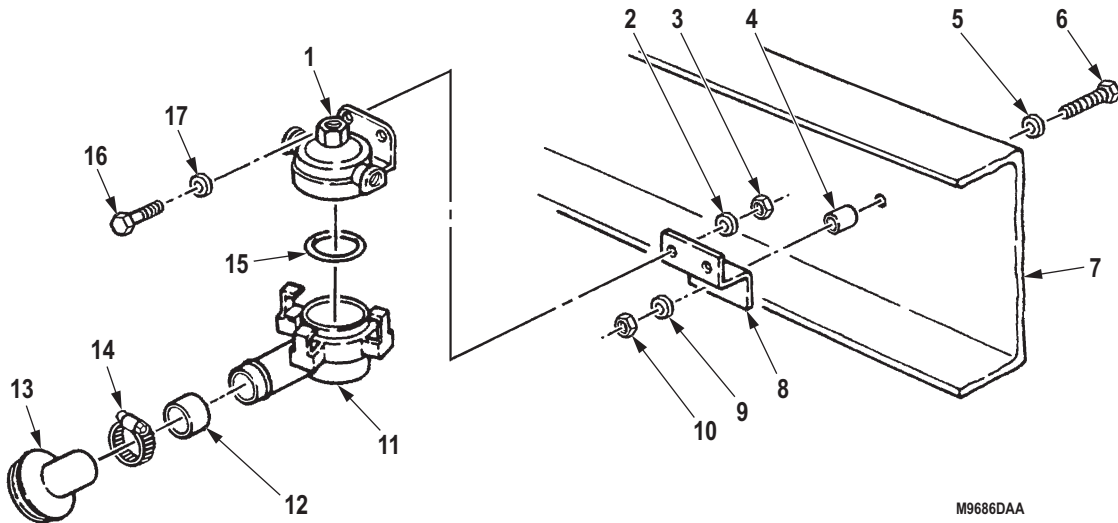


Figure 2. Relief Valve Removal.

**END OF TASK**

**INSTALLATION**

1. For General Cleaning Instructions, refer to (WP 0819).
2. For General Inspection Instructions, refer to (WP 0819).
3. Inspect relief safety valve (Figure 3, Item 1) and adapter (Figure 3, Item 11) for cracks, breaks, or stripped threads. Replace relief safety valve and/or adapter if damaged.
4. Inspect hoses (Figure 3, Item 12) and duckbill (Figure 3, Item 13) for cracks, tears, or deterioration. Replace hose (Figure 3, Item 12) and/or duckbill if damaged.

**NOTE**

M936A2 model vehicles have spacer.

5. Inspect spacer (Figure 3, Item 4), bracket (Figure 3, Item 8), and clamp (Figure 3, Item 14) for cracks, bends, and excessive corrosion. Replace spacer, bracket, or clamp if damaged.
6. Inspect all fittings for stripped threads. Replace if threads are stripped.
7. Install hose (Figure 3, Item 12) and duckbill (Figure 3, Item 13) on adapter (Figure 3, Item 11) with clamp (Figure 3, Item 14).
8. Install o-ring (Figure 3, Item 15) and adapter (Figure 3, Item 11) on relief safety valve (Figure 3, Item 1).
9. Install bracket (Figure 3, Item 8) on frame (Figure 3, Item 7) with washer (Figure 3, Item 5), screw (Figure 3, Item 6), washer (Figure 3, Item 9), and nut (Figure 3, Item 10). Install spacer (Figure 3, Item 4) (M936A2 vehicles only).
10. Install safety relief valve (Figure 3, Item 1) on bracket (Figure 3, Item 8) with two washers (Figure 3, Item 17), screw (Figure 3, Item 16), washer (Figure 3, Item 2), and nuts (Figure 3, Item 3).

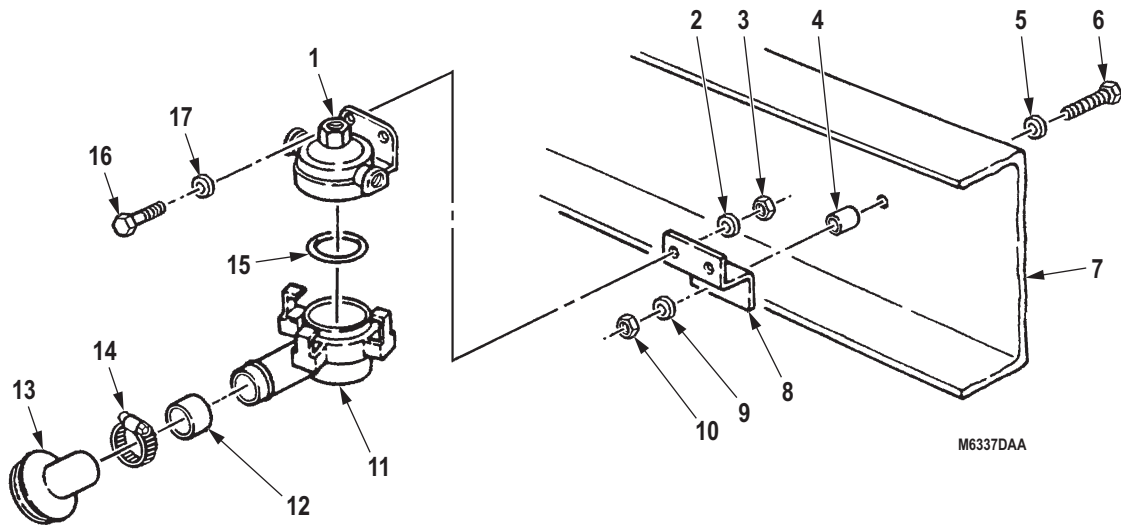


Figure 3. Relief Valve Installation.

**INSTALLATION - Continued****NOTE**

- Wrap all male pipe threads with antiseize tape before installation
  - Perform Steps (11) through (13) for rear-rear axle exhaust valve.
11. Install reducers (Figure 4, Items 24 and 28) and elbows (Figure 4, Items 23, 25, and 29) on relief safety valve (Figure 4, Item 9).
  12. Connect air lines (Figure 4, Items 22 and 30) to elbow (Figure 4, Items 23 and 29).
  13. Insert sleeve (Figure 4, Item 26) on air line (Figure 4, Item 27), and connect air line to elbow (Figure 4, Item 25).

**NOTE**

Perform Steps (6) through (8) for forward-rear axle relief safety valve.

14. Install reducers (Figure 4, Items 6 and 10), elbows (Figure 4, Items 7 and 12) and tee (Figure 4, Item 3) on relief safety valve (Figure 4, Item 9).
15. Connect air lines (Figure 4, Items 8 and 11) on elbows (Figure 4, Items 7 and 12).
16. Insert sleeves (Figure 4, Items 2 and 4) on air lines (Figure 4, Items 1 and 5), and connect air lines to tee (Figure 4, Item 3).

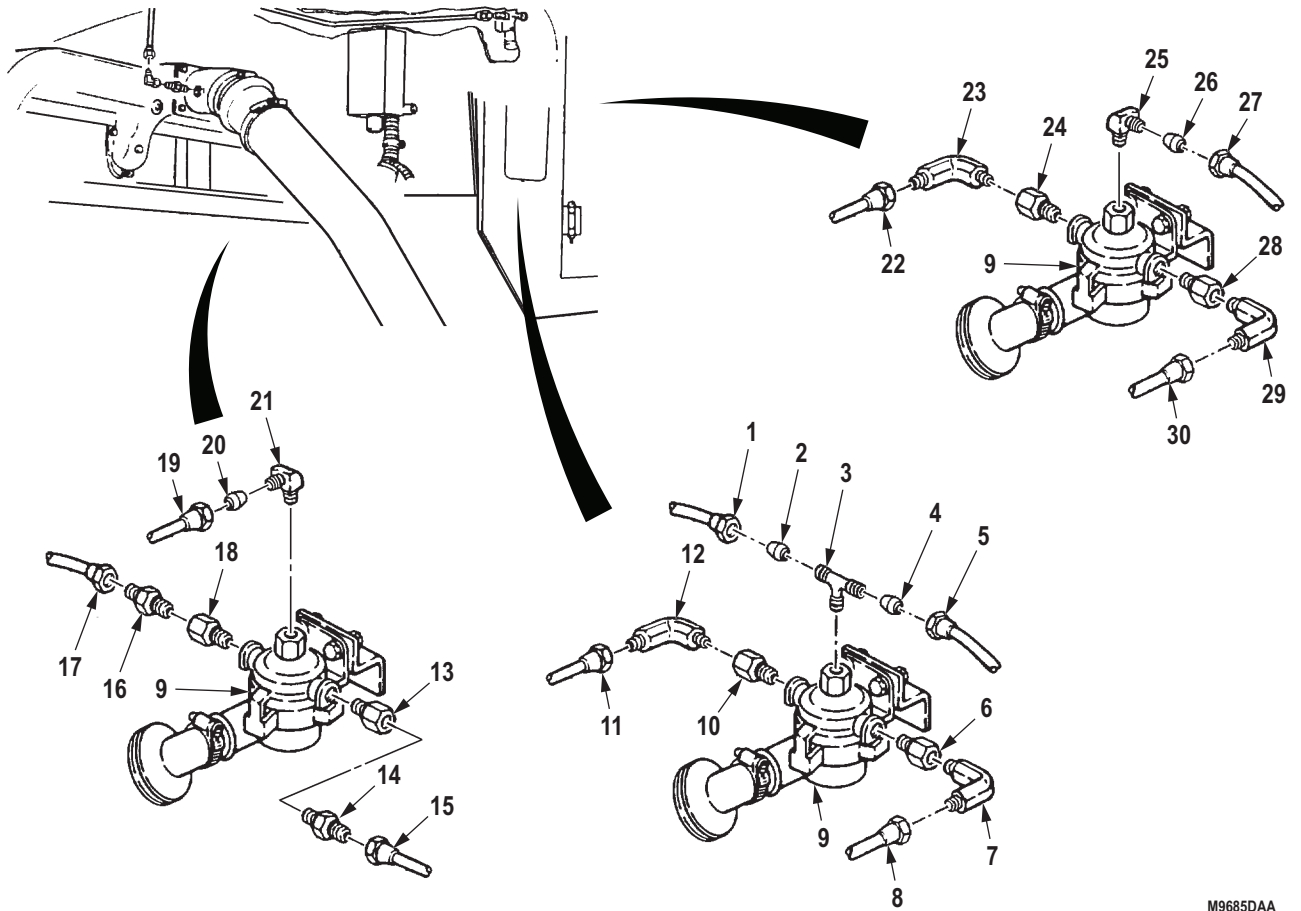
**NOTE**

Perform Steps (17) through (19) for front axle relief safety valve.

17. Install reducers (Figure 4, Items 13 and 18), connectors (Figure 4, Items 14 and 16), and elbow (Figure 4, Item 21) on relief safety valve (Figure 4, Item 9).
18. Connect air lines (Figure 4, Items 15 and 17) to connectors (Figure 4, Items 14 and 16).
19. Insert sleeve (Figure 4, Item 20) on air line (Figure 4, Item 19), and connect air line to elbow (Figure 4, Item 21).



**INSTALLATION - Continued**



M9685DAA

Figure 4. Relief Valve Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Start engine and check for air leaks and proper CTIS operation. (TM 9-2320-272-10)

**END OF TASK**

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE  
PNEUMATIC CONTROLLER AND RELIEF VALVE REPAIR**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)  
Multimeter  
(WP 0826, Table 1, Item 34)

**Materials/Parts (cont.)**

Tape, Antiseizing  
(WP 0825, Table 1, Item 65)  
Relay Valve Kit  
(WP 0827, Table 1, Item 184)

**Materials/Parts**

Petrolatum, Technical  
(WP 0825, Table 1, Item 51)

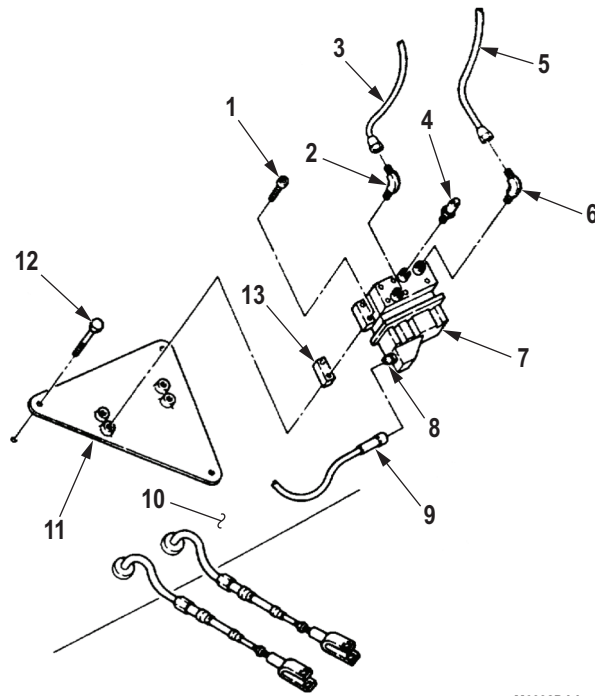
**Equipment Condition**

Air reservoirs drained. (TM 9-2320-272-10)  
Pressure transducer removed. (WP 0812)

---

**REMOVAL**

1. Disconnect connector (Figure 1, Item 9) from solenoid receptacle (Figure 1, Item 8).
2. Disconnect air lines (Figure 1, Items 3 and 5) from elbows (Figure 1, Items 2 and 6).
3. Remove relief valve (Figure 1, Item 4) and elbows (Figure 1, Items 2 and 6) from pneumatic controller (Figure 1, Item 7).
4. Remove four screws (Figure 1, Item 1), pneumatic controller (Figure 1, Item 7), and two spacers (Figure 1, Item 13) from mounting plate (Figure 1, Item 11).
5. Remove three screws (Figure 1, Item 12) and mounting plate (Figure 1, Item 11) from cab floor (Figure 1, Item 10).



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Figure 1. *Pneumatic Controller Removal.*

**END OF TASK**

**DISASSEMBLY**

1. Remove nut (Figure 2, Item 8) from solenoid receptacle (Figure 2, Item 9), and remove six screws (Figure 2, Item 7), solenoid protector (Figure 2, Item 6), and gasket (Figure 2, Item 4) from cover plate (Figure 2, Item 2). Discard solenoid protector and gasket.

**NOTE**

Mark wiring harnesses to correspond to C, D, and S marks on base plate.

2. Remove three nuts (Figure 2, Item 5), wiring harness (Figure 2, Item 10), three gaskets (Figure 2, Item 11), and seats (Figure 2, Item 12) from studs (Figure 2, Item 13) on cover plate (Figure 2, Item 2).
3. Remove six screws (Figure 2, Item 15) and base plate (Figure 2, Item 14) from valve body (Figure 2, Item 1).
4. Remove four screws (Figure 2, Item 3) and cover plate (Figure 2, Item 2) from valve body (Figure 2, Item 1).

**NOTE**

Mark location and position of valve cartridges for installation.

5. Using access through orifice passages (Figure 2, Item 19), carefully pry out valve cartridge (Figure 2, Item 21) and two valve cartridges (Figure 2, Item 16) from valve body ports (Figure 2, Item 18). Discard cartridges.
6. Remove three o-rings (Figure 2, Item 17) and five o-rings (Figure 2, Item 20) from valve body (Figure 2, Item 1). Discard o-rings.

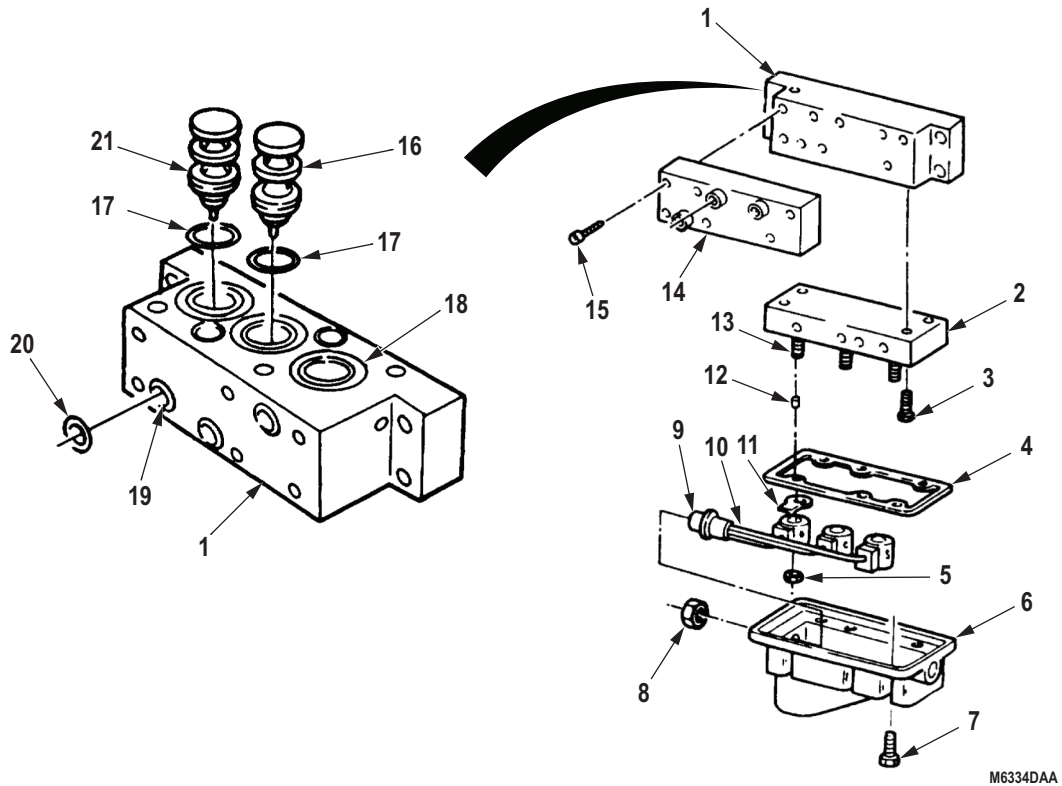
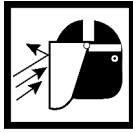


Figure 2. Pneumatic Controller Disassembly.

**END OF TASK**

**CLEANING AND INSPECTION****WARNING**

Eyeshields must be worn when cleaning with compressed air. Compressed air source will not exceed 30 psi (207 kPa). Failure to comply may result in injury or death to personnel.

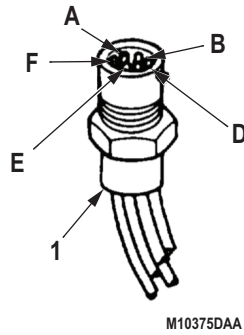
1. Dry all parts and clear all passages with compressed air.
2. Inspect base plate, cover plate, and valve body for cracks and stripped threads. Replace if damaged.
3. Inspect relief valve for bends, cracks, and stripped threads. Replace relief valve if bent, cracked, or threads are stripped.
4. Inspect wiring harness for broken wires or cracked insulation. Replace wiring harness if wires are broken or insulation is cracked.

**NOTE**

Perform Step (5) if condition of wiring harness, as inspected in Step (4), is satisfactory.

5. Using the following table, Electrical Connections, check wiring harness (Figure 3, Item 1) for continuity as follows:
  - a. Check for continuity between pin A and pin E.
  - b. Check for continuity between pin A and pin F.
  - c. Check for continuity between pin B and pin D.
  - d. Replace wiring harness if continuity check a, b, or c fails.

**CLEANING AND INSPECTION - Continued**



*Figure 3. Wiring Harness Inspection.*

**Table 1. Electrical Connections.**

Pin	Wire	Label
A	Common wire from inflate and de- flate valve	--
B	Common wire from exhaust valve	--
D	Hot wire from exhaust valve	C-Control
E	Hot wire from exhaust valve	D-Deflate
F	Hot wire from exhaust valve	S-Supply

**END OF TASK**

**ASSEMBLY**

1. Install three o-rings (Figure 4, Item 3) on valve body ports (Figure 4, Item 4) and five o-rings (Figure 4, Item 20) on valve body ports (Figure 4, Item 21).
2. Apply a thin coat of petrolatum to two valve cartridges (Figure 4, Item 2) and valve cartridge (Figure 4, Item 1), and install valve cartridges on valve body (Figure 4, Item 5).
3. Install cover plate (Figure 4, Item 6) on valve body (Figure 4, Item 5) with four screws (Figure 4, Item 7).
4. Install base plate (Figure 4, Item 18) on valve body (Figure 4, Item 5) with six screws (Figure 4, Item 19).

**NOTE**

Ensure marked wiring harness ends correspond to C, D, and S marks on base plate.

5. Install three seats (Figure 4, Item 16), gaskets (Figure 4, Item 15), and wiring harness (Figure 4, Item 9) on cover plate studs (Figure 4, Item 17) with three nuts (Figure 4, Item 10).
6. Install gasket (Figure 4, Item 8) on solenoid protector (Figure 4, Item 12).
7. Route solenoid receptacle (Figure 4, Item 14) through hole in solenoid protector (Figure 4, Item 12), and install solenoid receptacle on solenoid protector with nut (Figure 4, Item 13).
8. Install solenoid protector (Figure 4, Item 12) on cover plate (Figure 4, Item 6) with six screws (Figure 4, Item 11).



ASSEMBLY - Continued

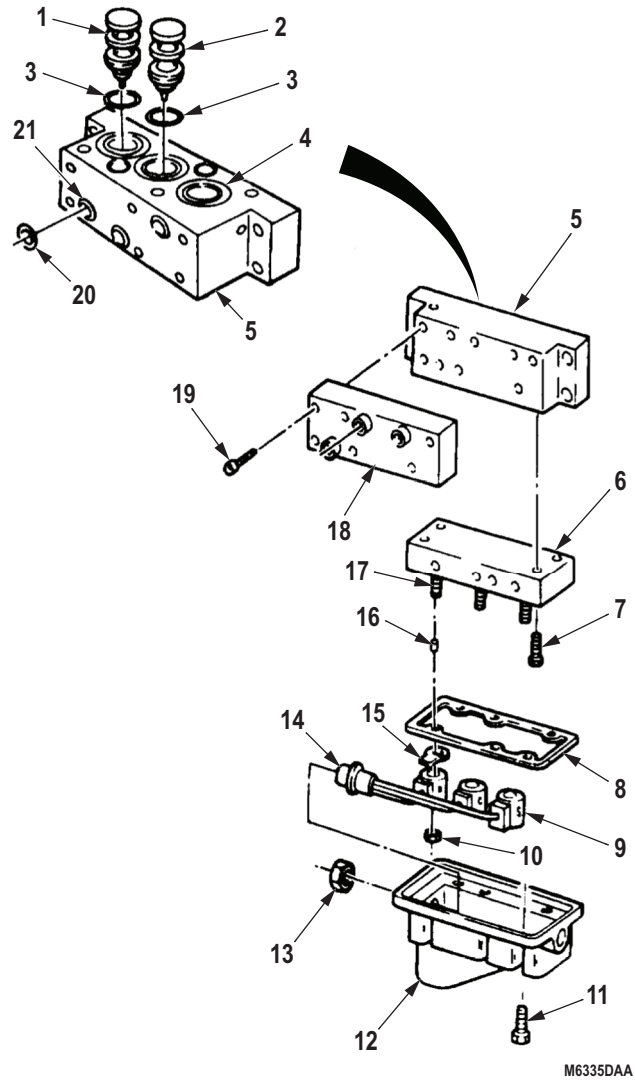


Figure 4. Pneumatic Controller Assembly.

END OF TASK

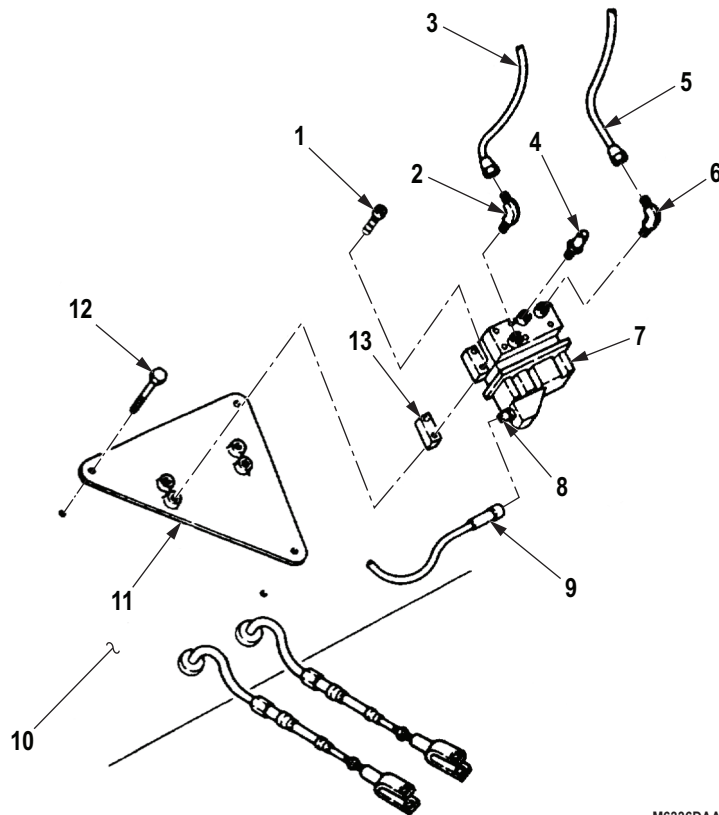
**INSTALLATION**

1. Install two spacers (Figure 5, Item 13) and pneumatic controller (Figure 5, Item 7) on mounting plate (Figure 5, Item 11) with four screws (Figure 5, Item 1).
2. Install mounting plate (Figure 5, Item 11) and pneumatic controller (Figure 5, Item 7) on cab floor (Figure 5, Item 10) with three screws (Figure 5, Item 12).

**NOTE**

Wrap all male threads with antiseize tape before installation.

3. Install elbows (Figure 5, Items 2 and 6) and relief valve (Figure 5, Item 4) on pneumatic controller (Figure 5, Item 7).
4. Connect lines (Figure 5, Items 3 and 5) to elbows (Figure 5, Items 2 and 6).
5. Connect connector (Figure 5, Item 9) to solenoid receptacle (Figure 5, Item 8).



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Figure 5. Pneumatic Controller Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Start engine and check for air leaks and proper CTIS operation. (TM 9-2320-272-10)

**END OF TASK**

**END OF WORK PACKAGE**



---

**FIELD MAINTENANCE  
WATER SEPARATOR REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**References**

WP 0819

**Materials/Parts**

Grease, Automotive and Artillery  
(WP 0825, Table 1, Item 29, 30, 31, 32, 33)  
Fluid Pressure Kit  
(WP 0827, Table 1, Item 123)

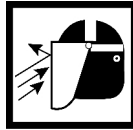
**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Air reservoirs drained. (TM 9-2320-272-10)

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**REMOVAL**

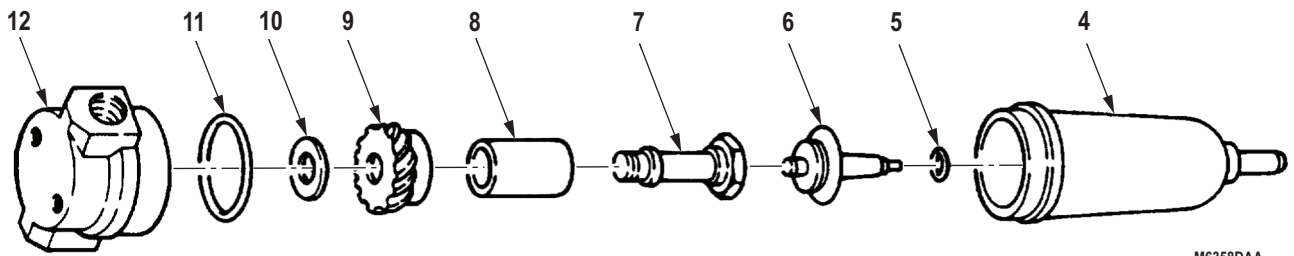
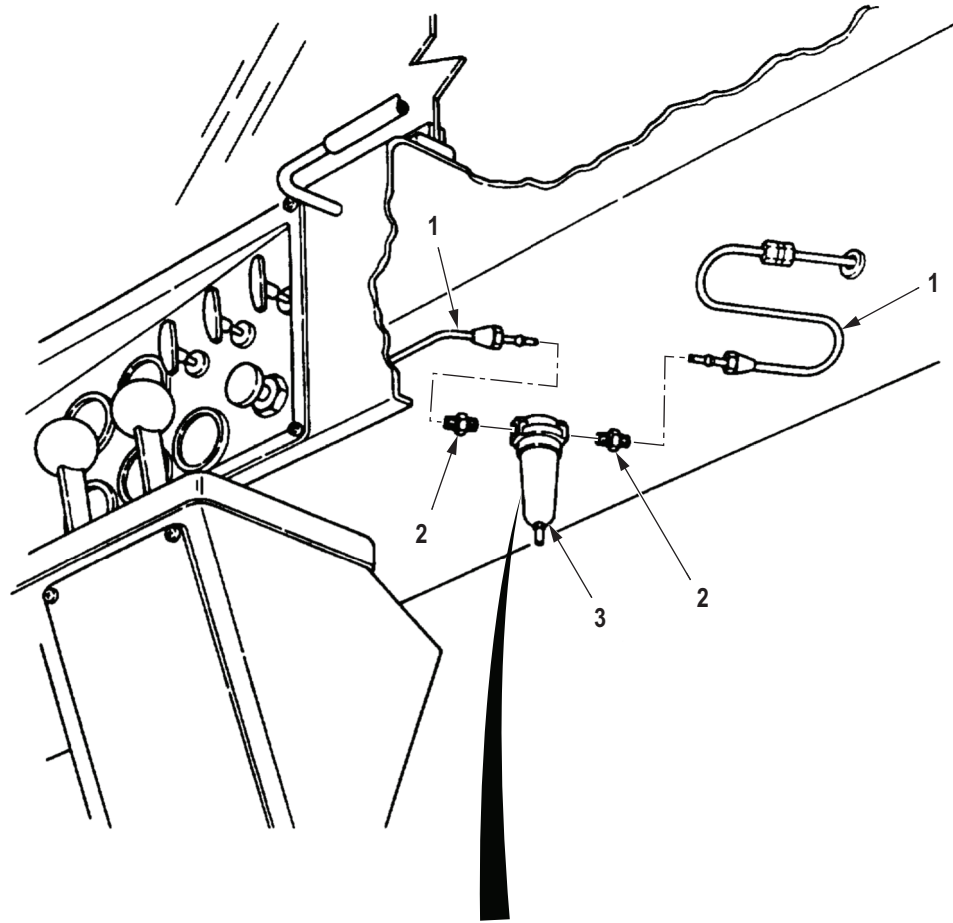
1. Disconnect two air lines (Figure 1, Item 1) from adapters (Figure 1, Item 2) on water separator (Figure 1, Item 3).
2. Remove two adapters (Figure 1, Item 2) from water separator (Figure 1, Item 3).
3. Remove body (Figure 1, Item 12) from bowl (Figure 1, Item 4).
4. Remove stud (Figure 1, Item 7), filter (Figure 1, Item 8), louver (Figure 1, Item 9), gasket (Figure 1, Item 10), and o-ring (Figure 1, Item 11) from body (Figure 1, Item 12). Discard filter, gasket, and o-ring.
5. Remove automatic drain valve (Figure 1, Item 6) and o-ring (Figure 1, Item 5) from bowl (Figure 1, Item 4). Discard o-ring.
6. For General Inspection Instructions, refer to (WP 0819).
7. Clean bowl (Figure 1, Item 4) with warm water and all other parts with soap and warm water.

**WARNING**

Eyeshields must be worn when cleaning with compressed air. Compressed air source will not exceed 30 psi (207 kPa). Failure to comply may result in injury or death to personnel.

8. From inside body (Figure 1, Item 12) blow out internal passages with compressed air.

REMOVAL - Continued



M6358DAA

Figure 1. Water Separator Removal.

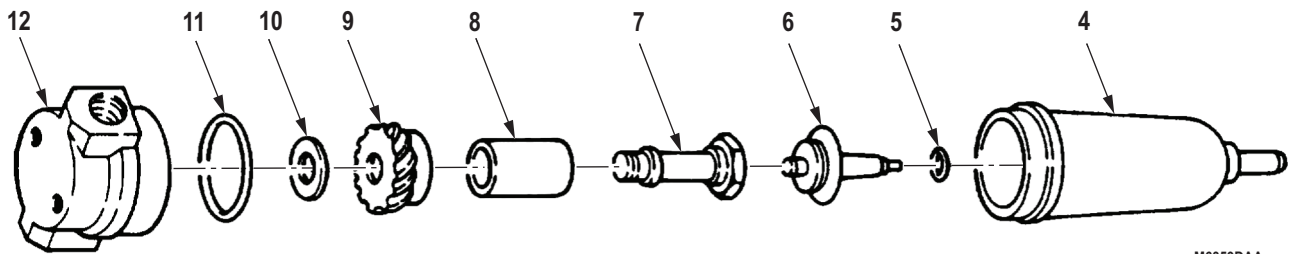
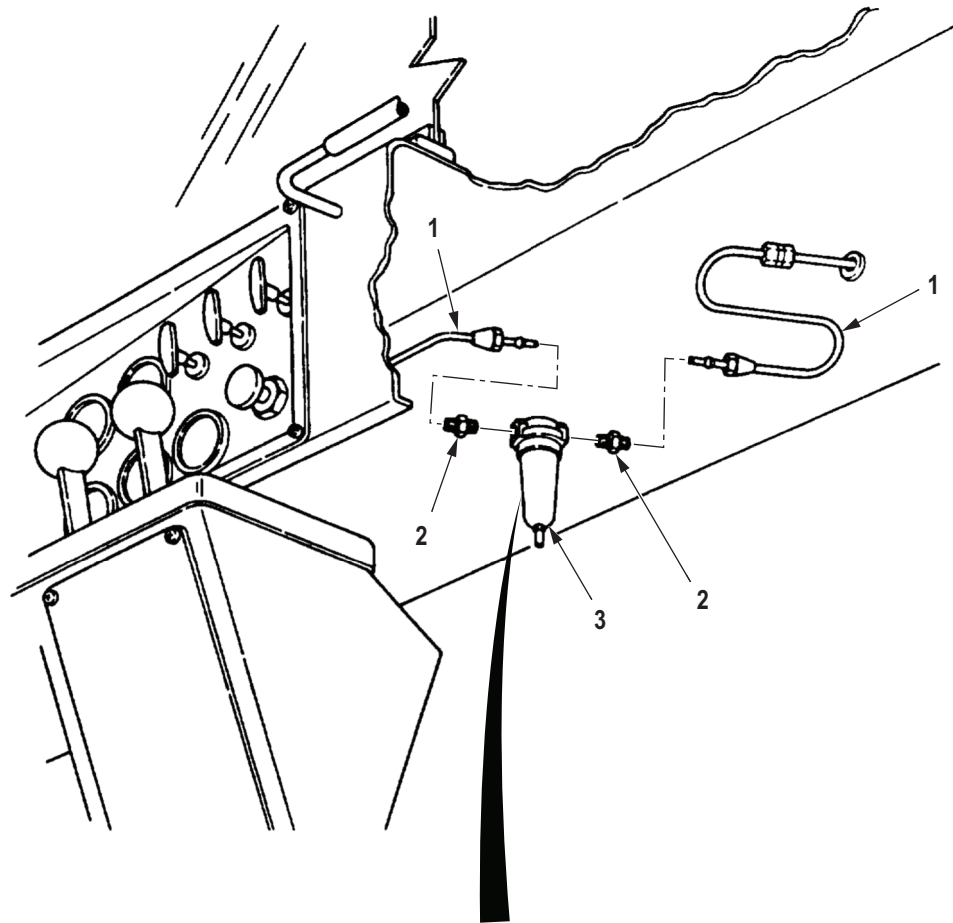
END OF TASK

**INSTALLATION**

1. Coat lip of automatic drain valve (Figure 2, Item 6) with grease and install o-ring (Figure 2, Item 5) and automatic drain valve (Figure 2, Item 6) in bowl (Figure 2, Item 4).
2. Install o-ring (Figure 2, Item 11), gasket (Figure 2, Item 10), louver (Figure 2, Item 9), and filter (Figure 2, Item 8) on body (Figure 2, Item 12) with stud (Figure 2, Item 7).
3. Install body (Figure 2, Item 12) on bowl (Figure 2, Item 4).
4. Install two adapters (Figure 2, Item 2) on water separator (Figure 2, Item 3).
5. Connect two air lines (Figure 2, Item 1) to adapters (Figure 2, Item 2).



**INSTALLATION - Continued**



M6359DAA

*Figure 2. Water Separator Installation.*

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Start engine and check for leaks. (TM 9-2320-272-10)

**END OF TASK**

**END OF WORK PACKAGE**



## FIELD MAINTENANCE PRESSURE TRANSDUCER REPLACEMENT

### INITIAL SETUP:

#### Tools and Special Tools

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

#### Equipment Condition

Parking brake set. (TM 9-2320-272-10)  
Air reservoirs drained. (TM 9-2320-272-10)

#### Materials/Parts

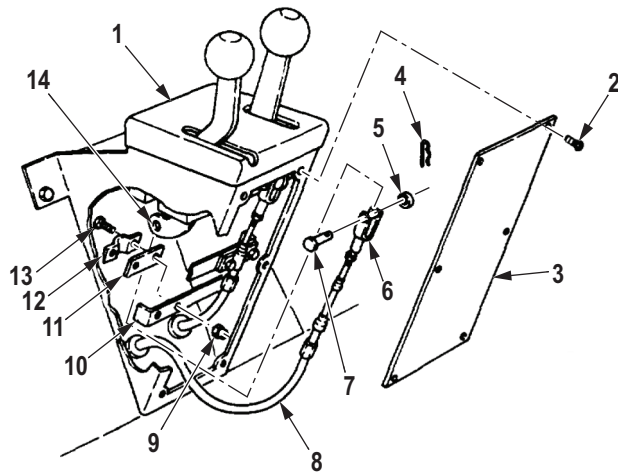
Cotter Pin (WP 0827, Table 1, Item 9) Qty: 2  
Lockwasher  
(WP 0827, Table 1, Item 394) Qty: 3

### REMOVAL

#### NOTE

Perform Steps (1) through (7) for vehicles equipped with PTO.

1. Remove six screws (Figure 1, Item 2) and access cover (Figure 1, Item 3) from shift panel (Figure 1, Item 1).
2. Remove two nuts (Figure 1, Item 9), screws (Figure 1, Item 13), clamp (Figure 1, Item 12), PTO control cable (Figure 1, Item 8), and spacer (Figure 1, Item 11) from bracket (Figure 1, Item 10).
3. Remove cotter pin (Figure 1, Item 4), washer (Figure 1, Item 5), clevis pin (Figure 1, Item 7), and clevis (Figure 1, Item 6) from control lever (Figure 1, Item 14). Discard cotter pin.



M10250DAA

Figure 1. Pressure Transducer Removal.

**REMOVAL - Continued**

4. Remove two nuts (Figure 2, Item 3), screws (Figure 2, Item 8), clamp (Figure 2, Item 7), front winch control cable (Figure 2, Item 6), and spacer (Figure 2, Item 5) from bracket (Figure 2, Item 4).
5. Remove cotter pin (Figure 2, Item 10), washer (Figure 2, Item 11), clevis pin (Figure 2, Item 9), and clevis (Figure 2, Item 1) from shift lever (Figure 2, Item 2). Discard cotter pin.

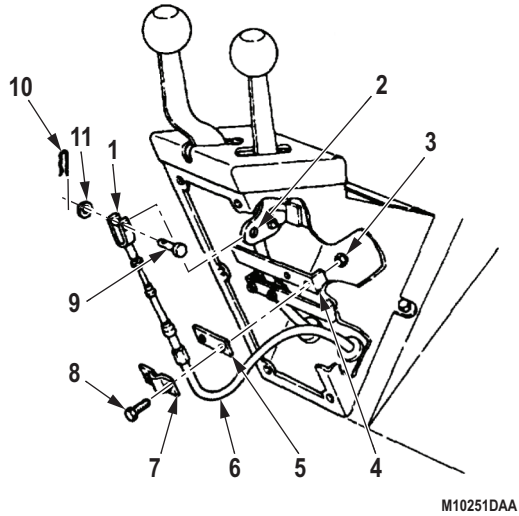


Figure 2. Pressure Transducer Removal.

**REMOVAL - Continued**

6. Remove three screws (Figure 3, Item 2), lockwashers (Figure 3, Item 1), and PTO control panel assembly (Figure 3, Item 3) from mounting plate (Figure 3, Item 4) and cab floor (Figure 3, Item 5). Discard lockwashers.
7. Install three screws (Figure 3, Item 2) on mounting plate (Figure 3, Item 4) and cab floor (Figure 3, Item 5) to hold pneumatic controller (Figure 3, Item 6) in place.

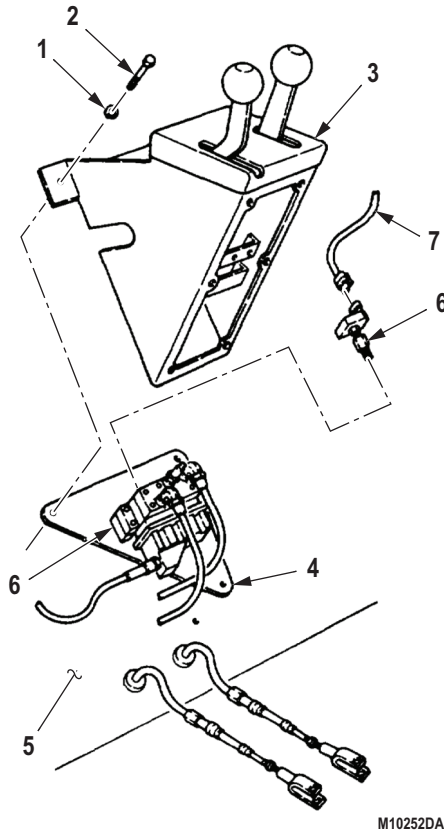
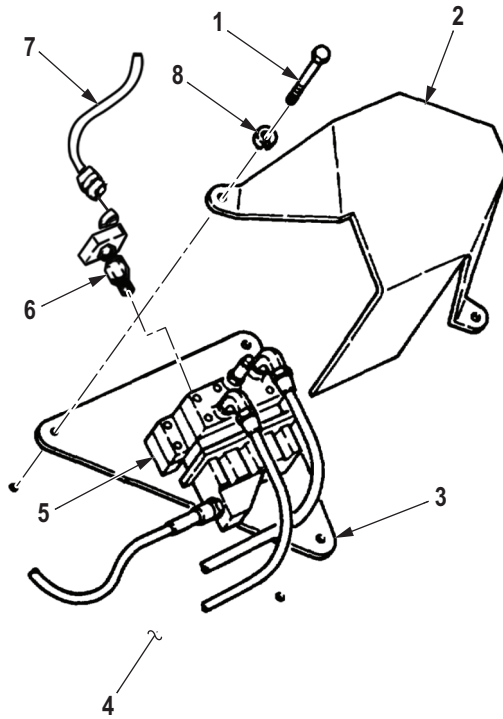


Figure 3. Pressure Transducer Removal.

**REMOVAL - Continued****NOTE**

Perform Steps (8) and (9) for vehicles without PTO.

8. Remove three screws (Figure 4, Item 1), lockwashers (Figure 4, Item 8), and cover (Figure 4, Item 2) from mounting plate (Figure 4, Item 3) and cab floor (Figure 4, Item 4).
9. Install three screws (Figure 4, Item 1) on mounting plate (Figure 4, Item 3) and cab floor (Figure 4, Item 4) to hold pneumatic controller (Figure 4, Item 5) in place.
10. Disconnect wire (Figure 4, Item 7) from pressure transducer (Figure 4, Item 6).
11. Remove pressure transducer (Figure 4, Item 6) from pneumatic controller (Figure 4, Item 5).



M6329DAA

Figure 4. Pressure Transducer Removal.

**END OF TASK**

**INSTALLATION**

1. Install pressure transducer (Figure 5, Item 2) on pneumatic controller (Figure 5, Item 3) and connect wire (Figure 5, Item 1) to pressure transducer (Figure 5, Item 2).

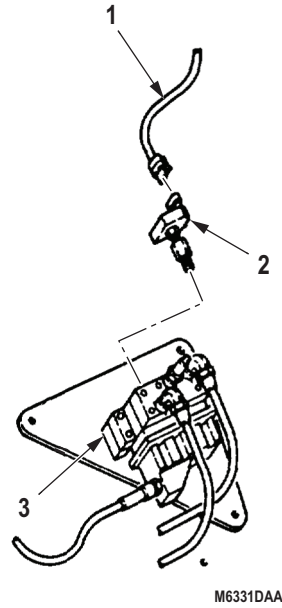


Figure 5. Pressure Transducer Installation.

**INSTALLATION - Continued****NOTE**

Perform Steps (2) and (3) for vehicles without PTO.

2. Remove three screws (Figure 6, Item 2) from mounting plate (Figure 6, Item 4) and cab floor (Figure 6, Item 5).
3. Install cover (Figure 6, Item 3) on mounting plate (Figure 6, Item 4) and cab floor (Figure 6, Item 5) with three lockwashers (Figure 6, Item 1) and screws (Figure 6, Item 2).

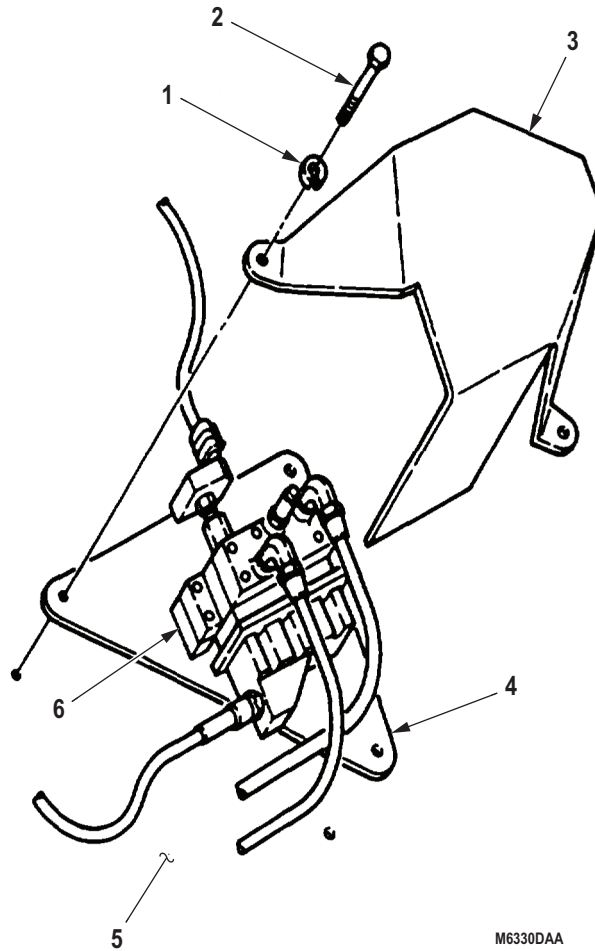


Figure 6. *Pneumatic Controller Installation.*



**INSTALLATION - Continued****NOTE**

Perform Steps (4) and (10) for vehicles equipped with PTO.

4. Remove three screws (Figure 7, Item 1) from mounting plate (Figure 7, Item 3) and cab floor (Figure 7, Item 4).
5. Install PTO control panel assembly (Figure 7, Item 2) on mounting plate (Figure 7, Item 3) and cab floor (Figure 7, Item 4) with three lockwashers (Figure 7, Item 5) and screws (Figure 7, Item 1).

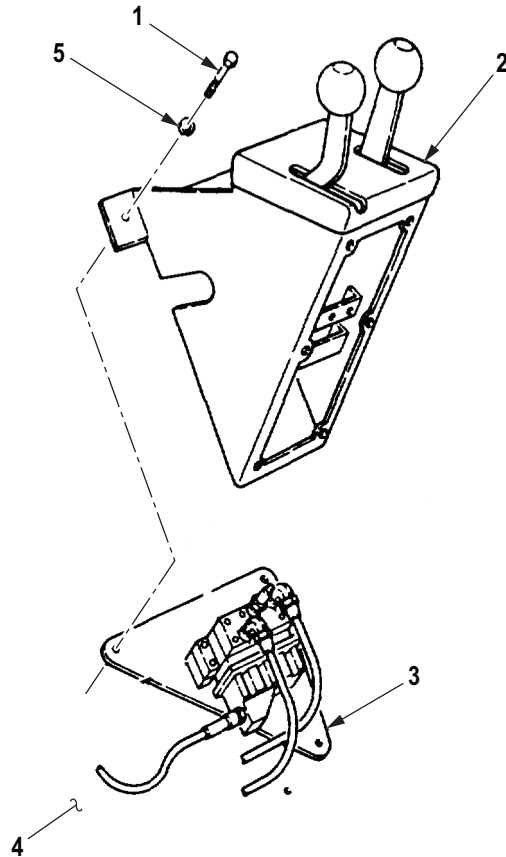


Figure 7. Pneumatic Transducer Installation.

**INSTALLATION - Continued**

6. Install clevis (Figure 8, Item 10) on shift lever (Figure 8, Item 3) with clevis pin (Figure 8, Item 12), washer (Figure 8, Item 11), and cotter pin (Figure 8, Item 1).
7. Install front winch control cable (Figure 8, Item 7) on bracket (Figure 8, Item 5) with spacer (Figure 8, Item 6), clamp (Figure 8, Item 9), two screws (Figure 8, Item 8), and nuts (Figure 8, Item 4).

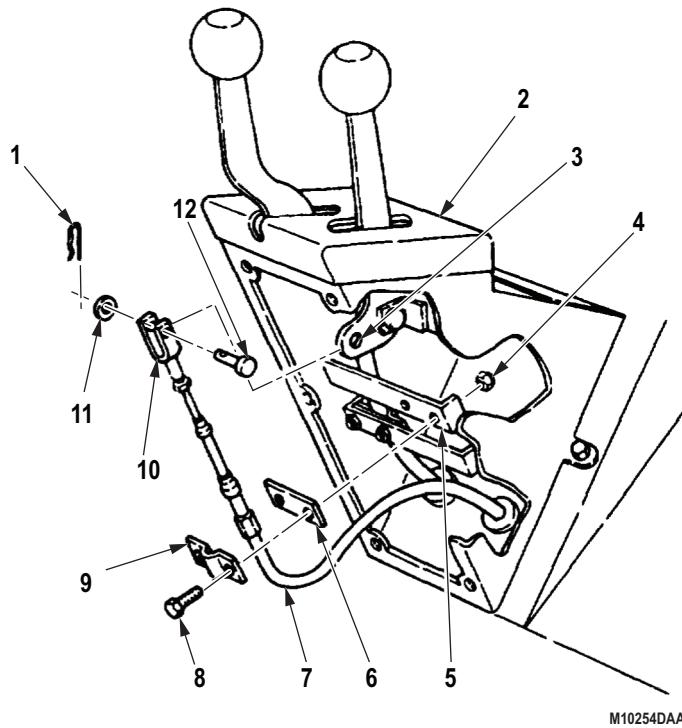


Figure 8. Pneumatic Transducer Installation.

**INSTALLATION - Continued**

8. Install clevis (Figure 9, Item 6) on shift lever (Figure 9, Item 14) with clevis pin (Figure 9, Item 7), washer (Figure 9, Item 4), and cotter pin (Figure 9, Item 3).
9. Install PTO control cable (Figure 9, Item 8) on bracket (Figure 9, Item 10) with spacer (Figure 9, Item 11), clamp (Figure 9, Item 12), two screws (Figure 9, Item 13), and nuts (Figure 9, Item 9).
10. Install access cover (Figure 9, Item 5) on shift panel (Figure 9, Item 1) with six screws (Figure 9, Item 2).

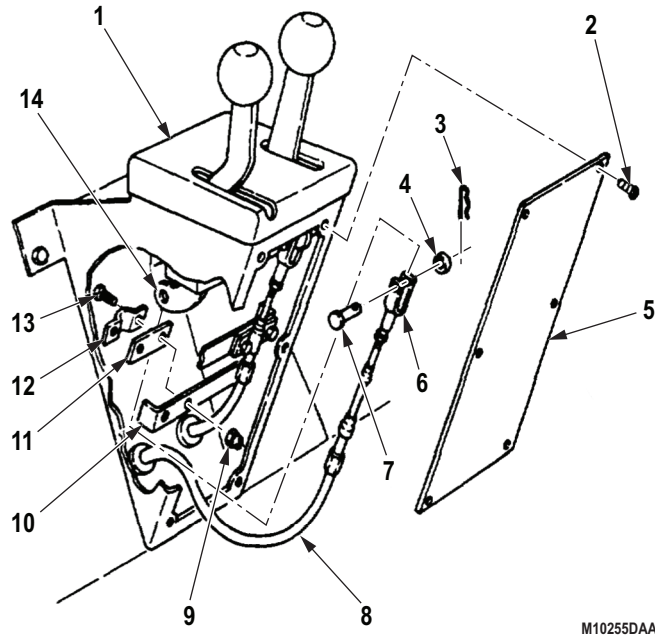


Figure 9. Pressure Transducer Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Start engine and check for leaks and proper CTIS operation. (TM 9-2320-272-10)

**END OF TASK**

**END OF WORK PACKAGE**



---

**FIELD MAINTENANCE**  
**ELECTRONIC CONTROL UNIT (ECU) REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)  
Battery ground cables disconnected.  
(Volume 2, WP 0350)

---

**REMOVAL****CAUTION**

Use extreme care when handling ECU. Failure to do so may result in damage to internal components.

1. Disconnect CTIS wiring harness connector (Figure 1, Item 1) from ECU receptacle (Figure 1, Item 5).
2. Remove three screws (Figure 1, Item 3) and ECU (Figure 1, Item 4) from transmission shifter tower (Figure 1, Item 2).

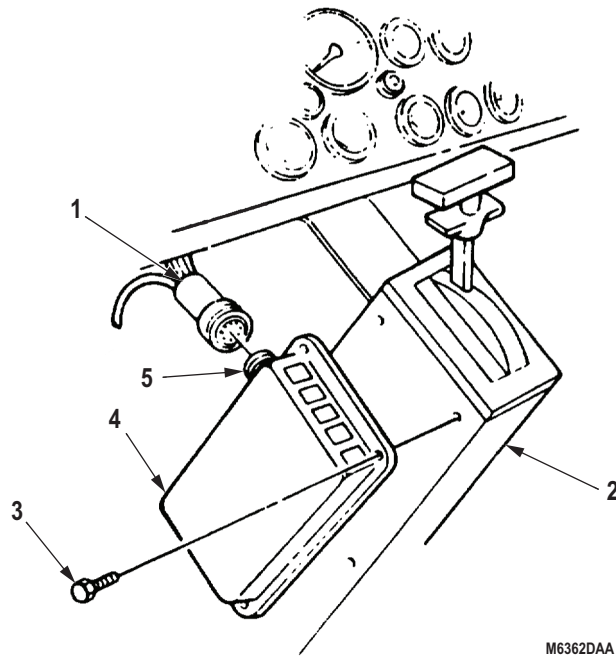


Figure 1. Electronic Control Unit Removal.

**END OF TASK**

**INSTALLATION**

1. Install ECU (Figure 2, Item 4) on transmission shifter tower (Figure 2, Item 2) with three screws (Figure 2, Item 3).
2. Connect CTIS wiring harness connector (Figure 2, Item 1) to ECU receptacle (Figure 2, Item 5).

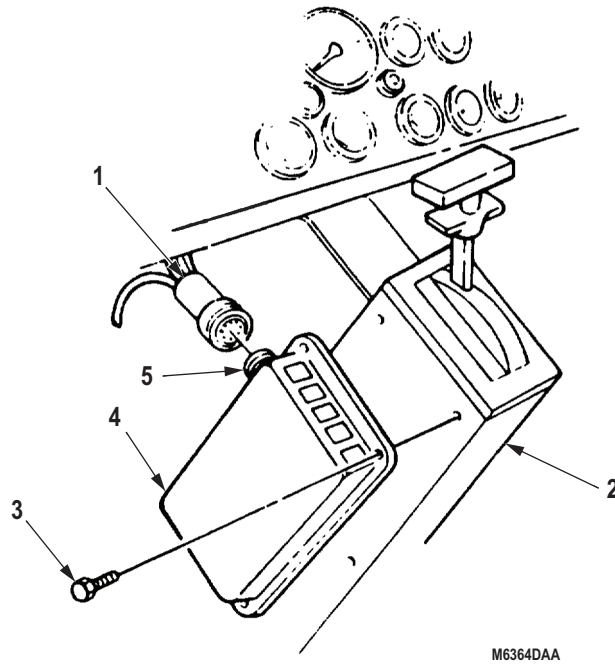


Figure 2. Electronic Control Unit Installation.

**END OF TASK****FOLLOW-ON MAINTENANCE**

1. Connect battery ground cables. (Volume 2, WP 0350)
2. Start engine and check CTIS for proper operation. (TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**

## FIELD MAINTENANCE SPEEDOMETER DRIVESHAFT MAINTENANCE

### INITIAL SETUP:

#### Tools and Special Tools

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)  
Wrench, Torque, Click, Ratcheting, 1/2" Drive,  
250 Ft-Lb  
(WP 0826, Table 1, Item 63)

#### Equipment Condition

Parking brake set. (TM 9-2320-272-10)

#### Materials/Parts

Grease, Automotive and Artillery  
(WP 0825, Table 1, Item 28)  
Tiedown Strap  
(WP 0827, Table 1, Item 379) Qty: 5

### REMOVAL

1. Remove screw (Figure 1, Item 5), washer (Figure 1, Item 4), two clamps (Figure 1, Item 2), speedometer driveshaft (Figure 1, Item 6), and clamp (Figure 1, Item 3) from air intake manifold (Figure 1, Item 1).

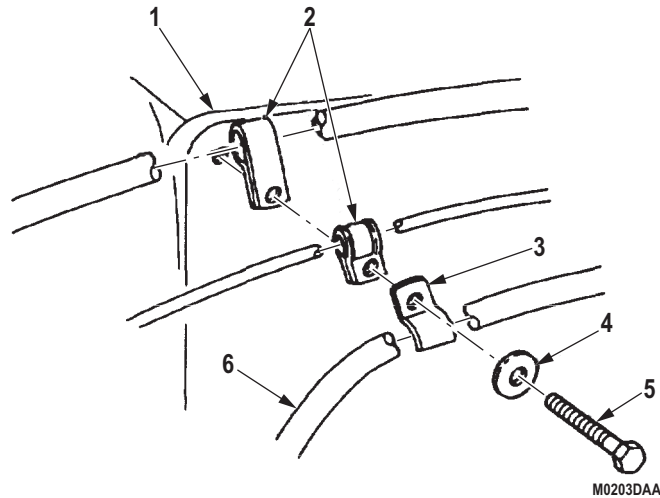
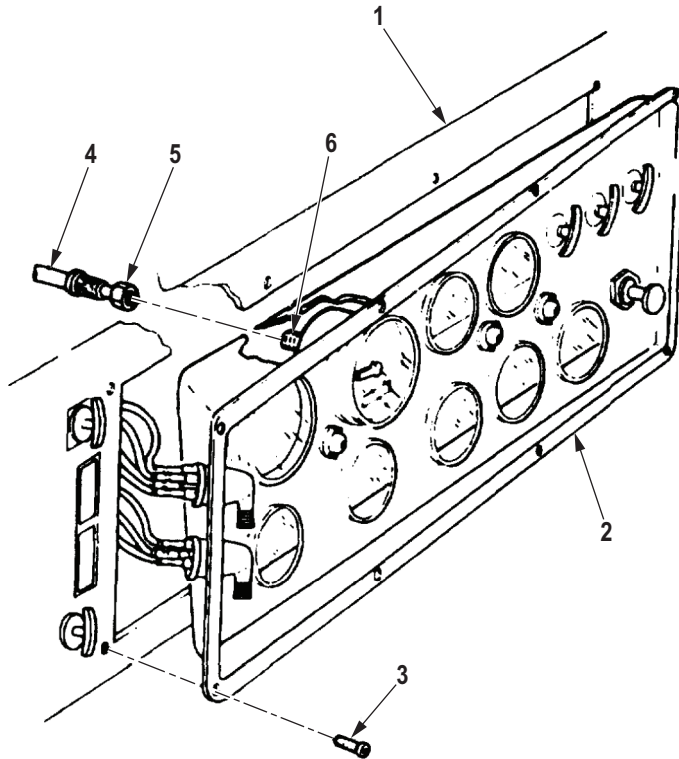


Figure 1. Speedometer Driveshaft Removal.

**REMOVAL - Continued**

2. Remove eight screws (Figure 2, Item 3) from instrument cluster (Figure 2, Item 2), and pull instrument cluster away from instrument panel (Figure 2, Item 1).
3. Loosen shaft nut (Figure 2, Item 5) and disconnect speedometer driveshaft (Figure 2, Item 4) from speedometer (Figure 2, Item 6).



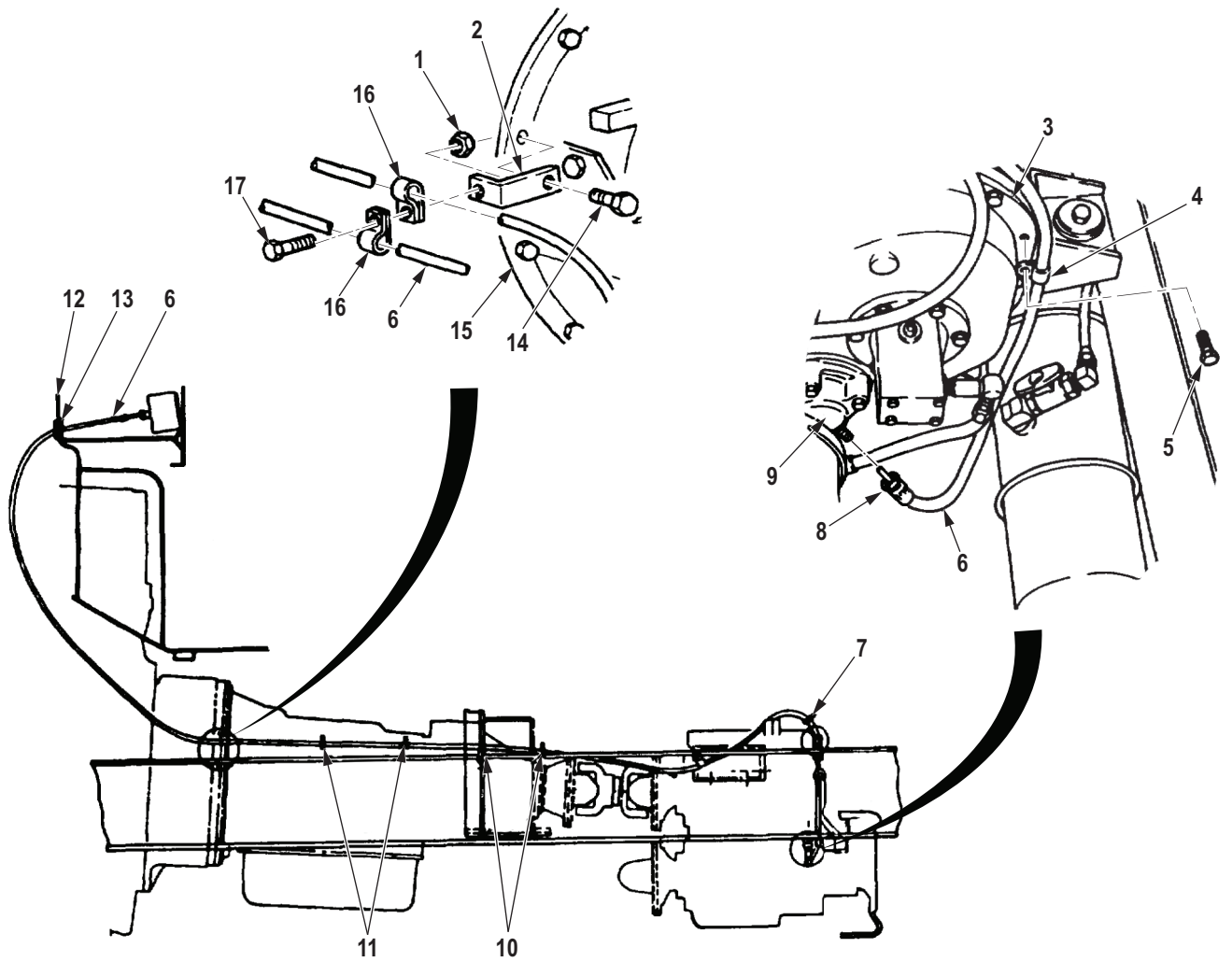
M0204DAA

*Figure 2. Speedometer Driveshaft Removal.*

4. Remove nut (Figure 3, Item 1), screw (Figure 3, Item 17), and clamps (Figure 3, Item 16) from bracket (Figure 3, Item 2) on engine bell housing (Figure 3, Item 15).
5. Remove screw (Figure 3, Item 14) and bracket (Figure 3, Item 2) from engine bell housing (Figure 3, Item 15).
6. Remove clamp (Figure 3, Item 16) from speedometer driveshaft (Figure 3, Item 6).
7. Remove screw (Figure 3, Item 5) and clamp (Figure 3, Item 4) from transfer case (Figure 3, Item 3).
8. Remove clamp (Figure 3, Item 4) from speedometer driveshaft (Figure 3, Item 6).
9. Disconnect shaft nut (Figure 3, Item 8) from transfer case input gear cover (Figure 3, Item 9).
10. Remove five tiedown straps (Figure 3, Items 7, 10, and 11) from speedometer driveshaft (Figure 3, Item 6). Discard tiedown straps.
11. Remove speedometer driveshaft (Figure 3, Item 6) and grommet (Figure 3, Item 13) from firewall (Figure 3, Item 12).
12. Remove grommet (Figure 3, Item 13) from speedometer driveshaft (Figure 3, Item 6).



REMOVAL - Continued



M0205DAA

Figure 3. Speedometer Driveshaft Removal.

**REMOVAL - Continued****NOTE**

Pull driveshaft core out from driveshaft conduit 1-1/2 in. (38 mm) to gain access to retaining washer.

13. Remove retaining washer (Figure 4, Item 3) and driveshaft core (Figure 4, Item 1) from driveshaft (Figure 4, Item 2).

**END OF TASK****INSPECTION**

1. Inspect driveshaft (Figure 4, Item 2) for cracks. Replace if cracked.
2. Inspect driveshaft core (Figure 4, Item 1) for breaks. Replace if broken.

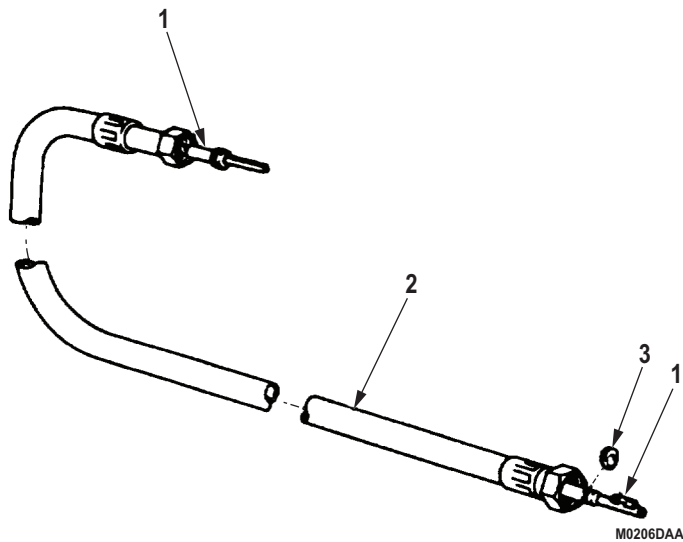


Figure 4. Speedometer Driveshaft Removal.

**END OF TASK**

**INSTALLATION****NOTE**

Apply thin coat of GM grease to driveshaft core.

1. Install driveshaft core (Figure 5, Item 1) and retaining washer (Figure 5, Item 3) on driveshaft (Figure 5, Item 2).

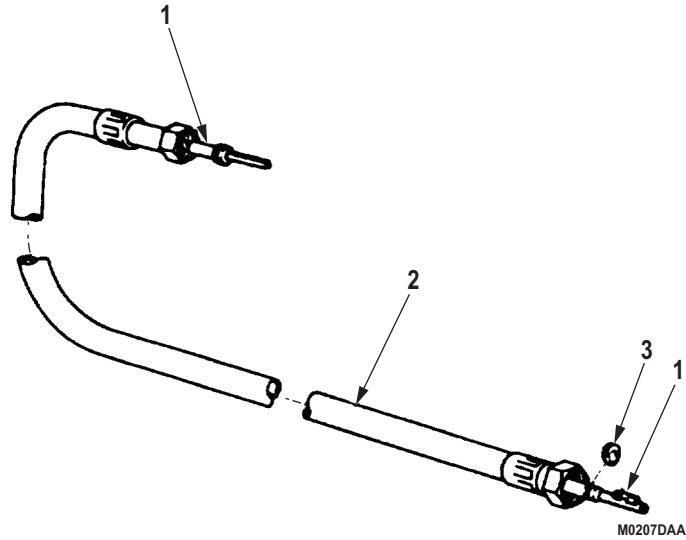
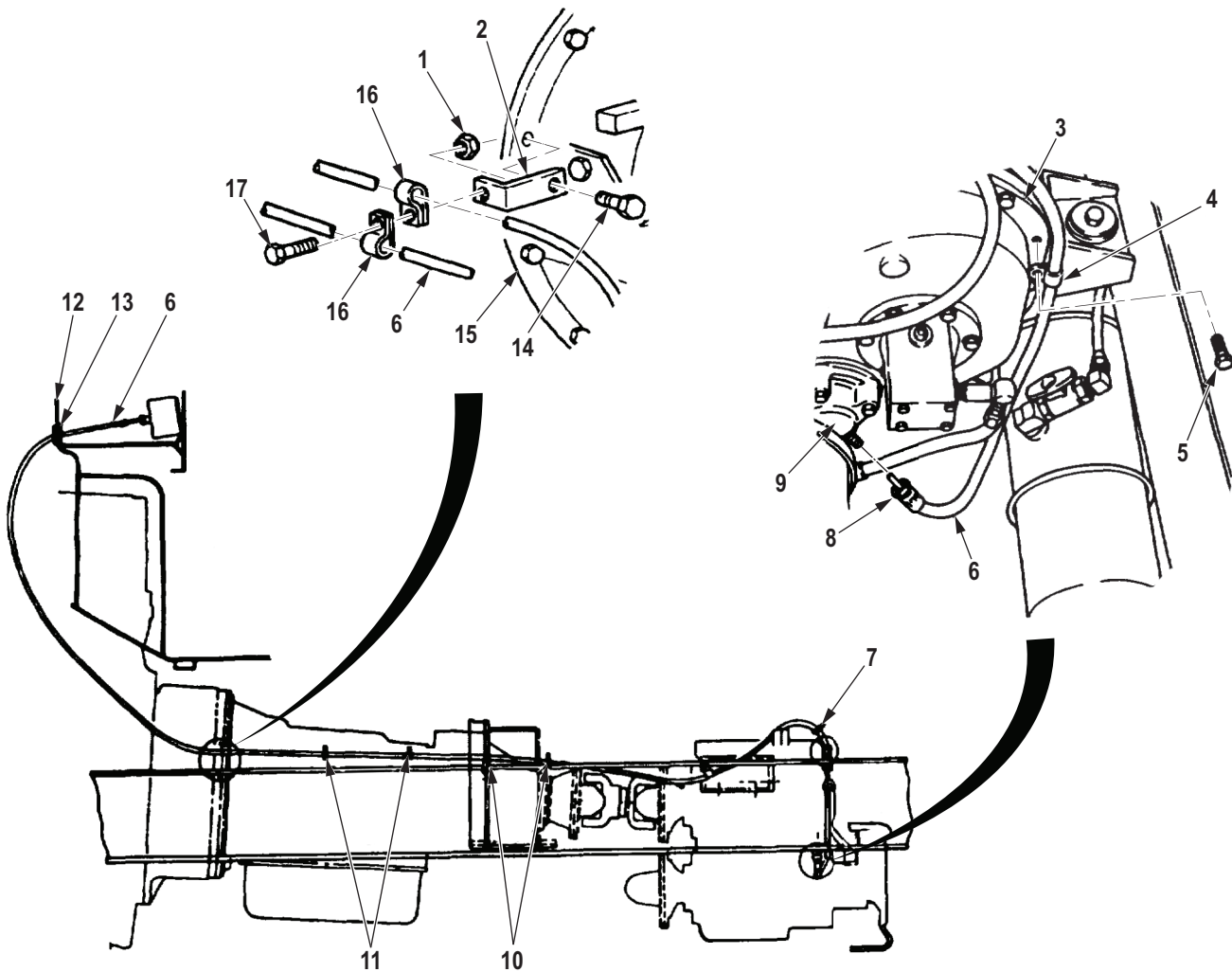


Figure 5. Speedometer Driveshaft Installation.

**INSTALLATION - Continued**

2. Install grommet (Figure 6, Item 13) on speedometer driveshaft (Figure 6, Item 6) and firewall (Figure 6, Item 12).
3. Connect shaft nut (Figure 6, Item 8) to transfer case input gear cover (Figure 6, Item 9).
4. Install speedometer driveshaft (Figure 6, Item 6) and clamp (Figure 6, Item 4) on transfer case (Figure 6, Item 3) with screw (Figure 6, Item 5). Tighten screw 40 to 65 lb-ft (54 to 88 N·m).
5. Install bracket (Figure 6, Item 2) on engine bell housing (Figure 6, Item 15) with screw (Figure 6, Item 14). Tighten screw 25 to 31 lb-ft (34 to 42 N·m).
6. Install speedometer driveshaft (Figure 6, Item 6) and clamps (Figure 6, Item 16) on bracket (Figure 6, Item 2) with screw (Figure 6, Item 17) and nut (Figure 6, Item 1).
7. Install five tiedown straps (Figure 6, Items 7, 10, and 11) on speedometer driveshaft (Figure 6, Item 6).

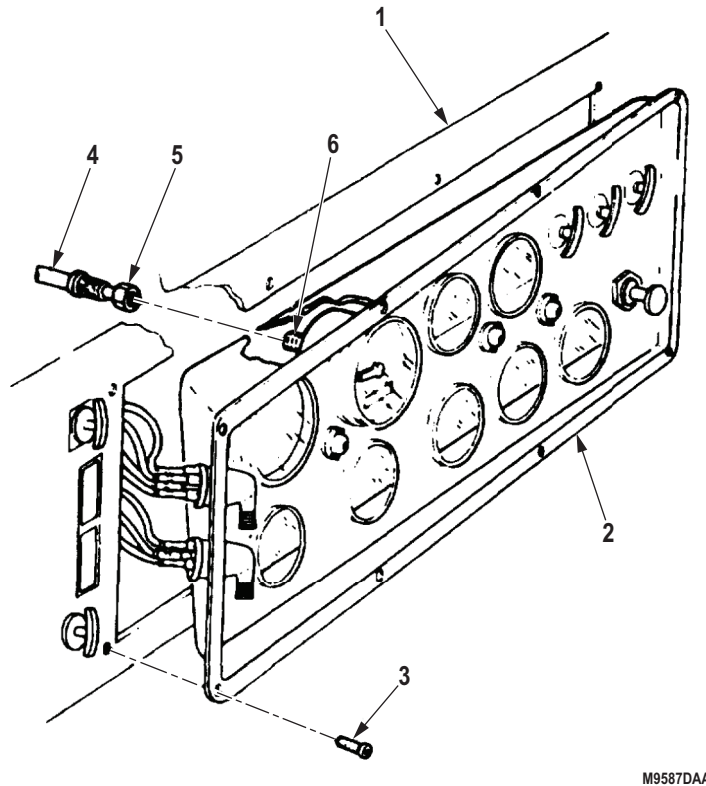


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Figure 6. Speedometer Driveshaft Installation.

**INSTALLATION - Continued**

8. Connect shaft nut (Figure 7, Item 5) to speedometer (Figure 7, Item 6).
9. Install instrument cluster (Figure 7, Item 2) on instrument panel (Figure 7, Item 1) with eight screws (Figure 7, Item 3).



M9587DAA

Figure 7. Speedometer Instrument Cluster Installation.

**INSTALLATION - Continued**

10. Install two clamps (Figure 8, Item 2), speedometer driveshaft (Figure 8, Item 6), clamp (Figure 8, Item 3), washer (Figure 8, Item 4), and screw (Figure 8, Item 5) on air intake manifold (Figure 8, Item 1).

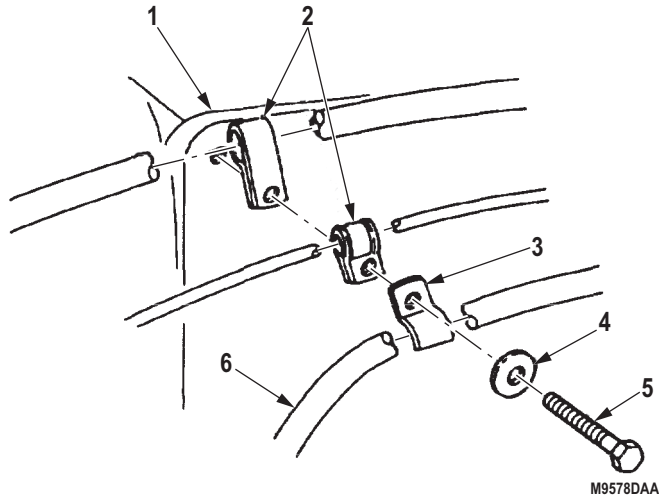


Figure 8. Speedometer Driveshaft Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

Start engine and road test to check speedometer for proper operation. (TM 9-2320-272-10)

**END OF TASK**

**END OF WORK PACKAGE**

**FIELD MAINTENANCE  
SPEEDOMETER AND TACHOMETER REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition (cont.)**

Battery ground cables disconnected.  
(Volume 2, WP 0350)

**Materials/Parts**

Lockwasher  
(WP 0827, Table 1, Item 402) Qty: 2

**Equipment Condition**

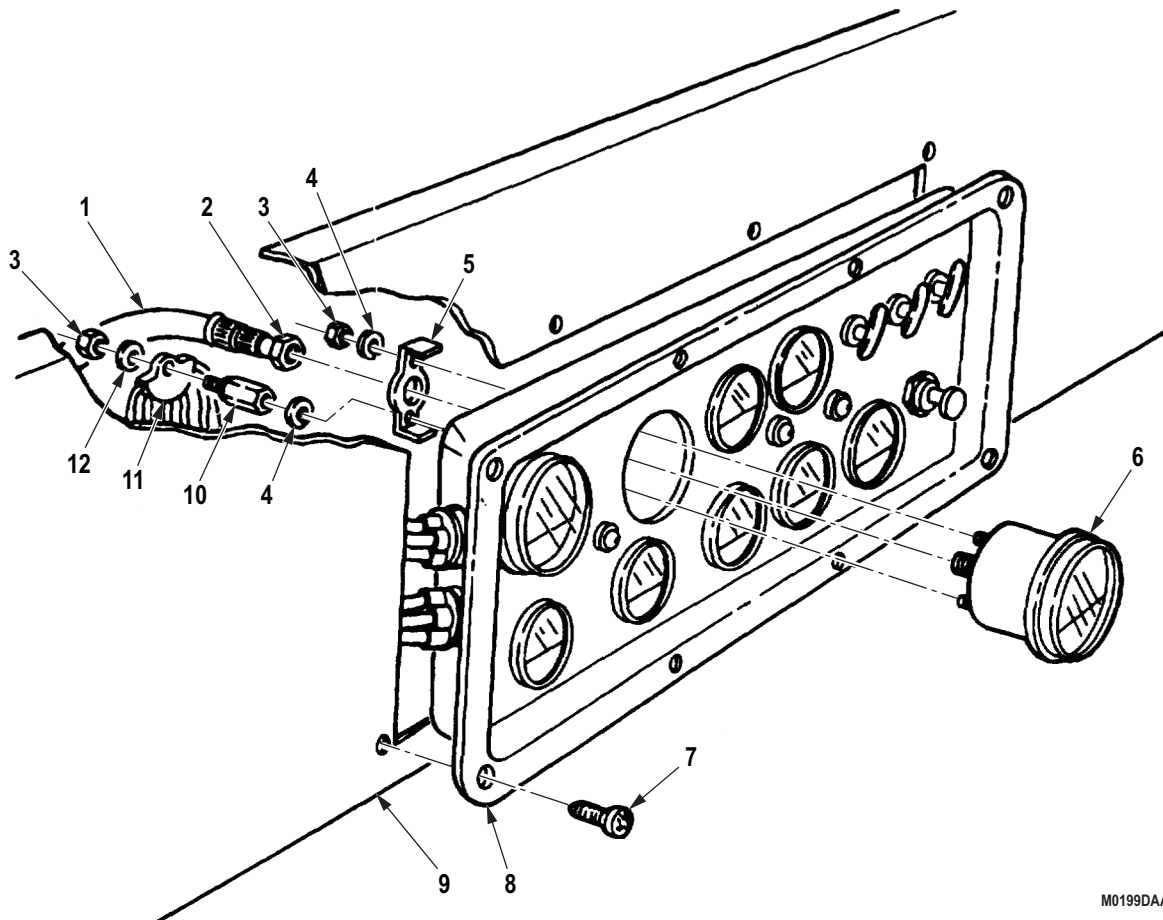
Parking brake set. (TM 9-2320-272-10)

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**REMOVAL****NOTE**

Speedometer and tachometer are replaced the same. This procedure covers speedometer.

1. Remove eight screws (Figure 1, Item 7) from instrument cluster (Figure 1, Item 8).
2. Pull instrument cluster (Figure 1, Item 8) away from instrument panel (Figure 1, Item 9).
3. Loosen nut (Figure 1, Item 2) and disconnect speedometer drive shaft (Figure 1, Item 1) from speedometer (Figure 1, Item 6).
4. Remove two nuts (Figure 1, Item 3), cable assembly (Figure 1, Item 11), extension stud (Figure 1, Item 10), washer (Figure 1, Item 12), and two lockwashers (Figure 1, Item 4) from speedometer mounting bracket (Figure 1, Item 5). Discard lockwashers.
5. Remove mounting bracket (Figure 1, Item 5) and speedometer (Figure 1, Item 6) from instrument cluster (Figure 1, Item 8).



M0199DAA

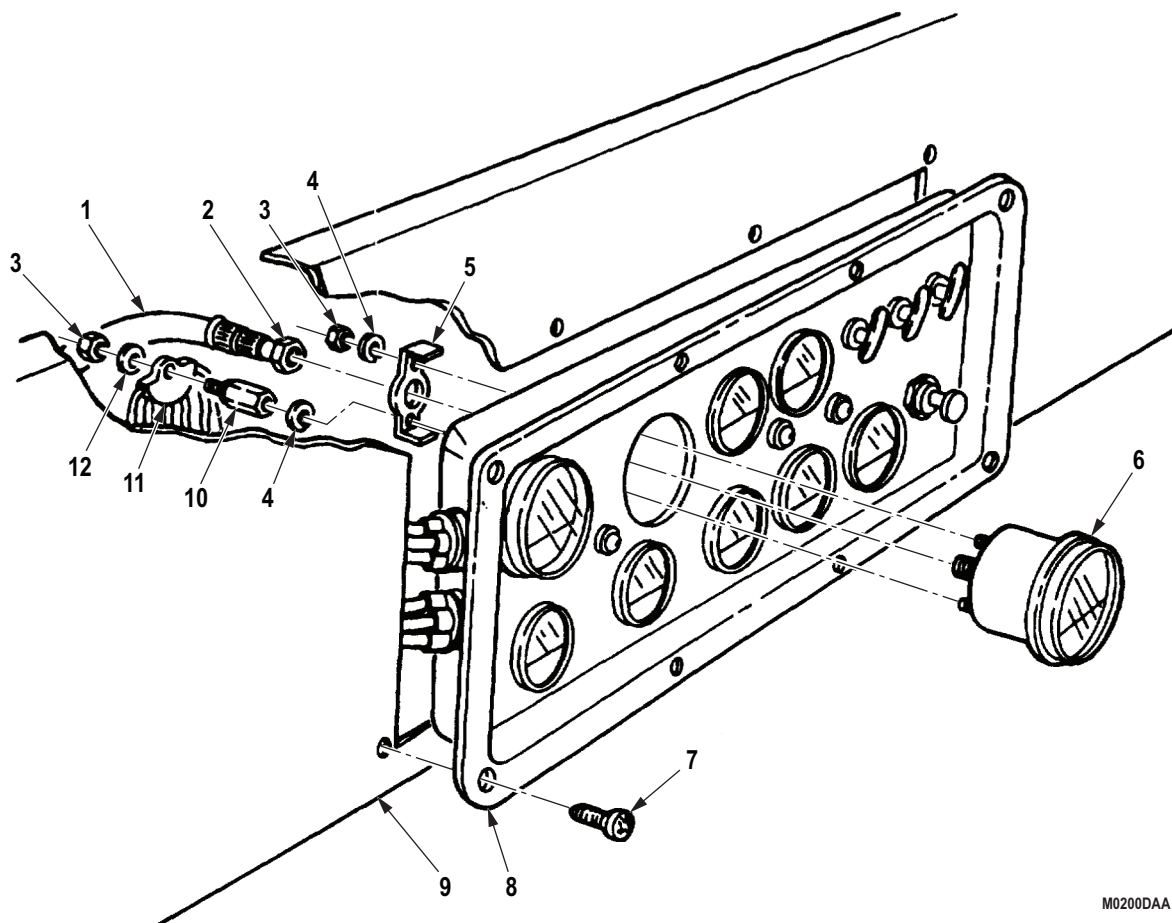
Figure 1. Speedometer Removal.

**END OF TASK**



**INSTALLATION**

1. Install speedometer (Figure 2, Item 6) and mounting bracket (Figure 2, Item 5) on instrument cluster (Figure 2, Item 8) with two lockwashers (Figure 2, Item 4), extension stud (Figure 2, Item 10), and nut (Figure 2, Item 3).
2. Install cable assembly (Figure 2, Item 11) on extension stud (Figure 2, Item 10) with washer (Figure 2, Item 12) and nut (Figure 2, Item 3).
3. Install speedometer drive shaft (Figure 2, Item 1) on speedometer (Figure 2, Item 6) and tighten nut (Figure 2, Item 2).
4. Install instrument cluster (Figure 2, Item 8) on instrument panel (Figure 2, Item 9) with eight screws (Figure 2, Item 7).



M0200DAA

Figure 2. Speedometer Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

1. Connect battery ground cables. (Volume 2, WP 0350)
2. Start engine and road test to check speedometer and tachometer for proper operation. (TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**

## FIELD MAINTENANCE TACHOMETER DRIVE REPLACEMENT

### INITIAL SETUP:

#### Tools and Special Tools

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

#### References

WP 0819

#### Materials/Parts

Gasket (WP 0827, Table 1, Item 129) Qty: 1  
Gasket (WP 0827, Table 1, Item 150) Qty: 1

#### Equipment Condition

Parking brake set. (TM 9-2320-272-10)  
Hood raised and secured. (TM 9-2320-272-10)

### REMOVAL

1. Disconnect tachometer drive cable (Figure 1, Item 5) from tachometer drive (Figure 1, Item 6).
2. Remove cover (Figure 1, Item 9) and gasket (Figure 1, Item 1) from front gearcase cover (Figure 1, Item 2) by turning cover and seal (Figure 1, Item 1) counterclockwise. Discard gasket.
3. Remove drive hub (Figure 1, Item 3) from tachometer drive (Figure 1, Item 6).
4. Remove two screws (Figure 1, Item 7), washers (Figure 1, Item 8), tachometer drive (Figure 1, Item 6), and gasket (Figure 1, Item 4) from cover (Figure 1, Item 9). Discard gasket.

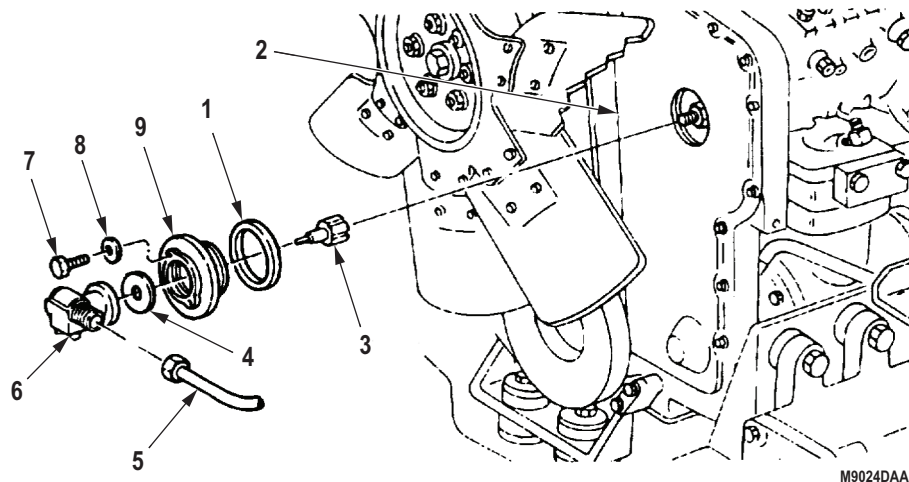


Figure 1. Tachometer Drive Removal.

### END OF TASK

**CLEANING AND INSPECTION**

1. For General Cleaning Instructions, refer to (WP 0819).
2. For General Inspection instructions, refer to (WP 0819).
3. Replace all parts failing inspection.

**END OF TASK****INSTALLATION**

1. Install gasket (Figure 2, Item 4) and tachometer drive (Figure 2, Item 6) on cover (Figure 2, Item 9) with two washers (Figure 2, Item 8) and screws (Figure 2, Item 7).
2. Install drive hub (Figure 2, Item 3) on tachometer drive (Figure 2, Item 6).
3. Install gasket (Figure 2, Item 1) and cover (Figure 2, Item 9) on front gearcase cover (Figure 2, Item 2).
4. Connect tachometer drive cable (Figure 1, Item 5) to tachometer drive (Figure 2, Item 6).

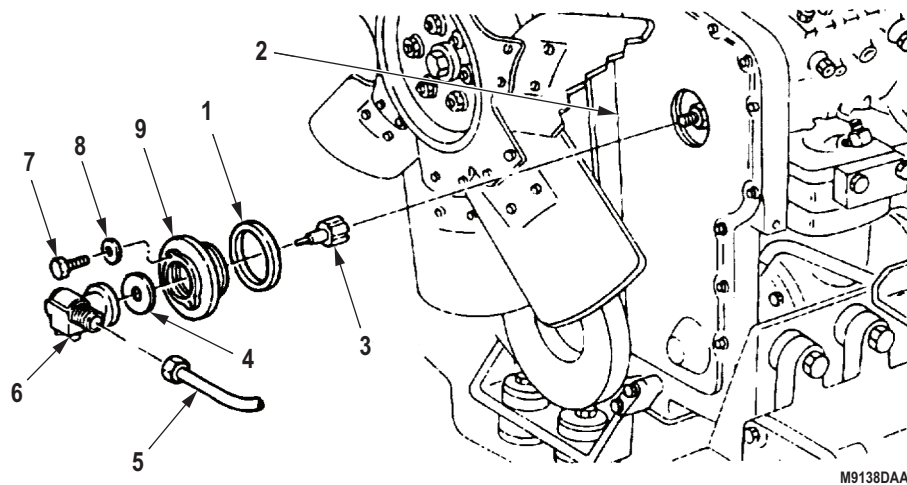


Figure 2. Tachometer Drive Installation.

**END OF TASK****END OF WORK PACKAGE**

**FIELD MAINTENANCE  
TACHOMETER DRIVESHAFT REPAIR**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition (cont.)**

Left splash shield removed. (TM 9-2320-272-10)

**Materials/Parts**

Rubber Grommet  
(WP 0827, Table 1, Item 413) Qty: 1

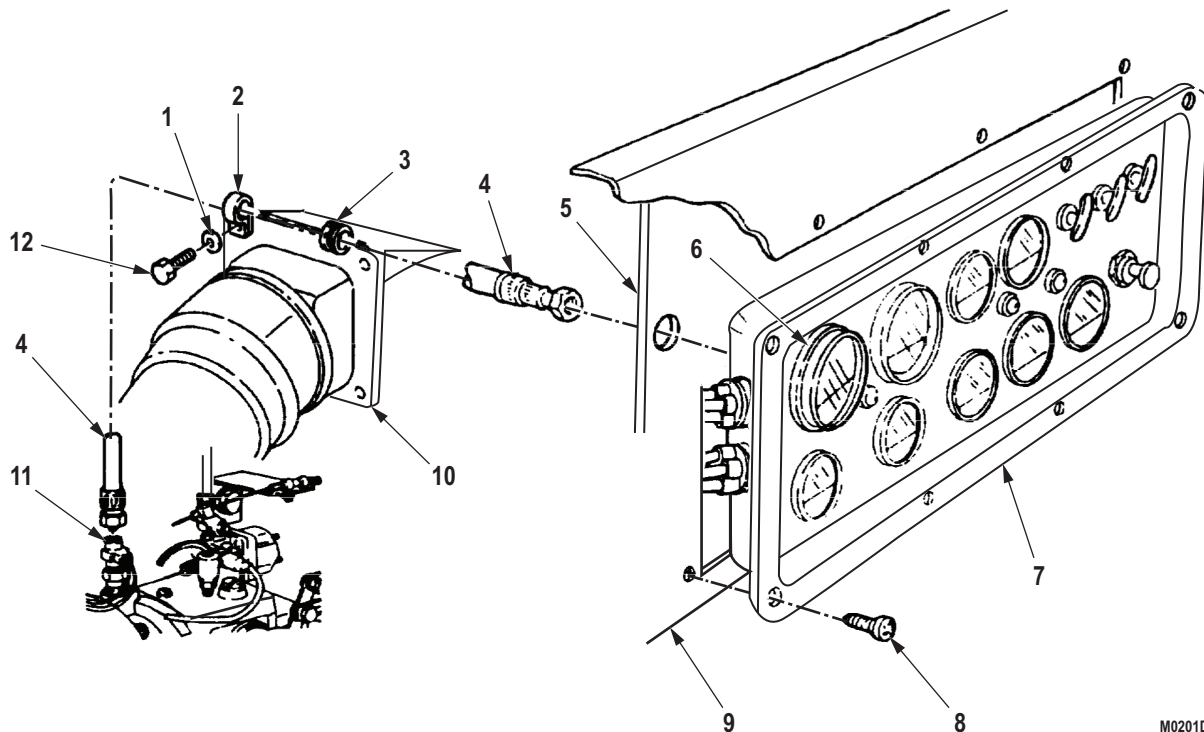
**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

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**REMOVAL**

1. Disconnect tachometer drive shaft (Figure 1, Item 4) from tachometer pulse sender unit (Figure 1, Item 11).
2. Remove screw (Figure 1, Item 12), washer (Figure 1, Item 1), and loop clamp (Figure 1, Item 2) from intake manifold (Figure 1, Item 10).
3. Remove rubber grommet (Figure 1, Item 3) from firewall (Figure 1, Item 5). Discard grommet.
4. Remove eight screws (Figure 1, Item 8) from instrument cluster (Figure 1, Item 7).
5. Pull instrument cluster (Figure 1, Item 7) away from instrument panel (Figure 1, Item 9).
6. Disconnect tachometer driveshaft (Figure 1, Item 4) from tachometer (Figure 1, Item 6) on instrument cluster (Figure 1, Item 7).
7. Remove tachometer driveshaft (Figure 1, Item 4) from engine side of firewall (Figure 1, Item 5). Replace if bent or cracked.



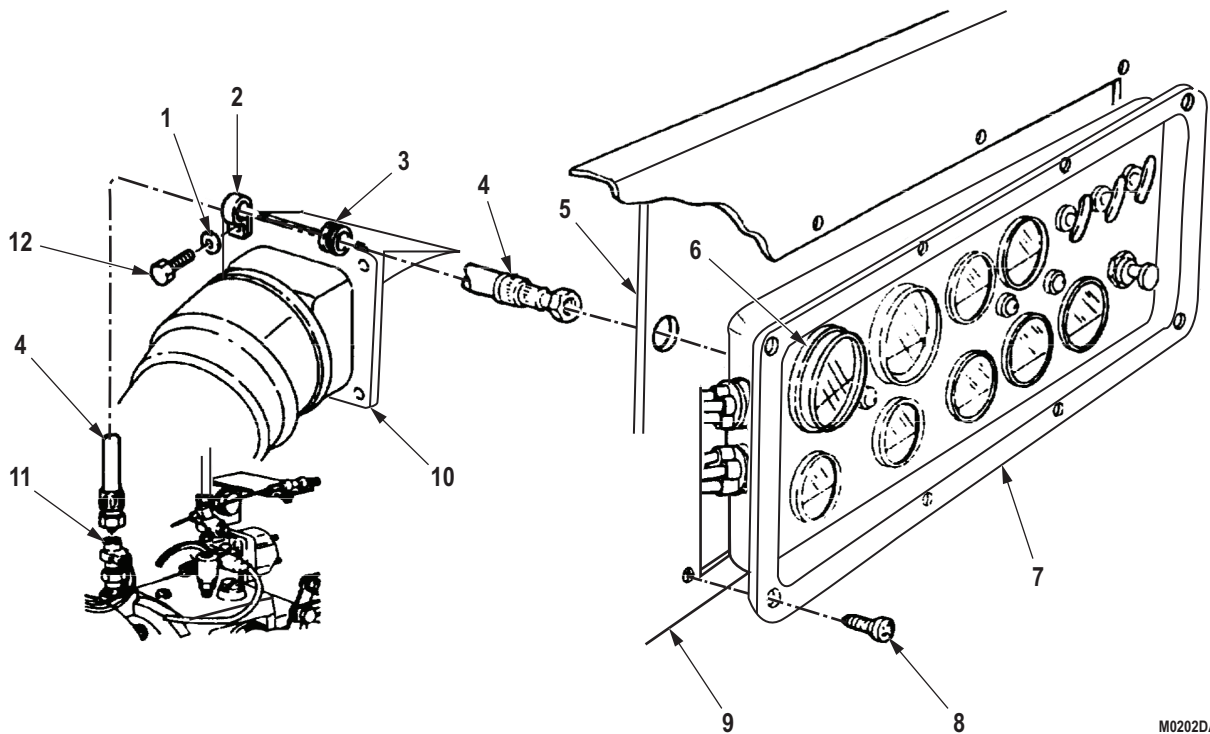
M0201DAA

Figure 1. Tachometer Removal.

**END OF TASK**

**INSTALLATION**

1. Push tachometer driveshaft (Figure 2, Item 4) through hole in firewall (Figure 2, Item 5) to tachometer (Figure 2, Item 6).
2. Install tachometer driveshaft (Figure 2, Item 4) on tachometer (Figure 2, Item 6).
3. Install instrument cluster (Figure 2, Item 7) on instrument panel (Figure 2, Item 9) with eight screws (Figure 2, Item 8).
4. Slide rubber grommet (Figure 2, Item 3) over disconnected end of drive shaft (Figure 2, Item 4) and install in firewall (Figure 2, Item 5).
5. Install driveshaft (Figure 2, Item 4) to tachometer pulse sender unit (Figure 2, Item 11).
6. Position loop clamp (Figure 2, Item 2) over drive shaft (Figure 2, Item 4) and install on intake manifold (Figure 2, Item 10) with washer (Figure 2, Item 1) and screw (Figure 2, Item 12).



M0202DAA

Figure 2. Tachometer Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

1. Install left splash shield. (TM 9-2320-272-10)
2. Start engine and check tachometer for proper operation. (TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**



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**FIELD MAINTENANCE  
AIR GAUGE REPLACEMENT**

---

**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Equipment Condition (cont.)**

Air reservoirs drained. (TM 9-2320-272-10)  
Battery ground cables disconnected.  
(Volume 2, WP 0350)

**Materials/Parts**

Tape, Antiseizing  
(WP 0825, Table 1, Item 65)  
Lockwasher  
(WP 0827, Table 1, Item 402) Qty: 2

**Equipment Condition**

Parking brake set. (TM 9-2320-272-10)

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**REMOVAL****NOTE**

The primary and secondary air pressure gauges are removed and installed in the same manner.

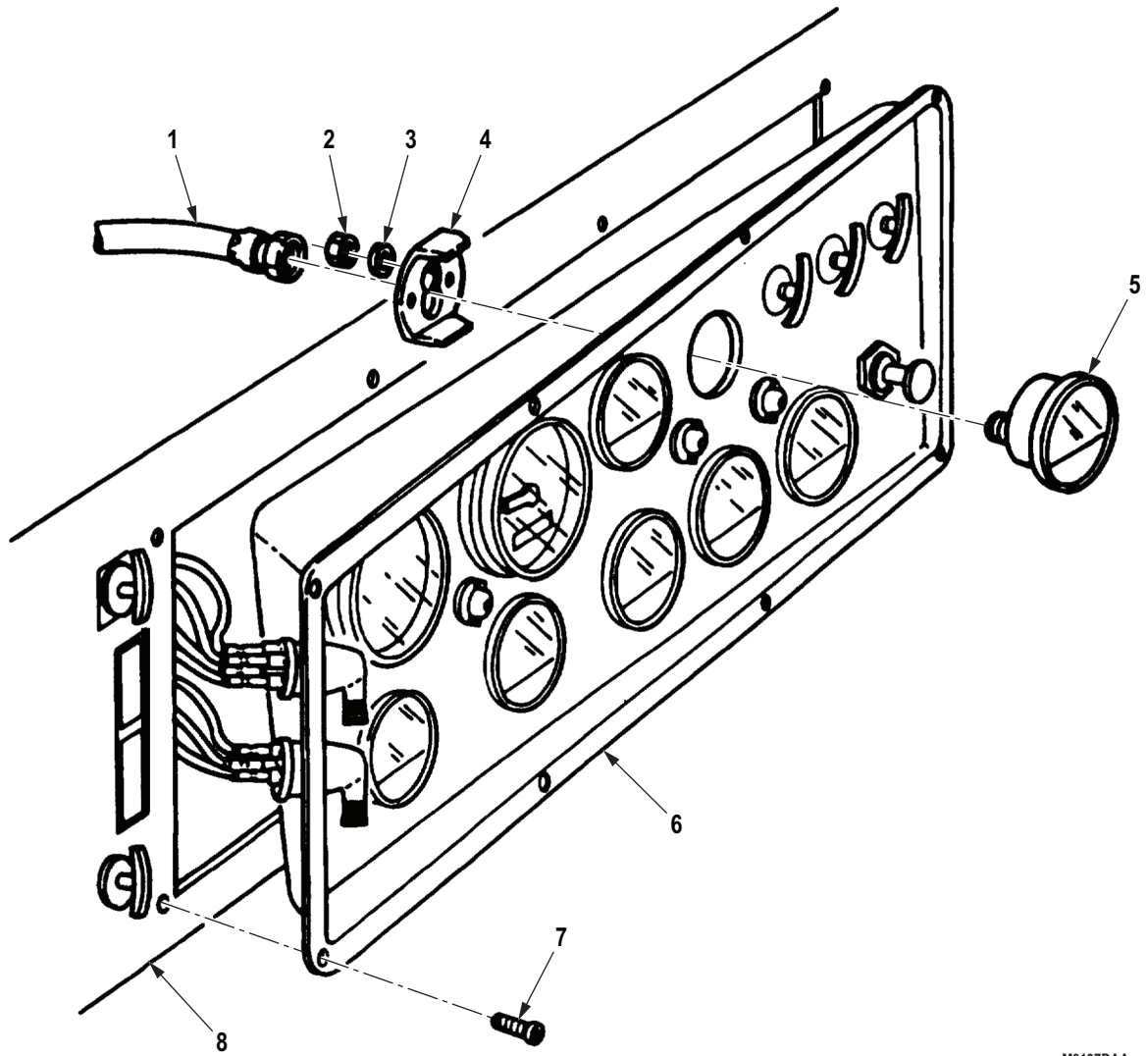
1. Remove eight screws (Figure 1, Item 7) from instrument cluster (Figure 1, Item 6).
2. Pull instrument cluster (Figure 1, Item 6) away from instrument panel (Figure 1, Item 8).

**NOTE**

Tag air line for installation.

3. Disconnect air line (Figure 1, Item 1) from primary air gauge (Figure 1, Item 5).
4. Remove two nuts (Figure 1, Item 2), lockwashers (Figure 1, Item 3), and gauge mounting bracket (Figure 1, Item 4) from primary air gauge (Figure 1, Item 5). Discard lockwashers.
5. Remove primary air gauge (Figure 1, Item 5) from instrument cluster (Figure 1, Item 6).

REMOVAL - Continued



M0197DAA

Figure 1. Air Gauge Removal.

END OF TASK

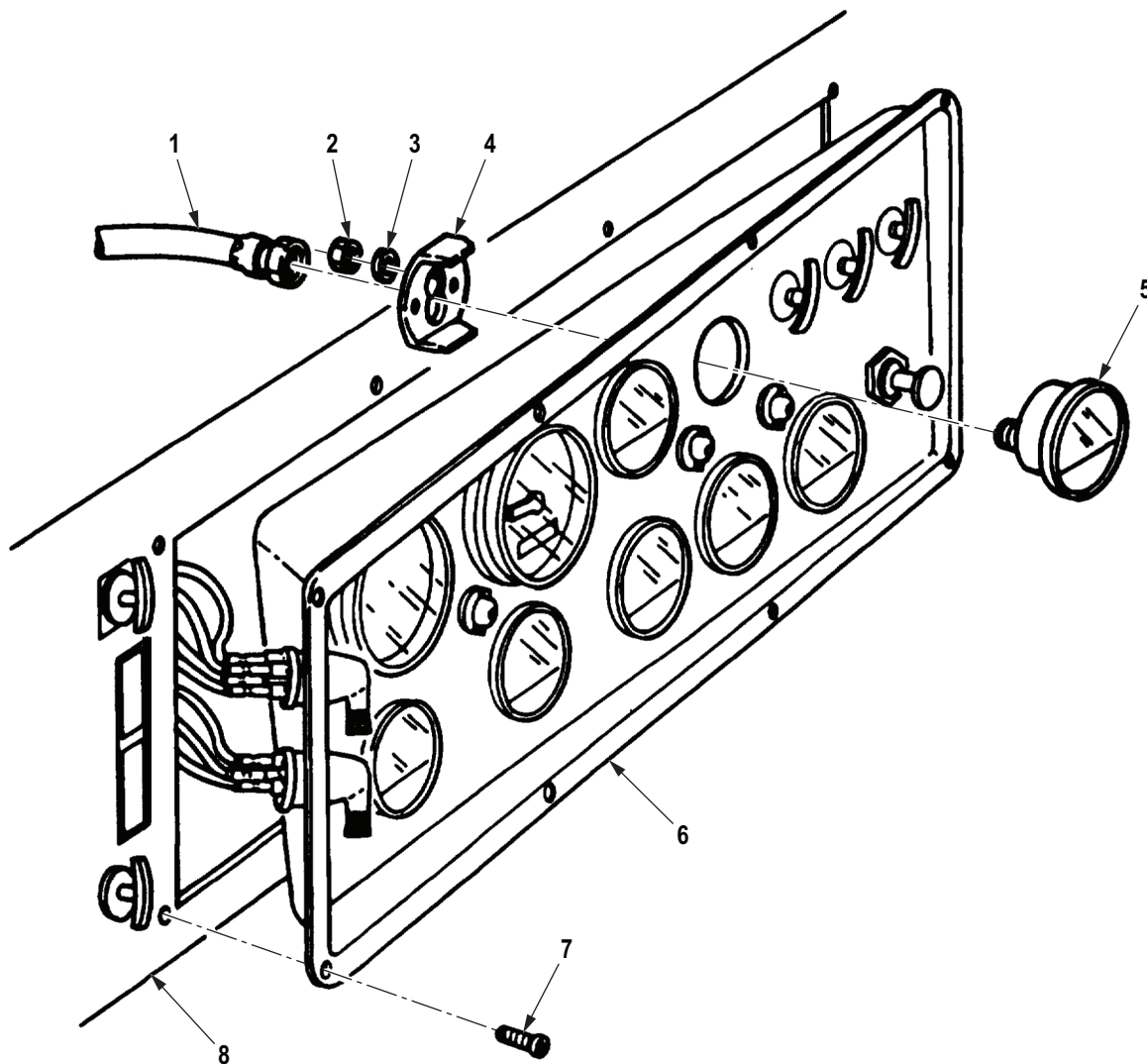
**INSTALLATION**

1. Install primary air gauge (Figure 2, Item 5) on instrument cluster (Figure 2, Item 6).
2. Install gauge mounting bracket (Figure 2, Item 4) on primary air gauge (Figure 2, Item 5) with two lockwashers (Figure 2, Item 3) and nuts (Figure 2, Item 2).

**NOTE**

Male pipe threads must be wrapped with antiseize tape before installation.

3. Connect air line (Figure 2, Item 1) to primary air gauge (Figure 2, Item 5).
4. Install instrument cluster (Figure 2, Item 6) on instrument panel (Figure 2, Item 8) with eight screws (Figure 2, Item 7).



M0198DAA

Figure 2. Air Gauge Installation.

**END OF TASK**

**FOLLOW-ON MAINTENANCE**

1. Connect battery ground cables. (Volume 2, WP 0350)
2. Start engine, allow air pressure to build up to normal operating range, and check for air leaks at gauge. (TM 9-2320-272-10)
3. Check if gauge is indicating air pressure. (TM 9-2320-272-10)

**END OF TASK****END OF WORK PACKAGE**



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## FIELD MAINTENANCE GENERAL MAINTENANCE INSTRUCTIONS

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**INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive  
(WP 0826, Table 1, Item 56)

**Materials/Parts (cont.)**

(WP 0825, Table 1, Item 59)  
Tape, Antiseizing  
(WP 0825, Table 1, Item 65)

**Materials/Parts**

Antiseize Compound  
(WP 0825, Table 1, Item 9)  
Cleaning Compound, Solvent  
(WP 0825, Table 1, Item 16, 17)  
Lubricating Oil, Engine  
(WP 0825, Table 1, Item 36, 37, 38)  
Rag, Wiping  
(WP 0825, Table 1, Item 53)  
Sealing Compound

**References**

MIL-L-6866  
MIL-L-6868  
TM 9-214  
TM 9-237  
TM 9-450  
WP 0820  
WP 0821

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**GENERAL CLEANING INSTRUCTIONS**

- Cleaning procedures are the same for the majority of parts and components which compose the vehicle subassemblies. General cleaning procedures are detailed in Steps (2) through (15).

**WARNING**

Improper cleaning methods and use of unauthorized cleaning solvents may be hazardous. Failure to comply may result in injury or death to personnel.

**CAUTION**

When cleaning any CTIS components or parts, special care must be taken not to contaminate the system's mating surfaces, tubes, hoses, or passages. Damage to components may result.

- The Importance of Cleaning.** Great care and effort are required in all cleaning operations. The presence of dirt and foreign material is a constant threat to satisfactory vehicle operation and maintenance. The following instructions will apply to all cleaning operations.

**CAUTION**

Keep all related parts and components together. Do not mix parts. Failure to comply may result in damage to parts.

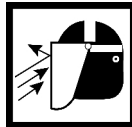
- Clean all parts before inspection, after repair, and before assembly.
- Hands must be kept free of any accumulation of grease which can collect dust and grit.
- After cleaning, all parts must be covered or wrapped in plastic or paper to protect them from dust and/or dirt.

**GENERAL CLEANING INSTRUCTIONS - Continued**

3. **Disassembled Parts Cleaning.** Place all disassembled parts in wire baskets for cleaning.
  - a. Dry and cover all cleaned parts.
  - b. Place on or in racks and hold for inspection or repair.
  - c. All parts subject to rusting must be lightly oiled and wrapped.
4. **Castings.**

**WARNING**

- Solvent cleaning compound is flammable and will not be used near open flame. Use only in well-ventilated places and keep fire extinguisher nearby. Failure to comply may result in injury or death to personnel.
  - Compressed air source will not exceed 30 psi (207 kPa). When cleaning with compressed air, eyeshields must be worn. Failure to comply may result in injury or death to personnel.
- a. Clean all inner and outer areas subject to grease and oil with solvent cleaning compound.
  - b. Use a stiff brush to remove sludge and gum deposits.

**WARNING**

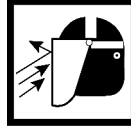
Compressed air source will not exceed 30 psi (207 kPa). When cleaning with compressed air, eyeshields must be worn. Failure to comply may result in injury or death to personnel.

- c. Use compressed air to blow out all tapped screw holes and to dry castings after cleaning.
5. **External Engine Cleaning.** All electrical equipment and other parts that could be damaged by steam-cleaning or moisture must be removed and all openings must be covered before cleaning. Dry with compressed air.



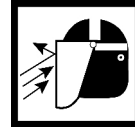
**GENERAL CLEANING INSTRUCTIONS - Continued**

6. **Oil Passages.** Particular attention must be given to all oil passages in castings and machined parts. Oil passages must be clean and free of any obstruction.
- Clean passages with wire probes to break up any sludge or gum deposits.
  - Wash passages by flushing with solvent cleaning compound.

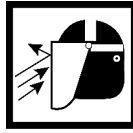
**WARNING**

Compressed air source will not exceed 30 psi (207 kPa). When cleaning with compressed air, eyeshields must be worn. Failure to comply may result in injury or death to personnel.

- Dry passages with compressed air.
7. **Seals, Electrical Cables, and Flexible Hoses.** Clean with soap and water.
8. **Bearings.**
- Bearings require special cleaning. After removing surface oil and gum deposits, wipe bearings dry; do not use compressed air. After cleaning, coat bearings with oil, wrap, and hold for inspection.
  - Refer to TM 9-214 for more information on care of bearings.

**WARNING**

- Solvent cleaning compound is flammable and will not be used near open flame. Use only in well-ventilated places and keep fire extinguisher nearby. Failure to comply may result in injury or death to personnel.
  - Compressed air source will not exceed 30 psi (207 kPa). When cleaning with compressed air, eyeshields must be worn. Failure to comply may result in injury or death to personnel.
9. **Machined Tooled Parts.** Clean with solvent cleaning compound and dry with compressed air.
10. **Machined Surfaces.** Clean with solvent cleaning compound and dry with lint-free cloth.

**GENERAL CLEANING INSTRUCTIONS - Continued****WARNING**

Eyeshields must be worn when cleaning with a wire brush. Flying rust and metal particles may cause injury to personnel using a wire brush. Failure to comply may result in injury or death to personnel.

11. **Mated Surfaces.** Remove old gasket and/or sealing compound using wire brush and solvent cleaning compound.
12. **Rusted Surfaces.** Clean all rusted surfaces using wire brush and crocus cloth.
13. **Oil-bathed Internal Parts.** Wipe clean with lint-free cloth.
14. **Air-actuated Internal Parts.** Wipe clean with lint-free cloth.
15. **External Exposed Parts.** Wash with soap and water. Rinse thoroughly and air-dry.

**GENERAL INSPECTION INSTRUCTIONS**

1. Procedures for inspections will be the same for many parts and components which make up the vehicle subassemblies. General procedures are detailed in Steps (2) through (16). Dimensional standards for parts have been fixed at extremely close tolerances, so use specification tables. Use specified inspection equipment for inspection where cracks and other damage cannot be spotted visually. Exercise extreme care in all phases of inspection.
2. **Castings.**
  - a. Inspect all ferrous and nonferrous castings for cracks using a magnifying glass and strong light.
  - b. Refer to MIL-L-6866, Inspection, Liquid Penetrant Methods, and MIL-L-6868, Inspection Process, Magnetic Particles.
  - c. Particularly inspect areas around studs, pipe plugs, threaded inserts, and sharp corners. Replace all cracked castings.
  - d. Inspect machined surfaces for nicks, burrs, or raised metal. Mark damaged areas for repair or replacement.
  - e. Inspect all pipe plugs, pipe plug openings, screws, and screw openings for damaged or stripped threads. Replace or repair damaged or stripped threads.
  - f. Using a straightedge or surface plate, check all gasket mating surfaces, flanges on housings, and supports for warpage. Inspect mating flanges for discolorations which may indicate persistent oil leakage. Replace damaged parts.
  - g. Check all castings for conformance to applicable repair standards. Replace damaged castings.
3. **Bearings.** Refer to TM 9-214 for inspection of bearings. Check all bearings for conformance to applicable standards.
4. **Studs, Bolts, and Screws.** Replace if threads are damaged, bent, or stripped.
5. **Gears.**
  - a. In strong light, inspect all gears for cracks. No cracks are allowed.
  - b. Inspect gear teeth for wear, sharp edges, burrs, and galled or pitted surfaces.

**GENERAL INSPECTION INSTRUCTIONS - Continued**

- c. Check keyway slots for wear and/or damage.
6. **Oil Seals.** Oil seals are mandatory replacement items.
  7. **Engine Bearings.**

**NOTE**

- Engine connecting rods and main bearings are serviced in sets. If one bearing fails, all bearings must be replaced.
  - Old and new style engine components must be used in sets and not intermixed.
8. **Bushings and Bushing-Type Bearings.**
    - a. Check all bushings and bushing-type bearings for secure fit, evidence of overheating, wear, burrs, nicks, and out-of-round condition.
    - b. Check for dirt in lubrication holes or grooves. Holes and grooves must be clean and free from damage.
  9. **Expansion Plugs.** Inspect for leakage. Replace plugs when leakage is present.
  10. **Machined Tooled Parts.** Inspect for cracks, breaks, elongated holes, wear, and chips.
  11. **Machined Surfaces.** Inspect for cracks, evidence of wear, galled or pitted surface, burrs, nicks, and scratches.
  12. **Rusted Surfaces.** Inspect for pitting, holes, and severe damage.
  13. **Oil-bathed Internal Parts.** Inspect for cracks, nicks, burrs, evidence of overheating, and wear.
  14. **Air-actuated Internal Parts.** Inspect for cracks, nicks, burrs, evidence of overheating, and wear.
  15. **Externally Exposed Parts.** Inspect for breaks, cracks, rust damage, and wear.
  16. **Rivets.** Inspect for loose, broken, and missing rivets in accordance with TM 9-450.

**GENERAL REPAIR INSTRUCTIONS**

1. Repair of most parts and components is limited to general procedures outlined in applicable maintenance instructions and the following detailed procedures, Steps (2) through (8).

**CAUTION**

Repaired items must be thoroughly cleaned to remove metal chips and abrasives to prevent them from entering working parts of vehicle. Special care must be taken with CTIS parts, or damage to components may result.

2. **Castings.**
  - a. All cracked castings will be replaced.
  - b. Only minor repairs to machined surfaces, flanges, and gasket mating surfaces are permitted. Remove minor nicks, burrs, and/or scratches with:
    - (1) Fine mill file.
    - (2) Crocus cloth dipped in cleaning solvent.
    - (3) Lapping across a surface plate.
  - c. Remachining of machined surfaces to repair damage, warpage, or uneven surfaces is not permitted. Replace castings.
  - d. Repair damaged threaded pipe plug and/or screw holes with a tap. Repair oversized holes with threaded inserts.

**GENERAL REPAIR INSTRUCTIONS - Continued**

3. **Bearings.** Refer to TM 9-214.
4. **Studs.** Replace all bent and stretched studs. Repair minor thread damage with a thread die. Replace studs having stripped or damaged threads as outlined below:
  - a. Remove studs using a stud remover. Back studs out slowly to avoid heat buildup and seizure which can cause stud to break off.

**NOTE**

If welding method is used, refer to TM 9-237 for proper instructions.

- b. If studs break off too short to use a stud remover or a stud extractor, use welding method.
  - c. Broken studs can be removed by welding bar stock or a nut to stud and removing with wrench.
  - d. Standard studs may have a coarse thread on one end and a fine thread on the other end. The coarse thread end is installed in aluminum casting. Studs having coarse threads on both ends are used in some applications. The shorter threaded end goes into the casting.
  - e. Replacement studs have a special coating and must have a small amount of antiseize compound applied on the threads before stud is installed. Install replacement stud slowly to prevent heat buildup and snapping off.
5. **Gears.**
    - a. Remove gears using pullers.
    - b. Use the same method described in Step (2) for castings to remove minor nicks, burrs, or scratches on gear teeth.
    - c. If keyways are worn or enlarged, replace gear.
  6. **Bushings and Bushing-Type Bearings.** When bushings and bushing-type bearings seize to a shaft and spin in the bore, the associated part must also be replaced.
  7. **Oil Seals.**
    - a. Using proper oil seal removal tool, remove oil seals without damaging casting or adapter bore.
    - b. Always install new seal in bore using proper seal replacement tool.
  8. **Rivets.** Replace rivets in accordance with TM 9-450.

**GENERAL DISASSEMBLY INSTRUCTIONS**

1. The work area for disassembly of any item must be kept as clean as possible. This will prevent contamination of internal parts. This is especially true when working with fuel and air systems or CTIS components.
2. All gaskets, o-rings, and seals removed during repair will be discarded and replaced with new parts. These items are usually damaged during removal. Lockwire, lockwashers, cotter pins, and like items should be discarded during disassembly.
3. When removing gaskets, preformed packings, or seals, do not use any metal tools that will scratch the sealing surfaces next to these items.
4. Before disassembling any item, study the illustration carefully, noting the relationship of internal parts. Knowing the details of construction will speed up disassembly and help avoid mistakes.

**GENERAL ASSEMBLY INSTRUCTIONS**

1. Cleanliness is essential in all assembly operations. Dirt and dust, even in small quantities, are abrasive. Parts must be cleaned as specified and kept clean. Wrap or cover parts and components when assembly procedures are not completed immediately.
2. Lubricate all metal parts with lubricant used during operation (WP 0820).
3. Installation of cotter pins and lockwire shall be accomplished as specified in assembly procedures.
4. Critical torque values are specified in the assembly procedure. When not specified, tighten bolts, screws, and nuts in accordance with standard dry torque values (WP 0821).
5. All fuel, air, and hydraulic components must be kept thoroughly clean at all times. Plug all open ports until the component is installed in the vehicle.
6. All pressing operations should be accomplished using a suitable press and adapters unless otherwise specified.

**END OF TASK****END OF WORK PACKAGE**



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## FIELD MAINTENANCE LUBRICATION INSTRUCTIONS

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**INITIAL SETUP:****Tools and Special Tools**

- Adapter, Connector  
(WP 0826, Table 1, Item 1)
- Grease Gun  
(WP 0826, Table 1, Item 21)

**Materials/Parts**

- Antifreeze: Permanent Arctic Grade  
(WP 0825, Table 1, Item 5)
- Antifreeze: Permanent Ethylene Glycol  
(WP 0825, Table 1, Item 6, 7, 8)
- Diesel Fuel, DF-1, Winter  
(WP 0825, Table 1, Item 24, 25, 26)
- Grease, Automotive and Artillery GAA  
(WP 0825, Table 1, Item 28)
- Oil, Lubricating, Engine, Arctic (ICE, SUB-ZERO)  
OEA (SAE OW-20)  
(WP 0825, Table 1, Item 12)
- Oil, Lubricating, Exposed Gear, CW

**Materials/Parts (cont.)**

- (WP 0825, Table 1, Item 43)
- Oil, Lubricating, Gear, Multipurpose, GO 75/90  
(WP 0825, Table 1, Item 44, 45, 46, 47)
- Oil, Lubricating, Gear, Multipurpose, GO 80/90  
(WP 0825, Table 1, Item 48, 49, 50)
- Oil, Lubricating, OE/HDO 10W  
(WP 0825, Table 1, Item 36, 37, 38)
- Oil, Lubricating, OE/HDO 30W  
(WP 0825, Table 1, Item 39, 40, 41, 42)
- Rag, Wiping  
(WP 0825, Table 1, Item 53)

**References**

- FM 9-207

**Equipment Condition**

- Vehicle safely parked and shut down.  
(TM 9-2320-272-10)
- 

**GENERAL INFORMATION**

Clean fittings before lubricating. Clean parts with solvent cleaning compound, (SD) type II or equivalent. Dry before lubricating. Dotted arrows indicate required lubrication on both sides of the equipment.

Level of maintenance. The lowest level of maintenance authorized to lubricate a point is indicated by one of the following symbols: Operator/Crew (C); and Organizational Maintenance (O).

Relubricate after fording.

For Arctic operations, refer to FM 9-207.

Table 1. -KEY-

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
		ABOVE +15°F (ABOVE -9°C)	+40°F to -15°F (4°C to -26°C)	+40°F to -65°F (+4°C to -54°C)	
OE/HDO- LUBRICATING OIL INTERNAL COMBUSTION ENGINE (MIL-PRF-2104)					Contaminated by water or other foreign materials.
OEA- LUBRICATING OIL INTERNAL COMBUSTION ENGINE (ARCTIC) (MIL- PRF-46167)					
<b>OIL CAN POINTS</b>		OE/HDO 30	OE/HDO 10	OEA	D-Daily
<b>CRANKCASE:</b>		OE/HDO 30	OE/HDO 10	OEA	W-Weekly, as required, depending upon use; otherwise during INTERVAL M.
M939 AND M939A1 SERIES VEHICLES W/FILTER	27 qt (25.5 l)				
M939A2 SERIES VEHICLES W/FILTER	20 qt (18.92 l)				
M939 AND M939A1 SERIES VEHICLES WO/FILTER	23 qt (21.8 l)				
M932A2 SERIES VEHICLES WO/FILTER	18 qt (17 l)				3/S-6,000 mi (9,600 km) or 6 months whichever occurs first.



Table 1. -KEY- - Continued

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
		ABOVE +15°F (ABOVE -9°C)	+40°F to -15°F (4°C to -26°C)	+40°F to -65°F (+4°C to -54°C)	
<b>TRANS- MISSION:</b>		OE/HDO 10	OE/HDO 10	OEA	A-12,000 mi (19,000 km) or 12 months, whichever occurs first.  B-24,000 mi (38,000 km) or 24 months, whichever occurs first.
DRY	23 qt (21.8 l)				
W/PTO	25 qt (23.7 l)				
DRAIN AND REFILL	17 qt (16.1 l)				
W/PTO	19 qt (18 l)				
<b>STEERING SYSTEM RESERVOIR</b>					
M939 AND M939A1	5 qt (4.7 l)	OE/HDO 10	OE/HDO 10	OEA	
M939A2	3 qt (2.8 l)	OE/HDO 10	OE/HDO 10	OEA	

Table 1. -KEY- - Continued

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
		ABOVE +15°F (ABOVE -9°C)	+40°F to -15°F (4°C to -26°C)	+40°F to -65°F (+4°C to -54°C)	
<b>HYDRAULIC SYSTEMS:</b>		OE/HDO 10	OE/HDO 10	OEA	Contaminated by water or other foreign materials.
M925, M925A1, M952A2 CARGO W/W, M926, M926A1 CARGO W/W, M928, M928A1, M928A2 XLWB CARGO W/W, M923, M932A1, M932A2 TRACTOR W/W	32 qt (30.3 l)				
M929, M929A1, M929A2 DUMP WO/W	20 qt (18.9 l)				
M930, M930A1, M930A2 DUMP W/W	25 qt (23.7 l)				
M935, M935A1, M935A2 EXPANSIBLE VAN	12 qt (11.4 l)				
M936, M936A1, M936A2 MEDIUM WRECKER	100 qt (378.5 l)				

Table 1. -KEY- - Continued

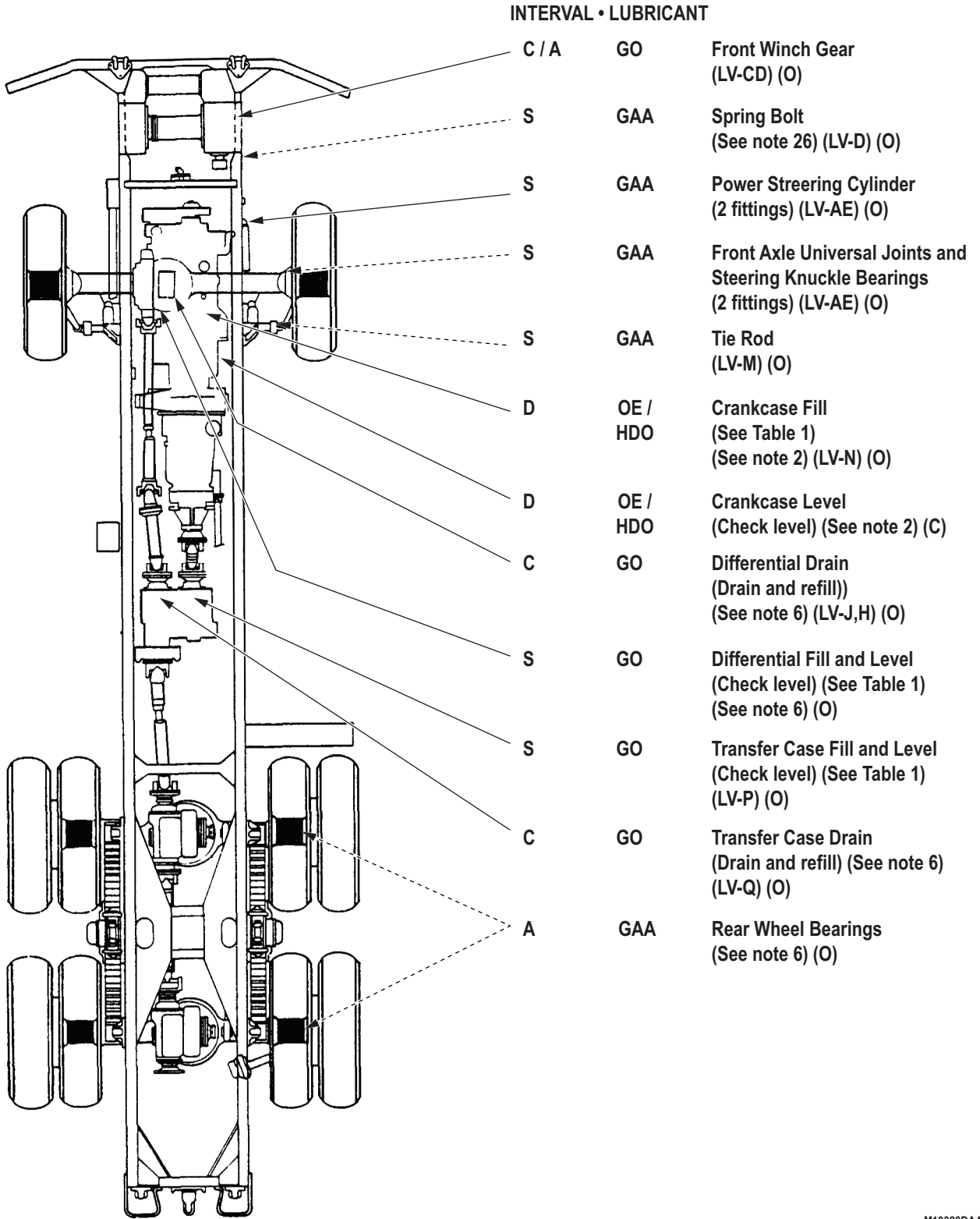
LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
		ABOVE +15°F (ABOVE -9°C)	+40°F to -15°F (4°C to -26°C)	+40°F to -65°F (+4°C to -54°C)	
GO LUBRICATING OIL GEAR MULTIPURPOS E (MIL- PRF-2105)					Annual
<b>TRANSFER CASE</b>	6.5 qt (6.1 l)	GO 80/90	GO 80/90	GO 75	
<b>FRONT DIFFERENTIAL</b>	12 qt (11.4 l)	GO 80/90	GO 80/90	GO 75	
<b>REAR DIFFERENTIAL</b>	12 qt (6.1 l)	GO 80/90	GO 80/90	GO 75	
<b>FRONT WINCH GEARCASE</b>	2.6 pt (1.2 l)	GO 80/90	GO 80/90	GO 75	
<b>REAR WINCH GEARCASE</b>	3 pt (1.4 l)	GO 80/90	GO 80/90	GO 75	
GAA-GREASE, AUTOMOTIVE AND ARTILLERY (MIL- PRF-10924)		ALL TEMPERATURES			
CW- LUBRICATING OIL, CHAIN, WIRE-ROPE, AND EXPOSED- GEAR (W-L-751) WINCH WIRE ROPE		ABOVE +80°F (+27°C)	+80°F to +30°F (+27°C to -1°C)	+30°F to -30°F (-1°C to -34°C)	-30°F to -65°F (-34°C to -54°C)
		CW-IIC	CW-IIB	CW-IIA	GO 75
GW-GREASE, WIRE ROPE AND EXPOSED GEAR (MIL- PRF-18458)		ALL TEMPERATURES			

**NOTE**

The man-hours shown have been established on an individual vehicle basis and therefore are not applicable at maintenance facilities where production line methods are used.

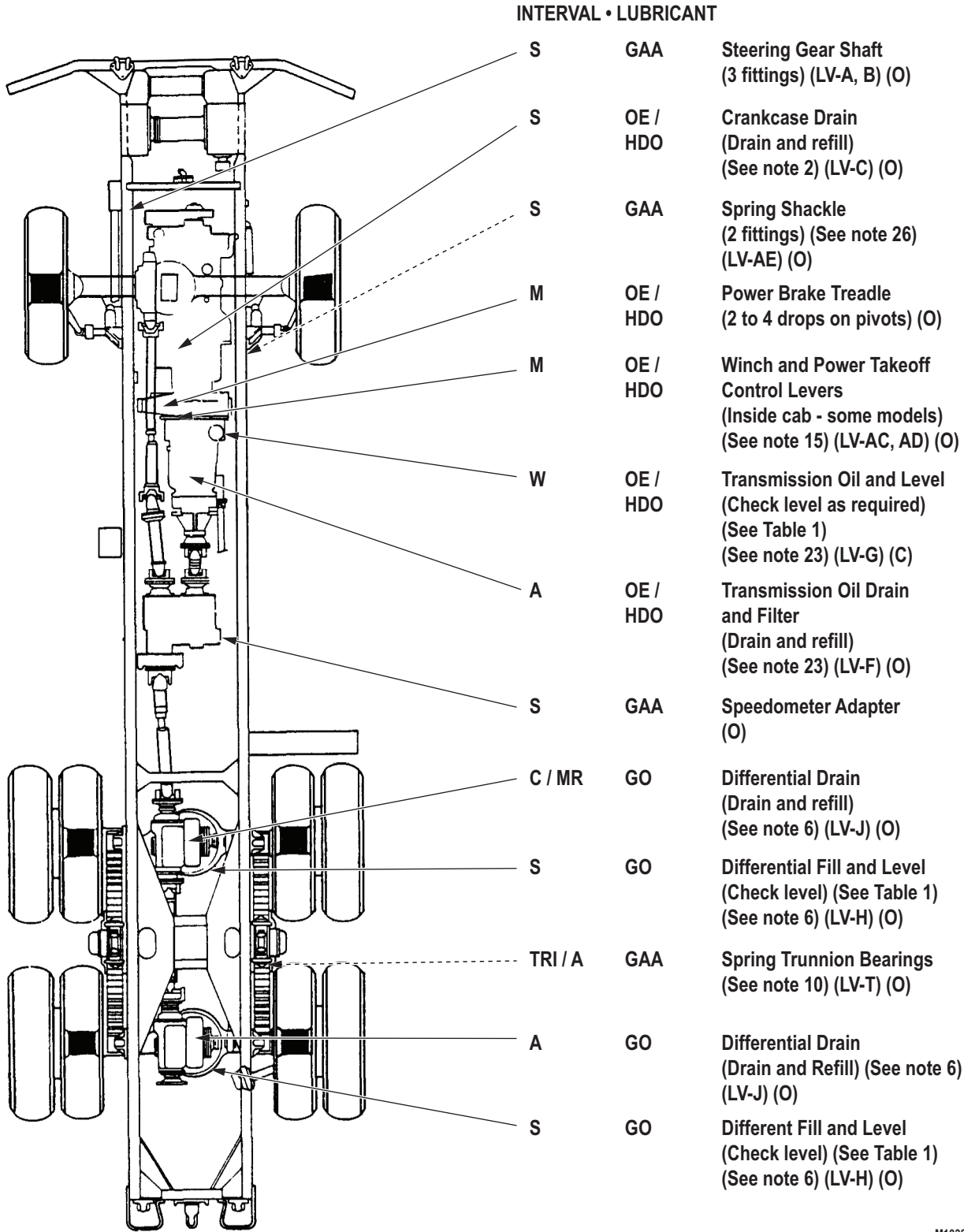
**Table 2. Total Man-Hours.**

	D	W	M	S	3/S	A	B	C/MR	OC
TRUCK, CHASSIS: 5-TON, 6X6, M939, M939A1, M940, M940A1, M941, M941A1, M942, M942A1, M942A2, M943, M944, M944A1, M944A2, M945, M945A1	.3		.7	7.4	.5	2.1	.5	3.9	1.5
TRUCK, CARGO, DROPSIDE: 5-TON, 6X6 M923, M923A1, M923A2, M925, M925A1, M925A2	.3		.7	7.4	.5	2.1	.5	3.9	1.5
TRUCK, CARGO: 5-TON, 6X6, M924, M924A1, M926, M926A1	.3		.7	7.4	.6	2.1	.5	3.9	1.5
TRUCK, CARGO: 5-TON, 6X6, M927, M927A1, M927A2, M928, M928A1, M928A2	.3		.7	7.4	.6	2.1	.5	3.9	1.5
TRUCK, DUMP: 5-TON, 6X6, M929, M929A1, M929A2, M930, M930A1, M930A2	.3	.1	.7	7.7	.7	2.5	.5	3.9	1.5
TRUCK, TRACTOR: 5-TON, 6X6, M931, M931A1, M931A2, M932, M932A1, M932A2	.3		.7	7.7	.5	2.1	.5	3.9	1.5
TRUCK, VAN, EXPANSIBLE: 5-TON, 6X6, M934, M934A2, M925	.3		.7	8.1	.7	2.7	.5	4.9	1.5
TRUCK, VAN, EXPANSIBLE: 5-TON, 6X6, M934A1, M935A1, M935A2	.3		.7	8.1	.7	3.0	.5	4.9	1.5
TRUCK, WRECKER: 5-TON, 6X6, M936, M936A1, M936A2	.5	.2	1.0	15.2	.9	3.1	.5	4.9	1.5



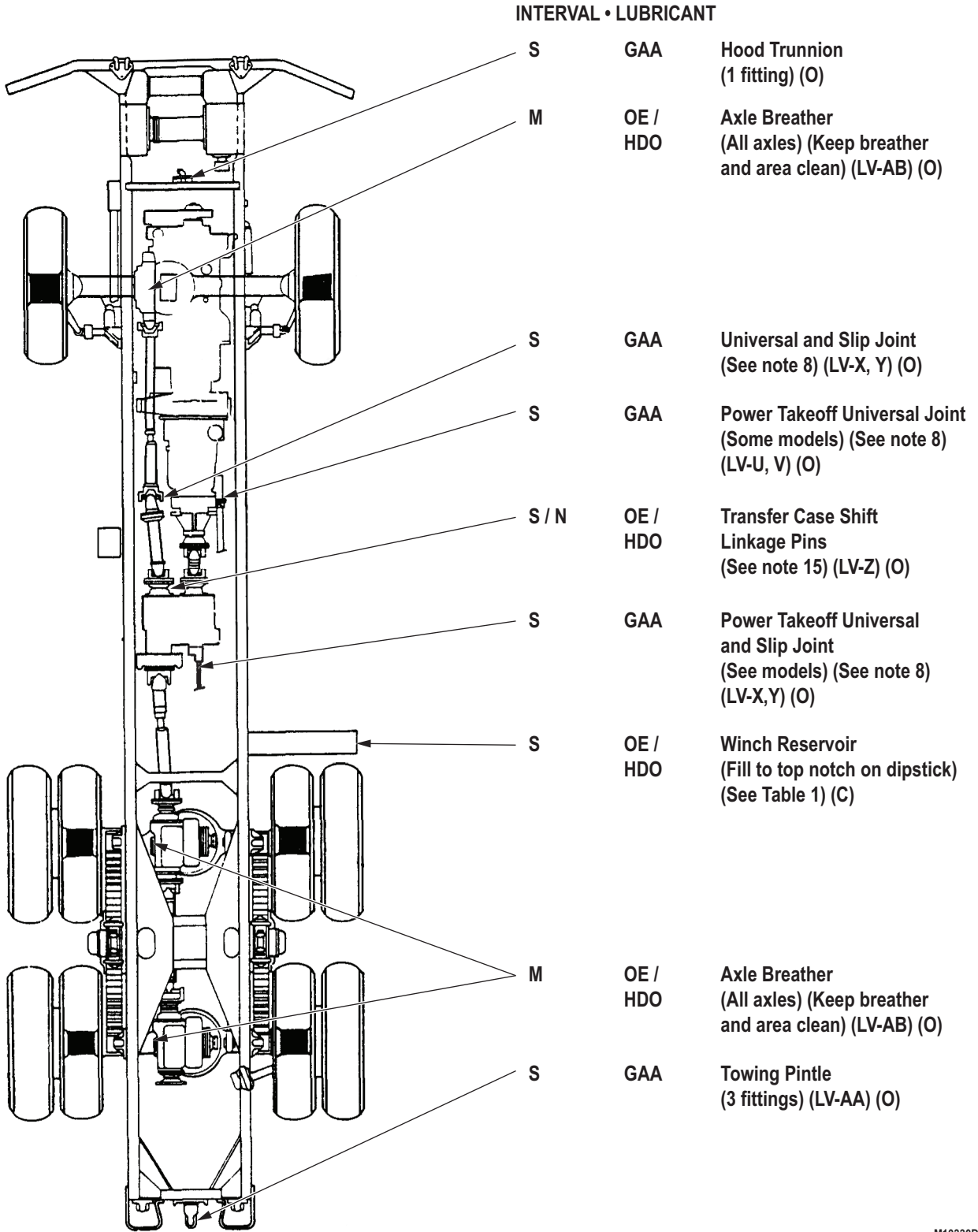
M10328DAA

Figure 1. Truck Chassis.



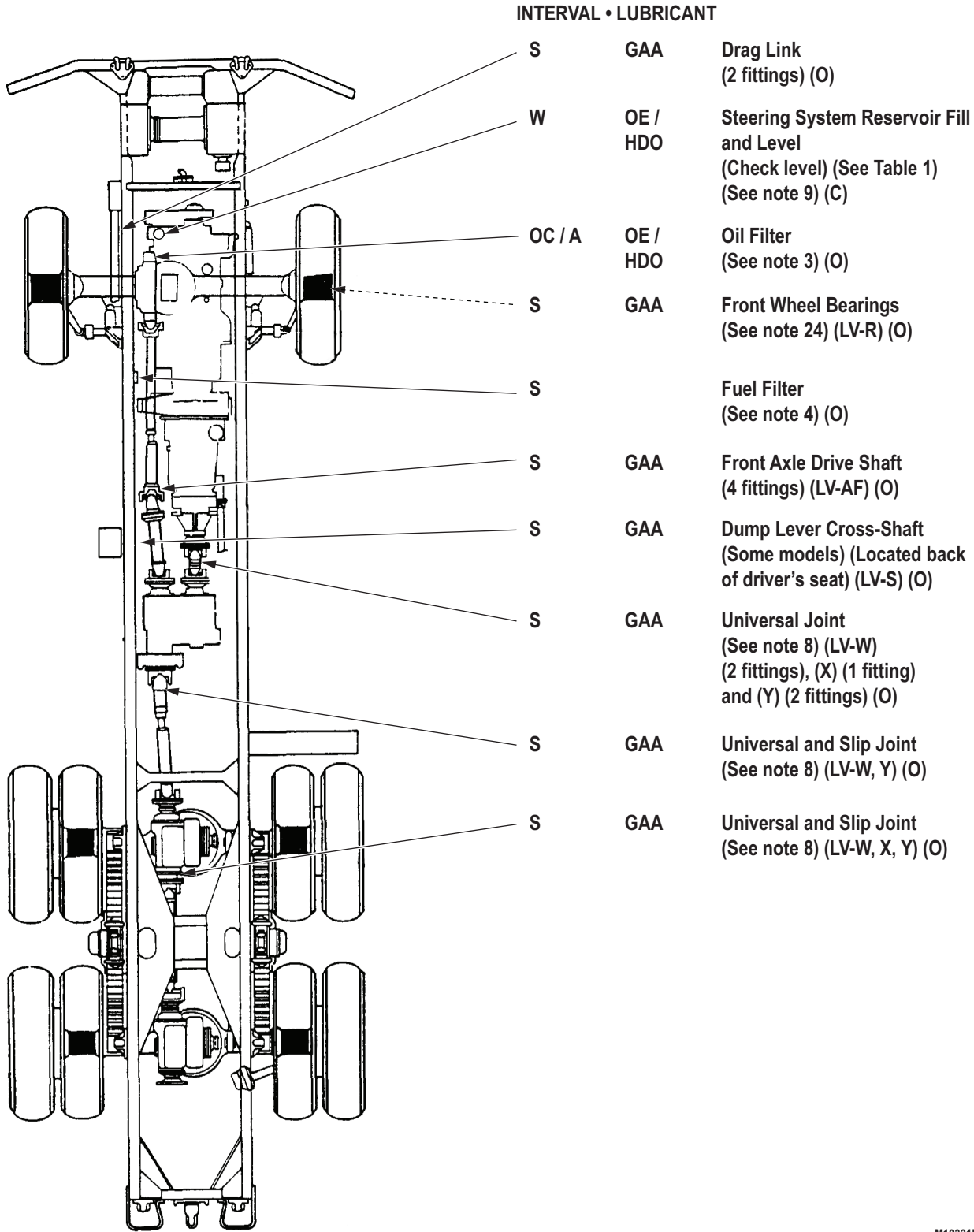
M10329DAA

Figure 2. Truck Chassis.



M10330DAA

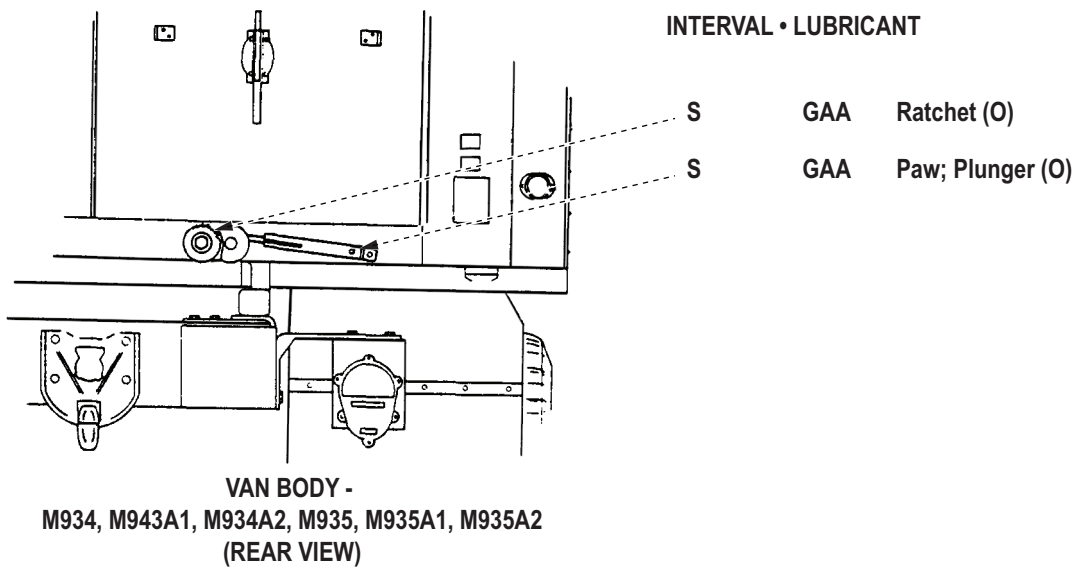
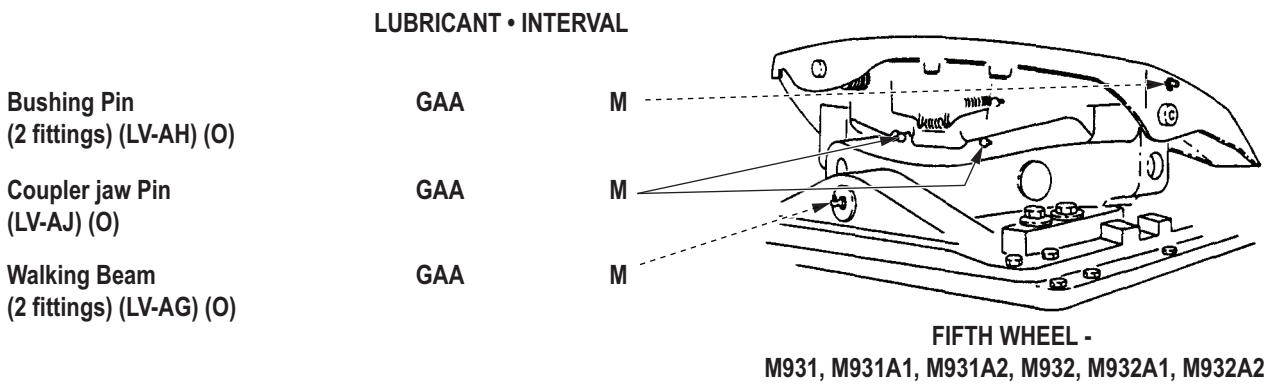
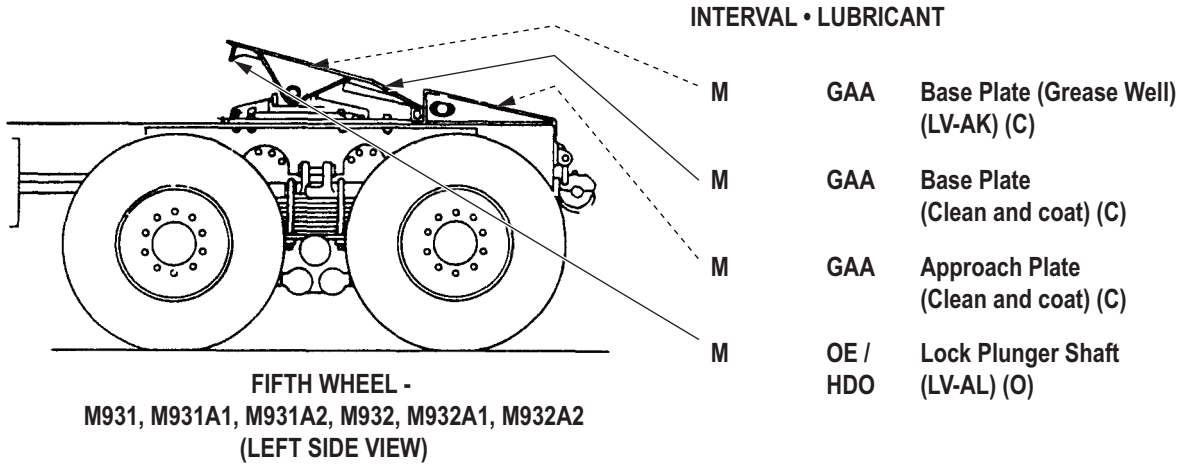
Figure 3. Truck Chassis.



M10331DAA

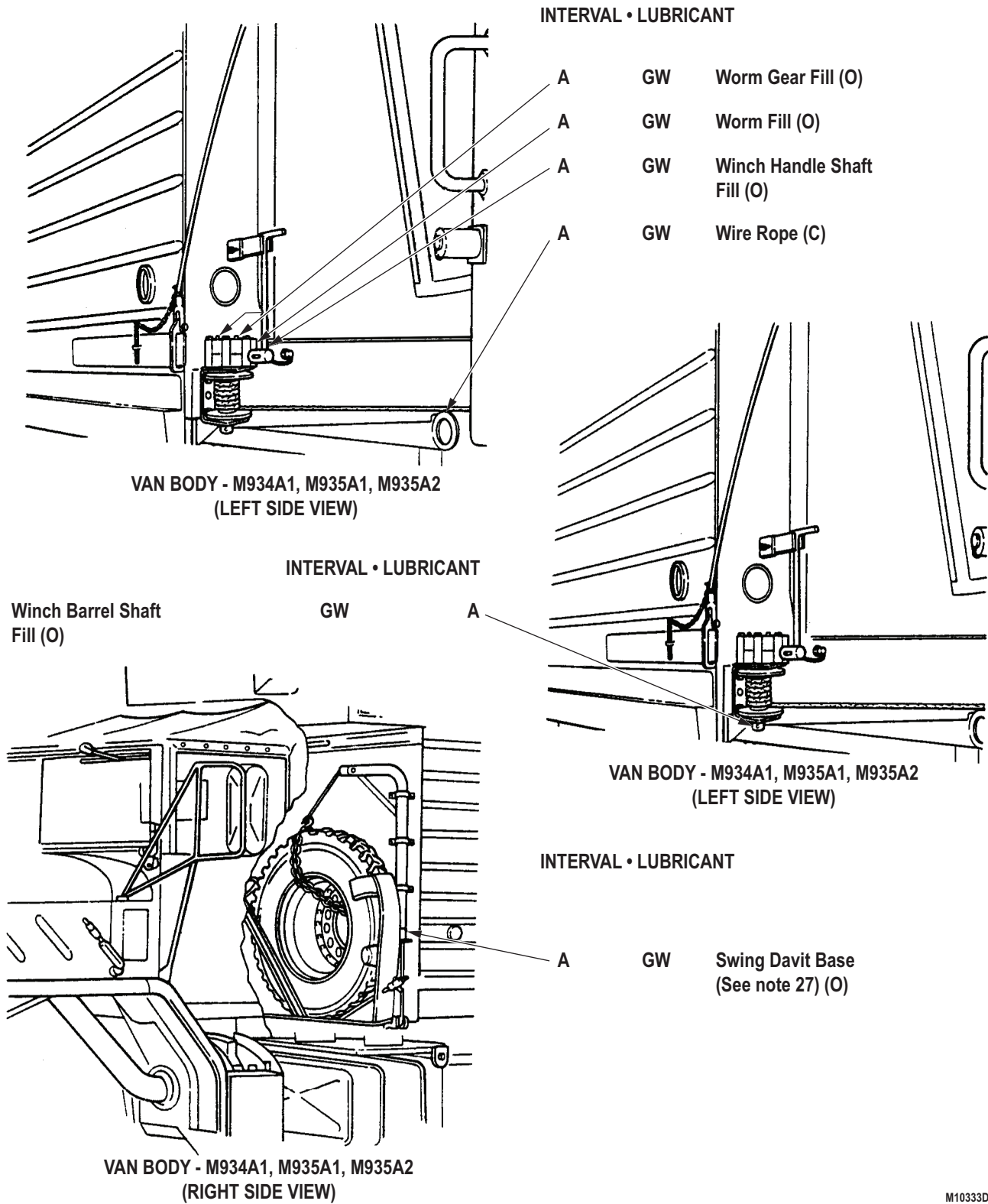
Figure 4. Truck Chassis.





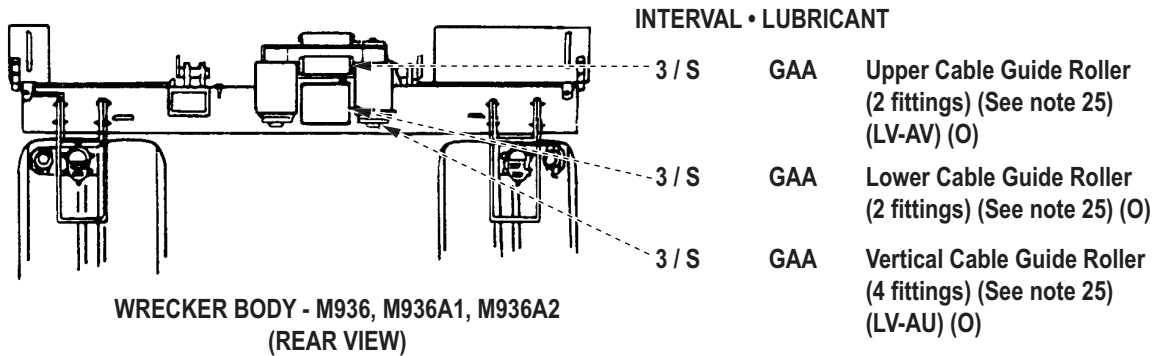
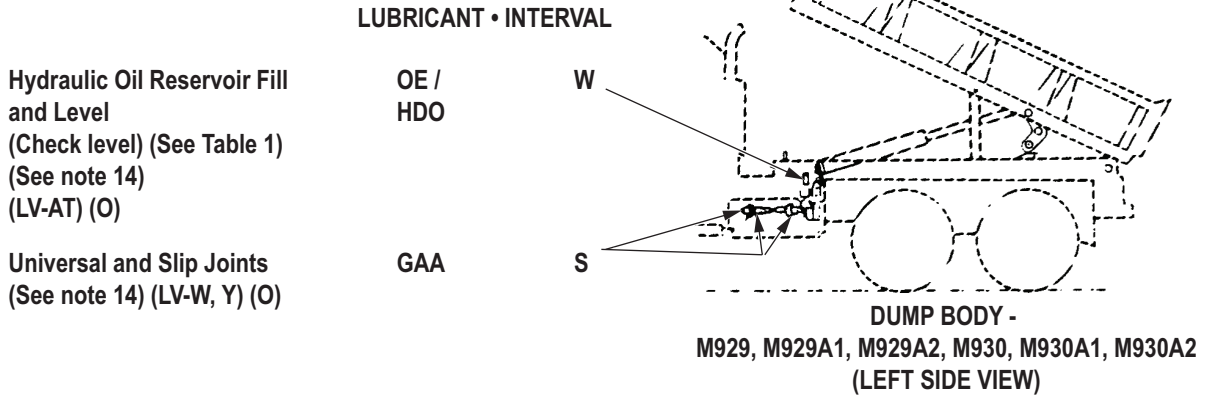
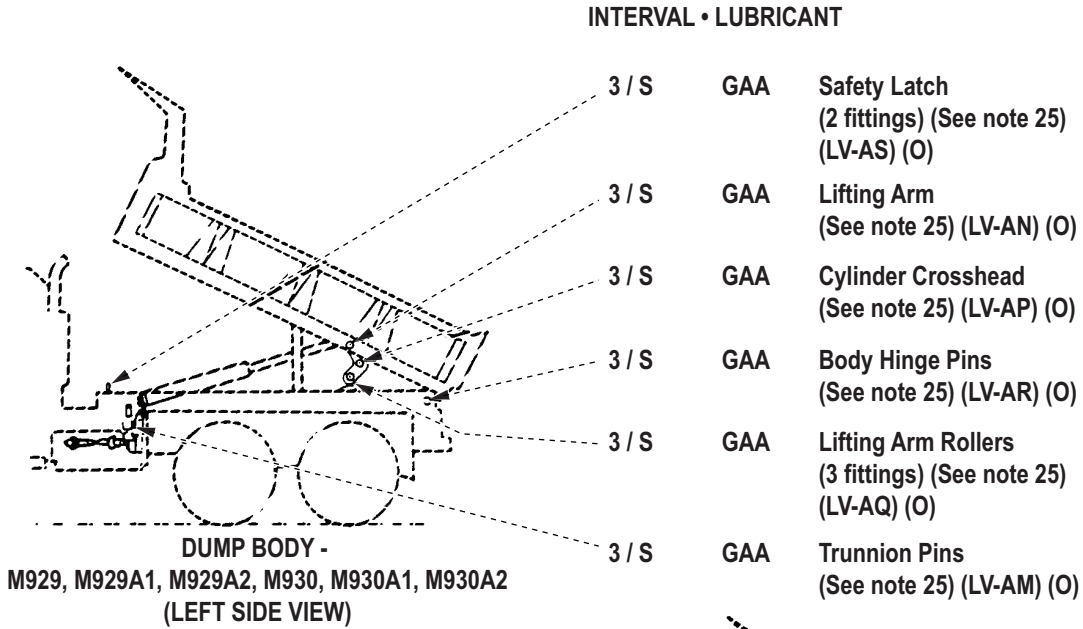
M10332DAA

Figure 5. Fifth Wheel/Van Body.



M10333DAA

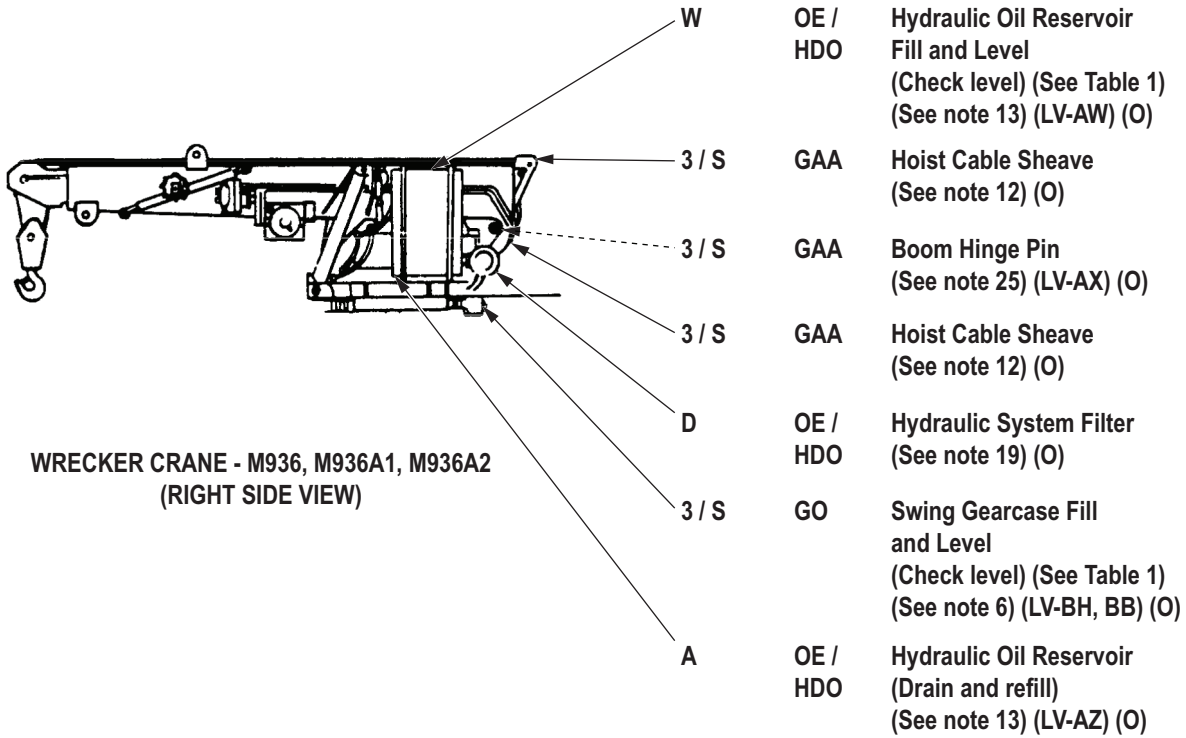
Figure 6. Van Body.



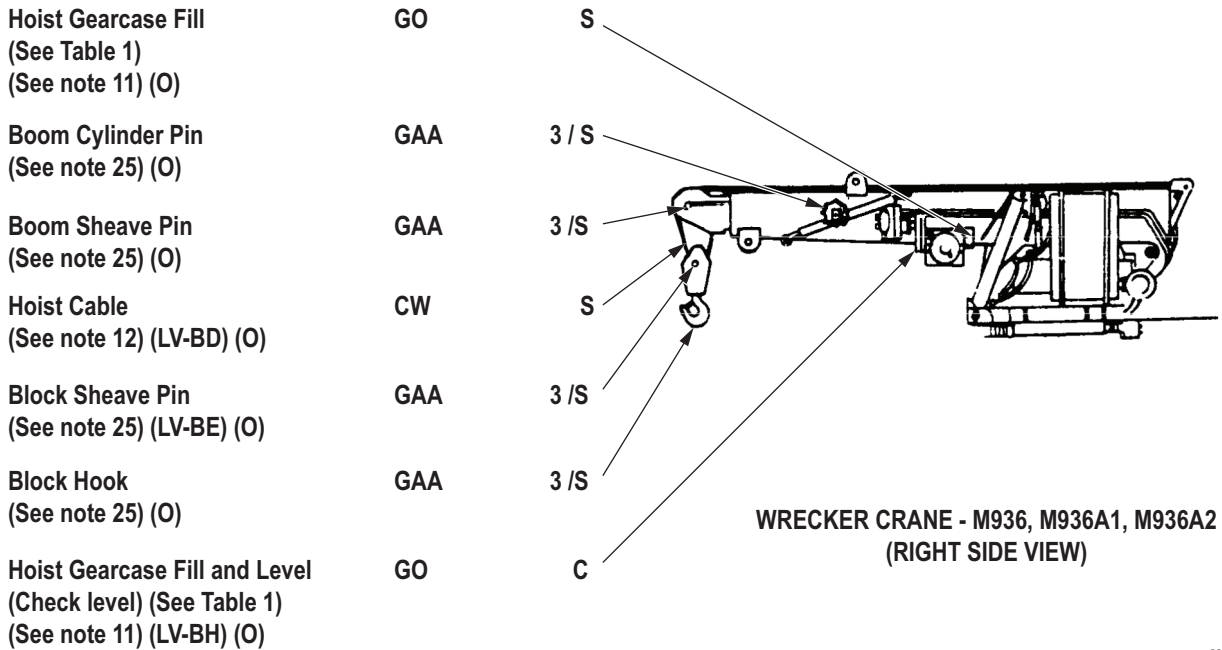
M10334DAA

Figure 7. Wrecker/Dump Body.

INTERVAL • LUBRICANT

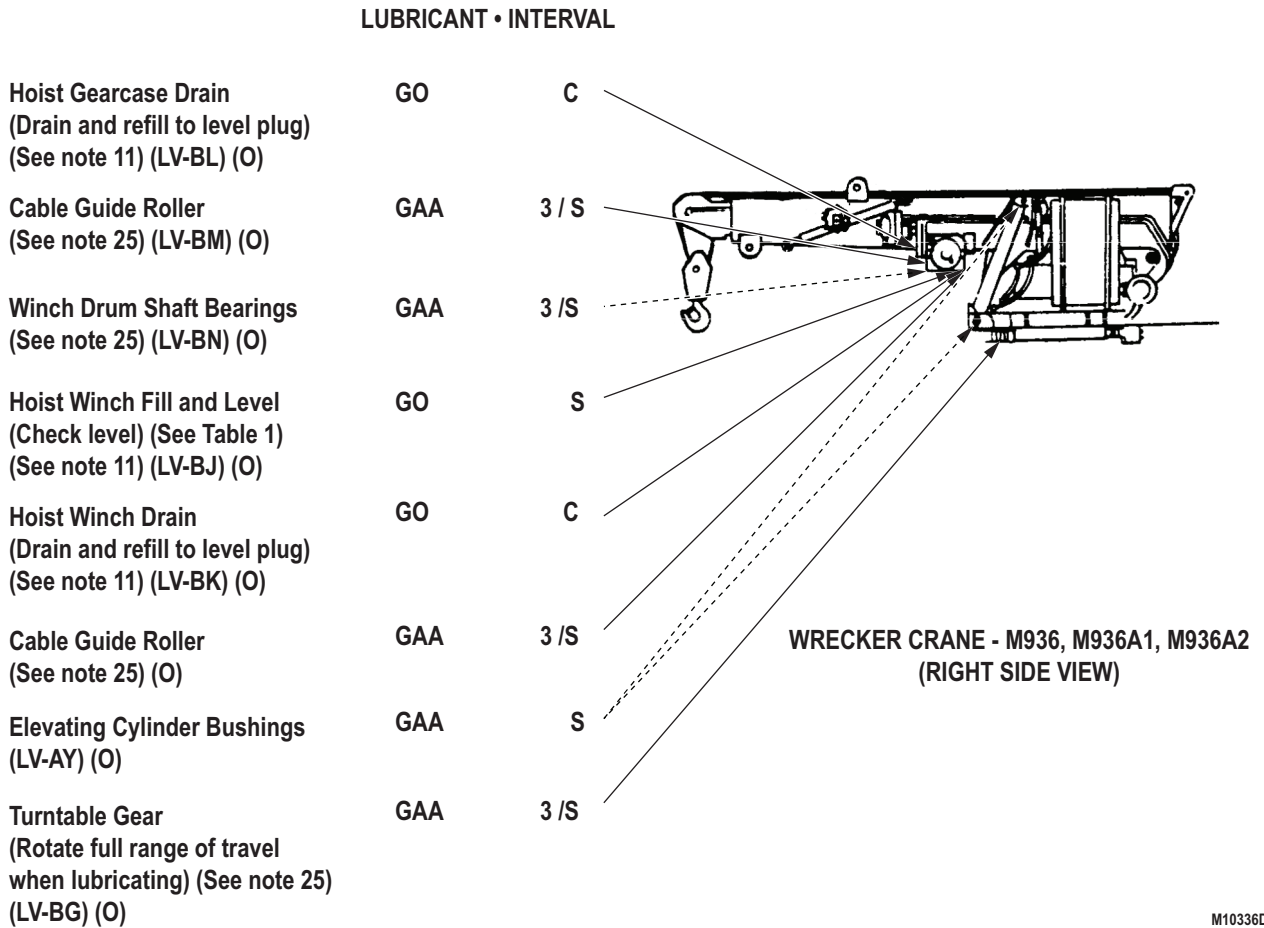
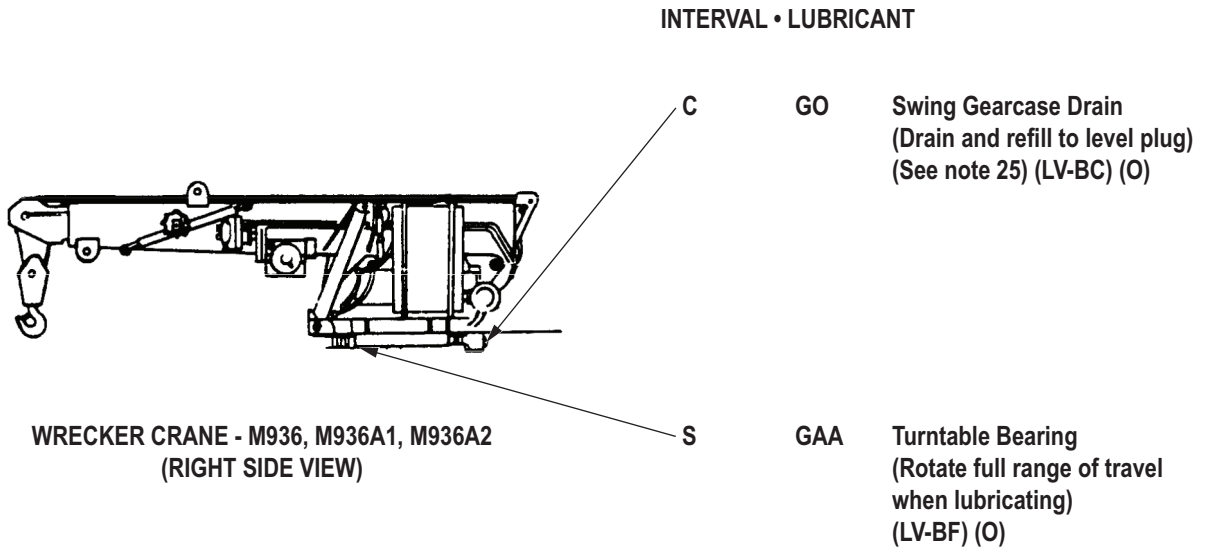


LUBRICANT • INTERVAL



M10335DAA

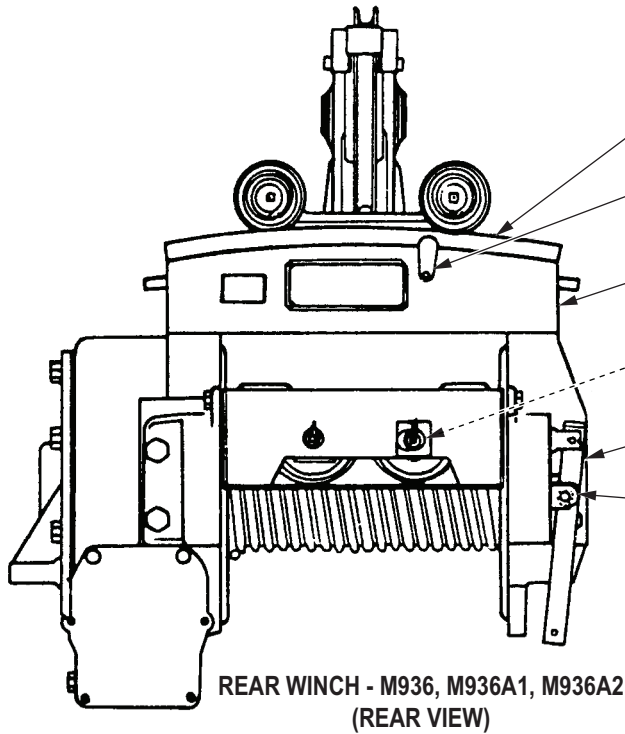
Figure 8. Wrecker Crane.



M10336DAA

Figure 9. Wrecker Crane.

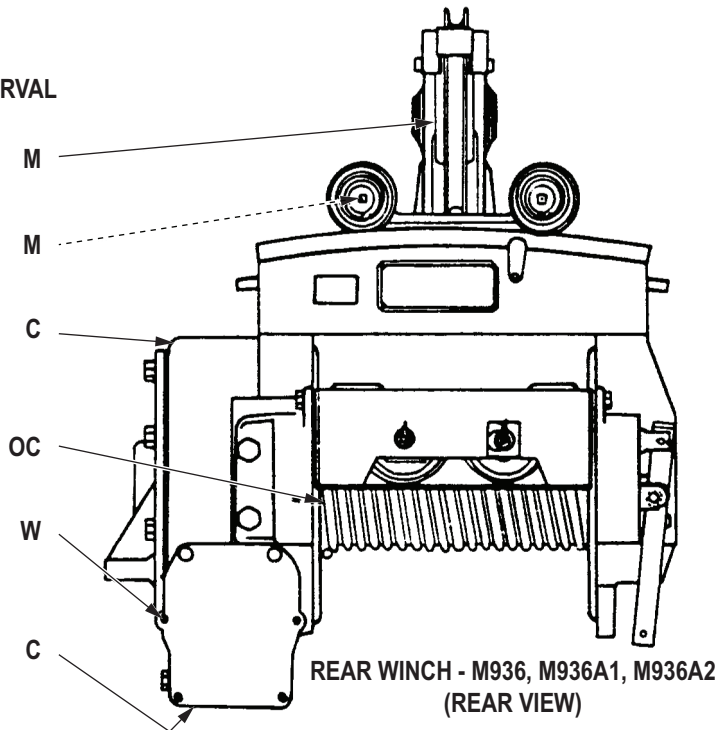
INTERVAL • LUBRICANT



- 3 / S    GAA    Level Wind Frame  
(See note 25) (O)
- M        OE /    Level Wind Trolley Lock  
HDO    (See note 15) (O)
- 3 / S    GAA    Sheave Frame Pin Bearing  
(See note 25) (O)
- M        GAA    Tensioner Sheave Pins  
(LV-BP) (O)
- 3 / S    GAA    End Frame Bearing  
(See note 25) (LV-BS) (O)
- M        OE /    Tensioner Rocker Lever Pins  
HDO    (See note 15) (O)

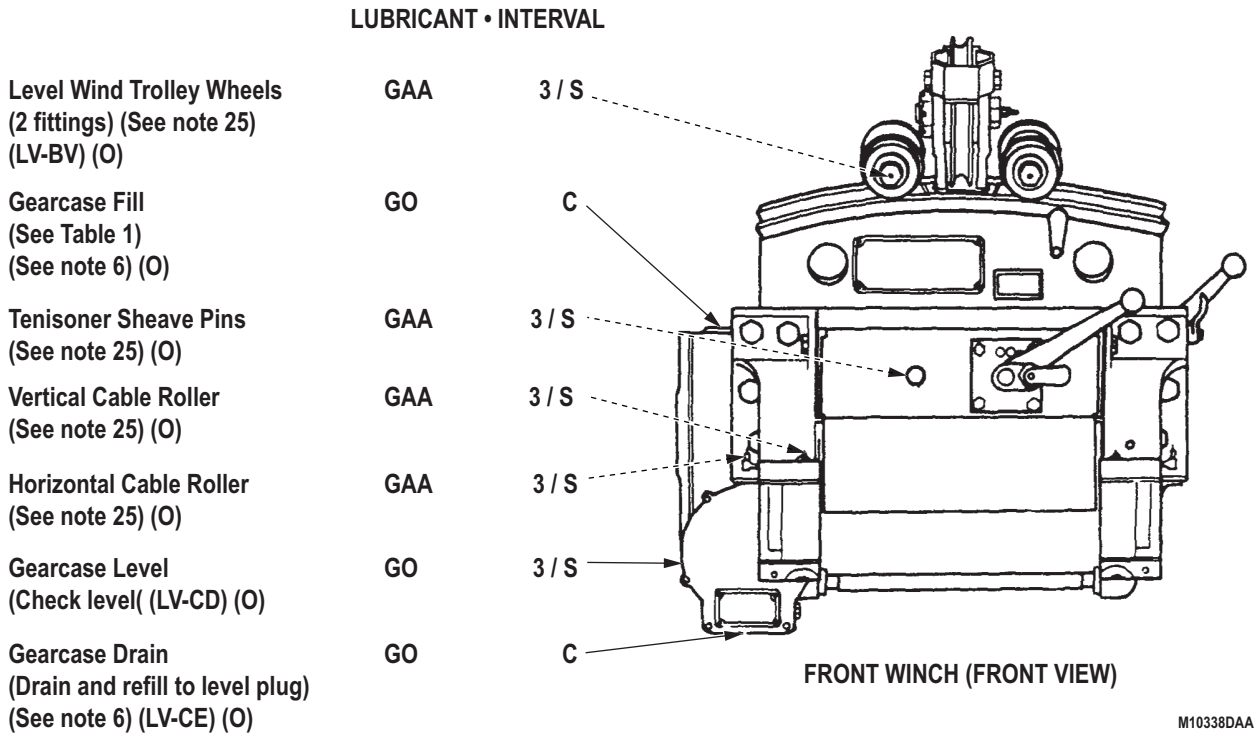
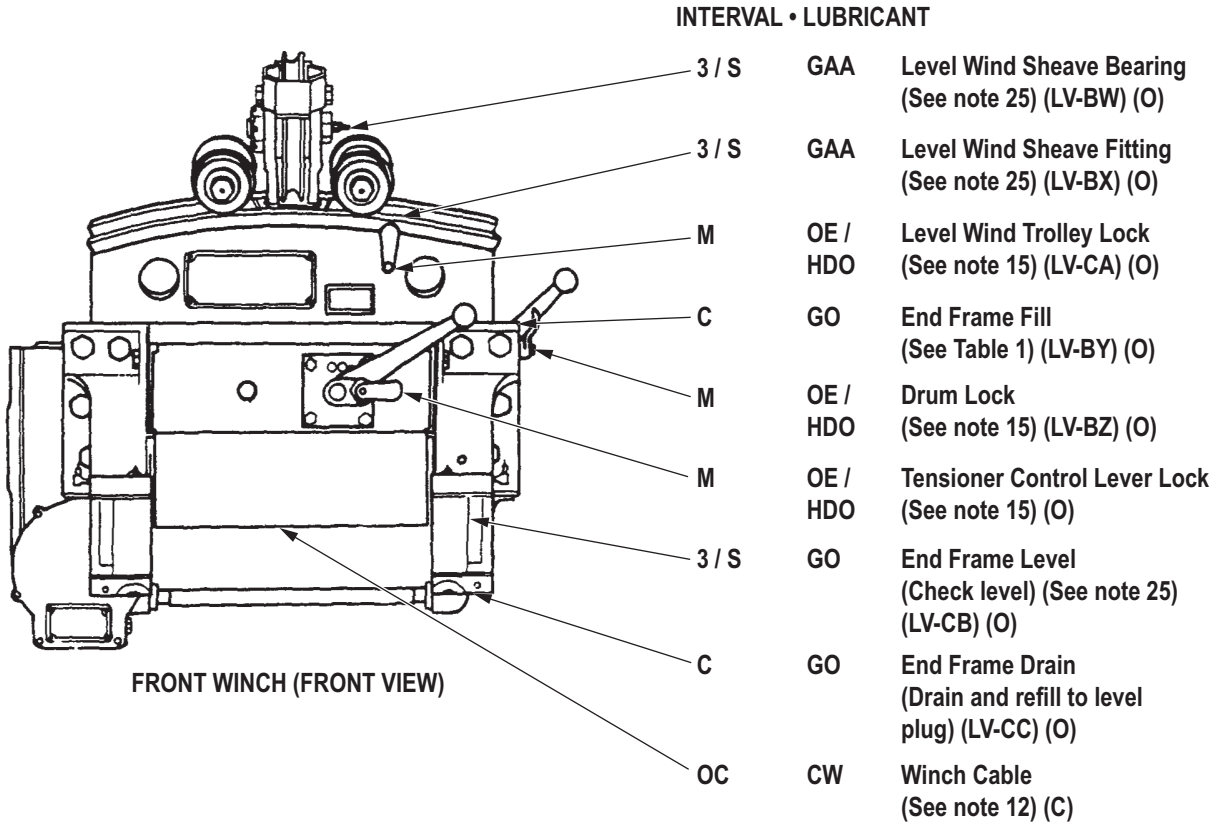
LUBRICANT • INTERVAL

- Level Wind Sheave Bearing  
(LV-BR) (O)        GAA        M
- Level Wind Trolley Wheels  
(LV-BQ) (O)        GAA        M
- Gearcase Fill  
(See Table 1) (See note 6) (O)        GO        C
- Winch Cable  
(See note 12) (C)        CW        OC
- Gearcase Level  
(Check level) (See note 6)  
(LV-BT) (O)        GO        W
- Gearcase Drain  
(Drain and refill to level plug)  
(See note 6) (LV-BU) (O)        GO        C



M10337DAA

Figure 10. Rear Winch.



M10338DAA

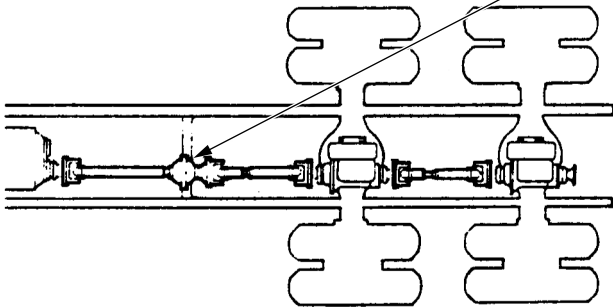
Figure 11. Front Winch.

INTERVAL • LUBRICANT

S/A

GAA

Propeller Shaft Center Bearing  
(See note 8) (O)

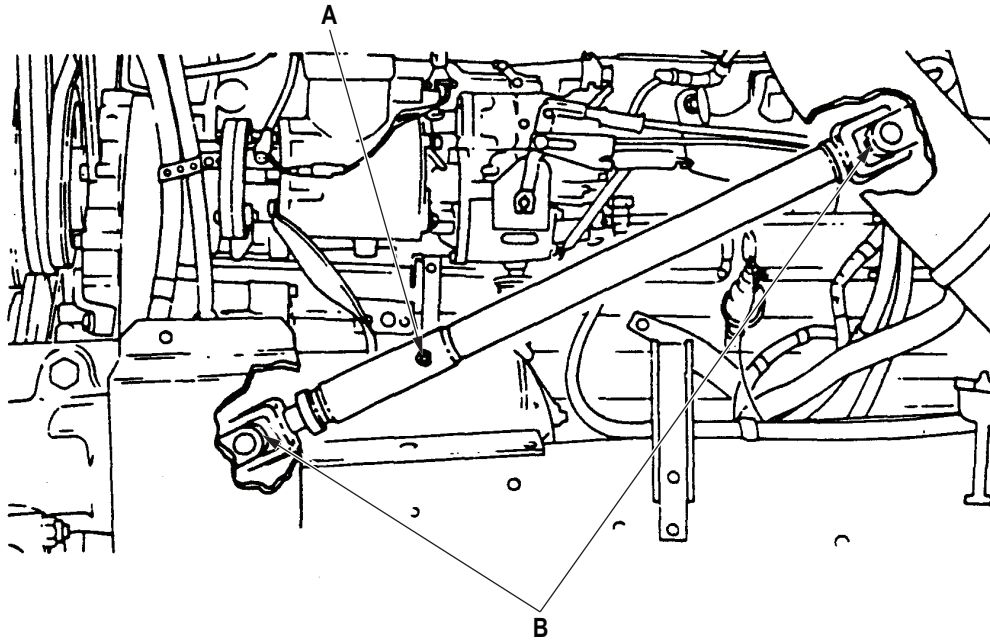


**PROPELLER SHAFT CENTER BEARING -**  
M927, M927A1, M927A2, M928, M928A1, M928A2  
M934, M934A1, M934A2, M935, M935A1, M935A2  
(TOP VIEW)

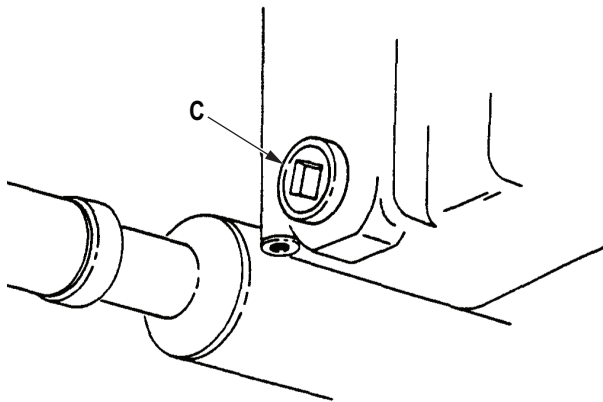
M10339DAA

Figure 12. Propeller Shaft.

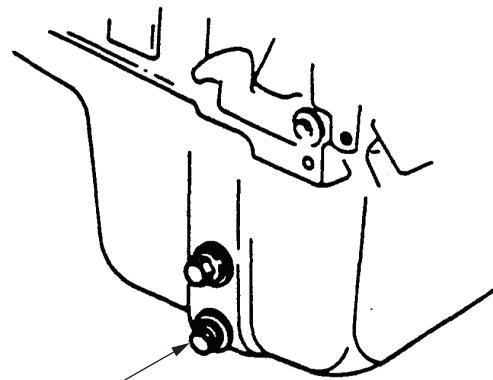




STEERING GEAR SHAFT



CRANKCASE DRAIN  
M939 AND M939A1

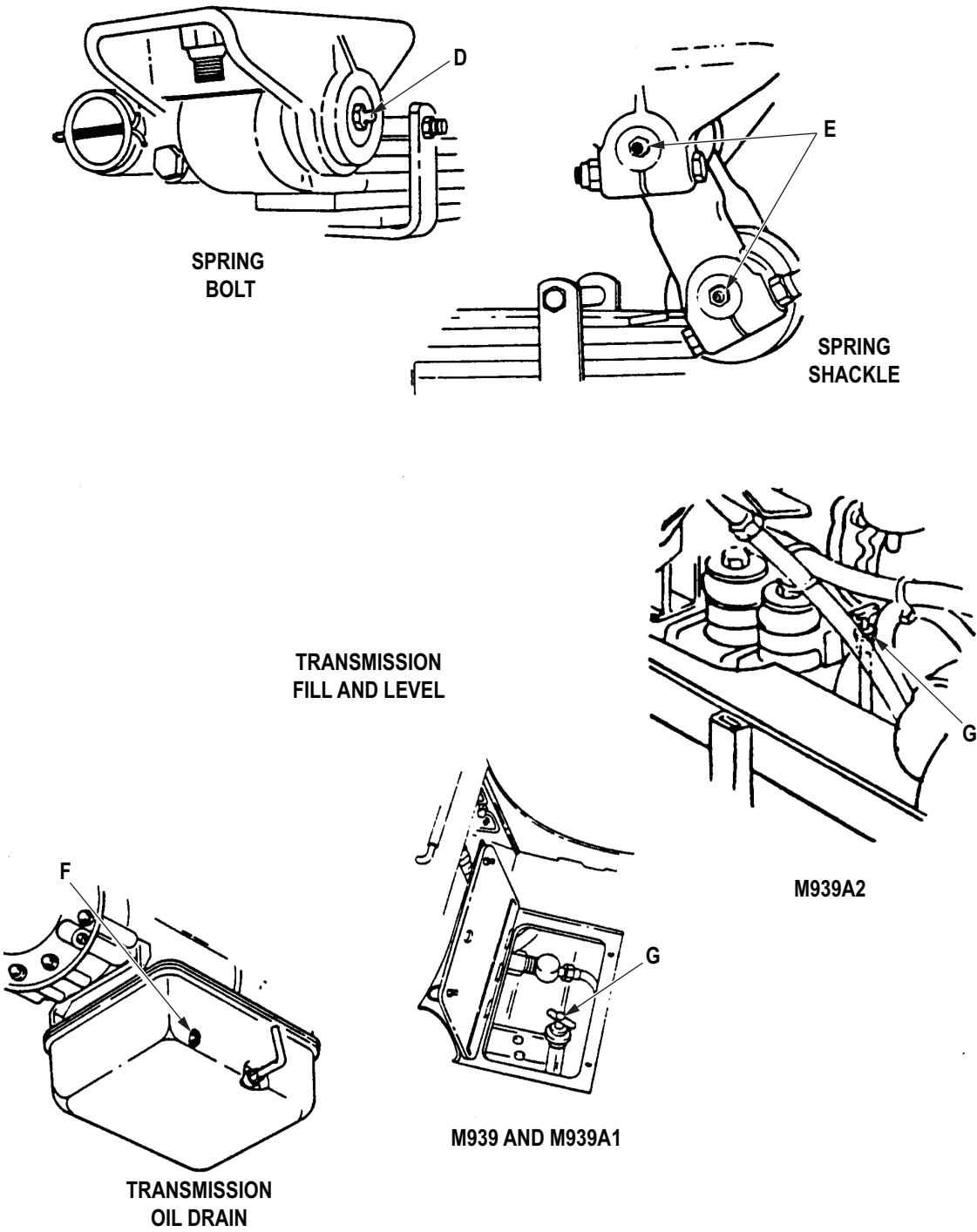


CRANKCASE DRAIN  
M939A2

LOCALIZED LUBRICATION POINTS (A THROUGH C)

M10340DAA

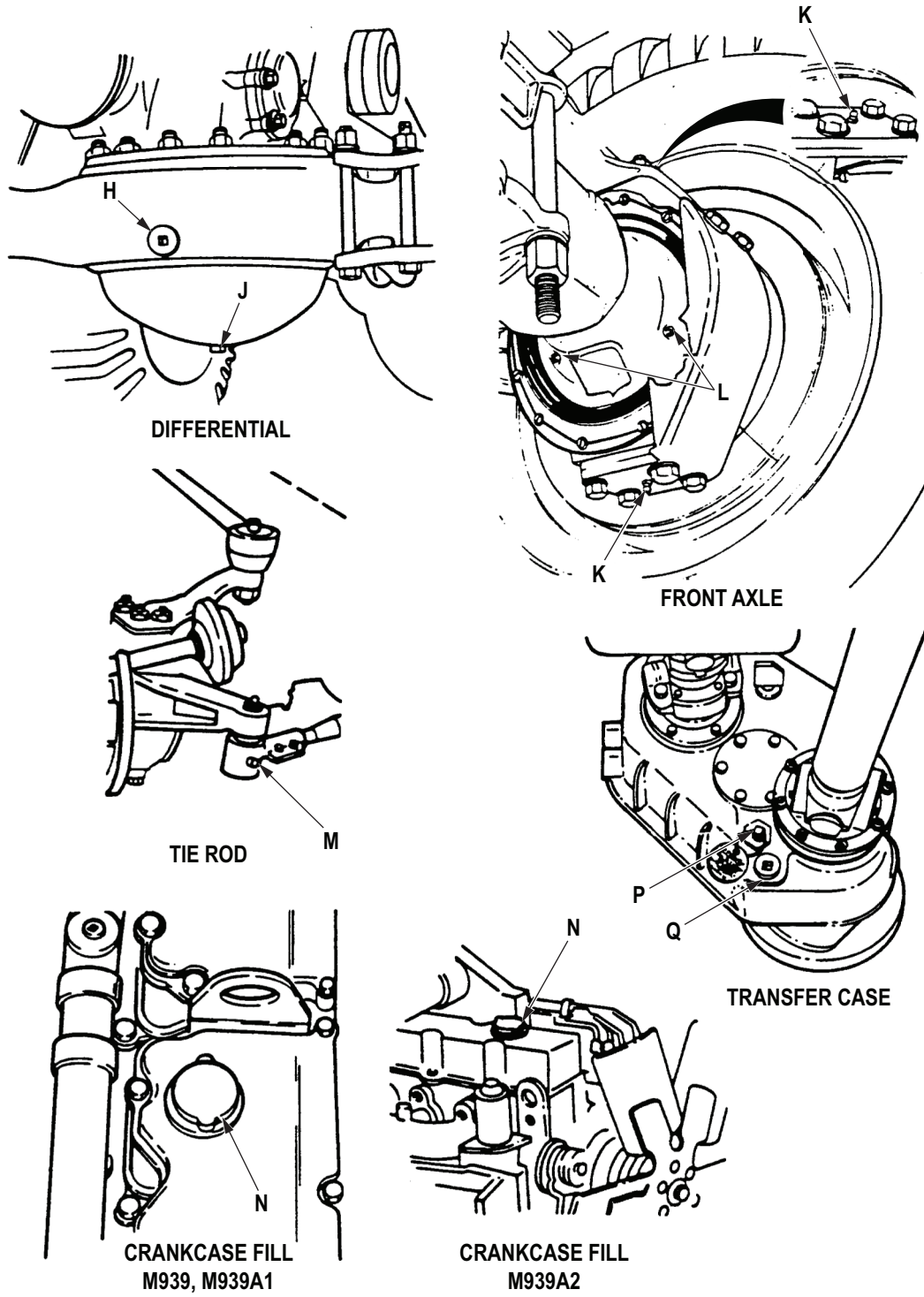
Figure 13. Localized Lubrication.



LOCALIZED LUBRICATION POINTS (D THROUGH G)

M10341DAA

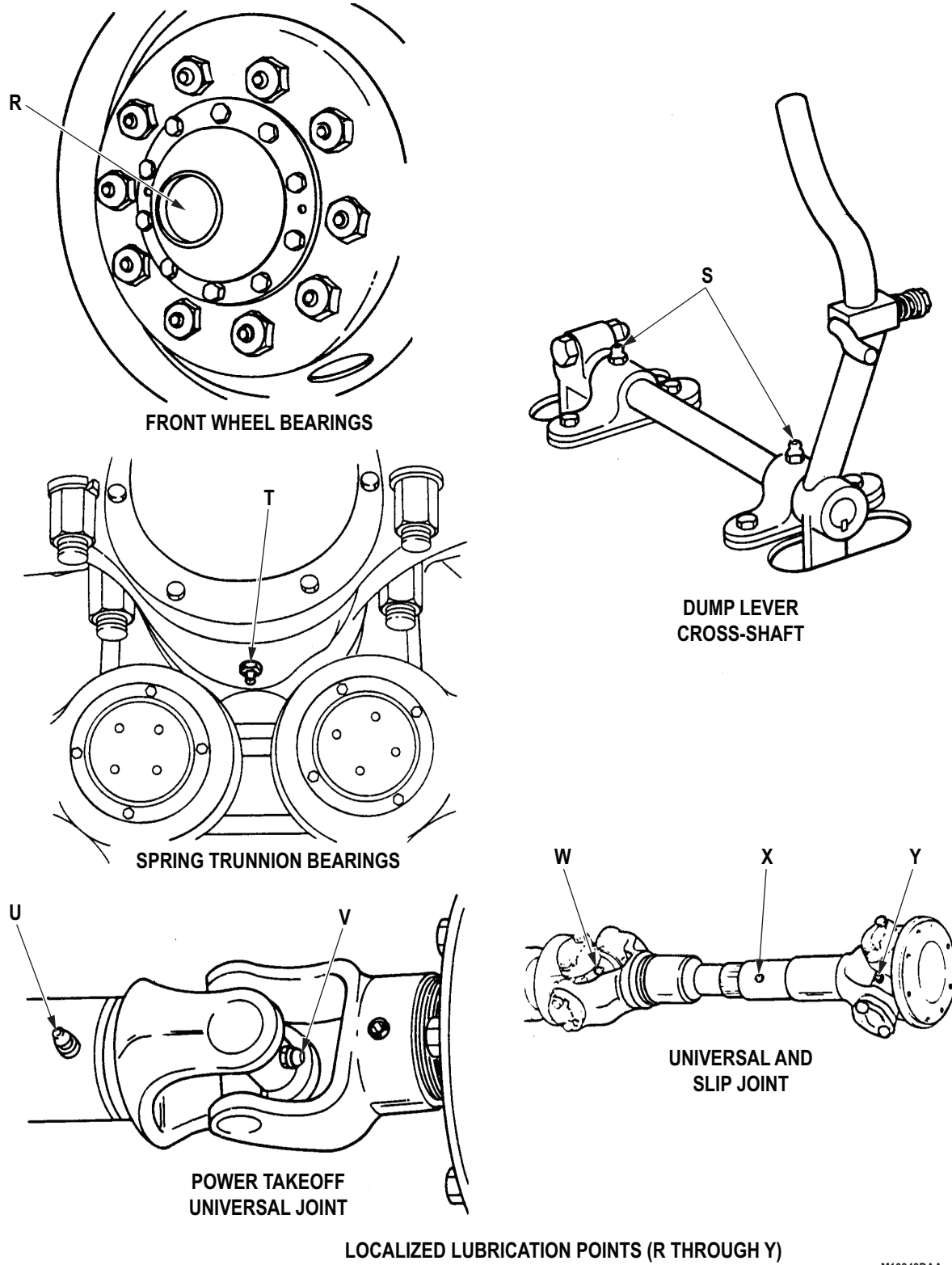
Figure 14. Localized Lubrication.



LOCALIZED LUBRICATION POINTS (H THROUGH Q)

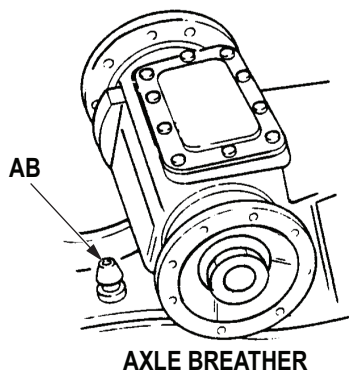
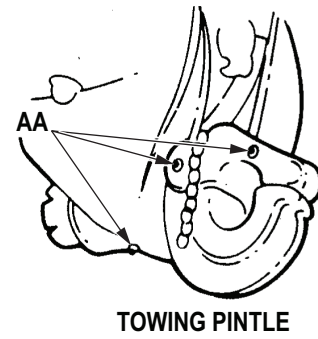
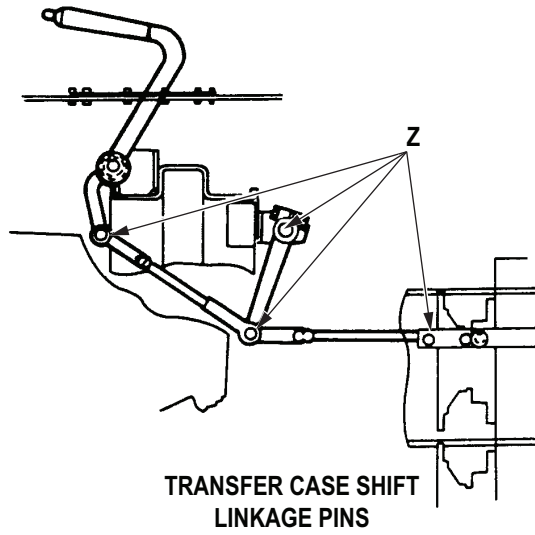
M10342DAA

Figure 15. Localized Lubrication.



M10343DAA

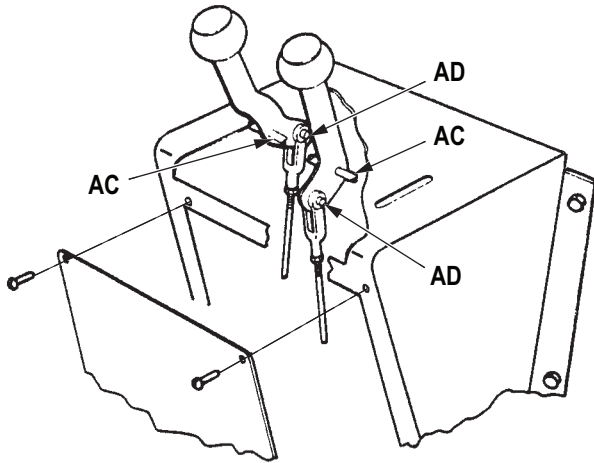
Figure 16. Localized Lubrication.



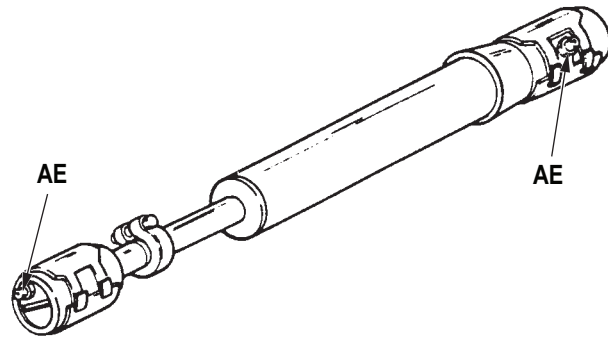
LOCALIZED LUBRICATION POINTS (Z THROUGH AB)

M10344DAA

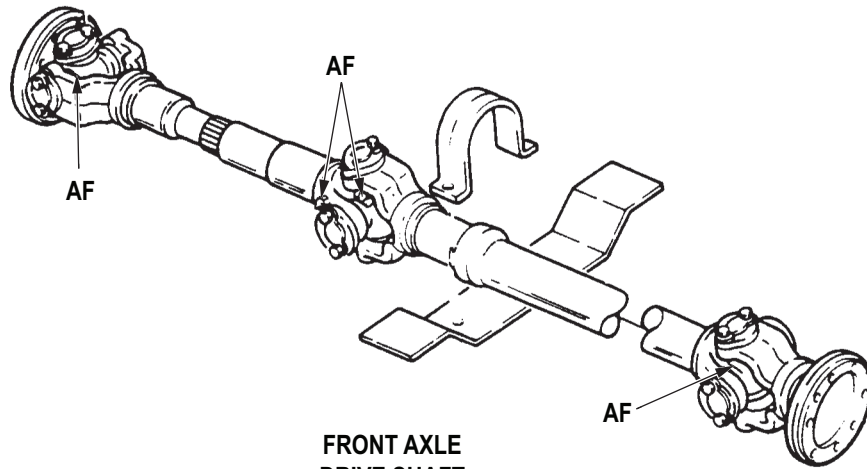
Figure 17. Localized Lubrication.



WINCH AND POWER TAKEOFF CONTROL LEVERS



POWER STEERING CYLINDER

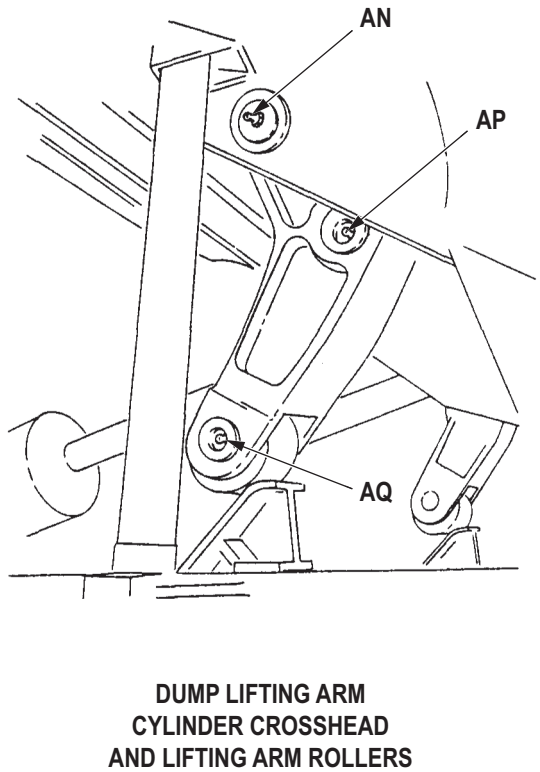
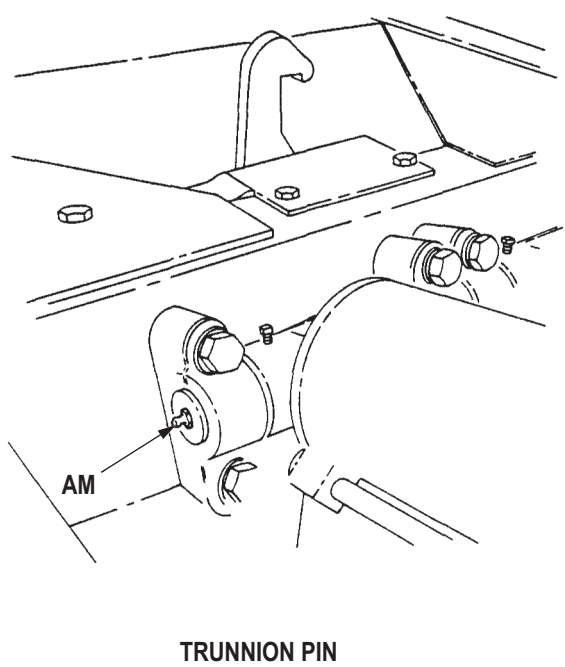
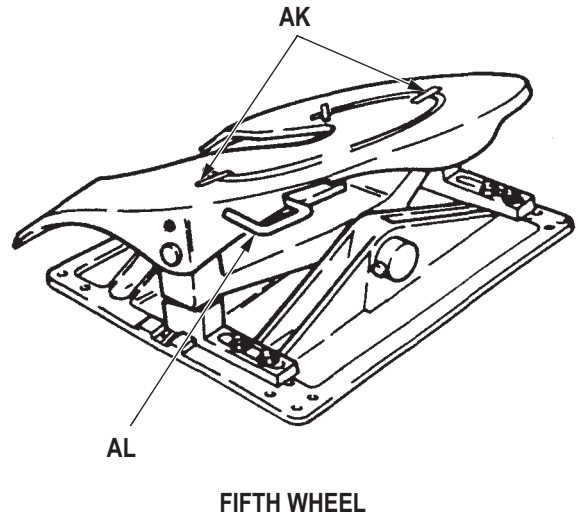
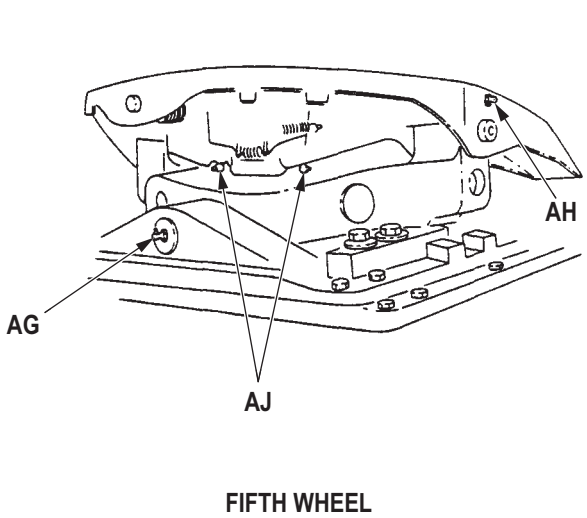


FRONT AXLE DRIVE SHAFT

LOCALIZED LUBRICATION POINTS (AC THROUGH AF)

M10345DAA

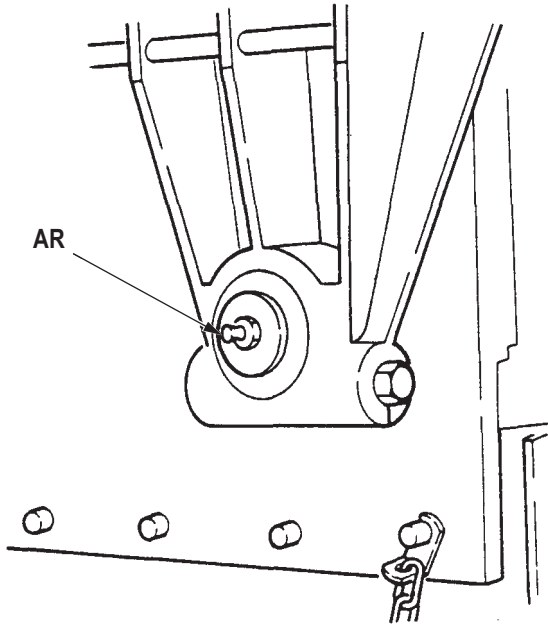
Figure 18. Localized Lubrication.



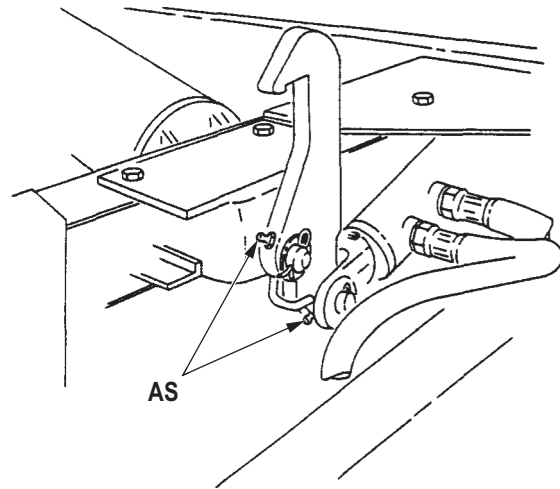
LOCALIZED LUBRICATION POINTS (AG THROUGH AQ)

M10346DAA

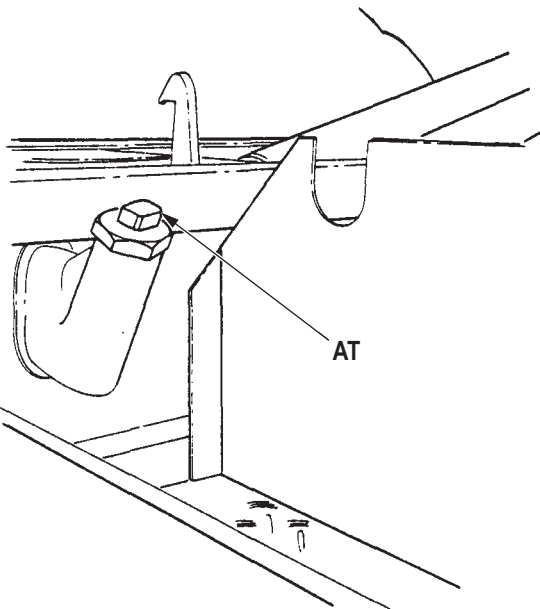
Figure 19. Localized Lubrication.



DUMP BODY HINGE PINS



SAFETY LATCH



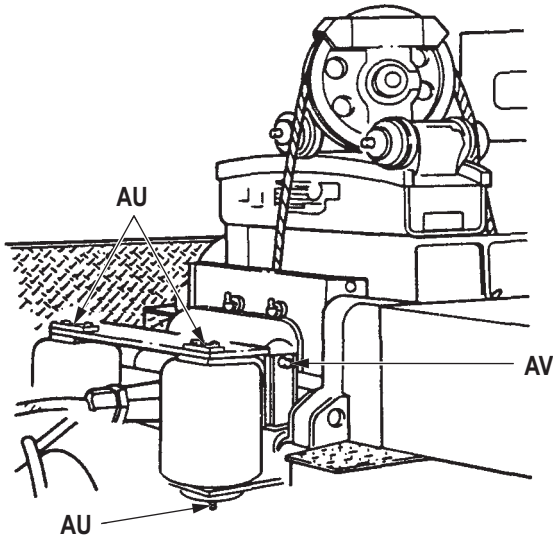
HYDRAULIC OIL RESERVOIR  
FILL AND LEVEL

LOCALIZED LUBRICATION POINTS (AR THROUGH AT)

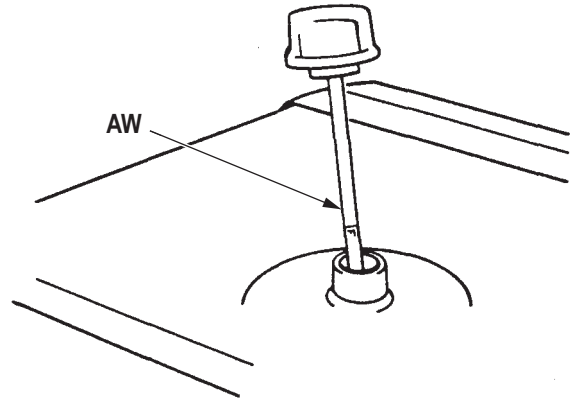
M10347DAA

Figure 20. Localized Lubrication.

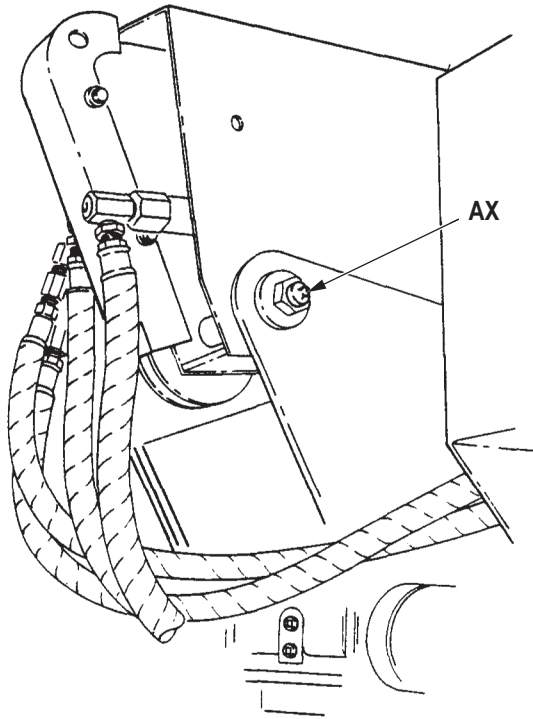




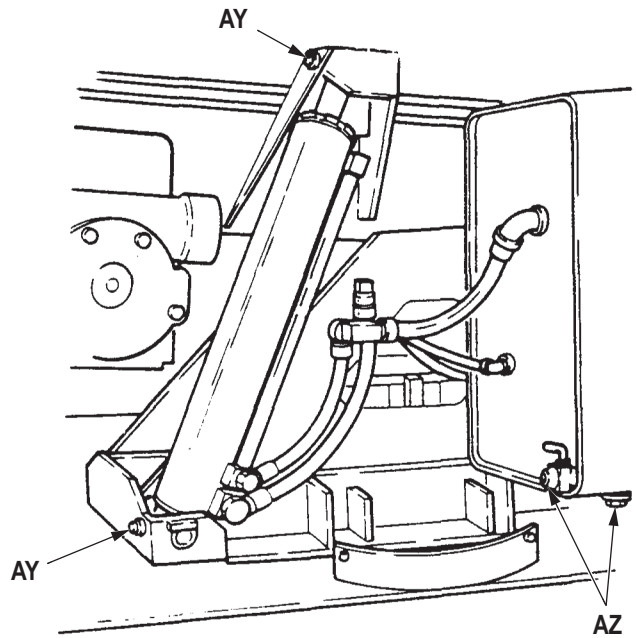
WRECKER BODY - M936, M936A1



WRECKER HYDRAULIC OIL RESERVOIR



WRECKER BOOM HINGE PIN

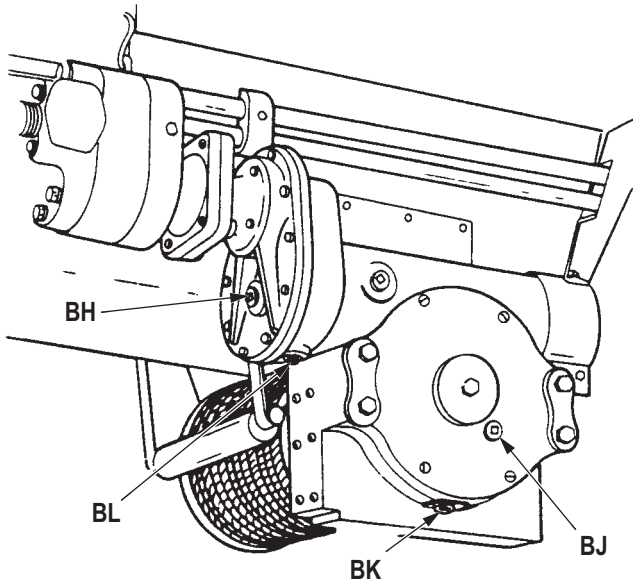


WRECKER ELEVATING CYLINDER

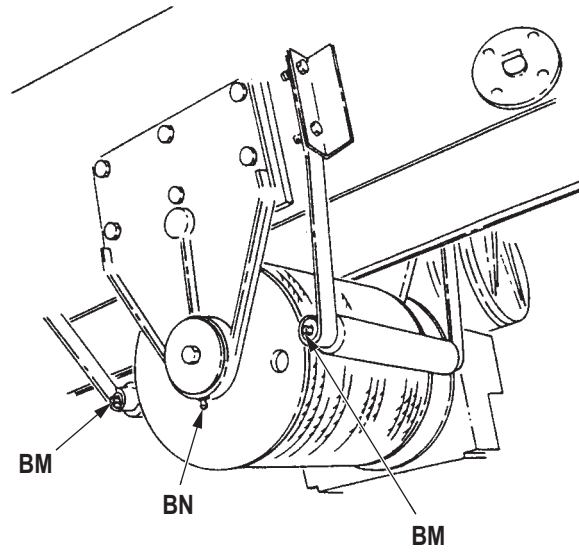
LOCALIZED LUBRICATION POINTS (AU THROUGH AZ)

M10348DAA

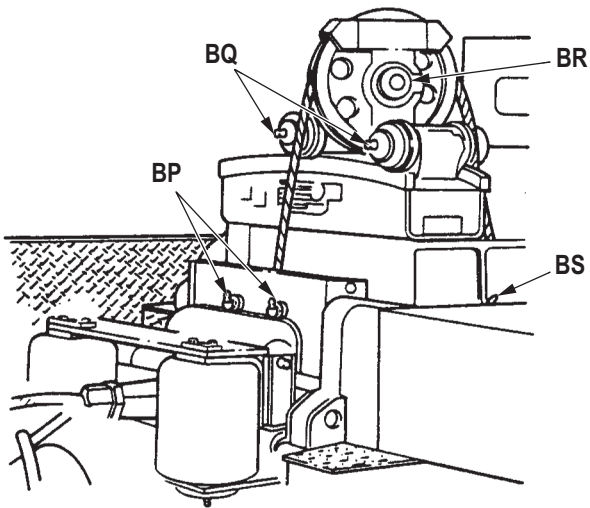
Figure 21. Localized Lubrication.



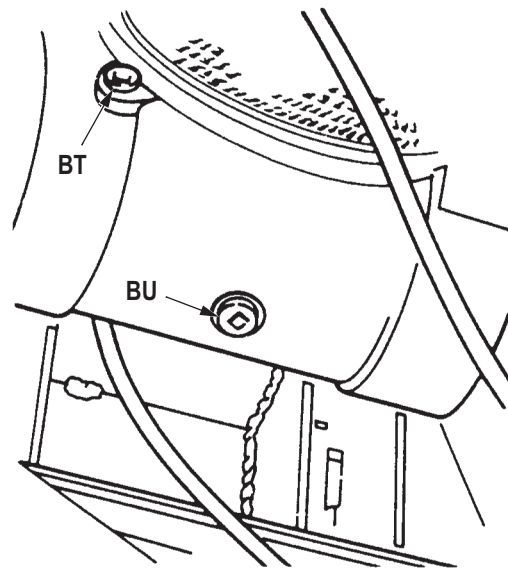
WRECKER HOIST GEARCASE  
(RIGHT SIDE)



WRECKER HOIST GEARCASE  
(LEFT SIDE)



REAR WINCH - M936, M936A1

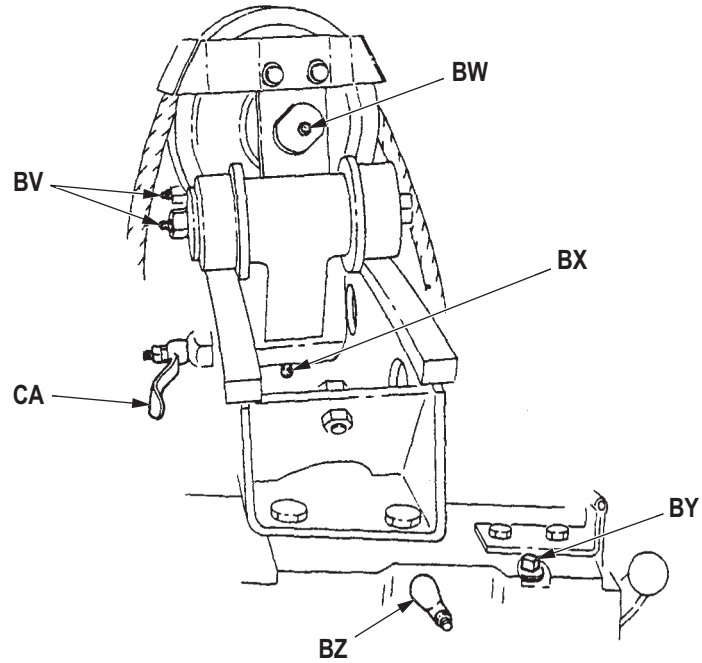


REAR WINCH GEARCASE

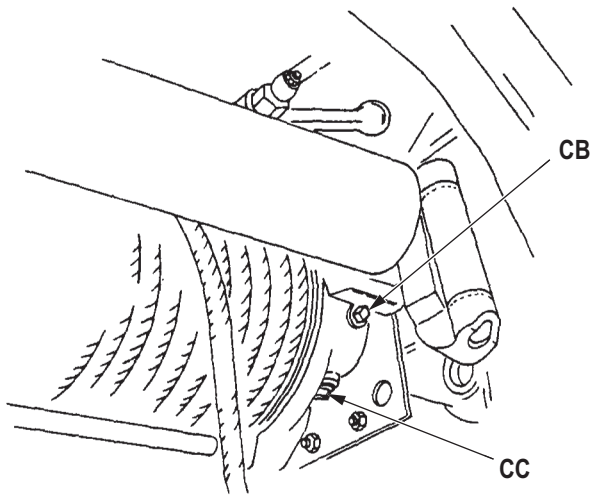
LOCALIZED LUBRICATION POINTS (BH THROUGH BU)

M10349DAA

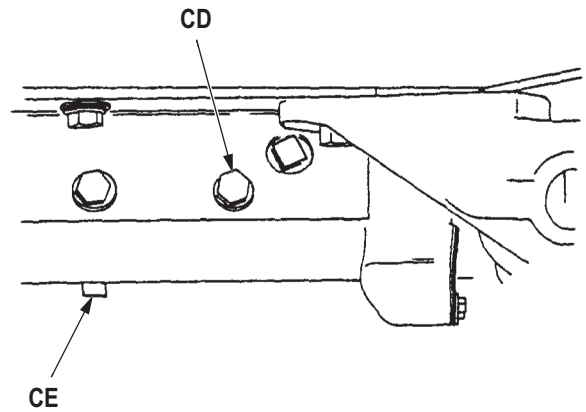
Figure 22. Localized Lubrication.



FRONT WINCH (LEFT SIDE)



FRONT WINCH ENDFRAME



FRONT WINCH GEARCASE

LOCALIZED LUBRICATION POINTS (BV THROUGH CE)

M10350DAA

Figure 23. Localized Lubrication.

**NOTES****1. INTERVALS**

This LO has been revised to comply with DA programming to extend intervals and conserve lubricants. When practical, lubrication services will be made to coincide with the Vehicle "S" Preventive Maintenance Service. For this purpose, a 10% tolerance (variation) in specified lubrication point mileage is permissible.

**2. CRANKCASE****CAUTION**

If water or metal particles are detected during crankcase draining and filter element changing, notify your supervisor before refilling crankcase.

**NOTE**

- Withdraw dipstick slowly to ensure accurate reading. There are two marks on the dipstick, H (HIGH) and L (LOW). The quantity of oil required to raise the oil level from L (LOW) mark to H (HIGH) mark is approximately 7 qt (6.6 l) for M939 and M939A1 and 4 qt (3.6 l) for the M939A2.
- Replace oil filter element each time crankcase is drained. Fill crankcase with engine oil.
- M939 and M939A1 series vehicles have a crankcase capacity of 23 qt (21.8 l) and an oil filter capacity of 4 qt (3.8 l).
- M939A2 series vehicles have a crankcase capacity of 18 qt (17 l) and an oil filter capacity of 2 qt (1.9 l).
- Start engine and visually check for oil leaks at drain plug and oil filter case. Stop engine and allow approximately one minute for oil to drain back into oil pan; recheck oil level with dipstick. The dipstick is equipped with a seal which fits into the opening of the dipstick tube. The seal is seated within the tube and must be turned counterclockwise to be released before dipstick is withdrawn. Turn clockwise to seat after oil level has been checked and dipstick installed.

Bring engine up to operating temperature and remove drain plug from oil pan. Inspect for presence of metal particles and water while draining oil into a drainage container. Allow sufficient draining time so that all oil has time to drain. Install drain plug and tighten to 60 to 70 lb-ft (81 to 95 N-m).

**3. ENGINE OIL FILTER**

- a. Remove filter drain plug, drain oil, and remove filter case assembly (with element) from filter head. Remove filter element from filter case and inspect for presence of metal particles or water. Discard element after inspection has been completed. Remove seal ring from filter head and discard. Clean filter case thoroughly. Check to ensure element end seals are in place and install element over spring support assembly. Position seal ring on filter head with drain plug pointing down. Tighten center screw 25 to 35 lb-ft (34 to 47 N·m).
- b. M939A2 series vehicle oil filters will be changed only when directed by oil analysis laboratory. Remove spin-on filter head. Drain oil from filter and observe for metal or water contamination. Discard spin-on filter. Install spin-on filter. Tighten filter 3/4 turn after seal contacts filter head.

**4. ENGINE FUEL FILTER**

Replace every 6,000 mi (9,600 km) or 12 months, whichever occurs first.

**5. CRANKCASE BREATHER**

Check crankcase breather and tube every 6,000 mi (9,600 km) under normal operating conditions. When operating under unusual conditions, check crankcase breather daily.

**6. GEARCASE**

Change gear lubricant only when required by maintenance repair action, or if contaminated by water or other foreign material. Drain only after operation when hot. Place vehicle in level position. Remove drain and filler plugs from case. If drain plug is magnetic, check for evidence of metal particles. If bits of metal are seen, notify your supervisor. After draining reinstall drain plugs. Fill axle differentials and transfer case within 1/2 in. (12.7 mm) of filler plug opening, when lubricant is cold, or to plug level when hot. Fill other gearcases to plug openings at all times, and install filler plugs. Clean vents after operation in mud or water.

**7. FRONT AXLE UNIVERSAL JOINTS AND STEERING KNUCKLE BEARINGS**

Every 6,000 mi (9,600 km) or 12 months, whichever occurs first, disassemble and lubricate front axle shaft and universal joints.

**8. PROPELLER SHAFT UNIVERSAL AND SLIP JOINTS**

Every 6,000 mi (9,600 km) or 12 months, whichever occurs first, lubricate using low pressure lubrication gun until grease is observed coming from all four trunnions. If operating conditions are severe or abnormal, service at 1,000 mi (1,600 km).

**9. STEERING HYDRAULIC SYSTEM****CAUTION**

Do not overfill power steering reservoir. Oil will overflow into vent system on the M939A1 or thru vent cap on the M939A2.

Reservoir level is checked with engine stopped. If engine is cold, fill until oil is visible on dipstick at mark designated COLD FULL. If engine has been warmed-up, fill until oil is visible at mark designated HOT FULL. The steering gear receives lubrication from the power steering pump. If oil in reservoir is contaminated, notify your supervisor.

**10. REAR SPRINGS TRUNNION BEARINGS**

Every 36,000 mi (57,940 km) or 36 months, whichever occurs first, remove, clean, dry, and repack trunnion bearings.

**11. M936, M936A1 AND M936A2 HOIST WINCH**

Weekly, with boom in horizontal position, remove level plug from winch worm gearcase and winch input drive reduction gearcase; if level is below level plug hole, replenish to bottom of hole. Every 12 months, remove level plugs, fill plug, and drain plugs, and drain gearcases. Install drain plugs and fill to level plugs. Install level plugs and fill plug.

**12. WINCH AND CRANE HOIST CABLES**

Clean and oil with new OE\HDO 30 after each operation. If used infrequently or in very damp or salty conditions, lubricate with CW-II. Do not lubricate winch cable in dry, dusty conditions. Every 12 months, unwind entire cable soak and clean with new OE\HDO 30. Wipe off excess and coat cable and drum with CW before rewinding.

**13. M936, M936A1 AND M936A2 CRANE HYDRAULIC OIL RESERVOIR**

Weekly, with boom in horizontal position, remove oil filler cap and gauge from top of reservoir. If level is below full mark on gauge, replenish to full mark. Every 12,000 mi (19,000 km) or 12 months, whichever occurs first, remove pipe plug from drain valve, attach hose (furnished with vehicle), and drain oil into a container. Remove plug in bottom of reservoir to completely drain. Always install plug in drain valve after draining. Refill reservoir to full mark on oil level gauge (approximately 100 gal (378.5 l)), operate crane several times to completely fill system check level.

**14. DUMP BODY HYDRAULIC OIL RESERVOIR****WARNING**

Support weight of dump body on safety braces when performing maintenance on hoist mechanism with dump body in raised position. Failure to comply may result in injury or death to personnel.

**CAUTION**

Remove filler plug slowly to release pressure. Do not overfill.

Weekly, remove filler plug, gauge, and screen; clean and install screen, replenish with oil to third mark from top on gauge with body down in traveling position. Install gauge and plug. Raise and lower body several times slowly and recheck oil level. Drain every 12 months. Remove drain plug from reservoir and drain with dump body in lowered position. Clean and install drain plug. Refill reservoir, install screen, gauge, and filler plug. Raise and lower body several times slowly and recheck oil level.

**15. OIL CAN POINTS**

Every 3,000 mi (4,800 km) or 6 months, whichever occurs first, lubricate hinges and latches, transfer case and power takeoff shift linkage, parking brake lever, rear winch control lever linkage, dump truck tailgate bearings, and spare tire carrier boom roller with seasonal grade OE/HDO.

**16. DO NOT LUBRICATE**

Springs, alternator, water pump, or shock absorbers.

**17. LUBRICATED AT TIME OF DISASSEMBLY BY SUSTAINMENT PERSONNEL**

Item lubricated as part of maintenance repair procedure.

**18. OPERATOR PARTICIPATION**

"D" and "W" maintenance is performed by the operator. The operator will assist Field Maintenance when "S", "3/S", "A", "B", "OC", and "C/MR" maintenance is performed.

**19. M936, M936A1, AND M936A2 CRANE HYDRAULIC SYSTEM FILTER****CAUTION**

Do not operate crane when indicator is at "BYPASSING" position. Notify Field Maintenance.

To maintain adequate filtering, remove and clean filter element when indicator points to "NEEDS CLEANING". Check indicator with pump running and oil at operating temperature. Stop engine and remove and clean filter if indicated.

**20. TEMPERATURE RISES**

If ambient temperature rises to 70°F (21°C) for no more than one week, use of OE/HDO 10 is permissible. If ambient temperature rises to 30°F (-1°C) for no more than one week, use of OEA is permissible.

**21. FOR OPERATION OF EQUIPMENT IN PROLONGED COLD TEMPERATURE BELOW -10°F (-23°C)**

Remove lubricants prescribed in the key for temperatures above -10°F (-23°C). Clean parts with drycleaning solvent. Relubricate with lubricants specified in the key for temperatures below -10°F (-23°C).

**22. TRANSMISSION****CAUTION**

Do not overfill transmission. Internal transmission component damage will result.

- a. Check and fill transmission to proper level weekly.
- b. Check oil level of automatic transmission using the following procedure:
  - (1) Allow engine to idle. Shift transmission to neutral and apply parking brake.
  - (2) Withdraw dipstick slowly to prevent a false reading. If transmission oil temperature gauge reads 180°F (82°C) or below, level on dipstick should show between marks designated for normal run. If transmission oil temperature is above 180°F (82°C) allow transmission oil to cool.
  - (3) If transmission oil level is low, add oil through filler tube. Return dipstick to filler tube, tighten dipstick handle, and wipe away any oil spilled.
- c. Change oil every 24,000 mi (28,000 km) or 24 months, whichever comes first.

**23. WHEEL BEARINGS**

Every 6,000 mi (9,600 km) or 12 months, whichever occurs first, remove, clean, dry, repack, and install front wheel bearings. Every 12,000 mi (19,000 km) or 12 months, whichever occurs first, remove, clean, dry, repack, and install inner and outer rear wheel bearings.

**24. WINCHES, CRANES, WRECKERS, DUMP BODY AND LIFTGATE**

Service every 6,000 mi (9,600 km) or 12 months, whichever occurs first. If operation is frequent, continuous, or under severe conditions, service weekly.

**25. FRONT SPRING SHACKLES****CAUTION**

Wipe fittings clean before servicing to prevent damage to shackle pins and bushings.

Every 6,000 mi (9,600 km) or 12 months, whichever occurs first, lubricate with GAA until grease appears between shackle pin and bushing at both ends of spring shackle. If shackle pin does not accept GAA, remove pin. Clean and inspect shackle pin and bushing. Replace if necessary.

**26. M934A1, M935A1, AND M935A2 SWING DAVIT BASE**

Remove three screws and swing davit base. Lubricate inside of base and mating surface of swing davit. Install swing davit base.

**END OF WORK PACKAGE**



## FIELD MAINTENANCE TORQUE LIMITS

### GENERAL

This work package provides general torque limits for screws used on M939, M939A1, and M939A2 vehicles. Special torque limits are indicated in the maintenance procedures for applicable components. The general torque limits given in this work package shall be used when specific torque limits are not indicated in the maintenance procedure. These general torque limits cannot be applied to screws that retain rubber components. The rubber components will be damaged before the correct torque limit is reached. If a special torque limit is not given in the maintenance instructions, tighten the screw or nut until it touches the metal bracket, then tighten it one more turn

### TORQUE LIMITS

Table 1. lists dry torque limits. Dry torque limits are used on screws that do not have lubricants applied to the threads. Table 2. lists wet torque limits. Wet torque limits are used on screws that have high-pressure lubricants applied to the threads. For metric fasteners, refer to Table 3. for torque limit. requirements.

### HOW TO USE TORQUE TABLE

1. Measure the diameter of the screw you are installing.

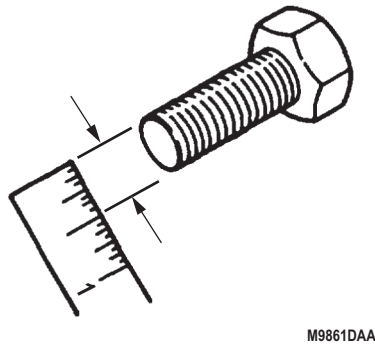


Figure 1. Screw Diameter.

2. Count the number of threads per inch.

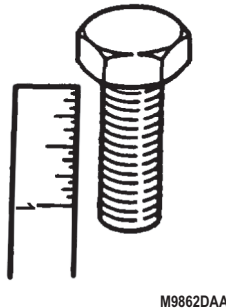




Figure 2. Threads Per Inch.

3. Under the heading SIZE, look down the left-hand column until you find the diameter of the screw you are installing (there will usually be two lines beginning with the same size).

**GENERAL - Continued**

4. In the second column under SIZE, find the number of threads per inch that matches the number of threads you counted in Step (2).
5. To find the grade screw you are installing, match the markings on the head to the correct picture of CAPSCREW HEAD MARKINGS on the torque table.

<b>CAPSCREW HEAD MARKINGS</b>	
<b>STANDARD</b>	<b>METRIC</b>
 <p style="text-align: center; margin-top: 5px;">M10018DAA</p>	 <p style="text-align: center; margin-top: 5px;">M9863DAA</p>
<p>Manufacture's marks may vary. These are all SAE Grade 5 (3-line).</p>	<p>Metric screws are of three grades: 8.8, 10.9, and 12.9. Grades and Manufacture's marks appear on the screw head.</p>

6. Look down the column under the picture you found in Step (5) until you find the torque limit (in lb-ft or N·m) for the diameter and threads per inch of the screw.

**TORQUE WRENCH ADAPTERS**

Some tasks require the use of a torque wrench adapter when the nut or screw cannot be reached with a regular socket on the end of the torque wrench. These adapters add to the overall length of the torque wrench and make the dial or scale reading less than the actual torque applied to the nut or screw. To prevent overtorquing and damage to equipment, calculate correct dial or scale reading using Conversion Formula.

**CONVERSION FORMULA**

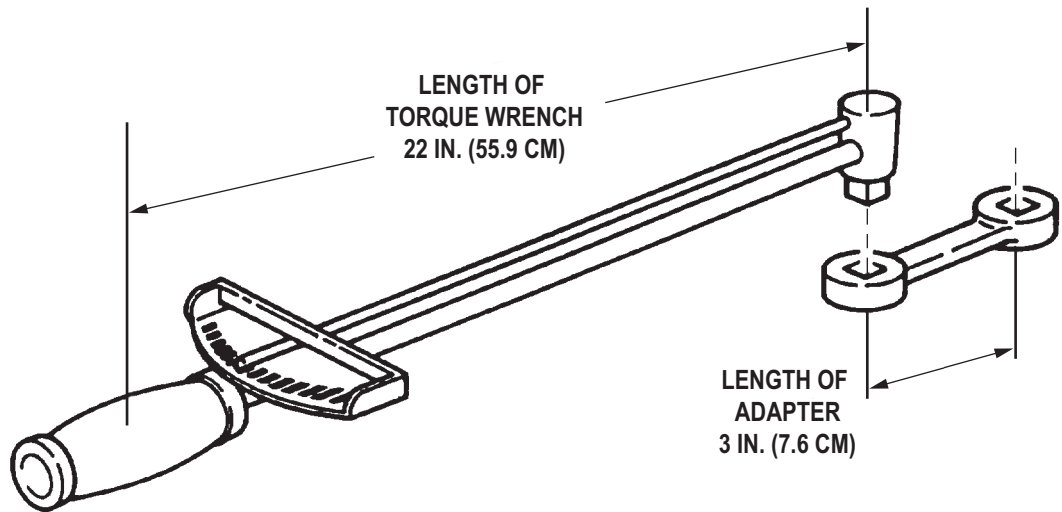
Corrected dial or scale readings are determined by the use of the following formula:

GENERAL - Continued

$$\text{Corrected reading} = \text{Required torque value} + \frac{\text{Length of torque wrench} + \text{Length of adapter}}{\text{Length of torque wrench}}$$

NOTE

The length of the torque wrench is measured from the center of the handle to the center of the drive. The length of the adapter is measured from the center of the drive to the center of the wrench.



In this example, the torque wrench measures 22 in. (55.9 cm) and the adapter is 3 in. (7.6 cm). The required torque is 19 lb-ft (25.8 N•m).

$$\text{Corrected reading} = 19 \text{ lb-ft (25.8 N}\cdot\text{m)} + \frac{22 \text{ in. (55.9 cm)} + 3 \text{ in. (7.6 cm)}}{22 \text{ in. (55.9 cm)}}$$

$$\text{Corrected reading} = 19 \text{ lb-ft (25.8 N}\cdot\text{m)} + \frac{25 \text{ in. (63.5 cm)}}{22 \text{ in. (55.9 cm)}}$$

$$\text{Corrected reading} = 19 \text{ lb-ft (25.8 N}\cdot\text{m)} + 1.14$$

$$\text{Corrected reading} = 17 \text{ lb-ft (23.1 N}\cdot\text{m)}$$





M9878DAA

Figure 3. Torque Wrench Adapter Conversion Formula.





**Table 1. Torque Limits for Dry Fasteners.**

SIZE			TORQUE			
			SAE GRADE NO. 1 or 2	SAE GRADE NO. 5	SAE GRADE NO. 6 or 7	SAE GRADE NO. 8
DIAMETER IN.	THREADS PER INCH	DIAMETER MM				
			LB-FT (N·M)	LB-FT (N·M)	LB-FT (N·M)	LB-FT (N·M)
1/4	20	6.35	5 (6.78)	8 (10.85)	10 (13.56)	12 (16.27)
1/4	28	6.35	6 (8.14)	10 (13.56)	-----	14 (18.98)
5/16	18	7.94	11 (14.92)	17 (23.05)	19 (25.76)	24 (32.54)
5/16	24	7.94	13 (17.63)	19 (25.76)	-----	27 (36.61)
3/8	16	9.53	18 (24.41)	31 (42.04)	34 (46.10)	44 (59.66)
3/8	24	9.53	20 (27.12)	35 (47.46)	-----	49 (66.44)
7/16	14	11.11	28 (37.97)	49 (66.44)	55 (74.58)	70 (94.92)
7/16	20	11.11	30 (40.68)	55 (74.58)	-----	78 (105.77)
1/2	13	12.70	39 (52.88)	75 (101.70)	85 (115.26)	105 (142.38)
1/2	20	12.70	41 (55.60)	85 (115.26)	-----	120 (162.72)
9/16	12	14.29	51 (69.16)	110 (149.16)	120 (162.72)	155 (210.18)
9/16	18	14.29	55 (74.58)	120 (162.72)	-----	170 (230.52)
5/8	11	15.88	63 (85.43)	150 (203.40)	167 (226.45)	210 (284.76)
5/8	18	15.88	95 (128.82)	170 (230.52)	-----	240 (325.44)
3/4	10	19.05	105 (142.38)	270 (366.12)	280 (379.68)	375 (508.50)
3/4	16	19.05	115 (155.94)	295 (400.02)	-----	420 (569.52)
7/8	9	22.23	160 (216.96)	395 (535.62)	440 (596.64)	605 (820.38)
7/8	14	22.23	175 (237.30)	435 (589.86)	-----	675 (915.30)

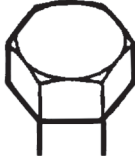



Table 1. Torque Limits for Dry Fasteners - Continued.

SIZE			TORQUE			
			SAE GRADE NO. 1 or 2	SAE GRADE NO. 5	SAE GRADE NO. 6 or 7	SAE GRADE NO. 8
			 M9864DAA	 M9866DAA	 M9868DAA	 M9870DAA
DIAMETER IN.	THREADS PER INCH	DIAMETER MM	LB-FT (N·M)	LB-FT (N·M)	LB-FT (N·M)	LB-FT (N·M)
1	8	25.40	235 (318.66)	590 (800.04)	660 (894.96)	910 (1,233.96)
1	14	25.40	250 (339.00)	660 (894.96)	-----	990 (1,342.44)
1-1/8	-----	28.58	-----	800-880 (1,085-1,193)	-----	1,280-1,440 (1,736-1,953)
1-1/4	-----	31.75	-----	-----	-----	1,820-2,000 (2,468-2,712)
1-3/8	-----	34.93	-----	1,460-1,680 (1,980-2,278)	-----	2,380-2,720 (3,227-3,688)
1-1/2	-----	38.10	-----	1,940-2,200 (2,631-2,983)	-----	3,160-3,560 (4,285-4,827)

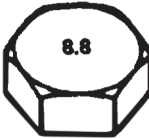
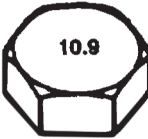

**Table 2. Torque Limits for Wet Fasteners.**

SIZE			TORQUE			
			SAE GRADE NO. 1 or 2  M9865DAA	SAE GRADE NO. 5  M9867DAA	SAE GRADE NO. 6 or 7  M9869DAA	SAE GRADE NO. 8  M9871DAA
DIAMETER IN.	THREADS PER INCH	DIAMETER MM	LB-FT (N·M)	LB-FT (N·M)	LB-FT (N·M)	LB-FT (N·M)
1/4	20	6.35	4.5 (6.1)	7.2 (9.76)	9.0 (12.20)	10.8 (14.64)
1/4	28	6.35	5.4 (7.32)	9.0 (12.20)	-----	12.6 (17.09)
5/16	18	7.94	9.9 (13.42)	15.3 (20.75)	17.1 (23.19)	21.6 (29.29)
5/16	24	7.94	11.7 (15.87)	17.1 (23.19)	-----	24.3 (32.95)
3/8	16	9.53	16.2 (21.97)	27.9 (37.83)	30.6 (41.49)	39.6 (53.70)
3/8	24	9.53	18.0 (24.41)	31.5 (42.71)	-----	44.1 (59.80)
7/16	14	11.11	25.2 (34.17)	44.1 (59.80)	49.5 (67.12)	63.0 (85.43)
7/16	20	11.11	27.0 (36.61)	49.5 (67.12)	-----	70.2 (95.19)
1/2	13	12.70	35.1 (47.60)	67.5 (91.53)	76.5 (103.73)	94.5 (128.14)
1/2	20	12.70	36.9 (50.04)	76.5 (103.73)	-----	108.0 (146.45)
9/16	12	14.29	45.9 (62.24)	99.0 (134.24)	108.0 (146.45)	139.5 (189.16)
9/16	18	14.29	49.5 (67.12)	108.0 (146.45)	-----	153.0 (207.47)
5/8	11	15.88	56.7 (76.89)	135.0 (183.06)	150.3 (203.81)	189.0 (256.28)
5/8	18	15.88	85.5 (115.94)	153.0 (207.47)	-----	216.0 (292.90)
3/4	10	19.05	94.5 (128.14)	243.0 (329.51)	252.0 (341.71)	337.5 (457.65)
3/4	16	19.05	103.5 (140.35)	265.5 (360.02)	-----	378.0 (512.57)
7/8	9	22.23	144.0 (195.26)	355.5 (482.06)	396.0 (536.98)	544.5 (738.34)

**Table 2. Torque Limits for Wet Fasteners - Continued.**

SIZE			TORQUE			
			SAE GRADE NO. 1 or 2	SAE GRADE NO. 5	SAE GRADE NO. 6 or 7	SAE GRADE NO. 8
						
DIAMETER IN.	THREADS PER INCH	DIAMETER MM	LB-FT (N·M)	LB-FT (N·M)	LB-FT (N·M)	LB-FT (N·M)
7/8	14	22.23	175 (237.30)	435 (589.86)	-----	675 (915.30)
1	8	25.40	211.5 (286.79)	531.0 (720.04)	594.0 (805.46)	819.0 (1,110.56)
1	14	25.40	225.0 (305.10)	594.0 (805.46)	-----	891.0 (1,208.20)
1-1/8	-----	28.58	-----	720-792 (976-1,074)	-----	1,152-1,296 (1,562-1,757)
1-1/4	-----	31.75	-----	-----	-----	1,638-1,800 (2,221-2,441)
1-3/8	-----	34.93	-----	1,314-1,512 (1,782-2,050)	-----	2,142-2,448 (2,905-3,319)
1-1/2	-----	38.10	-----	1,746-1,980 (2,368-2,685)	-----	2,844-3,204 (3,857-4,345)

**Table 3. Torque Limits for Metric Fasteners.**

SIZE	TORQUE	
		
	8.8	10.9
		
		12.9
		M9872DAA
	LB-FT	N·M
M6	7-11	9.49-14.92
M8	21-35	28.48-47.46
M10	45-65	61.02-88.14
M12	80-120	108.48-162.72
M14	130-190	176.28-257.64
M16	200-280	271.20-379.68
M20	400-520	542.20-705.12
M24	700-900	949.20-1,220.40
M30	1,400-1,800	1,898.40-2,440.80
M36	2,400-3,000	3,254.40-4,068.00

**TUBING APPLICATION TIGHTENING ASSEMBLY INSTRUCTIONS**

Slide tubing over barbed insert until it bottoms on fitting.



*Figure 4. Mini-Barb.*



1. Slide nut and sleeve on tubing.
2. Slide I.D. of tubing onto fitting insert until it bottoms.
3. Assemble nut to fitting body.
4. Tighten assembly finger-tight to cover body threads.

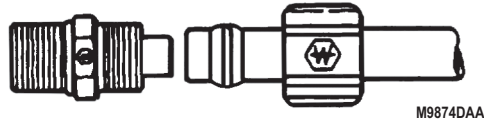


Figure 5. Knurl-On.

1. Slide nut and sleeve on tubing.
2. Slide I.D. of tubing onto fitting insert until it bottoms.
3. Assemble nut to fitting body.
4. Finger-tighten nut. From that point, tighten with a wrench two complete turns.

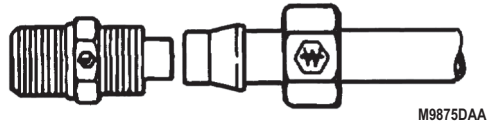


Figure 6. Self-Align-PTF.

1. Cut tubing to desired length. Ensure ends are cut reasonably square.
2. Slide tubing into preassembled fitting and push until tube bottoms.
3. Tighten nut as indicated in chart. Another check on proper assembly is dimension A, when nut is fully tightened.

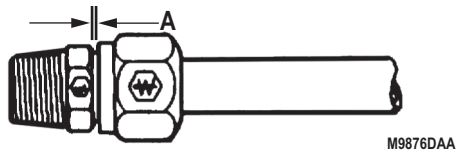
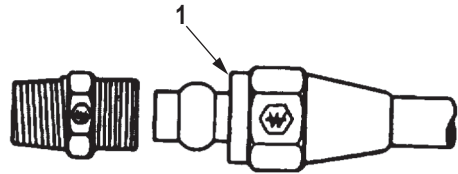


Figure 7. Nylon Tubing for Airbrake.

TUBE O.D.	TIGHTEN NUT TO:	A
1/4	85 to 115 lb-in (9.6 to 13.0 N·m)	.085/.105
3/8	12 to 17 lb-ft (16.3 to 23.1 N·m)	.125/.145
1/2	25 to 33 lb-ft (33.9 to 44.7 N·m)	.100/.120
5/8	26 to 35 lb-ft (35.3 to 47.5 N·m)	.115/.135
3/4	38 to 50 lb-in (51.5 to 67.8 N·m)	.180/.200

DISASSEMBLY - Remove nut and pull tubing out of fitting body. Insert will remain on tubing.  
 REASSEMBLY - Push tubing and insert into fitting body until it bottoms. Thread nut onto fitting body and tighten as in Step (3).

1. Slide nut and sleeve on tubing. Threaded end of nut (Figure 1, Item 1) must face out.
2. Insert tubing into fitting. Ensure tubing is bottomed on fitting shoulder.
3. Thread nut onto fitting body until it is hand tight.
4. From that point, tighten with a wrench the number of turns indicated in chart.



M9877DAA

Figure 8. Copper Tubing for Hand Airbrake.

TUBE SIZE	ADDITIONAL NUMBER OF TURNS FROM HAND-TIGHT
1/4 and 3/8	1-3/4
1/2, 5/8, and 3/4	3-1/4

END OF TASK

END OF WORK PACKAGE

**CHAPTER 11**  
**SUPPORTING INFORMATION**



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**FIELD MAINTENANCE  
REFERENCES**

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**PUBLICATION INDEXES**

The following index should be consulted frequently for latest changes or revisions and for new publications relating to material covered in this manual:

DA PAM 25-30 Consolidated Army Publications and Forms Index

**FIELD MANUALS**

FM 4-25.11 First Aid  
FM 9-207 Operation and Maintenance of Ordnance Materiel in Cold Weather (0°F to -65°F)  
FM 10-16 General Fabric Repair  
FM 43-2 Metal Body Repair and Related Operations  
FM 43-20 General Support Maintenance Operations

**FORMS**

DA Form 2028 Recommended Changes to DA Publication  
DA Form 2404 Equipment Inspection and Maintenance Worksheet  
DA Form 2408-9 Equipment Control Record  
DD Form 361 Transportation Discrepancy Report (TDR)  
DD Form 1397 Processing and Deprocessing Records for Shipment, Storage, and Issue of Vehicles and Spare Engines  
SF 368 Quality Deficiency Report

**GENERAL PUBLICATIONS**

DA Pam 738-750 The Army Maintenance Management System (TAMMS)

**NMWR**

AR 700-138 Army Logistics Readiness and Sustainability. Maintenance forms and records used by Air Force personnel are prescribed in AFI 21-101 and the applicable TO 00-20 Series Technical Orders.

LO 9-2320-272-12 Lube Order

**NMWR - Continued**

MIL-L-6866	Inspection, Liquid Penetrant Method
MIL-L-6868	Inspection Process, Magnetic Particle
NMWR 9-2815-277	Engine, Diesel M939A2
NMWR 9-2815-278	Engine, Diesel M939, M939A1
NMWR 9-2520-594	Transmission, Automatic M939A1/A2
NMWR 9-2520-595	Transfer Case Assembly M939 FOV
NMWR 9-2520-596	Front and Rear Axles

**TECHNICAL BULLETINS**

TB 43-0142	Safety Inspection and Testing of Lifting Devices
TB 43-0213	Corrosion Prevention and Control Including Rustproofing Procedures for Tactical Vehicles and Trailers
TB 750-651	Use of Antifreeze Solutions and Cleaning Compounds in Engine Cooling Systems
TB 9-2300-247-40	Tactical Wheeled Vehicles: Repair of Frames
TB 9-2300-295-15/21	Truck, 5-Ton, 6X6, M939 Series, Warranty Procedures for Cummins Engine and Allison Transmission
TB 9-2300-405-14	Mandatory Brake Hose Inspection and Replacement - Tactical Vehicles
TB 9-2320-272-13	Safety Inspection and Operation of Stand, Vehicle Support
TB SIG-222	Solder and Soldering

**TECHNICAL MANUALS**

TM 3-4230-204-12&P	Maintenance Manual for Decontamination Apparatus
TM 43-0139	Painting Instructions for Army Materiel
TM 743-200-1	Storage and Materials Handling
TM 750-244-6	Procedures and Destruction of Tank-Automotive Equipment to Prevent Enemy Use
TM 750-254	Cooling Systems: Tactical Vehicles
TM 9-214	Inspection, Care, and Maintenance of Antifriction Bearings
TM 9-237	Materials Used for Brazing, Welding, Soldering, HRC Cutting and Metallizing
TM 9-243	Use and Care of Selected Hand Tools and Measuring Tools
TM 9-2320-260-20	Organization Maintenance Manual for Military Truck 5-Ton, 6X6

**TECHNICAL MANUALS - Continued**

TM 9-2320-272-10	Hand Receipt Manual
TM 9-2320-272-23	Field Maintenance Manual for Truck, 5-Ton, 6X6, M939, M939A1, and M939A2 Series Trucks (Diesel)
TM 9-2320-272-24&P	Repair Parts and Special Tools List (RPSTL) for Truck, 5-Ton, 6X6, M939, M939A1, and M939A2 Series Trucks (Diesel)
TM 9-2320-360-24	Truck, Tractor, M1070, 8X8, Heavy Equipment Transporter
TM 9-2326-260-10	Operator's Manual for Truck, Chassis, 6X6, M809-M821
TM 9-2360-260-34-2	Direct and General Support Maintenance for 5-Ton, 6X6, M809 Series Trucks, (Diesel)
TM 9-2540-205-24&P	Organizational, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heaters, Vehicular Compartment
TM 9-2610-200-14	Care, Maintenance Repair and Inspection of Pneumatic Tires and Inner Tubes
TM 9-2610-200-24	Care Maintenance, and Repair of Pneumatic Tires and Inner Tubes
TM 9-6140-200-14	Operator's Unit, Direct Support and General Support Maintenance Manual for Lead-Acid Storage Batteries

**END OF WORK PACKAGE**





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## FIELD MAINTENANCE INTRODUCTION FOR STANDARD TWO-LEVEL MAC

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### MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION

#### The Army Maintenance System MAC

This introduction provides a general explanation of all maintenance and repair functions authorized at the two maintenance levels under the Two-Level Maintenance System concept.

This MAC (immediately following the introduction) 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 shall be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Field – includes two subcolumns, Crew (C) and Maintainer (F).

Sustainment – includes two subcolumns, Below Depot (H) and Depot (D).

The maintenance to be performed at field and sustainment levels is described as follows:

1. Crew maintenance. The responsibility of a using organization to perform maintenance on its assigned equipment. It normally consists of inspecting, servicing, lubricating, adjusting, and replacing parts, minor assemblies, and subassemblies. The replace function for this level of maintenance is indicated by the letter "C" in the third position of the SMR code. A "C" appearing in the fourth position of the SMR code indicates complete repair is possible at the crew maintenance level.
2. Maintainer maintenance. Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter "F" appearing in the third position of the SMR code. An "F" appearing in the fourth position of the SMR code indicates complete repair is possible at the Field Maintenance level. Items are returned to the user after maintenance is performed at this level.
3. Below depot sustainment. Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter "H" appearing in the third position of the SMR code. An "H" appearing in the fourth position of the SMR code indicates complete repair is possible at the below depot sustainment maintenance level. Items are returned to the supply system after maintenance is performed at this level.
4. Depot sustainment. Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter "D" or "K" appearing in the third position of the SMR code. Depot sustainment maintenance can be performed by either depot personnel or contractor personnel. A "D" or "K" appearing in the fourth position of the SMR code indicates complete repair is possible at the depot sustainment maintenance level. Items are returned to the supply systems after maintenance is performed at this level.

The tools and test equipment requirements table (immediately following the MAC) lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from the MAC.

The remarks table (immediately following the tools and test equipment requirements) contains supplemental instructions and explanatory notes for a particular maintenance function.

#### Maintenance Functions

Maintenance functions are limited to and defined as follows:

1. 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). This includes scheduled inspection and gaugings and evaluation of cannon tubes.

**MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION - Continued**

2. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, i.e., load testing of lift devices and hydrostatic testing of pressure hoses.
3. Service. Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases. This includes scheduled exercising and purging of recoil mechanisms. The following are examples of service functions:
  - a. Unpack. To remove from packing box for service or when required for the performance of maintenance operations.
  - b. Repack. To return item to packing box after service and other maintenance operations.
  - c. Clean. To rid the item of contamination.
  - d. Touch up. To spot paint scratched or blistered surfaces.
  - e. Mark. To restore obliterated identification.
4. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.
5. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.
6. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments of 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.
7. 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.
8. Paint (ammunition only). To prepare and spray color coats of paint so that the ammunition can be identified and protected. The color indicating primary use is applied, preferably, to the entire exterior surface as the background color of the item. Other markings are to be repainted as original so as to retain proper ammunition identification.
9. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.
10. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, 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.

**NOTE**

The following definitions are applicable to the "repair" maintenance function:

Services. Inspect, test, service, adjust, align, calibrate, and/or replace.

Fault location/troubleshooting. The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).

Disassembly/assembly. The step-by-step breakdown (taking apart) of a spare/functional group coded item to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

Actions. Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

11. 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. Overhaul

## MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION - Continued

is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

12. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

### Explanation of Columns in the MAC

Column (1) Group Number. Column (1) lists Functional Group Code (FGC) numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the Next Higher Assembly (NHA).

Column (2) Component/Assembly. Column (2) contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

Column (3) Maintenance Function. Column (3) lists the functions to be performed on the item listed in column (2). (For a detailed explanation of these functions refer to "Maintenance Functions" outlined above).

Column (4) Maintenance Level. Column (4) specifies each level of maintenance authorized to perform each function listed in column (3), by indicating work time required (expressed as manhours in whole hours or decimals) in the appropriate subcolumn. This work time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work time figures are to be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. The symbol designations for the various maintenance levels are as follows:

Field :

- C Crew maintenance
- F Maintainer maintenance

Sustainment :

- L Specialized Repair Activity (SRA)
- H Below depot maintenance
- D Depot maintenance

### NOTE

The "L" maintenance level is not included in column (4) of the MAC. Functions to this level of maintenance are identified by work time figure in the "H" column of column (4), and an associated reference code is used in the REMARKS column (6). This code is keyed to the remarks and the SRA complete repair application is explained there.

Column (5) Tools and Equipment Reference Code. Column (5) specifies, by code, those common tool sets (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), and special tools, special TMDE and special support equipment required to perform the designated function. Codes are keyed to the entries in the tools and test equipment table.

Column (6) Remarks Code. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks table entries.

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**MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION - Continued****Explanation of Columns in the Tools and Test Equipment Requirements**

Column (1) - Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in column (5) of the MAC.

Column (2) - Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

Column (3) - Nomenclature. Name or identification of the tool or test equipment.

Column (4) - National Stock Number (NSN). The NSN of the tool or test equipment.

Column (5) - Tool Number. The manufacturer's part number.

**Explanation of Columns in the Remarks**

Column (1) - Remarks Code. The code recorded in column (6) of the MAC.

Column (2) - Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC.

**END OF WORK PACKAGE**

**FIELD MAINTENANCE  
MAINTENANCE ALLOCATION CHART (MAC)**

**Table 1. MAINTENANCE ALLOCATION CHART (MAC).**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0100-00	Power Plant	Inspect	0.1					A
		Replace		12.0			1, 4	AB
		Overhaul			56.0			B
0100-01	Engine and Container (All Models)	Replace		1.5			1, 4	AB
0100-02	Power Plant (M939A2 Only)	Inspect	0.1					A
		Replace		12.0			1, 4	
		Overhaul			54.0			C
0100-03	Engine Lift Eyes	Inspect	0.2					A
		Replace		0.4			4	
0100-04	Engine Lifting Brackets (M939A2 Only)	Inspect	0.2					A
		Replace		0.4			4	
0100-05	Engine Mounting Brackets and Isolators	Inspect	0.2					A
		Replace		2.2			4	
0100-06	Engine Mounting Brackets and Isolators (M939A2 Only)	Inspect	0.2					A
		Replace		2.2			1, 4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0101-00	Cylinder Head	Inspect	0.2				A	
		Replace			4.0		B	
		Overhaul			5.0		B	
0101-01	Cylinder Head (M939A2 Only)	Replace			4.0			
		Overhaul			5.0		C	
0101-02	Cylinder Liners and Block	Inspect		0.3			A	
		Replace			2.3		B	
0101-03	Cylinder Liners and Block (M939A2 Only)	Inspect		0.3			A	
		Replace			2.3		B	
0101-04	Engine Access Cover	Replace		2.0		4		
0102-00	Crankshaft and Main Bearings	Repair			12.5		B	
0102-01	Crankshaft Vibration Dampener	Inspect	0.2				A	
		Replace		1.2			1, 4, 12	
0102-02	Vibration Dampener (M939A2 Only)	Replace		1.2			1, 4, 12	
0102-03	Crankshaft and Gear (M939A2 Only)	Repair			12.5		B	
0103-00	Flywheel, Assembly	Inspect		1.0			A	
		Replace		16.0			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0103-01	Flywheel, Housing	Inspect	0.5				A	
		Replace			24.5		2, 3, 4	AD
0103-02	Flexplate (M929A2 Only)	Inspect	1.0				A	
		Replace		16.0			1, 4, 12	
0103-03	Flywheel Housing (M939A2 Only)	Inspect	0.5				A	
		Replace			24.5			C
0103-04	Rear Cover and Oil Seal (M939A2 Only)	Inspect		0.3			A	
		Replace			25.8			C
0103-05	Rear Oil Seal (In Vehicle) (M939A2 Only)	Inspect	0.1				A	
		Replace		6.0			1, 4	AD
0103-06	Crankshaft Rear Cover and Seal	Replace			25.8		4	B
0104-00	Piston and Connecting Rod	Replace			7.3			B
0104-01	Piston and Connecting Rod (M939A2 Only)	Replace			7.3			C
0105-00	Valve Cover	Inspect	0.1					A
		Replace		3.1			1, 4	
0105-01	Valve Cover (M939A2 Only)	Inspect	0.1					A
		Replace		3.1			1, 4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0105-02	Rocker Levers and Push Rods (M939A2 Only)	Replace			2.3		C	
		Repair			3.0		C	
0105-03	Intake and Exhaust Valves Refacing	Replace			2.2		B	
0105-04	Front Gearcase Cover and Front Oil Seal (M939A2 Only)	Inspect		0.2			A	
		Replace			2.2		C	
0105-05	Front Oil Seals	Inspect	0.2				A	
		Replace		15.0		1, 4	B	
0105-06	Front Gearcase Housing and Timing Pin (M939A2 Only)	Inspect		0.3			A	
		Replace			4.3		B	
0105-07	Camshaft and Gear	Replace			2.2		B	
0105-08	Camshaft and Gear (M939A2 Only)	Replace			4.2		C	
0105-09	Rocker Lever Housing and Push Tubes	Repair			3.0		B	
0105-10	Valve and Injector (Dial Indicator Method)	Adjust			5.0		B	
0105-11	Injector Plunger and	Adjust			5.0		B	



**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0105-12	Valve (Torque Method) Front Gearcase Cover and Front Oil Seal	Replace			2.2		B	
0105-13	Cam Follower Housing	Replace			0.5			
0105-14	Engine Injector Timing	Adjust			2.0		B	
0105-15	Valve Adjustment	Adjust			3.0		B	
0105-16	Valve Seat Inserts	Replace			6.0		B	
0106-00	Crankcase Breather and Tube (All Models)	Inspect	0.5				A	
		Replace		1.5		4		
0106-01	Oil Pump (M939A2 Only)	Replace			4.5		C	
0106-02	Oil Pump Pickup Hose	Replace		1.5		1, 4		
0106-03	Oil Pump Return Hose	Replace		1.5		1, 4		
0106-04	Front Sump Tube	Replace		0.8		4		
0106-05	Engine AOAP Valve (All Models)	Replace		0.5		4		

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0106-06	Oil Dipstick Tube (All Models)	Inspect	0.2				A	
		Replace		0.5			4	
0106-07	Engine Oil Cooler (M939A2 Only)	Repair		3.5			1, 4	
0106-08	Oil Filter Head (M939A2 Only)	Inspect	0.1				A	
0106-08	Oil Pan and Oil Suction Tube (M939A2 Only)	Inspect	0.1				A	
		Replace		4.6			4	
0106-09	Engine Oil Pump	Replace			6.5		B	
		Repair			4.0		B	
0106-10	Engine Oil Pan	Inspect	0.2				A	
		Replace		4.6			1, 4	
0106-11	Engine Oil Filter (All Models)	Inspect	0.1				A	
		Replace		1.0			1, 4	
0106-12	Engine Oil Cooler	Inspect	0.5				A	
		Replace		3.4			4	
		Repair		1.0			4	
0108-00	Engine Air Intake Manifold	Inspect	0.5				A	
		Replace		4.6			1, 4	
0108-01	Engine Exhaust Manifold	Inspect	0.5				A	
		Replace		5.3			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0108-02	Exhaust Manifold (M939A2 Only)	Inspect	0.5				A	
		Replace		7.5			1, 4	AD
0109-00	Engine Accessory Drive and Pulley	Repair			8.0			
0301-00	Fuel Injector	Test			0.5			
		Calib			2.0			
		Replace			2.5			B
		Overhaul			4.0			B
0301-01	Fuel Injector (M939A2 Only)	Inspect	0.5				A	
		Replace		12.0			1, 4, 25	AB
		Repair			1.2			C
0301-02	Priming Fuel System (All Models)	Service		0.3			4	
0301-03	Fuel Injector Sleeve	Replace			6.0			B
0302-00	Fuel Pump (AFC)	Inspect		0.5				A
		Replace		2.9			4	
		Overhaul			12.0			B
0302-01	Fuel Pump (VS)	Inspect	0.5					A
		Replace		2.5			1, 4	
		Overhaul			12.0			
0302-01	Lines and Fittings, Injection Pump (M939A2 Only)	Inspect	0.1					A
		Replace		1.5			1, 4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0302-02	Fuel Injector Tubes (M939A2 Only)	Replace		2.5			4	
0302-03	Fuel Injection Pump (M939A2 Only)	Inspect		0.5				A
		Test				5.0		C
		Calib				6.0		C
		Replace		6.4				1, 4, 12, 17
		Overhaul				16.0		C
0302-04	Fuel Transfer Pump and Supply Lines (M939A2 Only)	Inspect	0.2					A
		Replace		0.7			4	
0302-05	Air Fuel Control (AFC) Tube (M939A2 Only)	Replace		1.0			4	
0304-00	Air Cleaner Assembly and Mounting Bracket (All Models)	Inspect	0.2					A
		Service	0.5					A
		Replace		0.7			4	
0304-01	Air Cleaner Intake Pipe	Replace		0.8			4	
0304-02	Air Cleaner Indicator and Tube (All Models)	Replace		0.9			4	
0304-03	Air Cleaner Hoses (M939A2 Only)	Inspect	0.1					A
		Replace		0.6			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0305-00	Turbocharger Hoses and Clamps (M939A2 Only)	Inspect	0.2					A
		Replace		2.2			1, 4	
0305-01	Turbocharger (M939A2 Only)	Inspect	0.6					A
		Replace		1.6			1, 4	
		Repair			1.5			B
0306-00	Fuel Tank (All Models Except M936/A1/A2)	Inspect	0.1					A
		Replace		3.1			4	
0306-01	Fuel Tank (M936/A1/A2 Only)	Inspect	0.1					A
		Replace		3.5			4	
0306-02	Fuel Tank Filler Cap and Spout (All Models)	Replace		1.0			4	
0306-03	Fuel Tank Hangers and Retaining Straps (All Models)	Replace		4.0			4	
0306-04	Fuel Tank Lines (All Models)	Replace		1.6			4	
		Repair		1.2			4	E
0306-05	Fuel Selector Valve, Mounting Bracket, and Indicator Plate (M929, M930, M931, M932, M936) A1/A2	Inspect	0.1					A
		Replace		1.1			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0306-06	Fuel Crossover Connectors and Crossheads	Replace		2.0			1, 4	
0306-07	Fuel Drain and Bypass Tubing	Replace		1.5			1, 4	
0306-08	Fuel Selector Valve Flex Hose (M929, M930, M931, M932, M936) A1/A2	Replace		2.0			4	
0308-00	Governor Spring Pack	Replace			3.5			B
0308-01	Manifold Pressure Compensator (M939A2)	Repair			3.0			C
0308-02	R.Q.V. Governor Cover (M939A2)	Replace			2.5			C
0308-03	R.Q.V. Governor Housing (M939A2)	Replace			2.5			C
0309-00	Fuel Filter and Cover (All Models)	Replace		0.5			1, 4	
0309-01	AFC Fuel Pump Filter (All Models Except M936/A1/A2)	Replace		0.5			1, 4	
0309-02	Fuel Pump with VS Governor Filter (M936/A1/A2)	Replace		0.5			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0311-00	Aids, Engine Starting Lines and Fittings	Inspect	0.5				A	
		Replace		1.0		4	A	
0311-00	Fuel Primer Pump (All Models)	Inspect	0.1				A	
		Replace		0.5		4		
0311-01	Ether Start Switch (All Models)	Replace		0.5		4		
0311-02	Ether Cylinder and Valve (All Models)	Replace		0.5		4		
0311-03	Ether Thermal Close Valve and Bushing (All Models)	Replace		0.3		4		
0311-04	Ether Atomizer	Replace		0.3		4		
0311-05	Ether Atomizer and Temperature Sensor (M939A2 Only)	Replace		0.5		4		
0311-06	Ether Tubing (All Models)	Replace		0.5		4		
0312-00	Accelerator Linkage	Inspect	0.2				A	
		Replace		1.7		4		
0312-01	Accelerator Linkage (M939A2 Only)	Replace		1.7		4		
0312-02	Throttle Control Cable (All Models)	Replace		1.0		4		

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0312-03	Emergency Stop Control Cable (All Models)	Replace		1.0			4	A
0312-04	Accelerator Pedal, Bracket, Rod, and Stopscrew (All Models)	Replace		0.8			4	
0401-00	Exhaust Stack (All Models)	Inspect	0.2					A
		Replace		2.2			4	
0401-01	Muffle and Shield (All Models)	Replace		2.2			4	
0401-02	Rear Exhaust Pipe, Support Bracket, and Cab Heat Shield (All Models)	Replace		1.1			4	
0401-03	Front Exhaust Pipe (All Models)	Replace		1.0			4	
0501-00	Radiator and Mounting Hardware	Inspect	0.4					A
		Replace		3.0			4	F
		Overhaul			2.5			B
0501-01	Radiator and Mounting Hardware (M939A2 Only)	Inspect	0.4					A
		Replace		3.0			4	F
		Overhaul			2.5			C
0501-02	Surge Tank, Radiator Vent Hose, and	Inspect	0.2					A



**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
	Manifold Return Hose	Replace		1.4			1, 4	
0501-03	Surge Tank and Bracket (M939A2 Only)	Replace		1.9			4	
0501-04	Coolant Hoses and Tubes	Inspect	0.2					A
		Replace		0.7			4	
0502-00	Radiator Fan Shroud	Inspect	0.1					A
		Repair		2.3			1, 4	
0502-01	Fan and Fan Shroud (M939A2 Only)	Inspect	0.1					A
		Repair		1.3			1, 4	
0502-02	Air Compressor Coolant Supply and Return Tubes	Inspect	0.5					A
		Replace		1.5			4	
0502-03	Coolant Hoses and Lines (M939A2 Only)	Replace		1.5			4	
0502-04	Upper Radiator Hoses and Brackets (M939A2 Only)	Replace		1.0			1, 4	
0502-05	Cooling System (All Models)	Service		1.0			4	
0502-07	Actuator, Fan Clutch	Inspect	0.2					A
		Replace		0.4			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0503-00	Thermostat and Housing	Inspect	0.3				A	
		Replace		1.3			1, 4	
0503-01	Thermostat and Housing (M939A2 Only)	Inspect	0.3				A	
		Replace		1.8			1, 4	
0503-02	Engine Water Manifold	Replace		6.0			2, 4	
0503-03	Water Header Plates	Replace		1.5			4	
0504-00	Water Pump (M939A2 Only)	Inspect	0.1				A	
		Replace		3.0			4	
0504-01	Water Pump	Inspect	0.5				A	
		Replace		3.1			1, 4	
0504-02	Water Pump Drivebelt	Inspect	0.2				A	
		Adjust		0.5			2, 3, 4	
		Replace		1.0			3, 4	
0505-00	Fan Drive Clutch	Inspect	0.2				A	
		Replace		3.0			4	
		Overhaul			2.0		B	
0505-01	Fan Drivebelt and Drivebelt Tensioner (M939A2 Only)	Inspect	0.1				A	
		Replace		0.7			1, 4	
0505-02	Fan Drivebelts	Inspect	0.1				A	
		Replace		0.6			1, 3, 4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0505-03	Fan Drive Clutch (M939A2 Only)	Replace		3.0			4	
		Overhaul			2.0			C
0505-04	Radiator Fan Blade	Replace		1.0			1, 4	
0507-00	Aftercooler and Tubes (M939A2 Only)	Inspect	0.3					A
		Replace		2.0			1, 4	
0601-00	Alternator, Mounting Bracket, and Pulley	Inspect	0.1					A
		Adjust		0.6			1, 4	
		Replace		2.3			1, 4	
0601-01	Alternator, Mounting Bracket, and Pulley (M939A2 Only)	Inspect	0.1					A
		Adjust	0.6				1, 4	
		Replace		2.3			1, 4	
0601-02	Alternator Drivebelts	Inspect	0.1					A
		Replace		0.7			1, 4	
0603-00	Starter (All Models)	Inspect	0.1					A
		Replace		2.3				G
0606-00	Throttle Control Solenoid (M939A2 Only)	Replace		0.6			4	
0606-01	Fuel Pump Metering Valve (M939/A1)	Replace		1.5			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0606-02	Except M936/ A1) Fuel Pump Metering Valve (M936/A1)	Replace		1.5			4	
0607-00	Electrical Switches and Circuit Breakers (All Models)	Replace		2.0			4	
0607-01	Spring Brake Pressure Switch (All Models)	Replace		1.5			4	
0607-02	Instrument Panel (All Models)	Replace		8.0			4	
0607-03	Instrument Cluster (All Models)	Inspect	0.1					A
		Repair		3.0			4	
0607-04	Indicator Panel Light and Lamp (All Models)	Replace		0.5			4	
0607-05	Electrical Gauges (All Models)	Replace		1.0			4	
0607-06	Auxiliary Outlet Socket and Receptacle (M936/A1/A2)	Replace		1.0			4	
0607-07	Fuel Selector Valve Switch (All Models)	Replace		1.0			4	
0607-08	Main Light Switch (All Models)	Replace		1.0			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0607-09	High Beam Selector Switch (All Models)	Replace		0.8			4	
0607-10	Turn Signal Control and Indicator Lamp (All Models)	Replace		1.0			4	
0607-11	Turn Signal Flasher (All Models)	Replace		0.6			4	
0607-12	Protective Control Box (All Models)	Replace		1.2			1, 4	
0607-13	Floodlight Control Switch (M936/A1/A2)	Replace		0.8			4	
0608-00	Amber Warning Light	Replace		0.8			4	AD
0608-01	CTIS Wiring Harness (M939A2 Only)	Replace		2.6			4	
		Repair		1.5			1, 4	E
0608-02	Speed Signal Generator (M939A2 Only)	Replace		0.5			4	
0608-03	Pressure Switch (M939A2 Only)	Replace		0.5			4	
0609-00	Headlight (All Models)	Inspect	0.1					A
		Adjust		0.2			1, 4	
		Replace		1.8			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0609-01	Blackout Light (All Models)	Inspect	0.1				A	
		Repair		1.5		4		
0609-02	Front and Rear Composite Light and Bracket (All Models)	Repair		5.0			4	
0609-03	Floodlight Sealed Beam Lamp and Door (M936/A1/A2)	Repair		0.8			4	
0609-04	Floodlight (M936/A1/A2)	Repair		2.8			4	
0609-05	Side Marker Lights and Bracket (All Models)	Replace		0.8			4	
0609-06	Boom Floodlight Wire (M936/A1/A2)	Replace		2.0			4	
		Repair		1.0			1, 4	
0610-00	Fuel Level Sending Unit (All Models)	Replace		0.5			4	
0610-01	Oil Pressure Sending Unit (All Models)	Replace		0.5			4	
0610-02	Water Temperature Sending Unit (All Models)	Replace		0.5			4	
0610-03	Stoplight Switch (All Models)	Replace		0.7			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0610-04	Failsafe Warning Module (All Models)	Replace		0.5			4	
0610-05	Ether Start Fuel Pressure Switch (All Models)	Replace		0.5			4	
0610-06	Tachometer Pulse Sender	Replace		0.8			4	
0610-07	Tachometer Pulse Sender (M939A2 Only)	Replace		0.8			4	
0610-08	Fuel Pressure Transducer (All Models)	Replace		1.5			4	
0610-09	Transmission Temperature Transmitter (All Models)	Replace		1.0			4	
0610-10	Primary and Secondary Low Air Pressure Switch (All Models)	Replace		1.5			4	
0610-11	Parking Brake Switch (All Models)	Replace		1.5			4	
0611-00	Horn, Solenoid, and Bracket (All Models)	Inspect	0.1					A
		Replace		0.7			4	
0611-01	Horn Switch (All Models)	Inspect	0.1					A
		Replace		0.7			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0611-02	Horn Contact Brush (All Models)	Replace		0.7			4	
0612-00	Battery (All Models)	Inspect	0.5					A
		Replace Repair		1.6		1.0		4 H
0612-01	Battery Box (All Models)	Inspect	0.1					A
		Replace		3.4				1, 4
0612-02	Battery Box Cover (All Models)	Replace		0.5			4	
0612-03	Battery Cable and Terminal Adapter (All Models)	Replace		0.5			4	H
0612-04	Battery Ground Cable (All Models)	Replace		0.5			4	
0613-00	Instrument Cluster Harness (All Models)	Replace		1.0			4	
		Repair		1.0			4	E
0613-01	Slave Receptacle (All Models)	Replace		0.6			4	
0613-02	Ground Strap (All Models)	Replace		1.0			4	
0613-03	Crane Wiring Harness (M936/A1/A2)	Replace		2.0			4	
		Repair		2.0			4	E



**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0613-04	Front Lights Cable Assembly	Replace		2.0			4	
		Repair		2.0			4	E
0613-05	Front Wiring Harness	Replace		2.0			4	
		Repair		2.0			4	E
0613-06	Front Wiring Harness (M939A2 Only)	Replace		2.0			4	
		Repair		2.0			4	E
0613-07	Rear Wiring Harness (All Models)	Replace		2.0			4	
		Repair		2.0			4	E
0613-08	Side Marker Lights Wiring Harness (M936/A1/A2, M924/A1, M926/A1, M927/A1/A2, M928/A1/A2, M923/A1/A2, M925/A1/A2)	Replace		2.0			4	
		Repair		2.0			4	E
0700-00	Transmission Mount and Bushing	Replace		0.5			1, 4	
0700-01	Transmission Oil	Inspect	0.5					A
0700-01	Transmission Oil (All Models)	Service		1.5			1, 4	
0700-02	Transmission Dipstick Tube and Dipstick (All Models)	Replace		1.0			1, 4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0700-03	Transmission Mounting Bracket and Isolator (M939A2 Only)	Replace		1.0			2, 4, 11	
0705-00	Transmission Modulator and Control Cable (All Models)	Adjust		0.5			1, 4	
		Replace		1.2			1, 4	
0705-01	Transmission Neutral Start Switch (All Models)	Replace		0.8			4	
0705-02	Governor Piping and Capacitor (M936/A1/A2)	Replace		0.7			4	
		Repair		2.0			4	E
0705-03	Transmission 5th Gear Lock- Up Pressure Switch (M936/ A1/A2)	Replace		0.5			4	
0705-04	Transmission Selector Lever (All Models)	Replace		1.5			4	
0705-05	Transmission Shift Tower (All Models)	Replace		2.5			4	
0705-06	Transmission Shift Cable (All Models)	Replace		2.3			4	
0708-00	Transmission Torque Converter (All Models)	Replace			8.0			AD, I
		Repair			5.0			I

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0710-00	Transmission Assembly (Out of Vehicle) (All Models)	Inspect	0.2					A
		Adjust		2.5			1, 4	
		Replace		6.0			1, 2, 3, 4, 12	
		Overhaul			20.0			I
0710-01	Transmission (In Vehicle) (All Models)	Replace		18.0			1, 2, 3, 4, 12	
0710-02	Transmission Oil Pressure, Modulator & Converter Stall	Test		4.0			1, 2, 3, 4	
0710-03	Transmission Selector Shaft Oil Seal (All Models)	Replace		1.5			1, 4, 14, 15	
0710-04	Transmission Output Shaft Yoke and Oil Seal (All Models)	Replace		2.0			2, 3, 4, 16, 17, 18	
0710-05	Transmission Oil Pan and Filter (All Models)	Replace		2.5			1, 4	
0710-06	Transmission Manual Selector Shaft (All Models)	Replace			4.0			I
0710-07	Forward Clutch (All Models)	Repair			3.0			I
0710-08	Gear Unit and Main Shaft (All Models)	Repair			3.0			I

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0710-09	Rear Cover and Low Planetary Carrier (All Models)	Repair			5.0			
0710-10	Adapter Housing and First Clutch Piston (All Models)	Replace			4.0			
0710-11	Transmission Housing (All Models)	Replace			20.0			
0710-12	Transmission Lubrication Valve (All Models)	Replace	2.0			1, 4		
0713-00	Fourth Clutch (All Models)	Repair			3.0			
0713-01	Second, Third Clutch, and Center Support (All Models)	Replace			4.0	1		
0713-02	First Clutch (All Models)	Replace			3.0	1		
0713-03	Low Clutch Removal and Clearance (All Models)	Replace			3.0	1		
0714-00	Transmission Fifth Gear Lock-in Solenoid (All Models)	Replace	5.1			4		
0714-01	Modulate Lockup Valve, Low Trimmer Valve, and Low	Repair			3.0			

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0714-02	Shift Valve (All Models) Transmission Control Valve (All Models)	Replace			2.6		I	
0714-03	Transmission Governor (All Models)	Replace			1.5		I	
0721-00	Transmission Oil Cooler and Mount	Inspect	0.1				A	
		Replace		2.1		4		
0721-01	Transmission Oil Cooler Filter and Head (All Models)	Repair		0.5		4		
0721-02	Transmission Oil Cooler Hoses (All Models)	Replace		1.0		4		
0721-03	Transmission Oil Cooler and Mount (M939A2 Only)	Inspect	0.2				A	
		Replace		1.7		4		
0721-04	Lines and Fittings	Inspect	0.2				A	
		Replace		1.0		1, 4		
0721-04	Transmission Breather (All Models)	Replace		0.3		4		
0721-05	Transmission Oil Pump and Front Support (All Models)	Repair			4.0			

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0801-00	Transfer Case (All Except M936/A1/A2)	Inspect	0.3				A	
		Replace		8.7			1, 2, 4	AB, AD, Y
		Overhaul			13.5			J
0801-01	Transfer Case Assembly (M936/A1/A2)	Inspect	0.3				A	
		Replace		8.7			1, 2, 4	AB, AD, Y
		Overhaul			13.5		1	J
0801-02	Transfer Case Speedometer Drive Gear and Drive Shaft (All Models)	Replace		2.5			1, 4	
0801-03	Coupling, Yoke Input and Output	Inspect	0.3				A	
		Replace		1.0			1, 4	
0803-00	Transfer Case Front Axle Engagement Control Valve (All Models)	Replace		2.0			4	
0803-01	Transfer Case Front Axle Lock-In Control Valve (All Models)	Replace		5.0			4	
0803-02	Transfer Case Interlock Air Cylinder (All Models)	Replace		10.9			4	
0803-03	Transfer Case Front Axle Engagement Air Cylinder (All Models)	Replace		4.0			1, 4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0803-04	Front Wheel Drive Lock-In Switch	Replace		1.5			4	
0803-05	Transfer Case Interlock Valve (All Models Except M936/A1/A2)	Replace		9.5			4	
0803-06	Transfer Case Interlock Valve (M936/A1/A2)	Replace		9.5			4	
0803-07	Transfer Controls and Linkage (All Models)	Repair		2.5			1, 4, 10	
0803-08	Transfer Case Capacitor (All Models)	Replace		1.0			4	
0803-09	Transfer Case Transorb Diode (All Models)	Replace		0.7			4	
0804-00	Transfer Case Oil Pump (All Models)	Replace		1.2			1, 4	
0900-00	Shaft Assembly, Propeller	Inspect	0.3					A
		Service		0.5			1	
		Replace		1.5			1, 4	
		Repair		1.0			1, 4	
0900-00	Forward-Rear to Rear-Rear Propeller Shaft (All Except M927, M928, M934, M935, A1/A2)	Repair		2.0			1, 4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0900-01	Transfer Case to Forward-Rear Axle Propeller Shaft (M927, M928, M934, M935, A1/A2)	Repair		2.0			1, 4	
0900-02	Transfer Case to Front Axle Propeller Shaft	Repair		2.0			1, 4	
0900-03	Transmission to Transfer Case Propeller Shaft (All Models)	Repair		2.0			1, 4	
1000-00	Front Axle (All Models)	Inspect	0.5					A
		Test		0.5			4	
		Replace		5.5			1, 2, 4	
		Overhaul			10.0			K
1000-01	Front Axle Breather (All Models)	Replace		0.3			4	
1002-00	Front Axle Carrier Differential (All Models)	Inspect	0.5					A
		Replace		7.5			1, 4	AB
		Repair			4.0			K
1002-01	Front Differential Oil Seal (All Models)	Inspect	0.2					A
		Replace		2.2			1, 4	
1002-02	Front Axle Drive Companion	Inspect	0.3					A



**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
	Flange (All Models)	Replace		2.0			1, 4	
1002-03	Front Carrier Differential Top Cover Gasket and Side Cover Gasket (All Models)	Replace		1.5			1, 4	
1004-00	Steering Knuckle Boot (All Models)	Inspect	0.1					A
		Service		0.2			1	
		Replace		2.5			1, 4	
1004-01	Front Axle Seal (All Models)	Replace		0.8			4, 16	
1004-02	Front Axle Shaft and Universal Joint (All Models)	Inspect	0.2					A
		Service		0.3			1, 4	
		Replace		1.7			4	
1004-03	Steering Knuckle (All Models)	Repair		6.0			1, 4, 10	
1004-04	Spindle Bearing Sleeve (All Models)	Replace		3.0			1, 4, 18, 19	
1100-00	Forward-Rear and Rear-Rear Axle (All Models)	Inspect	0.6					A
		Test		0.5			4	
		Service		1.0			1, 4	
		Replace		4.6			1, 2, 4	
		Overhaul			18.0			K

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1100-01	Rear Axle Breather (All Models)	Replace		0.3			4	
1100-02	Rear Axle Shaft (All Models)	Replace		5.0			1, 4	
1102-00	Rear Axle Carrier Differential (All Models)	Inspect	0.5					A
		Service		0.5			1, 4	
		Replace		7.5			1, 4	
		Repair			4.0			K
1102-01	Rear Differential Oil Seal (All Models)	Inspect	0.2					A
		Replace		2.2			1, 4	
1102-02	Rear Carrier Differential Top Cover Gasket and Side Cover Gasket (All Models)	Replace		1.5			1, 4	
1201-00	Parking Brake Cable and Bracket (All Models)	Inspect	0.3					A
		Adjust	0.5					
		Replace		1.8			4	
1201-01	Parking Brake (All Models)	Adjust		0.5			4	
1201-02	Parking Brakeshoes	Inspect	0.5					A
		Adjust		1.0			1, 4	
		Replace		5.0			1, 4, 21	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1201-03	Parking Brakedrum Dustcover (All Models)	Replace		0.5			1, 4	
1201-04	Wheel Brakedrum Dustcover (All Models)	Replace		1.0			4	
1201-05	Parking Brake Lever (All Models)	Replace		2.0			4	
1202-00	Brakeshoe (All Models)	Replace		8.0			4, 21	
1202-01	Front Brake Spider and Actuator (All Models)	Repair		11.3			1, 4	
1202-02	Rear Brake Spider and Actuator (All Models)	Repair		12.3			1, 4	
1206-00	Brake Pedal (Treadle) Valve (All Except M936/A1/A2)	Inspect	0.1					A
		Replace		4.5			4	
1206-01	Brake Pedal (Treadle) Valve (M936/A1/A2)	Replace		4.5			4	
1206-02	Spring Parking Brake Valve (All Models)	Replace		1.0			4	
		Repair		0.5			4	
1206-03	Brake Mechanism (All Models)	Adjust		1.0			4, 22	R

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1206-04	Brake Pedal (All Models)	Replace		1.0			4	
1208-00	Service Brake Chamber (All Models)	Replace		2.3			4	
1208-01	Combination Spring (Emergency) and Service Brake Chamber (All Models)	Inspect		0.1				A
		Replace		4.4			4	
1208-02	Air Governor (All Models)	Replace		3.0			4	
1208-04	Air Reservoir One-Way Check Valve (All Models)	Replace		1.0			4	
1208-05	Front and Rear Relay Valve (All Models)	Replace		3.0			4	
1208-06	Brake Chamber Air Manifold Tee (All Models)	Replace		3.0			4	
1208-07	Front Limiting Valve (All Models)	Replace		0.9			4	AD
1208-08	Primary Air Reservoir (Supply Tank) (All Except M936/A1/A2)	Replace		3.6			4	
1208-09	Secondary Air Reservoir (Supply Tank)	Replace		2.0			1, 4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1208-10	(All Except M936/A1/A2) Wet Air Reservoir and Bracket (All Except M936/A1/A2)	Replace		3.5			4	
1208-11	Wet Air Reservoir and Mounting Plate (All Except M936/A1/A2)	Replace		4.0			4	
1208-12	Emergency Spring Brake (Supply Tank) Air Reservoir (All Models)	Replace		2.2			4	
1208-13	Brake Proportioning Valve (All Models)	Replace		3.0			4	
1208-14	Air Reservoir Drain Valves (All Models)	Replace		3.0			4	
1208-15	Fan Drive Clutch Actuator	Replace		1.5			4	
1208-16	Fan Drive Clutch Actuator (M939A2)	Replace		1.5			4	
1208-17	Spring Brake Dash Control Valve (All Models)	Replace		1.5			1, 4	
1208-18	Air Couplings (All Models)	Replace		1.0			1, 4	
1208-19	Wet Reservoir (Supply Tank)	Replace		0.8			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1208-20	Safety Valve (All Models)  ABS Electronic Control Unit (ECU) (All Models)	Replace		1.0			4	
1208-21	ABS Double Check Valve No. 5 (All Models)	Replace		2.0			4	
1208-22	ABS Double Check Valve No. 6 (All Models)	Replace		2.0			4	
1208-23	ABS Double Check Valve No. 7 (All Models)	Replace		2.0			4	
1208-24	Brake LQ-2 Valve (All Models)	Replace		2.0			4	
1208-25	Rear ABS Relay Valve (All Models)	Replace		3.0			1, 4	
1208-26	Forward ABS Relay Valve with ECU (All Models)	Replace		3.0			1, 4	
1208-27	Inversion Valve (All Models)	Replace		1.0			4	
1208-28	Air Supply Line Safety Valve (All Models)	Replace		1.0			4	
1208-29	Governor Control Air Line (All Models)	Replace		3.0			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1208-30	Air Line Cross Fitting (All Models)	Replace		3.0			4	
1208-31	ABS 3-AMP Fuse and Y-Connector Lead (All Models)	Replace		0.5			4	
1208-32	ABS 15-AMP Fuse and Jumper Lead (All Models)	Replace		0.5			4	
1208-33	ABS Ground Jumper Lead (All Models)	Replace		0.5			4	
1208-34	ABS Indicator Lamp (All Models)	Replace		0.5			4	
1208-35	ABS ECU Main Wiring Harness and Diagnostic Mounting Bracket (All Models)	Replace		6.0			4	
1208-36	ABS Wheel Sensor and Bracket (All Models)	Replace		4.0			1, 4	
1208-37	Rear ABS Exciter Ring (All Models)	Replace		4.0			1, 4	
1209-00	Air Compressor	Replace		3.7			4	
		Repair				2.5		B
1209-01	Air Compressor	Replace		4.3			1, 4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1209-02	and Lines (M939A2 Only)	Repair			3.0		C	
1211-00	Air Compressor Coolant Lines (M939A2 Only)	Replace	1.5			4		
1211-01	Trailer Airbrake Hand Control Valve (M931/ A1/A2, M932/ A1/A2)	Replace	2.0			4		
1211-01	Double Check Valve No. 1 (All Models)	Replace	3.0			4		
1211-02	Double Check Valve No. 2 (All Except M931/ A1/A2 and M932/A1/A2)	Replace	3.5			4		
1211-03	Double Check Valve No. 2 (M931/A1/A2 and M932/A1/ A2)	Replace	3.5			4		
1211-04	Double Check Valve No. 5 (M931/A1/A2 and M932/A1/ A2)	Replace	3.5			4		
1211-05	Double Check Valve No. 3, No. 4, and Quick Release Valve (All Models)	Replace	5.0			4		
1211-06	Emergency and Trailer Coupling Hoses (M931/	Replace	1.0			4		



**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1311-00	A1/A2, M932/ A1/A2 Front Hub and Drum	Replace		2.5			1, 4	
1311-01	Rear Hub and Drum	Replace		2.5			1, 4, 6	
1311-02	Front Hubs (M939A2 Only)	Replace		2.0			1, 4, 5, 6	
1311-03	Rear Hubs (M939A2 Only)	Replace		3.0			1, 4, 5, 6	
1311-04	Wheel Bearing (All Models)	Adjust		2.5			1, 4	
		Replace		3.5			1, 4	
1311-05	Wheel and Tire Rotation (M939)	Service		5.0			1, 4, 27	
1311-06	Wheel and Tire Rotation (M939A1/A2)	Service		5.0			1, 4	
1311-08	Wheel Valve Filter (M939A2)	Replace		0.5			4	
1311-09	Hub Air Seal Leak (M939A2)	Test		3.0			4, 7, 24	
1311-10	Rear Axle Air Manifold (M939A2)	Replace		3.0			4	
1311-11	Wheel Valve (M939A2)	Replace		1.5			1	
		Repair		2.5			1	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1311-12	Front Wheel Valve (M939A2)	Replace		2.0			4	
1311-13	Rear Wheel Valve (M939A2)	Replace		2.0			4	
1313-00	Tire Assembly (All Models)	Service	0.2					AD, M, Z
		Replace		2.0			1, 4	Z
		Rebuild			2.5			L
1313-01	Tire Extension (M939)	Replace		0.5				
1401-00	Drag Link (All Models)	Replace		1.4			1, 4	
1401-01	Tie Rod and Toe-In Check (All Models)	Repair		3.2			1, 4	
1401-02	Upper and Lower Steering Column (All Models)	Replace		4.7			1, 4	
		Repair		2.0			1, 4	
1401-03	Steering Wheel (All Models)	Replace		1.7			1, 4	
1401-04	Pitman Arm (Ross)	Replace		1.1			4	
1401-05	Steering Stop (All Models)	Adjust		1.0			1, 4	
1401-06	Steering Gear Stone Shield (All Models)	Replace		0.8			4	
1407-00	Steering Gear (Ross) and	Replace		3.8			1, 4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1407-01	Mounting Bracket	Repair			2.5		AC	
	Steering Gear (Shepherd) and Mounting Bracket (M939A2 Only)	Replace	3.8			1, 4		
1407-02	Pitman Arm (Sheppard) (M939A2)	Repair			2.5		AA	
		Replace	1.6			1, 4		
1410-00	Power Steering Pump Filter and Reservoir (M939A2 Only)	Replace	2.0			1, 4		
		Repair	1.5			1, 4		
1410-01	Power Steering Pump	Replace	4.1			1, 4		
		Repair			3.0		AC, B	
1410-02	Power Steering Pump (M939A2)	Replace	4.1			1, 4		
		Repair			3.0		C	
1410-03	Steering Pump Drivebelts	Replace	3.0			1, 4, 13		
1411-00	Power Steering Pump Pressure and Return Hoses (Ross)	Replace	1.1			4	E	
1411-01	Power Steering Pump Pressure and Return Hoses (Sheppard) (M939A2 Only)	Replace	3.0			4		

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1411-02	Steering Assist Cylinder Hoses (All Models)	Replace		0.5			4	
1411-03	Steering Gear- to-Assist Cylinder Pressure Lines (All Models)	Replace		2.0			4	
1411-04	Power Steering Test and Adjustment (Sheppard) (M939A2 Only)	Test		1.0			1, 4	
1411-05	Power Steering Gear Stop Adjustment (On Vehicle)	Adjust		0.8			1, 4	
1412-00	Steering Assist Cylinder (All Models)	Replace		3.7			1, 4	
1412-01	Steering Assist Cylinder Stone Shield (All Models)	Replace		0.5			4	
1501-00	Frame (All Models)	Repair			4.0			M
1501-01	Front and Rear Lifting Shackle and Bracket (All Models)	Replace		3.2			4	
1501-02	Rear Cab Improved Crossmember (All Models)	Replace			24.0		1, 2, 3, 4	
1501-03	Front and Rear Field Chocks Anchors (M936/A1)	Replace		1.0			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1501-04	Bumperette (M923, M925, M927, M928/A1/A2)	Replace		0.5			4	
1501-05	Front Bumper and Plates (All Models)	Replace		3.2			4	
1501-06	Vehicle Tiedown Components (All Models)	Replace		2.0			4	Q
1503-00	Pintle Hook (All Models)	Inspect	0.1					A
		Service	0.1					
		Repair		0.6			4	
1504-00	Van Davit Chain and Wire Rope (M934/A1/A2)	Replace		1.0			4	
1504-01	Van Swing Davit and Pulley (M934/A1/A2)	Replace		2.5			4	
1504-02	Van Davit Winch (M934/A1/A2)	Replace		1.5			4	
1504-03	Tractor Spare Tire Carrier (M931 and M932)	Replace		2.0			4	
1504-04	Tractor Spare Tire Carrier and Toolbox (M931/A1/A2, M932/A1/A2)	Replace		2.0			4	
1504-05	Dump and Tractor Spare Tire Carrier	Replace		2.0			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1504-06	Access Step (M929, M930, M931, M932, A1/A2)  Dump and Van Spare Tire Carrier (M929, M930, M934)	Replace		1.5			4	
1504-07	Dump and Van Spare Tire Carrier (M939/ A1/A2, M930/ A1/A2, M934/ A1/A2)	Replace		3.0			1, 4	
1504-08	Cargo Spare Tire Carrier (M923, M925, M927, M928)	Replace		1.5			4	
1504-09	Cargo Spare Tire Carrier (M923/A1/A2, M925/A1/A2, M937/A1/A2, M928/A1/A2)	Replace		1.5			1, 4	
1504-10	Cargo Spare Tire Carrier Access Step (M923, M925, M927, M928, A1/A2)	Replace		1.0			4	
1506-00	Tractor Fifth Wheel (Holland)	Replace		2.7			1, 4	AB
		Repair		4.0			1, 4	AB
1506-01	5th Wheel Approach Plates (M931, M932, A1/A2)	Replace		5.2			4	
1506-02	5th Wheel Deck Plate	Replace		0.5			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1506-03	5th Wheel Spacers	Replace		5.7			4	
1601-00	Front Spring and Main Leaf (All Models)	Repair		5.2			1, 4	
1601-01	Front Spring Shackle and Shackle Hanger (All Models)	Replace		1.6			4	
1601-02	Front Spring Bushing (All Models)	Replace		0.5			4	
1601-03	Front Spring Bumper (All Models)	Replace		0.2			4	
1601-04	Rear Spring Bumper (All Models)	Replace		0.2			4	
1601-05	Rear Spring (All Models)	Repair		6.1			1, 4	
1601-06	Rear Spring Seat (All Models)	Repair		2.5			1, 4	
1601-07	Rear Axles Spring Seat Wear Pads and Upper Bracket (All Models)	Replace		2.5			1, 4	
1601-08	Cross Tubes (All Models)	Replace		20.0			1, 2, 4	
1604-00	Shock Absorber and Mounting Pins (All Models)	Replace		0.6			4	V
1605-00	Upper and Lower Torque	Replace		3.6			1, 4, 10	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1801-00	Rod (All Models) Cab Door (All Models)	Replace Repair		2.6 6.1			4 1, 3, 4, 9	D, N
1801-01	Inside and Outside Door Handles (All Models)	Replace		0.5			4	
1801-02	Cab Door Dovetail Wedge (All Models)	Replace		0.2			4	
1801-03	Cab Door Dovetail (All Models)	Replace		0.2			4	
1801-04	Cab Door Weather Seal (All Models)	Replace		0.3			4	
1801-05	Cab Door Inspection Hole Cover (All Models)	Replace		0.5			4	
1801-06	Cab Door Lock (All Models)	Replace		0.5			4	
1801-07	Cab Door Glass (All Models)	Replace		0.8			4	
1801-08	Window Weather Stripping (Cab Door) (All Models)	Replace		0.2			4	
1801-09	Window and Cab Door Regulator	Replace		0.4			4	



**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1801-10	Assembly (All Models) Cab Door Check Rod (All Models)	Replace		0.2			4	
1801-11	Cab Door Hinge (All Models)	Replace		0.3			4	
1801-12	Cab Door Catch (All Models)	Replace		0.1			4	
1801-13	Cab (All Models)	Replace		6.1			2, 3, 4	AB
1801-14	Hood Latch and Bracket (All Models)	Replace		0.2			4	
1801-15	Hood Support Assembly (All Models)	Replace		3.0			1, 4	AH
1801-16	Hood Stop Cables (All Models)	Replace		0.5			4	
1801-17	Hood Grab Handle (All Models)	Replace		0.2			4	
1801-18	Radiator Baffles, Seals, and Plates (All Models)	Replace		0.5			4	
1801-19	Cab Hood Stop Bracket (All Models)	Replace		0.2			4	
1801-20	Hood Bumper (All Models)	Replace		0.2			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1801-21	Engine Hood (All Models)	Replace		1.5			1, 4	AB
1801-22	Windshield Stop Bracket and Latch (All Models)	Replace		0.3			4	
1801-23	Engine Access Cover (In Cab) (All Models)	Replace		4.0			4	
1801-24	Front Cab Mount (All Models)	Replace		2.1			4	
1801-25	Rear Cab Mount (All Models)	Replace		2.1			1, 4	AB
1801-26	Cab Grab Handle (All Models)	Replace		0.2			4	
1801-27	Vent Door Weather Seal (All Models)	Replace		0.4			4	
1801-28	Cab Cowl Vent Screen and Door (All Models)	Replace		0.4			4	
1802-00	Front Fenders (All Models)	Replace		3.1			4	
1802-01	Front Fender Extension (All Models)	Replace		0.5			4	
1802-02	Fender Splash Shield (All Models)	Replace		0.5			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1802-03	Radiator Brush Guard (All Models)	Replace		4.0			4	
1802-04	Windshield and Outer Frame Assembly (All Models)	Repair		1.5			4	
1802-05	Windshield Frame Assembly (All Models)	Repair		1.4			4	
1802-06	Cab Windshield Hinge Assembly (All Models)	Replace		0.3			4	
1806-00	Cab Insulation (All Models)	Replace		2.1			4	
1806-01	Companions Seat Cushion, Backrest Cushion, and Frame (All Models)	Replace		2.0			4	U
1806-02	Driver Seat, Frame, and Base (All Models)	Repair		3.1			4	
1806-03	Driver Seat Cushion and Backrest Cushion (All Models)	Replace		0.5			4	U
1808-00	Map Compartment (All Models)	Replace		0.7			4	
1808-01	Van Power Cable Reel (M934/A1/A2)	Replace		0.5			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1808-02	Tool Box and Steps (All Models)	Repair		2.5			4	
1808-03	Cargo Stowage Box (M923, M925, M927, M928, A1/A2)	Replace		0.5			4	
1810-00	Cargo Body Assembly (M923, M925, M927, M928, A1/A2)	Replace		3.2			4	AB
		Repair			10.0			D, N
1810-01	Cargo Troop Seat (M923, M925, M927, M928, A1/A2)	Repair		2.2			4	
1810-02	Cargo Tailgate and Bumpers (M923, M925, M927, M928, A1/A2)	Replace		3.2			1, 4	AB, D
		Repair			2.0			N
1810-03	Dump Tailgate Control Linkage (M929, M930, A1/A2)	Replace		2.0			4	
1810-04	Dump Tailgate Assembly (M929, M930, A1/A2)	Replace		1.0			1, 4	AB
		Repair		2.0			1, 4	D
1810-05	Cargo Body Frame Rail Sill (M923, M925, M928, A1/A2)	Replace		10.0			1, 4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1810-06	Dump Body (M929, M930, A1/A2)	Replace		6.0			1, 4	AB
		Repair				6.0		AI, D, N
1810-07	Dump Cab Protector Shield (M929, M930, A1/A2)	Replace		2.0			4	AB, D
1810-08	Cargo Upper Wheel Splash Guard (M923, M925, M927, M928, A1/A2)	Replace		1.5			4	
1810-09	Side Locking Pin Retaining Clip (M923, M925, A1/A2)	Replace		0.3			4	
1810-10	Tailgate Personnel Step (M923, M925, M927, M928, M929, M930, A1/A2)	Replace		0.5			4	
1812-00	Van Rear Door and Side Door Window (M934/A1/A2)	Replace		1.0			4	
1812-01	Window Blackout Panel (M934/A1/A2)	Replace		1.0			4	
1812-02	Rear Door (M934/A1/A2)	Replace		8.0			1, 4	
		Repair				20.0		
1812-03	Side Doors (M934/A1/A2)	Replace		8.0			4	
		Repair				20.0		

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1812-04	Hinged End Panel (M934/A1/A2)	Repair		6.0			4	
1812-05	Hinged Roof and Floor Counterbalance Cable (M934/A1/A2)	Replace		2.0			4	
1812-06	Retractable Window (M934/A1/A2)	Replace		1.0			4	
		Repair		1.0			4	
1812-07	Window Screen (M934/A1/A2)	Replace		0.8			4	
1812-08	Retractable Window Regulator (M934/A1/A2)	Replace		0.8			4	
1812-09	Window Brush Guard (M934/A1/A2)	Replace		0.8			4	
1812-10	Side Panel-to-Roof Toggle Clamp (M934/A1/A2)	Replace		0.5			4	
1812-11	Toggle Clamp Anchor Post (M934/A1/A2)	Replace		0.5			4	
1812-12	Side Panel Roof Swivel Hook (M934/A1/A2)	Replace		1.0			4	
1812-13	Ladder Locking Clamp (M934/A1/A2)	Replace		0.5			4	
1812-14	Bonnet Handle and Control	Replace		0.5			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
	Rod (M934/A1/A2)							
1812-15	Door Hinge and Seal (M934/A1/A2)	Replace		0.5			4	
1812-16	Panel Seals (M934/A1/A2)	Replace		2.0			4	
1812-17	Door Handle and Lock (M934/A1/A2)	Replace		0.6			4	
1812-18	Door Checks (M934/A1/A2)	Replace		1.0			4	
1812-19	Ladder Rack Bumpers (M934/A1/A2)	Replace		0.3			4	
1812-20	Side Panel Rubber Bumpers (M934/A1/A2)	Replace		0.8			4	
1812-21	Side Panel Rear Lock (M934/A1/A2)	Replace		1.5			4	
1812-22	Side Panel Front Lock and Hinged-Type Roof Lock (M934/A1/A2)	Replace		1.0			4	
1812-23	Side Panel Exterior Lock (M934/A1/A2)	Replace		0.5			4	
1812-24	Fluorescent Light Tube (M934/A1/A2)	Replace		0.5			4	
1812-25	Emergency/Blackout Light	Replace		0.5			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1812-26	Lamp and Lens (M934/A1/A2)  Blackout Light Switch and 110-Volt Receptacle (M934/A1/A2)	Replace		0.5			4	
1812-27	Inside Telephone Jack Post (M934/A1/A2)	Replace		1.3			4	
1812-28	Outside Telephone Jack Post (M934/A1/A2)	Replace		1.5			4	
1812-29	Side and Rear Door Blackout Light Switch (M934/A1/A2)	Replace		1.0			4	
1812-30	Hinged Roof- Operated Blackout Circuit Plungers (M934/A1/A2)	Replace		1.0			4	
1812-31	Retractable Beam Assembly (M934/A1/A2)	Replace		0.5			4	
1812-32	Van Heater and Exhaust (M934/A1/A2)	Replace		2.0			4	
		Repair			4.0			T
1812-33	Van Heater Fuel Pump (M934/A1/A2)	Replace		1.3			4	
1812-34	Air Conditioning	Replace		1.0			4	



**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1812-35	Drain Tube (M934/A1/A2)							
	Heater Fuel Pump Wiring Harness (M934/A1/A2)	Replace		0.8			4	
1812-36	Right and Left Side Blackout Harness (M934/A1/A2)	Repair		1.0			1, 4	E
		Replace		2.0			4	
1812-37	Circuit Breaker Harness and Circuit Breaker (M934/A1/A2)	Repair		1.0			1, 4	E
		Replace		1.0			4	
1812-38	Entrance Receptacle 220V 3-Phase Wiring Harness (M934/A1/A2)	Replace		3.0			4	
1812-39	Flexible Converter Wiring Harness (M934/A1/A2)	Replace		1.0			4	
		Repair		1.5			1, 4	E
1812-40	Electrical Load Center Box (M934/A1/A2)	Replace		5.0			4	
		Repair		10.0			1, 4	
1812-41	Electrical Box (M934/A1/A2)	Replace		2.0			4	
1812-42	Electrical Junction Box (M934/A1/A2)	Replace		1.0			4	
1812-43	400 Hz Converter	Replace		3.0			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1812-44	Harness Conduit (M934/ A1/A2)  Heater Thermostat and 10 kW Heather Thermostat (M934/A1/A2)	Replace		1.5			1, 4	
1812-45	Blackout and Emergency Light Fixtures (M934/A1/A2)	Replace		1.0			4	
1812-46	Air Conditioner Manual Starter Switches (M934/A1/A2)	Replace		1.0			1, 4	
1812-47	Fluorescent Light Fixtures (M934/A1/A2)	Replace		4.0			4	
1812-48	400 HZ Converter (M934/A1/A2)	Replace		2.0			4	
1812-49	Electrical Load Center Conduit (M934/A1/A2)	Replace		1.0			4	
1812-50	Underframe Parts (M934/ A1/A2)	Repair			8.0			
1812-51	Hinged Floor (M934/A1/A2)	Repair			12.0		1	
1812-52	Exterior Side Panel (M934/ A1/A2)	Repair			16.0			
1812-53	Rear Wall Interior Panels (M934/A1/A2)	Replace			12.0			

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1812-54	Interior Side Panels and Latches (M934/A1/A2)	Replace			12.0			
1812-55	Ceiling and Frame (M934/A1/A2)	Repair			11.0			
1812-56	Hinged Roof (M934/A1/A2)	Repair			11.0			
1812-57	Forward Deck Plate (M936/A1/A2)	Replace	0.5			4		
1812-58	Van Body (M934/A1/A2)	Replace			30.0		AB, AI, D, N	
		Repair			25.0		AB, AG, D, N	
1812-59	Front Wall Registers (M934/A1/A2)	Replace	2.0			4		
1812-60	Ceiling Filler and Side Panels (M934/A1/A2)	Replace			8.0			
1812-61	Ceiling Rear Cover (M934/A1/A2)	Replace			1.0			
1812-62	Ceiling Air Ducts (M934/A1/A2)	Replace			1.0			
1812-63	Ceiling Transition (M934/A1/A2)	Replace			1.5	1		
1812-64	Ceiling Deflector and Registers (M934/A1/A2)	Replace			2.0			

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1812-65	Rear Splice Plate (M934/A1/A2)	Replace			2.0			
1812-66	Bonnet Frame Parts (M934/A1/A2)	Replace			5.0			
1812-67	Bonnet Access Door (M934/A1/A2)	Repair	4.0				1, 4	
1812-68	Bonnet Door (M934/A1/A2)	Repair	4.0				1, 4	
1812-69	Air Conditioner (M934/A1/A2)	Replace	2.5				4	AB
		Repair			16.0			AB
1812-70	Main Wiring Harness (M934/A1/A2)	Replace	8.0					1, 4
		Repair	2.0					1, 4
1812-71	Van Air Conditioner Wiring Harness (M934/A1/A2)	Replace	4.0					1, 4
		Repair	2.0					1, 4
1812-72	Van Heater Wiring Harness (M934/A1/A2)	Replace	4.0					1, 4
		Repair	2.0					1, 4
1812-73	Electrical Heater (10 KW) Wiring Harness (M934/A1/A2)	Replace	3.0					1, 4
		Repair	2.0					1, 4
1812-74	Blackout Bypass Wiring	Replace	3.0					1, 4

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
1812-75	Harness (M934/A1/A2)	Repair		2.0			1, 4	E
	Emergency Lamp Wiring Harness (M934/A1/A2)	Replace		3.0			1, 4	
1812-76	Blackout and Clearance Lights Wiring Harness (M934/A1/A2)	Repair		2.0			1, 4	E
		Replace		3.0			1, 4	
1812-77	400 HZ Supply Wiring Harness (M934/A1/A2)	Replace		3.0			1, 4	
		Repair		2.0			1, 4	E
1812-78	Branches 400 HZ Receptacle Wiring Harness (M934/A1/A2)	Replace		3.0			1, 4	
		Repair		2.0			1, 4	E
1812-79	Telephone Post Wiring Harness (M934/A1/A2)	Replace		3.0			1, 4	
		Repair		2.0			1, 4	E
1812-80	3 Phase Receptacle Wiring Harness (M934/A1/A2)	Replace		3.0			1, 4	
		Repair		2.0			1, 4	E
2001-00	Wrecker Outrigger Jack (M936/A1/A2)	Repair		1.0			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
2001-01	Front Winch (All Models with Winch)	Replace	3.6				1, 4	
		Overhaul			15.0			O
2001-02	Rear Winch (M936/A1/A2)	Adjust	0.5				4	A
		Replace	3.6				4	
		Overhaul			15.0			P
2001-03	Winch Frame Extension (All Models with Winch)	Replace	8.2				1, 4	
2001-04	Front Winch Automatic Brake (All Models with Winch)	Adjust	1.0				4	
2001-05	Front Winch Drag Brake (All Models with Winch)	Adjust	1.0				4	
2001-06	Front Winch Cable, Chain, and Hook (All Models with Winch)	Replace	1.0				4	
2001-07	Front Winch Cable Clevis (All Models with Winch)	Replace	1.5				4	
2001-08	Rear Winch Roller (M936/ A1/A2)	Repair	1.5				4	
2001-09	Front Winch Cable Tensioner (M936/A1/A2)	Repair	3.0				1, 4, 10	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
2001-10	Front and Rear Winch Level Wind (M936/A1/A2)	Repair		5.0			4, 10	
2001-11	Front Winch Roller (All Models)	Repair		4.0			1, 4, 10	
2001-12	Front Winch Control Valve Cable (M928, M930, M932, M936, A1/A2)	Replace		1.5			4, 10	
2001-13	Front and Rear Winch Control Valve (M925, M928, M932, M936, A1/A2)	Replace		3.0			4	
2001-14	Rear Winch Hydraulic Motor (M936/A1/A2)	Replace		5.0			1, 4	
2001-15	Front Winch Hydraulic Motor (All Models with Winch)	Replace		1.0			4	
2001-16	Front Winch Cable (All Models with Winch)	Inspect	0.5					A
		Service	0.5					
		Replace		3.0			4	
2001-17	Front Winch Hydraulic Hose and Tube (M925, M928, M929, M930, M932, M936, A1/A2)	Replace		3.0			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
2001-18	Boom Assembly (M936/A1/A2)	Replace		22.5			1, 4	AB
		Repair				8.0		C, N
2001-19	Inner Boom (M936/A1/A2)	Replace		25.5			1, 4	AB
2001-20	Boom Roller (M936/A1/A2)	Repair		29.5			4, 10	AB
2001-21	Crane Swivel Valve (M936/ A1/A2)	Replace		24.5			1, 4	AB
		Repair		1.0			1, 4	E
2001-22	Crane Hydraulic Swing Motor (M936/A1/A2)	Replace		2.0			1, 4	
2001-23	Crane Swing Gear Case (M936/A1/A2)	Replace		4.0			1, 4	
		Repair				5.0		
2001-24	Turntable (M936/A1/A2)	Repair		30.0			1, 4	AB
2001-25	Boom Elevating Cylinder (M936/A1/A2)	Replace		2.2			1, 4	AB
		Repair				3.0		AB
2001-26	Front Winch Motor (All Models with Winch)	Replace		3.2			1, 4	AB
2001-27	Boom Extension Cylinder (M936/A1/A2)	Replace		29.0			4	AB
		Repair				4.0		



**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
2001-28	Hoist Winch (M936/A1/A2)	Replace		5.7			1, 4	AB
		Repair				6.0	1	AF, X
2001-29	Hoist Level Wind (M936/ A1/A2)	Replace		2.0			4	
2001-30	Crane Gondola Control Valve	Repair		8.5			1, 4, 20	
2001-31	Gondola (M936/A1/A2)	Replace		10.0			1, 4	AB, D, N
2001-32	Hydraulic Hoist Winch Motor and Lines (M936/A1/A2)	Replace		4.7			1, 4	
2001-33	Winch Hydraulic Oil Reservoir (M925, M928, M929, M930, M932, M936, A1/A2)	Replace		5.1			4	
2001-34	Tractor Winch Hydraulic Oil Reservoir (M932/A1/A2)	Replace		3.6			4	
2001-35	Wrecker Hydraulic Oil Reservoir, Brackets, and Straps (M936/ A1/A2)	Repair		10.0			4	
2001-36	Winch Hydraulic Oil Reservoir Filter (M925, M928, M929, M930, M932, M936, A1/A2)	Replace		0.5			1, 4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
2001-37	Pressure Relief Valve (M936/A1/A2)	Adjust		0.5			1, 4	
2001-38	Snubber Valve Assembly (M936/A1/A2)	Replace		0.5			4	
2001-39	Crane Hydraulic Filter and Housing (M936/A1/A2)	Service	1.0					A, AD
		Replace		2.0			4	
		Repair		1.0			4	
2001-40	Automatic Brake (Hoist Winch) (M936/A1/A2)	Adjust		0.5			4	A
2001-41	Hoist Winch Cable (M936/A1/A2)	Replace		3.0			4	
2001-42	Rear Winch Cable (M936/A1/A2)	Replace		3.0			4	
2001-43	Wrecker Crane Hydraulic Hose and Tube (M936/A1/A2)	Replace		6.0			4	
2001-44	Wrecker Crane Hydraulic Pump (M936/A1/A2)	Replace		2.0			1, 4	
2001-45	Transmission PTO-to-Hydraulic Pump Propeller Shaft (M925, M928, M929, M930,	Replace		2.0			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
	M932, M936, A1/A2)	Repair		2.0			4	
2001-46	Transfer PTO- to-Hydraulic Pump Propeller Shaft (M936/A1/A2)	Repair		1.0			1, 4	
2001-47	Dump Body Hydraulic Hose (M929, M930, A1/A2)	Replace		2.0			4	
2001-48	Dump Valve Cable and Shift Lever (M929, M930, A1/A2)	Replace		1.5			4	
2001-49	Dump Subframe (M929, M930, A1/A2)	Replace		4.0			4	AB
		Repair				10.0		D, N
2001-50	Dump Safety Brace (M929, M930, A1/A2)	Replace		1.0			4	
2001-51	Dump Hydraulic Pump (M929, M930, A1/A2)	Replace		2.0			4	
2001-52	Dump Control Valve (M930/ A1/A2)	Replace		1.5			4	
2001-53	Front and Rear Winch Control Valve (M930/ A1/A2)	Replace		3.0			4	
2001-54	Rear Winch Cable	Repair		3.0			1, 4, 10	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
2001-55	Tensioner (M936/A1/A2)  Dump Roller Arm (M929, M930, A1/A2)	Replace		4.0			1, 4	
		Repair				8.0		
2001-56	Dump Hoist Cylinder (M929, M930, A1/A2)	Replace		10.00			1, 4	
		Repair				5.0		
2001-57	Dump Hydraulic Hoist (M929, M930, A1/A2)	Replace		11.0			1, 4	AB
		Repair				11.0		
2001-58	Housing Assembly Cover (M936/ A1/A2)	Replace		0.8			4	
2001-59	Wrecker Body (M936/A1/A2)	Replace		30.0			4	AB, AG
		Repair				10.0		AB, AG, AI, D, N
2001-60	Fuel Can Bracket (M936/ A1/A2)	Replace		0.3			4	
2004-00	Transfer Case Take Off (PTO) (M936/A1/A2)	Repair		13.0			1, 4, 10	
2004-01	Transfer Case Power Take Off (PTO) Control Cable (M936/ A1/A2)	Replace		2.0			4	
2004-02	Transfer Case Power Take Off	Replace		4.0			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
2004-03	(PTO) Cross Shaft (Control Lever) (M936/A1/A2)  Transmission Power Take Off (PTO) (M925, M928, M929, M930, M932, /A1)	Replace		2.5			4	
		Repair				4.0		AA
2004-04	Transmission Power Take Off (PTO) Cable (M925, M928, M929, M930, M932, /A1)	Replace		3.0			4	
2004-05	Transmission Power Take Off (PTO) Cable (M939A2)	Replace		4.0			4	
2004-06	Transmission Power Take Off (PTO) (M939A2)	Replace		2.5			4	
		Repair				4.0		AA
2201-00	Cargo Body Cover Bows (M923, M925, M927, M928, A1/A2)	Replace		2.0			4	
2201-01	Cover, Cab Top	Replace		2.1			4	U
		Repair		1.5			6, 7, 8, 9	U
2201-02	Curtains, Body Cover	Replace		2.1			4	U
		Repair		1.0			6, 7, 8, 9	U
2201-03	Cab Turnbuttons and Lashing	Replace		0.5			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
2201-04	Hooks (All Models) Cab Top Seal and Retainer (All Models)	Repair		0.2			4	
2201-05	Cargo Lower Wheel Splash Guard (M923, M925, M927, M928, A1/A2)	Replace		1.5			4	
2202-00	Windshield Wiper Control Valve (All Models)	Replace		3.0			4	
2202-01	Windshield Wiper Blade, Wiper Arm, and Wiper Motor (All Models)	Replace		0.4			1, 4	
2202-02	Windshield Wiper Reservoir, Jet, Control, and Washer Hoses (All Models)	Replace		0.8			1	
2202-03	Rear View Mirror and Brace (All Models)	Replace		2.0			4	
2202-04	Washer Control Valve (All Models)	Replace		1.5			4	
2202-05	Reflectors (All Models)	Replace		0.5			4	
2207-00	Fresh Air Vent Control Assembly (All Models)	Replace		0.5			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
2207-01	Diverter Assembly (All Models)	Replace		1.8			4	
2207-02	Fresh Air Inlet Ducting (All Models)	Replace		0.5			4	
2207-03	Cab Heat and Defrost Air Ducting (All Models)	Replace		1.0			4	
2207-04	Defrost and Heat Controls (All Models)	Replace		1.5			4	
2207-05	Personnel Heater Hoses (All Models)	Replace		0.4			4	
2207-06	Personnel Hot Water Heater (All Models)	Replace		2.5			4	
3303-00	Engine Coolant Heater (All Models)	Replace		10.2			4	Q
3303-01	Radiator Cover (All Models)	Replace		1.3			4	Q
3303-02	Hardtop (All Models)	Replace		3.6			4	Q
3303-03	Personnel Fuel Burning Heater and Mounting Brackets	Replace		4.0			4	
3303-04	Engine Coolant Heater Pump (All Models)	Replace		3.0			4	
3303-05	Engine Coolant Heater Control	Replace		1.5			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
3303-06	Box (All Models) Engine Coolant Heater Harness	Replace		2.0			4	
3303-07	Engine Coolant Heater Harness (M939A2)	Replace		2.0			4	
3303-08	Engine Coolant Oil Pan Shroud and Exhaust Tube (All Models)	Replace		2.0			4	
3303-09	Engine Coolant Heater Hose (All Models)	Replace		0.5			4	
3303-10	Engine Coolant Battery Box Heater Pad (All Models)	Replace		0.5			4	
3303-11	Personnel Fuel Burning Heater Control Box (All Models)	Replace		3.0			4	
3303-12	Personnel Fuel Burning Heater and Mounting Brackets (M939A2)	Replace		4.0			4	
3303-13	Personnel Fuel Burning Heater Fuel Pump	Replace		2.0			4	
3303-14	Personnel Fuel Burning Heater Electric Fuel Pump (M939/A2)	Replace		2.0			4	



**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
3303-15	Personnel Fuel Burning Heater Fuel Shut Off Valve (All Models)	Replace		2.0			4	
3303-16	Personnel Fuel Burning Heater Wiring Harness (All Models)	Replace		2.0			4	
3303-17	Personnel Fuel Burning Heater Exhaust Tube	Replace		2.0			4	
3303-18	Personnel Fuel Burning Heater Exhaust Tube (M939A2)	Replace		2.0			4	
3303-19	Personnel Fuel Burning Circuit Breaker (All Models)	Replace		0.5			4	
3305-00	Deepwater Fording Control (All Models)	Replace		4.0			4	
3305-01	Deepwater Fording Pressurization Valve (All Models)	Replace		4.0			4	
3305-02	Deepwater Fording Air Pressure Hose (All Models)	Replace		4.0			4	
3305-03	Deepwater Fording Regulator Valve (All Models)	Replace		4.0			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
3307-00	A-Frame Components (M925, M928, M932, A1/A2)	Replace		2.0			4	Q
3307-01	Fire Extinguisher Mounting Bracket (All Models)	Replace		1.0			4	Q
3307-02	Chemical Agent Alarm Mounting Bracket (All Models)	Replace		4.0			4	Q
3307-03	Lightweight Weapon Station Components (All Models Except M929, M930, M934, M936, A1/A2)	Replace		10.0			1, 4	AB, Q
3307-04	Decontamination (M13) Apparatus and Mounting Bracket (All Models)	Replace		3.0			4	Q
3307-05	Mud Guard Kit (M931, M932, A1/A2)	Repair		0.5			4	Q
3307-06	Rifle Mounting Components (All Models)	Replace		2.1			4	Q
3307-07	Hand Airbrake Air Supply Valves (All Except M931/A1/A2, M923/A1/A2, M933/A1/A2, M936/A1/A2)	Replace		4.1			4	Q

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
3307-08	100-Amp Alternator (All Models)	Replace		2.0			4	Q
3307-09	Convoy Warning Light Mount (All Except M929, M930, M934, A1/A2)	Replace		4.0			4	Q
3307-10	European Mini-Lighting Components (All Models)	Replace		1.4			4	Q
3307-11	Automatic Throttle Components (M936/A1 Only)	Replace		2.5			4	Q
3307-12	Atmospheric Fuel Tank Vent System Components (All Models)	Replace		5.0			4	Q
3307-13	Hydraulic Hose Chafe Guard Components (M929, M930, A1/A2)	Replace		2.0			4	Q
3307-14	Hydraulic Reservoir Drain Components (M929, M930, / A1)	Replace		2.0			1, 4	Q
3307-15	Hydraulic Reservoir Shutoff Components (M936/A1/A2)	Replace		3.0			1, 4	Q

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
3307-16	Van Handrail Components (M934/A1/A2)	Replace		3.0			4	Q
3307-17	Exhaust Heat Shield Accessory (M929, M930, A1/A2)	Replace		1.0			4	Q
3307-18	Seatbelt (All Models)	Replace		4.5			1, 4	
3307-19	Hand Airbrake Controller Valve (All Except M931/A1/A2, M932/A1/A2, M933/A1/A2, M936/A1/A2)	Replace		1.0			4	
3307-20	100-Amp Alternator Harness (All Models)	Replace		2.0			4	
3307-21	100-Amp Voltage Regulator (All Models)	Replace		1.5			4	
3307-22	Convoy Warning Light Mount (M934/A1/A2)	Replace		3.0			4	
3307-23	Convoy Warning Light Mount (M929/A1/A2, M930/A1/A2)	Replace		3.0			4	
3307-24	Convoy Warning Light Harness (All Models Except M929/A1/A2,	Replace		1.5			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
3307-25	M930/A1/A2, M934/A1/A2)  Convoy Warning Light Harness (M929/A1/A2, M930/A1/A2)	Replace		1.5			4	
3307-26	Convoy Warning Light Harness (M934/A1/A2)	Replace		1.5			4	
3307-27	Convoy Warning Light (All Models)	Replace		1.0			4	
3307-28	Convoy Warning Light Switch (All Models)	Replace		1.0			4	
3307-29	Pioneer Tool Bracket (M923, M925, M927, M928, M929/ A1, M930/A1, M931, M932)	Replace		1.0			4	
3307-30	Hand Airbrake Double Check Valves (All Except M931, M932, M936, A1/A2)	Replace		1.5			4	
3307-31	Hand Airbrake Tractor Protection Valve (All Except M931, M932, M936, A1/A2)	Replace		1.5			4	
3307-32	Convoy Warning Light Relay and	Replace		0.5			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
4316-00	Leads (All Models) All Fabrication of Air Lines (All Models)	Replace		0.6			4	E
4316-01	Air Dryer (All Models Except M936/A1/A2)	Replace		3.0			4	
4316-02	Air Dryer (M936/A1/A2)	Replace		3.0			4	
4317-00	Relief Safety Valve (M939A2)	Replace		4.5			4	
4317-01	Pneumatic Controller and Relief Valve (M939A2)	Replace		1.0			1, 4	
		Repair		2.7			1, 4	
4317-02	Water Separator (M939A2)	Replace		2.0			4	
4317-03	Pressure Transducer (M939A2)	Replace		1.0			4	
4317-04	Electronic Control Unit (ECU) (M939A2)	Replace		0.9			4	
4701-01	Speedometer Driveshaft (All Models)	Repair		2.0			1, 4	
4701-02	Speedometer And Tachometer	Replace		1.6			4	

**Table 1. MAINTENANCE ALLOCATION CHART (MAC) - Continued.**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
4701-03	Tachometer Driveshaft	Replace		1.0			1, 4	
		Repair		1.6			4	
4702-00	Air Gauge (All Models)	Replace		1.2			4	

**Table 2. Tools and Test Equipment Requirements.**

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	F	SATS - Base	4910-01-490-6453	SC4910-95-A81
2	F	Tool Set, SATS, Mod 1	4910-01-501-7342	SC4910-95-A82
3	F	Tool Set, SATS, Mod 2	4910-01-501-7343	SC4910-95-A83
4	F	General Mechanic's Tool Kit	5180-01-548-7634	PD484
5	F	Bearing Punch	5120-01-285-5192	12450175
6	F	Air Seal Installer Insertter, Seal	5120-01-285-7620	12450174
7	F	Air Gauge Assembly	5220-01-298-5730	20511320
8	F	Tube Reducer	4730-01-284-9086	23622
9	F	Shop Set, Glass Cutting, Vehicle Repair	5180-00-357-7737	SC4940-95-CL-A18
10	F	Arbor Press Hand	3444-00-449-7295	AA59384-12A060
11	F	Lift, Transmission and Differential	4910-00-585-3622	49
12	F	Barring Tool, Engine	4910-00-150-5798	ST747
13	F	Belt Tensioner Gauge	5220-01-141-5776	ST-1138
14	F	Insertter, Seal	5120-01-15-1161	J-26282
15	F	Remover, Sealer	5120-01-118-6264	J-26401
16	F	Insertter, Seal	5120-01-132-5466	J-24620-A
17	F	Puller Kit, Universal	5120-01-048-2153	J-24171-A
18	F	Insertter, Bearing and Bushing	5120-01-054-4052	J-24451
19	F	Remover, Bearing and Bushing	5120-00-378-4301	7950127
20	F	Remover, Seal Retainer	5120-00-146-9628	2587255
21	F	Pliers, Brake Repair	5120-01-152-2318	7069A
22	F	Adjusting Tool, Brake Shoe	5120-01-154-3029	J-34061
23	F	Wheel Assembly Tool	4910-01-218-4490	J35193
24	F	Tester, Cylinder Compression	4910-00-250-2423	MILT13011B
25	F	Nozzle Cleaning Kit	2915-01-285-2527	3376947
26	F	Seal, Insertter	5120-00-795-0136	7950136
27	F	Wrench, Wheel Stud Nut, Geared Socket	5120-00-378-4411	DWG5120-00-378-44 11



**Table 3. Remarks.**

REMARK CODE	REMARKS
A	Perform PMCS as shown in TM 9-2320-272-10 & TM 9-2320-272-23-2.
B	Engine overhaul will be in accordance with NMWR 9-2815-278.
C	Engine overhaul Cummins 8.3 will be in accordance with NMWR 9-2815-277.
D	Welding will be in accordance with TM 9-237.
E	Repair of lines and fittings will be in accordance with TM 9-243.
F	Test and repair of radiator will be in accordance with TM 750-254.
G	Repair of M939 and A1 starters will be in accordance with MNWR 9-2920-326.
H	Service of batteries will be in accordance with TM 9-6140-200-14.
I	Transmission overhaul will be in accordance with NMWR 9-2520-594.
J	Transfer overhaul will be in accordance with NMWR 9-2520-595.
K	Overhaul of front and rear axle will be in accordance with NMWR 9-2520-596.
L	Tires/Tubes: Repair and Inspection TM 9-2610-200-14 Storage TM 743-200-1.
M	Repair of frames will be in accordance with TB 2300-247-40.
N	Metal body repair will be in accordance with FM 43-20.
O	Overhaul of front winch will be in accordance with TM 9-272-24.
P	Overhaul of rear winch will be in accordance with NMWR 9-2540-230.
Q	Refer to kit installation instructions of kit installation.
R	Inspection of brake lines will be in accordance with TB 9-2300-405-14.
S	Service/inspection of winch/hoist rope/cables will be in accordance with TB 43-0142 and TB 9-0352.
T	Repair of heaters will be in accordance with TM 9-2540-205-24&P.
U	Repair of canvas will be in accordance with FM 10-16.
V	M939 Basic 5-Ton Truck Series w/ ABS and w/o ABS will be in accordance with NMWR 9-2530-526.
W	Tire/Wheel Assembly M939A1 and A2 will be in accordance with NMWR 9-2530-524.
X	Repair of Hoist Winch will be in accordance with TM 9-2320-260-34-2.
Y	Repair of Transfer case will be in accordance with NMWR 9-2520-595.
Z	For Tire inspections see TM 9-2610-00-24.
AA	NMWR in Progress.
AB	Suitable lifting device with proper lifting capability.
AC	Terminal item, use until exhausted.

**Table 3. Remarks - Continued.**

REMARK CODE	REMARKS
AD	Refer to TM 9-2320-272-10 for tools information.
AE	Refer to TM 272-24.
AF	Refer to TM 9-2320-360-24.
AG	Refer to TM 9-2320-272-23.
AH	Bracket has to be locally manufactured.
AI	Refer to TM 43-0139 for cleaning and painting.

**END OF WORK PACKAGE**

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**FIELD MAINTENANCE  
EXPENDABLE/DURABLE ITEMS LIST**

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## **INTRODUCTION**

### **Scope**

This work package lists expendable and durable items that you will need to operate and maintain the M939, M939A1, and M939A2 series vehicles. This list is for information only and is not authority to requisition the listed items. These items are authorized to you by the CTA 50-970, Expendable/Durable Items (Except Medical, Class V Repair Parts, and Heraldic Items), CTA 50-909, Field and Garrison Furnishings and Equipment or CTA 8-100, Army Medical Department Expendable/Durable Items.

### **Explanation of Columns in the Expendable/Durable Items List**

Column (1) - Item No. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item (e.g., Use brake fluid (WP 0098, Item 5).

Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item.

- C - Crew
- F - Maintainer
- H - Below depot
- D - Depot

Column (3) - National Stock Number (NSN). This is the NSN assigned to the item which you can use to requisition it.

Column (4) - Item Name, Description, Part Number/(CAGEC). This column provides the other information you need to identify the item. The last line below the description is the part number and the Commercial and Government Entity Code (CAGEC) (in parentheses).

Column (5) - U/I. Unit of Issue (U/I) code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

Table 1. Expendable/Durable Supplies and Materials List.

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER (NSN)	(4) ITEM NAME, DESCRIPTION, PART NUMBER/ (CAGEC)	(5) U/I
<b>Adhesive, Silicone Rubber, MMM-A-189</b>				
1	F	8040-00-543-7170	Adhesive, Silicone Rubber, MMM-A-189 34819R (24617)	PT
<b>Adhesive, Silicone Rubber, MMM-A-1617</b>				
2	F	8040-00-262-9005	Adhesive, Silicone Rubber, MMM-A-1617 1357 (79819)	GAL
<b>Adhesive, Silicone Rubber: RTV102</b>				
3	F	8040-00-833-9563	Adhesive, Silicone Rubber: RTV102 MIL-A-46106 (81349)	KT
<b>Adhesive, Silicone Rubber, 732RTV</b>				
4	F	8040-00-728-3088	Adhesive, Silicone Rubber, 732RTV 1199-T-3842 (78500)	KT
<b>Antifreeze: Arctic Grade, Permanent Type</b>				
5	F	6850-01-441-3248	Antifreeze: Arctic Grade, Permanent Type A-A-52624 (58536)	DR
<b>Antifreeze: Ethylene Glycol, Permanent Type, Inhibited</b>				
6	F	6850-01-464-9125	Antifreeze: Ethylene Glycol, Permanent Type, Inhibited 1 Gallon Container A-A-52624 (58536)	GAL
7	F	6850-00-181-7933	Antifreeze: Ethylene Glycol, Permanent Type, Inhibited 5 Gallon Container MILA-46153 (81349)	CO
8	F	6850-01-441-3223	Antifreeze: Ethylene Glycol, Permanent Type, Inhibited 55 Gallon Drum A-A-52624 (58536)	DR
<b>Antiseize Compound</b>				
9	F	8030-00-251-3980	Antiseize Compound 76764 (05972)	LB
<b>Bag, Plastic</b>				
10	F	8105-00-837-7754	Bag, Plastic A-A-1799 (58536)	MX
<b>Bottles, Oil Sample</b>				
11	F	8125-01-082-9697	Bottles, Oil Sample MIL-B-44054 TY1 (81349)	BX
<b>Bulk, Oil, Lubricating, Engine, Arctic (Ice, Sub-Zero) OES SAE 0W-20</b>				
12	F	9140-00-286-5283	Bulk, Oil, Lubricating, Engine, Arctic (Ice, Sub-Zero) OES SAE 0W-20 MIL-PRF-46167 (8139)	GAL

Table 1. Expendable/Durable Supplies and Materials List - Continued.

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER (NSN)	(4) ITEM NAME, DESCRIPTION, PART NUMBER/ (CAGEC)	(5) U/I
<b>Cap Set, Protective, Dust and Moisture Seal</b>				
13	F	5340-00-450-5718	Cap Set, Protective, Dust and Moisture Seal 10935405 (19207)	EA
<b>Caulking Compound: Rubber Synthetic</b>				
14	F	8030-00-682-6745	Caulking Compound: Rubber Synthetic 1050 (IETM3)	KT
<b>Cleaning Compound Kit: Engine Cooling System</b>				
15	F	6850-00-598-7328	Cleaning Compound Kit: Engine Cooling System MIL-C-10597 (81349)	KT
<b>Cleaning Compound, Solvent</b>				
16	F	6850-01-277-0595	Cleaning Compound, Solvent 5 Gallon 134-HI-SOLV (59557)	CN
17	F	6850-01-244-3207	Cleaning Compound, Solvent 5 Gallon Drum 134-HI-SOLV (59557)	DR
<b>Cloth, Abrasive: Crocus</b>				
18	F	5350-00-221-0872	Cloth, Abrasive: Crocus ANSI B74.18 (80204)	PG
<b>Cloth, Cleaning: General Purpose, White</b>				
19	F	7920-00-044-9281	Cloth, Cleaning: General Purpose, White MIRACLEWIPEL001 (51200)	BX
<b>Coating, Polyurethane, CARC Green 383</b>				
20	F	8010-01-160-6741	Coating, Polyurethane, CARC Green 383 M46168-2-34094-1Q1/2P (81349)	KT
<b>Diesel Fuel, DF-2, Regular</b>				
21	F	9140-00-286-5296	Diesel Fuel, DF-2, Regular 55 Gallon Drum, 16 Gauge ASTMD975 (81346)	DR
22	F	9140-00-286-5297	Diesel Fuel, DF-2, Regular 55 Gallon Drum, 18 Gauge ASTMD975 (81346)	DR
23	F	9140-00-286-5294	Diesel Fuel, DF-2, Regular Bulk ASTMD975 (81346)	GAL
<b>Diesel Fuel, DF-1, Winter</b>				
24	F	9140-00-286-5288	Diesel Fuel, DF-1, Winter 55 Gallon Drum, 16 Gauge ASTMD975 (81346)	DR
25	F	9140-00-286-5289	Diesel Fuel, DF-1, Winter 55 Gallon Drum, 18 Gauge ASTMD975 (81346)	DR
26	F	9140-00-286-5286	Diesel Fuel, DF-1, Winter Bulk ASTMD975 (81346)	GAL

Table 1. Expendable/Durable Supplies and Materials List - Continued.

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER (NSN)	(4) ITEM NAME, DESCRIPTION, PART NUMBER/ (CAGEC)	(5) U/I
<b>Graphite, Dry</b>				
27	F	9620-00-233-6712	Graphite, Dry SSG659 (81348)	LB
<b>Grease, Automotive and Artillery: 14 Ounce Can</b>				
28	F	9150-01-197-7693	Grease, Automotive and Artillery: 14 Ounce Can M-10924-B (81349)	CA
<b>Grease, Automotive and Artillery</b>				
29	F	9150-01-197-7688	Grease, Automotive and Artillery 2-1/4 Ounce Tube M-10924-A (81349)	TU
30	F	9150-01-197-7690	Grease, Automotive and Artillery 1-3/4 Pound Can M-10924-C (81349)	CN
31	F	9150-01-197-7689	Grease, Automotive and Artillery 6-1/2 Pound Can M-10924-D (81349)	CN
32	F	9150-01-197-7692	Grease, Automotive and Artillery 35 Pound Can M-10924-E (81349)	CN
33	F	9150-01-197-7691	Grease, Automotive and Artillery 120 Pound Drum M-10924-F (81349)	DR
<b>Hose, Nonmetallic: Rubber Synthetic, Black, Fuel/Oil Resistant</b>				
34	F	4720-00-845-0630	Hose, Nonmetallic: Rubber Synthetic, Black, Fuel/Oil Resistant C2AZ9324A (57526)	FT
<b>Hydraulic Fluid: SAE 15W40 (O-1236)</b>				
35	F	9150-00-402-2372	Hydraulic Fluid: SAE 15W40 (O-1236) MIL-L-46167 (81349)	CN
<b>Lubricating Oil, Engine: OE/HDO 10W</b>				
36	F	9150-00-189-6727	Lubricating Oil, Engine: OE/HDO 10W 1 Quart Can M2104-1-10W (81349)	QT
37	F	9150-00-186-6668	Lubricating Oil, Engine: OE/HDO 10W 5 Gallon Drum M2104-3-10W (81349)	CN
38	F	9150-00-191-2772	Lubricating Oil, Engine: OE/HDO 10W 55 Gallon Drum M2104-4-10W (81349)	DR

**Table 1. Expendable/Durable Supplies and Materials List - Continued.**

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER (NSN)	(4) ITEM NAME, DESCRIPTION, PART NUMBER/ (CAGEC)	(5) U/I
<b>Lubricating Oil, Engine: OE/HDO 30W</b>				
39	F	9150-00-186-6681	Lubricating Oil, Engine: OE/HDO 30W 1 Quart Can M2104-1-30W (81349)	QT
40	F	9150-00-188-9858	Lubricating Oil, Engine: OE/HDO 30W 5 Gallon Can M2104-3-30W (81349)	CN
41	F	9150-00-189-6729	Lubricating Oil, Engine: OE/HDO 30W 55 Gallon Drum M2104-4-30W (81349)	DR
42	F	9150-00-183-7808	Lubricating Oil, Engine: OE/HDO 30W Bulk M2104-2-30W (81349)	GAL
<b>Lubricating Oil, Exposed Gear: CW</b>				
43	F	9150-00-234-5197	Lubricating Oil, Exposed Gear: CW WL751 (81348)	CN
<b>Lubricating Oil, Gear, Multipurpose: GO 75W90</b>				
44	F	9150-01-035-5390	Lubricating Oil, Gear, Multipurpose: GO 75W90 1 Quart Can M2105-1-75W (81349)	QT
45	F	9150-01-035-5391	Lubricating Oil, Gear, Multipurpose: GO 75W90 5 Gallon Can M2105-3-75W (81349)	CN
46	F	9150-01-422-9342	Lubricating Oil, Gear, Multipurpose: GO 75W90 55 Gallon Drum J2360 (81349)	GAL
47	F	9150-01-496-1962	Lubricating Oil, Gear, Multipurpose: GO 75W90 Bulk MIL-PRF-2104 (81349)	GAL
<b>Lubricating Oil, Gear, Multipurpose: GO 80W90</b>				
48	F	9150-01-035-5392	Lubricating Oil, Gear, Multipurpose: GO 80W90 1 Quart Can M2105-80W90 (81349)	QT
49	F	9150-01-035-5393	Lubricating Oil, Gear, Multipurpose: GO 80W90 5 Gallon Can J2360 (81343)	CN
50	F	9150-01-035-5394	Lubricating Oil, Gear, Multipurpose: GO 80W90 55 Gallon Drum J2360 (81343)	DR
<b>Petrolatum, Technical: Oil-Soluble Grease (Vaseline)</b>				
51	F	9150-00-250-0933	Petrolatum, Technical: Oil-Soluble Grease (Vaseline) PX7-5POUNDCAN (K0851)	CN
<b>Primer Coating: Zinc Chromate</b>				
52	F	0010-00-145-0312	Primer Coating: Zinc Chromate TTP1757-1CG-001P (81348)	PT

**Table 1. Expendable/Durable Supplies and Materials List - Continued.**

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER (NSN)	(4) ITEM NAME, DESCRIPTION, PART NUMBER/ (CAGEC)	(5) U/I
<b>Rag, Wiping</b>				
53	F	7920-00-205-1711	Rag, Wiping 7920-00-205-1711 (64067)	BE
<b>Sack, Shipping</b>				
54	F	8105-00-290-0340	Sack, Shipping A-A-160 (58536)	BX
<b>Sealing Compound: Loctite 75</b>				
55	F	8030-00-180-6222	Sealing Compound: Loctite 75 60931 (05972)	BT
<b>Sealing Compound: Loctite 242</b>				
56	F	8030-01-014-5869	Sealing Compound: Loctite 242 24231 (05972)	BT
<b>Sealing Compound: Loctite 277</b>				
57	F	8030-00-204-9149	Sealing Compound: Loctite 277 392050 (61603)	TU
<b>Sealing Compound: Loctite 592-31 (pipe sealing compound)</b>				
58	F	8030-01-054-0740	Sealing Compound: Loctite 592-31 (pipe sealing compound) 59231 (05972)	BX
<b>Sealing Compound: Permatex No. 1 (hardening)</b>				
59	F	8030-00-247-2525	Sealing Compound: Permatex No. 1 (hardening) 828732 (19203)	TU
<b>Sealing Compound: Permatex No. 2 (non-hardening)</b>				
60	F	8030-00-252-3391	Sealing Compound: Permatex No. 2 (non-hardening) 1756371 (80064)	TU
<b>Sealing Compound: Permatex No. 51H (pipe joint compound)</b>				
61	F	8030-00-503-0316	Sealing Compound: Permatex No. 51H (pipe joint compound) 80044 (1PBQ8)	BT
<b>Sealing Compound: Liquid Resin, Nonhardening, Type III</b>				
62	F	8030-00-656-1426	Sealing Compound: Liquid Resin, Nonhardening, Type III MIL-S-45180 (81349)	PT
<b>Sodium Bicarbonate, Technical</b>				
63	F	6810-00-264-6618	Sodium Bicarbonate, Technical AA374-2 (58536)	LB



**Table 1. Expendable/Durable Supplies and Materials List - Continued.**

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER (NSN)	(4) ITEM NAME, DESCRIPTION, PART NUMBER/ (CAGEC)	(5) U/I
<b>Solder, Tin Alloy: Rosin Core, 60/40, 0.094 Inch</b>				
64	F	3439-00-224-3567	Solder, Tin Alloy: Rosin Core, 60/40, 0.094 Inch SN60WRAP3 0.094 5LB (81346)	SL
<b>Tape, Antiseizing: Pipe Thread Tape, White</b>				
65	F	8030-00-889-3535	Tape, Antiseizing: Pipe Thread Tape, White P5025-2R (81755)	EA
<b>Tape, Insulation, Electrical: 3/4 Inch Wide, 360 Inches Long, Black</b>				
66	F	5970-01-189-6927	Tape, Insulation, Electrical: 3/4 Inch Wide, 360 Inches Long, Black MIL-I-24391 (81349)	RO
<b>Tape, Pressure Sensitive Adhesive: Masking, 1/2 Inch Wide</b>				
67	F	7510-00-290-2023	Tape, Pressure Sensitive Adhesive: Masking, 1/2 Inch Wide 162K-1/2 (0X796)	RO
<b>Twine, Fibrous: Cotton (string), 16 ply</b>				
68	F	4020-00-291-5901	Twine, Fibrous: Cotton (string), 16 ply AA1451-16B (58536)	LB
<b>Wire, Nonelectrical: Safety Wire</b>				
69	F	9525-00-990-7799	Wire, Nonelectrical: Safety Wire MS20995NC40 (80205)	LB
<b>Wire, Nonelectrical: Steel</b>				
70	F	9505-00-198-9125	Wire, Nonelectrical: Steel 22W1642-125 (80244)	LB
<b>Wood Preservative</b>				
71	F	8030-00-222-0503	Wood Preservative MIL-S-13518 (81349)	GAL
<b>Wood, Laminated, Decking: Red or White Oak</b>				
72	F	5510-00-270-6031	Wood, Laminated, Decking: Red or White Oak 13219E0079 (97403)	EA

**END OF WORK PACKAGE**



**FIELD MAINTENANCE  
TOOL IDENTIFICATION LIST**

**INTRODUCTION**

**Scope**

This work package lists all common tools and supplements and special tools/fixtures needed to maintain the M939.

**Explanation of Columns in the Tool Identification List**

Column (1) - Item No. This number is assigned to the entry in the list and is referenced in the initial setup to identify the item (e.g., Extractor (WP 0090, Item 32).

Column (2) - Item Name. This column lists the item by noun nomenclature and other descriptive features (e.g., Gage, belt tension).

Column (3) - National Stock Number (NSN). This is the National Stock Number (NSN) assigned to the item; use it to requisition the item.

Column (4) - Part Number/(CAGEC). 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. The manufacturer's Commercial and Government Entity Code (CAGEC) is also included.

Column (5) - Reference. This column identifies the authorizing supply catalog or RPSTL for items listed in this work package.

**Table 1. Tool Identification List.**

(1) ITEM NO.	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER (NSN)	(4) PART NUMBER /(CAGEC)	(5) REFERENCE
1	Adapter, Connector	5935-00-322-8959	11677570 19207	SATS
2	Adjusting Tool	4910-00-150-5805	MA326-21373 34623	SATS
3	Adjusting Tool, Brake Shoe	5120-01-154-3029	J-34061 33287	SATS
4	Air Gauge Assembly	5220-01-298-5730	20511320 05MG0	
5	Bar, Pinch, 26 in.	-	KTC S0127	SATS
6	Bar, Wrecking: 30 INCHES	-	KTC S0129	SATS
7	Barring Tool, Engine	4910-00-150-5798	ST-747 15434	Special Tool

**Table 1. Tool Identification List - Continued.**

(1) ITEM NO.	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER (NSN)	(4) PART NUMBER /(CAGEC)	(5) REFERENCE
8	Barring Tool, Gear	5120-01-285-5193	3824591	Special Tool
9	Belt, Tension Gauge	5220-01-141-5776	ST-1136	Special Tool
10	Burnisher, Injector Orifice	5120-00-999-1503	3376135	Special Tool
11	Caliper Set, Micrometer Outside	5210-00-554-7134	02-0866-9700	4910-95-CL-A63
12	Caliper, Micrometer, Inside	4910-01-490-6453	KTC S0998	SATS
13	Caliper, Micrometer, Inside	5210-00-221-1921	124BZ	4910-95-CL-A63
14	Caps, Vise Jaw	4910-01-490-6453	KTC S0153	SATS
15	Chain Assembly	4010-00-443-4845	10944642-2 19207	SATS
16	Drill Bit 21/64	4910-01-490-6453	KTC S6250	SATS
17	Engine and Transmission Sling	4910-01-353-2519	J-36130-812 33287	SATS
18	Gage, Wheel Alignment	5210-00-529-1205	WA361 76377	SATS
19	Gauge, Pressure	-	PDSS-1P-210 A-004	SATS
20	Goggles, Industrial	-	KTC S0209	SATS
21	Grease Gun	-	KTC S0217	SATS
22	Hammer, Soft Face	-	KTC S0227	SATS
23	Heat Gun, Electric	4940-01-028-7493	EP-5UL 59164	Special Tool
24	High Boy Jack Stands	4910-01-490-6453	KTC S10001	SATS
25	Indicator, Dial	4910-01-490-6453	KTC S1019	SATS
26	Insertor, Bearing and Bushing	5120-01-054-4052	J-24451 33287	Special Tool
27	Insertor, Seal	5120-01-285-7620	12450174	
28	Insertor, Seal	5120-01-132-5466	J-24620-A 33287	Special Tool

Table 1. Tool Identification List - Continued.

(1) ITEM NO.	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER (NSN)	(4) PART NUMBER /(CAGEC)	(5) REFERENCE
29	Insertor, Seal	5120-00-795-0136	7950136 19207	SATS
30	Insertor, Seal	5120-01-115-1161	J-26282	SATS
31	Jack, Bottle	4910-01-490-6453	KTC S0237	SATS
32	Jack Dolly Type Hydraulic	4910-00-289-7233	93660 36251	SATS
33	Lift, Transmission and Differential	4910-00-585-3622	KTC S6604	SATS
34	Multimeter	4910-01-490-6453	KTC S0252	SATS
35	Multiplier, Torque	4910-01-490-6453	KTC S0253	SATS
36	Oil Filter Wrench	4910-01-490-6453	KTC S0981	SATS
37	Oil Primer Pump	5120-01-217-9642	1P0540 11083	SATS
38	Pliers, Brake Repair	5120-01-152-2318	J-33111 33287	Special Tool
39	Press, Arbor, Hand Operated	3444-004497295	AA59384-12A 060	SATS
40	Pressure Checking K	4910-00-792-8304	3005456 61465	Special Tool
41	Puller Kit, Mechanical	4910-01-490-6453	KTC S0269	SATS
42	Puller Kit, Universal	5120-01-048-2153	J-24171-A 33287	Special Tool
43	Puller Kit, Universal	4910-01-490-6453	KTC S1035	SATS
44	Punch Set, Cutting	4910-01-490-6453	KTC S0274 00BM9	SATS
45	Punch, Bearing	5120-01-285-5192	20511262 9H246	Special Tool
46	Remover, Bearing and Bushing	5120-00-378-4301	7950127 19207	Special Tool
47	Replacer, Bearing	5120-00-795-0129	7950129 19207	Special Tool

**Table 1. Tool Identification List - Continued.**

(1) ITEM NO.	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER (NSN)	(4) PART NUMBER /(CAGEC)	(5) REFERENCE
48	Remover, Seal	5120-01-118-6264	J-26401 33287	Special Tool
49	Remover, Seal Retainer	5120-00-146-9628	2587255 80064	Special Tool
50	Spring Pack Tool	4910-00-150-5805	ST-984 15434	SATS
51	Test Set, Electronic Systems	6625-01-536-1764	13612761 18876	
52	Tester, Cylinder Compression	4910-00-250-2423	MILT13011B 81349	SATS
53	Tester, Spring Resiliency	6635-00-182-7534	L20 92456	SATS
54	Tool Kit, Blind, Fastener	-	KTC S0700	SATS
55	Tool Kit, Electrical Contact	5180-00-876-9336	7550526	4910-95-CL-A31
56	Tool Kit, General Mechanic's: Automotive	5180-01-548-7634	PD484 19200	
57	Torch Kit, Soldering	3439-00-542-0531	A-A-51128	4910-95-CL-A74I
58	Trestle, Jackstand	4910-01-490-6453	KTC S6607	SATS
59	Vise, Machinist's	4910-01-490-6453	KTC S0725	SATS
60	Wrench, Box	5120-01-178-5351	CXM1519	SATS
61	Wrench, Torque, Click, Ratcheting, 3/4" Drive, 600 Ft-Lb	4910-01-490-6453	KTC S0988	SATS
62	Wrench, Torque, Click, Ratcheting, 3/8" Drive, 75 Ft-Lb	4910-01-490-6453	KTC S0989	SATS
63	Wrench, Torque, Click, Ratcheting, 1/2" Drive, 250 Ft-Lb	4910-01-490-6453	KTC S0991	SATS
64	Wrench, Wheel Stud Nut, Geared Socket	5120-00-378-4411	DWG5120-00 -378-4411 80244	SATS

**END OF WORK PACKAGE**

**FIELD MAINTENANCE  
MANDATORY REPLACEMENT PARTS LIST**

**INTRODUCTION**

**General**

This work package is a cross-reference of item numbers to part numbers and is included for that purpose only.

**Explanation of Columns in the Mandatory Replacement Parts List**

The five table columns of have the following headings:

Column (1) - Item No. This number is assigned to the entry in Table K-1 for cross-referencing to the part number. The item number appears in the "Materials/Parts" listing of each maintenance procedure.

Column (2) - Part Number/(CAGEC). This is the primary number used by the manufacturer, 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.

Column (3) - National Stock Number (NSN). When available, the national stock number is listed.

Column (4) - Nomenclature. This is the name given to the item in the "Materials/Parts" listing and in the text of the maintenance procedure.

Column (5) - Qty. Refer to the Materials/Parts section in the Initial Setup of the Maintenance Task for required quantities of item needed.

**Table 1. MANDATORY REPLACEMENT PARTS LIST.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
1	00265-0014 79343	5330-00-246-0309	Gasket	A/R
2	004-003005-059 44616	5310-00-004-5034	Lockwasher	A/R
3	02764 14153	5330-01-377-9775	Gasket	A/R
4	02781 14153	5330-01-388-3068	Gasket	A/R
5	02788 14153	5330-01-382-1450	Gasket	A/R
6	028435 77640	5310-01-161-6131	Flat Washer	A/R
7	02957 14153	5330-01-413-8543	Gasket	A/R
8	03070 14153	5330-01-431-6771	Gasket	A/R
9	0740710	5315-00-185-0037	Cotter Pin	A/R

Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
	S3002			
10	100478 15434	5331-00-081-9289	O-ring	A/R
11	10166 60602	5315-01-284-9812	Lock Pin	A/R
12	10876131 19207	5330-00-522-1174	Gasket	A/R
13	10883157 19207	5305-00-139-7074	Spring Center Bolt	A/R
14	10899995 19207	5330-00-182-3489	Gasket	A/R
15	10900090 19207	5330-00-064-3691	Gasket	A/R
16	10900101 19207	5365-00-185-7835	Shim	A/R
17	10937683-2X35 19207	-	Seal	A/R
18	10938292 19207	5330-00-145-8355	Oil Seal	A/R
19	10938454 19207	5330-00-419-5875	Gasket	A/R
20	110453 15434	5330-00-143-8371	Gasket	A/R
21	110827 15434	5330-00-785-7894	Retaining Ring	A/R
22	114638 15434	5310-00-887-8325	Key Washer	A/R
23	11592566 19207	5330-00-414-6695	Gasket	A/R
24	11607302 19207	5330-00-340-3637	Seal	A/R
25	11607302-24 19207	-	Seal	A/R
26	11607302-78 19207	-	Seal	A/R
27	11609727-2 19207	5310-00-176-6690	Locknut	A/R



Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.

ITEM NO.	PART NUMBER (CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
28	1164 78500	2530-01-278-7364	Adjuster Parts Kit	A/R
29	1164243 19207	5306-00-238-5661	Springtite Assembly	A/R
30	11663365	5330-01-054-4011	Gasket	A/R
31	11664480 R87 19207	5330-01-514-4992	Gasket	A/R
32	11665738 19207	2510-01-180-6164	Sill, Wood	A/R
33	11669023 19207	5330-01-023-0269	Oil Seal	A/R
34	11674729 19207	5330-01-059-4286	Gasket	A/R
35	11682323-1 19207	-	Sill, Wood	A/R
36	11682323-2 19207	-	Sill, Wood	A/R
37	11682324-1 19207	-	Sill, Wood	A/R
38	11682324-2 19207	-	Sill, Wood	A/R
39	120380 12204	5310-00-209-2946	Lockwasher	A/R
40	1205-Y-1633 78500	5330-01-137-4799	Parking	A/R
41	12200656 80201	5330-01-150-9691	Seal	A/R
42	12255817 19207	5330-01-379-4345	Gasket	A/R
43	12256082-1 19207	5330-01-374-0400	Gasket	A/R
44	12256106 19207	5330-01-120-8454	Rubber Seal	A/R
45	12256372 19207	5340-01-104-9012	Tiedown Strap	A/R
46	12256707 19207	5340-01-104-7843	Insulator	A/R

**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
47	12256738-1 19207	5365-01-110-8183	Shim	A/R
48	1227128 19207	5330-01-115-0604	Gasket	A/R
49	122761702 19207	5310-00-949-6280	Locknut	A/R
50	12277066 19207	9320-01-109-5696	Rubberstock Molding	A/R
51	1229-H-2816 78500	5325-01-126-7264	Snapping	A/R
52	1229-S-513-C 78500	5310-01-062-3384	Lockwasher	A/R
53	1229U-2829 78500	5325-01-129-6849	Snapping	A/R
54	12302744 19207	5330-01-209-7354	Seal	A/R
55	12356666 19207	2910-00-152-2033	Fluid Pressure Kit	A/R
56	1235675 19207	5330-01-299-6616	Gasket	A/R
57	12356773 19207	5310-01-133-5847	Washer, Flat	A/R
58	12368265 19207	9390-01-285-9623	Weather Seal	A/R
59	130226 15434	5330-00-106-6370	Gasket	A/R
60	130240 15434	5330-00-106-6369	O-ring	A/R
61	131245 21450	5310-00-013-1245	Locknut	A/R
62	132661 00198	5310-00-637-9541	Lockwasher	A/R
63	133 42280	5330-00-338-4460	Rod Seal	A/R
64	134530 24617	5310-01-186-7702	Nut, Plain, Assembled	A/R
65	137159	5315-00-013-7159	Cotter Pin	A/R

Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.

ITEM NO.	PART NUMBER (CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
	72582			
66	13Y4245 61465	5330-00-741-1154	Felt Washer	A/R
67	14079550 7X677	5330-00-107-3925	Gasket	A/R
68	145504 15434	5330-01-051-4243	Packing, Preformed	A/R
69	145530 15434	5331-01-201-3623	O-ring	A/R
70	14648300 15434	2910-00-790-8736	Filter	A/R
71	153518 33457	5330-01-044-2096	Gasket	A/R
72	153528 15434	5310-00-927-4373	Packing Assembly	A/R
73	154087 62983	5330-00-772-7657	Packing Preformed	A/R
74	154088 15434	5330-00-961-9470	Gasket	A/R
75	157551 15434	5330-00-143-8376	Gasket	A/R
76	158139/W153525 15434	2940-00-404-3057	Filter Kit	A/R
77	178556 12204	5310-00-017-8556	Lockwasher	A/R
78	1790522K 78222	2530-01-339-7913	Steering Parts Kit	A/R
79	181466 15434	5310-00-484-1718	Lockwasher	A/R
80	182595 66503	5331-00-285-9842	O-ring	A/R
81	1844-J-634 3D6E9	2520-01-132-6847	Oil Sleeve	A/R
82	186780 15434	5330-00-864-5422	Seal	A/R
83	187527 24617	5306-00-018-7527	Assembled Bolt with Washer	A/R

**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
84	187995 24617	5305-00-696-5285	Screw Assembled Lockwasher	A/R
85	188318 15434	5330-01-301-1761	Seal	A/R
86	2 423 450 005 5T151	5305-01-336-0006	Breakoff Screw	A/R
87	2 916 699 132 53867	5310-01-301-7811	Lockwasher	A/R
88	20510093-24Z 05MG0	4330-01-272-2937	Filter Element Kit	A/R
89	210492N 06853	5310-01-246-4339	Cotter Pin	A/R
90	22-W-1642-100 10001	9505-00-554-0098	Lockwire	A/R
91	2208-S-1033 78500	5330-01-272-1148	Gasket	A/R
92	2208-U-697 26485	5330-01-385-3685	Gasket	A/R
93	2297-N-5630 78500	4730-01-272-0582	Ferrule	A/R
94	23010610 73342	2840-01-141-9503	Seal	A/R
95	2309340 24617	5330-01-347-8162	Gasket	A/R
96	2324V0747-75 02697	5331-01-005-3704	O-ring	A/R
97	287720 04627	5310-01-099-0397	Locknut	A/R
98	29501160 73342	5330-01-120-8090	Gasket	A/R
99	29520052 73342	5310-01-143-0512	Locknut	A/R
100	2DR503 45152	5330-01-289-3135	Gasket	A/R
101	3003156 15434	5330-01-072-8830	Seal	A/R
102	3008017	5330-01-079-6514	Gasket	A/R

Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
	15434			
103	3008591 15434	5330-01-086-3523	Gasket	A/R
104	3008947 15434	5330-01-129-6541	Rubber Strip	A/R
105	3010590 15434	5305-01-119-8621	Screw Assembled Lockwasher	A/R
106	3010596 15434	5305-01-088-6019	Screw Assembled Lockwasher	A/R
107	3010597 15434	5305-01-086-7036	Screw Assembled Lockwasher	A/R
108	3012972 15434	5330-01-131-2967	Gasket	A/R
109	3019116 15434	5331-01-160-7458	O-ring	A/R
110	3020943 15434	5330-00-659-3178	Gasket	A/R
111	3021735 15434	5330-01-082-6985	Gasket	A/R
112	3024709 15434	5330-01-145-5381	Gasket	A/R
113	3031007 15434	5330-01-165-2314	Gasket	A/R
114	3037236 15434	5331-01-331-9293	O-ring	A/R
115	306091200 15434	5330-01-272-1142	Gasket	A/R
116	3069101 15434	5330-00-026-2931	Gasket	A/R
117	3099083 0B8S3	5330-01-147-0748	Oil Pan Gasket	A/R
118	3103015 0B8S3	5326-00-598-5255	Bushing	A/R
119	33069826 15434	5330-01-137-4487	Gasket	A/R
120	33472 79396	2910-01-201-7719	Fuel Filter	A/R

Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
121	35-P-41 95019	5330-01-393-2500	Gasket	A/R
122	357974TA0 01212	5330-01-272-1147	Seal	A/R
123	3652-11 43990	4330-01-243-0055	Fluid Pressure Kit	A/R
124	371 23045085 73342	4710-00-557-5885	Tube Valve Guide	A/R
125	3901798 15434	5310-01-270-8388	Washer	A/R
126	3902425 15434	5310-01-209-0508	Washer	A/R
127	3902466 15434	5330-01-272-1246	Seal	A/R
128	3903380 15434	5330-01-195-5268	Banjo Seal	A/R
129	3903475 15434	5330-01-191-8047	Gasket	A/R
130	3905449 15434	5330-01-271-8307	Gasket	A/R
131	3906216 15434	5310-01-270-8251	Locknut	A/R
132	3908096 15434	5330-01-266-3294	Gasket	A/R
133	3909397 15434	5331-01-272-1120	O-ring	A/R
134	3910260 15434	5330-01-272-1124	Packing Preformed	A/R
135	3910266 15434	5310-01-270-8423	Lockwasher	A/R
136	3910824 15434	5331-01-281-8997	O-ring	A/R
137	3911941 15434	5330-01-272-1146	Gasket	A/R
138	3911942 15434	5330-01-281-9013	Gasket	A/R
139	3912889	5310-01-271-5706	Washer, Sealing	A/R

**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
	15434			
140	3913025 15434	5330-01-302-0780	Gasket	A/R
141	3913027 15434	5330-01-301-1829	Gasket	A/R
142	3913032 15434	5330-01-301-1828	Gasket	A/R
143	3913371 7U263	5310-01-287-5742	Locknut	A/R
144	3913994 15434	5330-01-291-6537	Packing Preformed	A/R
145	3914308 15434	5330-01-271-6404	Gasket	A/R
146	3914310 7U263	5330-01-287-8656	Gasket	A/R
147	3914388 15434	5330-01-190-1905	Gasket	A/R
148	3914708 15434	5310-01-330-8313	Washer, Key	A/R
149	3914896 15434	5310-01-331-9411	Flat Washer	A/R
150	3915800 15434	5330-01-270-8144	Gasket	A/R
151	3916042 15434	5330-01-271-8306	Gasket	A/R
152	3916284 15434	5331-01-272-1122	O-ring	A/R
153	3918171 15434	5310-01-195-1441	Flat Washer	A/R
154	3918174 15434	5330-01-271-5791	Gasket	A/R
155	3918191 15434	5310-01-340-8469	Flat Washer	A/R
156	3920773 15434	5310-01-381-5774	Washer, Flat	A/R
157	3923054 15434	5330-01-190-9555	Gasket	A/R

Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
158	3925955 15434	5307-01-196-4246	Stud, Continuous Thread	A/R
159	3933615 15434	4820-01-490-5742	Bypass Valve	A/R
160	3935032 15434	5331-01-272-1121	O-ring	A/R
161	3936993 15434	5330-01-272-1138	Gasket	A/R
162	393935200 15434	5330-01-272-1143	Gasket	A/R
163	3977395 15434	5310-01-270-8405	Lockwasher	A/R
164	3K0360 K0190	5331-00-948-6482	O-ring	A/R
165	400-821-4490-41 41068	5330-99-876-0431	Gasket	A/R
166	4026171 15434	5330-01-338-4829	Gasket	A/R
167	423568 21450	5305-00-042-3568	Screw Assembled Lockwasher	A/R
168	423569 24617	5306-01-226-0798	Screw Assembled Lockwasher	A/R
169	425567 21450	5305-00-042-5567	Screw Assembled Washer	A/R
170	425648 19207	5305-00-042-5648	Screw Assembled Lockwasher	A/R
171	425841 24617	5306-00-042-5841	Screw Assembled Lockwasher	A/R
172	455176 63005	5305-01-225-2106	Screw Assembled Lockwasher	A/R
173	4591SCR 01212	5330-01-271-9410	Oil Seal	A/R
174	4H2662 11083	5365-00-598-5255	Seal	A/R
175	50161-2 60602	5330-01-285-1601	Gasket	A/R
176	51649	2940-01-157-6309	Filter	A/R



Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.

ITEM NO.	PART NUMBER (CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
	79396			
177	5225875 19207	5306-00-281-1651	Bolt Machine	A/R
178	522875	-	Screw	A/R
179	5518441 78222	5330-01-341-6583	Gasket and Seal Set	A/R
180	55602H 89346	3120-00-770-2941	Bushing	A/R
181	5704273 19207	4820-01-093-5785	Load Check Valve Kit	A/R
182	5704274 19207	2590-00-606-2383	Parts Kit, Winch	A/R
183	599791 52304	4460-01-284-2344	Filter	A/R
184	599911 52304	2530-01-284-4288	Relay Valve Kit	A/R
185	599913 52304	2530-01-284-4287	Relay Valve Kit	A/R
186	6-1-5866-17 81337	5310-01-130-9065	Lockwasher	A/R
187	6-32 1-4 78189	5305-00-638-0714	Screw Assembled Lockwasher	A/R
188	6-8-32 60528	5330-00-740-9550	Seal Assembly	A/R
189	60190 5P059	5342-01-101-0005	Mount, Resident, WS	A/R
190	6762127 73342	5331-01-010-9693	O-ring	A/R
191	6773311 73342	5330-00-999-3752	Oil Seal	A/R
192	67946 15434	5365-00-197-9327	Spacer Ring	A/R
193	6834624 73342	2520-00-557-5900	Lubrication Valve	A/R
194	6836928 73342	5360-01-123-5483	Valve Spring	A/R

**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
195	6882687 73342	4330-01-074-9642	Governor Filter	A/R
196	6882689 73342	5330-01-080-3254	Governor Filter O-ring	A/R
197	6883044 73342	2520-01-124-6469	Transmission Oil Filter	A/R
198	6884872 73342	5330-01-111-9291	Gasket	A/R
199	70089-I 15434	5330-00-537-2382	Gasket	A/R
200	70441 15434	5330-01-354-7651	Gasket	A/R
201	70550 15434	2815-01-124-0232	Cotter Pin	A/R
202	7059240 19207	5330-00-414-6754	Gasket	A/R
203	70624 15434	5331-00-506-4874	O-ring	A/R
204	7335053 19207	5340-01-119-5682	Universal Plate	A/R
205	7346983 19207	3120-00-537-0614	Sleeve Bearing	A/R
206	7373244 19207	5310-00-269-7044	Locknut	A/R
207	7373317 19207	9390-00-737-3317	Vent Door Weather Seal	A/R
208	7376584 19207	5330-00-737-6584	Gasket	A/R
209	7409312 19207	5330-00-740-9312	Felt Washer	A/R
210	7409553 19207	2590-00-740-9553	Wiper	A/R
211	7409618 19207	5365-00-740-9618	Rubber Bushing	A/R
212	7409822 19207	5330-00-057-3823	Gasket	A/R
213	7409928	5310-00-740-9928	Felt Washer	A/R

Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.

ITEM NO.	PART NUMBER (CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
	19207			
214	7409929 19207	5330-00-740-9929	Packing With Retainer	A/R
215	7410218, MS35338-45 19207	5310-00-407-9566	Lockwasher	A/R
216	7411156 19207	3120-00-741-1156	Bushing	A/R
217	7411159 19207	5330-00-741-1159	Felt Washer	A/R
218	7411160 19207	5330-00-741-1160	Felt Seal	A/R
219	7412376 19207	2510-00-741-2376	Pin	A/R
220	7413447 19207	5330-00-961-3596	Outer Bearing Oil Seal	A/R
221	7417093 19207	5330-00-741-7093	Packing Assembly	A/R
222	7417094 19207	5330-00-741-7094	Packing Assembly	A/R
223	7521436 19207	5342-00-040-2073	Resilient Mount	A/R
224	7529300 19207	5365-01-129-0399	Spacer Plate	A/R
225	7529309 19207	2540-00-562-0422	Fastener	A/R
226	7535079 R87 19207	5330-00-138-8388	Top Cover Gasket	A/R
227	7535631 19207	5315-01-217-2269	Key	A/R
228	7539072 19207	5330-00-753-9072	Gasket	A/R
229	7603014106 D8266	5330-12-156-4523	Copper Washer	A/R
230	77121-I 82484	5310-00-760-7493	Leather Washer	A/R
231	7973339 19207	5330-00-895-3424	Gasket	A/R

Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
232	7979183 19207	5310-00-740-9621	Slotted Nut	A/R
233	797927ANON ASBESTOS 19207	5330-01-382-5925	Gasket	A/R
234	8120115B 81343	4730-00-054-2571	Sleeve	A/R
235	8327444 19207	5315-00-281-7652	Key	A/R
236	8380420 19207	9320-00-451-8080	Seal	A/R
237	8380420-78 19207	-	Seal	A/R
238	8712289-5 19204	5310-00-044-3342	Locknut	A/R
239	8735034 19207	5330-00-419-9468	Gasket	A/R
240	8735035 19207	5330-00-470-2115	Seal	A/R
241	8735036 19207	5330-00-419-9469	Gasket	A/R
242	900877 05779	2590-01-119-4103	Ring Seal	A/R
243	911043 6N299	5310-00-011-7051	Locknut	A/R
244	9414109 24617	5305-01-229-9587	Screw Assembled Lockwasher	A/R
245	9419479 24617	5310-01-409-1642	Locknut	A/R
246	9422297 7X677	5310-01-126-9404	Locknut	A/R
247	9422305 24617	5310-01-130-4274	Locknut	A/R
248	942279 24617	5310-01-193-6884	Locknut	A/R
249	9442939 24617	5310-01-149-4407	Locknut	A/R

**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER (/CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
250	A-1205-D-2162 78500	5330-01-308-0175	Seal	A/R
251	A-1205-E-2137 78500	5330-01-271-9362	Oil Seal	A/R
252	A-1205-U-1633 78500	5330-01-126-0565	Oil Seal	A/R
253	A-A-52524/1-131-2 58536	5330-010254-6377	Seal	A/R
254	AA55487-6 58536	5315-01-081-9991	Cotter Pin	A/R
255	AN3066-12 22895	5975-00-793-5550	Lockwasher	A/R
256	AN365-1024A 88044	5310-00-208-1918	Locknut	A/R
257	AN415-4 81352	5315-01-057-8371	Cotter Pin	A/R
258	AS3551-912 81343	5331-00-776-2830	O-ring	A/R
259	C5165X4 01276	4730-00-969-6941	Sleeve	A/R
260	CO2-40-4	5315-01-135-9506	Cotter Pin	A/R
261	CP85WB HWD 78500	2520-01-132-4753	Universal Joint Kit	A/R
262	DS-932136 90166	5321-00-982-4259	O-ring	A/R
263	ER82146 K6019	5330-01-271-9407	Gasket	A/R
264	J2397-10JD 60703	5310-01-135-4828	Lockwasher	A/R
265	J934486 10988	5330-01-192-2037	Seal	A/R
266	K500-63 57839	5970-01-114-3753	Insulator Inactive	A/R
267	KIT 1174 3D6E9	2530-01-278-1036	Anchor Plunger Kit (Right)	A/R
268	KIT-1173LH 78500	42530-01-063-1305	Anchor Plunger Kit (Left)	A/R

**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
269	M45913/1-1-10FG5C 81349	5310-00-225-6408	Locknut	A/R
270	M45913/1-4CG5C 81349	5310-00-088-1251	Locknut	A/R
271	M45913/1-4F53 81349	5310-00-143-6102	Locknut	A/R
272	M45913/14FG5C 81349	5310-00-959-7600	Locknut	A/R
273	M45913/15CG5C 81349	5310-00-984-3806	Locknut	A/R
274	M45913/15FG5C 81349	5310-00-984-3807	Locknut	A/R
275	M45913/16CG5C 81349	5310-00-087-4652	Locknut	A/R
276	M45913/18FG5C 81349	5310-00-067-9507	Locknut	A/R
277	M45913/2-6FG5C 81349	5310-00-959-1488	Locknut	A/R
278	M45913/212FG5C 81349	5310-00-832-9719	Locknut	A/R
279	M45913/3-10FG8C 96906	5310-00-241-6664	Locknut	A/R
280	M45913/3-12FG8C 81349	5310-00-935-3569	Locknut	A/R
281	M45913/3-12FG8C 81349	5310-00-935-3569	Locknut	A/R
282	M45913/3-4FG8C 81349	5310-00-935-9022	Locknut	A/R
283	M45913/3-5FG8C 81349	5310-00-241-6658	Locknut	A/R
284	M45913/3-5FG8C 81349	5310-00-241-6658	Locknut	A/R
285	M45913/3-6FG8C 96906	5310-00-814-0672	Locknut	A/R
286	M45913/3-6FG8C 96906	5310-00-814-0672	Locknut	A/R
287	M45913/3-8CG8C	5310-00-488-3889	Locknut	A/R

**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
	81349			
288	M45913/3-8FG8C 81349	5310-00-488-3888	Locknut	A/R
289	M45913/3-8FG8C 81349	5310-00-488-3888	Locknut	A/R
290	M45913/3-9FG8C 81349	5310-00-421-6661	Locknut	A/R
291	M45913/34FG8P 81349	5310-01-374-0508	Locknut	A/R
292	M45913/35CG8C 81349	5310-00-814-0673	Locknut	A/R
293	M45913/35CG8C 81349	5310-00-814-0673	Locknut	A/R
294	M45913/35FG8P 81349	5310-00-935-3750	Locknut	A/R
295	M45913/36CG8P 81349	5310-01-249-0904	Locknut	A/R
296	M45913/36FG8P 96906	5310-01-344-8250	Locknut	A/R
297	M45913/4-7FG8C 96906	5310-00-994-1006	Locknut	A/R
298	M53367-7 96906	5975-01-205-5379	Tiedown Strap	A/R
299	M83461/1-012 2K255	5331-01-046-3300	O-ring	A/R
300	M83461/1-219 81343	5330-01-128-3954	O-ring	A/R
301	MS12203-2 96906	5310-00-159-6209	Lockwasher	A/R
302	MS13532-35 80205	5315-00-814-3530	Spring Pin	A/R
303	MS16536-170 80205	5320-00-262-6492	Rivet	A/R
304	MS17830-06C 96906	5310-00-176-6341	Locknut	A/R
305	MS20067-221 80205	5315-00-242-0818	Key, Machine	A/R

**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
306	MS20067-270 96906	5315-00-042-3293	Woodruff Key, Machine	A/R
307	MS20600AD5W2 80205	5320-00-582-3302	Rivet	A/R
308	MS20600AD6W3 80205	5320-00-582-3268	Rivet	A/R
309	MS20600AD6W4 80205	5320-00-582-3276	Rivet	A/R
310	MS20600AD8W7 96906	5320-00-721-5384	Rivet	A/R
311	MS21042-4 80205	5310-00-807-1468	Locknut	A/R
312	MS21044-N3 96906	5310-00-877-5797	Locknut	A/R
313	MS21044-N8 96906	5310-00-877-5795	Locknut	A/R
314	MS21044N4 96906	5310-00-877-5796	Locknut	A/R
315	MS21045-10 80205	5310-00-982-5009	Locknut	A/R
316	MS21045-10 96906	5310-00-982-5012	Locknut	A/R
317	MS21045-14 96906	5310-00-982-5014	Locknut	A/R
318	MS21045-18 80205	5310-00-057-7153	Locknut	A/R
319	MS21045-3 80205	5310-00-061-7326	Locknut	A/R
320	MS21045-4 80205	5310-00-061-7325	Locknut	A/R
321	MS21045-5 96906	5310-00-982-4912	Locknut	A/R
322	MS21045-6 80205	5310-00-982-4908	Locknut	A/R
323	MS21045-7 96906	5310-00-274-9364	Locknut	A/R
324	MS21045-8	5310-00-062-4954	Locknut	A/R



**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
	80205			
325	MS21045-C3 80205	5310-00-263-2862	Locknut	A/R
326	MS21083C12 96906	5310-00-923-4219	Locknut	A/R
327	MS21245-L10 96906	5310-00-449-2381	Locknut	A/R
328	MS2367-202	-	Tiedown Strap	A/R
329	MS24655-490 80205	5315-00-059-0205	Cotter Pin	A/R
330	MS2466-172 80205	5315-00-187-9370	Cotter Pin	A/R
331	MS24665-132 80205	5315-00-839-2325	Cotter Pin	A/R
332	MS24665-134 80205	5315-00-839-5820	Cotter Pin	A/R
333	MS24665-151 80205	5315-00-815-1405	Cotter Pin	A/R
334	MS24665-214 80205	5315-00-080-3503	Cotter Pin	A/R
335	MS24665-238 80205	5315-00-239-8027	Cotter Pin	A/R
336	MS24665-281 80205	5315-00-839-2326	Cotter Pin	A/R
337	MS24665-283 80205	5310-00-842-3044	Cotter Pin	A/R
338	MS24665-285 80205	5315-00-816-1794	Cotter Pin	A/R
339	MS24665-285 80205	5315-01-359-1451	Cotter Pin	A/R
340	MS24665-300 80205	5315-00-234-1863	Cotter Pin	A/R
341	MS24665-351 80205	5315-00-839-5821	Cotter Pin	A/R
342	MS24665-353 80205	5315-00-839-5822	Cotter Pin	A/R

**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
343	MS24665-355 80205	5315-00-012-0123	Cotter Pin	A/R
344	MS24665-357 80205	5315-00-298-1481	Cotter Pin	A/R
345	MS24665-359 80205	5315-00-013-7214	Cotter Pin	A/R
346	MS24665-361 80205	5315-00-059-0184	Cotter Pin	A/R
347	MS24665-362 80205	5310-00-298-1498	Cotter Pin	A/R
348	MS24665-363 80205	5315-00-059-0187	Cotter Pin	A/R
349	MS24665-423 80205	5315-00-013-7228	Cotter Pin	A/R
350	MS24665-427 80205	5315-00-879-2910	Cotter Pin	A/R
351	MS24665-498 80205	5315-00-849-9854	Cotter Pin	A/R
352	MS24665-5 80205	5315-00-236-8345	Cotter Pin	A/R
353	MS24665-500 80205	5310-00-187-9567	Cotter Pin	A/R
354	MS24665-631 80205	5315-00-597-7399	Cotter Pin	A/R
355	MS24665-689 80205	5315-00-187-9591	Cotter Pin	A/R
356	MS27183-14 96906	5310-00-080-6004	Lockwasher	A/R
357	MS28775-032 81343	5331-01-049-7374	O-ring	A/R
358	MS28775-128 81343	5331-00-702-5643	O-ring	A/R
359	MS28775-206 81343	5331-01-133-5858	O-ring	A/R
360	MS28775-219 81343	5331-00-579-7925	O-ring	A/R
361	MS28775-225	5331-00-579-7927	O-ring	A/R

**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
	81343			
362	MS28775-232 81343	5331-00-585-8247	O-ring	A/R
363	MS28775-238 81343	5331-00-579-7545	O-ring	A/R
364	MS28778-12 81343	5331-00-251-8839	O-ring	A/R
365	MS28778-16 81343	5331-00-804-5694	O-ring	A/R
366	MS28778-20 81343	5330-00-816-3546	O-ring	A/R
367	MS28778-6 81343	5331-00-804-5695	O-ring	A/R
368	MS28778-8 81343	5331-00-808-0794	O-ring	A/R
369	MS29513-115 81343	5331-00-248-3847	O-ring	A/R
370	MS3367-1-0 96906	5975-00-984-6582	Tiedown Strap	A/R
371	MS3367-1-9 81343	5975-00-074-2072	Tiedown Strap	A/R
372	MS3367-1-9 81343	5975-00-074-2072	Tiedown Strap	A/R
373	MS3367-2-9 81343	5975-00-156-3253	Tiedown Strap	A/R
374	MS3367-3-0 81343	5975-00-985-6630	Tiedown Strap	A/R
375	MS3367-3-9 81343	5975-00-451-5001	Tiedown Strap	A/R
376	MS3367-4-9 81343	5975-00-727-5153	Tiedown Strap	A/R
377	MS3367-5-9 81343	5975-00-111-3208	Tiedown Strap	A/R
378	MS3367-6-9 81343	5975-00-133-8696	Tiedown Strap	A/R
379	MS3367-7-9 81343	5975-00-570-9598	Tiedown Strap	A/R

Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
380	MS34665-627 80205	5315-00-013-7308	Cotter Pin	A/R
381	MS35043-53 96906	5310-00-926-5885	Lockwasher	A/R
382	MS35333-38 80205	5310-00-559-0070	Lockwasher	A/R
383	MS35333-39 11083	5310-00-576-5752	Lockwasher	A/R
384	MS35333-40 80205	5310-00-550-1130	Lockwasher	A/R
385	MS35333-41 80205	5310-00-167-0721	Lockwasher	A/R
386	MS35333-42 80205	5310-00-595-7237	Lockwasher	A/R
387	MS35333-44 80205	5310-00-194-1483	Lockwasher	A/R
388	MS35333-49 80205	5310-00-582-6714	Lockwasher	A/R
389	MS35333-78 80205	5310-00-261-7156	Lockwasher	A/R
390	MS353335-35 96906	5310-00-627-6128	Lockwasher	A/R
391	MS35335-30 96906	5310-00-209-0788	Lockwasher	A/R
392	MS35335-31 96906	5310-00-596-7693	Lockwasher	A/R
393	MS35335-32 96906	5310-00-596-7691	Lockwasher	A/R
394	MS35335-33 96906	5310-00-209-0786	Lockwasher	A/R
395	MS35335-36 96906	5310-00-550-3503	Lockwasher	A/R
396	MS35335-39 96906	5310-00-800-0695	Lockwasher	A/R
397	MS35335-60 96906	5310-00-209-1239	Lockwasher	A/R
398	MS35336-39	5310-00-194-9213	Lockwasher	A/R

Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
	96906			
399	MS35336-9 96906	5310-00-550-0284	Lockwasher	A/R
400	MS35338-41 80205	5310-00-045-4007	Lockwasher	A/R
401	MS35338-42 80205	5310-00-045-3299	Lockwasher	A/R
402	MS35338-43 80205	5310-00-045-3296	Lockwasher	A/R
403	MS35338-44 80205	5310-00-582-5965	Lockwasher	A/R
404	MS35338-47 80205	5310-00-209-0965	Lockwasher	A/R
405	MS35338-48 96906	5310-00-003-4094	Lockwasher	A/R
406	MS35338-48 80205	5310-00-584-5272	Lockwasher	A/R
407	MS35338-49 80205	5310-00-167-0680	Lockwasher	A/R
408	MS35338-50 80205	5310-00-820-6653	Lockwasher	A/R
409	MS35338-52 80205	5310-00-754-2005	Lockwasher	A/R
410	MS35340-43 96906	5310-00-721-7809	Lockwasher	A/R
411	MS35340-48 96906	5310-00-834-7606	Lockwasher	A/R
412	MS35489-135 96906	5325-00-263-6648	Grommet	A/R
413	MS35489-19 96906	5325-00-276-6091	Rubber Grommet	A/R
414	MS35756-1 80205	5315-00-616-5519	Woodruff Key	A/R
415	MS35756-14 80205	5315-00-616-5520	Woodruff Key	A/R
416	MS35756-17 80205	5315-00-012-4553	Woodruff Key	A/R

**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
417	MS35756-21 80205	5315-00-616-5500	Woodruff Key	A/R
418	MS35756-6 80205	5315-00-616-5514	Woodruff Key	A/R
419	MS35756-8 80205	5315-00-616-5526	Woodruff Key	A/R
420	MS45904-68 96906	5310-00-889-2528	Lockwasher	A/R
421	MS45904-72 96906	5310-00-889-2527	Lockwasher	A/R
422	MS45904-73 96906	5310-00-728-2044	Lockwasher	A/R
423	MS45904-73 96906	5310-00-728-2044	Lockwasher	A/R
424	MS45904-74 96906	5310-00-901-0279	Lockwasher	A/R
425	MS45904-76 96906	5310-00-061-1258	Lockwasher	A/R
426	MS45904-84 96906	5310-00-935-8984	Lockwasher	A/R
427	MS51857-5 96906	5310-01-201-4739	Spring Nut	A/R
428	MS51857-5 96906	5310-01-201-4739	Spring Nut	A/R
429	MS51943-1 96906	5310-00-455-9967	Locknut	A/R
430	MS51943-35 96906	5310-00-935-9021	Locknut	A/R
431	MS51967-18 96906	5310-00-763-8919	Nut, Plain, Hexagon	A/R
432	MS51968-14 96906	5310-00-732-0560	Spring Center Nut	A/R
433	MS90707-1050 96906	5325-00-419-3322	Snapping	A/R
434	MS90726-37 80205	5305-00-225-9092	Screw	A/R
435	N72259	5331-00-152-1759	O-ring	A/R

**Table 1. MANDATORY REPLACEMENT PARTS LIST - Continued.**

ITEM NO.	PART NUMBER /(CAGEC)	NATIONAL STOCK NUMBER (NSN)	NOMENCLATURE	QTY
	05779			
436	N72260	5330-01-166-3662	Packing Preformed	A/R
	05779			
437	NAM535338	5310-00-584-7888	Lockwasher	A/R
	80205			
438	NAS1021N17	5310-00-325-1900	Locknut	A/R
	80205			
439	PF297	2940-00-950-8410	Oil Filter Element	A/R
	70040			
440	PH3519	2940-01-110-2489	Oil Filter	A/R
	70040			
441	RV200-6-2	5320-00-584-1285	Rivet	A/R
	53551			
442	S1077	5365-00-362-1880	Bushing	A/R
	15434			
443	S604	5310-00-261-7340	Lockwasher	A/R
	15434			
444	WA-LM7-2	5310-00-486-5355	Lockwasher	A/R
	78500			
445	WA48	5310-00-031-2673	Lockwasher	A/R
	78500			

**END OF WORK PACKAGE**





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**FIELD MAINTENANCE  
SCHEMATICS**

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**ELECTRICAL SYSTEM****NOTE**

This organizational relationship of electrical schematics is provided for reference.

- M939/A1 Electrical System Wiring Diagram (1 of 2). (FO-1)
- M939/A1 Electrical System Wiring Diagram (2 of 2). (FO-2)
- M939A2 Electrical System Wiring Diagram (1 of 2). (FO-3)
- M939A2 Electrical System Wiring Diagram (2 of 2). (FO-4)
- M934/A1/A2 Electrical Wiring Diagram for Expansable Van. (FO-5)
- M939/A1/A2 WO/ABS Air Supply Line Diagram. (FO-6)
- M939/A1/A2 W/ABS Air Supply Line Diagram. (FO-7)
- M939/A1/A2 WO/ABS Air Control Line Diagram. (FO-8)
- M939/A1/A2 W/ABS Air Control Line Diagram. (FO-9)
- M939/A1/A2 Air Vent Line Diagram. (FO-10)
- M939A2 C.T.I.S. Electrical System Wiring Diagram. (FO-11)
- M939A2 C.T.I.S. Air Supply Line Diagram. (FO-12)
- M939/A1/A2 ABS Electrical System Wiring Diagram. (FO-13)
- ABS Air Tubing Installation Diagram. (FO-14)

**END OF WORK PACKAGE**



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ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON (Exact wording of recommended change must be given)	
	0007-3					<i>Figure 2, Item 9 should show a lockwasher. Currently shows a flat washer.</i>	
	0018-2					<i>Cleaning and inspection, Step 6, reference to governor support pin (14) is wrong reference. Reference should be change to (12).</i>	
<h1>SAMPLE</h1>							
TYPED NAME, GRADE OR TITLE  <i>Your Name</i>						TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION  <i>Your Phone Number</i>	SIGNATURE  <i>Your Signature</i>

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PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION
<h1>SAMPLE</h1>								

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PUBLICATION/FORM NUMBER TM 9-2320-272-23-5						DATE 10 September 2012	TITLE Truck, 5-Ton, 6X6, M939A1, And M939A2 Series Trucks (Diesel), Field Maintenance Manual
ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON	
TYPED NAME, GRADE OR TITLE					TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION		SIGNATURE

<b>TO</b> <i>(Forward direct to addressee listed in publication)</i> U.S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-MPP/TECH PUBS 6501 E. 11 Mile Road, Warren, MI 48397-5000	<b>FROM</b> <i>(Activity and location) (Include ZIP Code)</i>	<b>DATE</b>
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**PART II – REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS**

<b>PUBLICATION/FORM NUMBER</b> TM 9-2320-272-23-5	<b>DATE</b> 10 September 2012	<b>TITLE</b> Truck, 5-Ton, 6X6, M939A1, And M939A2 Series Trucks (Diesel), Field Maintenance Manual
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PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

**PART III – REMARKS** *(Any general remarks, recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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By Order of the Secretary of the Army:

Official:



JOYCE E. MORROW  
*Administrative Assistant to the  
Secretary of the Army*

1220213

RAYMOND T. ODIERNO  
*General, United States Army  
Chief of Staff*

By Order of the Secretary of the Air Force:

DONALD J. HOFFMAN  
*General, United States Air Force  
Commander, AFMC*

NORTON A. SCHWARTZ  
*General, United States Air Force  
Chief of Staff*

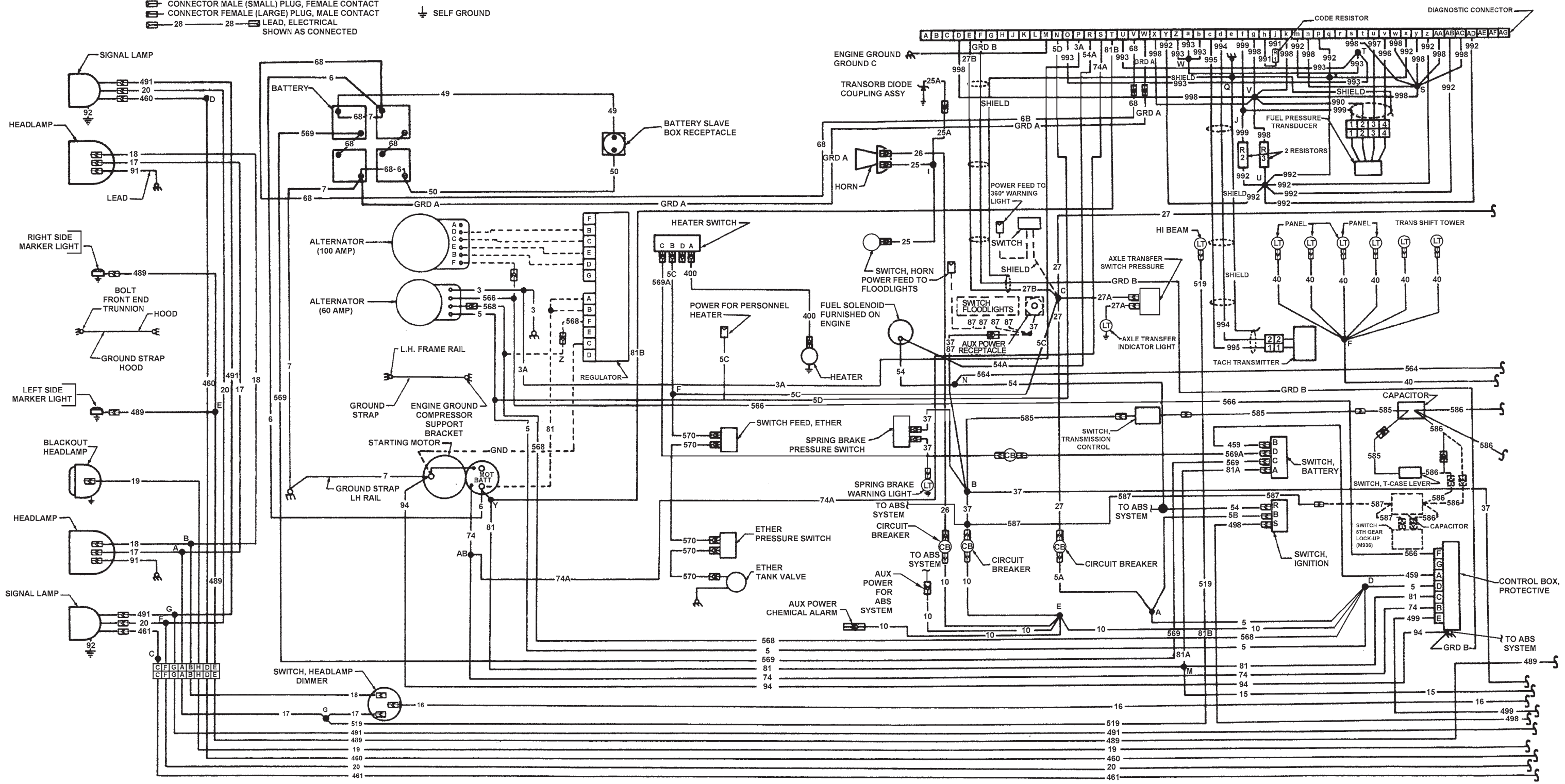
Distribution:

To be distributed in accordance with the initial distribution number (IDN) 386968 requirements for TM 9-2320-272-23-5 .



LEGEND FOR SYMBOLS

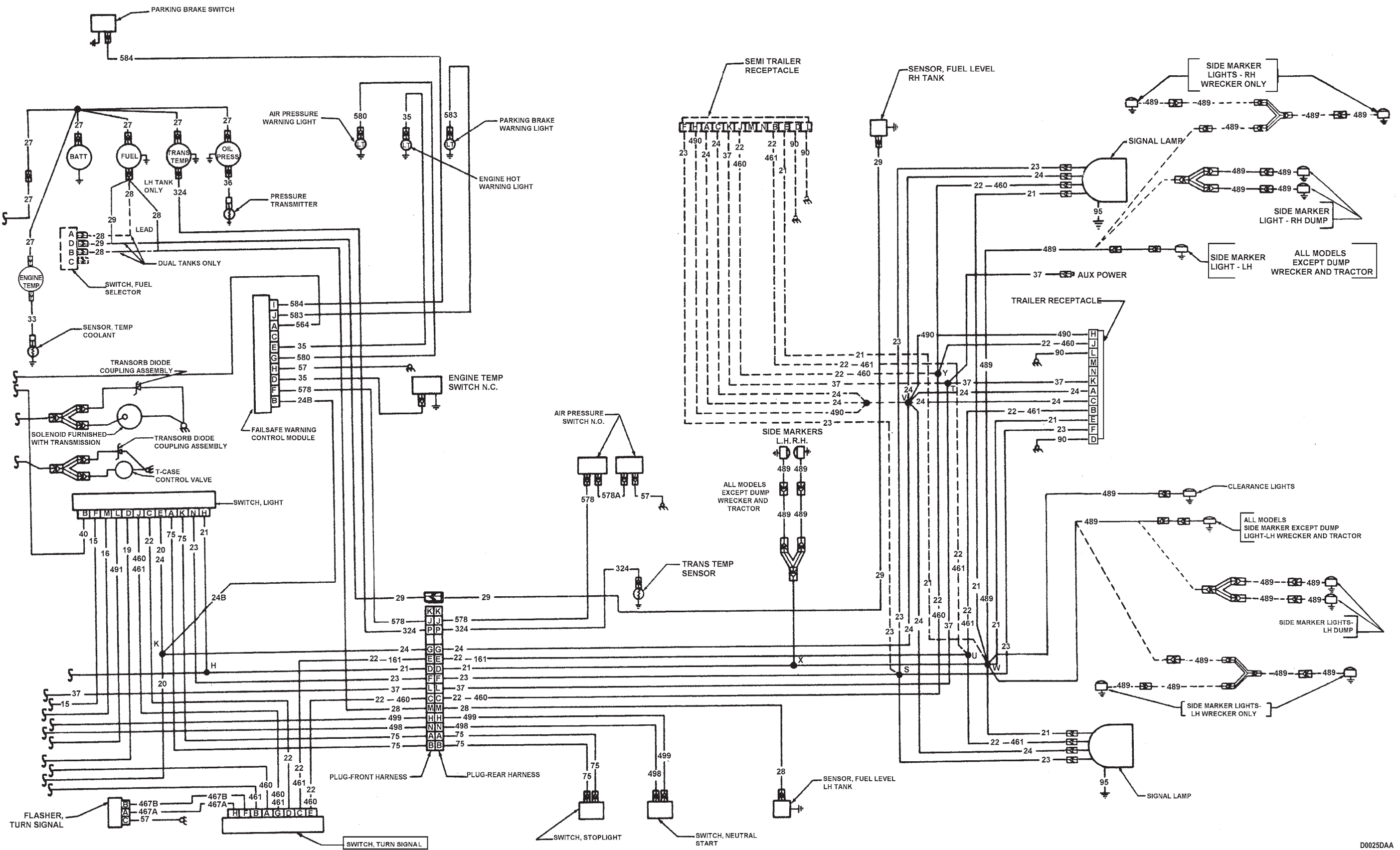
- SOLID LINE INDICATES ALL MODEL APPLICATION
- BROKEN LINES INDICATES PARTICULAR MODEL
- CONNECTOR MALE (SMALL) PLUG, FEMALE CONTACT
- CONNECTOR FEMALE (LARGE) PLUG, MALE CONTACT
- LEAD, ELECTRICAL SHOWN AS CONNECTED
- GROUND LEAD TO CHASSIS, BODY OR ENGINE BOLTED CONNECTION
- SELF GROUND



D0013DAA

FO-1. M939/A1 Electrical System Wiring Diagram (1 of 2).





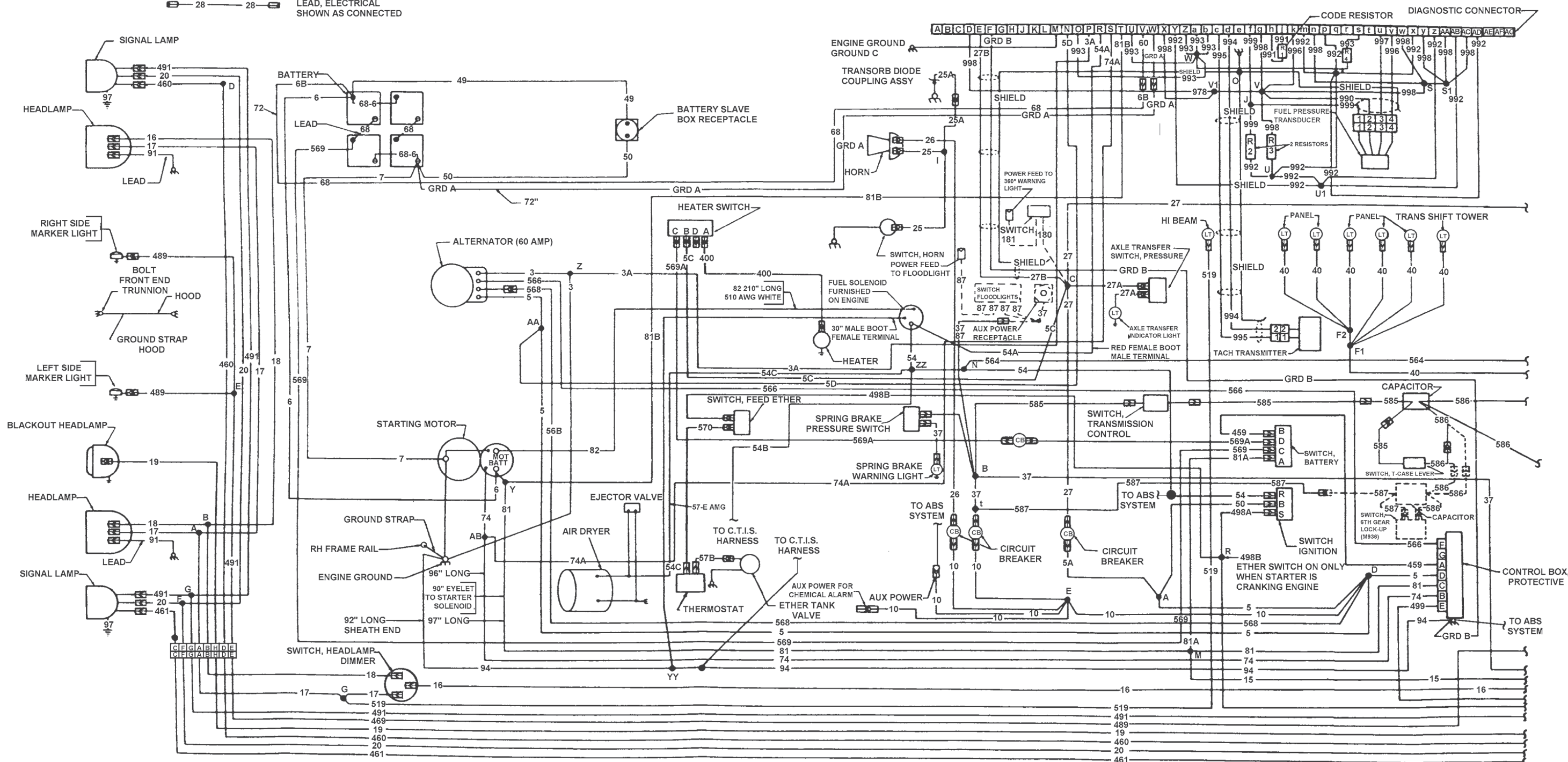
D0025DAA

FO-2. M939/A1 Electrical System Wiring Diagram (2 of 2).  
 FP-3/FP-4 blank



LEGEND FOR SYMBOLS

- SOLID LINE INDICATES ALL MODEL APPLICATION
- BROKEN LINES INDICATES PARTICULAR MODEL
- CONNECTOR MALE (SMALL) PLUG, FEMALE CONTACT
- CONNECTOR FEMALE (LARGE) PLUG, MALE CONTACT
- LEAD, ELECTRICAL SHOWN AS CONNECTED
- GROUND LEAD TO CHASSIS, BODY OR ENGINE BOLTED CONNECTION
- SELF GROUND

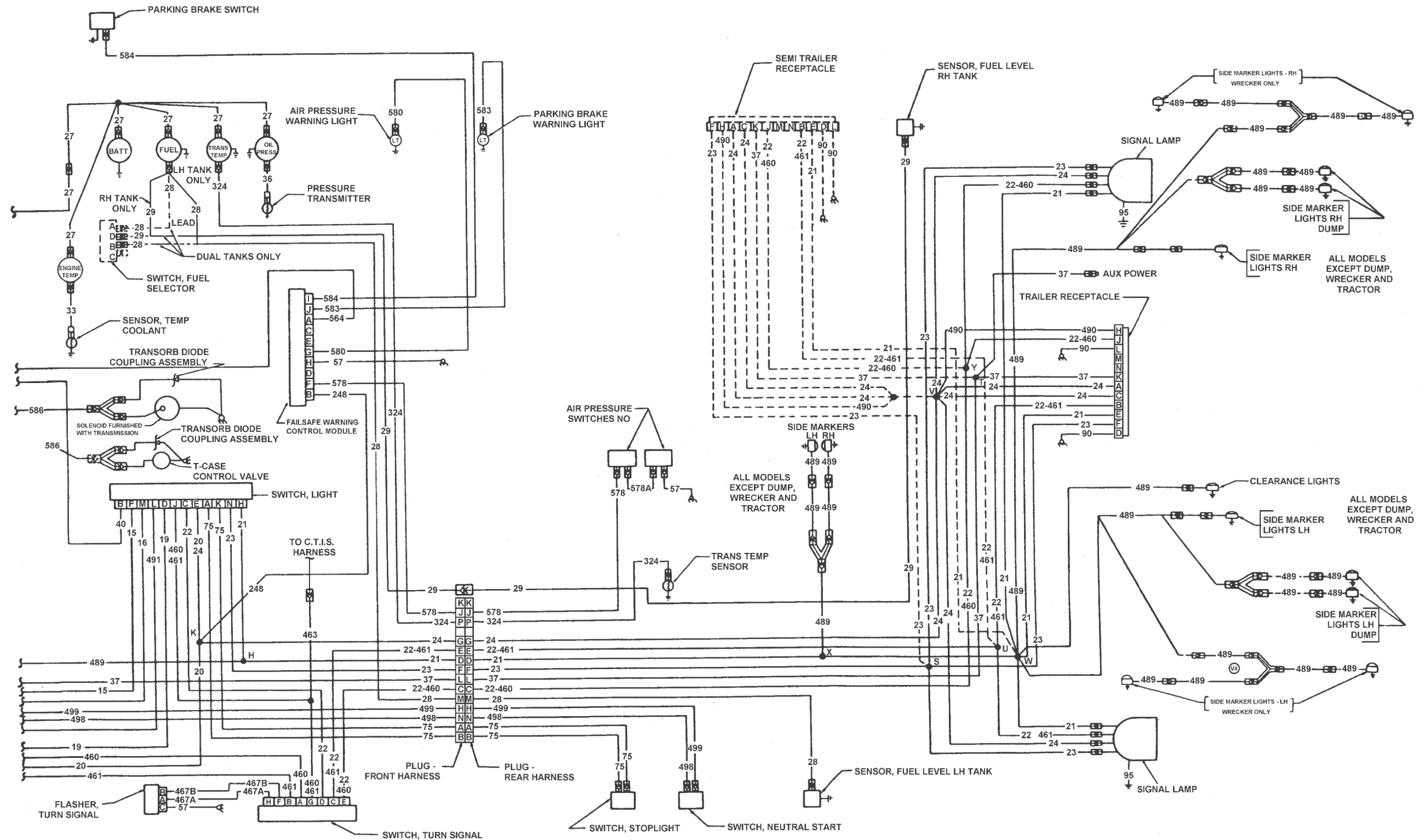


D0012DAA

FO-3. M939A2 Electrical System Wiring Diagram (1 of 2).



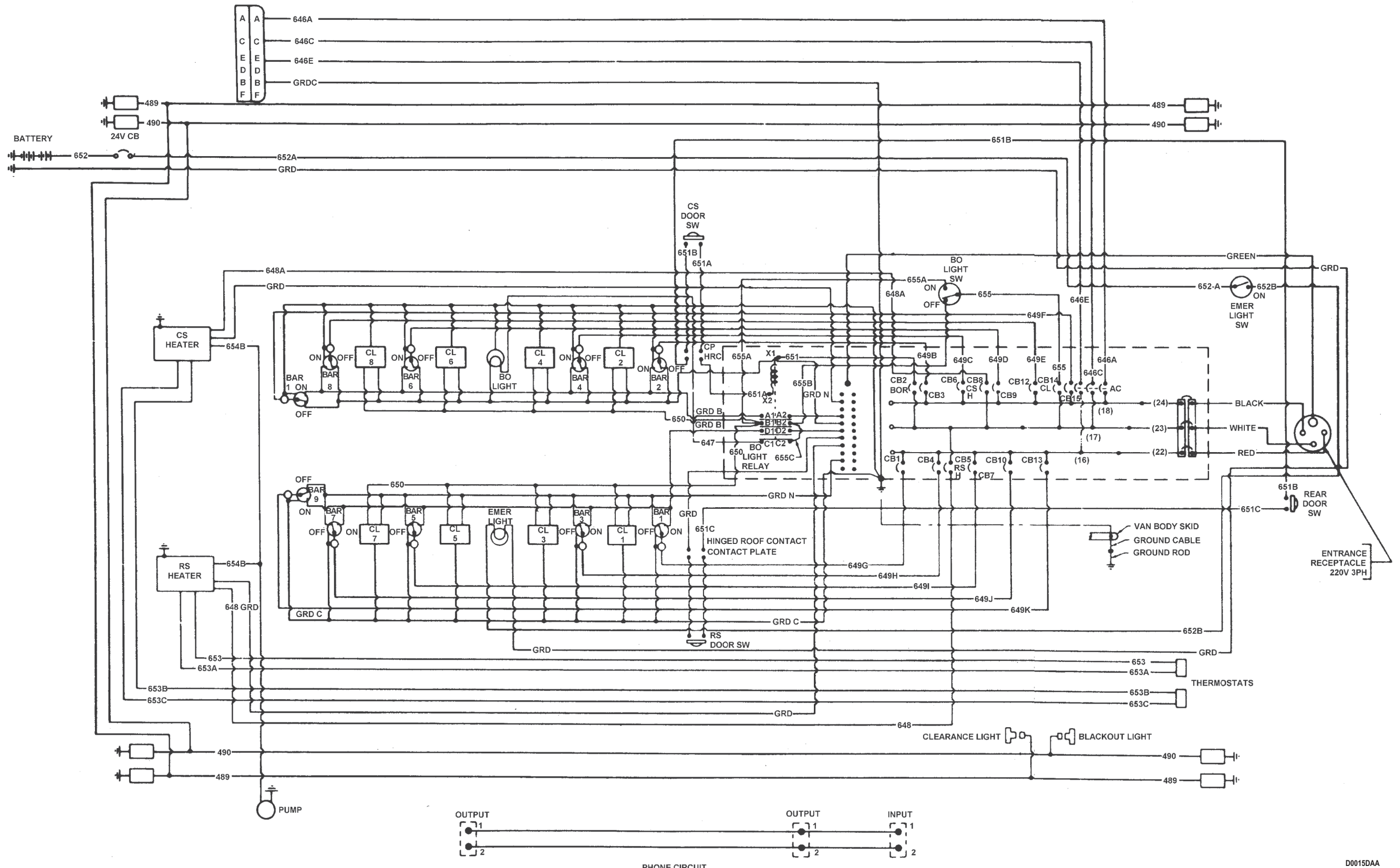




D0014DAA

FO-4. M939A2 Electrical System Wiring Diagram (2 of 2).



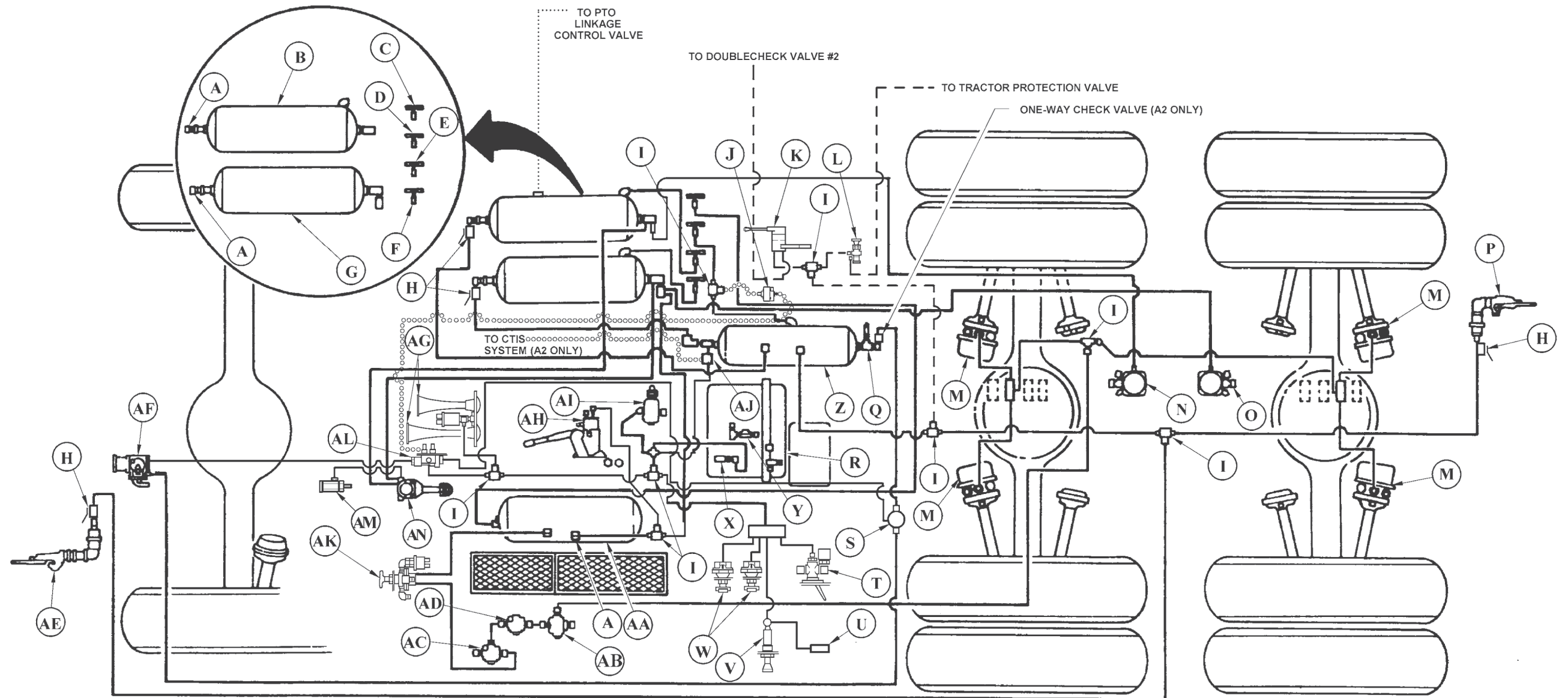


D0015DAA

FO-5. M934/A1/A2 Electrical Wiring Diagram for Expansible Van.  
 FP-9/FP-10 blank



LEGEND:  
 ALL MODELS  
 TRACTOR M931, M932 ONLY  
 WRECKER M936/A1 ONLY  
 A2 ONLY



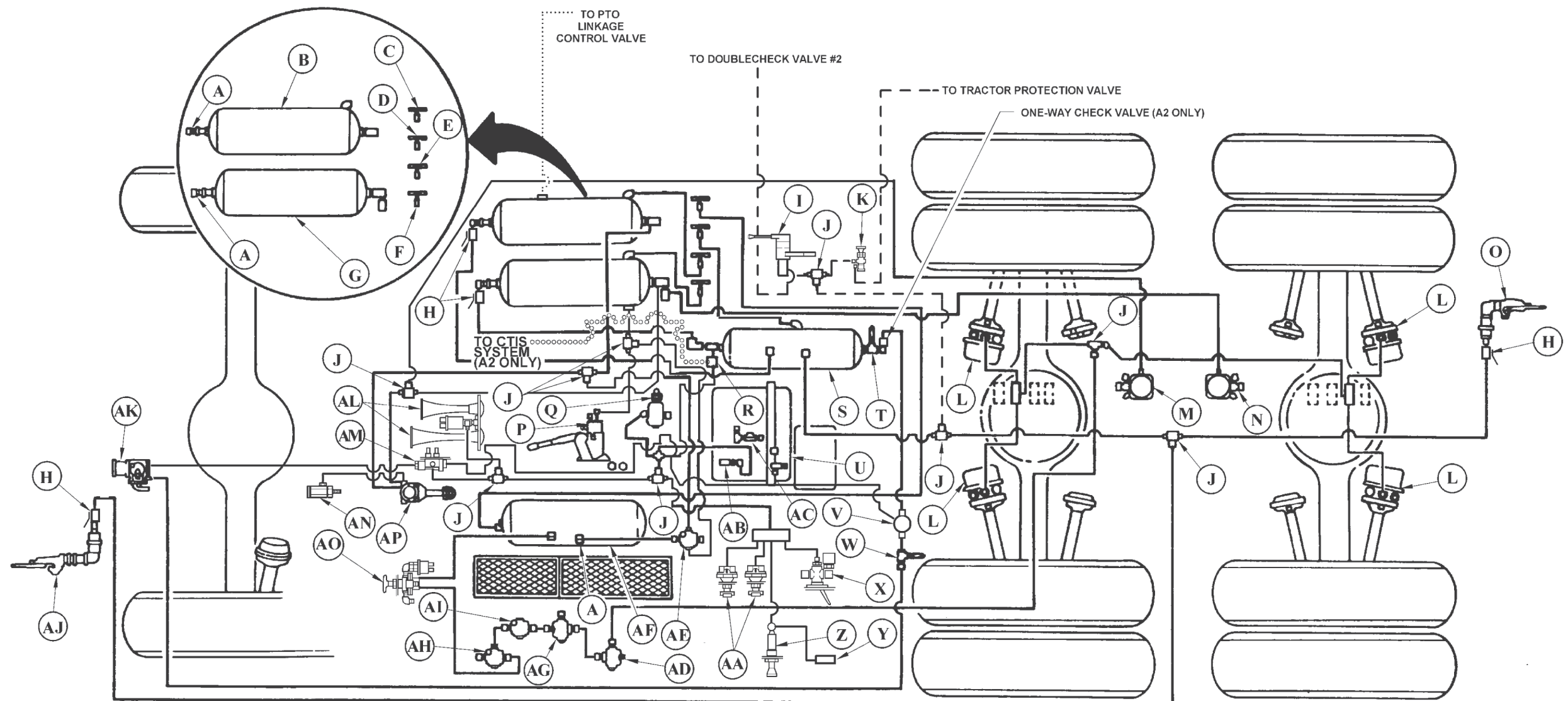
- |                                       |   |                                    |                                   |
|---------------------------------------|---|------------------------------------|-----------------------------------|
| (A) ONE-WAY CHECK VALVE(S)            | (K) TRAILER AIR BRAKE CONTROL LEVER (M931, M932 ONLY) | (U) WASHER MOTOR                   | (AE) FRONT EMERGENCY AIR COUPLING |
| (B) SECONDARY AIR RESERVOIR           | (L) TRAILER AIR SUPPLY VALVE (M931, M932 ONLY)        | (V) WASHER CONTROL VALVE           | (AF) AIR COMPRESSOR               |
| (C) SPRING BRAKE RESERVOIR DRAINVALVE | (M) COMBINATION SPRING AND SERVICE BRAKE CHAMBER(S)   | (W) WIPER CONTROL VALVE(S)         | (AG) HORN(S)                      |
| (D) WET RESERVOIR DRAINVALVE          | (N) SECONDARY RELAY VALVE                             | (X) TRANSFER CASE INTERLOCK VALVE  | (AH) PARKING (SPRING) BRAKE VALVE |
| (E) SECONDARY RESERVOIR DRAINVALVE    | (O) PRIMARY RELAY VALVE                               | (Y) FRONT WHEEL DRIVE AIR CYLINDER | (AI) TRANSFER CASE LIMIT VALVE    |
| (F) PRIMARY RESERVOIR DRAINVALVE      | (P) REAR EMERGENCY AIR COUPLING                       | (Z) WET AIR RESERVOIR              | (AJ) PRESSURE PROTECTION VALVE    |
| (G) PRIMARY AIR RESERVOIR             | (Q) PRESSURE RELIEF VALVE (150 PSI)                   | (AA) SPRING BRAKE AIR RESERVOIR    | (AK) SPRING BRAKE CONTROL VALVE   |
| (H) SHUT OFF VALVE(S)                 | (R) TRANSFER CASE                                     | (AB) QUICK-RELEASE VALVE           | (AL) GOVERNOR                     |
| (I) AIR MANIFOLD TEE(S)               | (S) AIR DRYER (A2 ONLY)                               | (AC) DOUBLECHECK VALVE #4          | (AM) FAN DRIVE CLUTCH ACTUATOR    |
| (J) EXPELLO VALVE (A2 ONLY)           | (T) FRONT AXLE LOCK-IN VALVE                          | (AD) DOUBLECHECK VALVE #3          | (AN) BRAKE PEDAL (TREADLE) VALVE  |

D0016DAA

FO-6. M939/A1/A2 WO/ABS Air Supply Line Diagram.



LEGEND:  
 ALL MODELS  
 TRACTOR M931, M932 ONLY  
 WRECKER M936/A1 ONLY  
 A2 ONLY



- |   |   |                                     |                                   |
|---|---|-------------------------------------|-----------------------------------|
| (A) ONE-WAY CHECK VALVE(S)                            | (K) TRAILER AIR SUPPLY VALVE (M931, M932 ONLY)      | (U) TRANSFER CASE                   | (AF) SPRING BRAKE AIR RESERVOIR   |
| (B) SECONDARY AIR RESERVOIR                           | (L) COMBINATION SPRING AND SERVICE BRAKE CHAMBER(S) | (V) AIR DRYER                       | (AG) DOUBLCHECK VALVE #3          |
| (C) SPRING BRAKE RESERVOIR DRAINVALVE                 | (M) LEFT SIDE ABS RELAY VALVE                       | (W) PRESSURE RELIEF VALVE (250 PSI) | (AH) DOUBLCHECK VALVE #4          |
| (D) WET RESERVOIR DRAINVALVE                          | (N) RIGHT SIDE ABS RELAY VALVE                      | (X) FRONT AXLE LOCK-IN VALVE        | (AI) INVERSION VALVE              |
| (E) SECONDARY RESERVOIR DRAINVALVE                    | (O) REAR EMERGENCY AIR COUPLING                     | (Y) WASHER MOTOR                    | (AJ) FRONT EMERGENCY AIR COUPLING |
| (F) PRIMARY RESERVOIR DRAINVALVE                      | (P) PARKING (SPRING) BRAKE VALVE                    | (Z) WASHER CONTROL VALVE            | (AK) AIR COMPRESSOR               |
| (G) PRIMARY AIR RESERVOIR                             | (Q) TRANSFER CASE LIMIT VALVE                       | (AA) WIPER CONTROL VALVE(S)         | (AL) HORN(S)                      |
| (H) SHUT OFF VALVE(S)                                 | (R) PRESSURE PROTECTION VALVE                       | (AB) TRANSFER CASE INTERLOCK VALVE  | (AM) GOVERNOR                     |
| (I) TRAILER AIR BRAKE CONTROL LEVER (M931, M932 ONLY) | (S) WET AIR RESERVOIR                               | (AC) FRONT WHEEL DRIVE AIR CYLINDER | (AN) FAN DRIVE CLUTCH ACTUATOR    |
| (J) AIR MANIFOLD TEE(S)                               | (T) PRESSURE RELIEF VALVE (150 PSI)                 | (AD) QUICK-RELEASE VALVE            | (AO) SPRING BRAKE CONTROL VALVE   |
|   |   | (AE) DOUBLCHECK VALVE #7            | (AP) BRAKE PEDAL (TREADLE) VALVE  |

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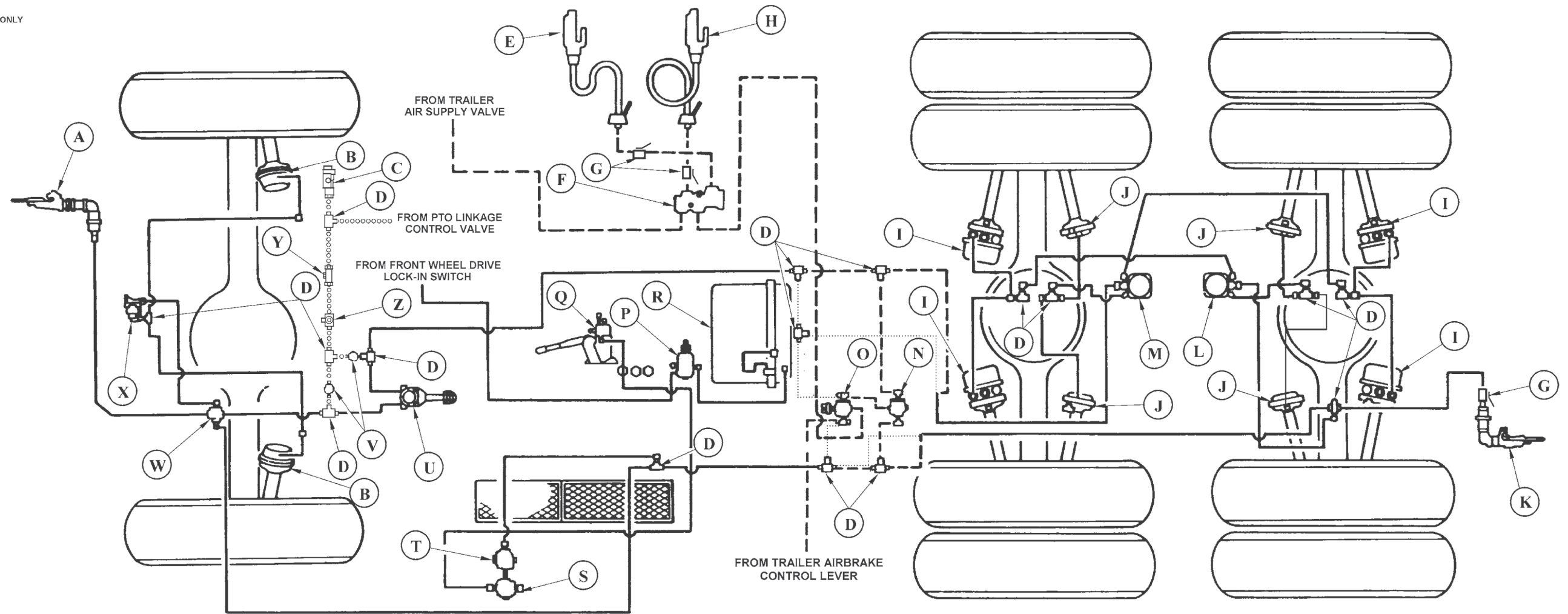
LEGEND:

ALL MODELS

TRACTOR M931, M932 ONLY

ALL MODELS EXCEPT M931, M932

WRECKER M936/A1 ONLY



- |   |  |  |
|---|--|--|
| (A) FRONT SERVICE AIR COUPLING                      | (J) REAR SERVICE BRAKE CHAMBER(S)        | (S) DOUBCHECK VALVE #4                       |
| (B) FRONT SERVICE BRAKE CHAMBER(S)                  | (K) REAR SERVICE AIR COUPLING            | (T) DOUBCHECK VALVE #3                       |
| (C) AIR CYLINDER ENGINE GOVERNOR (M936/A1 ONLY)     | (L) PRIMARY RELAY VALVE                  | (U) BRAKE PEDAL (TREADLE) VALVE              |
| (D) AIR MANIFOLD TEE(S)                             | (M) SECONDARY RELAY VALVE                | (V) DOUBCHECK VALVE(S) #8 (M936/A1 ONLY)     |
| (E) SERVICE TRAILER COUPLING (M931, M932 ONLY)      | (N) DOUBCHECK VALVE #5 (M931, M932 ONLY) | (W) DOUBCHECK VALVE #1                       |
| (F) TRACTOR PROTECTION VALVE (M931, M932 ONLY)      | (O) DOUBCHECK VALVE #2                   | (X) QUICK-RELEASE VALVE                      |
| (G) SHUT OFF VALVE(S)                               | (P) TRANSFER CASE LIMIT VALVE            | (Y) PRESSURE REGULATOR (M936/A1 ONLY)        |
| (H) EMERGENCY TRAILER COUPLING (M931, M932 ONLY)    | (Q) PARKING (SPRING) BRAKE VALVE         | (Z) BRAKE LOCK OVERRIDE VALVE (M936/A1 ONLY) |
| (I) COMBINATION SPRING AND SERVICE BRAKE CHAMBER(S) | (R) TRANSFER CASE                        |  |

D0018DAA

FO-8. M939/A1/A2 WO/ABS Air Control Line Diagram.

FP-15/FP-16 blank



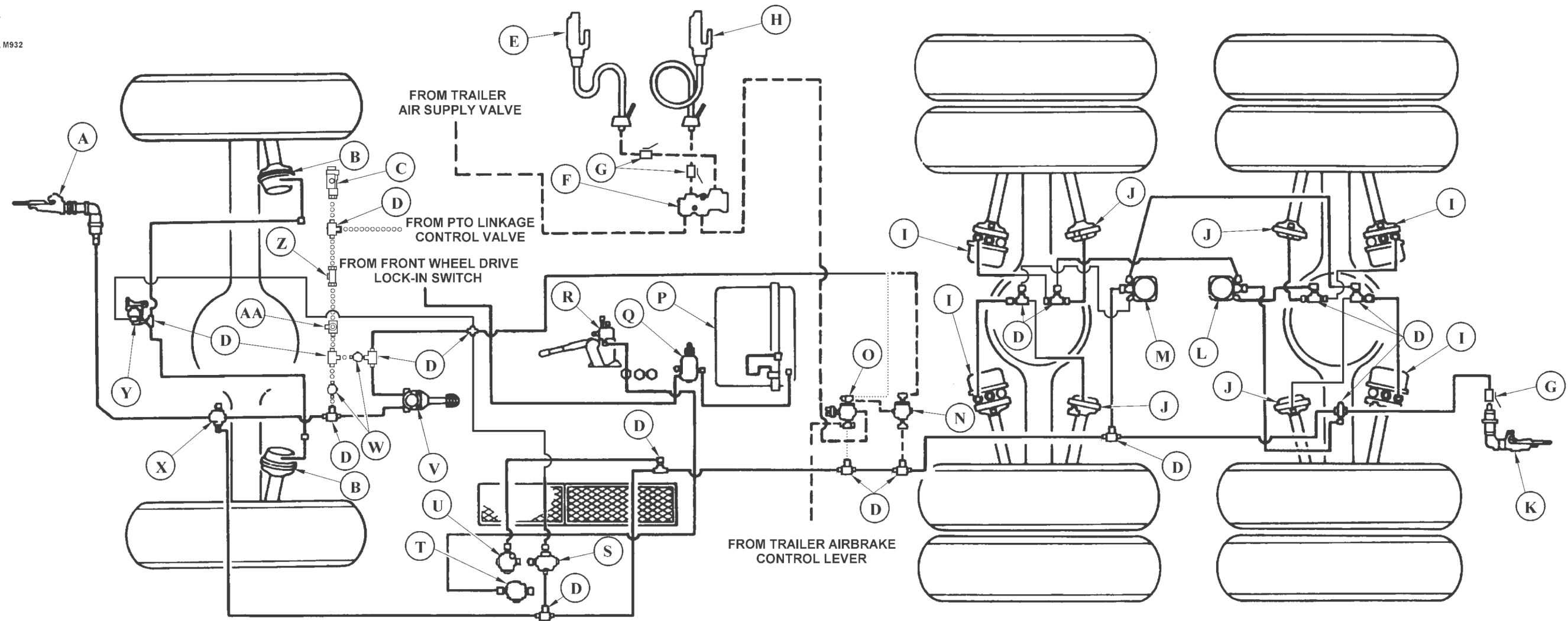
LEGEND:

ALL MODELS

TRACTOR M931, M932 ONLY

ALL MODELS EXCEPT M931, M932

WRECKER M936/A1 ONLY

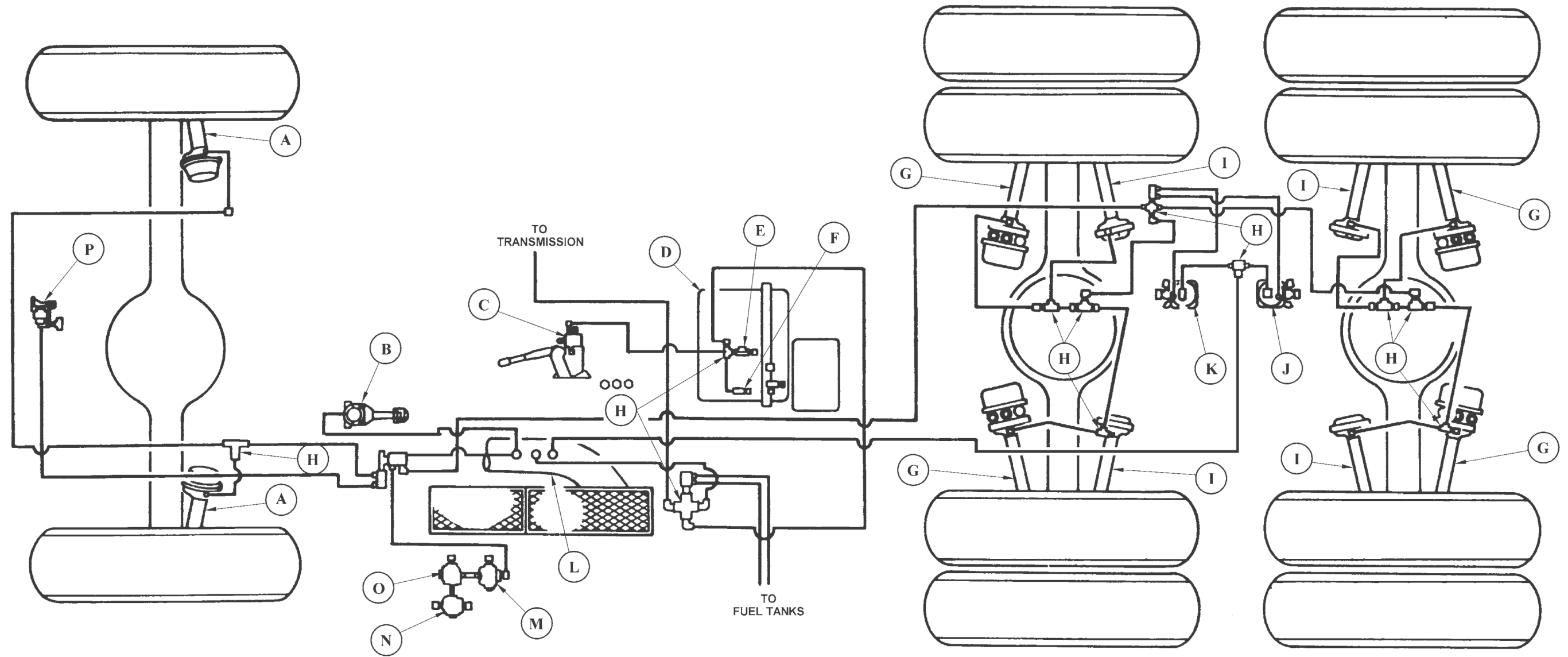


- |   |  |  |
|---|--|--|
| (A) FRONT SERVICE AIR COUPLING                      | (J) REAR SERVICE BRAKE CHAMBER(S)        | (S) INVERSION VALVE                          |
| (B) FRONT SERVICE BRAKE CHAMBER(S)                  | (K) REAR SERVICE AIR COUPLING            | (T) DOUBLE CHECK VALVE #4                    |
| (C) AIR CYLINDER ENGINE GOVERNOR (M936/A1 ONLY)     | (L) RIGHT SIDE ABS RELAY VALVE           | (U) DOUBCHECK VALVE #3                       |
| (D) AIR MANIFOLD TEE(S)                             | (M) LEFT SIDE ABS RELAY VALVE            | (V) BRAKE PEDAL (TREADLE) VALVE              |
| (E) SERVICE TRAILER COUPLING (M931, M932 ONLY)      | (N) DOUBCHECK VALVE #5 (M931, M932 ONLY) | (W) DOUBCHECK VALVE(S) #8 (M936/A1 ONLY)     |
| (F) TRACTOR PROTECTION VALVE (M931, M932 ONLY)      | (O) DOUBCHECK VALVE #2                   | (X) DOUBCHECK VALVE #1/6                     |
| (G) SHUT OFF VALVE(S)                               | (P) TRANSFER CASE                        | (Y) FRONT LIMITING/LQ-2 VALVE                |
| (H) EMERGENCY TRAILER COUPLING (M931, M932 ONLY)    | (Q) TRANSFER CASE LIMIT VALVE            | (Z) BRAKE LOCK OVERRIDE VALVE (M936/A1 ONLY) |
| (I) COMBINATION SPRING AND SERVICE BRAKE CHAMBER(S) | (R) PARKING (SPRING) BRAKE VALVE         | (AA) PRESSURE REGULATOR (M936/A1 ONLY)       |

D0019DAA

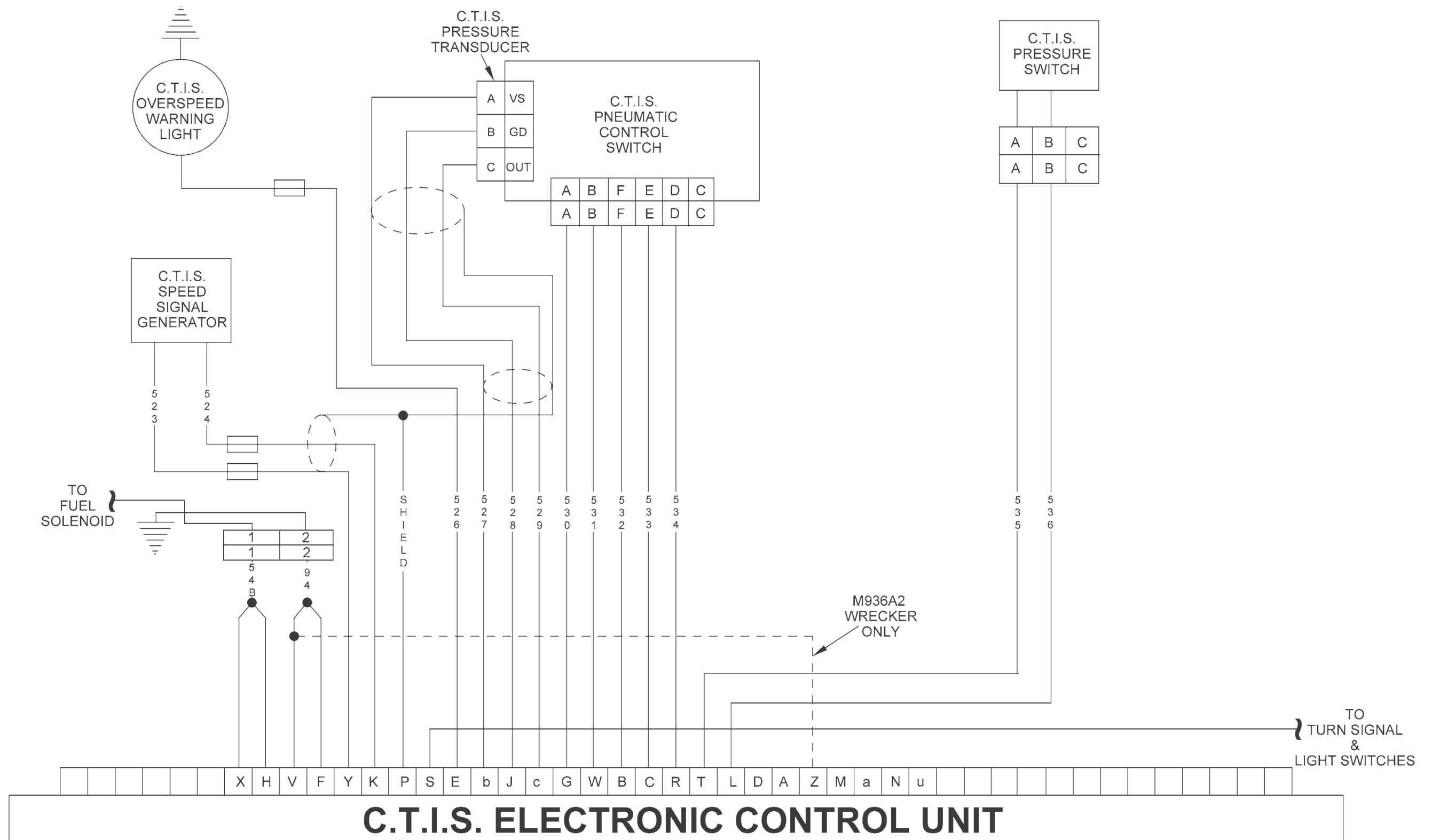
FO-9. M939/A1/A2 W/ABS Air Control Line Diagram.





- |   |   |
|---|---|
| (A) FRONT SERVICE BRAKE CHAMBER(S)                  | (J) PRIMARY/RIGHT SIDE ABS RELAY VALVE  |
| (B) BRAKE PEDAL (TREADLE) VALVE                     | (K) SECONDARY/LEFT SIDE ABS RELAY VALVE |
| (C) PARKING (SPRING) BRAKE VALVE                    | (L) AIR INTAKE STACK                    |
| (D) TRANSFER CASE                                   | (M) QUICK RELEASE VALVE                 |
| (E) FRONT WHEEL DRIVE AIR CYLINDER                  | (N) DOUBLECHECK VALVE #4                |
| (F) TRANSFER CASE INTERLOCK VALVE                   | (O) DOUBLECHECK VALVE #3                |
| (G) COMBINATION SPRING AND SERVICE BRAKE CHAMBER(S) | (P) QUICK RELEASE/LQ-2 VALVE            |
| (H) AIR MANIFOLD TEE(S)                             |   |
| (I) REAR SERVICE BRAKE CHAMBER(S)                   |   |



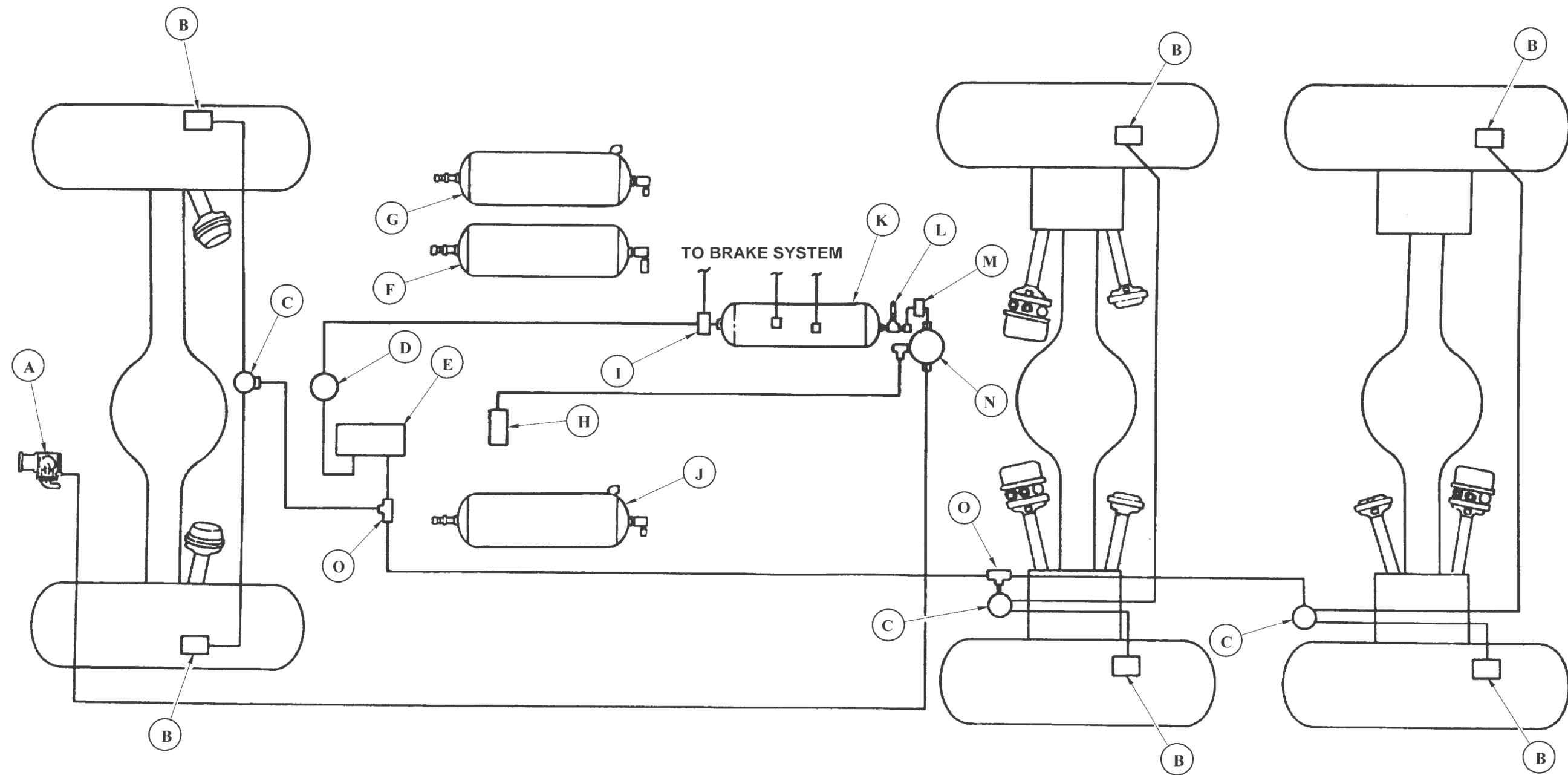


D0021DAA

FO-11. M939A2 C.T.I.S. Electrical System Wiring Diagram.







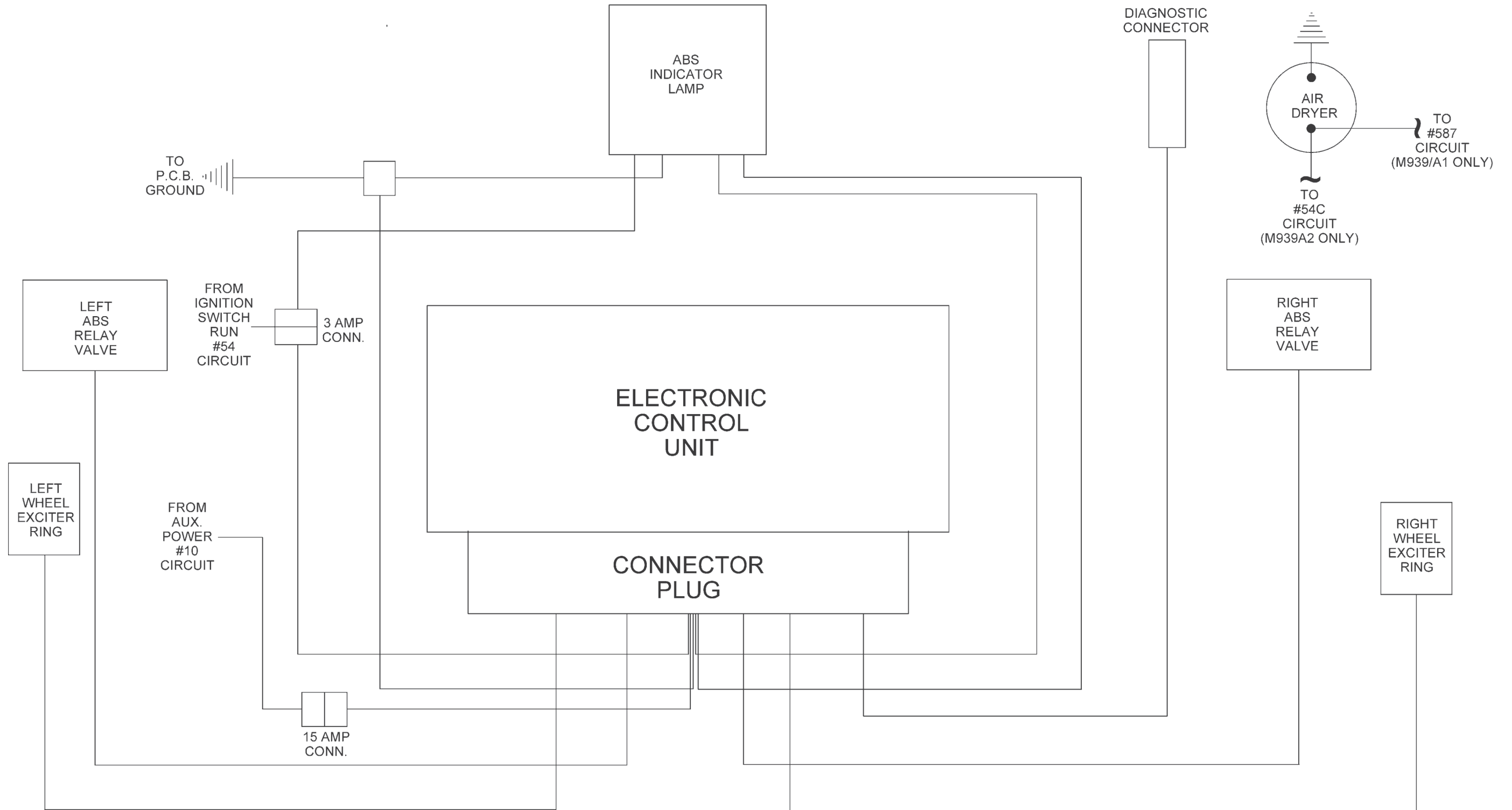
- |                                |                                |                                     |
|--------------------------------|--------------------------------|-------------------------------------|
| (A) AIR COMPRESSOR             | (F) PRIMARY AIR RESERVOIR      | (K) WET AIR RESERVOIR               |
| (B) WHEEL VALVE(S)             | (G) SECONDARY AIR RESERVOIR    | (L) PRESSURE RELIEF VALVE (150 PSI) |
| (C) QUICK-EXHAUST VALVE(S)     | (H) GOVERNOR                   | (M) ONE-WAY CHECK VALVE             |
| (D) WATER SEPARATOR            | (I) PRESSURE PROTECTION VALVE  | (N) AIR DRYER                       |
| (E) PNEUMATIC CONTROL ASSEMBLY | (J) SPRING BRAKE AIR RESERVOIR | (O) AIR MANIFOLD TEE(S)             |

D0022DAA

FO-12. M939A2 C.T.I.S. Air Supply Line Diagram.

FP-23/FP-24 blank

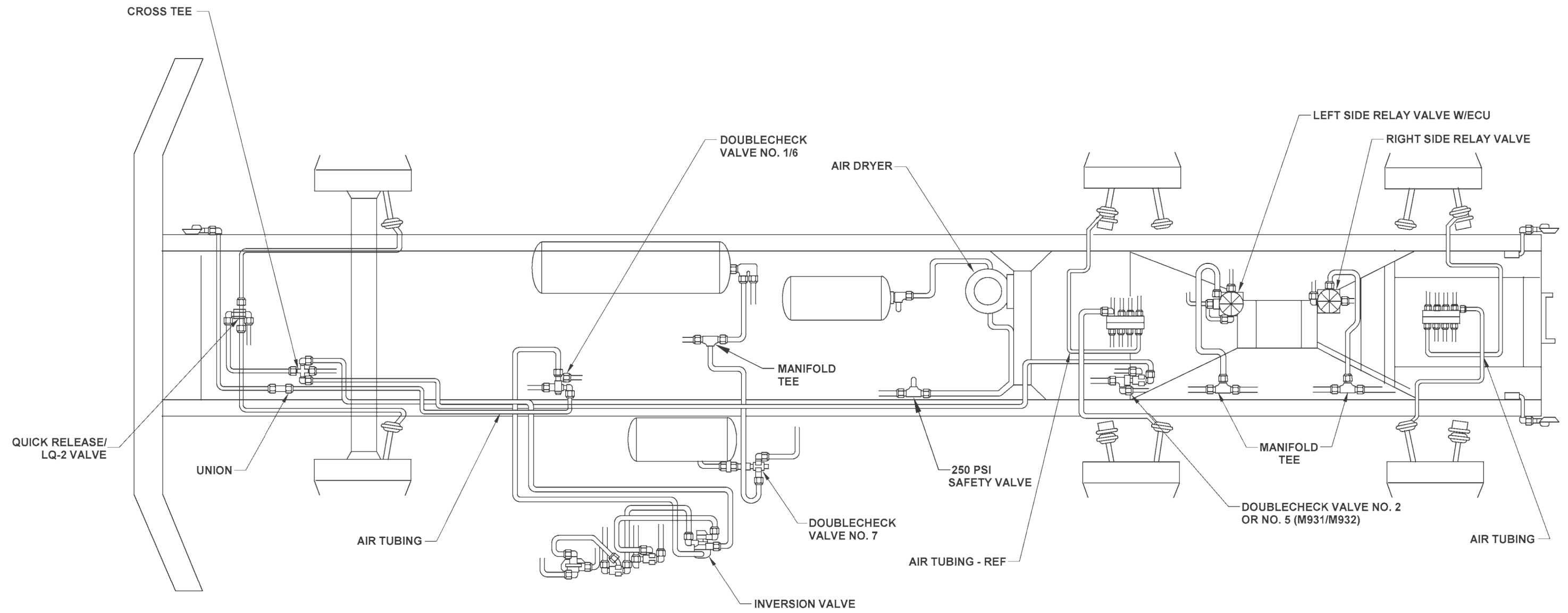




D0023DAA

FO-13. M939/A1/A2 ABS Electrical System Wiring Diagram.





D0024DAA

FO-14. ABS Air Tubing Installation Diagram.



## THE METRIC SYSTEM AND EQUIVALENTS

### LINEAR MEASURE

1 Centimeter=10 Millimeters=0.01 Meters=0.3937 Inches  
 1 Meter=100 Centimeters=1000 Millimeters=39.37 Inches  
 1 Kilometer=1000 Meters=0.621 Miles

### WEIGHTS

1 Gram=0.001 Kilograms=1000 Milligrams=0.035 Ounces  
 1 Kilogram=1000 Grams=2.2 Lb  
 1 Metric Ton=1000 Kilograms=1 Megagram=1.1 Short Tons

### LIQUID MEASURE

1 Milliliter=0.001 Liters=0.0338 Fluid Ounces  
 1 Liter=1000 Milliliters=33.82 Fluid Ounces

### SQUARE MEASURE

1 Sq Centimeter=100 Sq Millimeters=0.155 Sq Inches  
 1 Sq Meter=10,000 Sq Centimeters=10.76 Sq Feet  
 1 Sq Kilometer=1,000,000 Sq Meters=0.386 Sq Miles

### CUBIC MEASURE

1 Cu Centimeter=1000 Cu Millimeters=0.06 Cu Inches  
 1 Cu Meter=1,000,000 Cu Centimeters=35.31 Cu Feet

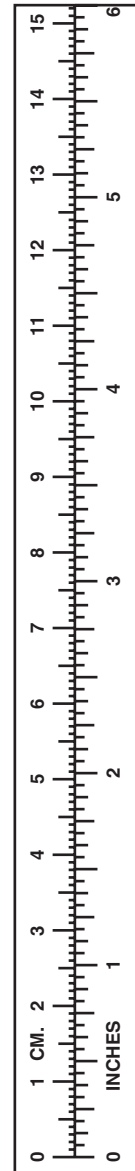
### TEMPERATURE

$5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$   
 212°Fahrenheit is equivalent to 100°Celsius  
 90°Fahrenheit is equivalent to 32.2°Celsius  
 32°Fahrenheit is equivalent to 0°Celsius  
 $9/5 (^{\circ}\text{C} + 32) = ^{\circ}\text{F}$

### APPROXIMATE CONVERSION FACTORS

<u>TO CHANGE</u>	<u>TO</u>	<u>MULTIPLY BY</u>
Inches . . . . .	Centimeters . . . . .	2.540
Feet . . . . .	Meters . . . . .	0.305
Yards . . . . .	Meters . . . . .	0.914
Miles . . . . .	Kilometers . . . . .	1.609
Square Inches . . . . .	Square Centimeters . . . . .	6.451
Square Feet . . . . .	Square Meters . . . . .	0.093
Square Yards . . . . .	Square Meters . . . . .	0.836
Square Miles . . . . .	Square Kilometers . . . . .	2.590
Acres . . . . .	Square Hectometers . . . . .	0.405
Cubic Feet . . . . .	Cubic Meters . . . . .	0.028
Cubic Yards . . . . .	Cubic Meters . . . . .	0.765
Fluid Ounces . . . . .	Milliliters . . . . .	29.573
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/Sq Inch . . . . .	Kilopascals . . . . .	6.895
Miles per Gallon . . . . .	Kilometers per Liter . . . . .	0.425
Miles per Hour . . . . .	Kilometers per Hour . . . . .	1.609

<u>TO CHANGE</u>	<u>TO</u>	<u>MULTIPLY BY</u>
Centimeters . . . . .	Inches . . . . .	0.394
Meters . . . . .	Feet . . . . .	3.280
Meters . . . . .	Yards . . . . .	1.094
Kilometers . . . . .	Miles . . . . .	0.621
Sq Centimeters . . . . .	Square Inches . . . . .	0.155
Square Meters . . . . .	Square Feet . . . . .	10.764
Square Meters . . . . .	Square Yards . . . . .	1.196
Square Kilometers . . . . .	Square Miles . . . . .	0.386
Sq 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 Sq Inch . . . . .	0.145
Km per Liter . . . . .	Miles per Gallon . . . . .	2.354
Km per Hour . . . . .	Miles per Hour . . . . .	0.621



**PIN: 087179-000**