TM 9-2320-363-20-2
VOLUME NO. 2

TECHNICAL MANUAL

UNIT MAINTENANCE MANUAL FOR

TRUCK, TRACTOR, LINE HAUL 52,000 GVWR, 6 X 4, M915A2 (NSN 2320-01-272-5029)

TRUCK, TRACTOR, LIGHT EQUIPMENT TRANSPORTER (LET) 68,000 GVWR, 6 X 6, W/WINCH, M916AI (NSN 2320-01-272-5028)

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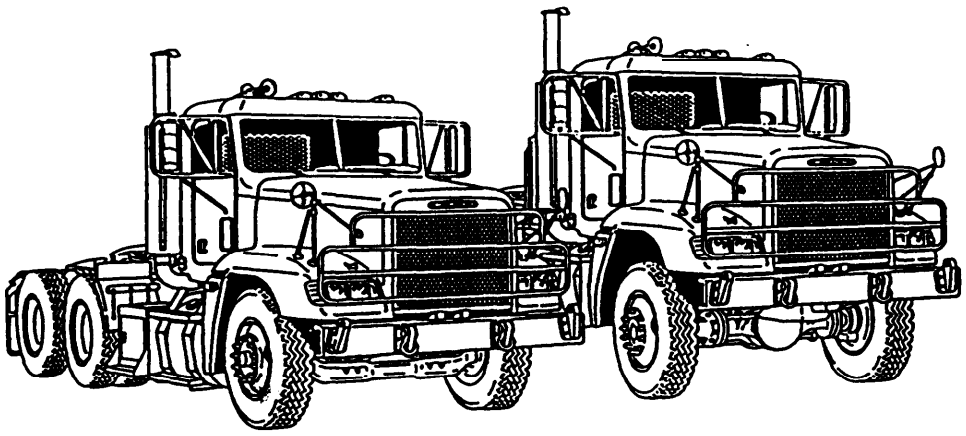

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CHANGE
NO. 3

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 30 December 1997

UNIT MAINTENANCE MANUAL

FOR

TRUCK, TRACTOR, LINE HAUL: 52,000 GVWR, 6 X 4, M915A2
(NSN 2320-01-272-5029)

TRUCK TRACTOR LIGHT EQUIPMENT TRANSPORTER (LET)
68,000 6VWR, 6 X 6, W/WINCH, M916A1
(NSN 2320-01-272-5028)

TRUCK TRACTOR LIGHT EQUIPMENT TRANSPORTER (LET)
68,000 6VWR, 6 X 6, W/WINCH, M916A2
(NSN 2320-01-431-1163)

TRUCK, DUMP, HEAVY, CHASSIS
68,000 GVWR, 6 X 6,14 CU YD, ON-OFF HIGHWAY
M917A1 (NSN 3805-01-431-1165)
M917A1 W/MCS (NSN 3805-01-432-8249)

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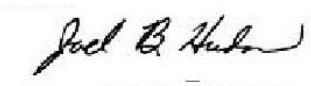

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Washington D. C., *14 December 1992*

UNIT MAINTENANCE MANUAL
TRUCK, TRACTOR, LINE HAUL, 52,000 GVWR, **6 X 4, M915A2**
(NSN 2320-01-272-5029)

AND

TRUCK, TRACTOR, LIGHT EQUIPMENT TRANSPORTER (LET)
68,000 GVWR, 6 X 6, W/WINCH, M916A1
(NSN 2320-01-272-5028)

VOLUME 2 OF 2

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HEADQUARTERS
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TECHNICAL MANUAL

UNIT MAINTENANCE MANUAL FOR

TRUCK, TRACTOR LINE HAUL
52,000 GVWR, 6 X 4, M915A2
(NSN 2326-01-272-5029)

TRUCK, TRACTOR LIGHT EQUIPMENT TRANSPORTER (LET)
68,000 GVWR, 6 X 6, W/WINCH, M916A1
(NSN 2320-01-272-5028)

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WARNING

CARBON MONOXIDE POISONING CAN BE DEADLY

CARBON MONOXIDE IS A COLORLESS, ODORLESS, DEADLY POISONOUS GAS, WHICH, WHEN BREATHED, DEPRIVES THE BODY OF OXYGEN AND CAUSES SUFFOCATION. EXPOSURE TO AIR CONTAMINATED WITH CARBON MONOXIDE PRODUCES SYMPTOMS OF HEADACHE, DIZZINESS, LOSS OF MUSCULAR CONTROL, APPARENT DROWSINESS, OR COMA. PERMANENT BRAIN DAMAGE OR DEATH CAN RESULT FROM SEVERE EXPOSURE.

CARBON MONOXIDE OCCURS IN THE EXHAUST FUMES OF FUEL-BURNING HEATERS AND INTERNAL-COMBUSTION ENGINES AND BECOMES DANGEROUSLY CONCENTRATED UNDER CONDITIONS OF INADEQUATE VENTILATION. THE FOLLOWING PRECAUTIONS MUST BE OBSERVED TO ENSURE THE SAFETY OF PERSONNEL WHENEVER THE PERSONNEL HEATER, MAIN, OR AUXILIARY ENGINE OF ANY VEHICLE IS OPERATED FOR MAINTENANCE PURPOSES OR TACTICAL USE:

1. DO NOT operate engine of vehicle in an enclosed area unless it is ADEQUATELY VENTILATED.

2. DO NOT idle engine for long periods without maintaining ADEQUATE VENTILATION in the personnel compartments.

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

4. BE ALERT at all times during vehicle operation for exhaust odors and exposure symptoms. If either is present, IMMEDIATELY VENTILATE personnel compartments. If symptoms persist, remove affected personnel from vehicle and treat as follows: expose to fresh air; keep warm, DO NOT PERMIT EXERCISE; if necessary, administer artificial respiration (see FM 21-11).

THE BEST DEFENSE AGAINST CARBON MONOXIDE POISONING IS ADEQUATE VENTILATION.

WARNING

COMPRESSED AIR

Compressed air used for cleaning purposes will not exceed 30 psi (207 kPa). Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc.). Failure to do so could result in serious injury to personnel.

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flash point is 100°-138°F (38 °-500 C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

WARNING

Spilled hydraulic fluid is very slippery. Wipe up any spilled fluid immediately, Failure to do so could result in serious injury to personnel.

WARNING

Do not disconnect any air system lines or fittings unless vehicle engine is shut off and air system pressure is relieved, To do so could result in serious injury to personnel.

WARNING

Disconnect negative battery terminal before connecting or disconnecting any electrical connectors. Failure to do so may result in electrical shock and injury to personnel.

WARNING

Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

WARNING

When servicing this vehicle, performing maintenance, or disposing of materials such as engine coolant, transmission fluid, lubricants, battery acids or batteries and CARC paint, consult your Unit/Local Hazardous Waste Disposal Center or safety office for local regulatory guidance. If further information is needed, please contact the Army Environmental Hotline at 1-800-872-3845.

WARNING

Whenever any inner and/or outer wheel lug nuts require tightening or a wheel has been removed and replaced, all inner and outer lug nuts must be retorqued to the required torque. Failure to follow this warning may result in serious injury to personnel or damage to equipment.

WARNING

Failure to wear protective gloves could result in serious skin cuts from sharp edges on heater core fins.

WARNING

Use care to prevent refrigerant from touching your skin or eyes, because liquid refrigerant, when exposed to air, quickly evaporates and will freeze skin or eye tissue. Serious injury or blindness could result if you come into contact with liquid refrigerant.

WARNING

Refrigerant R-134a air conditioning systems should not be pressure tested or leak tested with compressed air. Combustible mixtures of air and R-134a may form, resulting in a fire or explosion, which could cause personnel injury.

Technical Manual
No. 9-2320-363-20-2

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 12 June 1992

UNIT MAINTENANCE MANUAL

FOR

TRUCK, TRACTOR, LINE HAUL: 52,000 GVWR, 6 X 4, M915A2
(NSN 2320-01-272-5029)

TRUCK TRACTOR, LIGHT EQUIPMENT TRANSPORTER (LET)
68,000 GVWR, 6 X 6, W/WINCH, M916A1
(NSN 2320-01-272-5028)

TRUCK TRACTOR, LIGHT EQUIPMENT TRANSPORTER (LET)
68,000 GVWR, 6 X 6, W/WINCH, M916A2
(NSN 2320-01-431-1163)

TRUCK, DUMP, HEAVY, CHASSIS
68,000 GVWR, 6 X 6, 14 CU YD, ON-OFF HIGHWAY
M917A1 (NSN 3805-01-431-1165)
M917A1 W/MCS (NSN 3805-01-432-8249)

VOLUME 2 OF 2

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located at the back of this manual direct to: Commander, US Army Tank-automotive and Armaments Command, ATTN: AMSTA-AC-NML, Rock Island, IL 61299-7630. A reply will be furnished to you. You may also provide DA Form 2028-2 information to TACOM via datafax or e-mail. TACOM's datafax number for AMSTA-AC-NML is DSN 793-0726 or Commercial (309) 782-0726 and the e-mail address is: amsta-ac-nml@riaemh2.army.mil.

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CHAPTER 4
VEHICLE MAINTENANCE INSTRUCTIONS

Section I. POWER PACKAGE MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the power package and related components. A list of tasks contained in this section is shown below.

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Air Compressor Replacement (M915A2 and M916A1) 4-22

Air Compressor Replacement (All Except M915A2 and M916A1) 4-27.0

Tachometer Drive Replacement 4-28

Oil Sample Valve Replacement 4-32

Air Compressor Governor Replacement and Adjustment 4-34

Air Compressor Discharge Hose Replacement 4-36

OIL FILTER ELEMENT REPLACEMENT

This task covers: a. Removal b. Cleaning c. Inspection d. Installation

INITIAL SETUP

Tools and Special Equipment:
Shop Equipment, SC 4910-95-CL-A72

Materials/Parts:

Element, Bypass Filter	P/N 25011188
Element, Full Flow Filter (2)	P/N 25010495
Oil, Lubricating	Appendix C, Item 18

References:
TM 9-2320-363-20-1

General Safety Instructions:

WARNING

- **Hot oil can cause senous burns. Allow engine to cool down before changing oil** filter elements.
- Spilled engine oil is very slippery. Wipe up any spilled oil immediately. Failure to do so could result in serious injury to personnel.

REMOVAL

WARNING

- **Hot oil can cause serious burns. Allow engine to cool down before changing oil filter elements.**
- **Spilled engine oil is very slippery. Wipe up any spilled oil immediately. Failure to do so could result in serious injury to personnel.**

NOTE

Oil filter element replacement should be performed on warm engine.

1. PLACE SUITABLE DRAIN PAN UNDER OIL FILTER ELEMENT TO BE REMOVED, TO CATCH OIL.
2. USING STRAP WRENCH, REMOVE AND DISCARD OIL FILTER ELEMENT (1) WITH GASKET (2).

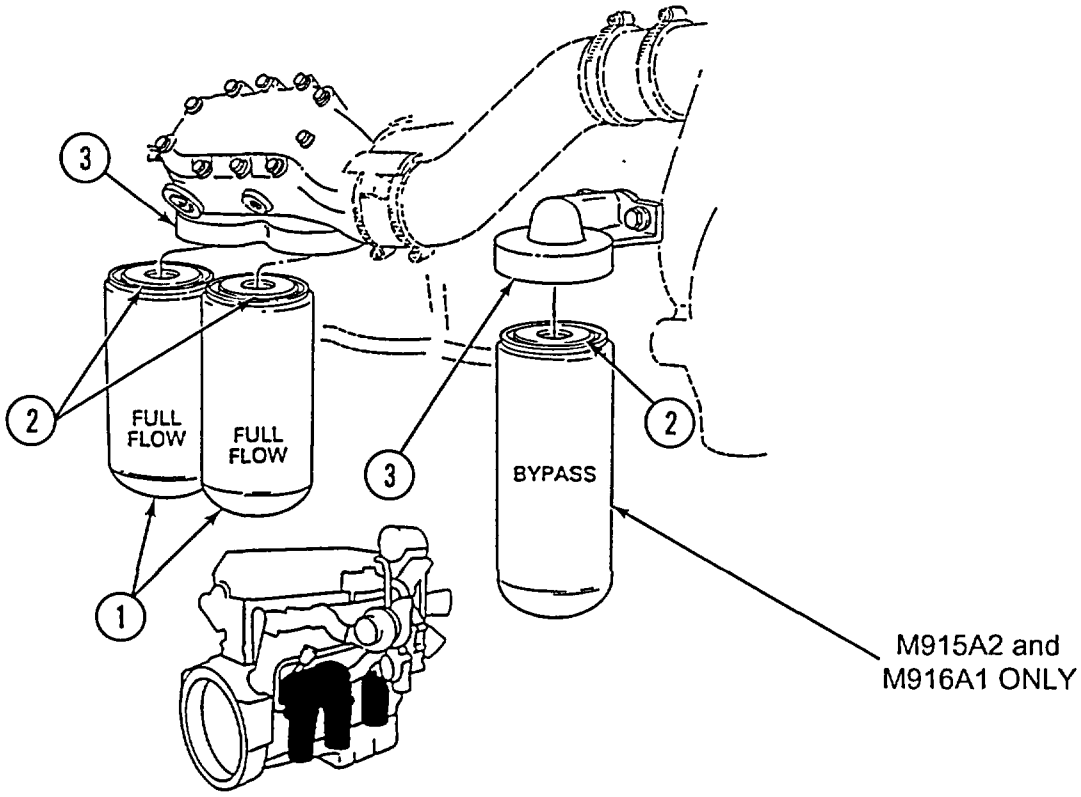
NOTE

M916A1 serial numbers 465379 through 465446 and 662068 through 662079, M916A2, M917A1, and M917A1 w/MCS have no bypass oil filter.

3. REPEAT STEPS 1 AND 2 FOR REMAINING OIL FILTER ELEMENTS.

CLEANING

Clean oil filter adapter where oil filter gasket makes contact.



INSPECTION

Inspect oil filter adapter for cracks, nicks, or damaged threads.

INSTALLATION

1. COAT NEW GASKET (2) WITH THIN FILM OF ENGINE LUBRICATING OIL.

2. FILL NEW OIL FILTER ELEMENT (1) APPROXIMATELY 2/3 FULL WITH ENGINE LUBRICATING OIL

3. THREAD NEW OIL FILTER ELEMENT (1) ON ADAPTER (3) BY HAND UNTIL NO FILTER ELEMENT SIDE MOVEMENT IS EVIDENT.

CAUTION
To prevent damage to filter element, do not use filter wrench for installation.

4. TIGHTEN OIL FILTER ELEMENT (1) ADDITIONAL 2/3 TURN.

NOTE

M916A1 serial numbers 465379 through 465446 and 662068 through 662079, M916A2, M917A1, and M917A1 w/MCS have no oil bypass filter.

5. REPEAT STEPS 1 THRU 4 FOR REMAINING OIL FILTER ELEMENTS.

NOTE
Follow-on Maintenance:
Top-off engine oil (Unit PMCS, TM 9-2320-363-20-1).

OIL BYPASS FILTER ADAPTER AND TUBE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Materials/Parts:

Packing, Preformed P/N 23508392

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 4-2	Oil Filter Element Removed

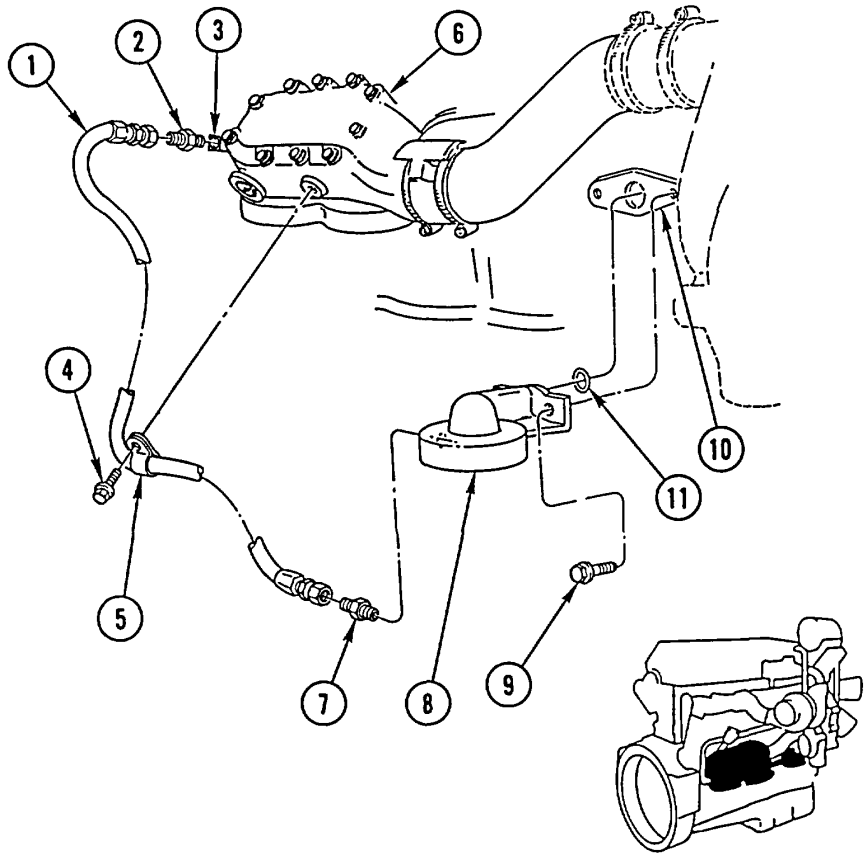
REMOVAL

NOTE
M916A1 serial numbers 465379 through 465446 and 662068 through 662079 have no oil bypass filter.

1. DISCONNECT BYPASS TUBE (1) FROM CONNECTOR (2) AT REAR OF OIL FILTER ADAPTER (3).
2. REMOVE BOLT (4) AND CLAMP (5) FROM OIL COOLER (6).
3. DISCONNECT BYPASS TUBE (1) FROM CONNECTOR (7) ON OIL BYPASS FILTER ADAPTER (8).
4. REMOVE CLAMP (5) FROM BYPASS TUBE (1).
5. REMOVE TWO CONNECTORS (2 AND 7) FROM OIL FILTER ADAPTER (3) AND OIL BYPASS FILTER ADAPTER (8).
6. REMOVE TWO BOLTS (9) AND OIL BYPASS FILTER ADAPTER (8) FROM ENGINE BLOCK (10).
7. REMOVE AND DISCARD PREFORMED PACKING (11) FROM OIL BYPASS FILTER ADAPTER (8).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

NOTE
M916A1 serial numbers 465379 through 465446 and 662068 through 662079 have no oil bypass filter.

1. INSTALL NEW PREFORMED PACKING (11) IN OIL BYPASS FILTER ADAPTER (8).
2. INSTALL OIL BYPASS FILTER ADAPTER (8) AND TWO BOLTS (9) ON ENGINE BLOCK (10). TIGHTEN BOLTS TO 15-19 LB-FT (20-26 N.m).
3. INSTALL TWO CONNECTORS (7 AND 2) ON OIL BYPASS FILTER ADAPTER (8) AND OIL FILTER ADAPTER (3).
4. INSTALL CLAMP (5) ON BYPASS TUBE (1).
5. CONNECT BYPASS TUBE (1) TO CONNECTOR (7) ON OIL BYPASS FILTER ADAPTER (8).
6. INSTALL CLAMP (5) AND BOLT (4) ON OIL COOLER (6).
7. CONNECT BYPASS TUBE (1) TO CONNECTOR (2) AT REAR OF OIL FILTER ADAPTER (3).

NOTE
Follow-on Maintenance:

Install oil filter element (page 4-2).

OIL COOLER, CORE, AND OIL FILTER ADAPTER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:
M915A2 and M916A1

References:
TM 9-2320-363-20-1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

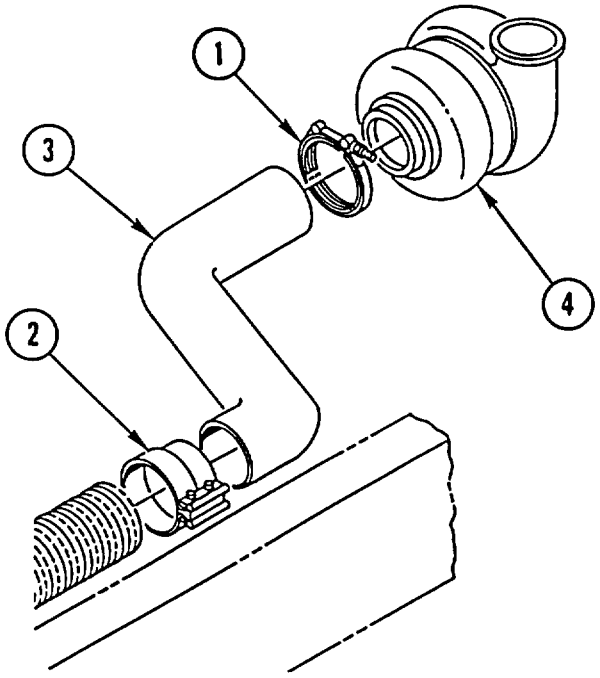
Materials/Parts:

Ring, Seal	P/N 8929289
Ring, Seal	P/N 23505902
Gasket	P/N 23506247
Ring, Seal (4)	P/N 23508392
Clamp, Seal	P/N KYX00-5833
Compound, Pipe Sealing	Appendix C, Item 8
Oil, Lubricating	Appendix C, Item 16

Equipment Conditions:

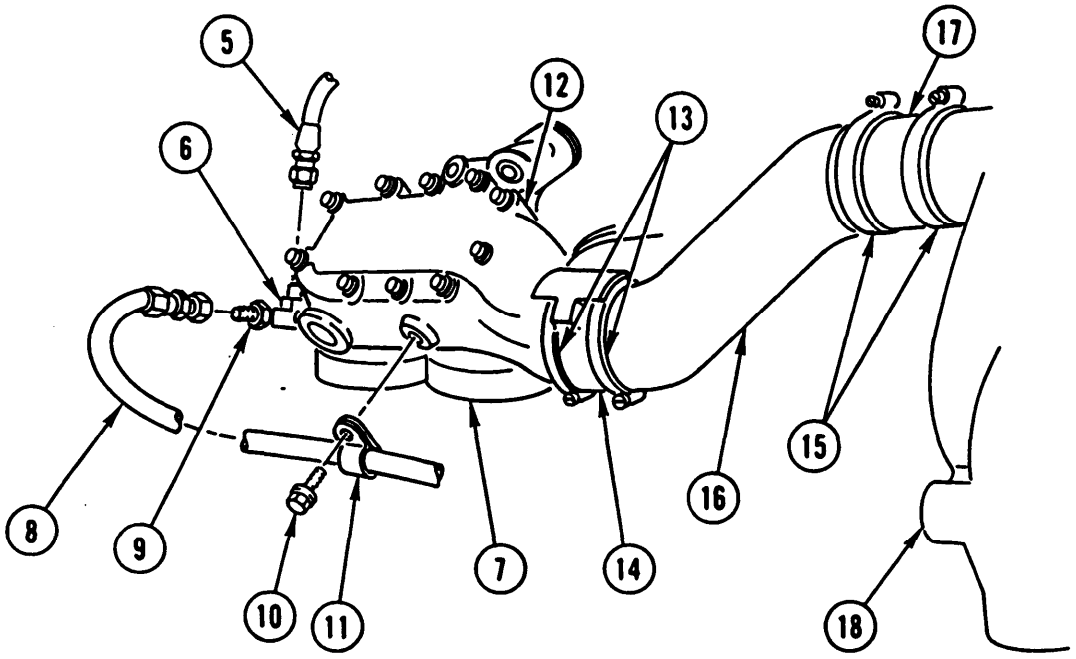
Reference	Condition Description
Page 4-2	Oil Filter Elements Removed
Page 4-141	Radiator Drained

REMOVAL



1. REMOVE VEE CLAMP (1).

2. LOOSEN SEAL CLAMP (2) AND REMOVE EXHAUST INLET PIPE (3) FROM TURBOCHARGER (4). REMOVE AND DISCARD SEAL CLAMP (2).



3. DISCONNECT TURBOCHARGER OIL SUPPLY TUBE (5) FROM FIITING (6) AT REAR OF OIL FILTER ADAPTER (7).

4. DISCONNECT BYPASS FILTER OIL SUPPLY TUBE (8) FROM CONNECTOR (9).

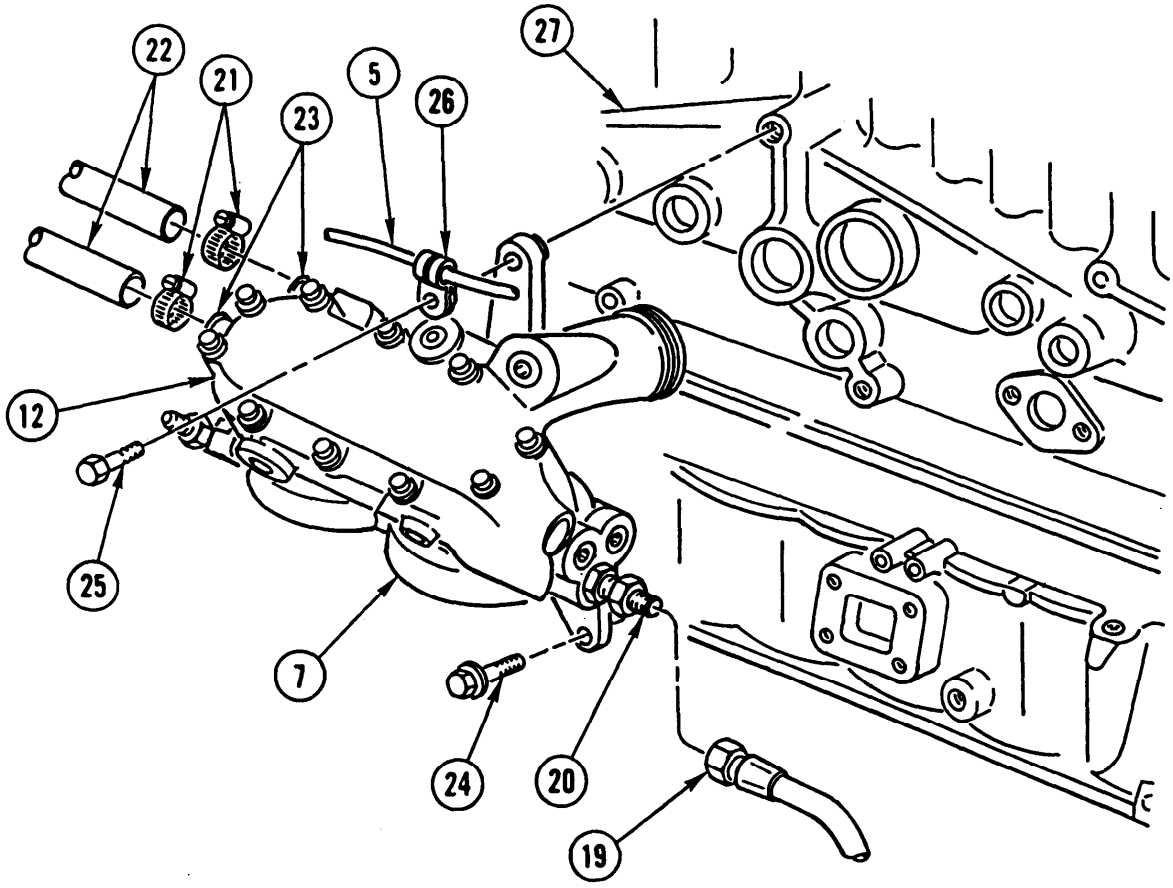
5. REMOVE BOLT (10) AND CLAMP (11) FROM OIL COOLER (12).

6. POSITION BYPASS FILTER OIL SUPPLY TUBE (8) AWAY FROM OIL COOLER (12).

7. LOOSEN TWO HOSE CLAMPS (13) AND REMOVE INLET HOSE (14) FROM OIL COOLER (12). REMOVE TWO HOSE CIAMPS (13).

& LOOSEN TWO HOSE CLAMPS (15) AND REMOVE COOLANT PIPE (16) AND HOSE (17) FROM WATER PUMP (18). REMOVE IWO HOSE CIAMPS (15).

OIL COOLER, CORE, AND OIL FILTER ADAPTER REPLACEMENT (CONT)



9. DISCONNECT OIL SAMPLE VALVE HOSE (19) FROM CONNECTOR (20).

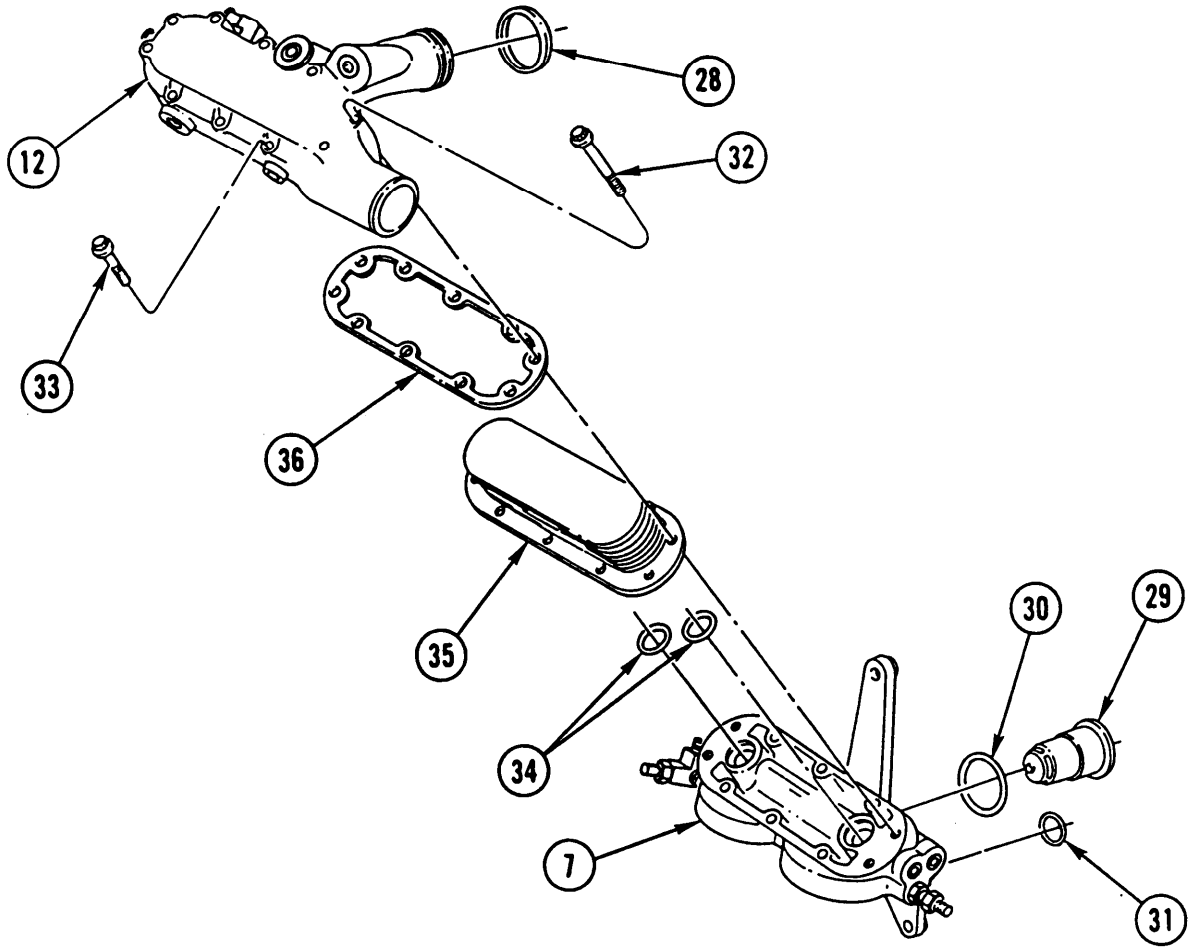
10. LOOSEN TWO CLAMPS (21) AND DISCONNECT TWO HOSES (22) FROM TWO WATER FITTINGS (23).

11. REMOVE THREE MOUNTING BOLTS (24) FROM OIL FILTER ADAPTER (7).

12. REMOVE BOLT (25) AND SUPPLY HOSE CLAMP (26) FROM OIL FILTER ADAPTER (7).

13. POSITION OIL SUPPLY TUBE (5) AWAY FROM OIL COOLER (12).

14. REMOVE OIL COOLER (12) AND OIL FILTER ADAPTER (7) AS AN ASSEMBLY FROM ENGINE BLOCK (27).



15. REMOVE AND DISCARD SEAL RING (28) FROM OIL COOLER (12).

16. REMOVE THERMOSTAT (29) AND SEAL RING (30) FROM OIL FILTER ADAPTER (7). DISCARD SEAL RING.

17. REMOVE AND DISCARD TWO SEAL RINGS (31) FROM OIL FILTER ADAPTER (7).

18. REMOVE SEVEN LONG BOLTS (32) AND THREE SHORT BOLTS (33) FROM OIL COOLER (1 2).

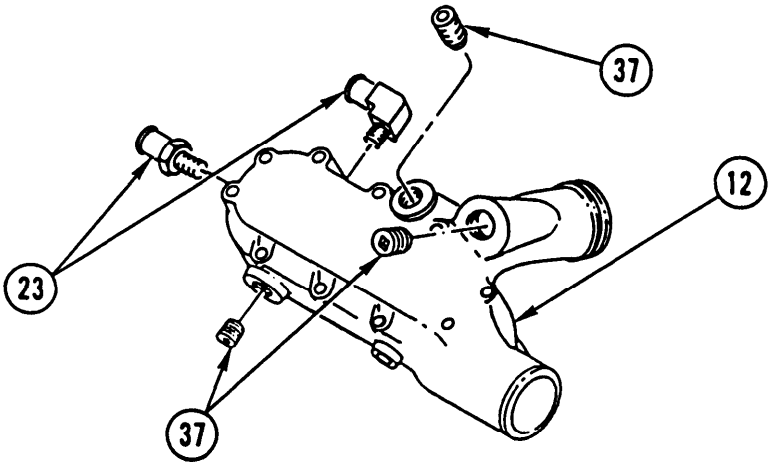
19. REMOVE OIL COOLER (12) FROM OIL FILTER ADAPTER (7).

20. REMOVE AND DISCARD TWO SEAL RINGS (34) FROM OIL FILTER ADAPTER (7).

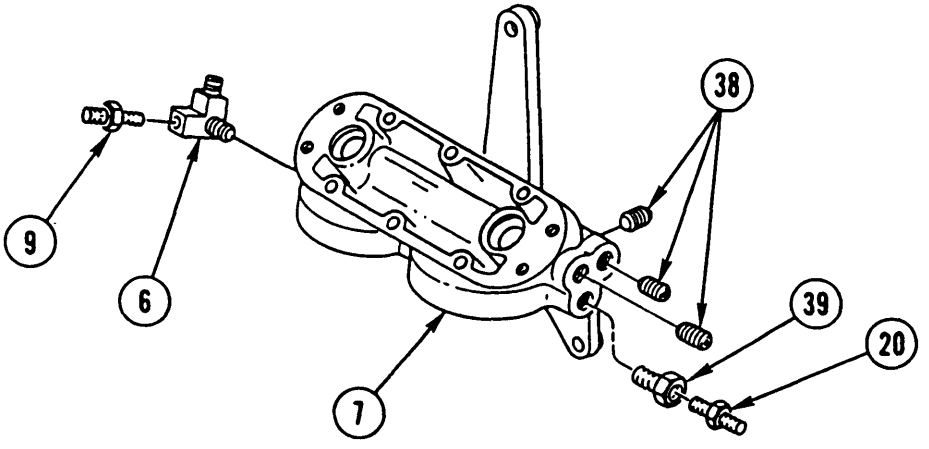
21. REMOVE CORE (35) FROM OIL COOLER (12).

22. REMOVE AND DISCARD GASKET (36).

OIL COOLER, CORE, AND OIL FILTER ADAPTER REPLACEMENT (CONT)



23. REMOVE THREE PIPE PLUGS (37) FROM OIL COOLER (1 2).
24. REMOVE TWO WATER FITTINGS (23) FROM OIL COOLER (12).

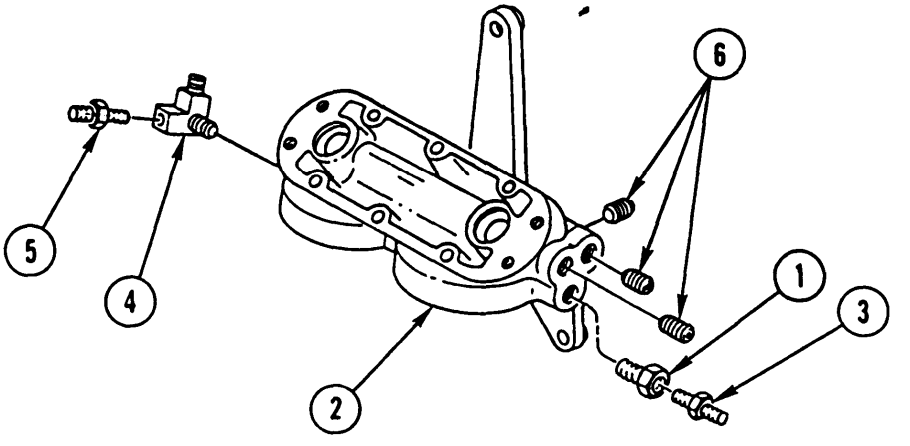


25. REMOVE THREE PIPE PLUGS (38) FROM OIL FILTER ADAPTER (7).
26. REMOVE CONNECTOR (9) FROM FITTING (6).
27. REMOVE FITTING (6) FROM OIL FILTER ADAPTER (7).
28. REMOVE CONNECTOR (20) FROM BUSHING (39).
29. REMOVE BUSHING (39) FROM OIL FILTER ADAPTER (7).

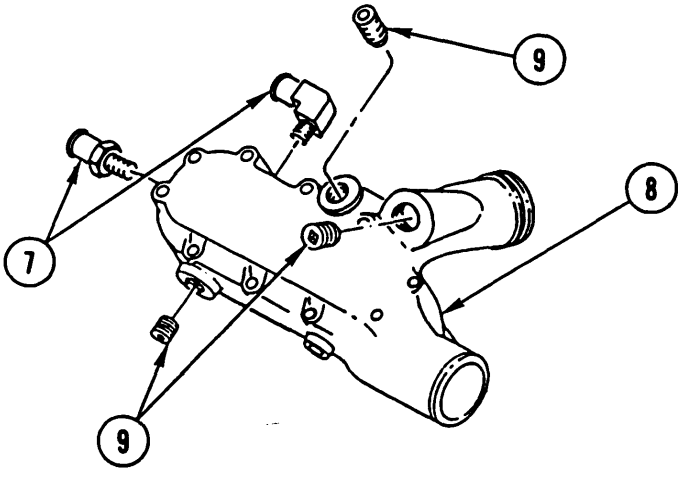
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

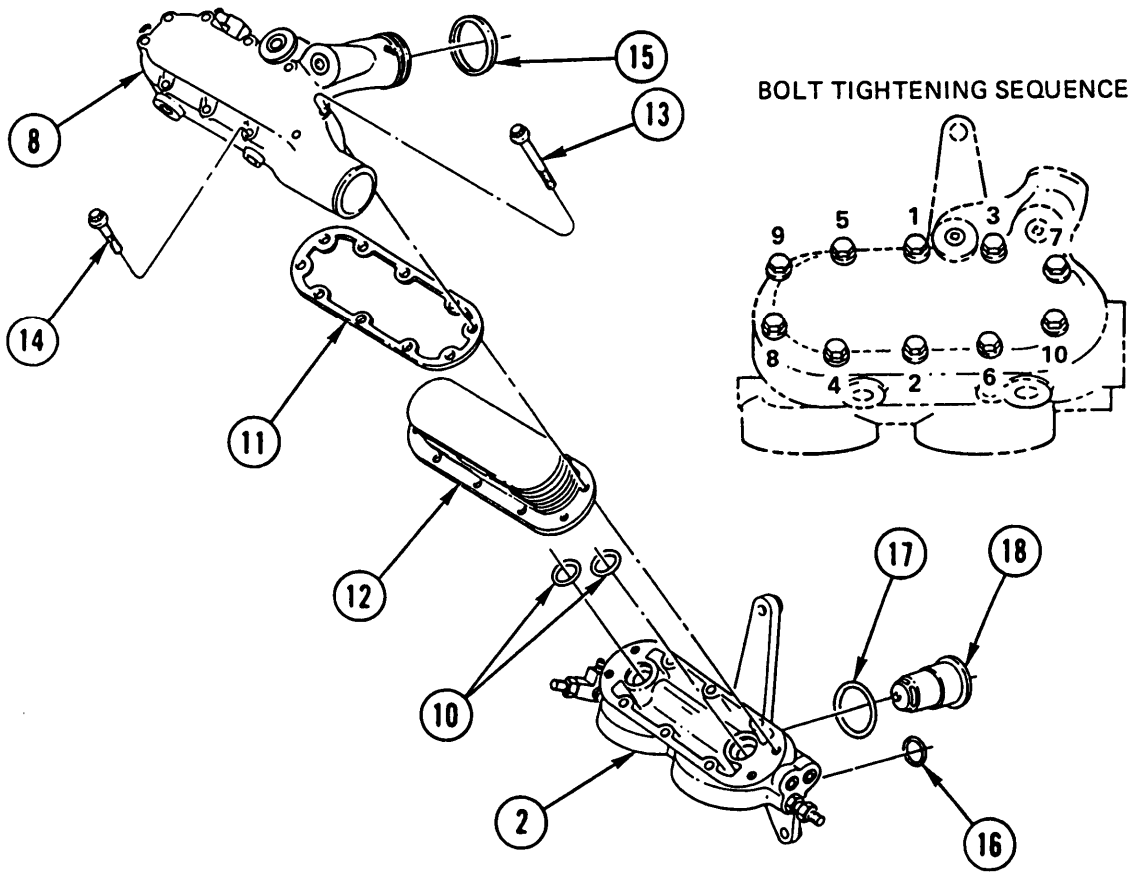


1. INSTALL BUSHING (1) IN OIL FILTER ADAPTER (2).
2. INSTALL CONNECTOR (3) IN BUSHING (1).
3. INSTALL FITTING (4) IN OIL FILTER ADAPTER (2).
4. INSTALL CONNECTOR (5) IN FITTING (4).
5. APPLY PIPE SEALING COMPOUND TO THREADS AND INSTALL THREE PIPE PLUGS (6) IN OIL FILTER ADAPTER (2).



6. INSTALL TWO WATER FITTINGS (7) IN OIL COOLER (8).
7. INSTALL THREE PIPE PLUGS (9) IN OIL COOLER (8).

OIL COOLER, CORE, AND OIL FILTER ADAPTER REPLACEMENT (CONT)



8. INSTALL TWO NEW SEAL RINGS (1 O) IN OIL FILTER ADAPTER (2).

CAUTION
Make sure all old gasket material is removed from core and oil cooler mating surfaces. Failure to do so could cause damage to engine.

9. INSTALL NEW GASKET (11) ON CORE (12).

10. INSTALL CORE (12) IN OIL COOLER (8).

CAUTION
Make sure seal rings are not dislodged when installing oil cooler on oil filter adapter. Failure to do so could cause damage to engine.

11. INSTALL OIL COOLER (8) ON OIL FILTER ADAPTER (2).

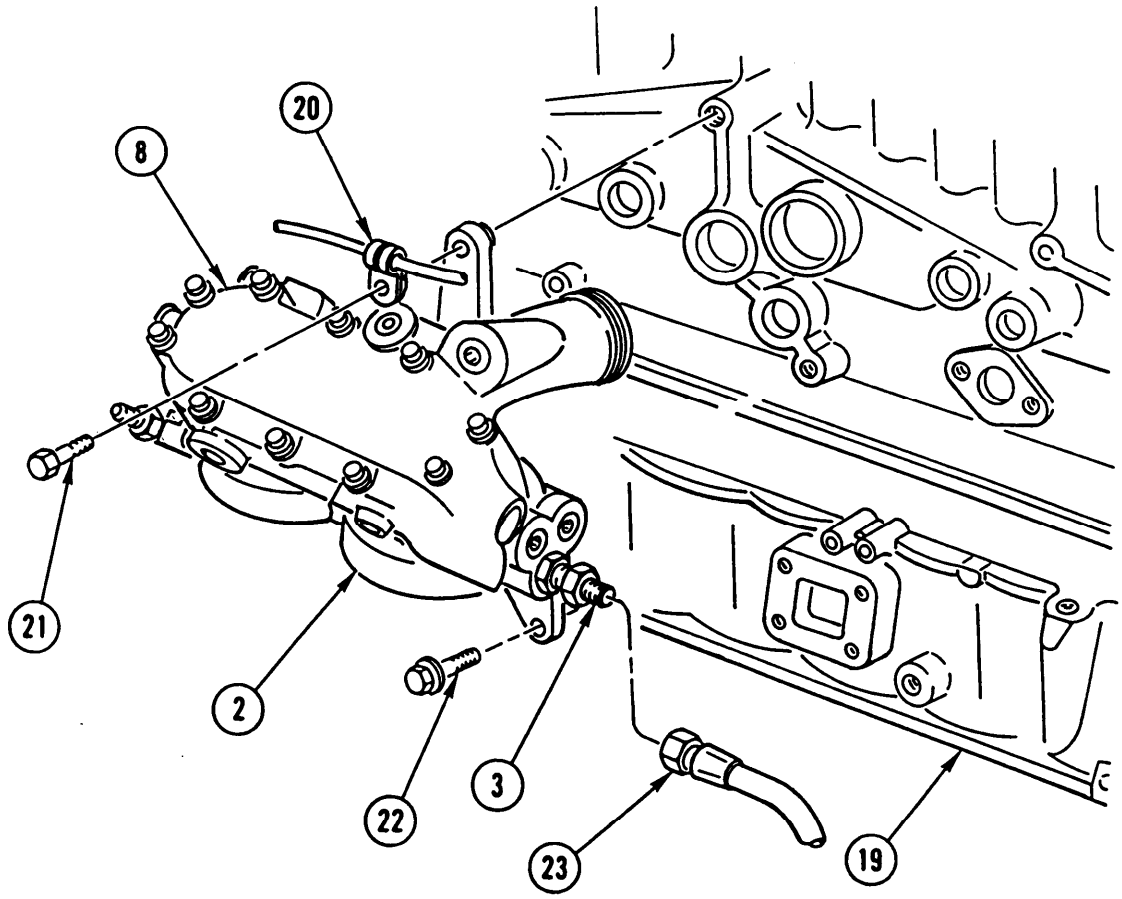
12. INSTALL SEVEN LONG BOLTS (13) AND THREE SHORT BOLTS (14) ON OIL COOLER (8).

13. TIGHTEN 10 BOLTS (13 AND 14) TO 22-28 LB-FT (30-38 N.m) IN SEQUENCE SHOWN.

14. COAT NEW SEAL RING (15) WITH CLEAN ENGINE OIL AND INSTALL SEAL RING (15) ON **OIL** COOLER (8).

15. INSTALL TWO NEW SEAL RINGS (16) IN OIL FILTER ADAPTER (2).

16. INSTALL NEW SEAL RING (17) AND THERMOSTAT (18) IN OIL FILTER ADAPTER (2).



NOTE

If necessary, tap neck of oil cooler housing with plastic or fiber mallet to force seal ring into engine block opening.

17. INSTALL OIL COOLER (8) ON ENGINE BLOCK (19).

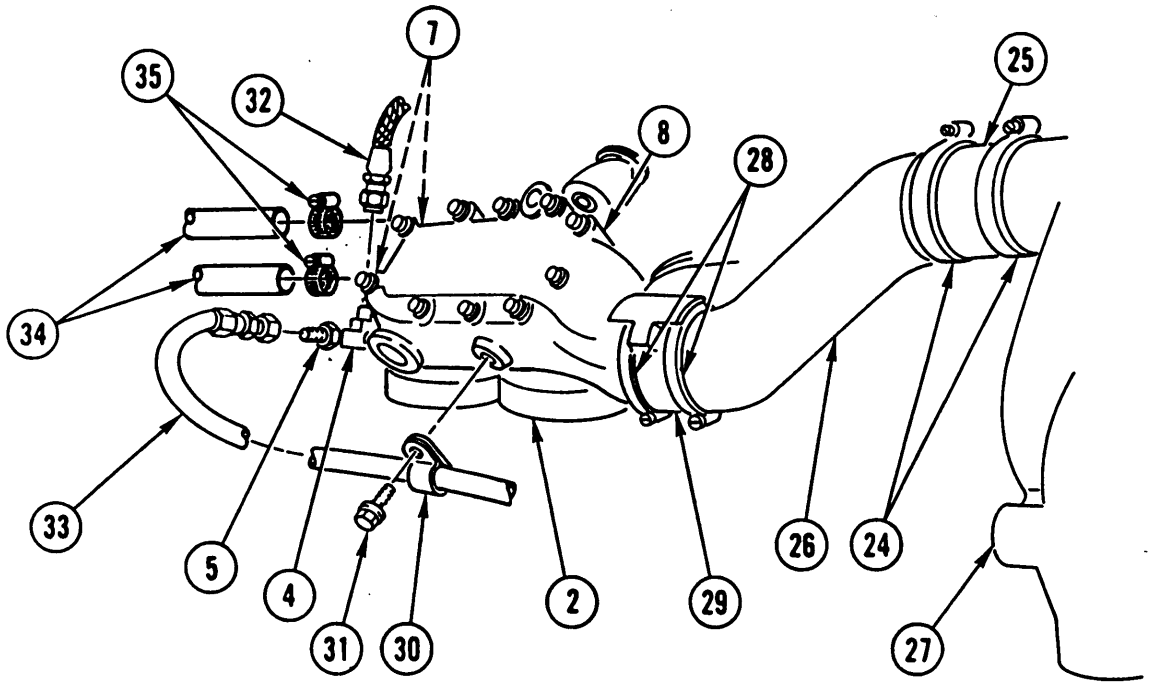
18. INSTALL SUPPLY HOSE CLAMP (20) AND BOLT (21) HAND-TIGHT ON OIL FILTER ADAPTER (2).

19. INSTALL THREE MOUNTING BOLTS (22) HAND-TIGHT.

20. TIGHTEN THREE MOUNTING BOLTS (22) AND BOLT (21) TO 43-54 LB-FT (58-73 N.m).

21. CONNECT OIL SAMPLE VALVE HOSE (23) TO CONNECTOR (3).

OIL COOLER, CORE, AND OIL FILTER ADAPTER REPLACEMENT (CONT)



22. INSTALL TWO HOSE CLAMPS (24), HOSE (25), AND COOLANT PIPE (26) ON WATER PUMP (27). TIGHTEN TWO HOSE CLAMPS '(24).

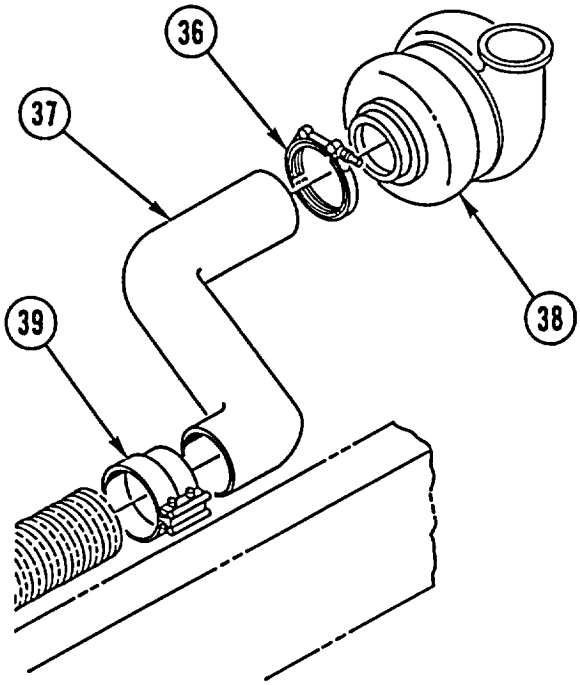
23. INSTALL TWO. HOSE CLAMPS (28) AND INLET HOSE (29) ON OIL COOLER (8). TIGHTEN TWO HOSE CLAMPS (28).

24. INSTALL CLAMP (30) AND BOLT (31) ON OIL COOLER (8). TIGHTEN BOLT TO 43-54 LB-FT (58-73 N.m).

25. CONNECT TURBOCHARGER OIL SUPPLY TUBE (32) TO FITTING (4) AT REAR OF OIL FILTER ADAPTER (2).

26. CONNECT BYPASS FILTER OIL SUPPLY TUBE (33) TO CONNECTOR (5).

27. CONNECT TWO HOSES (34) AND TIGHTEN TWO CLAMPS (35) ON TWO WATER FITTINGS (7).



28. INSTALL VEE CLAMP (36) AND EXHAUST INLET PIPE (37) ON TURBOCHARGER (38). TIGHTEN VEE CLAMP (36).

29. INSTALL NEW SEAL CLAMP (39) ON EXHAUST INLET PIPE (37). TIGHTEN SEAL CLAMP (39).

NOTE
Follow-on Maintenance:

Install oil filter elements (page 4-2).
Fill radiator (Unit PMCS, TM 9-2320-363-20-1).

OIL COOLER, CORE, AND OIL FILTER ADAPTER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Ring, Seal	P/N 8929289
Ring, Seal	P/N 23505902
Gasket	P/N 23506247
Ring, Seal (4)	P/N 23508392
Clamp, Seal	P/N KYX00-5833
Compound, Pipe Sealing	Appendix C, Item 8
Oil, Lubricating	Appendix C, Item 16

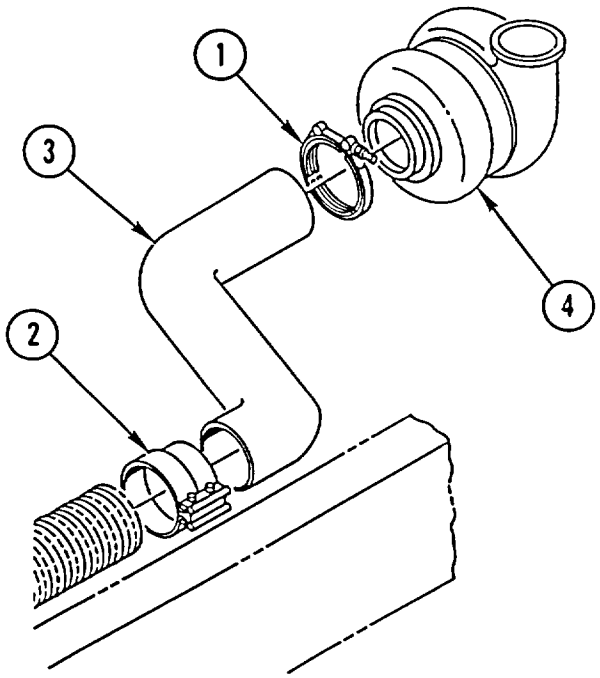
References:

TM 9-2320-363-20-1

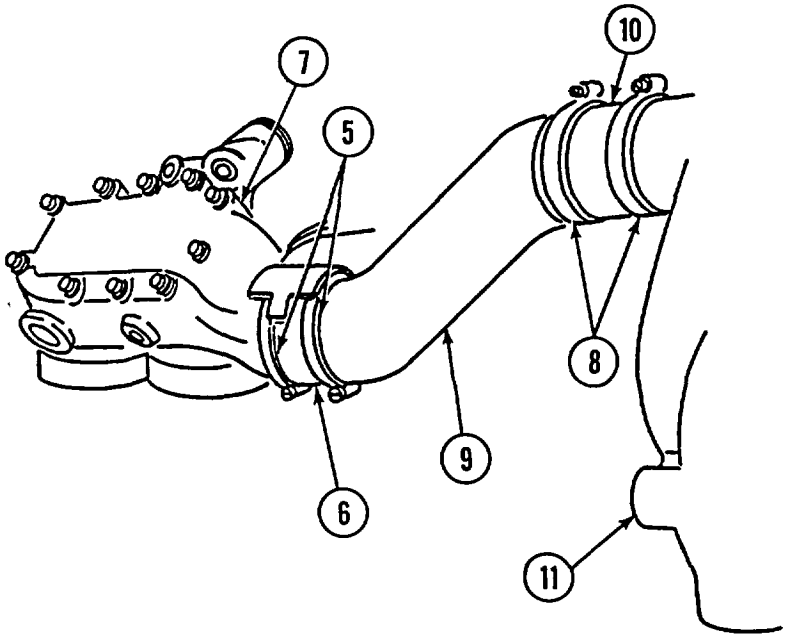
Equipment Conditions:

Reference	Condition Description
Page 4-2	Oil Filter Elements Removed
Page 4-141	Radiator Drained

REMOVAL



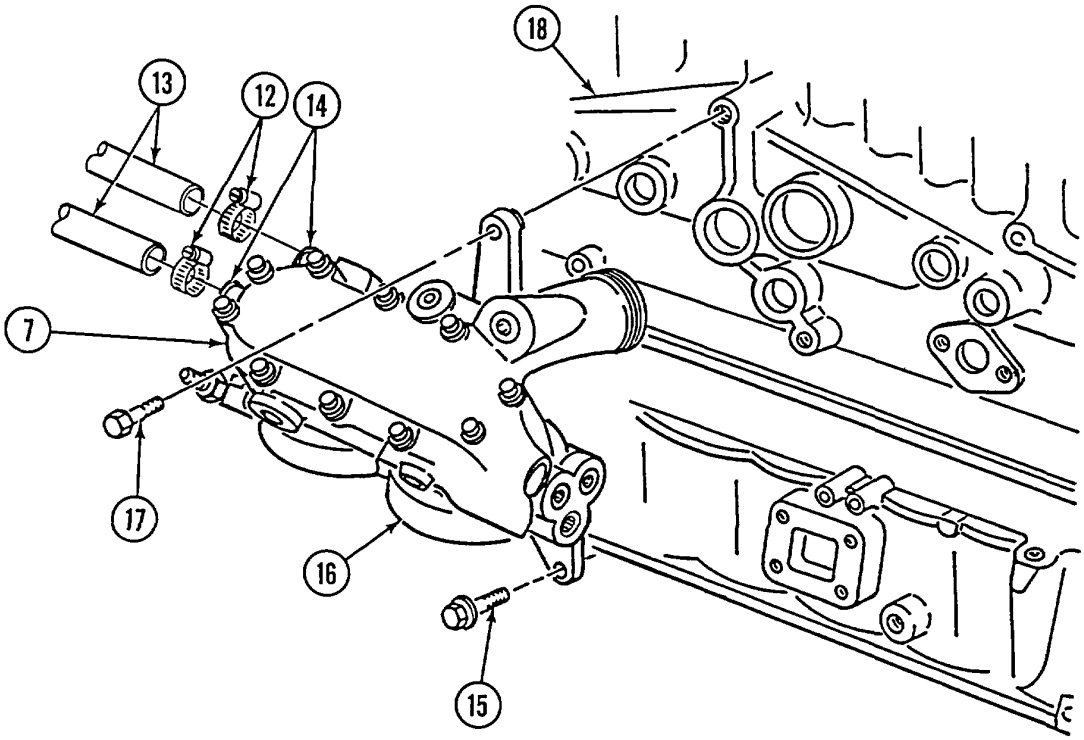
1. REMOVE VEE CLAMP (1).
2. LOOSEN SEAL CLAMP (2) AND REMOVE EXHAUST INLET PIPE (3) FROM TURBOCHARGER (4). REMOVE AND DISCARD SEAL CLAMP (2).



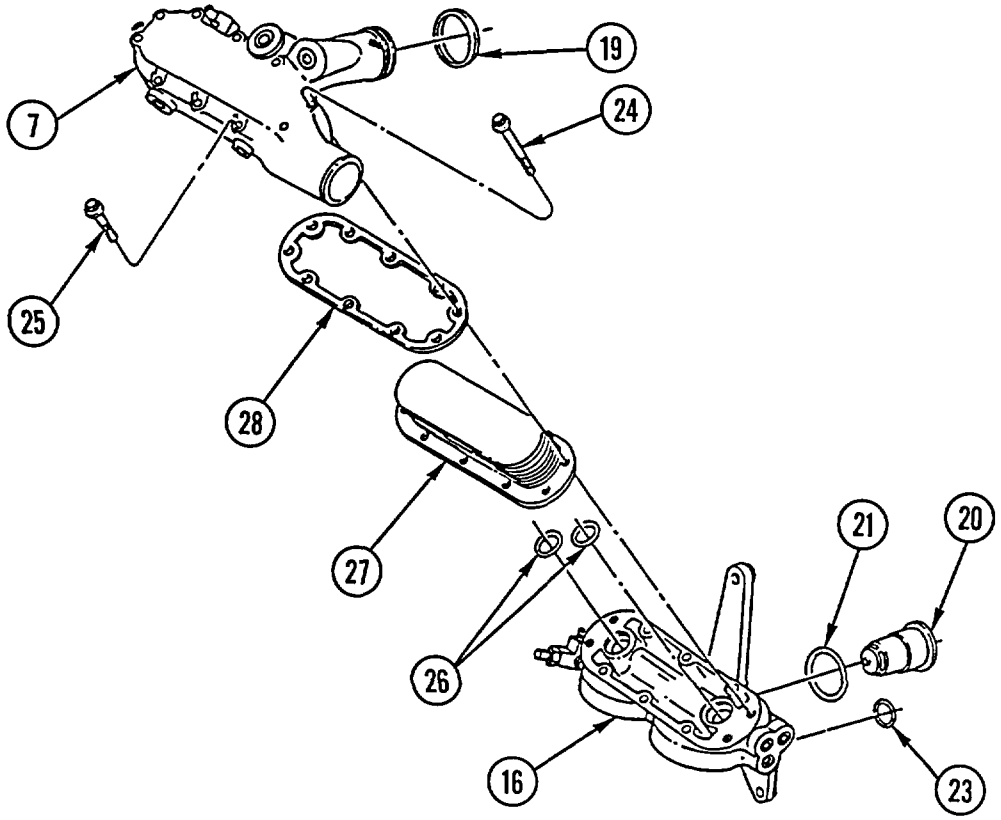
3. LOOSEN TWO HOSE CLAMPS (5) AND REMOVE INLET HOSE (6) FROM OIL COOLER (7). REMOVE HOSE CLAMPS (5).

4. LOOSEN TWO HOSE CLAMPS (8) AND REMOVE COOLANT PIPE (9) AND HOSE (10) FROM WATER PUMP (11). REMOVE TWO HOSE CLAMPS (8).

OIL COOLER, CORE, AND OIL FILTER ADAPTER REPLACEMENT (CONT)

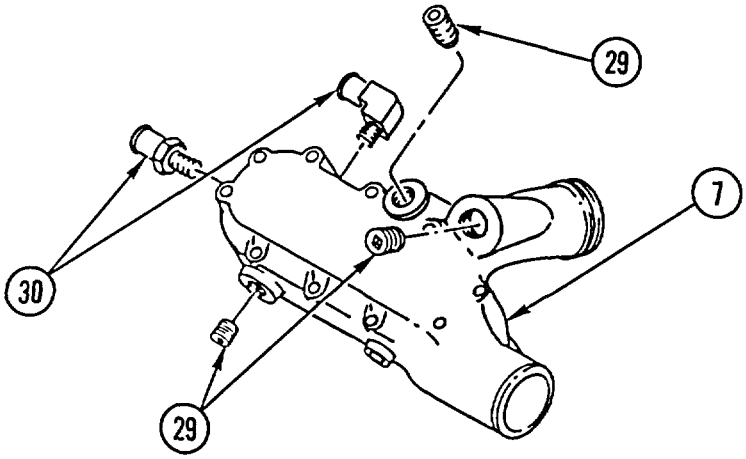


5. LOOSEN TWO CLAMPS (12) AND DISCONNECT TWO HOSES (13) FROM TWO WATER FITTINGS (14).
6. REMOVE THREE MOUNTING BOLTS (15) FROM OIL FILTER ADAPTER (16).
7. REMOVE BOLT (17) FROM OIL FILTER ADAPTER (16).
8. REMOVE OIL COOLER (7) AND OIL FILTER ADAPTER (16) AS AN ASSEMBLY FROM ENGINE BLOCK (18).



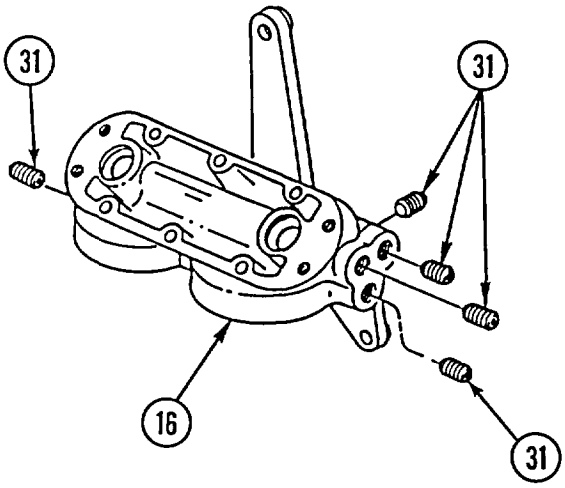
9. REMOVE AND DISCARD SEAL RING (19) FROM OIL COOLER (7).
10. REMOVE THERMOSTAT (20) AND SEAL RING (21) FROM OIL FILTER ADAPTER (16). DISCARD SEAL RING.
11. REMOVE AND DISCARD TWO SEAL RINGS (23) FROM OIL FILTER ADAPTER (16).
12. REMOVE SEVEN LONG BOLTS (24) AND THREE SHORT BOLTS (25) FROM OIL COOLER (7).
13. REMOVE OIL COOLER (7) FROM OIL FILTER ADAPTER (16).
14. REMOVE AND DISCARD TWO SEAL RINGS (26) FROM OIL FILTER ADAPTER (16).
15. REMOVE CORE (27) AND GASKET (28) FROM OIL COOLER DISCARD GASKET.

OIL COOLER, CORE, AND OIL FILTER ADAPTER REPLACEMENT (CONT)



16. REMOVE THREE PIPE PLUGS (29) FROM OIL COOLER (7).

17. REMOVE TWO WATER FITTINGS (30) FROM OIL COOLER (7).

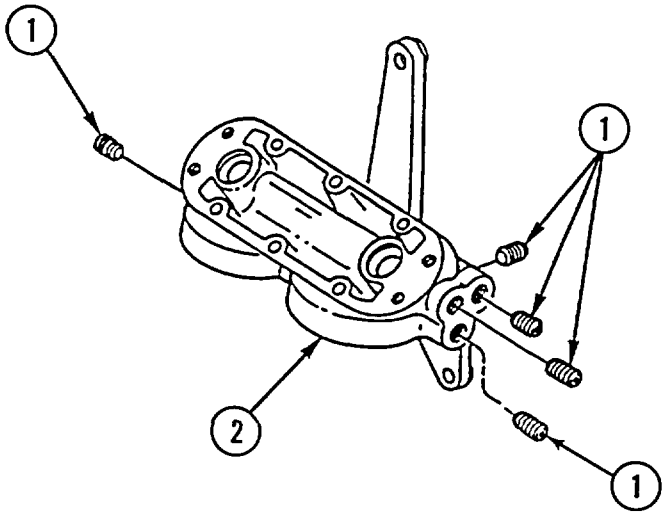


18. REMOVE FIVE PIPE PLUGS (31) FROM OIL FILTER ADAPTER (16).

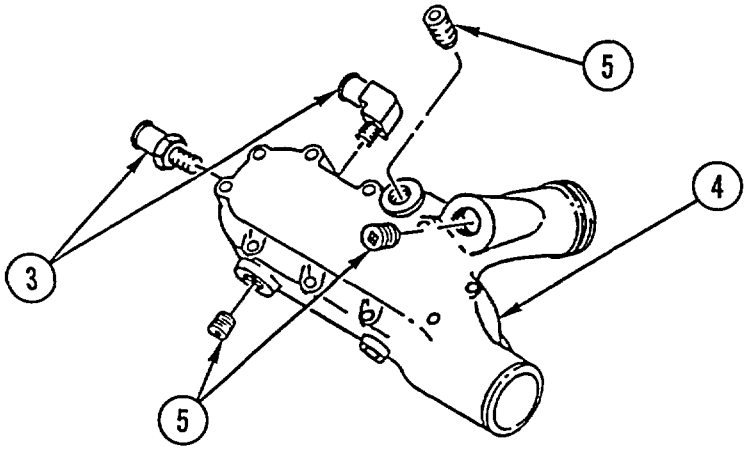
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



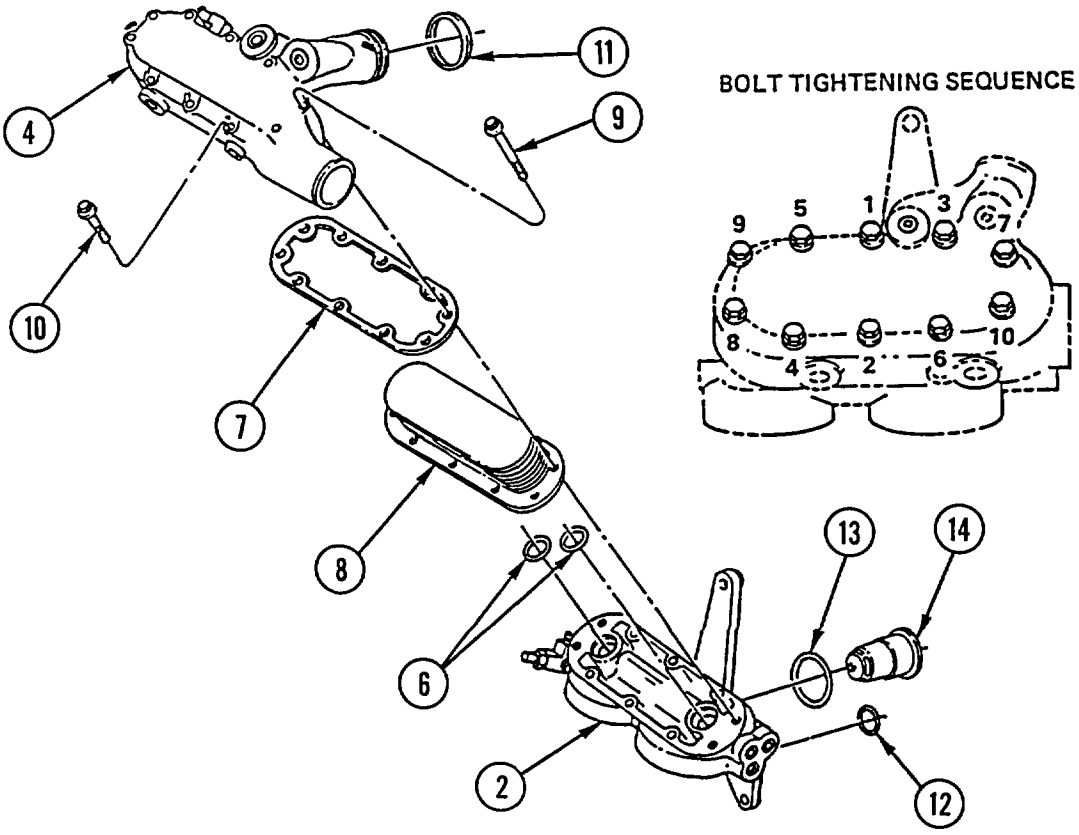
1. APPLY PIPE SEALING COMPOUND TO THREADS AND INSTALL FIVE PIPE PLUGS (1) IN OIL FILTER ADAPTER (2).



2. INSTALL TWO WATER FITTINGS (3) IN OIL COOLER (4).

3. INSTALL THREE PIPE PLUGS (5) IN OIL COOLER (4).

OIL COOLER, CORE, AND OIL FILTER ADAPTER REPLACEMENT (CONT)



4. INSTALL TWO NEW SEAL RINGS (6) IN OIL FILTER ADAPTER (2).

CAUTION

Make sure all old gasket material is removed from core and oil cooler mating surfaces. Failure to do so could damage engine.

5. INSTALL NEW GASKET (7) ON CORE (8).

6. INSTALL CORE (8) IN OIL COOLER (4).

CAUTION

Make sure seal rings are not dislodged when installing oil cooler on oil filter adapter. Failure to do so could damage engine.

7. INSTALL OIL COOLER (4) ON OIL FILTER ADAPTER (2).

8. INSTALL SEVEN LONG BOLTS (9) AND THREE SHORT BOLTS (10) ON OIL COOLER (4).

9. TORQUE 10 BOLTS (9 AND 10) TO 22-28 LB/FT (30-38 N.m) IN SEQUENCE SHOWN

10. COAT NEW SEAL RING (11) WITH CLEAN ENGINE OIL AND INSTALL SEAL RING (11) ON OIL COOLER (4).

11. INSTALL TWO NEW SEAL RINGS (12) IN OIL FILTER ADAPTER (2).

12. INSTALL NEW SEAL RING (13) AND THERMOSTAT (14) IN OIL FILTER ADAPTER (2).

NOTE

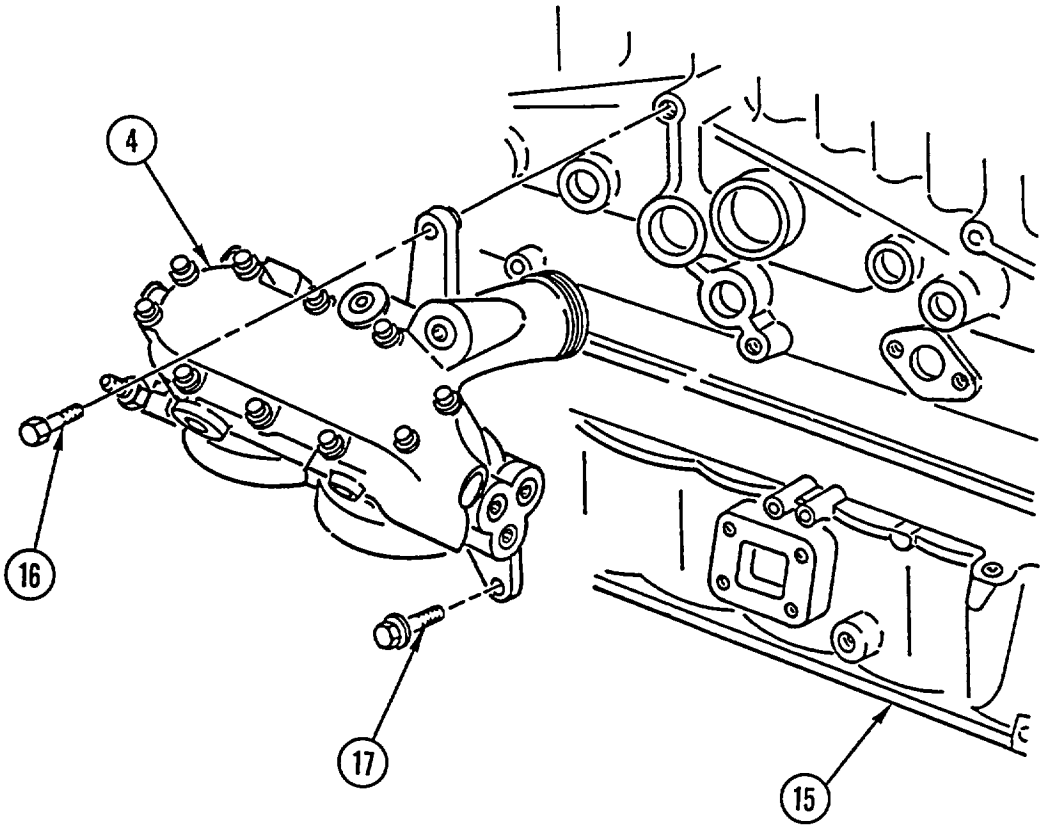
If necessary, tap neck of oil cooler housing with plastic or fiber mallet to force seal ring into engine block opening.

13. INSTALL OIL COOLER (4) ON ENGINE BLOCK (15).

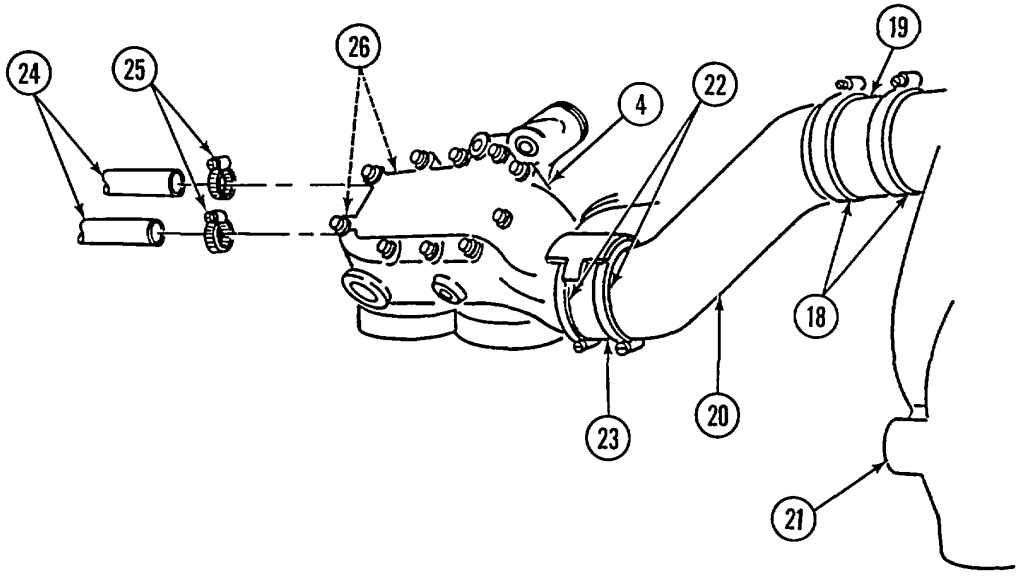
14. INSTALL BOLT (16) HANDTIGHT ON OIL FILTER ADAPTER (2).

15. INSTALL THREE MOUNTING BOLTS (17) HANDTIGHT.

16. TORQUE THREE MOUNTING BOLTS (17) AND BOLT (16) TO 43-54 LB-FT (58-73 N.m).



OIL COOLER, CORE, AND OIL FILTER ADAPTER REPLACEMENT (CONT)



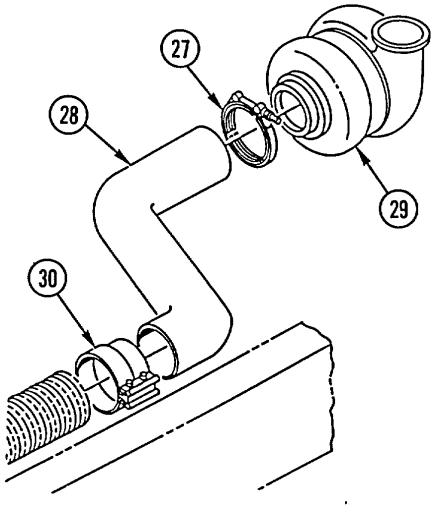
17. INSTALL TWO HOSE CLAMPS (18), HOSE (19), AND COOLANT PIPE (20) ON WATER PUMP (21).

18. INSTALL TWO HOSE CLAMPS (22) AND INLET HOSE (23) ON OIL COOLER (4). TIGHTEN TWO HOSE CLAMPS (22).

19. CONNECT TWO HOSES (24) AND TIGHTEN TWO CLAMPS (25) ON TWO WATER FITTINGS (26).

20. INSTALL VEE CLAMP (27) AND EXHAUST INLET PIPE (28) ON TURBOCHARGER (29). TIGHTEN VEE CLAMP (27).

21. INSTALL NEW SEAL CLAMP (30) ON EXHAUST INLET PIPE (28). TIGHTEN SEAL CLAMP (30).



NOTE
Follow-on Maintenance:

Install oil filter elements (page 4-2).
Fill radiator (Unit PMCS, TM 9-2320-363-20-1).

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OIL FILL TUBE REPLACEMENT

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Screw	P/N 23-1055-050
Gasket	P/N 8929302

Materials/Parts (Cont):

Nut, Lock	
Compound, Pipe Sealing	Appendix C, Item 8

NOTE

Configuration of all except M915A2 and M916A1 oil fill tube differs slightly from M915A2 and M916A1. All except M915A2 and M916A1 configuration is shown.

REMOVAL

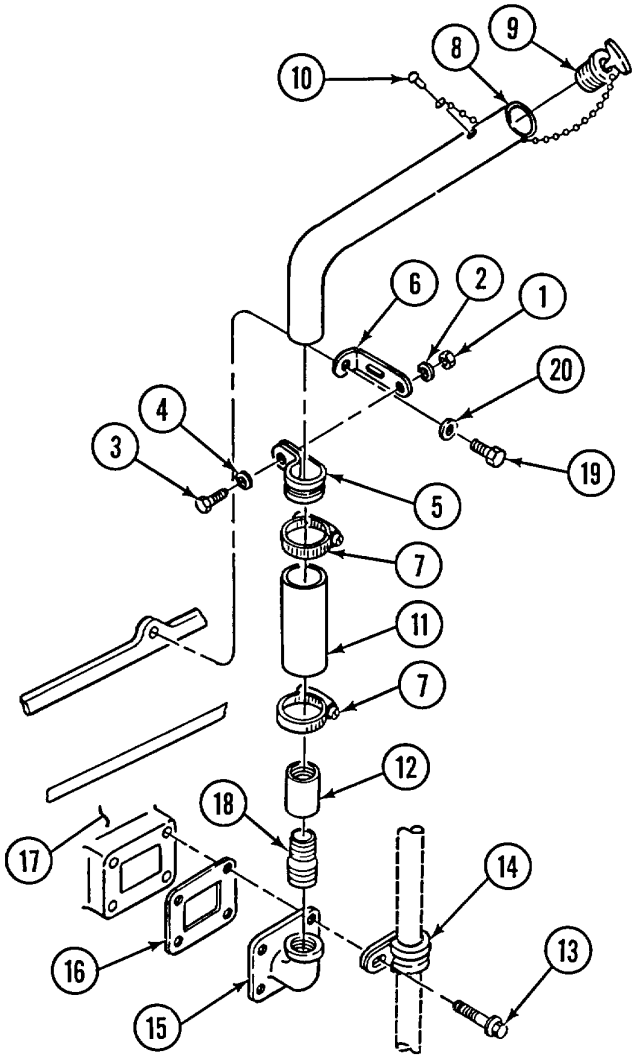
1. REMOVE LOCK NUT (1), WASHER (2), CAPSCREW (3), WASHER (2), AND CLAMP (5) FROM STANDOFF BRACKET (6). DISCARD LOCK NUT.
2. LOOSEN TWO HOSE CLAMPS (7) AND REMOVE OIL FILL TUBE (8).
3. REMOVE OIL FILL CAP (9) AND RIVET (10) FROM OIL FILL TUBE (8). DISCARD RIVET.
4. REMOVE TWO HOSE CLAMPS (7) AND HOSE (11) FROM COUPLING (12).
5. REMOVE FOUR BOLTS (13), CLAMP (14), OIL FILLER COVER (15), AND OIL FILLER GASKET (16) FROM ENGINE BLOCK (17). DISCARD GASKET.
6. REMOVE COUPLING (12) AND IRON NIPPLE (18) FROM OIL FILLER COVER (15).
7. REMOVE CAPSCREW (19), WASHER (20), AND STANDOFF BRACKET (6) FROM ENGINE BLOCK (17).

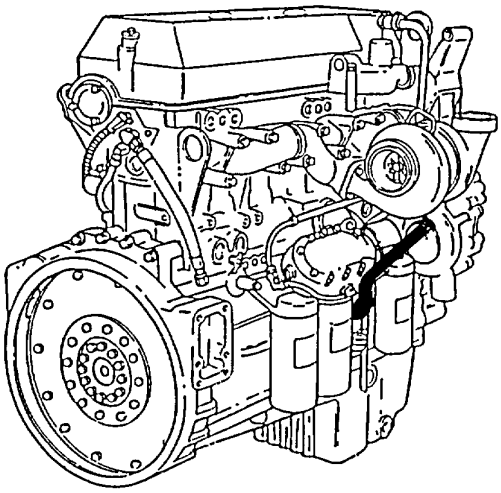
CLEANING/INSPECTION

Clean and inspection all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL STANDOFF BRACKET (6), WASHER (20), AND CAPSCREW (19) ON ENGINE BLOCK (17).
2. COAT THREADS OF IRON NIPPLE (18) WITH PIPE SEALANT AND INSTALL IRON NIPPLE (18) AND COUPLING (12) IN OIL FILLER COVER (15).





NOTE

Make sure all old gasket material is removed from oil filler cover and engine block mating surfaces.

3. INSTALL NEW OIL FILLER GASKET (16) ON ENGINE BLOCK (17).

4. INSTALL OIL FILLER COVER (15), CLAMP (14) AND FOUR BOLTS (13). TIGHTEN FOUR BOLTS (12) TO 22-28 LB-FT (30-38 N.m).

5. INSTALL HOSE (11) AND TWO HOSE CLAMPS (7) ON COUPLING (12). TIGHTEN LOWER HOSE CLAMP (7).

6. INSTALL CLAMP (7) ON OIL FILL TUBE (8). INSERT OIL FILL TUBE (8) INTO HOSE (11) AND TIGHTEN UPPER HOSE CLAMP (7).

7. INSTALL CLAMP (5), WASHER (4), CAPSCREW (3), WASHER (2), AND NEW LOCK NUT (1) ON STANDOFF BRACKET (6).

8. INSTALL OIL FILL CAP (9) AND NEW SCREW (10) ON OIL FILL TUBE (8).

OIL LEVEL DIPSTICK, TUBE, AND ADAPTER REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Removed
Nut, Lock
Nut, Lock
Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

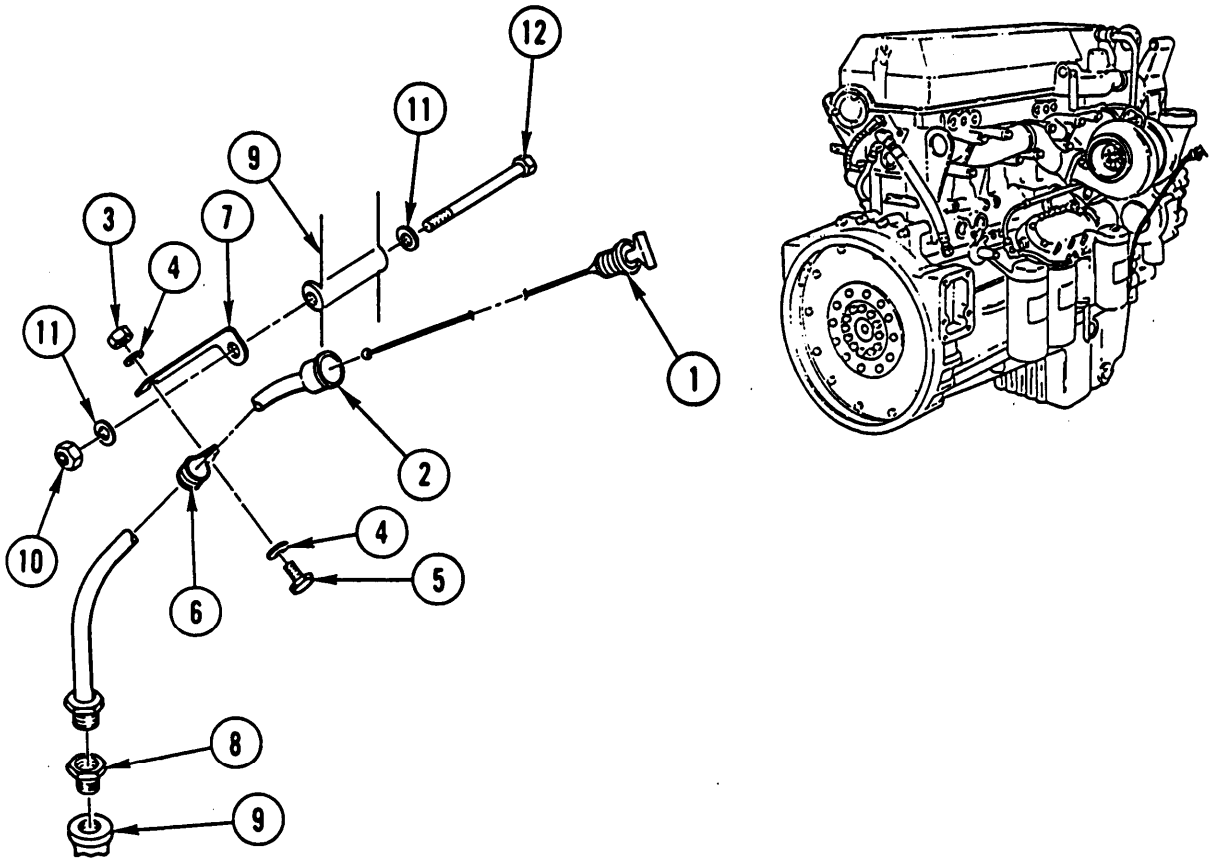
Reference	Condition Description
Page 4-4	Oil Bypass Filter

REMOVAL

1. UNSCREW AND REMOVE OIL LEVEL DIPSTICK (1) FROM DIPSTICK TUBE (2).
2. REMOVE LOCK NUT (3), WASHER (4), CAPSCREW (5), WASHER (4), AND CLAMP (6) FROM STANDOFF BRACKET (7). DISCARD LOCK NUT.
3. UNSCREW DIPSTICK TUBE (2) FROM ENGINE BLOCK ADARTER (8).
4. REMOVE CLAMP (6) FROM DIPSTICK TUBE (2).
5. REMOVE ENGINE BLOCK ADAPTER (8) FROM ENGINE BLOCK (9).
6. REMOVE LOCK NUT (10), WASHER (11), CAPSCREW (12), WASHER (11), AND STANDOFF BRACKET (7) FROM ENGINE BLOCK (9). DISCARD LOCK NUT.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL STANDOFF BRACKET (7), WASHER (11), CAPSCREW (12), WASHER (1 1), AND NEW LOCK NUT (10) ON ENGINE BLOCK (9).
2. COAT THREADS OF ENGINE BLOCK ADAPTER (8) WITH PIPE SEALANT. WIPE OFF EXCESS SEALANT.
3. INSTALL ENGINE BLOCK ADAPTER (8) IN ENGINE BLOCK (9). TIGHTEN ENGINE BLOCK ADAPTER (8) TO 14-18 LB-FT (19-24 N.m).
4. INSTALL CLAMP (6) ON DIPSTICK TUBE (2).
5. SCREW DIPSTICK TUBE (2) INTO ENGINE BLOCK ADAPTER (8).
6. INSTALL CLAMP (6), WASHER (4), CAPSCREW (5), WASHER (4), AND NEW LOCK NUT (3) ON STANDOFF BRACKET (7).
7. INSERT OIL LEVEL DIPSTICK (1) FULLY INTO DIPSTICK TUBE (2). TURN OIL LEVEL DIPSTICK (1) CLOCKWISE UNTIL IT LOCKS.'

NOTE

Follow-on Maintenance:
Install oil bypass filter (page 4-4).

AIR INTAKE TUBES, HOSES, AND CLAMPS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock

REMOVAL

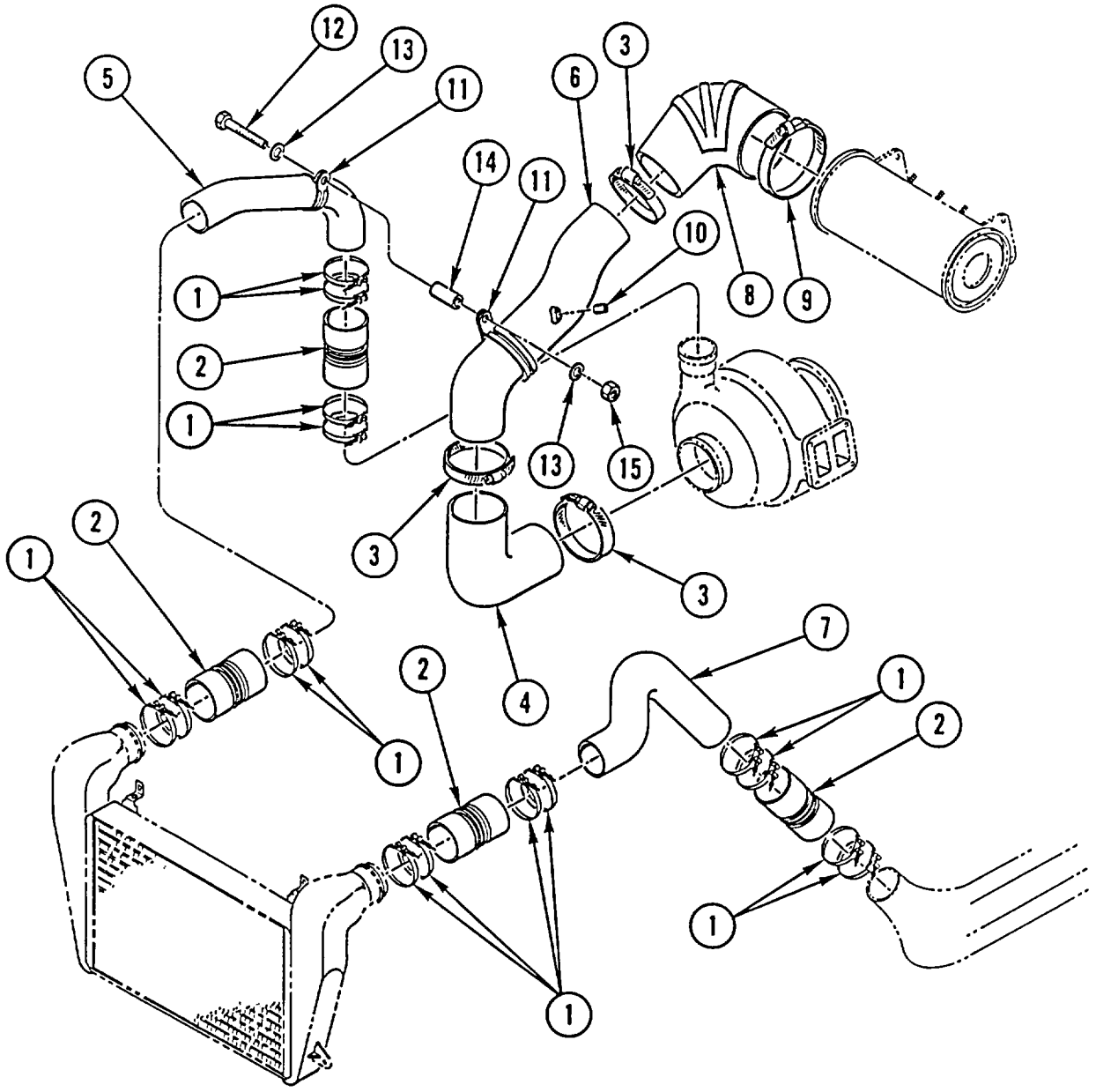
REMOVE TUBES, HOSES, CLAMPS, AND PLUG USING ILLUSTRATION AND LEGEND AS A GUIDE. DISCARD LOCK NUT.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter **2.**

INSTALLATION

INSTALL TUBES, HOSES, CLAMPS, AND PLUG USING ILLUSTRATION AND LEGEND AS A GUIDE.

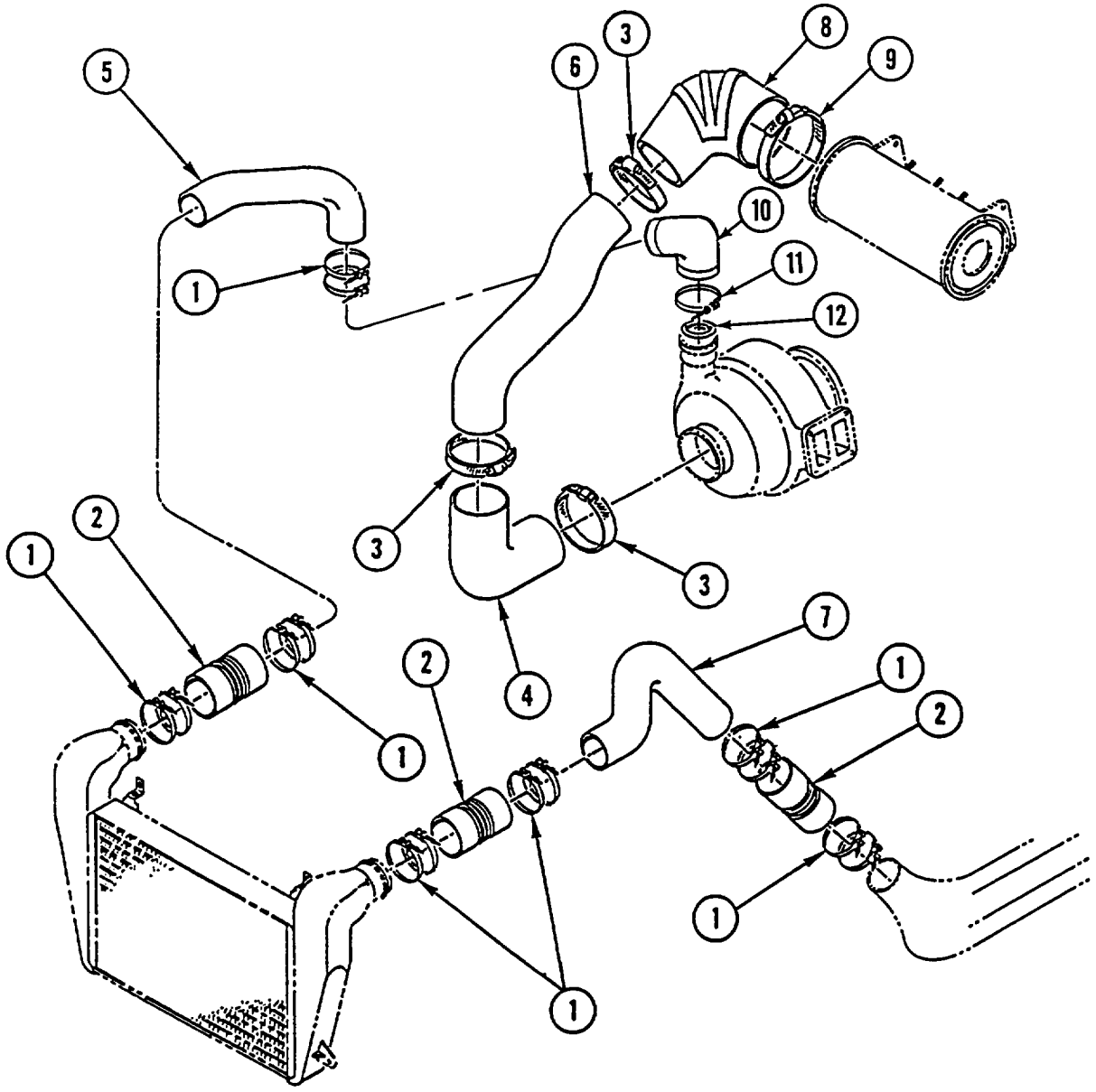


M915A2 AND M916A1

LEGEND

1	CLAMP (16)	9	CLAMP
2	HOSE (4)	10	PIPE PLUG
3	CLAMP (3)	11	CLAMP (2)
4	ELBOW	12	SCREW
5	TUBE	13	WASHER (2)
6	TUBE	14	SPACER
7	TUBE	15	LOCKNUT
8	REDUCER		

AIR INTAKE TUBES, HOSES, AND CLAMPS REPLACEMENT (CONT)



ALL EXCEPT M915A2 AND M916A1

LEGEND

1	CLAMP (7)	5	TUBE	9	CLAMP
2	HOSE (3)	6	TUBE	10	ELBOW
3	CLAMP (3)	7	TUBE	11	CLAMP
4	ELBOW	8	REDUCER ELBOW	12	SEAL RING

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AIR COMPRESSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIALSETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (4)

Gasket	P/N 5104506
Gasket	P/N 5110410
Compound, Pipe Sealing	Appendix C, Item 8
Grease, Automotive and Artillery (GAA)	Appendix C, Item 14

References:

TM 9-2320-363-20-1

Equipment Condition:

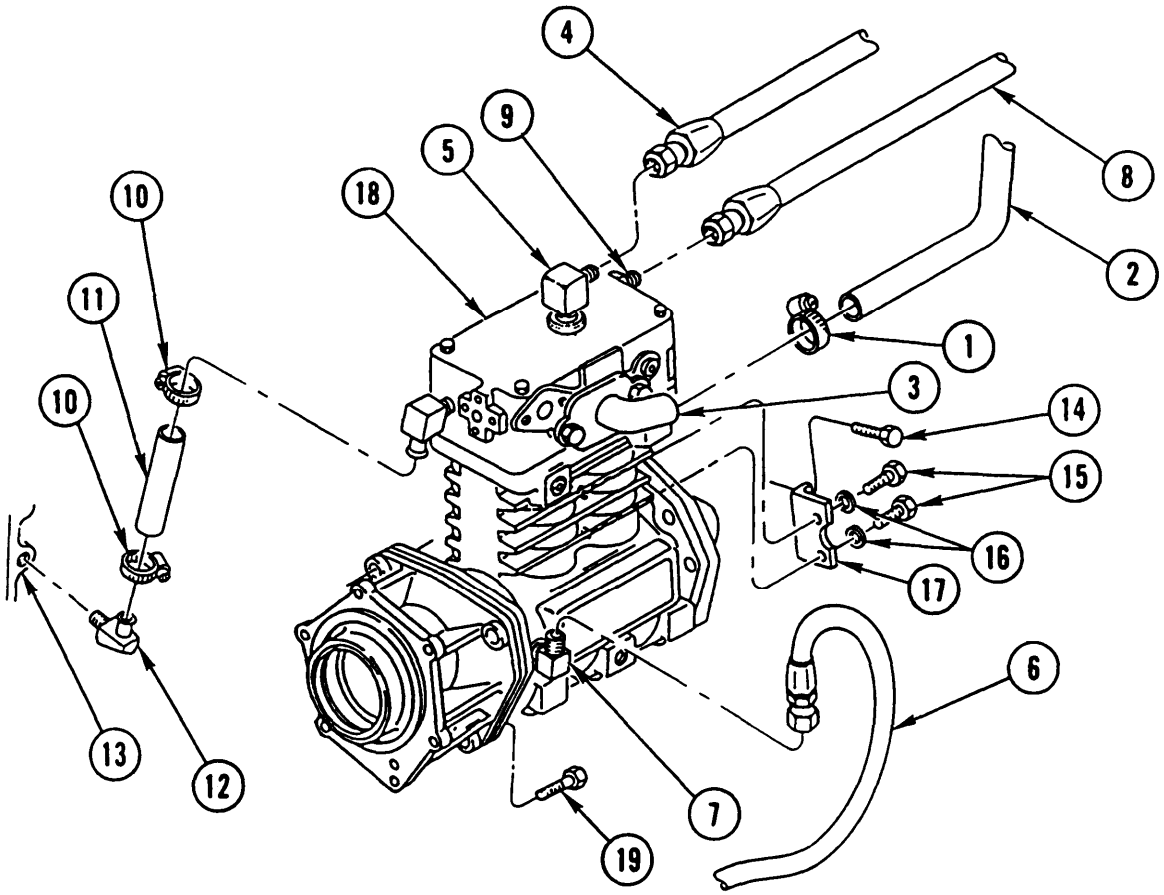
Reference	Condition Description
Page 4-141	Cooling System Drained
Page 4-50	Fuel Pump Removed
Page 4-34	Air Compressor Governor Removed

General Safety Instructions:

WARNING

- **Engine components are heavy. Use extreme caution during removal or installation of large engine components to prevent injury to personnel**.
- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fitting. Failure to do so could result in equipment failure and/or injury to personnel.**

REMOVAL



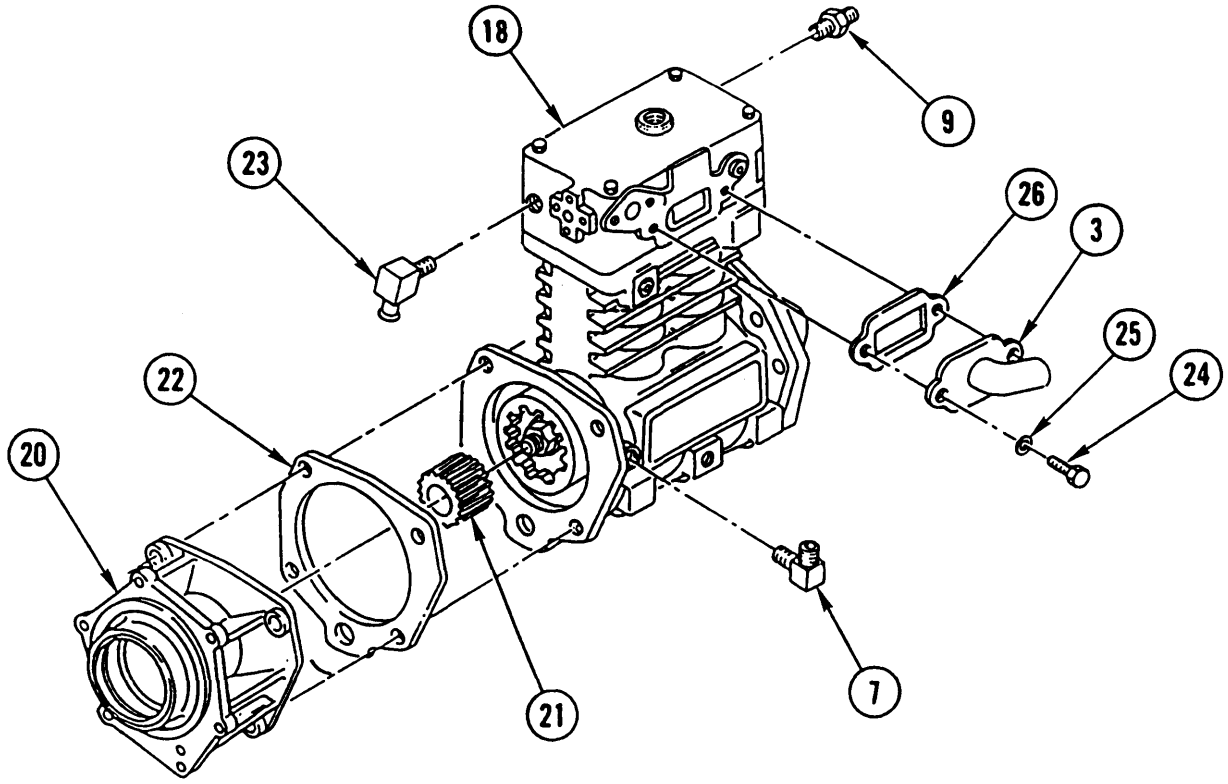
1. LOOSEN HOSE CLAMP (1) AND DISCONNECT AIR INLET HOSE (2) FROM PIPE FLANGE(3). REMOVE HOSE CLAMP (1).
2. DISCONNECT AIR SUPPLY HOSE (4) AND REMOVE ELBOW (5).
3. DISCONNECT OIL SUPPLY HOSE (6) FROM ELBOW (7).
4. DISCONNECT COOLANT OUTLET HOSE (8) FROM CONNECTOR (9).

NOTE

Make sure coolant inlet hose moves freely on elbow to ease air compressor removal.

5. LOOSEN TWO HOSE CLAMPS (10) AND REMOVE COOLANT INLET HOSE (11) AND ELBOW (12) FROM ENGINE BLOCK (13).
6. REMOVE TWO BOLTS (14).
7. REMOVE TWO BOLTS (15), TWO LOCK WASHERS (16), AND SUPPORT BRACKET (17) FROM AIR COMPRESSOR (18). DISCARD LOCK WASHERS.
8. REMOVE FOUR BOLTS (19).

AIR COMPRESSOR REPLACEMENT (CONT)



WARNING

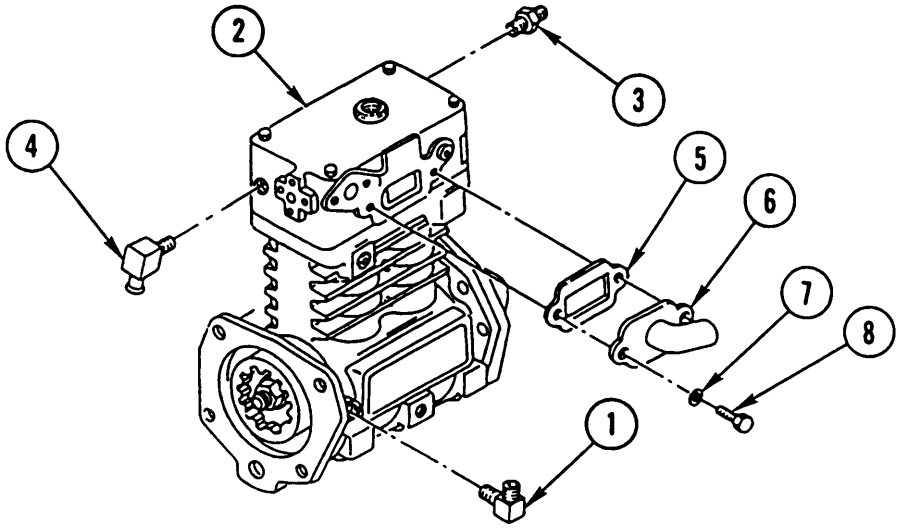
Engine components are heavy. Use extreme caution during removal of large engine components to prevent injury to personnel.

9. REMOVE AIR COMPRESSOR (18) BY SLIDING AIR COMPRESSOR REARWARD, DISENGAGING AIR COMPRESSOR DRIVE ASSEMBLY (20) FROM COUPLING (21).
10. REMOVE COUPLING (21).
11. REMOVE AND DISCARD GASKET (22).
12. REMOVE ELBOW (23) FROM AIR COMPRESSOR (18).
13. REMOVE CONNECTOR (9) FROM AIR COMPRESSOR (18).
14. REMOVE ELBOW (7) FROM AIR COMPRESSOR (18).
15. REMOVE TWO BOLTS (24), TWO LOCK WASHERS (25), AND PIPE FLANGE (3) FROM AIR COMPRESSOR (18). DISCARD LOCK WASHERS.
16. REMOVE AND DISCARD GASKET (26).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INTALLATION



WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

NOTE

See artwork for final position of elbows for installation.

1. COAT THREADS WITH PIPE SEALING COMPOUND AND INSTALL ELBOW (1) IN AIR COMPRESSOR (2).
2. COAT THREADS WITH PIPE SEALING COMPOUND AND INSTALL CONNECTOR (3) IN AIR COMPRESSOR (2).

NOTE

Air compressor sides are determined by viewing air compressor from rear of engine.

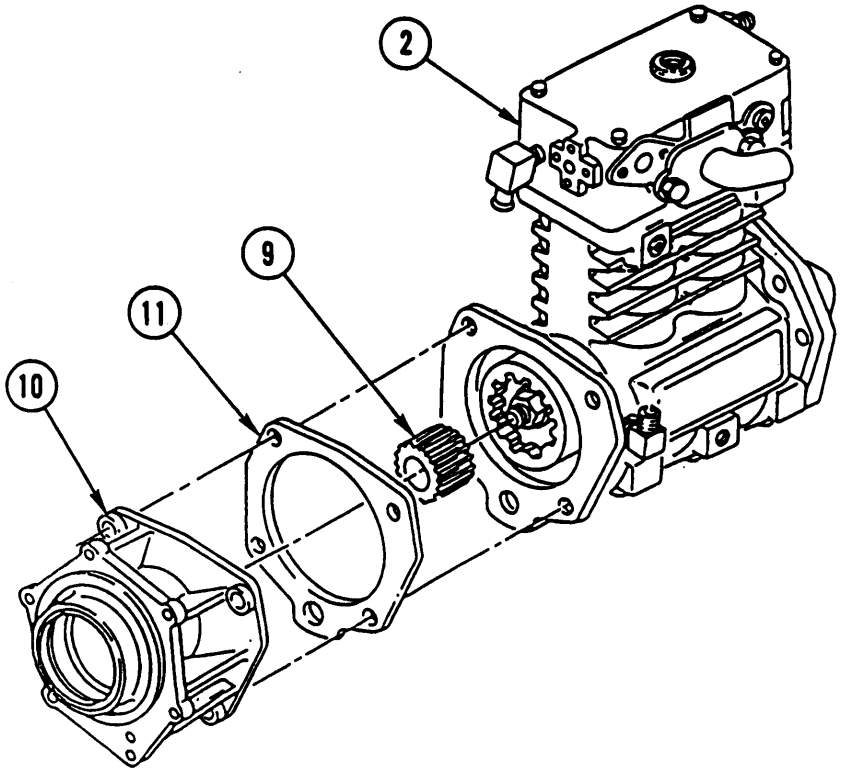
3. COAT THREADS WITH PIPE SEALING COMPOUND AND INSTALL ELBOW (4) IN AIR COMPRESSOR (2).

CAUTION

Make sure all gasket material has been removed from pipe flange and air compressor. Failure to do so could cause damage to air compressor.

4. INSTALL NEW GASKET (5) AND PIPE FLANGE (6) ON AIR COMPRESSOR (2).
5. INSTALL TWO NEW LOCK WASHERS (7) AND TWO BOLTS (8). TIGHTEN BOLTS TO 13-17 LB-FT (18-23 N.m).

AIR COMPRESSOR REPLACEMENT (CONT)



6. INSTALL COUPLING (9) IN DRIVE HUB OF AIR COMPRESSOR DRIVE ASSEMBLY (10).

7. APPLY LIGHT COATING OF GAA TO BOLT HOLE LOCATIONS ON NEW GASKET (11) AND INSTALL GASKET (11) ON AIR COMPRESSOR DRIVE ASSEMBLY (10).

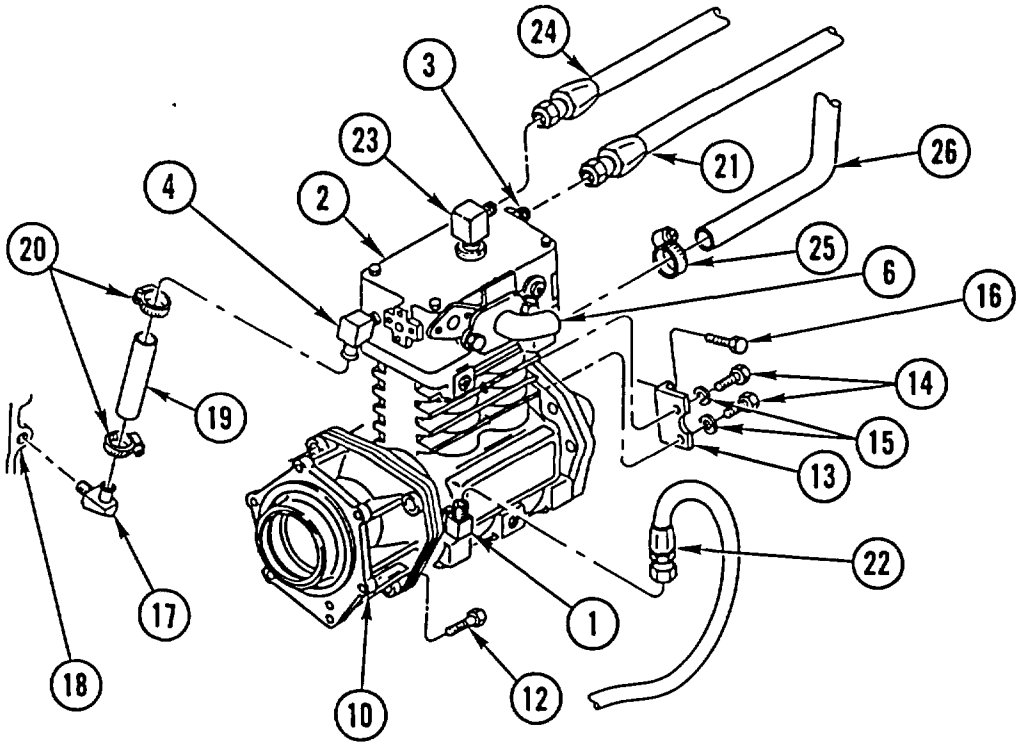
WARNING

Engine components are heavy. Use extreme caution during installation of large engine components to prevent injury to personnel.

NOTE

- When alining air compressor to air compressor drive assembly, coolant inlet hose must be connected to air compressor and engine block at same time.
- Make sure gasket between air compressor and air compressor drive assembly does not move during positioning of air compressor.
- Make sure bolt holes in gasket line up with bolt holes in air compressor flange and air compressor drive assembly.

8. INSTALL AIR COMPRESSOR (2) ON AIR COMPRESSOR DRIVE ASSEMBLY (10). ALINE INTERNAL TEETH OF DRIVE HUB TO ENGAGE SPLINES ON COUPLING (9).



9. INSTALL FOUR BOLTS (12) IN AIR COMPRESSOR DRIVE ASSEMBLY (10). TIGHTEN BOLTS TO 5-93 LB-FT (101-126 N.m).
10. INSTALL SUPPORT BRACKET (13), TWO BOLTS (14), AND TWO NEW LOCK WASHERS (15) ON AIR COMPRESSOR (2). TIGHTEN BOLTS HAND-TIGHT.
11. INSTALL TWO BOLTS (16) AND TIGHTEN TO 43-54 LB-FT (58-73 N.m).
12. TIGHTEN TWO BOLTS (14) TO 13-17 LB-FT (18-23 N.m).
13. INSTALL ELBOW (17) IN ENGINE BLOCK (18).
14. INSTALL COOLANT INLET HOSE (19) BETWEEN ELBOW (4) AND ELBOW (17). TIGHTEN HOSE CLAMPS (20).
15. CONNECT COOLANT OUTLET HOSE (21) TO CONNECTOR (3).
16. CONNECT OIL SUPPLY HOSE (22) TO ELBOW (1).
17. COAT THREADS WITH PIPE SEALING COMPOUND AND INSTALL ELBOW (23) IN AIR COMPRESSOR (2).
18. CONNECT AIR SUPPLY HOSE (24) TO ELBOW (23).
19. INSTALL HOSE CLAMP (25) ON AIR INLET HOSE (26). CONNECT AIR INLET H-IOSE (26) TO PIPE FLANGE (6) AND TIGHTEN HOSE CLAMP (25).

NOTE
Follow-on Maintenance:

Install fuel pump (page 4-50).
Install air compressor governor (page 4-34).
Fill cooling system (Unit PMCS, TM 9-2320-363-20-1).

AIR COMPRESSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIALSETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (2)	P/N MS35338-45
Gasket	P/N 5110410
Gasket	P/N 8929299
Compound, Pipe Sealing	Appendix C, Item 8
Grease, Automotive and Artillery (GAA)	Appendix C, Item 14

References:
TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Page 4-141	Cooling System Drained
Page 4-50	Fuel Pump Removed
Page 4-34	Air Compressor Governor Removed

General Safety Instructions:

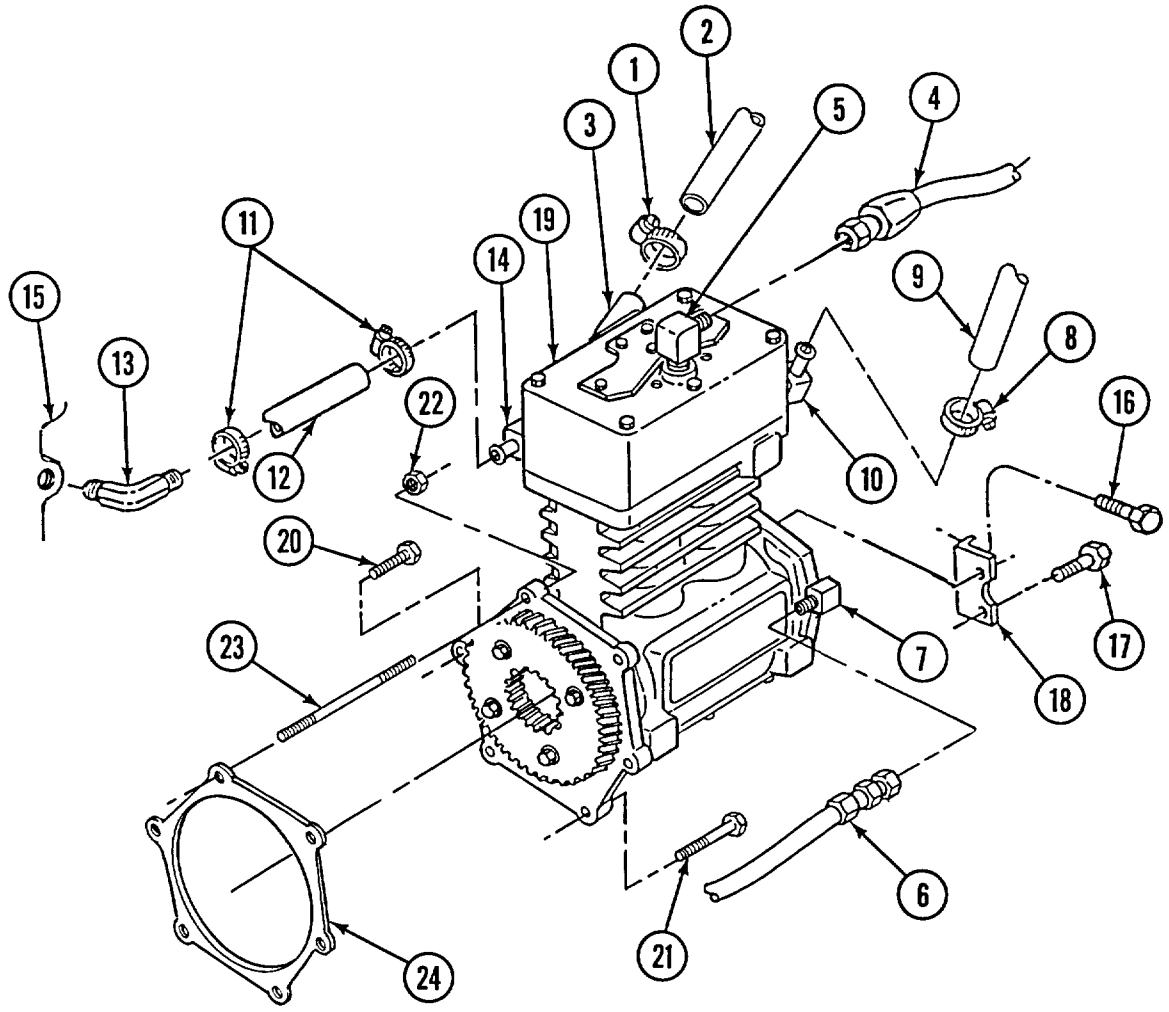
WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Engine components are heavy. Use extreme caution during installation of large engine components to prevent injury to personnel.**

REMOVAL

1. LOOSEN HOSE CLAMP (1) AND DISCONNECT AIR INLET HOSE (2) FROM PIPE FLANGE (3).
2. DISCONNECT AIR SUPPLY HOSE (4) FROM ELBOW (5).
3. DISCONNECT OIL SUPPLY HOSE (6) FROM ELBOW (7).
4. LOOSEN HOSE CLAMP (8) AND DISCONNECT COOLANT OUTLET HOSE (9) FROM ELBOW (10).
5. LOOSEN TWO HOSE CLAMPS (11) AND REMOVE COOLANT INLET HOSE (12) FROM ELBOW (13) AND ELBOW (14).

6. REMOVE ELBOW (13) FROM ENGINE BLOCK (15).
7. REMOVE TWO BOLTS (16).
8. REMOVE TWO BOLTS (17) AND SUPPORT BRACKET (18) FROM AIR COMPRESSOR (19).
9. REMOVE BOLT (20) AND FOUR BOLTS (21).



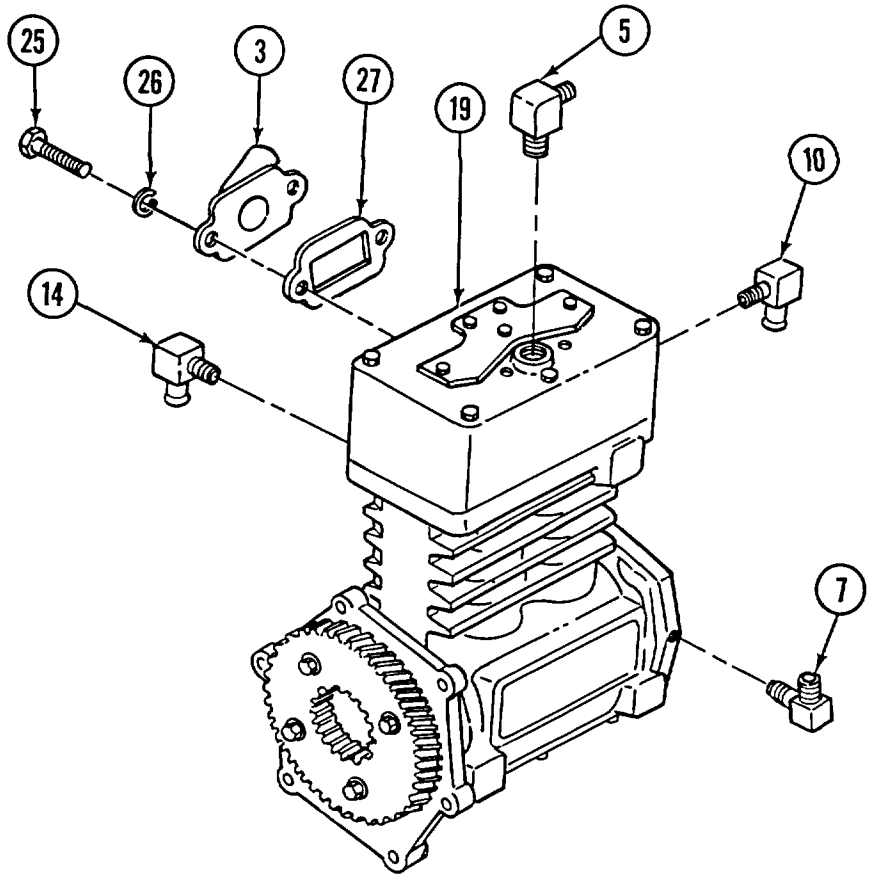
WARNING

Air compressor is heavy. Use extreme caution during removal of large engine components to prevent injury to personnel.

10. SUPPORT AIR COMPRESSOR (19) AND REMOVE NUT (22) FROM THREADED STUD (23).
11. REMOVE AIR COMPRESSOR (19) AND GASKET (24) BY SLIDING AIR COMPRESSOR REARWARD OFF OF THREADED STUD (23). DISCARD GASKET.

AIR COMPRESSOR REPLACEMENT (CONT)

12. REMOVE ELBOW (5), ELBOW (10), ELBOW (7), AND ELBOW (14) FROM AIR COMPRESSOR (19).
13. REMOVE TWO BOLTS (25), TWO LOCK WASHERS (26), PIPE FLANGE (3), AND GASKET (27). DISCARD LOCK WASHERS AND GASKET.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

WARNING

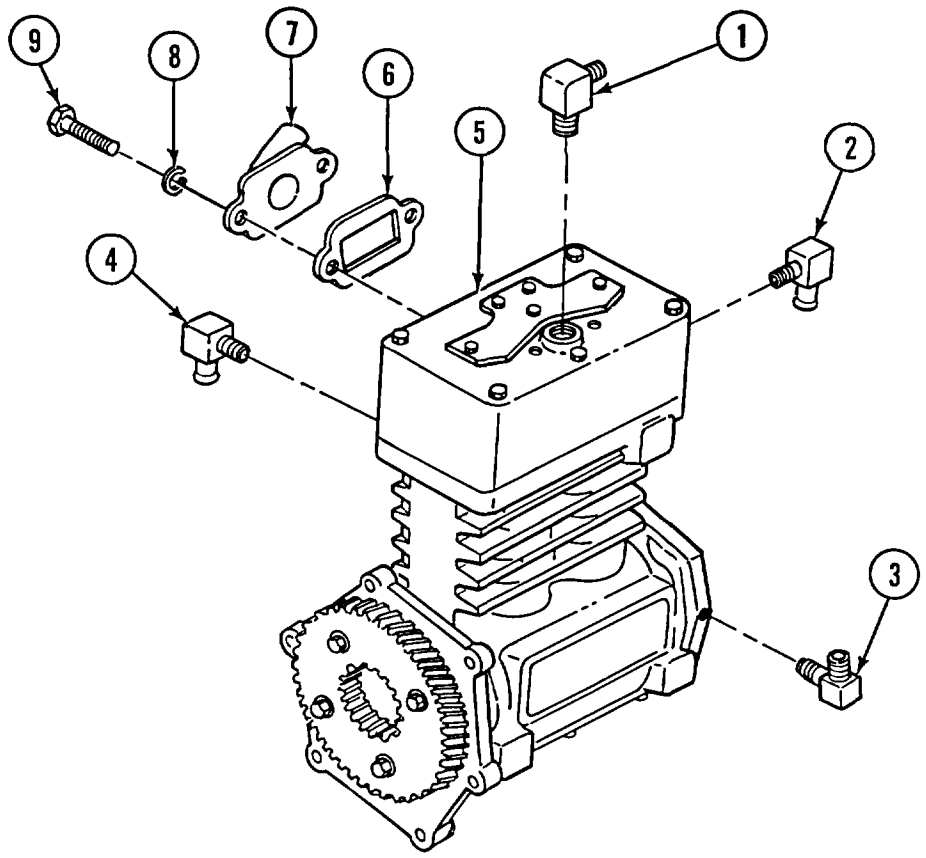
Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

1. COAT THREADS WITH PIPE SEALING COMPOUND AND INSTALL ELBOW (1), ELBOW (2), ELBOW (3), AND ELBOW (4) IN AIR COMPRESSOR (5).

CAUTION

Make sure all gasket material has been removed from pipe flange and air compressor. Failure to do so could cause damage to air compressor.

2. INSTALL NEW GASKET (6) AND PIPE FLANGE (7) ON AIR COMPRESSOR (5).
3. INSTALL TWO NEW LOCKWASHERS (8) AND TWO BOLTS (9).
4. TORQUE BOLTS (9) TO 13-17 LB-FT (18-23 N.m).



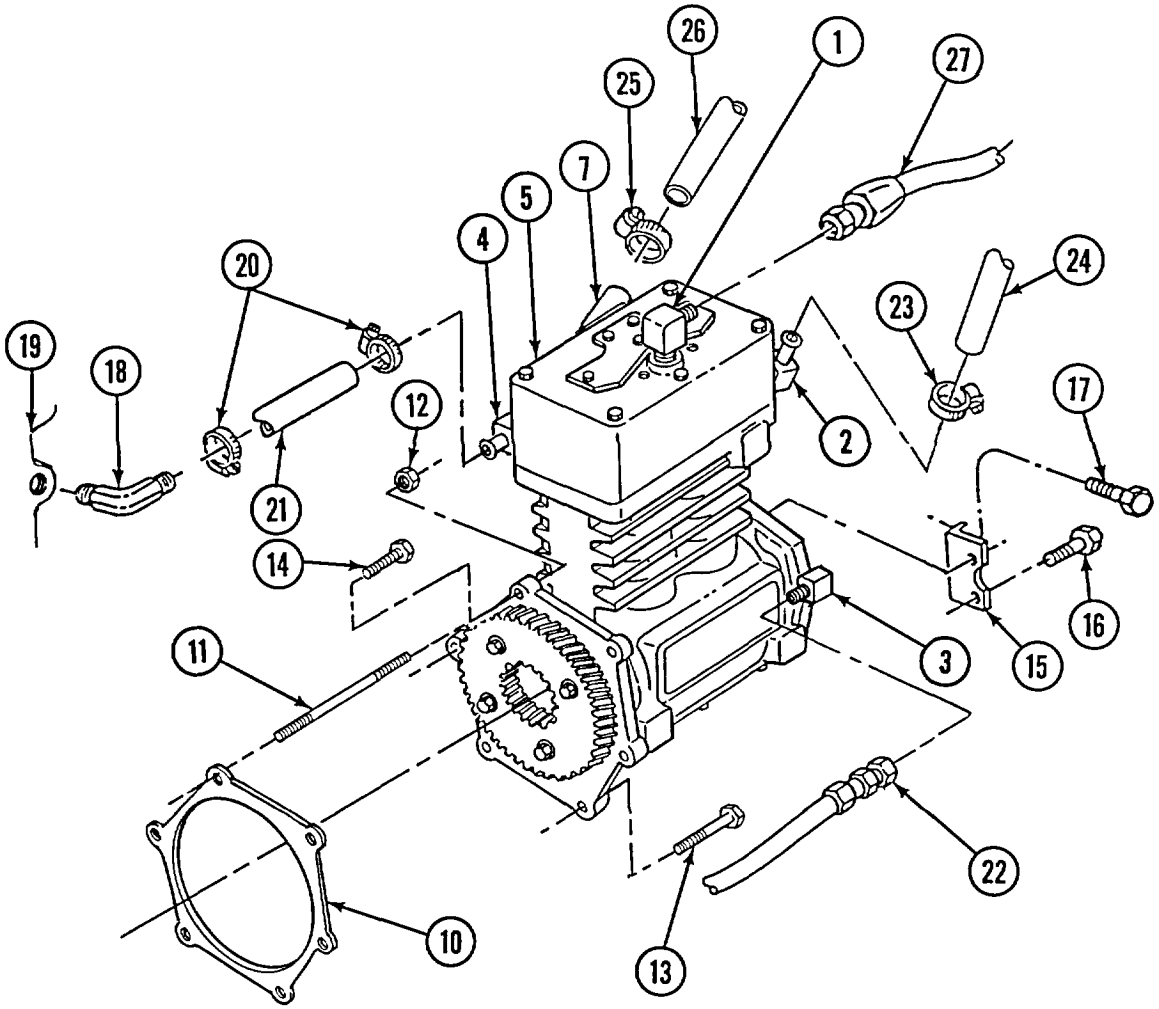
AIR COMPRESSOR REPLACEMENT (CONT)

5. APPLY LIGHT COATING OF GAA TO BOLT HOLE LOCATIONS ON NEW GASKET (10) AND INSTALL GASKET ON AIR COMPRESSOR (5).

WARNING

Engine components are heavy. Use extreme caution during installation of large engine components to prevent injury to personnel.

6. SLIDE AIR COMPRESSOR (5) OVER THREADED STUD (11) AND INSTALL NUT (12). HAND TIGHTEN NUT.
7. INSTALL FOUR BOLTS (13) AND BOLT (14) AND HAND TIGHTEN.
8. TORQUE NUT (12), FOUR BOLTS (13), AND BOLT (14) TO 75-93 LB-FT (101-126 N.m).
9. INSTALL SUPPORT BRACKET (15) AND TWO BOLTS (16). HAND TIGHTEN BOLTS (16).
10. INSTALL TWO BOLTS (17) AND TORQUE TO 43-54 LB-FT (58-73 N.m).
11. TORQUE TWO BOLTS (16) TO 13-17 LB-FT (18-23 N.m).
12. INSTALL ELBOW (18) ON ENGINE BLOCK (19).
13. SLIDE TWO HOSE CLAMPS (20) ONTO COOLANT INLET HOSE (21).
14. CONNECT COOLANT INLET HOSE (21) TO ELBOW (18) AND ELBOW (4).
15. SLIDE A HOSE CLAMP (20) TO EACH END OF COOLANT INLET HOSE (21) AND TIGHTEN.
16. CONNECT OIL SUPPLY HOSE (22) TO ELBOW (3).
17. SLIDE HOSE CLAMP (23) ONTO COOLANT OUTLET HOSE (24) AND CONNECT COOLANT OUTLET HOSE (24) TO ELBOW (2). TIGHTEN HOSE CLAMP (23).
18. SLIDE HOSE CLAMP (25) ONTO AIR INLET HOSE (26) AND CONNECT AIR INLET HOSE (26) TO ELBOW (7). TIGHTEN HOSE CLAMP (25).
19. CONNECT AIR SUPPLY HOSE (27) TO ELBOW (1).



NOTE
Follow-on Maintenance:

Install fuel pump (page 4-50).
Install air compressor governor (page 4-34).
Fill cooling system (Unit PMCS, TM 9-2320-363-20-1).

TACHOMETER DRIVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Too Kit, SC 5180-90-CL-N26

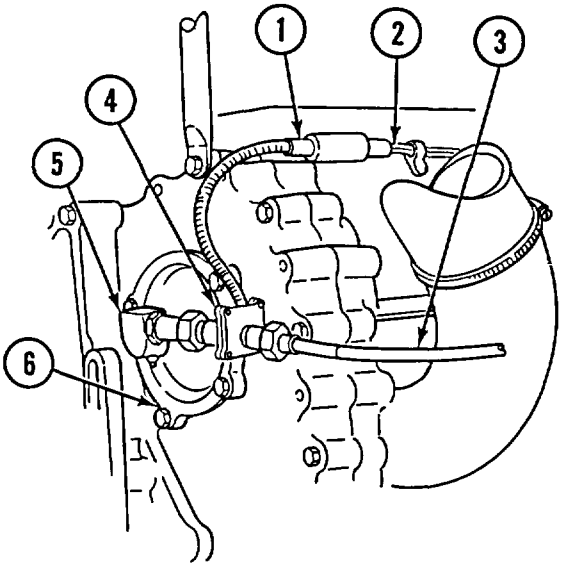
References:

TM 9-2320-363-20-1

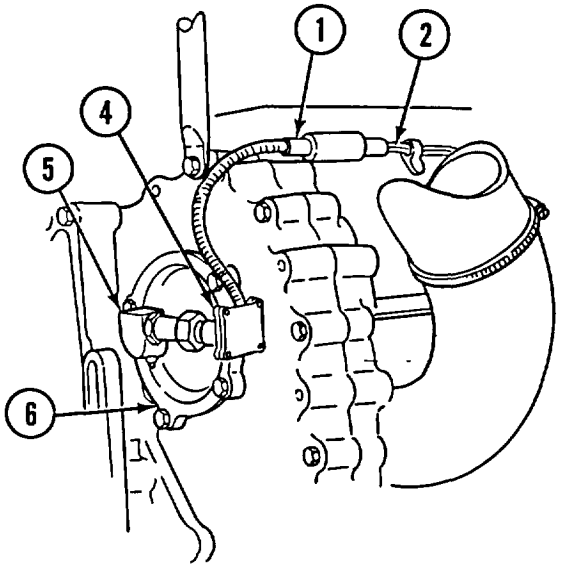
Equipment Condition:

Materials/Parts:		Reference	Condition Description
Gasket	P/N 8929130	Page 2-29	Batteries Disconnected

REMOVAL



M915A2 AND M916A1

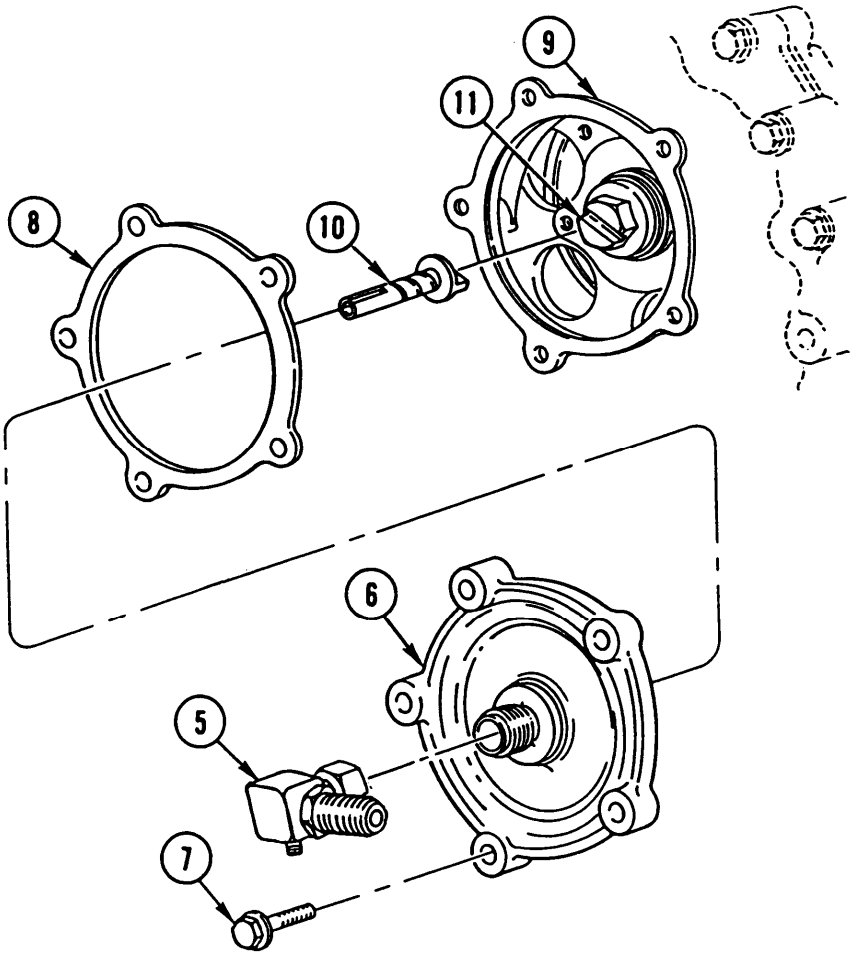


ALL EXCEPT M915A2 AND M916A1

1. DISCONNECT TACHOMETER SENSOR ELECTRICAL CONNECTOR (1) FROM WIRING HARNESS (2).

NOTE
Step 2 does not apply to all except M915A2 and M916A1.

2. DISCONNECT TACHOMETER DRIVE CABLE (3) FROM SENSOR (4). MOVE TACHOMETER DRIVE CABLE (3) ASIDE.
3. REMOVE SENSOR (4) FROM TACHOMETER DRIVE ASSEMBLY (5).
4. REMOVE TACHOMETER DRIVE ASSEMBLY (5) FROM TACHOMETER DRIVE COVER (6).



5. REMOVE FIVE BOLTS (7) FROM TACHOMETER DRIVE COVER (6).

CAUTION

Remove tachometer drive cover slowly. Failure to do so could allow tachometer drive shaft to drop inside gear case and cause equipment damage.

6. REMOVE TACHOMETER DRIVE COVER (6) AND GASKET (8) FROM GEAR CASE COVER (9). DISCARD GASKET.

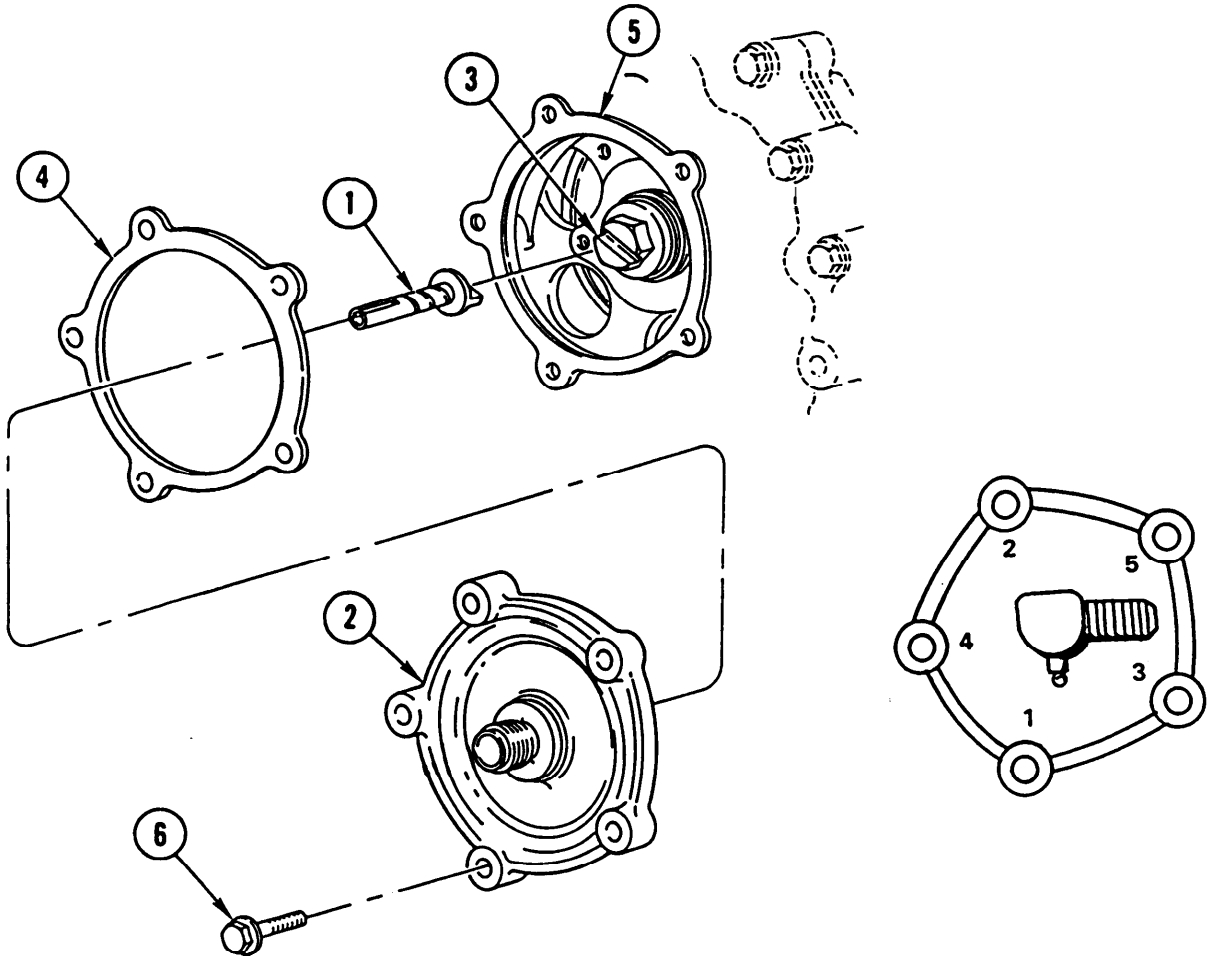
7. REMOVE TACHOMETER DRIVE SHAFT (10) FROM CAMSHAFT HUB RETAINING BOLT (11) AND TACHOMETER DRIVE COVER (6).

TACHOMETER DRIVE REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter2.

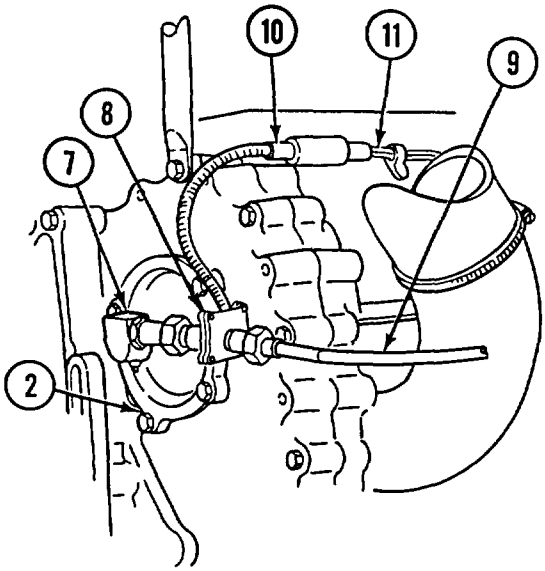
INSTALLATION



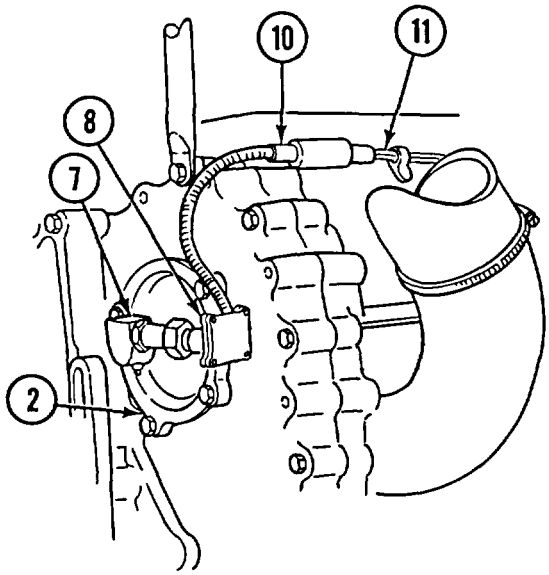
1. INSTALL TACHOMETER DRIVE SHAFT (1) IN TACHOMETER DRIVE COVER (2).
2. ALINE TACHOMETER DRIVE SHAFT (1) WITH SLOT ON CAMSHAFT HUB RETAINING BOLT (3).

CAUTION
Install tachometer drive cover slowly. Failure to do so could allow tachometer drive shaft to drop inside gear case and cause equipment damage.

3. INSTALL NEW GASKET (4) AND TACHOMETER DRIVE COVER (2) ON GEAR CASE COVER (5).
4. INSTALL FIVE BOLTS (6) IN TACHOMETER DRIVE COVER (2). TIGHTEN IN PATTERN SHOWN TO 22-28 LB-FT (30-38 N.m).



M915A2 AND M916A1



ALL EXCEPT M915A2 AND M916A1

5. INSTALL TACHOMETER DRIVE ASSEMBLY (7) ON TACHOMETER DRIVE COVER (2). TIGHTEN NUT ON TACHOMETER DRIVE ASSEMBLY (7) TO 9-11 LB-FT (12-15 N.m).
6. INSTALL SENSOR (8) ON TACHOMETER DRIVE ASSEMBLY (7).

NOTE
Step 7 does not apply to all except M915A2 and M916A1.

7. CONNECT TACHOMETER DRIVE CABLE (9) TO SENSOR (8).
8. CONNECT TACHOMETER SENSOR ELECTRICAL CONNECTOR (10) TO WIRING HARNESS (11).

NOTE
Follow-on Maintenance:

Lubricate tachometer drive assembly (Unit PMCS, TM 9-2320-363-20-1).
Connect batteries (page 2-29).

OIL SAMPLE VALVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock

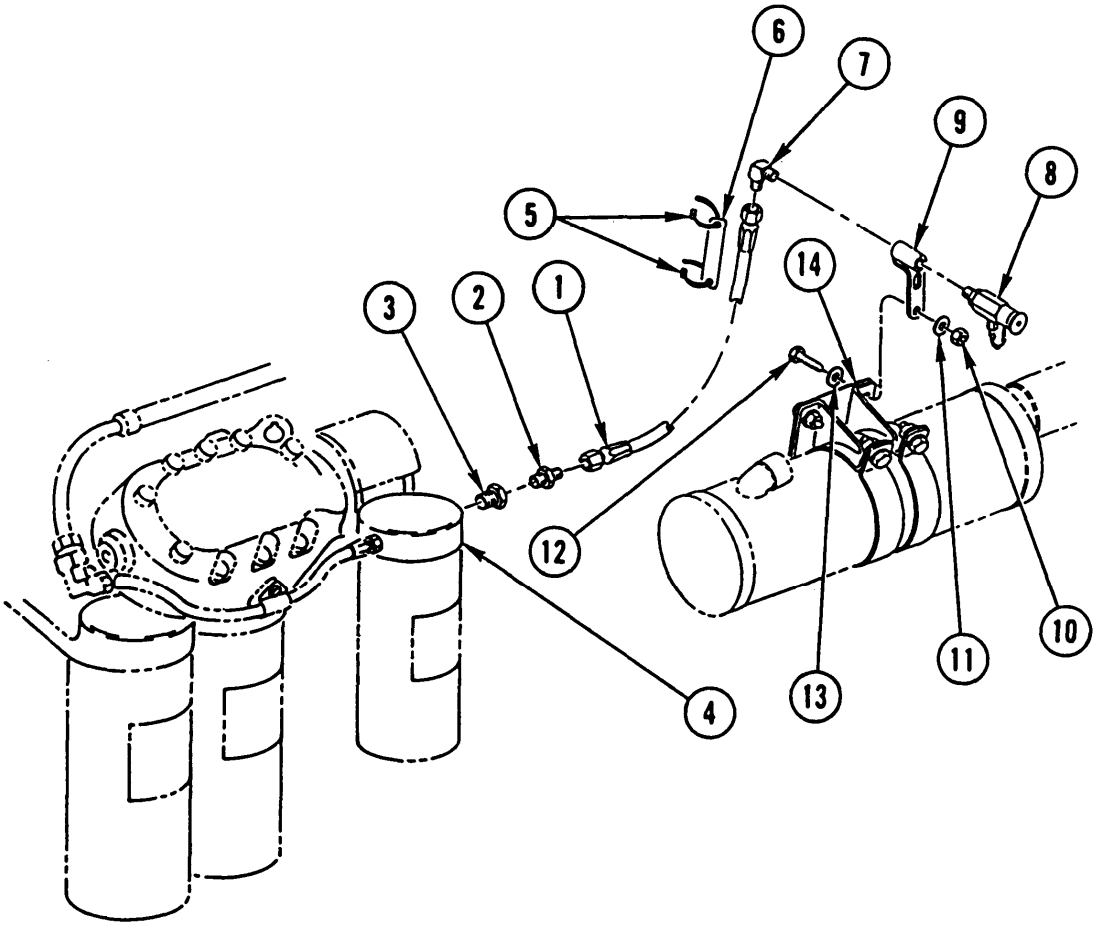
Compound, Pipe Sealing	Appendix C, Item 8
Wrap, Tie	Appendix C, Item 36

REMOVAL

1. DISCONNECT HOSE (1) FROM CONNECTOR (2).
2. REMOVE CONNECTOR (2) AND BUSHING (3) FROM OIL FILTER ADAPTER (4).
3. REMOVE TWO TIE WRAPS (5) AND TAG (6). DISCARD TIE WRAPS.
4. REMOVE HOSE (1) FROM ELBOW (7).
5. REMOVE ELBOW (7) AND SAMPLE VALVE (8) FROM BRACKET (9).
6. REMOVE LOCK NUT (10), WASHER (11), SCREW (12), WASHER (13), AND BRACKET (9) FROM MOUNTING BRACKET (14). DISCARD LOCK NUT.

CLEANING/INSPECTIONI

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL BRACKET (9), WASHER (13), SCREW (12), WASHER (1 1), AND NEW LOCK NUT (10) ON MOUNTING BRACKET (14).
2. COAT THREADS WITH PIPE SEALANT AND INSTALL SAMPLE VALVE (8) AND ELBOW (7) ON BRACKET (9).
3. CONNECT HOSE (1) TO ELBOW (7).
4. INSTALL TAG (6) AND TWO NEW TIE WRAPS (5).
5. COAT THREADS WITH PIPE SEALANT AND INSTALL BUSHING (3) AND CONNECTOR (2) IN OIL FILTER ADAPTER (4).
6. CONNECT HOSE (1) TO CONNECTOR (2).

AIR COMPRESSOR GOVERNOR REPLACEMENT AND ADJUSTMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation d. Adjustment

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (2)

Gasket	P/N 236577
Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	**Air System Drained**

General Safety Instructions:

WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

REMOVAL

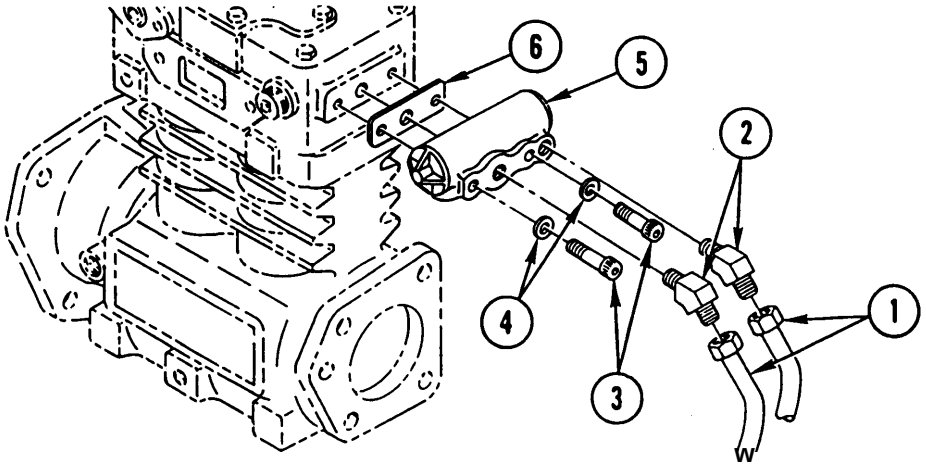
NOTE

Tag lines prior to removal to aid in installation.

1. DISCONNECT TWO LINES (1) FROM TWO ELBOWS (2).
2. REMOVE TWO SCREWS (3), TWO LOCK WASHERS (4), GOVERNOR (5), AND GASKET (6). DISCARD LOCK" WASHERS AND GASKET.
3. REMOVE TWO ELBOWS (2) FROM GOVERNOR (5).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



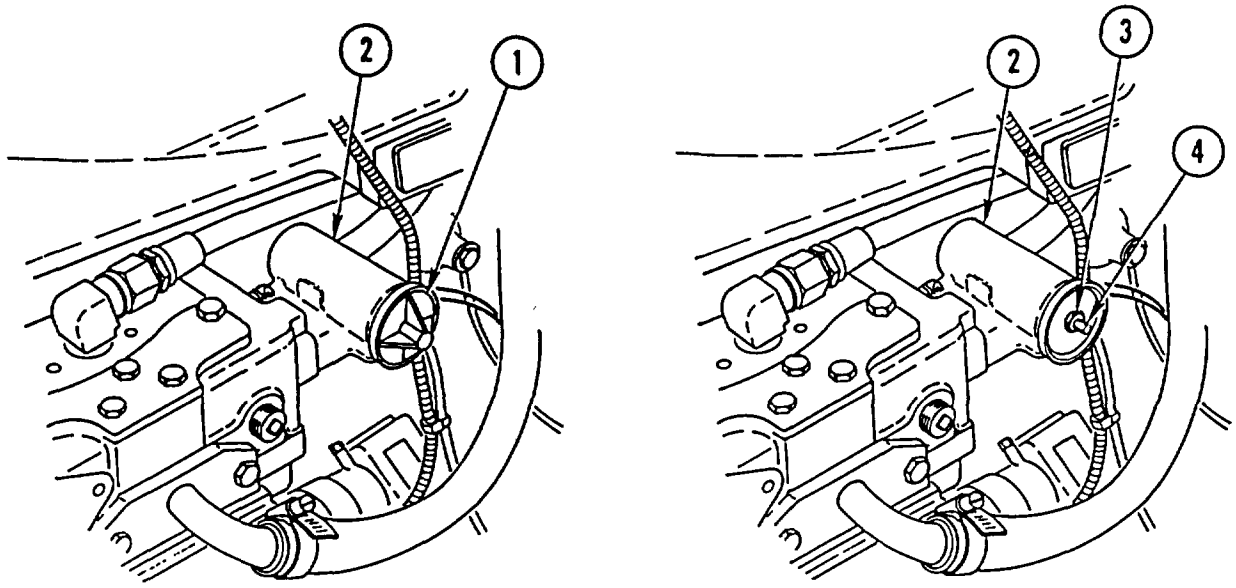
INSTALLATION

WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

1. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL TWO ELBOWS (2) IN GOVERNOR (5).
2. INSTALL NEW GASKET (6), GOVERNOR (5), TWO NEW LOCK WASHERS (4), AND TWO SCREWS (3).
3. CONNECT TWO LINES (1) TO TWO ELBOWS (2).

ADJUSTMENT



1. REMOVE TOP COVER (1) FROM GOVERNOR (2).
2. LOOSEN ADJUSTING SCREW LOCK NUT (3).

CAUTION

Be careful not to over adjust. Each 1/4 turn of adjusting screw raises or lowers pressure setting approximately 4 psi (0.27 bar).

3. TURN ADJUSTING SCREW (4) RIGHT TO LOWER PRESSURE; LEFT TO RAISE PRESSURE.
4. WHEN PROPER ADJUSTMENT IS REACHED, TIGHTEN ADJUSTING SCREW LOCK NUT (3).
5. INSTALL TOP COVER (1) ON GOVERNOR (2).

AIR COMPRESSOR DISCHARGE HOSE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (3)

Compound, Pipe Sealant — Appendix C, Item 8

Equipment Condition:

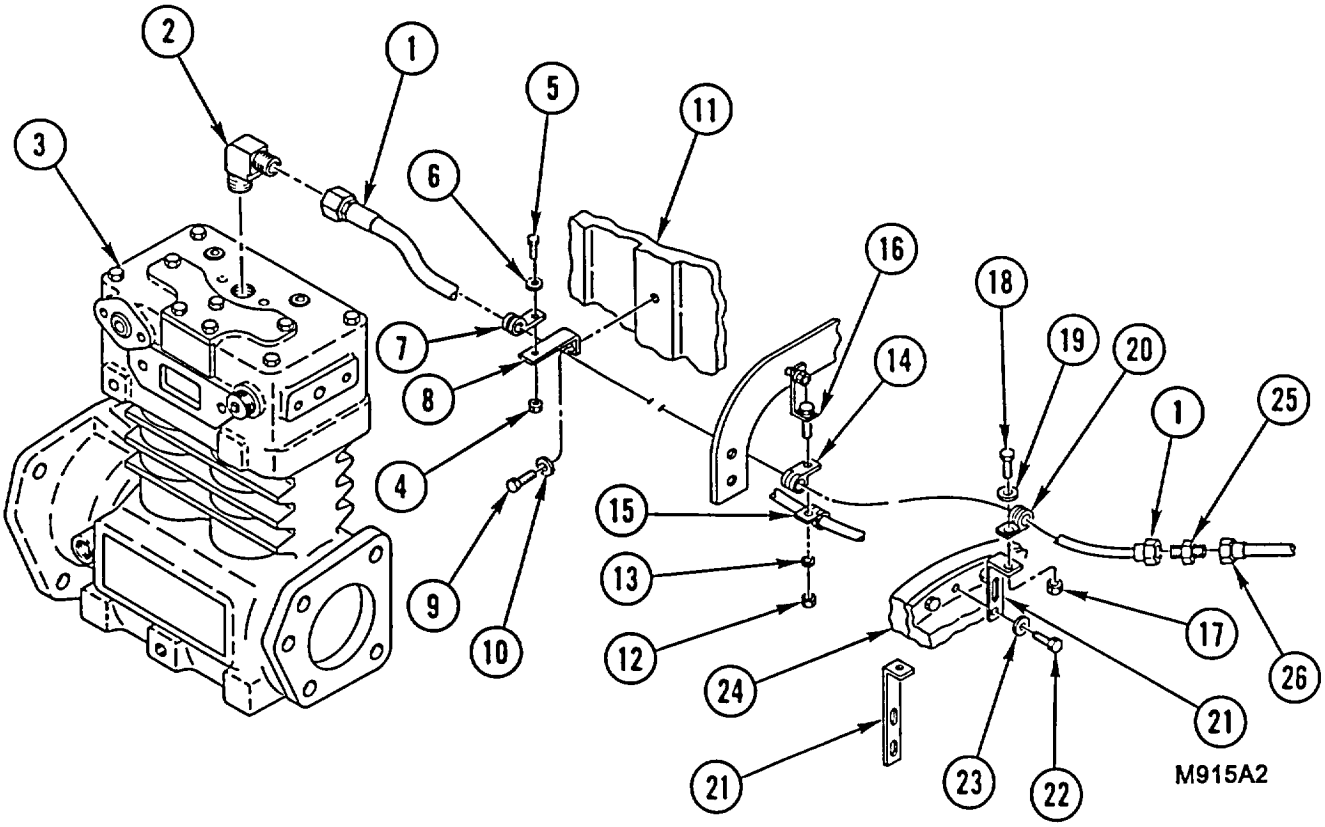
Reference	Condition Description
Page 2-28	Air System Drained
Page 4-752 or 4-756.1	Transmission Tunnel Access Cover Removed

REMOVAL

1. DISCONNECT DISCHARGE HOSE (1) FROM ELBOW (2).
2. REMOVE ELBOW (2) FROM AIR COMPRESSOR (3).
3. REMOVE LOCK NUT (4), SCREW (5), WASHER (6), AND CLAMP (7) FROM BRACKET (8). DISCARD LOCK NUT.
4. REMOVE SCREW (9), WASHER (10), AND BRACKET (8) FROM ENGINE BLOCK (11).
5. REMOVE LOCK NUT (12), WASHER (13), AND TWO CLAMPS (14 AND 15) FROM BRACKET (16).
6. INSTALL CLAMP (15), WASHER (13), AND LOCK NUT (12) ON BRACKET (16).
7. REMOVE LOCK NUT (17), SCREW (18), WASHER (19), AND CLAMP (20) FROM BRACKET (21). DISCARD LOCK NUT.
8. REMOVE SCREW (22), WASHER (23), AND BRACKET (21) FROM TRANSMISSION (24).
9. REMOVE DISCHARGE HOSE (1) AND CONNECTOR (25) FROM AIR DRYER HOSE (26).

CLEANING/INSPECTIONI

Clean and inspect all parts in accordance with Chapter 2.



ALL EXCEPT M915A2

INSTALLATION

1. INSTALL CONNECTOR (25) AND DISCHARGE HOSE (1) ON AIR DRYER HOSE (26).
2. INSTALL BRACKET (21), WASHER (23), AND SCREW (22) ON TRANSMISSION (24).
3. INSTALL CLAMP (20), WASHER (19), SCREW (18), AND NEW LOCK NUT (17) ON BRACKET (21).
4. REMOVE LOCK NUT (12), WASHER (13), AND CLAMP (15) FROM BRACKET (16). DISCARD LOCK NUT.
5. INSTALL TWO CLAMPS (15 AND 14), WASHER (13), AND NEW LOCK NUT (12) ON BRACKET (16).
6. INSTALL BRACKET (8), WASHER (10), AND SCREW (9) ON ENGINE BLOCK (11).
7. INSTALL CLAMP (7), WASHER (6), SCREW (5), AND NEW LOCK NUT (4) ON BRACKET (8).
8. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL ELBOW (2) IN AIR COMPRESSOR (3).
9. CONNECT DISCHARGE HOSE (1) TO ELBOW (2).

NOTE
Follow-on Maintenance:

Install transmission tunnel access cover (page 4-752 or 4-756.1).

Section II. FUEL SYSTEM MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the fuel system and related components. A list of tasks contained in this section is shown below.

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Cylinder Head Fuel Lines and Fittings Replacement (M915A2 and M916A1) 4-41
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FUEL HOSES AND CLAMPS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page **2-29**	Batteries Disconnected

REMOVAL

NOTE

Have suitable container available to catch fuel remaining in fuel hoses.

REMOVE FUEL HOSES AND CLAMPS USING ILLUSTRATION AND LEGEND AS A GUIDE.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

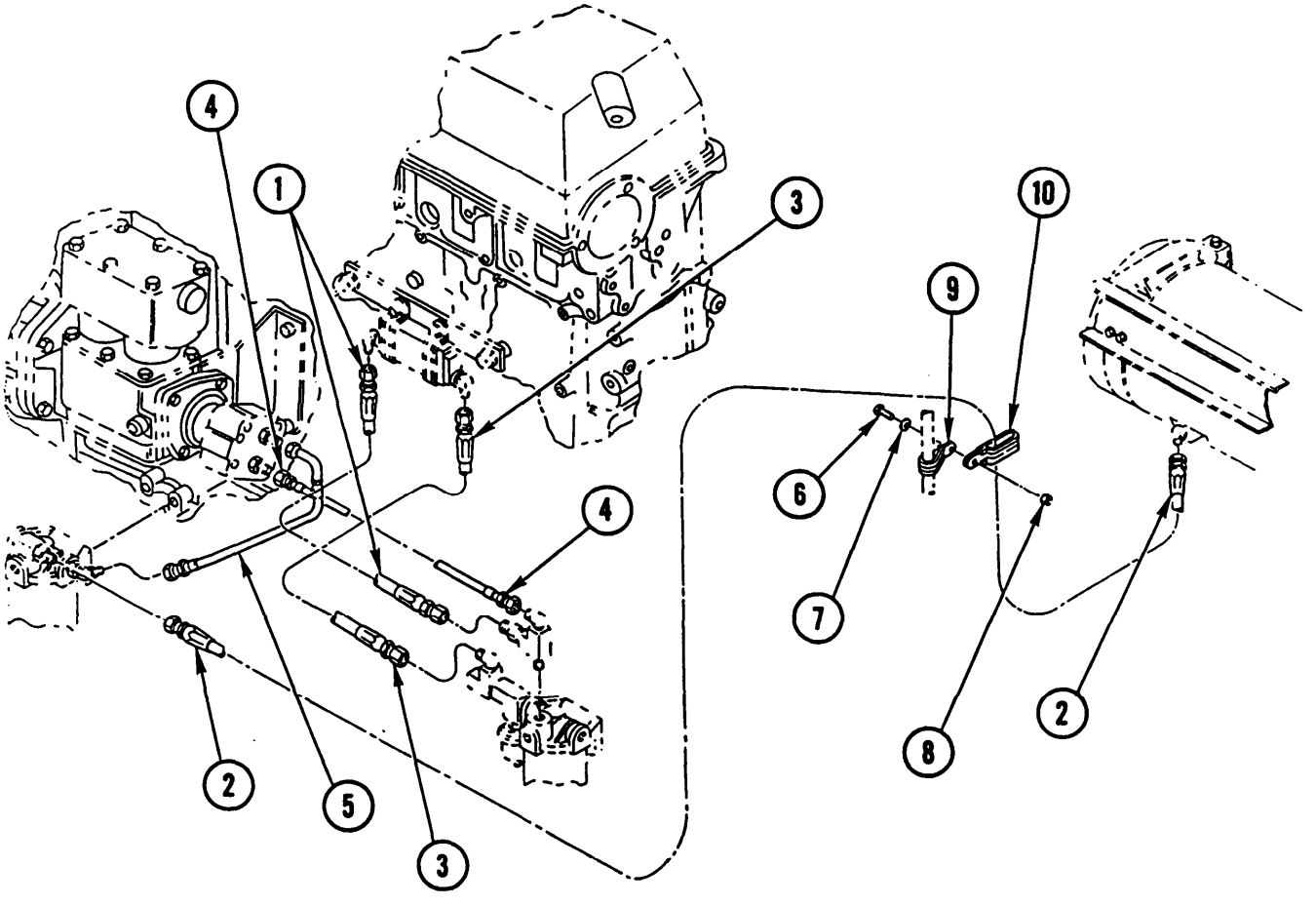
INSTALLATION

INSTALL FUEL HOSES AND CLAMPS USING ILLUSTRATION AND LEGEND AS A GUIDE.

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

FUEL HOSES AND CLAMPS REPLACEMENT (CONT)



LEGEND

1 HOSE ASSEMBLY
2 HOSE ASSEMBLY
3 HOSE ASSEMBLY
4 HOSE ASSEMBLY
5 HOSE ASSEMBLY
6 SCREW
7 WASHER
8 LOCK NUT
9 CLAMP
10 CLAMP

CYLINDER HEAD FUEL LINES AND FITTINGS REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock

Compound, Pipe Sealing — Appendix C, Item 8

References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
Page 4-752	Transmission Tunnel Access Cover Removed

General Safety Instructions:

WARNING

Diesel fuel is flammable Do not work on fuel system in presence of sparks or open flame To do so could result in serious Injury to personnel

CYLINDER HEAD FUEL LINES AND FITTINGS REPLACEMENT (CONT)

REMOVAL

WARNING

Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

NOTE

Have suitable container available to catch fuel remaining in fuel hoses.

1. DISCONNECT FUEL HOSE (1) FROM FUEL TANK ASSEMBLY (2).
2. REMOVE LOCK NUT (3), SCREW (4), WASHER (5), CLAMP (6), AND CLAMP (7) FROM TRANSMISSION DIPSTICK TUBE (8). DISCARD LOCK NUT.
3. REMOVE FUEL HOSE (1) FROM FUEL HOSE (9).

CAUTION

Elbow is a special orifice and should be handled carefully. Failure to do so may result in damage to equipment.

4. REMOVE FUEL HOSE (9) AND SPECIAL ELBOW (10) FROM CYLINDER HEAD (11).
5. DISCONNECT FUEL HOSE (12) FROM ELBOW (13).
6. REMOVE ELBOW (13) FROM CYLINDER HEAD (11).
7. REMOVE SCREW (14) AND CLAMP (15) FROM ENGINE BLOCK (16).
8. REMOVE FUEL HOSE (12) FROM FUEL FILTER ADAPTER ASSEMBLY (17).

CLEANING/INSPECTIONI

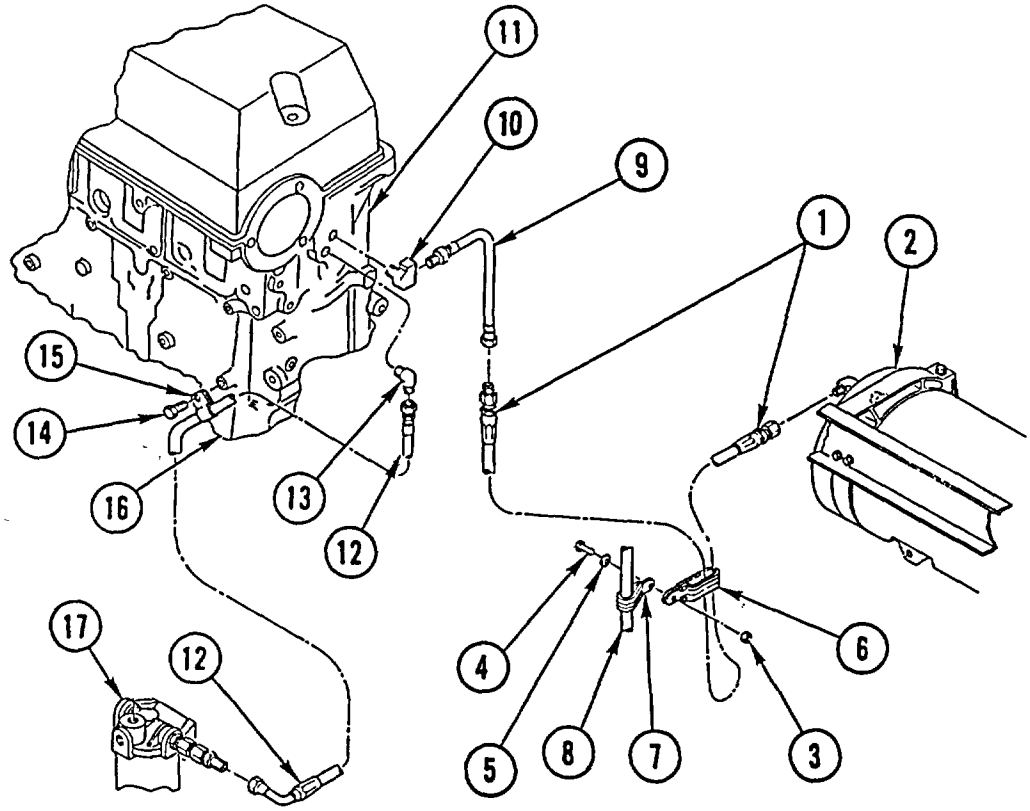
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

WARNING

Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

1. INSTALL FUEL HOSE (12) ON FUEL FILTER ADAPTER ASSEMBLY (17).



2. INSTALL CLAMP (15) AND SCREW (14) ON ENGINE BLOCK (16).
3. COAT THREADS WITH PIPE SEALING COMPOUND AND INSTALL ELBOW (13) IN CYLINDER HEAD (11).
4. CONNECT FUEL HOSE (12) TO ELBOW (13).
5. COAT THREADS WITH PIPE SEALING COMPOUND AND INSTALL SPECIAL ELBOW (10) IN CYLINDER HEAD (11).
6. INSTALL FUEL HOSE (9) ON SPECIAL ELBOW (10).
7. INSTALL FUEL HOSE (1) ON FUEL HOSE (9).
8. INSTALL CLAMP (7), CLAMP (6), WASHER (5), SCREW (4), AND NEW LOCK NUT (3) ON TRANSMISSION DIPSTICK TUBE (8) AS SHOWN.
9. CONNECT FUEL HOSE (1) TO FUEL TANK ASSEMBLY (2).

NOTE

Follow-on Maintenance:

Install transmission tunnel access cover (page 4-752).
Prime fuel system (TM 9-2320-363-10).

CYLINDER HEAD FUEL LINES AND FITTINGS REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock

Compound, Pipe Sealing — Appendix C, Item 8

References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
Page 4-756.1	Transmission Tunnel Access Cover Removed

General Safety Instructions:

WARNING
Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. in presence of sparks or open flame. To do so could result In serious injury to personnel.

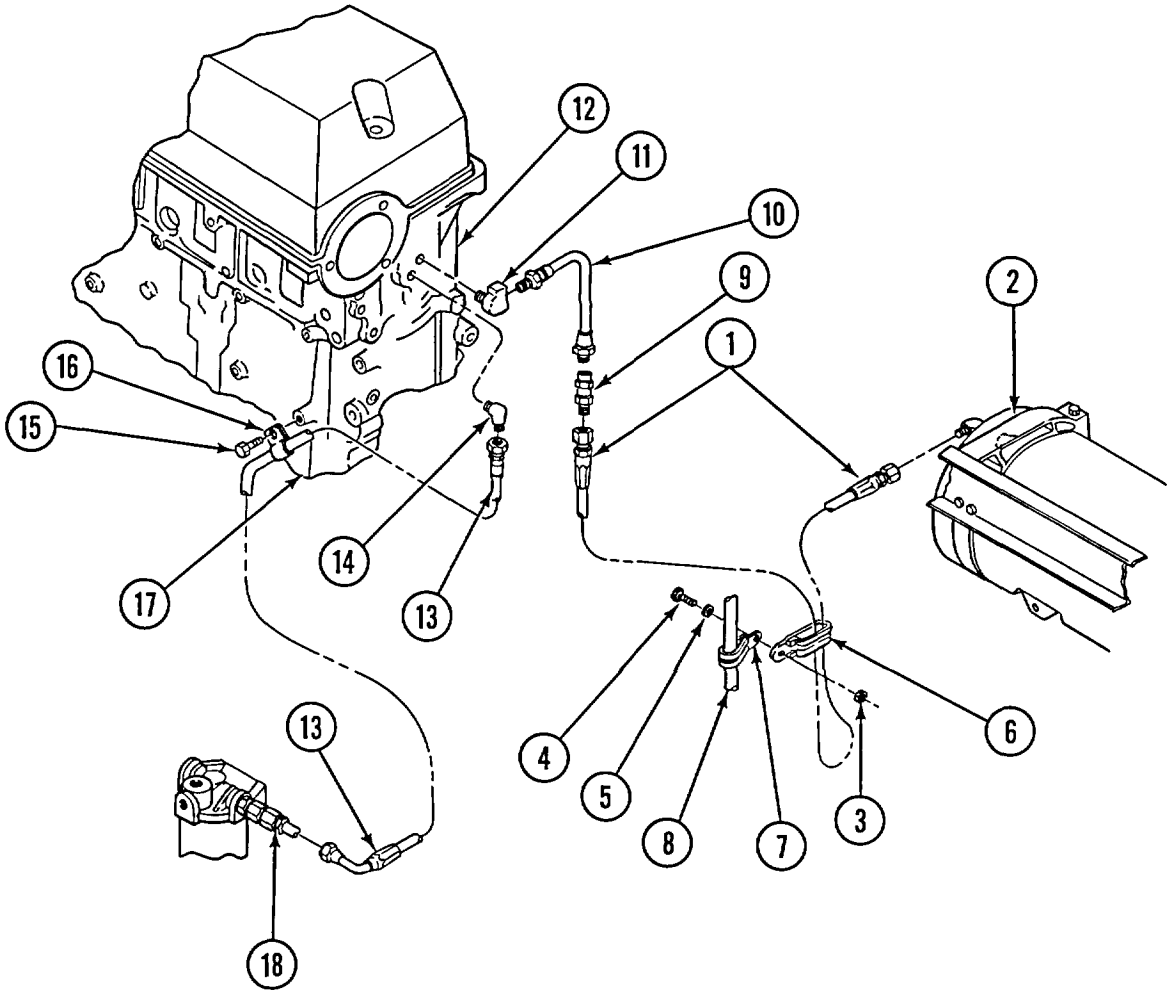
REMOVAL

WARNING
Diesel fuel is flammable Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

NOTE
Have suitable container available to catch fuel remaining in fuel hoses.

1. DISCONNECT FUEL HOSE (1) FROM FUEL TANK ASSEMBLY (2)
2. REMOVE LOCK NUT (3), SCREW (4), WASHER (5), CLAMP (6), AND CLAMP (7) FROM TRANSMISSION DIPSTICK TUBE (8). DISCARD LOCK NUT.
3. REMOVE FUEL HOSE (1) FROM CHECK VALVE (9).

CAUTION
Elbow is a special orifice and should be handled carefully. Failure to do so may result in damage to equipment.



4. REMOVE FUEL HOSE (10) AND SPECIAL ELBOW (11) FROM CYLINDER HEAD (12).
5. REMOVE CHECK VALVE (9) FROM FUEL HOSE (10).
6. DISCONNECT FUEL HOSE (13) FROM ELBOW (14).
7. REMOVE ELBOW (14) FROM CYLINDER HEAD (12)
8 REMOVE SCREW (15) AND CLAMP (16) FROM ENGINE BLOCK (17)
9. REMOVE FUEL HOSE (13) FROM CHECK VALVE (18).

CYLINDER HEAD FUEL LINES AND FITTINGS REPLACEMENT (CONT)

CLEANING/INSPECTION

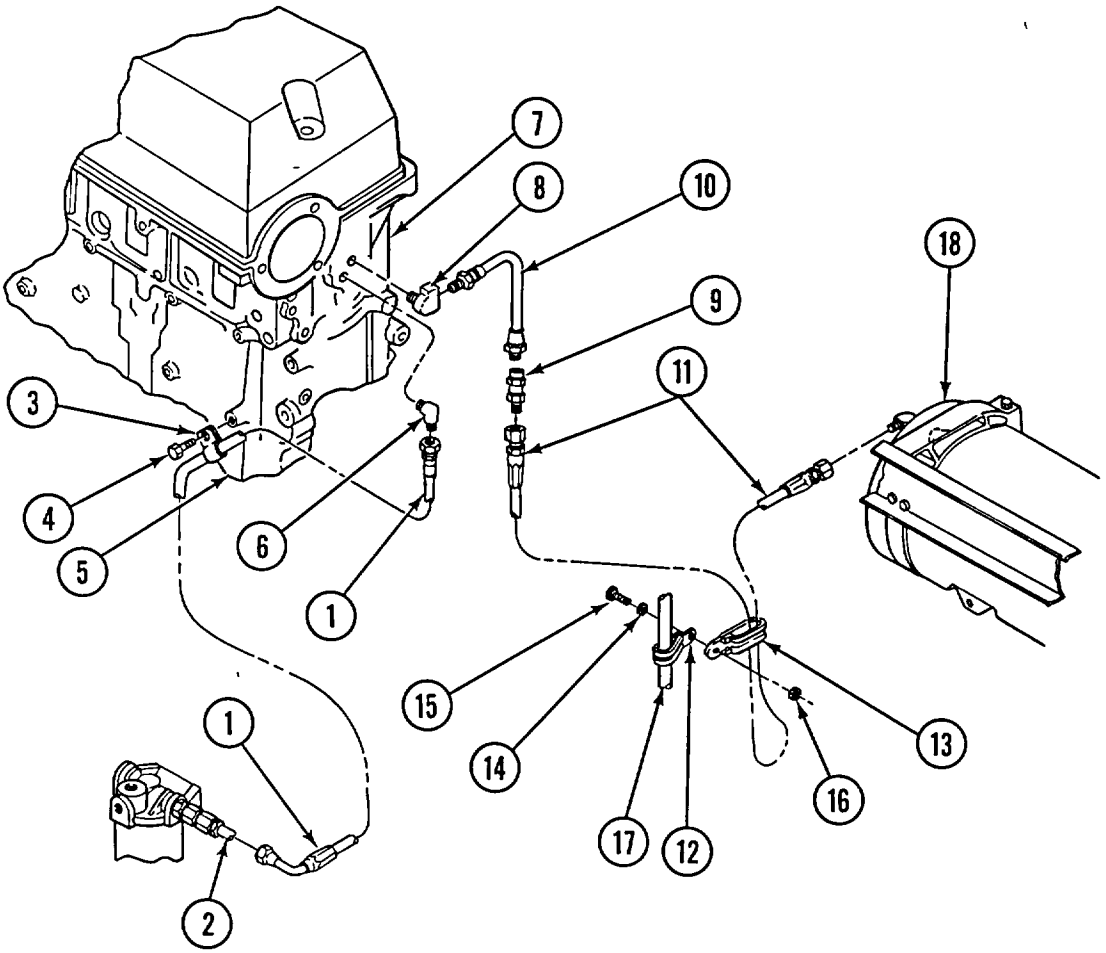
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

WARNING

Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

1. INSTALL FUEL HOSE (1) ON CHECK VALVE (2).
2. INSTALL CLAMP (3) AND SCREW (4) ON ENGINE BLOCK (5).
3. COAT THREADS WITH PIPE SEALING COMPOUND AND INSTALL ELBOW (6) IN CYLINDER HEAD (7).
4. CONNECT FUEL HOSE (1) TO ELBOW (6).
5. COAT THREADS WITH PIPE SEALING COMPOUND AND INSTALL SPECIAL ELBOW (8) IN CYLINDER HEAD (7).
6. INSTALL CHECK VALVE (9) ON FUEL HOSE (10).
7. INSTALL FUEL HOSE (10) ON SPECIAL ELBOW (8).
8. INSTALL FUEL HOSE (11) ON CHECK VALVE (9).
9. INSTALL CLAMP (12), CLAMP (13), WASHER (14), SCREW (15), AND NEW LOCK NUT (16) ON TRANSMISSION DIPSTICK TUBE (17) AS SHOWN.
10. CONNECT FUEL HOSE (11) TO FUEL TANK ASSEMBLY (18).



NOTE

Follow-on Maintenance:

Install transmission tunnel access cover (page 4-756.1).
Prime fuel system (TM 9-2320-363-10).

FUEL STRAINER AND FILTER ELEMENTS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Element, Strainer	P/N OEM R90-DDC-01
Element, Filter	P/N TP916
Oil, Lubricating	Appendix C, Item 16
Fuel, Diesel	Appendix C, Item 12

References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

General Safety Instructions:

WARNING
Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

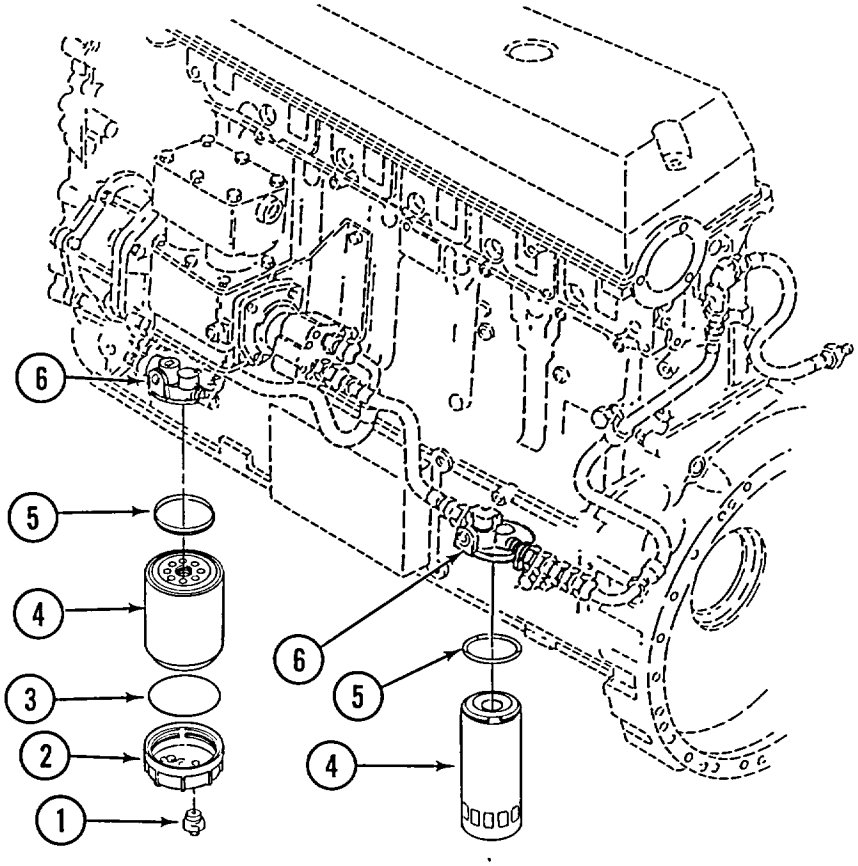
REMOVAL

WARNING
Diesel fuel is flammable. Do not work on fuel system In presence of sparks or open flame To do so could result in serious injury to personnel.

NOTE

- **Procedure is the same for both elements.**
- **Have suitable container available to catch fuel.**
- **Remove elements one at a time to minimize possibility of fuel draining from cylinder head.**

1. REMOVE KNOB (1) FROM SEDIMENT BOWL (2) AND ALLOW FLUID TO DRAIN.
2. REMOVE SEDIMENT BOWL (2) AND GASKET (3) FROM ELEMENT (4).
3. REMOVE AND DISCARD ELEMENT (4) WITH GASKET (5) FROM ADAPTER (6).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

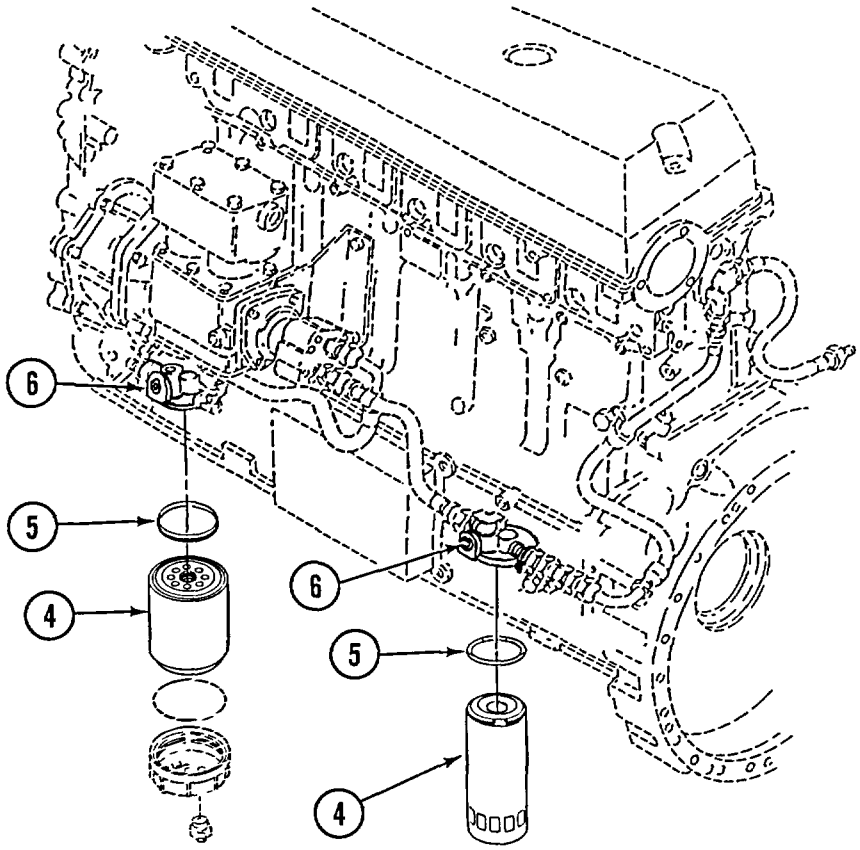
WARNING

Diesel fuel is flammable. Do not work on fuel system in the presence of sparks or open flame To do so could result in serious injury to personnel.

NOTE

Procedure is the same for both elements.

1. COAT NEW GASKET (5) WITH THIN FILM OF CLEAN ENGINE LUBRICATING OIL.
2. INSTALL GASKET (3) IN SEDIMENT BOWL (2).
3. INSTALL KNOB (1) IN SEDIMENT BOWL (2).
4. INSTALL SEDIMENT BOWL (2) ON ELEMENT (4).
5. FILL NEW ELEMENT (4) 2/3-FULL WITH CLEAN ENGINE FUEL.



6. THREAD ELEMENT (4) INTO ADAPTER (6) UNTIL GASKET (5) CONTACT ADAPTER (6) WITH NO SIDE MOVEMENT OF ELEMENT (4).

CAUTION

Do not use filter wrench to install element. Over tightening may damage element and cause fuel leaks.

7. MANUALLY TURN ELEMENT (4) 12 TURN.

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).
Prime fuel system (TM 9-2320-363-10).

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FUEL FILTER ADAPTERS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

*
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, S C 5180-90-CL-N26

Materials/Parts:

Washer, Lock

References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 4-44	Fuel Filter Elements Removed

General Safety Instructions:

WARNING

- **Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. Failure to do so could result in serious injury to personnel**
- **Fuel vapors are toxic. Avoid prolonged exposure or breathing of fumes Work In a well-ventilated area. Failure to do so could result in serious Injury to personnel.**

REMOVAL

WARNING

- **Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. Failure to do so could result in serious injury to personnel.**
- **Fuel vapors are toxic. Avoid prolonged exposure or breathing of fumes. Work in a well-ventilated area. Failure to do so could result In serious injury to personnel.**

NOTE
Remove and replace damaged components only.

1. DISCONNECT CONNECTOR (1) AND REMOVE NUT (2), LOCK WASHER (3), AND WIRE (4). DISCARD LOCK WASHER.

NOTE
Have suitable container to catch fuel.

2. DISCONNECT SIX FUEL HOSES (5).
3. REMOVE TWO BOLTS (6) AND SECONDARY FUEL FILTER ADAPTER (7).
4. REMOVE TWO BOLTS (8) AND PRIMARY FUEL FILTER WATER SEPARATOR ADAPTER (9).

NOTE

It may be necessary to install adapters in soft-jawed vise to perform steps 5 through 9.

5. REMOVE FUEL SENSOR (10), THREE ADAPTERS (11), CHECK VALVE (12), AND BUSHING (13).

6. REMOVE FOUR ELBOWS (14), SENSOR (15), THREE TEES (16), AND THREE PLUGS (17).

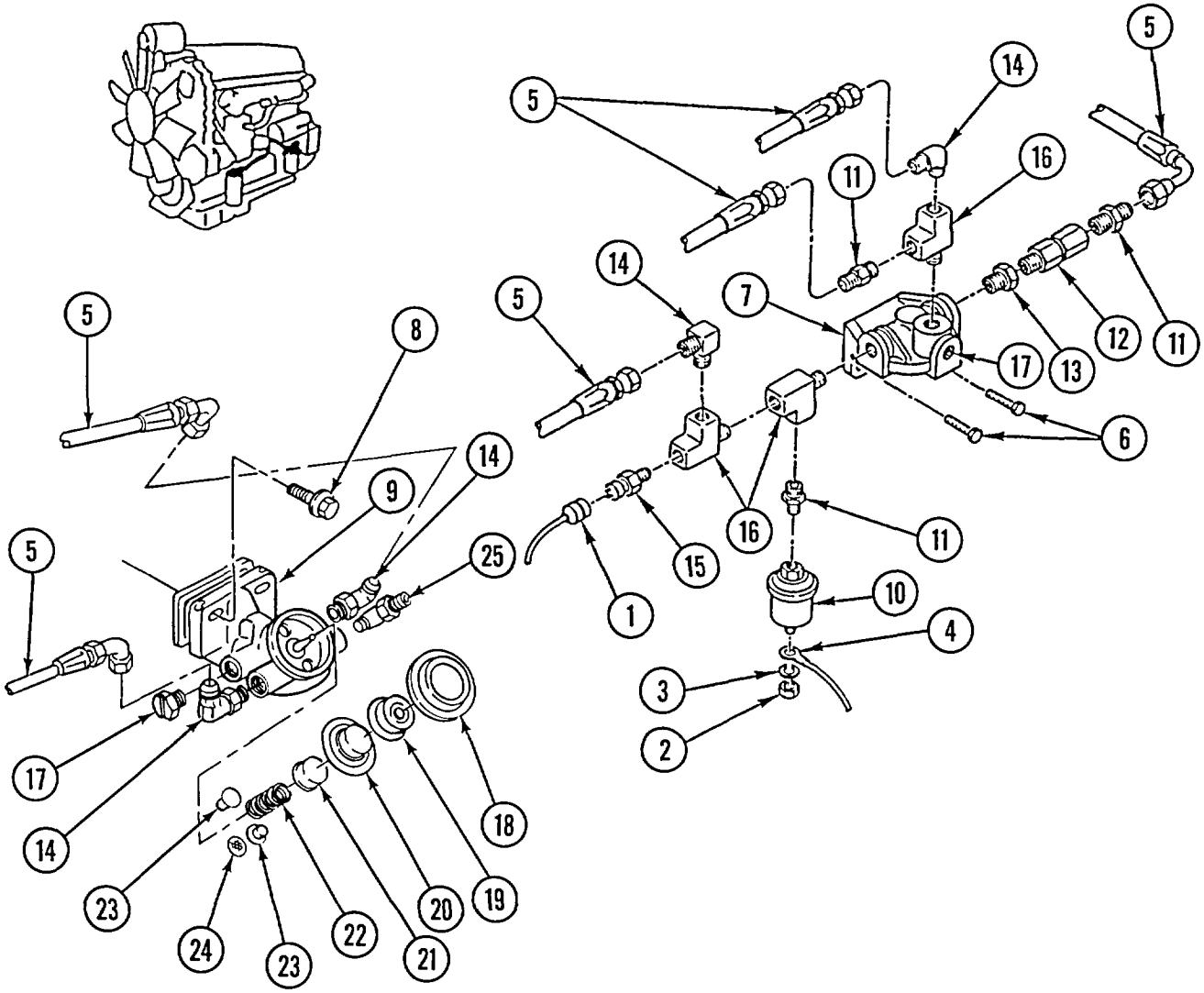
WARNING

Inner parts of primary fuel filter water separator adapter are under spring tension Care should be taken when adapter bezel is removed. Failure to do so could result in injury to personnel

7. UNSCREW AND GENTLY REMOVE BEZEL (18) FROM PRIMARY FUEL FILTER ADAPTER (9).

8. REMOVE BUTTON (19) DIAPHRAGM (20), PISTON (21), SPRING (22), TWO CHECK VALVES (23), AND SCREEN (24).

9. REMOVE BYPASS ASSEMBLY (25).

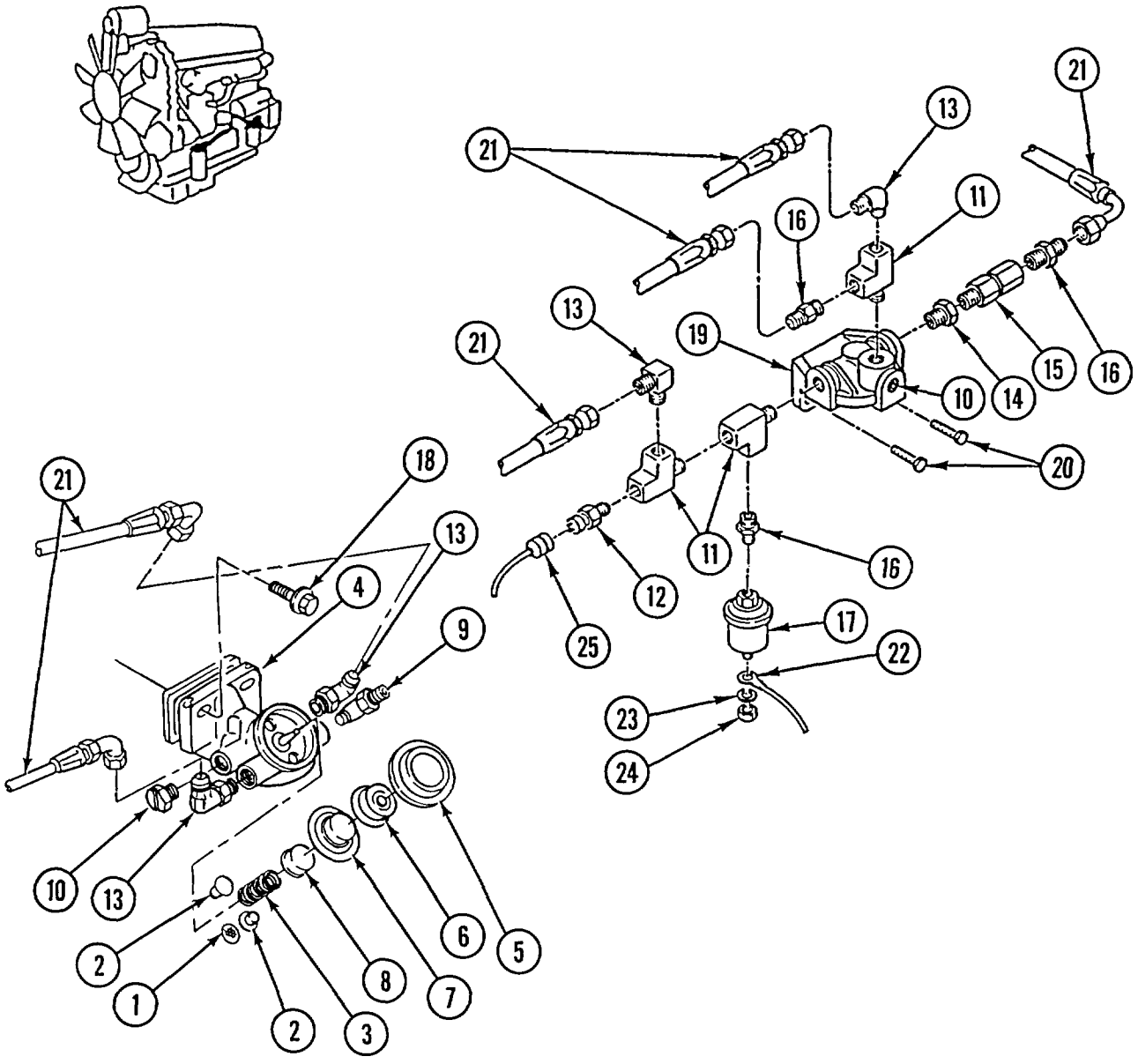


FUEL FILTER ADAPTERS REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



WARNING

- **Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.**
- **Fuel vapors are toxic. Avoid prolonged exposure or breathing of fumes. Work in well-ventilated area. Failure to do so could result in serious injury to personnel.**

NOTE

If may be necessary to install adapters in soft-jawed vise to perform steps 1 through 6.

1. INSTALL SCREEN (1), TWO CHECK VALVES (2), AND SPRING (3) ON PRIMARY FUEL FILTER WATER SEPARATOR ADAPTER (4).
2. PLACE BEZEL (5) ON BUTTON (6), DIAPHRAGM (7), AND ON PISTON (8)
3. POSITION PISTON (8) ON SPRING (3), GENTLY APPLY PRESSURE ON BEZEL (5) TO COMPRESS SPRING (3), AND SCREW BEZEL (5) ONTO PRIMARY FUEL FILTER WATER SEPARATOR ADAPTER (4).
4. INSTALL BYPASS ASSEMBLY (9).
5 INSTALL THREE PLUGS (10), THREE TEES (11), SENSOR (12), AND FOUR ELBOWS (13)
6. INSTALL BUSHING (14), CHECK VALVE (15), THREE ADAPTERS (16), AND FUEL SENSOR (17).
7. INSTALL PRIMARY FUEL FILTER WATER SEPARATOR ADAPTER (4) AND TWO BOLTS (18).
8. INSTALL SECONDARY FUEL FILTER ADAPTER (19) AND TWO BOLTS (20)
9. CONNECT SIX FUEL HOSES (21).
10. INSTALL WIRE (22), NEW LOCK WASHER (23), AND NUT (24).
11. CONNECT CONNECTOR (25) TO FUEL SENSOR (17).

NOTE
Follow-on Maintenance:

Install fuel filter elements (page 4-44).
Connect batteries (page 2-29).
Prime fuel system (TM 9-2320-363-10).

FUEL FILTER ADAPTERS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIALSETUP

Applicable Configuration:
All except M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 4-44	Fuel Filter Elements Removed

General Safety Instructions:

WARNING

- **Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. Failure to do so could result in serious injury to personnel.**
- **Fuel vapors are toxic. Avoid prolonged exposure or breathing of fumes Work In a well-ventilated area. Failure to do so could result in serious Injury to personnel**

REMOVAL

WARNING

- **Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. Failure to do so could result in serious injury to personnel.**
- **Fuel vapors are toxic. Avoid prolonged exposure or breathing of fumes. Work in a well-ventilated area. Failure to do so could result in serious injury to personnel.**

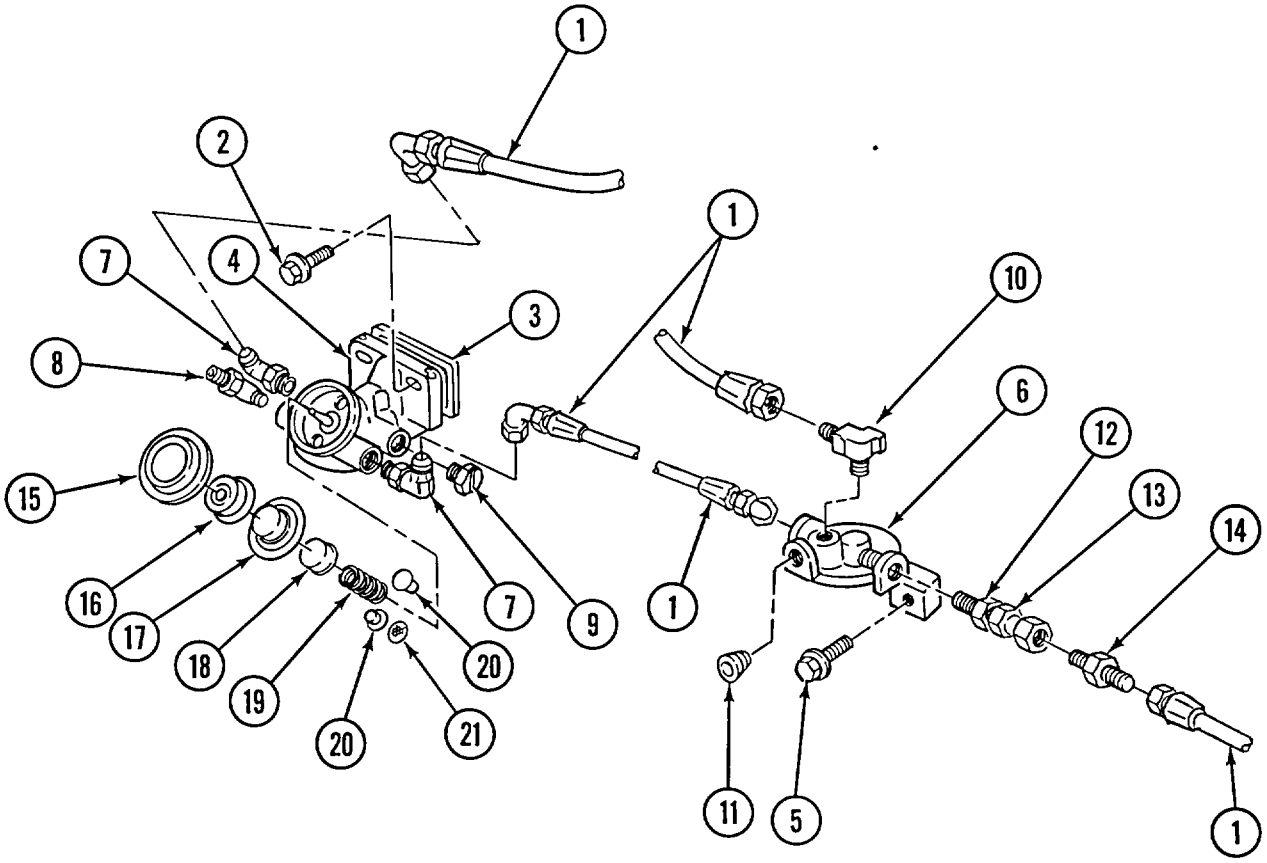
NOTE

- **Remove and replace only damaged components.**
- **Have a suitable container available to catch fuel.**

1. DISCONNECT FIVE FUEL LINES (1).
2. REMOVE TWO BOLTS (2), SPACER PLATE (3), AND PRIMARY FUEL FILTER WATER SEPARATOR ADAPTER (4).
3. REMOVE TWO BOLTS (5) AND SECONDARY FUEL FILTER ADAPTER (6).

NOTE

It may be necessary to install adapters in soft-jawed vise to perform steps 4 and 5.



4. REMOVE TWO FITTINGS (7), BYPASS ASSEMBLY (8), AND VENT PLUG (9) FROM PRIMARY FUEL FILTER WATER SEPARATOR ADAPTER (4).

5. REMOVE PIPE TEE (10), PIPE PLUG (11), BUSHING (12), CHECK VALVE (13), AND ADAPTER (14) FROM SECONDARY FUEL FILTER ADAPTER (6).

WARNING

Inner parts of primary fuel filter water separator adapter are under spring tension. Care should be taken when adapter bezel is removed. Failure to do so could result in injury to personnel.

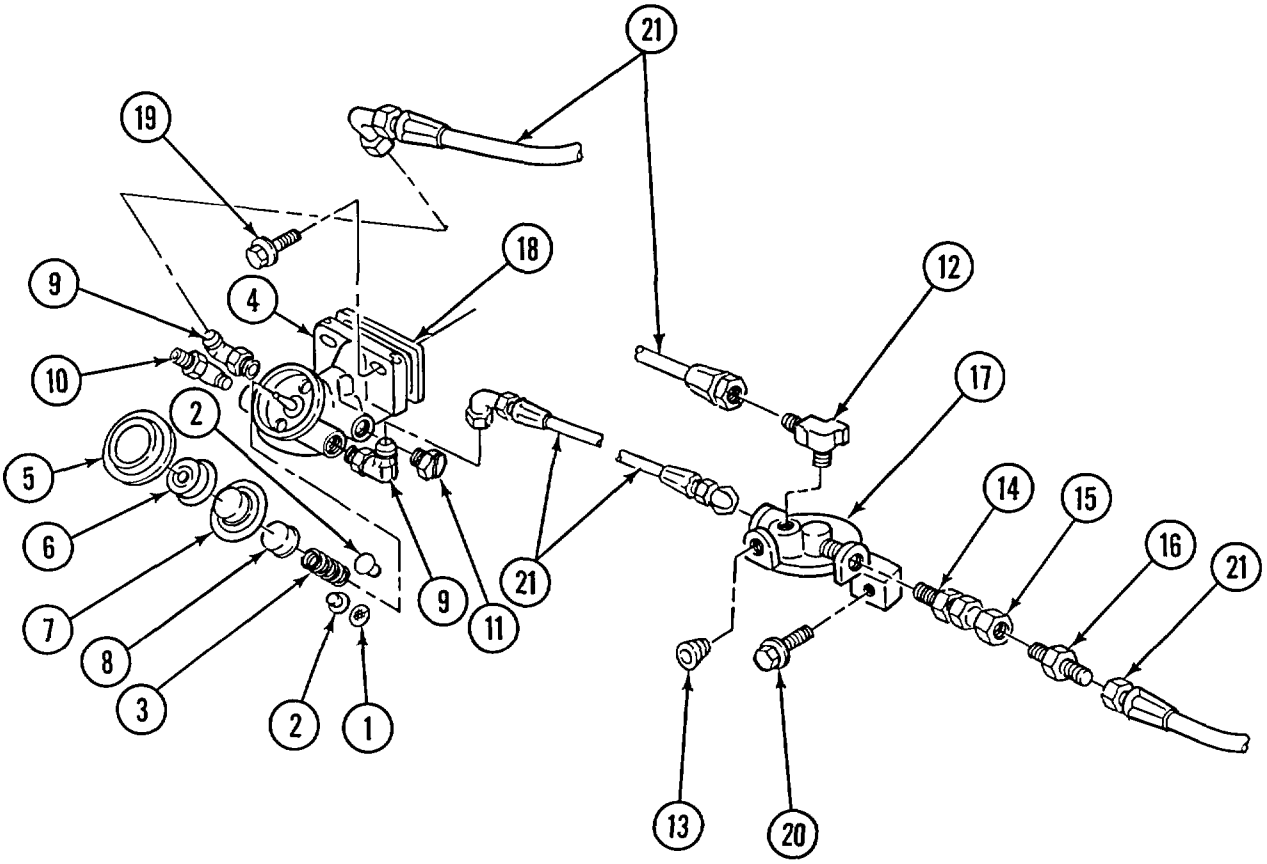
6. UNSCREW AND GENTLY REMOVE BEZEL (15) FROM PRIMARY FUEL FILTER WATER SEPARATOR ADAPTER (4).

7. REMOVE BUTTON (16), DIAPHRAGM (17), PISTON (18), SPRING (19), TWO CHECK VALVES (20), AND SCREEN (21).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

FUEL FILTER ADAPTERS REPLACEMENT (CONT)



INSTALLATION

WARNING

- **Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. Failure to do so could result in serious injury to personnel.**
- **Fuel vapors are toxic. Avoid prolonged exposure or breathing of fumes. Work in a well-ventilated area. Failure to do so could result in serious injury to personnel.**

1. INSTALL SCREEN (1), TWO CHECK VALVES (2), AND SPRING (3) ON PRIMARY FUEL FILTER WATER SEPARATOR ADAPTER (4).

2. PLACE BEZEL (5) ON BUTTON (6), DIAPHRAGM (7), AND ON PISTON (8)

3. POSITION PISTON (8) ON SPRING (3), GENTLY APPLY PRESSURE ON BEZEL (5) TO COMPRESS SPRING (3), AND SCREW BEZEL (5) ONTO PRIMARY FUEL FILTER WATER SEPARATOR ADAPTER (4).

4. INSTALL TWO FITTINGS (9), BYPASS ASSEMBLY (10), AND VENT PLUG (11) ON PRIMARY FUEL FILTER WATER SEPARATOR ADAPTER (4).

5. INSTALL PIPE TEE (12), PIPE PLUG (13), BUSHING (14), CHECK VALVE (15), AND ADAPTER (16) ON SECONDARY FUEL FILTER ADAPTER (17)

6. POSITION SPACER PLATE (18) AND PRIMARY FUEL FILTER WATER SEPARATOR ADAPTER (4) ON ENGINE BLOCK AND INSTALL TWO BOLTS (19).

7. POSITION SECONDARY FUEL FILTER ADAPTER (17) ON ENGINE BLOCK AND INSTALL TWO BOLTS (20).

8. CONNECT FIVE FUEL LINES (21).

NOTE
Follow-on Maintenance:

Install fuel filter elements (page 4-44)
Connect batteries (page 2-29).
Prime fuel system (TM 9-2320-363-10).

FUEL PUMP REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIALSETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Gasket P/N 23505248

General Safety Instructions:

WARNING

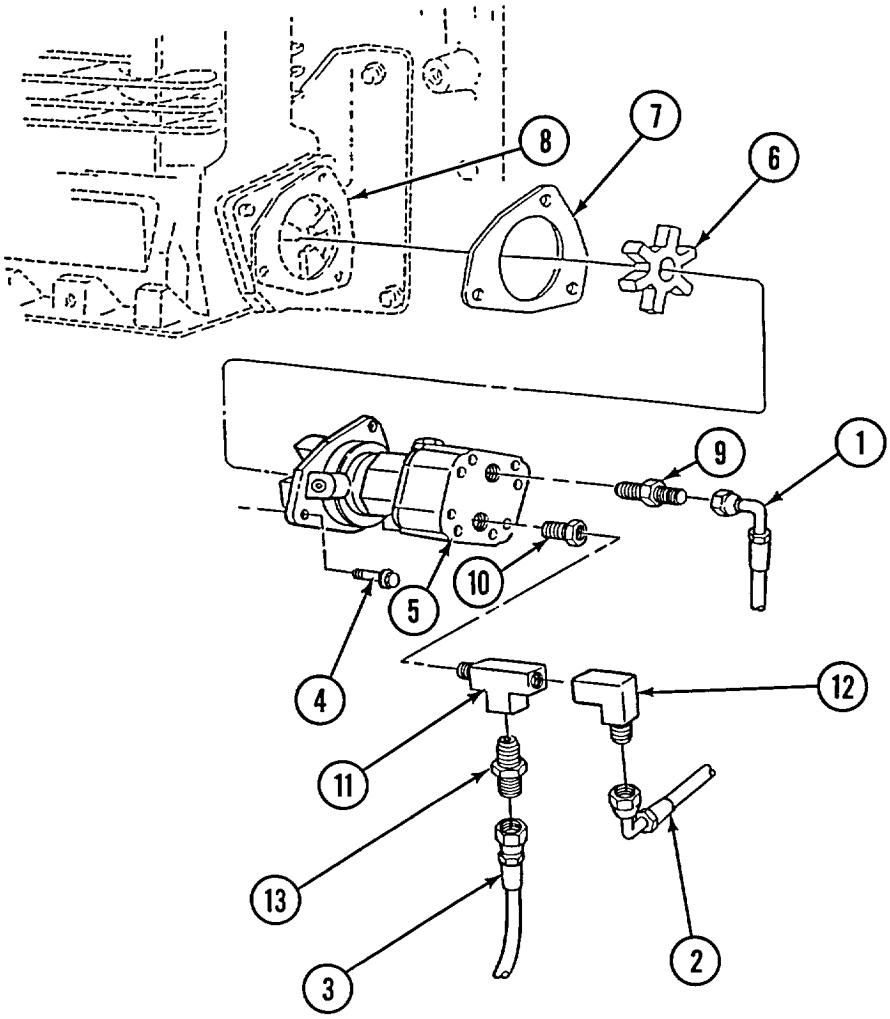
Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame To do so could result in serious injury to personnel.

REMOVAL

WARNING

Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

1. DISCONNECT FUEL INLET HOSE (1).
2. DISCONNECT FUEL PUMP TO SECONDARY FUEL FILTER HOSE (2).
3. DISCONNECT FUEL PUMP TO FUEL/WATER SEPARATOR RETURN HOSE (3).
4. REMOVE THREE BOLTS (4) FROM FUEL PUMP (5).
5. REMOVE FUEL PUMP (5), COUPLING (6), AND GASKET (7) FROM AIR COMPRESSOR (8). DISCARD GASKET.
6. REMOVE ADAPTER FITTING (9) FROM FUEL PUMP (5).
7. REMOVE ADAPTER (10) AND TEE FITTING (11) FROM FUEL PUMP (5).
8. REMOVE ELBOW FITTING (12) AND ADAPTER (13) FROM TEE FITTING (11).

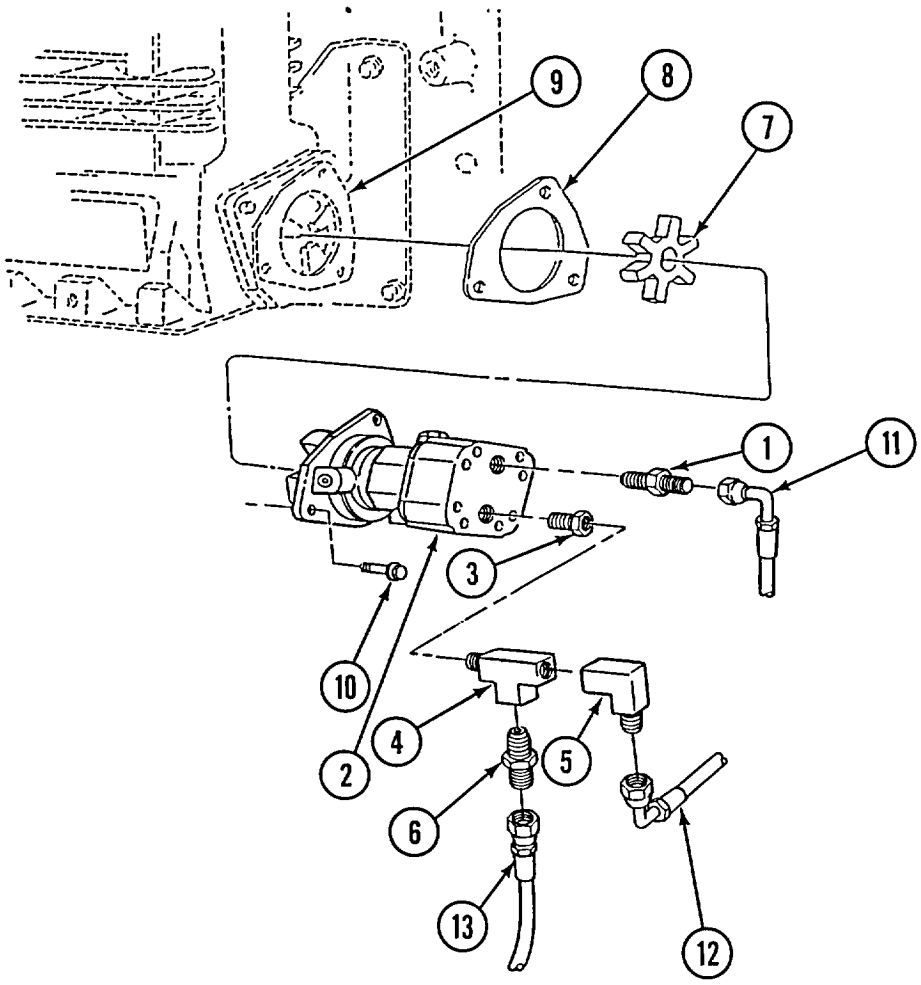


CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

FUEL PUMP REPLACEMENT (CONT)

INSTALLATION



WARNING

Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

1. INSTALL ADAPTER FITTING (1) IN FUEL PUMP (2).

2. INSTALL ADAPTER (3) AND TEE FITTING (4) IN FUEL PUMP (2).

3. INSTALL ELBOW FITTING (5) AND ADAPTER (6) IN TEE FITTING (4)

4. INSTALL FUEL PUMP (2), COUPLING (7), AND NEW GASKET (8) ON AIR COMPRESSOR (9).

5. INSTALL THREE BOLTS (10) TO SECURE FUEL PUMP (2) TO AIR COMPRESSOR (9) TORQUE BOLTS TO 22-28 LB-FT (30-38 N.m).

6. CONNECT FUEL INLET HOSE (11).

7. CONNECT FUEL PUMP TO SECONDARY FUEL FILTER HOSE (12)

8. CONNECT FUEL PUMP TO FUEL/WATER SEPARATOR RETURN HOSE (13).

AIR CLEANER, PRE-CLEANER, AND DUCT ASSEMBLY REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIALSETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (8)

Nut, Lock (5)

Washer, Lock (3) P/N P52-6151

Capscrew (8)

Washer, Lock (8)

Nut (8)

Screw, Self-Tapping, 1/4 x 13 x 3/4 (5)

Nut, Lock (10)

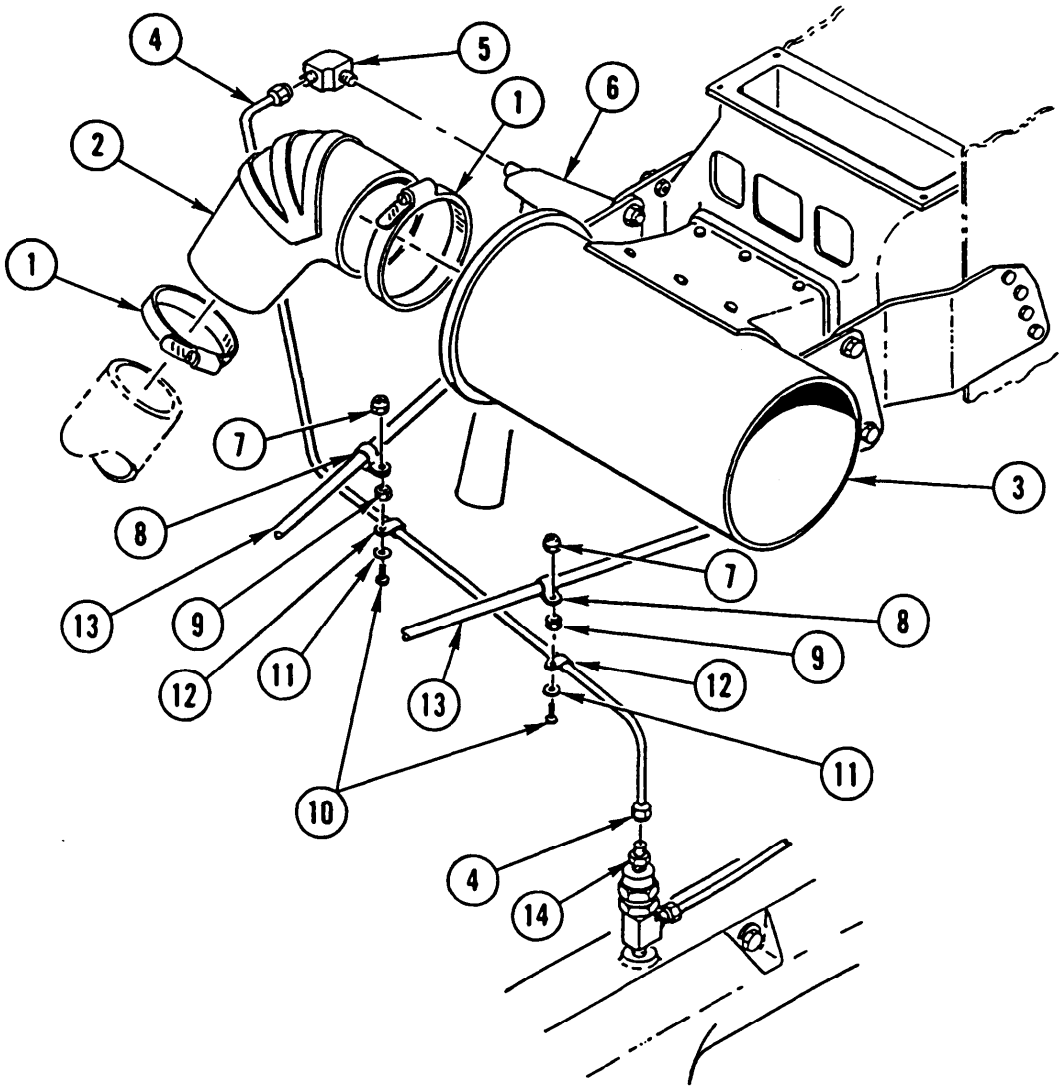
Washer, Lock (10)

Compound, Pipe Sealing Appendix C, Item 8

Equipment Condition:

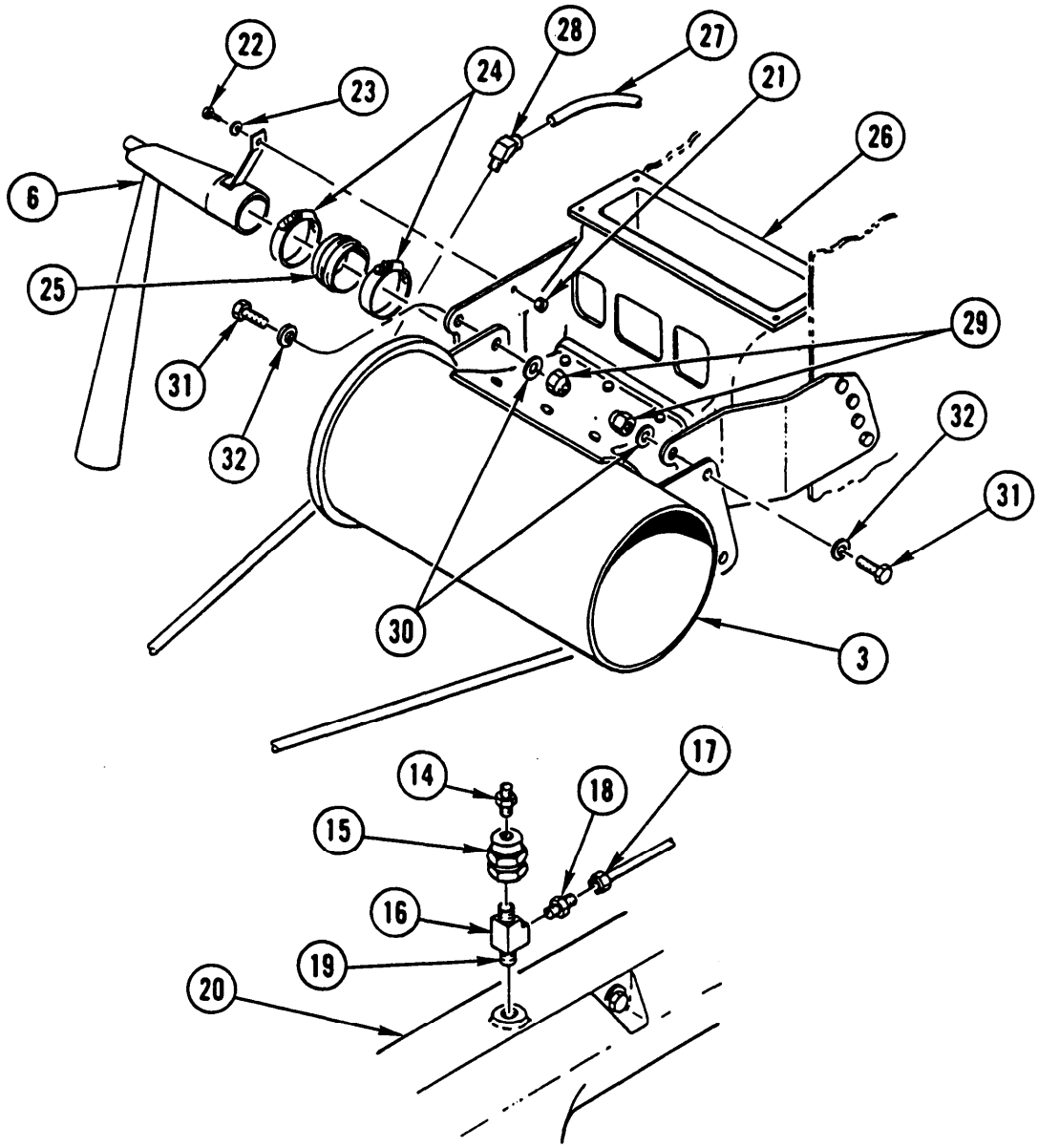
Reference	Condition Description
Page 4-61	Air Cleaner Element Removed

REMOVAL



1. REMOVE TWO CLAMPS (1) AND ELBOW (2) FROM AIR CLEANER (3).
2. DISCONNECT TUBE (4) AND REMOVE ELBOW (5) FROM TUBE ASSEMBLY (6).
3. REMOVE TWO LOCK NUTS (7), TWO CLAMPS (8), TWO NUTS (9), TWO SCREWS (10), TWO WASHERS (11), AND TWO CLAMPS (12) FROM TWO SUPPORT RODS (13). DISCARD LOCK
4. REMOVE TUBE (4) FROM CONNECTOR (14).

AIR CLEANER, PRE-CLEANER, AND DUCT ASSEMBLY REPLACEMENT (CONT)



5. REMOVE CONNECTOR (14) FROM CHECKVALVE (15).

.6. REMOVE CHECK VALVE (15) FROM TEE (16).

7. DISCONNECT TUBE (17) FROM CONNECTOR

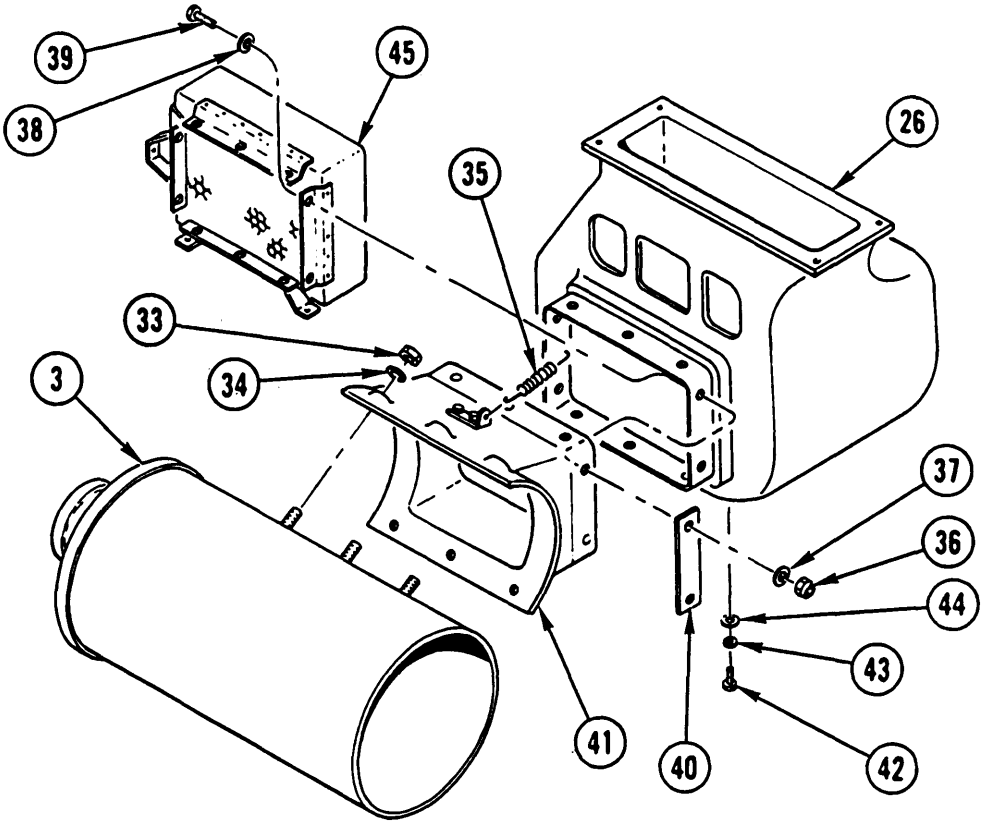
8. REMOVE CONNECTOR (18) FROM TEE (16).

9. REMOVE TEE (16) AND NIPPLE (19) FROM MANIFOLD (20).

10. REMOVE LOCK NUT (21), SCREW (22), WASHER (23), TWO CLAMPS (24), HOSE (25), AND TUBE ASSEMBLY (6) FROM DUCT ASSEMBLY (26). DISCARD LOCK NUT.

11. DISCONNECT TUBE (27) AND REMOVE ELBOW (28).

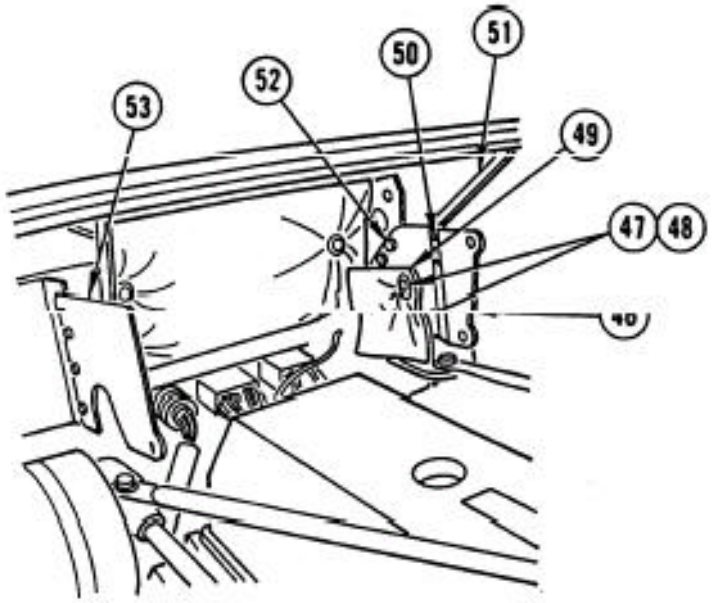
12. SUPPORT AIR CLEANER (3) AND REMOVE FOUR LOCK NUTS (29), FOUR WASHERS (30), FOUR SCREWS (31), FOUR WASHERS (32), AIR CLEANER (3), AND DUCT ASSEMBLY (26). DISCARD LOCK NUTS.



13. REMOVE SIX LOCK NUTS (33), SIX WASHERS (34), AND AIR CLEANER (3) FROM DUCT ASSEMBLY (26). DISCARD LOCK NUTS.

14. REMOVE SPRING (35), 10 LOCK NUTS (36), 10 LOCK WASHERS (37), 10 WASHERS (38), 10 SCREWS (39), 4 REINFORCEMENT BARS (40), AND ADAPTER DUCT (41). DISCARD LOCK NUTS AND LOCK WASHERS.

15. REMOVE THREE SELF-TAPPING SCREWS (42), THREE LOCK WASHERS (43), THREE WASHERS (44), AND PRE-CLEANER ASSEMBLY (45). DISCARD LOCK WASHERS.



16. IF MOUNTING BRACKET (46) IS DAMAGED, REMOVE TWO RIVETS (47), TWO WASHERS (48), AND INSULATION (49). MOVE INSULATION (49) ASIDE. DISCARD RIVETS.

NOTE

Remove lock bolts and collars in accordance with Chapter 2.

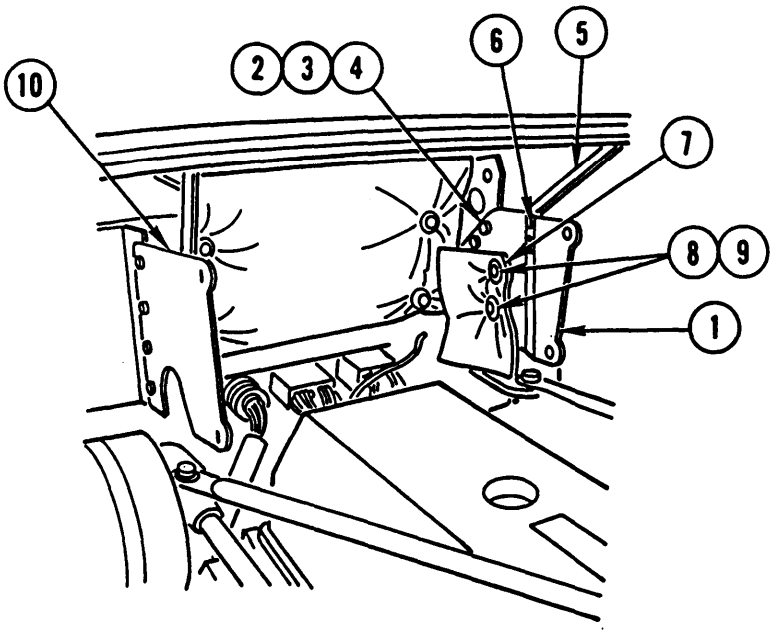
17. REMOVE THREE RIVETS (50), SUPPORT BRACKET (51), FOUR LOCK BOLTS AND COLLARS (52), AND MOUNTING BRACKET (46). DISCARD RIVETS.

18. IF MOUNTING BRACKET (53) IS DAMAGED, REPEAT STEPS 16 AND 17.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

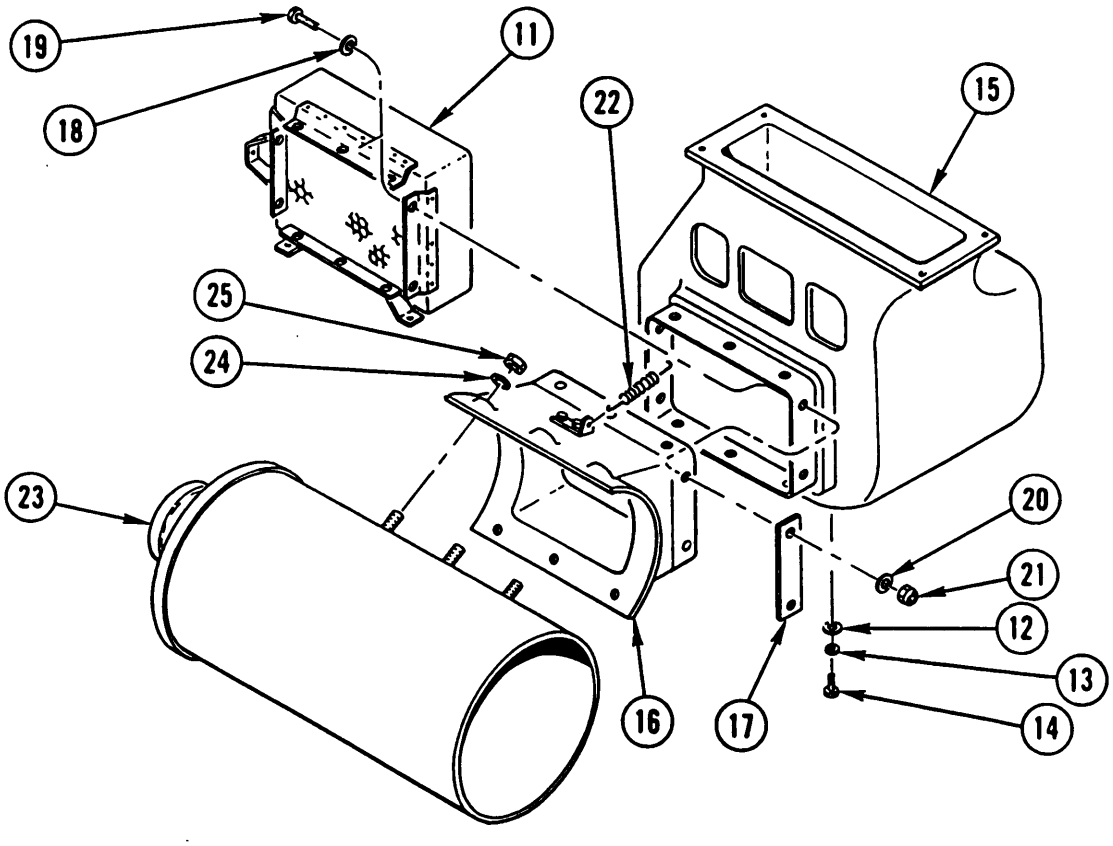


NOTE

Capscrews, lock washers, and nuts used in step 1 are to replace lock bolts and collars removed in Removal, step 17.

1. IF REMOVED, INSTALL NEW MOUNTING BRACKET (1), FOUR CAPSCREWS (2), FOUR LOCK WASHERS (3), FOUR NUTS (4), SUPPORT BRACKET (5), AND THREE NEW SELF-TAPPING SCREWS (6).
2. INSTALL INSULATION (7), TWO WASHERS (8), AND TWO NEW SELF-TAPPING SCREWS (9).
3. REPEAT STEPS 1 AND 2 FOR NEW MOUNTING BRACKET (10).

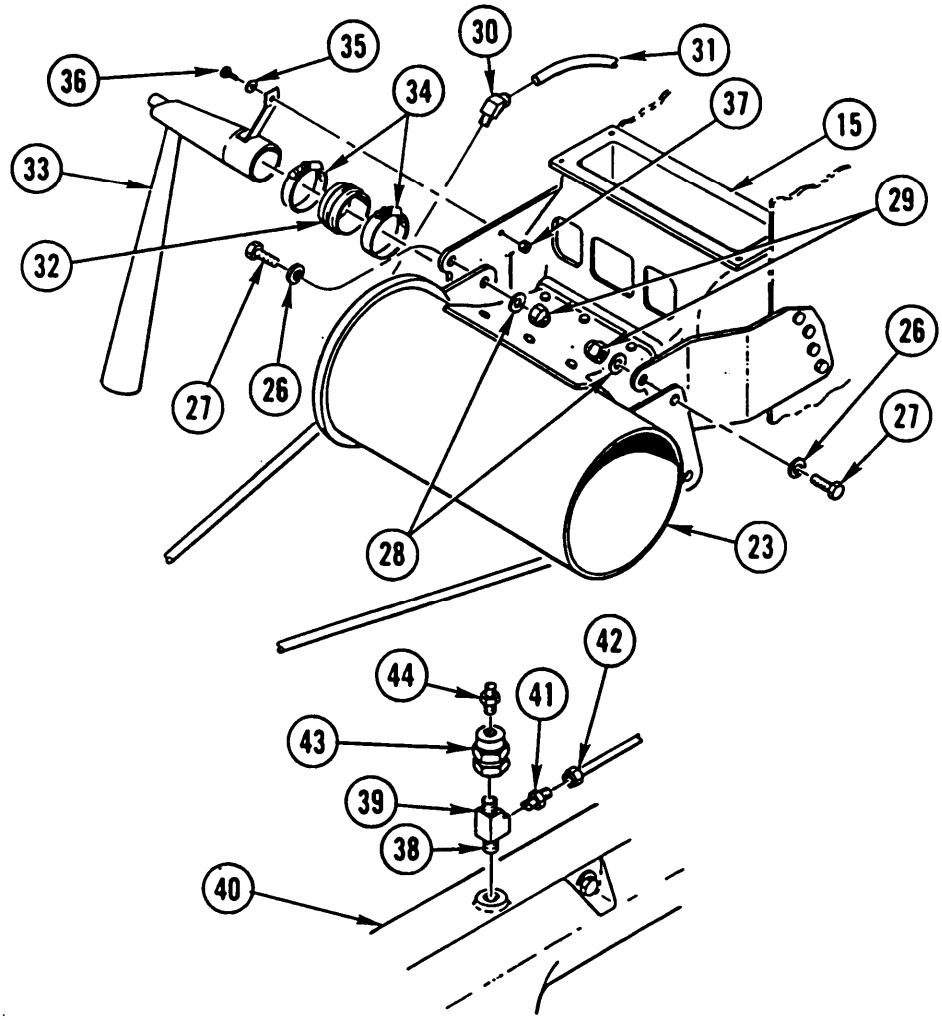
AIR CLEANER, PRE-CLEANER, AND DUCT ASSEMBLY REPLACEMENT (CONT)



4. INSTALL PRE-CLEANER ASSEMBLY (11), THREE WASHERS (12), THREE NEW LOCK WASHERS (13), AND THREE SELF-TAPPING SCREWS (14) IN DUCT ASSEMBLY (15).

5. INSTALL ADAPTER DUCT (16), 4 REINFORCEMENT BARS (17), 10 WASHERS (18), 10 SCREWS (19), 10 NEW LOCK WASHERS (20), 10 NEW LOCK NUTS (21), AND SPRING (22) ON DUCT ASSEMBLY (15).

6. INSTALL AIR CLEANER (23), SIX WASHERS (24), AND SIX NEW LOCK NUTS (25) ON DUCT ASSEMBLY (15).



7. SUPPORT AIR CLEANER (23) AND INSTALL DUCT ASSEMBLY (15), FOUR WASHERS (26), FOUR SCREWS (27), FOUR WASHERS (28), AND FOUR NEW LOCK NUTS (29).

8. COAT THREADS WITH PIPE SEALANT AND INSTALL ELBOW (30) AND CONNECT TUBE (31).

9. INSTALL HOSE (32), TUBE ASSEMBLY (33), TWO CLAMPS (34), WASHER (35), SCREW (36), AND NEW LOCK NUT (37).

10. COAT THREADS OF NIPPLE (38) WITH PIPE SEALANT AND INSTALL NIPPLE (38) IN TEE (39).

11. INSTALL TEE (39) IN MANIFOLD (40).

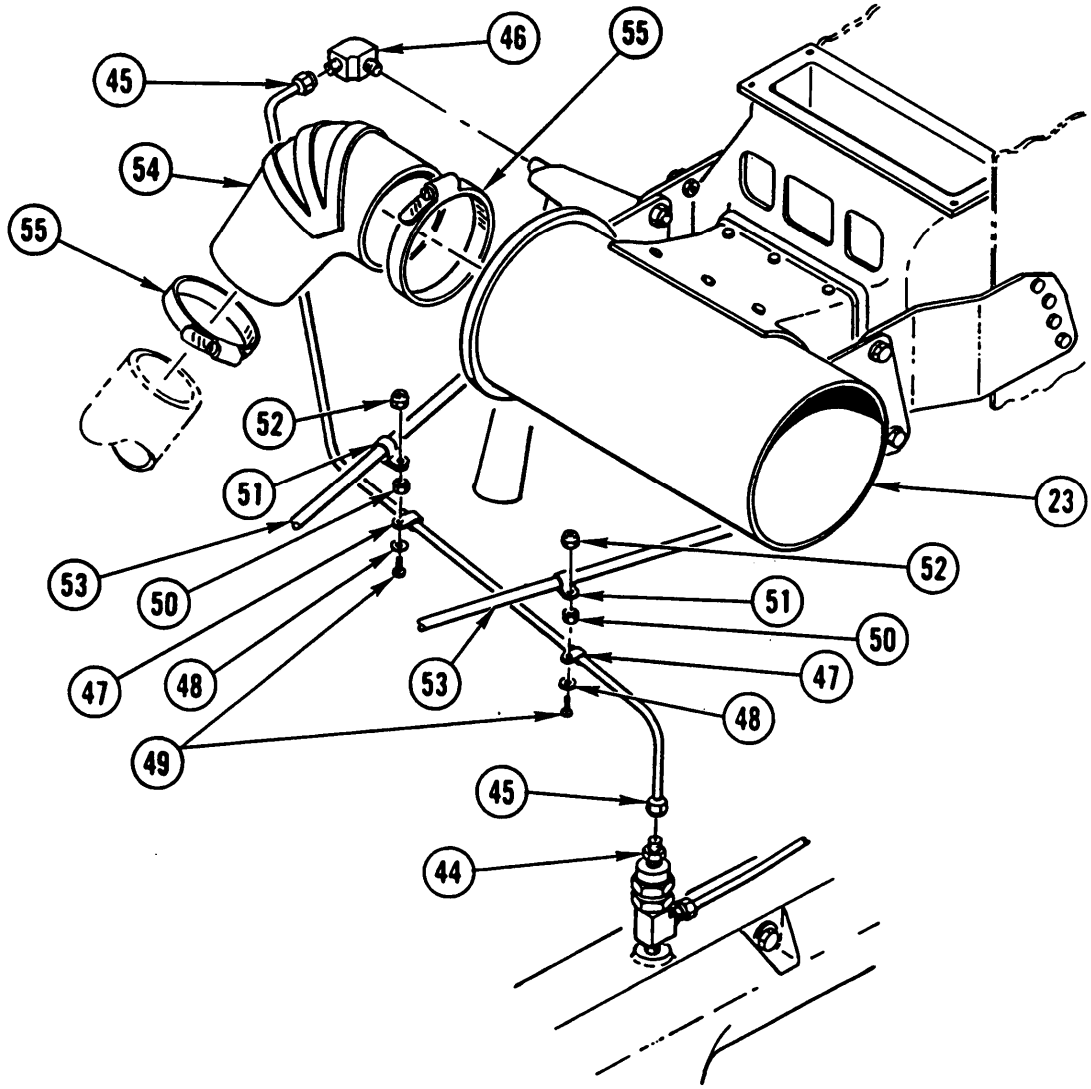
12. COAT THREADS OF CONNECTOR (41) WITH PIPE SEALANT AND INSTALL CONNECTOR (41) IN TEE (39).

13. CONNECT TUBE (42) TO CONNECTOR (41).

14. INSTALL CHECK VALVE (43) ON TEE (39).

15. COAT THREADS OF CONNECTOR (44) WITH PIPE SEALANT AND INSTALL CONNECTOR (44) IN CHECK VALVE (43).

AIR CLEANER, PRE-CLEANER, AND DUCT ASSEMBLY REPLACEMENT (CONT)



16. INSTALL TUBE (45) ON CONNECTOR (44).

17. COAT THREADS WITH PIPE SEALANT AND INSTALL ELBOW (46) AND CONNECT TUBE (45).

18. INSTALL TWO CLAMPS (47), TWO WASHERS (46), TWO SCREWS (49), TWO NUTS (50), TWO CLAMPS (51), AND TWO NEW LOCK NUTS (52) ON TWO SUPPORT RODS (53).

19. INSTALL ELBOW (54) AND TWO CLAMPS (55) ON AIR CLEANER (23).

NOTE

Follow-on Maintenance:
Install air cleaner element (page 4-61).

AIR CLEANER ELEMENT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INIITAL/SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

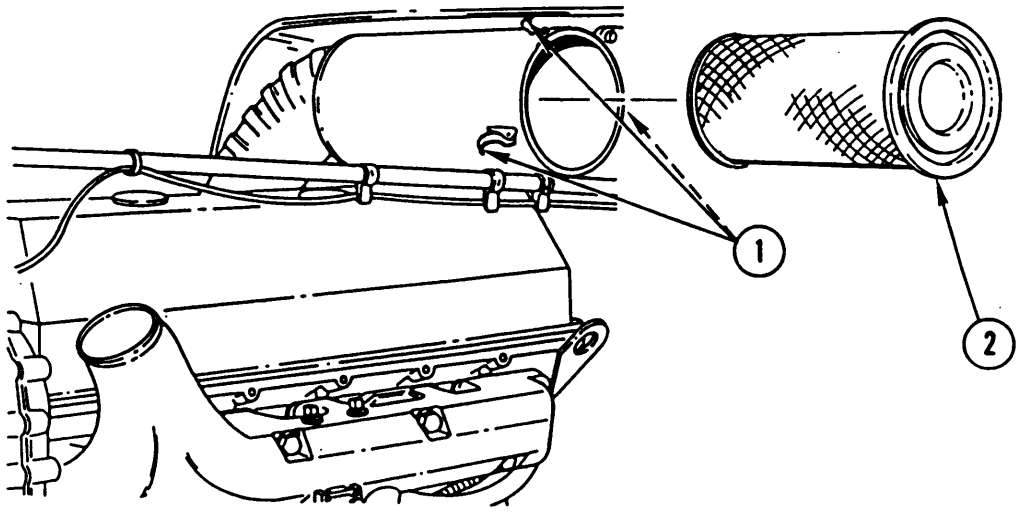
Element, Air Cleaner P/N P15-3551

REMOVAL

NOTE

End cover is part of air cleaner element.

RELEASE THREE CLAMPS (1) AND REMOVE AIR CLEANER ELEMENT (2). DISCARD ELEMENT.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

INSTALL NEW AIR CLEANER ELEMENT (2) AND FASTEN THREE CLAMPS (1).

DUCT ASSEMBLY REPAIR

This task covers: a. Disassembly b. Cleaning/Inspection c. Assembly

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Seal	P/N 03-20618-000
Seal	P/N 03-17841-000
Nut , Lock (4)	
Ring, Retaining (2)	PIN 8868
Screw, 10 X 32 X 1/4 (7)	
Washer, Lock (7)	
Nut , Lock, 10 X 32 X 1/4 (7)	

Equipment Condition:

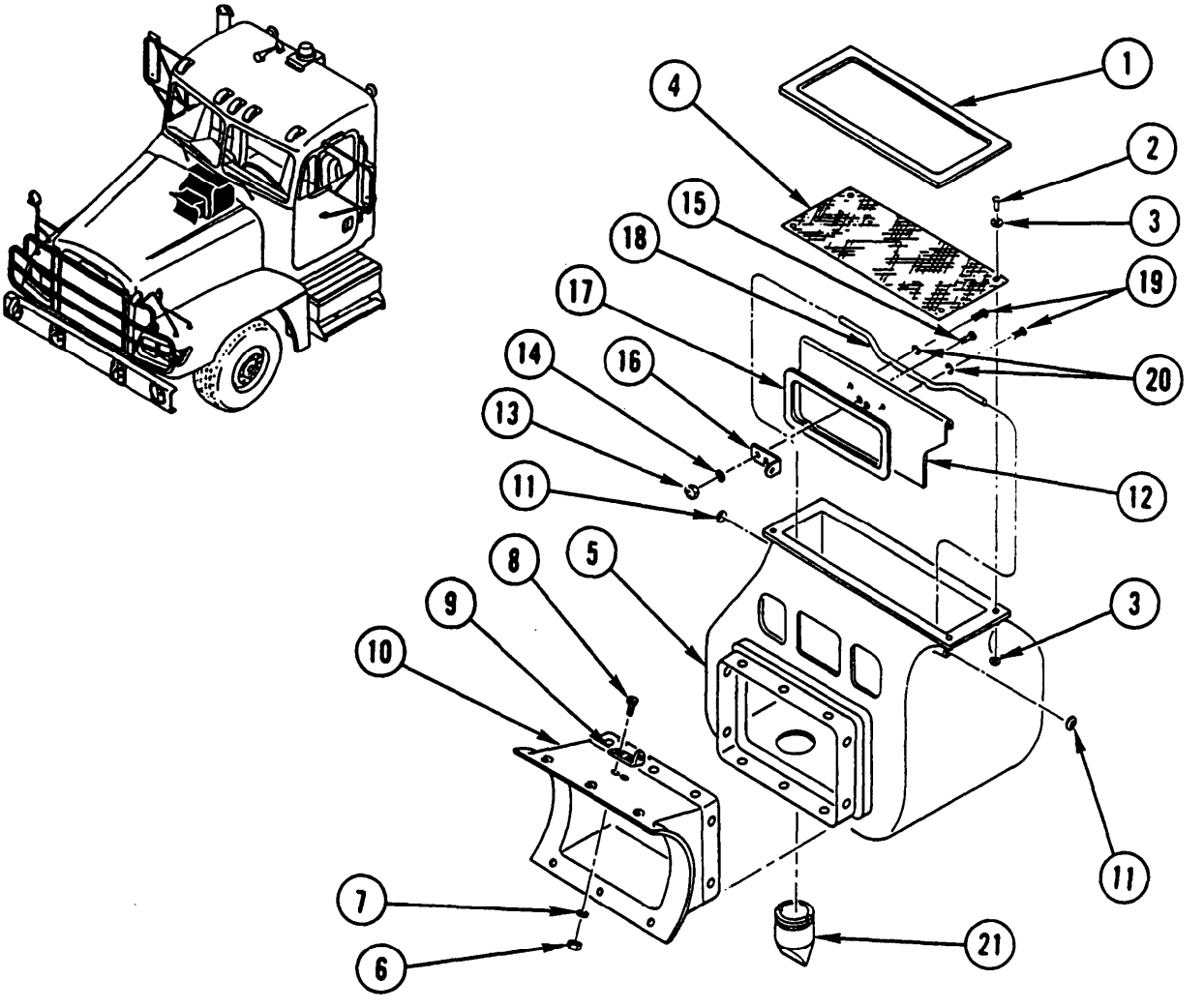
Reference	Condition Description
Page 4-52	Air Cleaner, Pre-Cleaner, and Duct Assembly Removed

DISASSEMBLY

NOTE

- Duct assembly is a two-piece assembly consisting of adapter duct and main duct assembly.
- If duct assembly has been repaired previously, all rivets have been replaced with screws, washers, and lock nuts.

1. REMOVE SEAL (1), 5 RIVETS (2), 10 WASHERS (3), AND SCREEN (4) FROM DUCT ASSEMBLY (5). DISCARD RIVETS AND SEAL.
2. REMOVE TWO LOCK NUTS (6), TWO WASHERS (7), TWO SCREWS (8), AND SPRING BRACKET (9) FROM ADAPTER DUCT (10): DISCARD LOCK NUTS.
3. REMOVE TWO RETAINING RINGS (11) AND DOOR (12). DISCARD RETAINING RINGS.
4. REMOVE TWO LOCK NUTS (13), TWO WASHERS (14), TWO SCREWS (15), SPRING BRACKET (16), AND SEAL (17) FROM DOOR (12). DISCARD SEAL AND LOCK NUTS.



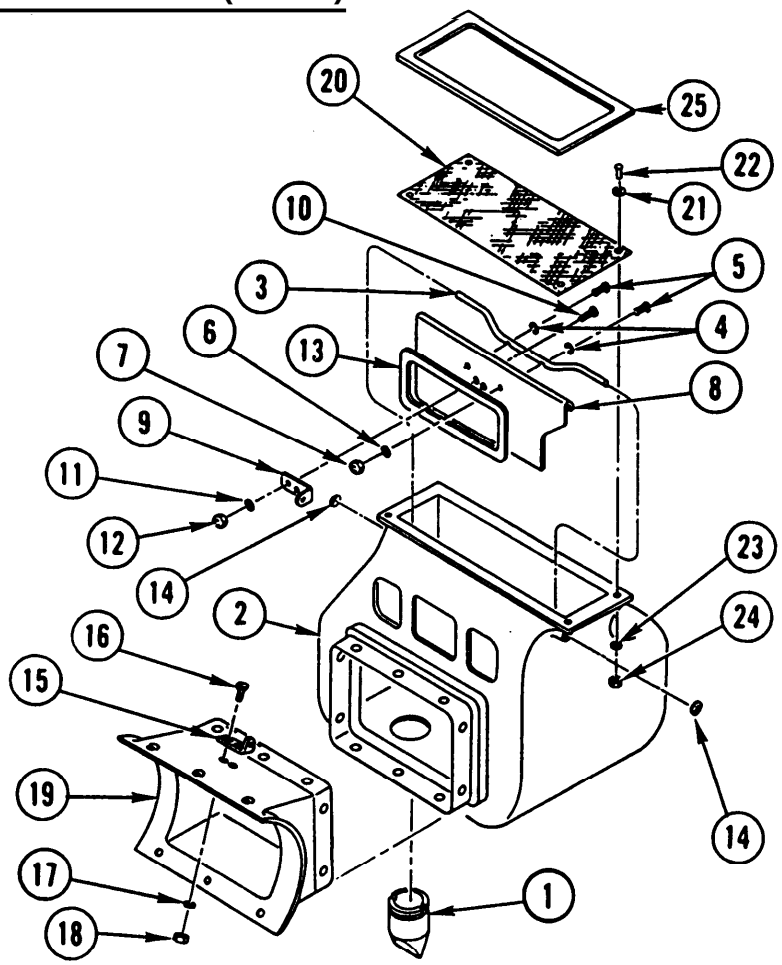
5. IF HINGE (18) IS DAMAGED REMOVE TWO RIVETS (19), TWO WASHERS (20), AND HINGE (18) FROM DOOR (12). DISCARD RIVETS.

6. REMOVE DUST DISCHARGE VALVE (21) FROM DUCT ASSEMBLY (5).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

DUCT ASSEMBLY REPAIR (CONT)



ASSEMBLY

1. INSTALL DUST DISCHARGE VALVE (1) IN DUCT ASSEMBLY (2).
2. IF REMOVED, INSTALL NEW HINGE (3), TWO WASHERS (4), TWO NEW SCREWS (5), TWO NEW LOCK WASHERS (6), AND TWO NEW LOCK NUTS (7) IN DOOR (8).
3. INSTALL SPRING BRACKET (9), TWO SCREWS (10), TWO WASHERS (1 1), TWO NEW LOCK NUTS (12), AND NEW SEAL (13) ON DOOR (8).
4. INSTALL DOOR (8) AND TWO NEW RETAINING RINGS (14) IN DUCT ASSEMBLY (2).
5. INSTALL SPRING BRACKET (15), TWO SCREWS (16), TWO WASHERS (17), AND TWO NEW LOCK NUTS (18) ON ADAPTER DUCT (19).
6. INSTALL SCREEN (20), FIVE NEW LOCK WASHERS (21), FIVE NEW SCREWS (22), FIVE WASHERS (23), FIVE NEW LOCK NUTS (24), AND NEW SEAL (25) ON DUCT ASSEMBLY (2).

NOTE

Follow-on Maintenance:
Install air cleaner, pre-cleaner, and duct assembly (page 4-52).

ETHER STARTING AID REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIALSETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (4)

Nut, Lock

Nut, Lock (2)

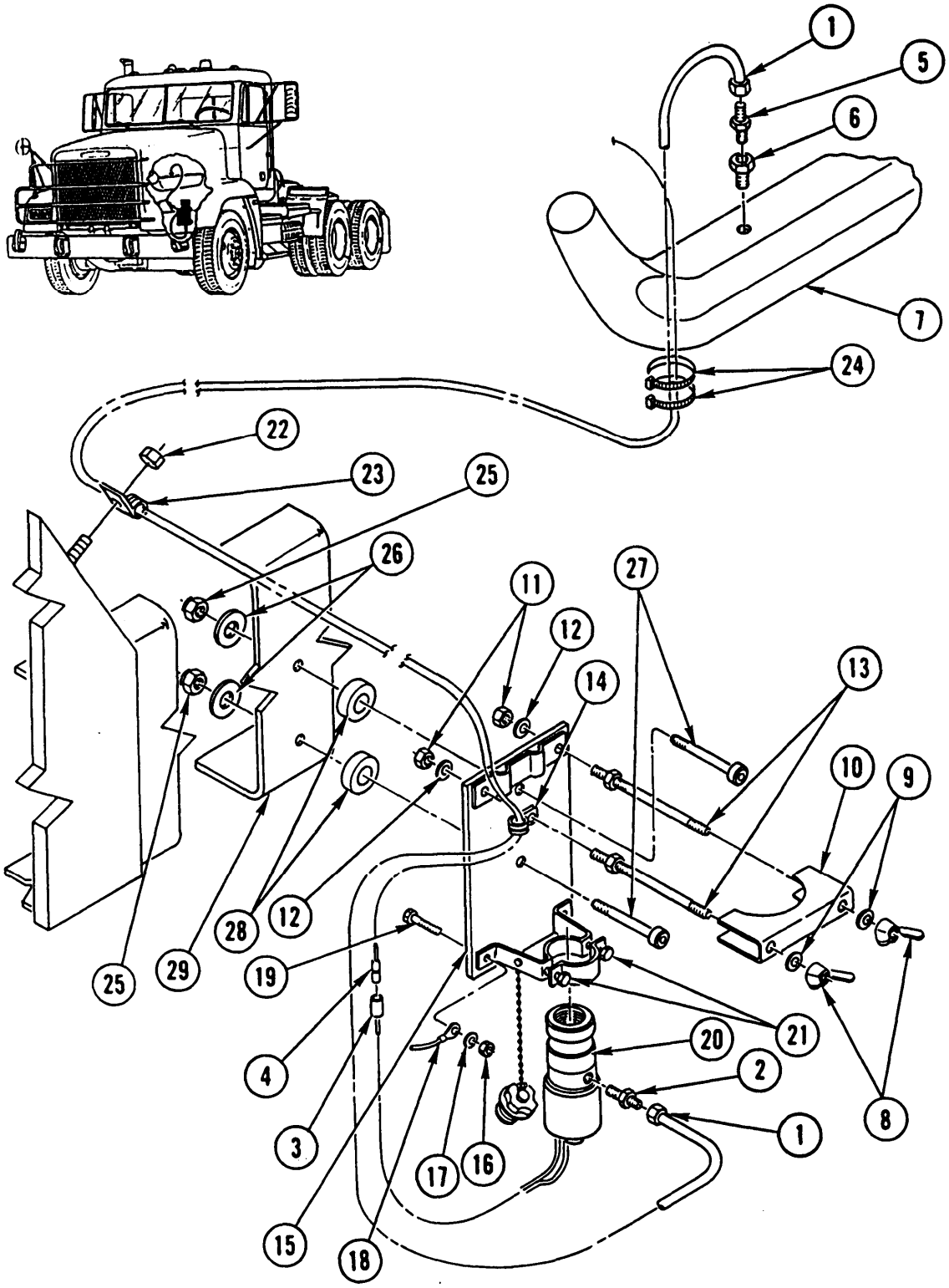
Nut, Lock

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 4-74	Ether Starting Aid Fuel Cylinder Removed

ETHER STARTING AID REPLACEMENT (CONT)

REMOVAL



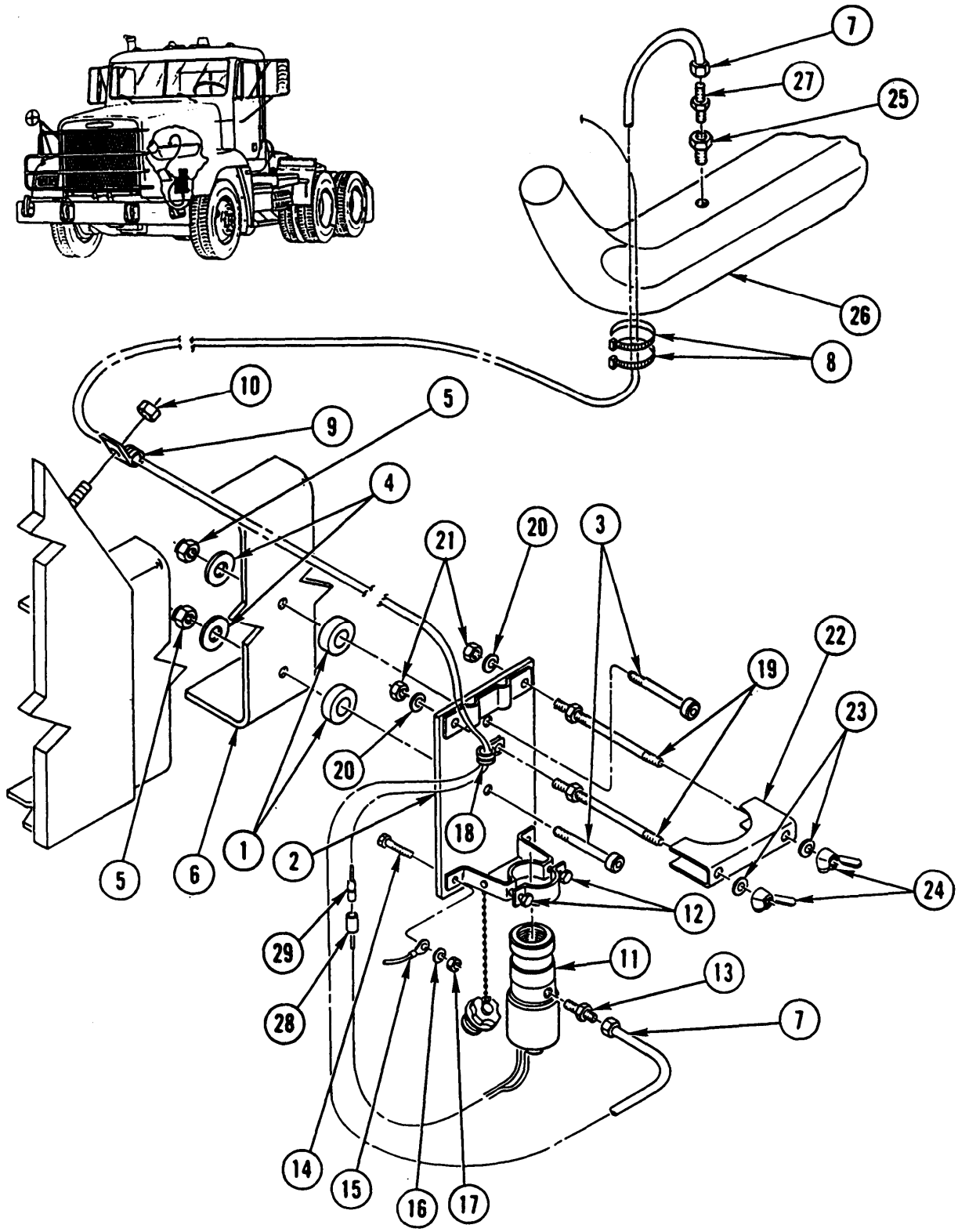
1. DISCONNECT TUBE (1) FROM CONNECTOR (2).
2. DISCONNECT CONNECTOR (3) FROM HARNESS (4).
3. DISCONNECT TUBE (1) FROM ATOMIZER (5).
4. DISCONNECT ATOMIZER (5) FROM BUSHING (6).
5. REMOVE BUSHING (6) FROM INTAKE MANIFOLD (7).
6. REMOVE TWO WING NUTS (8), TWO LOCK WASHERS (9), AND SADDLE (1 O). DISCARD LOCK WASHERS.
7. REMOVE TWO NUTS (1 1), TWO LOCK WASHERS (12), TWO STUD AND NUT ASSEMBLIES (13), AND CLAMP (14) FROM STARTING AID MOUNTING BRACKET (15). DISCARD LOCK WASHERS.
8. REMOVE LOCK NUT (16), WASHER (17), WIRE (18), AND SCREW (19) FROM STARTING AID MOUNTING BRACKET (15). DISCARD LOCK NUT.
9. REMOVE CONNECTOR (2) FROM VALVE (20).
10. LOOSEN TWO SCREWS (21) AND REMOVE VALVE (20) FROM STARTING AID MOUNTING BRACKET (15).
11. IF TUBE (1) IS DAMAGED, REMOVE LOCK NUT (22), CLAMP (23), TWO WIRE TIES (24), AND TUBE (1). DISCARD LOCK NUT.
12. IF STARTING AID MOUNTING BRACKET (15) IS DAMAGED, REMOVE TWO LOCK NUTS (25), TWO WASHERS (26), TWO SCREWS (27), STARTING AID MOUNTING BRACKET (15), AND TWO SPACERS (28) FROM FRAME RAIL (29). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ETHER STARTING AID REPLACEMENT (CONT)

INSTALLATION



1. IF REMOVED, INSTALL TWO SPACERS (1), NEW STARTING AID MOUNTING BRACKET (2), TWO SCREWS (3), TWO WASHERS (4), AND TWO NEW LOCK NUTS (5) ON FRAME RAIL (6).
2. IF REMOVED, INSTALL NEW TUBE (7), TWO WIRE TIES (8), CLAMP (9), AND NEW LOCK NUT (Io).
3. INSTALL VALVE (11) IN STARTING AID MOUNTING BRACKET (2) AND TIGHTEN TWO SCREWS (12).
4. INSTALL CONNECTOR (13) IN VALVE (11).
5. INSTALL SCREW (14), WIRE (15), WASHER (16), AND NEW LOCK NUT (17) ON STARTING AID MOUNTING BRACKET (2).
6. INSTALL CLAMP (18), TWO STUD AND NUT ASSEMBLIES (19), TWO NEW LOCK WASHERS (20), AND TWO NUTS (21) ON STARTING AID MOUNTING BRACKET (2).
7. INSTALL SADDLE (22), TWO NEW LOCK WASHERS (23), AND TWO WING NUTS (24).
8. INSTALL BUSHING (25) IN INTAKE MANIFOLD (26).
9. CONNECT ATOMIZER (27) TO BUSHING (25).
10. CONNECT TUBE (7) TO ATOMIZER (27).
11. CONNECT CONNECTOR (28) TO HARNESS (29).
12. CONNECT TUBE (7) TO CONNECTOR (13).

NOTE

Follow-on Maintenance:
Install ether starting aid fuel cylinder (page 4-74).
Connect batteries (page 2-29).

ETHER STARTING AID REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1

Toolis and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (4)

Nut, Lock

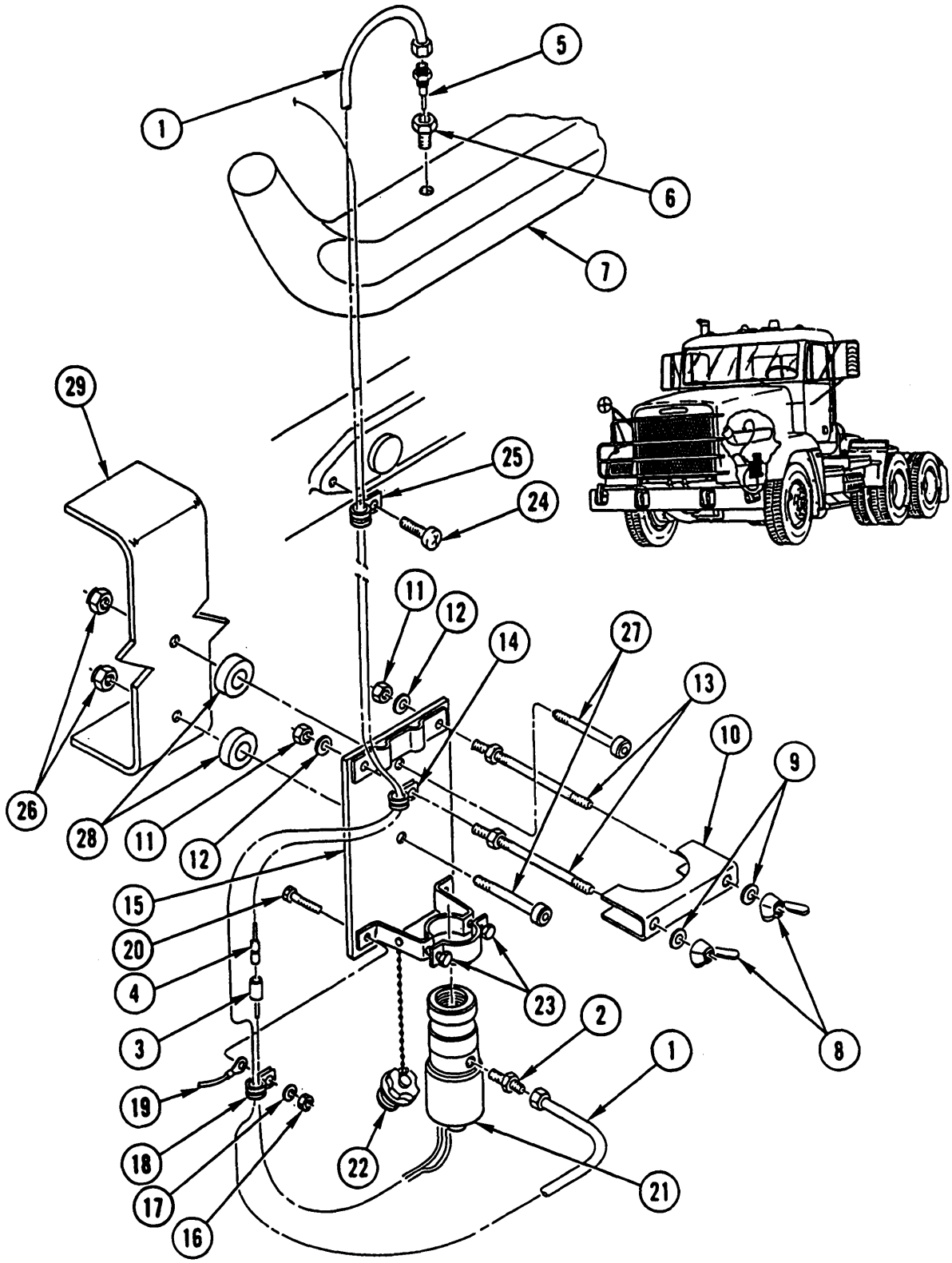
Nut, Lock (2)

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 4-74	Ether Starting Aid Fuel Cylinder Removed

REMOVAL

1. DISCONNECT TUBE (1) FROM CONNECTOR (2).
2. DISCONNECT CONNECTOR (3) FROM HARNESS (4).
3. DISCONNECT TUBE (1) FROM ATOMIZER (5).
4. DISCONNECT ATOMIZER (5) FROM BUSHING (6).
5. REMOVE BUSHING (6) FROM INTAKE MANIFOLD (7).
6. REMOVE TWO WING NUTS (8), TWO LOCK WASHERS (9), AND SADDLE (10). DISCARD LOCK WASHERS.
7. REMOVE TWO NUTS (1 1), TWO LOCK WASHERS (12), TWO STUD AND NUT ASSEMBLIES (13), AND CLAMP (14) FROM STARTING AID MOUNTING BRACKET (15). DISCARD LOCK WASHERS.
8. REMOVE LOCK NUT (16), WASHER (17), CLAMP (18), WIRE (19), AND SCREW (20) FROM STARTING AID MOUNTING BRACKET (15). DISCARD LOCK NUT.
9. REMOVE CONNECTOR (2) FROM VALVE (21).
10. REMOVE CAP (22) FROM VALVE (21).
11. LOOSEN TWO SCREWS (23) AND REMOVE VALVE (21) FROM STARTING AID MOUNTING BRACKET (15).
12. IF TUBE (1) IS DAMAGED, REMOVE SCREW (24), CLAMP (25), AND TUBE (1).
13. IF STARTING AID MOUNTING BRACKET (15) IS DAMAGED, REMOVE TWO LOCK NUTS (26), TWO SCREWS (27), STARTING AID MOUNTING BRACKET (15), AND TWO SPACERS (28) FROM FRAME RAIL (29).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ETHER STARTING AID REPLACEMENT (CONT)

CLEANING/INSPECTION

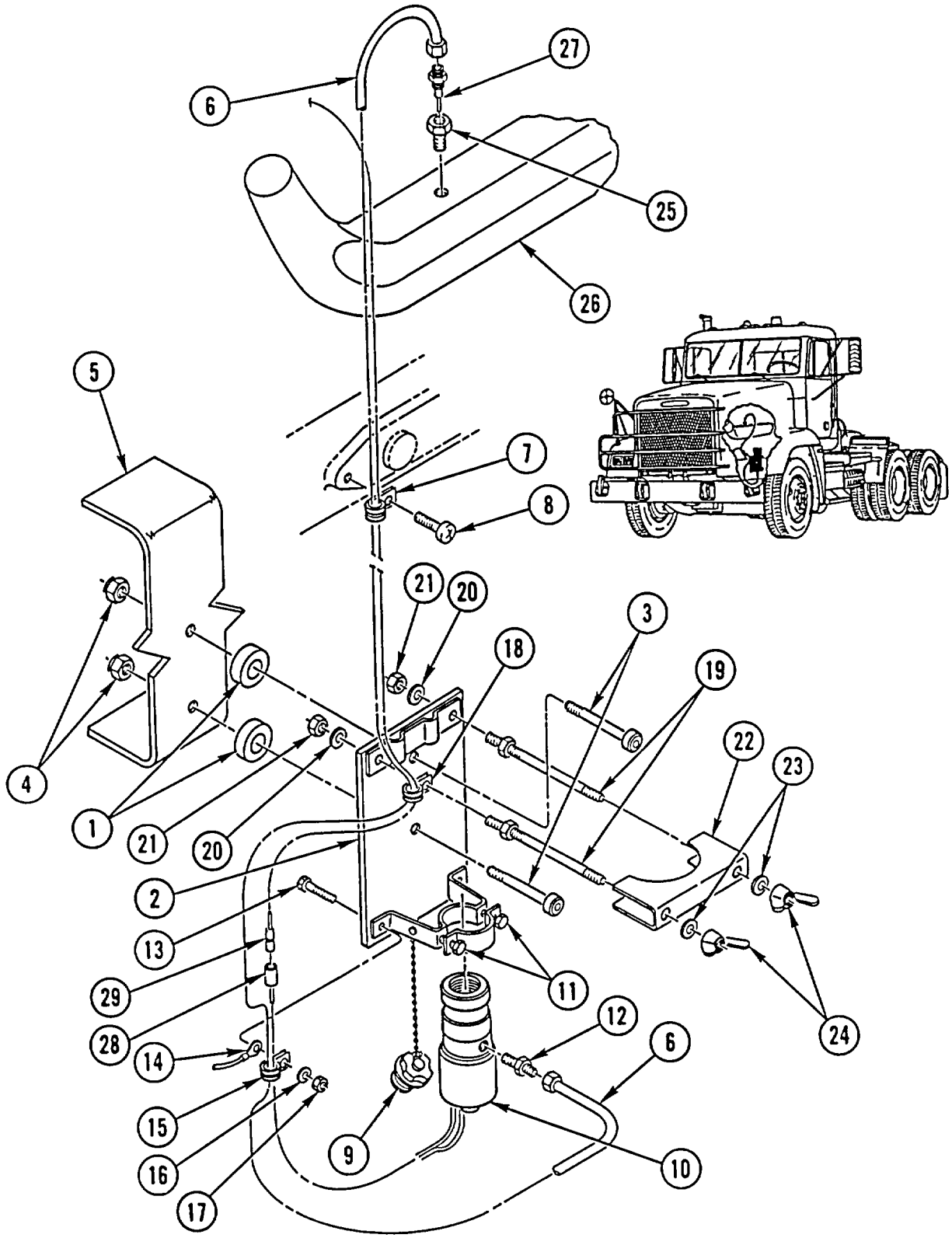
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. IF REMOVED, INSTALL TWO SPACERS (1), NEW STARTING AID MOUNTING BRACKET (2), TWO SCREWS (3), AND TWO NEW LOCK NUTS (4) ON FRAME RAIL (5).
2. IF REMOVED, INSTALL NEW TUBE (6), CLAMP (7), AND SCREW (8).
3. INSTALL CAP (9) IN VALVE (10).
4. INSTALL VALVE (10) IN STARTING AID MOUNTING BRACKET (2) AND TIGHTEN TWO SCREWS (11).
5. INSTALL CONNECTOR (12) IN VALVE (10).
6. INSTALL SCREW (13), WIRE (14), CLAMP (15), WASHER (16), AND NEW LOCK NUT (17) ON STARTING AID MOUNTING BRACKET (2).
7. INSTALL CLAMP (18), TWO STUD AND NUT ASSEMBLIES (19), TWO NEW LOCK WASHERS (20), AND TWO NUTS (21) ON STARTING AID MOUNTING BRACKET (2).
8. INSTALL SADDLE (22), TWO NEW LOCK WASHERS (23), AND TWO WING NUTS (24).
9. INSTALL BUSHING (25) IN INTAKE MANIFOLD (26).
10. CONNECT ATOMIZER (27) TO BUSHING (25).
11. CONNECT TUBE (6) TO ATOMIZER (27).
12. CONNECT CONNECTOR (28) TO HARNESS (29).
13. CONNECT TUBE (6) TO CONNECTOR (12).

NOTE

Follow-on Maintenance:
Install ether starting aid fuel cylinder (page 4-74).
Connect batteries (page 2-29).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ETHER STARTING AID FUEL CYLINDER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIALSETUP

Applicable Configuration:
M915A2 and M916A1

Tools and Special Equipment:
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:
Cylinder, Fuel PIN LP-535-000

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

General Safety Instructions:

WARNING

Ether fuel is flammable. Do not work on ether starting aid system in presence of sparks or open flame. To do so could result in serious injury to personnel.

REMOVAL

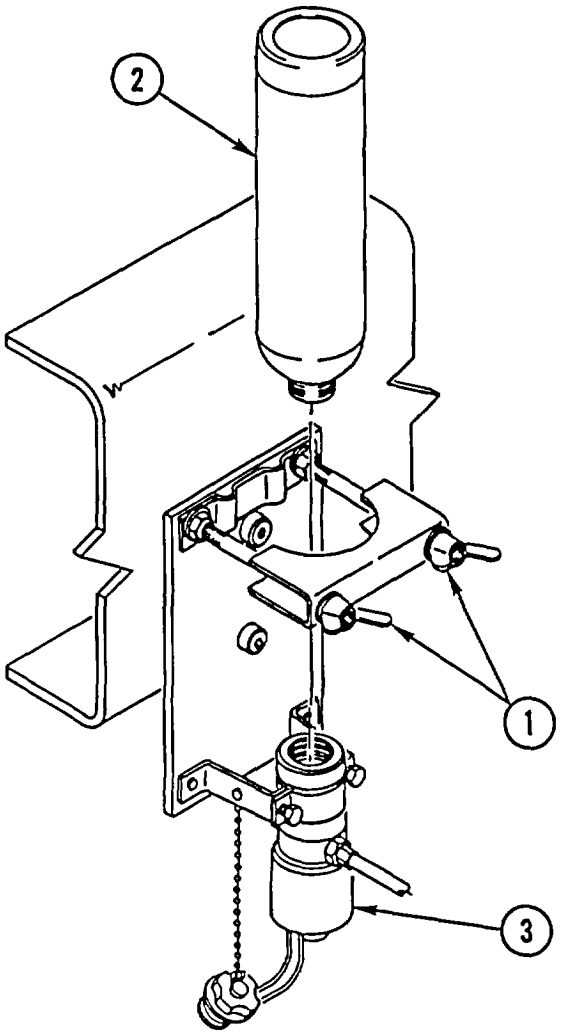
WARNING

Ether fuel is flammable. Do not work on ether starting aid system in presence of sparks or open flame. To do so could result in serious injury to personnel.

1. LOOSEN TWO WING NUTS (1).
2. UNSCREW FUEL CYLINDER (2) AND REMOVE FUEL CYLINDER (2) FROM VALVE (3). DISCARD FUEL CYLINDER.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

WARNING

Ether fuel is flammable. Do not work on ether starting aid system in presence of sparks or open flame. To do so could result in serious injury to personnel.

1. INSTALL NEW FUEL CYLINDER (2) ON VALVE (3).
2. TIGHTEN TWO WING NUTS (1).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

AUTOMATIC ETHER STARTING AID AND FUEL CYLINDER REPLACEMENT

This task covers:
a. Fuel Cylinder Replacement
b. Automatic Ether Starting Aid Removal
c. Cleaning/Inspection
d. Automatic Ether Starting Aid Installation

INITIALSETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Oil, Lubricating	Appendix C, Item 16

References:
TM 9-2320-363-10

General Safety Instructions:

WARNING

Ether fuel is extremely flammable and toxic. DO NOT smoke and make sure you are in a well-ventilated area away from heat, open flames or sparks. Wear eye protection. Avoid contact with skin and eyes and avoid breathing ether fumes. It can be harmful or fatal if swallowed. If swallowed, DO NOT induce vomiting. If fluid enters or fumes irritate the eyes, wash immediately with large quantities of clean water for 15 minutes. Seek medical attention immediately if ether is swallowed or causes eye irritation. Failure to follow this warning could cause death or serious injury to personnel.

FUEL CYLINDER REPLACEMENT

1. DISCONNECT BATTERIES (Page 2-29).

WARNING

Ether fuel is extremely flammable and toxic. DO NOT smoke and make sure you are in a well-ventilated area away from heat, open flames or sparks. Wear eye protection. Avoid contact with skin and eyes and avoid breathing ether fumes. It can be harmful or fatal if swallowed. If swallowed, DO NOT induce vomiting. If fluid enters or fumes irritate the eyes, wash immediately with large quantities of clean water for 15 minutes. Seek medical attention immediately if ether is swallowed or causes eye irritation. Failure to follow this warning could cause death or serious injury to personnel.

2. LOOSEN CLAMP (1) AND UNSCREW FUEL CYLINDER (2) FROM VALVE (3). REMOVE AND DISCARD VALVE GASKET FROM VALVE.

3. APPLY LUBRICATING OIL TO VALVE GASKET AND THREADS OF FUEL CYLINDER (2).

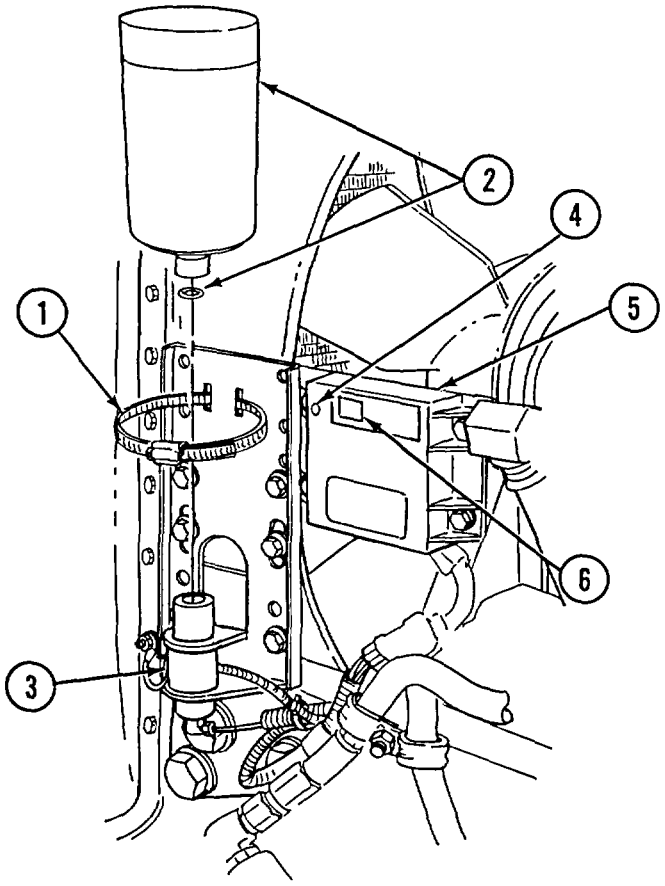
4. INSTALL NEW VALVE GASKET IN VALVE (3). SCREW NEW FUEL CYLINDER (2) INTO VALVE AND TIGHTEN CLAMP (1).

5. CONNECT BATTERIES (Page 2-29).

6. TURN ON IGNITION (TM 9-2320-363-10).

7. RED INDICATOR LIGHT (4) ON ETHER CONTROL RELAY (5) SHOULD BE ON.

8. RUN A MAGNET OVER PLATE (6) ON ETHER CONTROL RELAY (5). RED INDICATOR LIGHT (4) SHOULD GO OFF.



AUTOMATIC ETHER STARTING AID AND FUEL CYLINDER REPLACEMENT (CONT)

AUTOMATIC ETHER STARTING AID REMOVAL

1. DISCONNECT BATTERIES (PAGE 2-29).

2. REMOVE CLAMP (1) FROM FUEL CYLINDER BRACKET (2).

WARNING

Ether fuel is extremely flammable and toxic. DO NOT smoke and make sure you are in a well-ventilated area away from heat, open flames or sparks. Wear eye protection. Avoid contact with skin and eyes and avoid breathing ether fumes. It can be harmful or fatal if swallowed. If swallowed, DO NOT induce vomiting. If fluid enters or fumes irritate the eyes, wash immediately with large quantities of clean water for 15 minutes. Seek medical attention immediately if ether is swallowed or causes eye irritation. Failure to follow this warning could cause death or serious injury to personnel.

3. UNSCREW FUEL CYLINDER (3) FROM VALVE (4). REMOVE AND DISCARD VALVE GASKET FROM VALVE.

4. DISCONNECT MAIN HARNESS CONNECTOR (5) FROM ETHER CONTROL RELAY HARNESS CONNECTOR (6).

5. DISCONNECT MAIN HARNESS CONNECTOR (7) FROM HARNESS CONNECTOR (8).

6. DISCONNECT ETHER TUBE (9) FROM FITTING (10).

NOTE

Fitting has left-hand threads. Turn right to remove, turn left to install.

7. REMOVE FITTING (10) FROM VALVE (4).

8. DISCONNECT ETHER TUBE (9) FROM CONNECTOR (11) ON INTAKE MANIFOLD.

9. REMOVE CONNECTOR (11) FROM INTAKE MANIFOLD.

10. REMOVE FOUR BOLTS (12), FOUR FLATWASHERS (13), FOUR NUTS (14), AND ETHER CONTROL RELAY (15) FROM ETHER CONTROL RELAY BRACKET (16).

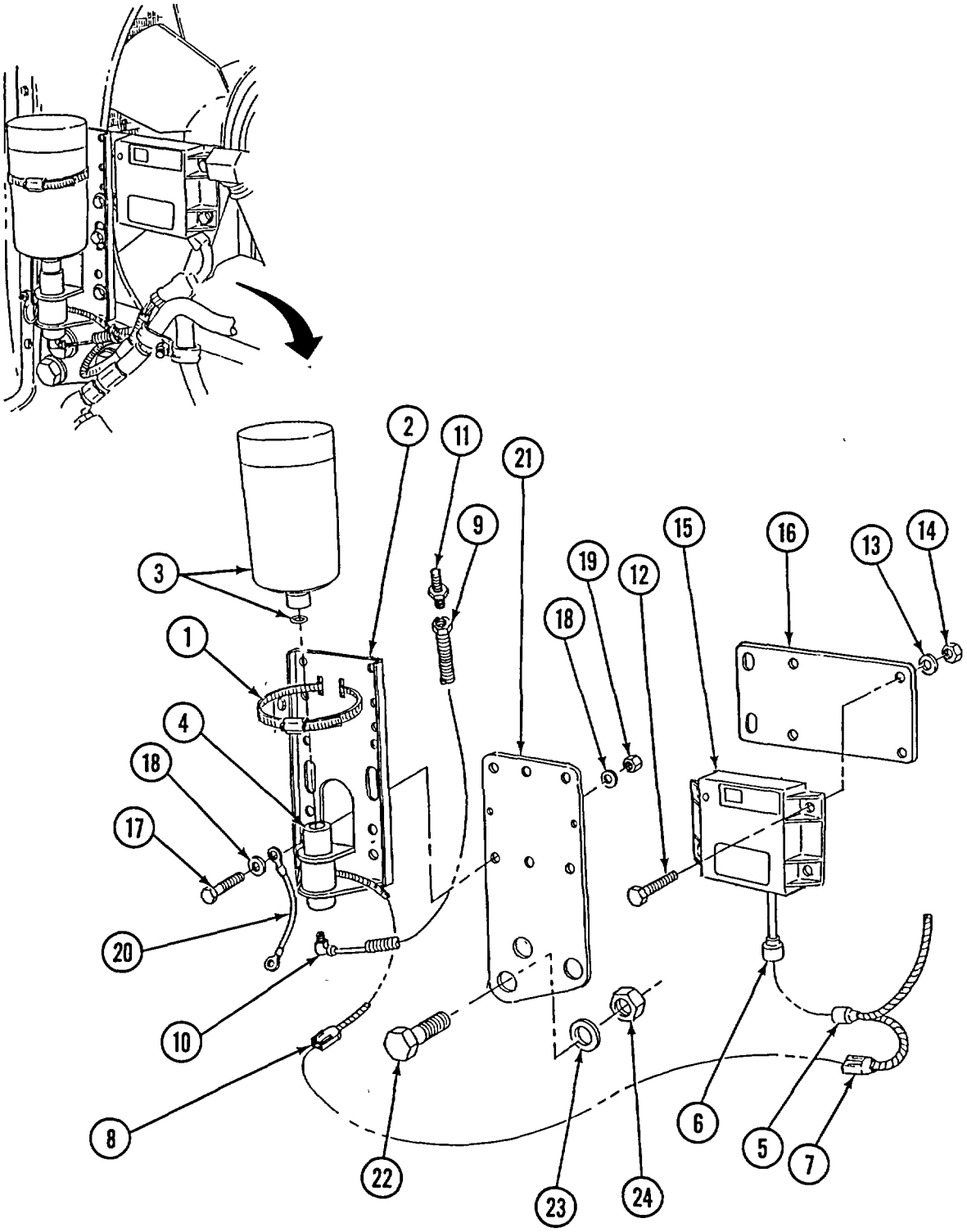
11. REMOVE ETHER CONTROL RELAY BRACKET (16) FROM FUEL CYLINDER BRACKET (2) BY REMOVING TWO BOLTS (17), FOUR FLATWASHERS (18), AND TWO NUTS (19) ON RIGHT SIDE OF FUEL CYLINDER BRACKET (2).

NOTE

Valve with harness attached is permanently attached to fuel cylinder bracket.

12. REMOVE TWO REMAINING BOLTS (17), FOUR FLATWASHERS (18), TWO NUTS (19), GROUND WIRE (20), AND FUEL CYLINDER BRACKET (2) FROM FRAME BRACKET (21).

13. REMOVE THREE BOLTS (22), THREE FLATWASHERS (23), THREE NUTS (24), AND FRAME BRACKET (21) FROM FRAME.



AUTOMATIC ETHER STARTING AID AND FUEL CYLINDER REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and Inspect all parts in accordance with Chapter 2.

AUTOMATIC ETHER STARTING AID INSTALLATION

1. POSITION FRAME BRACKET (1) ON FRAME AND INSTALL THREE BOLTS (2), THREE FLATWASHERS (3), AND THREE NUTS (4).

2. POSITION FUEL CYLINDER BRACKET (5) ON FRAME BRACKET (1) AND INSTALL TWO BOLTS (6), GROUND WIRE (7), FOUR FLATWASHERS (8), AND TWO NUTS (9) ON LEFT SIDE OF BRACKET.

3. POSITION ETHER CONTROL RELAY BRACKET (10) ON FUEL CYLINDER BRACKET (5) AND INSTALL REMAINING TWO BOLTS (6), FOUR FLATWASHERS (8), AND TWO NUTS (9).

4. INSTALL CLAMP (11) ON FUEL CYLINDER BRACKET (5).

5. APPLY LUBRICATING OIL TO VALVE GASKET AND THREADS ON FUEL CYLINDER (12).

WARNING

Ether fuel is extremely flammable and toxic. DO NOT smoke and make sure you are in a well-ventilated area away from heat, open flames or sparks. Wear eye protection. Avoid contact with skin and eyes and avoid breathing ether fumes. It can be harmful or fatal if swallowed. If swallowed, DO NOT induce vomiting. If fluid enters or fumes irritate the eyes, wash immediately with large quantities of clean water for 15 minutes. Seek medical attention immediately if ether is swallowed or causes eye irritation. Failure to follow this warning could cause death or serious injury to personnel.

6. INSTALL NEW VALVE GASKET IN VALVE (13). SCREW NEW FUEL CYLINDER (12) INTO VALVE AND TIGHTEN CLAMP (11).

NOTE

Fitting has left-hand threads. Turn right to remove, turn left to install.

7. INSTALL FITTING (14) ON VALVE (13) WITH OPENING IN FITTING TOWARD REAR OF VEHICLE.

8. POSITION ETHER CONTROL RELAY (15) ON BRACKET (10) AND INSTALL FOUR BOLTS (16), FOUR FLATWASHERS (17), AND FOUR NUTS (18).

9. INSTALL CONNECTOR (19) ON INTAKE MANIFOLD.

10. CONNECT ETHER TUBE (20) TO FITTING (14).

11. CONNECT ETHER TUBE (20) TO CONNECTOR (19).

12. CONNECT ETHER CONTROL RELAY HARNESS CONNECTOR (21) TO MAIN HARNESS CONNECTOR (22).

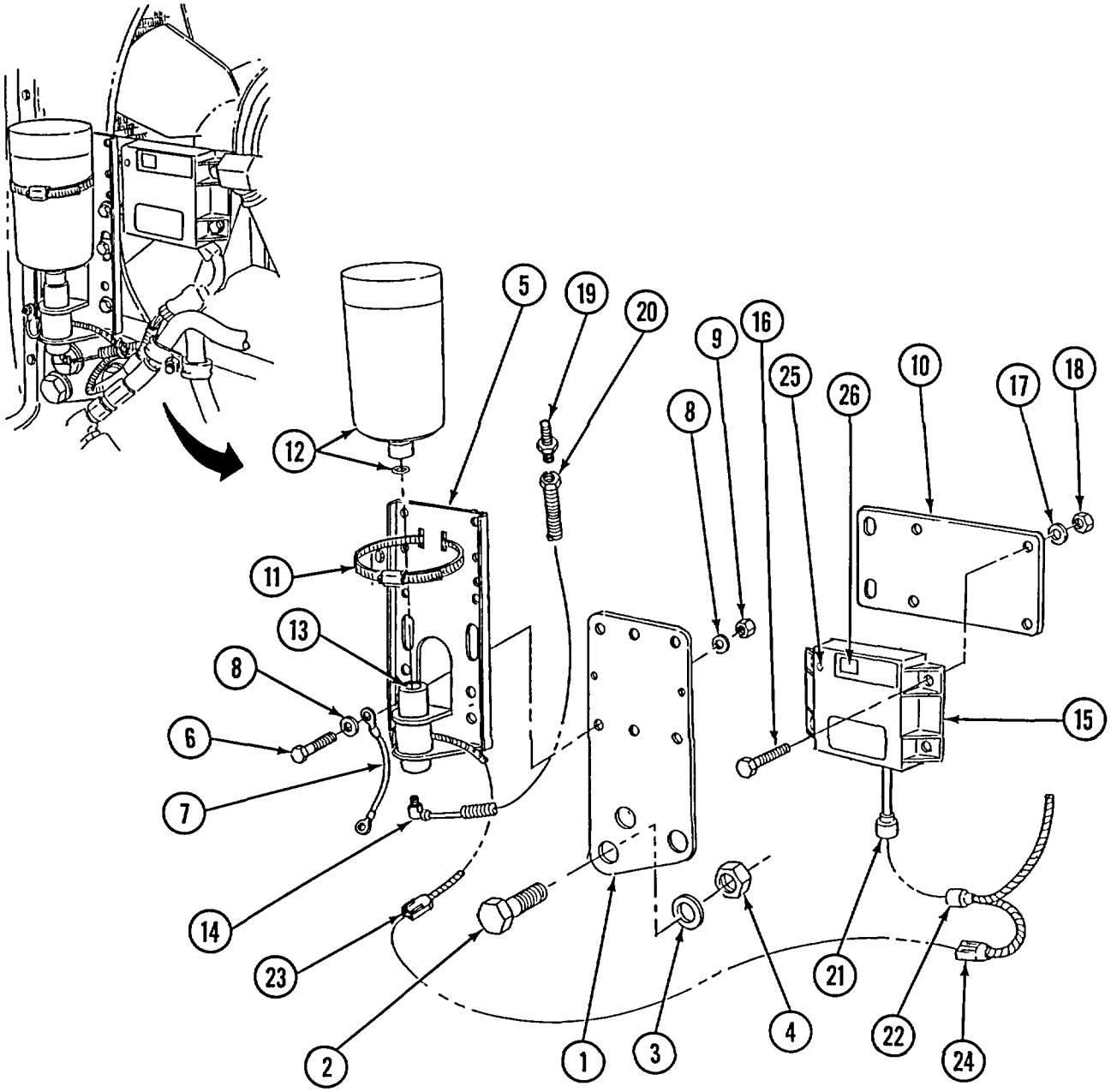
13. CONNECT VALVE HARNESS CONNECTOR (23) TO MAIN HARNESS CONNECTOR (24)

14. CONNECT BATTERIES (PAGE 2-29)

15. TURN ON IGNITION (TM 9-2320-363-10).

16. RED INDICATOR LIGHT (25) ON ETHER CONTROL RELAY (15) SHOULD BE ON.

17. RUN A MAGNET OVER PLATE (26) ON ETHER CONTROL RELAY (15). RED INDICATOR LIGHT (25) SHOULD GO OFF.



FUEL TANK AND MOUNTING HARDWARE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIALSETUP

Tools and Special Equipment:
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:
Pin, Cotter (2)

Equipment Condition:

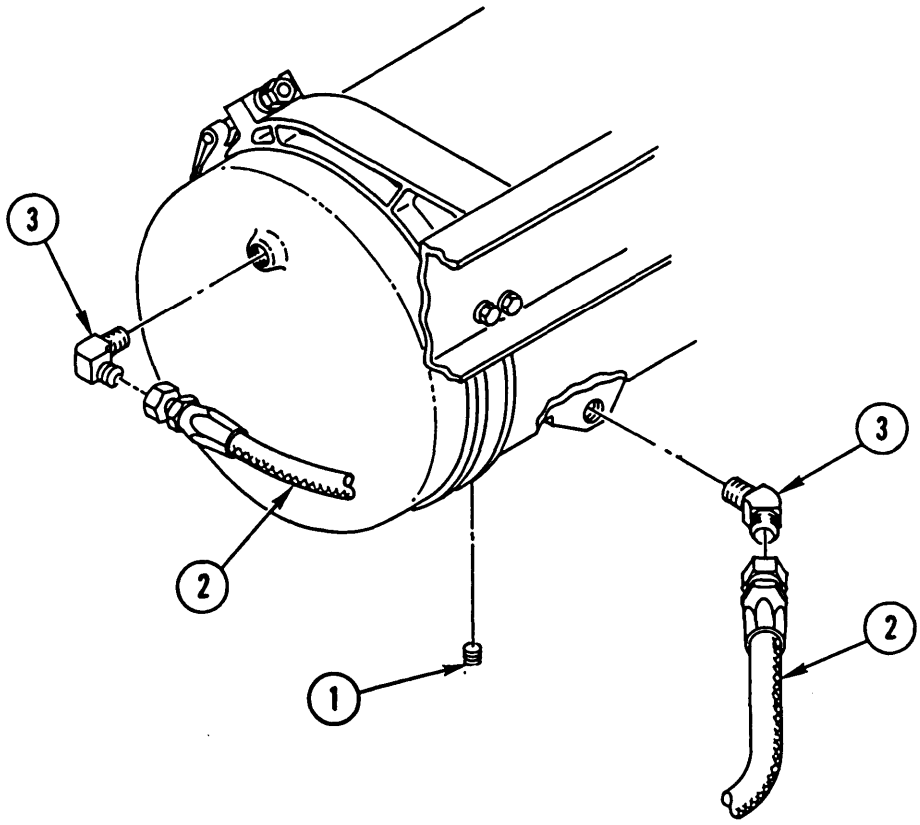
Reference	Condition Description
Page 4-244	Fuel Level Sending Unit Removed
Page 4-619	Right Step Removed

General Safety Instructions:

WARNING

- **Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.**
- **Fuel vapors are toxic. Avoid prolonged exposure or breathing of fumes. Work in well-ventilated area. Failure to do so could result in serious injury to personnel.**

REMOVAL



WARNING

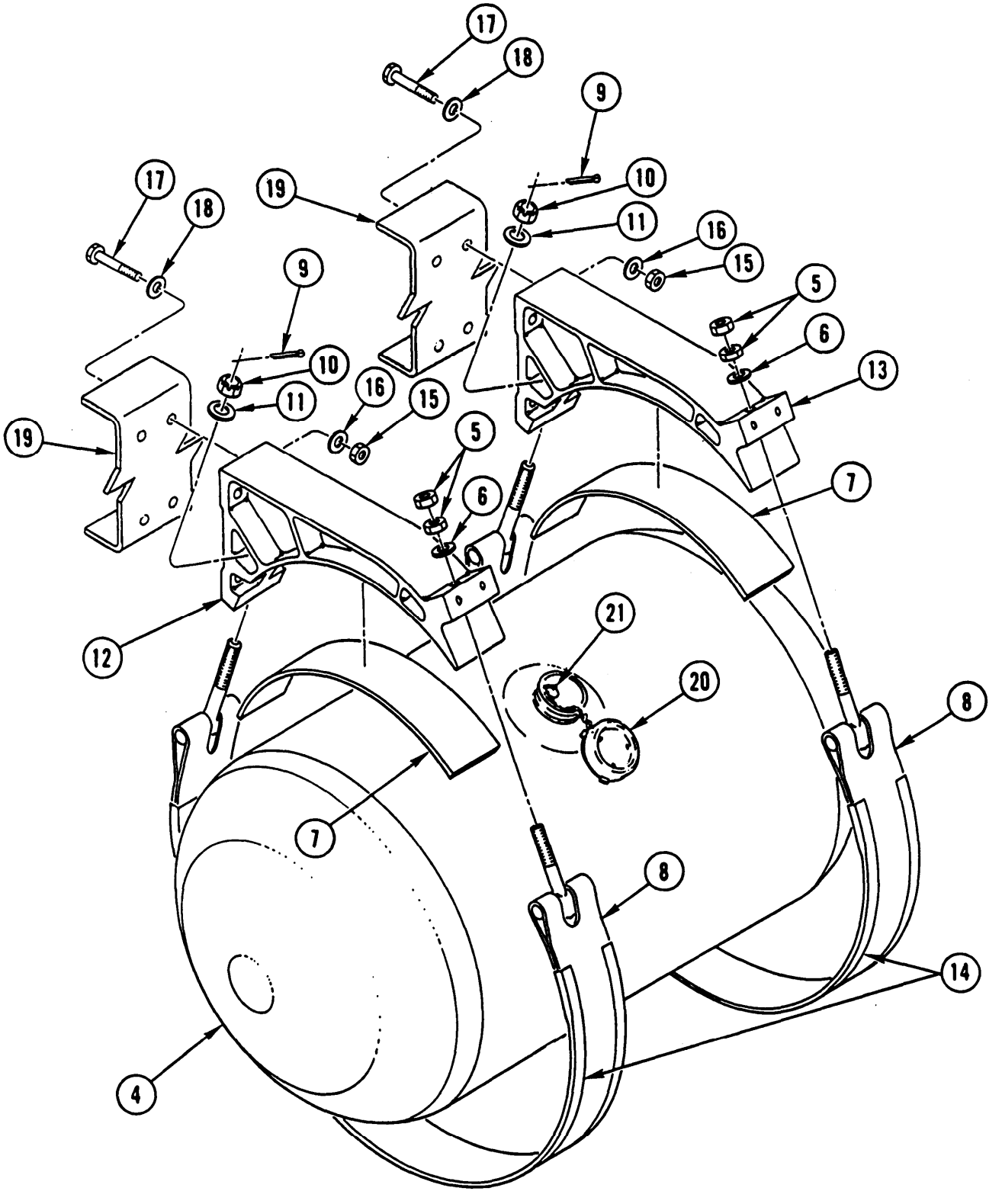
- Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.
- Fuel vapors are toxic. Avoid prolonged exposure or breathing of fumes. Work in well-ventilated area. Failure to do so could result in serious injury to personnel.

NOTE

Have suitable container available to catch fuel.

1. REMOVE PLUG (1) AND DRAIN FUEL INTO SUITABLE CONTAINER.
2. DISCONNECT TWO FUEL HOSES (2) AND REMOVE TWO ELBOWS (3).

FUEL TANK AND MOUNTING HARDWARE REPLACEMENT (CONT)



3. USING SUITABLE LIFTING DEVICE, SUPPORT FUEL TANK (4).

4. REMOVE FOUR NUTS (5), TWO WASHERS (6), AND TWO BRACKET INSULATORS (7).

5. MOVE TWO STRAPS (8) ASIDE AND REMOVE FUEL TANK (4).

NOTE

Perform steps 6 thru 9 only if required.

6. REMOVE TWO COTTER PINS (9), TWO CASTELLATED NUTS (10), TWO WASHERS (1 1), AND TWO STRAPS (8) FROM TWO BRACKETS (12 AND 13). DISCARD COTTER PINS.

7. REMOVE TWO STRAP INSULATORS (14) FROM TWO STRAPS (8).

8. REMOVE FOUR NUTS (15), FOUR WASHERS (16), FOUR SCREWS (17), FOUR WASHERS (18), AND BRACKET (12) FROM FRAME RAIL (19).

9. REPEAT STEP 8 FOR BRACKET (13).

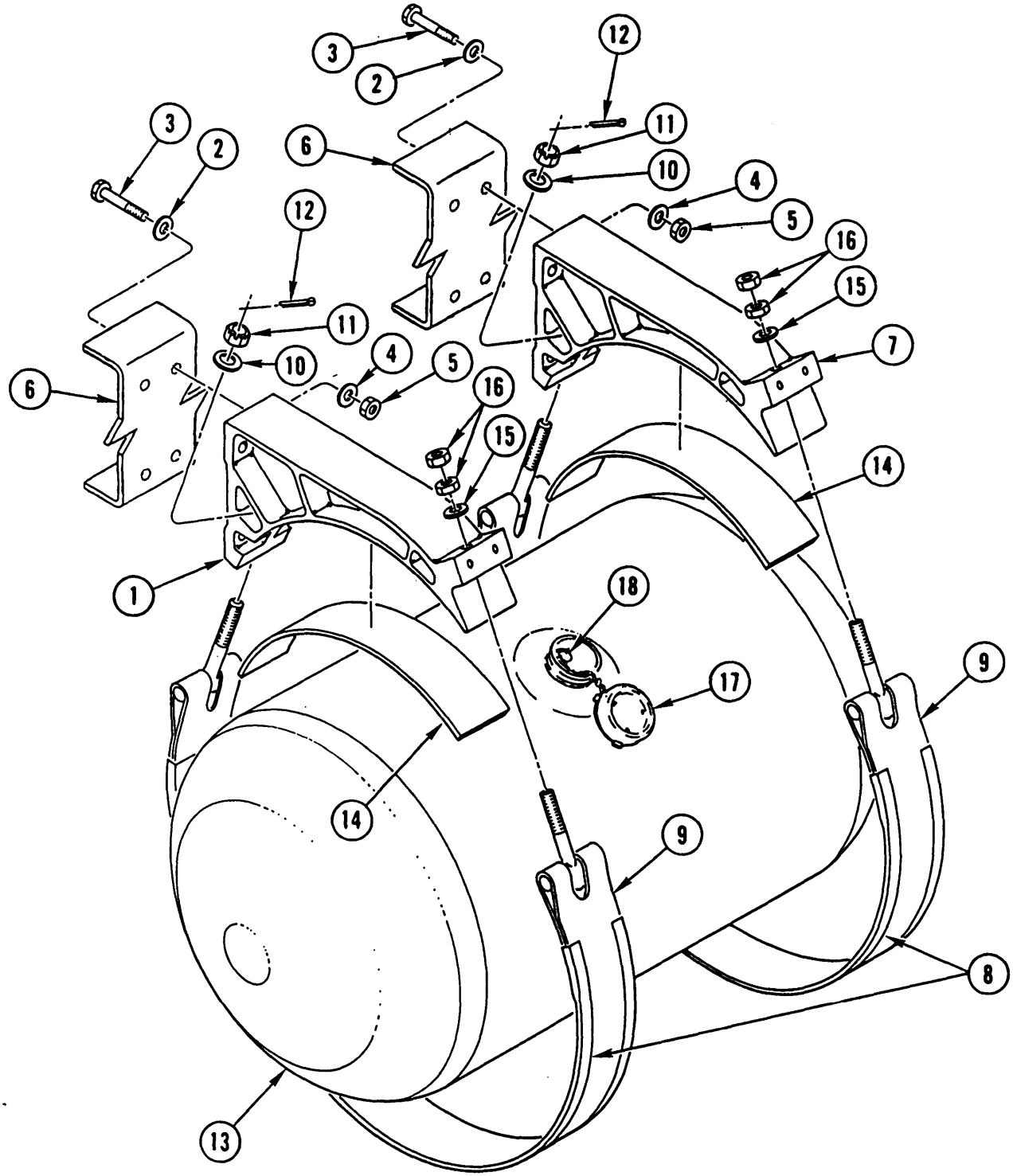
10. REMOVE CAP (20) BY COMPRESSING SPRING CLIP (21).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

FUEL TANK AND MOUNTING HARDWARE REPLACEMENT (CONT)

INSTALLATION

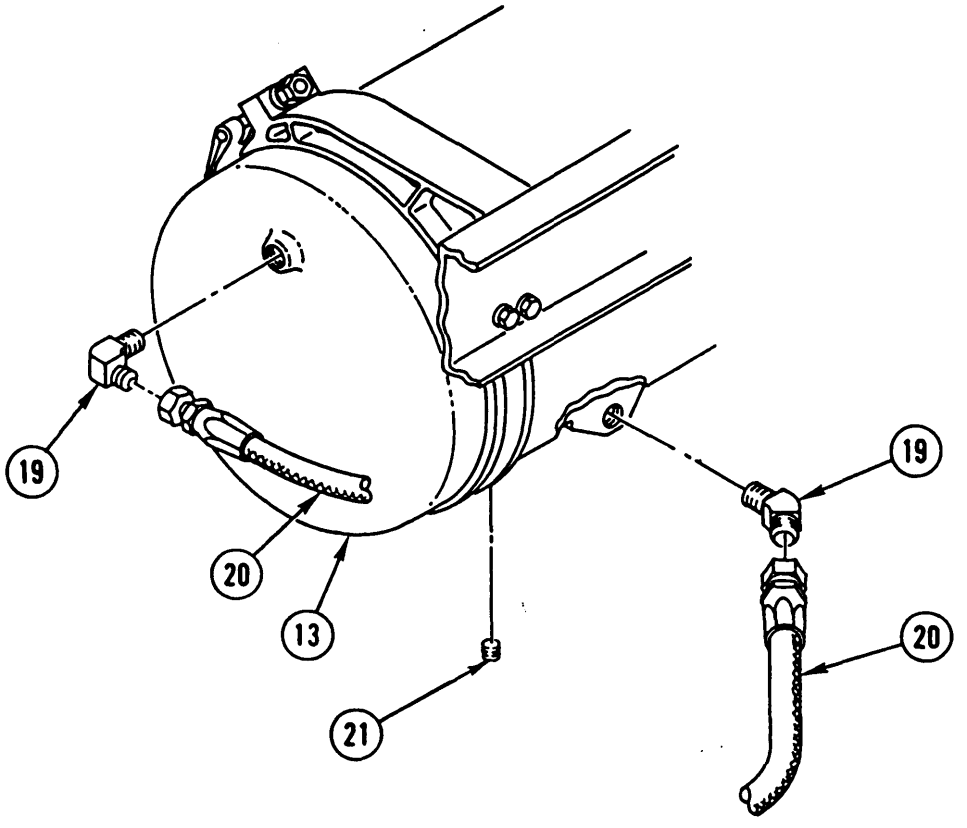


WARNING

- Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.
- Fuel vapors are toxic. Avoid prolonged exposure or breathing of fumes. Work in well-ventilated area. Failure to do so could result in serious injury to personnel.

1. IF REMOVED, INSTALL BRACKET (1), FOUR WASHERS (2), FOUR SCREWS (3), FOUR WASHERS (4), AND FOUR NUTS (5) ON FRAME RAIL (6).
2. REPEAT STEP 1 FOR BRACKET (7).
3. IF REMOVED, INSTALL TWO STRAP INSULATORS (8) ON TWO STRAPS (9).
4. IF REMOVED, INSTALL TWO STRAPS (9), TWO WASHERS (10), TWO CASTELLATED NUTS (11), AND TWO NEW COTTER PINS (12).
5. USING SUITABLE LIFTING DEVICE, LIFT AND SUPPORT FUEL TANK (13).
6. INSTALL TWO BRACKET INSULATORS (14) BETWEEN FUEL TANK (13) AND TWO BRACKETS (1 AND 7).
7. INSERT ENDS OF TWO STRAPS (9) INTO TWO BRACKETS (1 AND 7).
8. INSTALL TWO WASHERS (15) AND FOUR NUTS (16).
9. INSTALL CAP (17) BY INSERTING SPRING CLIP (18) IN FUEL TANK (13).

FUEL TANK AND MOUNTING HARDWARE REPLACEMENT (CONT)



10. INSTALL TWO ELBOWS (19) AND CONNECT TWO FUEL HOSES (20).

11. INSTALL PLUG (21) IN FUEL TANK (13).

NOTE

Follow-on Maintenance:
Install fuel level sending unit (page 4-244).
Install right step (page 4-619).

CHARGE AIR COOLER AND AIR RECIRCULATION SHIELD REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

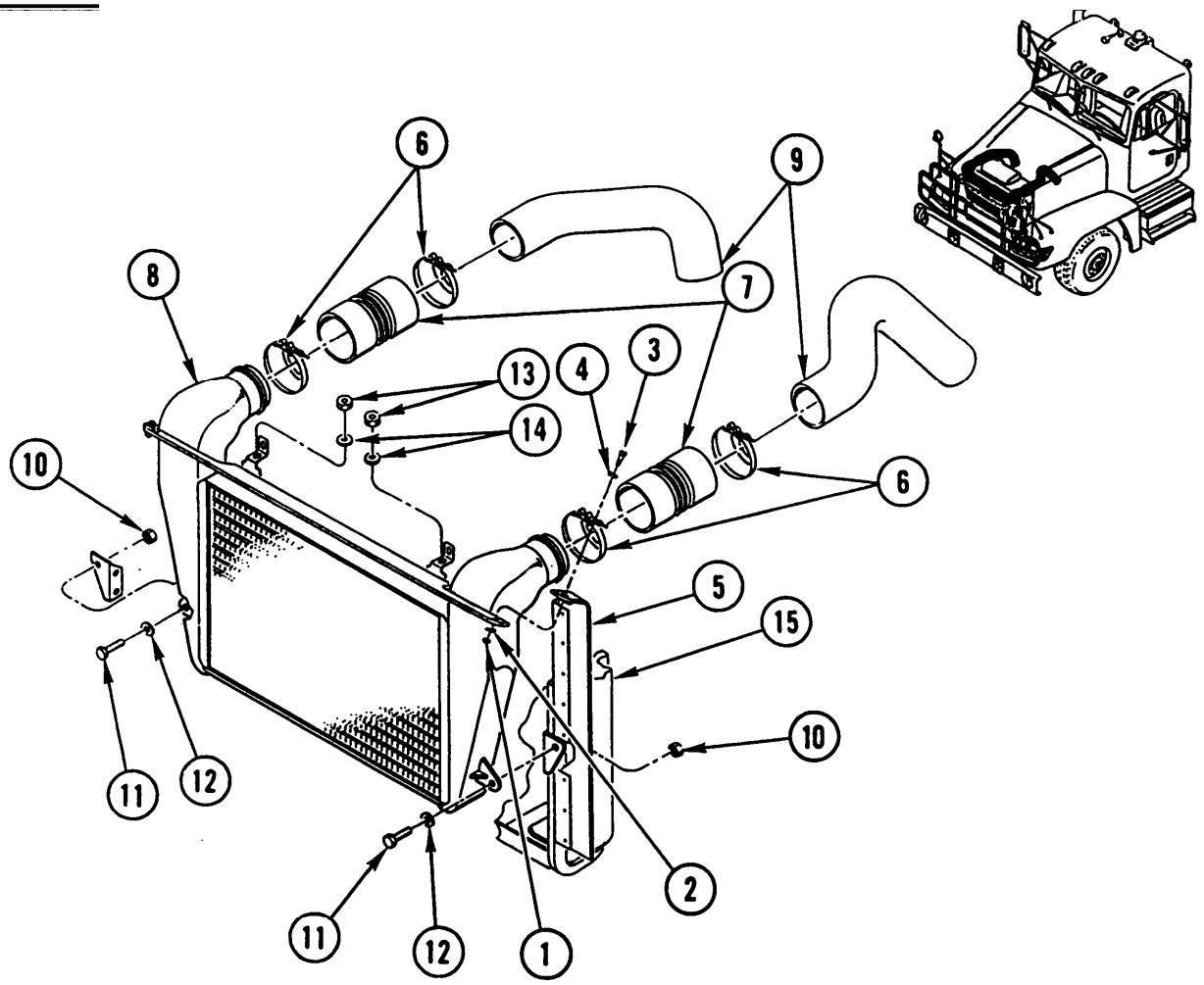
Materials/Parts:

Nut, Lock (2)

Personnel Required: (2)

CHARGE AIR COOLER AND AIR RECIRCULATION SHIELD REPLACEMENT (CONT)

REMOVAL



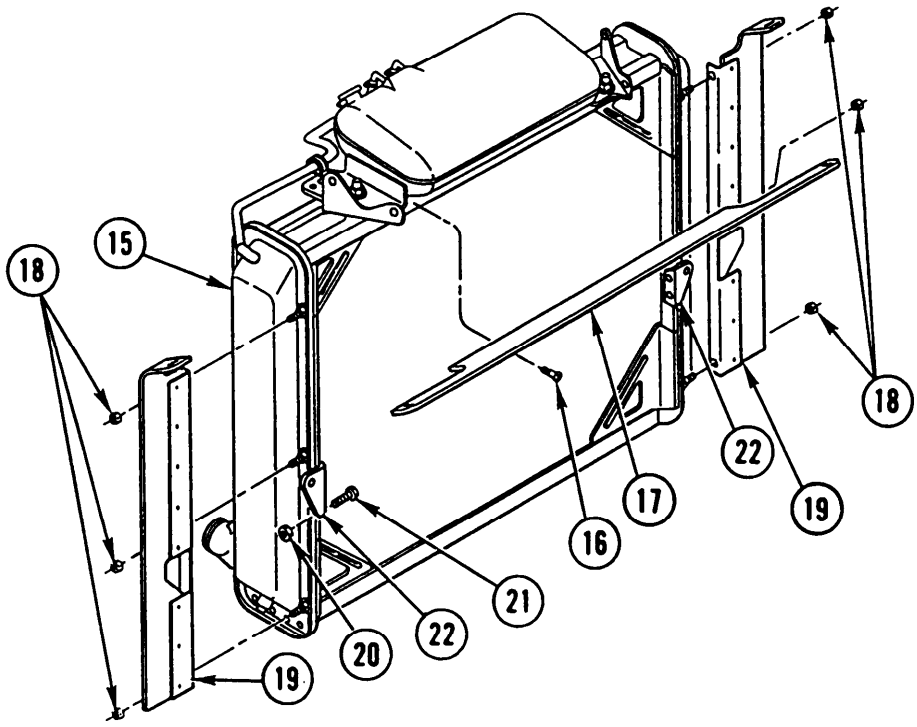
1. REMOVE TWO LOCK NUTS (1), TWO WASHERS (2), TWO SCREWS (3), AND TWO WASHERS (4) FROM AIR RECIRCULATION SHIELD (5). DISCARD LOCK NUTS.

2. LOOSEN FOUR CLAMPS (6) AND REMOVE TWO HOSES (7) FROM CHARGE AIR COOLER (8) AND INTAKE PIPING (9).

CAUTION
To prevent equipment damage, secure charge air cooler before performing step 3.

3. REMOVE TWO NUTS (10), TWO SCREWS (11), TWO WASHERS (12), TWO NUTS (13), AND TWO WASHERS (14).

4. REMOVE CHARGE AIR COOLER (8) FROM RADIATOR (15).



5. REMOVE FOUR SCREWS (16) AND TOP SHIELD (17).

6. REMOVE. SIX NUTS (18) AND TWO SIDE SHIELDS (19) FROM RADIATOR (15).

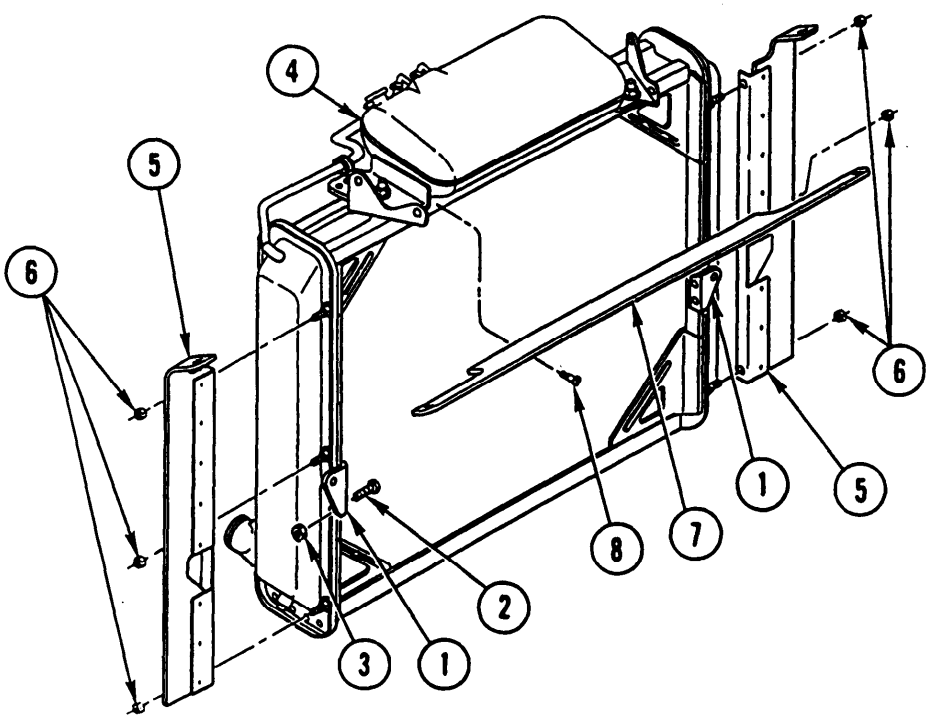
7. REMOVE FOUR NUTS (20), FOUR SCREWS (21), AND TWO BRACKETS (22) FROM RADIATOR (15).

CHARGE AIR COOLER AND AIR RECIRCULATION SHIELD REPLACEMENT (CONT)

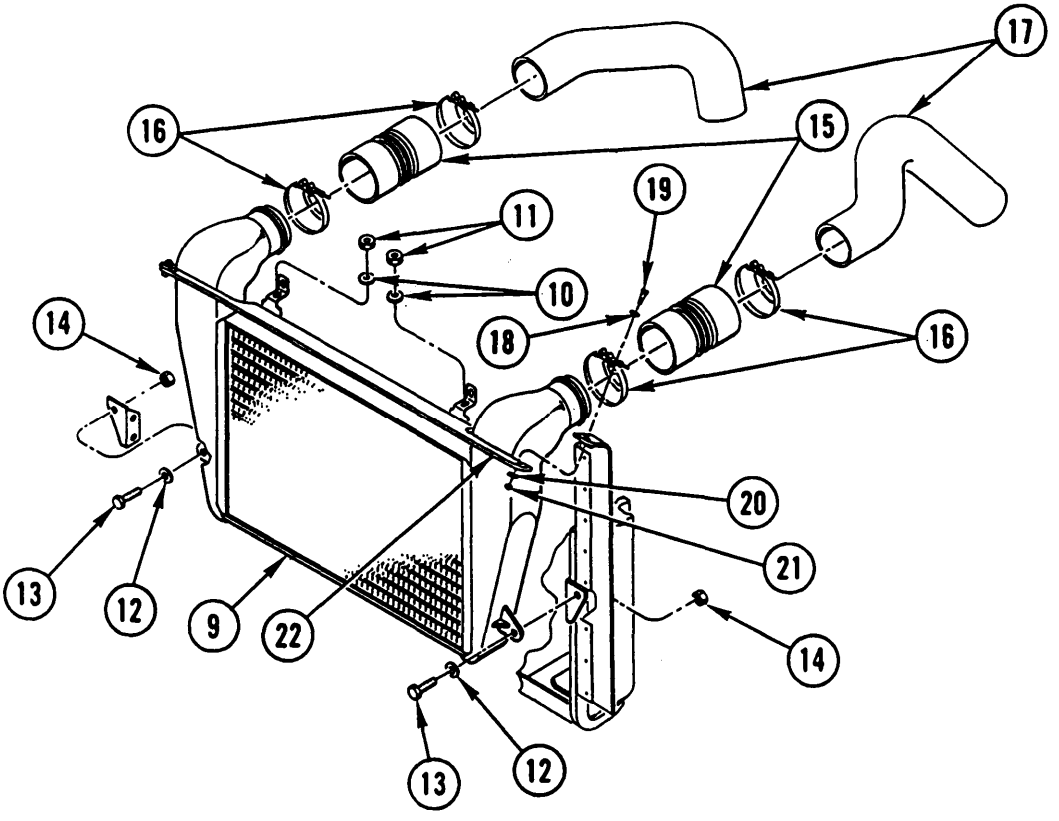
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL TWO BRACKETS (1), FOUR SCREWS (2), AND FOUR NUTS (3) ON RADIATOR (4).
2. INSTALL TWO SIDE SHIELDS (5) AND SIX NUTS (6).
3. INSTALL TOP SHIELD (7) AND FOUR SCREWS (8) ON RADIATOR (4).



4. INSTALL CHARGE AIR COOLER (9), TWO WASHERS (10), TWO NUTS (1 1), TWO WASHERS (12), TWO SCREWS (13), AND TWO NUTS (14).

5. INSTALL TWO HOSES (15) AND TIGHTEN FOUR CLAMPS (16) ON CHARGE AIR COOLER (9) AND INTAKE PIPING (17). TIGHTEN FOUR CLAMPS (16) TO 40-50 LB-IN. (24-30 NŽm).

6. INSTALL TWO WASHERS (18), TWO SCREWS (19), TWO WASHERS (20), AND TWO NEW LOCK NUTS (21) ON AIR RECIRCULATION SHIELD (22).

Section III. EXHAUST SYSTEM MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the exhaust system and related components. A list of tasks contained in this section is shown below.

	Page
Muffler and Exhaust Stack Replacement	4-89
Exhaust PiPe and Clamp Replacement	4-94

MUFFLER AND EXHAUST STACK REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIALSETUP

Tools and Special Equipment:
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26
Materials/Parts:

Clamp, Seal P/N KYX00-5833
Capscrew (17)

Washer (17)
Nut, Lock (17)

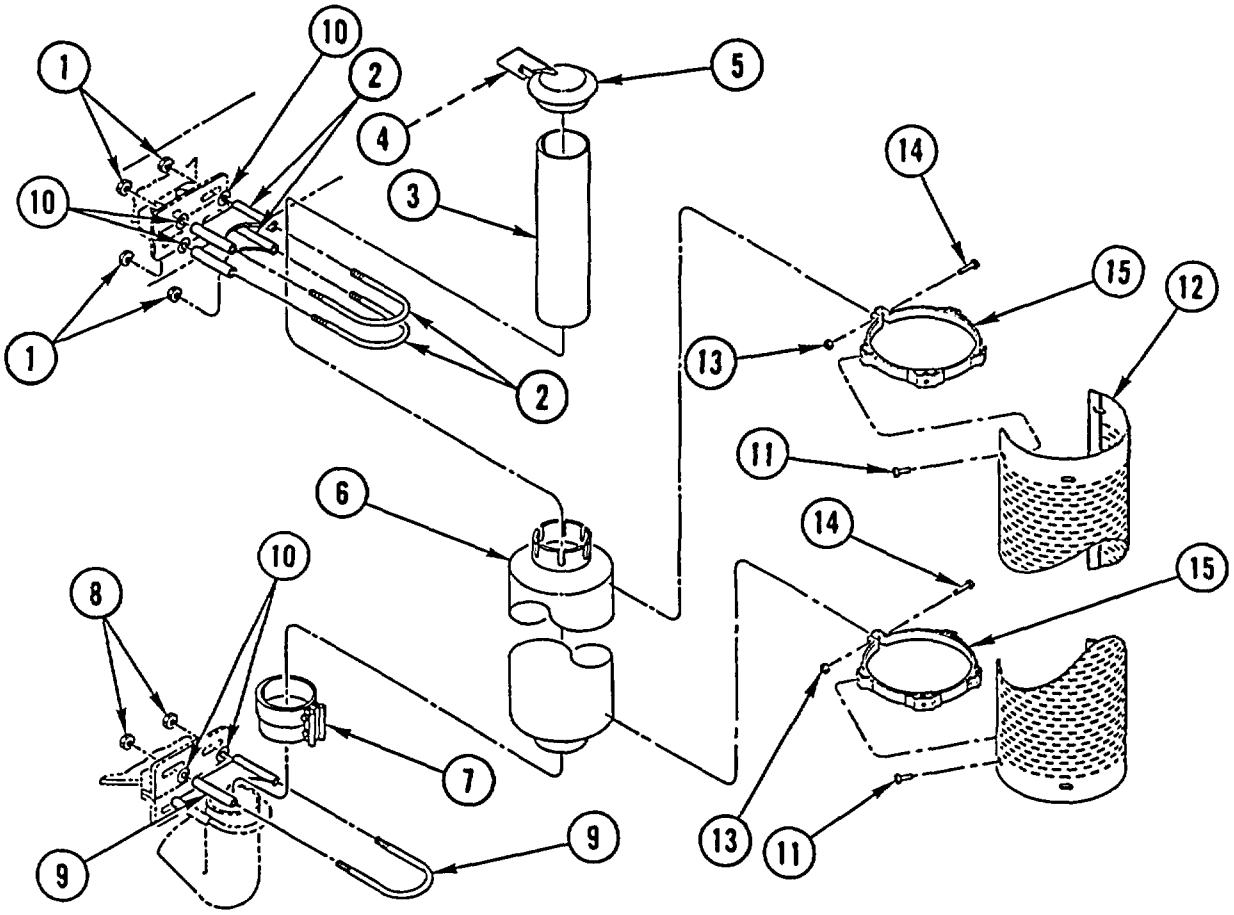
General Safety Instructions:

WARNING

Install seal clamps only hand-tight until all exhaust pipes are installed and tightened down. Failure to do so will cause exhaust leaks and can result in serious personnel injury.

MUFFLER AND EXHAUST STACK REPLACEMENT (CONT)

REMOVAL



1. REMOVE FOUR NUTS (1), TWO SADDLE CLAMPS (2), AND EXHAUST STACK (3).

NOTE

Note position of cap for installation. Orientation of M917A1 and M917A1 w/MCS cap differs from other models.

2. LOOSEN NUT (4) AND REMOVE CAP (5).

3. USING SUITABLE LIFTING DEVICE, SUPPORT MUFFLER (6) AND LOOSEN SEAL CLAMP (7).

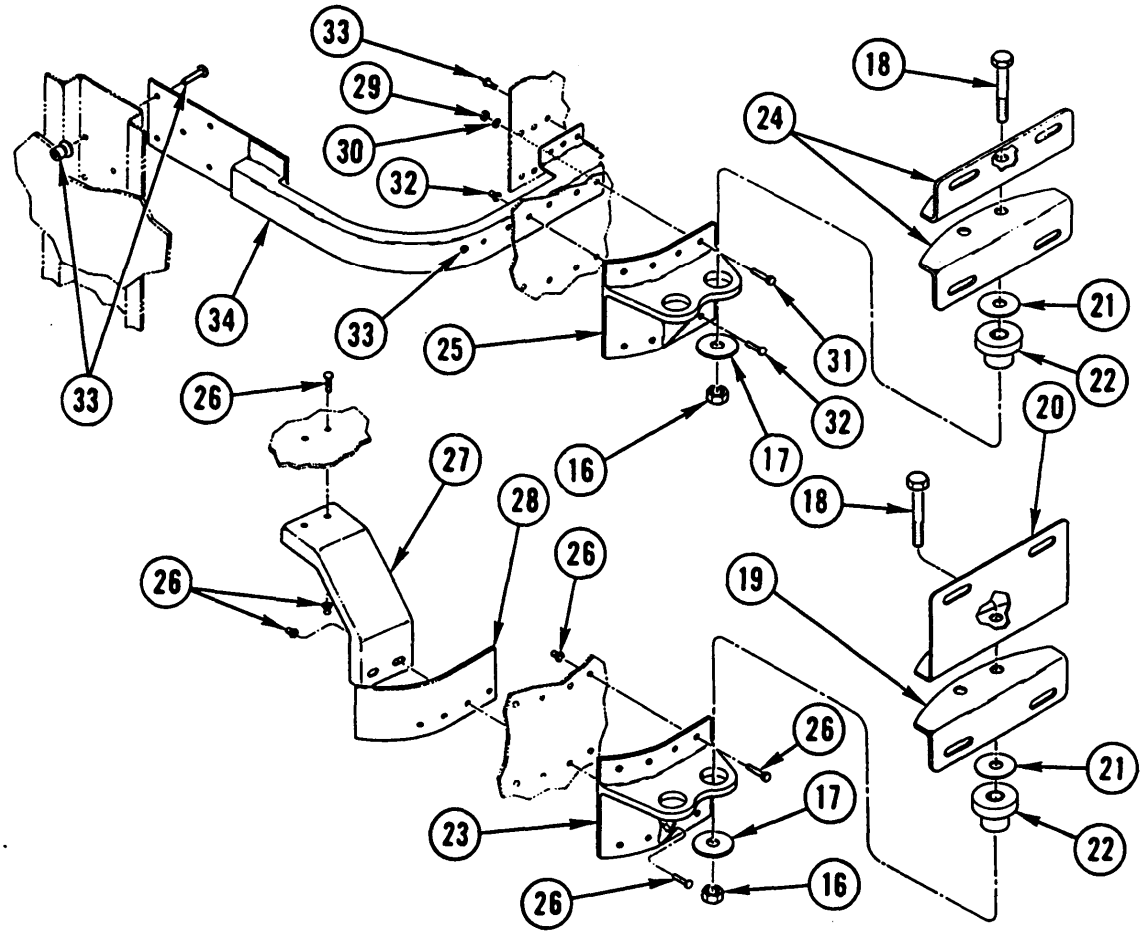
NOTE

Quantity of washers may vary. Washers are used for alinement.

4. REMOVE TWO NUTS (8), SADDLE CLAMP (9), WASHERS (10), MUFFLER (6), AND SEAL CLAMP (7). DISCARD SEAL CLAMP.

5. REMOVE EIGHT SCREWS (11) AND SLIDE HEAT SHIELD (12) OFF MUFFLER (6).

6. REMOVE TWO NUTS (13), TWO SCREWS (14), AND TWO HEAT SHIELD CLAMPS (15).



7. REMOVE TWO NUTS (16), TWO WASHERS (17), TWO SCREWS (18), TWO BRACKETS (19 AND 20), TWO WASHERS (21), AND TWO ISOLATORS (22) FROM LOWER SUPPORT BRACKET (23).

8. REPEAT STEP 7 FOR REMOVAL OF TWO BRACKETS (24) FROM UPPER SUPPORT BRACKET (25).

NOTE

Perform steps 9 thru 11 only if brackets or backing plate have been damaged.

9. REMOVE RIGHT SIDE CAB LINER IN ACCORDANCE WITH PAGE 4-736 OR 4-738.

10. REMOVE 10 LOCK BOLTS AND COLLARS (26), BRACKET (27), LOWER SUPPORT BRACKET (23), AND BACKING PLATE (28). DISCARD BACKING PLATE.

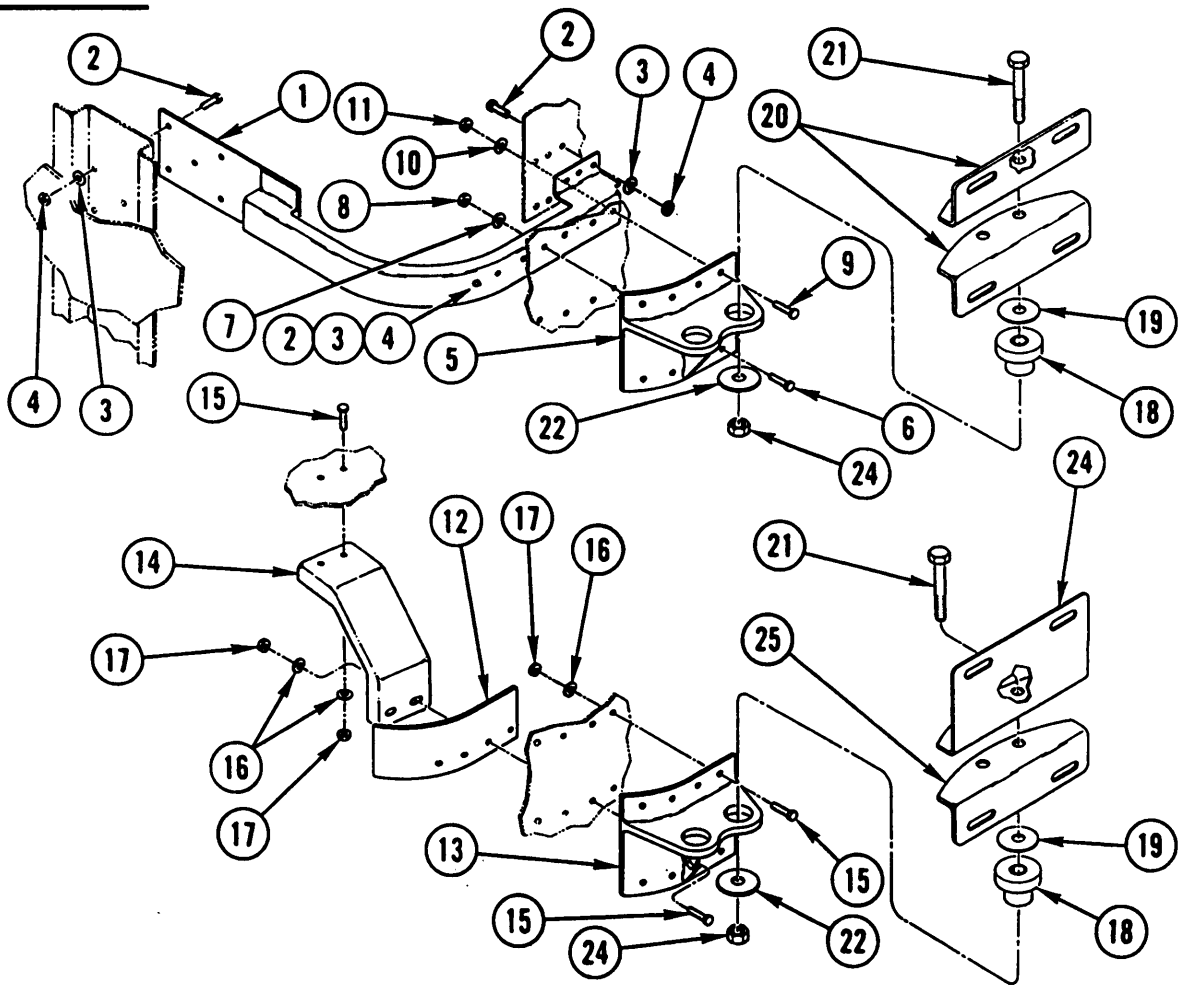
11. REMOVE 2 NUTS (29), 2 WASHERS (30), 2 SCREWS (31), 6 LOCK BOLTS AND COLLARS (32), UPPER SUPPORT BRACKET (25), 11 LOCK BOLTS AND COLLARS (33), AND SUPPORT BRACKET (34). DISCARD BRACKETS AND LOCK BOLTS AND COLLARS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

MUFFLER AND EXHAUST STACK REPLACEMENT (CONT)

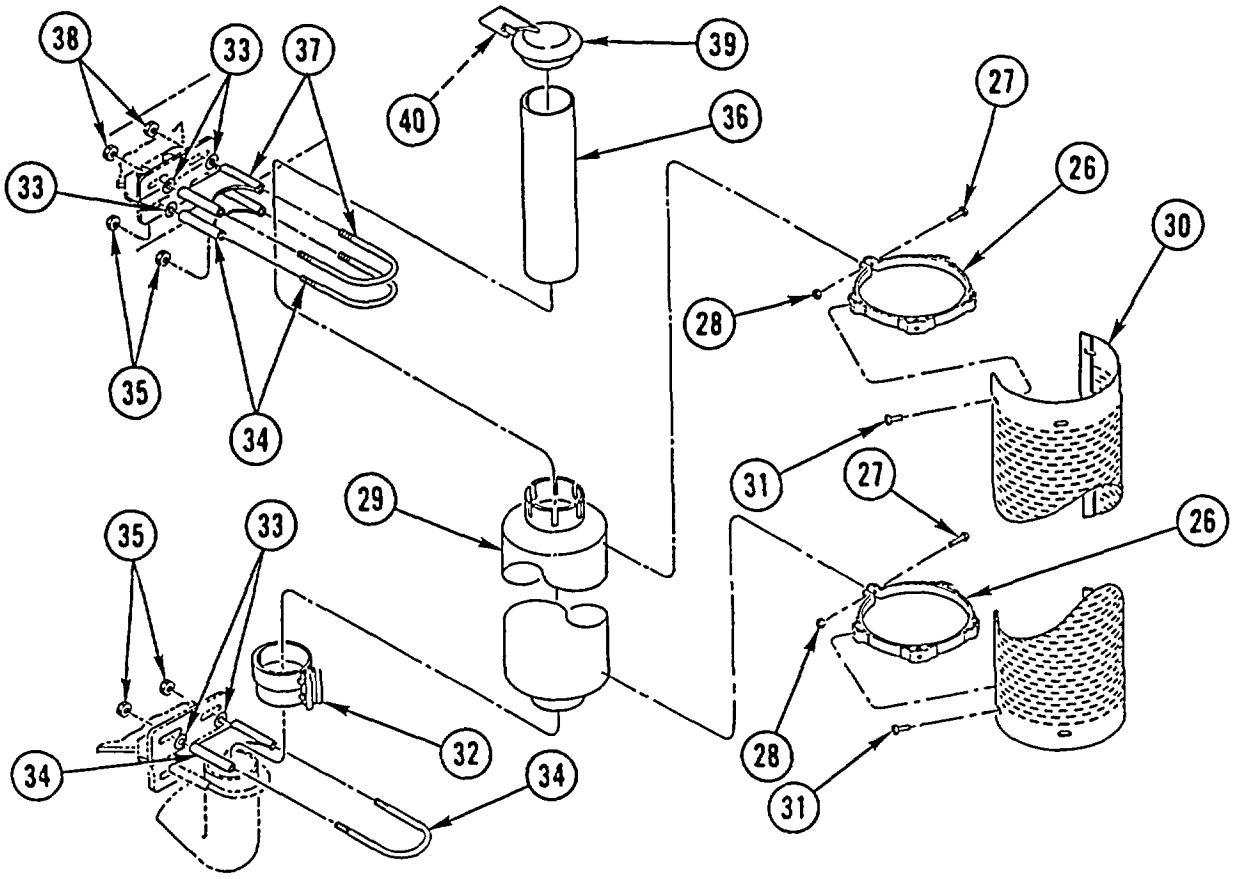
INSTALLATION



NOTE

Perform steps 1 thru 4 only if brackets or backing plate were removed.

1. INSTALL NEW SUPPORT BRACKET (1), 11 NEW CAPSCREWS (2), 11 NEW WASHERS (3), AND 11 NEW LOCK NUTS (4).
2. INSTALL NEW UPPER SUPPORT BRACKET (5), SIX NEW CAPSCREWS (6), SIX NEW WASHERS (7), SIX NEW LOCK NUTS (8), TWO SCREWS (9), TWO WASHERS (10), AND TWO NUTS (11).
3. INSTALL NEW BACKING PLATE (12), NEW LOWER SUPPORT BRACKET (13), NEW BRACKET (14), 10 CAPSCREWS (15), 10 WASHERS (16), AND 10 LOCK NUTS (17).
4. INSTALL RIGHT SIDE CAB LINER IN ACCORDANCE WITH PAGE 4-736 OR 4-738.
5. INSTALL TWO ISOLATORS (18), TWO WASHERS (19), TWO BRACKETS (20), TWO SCREWS (21), TWO WASHERS (22), AND TWO NUTS (23) IN UPPER SUPPORT BRACKET (5).
6. REPEAT STEP 5 FOR INSTALLATION OF TWO BRACKETS (24 AND 25) IN LOWER SUPPORT BRACKET (13).



7. INSTALL TWO HEAT SHIELD CLAMPS (26), TWO SCREWS (27), AND TWO NUTS (28) ON MUFFLER (29).

8. SLIDE HEAT SHIELD (30) ON MUFFLER (29) AND INSTALL EIGHT SCREWS (31).

WARNING

Install seal clamps only hand-tight until all exhaust pipes are installed and tightened down. Failure to do so will cause exhaust leaks and can result in serious personnel injury.

9. INSTALL NEW SEAL CLAMP (32) ON MUFFLER (29).

NOTE

Washers are used for muffler alinement. Use only enough washers to keep muffler straight.

10. USING SUITABLE LIFTING DEVICE, SUPPORT MUFFLER (29) AND INSTALL MUFFLER (29), WASHERS (33), TWO SADDLE CLAMPS (34), AND FOUR NUTS (35).

11. INSTALL EXHAUST STACK (36), SADDLE CLAMP (37), AND TWO NUTS (38).

12. INSTALL CAP (39) IN SAME POSITION AS REMOVED AND TIGHTEN NUT (40).

13. TIGHTEN SEAL CLAMP (32) TO 33 LB-FT (45 N.m).

EXHAUST PIPE AND CLAMP REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIALSETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Clamp, Seal (6) P/N KYX-5833

General Safety Instructions:

WARNING

Install seal clamps only hand-tight until all exhaust pipes are installed and tightened down. Failure to do so will cause exhaust leaks and can result in serious personnel injury.

REMOVAL

1. LOOSEN CLAMP (1) AND SEAL CLAMP (2) AND REMOVE EXHAUST OUTLET PIPE (3).
2. REMOVE CLAMP (1) AND SEAL CLAMP (2). DISCARD SEAL CLAMP.
3. REMOVE SEAL CLAMP (4) AND FLEX PIPE (5). DISCARD SEAL CLAMP.

NOTE

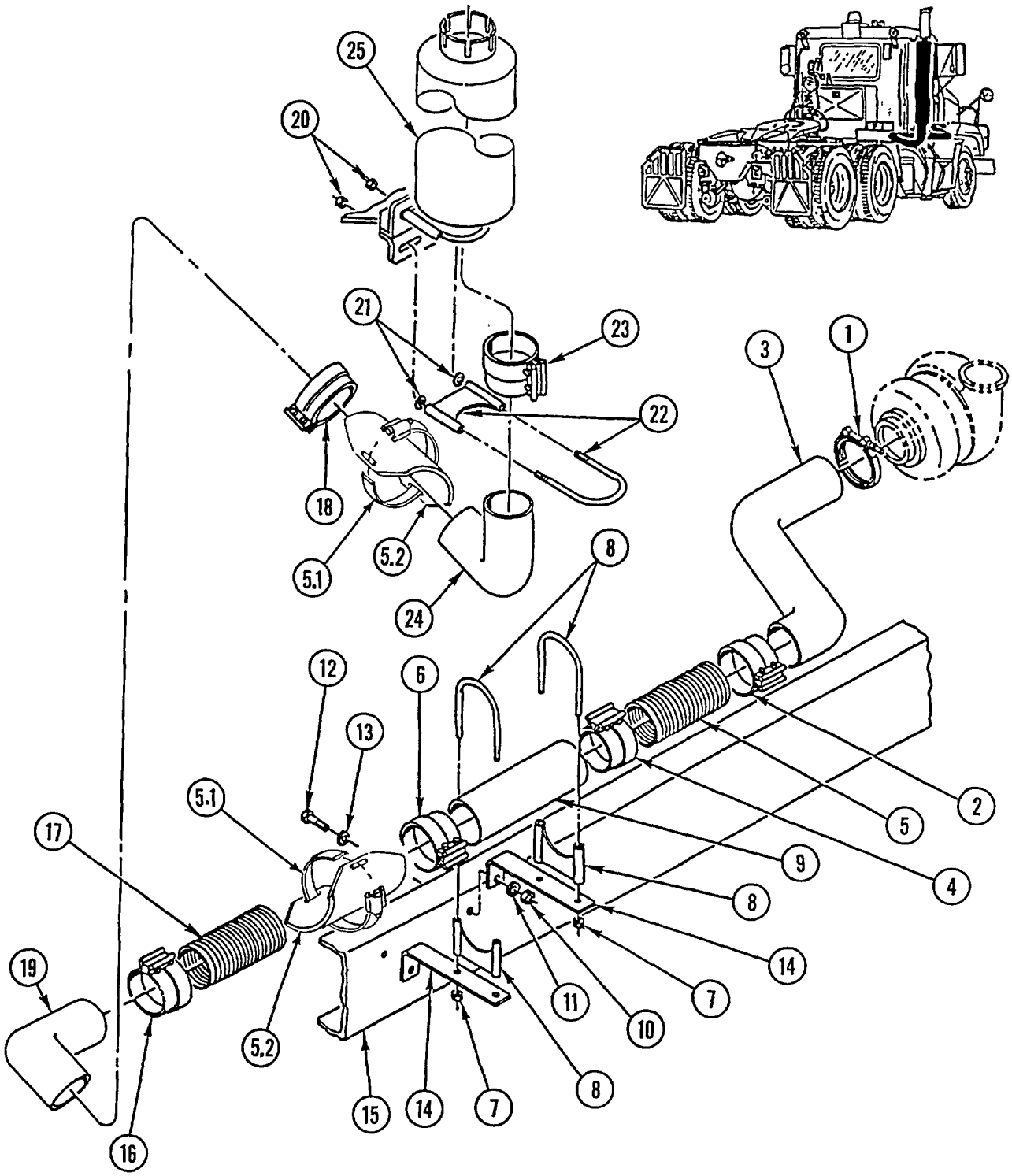
Note location of heat shield for installation.

3.1 REMOVE CLAMP (5.1) AND HEAT SHIELD (5.2).

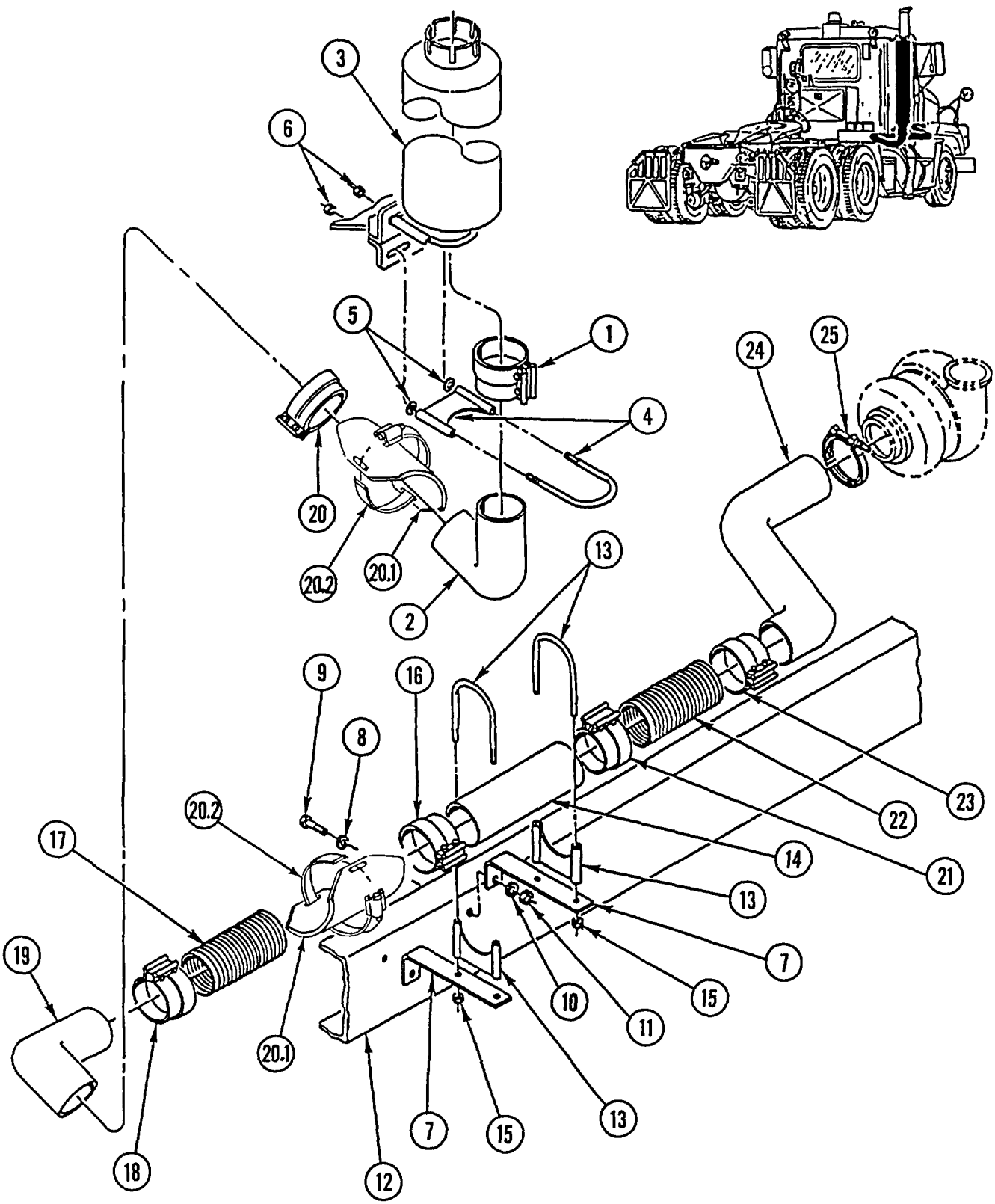
4. LOOSEN SEAL CLAMP (6) AND REMOVE FOUR NUTS (7), TWO SADDLE CLAMPS (8), AND PIPE (9).
5. REMOVE AND DISCARD SEAL CLAMP (6).
6. REMOVE TWO NUTS (10), TWO WASHERS (11), TWO SCREWS (12), TWO WASHERS (13), AND TWO BRACKETS (14) FROM FRAME RAIL (15).
7. REMOVE SEAL CLAMP (16), FLEX PIPE (17), SEAL CLAMP (18), AND PIPE ELBOW (19). DISCARD SEAL CLAMPS.

NOTE
Note number of washers removed to aid in installation.

8. REMOVE TWO NUTS (20), WASHER(S) (21), SADDLE CLAMP (22), SEAL CLAMP (23), AND MUFFLER INLET PIPE (24) FROM MUFFLER (25) DISCARD SEAL CLAMP.



EXHAUST PIPE AND CLAMP REPLACEMENT (CONT)



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

WARNING

Install seal clamps only hand-tight until all exhaust pipes are installed and tightened down. Failure to do so will cause exhaust leaks and can result in serious personnel injury.

1. INSTALL NEW SEAL CLAMP (1) AND MUFFLER INLET PIPE (2) ON MUFFLER (3).

NOTE

Install quantity of washers noted during removal step 8.

2. INSTALL SADDLE CLAMP (4), WASHER(S) (5), AND TWO NUTS (6).

3. INSTALL TWO BRACKETS (7), TWO WASHERS (8), TWO SCREWS (9), TWO WASHERS (10), AND TWO NUTS (11) ON FRAME RAIL (12).

4. INSTALL TWO SADDLE CLAMPS (13), PIPE (14), AND FOUR NUTS (15) LOOSELY ON TWO BRACKETS (7).

5. INSTALL NEW SEAL CLAMP (16), FLEX PIPE (17), NEW SEAL CLAMP (18), PIPE ELBOW (19), AND NEW SEAL CLAMP (20).

5.1. INSTALL HEAT SHIELD (20.1) AND CLAMP (20.2).

6. INSTALL NEW SEAL CLAMP (21), FLEX PIPE (22), NEW SEAL CLAMP (23), EXHAUST OUTLET PIPE (24), AND CLAMP (25).

7. TIGHTEN FOUR NUTS (15).

8. TIGHTEN ALL SEAL CLAMPS (1, 16, 18, 20, 21, AND 23) IN THREE INCREMENTS TO 33 LB-FT (45 N.m).

Section IV. COOLING SYSTEM MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the cooling system and related components. A list of tasks contained in this section is shown below.

Page

Radiator Replacement 4-99
Radiator Support Rod Replacement 4-106
Water Filter Adapter and Bracket Replacement 4-113
Coolant Hoses, Pipes, and Clamps Replacement 4-116
Fan Impeller and Shroud Replacement 4-120
Fan Clutch Solenoid Replacement (M915A2 and M916A1) 4-124
Fan Clutch Solenoid Replacement (All Except M915A2 and M916A1) 4-125.0
Fan Clutch and Drive Pulley Replacement 4-126
Thermostat and Thermostat Housing Cover Replacement 4-128
Water Pump Replacement 4-132
Spindle and Housing Replacement (M915A2 and M916A1) 4-138
Spindle and Housing Replacement (All Except M915A2 and M916A1) 4-138.1
Fan Belt Replacement and Adjustment 4-139
Drain and Fill Cooling System 4-141
Water Filter Element Replacement 4-144

RADIATOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

Nut, Lock (4)

Wrap, Tie Appendix C, Item 36

Personnel Required:(2)

References:

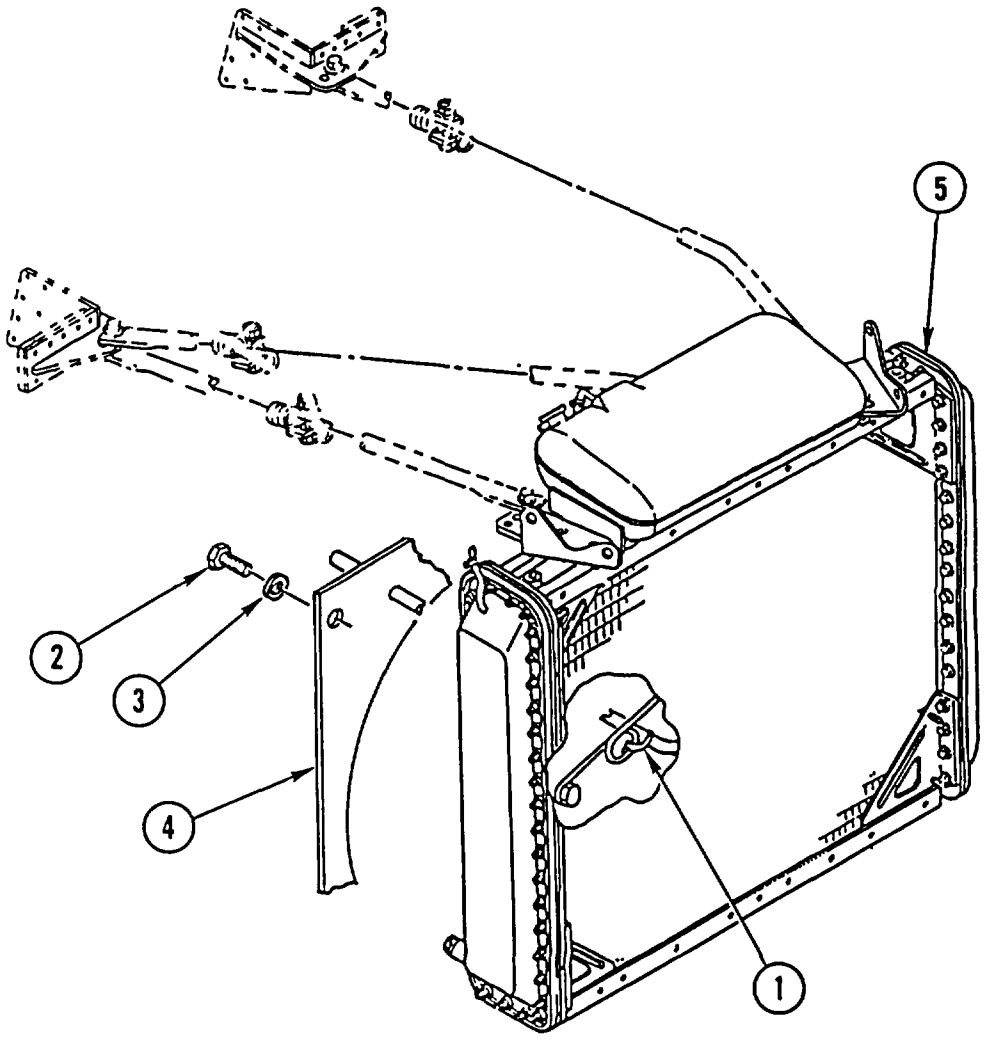
TM 9-2320-363-20-1

Equipment Condition:

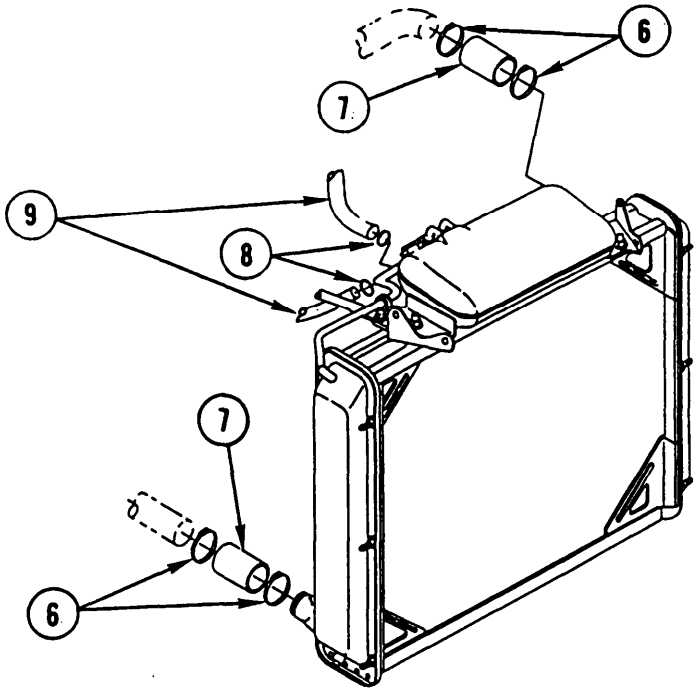
Reference	Condition Description
Page 4-141	Cooling System Drained
Page 2-29	Batteries Disconnected
Page 4-656	Hood Removed
Page 4-252	Electric Horn Removed
Page 4-242	Water Level Probe Removed
Page 4-83	Charge Air Cooler and Air Recirculation Shield Removed

RADIATOR REPLACEMENT (CONT)

REMOVAL

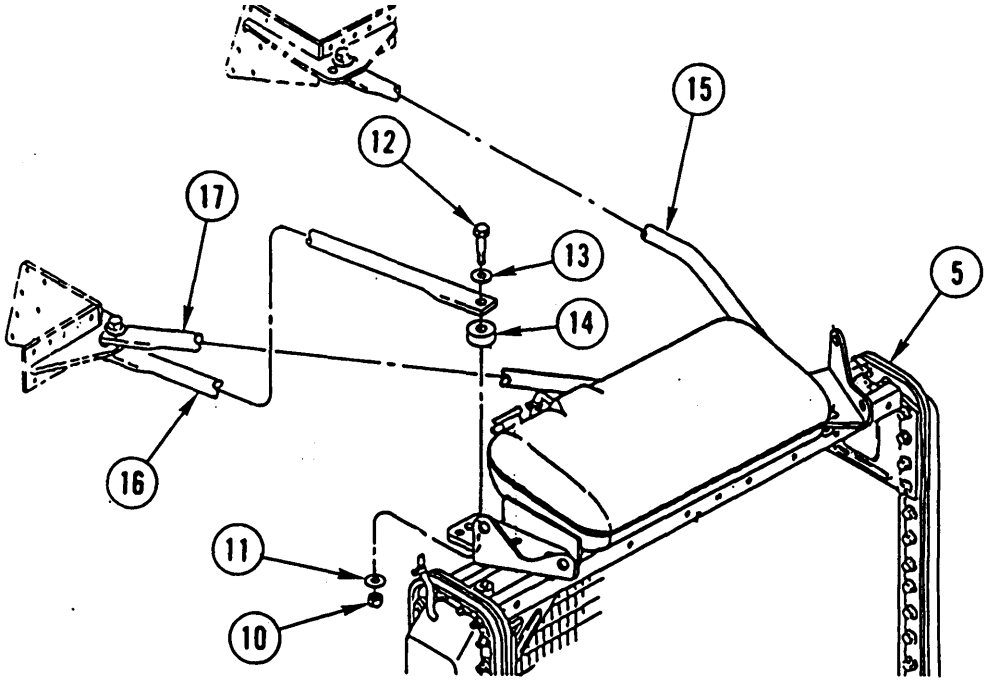


1. REMOVE TIE WRAP (1), FOUR SCREWS (2), AND FOUR WASHERS (3) AND PUSH FAN SHROUD (4) BACK FROM RADIATOR (5). DISCARD TIE WRAP.



2. REMOVE FOUR CLAMPS (6) AND TWO HOSES (7).

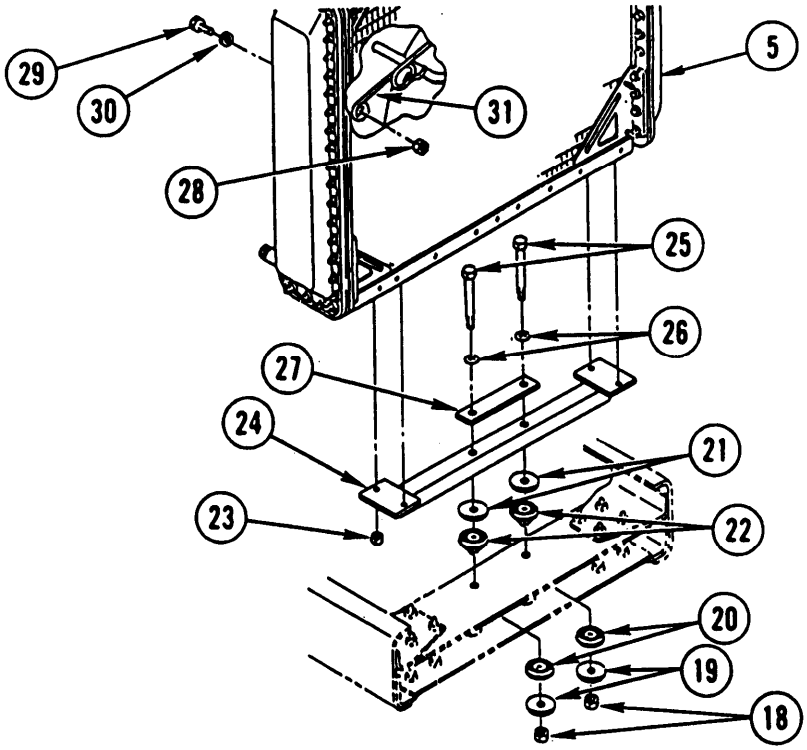
3. REMOVE TWO CLAMPS (8) AND DISCONNECT TWO HOSES (9).



4. USING SUITABLE LIFTING DEVICE, SUPPORT RADIATOR (5).

5. REMOVE TWO LOCK NUTS (10), TWO WASHERS (11), TWO SCREWS (12), TWO WASHERS (13), SPACER (14), AND THREE STRUT RODS (15, 16, AND 17) FROM RADIATOR (5). DISCARD LOCK NUTS.

RADIATOR REPLACEMENT (CONT)



6. REMOVE TWO NUTS (18), TW0 WASHERS (19), TWO ISOLATORS (20), RADIATOR (5), TWO WASHERS (21), AND TWO ISOLATORS (22).

7. REMOVE FOUR LOCK NUTS (23) AND SUPPORT (24) FROM RADIATOR (5). DISCARD LOCK NUTS.

8. REMOVE TWO SCREWS (25), TWO WASHERS (26), AND SPACER (27) FROM SUPPORT (24).

9. REMOVE TWO NUTS (28), TWO SCREWS (29), TWO WASHERS (30), AND AIR LINE SUPPORT (31) FROM RADIATOR (5).

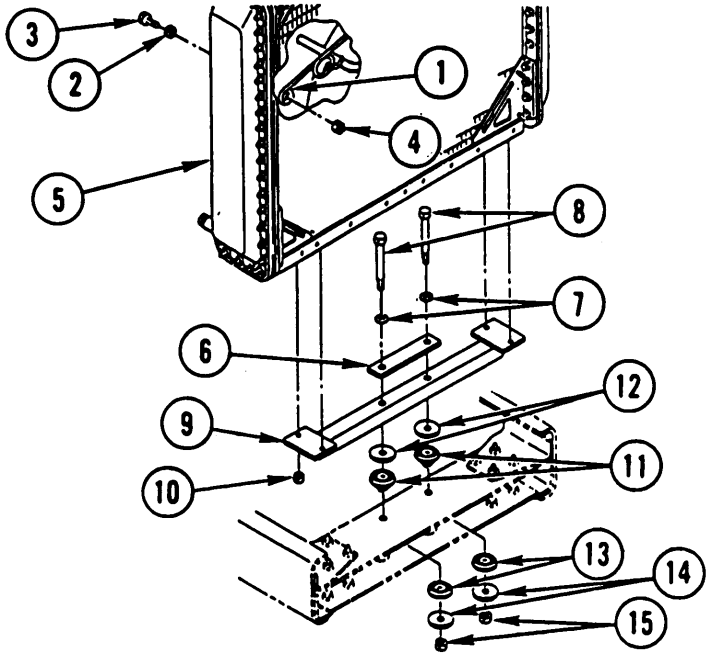
CLEANING/INSPECTION

NOTE

If radiator requires repair, notify direct support maintenance.

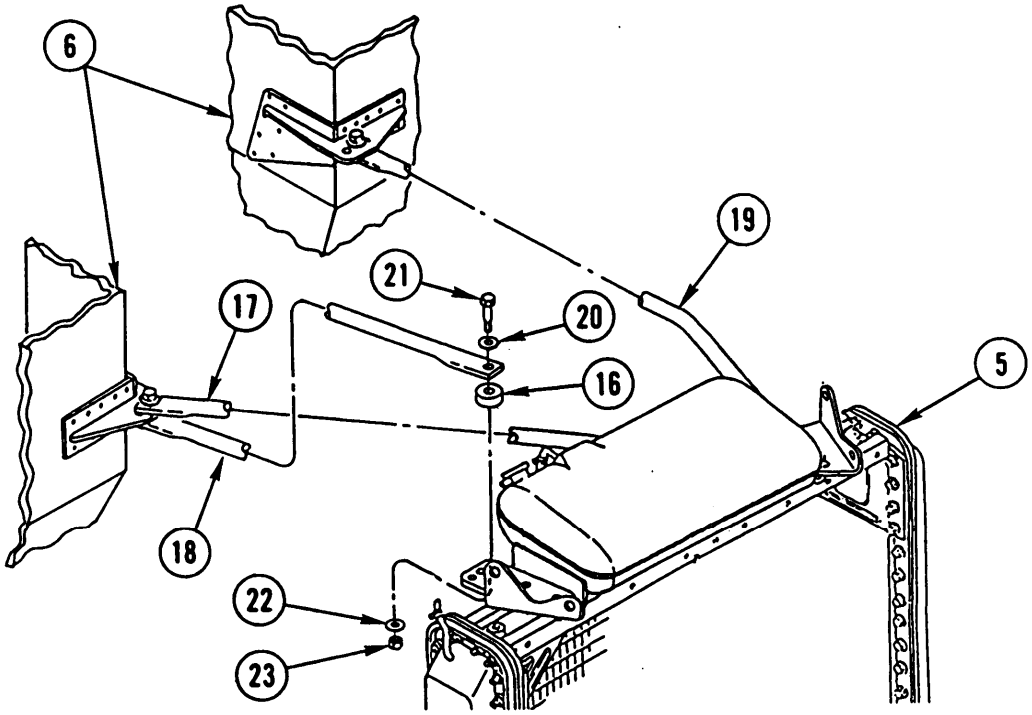
Clean and inspect all pants in accordance with Chapter 2.

INSTALLATION

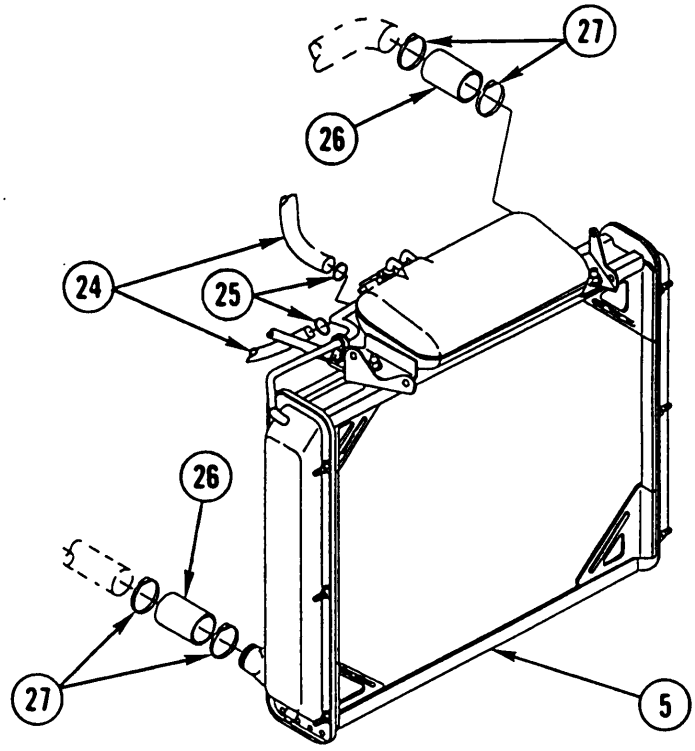


1. INSTALL AIR LINE SUPPORT (l), TWO WASHERS (2), TWO SCREWS (3), AND TWO NUTS (4) ON RADIATOR (5).
2. INSTALL SPACER (6), TWO WASHERS (7), AND TWO SCREWS (8) ON SUPPORT (9).
3. INSTALL SUPPORT (9) AND FOUR NEW LOCK NUTS (10) ON RADIATOR (5).
4. INSTALL TWO ISOLATORS (11) AND TWO WASHERS (12).
5. USING SUITABLE LIFTING DEVICE, INSTALL RADIATOR (5), TWO ISOLATORS (13), TWO WASHERS (14), AND TWO NUTS (15).

RADIATOR REPLACEMENT (CONT)

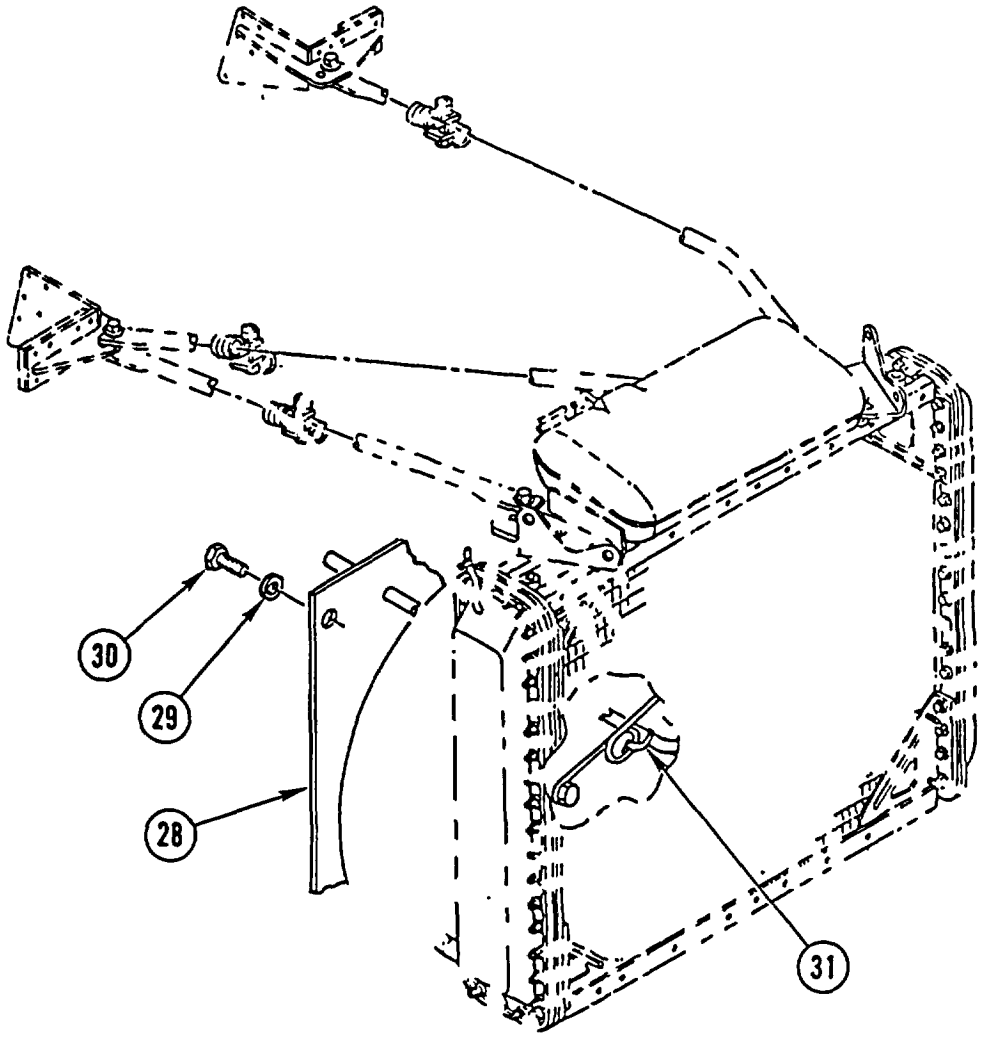


6. INSTALL SPACER (16), THREE STRUT RODS (17, 18, AND 19), TWO WASHERS (20), TWO SCREWS (21), IWO WASHERS (22), AND TWO NEW LOCK NUTS (23) ON RADIATOR (5).



7. CONNECT TWO HOSES (24) AND INSTALL TWO CLAMPS (25).

8. INSTALL TWO HOSES (26) AND FOUR CLAMPS (27) ON RADIATOR (5).



9. INSTALL FAN SHROUD (28), FOUR WASHERS (29), FOUR SCREWS (30), AND NEW TIE WRAP (31).

NOTE

Follow-on Maintenance:

Install water level probe (page 4-242).
Install electric horn (page 4-252).
Fill cooling system (Unit PMCS, TM 9-2320-363-20-1).
Connect batteries (page 2-29).
Install hood (page 4-656).
Install charge air cooler and air recirculation shield (page 4-83).

RADIATOR SUPPORT ROD REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Capscrew (26)

Washer, Lock (26)

Nut, Lock (26)

Nut, Lock (8)

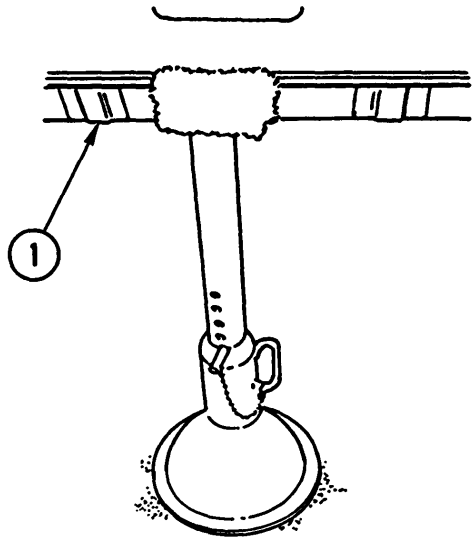
Nut, Lock (4)

Personnel Required: (2)

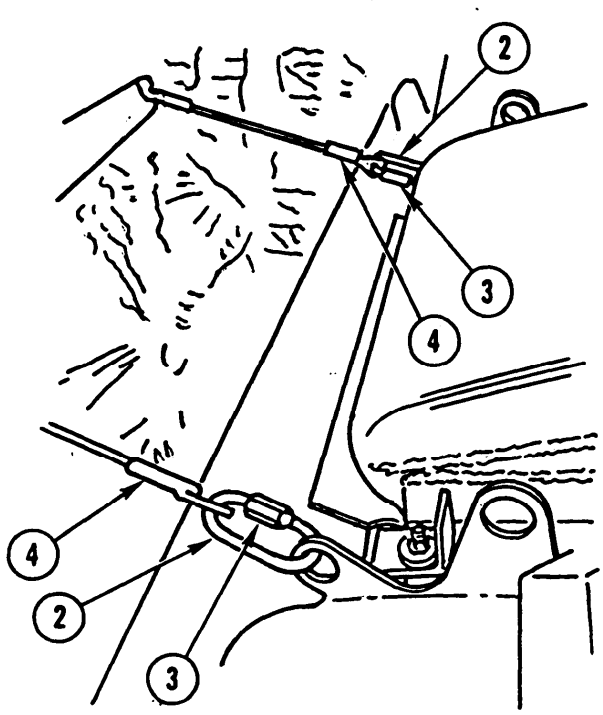
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

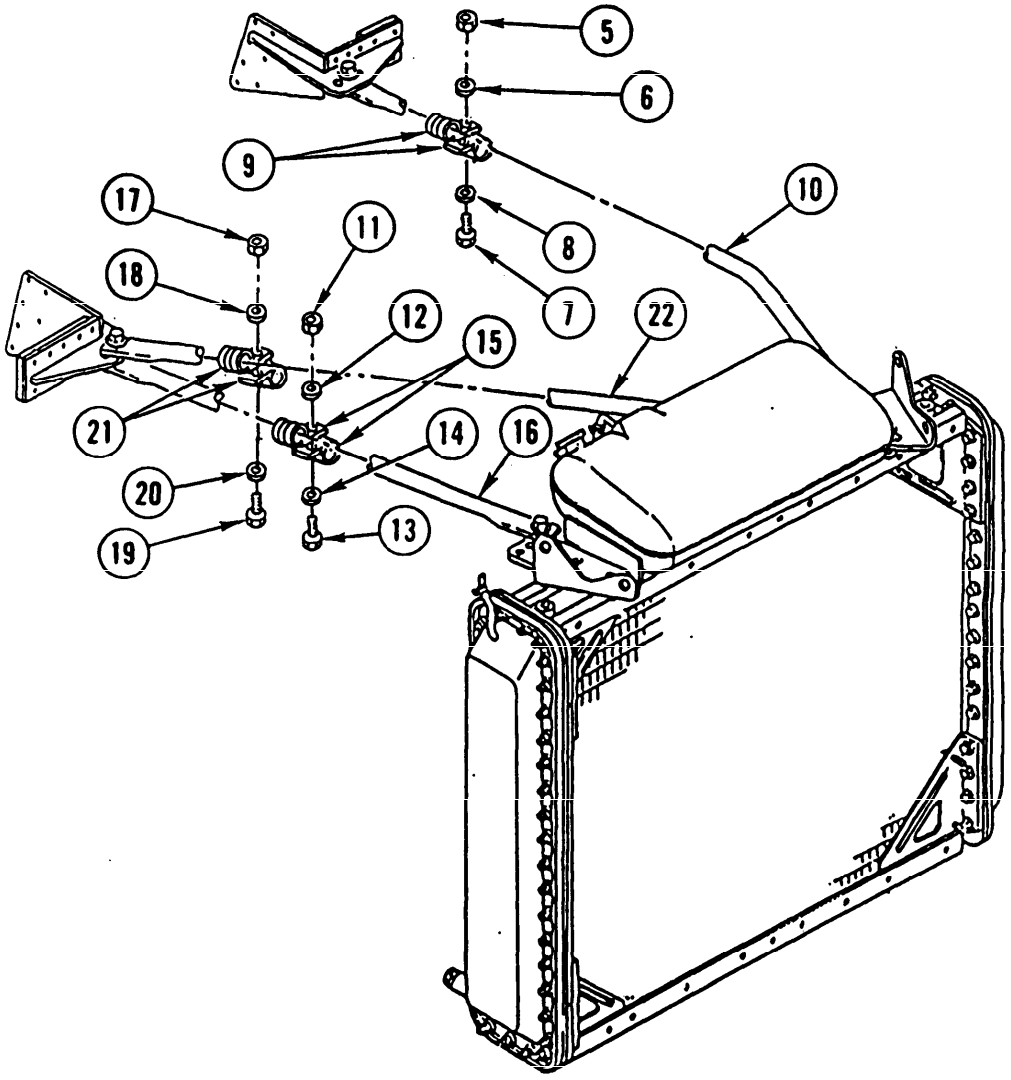


1. INSTALL JACK STAND WITH PADDING MATERIAL UNDER CENTER OF HOOD (1).



2. OPEN TWO CHAIN LINKS (2) BY LOOSENING TWO NUTS (3) AND REMOVE TWO TILT ASSIST CABLES (4) FROM CHAIN LINKS (2).

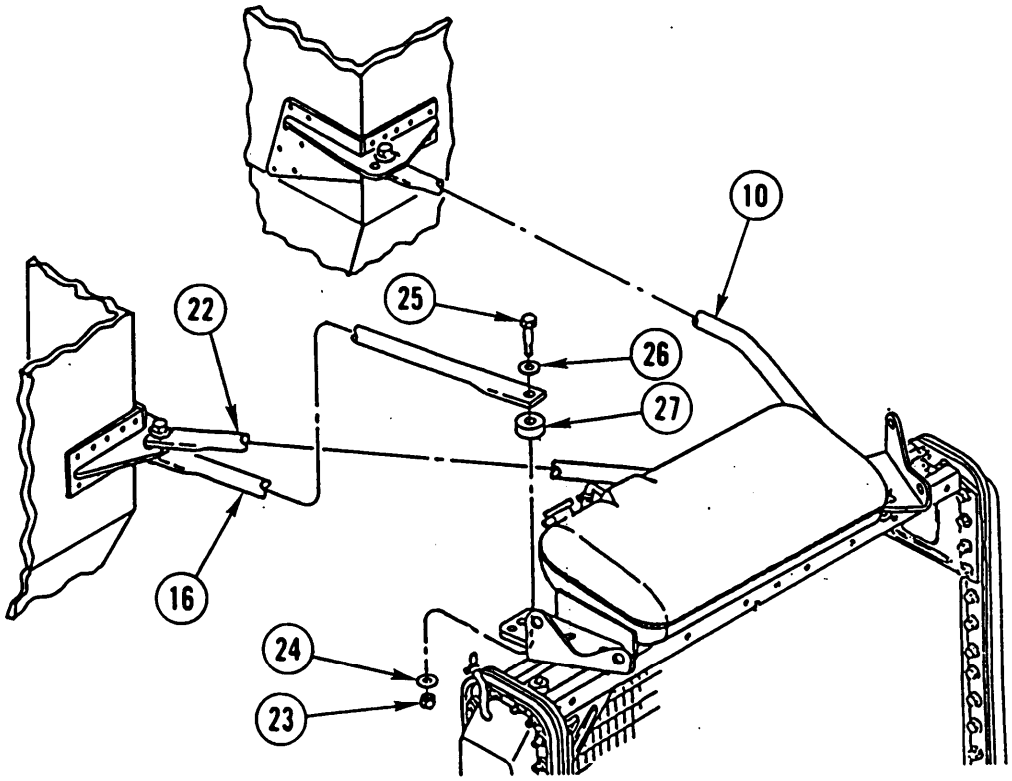
RADIATOR SUPPORT ROD REPLACEMENT (CONT)



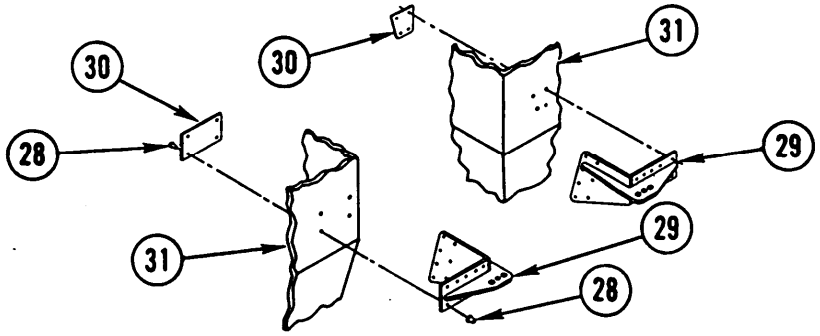
3. REMOVE THREE LOCK NUTS (5), THREE WASHERS (6), THREE SCREWS (7), THREE WASHERS (8), AND SIX CLAMPS (9) FROM LEFT STRUT ROD (10). DISCARD LOCK NUTS.

4. REMOVE FOUR LOCK NUTS (11), FOUR WASHERS (12), FOUR SCREWS (13), FOUR WASHERS (14), AND EIGHT CLAMPS (15) FROM RIGHT STRUT ROD (16). DISCARD LOCK NUTS.

5. REMOVE LOCK NUT (17), WASHER (18), SCREW (19), WASHER (20), AND TWO CLAMPS (21) FROM CENTER STRUT ROD (22). DISCARD LOCK NUT.



6. REMOVE FOUR LOCK NUTS (23), FOUR WASHERS (24), FOUR SCREWS (25), FOUR WASHERS (26), SPACER (27), AND THREE STRUT RODS (10, 16, AND 22). DISCARD LOCK NUTS.



NOTE

Perform step 7 only if support brackets and/or backing plates are damaged.

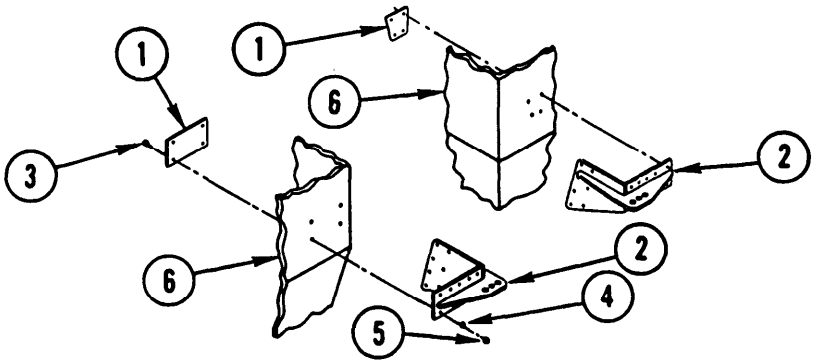
7. REMOVE 26 LOCK BOLTS AND COLLARS (28), 2 SUPPORT BRACKETS (29), AND 2 BACKING PLATES (30) FROM FIREWALL (31).

CLEANING / INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

RADIATOR SUPPORT ROD REPLACEMENT (CONT)

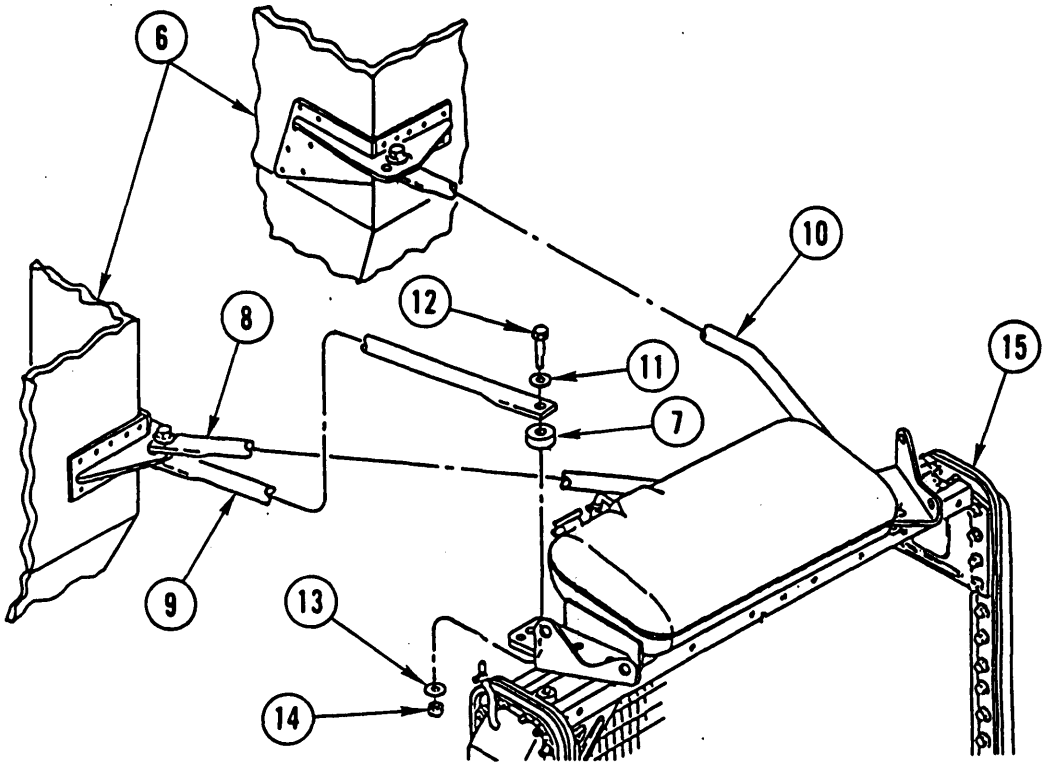
INSTALLATION



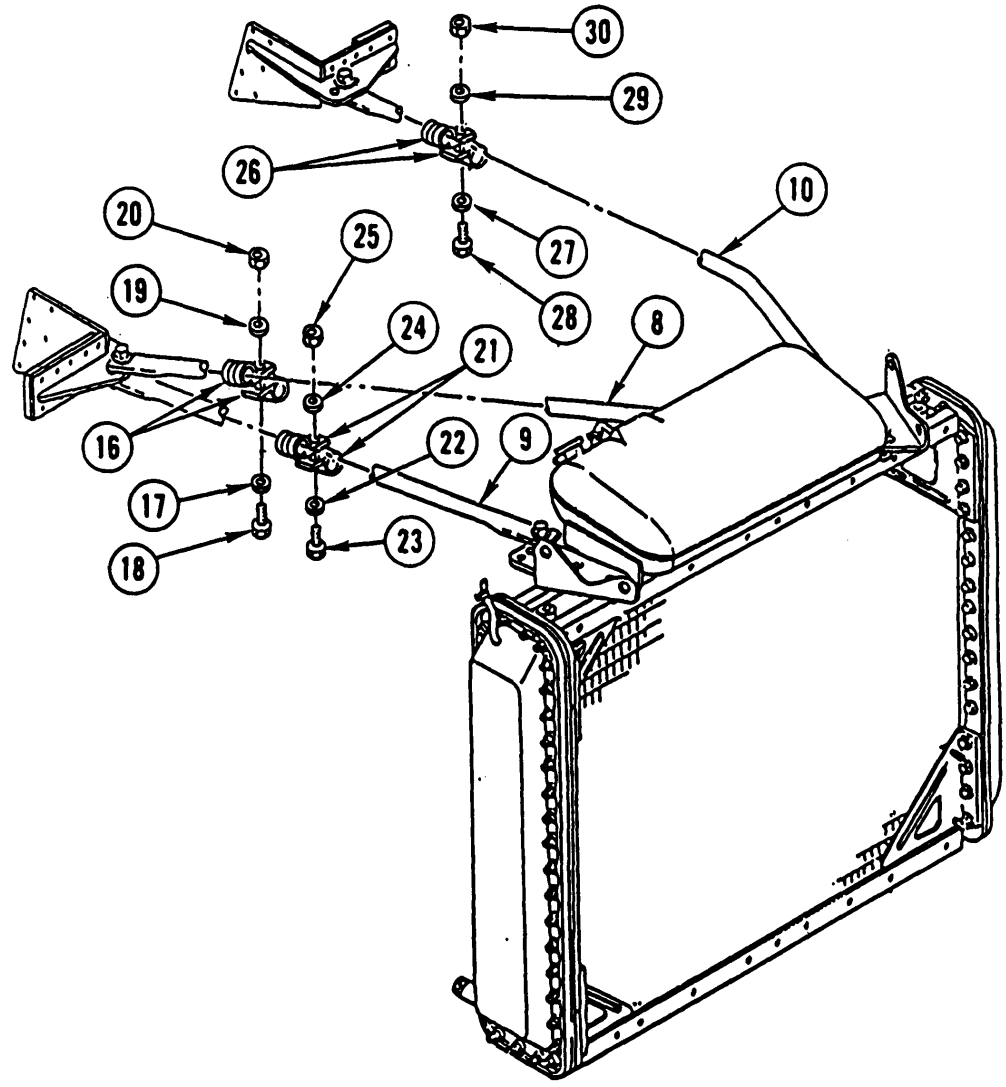
NOTE

Capscrews, lock washers, and lock nuts installed in step 1 are to replace lock bolts and collars removed in Removal step 7.

1. INSTALL 2 NEW BACKING PLATES (l), 2 NEW SUPPORT BRACKETS (2), 26 NEW CAPSCREWS (3), 26 NEW LOCK WASHERS (4), AND 26 NEW LOCK NUTS (5) ON FIREWALL (6).



2. INSTALL SPACER (7), THREE STRUT RODS (8, 9, AND 10), FOUR WASHERS (1 1), FOUR SCREWS (12), FOUR WASHERS (13), AND FOUR NEW LOCK NUTS (14) BETWEEN FIREWALL (6) AND RADIATOR (15).

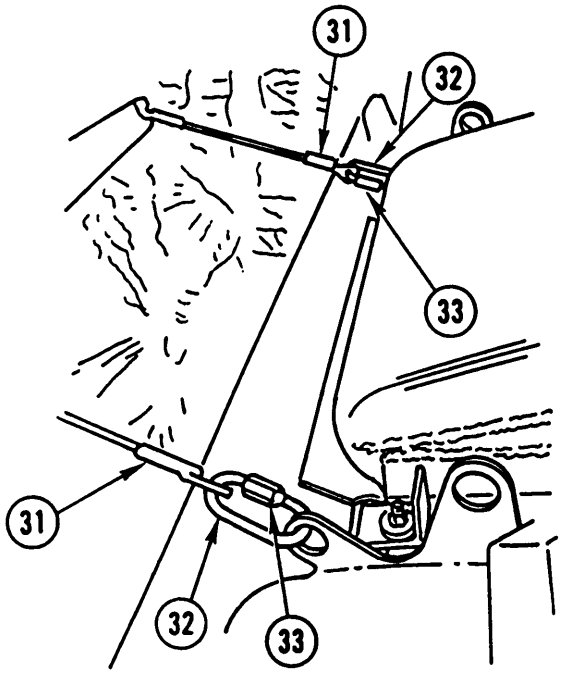


3. INSTALL TWO CLAMPS (16), WASHER (17), SCREW (18), WASHER (19), AND NEW LOCK NUT (20) ON CENTER STRUT ROD (8).

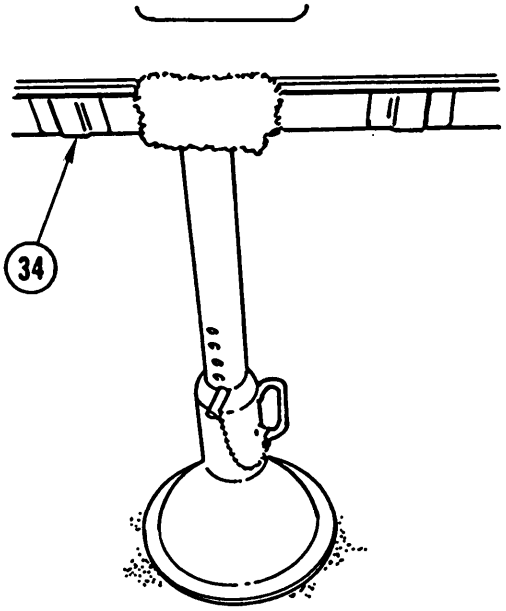
4. INSTALL EIGHT CLAMPS (21), FOUR WASHERS (22), FOUR SCREWS (23), FOUR WASHERS (24), AND FOUR NEW LOCK NUTS (25) ON RIGHT STRUT ROD (9).

5. INSTALL SIX CLAMPS (26), THREE WASHERS (27), THREE SCREWS (28), THREE WASHERS (29), AND THREE NEW LOCK NUTS (30) ON LEFT STRUT ROD (10).

RADIATOR SUPPORT ROD REPLACEMENT (CONT)



6. INSTALL TWO TILT ASSIST CABLES (31) IN TWO CHAIN LINKS (32) AND CLOSE CHAIN LINKS (32) BY TIGHTENING TWO NUTS (33).



7. REMOVE JACK STAND AND CLOSE HOOD (34).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

WATER FILTER ADAPTER AND BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

References:

TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Page 4-141	Cooling System Drained
Page 4-144	Water Filter Element Removed
Page 4-364	Transmission Oil Cooler Removed

WATER FILTER ADAPTER AND BRACKET REPLACEMENT (CONT)

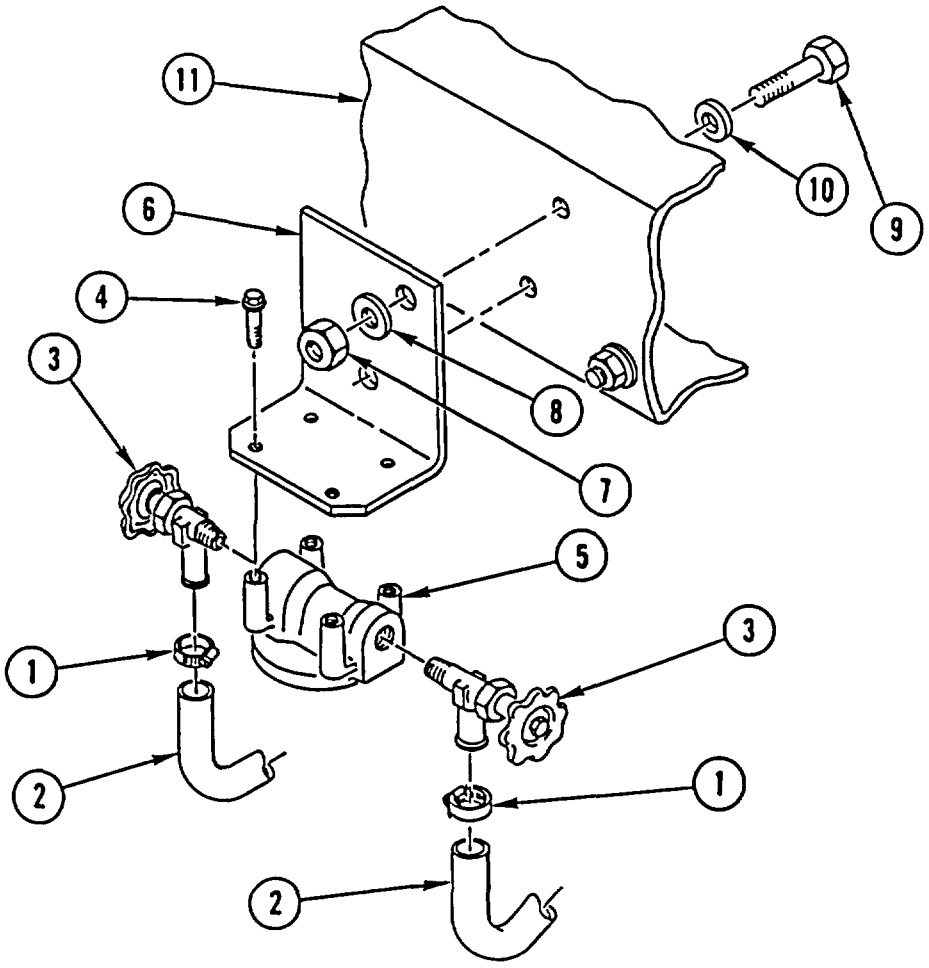
REMOVAL

1. LOOSEN TWO CLAMPS (1) AND DISCONNECT TWO HOSES (2) FROM TWO WATER VALVES (3).
2. REMOVE FOUR SCREWS (4) AND WATER FILTER ADAPTER (5) FROM BRACKET (6).
3. REMOVE TWO WATER VALVES (3) FROM WATER FILTER ADAPTER (5).

NOTE

Note position of bolts during removal to aid in installation of transmission oil cooler.

4. REMOVE TWO NUTS (7), TWO WASHERS (8), TWO BOLTS (9), TWO WASHERS (10), AND BRACKET (6) FROM FRAME (11).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL BRACKET (6), TWO WASHERS (10), TWO BOLTS (9), TWO WASHERS (8), AND TWO NUTS (7) ON FRAME (11).

2. INSTALL TWO WATER VALVES (3) IN WATER FILTER ADAPTER (5).

3. INSTALL WATER FILTER ADAPTER (5) AND FOUR SCREWS (4) IN BRACKET (6).

4. CONNECT TWO HOSES (2) AND TIGHTEN TWO CLAMPS (1) ON TWO WATER VALVES (3).

NOTE

Follow-on Maintenance:
Install transmission oil cooler (page 4-364).
Install water filter element (page 4-144).
Fill cooling system (Unit PMCS, TM 9-2320-363-20-1).

COOLANT HOSES, PIPES, AND CLAMPS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (7)

References:

TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Page 4-141	Cooling System Drained

REMOVAL

REMOVE HOSES, PIPES, AND CLAMPS USING ILLUSTRATIONS AND LEGENDS AS A GUIDE.

CLEANING/INSPECTION

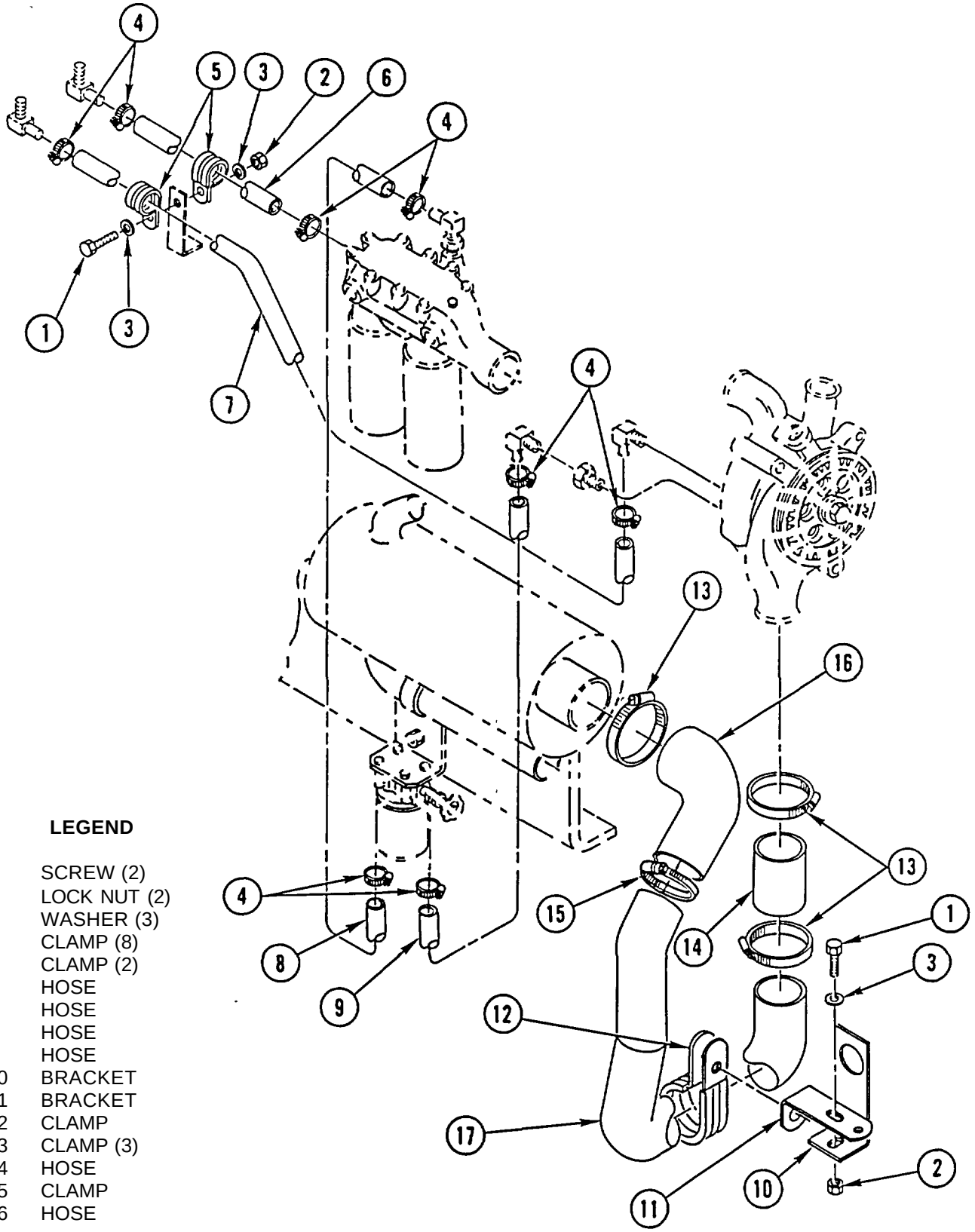
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE

Tighten all nuts and screws to specification.

INSTALL HOSES, PIPES, AND CLAMPS USING ILLUSTRATIONS AND LEGENDS AS A GUIDE.

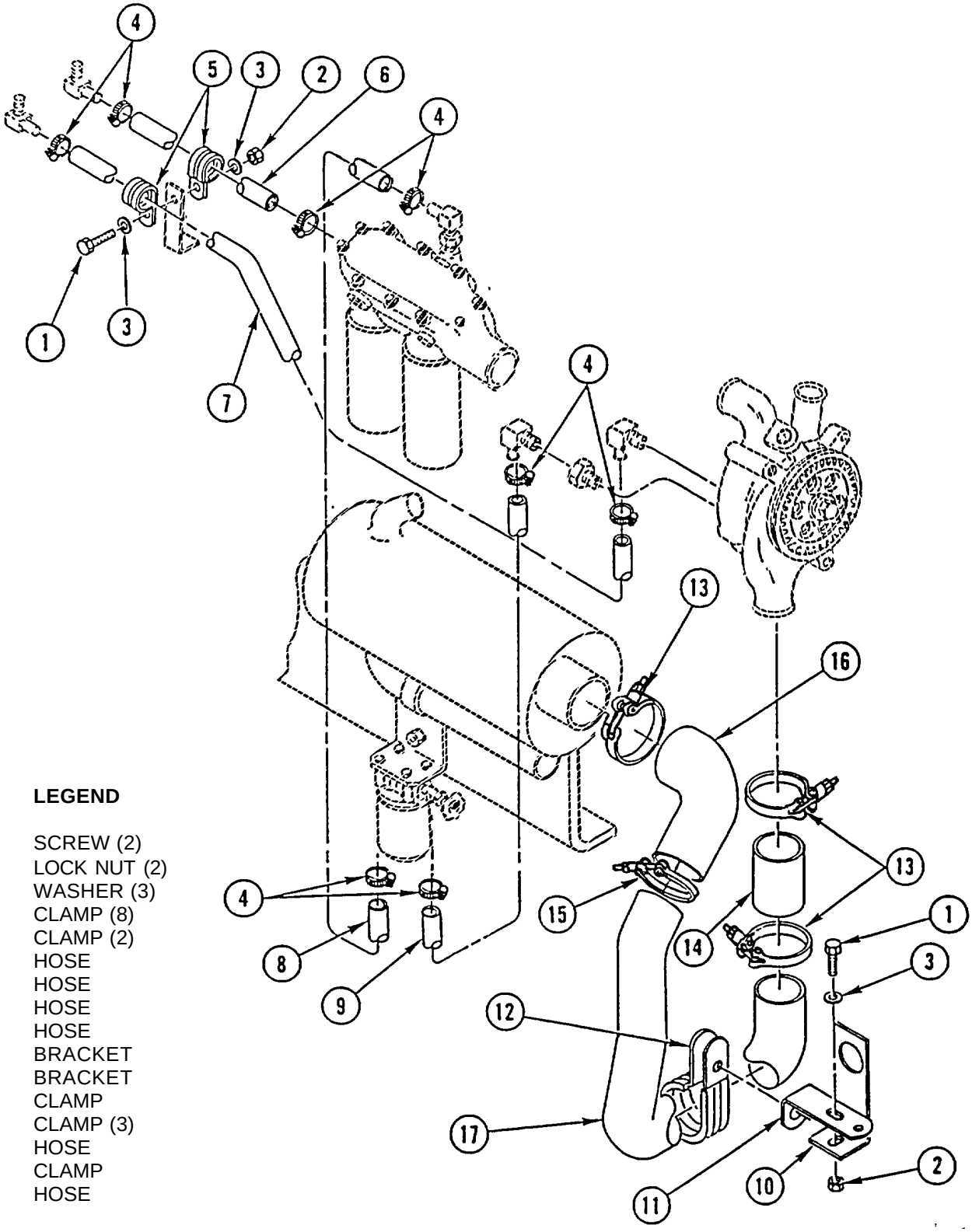


LEGEND

1	SCREW (2)
2	LOCK NUT (2)
3	WASHER (3)
4	CLAMP (8)
5	CLAMP (2)
6	HOSE
7	HOSE
8	HOSE
9	HOSE
10	BRACKET
11	BRACKET
12	CLAMP
13	CLAMP (3)
14	HOSE
15	CLAMP
16	HOSE

M915A2 AND M916A1

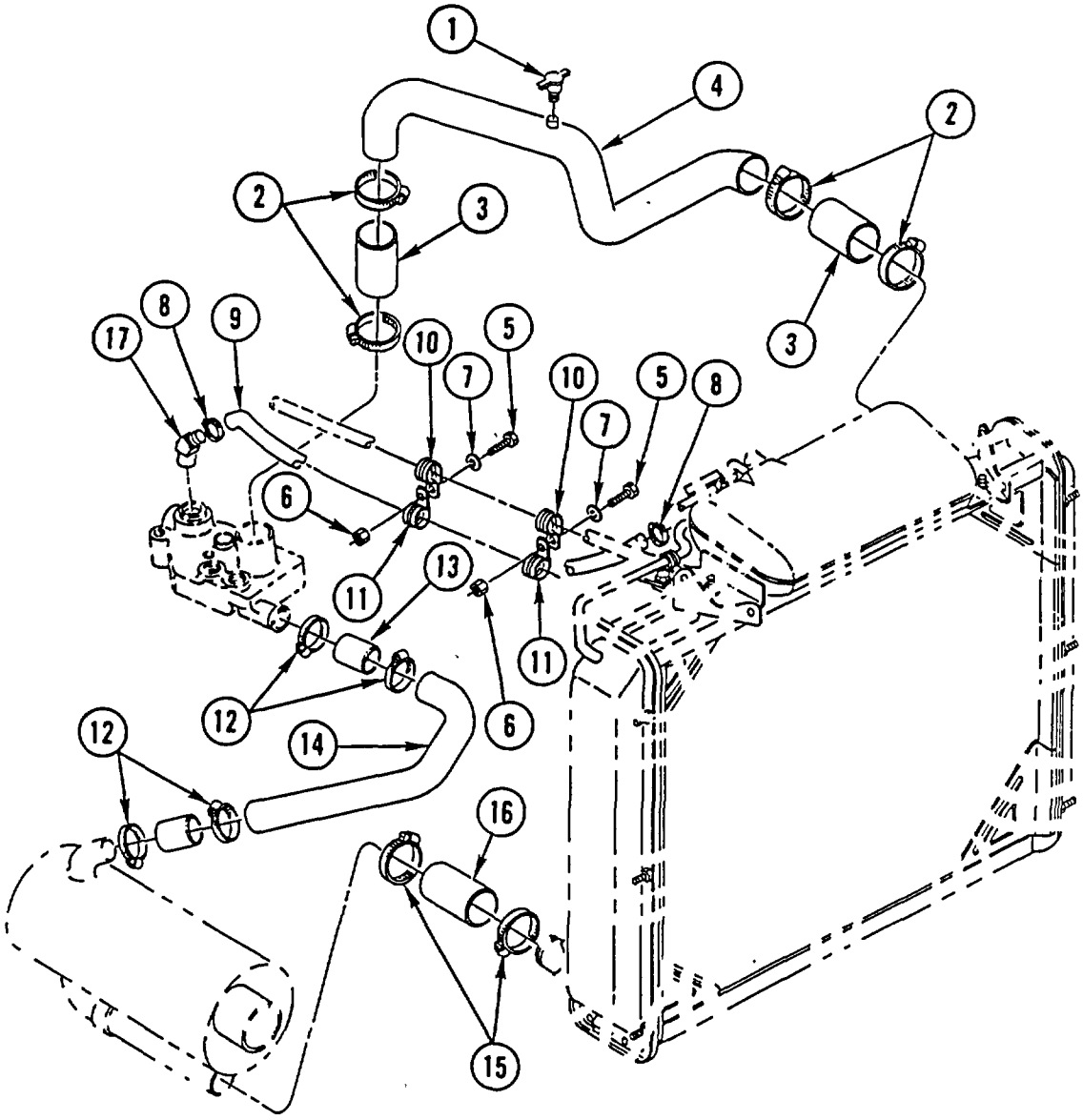
COOLANT HOSES, PIPES, AND CLAMPS REPLACEMENT (CONT)



LEGEND

1	SCREW (2)
2	LOCK NUT (2)
3	WASHER (3)
4	CLAMP (8)
5	CLAMP (2)
6	HOSE
7	HOSE
8	HOSE
9	HOSE
10	BRACKET
11	BRACKET
12	CLAMP
13	CLAMP (3)
14	HOSE
15	CLAMP
16	HOSE

ALL EXCEPT M915A2 AND M916A1

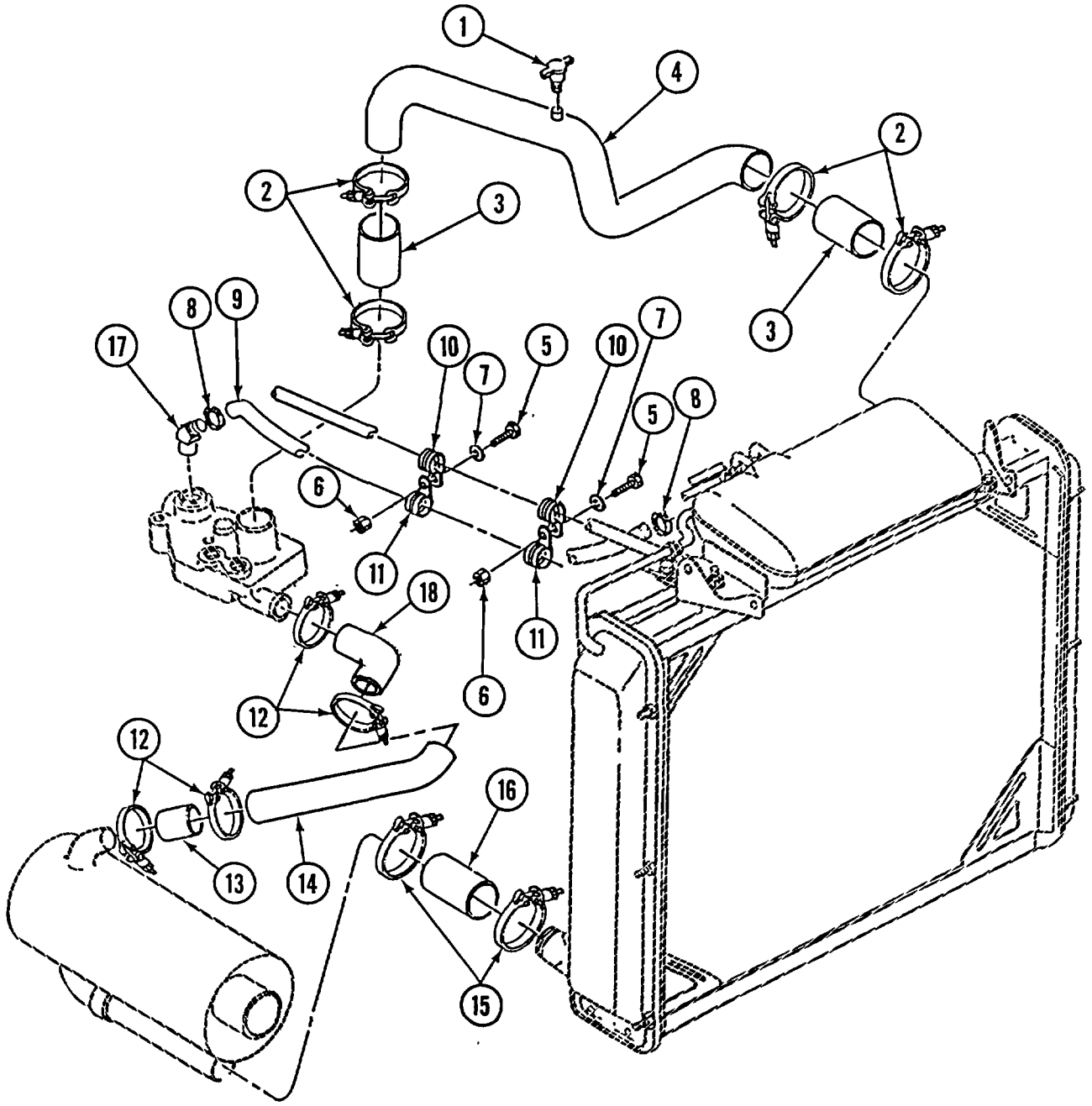


M915A2 AND M916A1

LEGEND

1	DRAINCOCK	6	LOCK NUT (2)	11	CLAMP (2)	16	HOSE
2	CLAMP (4)	7	WASHER (2)	12	CLAMP (4)	17	45" ELBOW
3	HOSE (2)	8	CLAMP (2)	13	HOSE (2)		
4	UPPER TUBE	9	HOSE	14	PIPE		
5	SCREW (2)	10	CLAMP (2)	15	CLAMP (2)		

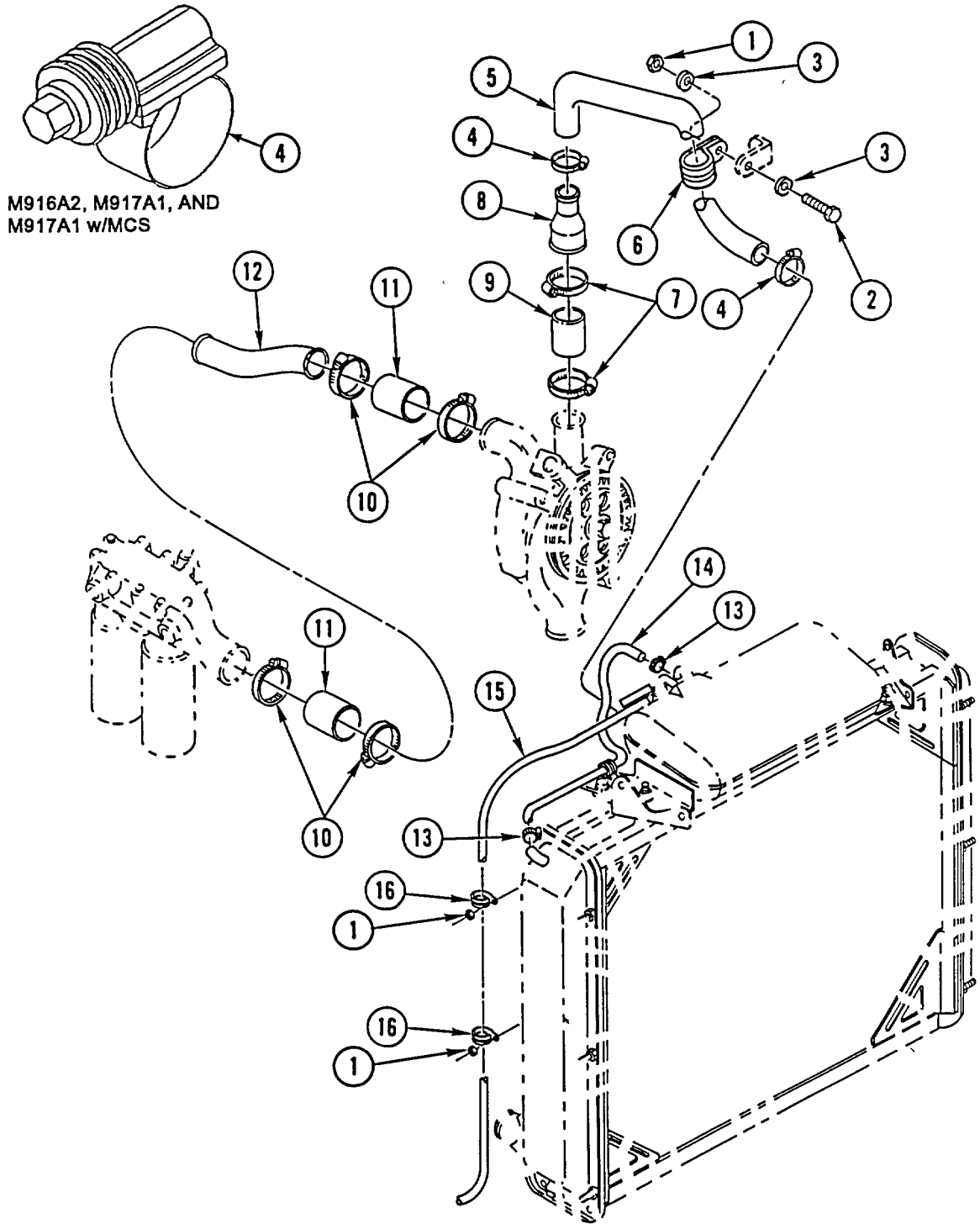
COOLANT HOSES, PIPES, AND CLAMPS REPLACEMENT (CONT)



ALL EXCEPT M915A2 AND M916A1

LEGEND

1	DRAINCOCK	6	LOCK NUT (2)	11	CLAMP (2)	16	HOSE
2	CLAMP (4)	7	WASHER (2)	12	CLAMP (4)	17	45° ELBOW
3	HOSE (2)	8	CLAMP (2)	13	HOSE (2)	18	HOSE
4	UPPER TUBE	9	HOSE	14	PIPE		
5	SCREW (2)	10	CLAMP (2)	15	CLAMP (2)		



LEGEND

1	LOCK NUT (3)	5	HOSE	9	HOSE	13	CLAMP (2)
2	SCREW	6	CLAMP	10	CLAMP (4)	14	HOSE
3	WASHER (2)	7	CLAMP (2)	11	HOSE (2)	15	HOSE
4	CLAMP (2)	8	PIPE	12	PIPE	16	CLAMP (2)

NOTE

Follow-on Maintenance:

Fill cooling system (Unit PMCS, TM 9-2320-363-20-1).

FAN IMPELLER AND SHROUD REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

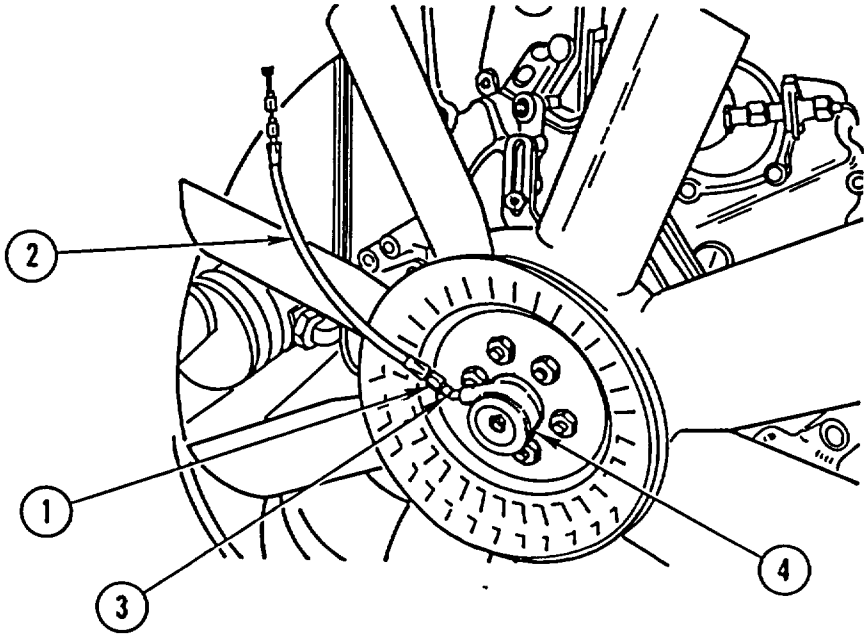
Materials/Parts:

Washer, Lock (6) P/N 3059-00870-06

Equipment Condition:

Reference	Condition Description
Page 4-99	Radiator Removed

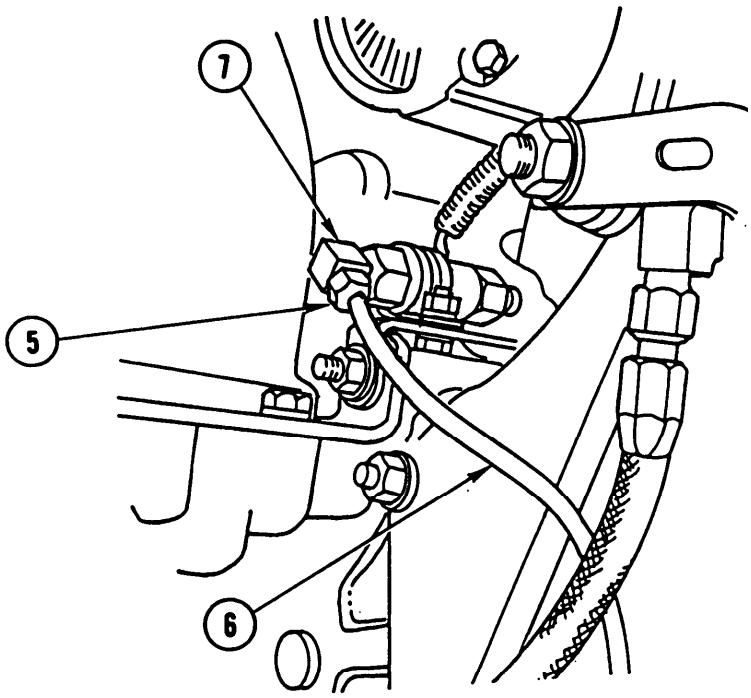
REMOVAL



NOTE

- **M915A2: Location of tubing is in upper right corner of fan shroud.**
- **M916A1: Location of tubing is in lower right corner of fan shroud.**

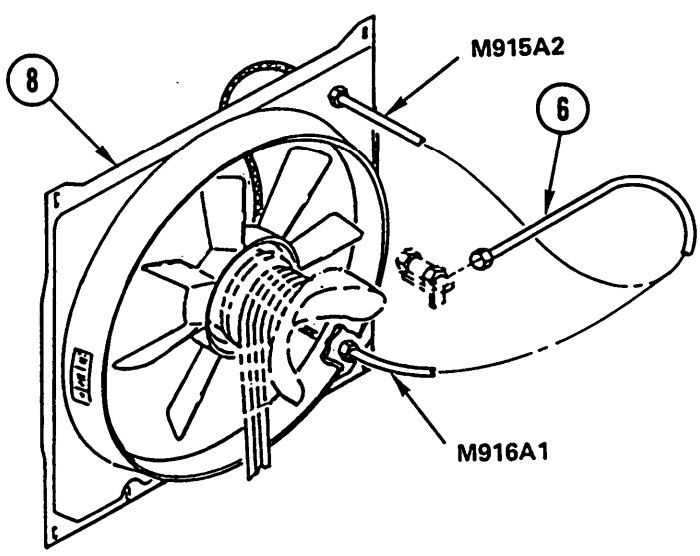
1. LOOSEN NUT (1) AND DISCONNECT HOSE (2) FROM FAN CLUTCH FITTING (3).
2. REMOVE FAN CLUTCH FITTING (3) FROM FAN CLUTCH (4).

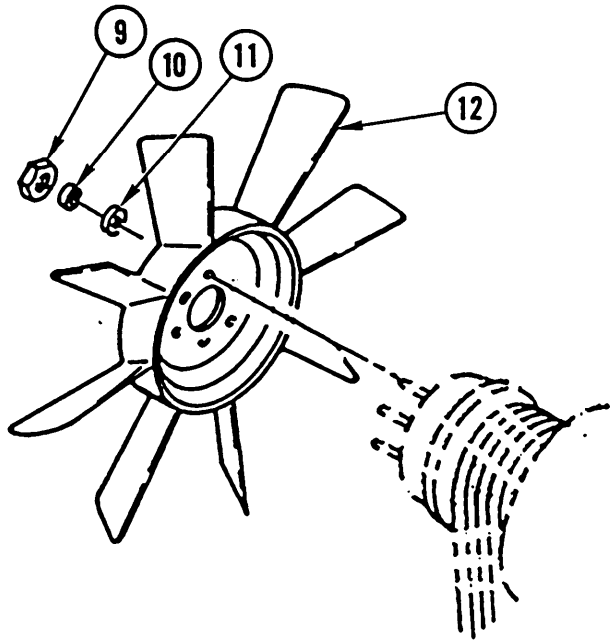


NOTE

Quantity of tie wraps may vary between vehicles. Remove as required.

3. LOOSEN NUT (5) AND DISCONNECT TUBE (6) FROM FAN SOLENOID FITTING (7).





4. REMOVE FAN SHROUD (8) AND TUBE (6).

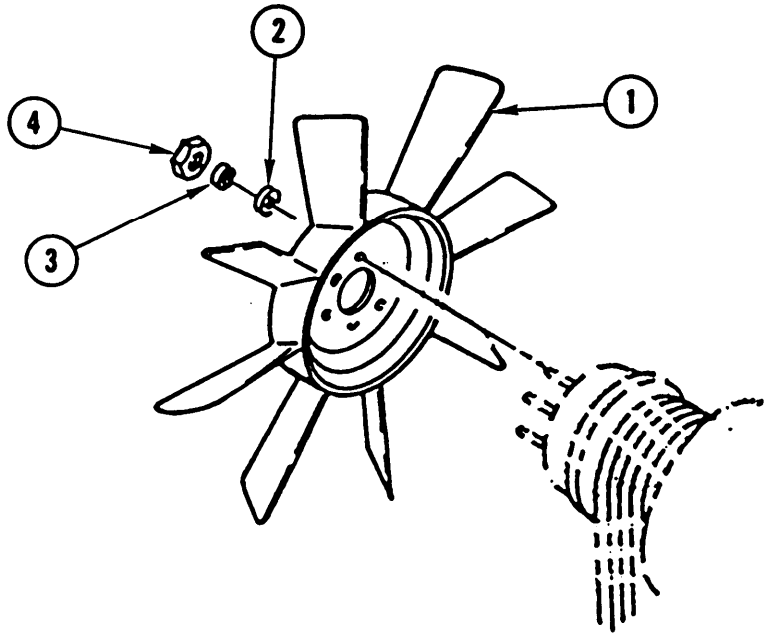
5. REMOVE SIX NUTS (9), SIX LOCK WASHERS (10), SIX WASHERS (11), AND FAN IMPELLER (12). DISCARD LOCK WASHERS.

FAN IMPELLER AND SHROUD REPLACEMENT (CONT)

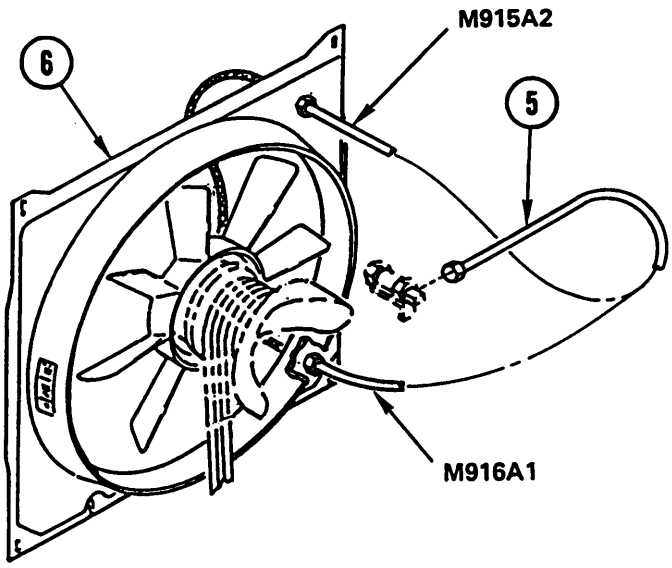
CLEANING / INSPECTION

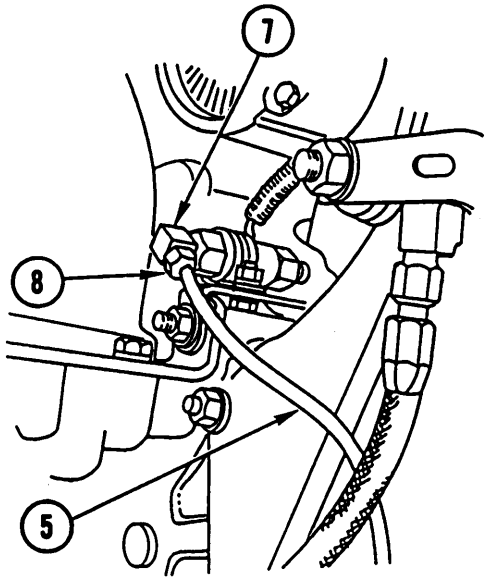
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



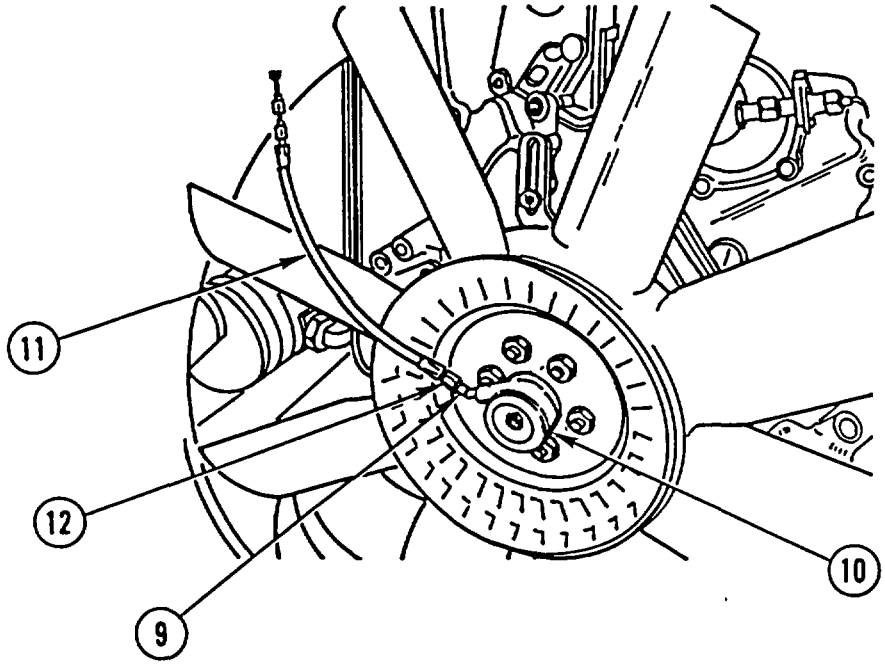
1. INSTALL FAN IMPELLER (1), SIX WASHERS (2), SIX NEW LOCK WASHERS (3), AND SIX NUTS (4).





2. INSTALL TUBE (5) AND FAN SHROUD (6).

3. CONNECT TUBE (5) TO FAN SOLENOID FITTING (7) AND TIGHTEN NUT (8).



NOTE

Quantity of tie wraps may vary between vehicles. Install as required.

4. INSTALL FAN CLUTCH FITTING (9) IN FAN CLUTCH (10).

5. CONNECT HOSE (11) TO FAN CLUTCH FITTING (9) AND TIGHTEN NUT (12).

NOTE

Follow-on Maintenance:

Install radiator (page 4-99).

FAN CLUTCH SOLENOID REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock

Nut, Lock

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 2-28	Air Tanks Drained

REMOVAL

1. DISCONNECT TUBE (1) AND TUBE (2) FROM SOLENOID.
2. REMOVE SCREW (4), LOCK WASHER (5), AND WIRE (6) FROM TEMPERATURE SENDING UNIT (7). DISCARD LOCK WASHER.

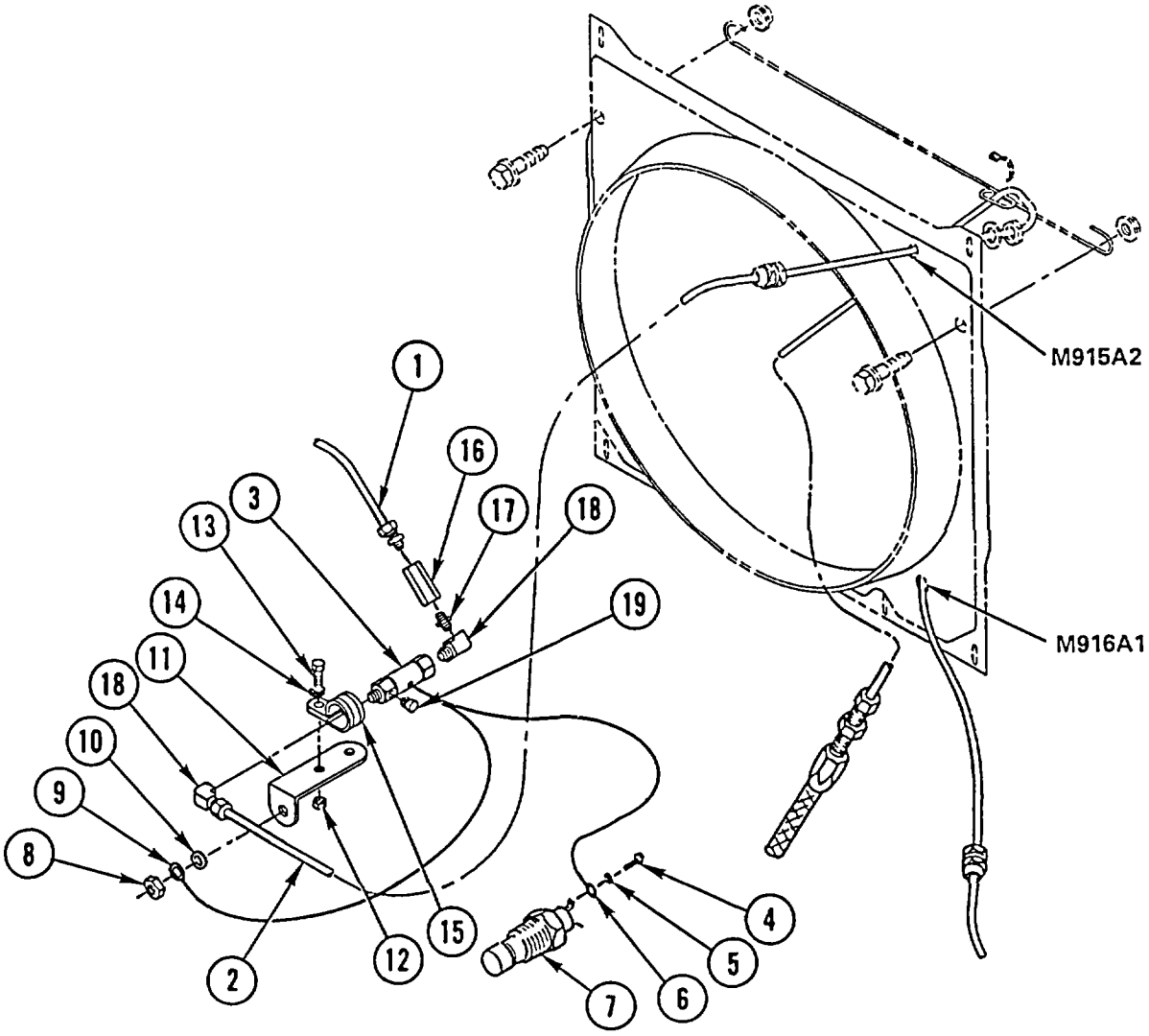
NOTE

Quantity of wire ties may vary.

3. REMOVE NUT (8), WIRE (9), WASHER (10), AND SOLENOID MOUNTING BRACKET (11).
4. REMOVE LOCK NUT (12), SCREW (13), WASHER (14), AND BRACKET (11), AND CLAMP (15). DISCARD LOCK NUT.
5. REMOVE FILTER (16), NIPPLE (17), TWO ELBOWS (18), AND VENT (19) FROM SOLENOID.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL VENT (19), TWO ELBOWS (18), NIPPLE (17), AND FILTER (16) ON SOLENOID (3).
2. INSTALL CLAMP (15), BRACKET (11), WASHER (14), SCREW (13), AND NEW LOCK NUT (12) ON SOLENOID (3).
3. INSTALL SOLENOID (3), WASHER (10), WIRE (9), AND NUT (8).
4. INSTALL WIRE (6), NEW LOCK WASHER (5), AND SCREW (4) ON TEMPERATURE SENDING UNIT (7).
5. CONNECT TWO TUBES (2 AND 1) TO SOLENOID (3).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

FAN CLUTCH SOLENOID REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 2-28	Air Tanks Drained

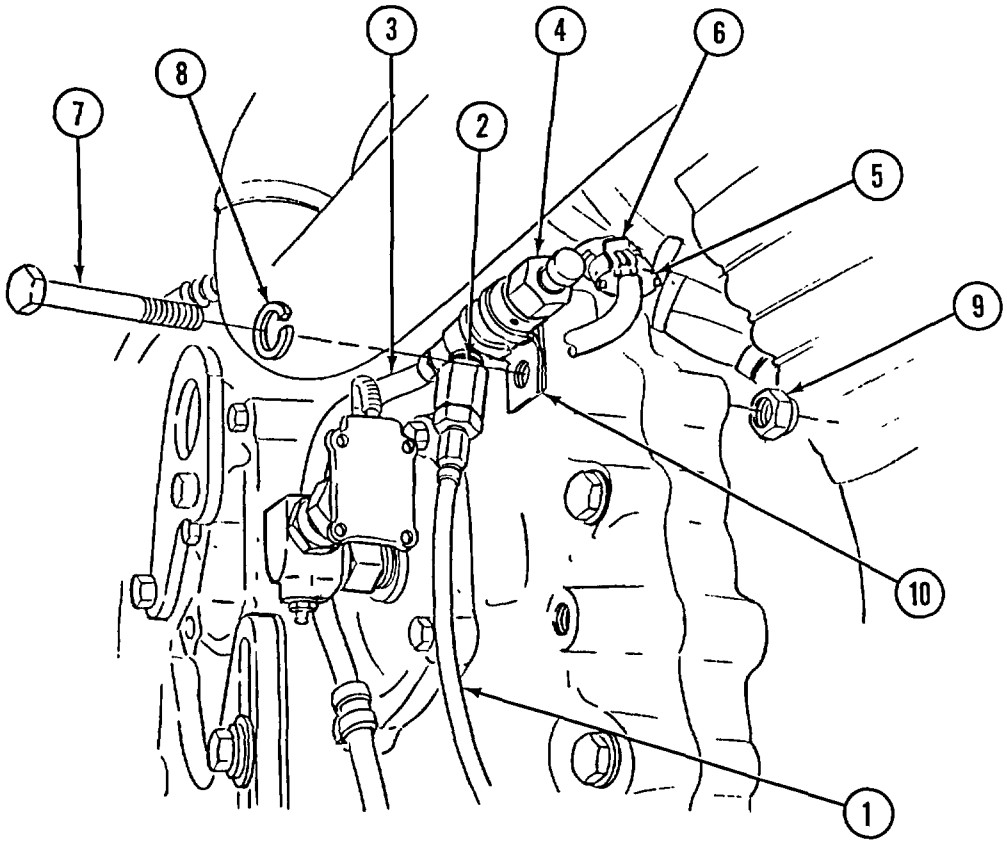
REMOVAL

NOTE

Tag wire leads to aid in installation.

1. DISCONNECT AIR LINE (1) FROM FILTER (2).
2. DISCONNECT AIR LINE (3) FROM FAN CLUTCH SOLENOID (4).
3. DISCONNECT FAN CLUTCH SOLENOID CONNECTOR (5) FROM ENGINE WIRING HARNESS CONNECTOR (6).
4. REMOVE SCREW (7), LOCK WASHER (8), NUT (9), LOOP CLAMP (10), AND FAN CLUTCH SOLENOID (4). DISCARD LOCK WASHER.

5 REMOVE FILTER (2) FROM FAN CLUTCH SOLENOID (4).


3
4
6
8
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2
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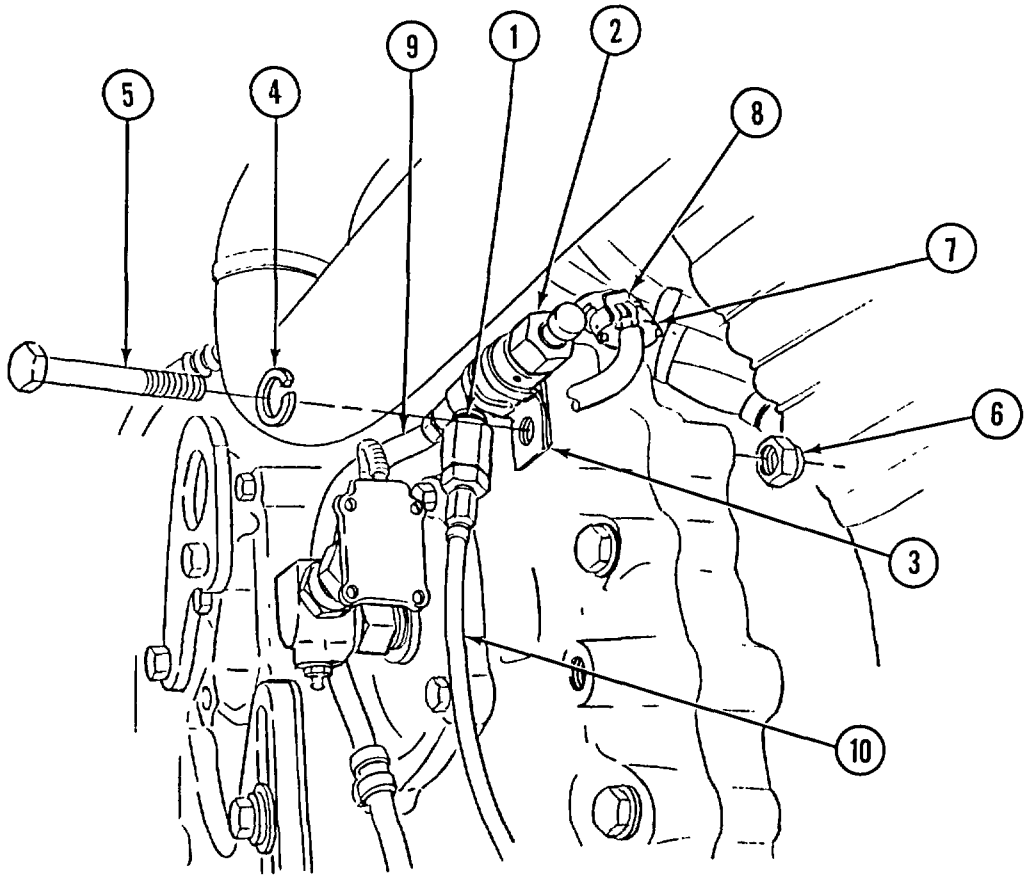
10
1

FAN CLUTCH SOLENOID REPLACEMENT (CONT)



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL FILTER (1) ON FAN CLUTCH SOLENOID (2).
2. PLACE FAN CLUTCH SOLENOID (2) IN LOOP CLAMP (3).
3. ALIGN HOLE ON LOOP CLAMP (3) WITH HOLE ON ENGINE BLOCK AND INSTALL NEW LOCK WASHER (4), SCREW (5), AND NUT (6).
4. CONNECT FAN CLUTCH SOLENOID CONNECTOR (7) TO ENGINE WIRING HARNESS CONNECTOR (8).
5. CONNECT AIR LINE (9) TO FAN CLUTCH SOLENOID (2).
6. CONNECT AIR LINE (10) TO FILTER (1).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

FAN CLUTCH AND DRIVE PULLEY REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 4-120	Fan Impeller and Shroud Removed
Page 4-139	Fan Belts Removed

REMOVAL

1 ON M915A2 AND M916A1, REMOVE CONNECTOR (1) FROM FAN CLUTCH (2).

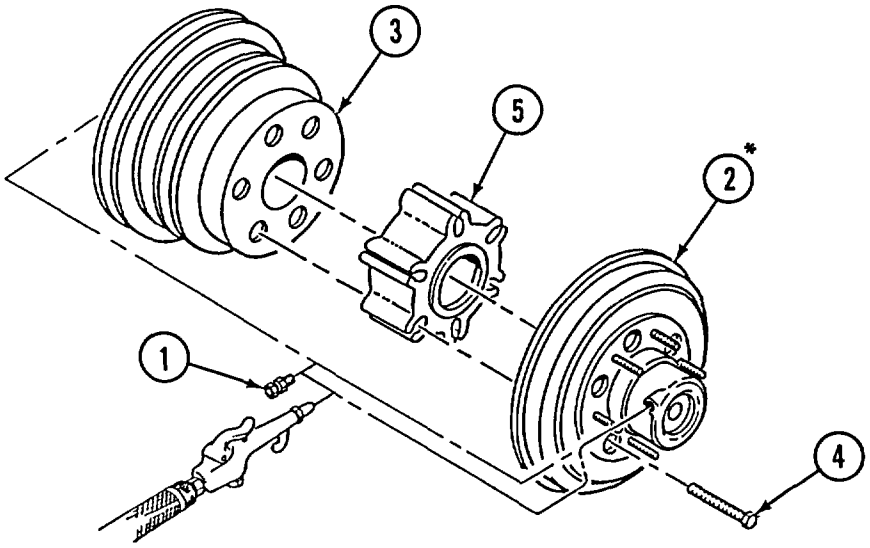
2. ON ALL EXCEPT M915A2 AND M916A1, REMOVE CONNECTOR (1) FROM SPINDLE AND HOUSING ASSEMBLY BEHIND DRIVE PULLEY (3).

NOTE

If screw holes are not alined, perform step 3.

3. APPLY AIR PRESSURE TO FAN CLUTCH (2) (M915A2 AND M916A1) OR SPINDLE AND HOUSING ASSEMBLY (ALL EXCEPT M915A2 AND M916A1) TO ALINE SCREW HOLES.

4. REMOVE SIX SCREWS (4), FAN CLUTCH (2), PILOT SPACER (5), AND DRIVE PULLEY (3).



*** M915A2/M916A1 CONFIGURATION SHOWN**

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL DRIVE PULLEY (3), PILOT SPACER (5), FAN CLUTCH (2), AND SIX SCREWS (4)

2. ON M915A2 AND M916A1, INSTALL CONNECTOR (1) ON FAN CLUTCH (2).

3. ON ALL EXCEPT M915A2 AND M916A1, INSTALL CONNECTOR (1) ON SPINDLE AND HOUSING ASSEMBLY BEHIND DRIVE PULLEY (3).

NOTE

Follow-on Maintenance:

Install fan belts (page 4-139).
Install fan impeller and shroud (page 4-120).

THERMOSTAT AND THERMOSTAT HOUSING COVER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26
Installer, P/N J8550
Handle, P/N J7079-2

Materials/Parts:

Seal (2)	P/N 5132155
Washer, Lock	
Washer, Lock (2)	
Oil, Lubricating	Appendix C, Item 16

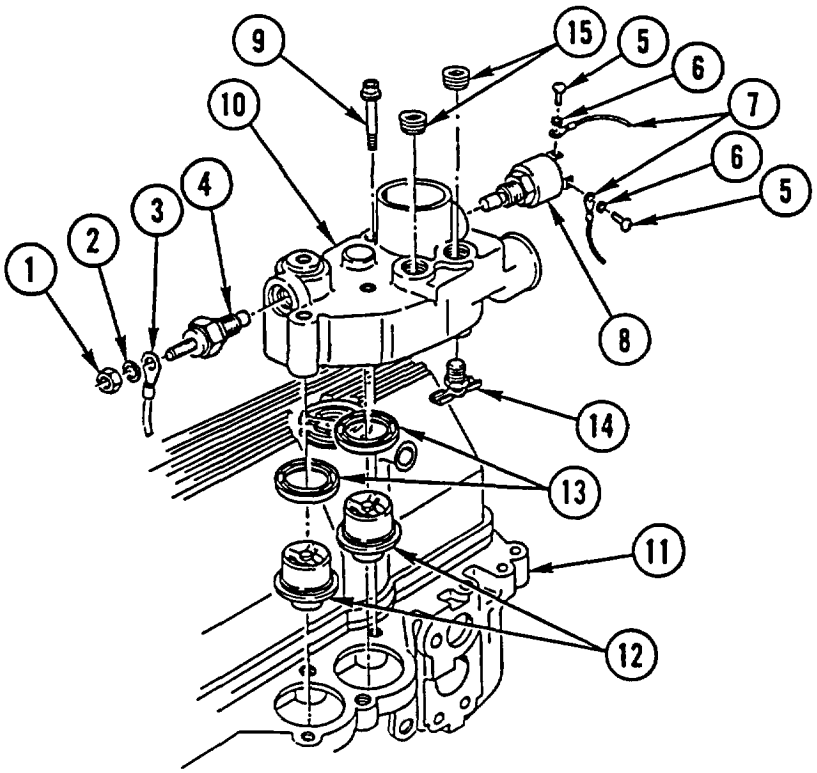
References:

TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Page 4-141	Cooling System Drained
Page 4-116	Hoses and Lines Disconnected from Thermostat Housing Cover

REMOVAL



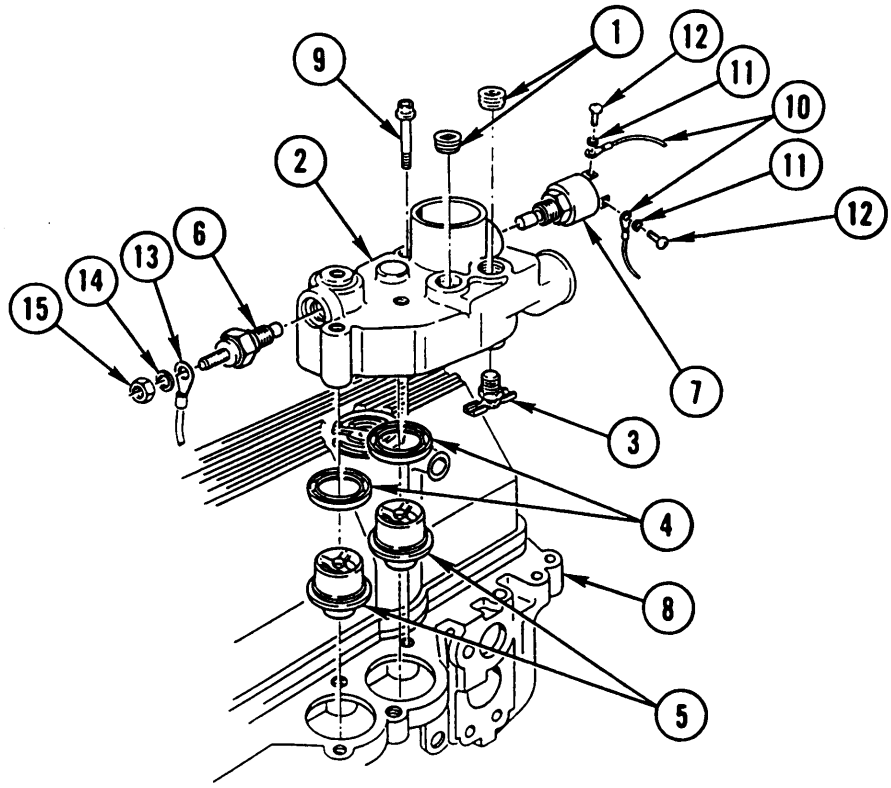
1. REMOVE NUT (1), LOCK WASHER (2), AND WIRE (3) FROM TEMPERATURE SENDING UNIT (4). DISCARD LOCK WASHER.
2. REMOVE TWO SCREWS (5), TWO LOCK WASHERS (6), AND TWO WIRES (7) FROM TEMPERATURE SENDING UNIT (8). DISCARD LOCK WASHERS.
3. REMOVE FOUR BOLTS (9) AND THERMOSTAT HOUSING COVER (10) FROM CYLINDER HEAD (11).
4. REMOVE TWO TEMPERATURE SENDING UNITS (4 AND 8) FROM THERMOSTAT HOUSING COVER (10).
5. REMOVE TWO THERMOSTATS (12) FROM THERMOSTAT HOUSING COVER (10).
6. REMOVE AND DISCARD TWO THERMOSTAT SEALS (13) FROM THERMOSTAT HOUSING COVER (10).
7. REMOVE DRAINCOCK (14) FROM THERMOSTAT HOUSING COVER (10).
8. REMOVE TWO PIPE PLUGS (15) FROM THERMOSTAT HOUSING COVER (10).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

THERMOSTAT AND THERMOSTAT HOUSING COVER REPLACEMENT (CONT)

INSTALLATION



1. INSTALL TWO PIPE PLUGS (1) IN THERMOSTAT HOUSING COVER (2).
2. INSTALL DRAINCOCK (3) IN BOTTOM OF THERMOSTAT HOUSING COVER (2).
3. SUPPORT THERMOSTAT HOUSING COVER (2), CONTACT SIDE UP, ON WORKBENCH SO IT IS LEVEL.
4. USING INSTALLER (P/N J8550) AND HANDLE (P/N J7079-2), INSTALL NEW THERMOSTAT SEAL (4) ON INSTALLER (P/N J8550) AND INSERT INTO THERMOSTAT HOUSING COVER (2) BORE.
5. USING HAMMER, DRIVE THERMOSTAT SEAL (4) INTO THERMOSTAT HOUSING COVER (2) BORE UNTIL TOOL LIP IS FLUSH AGAINST HOUSING COVER (2).
6. REPEAT STEPS 4 AND 5 TO INSTALL REMAINING NEW THERMOSTAT SEAL (4).
7. LUBRICATE LIPS OF BOTH THERMOSTAT SEALS (4) WITH THIN FILM OF CLEAN ENGINE LUBRICATING OIL.
8. INSTALL THERMOSTAT (5) IN THERMOSTAT HOUSING COVER (2), SPRING SIDE UP, AND PRESS INTO HOUSING COVER (2) WITH HEEL OF HAND.
9. REPEAT STEP 8 TO INSTALL REMAINING THERMOSTAT (5).

10. INSTALL TWO TEMPERATURE SENDING UNITS (6 AND 7) IN THERMOSTAT HOUSING COVER (2).

NOTE

Make sure machined mating surfaces of thermostat housing cover and cylinder head are clean and dry.

11. INSTALL THERMOSTAT HOUSING COVER (2) ON CYLINDER HEAD (8) AND INSTALL FOUR BOLTS (9). TIGHTEN BOLTS TO 43-54 LB-FT (58-73 N.m).

12. INSTALL TWO WIRES (10), TWO NEW LOCK WASHERS (11), AND TWO SCREWS (12) ON TEMPERATURE SENDING UNIT (7).

13. INSTALL WIRE (13), NEW LOCK WASHER (14), AND NUT (15) ON TEMPERATURE SENDING UNIT (6).

NOTE

Follow-on Maintenance:
Connect hoses and lines to thermostat housing cover (page 4-116).
Fill cooling system (Unit PMCS, TM 9-2320-363-20-1).

WATER PUMP REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26
Slip/Lash Tester, P/N J35687
Bolt, 5/16-18 (2)
Dial Indicator, P/N J7872

Materials/Parts:

Seal	PIN 23505025
Seal	P/N 5101160
Nut, Lock	
Oil, Lubricating	Appendix C, Item 16

References:

TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Page 4-141	Cooling System Drained
Page 4-4	Oil Bypass Filter Adapter Removed
Page 4-18	Oil Level Dipstick Removed

General Safety Instructions:

WARNING
Snap ring may snap off and could injure personnel. Use face shield when removing or installing snap ring.

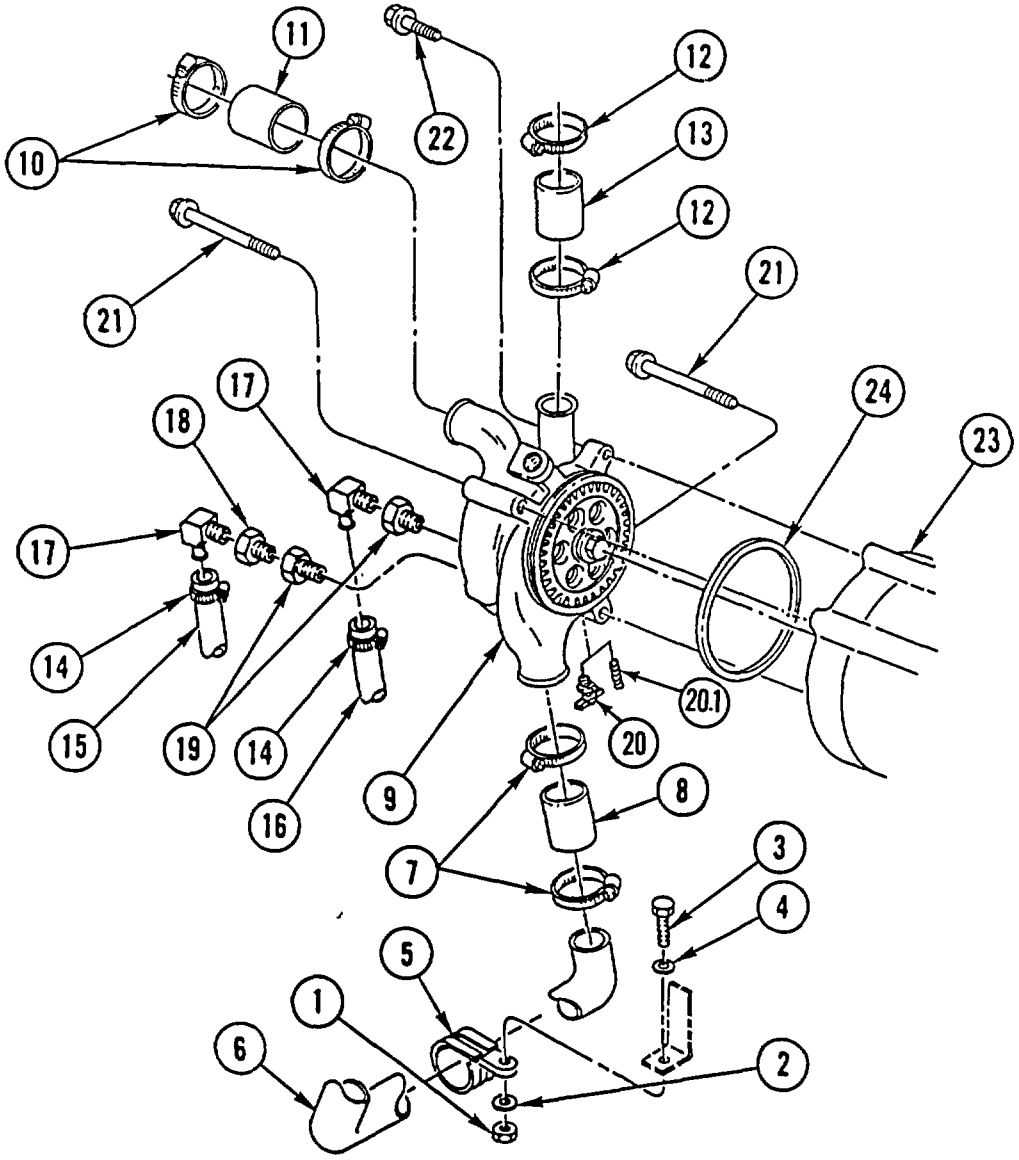
REMOVAL

1. REMOVE LOCK NUT (1), WASHER (2), SCREW (3), WASHER (4), AND CLAMP (5) FROM PIPE (6). DISCARD LOCK NUT.
2. LOOSEN TWO HOSE CLAMPS (7) AND REMOVE RADIATOR HOSE (8) FROM WATER PUMP (9) AND PIPE (6). REMOVE TWO HOSE CLAMPS (7).
3. LOOSEN TWO HOSE CLAMPS (10) AND SLIDE OIL COOLER HOSE (11) BACK FROM WATER PUMP (9). REMOVE TWO HOSE CLAMPS (10).
4. LOOSEN TWO HOSE CLAMPS (12) AND REMOVE WATER BYPASS HOSE (13) FROM WATER PUMP (9). REMOVE TWO HOSE CLAMPS (12).
5. LOOSEN TWO HOSE CLAMPS (14) AND DISCONNECT WATER FILTER HOSE (15) AND HEATER HOSE (16). REMOVE TWO HOSE CLAMPS (14).

NOTE

Note location of elbows prior to removal to aid in installation.

6. REMOVE TWO ELBOWS (17), ADAPTER (18), AND TWO BUSHINGS (19) FROM WATER PUMP (9).
7. REMOVE DRAIN VALVE (20) (M915A2 AND M916A1) OR PLUG (20.1) (ALL EXCEPT M915A2 AND M916A1) FROM WATER PUMP (9).



8. REMOVE TWO LONG BOLTS (21), SHORT BOLT (22), AND WATER PUMP (9) FROM GEAR HOUSING (23).

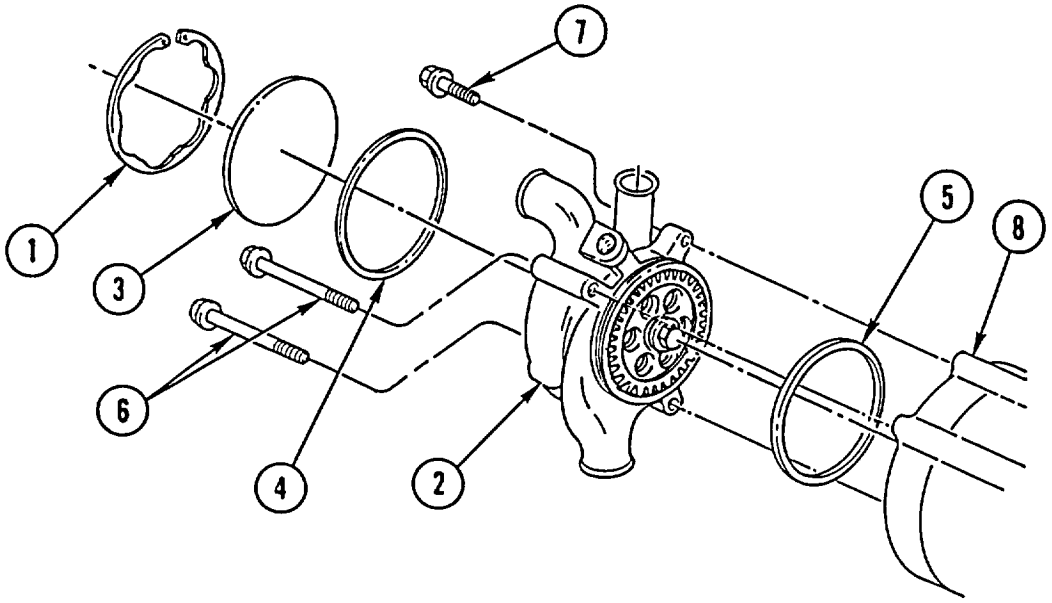
9. REMOVE AND DISCARD SEAL (24).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

WATER PUMP REPLACEMENT (CONT)

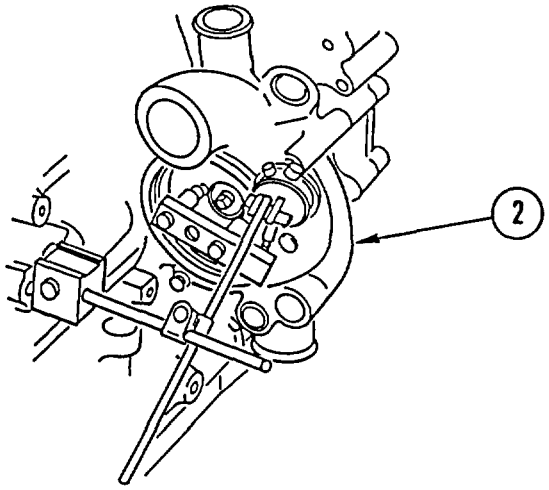
INSTALLATION



WARNING

Snap ring may snap off and could injure personnel. Use face shield when removing snap ring.

1. REMOVE SNAP RING (1) FROM WATER PUMP (2).
2. REMOVE WATER PUMP COVER (3) AND SEAL (4) FROM WATER PUMP (2). DISCARD SEAL.
3. LUBRICATE NEW SEAL (5) WITH THIN FILM OF CLEAN LUBRICATING OIL.
4. INSTALL NEW SEAL (5) IN GROOVE OF WATER PUMP (2).
5. INSTALL WATER PUMP (2), TWO LONG BOLTS (6), AND SHORT BOLT (7) ON GEAR HOUSING (8), MESHING WATER PUMP GEAR WITH CRANKSHAFT TIMING GEAR. TIGHTEN BOLTS TO 43-54 LB-FT (58-73 N.m).

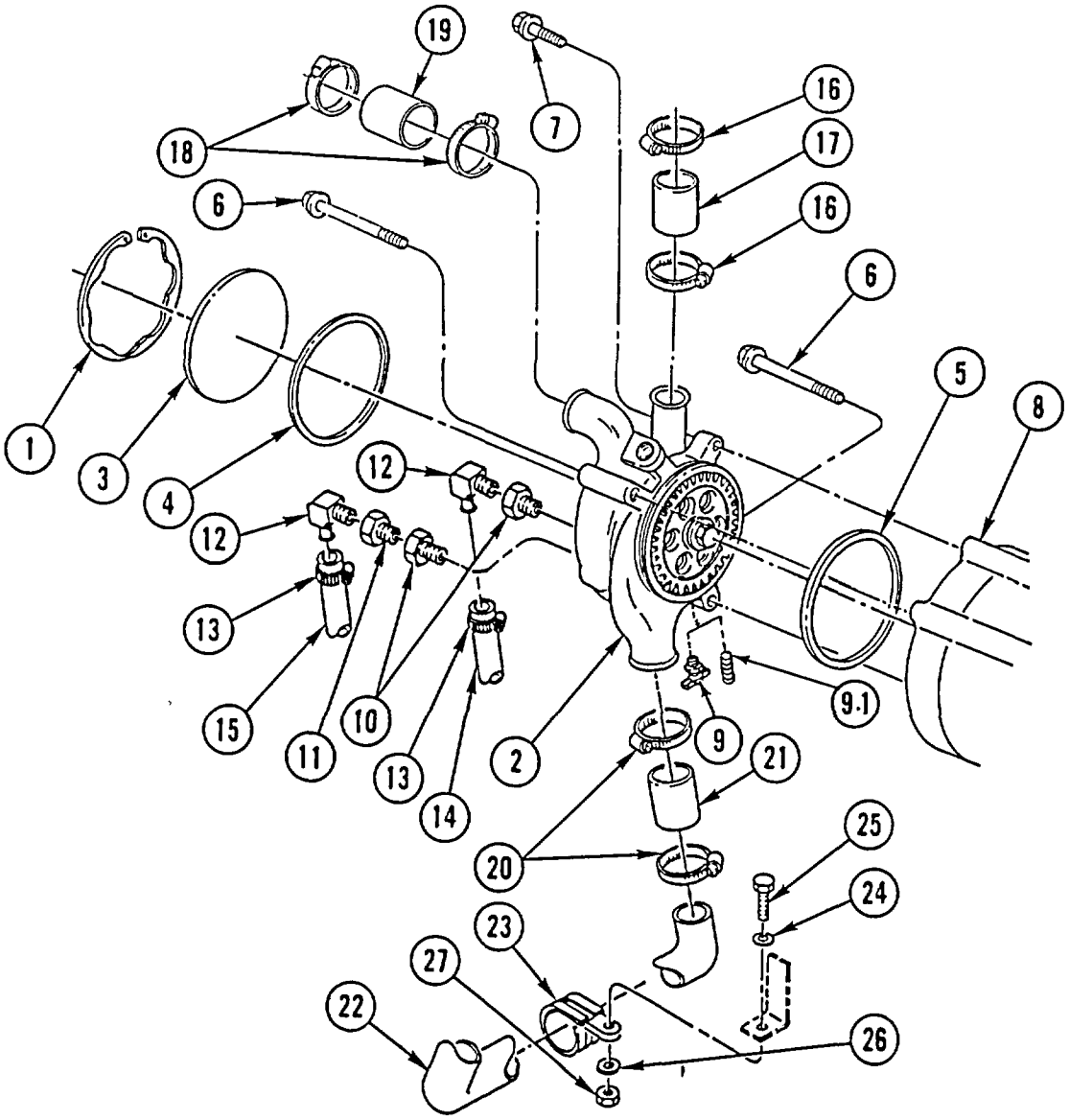


6. ATTACH SLIP/LASH TESTER TO WATER PUMP (2) IMPELLER WITH TWO 5/16-18 BOLTS.

7. USING DIAL INDICATOR, MEASURE GEAR LASH AT LINE INSCRIBED ON LONG LEG OF SLIP/LASH TESTER. GEAR LASH MEASUREMENT WILL BE EXACT 1:1 READING. GEAR LASH SHOULD BE 0.001-0.010 +0.002 IN. (0.025-0.254 +0.050 mm). IF CORRECT GEAR LASH IS NOT OBTAINED, REPLACE WATER PUMP (2).

8. REMOVE SLIP/LASH TESTER AND TWO 5/16-18 BOLTS FROM WATER PUMP (2) IMPELLER.

WATER PUMP REPLACEMENT (CONT)



9. REMOVE TWO LONG BOLTS (6), SHORT BOLT (7), AND WATER PUMP (2) FROM GEAR HOUSING (8).

10. SUPPORT IMPELLER SIDE OF WATER PUMP (2) ON WORKBENCH AND INSTALL NEW SEAL (4) IN BORE OF WATER PUMP (2).

NOTE

Make sure beveled edge of water pump cover is up during installation.

11. INSTALL WATER PUMP COVER (3) ON WATER PUMP (2).

WARNING

Snap ring may snap off and could injure personnel. Use face shield when installing snap ring.

NOTE

If snap ring slips or water pump cover is moved during installation of snap ring, remove water pump cover and make sure seal has not been moved.

12. INSTALL SNAP RING (1) IN GROOVE OF WATER PUMP (2).

13. TAP AROUND INSIDE RIM OF SNAP RING (1) WITH BRASS DRIFT AND HAMMER TO SEAT SNAP RING (1) FULLY IN GROOVE OF WATER PUMP (2).

14. INSTALL WATER PUMP (2), TWO LONG BOLTS (6), AND SHORT BOLT (7) ON GEAR HOUSING (8), MESHING WATER PUMP GEAR WITH CRANKSHAFT TIMING GEAR. TIGHTEN BOLTS TO 43-54 LB-FT (58-73 N.m).

15. INSTALL DRAIN VALVE (9) (M915A2 AND M916A1) OR PLUG (9.1) (ALL EXCEPT M915A2 AND M916A1) IN WATER PUMP (2).

16. INSTALL TWO BUSHINGS (10), ADAPTER (11), AND TWO ELBOWS (12) IN WATER PUMP (2).

17. INSTALL TWO HOSE CLAMPS (13) AND CONNECT HEATER HOSE (14) AND WATER FILTER HOSE (15) TO WATER PUMP (2). TIGHTEN TWO HOSE CLAMPS (13).

18. INSTALL TWO HOSE CLAMPS (16) ON WATER BYPASS HOSE (17) AND SLIDE WATER BYPASS HOSE ONTO WATER PUMP (2). TIGHTEN TWO HOSE CLAMPS (16).

19. INSTALL TWO HOSE CLAMPS (18) ON OIL COOLER HOSE (19) AND SLIDE OIL COOLER HOSE ONTO WATER PUMP (2). TIGHTEN TWO HOSE CLAMPS (18).

20. INSTALL TWO HOSE CLAMPS (20) ON RADIATOR HOSE (21) AND SLIDE RADIATOR HOSE ONTO WATER PUMP (2) AND PIPE (22). TIGHTEN TWO HOSE CLAMPS (20).

21. INSTALL CLAMP (23), WASHER (24), SCREW (25), WASHER (26), AND NEW LOCK NUT (27).

NOTE

Follow-on Maintenance:

Install oil bypass filter adapter (page 4-4).
Install oil level dipstick (page 4-18).
Fill cooling system (Unit PMCS, TM 9-2320-363-20-1).

SPINDLE AND HOUSING REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M9115A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

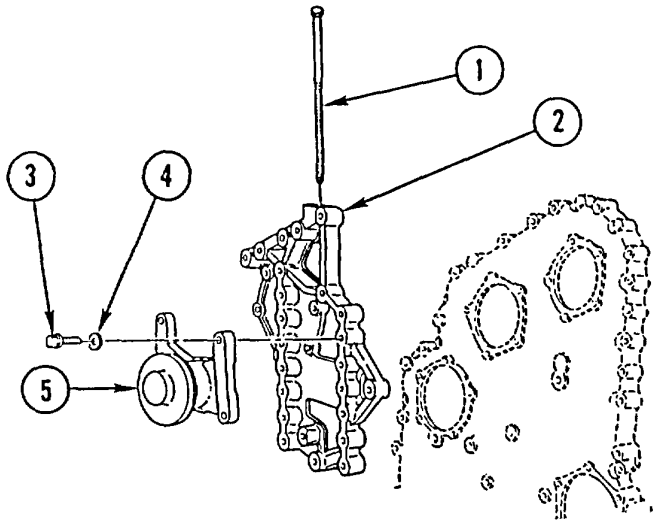
Reference	Condition Description
Page 4-126	

REMOVAL

1. REMOVE ADJUSTER BOLT (1) FROM DRIVE SUPPORT (2).
2. REMOVE FOUR BOLTS (3), FOUR WASHERS (4), AND SPINDLE AND HOUSING ASSEMBLY (5).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL SPINDLE AND HOUSING ASSEMBLY (5), FOUR WASHERS (4), AND FOUR BOLTS (3).
2. INSTALL ADJUSTER BOLT (1) IN DRIVE SUPPORT (2).

NOTE
Follow-on Maintenance:

Install fan clutch (page 4-126).

SPINDLE AND HOUSING REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

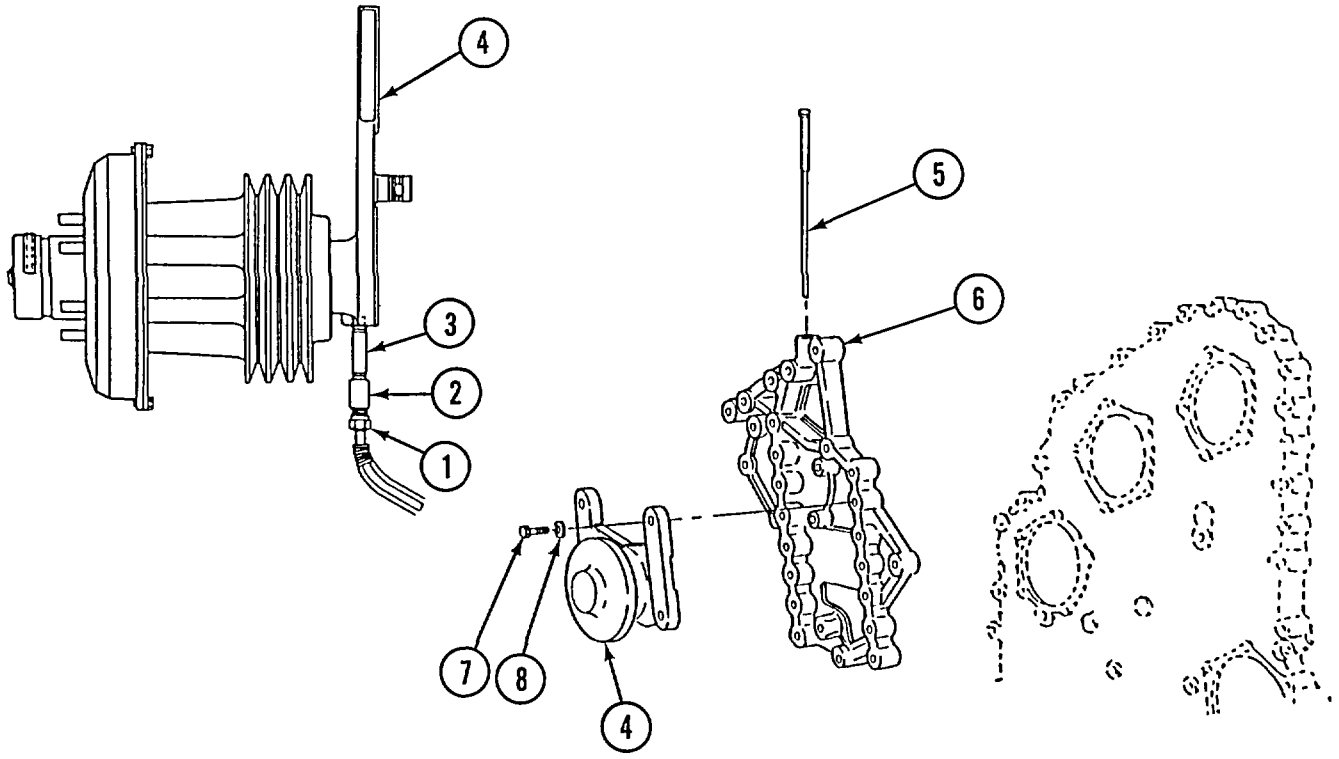
Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Description
Page 2-28	Air Tanks Drained
Page 4-126	Fan Clutch Removed

REMOVAL

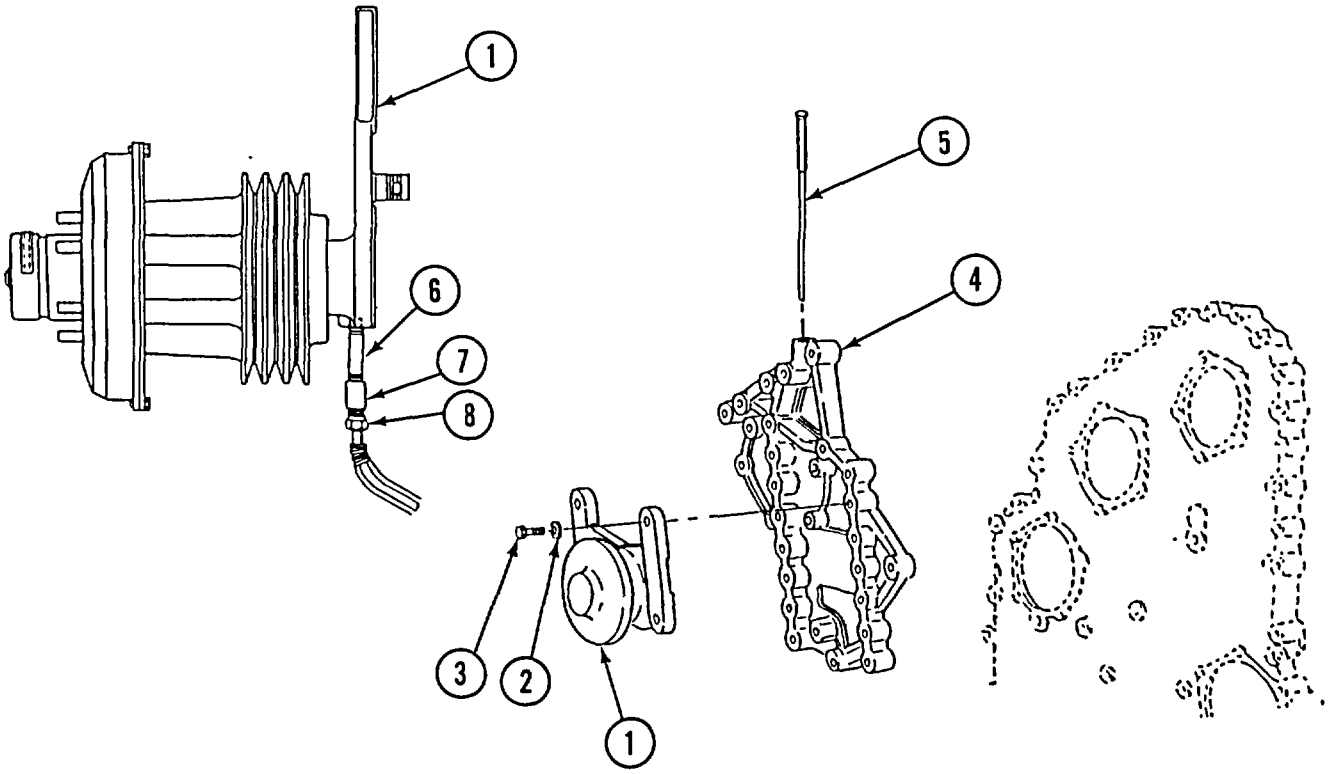


1. DISCONNECT CONNECTOR (1) FROM COUPLING (2).
2. REMOVE COUPLING (2) FROM PIPE NIPPLE (3) AND PIPE NIPPLE (3) FROM SPINDLE AND HOUSING ASSEMBLY (4).
3. REMOVE ADJUSTER BOLT (5) FROM DRIVE SUPPORT (6).
4. REMOVE FOUR BOLTS (7), FOUR WASHERS (8), AND SPINDLE AND HOUSING ASSEMBLY (4) FROM DRIVE SUPPORT (6).

SPINDLE AND HOUSING REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL SPINDLE AND HOUSING ASSEMBLY (1), FOUR WASHERS (2), AND FOUR BOLTS (3) ON DRIVE SUPPORT (4).
2. INSTALL ADJUSTER BOLT (5) IN DRIVE SUPPORT (4).
3. INSTALL PIPE NIPPLE (6) ON SPINDLE AND HOUSING ASSEMBLY (1) AND COUPLING (7) ON PIPE NIPPLE (6).
4. CONNECT CONNECTOR (8) TO COUPLING (7).

NOTE
Follow-on Maintenance:

Install fan clutch (page 4-126).

FAN BELT REPLACEMENT AND ADJUSTMENT

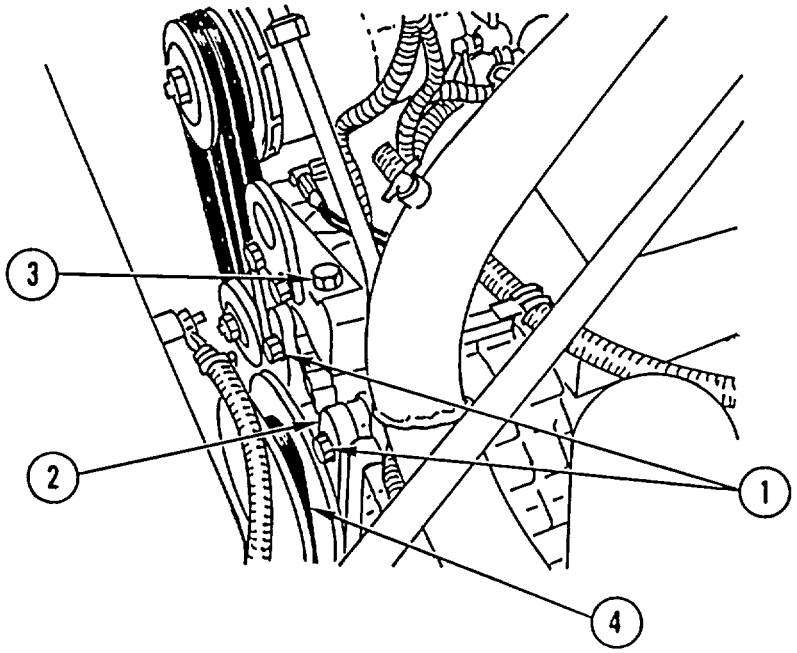
This task covers: a. Removal b. Cleaning/Inspection c. Installation d. Adjustment

INITIAL SETUP

Tools and Special Equipment:		Equipment Condition:	
Tool Kit,	SC 5180-90-CL-N26	**Reference**	**Description**
Tensiometer, Belt	Appendix B, Item 139	Page 4-120	Fan Impeller and Shroud Removed

REMOVAL

1. LOOSEN FOUR SCREWS (1) ON SPINDLE AND HOUSING ASSEMBLY (2).
2. BACK OFF ADJUSTING SCREW (3) AND REMOVE THREE FAN BELTS (4).



CLEANING/INSPECTION

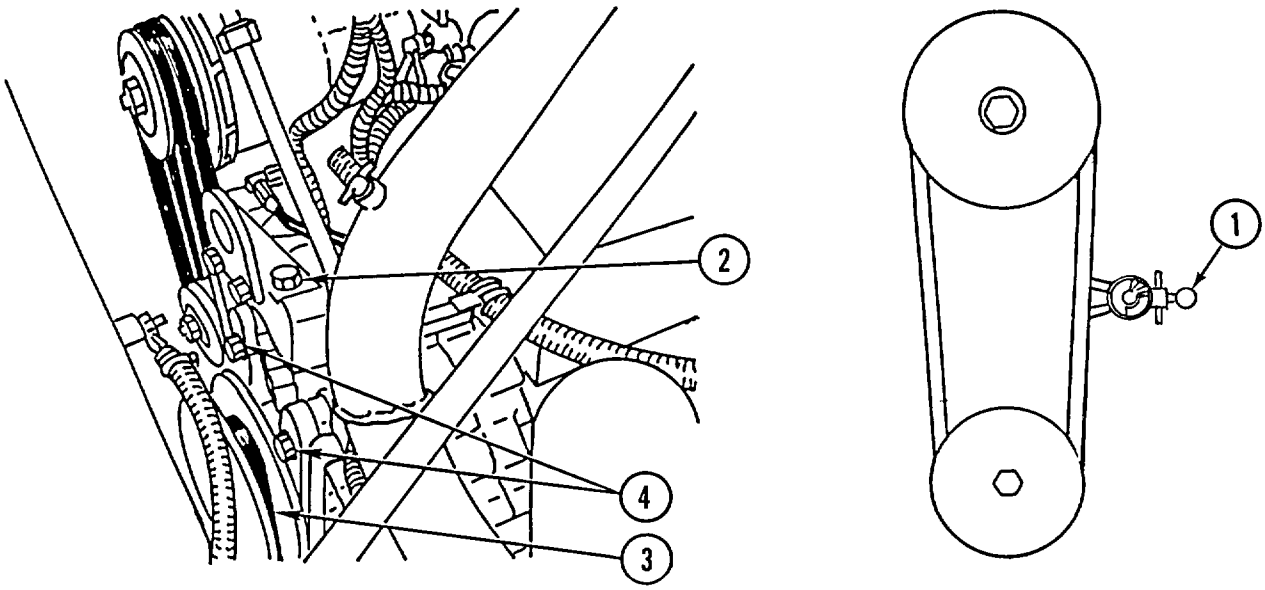
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

INSTALL THREE FAN BELTS (4) IN THREE FRONT GROOVES OF BOTH PULLEYS.

FAN BELT REPLACEMENT AND ADJUSTMENT (CONT)

ADJUSTMENT



1. USING TENSIOMETER (1), TIGHTEN ADJUSTING SCREW (2) UNTIL FAN BELT (3) TENSION IS 60-80 LBS (266-355 N).
2. TIGHTEN FOUR SCREWS (4) TO 75-83 LB-FT (100-112 N.m).
3. OPERATE ENGINE FOR ABOUT 30 MINUTES (OR 15 MILES), THEN CHECK BELT TENSION. CHECK AGAIN AFTER 8 HOURS (OR 250 MILES). ADJUST BELT TENSION AS NEEDED.

NOTE

Follow-on Maintenance:

Install fan impeller and shroud (page 4-120).

DRAIN AND FILL COOLING SYSTEM

This task covers: a. Drain b. Fill

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Antifreeze Appendix C, Item 4

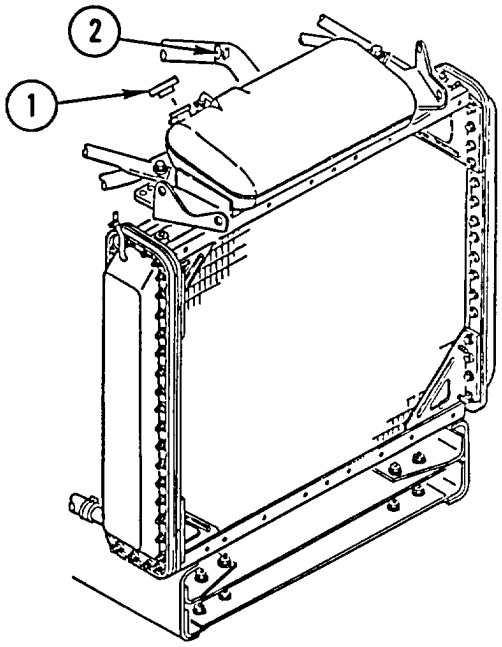
References:

TM 9-2320-363-20-1

General Safety Instructions:

WARNING
Do not open radiator cap or drain antifreeze from hot engine. Doing so could cause injury to personnel.

DRAIN

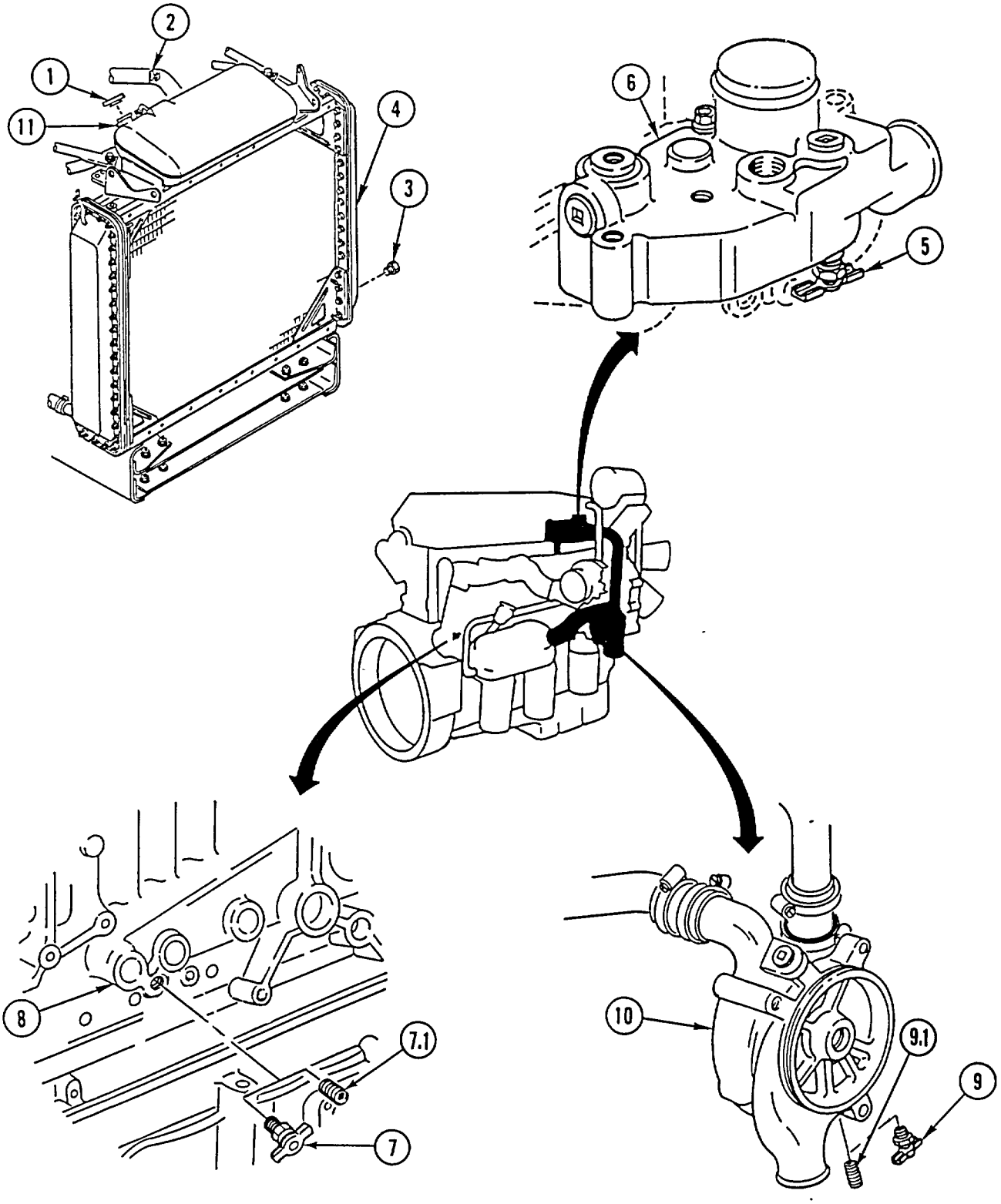


WARNING
Do not open radiator cap or drain antifreeze from hot engine. Doing so could cause injury to personnel.

NOTE
It may only be necessary to lower antifreeze level for replacement of cooling system components. If so, only open draincocks at or just below level of components being removed.

1. REMOVE RADIATOR CAP (1) AND OPEN DRAINCOCK (2).

DRAIN AND FILL COOLING SYSTEM (CONT)



NOTE
Cooling system capacity is 65 qt (61.5 l). Have suitable containers available.

2. USING 45-QT CONTAINER, REMOVE DRAIN PLUG (3) FROM RADIATOR (4).

NOTE
Place 8-qt container under each draincock or plug in steps 3 thru 5 to catch antifreeze U

3. OPEN DRAINCOCK (5) IN THERMOSTAT HOUSING (6).

4. OPEN DRAINCOCK (7) IN ENGINE BLOCK (8) OR REMOVE PLUG (7.1).

5. OPEN DRAINCOCK (9) IN WATER PUMP (10) OR REMOVE PLUG (9.1).

6. AFTER ALL ANTIFREEZE IS DRAINED, CLOSE THREE DRAINCOCKS (5, 7, AND 9) OR CLOSE DRAINCOCK (5) AND INSTALL TWO PLUGS (7.1 AND 9.1). INSTALL DRAIN PLUG (3)..

FILL

1. FILL RADIATOR (4) WITH ANTIFREEZE IN ACCORDANCE WITH UNIT PMCS, TM 9-2320-363-20-1.

2. CLOSE DRAINCOCK (2) AND INSTALL RADIATOR CAP (1).

3. BRING ENGINE TO OPERATING TEMPERATURE TO OPEN THERMOSTATS AND CIRCULATE ANTIFREEZE THROUGHOUT ENGINE. CHECK FOR LEAKS.

WARNING
Do not open radiator or drain antifreeze from hot engine. Doing so could cause injury to personnel.

4. REMOVE RADIATOR CAP (1) AND FILL RADIATOR (4) WITH ANTIFREEZE IN ACCORDANCE WITH UNIT PMCS, TM 9-2320-363-20-1.

WATER FILTER ELEMENT REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72

Materials/Parts:

Element, Filter P/N WF-2077
Oil, Lubricating Appendix C, Item 16

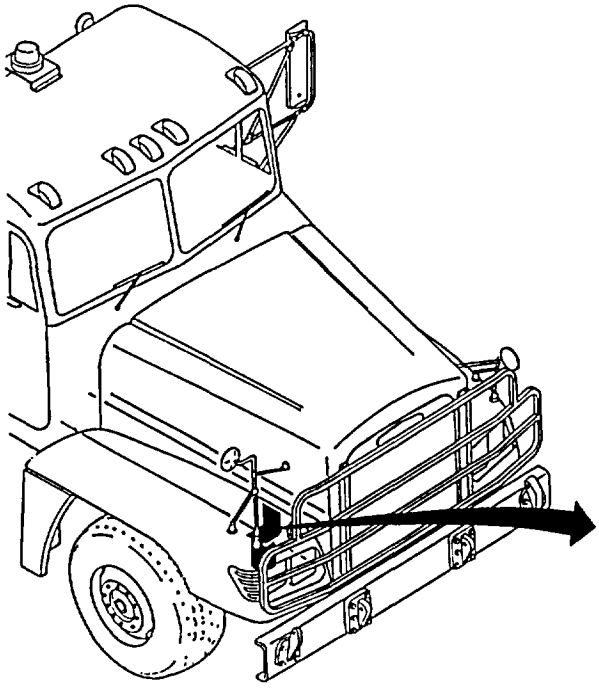
References:

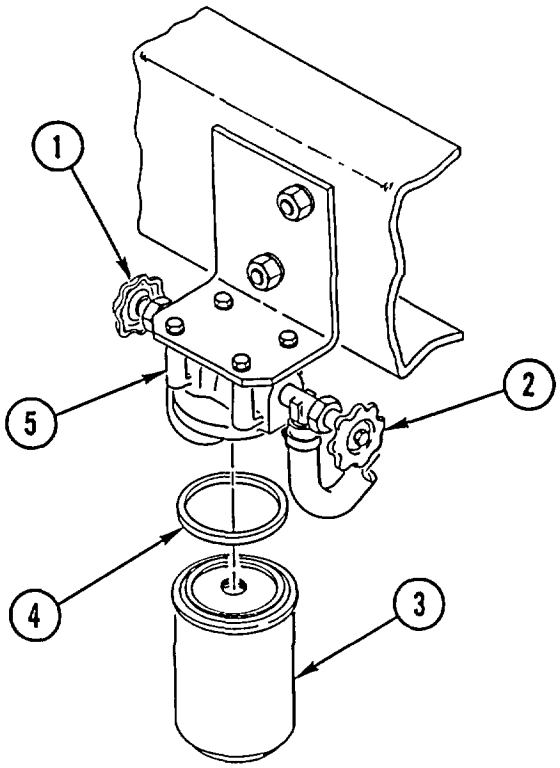
TM 9-2320-363-20-1

REMOVAL

NOTE
Have suitable container available to catch any spilled coolant.

1. CLOSE TWO SHUTOFF VALVES (1 AND 2) SECURELY.
2. REMOVE AND DISCARD WATER FILTER ELEMENT (3) AND GASKET (4) FROM ADAPTER (5).





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. COAT GASKET (4) ON TOP OF NEW WATER FILTER ELEMENT (3) WITH THIN FILM OF ENGINE LUBRICATING OIL.

2. THREAD WATER FILTER ELEMENT (3) ONTO ADAPTER (5) BY HAND UNTIL NO FILTER SIDE MOVEMENT IS EVIDENT.

CAUTION
To prevent damage to water filter element, do not use filter wrench for installation.

3. TIGHTEN WATER FILTER ELEMENT (3) ADDITIONAL 2/3 TURN.

4. OPEN TWO SHUTOFF VALVES (1 AND 2) COMPLETELY.

NOTE
Follow-on Maintenance:
Check coolant level (Unit PMCS, TM 9-2320-363-20-1).

Section V. ELECTRICAL SYSTEM MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the electrical system and related components. A list of tasks contained in this section is shown below.

	Page
Alternator Replacement (M915A2 and M916A1)	4-149
Alternator Replacement (All Except M915A2 and M916A1)	4-153.0
Alternator Belt Replacement and Adjustment (M915A2 and M916A1)	4-154
Alternator Belt Replacement and Adjustment (All Except M915A2 and M916A1)	4-155.0
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Voltage Regulator Replacement	4-158
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Secondary Air Pressure Sending Unit Replacement	4-165
Turn Signal Switch Assembly Replacement	4-168
Right Gage Panel and Lamps Replacement (M915A2 and M916A1)	4-170
Right Gage Panel and Lamps Replacement (All Except M915A2 and M916A1)	4-171.0
Left Gage Panel and Lamps Replacement	4-172
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ALTERNATOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment condition:

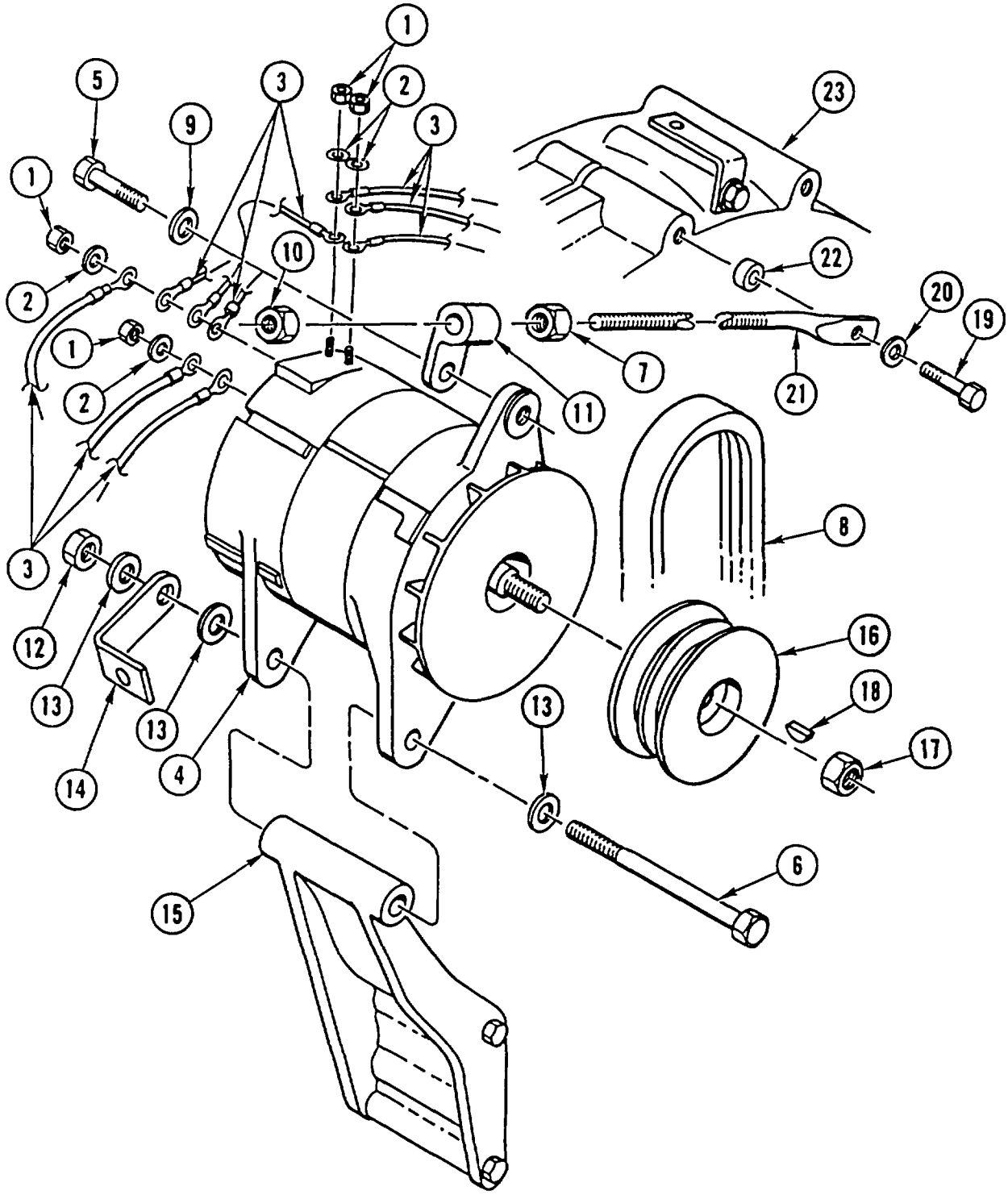
Reference	Condition Description
Page 2-29	Batteries Disconnected

Materials/Parts:

Nut, Lock	P/N MS51922-33
Washer, Lock	P/N 000127 010202

ALTERNATOR REPLACEMENT (CONT)

REMOVAL



NOTE

- Tag wires prior to removal to aid in installation.
- Nuts may vary in size; note location of nuts prior to removal to aid in installation.

1. REMOVE FOUR NUTS (1), FOUR WASHERS (2), AND NINE ELECTRICAL WIRES (3) FROM ALTERNATOR (4).
2. LOOSEN TWO CAPSCREWS (5 AND 6).

CAUTION
Do not pry or twist drivebelt or damage to drivebelt may occur.

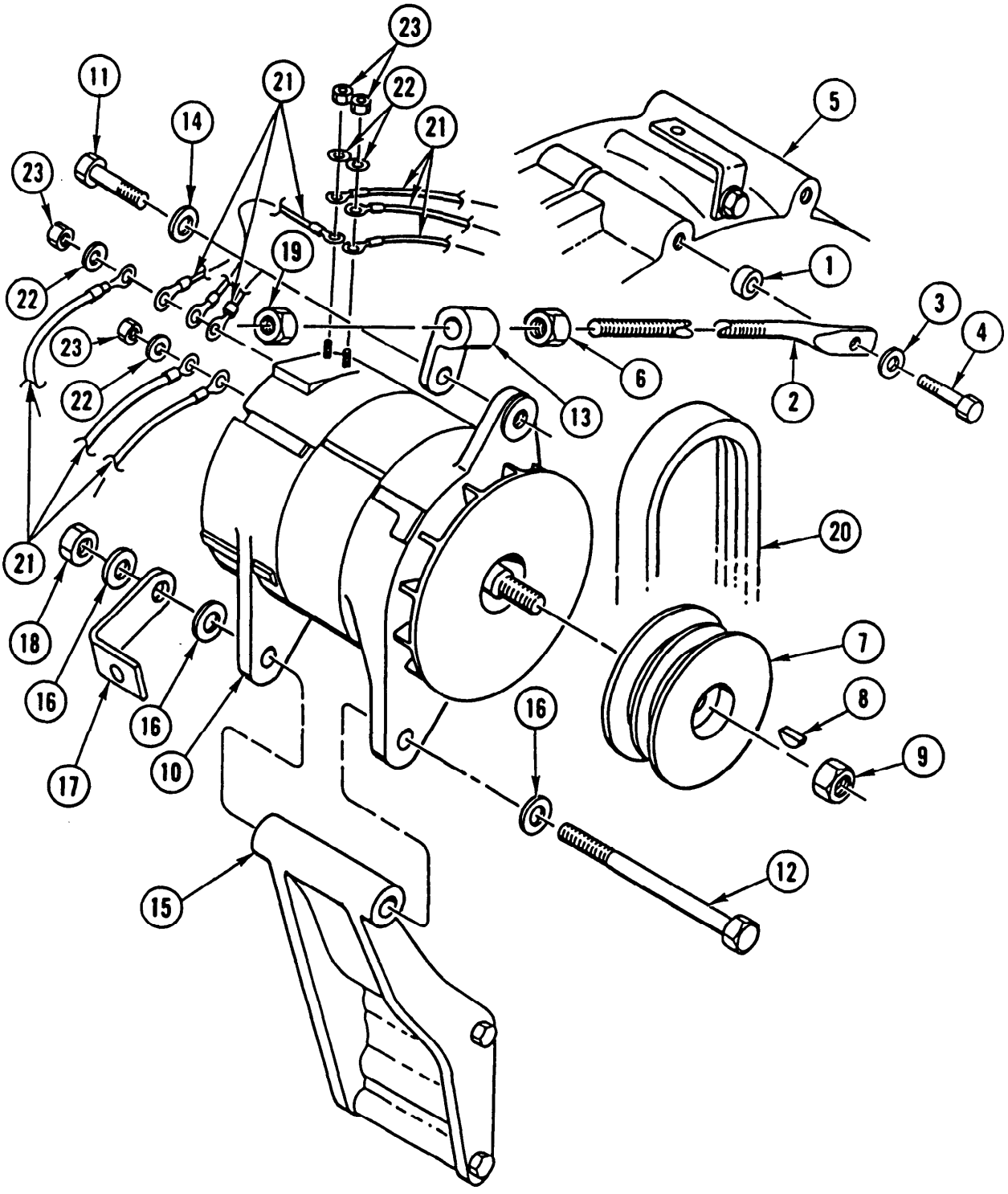
3. UNSCREW ADJUSTING NUT (7) AND REMOVE DRIVEBELT (8).
4. REMOVE CAPSCREW (5) AND WASHER (9).
5. REMOVE NUT (10) AND ADJUSTING LUG (11).
6. SUPPORT ALTERNATOR (4), REMOVE LOCK NUT (12), CAPSCREW (6), AND TWO WASHERS (13), AND SET STANDOFF BRACKET (14) ASIDE. DISCARD LOCK NUT.
7. REMOVE ALTERNATOR (4) FROM ALTERNATOR BRACKET (15).
8. HOLDING ALTERNATOR PULLEY (16) IN SOFT-JAWED VISE, REMOVE LOCK NUT (17), KEY (18), AND ALTERNATOR PULLEY (16) FROM ALTERNATOR (4). DISCARD LOCK NUT. REMOVE SOFT-JAWED VISE.
9. IF NECESSARY, REMOVE CAPSCREW (19), WASHER (20), ADJUSTING ROD (21), SPACER (22), AND ADJUSTING NUT (7) FROM GEAR CASE COVER (23).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ALTERNATOR REPLACEMENT (CONT)

INSTALLATION



1. IF REMOVED, INSTALL SPACER (1), ADJUSTING ROD (2), WASHER (3), AND CAPSCREW (4) ON GEAR CASE COVER (5).

2. INSTALL ADJUSTING NUT (6) ON ADJUSTING ROD (2).

3. PLACE ALTERNATOR PULLEY (7) IN SOFT-JAWED VISE AND INSTALL ALTERNATOR PULLEY (7), KEY (8), AND NEW LOCK NUT (9) ON ALTERNATOR (10). REMOVE SOFT-JAWED VISE.

NOTE
Do not tighten two capscrews (11 and 12) until drivebelt tension adjustment has been performed.

4. INSTALL ADJUSTING LUG (13), WASHER (14), AND CAPSCREW (11) ON ALTERNATOR (10).

5. INSTALL ALTERNATOR (10) ON ADJUSTING ROD (2) AND ALTERNATOR BRACKET (15).

6. INSTALL TWO WASHERS (16), STANDOFF BRACKET (17), CAPSCREW (12), AND NEW LOCK NUT (18) ON ALTERNATOR BRACKET (15).

7. INSTALL NUT (19) ON ADJUSTING ROD (2).

CAUTION
Do not pry or twist drivebelt or damage to drivebelt may occur.

8. BACK OFF ADJUSTING NUT (6) AND INSTALL DRIVEBELT (20) ON ALTERNATOR PULLEY (7).

9. ADJUST DRIVEBELT (20) TENSION (PAGE 4-154).

10. TIGHTEN TWO CAPSCREWS (11 AND 12).

11. INSTALL NINE ELECTRICAL WIRES (21), FOUR WASHERS (22), AND FOUR NUTS (23) ON ALTERNATOR (10).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

ALTERNATOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock	P/N MS51922-33
Washer, Lock	P/N 000127 010202
Tags, Identification	Appendix C, Item 96

Equipment Condition:

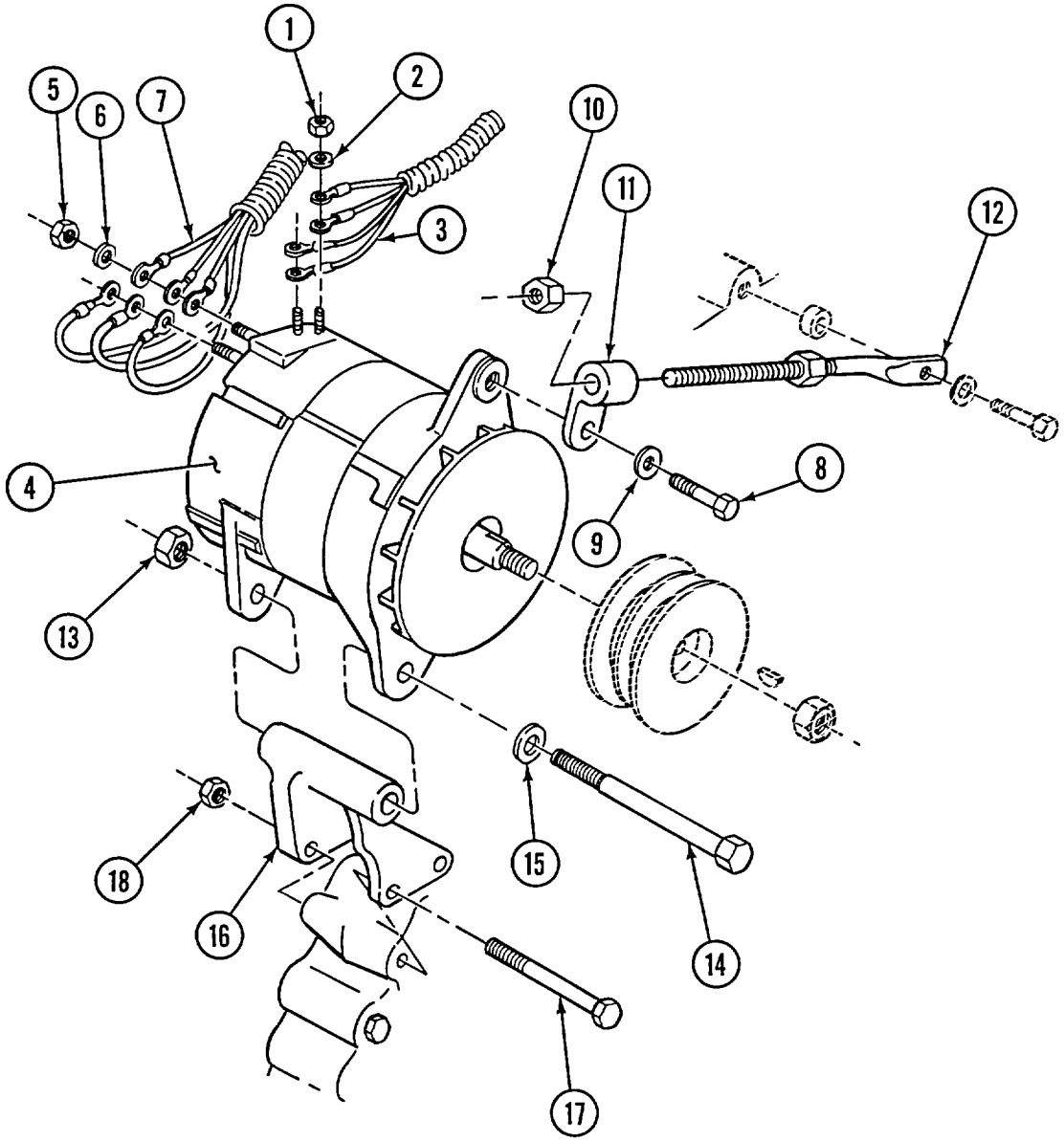
Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

NOTE

- **Tag wires prior to removal.**
- **Nuts may vary in size; note location of nuts prior to removal to aid in installation.**

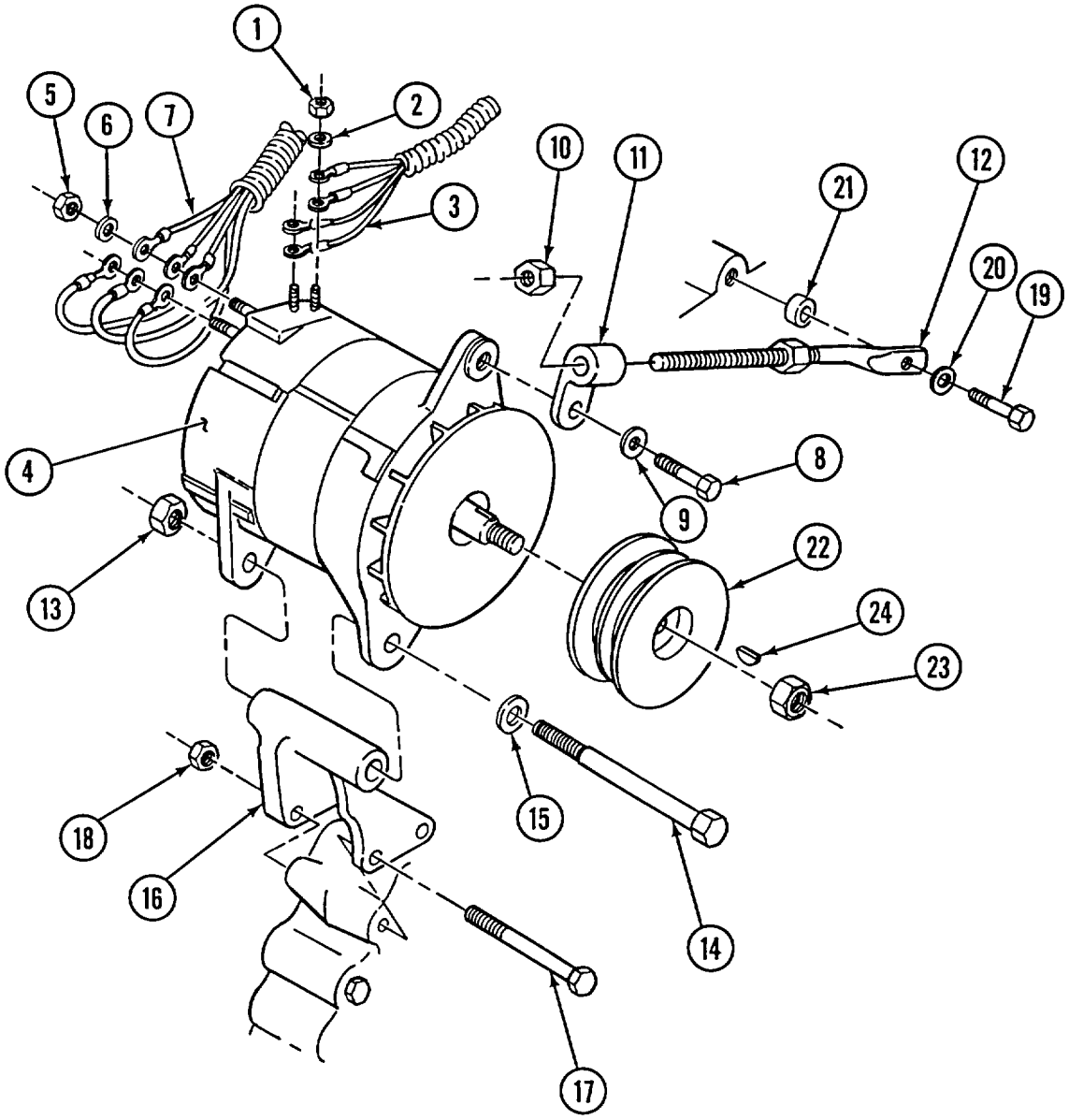
1. REMOVE TWO NUTS (1), TWO WASHERS (2), AND FOUR ELECTRICAL LEADS (3) FROM TOP OF ALTERNATOR (4).
2. REMOVE TWO NUTS (5), TWO WASHERS (6), AND SIX ELECTRICAL LEADS (7) AT REAR OF ALTERNATOR.
3. REMOVE ALTERNATOR DRIVE BELT (PAGE 4-155.0).
4. REMOVE CAPSCREW (8) AND BEARING WASHER (9).
5. REMOVE HEX NUT (10) AND LINK END (11) FROM ADJUSTING ROD (12).
6. SUPPORT ALTERNATOR (4) AND REMOVE HEX NUT (13), CAPSCREW (14), AND BEARING WASHER (15).



7. REMOVE ALTERNATOR (4) FROM ALTERNATOR BRACKET (16).

8. INSPECT ALTERNATOR BRACKET (16) FOR DAMAGE AND REPLACE IF NECESSARY BY REMOVING TWO BOLTS (17) AND TWO NUTS (18).

ALTERNATOR REPLACEMENT (CONT)



9. INSPECT ADJUSTING ROD (12) FOR DAMAGE AND REPLACE IF NECESSARY BY REMOVING CAPSCREW (19), LOCK WASHER (20), AND SPACER (21). DISCARD LOCK WASHER.

10. HOLDING ALTERNATOR PULLEY (22) IN SOFT-JAWED VISE, REMOVE LOCKNUT (23) AND KEY (24). DISCARD LOCKNUT.

11. REMOVE ALTERNATOR PULLEY (22) FROM VISE AND REMOVE ALTERNATOR PULLEY (22) FROM ALTERNATOR (4).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL ALTERNATOR PULLEY (22) ON ALTERNATOR (4).
2. HOLDING ALTERNATOR PULLEY (22) IN SOFT-JAWED VISE, INSTALL KEY (24) AND NEW LOCKNUT (23).
3. IF REMOVED, INSTALL ADJUSTING ROD (12) AND SECURE WITH CAPSCREW (19), NEW LOCK WASHER (20), AND SPACER (21).
4. IF REMOVED, INSTALL ALTERNATOR BRACKET (16) AND SECURE WITH TWO BOLTS (17) AND TWO NUTS (18).
5. SUPPORT ALTERNATOR (4) AND INSTALL CAPSCREW (14), BEARING WASHER (15), AND HEX NUT (13).
6. SLIDE LINK END (11) ONTO ADJUSTING ROD (12).
7. INSTALL HEX NUT (10) ONTO ADJUSTING ROD (12).
8. ALIGN HOLE IN LINK END (11) WITH TOP MOUNTING HOLE ON ALTERNATOR (4) AND INSTALL CAPSCREW (8) AND BEARING WASHER (9).
9. INSTALL ALTERNATOR DRIVE BELT (PAGE 4-155.0).
10. ADJUST ALTERNATOR DRIVE BELT (PAGE 4-155.0)
11. ON REAR OF ALTERNATOR (4), CONNECT SIX ELECTRICAL LEADS (7) AND SECURE WITH TWO NUTS (5) AND TWO WASHERS (6).
12. ON TOP OF ALTERNATOR (11), CONNECT FOUR ELECTRICAL LEADS (3) AND SECURE WITH TWO NUTS (1) AND TWO WASHERS (2).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

ALTERNATOR BELT REPLACEMENT AND ADJUSTMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation d. Adjustment

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Equipment:

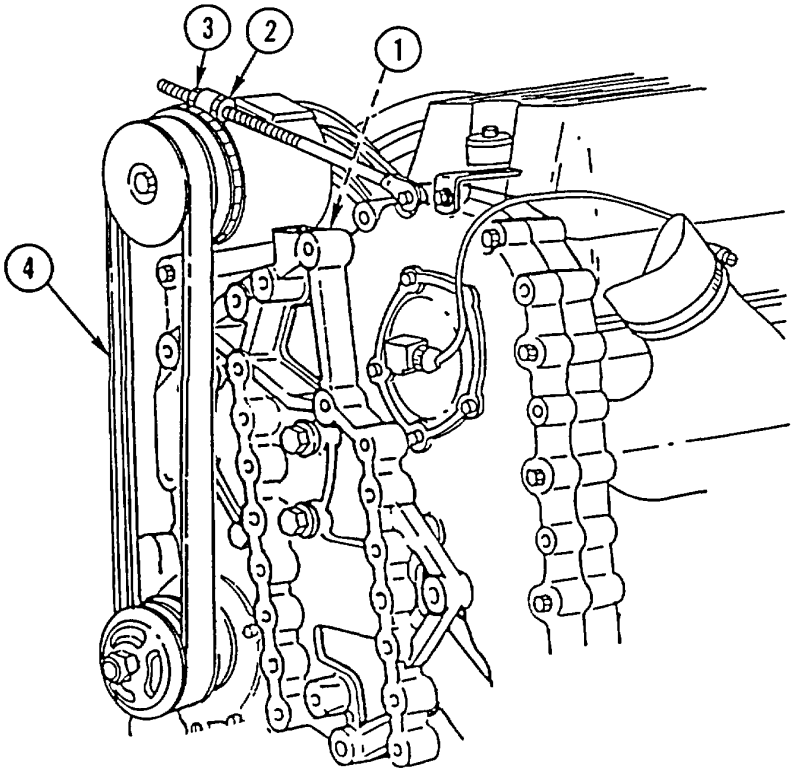
Tool Kit, SC 5180-90-CL-N26
Tensiometer, Belt, Appendix B, Item 139

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. LOOSEN NUT (1) AND BACK OFF NUT (2) APPROXIMATELY 3.0 IN. (76.2 mm).
2. TIGHTEN NUT (3) AND REMOVE ALTERNATOR BELT (4).



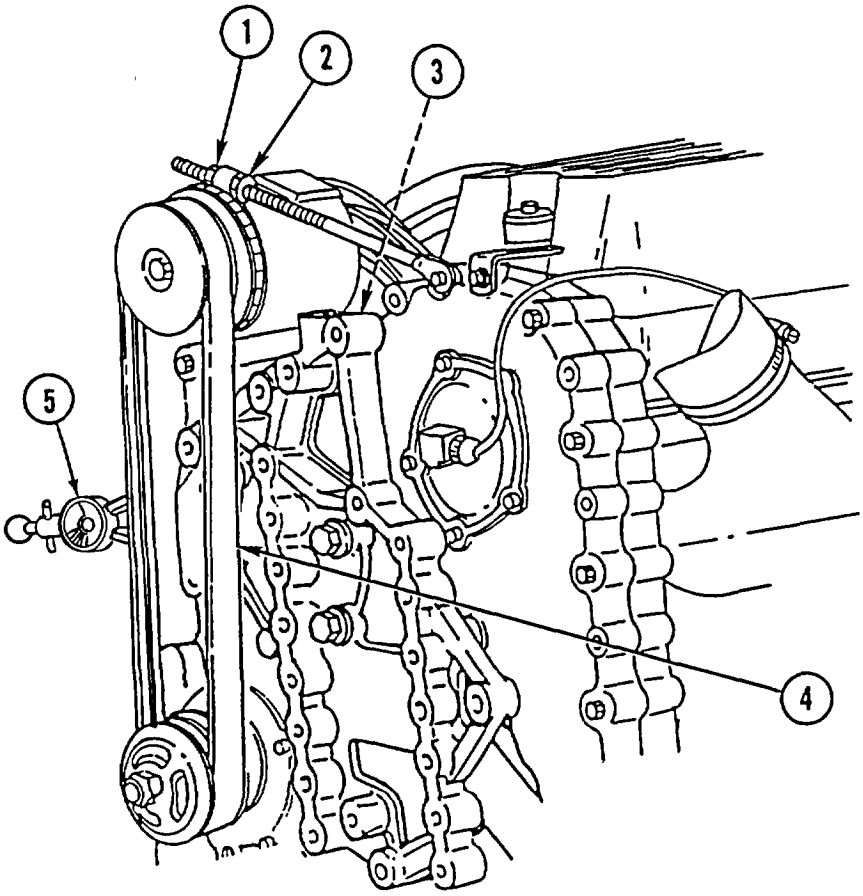
CLEANING/IINSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

INSTALL ALTERNATOR BELT (4).

ADJUSTMENT



1. BACK OFF NUT (1) AND USING TENSIOMETER (5), TIGHTEN NUT (2) UNTIL ALTERNATOR BELT TENSION IS 60-80 LBS (267-356 N).
2. TIGHTEN NUT (3) AND NUT (1).
3. CONNECT BATTERIES (PAGE 2-29).
4. OPERATE ENGINE FOR ABOUT 30 MINUTES (OR 15 MILES), THEN CHECK BELT TENSION. CHECK AGAIN AFTER 8 HOURS (OR 250 MILES). ADJUST BELT TENSION AS NEEDED.

ALTERNATOR BELT REPLACEMENT AND ADJUSTMENT

This task covers: a. Removal b. Cleaning/Inspecting c. Installation d. Adjustment

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Equipment:

Tool Kit, SC 5180-90-CL-N26
Tensiometer, Belt, Appendix B, Item 139

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteness Disconnected

REMOVAL

1. HOLD NUT (1) AND LOOSEN CAPSCREW (2).
2. LOOSEN CAPSCREW (3).
3. BACK OFF NUT (4).
4. TIGHTEN NUT (5) AND REMOVE DRIVE BELT (6).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

CAUTION
Do not pry or twist drive belt or damage to drive belt may occur.

INSTALL DRIVE BELT (6) ON A/C COMPRESSOR PULLEY (7), ALTERNATOR PULLEY (8), AND ACCESSORY DRIVE PULLEY (9).

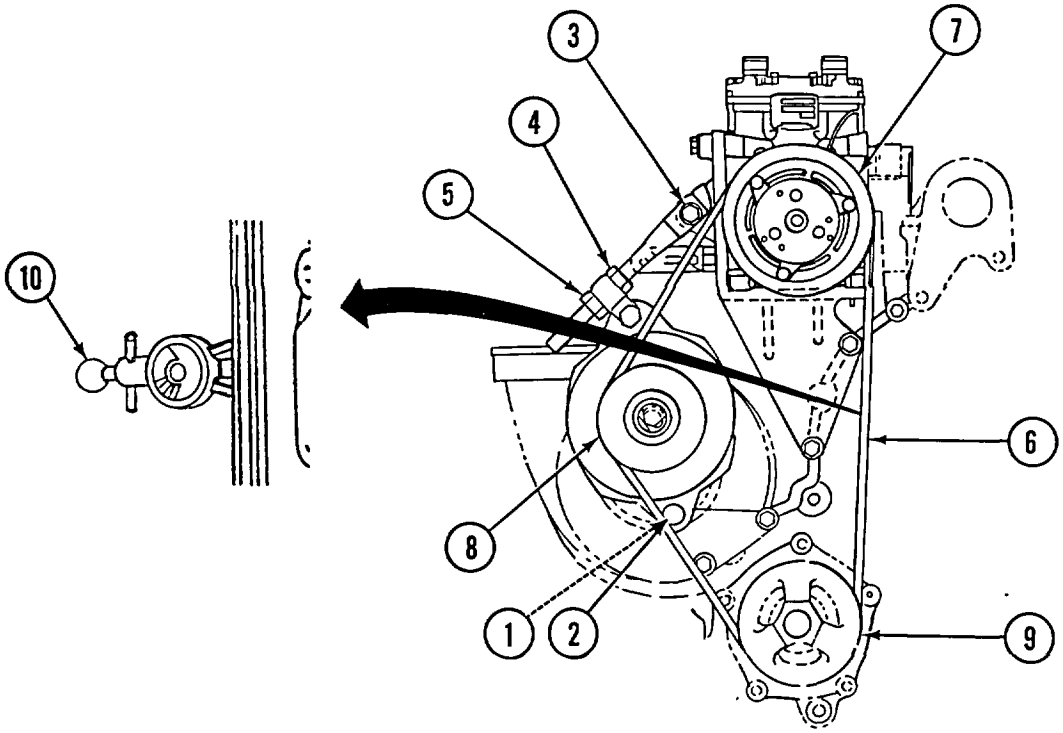
ADJUSTMENT

1. BACK OFF NUT (5).
2. USING TENSIOMETER (10), TIGHTEN NUT (4) UNTIL DRIVE BELT TENSION IS 90-100 LBS (400-444 N).

3. TIGHTEN NUT (5).

4. TIGHTEN CAPSCREW (3).

5. TORQUE CAPSCREW (2) AND CAPSCREW (3) TO 60-70 FT-LB (81-95 N.m).



6. CONNECT BATTERIES (PAGE 2-29).

7. OPERATE ENGINE FOR ABOUT 30 MINUTES (OR 15 MILES), THEN CHECK BELT TENSION. CHECK AGAIN AFTER 8 HOURS (OR 250 MILES). ADJUST BELT TENSION AS NEEDED.

STARTER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (3)

Washer, Lock P/N 78423

Materials/Parts (Cont):

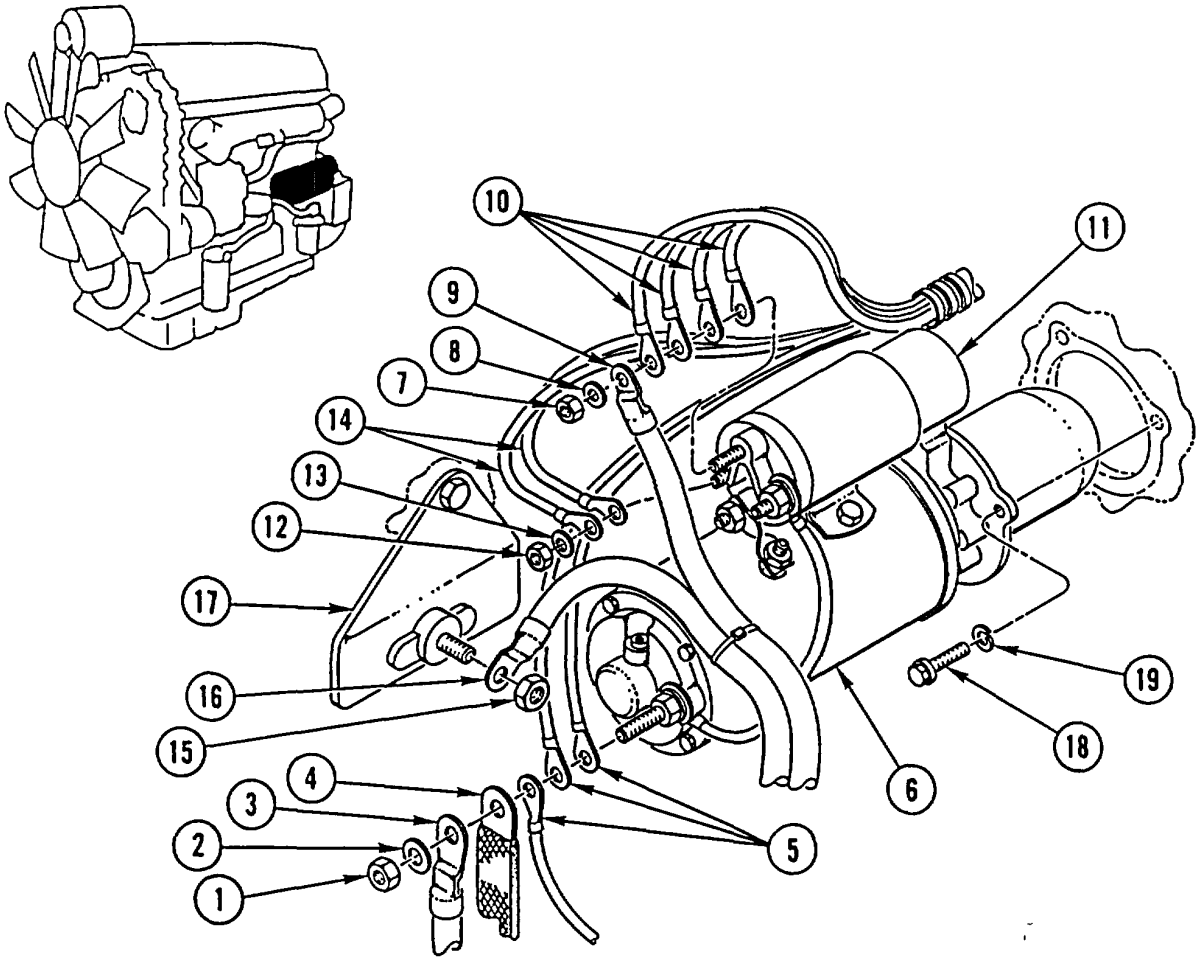
Washer, Lock

Washer, Lock

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL



NOTE
Tag and mark all wires and cables prior to removal to aid in installation.

1. REMOVE NUT (1), LOCK WASHER (2), CABLE (3), GROUND STRAP (4), AND THREE WIRES (5) FROM STARTER (6). DISCARD LOCK WASHER.

2. REMOVE NUT (7), LOCK WASHER (8), CABLE (9), AND FOUR WIRES (10) FROM STARTER SOLENOID (11). DISCARD LOCK WASHER.

3. REMOVE NUT (12), LOCK WASHER (13), AND TWO WIRES (14) FROM STARTER SOLENOID (11). DISCARD LOCK WASHER.

4. REMOVE NUT (15) AND CABLE (16) FROM JUNCTION BLOCK (17).

5. REMOVE THREE SCREWS (18), THREE LOCK WASHERS (19), AND STARTER (6). DISCARD LOCK WASHERS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE
If installing new starter, make sure nose housing is in same position as nose housing on old starter. If not, both old and new starters must be sent to direct support to have nose housing on new starter removed and reinstalled in correct position.

1. INSTALL STARTER (6), THREE NEW LOCK WASHERS (19), AND THREE SCREWS (18).

2. INSTALL CABLE (16) AND NUT (15) ON JUNCTION BLOCK (17).

3. INSTALL TWO WIRES (14), NEW LOCK WASHER (13), AND NUT (12) ON STARTER SOLENOID (11).

4. INSTALL FOUR WIRES (10), CABLE (9), NEW LOCK WASHER (8), AND NUT (7) ON STARTER SOLENOID (11).

5. INSTALL THREE WIRES (5), GROUND STRAP (4), CABLE (3), NEW LOCK WASHER (2), AND NUT (1) ON STARTER (6).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

VOLTAGE REGULATOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (2)

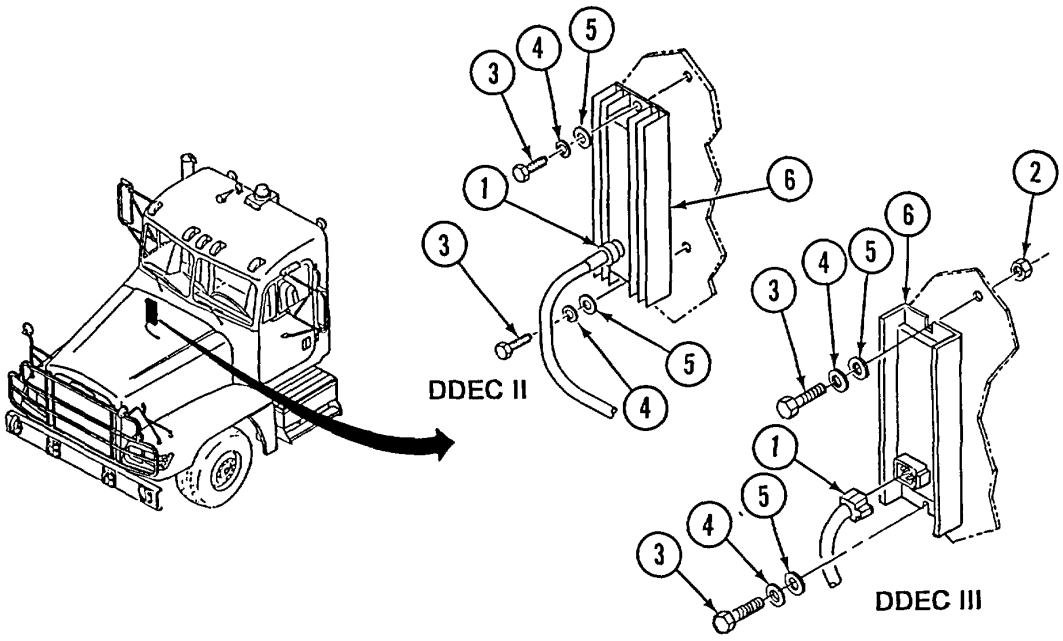
Personnel Required: (2) (DDEC III)

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

DISCONNECT PLUG (1). REMOVE TWO NUTS (2), IF EQUIPPED, TWO SCREWS (3), TWO LOCK WASHERS (4), TWO WASHERS (5), AND VOLTAGE REGULATOR (6). DISCARD LOCK WASHERS.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

INSTALL VOLTAGE REGULATOR (6), TWO WASHERS (5), TWO NEW LOCK WASHERS (4), TWO SCREWS (3), AND TWO NUTS (2) IF EQUIPPED. CONNECT PLUG (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

STARTER RELAY REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

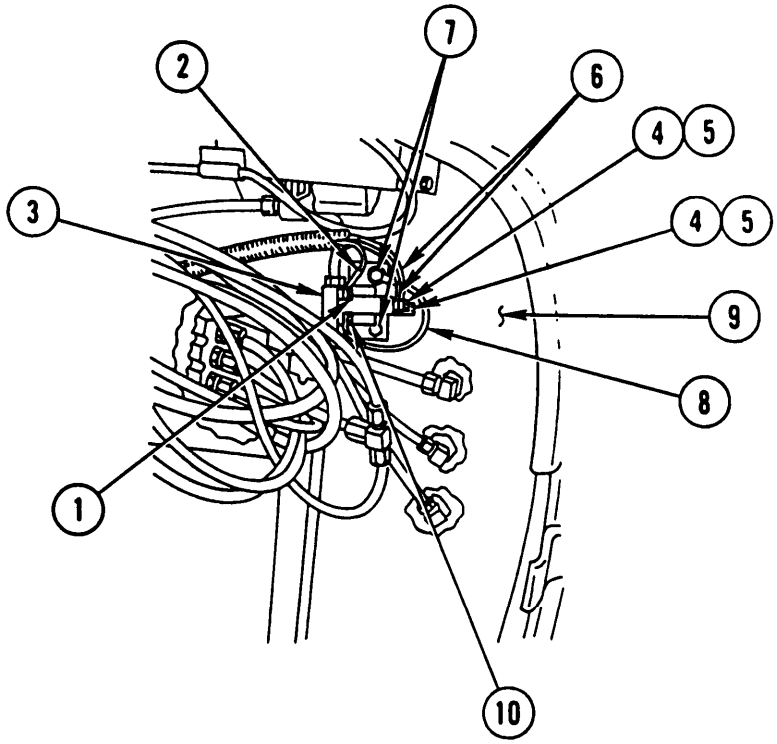
Materials/Parts:

Nut, Lock (2)

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL



NOTE

Tag all wires prior to removal to aid in installation.

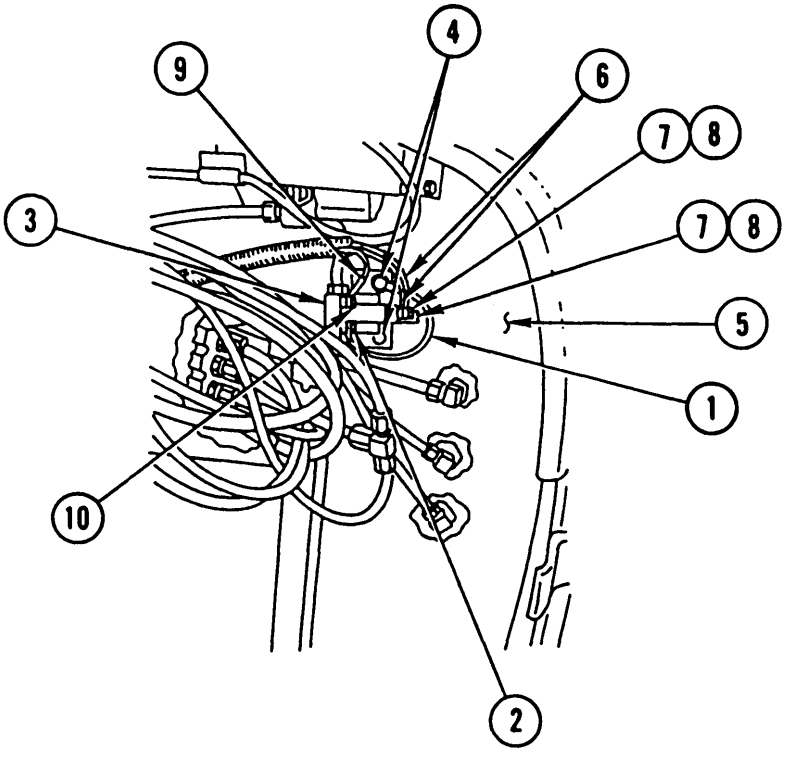
1. REMOVE LOCK NUT (1) AND DISCONNECT WIRE (2) FROM RELAY (3). DISCARD LOCK NUT.
2. REMOVE TWO NUTS (4) AND TWO WASHERS (5) AND DISCONNECT TWO WIRES (6) FROM RELAY (3).
3. REMOVE TWO SCREWS (7), RELAY (3), AND WIRE (8) FROM FIREWALL (9).
4. REMOVE LOCK NUT (10) AND WIRE (8) FROM RELAY (3). DISCARD LOCK NUT.

STARTER RELAY REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL WIRE (1) AND NEW LOCK NUT (2) ON RELAY (3).
2. INSTALL RELAY (3) AND WIRE (1) WITH TWO SCREWS (4) IN FIREWALL (5).
3. CONNECT TWO WIRES (6) AND INSTALL TWO WASHERS (7) AND TWO NUTS (8) ON RELAY (3).
4. CONNECT WIRE (9) AND INSTALL NEW LOCK NUT (10) ON RELAY (3).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

PRIMARY AIR PRESSURE SENDING UNIT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

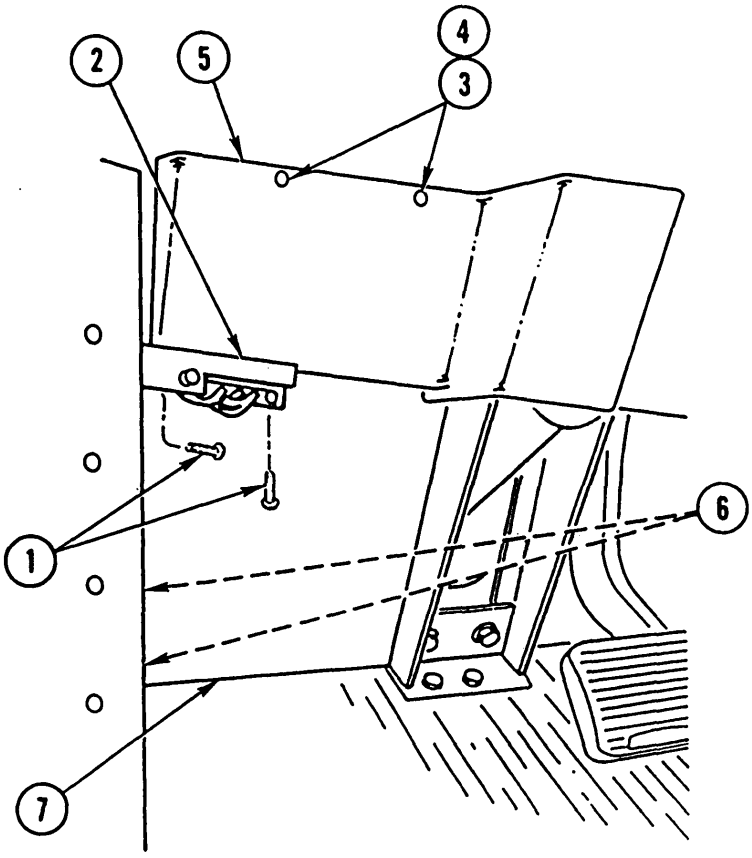
Materials/Parts:

Compound, Sealing Appendix C, Item 8

Equipment Condition:

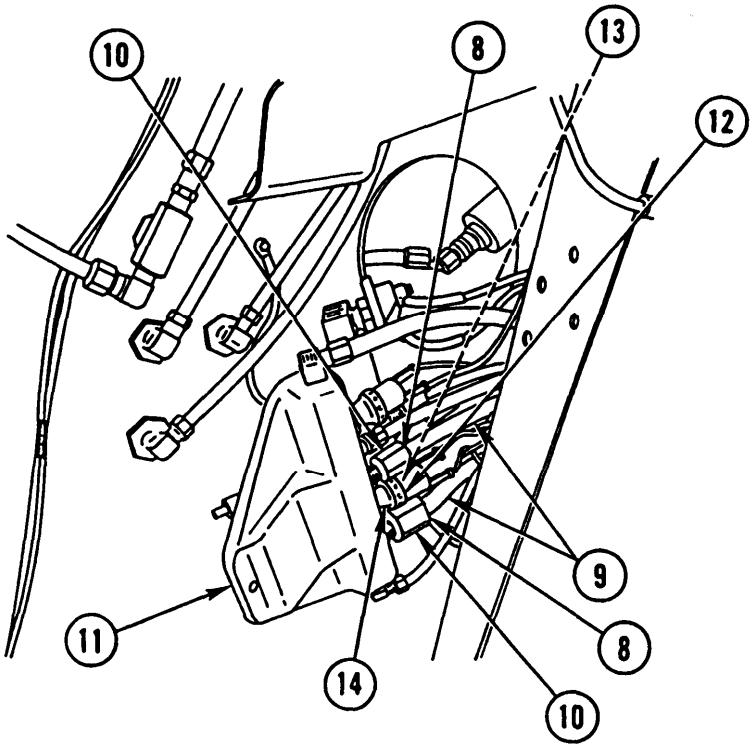
Reference	Condition Description
Page 2-28	Air System Completely Drained
Page 2-29	Batteries Disconnected

REMOVAL



1. REMOVE Two SCREWS (1) AND SET ENGINE CHECK SWITCH BRACKET (2) ASIDE.
2. REMOVE FIVE SCREWS (3), FIVE WASHERS (4), AND COVER (5).
3. REMOVE Two SCREWS (6) AND COVER (7).

PRIMARY AIR PRESSURE SENDING UNIT REPLACEMENT (CONT)



NOTE

If it is necessary to remove cab air junction block, perform Removal steps 1 and 4 of Cab Air Junction Block Replacement (page 4-521).

4. DEPRESS TWO COLLARS (8) AND DISCONNECT TWO AIR LINES (9).
5. REMOVE TWO FITTINGS (10) FROM CAB AIR JUNCTION BLOCK (11).

NOTE

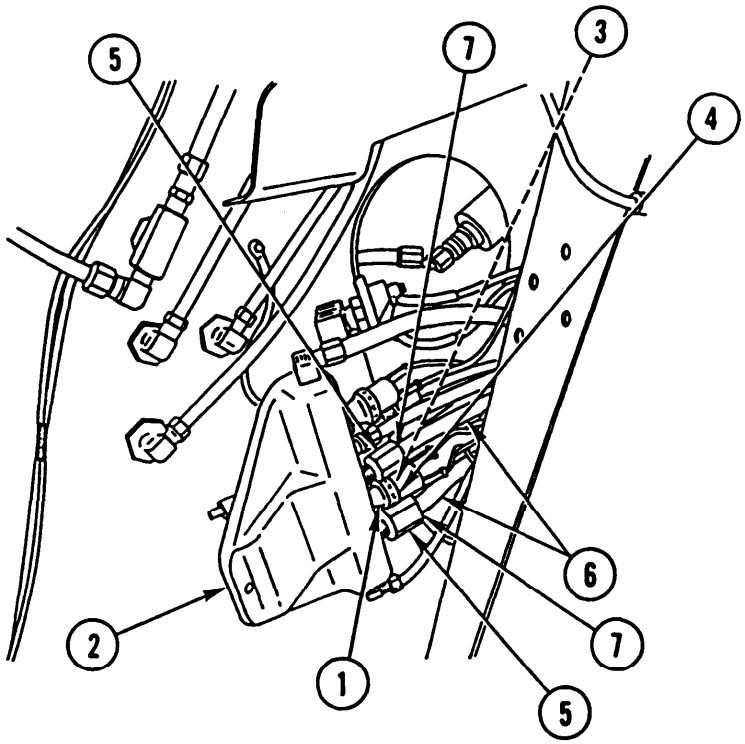
Tag connectors prior to disconnecting to aid in connecting.

6. DISCONNECT TWO ELECTRICAL CONNECTORS (12 AND 13).
7. REMOVE PRIMARY AIR PRESSURE SENDING UNIT (14) FROM CAB AIR JUNCTION BLOCK (11).

CLEANING/INSPECTION

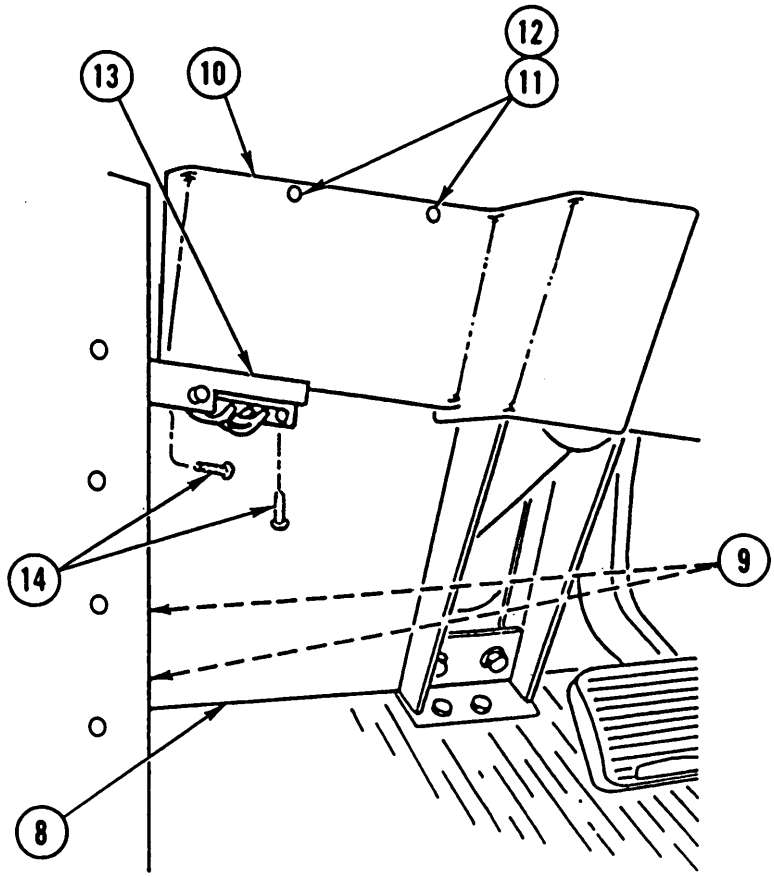
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. COAT THREADS WITH SEALING COMPOUND AND INSTALL PRIMARY AIR PRESSURE SENDING UNIT (1) IN CAB AIR JUNCTION BLOCK (2).
2. CONNECT TWO ELECTRICAL CONNECTORS (3 AND 4).
3. COAT THREADS WITH SEALING COMPOUND AND INSTALL TWO FITTINGS (5) IN CAB AIR JUNCTION BLOCK (2).
4. CONNECT TWO AIR LINES (6) COMPLETELY IN TWO COLLARS (7).

PRIMARY AIR PRESSURE SENDING UNIT REPLACEMENT (CONT)



NOTE

If cab air junction block was removed, perform Installation steps 3 and 6 of Cab Air Junction Block Replacement (page 4-521).

5. INSTALL COVER (8) AND TWO SCREWS (9).

6. INSTALL COVER (10), FIVE WASHERS (11), AND FIVE SCREWS (12).

7. MOVE ENGINE CHECK SWITCH BRACKET (13) IN PLACE AND INSTALL TWO SCREWS (14).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

SECONDARY AIR PRESSURE SENDING UNIT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materiais/Parts:

Compound, Sealing	Appendix C, item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Completely Drained
Page 2-29	Batteries Disconnected

SECONDARY AIR PRESSURE SENDING UNIT REPLACEMENT (CONT)

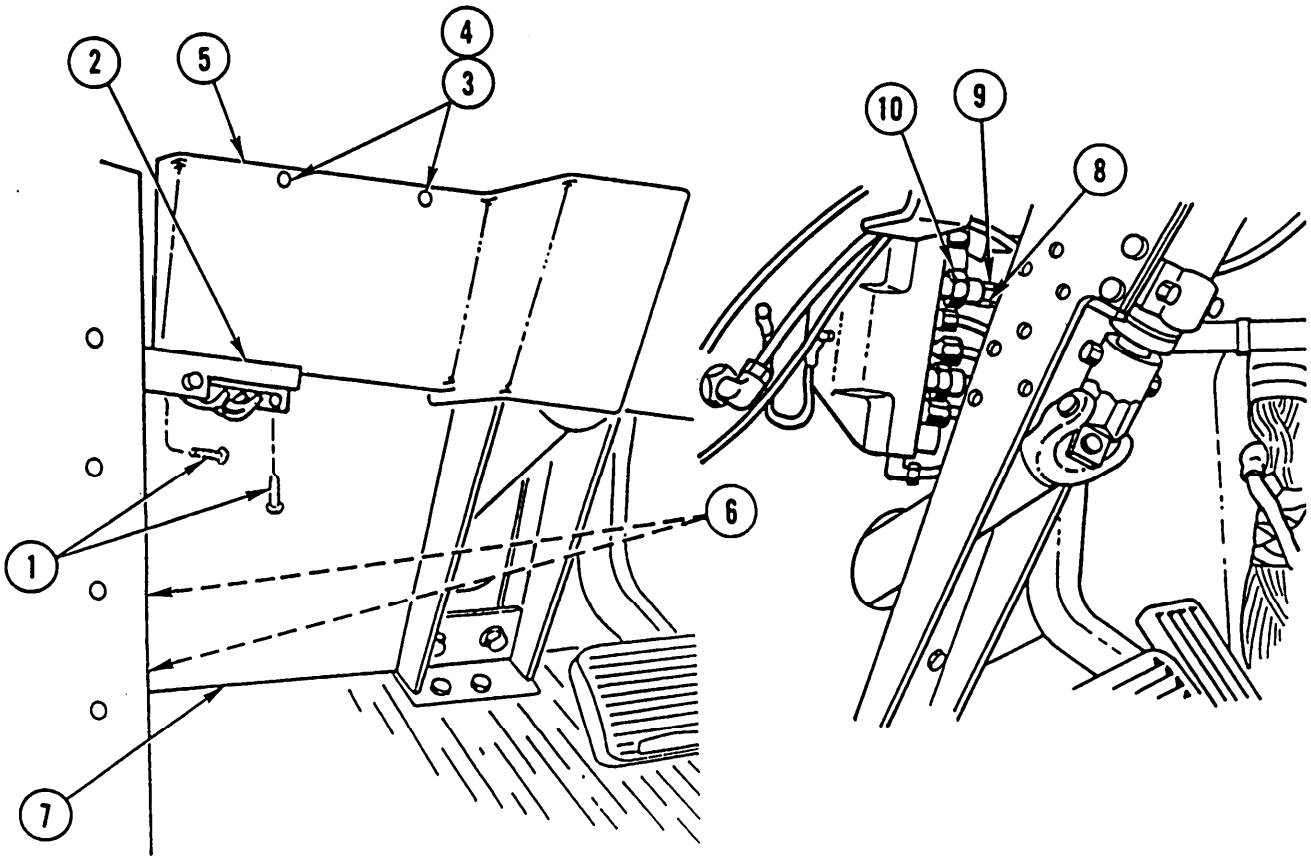
REMOVAL

1. REMOVE TWO SCREWS (1) AND SET ENGINE CHECK SWITCH BRACKET (2) ASIDE.
2. REMOVE FIVE SCREWS (3), FIVE WASHERS (4), AND COVER (5).
3. REMOVE TWO SCREWS (6) AND COVER (7).

NOTE

Tag connectors prior to disconnecting to aid in connecting.

4. DISCONNECT TWO ELECTRICAL CONNECTORS (8 AND 9).
5. REMOVE SECONDARY AIR PRESSURE SENDING UNIT (10).



CLEANING/INSPECTION

Clean and inspect all park in accordance with Chapter 2.

INSTALLATION

1. COAT THREADS WITH SEALING COMPOUND AND INSTALL SECONDARY AIR PRESSURE SENDING UNIT (10).
2. CONNECT TWO ELECTRICAL CONNECTORS (9 AND 8).
3. INSTALL COVER (7) AND TWO SCREWS (6).
4. INSTALL COVER (5), FIVE WASHERS (4), AND FIVE SCREWS (3).
5. MOVE ENGINE CHECK SWITCH BRACKET (2) IN PLACE AND INSTALL TWO SCREWS (1).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

TURN SIGNAL SWITCH ASSEMBLY REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

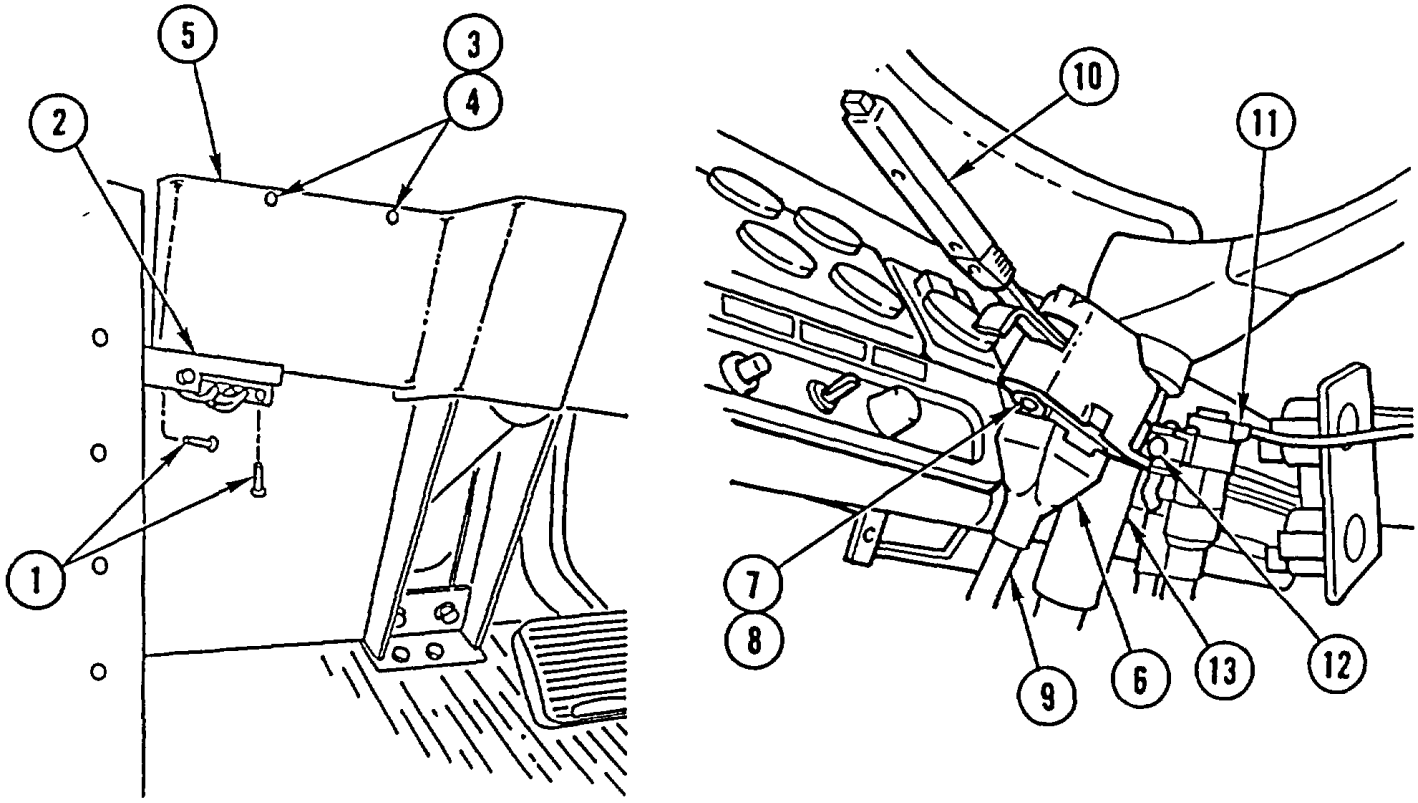
Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE TWO SCREWS (1) AND SET ENGINE CHECK SWITCH BRACKET (2) ASIDE.
2. REMOVE FIVE SCREWS (3), FIVE WASHERS (4), AND COVER (5).
3. PULL RUBBER COVER (6) DOWN ENOUGH TO ALLOW ACCESS TO SCREW (7).
4. REMOVE SCREW (7) AND CLIP (8).
5. DISCONNECT CABLE ASSEMBLY (9) FROM TURN SIGNAL SWITCH ASSEMBLY (10).
6. REMOVE TURN SIGNAL SWITCH ASSEMBLY (10), TRAILER HAND BRAKE VALVE (11), AND CLAMP (12) FROM STEERING COLUMN (13). SET TRAILER HAND BRAKE VALVE (11) ASIDE.
7. REMOVE CLAMP (12) FROM TURN SIGNAL SWITCH ASSEMBLY (10).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL CLAMP (12) IN TURN SIGNAL SWITCH ASSEMBLY (9).
2. INSTALL TURN SIGNAL SWITCH ASSEMBLY (10), TRAILER HAND BRAKE VALVE (11), AND CLAMP (12) ON STEERING COLUMN (13).
3. CONNECT CABLE ASSEMBLY (9) TO TURN SIGNAL SWITCH ASSEMBLY (10).
4. INSTALL CLIP (8) AND SCREW (7).
5. PUSH RUBBER COVER (6) BACK INTO POSITION.
6. INSTALL COVER (5), FIVE WASHERS (4), AND FIVE SCREWS (3).
7. INSTALL ENGINE CHECK SWITCH BRACKET (2) AND TWO SCREWS (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

RIGHT GAGE PANEL AND LAMPS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE FOUR SCREWS (1) AND PULL PANEL (2) AWAY FROM DASHBOARD.
2. DISCONNECT PLUG (3) FROM BLACKOUT LIGHT SWITCH (4).
3. DISCONNECT CONNECTOR (5).

NOTE
Tag air tubes prior to removal to aid in installation.

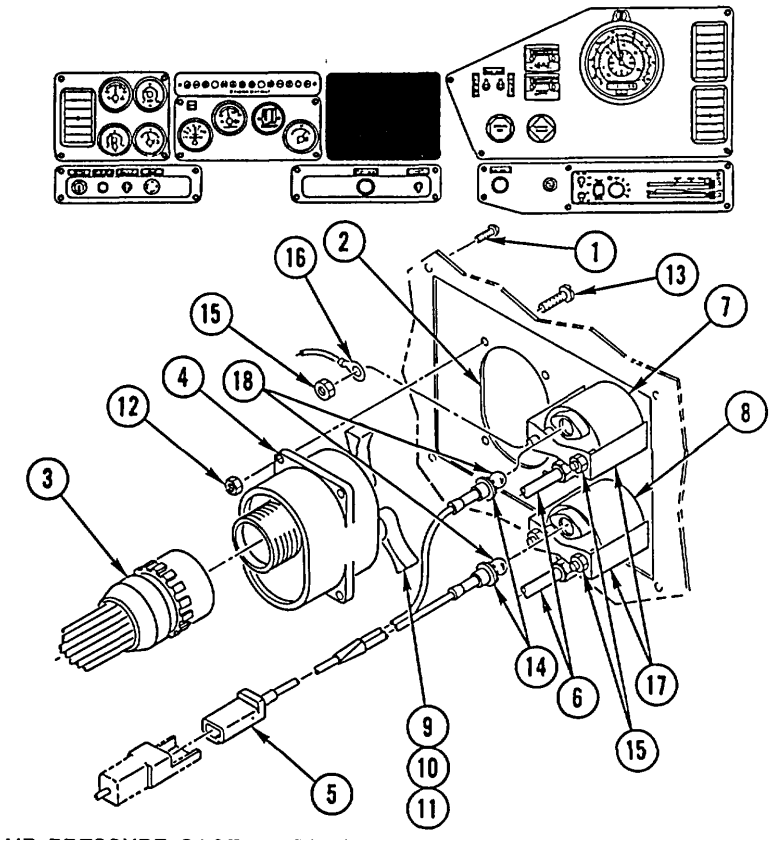
4. DISCONNECT TWO AIR TUBES (6) FROM TWO AIR PRESSURE GAGES (7 AND 8) AND REMOVE PANEL (2).
5. REMOVE THREE SCREWS (9), THREE KNOBS (10), AND THREE WASHERS (11) FROM BLACKOUT LIGHT SWITCH (4).
6. REMOVE FOUR NUTS (12), FOUR SCREWS (13), AND BLACKOUT LIGHT SWITCH (4) FROM PANEL (2).
7. REMOVE LAMP HOLDER (14), TWO LOCK NUTS (15), WIRE (16), BRACKET (17), AND AIR PRESSURE GAGE (7) FROM PANEL (2). DISCARD LOCK NUTS.
8. REMOVE LAMP HOLDER (14), TWO LOCK NUTS (15), BRACKET (17), AND AIR PRESSURE GAGE (8) FROM PANEL (2). DISCARD LOCK NUTS.
9. TURN TWO LAMPS (18) TO LEFT AND REMOVE FROM TWO LAMP HOLDERS (14).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL TWO LAMPS (18) IN TWO LAMP HOLDERS (14) AND TURN TO RIGHT.



2. INSTALL AIR PRESSURE GAGE (7), BRACKET (17), WIRE (16), TWO NEW LOCK NUTS (15), AND LAMP HOLDER (14) IN PANEL (2).

3. INSTALL AIR PRESSURE GAGE (8), BRACKET (17), TWO NEW LOCK NUTS (15), AND LAMP HOLDER (14) IN PANEL (2).

4. INSTALL BLACKOUT LIGHT SWITCH (4), FOUR SCREWS (13), AND FOUR NUTS (12) IN PANEL (2).

5. INSTALL THREE WASHERS (11), THREE KNOBS (10), AND THREE SCREWS (9) IN BLACKOUT LIGHT SWITCH (4).

6. CONNECT CONNECTOR (5).

7. CONNECT TWO AIR TUBES (6) TO TWO AIR PRESSURE GAGES (7 AND 8).

8. CONNECT PLUG (3) TO BLACKOUT LIGHT SWITCH (4).

9. INSTALL PANEL (2) IN DASHBOARD AND INSTALL FOUR SCREWS (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

RIGHT GAGE PANEL AND LAMPS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)
Tags, Identification Appendix C, Item 26

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE FOUR SCREWS (1) AND PULL PANEL (2) AWAY FROM DASHBOARD.

NOTE
Tag all air tubes, connectors, and gages prior to removal to aid in installation.

2. DISCONNECT CONNECTOR (3) FROM CAB WIRING HARNESS CONNECTOR (4).

3. DISCONNECT CONNECTORS (5) FROM FUEL LEVEL GAGE (6), TRANSMISSION OIL TEMPERATURE GAGE (7), AND TRANSFER CASE OIL TEMPERATURE GAGE (8).

4. DISCONNECT TWO TUBES (9) FROM AIR PRESSURE GAGES (10). DISCONNECT TUBE (11) FROM AIR CLEANER RESTRICTION INDICATOR GAGE (12).

5. REMOVE PANEL (2) FROM DASHBOARD.

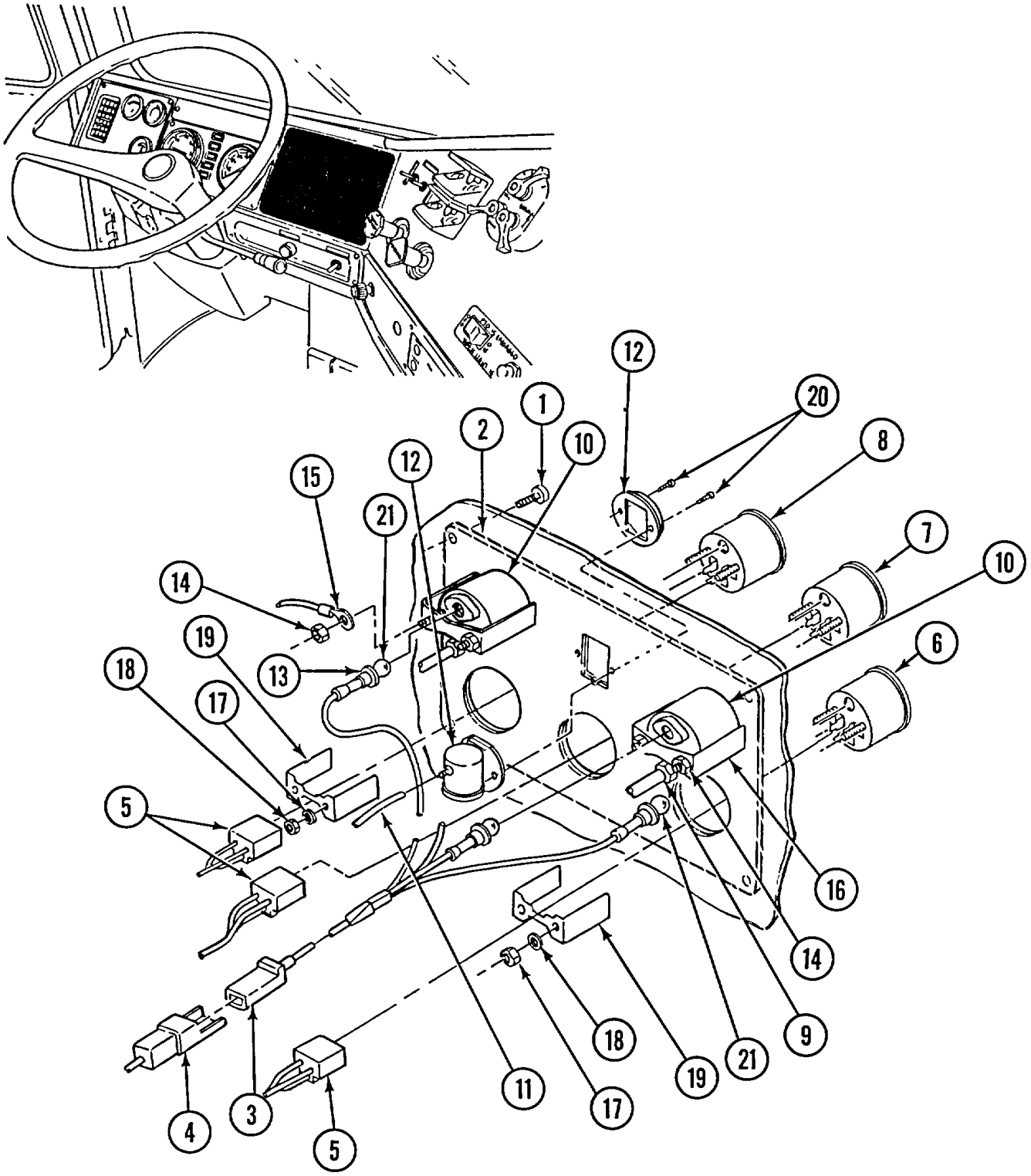
6. REMOVE LAMP HOLDERS (13) FROM FUEL LEVEL GAGE (6), TRANSMISSION OIL TEMPERATURE GAGE (7), TRANSFER CASE OIL TEMPERATURE GAGE (8), AND TWO AIR PRESSURE GAGES (10).

7. REMOVE FOUR LOCK NUTS (14), GROUND WIRE (15), TWO BRACKETS (16), AND AIR PRESSURE GAGES (10) FROM PANEL (2). DISCARD LOCK NUTS.

8. REMOVE SIX NUTS (17), WASHERS (18), THREE BRACKETS (19), FUEL LEVEL GAGE (6), TRANSMISSION OIL TEMPERATURE GAGE (7), AND TRANSFER CASE OIL TEMPERATURE GAGE (8) FROM PANEL (2).

9. REMOVE TWO SCREWS (20) AND AIR CLEANER RESTRICTION INDICATOR GAGE (12) FROM PANEL (2).

10. TURN FIVE LAMPS (21) TO LEFT AND REMOVE FROM LAMP HOLDERS (13).

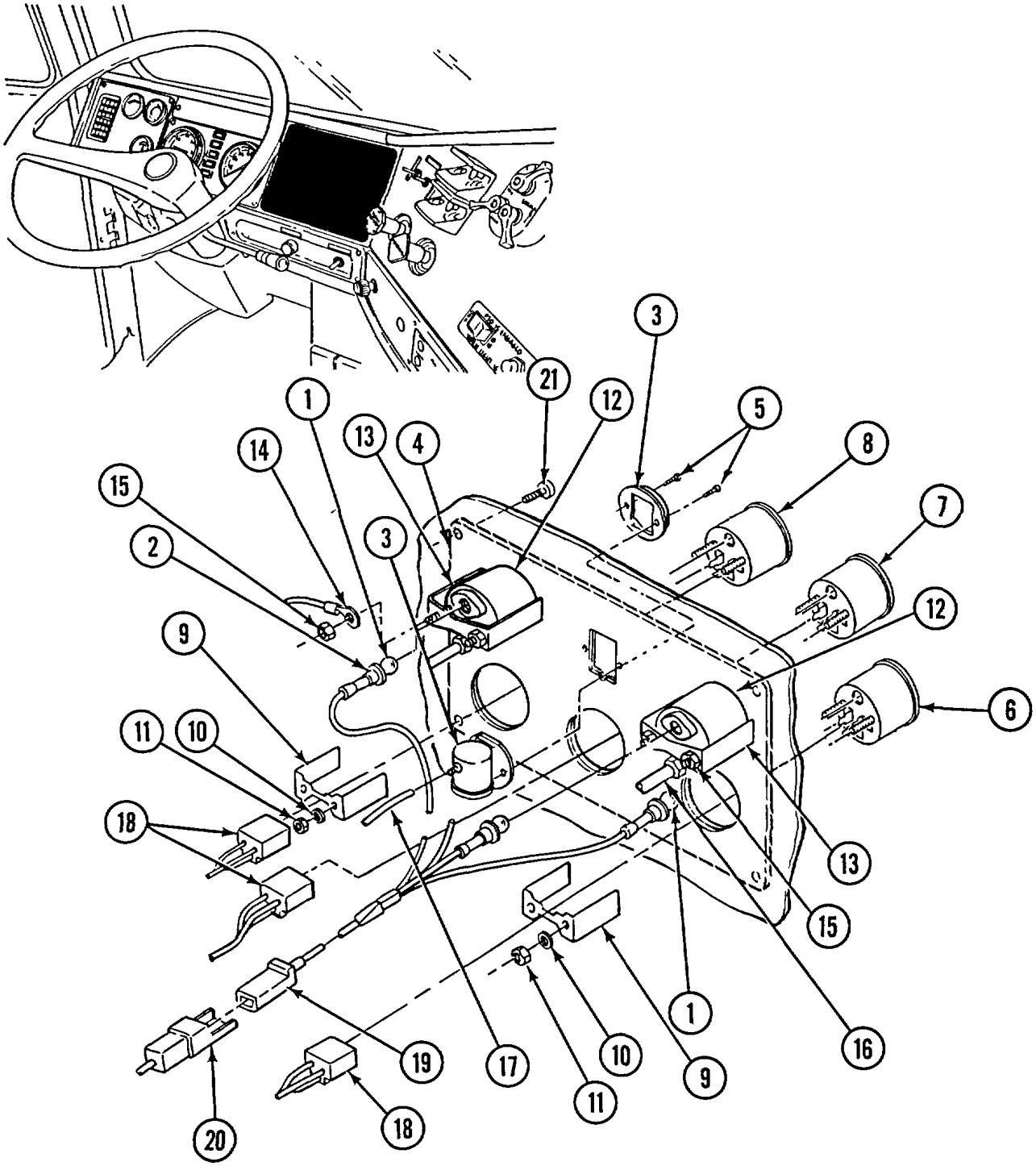


CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

RIGHT GAGE PANEL AND LAMPS REPLACEMENT (CONT)

INSTALLATION



1. INSTALL FIVE LAMPS (1) IN LAMP HOLDERS (2) AND TURN TO RIGHT.

2. INSTALL AIR CLEANER RESTRICTION INDICATOR GAGE (3) TO PANEL (4) WITH TWO SCREWS (5).

3. INSTALL FUEL LEVEL GAGE (6), TRANSMISSION OIL TEMPERATURE GAGE (7), AND TRANSFER CASE OIL TEMPERATURE GAGE (8) TO PANEL (4) WITH THREE BRACKETS (9), SIX WASHERS (10), AND NUTS (11).

4. INSTALL TWO AIR PRESSURE GAGES (12) TO PANEL (4) WITH TWO BRACKETS (13), GROUND WIRE (14), AND FOUR NEW LOCK NUTS (15).

5. INSTALL LAMP HOLDERS (2) TO FUEL LEVEL GAGE (6), TRANSMISSION OIL TEMPERATURE GAGE (7), AND TRANSFER CASE OIL TEMPERATURE GAGE (8) AND TWO AIR PRESSURE GAGES (12).

6. CONNECT TWO TUBES (16) TO AIR PRESSURE GAGES (12). CONNECT TUBE (17) TO AIR CLEANER RESTRICTION INDICATOR GAGE (3).

7. CONNECT CONNECTORS (18) TO FUEL LEVEL GAGE (6), TRANSMISSION OIL TEMPERATURE GAGE (7), AND TRANSFER CASE OIL TEMPERATURE GAGE (8).

8. CONNECT CONNECTOR (19) TO CAB WIRING HARNESS CONNECTOR (20).

9. INSTALL PANEL (4) TO DASHBOARD WITH FOUR SCREWS (21).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

LEFT GAGE PANEL AND LAMPS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (8)
Tags, Identification Appendix C, Item 26

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE FOUR SCREWS (1) AND PULL PANEL (2) AWAY FROM DASHBOARD.

NOTE
Tag all plugs and tubes prior to removal to aid in installation.

2. DISCONNECT TWO PLUGS (3), CONNECTOR (4), AND TWO TUBES (5) AND REMOVE PANEL (2).

NOTE
On all except M915A2 and M916A1, left gage panel has only three gages.

3. REMOVE LAMP HOLDERS (6) FROM ENGINE OIL PRESSURE GAGE (7), ENGINE WATER TEMPERATURE GAGE (8), VOLTMETER (9), AND TURBO-BOOST GAGE (10).

NOTE
Note location of each gage prior to removal to aid in installation.

4. REMOVE TWO LOCK NUTS (11), BRACKET (12), AND ENGINE OIL PRESSURE GAGE (7) FROM PANEL (2). DISCARD LOCK NUTS.

5. REPEAT STEP 4 FOR ENGINE WATER TEMPERATURE GAGE (8), VOLTMETER (9), AND TURBO-BOOST GAGE (10).

6. REMOVE AIR VENT (13) FROM PANEL (2).

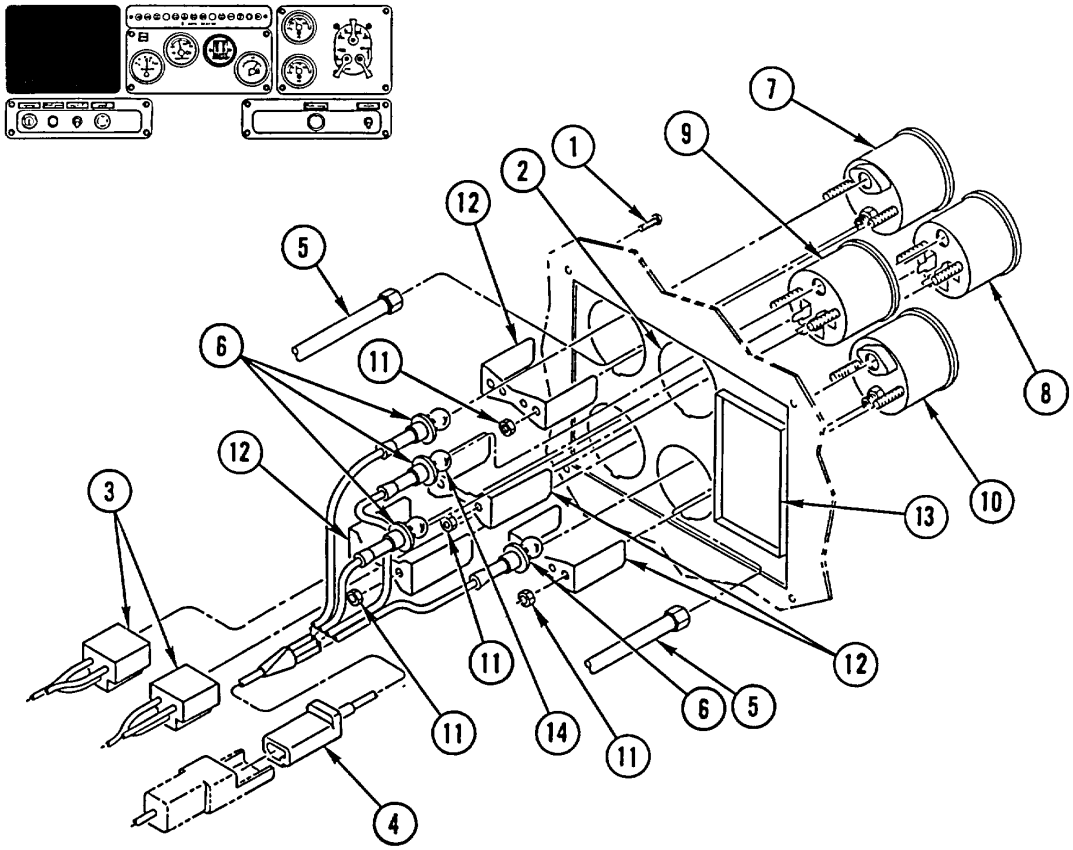
7. TURN FOUR LAMPS (14) TO LEFT AND REMOVE FROM FOUR LAMP HOLDERS (6).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL FOUR LAMPS (14) IN FOUR LAMP HOLDERS (6) AND TURN TO RIGHT.



2. INSTALL AIR VENT (13) IN PANEL (2).

3 INSTALL ENGINE OIL PRESSURE GAGE (7), BRACKET (12) AND TWO NEW LOCK NUTS (11) ON PANEL (2).

NOTE
On all except M915A2 and M916A1, left gage panel has only three gages.

4. REPEAT STEP 3 FOR ENGINE WATER TEMPERATURE GAGE (8), VOLTMETER (9), AND TURBO-BOOST GAGE (10).

5. INSTALL FOUR LAMP HOLDERS (6) IN ENGINE OIL PRESSURE GAGE (7), ENGINE WATER TEMPERATURE GAGE (8), VOLT METER (9), AND TURBO-BOOST GAGE (10).

6. CONNECT TWO TUBES (5), CONNECTOR (4), AND TWO PLUGS (3).

7. INSTALL PANEL (2) IN DASHBOARD AND INSTALL FOUR SCREWS (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

CENTER GAGE PANEL AND LAMPS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (2)

Nut, Lock (4)

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

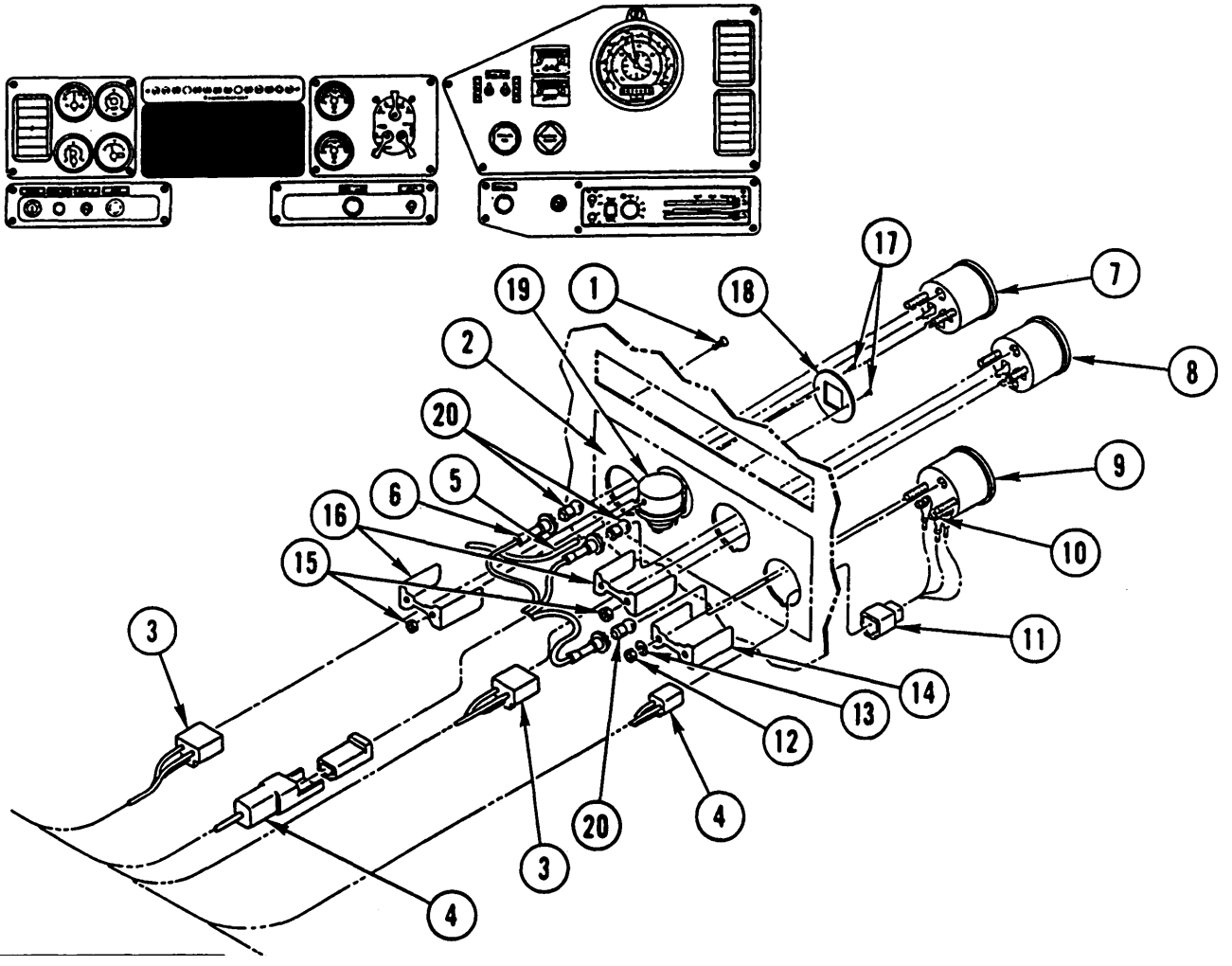
1. REMOVE FOUR SCREWS (1) AND PULL PANEL ASSEMBLY (2) AWAY FROM DASHBOARD.

NOTE
Tag all plugs and connectors prior to removal to aid in installation.

2. DISCONNECT TWO PLUGS (3), TWO CONNECTORS (4), AND AIR LINE (5) AND REMOVE PANEL ASSEMBLY (2).
3. REMOVE THREE LAMP HOLDERS (6) FROM THREE GAGES (7, 8, AND 9).
4. REMOVE THREE NUTS (10) AND HARNESS (11) FROM GAGE (9).
5. REMOVE TWO NUTS (12), TWO LOCK WASHERS (13), BRACKET (14), AND GAGE (9) FROM PANEL (2). DISCARD LOCK WASHERS.
6. REMOVE TWO LOCK NUTS (15), BRACKET (16), AND GAGE (7). DISCARD LOCK NUTS.
7. REPEAT STEP 6 FOR GAGE (8).
8. REMOVE TWO SCREWS (17), BEZEL (18), AND AIR RESTRICTION INDICATOR (19).
9. TURN THREE LAMPS (20) TO LEFT AND REMOVE FROM THREE LAMP HOLDERS (6).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL THREE LAMPS (20) IN THREE LAMP HOLDERS (6) AND TURN TO RIGHT.
2. INSTALL AIR RESTRICTION INDICATOR (19), BEZEL (18), AND TWO SCREWS (17).
3. INSTALL GAGE (7), BRACKET (16), AND TWO NEW LOCK NUTS (15).
4. REPEAT STEP 3 FOR GAGE (8).
5. INSTALL GAGE (9), BRACKET (14), TWO LOCK WASHERS (13), AND IWO NUTS (12) ON PANEL (2).
6. INSTALL HARNESS (11) AND THREE NUTS (10) ON GAGE (9).
7. INSTALL THREE LAMP HOLDERS (6) IN THREE GAGES (7, 8, AND 9).
8. CONNECT AIR LINE (5), TWO CONNECTORS (4), AND TWO PLUGS (3).
9. INSTALL PANEL ASSEMBLY (2) AND FOUR SCREWS (1) IN DASHBOARD.

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

CENTER GAGE PANEL AND LAMPS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE FOUR SCREWS (1) AND PULL PANEL ASSEMBLY (2) AWAY FROM DASHBOARD.

NOTE

Tag all plugs, connectors, and gages prior to removal to aid in installation.

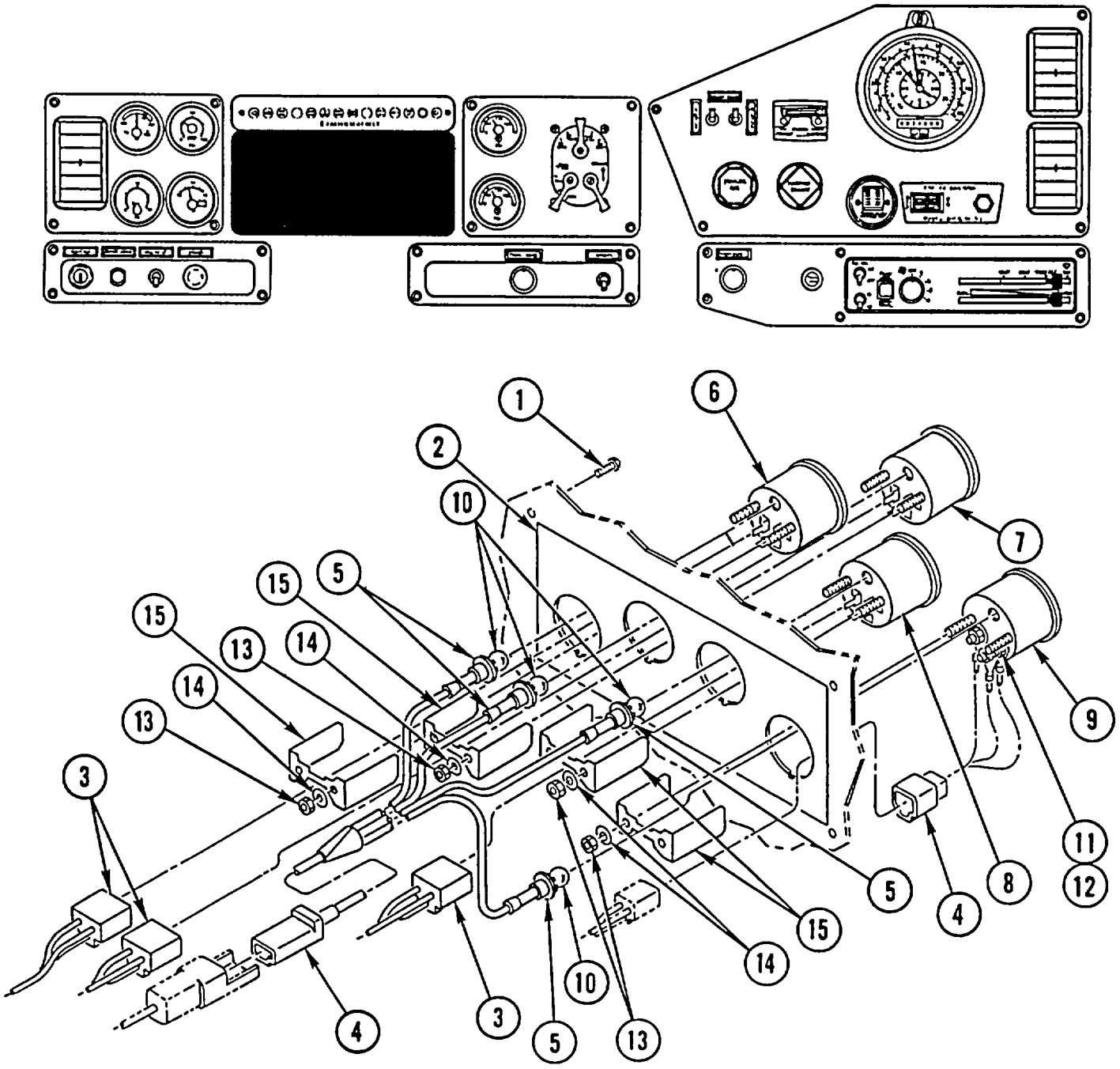
2. DISCONNECT THREE PLUGS (3) AND TWO CONNECTORS (4) AND REMOVE PANEL ASSEMBLY (2).
3. REMOVE FOUR LAMP HOLDERS (5) FROM FOUR GAGES (6, 7, 8, AND 9).
4. TURN FOUR LAMPS (10) TO LEFT AND REMOVE FROM FOUR LAMP HOLDERS (5).
5. REMOVE THREE NUTS (11) AND HARNESS (12) FROM GAGE (9).
6. REMOVE TWO ‘NUTS (13), TWO WASHERS (14), BRACKET (15), AND GAGE (9) FROM PANEL (2).
7. REPEAT STEP 6 FOR THREE GAGES (6, 7, AND 8).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL GAGE (9), BRACKET (15), TWO WASHERS (14), AND TWO NUTS (13) ON PANEL (2).
2. REPEAT STEP 1 FOR THREE GAGES (6, 7, AND 8).
3. INSTALL HARNESS (12) AND THREE NUTS (11) ON GAGE (9).
4. INSTALL FOUR LAMPS (10) IN FOUR LAMP HOLDERS (5) AND TURN TO RIGHT.



5. INSTALL FOUR LAMP HOLDERS (5) IN FOUR GAGES (6, 7, 8, AND 9).

6. CONNECT TWO CONNECTORS (4) AND THREE PLUGS (3).

7. INSTALL PANEL ASSEMBLY (2) IN DASHBOARD AND INSTALL FOUR SCREWS (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

CENTER GAGE PANEL AND LAMPS AND INDICATOR LIGHTS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:	**Materials/Parts:**	
All except M915A2 and M916A1	Tags, Identification	Appendix C, Item 26
Tools and Special Equipment:	**Equipment Condition:**	
Shop Equipment, SC 4910-95-CL-A72 Tool Kit, SC 5180-90-CL-N26	**Reference**	**Condition Description**
	Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE FOUR SCREWS (1) AND PULL PANEL (2) AWAY FROM DASHBOARD

NOTE
Tag connectors prior to removal to aid in installation.

2. DISCONNECT TWO CONNECTORS (3) FROM CAB WIRING HARNESS CONNECTORS (4).

NOTE
M916A2 has two indicator lights. M917A1 and M917A1 w/MCS have five.

3. DISCONNECT CAB WIRING HARNESS CONNECTORS (5) FROM INDICATOR LIGHTS (6) 4. DISCONNECT CONNECTOR (7) FROM CAB WIRING HARNESS CONNECTOR (8) REMOVE PANEL (2).

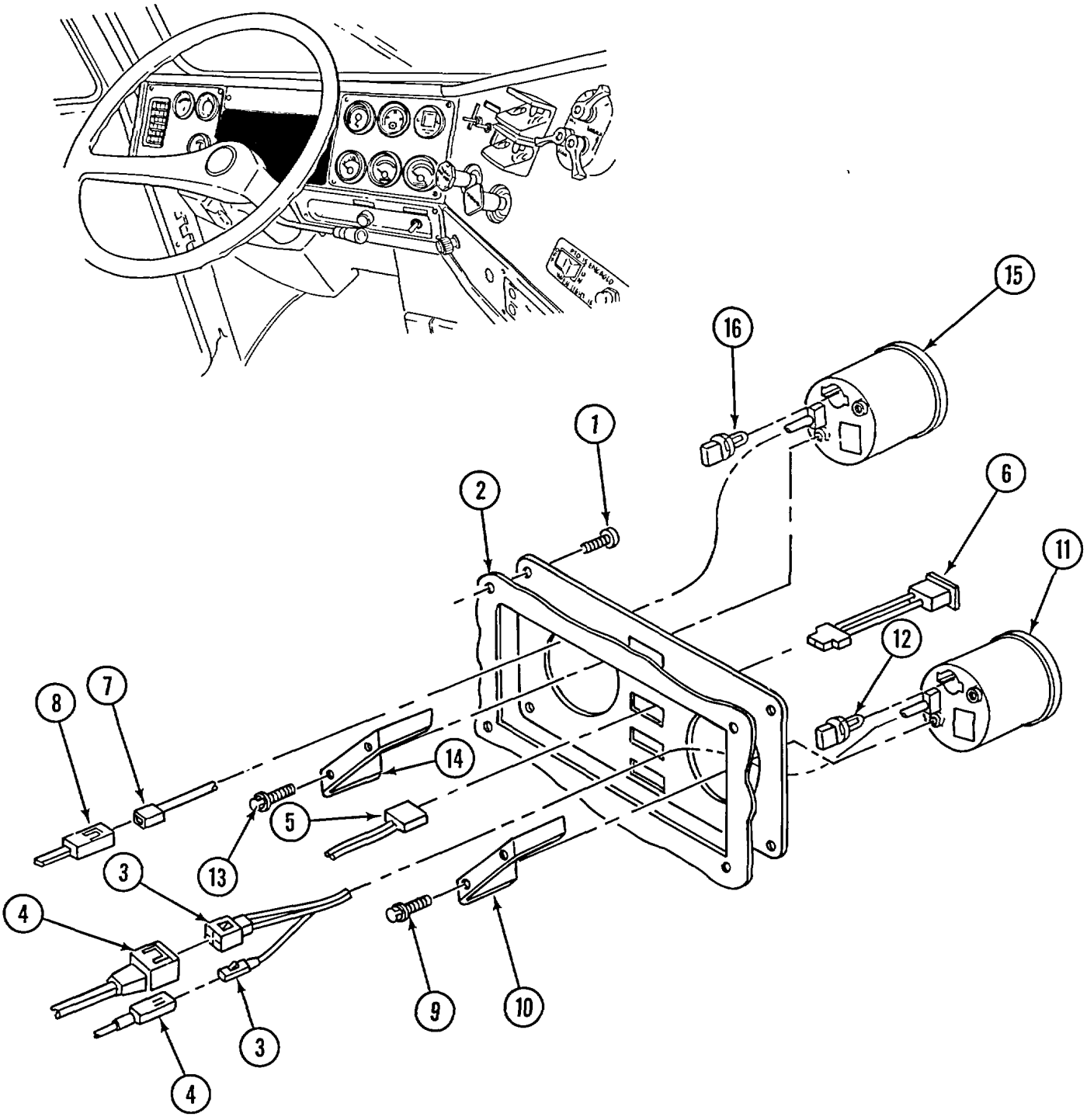
5. REMOVE TWO SCREWS (9), BRACKET (10), AND TACHOMETER (11) FROM PANEL (2). REMOVE LAMP (12) FROM TACHOMETER.

6. REMOVE TWO SCREWS (13), BRACKET (14), AND SPEEDOMETER (15) FROM PANEL (2). REMOVE LAMP (16) FROM SPEEDOMETER.

7. REMOVE INDICATOR LIGHTS (6) FROM PANEL (2).

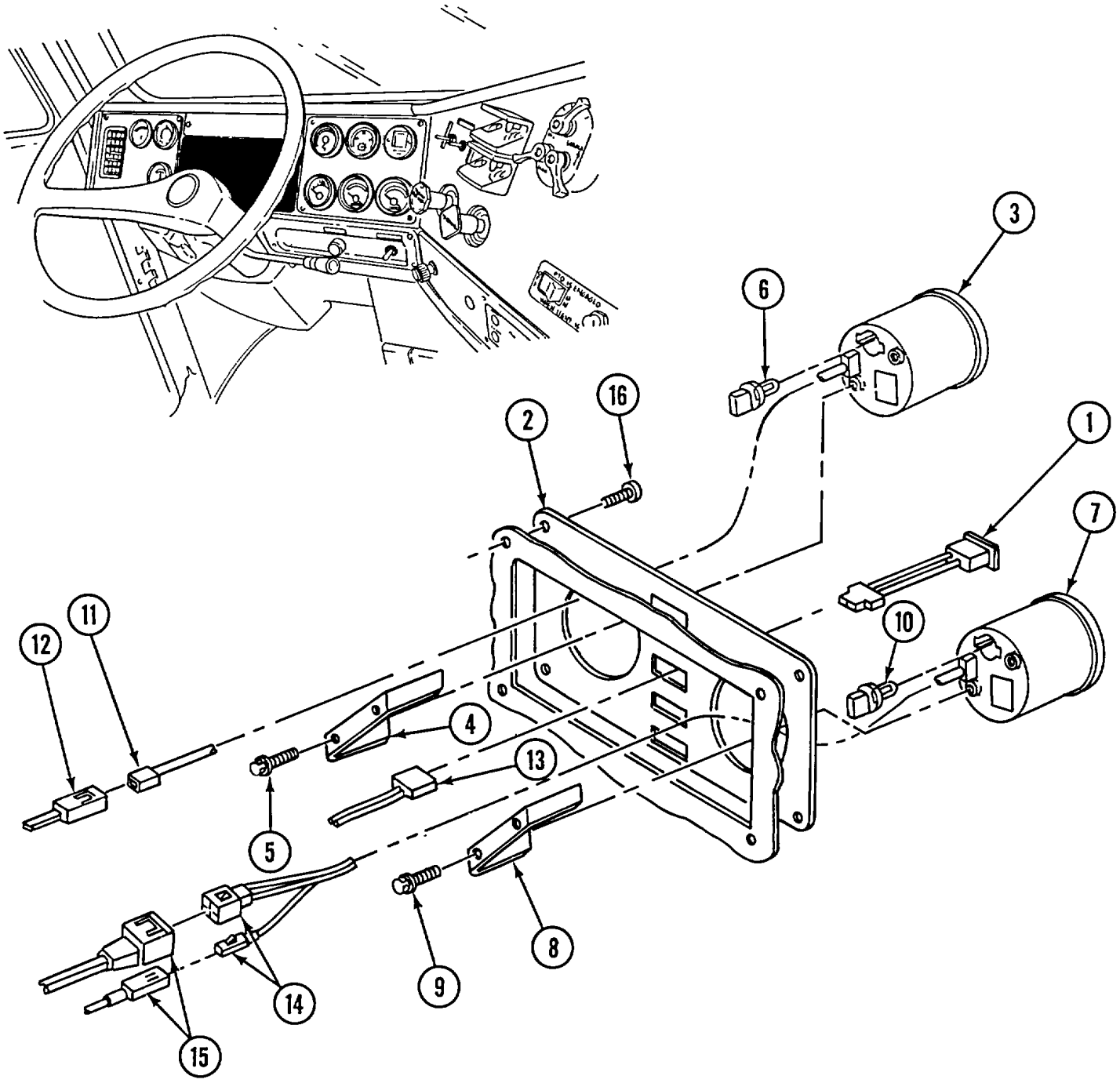
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.


15
16
1
2
6
11
12
8
7
14
5
13
3
4
3
4
9
10

CENTER GAGE PANEL AND LAMPS AND INDICATOR LAMPS REPLACEMENT (CONT)

INSTALLATION



NOTE
M916A2 has two indicator lights. M917A1 and M917A1 w/MCS have five.

1. INSTALL INDICATOR LIGHTS (1) TO PANEL (2).
2. INSTALL SPEEDOMETER (3) TO PANEL (2) WITH BRACKET (4) AND TWO SCREWS (5). INSTALL LAMP (6) TO SPEEDOMETER.
3. INSTALL TACHOMETER (7) TO PANEL (2) WITH BRACKET (8) AND TWO SCREWS (9). INSTALL LAMP (10) TO TACHOMETER.
4. CONNECT CONNECTOR (11) TO CAB WIRING HARNESS CONNECTOR (12).
5. CONNECT CAB WIRING HARNESS CONNECTORS (13) TO INDICATOR LIGHTS (1).
6. CONNECT TWO CONNECTORS (14) TO CAB WIRING HARNESS CONNECTORS (15).
7. INSTALL PANEL (2) TO DASHBOARD WITH FOUR SCREWS (16).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

TACHOGRAPH PANEL REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

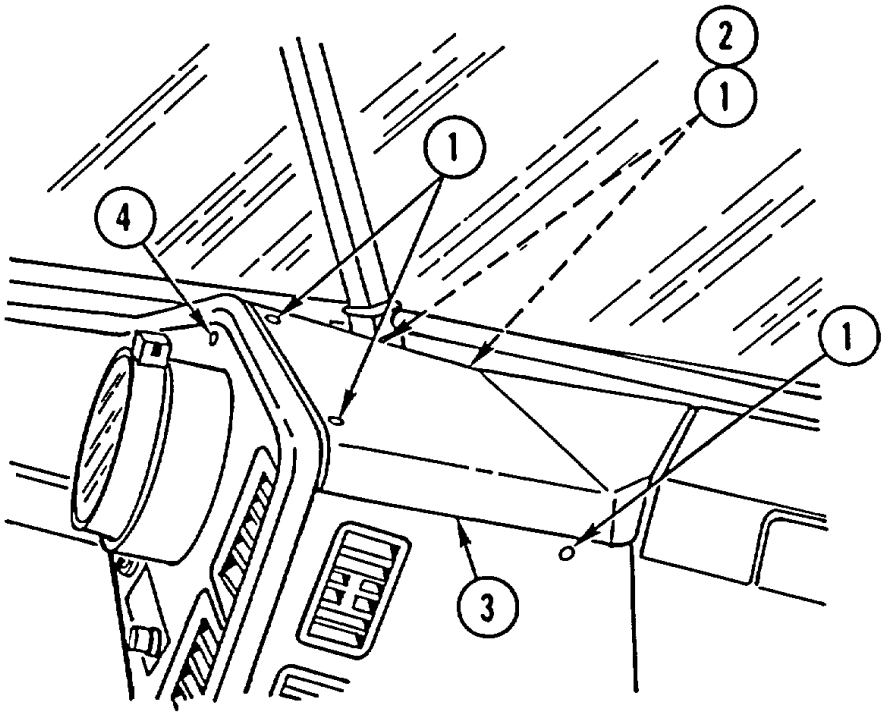
Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected

General Safety Instructions:

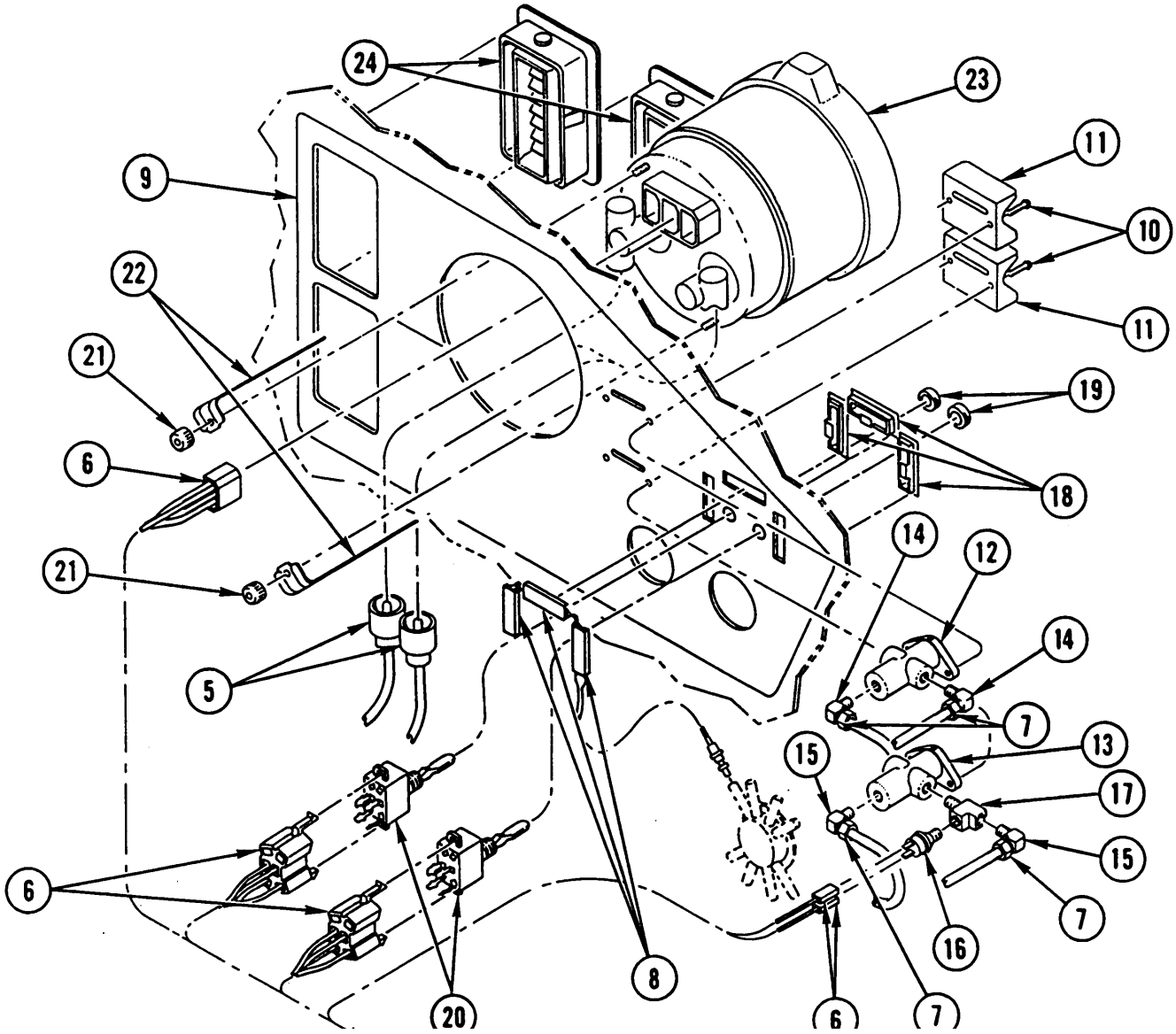
WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter airlines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

REMOVAL



1. REMOVE SIX SCREWS (1), TWO WASHERS (2), DASHBOARD TOP COVER (3), AND FIVE SCREWS (4).



NOTE

Tag all plugs, cables, and fittings prior to removal to aid in installation.

2. DISCONNECT TWO CABLES (5) AND FIVE PLUGS (6).

3. DISCONNECT FOUR FITTINGS (7), REMOVE THREE FIBER OPTIC LABELS (8), AND MOVE PANEL (9) OUT OF THE WAY.

4. REMOVE FOUR SCREWS (10), TWO GUARDS (11), FIFTH WHEEL VALVE (12), AND INTERAXLE VALVE (13) FROM PANEL (9).

5. REMOVE TWO ELBOWS (14) FROM FIFTH WHEEL VALVE (12).

6. REMOVE TWO ELBOWS (15), SENDING UNIT (16), AND TEE (17) FROM INTERAXLE VALVE (13).

7. REMOVE THREE LABEL HOLDERS (18), TWO NUTS (19), AND TWO SWITCHES (20).

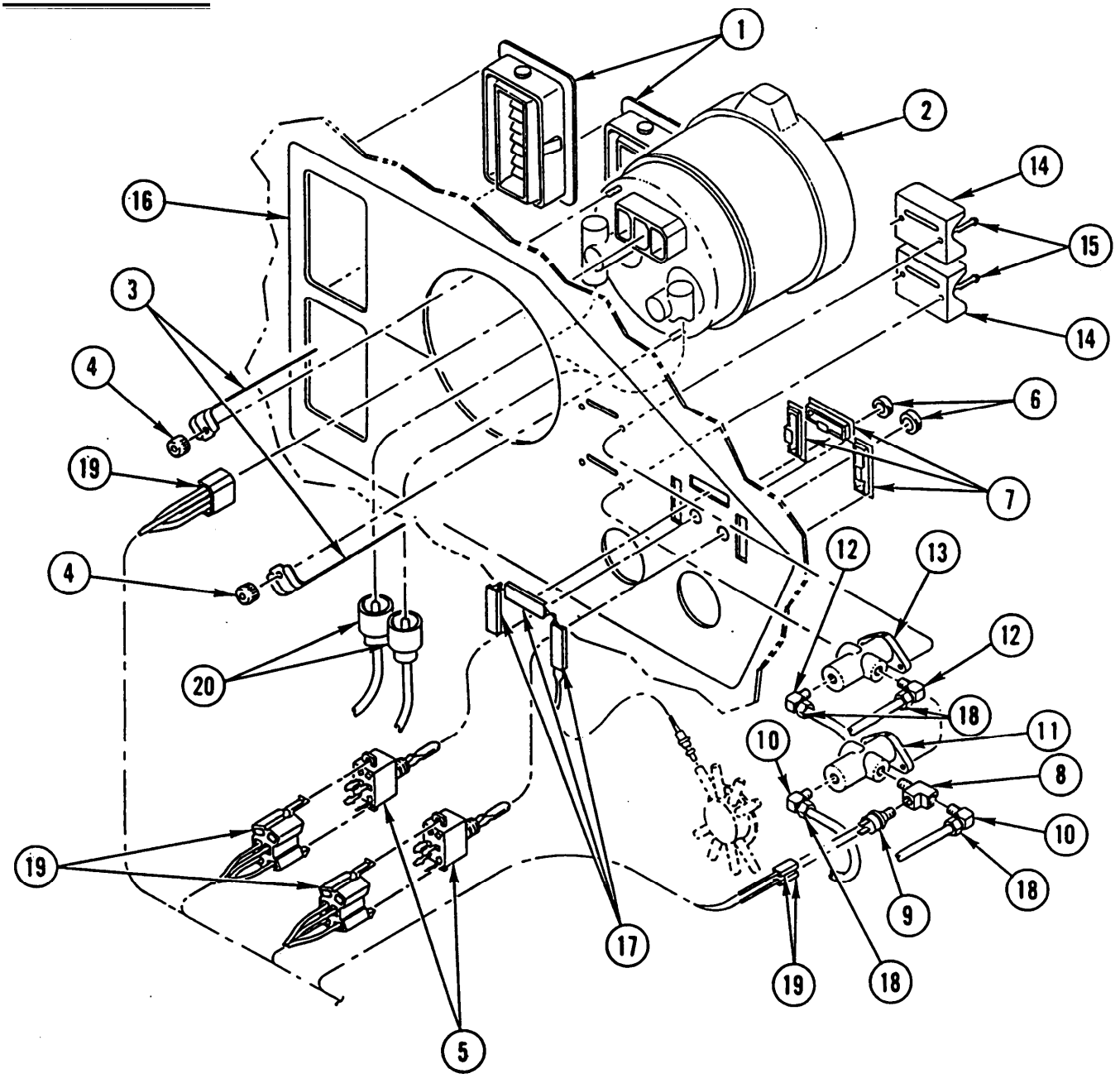
8. REMOVE TWO NUTS (21), TWO BRACKETS (22), TACHOGRAPH (23), AND TWO AIR VENTS (24).

TACHOGRAPH PANEL REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

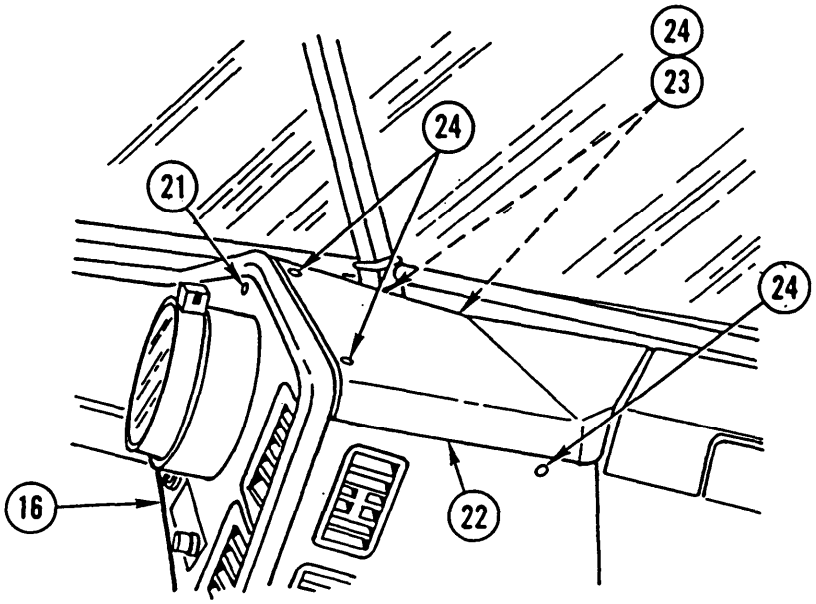


1. INSTALL TWO AIR VENTS (1), TACHOGRAPH (2), TWO BRACKETS (3), AND TWO NUTS (4).
2. INSTALL TWO SWITCHES (5), TWO NUTS (6), AND THREE LABEL HOLDERS (7).

W A R N I N G

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

3. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL TEE (8), SENDING UNIT (9), AND TWO ELBOWS (10) IN INTERAXLE VALVE (11).
4. INSTALL TWO ELBOWS (12) IN FIFTH WHEEL. VALVE (13).
5. INSTALL INTERAXLE VALVE (11), FIFTH WHEEL VALVE (13), TWO GUARDS (14), AND FOUR SCREWS (15) IN PANEL (16).
6. INSTALL THREE FIBER OPTIC LABELS (17) IN PANEL (16) AND CONNECT FOUR FITTINGS (18).
7. CONNECT FIVE PLUGS (19) AND TWO CABLES (20).



8. INSTALL PANEL (16), FIVE SCREWS (21), DASHBOARD TOP COVER (22), TWO WASHERS (23), AND SIX SCREWS (24).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

TACHOGRAPH PANEL REPLACEMENT

This task covers: a. Removal b. Cleanina/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected

General Safety Instructions:

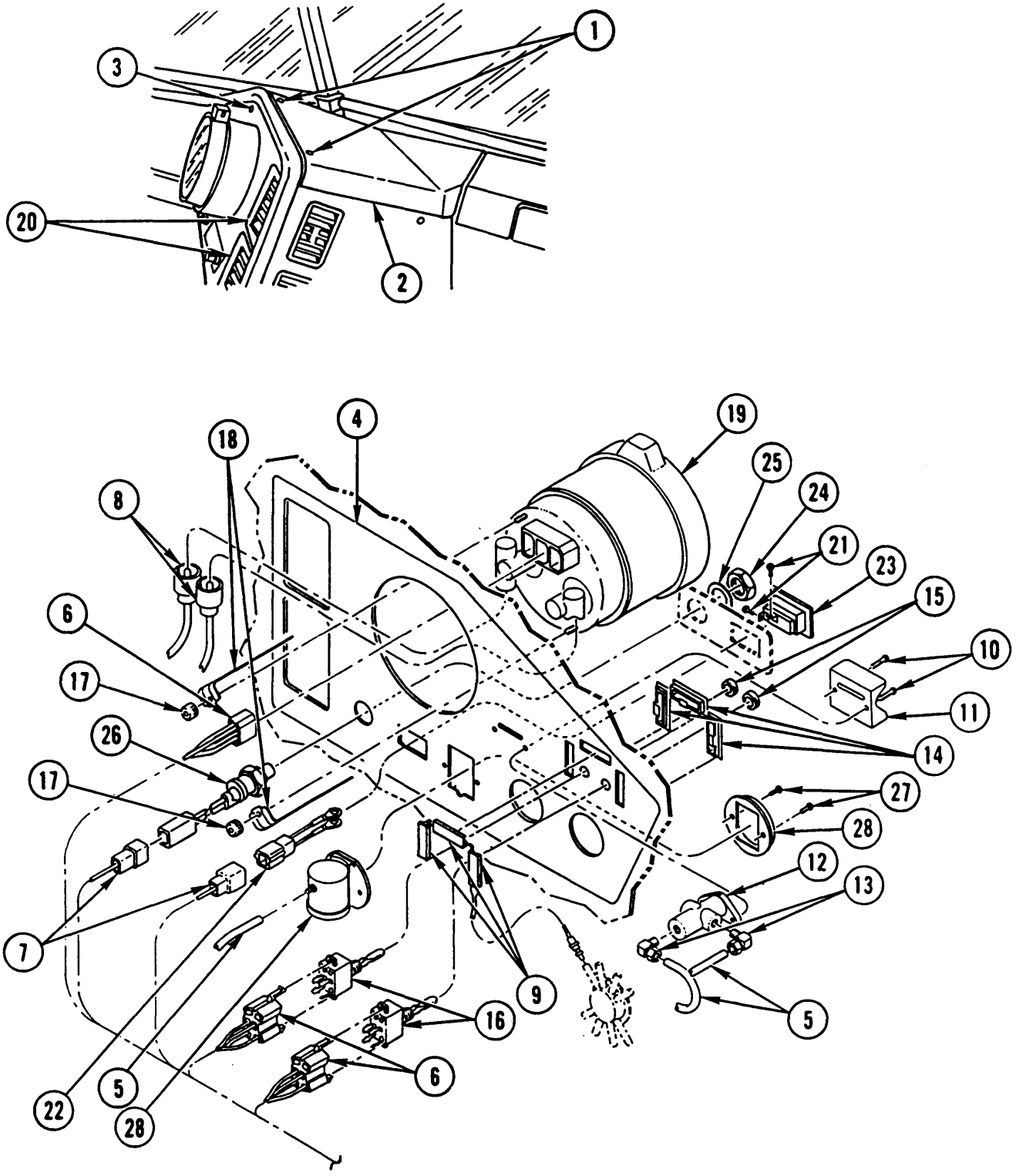
WARNING
Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

REMOVAL

1. REMOVE SIX SCREWS (1), DASHBOARD TOP COVER (2), AND FIVE SCREWS (3) AND PULL PANEL (4) OUT OF DASHBOARD.

NOTE
Tag all tubes, plugs, connectors, and cables prior to removal to aid in installation.

2. DISCONNECT THREE TUBES (5), THREE PLUGS (6), TWO CONNECTORS (7), AND TWO CABLES (8).
3. REMOVE THREE FIBER OPTIC LABELS (9) AND PANEL (4).
4. REMOVE TWO SCREWS (10), GUARD (11), AND VALVE (12),
5. REMOVE TWO ELBOWS (13) FROM VALVE (12).
6. REMOVE THREE LABEL HOLDERS (14), TWO NUTS (15), AND TWO SWITCHES (16).
7. REMOVE TWO NUTS (17), TWO BRACKETS (18), TACHOGRAPH (19), AND TWO AIR VENTS (20).



8. REMOVE TWO SCREWS (21), PIGTAIL (22), SWITCH (23), NUT (24), WASHER (25), AND LIGHT (26).

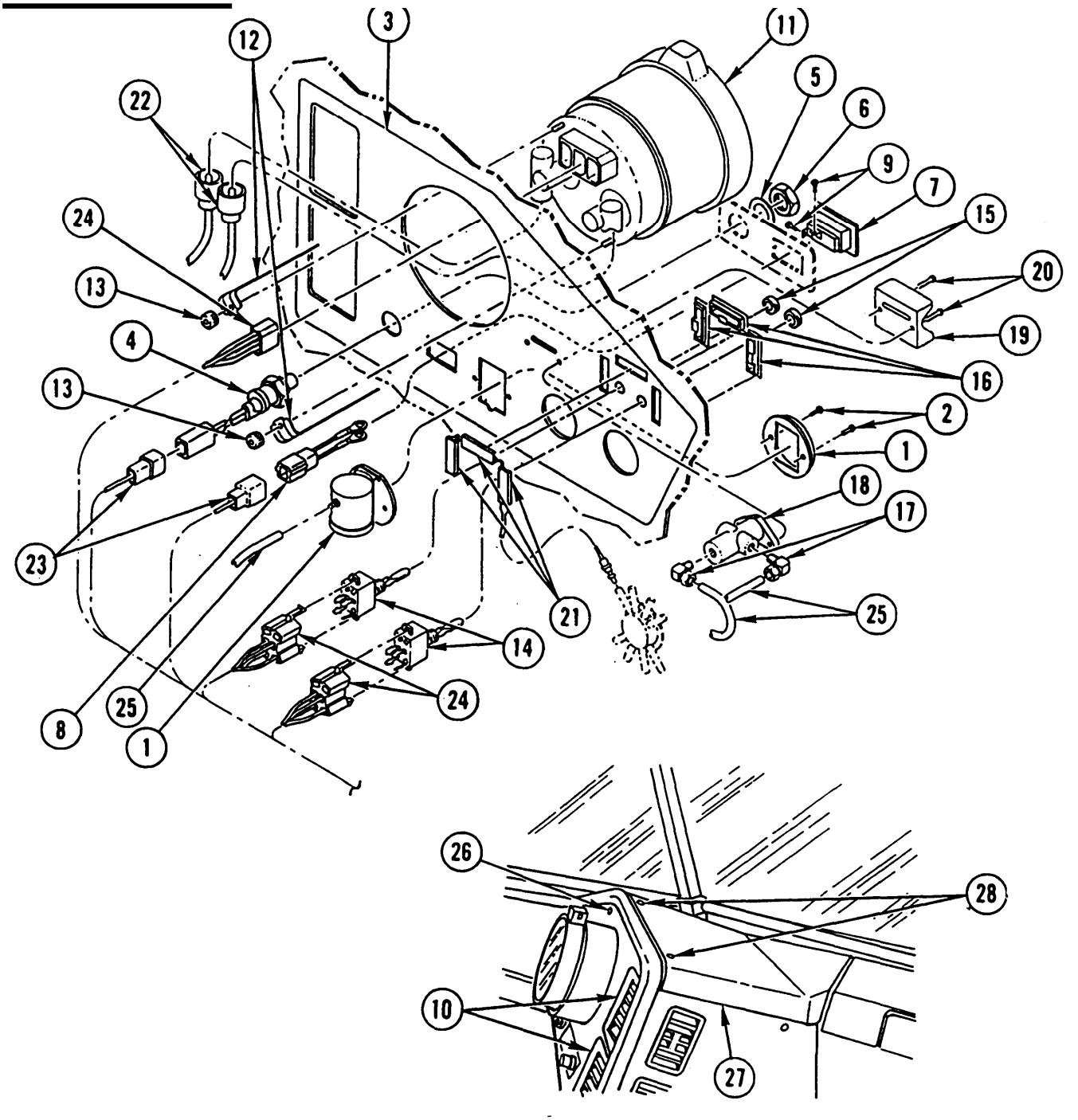
9. REMOVE IWO SCREWS (27) AND AIR RESTRICTION INDICATOR (28) FROM PANEL (4).

TACHOGRAPH PANEL REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL AIR RESTRICTION INDICATOR (1) AND TWO SCREWS (2) IN PANEL (3).
2. INSTALL LIGHT (4), WASHER (5), NUT (6), SWITCH (7), PIGTAIL (8), AND TWO SCREWS (9).
3. INSTALL TWO AIR VENTS (10), TACHOGRAPH (11), TWO BRACKETS (12), AND TWO NUTS (13).
4. INSTALL TWO SWITCHES (14), TWO NUTS (15), AND THREE LABEL HOLDERS (16).

WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

5. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL TWO ELBOWS (17) IN VALVE (18).
6. INSTALL VALVE (18), GUARD (19), AND TWO SCREWS (20) IN PANEL (3).
7. INSTALL THREE FIBER OPTIC LABELS (21).
8. CONNECT TWO CABLES (22), TWO CONNECTORS (23), THREE PLUGS (24), AND THREE TUBES (25) TO BACK OF PANEL (3).
9. INSTALL PANEL (3), FIVE SCREWS (26), DASHBOARD TOP COVER (27), AND SIX SCREWS (28).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

UPPER RIGHT DASH PANEL REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing — Appendix C, Item 8

Tags, Identification — Appendix C, Item 26

General Safety Instructions:

WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealing compound does not enter air lines and fittings. Failure to do so could result in equipment failure and/or injury to personnel.

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected
Page 4-568	Parking Brake and Trailer Air Supply Valves Removed

REMOVAL

NOTE

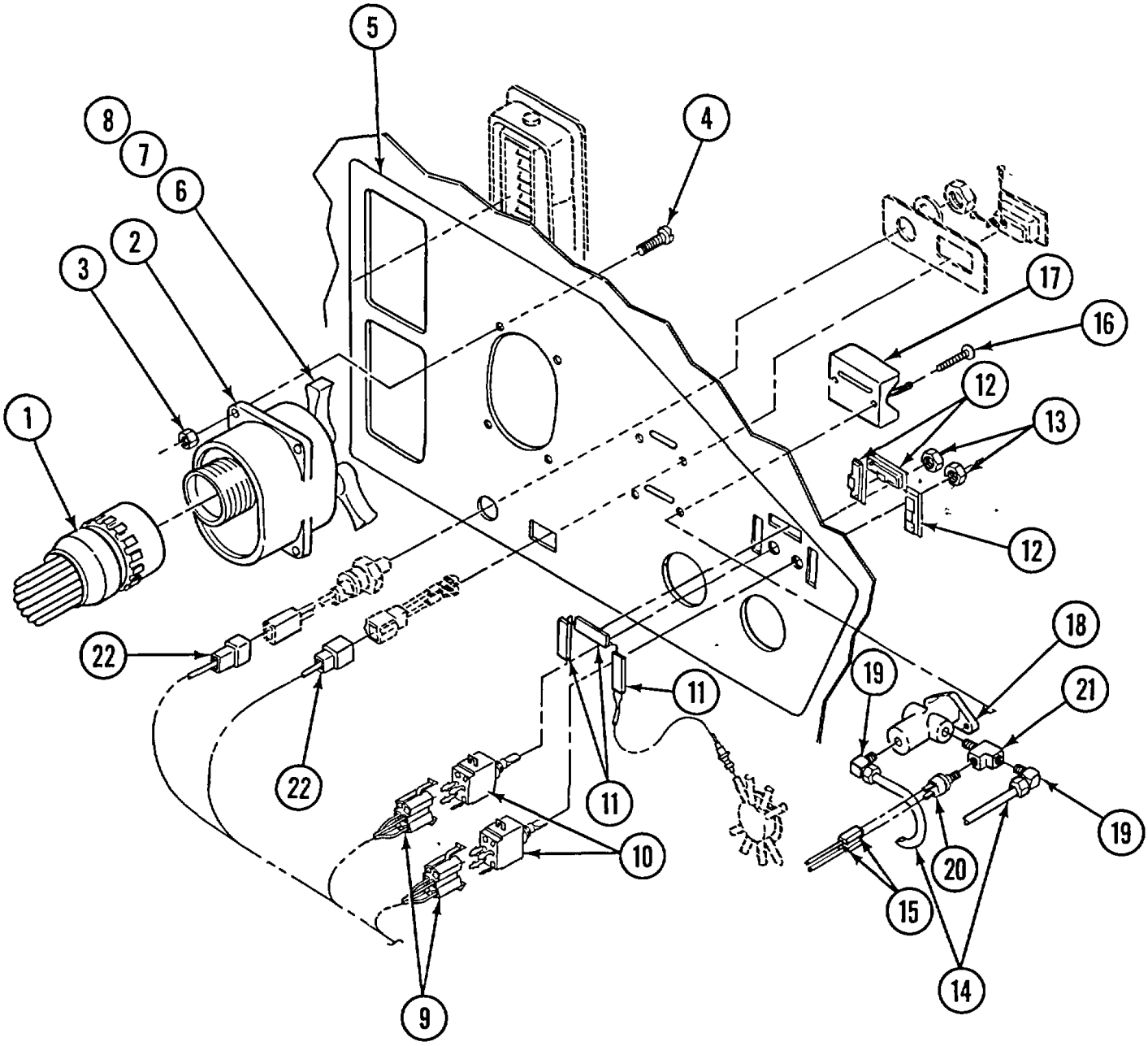
Tag all air tubes and electrical connectors prior to removal to aid in installation

1. DISCONNECT CONNECTOR (1) FROM LIGHT SWITCH (2).
2. REMOVE FOUR NUTS (3), SCREWS (4), AND LIGHT SWITCH (2) FROM PANEL (5).
3. AS REQUIRED, REMOVE THREE SCREWS (6), KNOBS (7), AND WASHERS (8) FROM LIGHT SWITCH (2).
4. DISCONNECT TWO CONNECTORS (9) FROM SWITCHES (10).
5. REMOVE THREE FIBER OPTIC LABELS (11).
6. REMOVE THREE LABEL HOLDERS (12), TWO NUTS (13), AND TWO SWITCHES (10) FROM PANEL (5).

NOTE

There are two control valves and associated hardware on upper right dash panel; tailgate release control valve (M917A1 and M917A1 w/MCS) (top) and all-wheel drive control valve (bottom). One is illustrated.

7. DISCONNECT TWO TUBES (14) AND CONNECTOR (15).

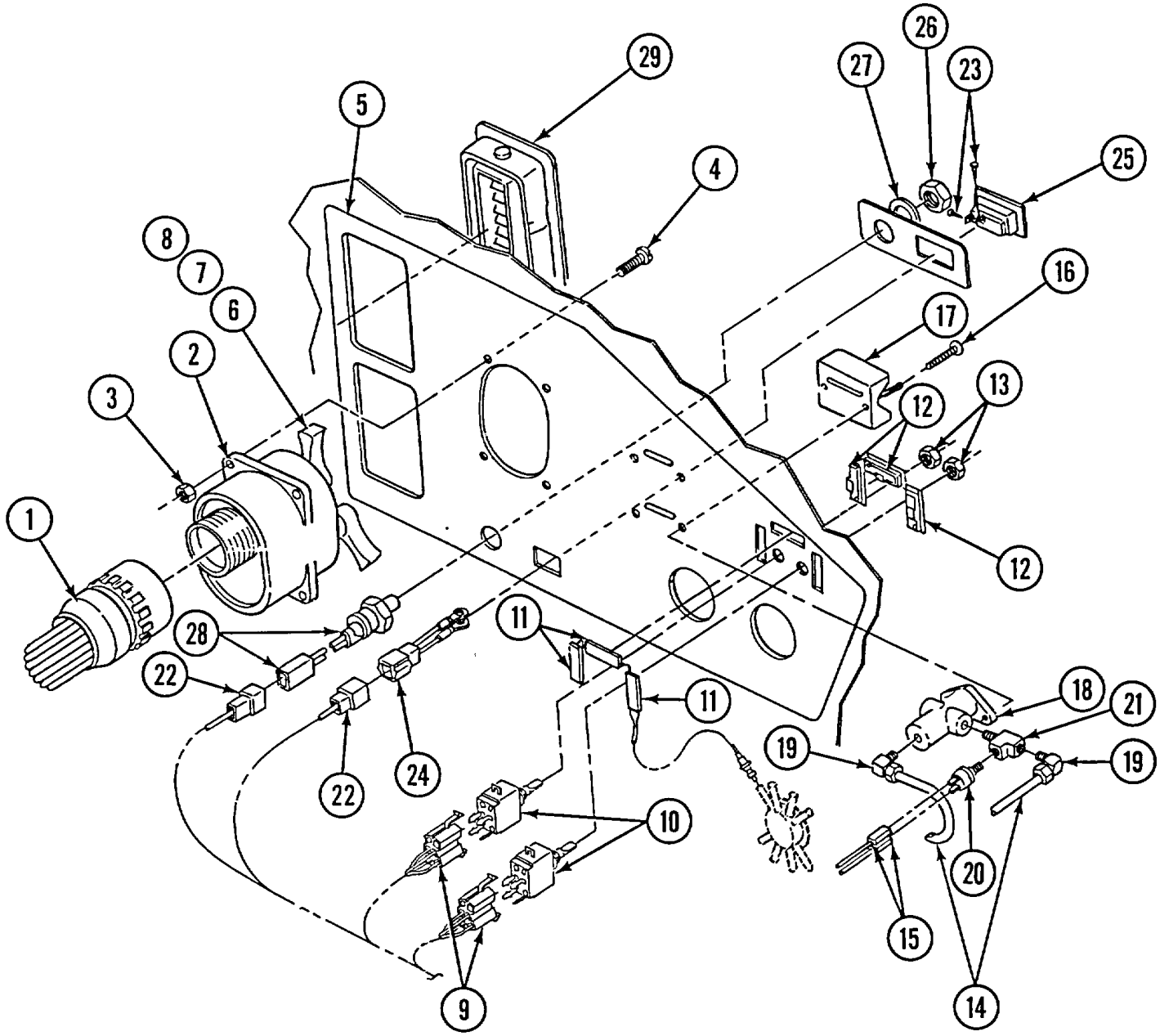


8. REMOVE TWO SCREWS (16), GUARD (17), AND CONTROL VALVE SWITCH (18) FROM PANEL (5).

9. REMOVE TWO ELBOWS (19), SENDING UNIT (20), AND TEE (21) FROM CONTROL VALVE (18).

10. DISCONNECT TWO CONNECTORS (22).

UPPER RIGHT DASH PANEL REPLACEMENT (CONT)



11. REMOVE TWO SCREWS (23), PIGTAIL (24), SWITCH (25), NUT (26), WASHER (27), AND INDICATOR LIGHT (28).

12. REMOVE PANEL (5) FROM DASH BOARD.

13. REMOVE TWO AIR VENTS (29).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL TWO AIR VENTS (29).
2. POSITION PANEL (5) AT DASH BOARD.
3. INSTALL INDICATOR LIGHT (28) TO PANEL (5) WITH WASHER (27) AND NUT (26).
4. INSTALL SWITCH (25) TO PANEL (5). INSTALL PIGTAIL (24) TO SWITCH WITH TWO SCREWS (23).
5. CONNECT TWO CONNECTORS (22).

NOTE

There are two control valves and associated hardware on upper right dash panel, tailgate release control valve (M917A1 and M917A1 w/MCS) (top) and all-wheel drive control valve (bottom). One is illustrated.

6. INSTALL TEE (21), TWO ELBOWS (19), AND SENDING UNIT (20) TO CONTROL VALVE (18)
7. INSTALL CONTROL VALVE (18) AND GUARD (17) TO PANEL (5) WITH TWO SCREWS (16).
8. CONNECT TWO TUBES (14). CONNECT CONNECTOR (15) TO SENDING UNIT (20).
9. INSTALL THREE LABEL HOLDERS (12). INSTALL TWO SWITCHES (10) TO PANEL (5) WITH NUTS (13). INSTALL THREE FIBER OPTIC LABELS (11).
10. CONNECT TWO CONNECTORS (9) TO SWITCHES (10).
11. AS REQUIRED, INSTALL THREE WASHERS (8), KNOBS (7), AND SCREWS (6) TO LIGHT SWITCH (2).
12. INSTALL LIGHT SWITCH (2) TO PANEL (5) WITH FOUR SCREWS (4) AND NUTS (3).
13. CONNECT CONNECTOR (1) TO LIGHT SWITCH (2)

NOTE
Follow-on Maintenance:

Install parking brake and trailer air supply valves (page 4-568).
Connect batteries (page 2-29).

RIGHT-HAND SWITCH PANEL REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

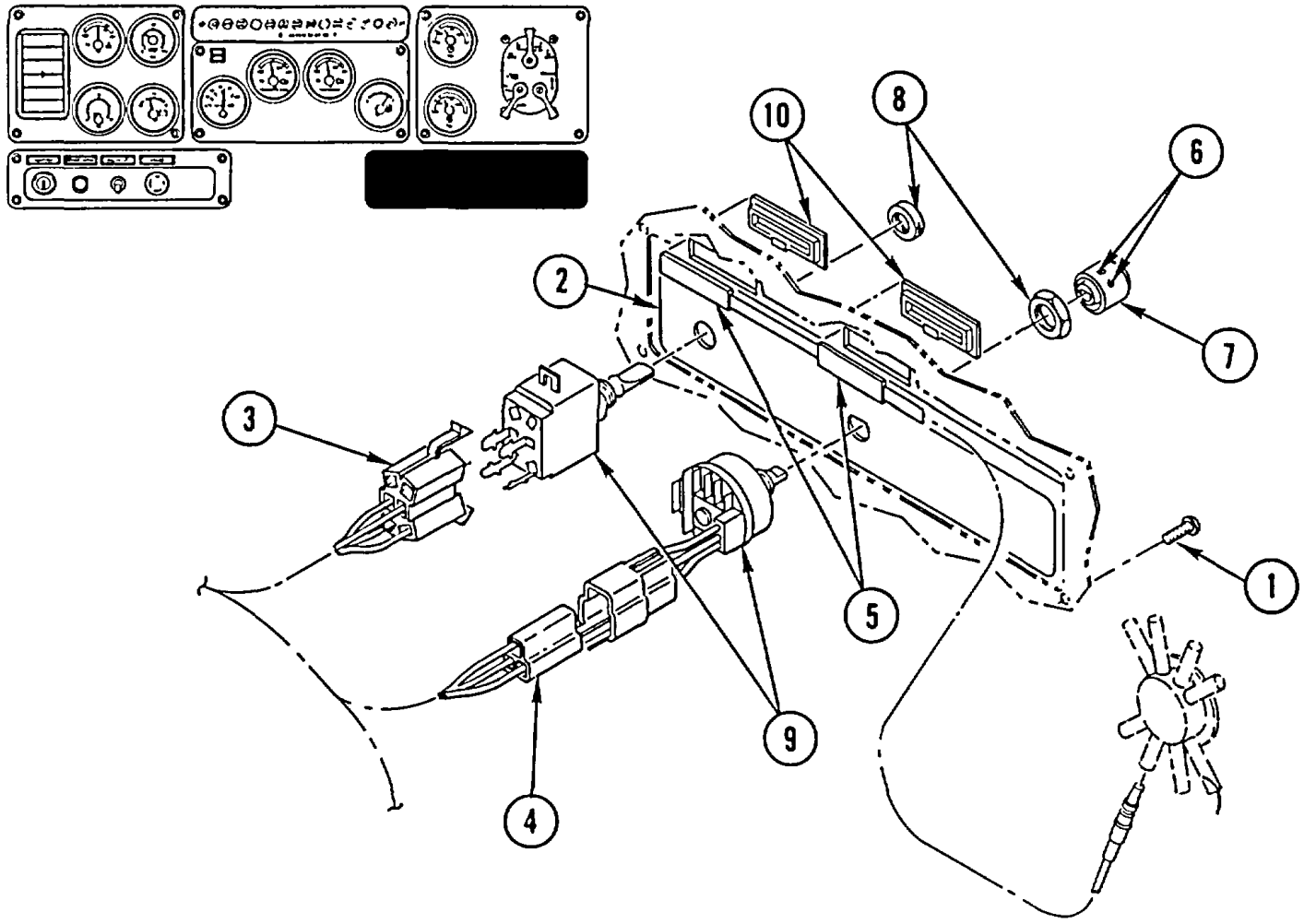
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE FOUR SCREWS (1) AND PULL PANEL (2) OUT OF DASHBOARD.
2. DISCONNECT PLUG (3) AND CONNECTOR (4) AND REMOVE TWO FIBER OPTIC LABELS (5) AND PANEL (2).
3. LOOSEN TWO SETSCREWS (6) AND REMOVE KNOB (7), TWO NUTS (8), TWO SWITCHES (9), AND TWO LABEL HOLDERS (10) FROM PANEL (2).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL TWO LABEL HOLDERS (10), TWO SWITCHES (9), TWO NUTS (8), AND KNOB (7) ON PANEL (2) AND TIGHTEN TWO SETSCREWS (6).
2. INSTALL TWO FIBER OPTIC LABELS (5) AND CONNECT CONNECTOR (4) AND PLUG (3).
3. INSTALL PANEL (2) AND FOUR SCREWS (1).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

LEFT-HAND SWITCH PANEL REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (2)

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE FOUR SCREWS (1) AND PULL PANEL (2) OUT OF DASHBOARD.

NOTE

Tag connectors prior to removal to aid in installation.

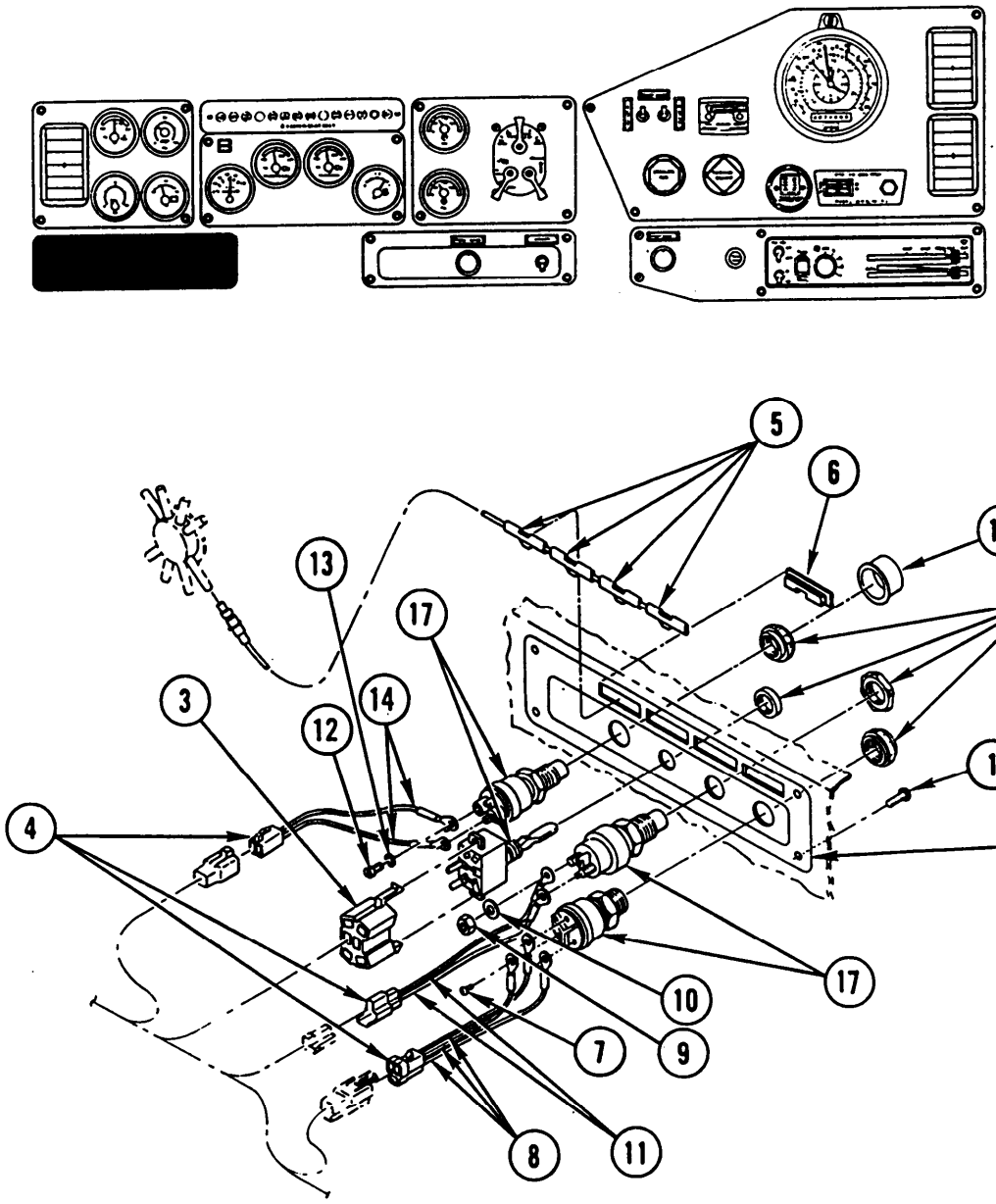
2. DISCONNECT PLUG (3) AND THREE CONNECTORS (4) AND REMOVE FOUR FIBER OPTIC LABELS (5), FOUR LABEL HOLDERS (6), AND PANEL (2).
3. REMOVE THREE SCREWS (7), PIGTAIL (8), TWO NUTS (9), TWO WASHERS (10), AND PIGTAIL (11) FROM BACK OF PANEL (2).
4. REMOVE TWO SCREWS (12), TWO LOCK WASHERS (13), AND PIGTAIL (14). DISCARD LOCK WASHERS.
5. REMOVE BOOT (15), FOUR NUTS (1 6), AND FOUR SWITCHES (17) FROM PANEL (2).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL FOUR SWITCHES (17), FOUR NUTS (16), AND BOOT (15).
2. INSTALL PIGTAIL (14), TWO NEW LOCK WASHERS (13), AND TWO SCREWS (12).



3. INSTALL PIGTAIL (1 1), TWO WASHERS (10), TWO NUTS (9), PIGTAIL (8), AND THREE **SCREWS (7) ON BACK OF PANEL (2).**

4. **INSTALL FOUR** LABEL HOLDERS (6) AND FOUR FIBER **OPTIC LABELS (5) AND CONNECT THREE CONNECTORS** (4) AND PLUG (3).

5. INSTALL PANEL (2) AND FOUR SCREWS (l).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

HEATER CONTROL PANEL REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE TWO HEATER CONTROL KNOBS (1) AND SIX SCREWS (2) AND PULL PANEL (3) OUT OF DASHBOARD.
2. REMOVE FIBER OPTIC LABEL (4).

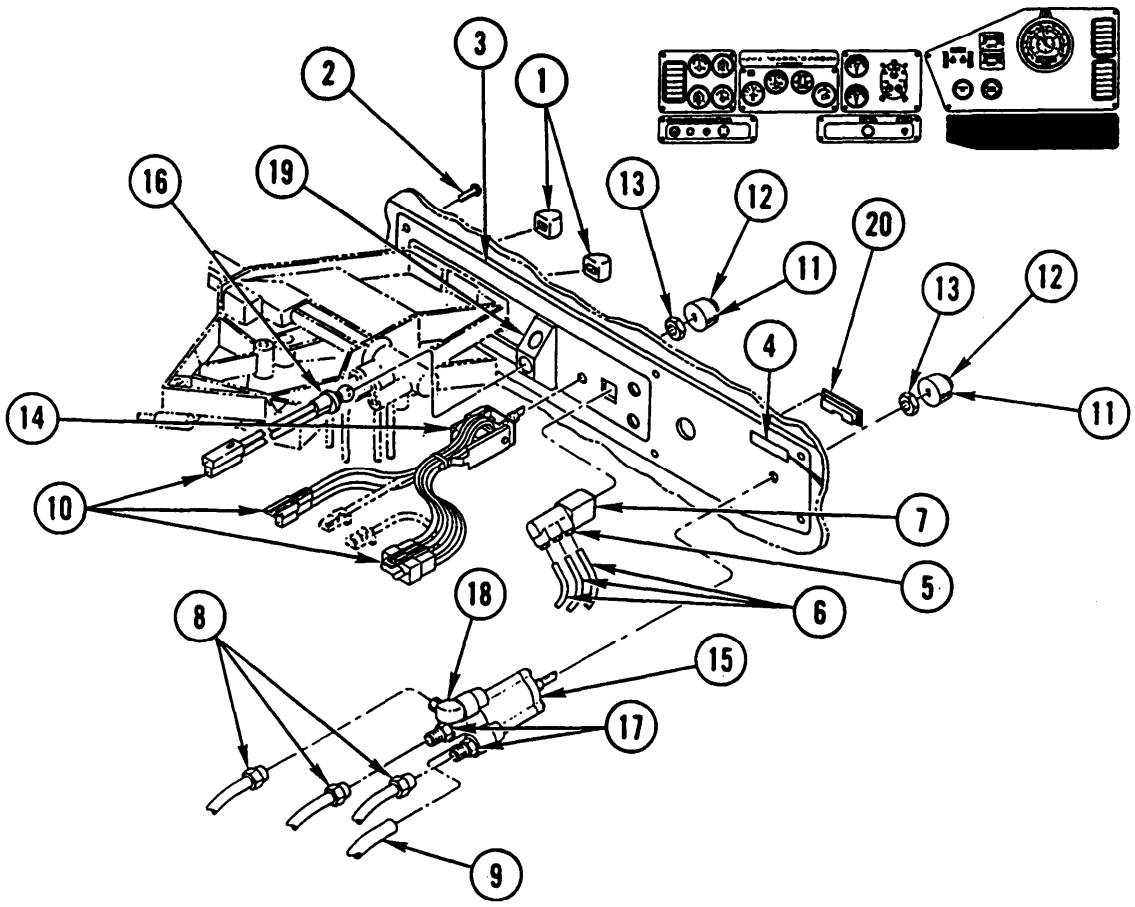
NOTE

Tag all tubes and connectors prior to removal to aid in installation.

3. PRESS THREE PLASTIC DISCS (5) AND DISCONNECT THREE TUBES (6) FROM AIR SWITCH (7).
4. DISCONNECT THREE FITTINGS (8), HOSE (9), AND THREE CONNECTORS (10).
5. LOOSEN FOUR SETSCREWS (11) AND REMOVE TWO KNOBS (12), TWO NUTS (13), FAN SPEED SWITCH (14), WIPER VALVE (15), AND LAMP HOLDER (16).
6. REMOVE TWO CONNECTORS (17) AND ELBOW (18) FROM WIPER VALVE (15).
7. REMOVE AIR SWITCH (7), HEATER PANEL (19), AND LABEL HOLDER (20) FROM PANEL (3).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL LABEL HOLDER (20), HEATER PANEL (19), AND AIR SWITCH (7) IN PANEL (3).
2. INSTALL LAMP HOLDER (16).
3. COAT THREADS WITH PIPE SEALING COMPOUND AND INSTALL ELBOW (18) AND TWO CONNECTORS (17) IN WIPER VALVE (15).
4. INSTALL WIPER VALVE (15), FAN SPEED SWITCH (14), TWO NUTS (13), AND TWO KNOBS (12) AND TIGHTEN FOUR SETSCREWS (11).
5. PRESS THREE PLASTIC DISCS (5) AND CONNECT THREE TUBES (6) IN AIR SWITCH (7).
6. INSTALL FIBER OPTIC LABEL (4) AND CONNECT THREE CONNECTORS (10), HOSE (9), AND THREE FITTINGS (8).
7. INSTALL PANEL (3), SIX SCREWS (2), AND TWO HEATER CONTROL KNOBS (1).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

CONTROL MODULE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

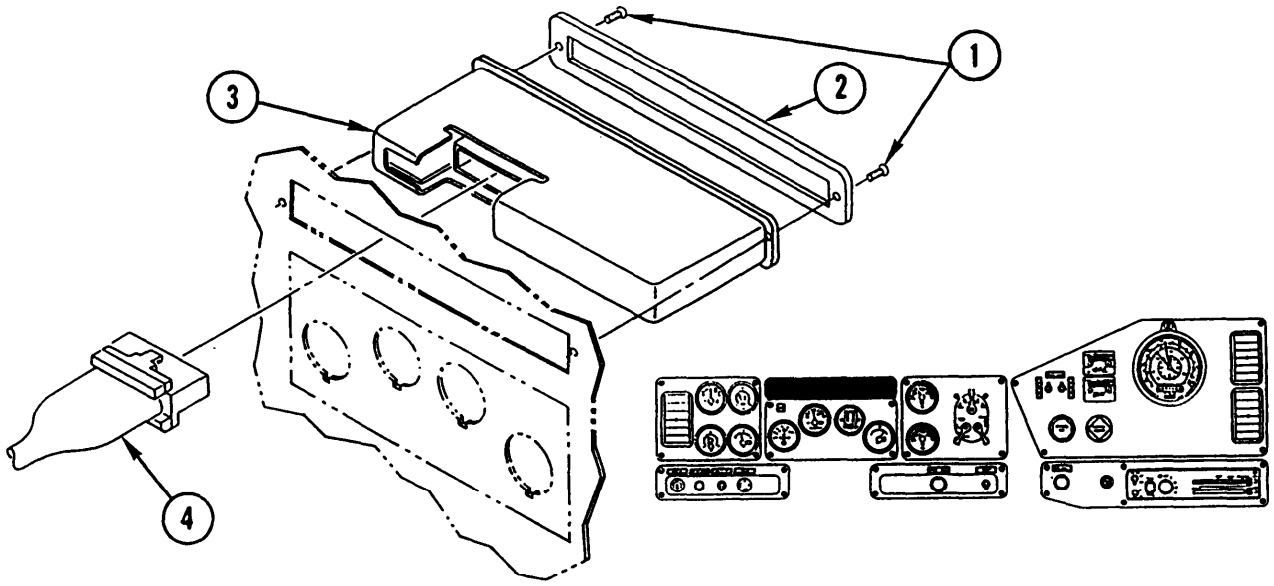
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE TWO SCREWS (1) AND COVER (2) AND PULL CONTROL MODULE (3) OUT OF DASHBOARD.
2. DISCONNECT PLUG (4).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

CONNECT PLUG (4) TO CONTROL MODULE (3) AND INSTALL CONTROL MODULE (3), COVER (2), AND TWO SCREWS (1) IN DASHBOARD.

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

FIBER OPTIC LIGHT SOURCE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITAIL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

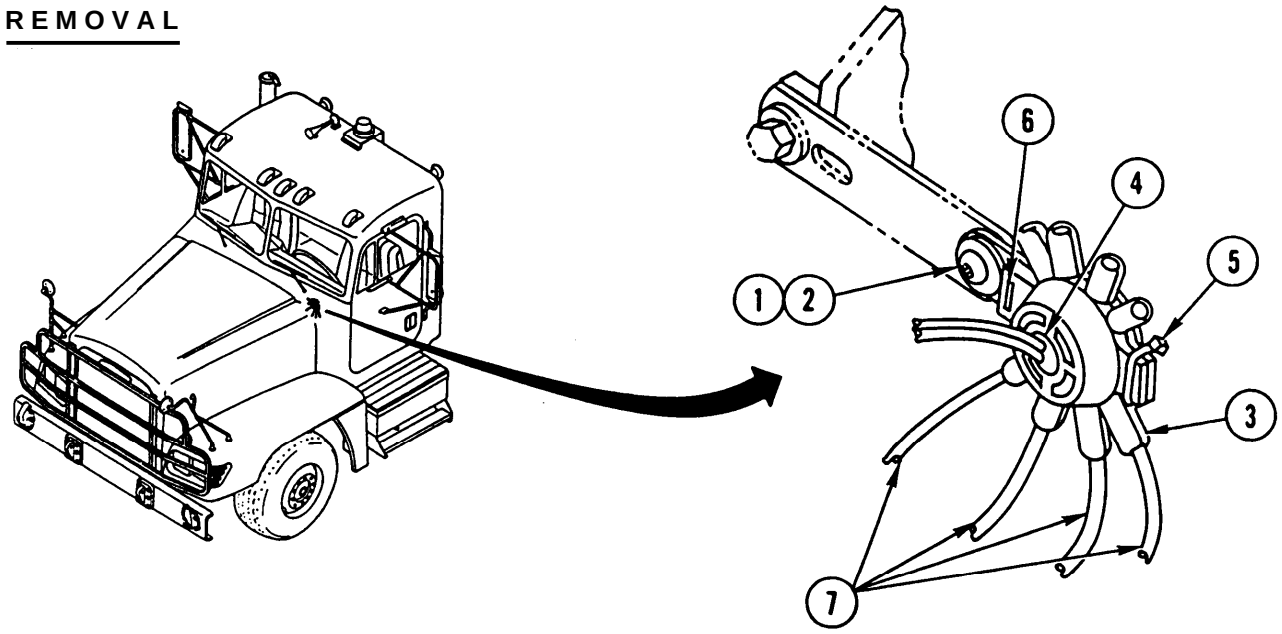
Materiais/Parts:

Nut, Self-Locking

Equipment Condition:

Reference	Condition Description
Page 4-174	Center Gage Panel Removed (M915A2)
Page 4-176	Center Gage Panel Removed (M916A1)

REMOVAL



1. REMOVE SELF-LOCKING NUT (1), TORX SCREW (2), AND FIBER OPTIC LIGHT SOURCE (3). DISCARD SELF-LOCKING NUT.
2. TURN LIGHT SOCKET (4) TO LEFT AND REMOVE FROM FIBER OPTIC LIGHT SOURCE (3).
3. REMOVE TIE STRAP (5).

CAUTION
Do not crimp fiber optic lines. Crimping could cause lines to break internally resulting in instrument light failure.

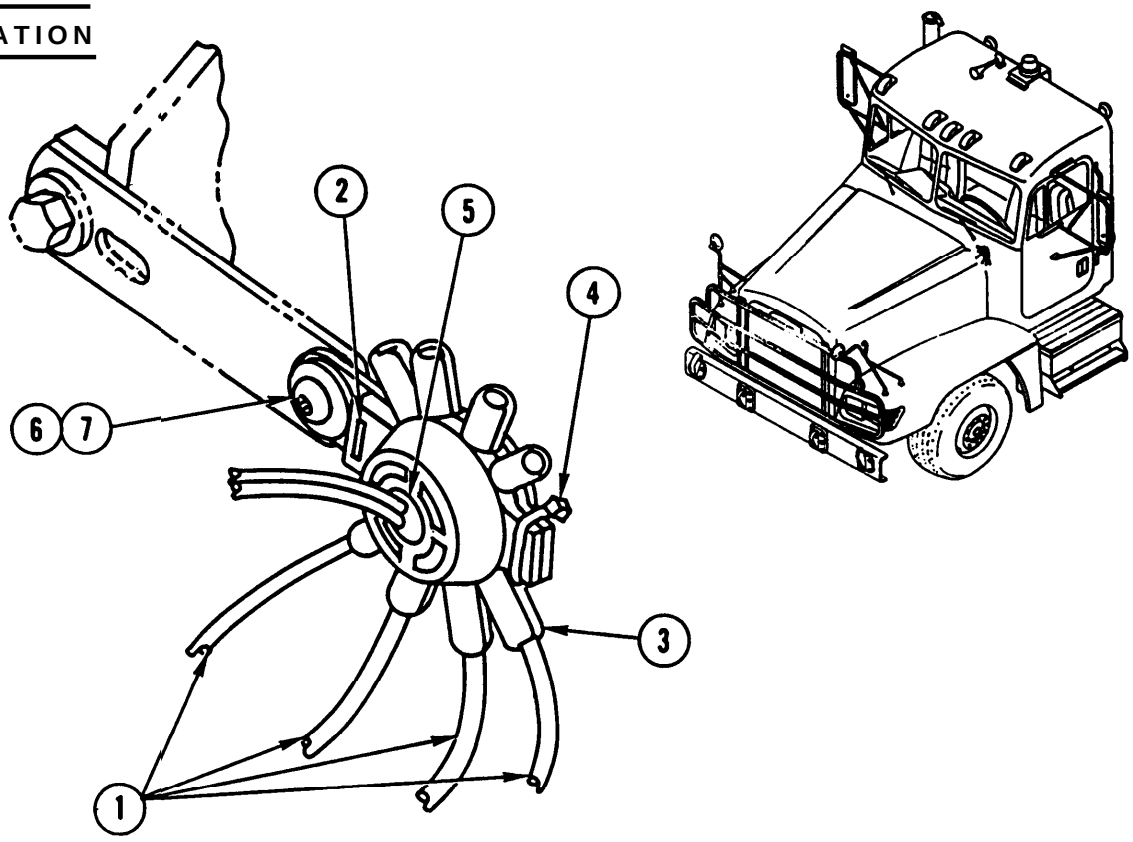
4. RELEASE TWO LATCHES (6) ON REAR OF FIBER OPTIC LIGHT SOURCE (3) AND REMOVE FOUR FIBER OPTIC LINES (7).

FIBER OPTIC LIGHT SOURCE REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



CAUTION

Do not crimp fiber optic lines. Crimping could cause lines to break internally resulting in instrument light failure.

1. INSTALL FOUR FIBER OPTIC LINES (1) AND ENGAGE TWO LATCHES (2) ON REAR OF FIBER OPTIC LIGHT SOURCE (3).
2. INSTALL TIE STRAP (4).
3. INSTALL LIGHT SOCKET (5) IN FIBER OPTIC LIGHT SOURCE (3) AND TURN TO RIGHT.
4. INSTALL FIBER OPTIC LIGHT SOURCE (3), TORX SCREW (6), AND NEW SELF-LOCKING NUT (7).

NOTE

Follow-on Maintenance:
Install center gage panel (M915A2) (page 4-174).
Install center gage panel (M916A1) (page 4-176).

ENGINE CHECK SWITCH AND MOUNTING BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

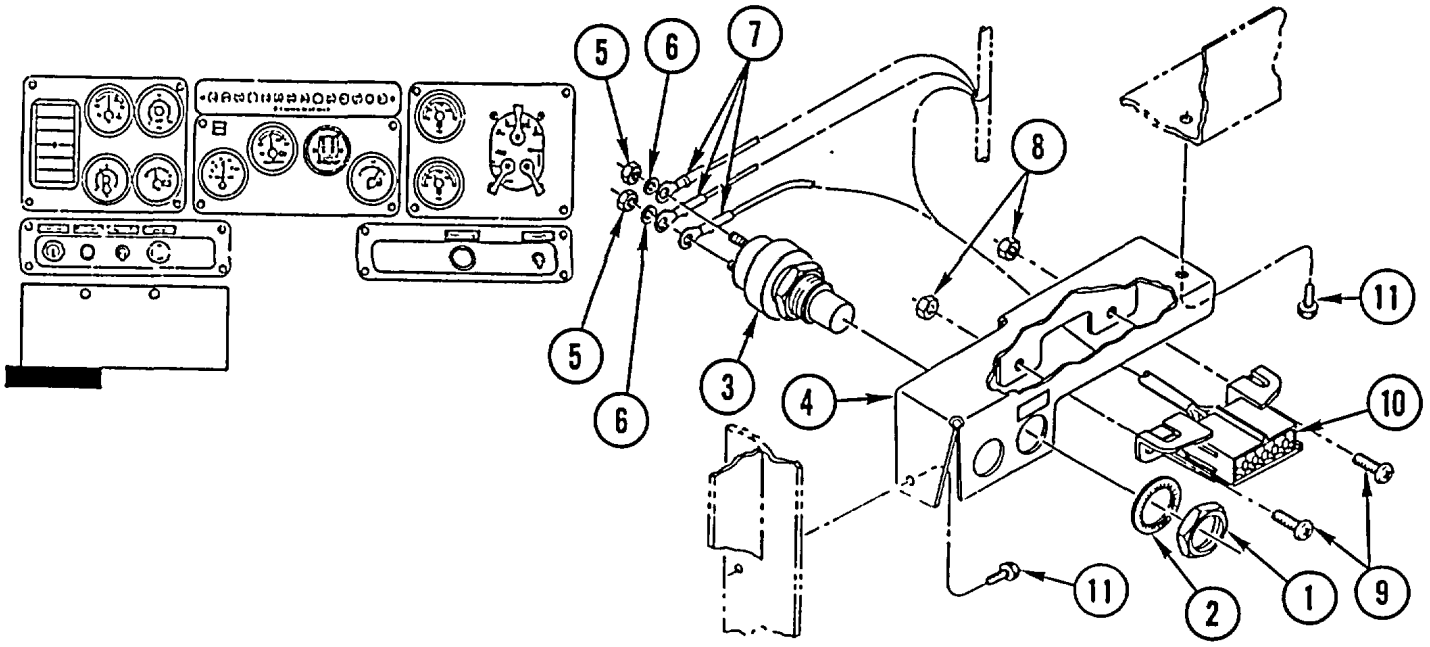
Reference	Condition Description
Page 2-29	Batteries Disconnected

Materials/Parts:

Washer, Lock (2)

Nut, Lock (2)

REMOVAL



1. REMOVE NUT (1) AND LOCK WASHER (2).

NOTE
Tag wires prior to removal to aid in installation.

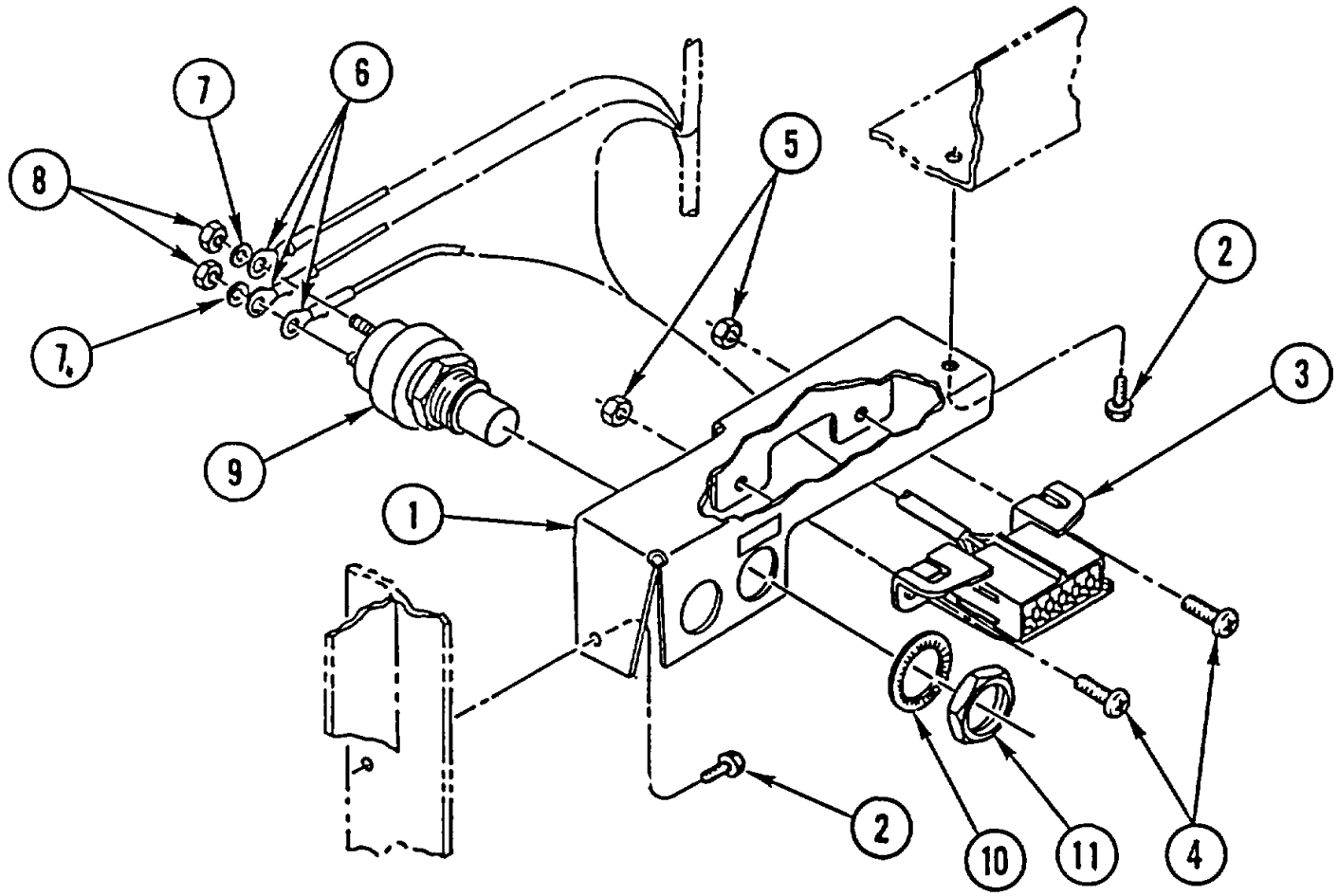
2. REMOVE SWITCH (3) FROM BRACKET (4).
3. REMOVE TWO NUTS (5), TWO LOCK WASHERS (6), AND THREE WIRES (7) FROM SWITCH (3). DISCARD LOCK WASHERS.
4. REMOVE TWO LOCK NUTS (8) AND TWO SCREWS (9) AND SET HARNESS (10) ASIDE. DISCARD LOCK NUTS.
5. REMOVE TWO SCREWS (11) AND BRACKET (4).

ENGINE CHECK SWITCH AND MOUNTING BRACKET REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL BRACKET (1) AND TWO SCREWS (2).
2. INSTALL HARNESS (3), TWO SCREWS (4), AND TWO NEW LOCK NUTS (5).
3. INSTALL THREE WIRES (6), TWO NEW LOCK WASHERS (7), AND TWO NUTS (8) ON SWITCH (9).
4. INSTALL SWITCH (9), LOCK WASHER (10), AND NUT (11).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

CHECK ENGINE SWITCH AND JUMPER HARNESS REPLACEMENT

This task covers: a Removal b Cleaning/Inspection c Installation

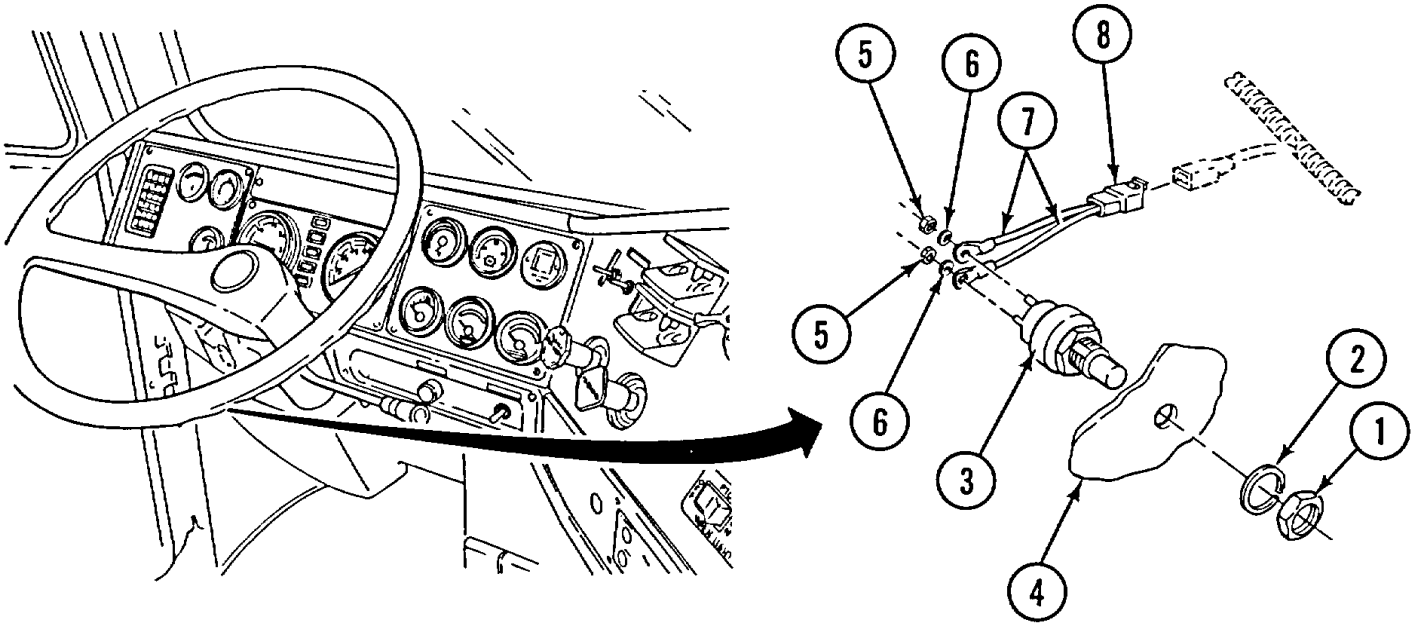
INITIAL SETUP

Applicable Configuration:	**Equipment Condition:**	
All except M915A2 and M916A1	**Reference**	**Condition Description**
Tools and Special Equipment:	Page 2-29	Batteries Disconnected
Shop Equipment, SC 4910-95-CL-A72	**Materials/Parts:**	
Tool Kit, SC 5180-90-CL-N26	Washer, Lock (2)	
	Tags, Identification	Appendix C, Item 26

REMOVAL

1. REMOVE NUT (1) AND LOCK WASHER (2) FROM SWITCH (3).
2. REMOVE THREE SCREWS AND PULL OUT ON LOWER DASH COVER (4)
3. REMOVE SWITCH (3) FROM LOWER DASH COVER (4)

NOTE
Tag wires prior to removal to aid in installation.



4. REMOVE TWO NUTS (5), LOCK WASHERS (6), AND TWO WIRES (7) OF JUMPER HARNESS (8) FROM SWITCH (3). DISCARD LOCK WASHERS.

CHECK ENGINE SWITCH AND JUMPER HARNESS REPLACEMENT (CONT)

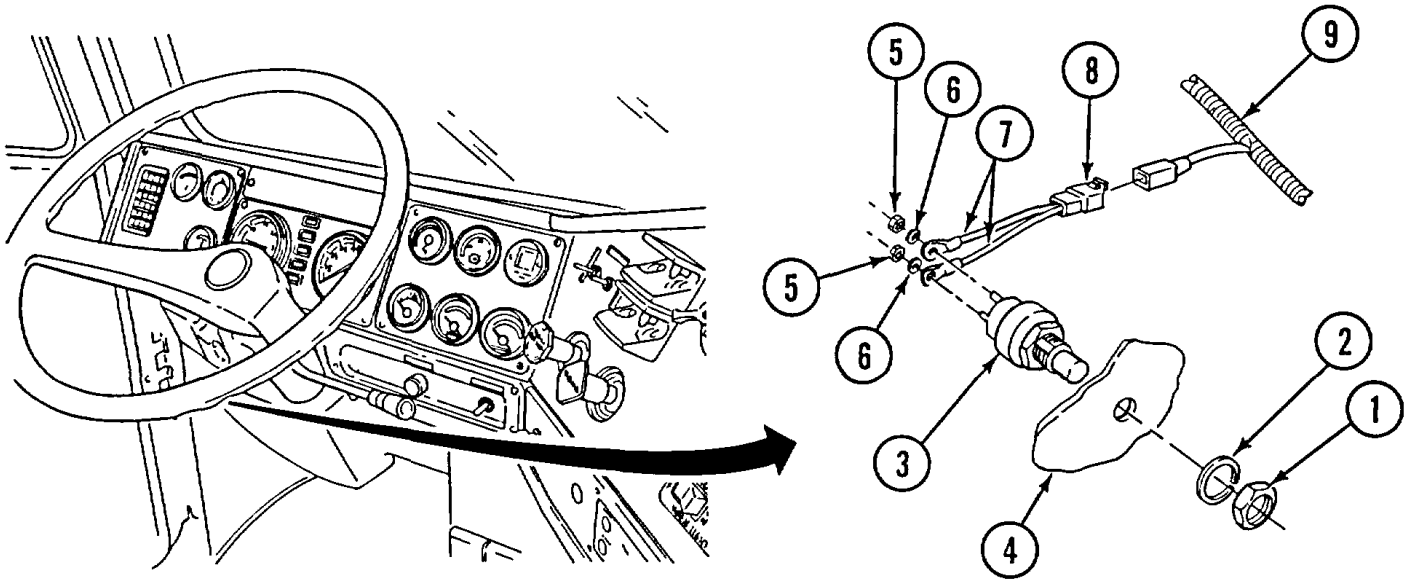
5. DISCONNECT JUMPER HARNESS (8) FROM HARNESS (9).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. CONNECT JUMPER HARNESS (8) TO HARNESS (9).
2. CONNECT TWO WIRES (7) OF JUMPER HARNESS (8) TO SWITCH (3) WITH TWO NEW LOCK WASHERS (6) AND NUTS (5).
3. INSTALL SWITCH (3) THROUGH LOWER DASH COVER (4).
4. POSITION LOWER DASH COVER (4) AND SECURE WITH THREE SCREWS.
5. INSTALL LOCK WASHER (2) AND NUT (1) TO SWITCH (3).



NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

RELAY REPLACEMENT - P/N 0332204101

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

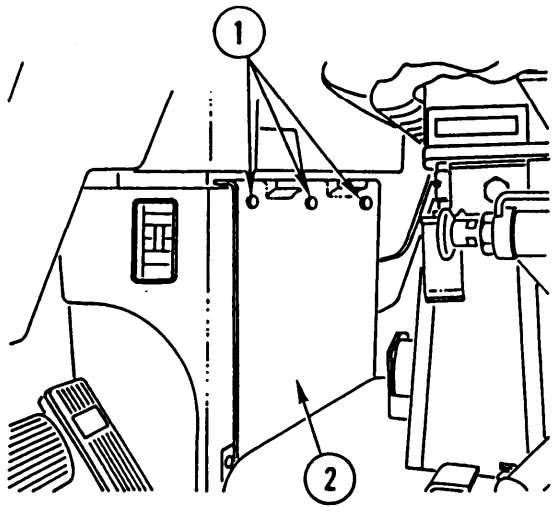
Tool Kit, SC 5180-90-CL-N26

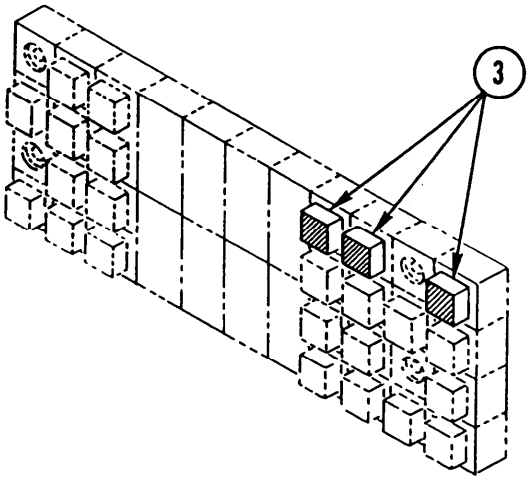
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. UNLOCK THREE FASTENERS (1) BY TURNING TO LEFT AND REMOVE COVER (2).
2. REMOVE RELAY (3).





CLEANING/INSPEDCTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL RELAY (3).
2. INSTALL COVER (2) AND LOCK THREE FASTENERS (1) BY TURNING TO RIGHT.

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

RELAY REPLACEMENT - P/N 0332204132

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

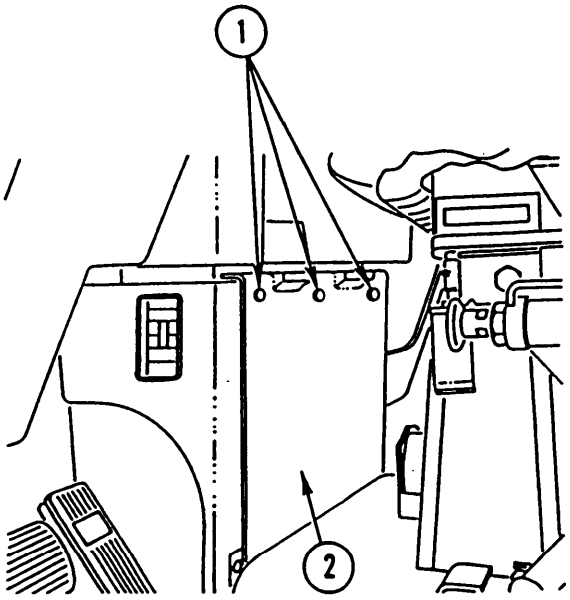
Tool Kit, SC 5180-90-CL-N26

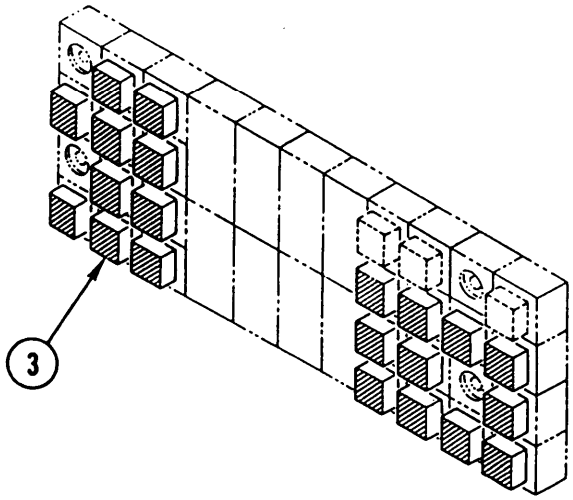
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. UNLOCK THREE FASTENERS (1) BY TURNING TO LEFT AND REMOVE COVER (2).
2. REMOVE RELAY (3).





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL RELAY (3).
2. INSTALL COVER (2) AND LOCK THREE FASTENERS (1) BY TURNING TO RIGHT.

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

CIRCUIT BREAKER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

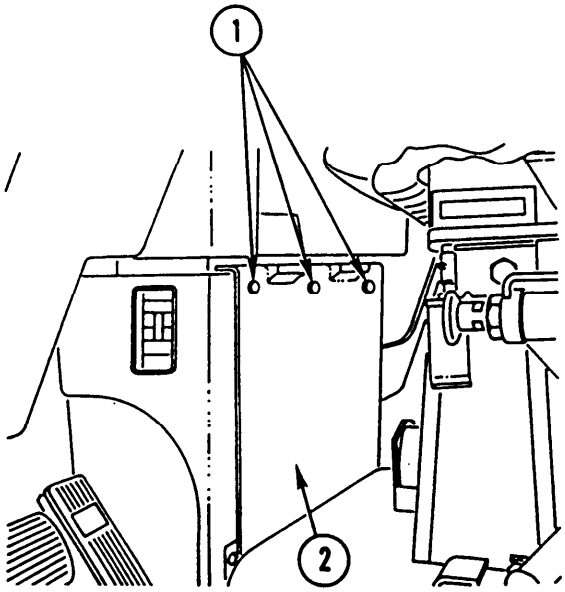
Toot Kit, SC 5180-90-CL-N26

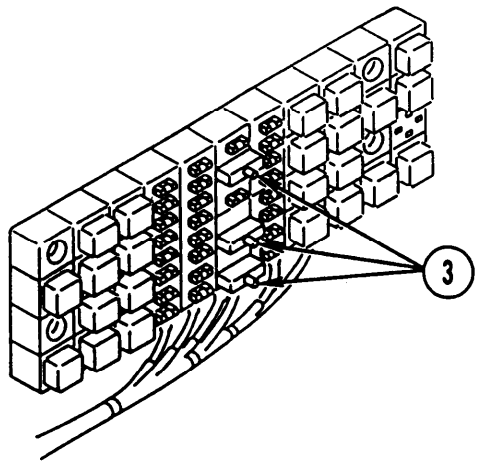
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. UNLOCK THREE FASTENERS (1) BY TURNING TO LEFT AND REMOVE COVER (2).
2. REMOVE CIRCUIT BREAKER (3).





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL CIRCUIT BREAKER (3).
2. INSTALL COVER (2) AND LOCK THREE FASTENERS (1) BY TURNING TO RIGHT.

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

POWER TAKE-OFF (PTO) INDICATOR LAMP REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1

Tools and Special Equipment:

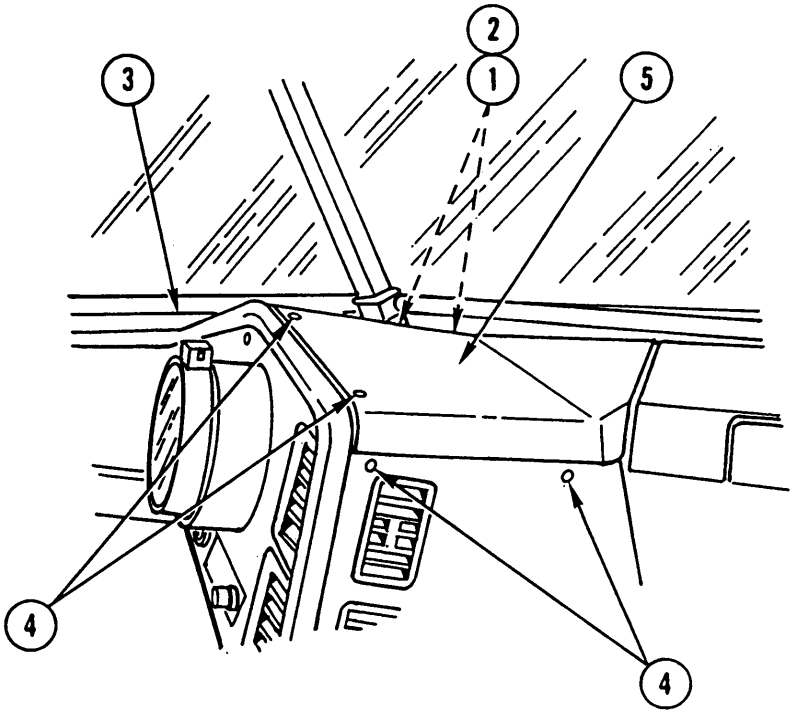
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

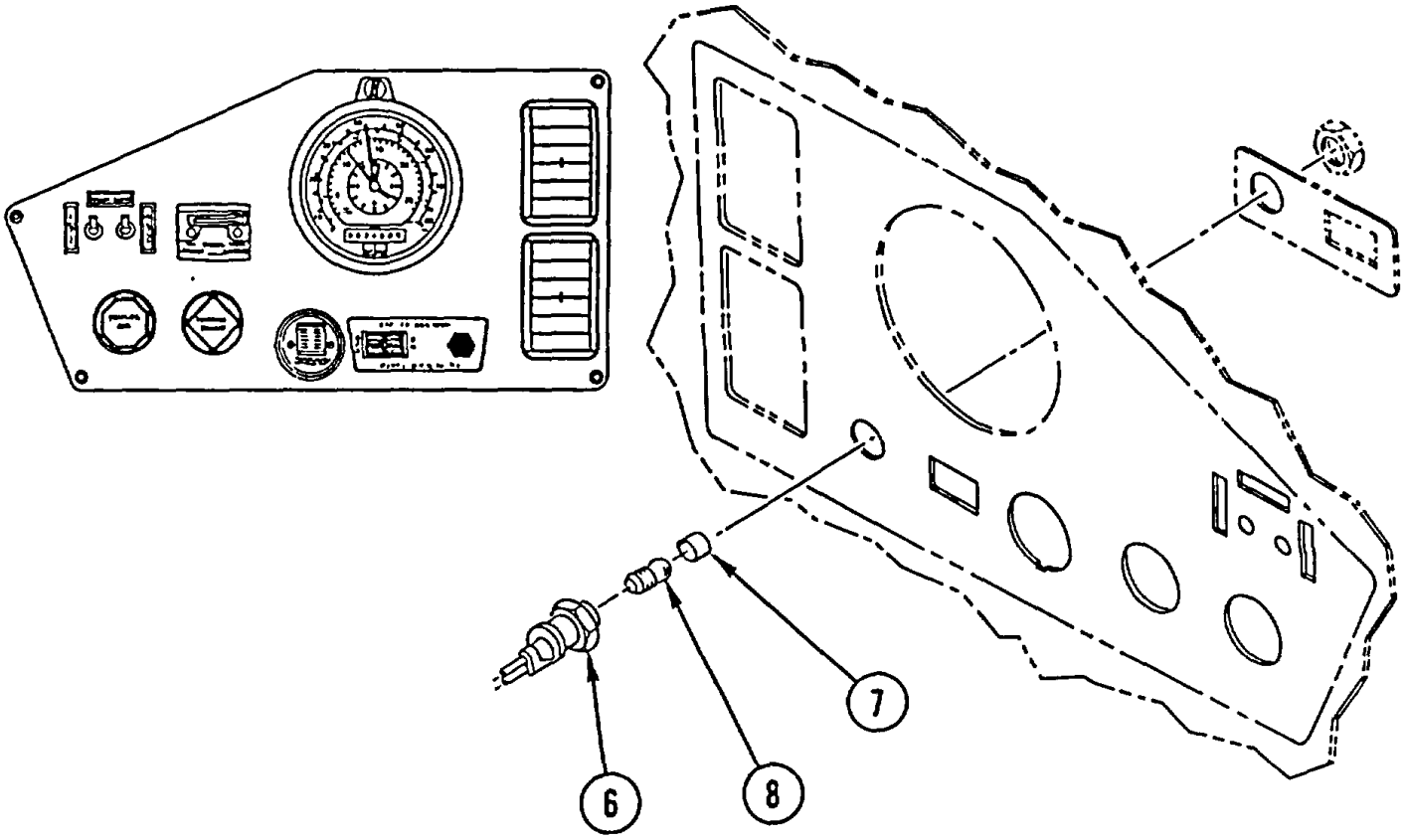
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE SCREW (1), WASHER (2), AND DEFROSTER VENT (3).
2. REMOVE FIVE SCREWS (4) AND COVER (5).





3. REMOVE LAMP CONNECTOR (6) FROM LAMP HOLDER (7).
4. TURN LAMP (8) TO LEFT AND REMOVE LAMP (8) FROM LAMP CONNECTOR (6).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

NSTALLATION

1. INSTALL LAMP (8) IN LAMP CONNECTOR (6) AND TURN LAMP (8) TO RIGHT.
2. INSTALL LAMP CONNECTOR (6) IN LAMP HOLDER (7).
3. INSTALL COVER (5) AND FIVE SCREWS (4).
4. INSTALL DEFROSTER VENT (3), WASHER (2), AND SCREW (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

DUAL VOLTAGE CONTROL REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

Materials/Parts:

Washer, Lock (6)

Washer, Lock (3)

Tags, Identification Appendix C, Item 26

REMOVAL

NOTE

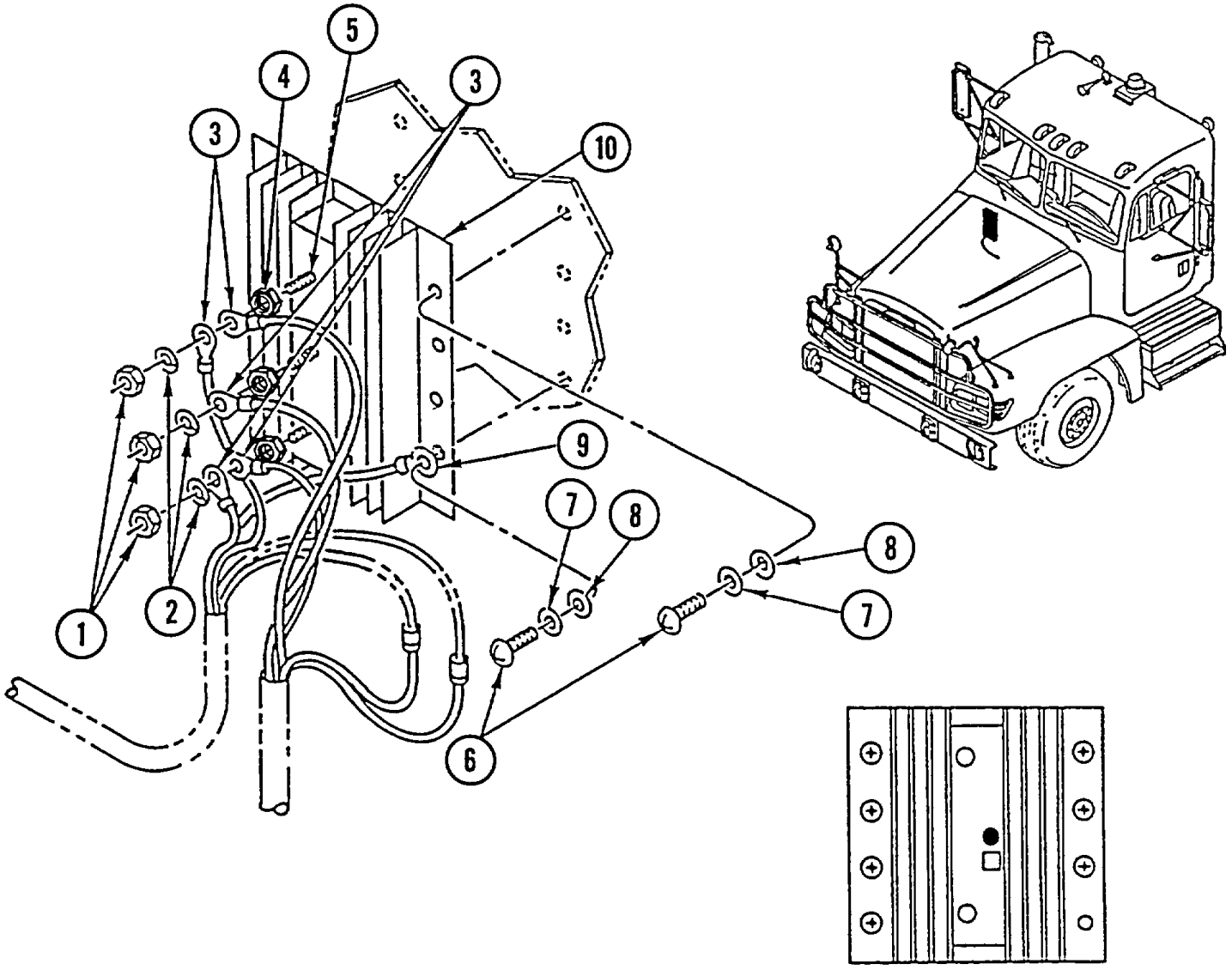
- **Tag wires prior to removal to aid in installation.**
- **Note position of components on terminal posts to aid in installation.**

1. REMOVE THREE NUTS (1), THREE LOCK WASHERS (2), FIVE WIRES (3), AND THREE JAM NUTS (4) FROM DUAL VOLTAGE CONTROL TERMINAL POSTS (5). DISCARD LOCK WASHERS.

2. REMOVE SIX SCREWS (6), SIX LOCK WASHERS (7), SIX WASHERS (8), GROUND WIRE (9), AND DUAL VOLTAGE CONTROL (10). DISCARD LOCK WASHERS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

NOTE
Dual voltage control is properly installed when center terminal is offset to right as shown

1. INSTALL DUAL VOLTAGE (10), GROUND WIRE (9), SIX WASHERS (8), SIX NEW LOCK WASHERS (7), AND SIX SCREWS (6).

CAUTION
- **Failure to install components as shown on terminal posts of dual voltage control can cause equipment failure, system damage, and voiding of warranty.**
- **Do not over tighten jam nuts or damage to dual voltage control may result.**

2. INSTALL THREE JAM NUTS (4), FIVE WIRES (3), THREE NEW LOCK WASHERS (2), AND THREE NUTS (1) ON DUAL VOLTAGE CONTROL TERMINAL POSTS (5).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

FUSE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:
Washer, Lock (4)

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

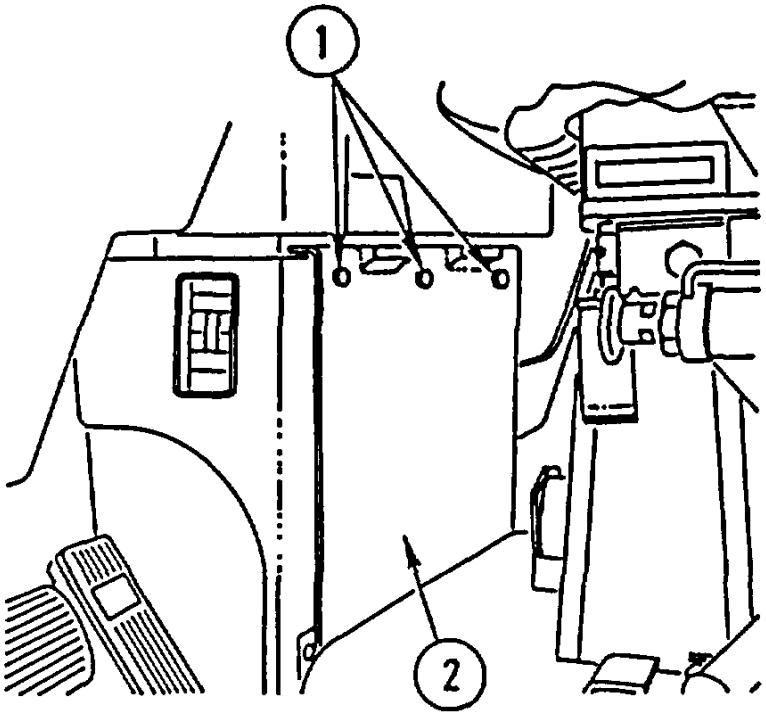
General Safety Instructions:

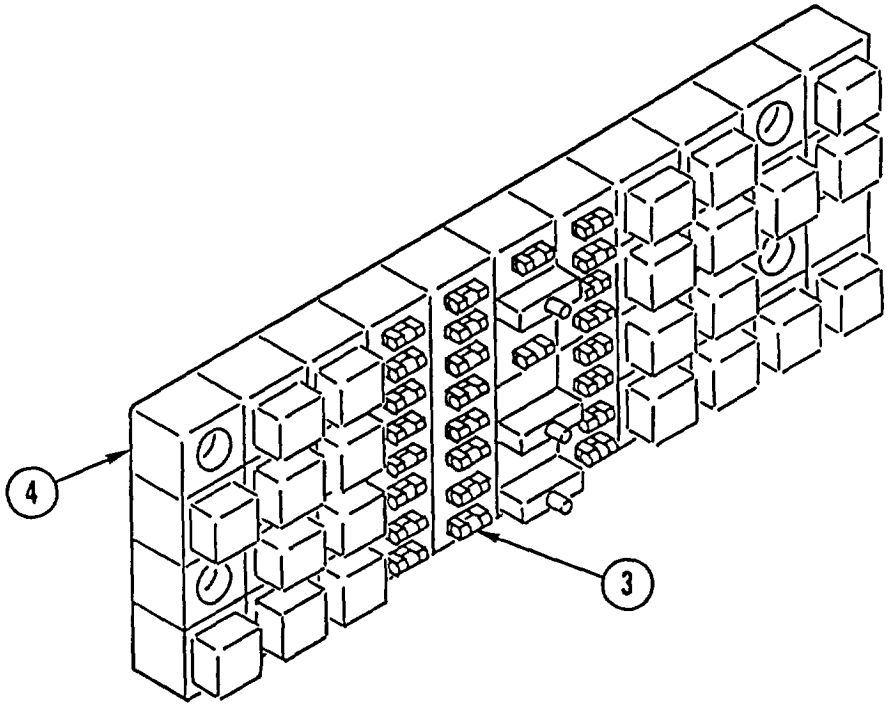
WARNING

When replacing fuse(s), use only fuse(s) of correct amperage. Use of incorrect fuse(s) could result in injury to personnel and/or damage to equipment.

REMOVAL

1. UNLOCK THREE FASTENERS (1) BY TURNING TO LEFT AND REMOVE COVER (2).
2. REMOVE FUSE(S) (3) FROM FUSE, RELAY, AND CIRCUIT BREAKER HOLDER (4).





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

WARNING

When replacing fuse(s), use only fuse(s) of correct amperage. Use of incorrect fuse(s) could result in injury to personnel and/or damage to equipment.

1. INSTALL FUSE(S) (3) IN FUSE, RELAY, AND CIRCUIT BREAKER HOLDER (4).
2. INSTALL COVER (2) AND LOCK THREE FASTENERS (1) BY TURNING TO RIGHT.

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

FUSE, RELAY, AND CIRCUIT BREAKER HOLDER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

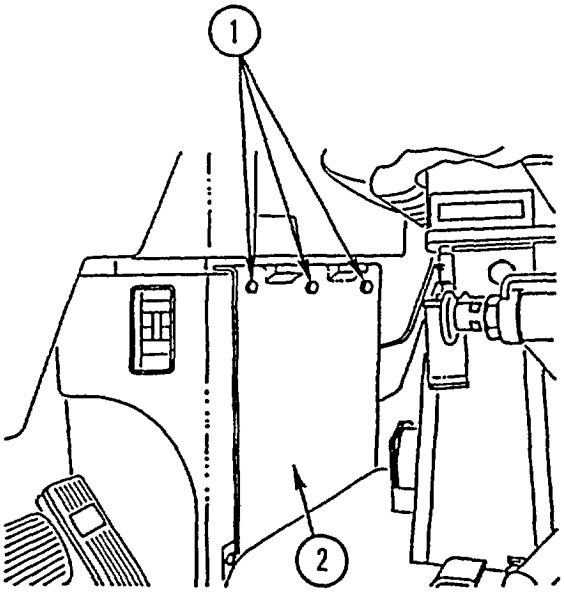
Tags, Identification Appendix C, Item 26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. UNLOCK THREE FASTENERS (1) BY TURNING TO LEFT AND REMOVE COVER (2).



2. REMOVE FOUR SCREWS (3) AND HOLDER (4) FROM CAB (5).

NOTE

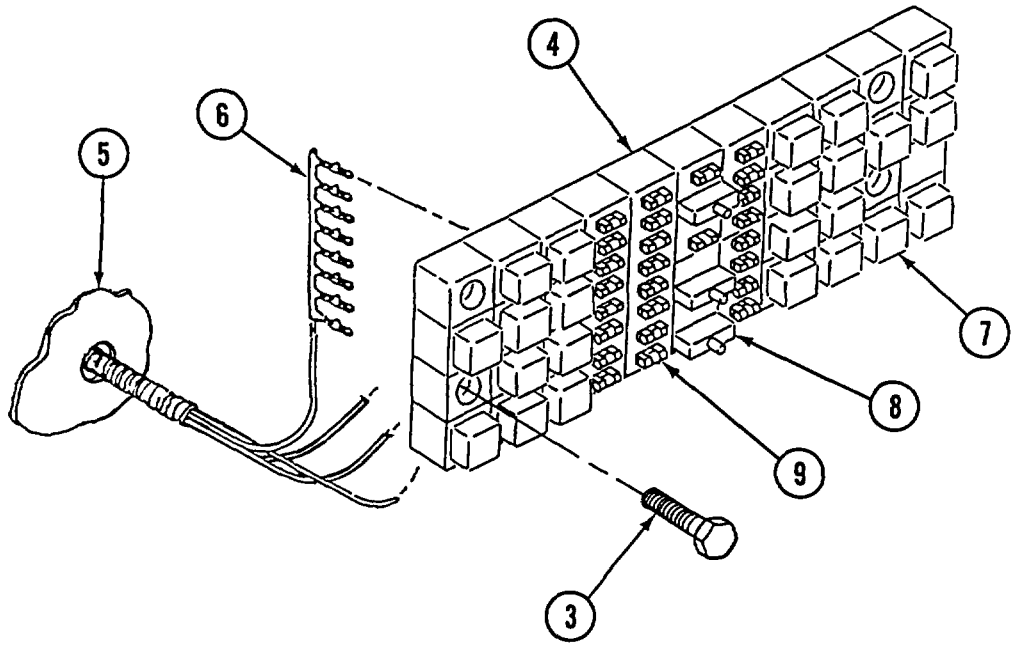
Tag connectors prior to removal to aid in installation.

3. DISCONNECT CONNECTORS (6) FROM REAR OF HOLDER (4).

NOTE

Tag relays, circuit breakers and fuses prior to removal to aid in installation.

4. REMOVE RELAYS (7), CIRCUIT BREAKERS (8), AND FUSES (9) FROM HOLDER (4).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL RELAYS (7), CIRCUIT BREAKERS (8), AND FUSES (9) TO HOLDER (4).
2. CONNECT CONNECTORS (6) TO REAR OF HOLDER (4).
3. INSTALL HOLDER (4) TO CAB (5) WITH FOUR SCREWS (3).
4. INSTALL COVER (2) AND LOCK THREE FASTENERS (1) BY TURNING TO RIGHT.

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

HEADLAMP REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

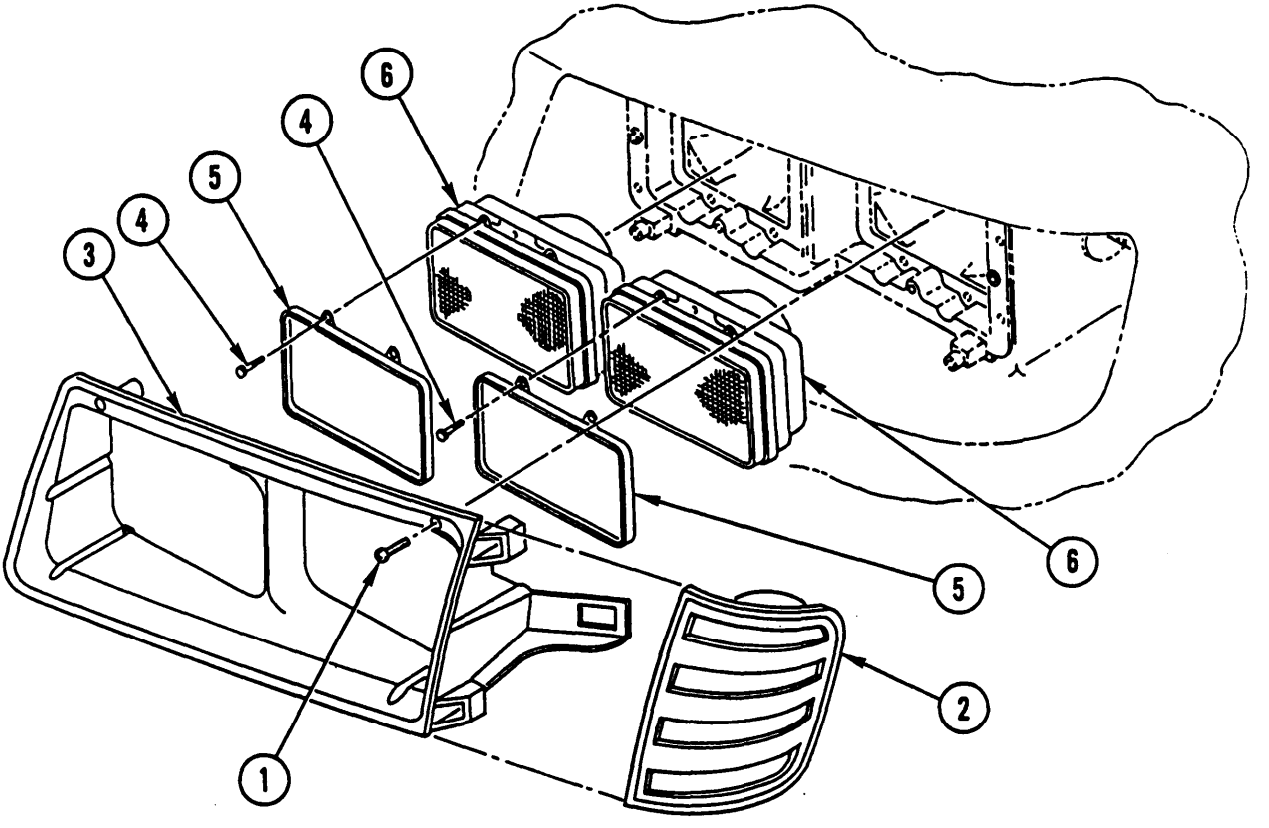
NOTE

Procedure is the same for all headlamps.

1. REMOVE FOUR SCREWS (1).
2. DISCONNECT TURN SIGNAL LIGHT (2) AND REMOVE BEZEL (3).
3. REMOVE FOUR SCREWS (4) AND HEADLAMP RETAINER (5).
4. REMOVE HEADLAMP (6).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

NOTE

Procedure is the same for all headlamps.

1. INSTALL HEADLAMP (6).
2. INSTALL HEADLAMP RETAINER (5) AND FOUR SCREWS (4).
3. CONNECT TURN SIGNAL LIGHT (2) AND INSTALL BEZEL (3) AND FOUR SCREWS (1).
4. CHECK HEADLAMP ALINEMENT IN ACCORDANCE WITH HEADLAMP ADJUSTMENT (PAGE 4-208) AND ADJUST IF NECESSARY.

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

HEADLAMP ADJUSTMENT

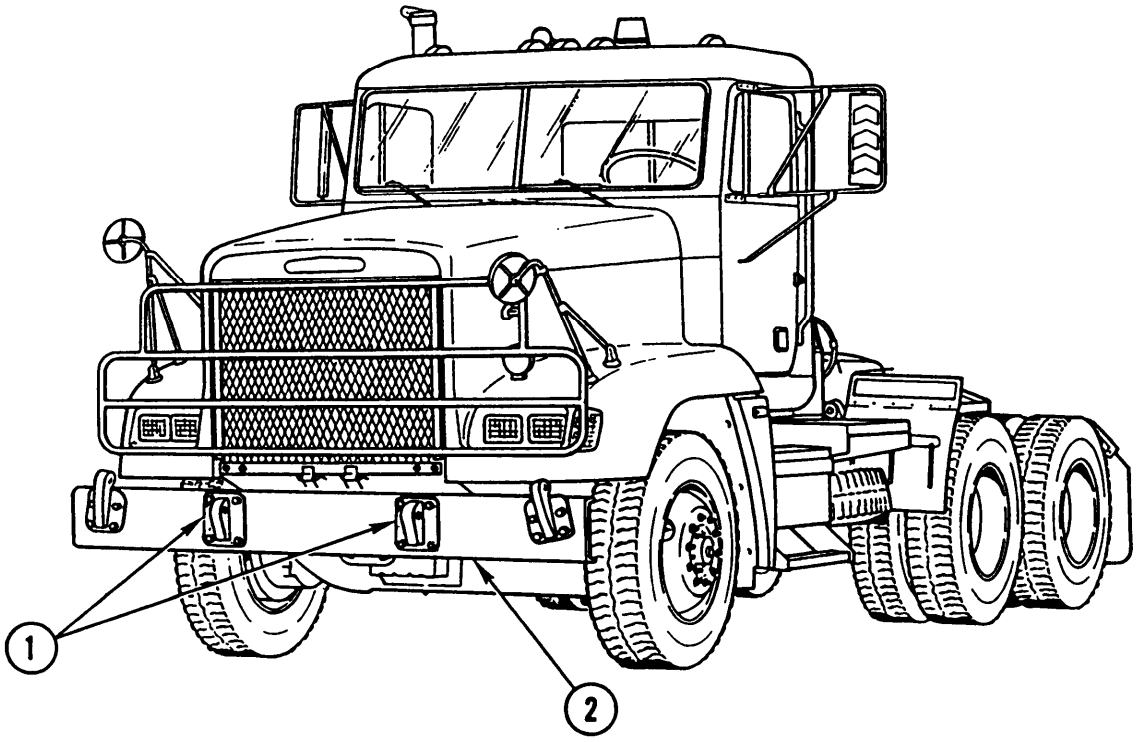
This task covers: Adjustment

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

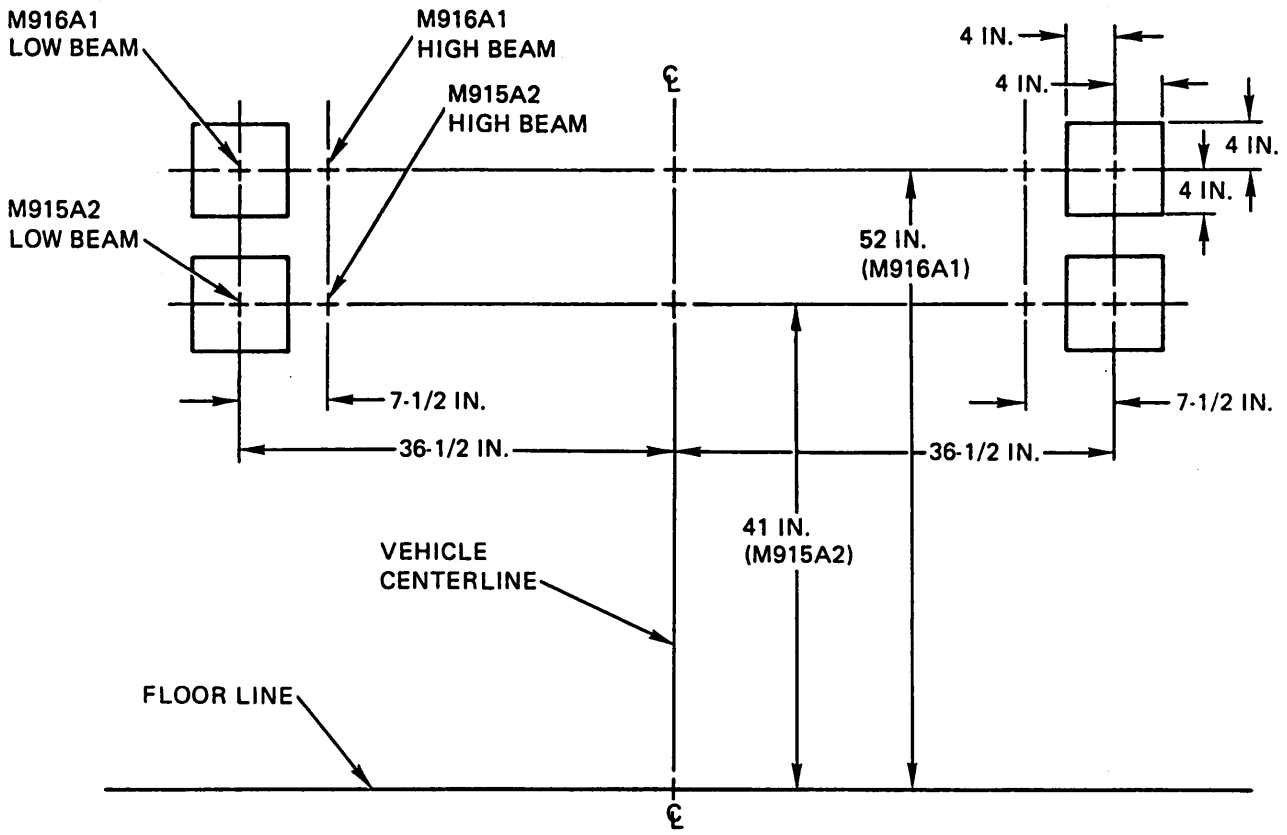
ADJUSTMENT



NOTE

- Make sure all tires are properly inflated and there is no load on vehicle.
- Procedure is the same for both vehicles except as noted.

1. DETERMINE CENTERLINE OF VEHICLE BY MEASURING DISTANCE BETWEEN TWO TOW BRACKETS (1) AND DIVIDING BY 2.
2. MEASURE DISTANCE DETERMINED IN STEP 1 FROM EITHER OF TWO TOW BRACKETS (1) TO CENTER OF BUMPER (2). MARK BUMPER (2).



3. PARK VEHICLE 25 FT (7.63 m) FROM LIGHT COLORED WALL AND MARK VEHICLE CENTERLINE ON WALL.

4. TO DETERMINE LOW-BEAM HEADLAMP CENTERLINE, MEASURE 36.5 IN. (92.7 cm) FROM CENTERLINE MARK ON BOTH SIDES OF CENTERLINE. M915A2: MEASURE 41 IN. (104.1 cm) FROM FLOOR. M916A1: MEASURE 52 IN. (132.1 cm) FROM FLOOR.

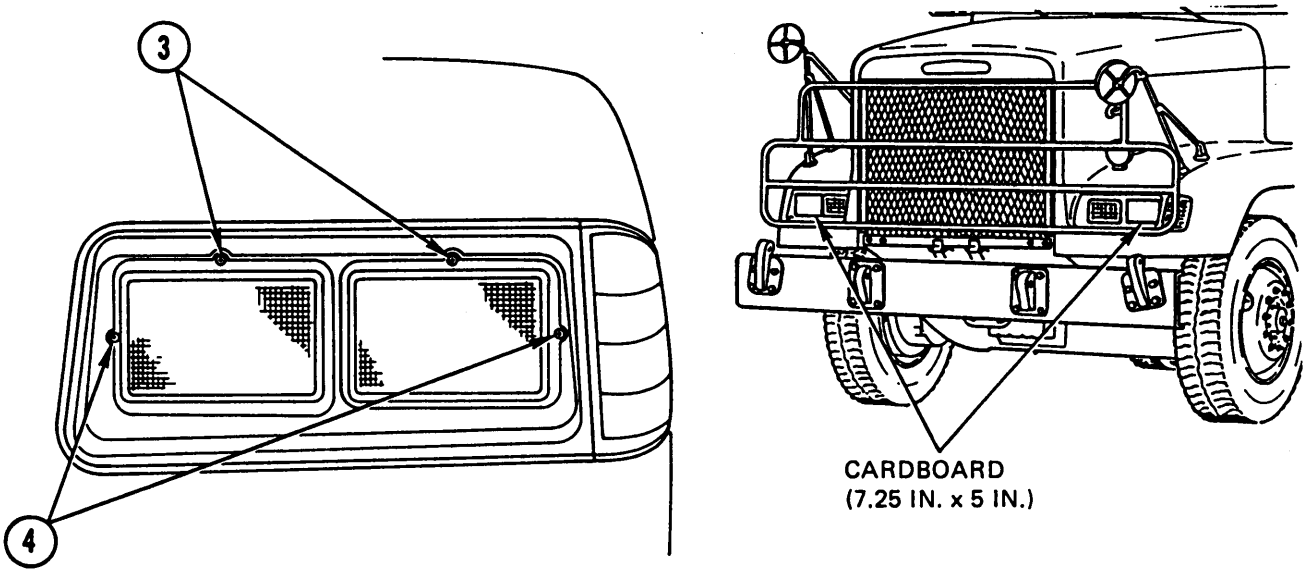
5. MEASURE 4 IN. (10.2 cm) IN ALL FOUR DIRECTIONS FROM LOW-BEAM HEADLAMP CENTERLINE TO CREATE 8-IN. (20.3-cm) SQUARE.

6. REPEAT STEPS 4 AND 5 FOR OPPOSITE LOW-BEAM HEADLAMP.

7. TO DETERMINE HIGH-BEAM HEADLAMP CENTERLINE, MEASURE 7.5 IN. (19.1 cm) TO RIGHT FROM CENTERLINE OF LEFT LOW-BEAM. MEASURE 7.5 IN. (19.1 cm) TO LEFT FROM CENTERLINE OF RIGHT LOW-BEAM.

8. REPEAT STEP 5 TO CREATE 8-IN. (20.3-cm) SQUARE FOR EACH HIGH-BEAM HEADLAMP.

HEADLAMP ADJUSTMENT (CONT)



9. WITH HEADLAMPS ON, ADJUST EACH HEADLAMP UNTIL HIGHEST INTENSITY POINT IS JUST TO RIGHT AND JUST BELOW HEADLAMP CENTERLINE ± 4 IN. (± 10.2 cm). TO ADJUST INTENSITY POINT UP OR DOWN, ROTATE CENTER ADJUSTING SCREW (3) LEFT OR RIGHT. TO ADJUST INTENSITY POINT LEFT OR RIGHT, ROTATE SIDE ADJUSTING SCREW (4) LEFT OR RIGHT.

10. WITH HEADLAMPS SWITCHED TO HIGH-BEAM, COVER EACH LOW-BEAM HEADLAMP WITH CARDBOARD CUT TO 7.25 IN. X 5 IN. (18.4 cm x 13 cm).

11. ADJUST HIGH-BEAM HEADLAMP UNTIL HIGHEST INTENSITY POINT IS OVER CENTERLINE MARK ± 4 IN. (± 10.2 cm). TO ADJUST INTENSITY POINT UP OR DOWN, ROTATE CENTER ADJUSTING SCREW (3) LEFT OR RIGHT. TO ADJUST INTENSITY POINT LEFT OR RIGHT, ROTATE SIDE ADJUSTING SCREW (4) LEFT OR RIGHT.

BLACKOUT DRIVE AND MARKER LIGHT AND WIRING HARNESS REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Description:

Reference	Condition Description
Page 2-29	Batteries Disconnected

Materials/Parts:

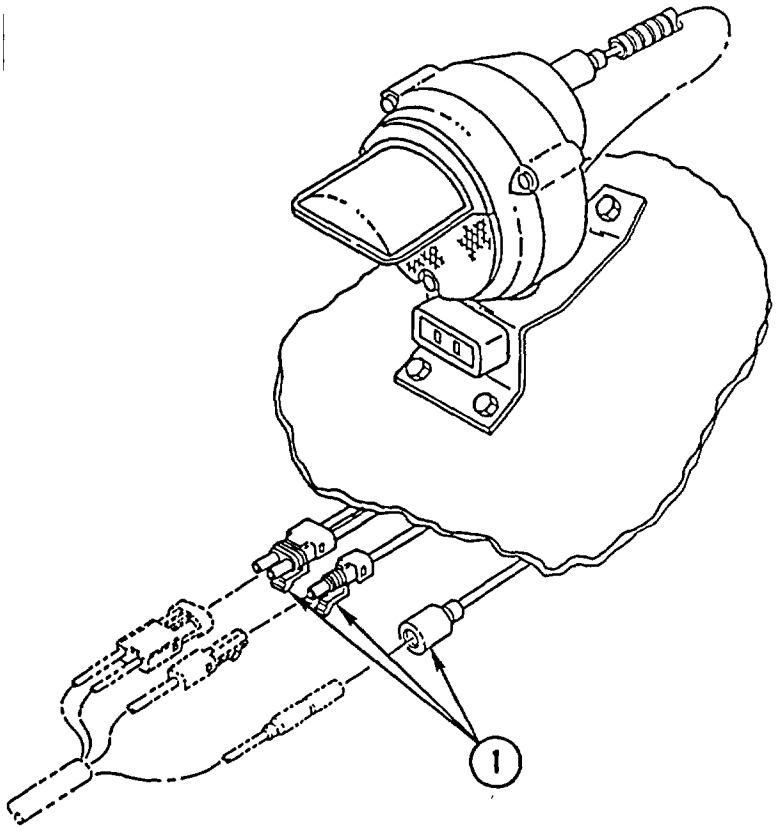
Nut, Lock (3)

Nut Lock (2) P/N 233774

Washer, Lock

Tags, Identification Appendix C, Item 26

REMOVAL

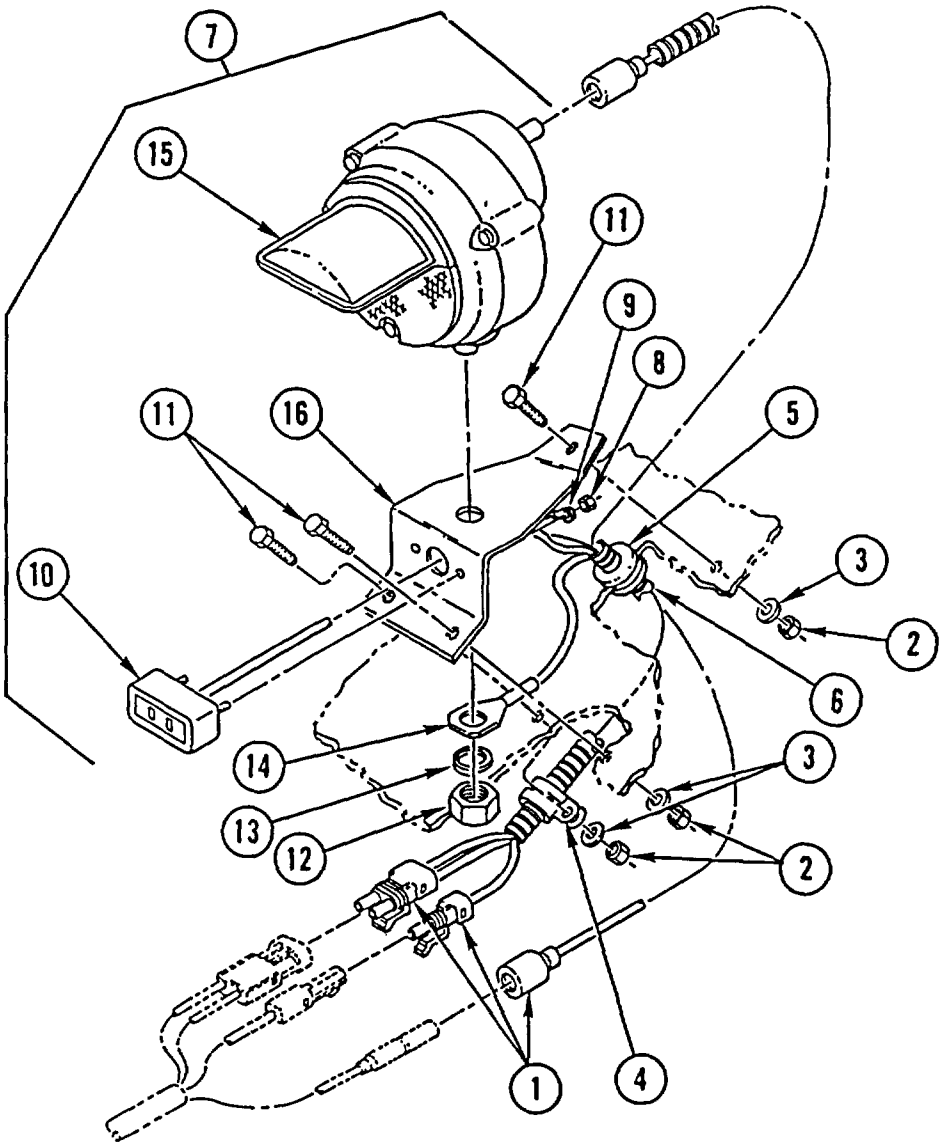


NOTE

Tag all connectors and wires prior to removal to aid in installation.

1. DISCONNECT THREE CONNECTORS (1).

BLACKOUT DRIVE AND MARKER LIGHT AND WIRING HARNESS REPLACEMENT (CONT)



2. REMOVE THREE LOCK NUTS (2), THREE WASHERS (3), AND CLAMP (4) DISCARD LOCK NUTS.

NOTE

Quantity of wire ties may vary. Remove as needed.

3. REMOVE GROMMET (5) AND PULL HARNESS (6) THRU FENDER WHILE REMOVING BLACKOUT LIGHT ASSEMBLY (7) FROM FENDER.

4. REMOVE TWO LOCK NUTS (8), WIRE (9), MARKER LIGHT (10), AND THREE SCREWS (11). DISCARD LOCK NUTS.

5. REMOVE NUT (12), LOCK WASHER (13), GROUND WIRE (14), AND BLACKOUT DRIVE LIGHT (15) FROM BRACKET (16). DISCARD LOCK WASHER.

6. DISCONNECT HARNESS (6) FROM BLACKOUT DRIVE LIGHT (15).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE

Quantity of wire ties may vary. Install as needed.

1. INSTALL BLACKOUT DRIVE LIGHT (15), GROUND WIRE (14), NEW LOCK WASHER (13), AND NUT (12) ON BRACKET (16).

2. CONNECT HARNESS (6) TO BLACKOUT DRIVE LIGHT (15).

3. INSTALL THREE SCREWS (11), MARKER LIGHT (10), WIRE (9), AND TWO NEW LOCK NUTS (8) ON BRACKET (16).

4. FEED HARNESS (6) THRU FENDER AND INSTALL BLACKOUT LIGHT ASSEMBLY (7), GROMMET (5), CLAMP (4), THREE WASHERS (3), AND THREE NEW LOCK NUTS (2).

5. CONNECT THREE CONNECTORS (1).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

BLACKOUT LIGHT LAMP UNIT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Tags, Identification — Appendix C, Item 26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. DISCONNECT CONNECTOR (1) FROM REAR OF BLACKOUT LIGHT.
2. LOOSEN THREE SCREWS (2) AND REMOVE DOOR (3) FROM FRONT OF ENCLOSURE (4).

NOTE

Tag wires prior to removal to aid in installation.

3. REMOVE LAMP UNIT (5) FROM ENCLOSURE (4) AND DISCONNECT TWO WIRES (6). REMOVE SHELL (7).
4. REMOVE WASHER (8), GROMMET (9), AND ADAPTER (10) FROM ENCLOSURE (4).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

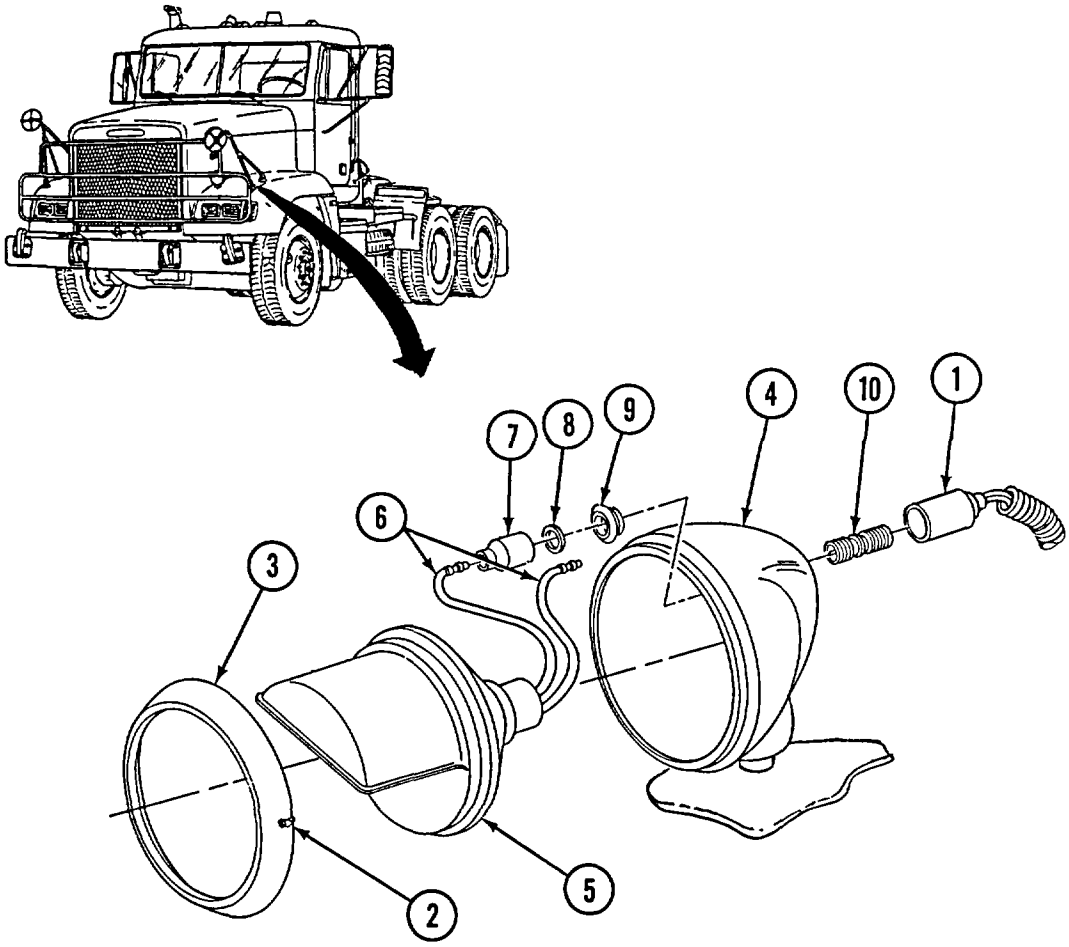
INSTALLATION

1. INSTALL ADAPTER (10), GROMMET (9), AND WASHER (8) TO ENCLOSURE (4).
2. INSTALL SHELL (7), CONNECT TWO WIRES (6), AND INSTALL LAMP UNIT (5) TO ENCLOSURE (4).
3. INSTALL DOOR (3) AND TIGHTEN THREE SCREWS (2).
4. CONNECT CONNECTOR (1) TO BLACKOUT LIGHT.

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).


1
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10

BLACKOUT MARKER LIGHT AND WIRING HARNESS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (3)

Washer, Lock

Tags, IdentificationAppendix C, Item 26

Equipment Description:

Reference	Condition Description
Page 2-29	Batteries Disconnected

NOTE

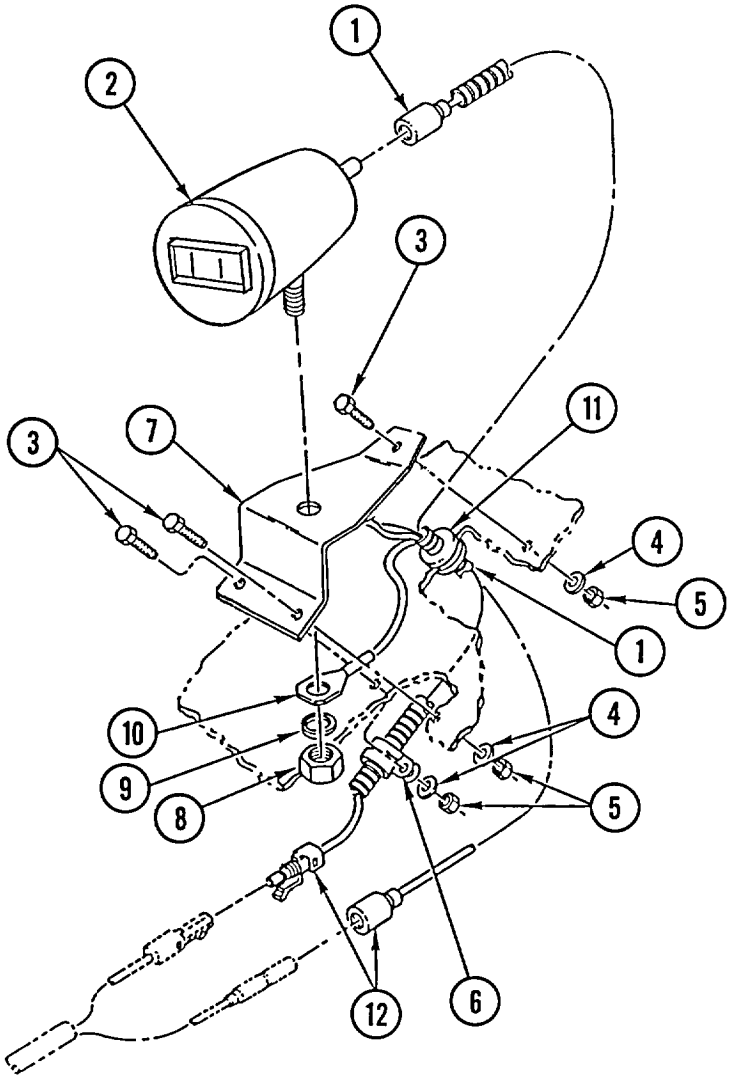
- **Both blackout marker lights and wiring harnesses are removed and installed the same way. Right front blackout marker light and wiring harness is illustrated.**
- **Tag all connectors and wires prior to removal to aid in installation.**

REMOVAL

1. DISCONNECT HARNESS (1) FROM BACK OF BLACKOUT MARKER LIGHT (2).
2. REMOVE THREE SCREWS (3), THREE WASHERS (4), THREE LOCK NUTS (5), CLAMP LOOP (6), AND BLACKOUT MARKER LIGHT (2) WITH BRACKET (7) FROM FENDER. DISCARD LOCK NUTS.
3. REMOVE NUT (8), LOCK WASHER (9), GROUND WIRE (10), AND BLACKOUT MARKER LIGHT (2) FROM BRACKET (7). DISCARD LOCK WASHER.
4. REMOVE GROMMET (11) AND FEED HARNESS (1) THROUGH FENDER.
5. DISCONNECT CONNECTORS (12).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. CONNECT CONNECTORS (12).
2. FEED HARNESS (1) THROUGH FENDER AND INSTALL GROMMET (11).
3. POSITION BLACKOUT MARKER LIGHT (2) ON BRACKET (7) AND INSTALL GROUND WIRE (10), LOCK WASHER (9), AND NUT (8) TO SECURE BLACKOUT MARKER LIGHT (2) TO BRACKET (7).
4. POSITION BLACKOUT MARKER LIGHT (2) WITH BRACKET (7) ON FENDER AND INSTALL THREE SCREWS (3), THREE WASHERS (4), THREE LOCK NUTS (5), AND CLAMP LOOP (6) TO SECURE BRACKET (7) AND HARNESS (1) TO FENDER.
5. CONNECT HARNESS (1) TO REAR OF BLACKOUT MARKER LIGHT (2).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).
Check operation of blackout marker lights (TM 9-2320-363-10).

RIGHT FRONT BLACKOUT MARKER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (3)	
Nut, Lock (2)	P/N 233774
Tags, Identification	Appendix C, Item 26

Equipment Description:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

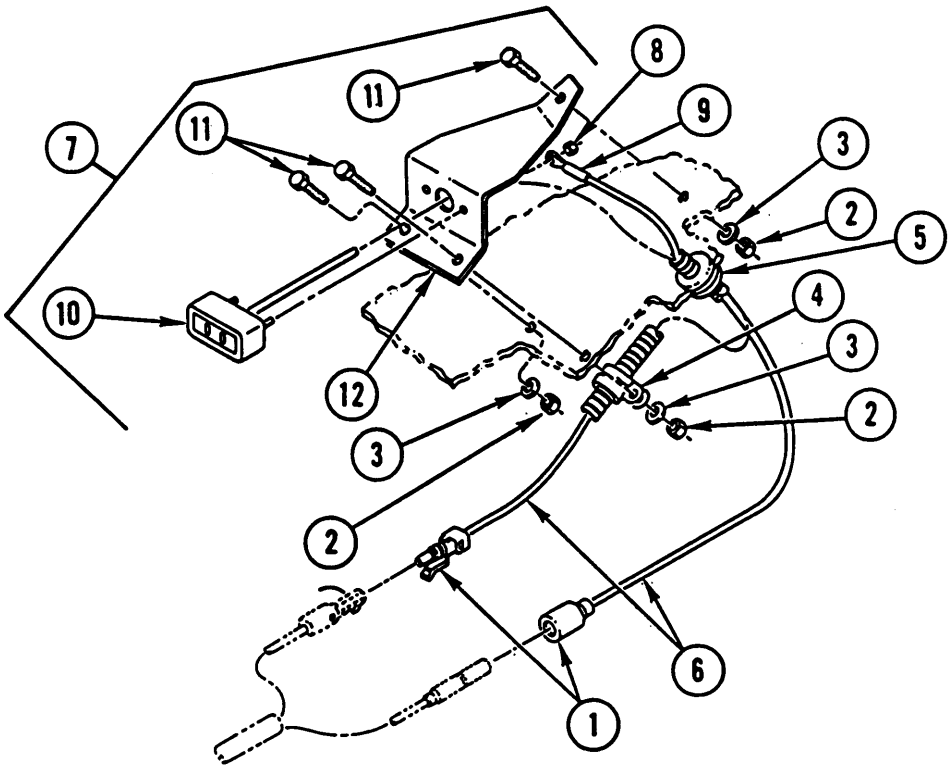
NOTE

Tag connectors prior to removal to aid in installation.

1. DISCONNECT TWO CONNECTORS (1).
2. REMOVE THREE LOCK NUTS (2), THREE WASHERS (3), AND CLAMP (4). DISCARD LOCK NUTS.
3. REMOVE GROMMET (5) AND FEED HARNESS (6) THRU FENDER WHILE REMOVING BLACKOUT MARKER LIGHT ASSEMBLY (7) FROM FENDER.
4. REMOVE TWO LOCK NUTS (8) AND WIRE (9). DISCARD LOCK NUTS.
5. REMOVE BLACKOUT MARKER (10) AND THREE SCREWS (11) FROM BRACKET (12).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL THREE SCREWS (11) AND BLACKOUT MARKER (10) IN BRACKET (12).
2. INSTALL WIRE (9) AND TWO NEW LOCK NUTS (8).
3. FEED HARNESS (6) THRU FENDER AND INSTALL BLACKOUT MARKER LIGHT ASSEMBLY (7), GROMMET (5), CLAMP (4), THREE WASHERS (3), AND THREE NEW LOCK NUTS (2).
4. CONNECT TWO CONNECTORS (1).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

REAR BLACKOUT MARKER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2) P/N 23-10340-108

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

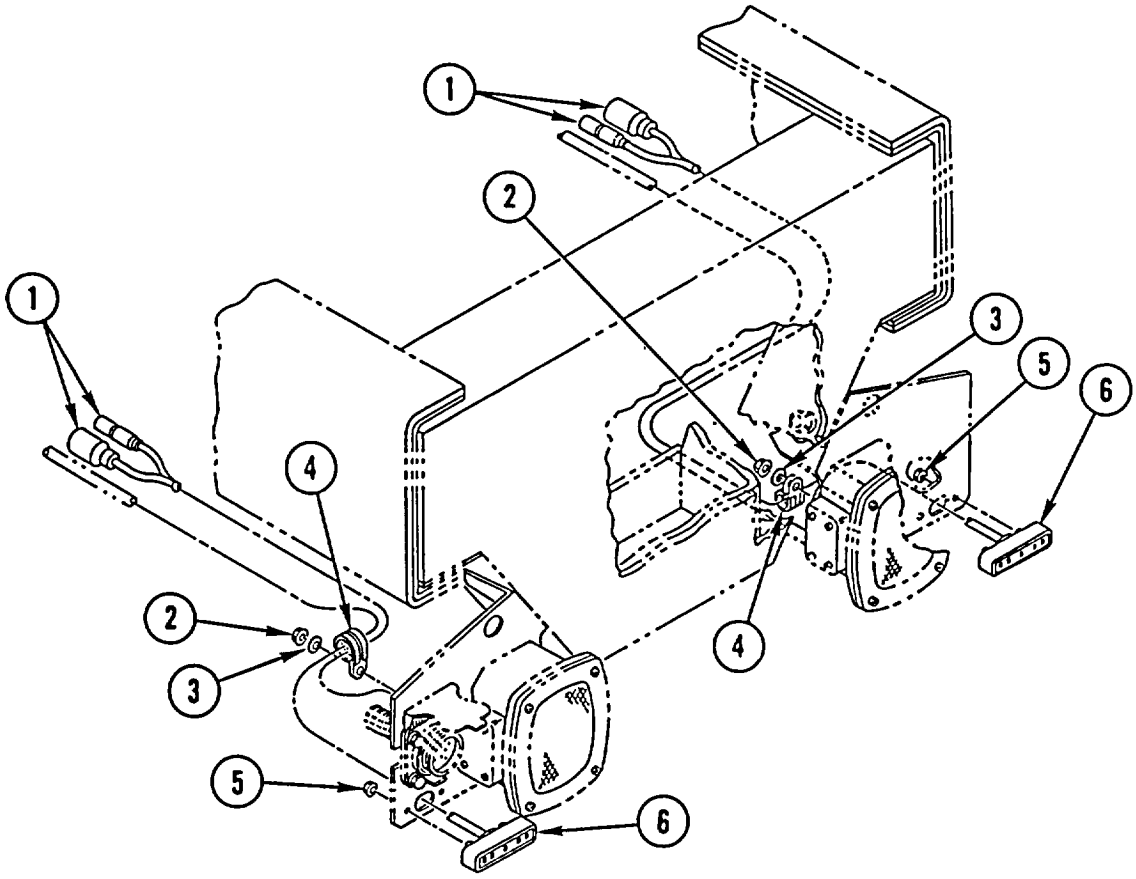
NOTE

- Procedure is the same for both blackout markers.
- Tag connectors prior to removal to aid in installation.

1. DISCONNECT TWO CONNECTORS (l).
2. REMOVE NUT (2), WASHER (3), AND CLAMP (4).
3. REMOVE TWO LOCK NUTS (5) AND BLACKOUT MARKER (6). DISCARD LOCK NUTS.
4. REPEAT STEPS 1 THRU 3 FOR BLACKOUT MARKER ON OPPOSITE SIDE OF VEHICLE.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

NOTE

Procedure is the same for both blackout markers.

1. INSTALL BLACKOUT MARKER (6) AND TWO NEW LOCK NUTS (5).
2. INSTALL CLAMP (4), WASHER (3), AND NUT (2).
3. CONNECT TWO CONNECTORS (1).
4. REPEAT STEPS 1 THRU 3 FOR BLACKOUT MARKER ON OPPOSITE SIDE OF VEHICLE.

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

SIDE MARKER/TURN SIGNAL LIGHT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)	P/N 23-09336-005
Gasket (M915A2 and M916A1)	P/N 61-2078-03

Equipment Description:

Reference	Condition Description
Page 2-29	Batteries Disconnected

General Safety Instructions;

WARNING

Make sure master light switch is in off position prior to disconnecting or connecting cable assembly. Failure to do so could result In electrical shock and injury to personnel.

REMOVAL

WARNING

Make sure master light switch is in off position prior to disconnecting cable assembly. Failure to do so could result in electrical shock and injury to personnel.

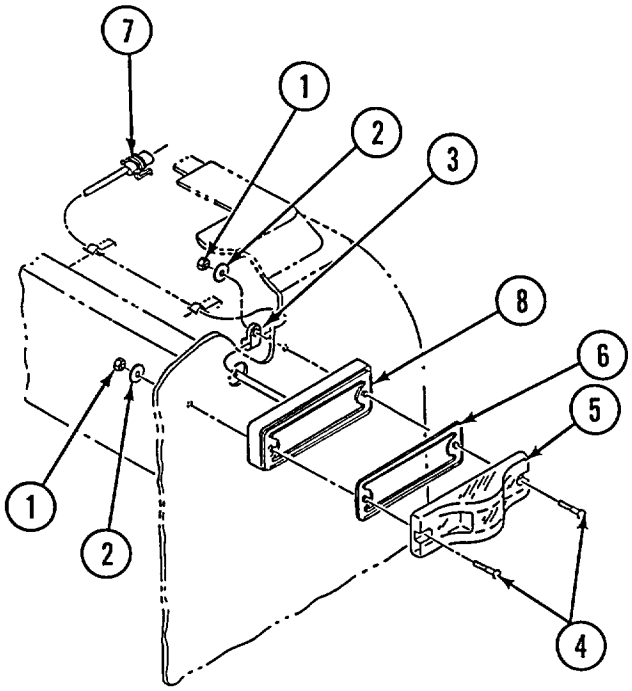
1. ON M915A2 AND M916A1, REMOVE TWO LOCK NUTS (1), TWO WASHERS (2), CLAMP (3), TWO SCREWS (4), LENS COVER (5), AND GASKET (6). DISCARD LOCK NUTS AND GASKET.

1.1 ON ALL EXCEPT M915A2 AND M916A1, REMOVE TWO LOCK NUTS (1), TWO WASHERS (2), CLAMP (3), TWO SCREWS (4) AND LENS COVER (5). DISCARD LOCK NUTS.

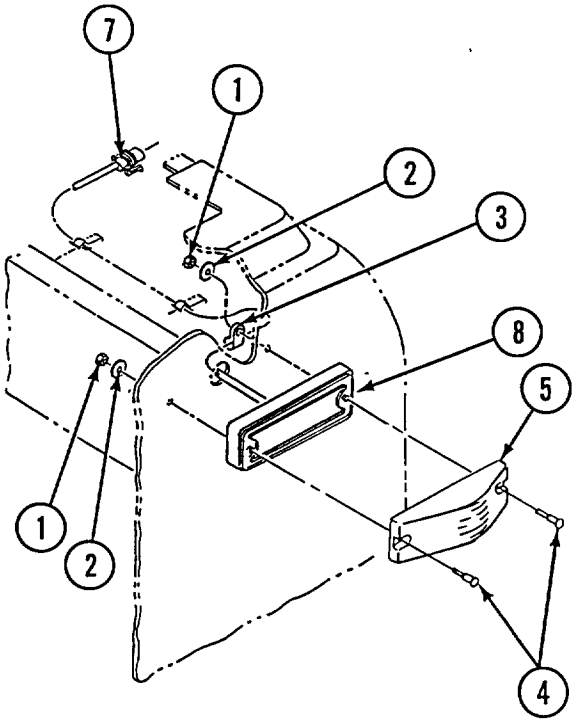
2. DISCONNECT CONNECTOR (7) AND REMOVE SIDE MARKER/TURN SIGNAL LIGHT (8).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



M915A2 AND M916A1



ALL EXCEPT M915A2 AND M916A1

INSTALLATION

1. INSTALL SIDE MARKER/TURN SIGNAL LIGHT (8) AND CONNECT CONNECTOR (7).

1.1. ON ALL EXCEPT M915A2 AND M916A1, INSTALL LENS COVER (5), TWO SCREWS (4), CLAMP (3), TWO WASHERS (2), AND TWO NEW LOCK NUTS (1).

2. ON M915A2 AND M916A1, INSTALL NEW GASKET (6), LENS COVER (5), TWO SCREWS (4), CLAMP (3), TWO WASHERS (2), AND TWO NEW LOCK NUTS (1).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).
Check operation of blackout marker lights (TM 9-2320-363-10).

LEFT TAILLIGHT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1 TM 9-2320-363-20-1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Kit, Hardware P/N 79-9007-06

Nut, Lock P/N 23-10340-125

References:

Equipment Description:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE AND DISCARD FOUR SCREWS (1) AND COVER (2).

NOTE

Tag wires prior to removal to aid in installation.

2. WIPE GREASE FROM TERMINALS AND REMOVE THREE LOCK NUTS (3) AND THREE WIRES (4). DISCARD LOCK NUTS.

3. REMOVE LOCK NUT (5), SCREW (6), WASHER (7), AND CLAMP (8). DISCARD LOCK NUT.

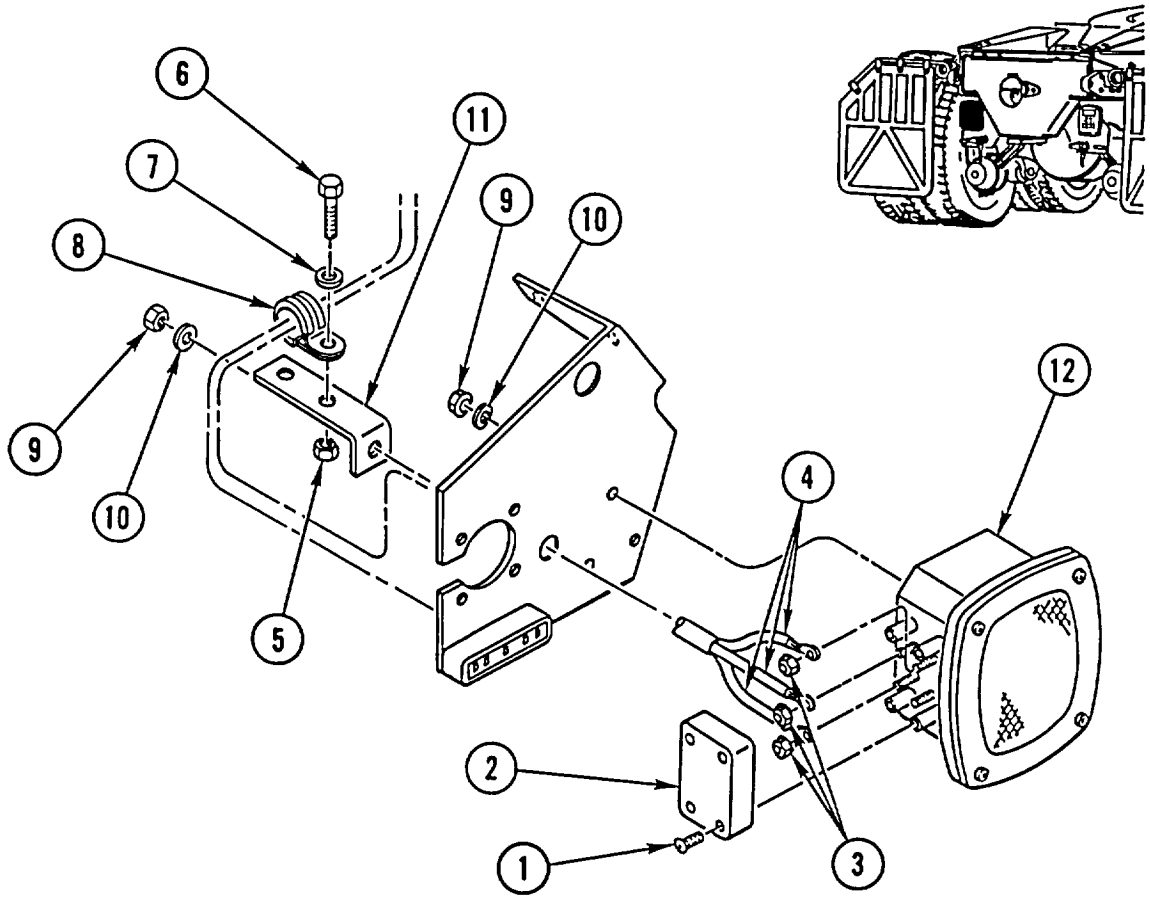
NOTE

Removal of bracket is for M915A2 only.

4. REMOVE THREE NUTS (9), THREE LOCK WASHERS (10), BRACKET (11), AND TAILLIGHT (12). DISCARD NUTS AND LOCK WASHERS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

NOTE

Installation of bracket is for M915A2 only.

1. INSTALL TAILLIGHT (12), BRACKET (11), THREE NEW LOCK WASHERS (10), AND THREE NEW NUTS (9).
2. INSTALL CLAMP (8), WASHER (7), SCREW (6), AND NEW LOCK NUT (5).
3. INSTALL THREE WIRES (4) AND THREE NEW LOCK NUTS (3).
4. INSTALL NEW COVER (2) AND FOUR NEW SCREWS (1).

NOTE

Follow-on Maintenance:

Lubricate taillight (Unit PMCS, TM 9-2320-363-20-1).
Connect batteries (page 2-29).

RIGHT TAILLIGHT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Tool Kit. SC 5180-90-CL-N26

Materials/Parts:

Kit, Hardware P/N 79-9007-06

References:

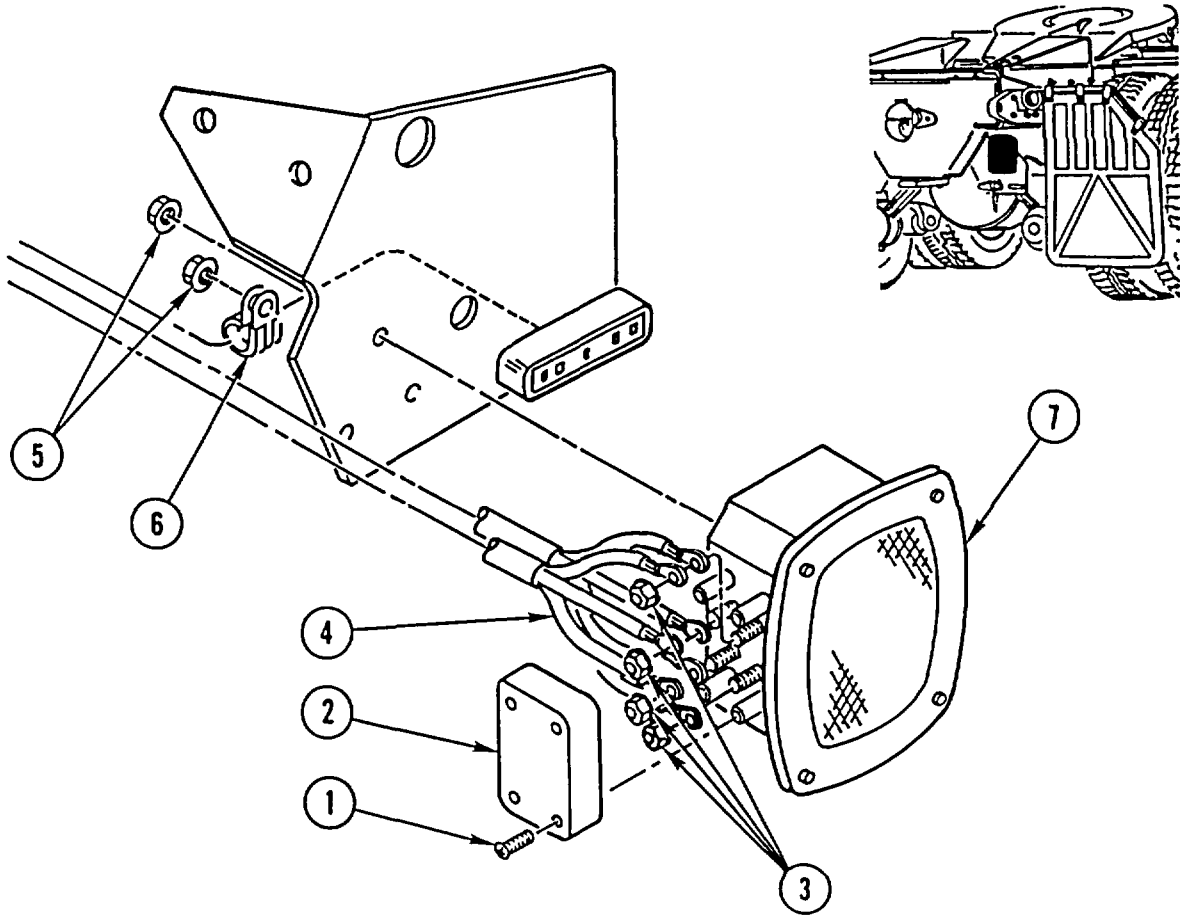
TM 9-2320-363-20-1

Equipment Description:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE AND DISCARD FOUR SCREWS (1) AND COVER (2).



NOTE

Tag wires prior to removal to aid in installation.

2. WIPE GREASE FROM TERMINALS AND REMOVE THREE LOCK NUTS (3) AND SEVEN WIRES (4). DISCARD LOCK NUTS.

3. REMOVE THREE LOCK NUTS (5), CLAMP (6), AND TAILLIGHT (7). DISCARD LOCK NUTS

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL TAILLIGHT (7), CLAMP (6), AND THREE NEW LOCK NUTS (5)

2. INSTALL SEVEN WIRES (4) AND FOUR NEW LOCK NUTS (3).

3. INSTALL NEW COVER (2) AND FOUR NEW SCREWS (1).

NOTE

Follow-on Maintenance:

Lubricate taillight (Unit PMCS, TM 9-2320-363-20-1).
Connect batteries (page 2-29).

LEFT/RIGHT TAILLIGHT MAINTENANCE

This task covers: a. Lamp Replacement b. Removal c. Cleaning/Inspection d. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

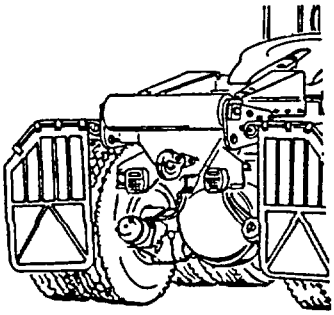
Nut, Lock (3) P/N 23-10340-125

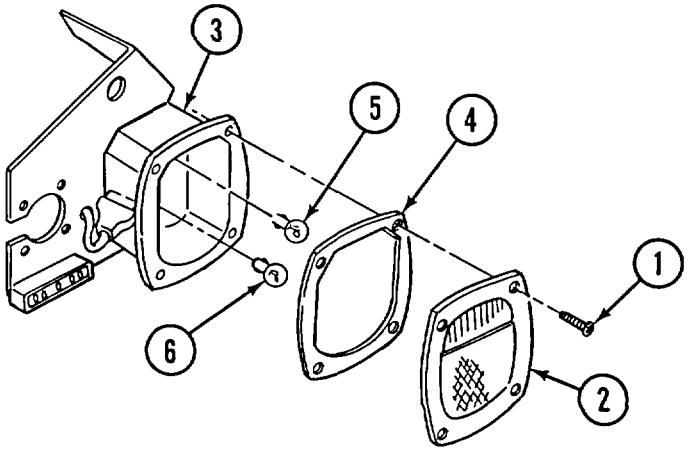
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

LAMP REPLACEMENT

1. REMOVE FOUR SCREWS (1) AND LENS (2) FROM TAILLIGHT HOUSING (3).
2. INSPECT GASKET (4) FOR DAMAGE. REPLACE IF DAMAGED.
3. PRESS DOWN AND TURN COUNTERCLOCKWISE TO REMOVE LAMP (5) AND LAMP (6).
4. PRESS DOWN AND TURN CLOCKWISE TO INSTALL LAMP (5) AND LAMP (6).





5. INSTALL LENS (2) ON TAILLIGHT HOUSING (3) WITH FOUR SCREWS (1).

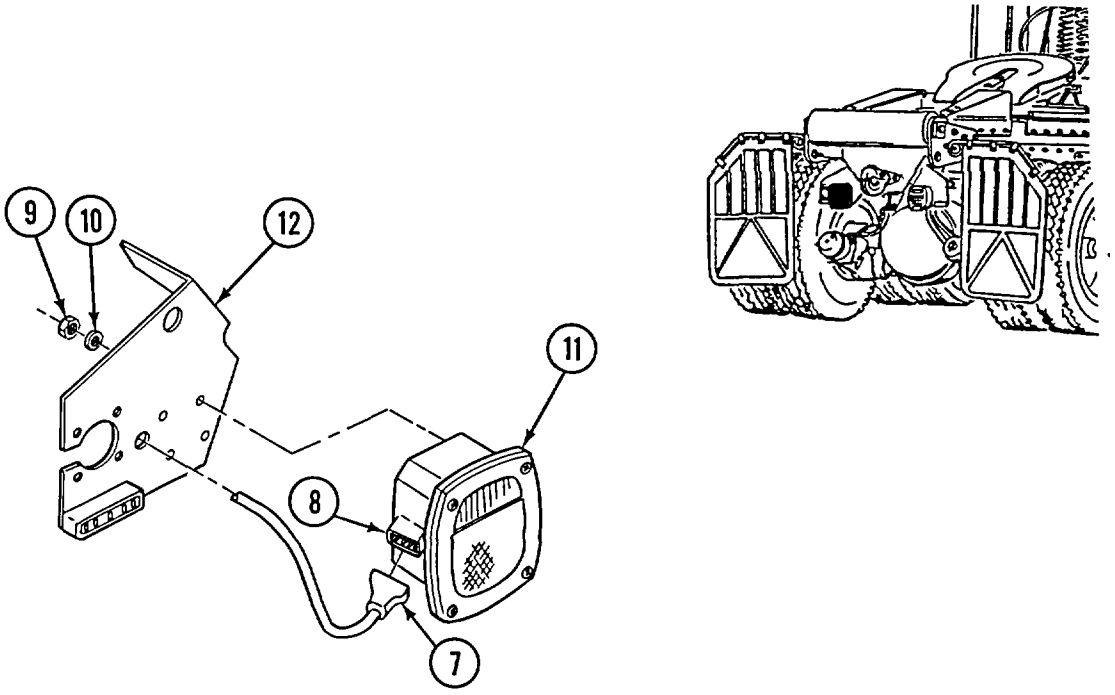
REMOVAL

NOTE

Left and right taillights are removed the same. Left taillight is shown.

1. DISCONNECT TAILLIGHT WIRING HARNESS CONNECTOR (7) FROM TAILLIGHT CONNECTOR (8).

2. REMOVE THREE LOCK NUTS (9), WASHERS (10), AND TAILLIGHT ASSEMBLY (11) FROM BRACKET (12). DISCARD LOCK NUTS.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE

Left and right taillights are installed the same. Left taillight is shown.

1. INSTALL TAILLIGHT ASSEMBLY (11) TO BRACKET (12) WITH THREE WASHERS (10) AND NEW LOCK NUTS (9).

2. CONNECT TAILLIGHT WIRING HARNESS CONNECTOR (7) TO TAILLIGHT CONNECTOR (8).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

UTILITY LIGHT MAINTENANCE

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (6)

Washer, Lock

Equipment Condition:

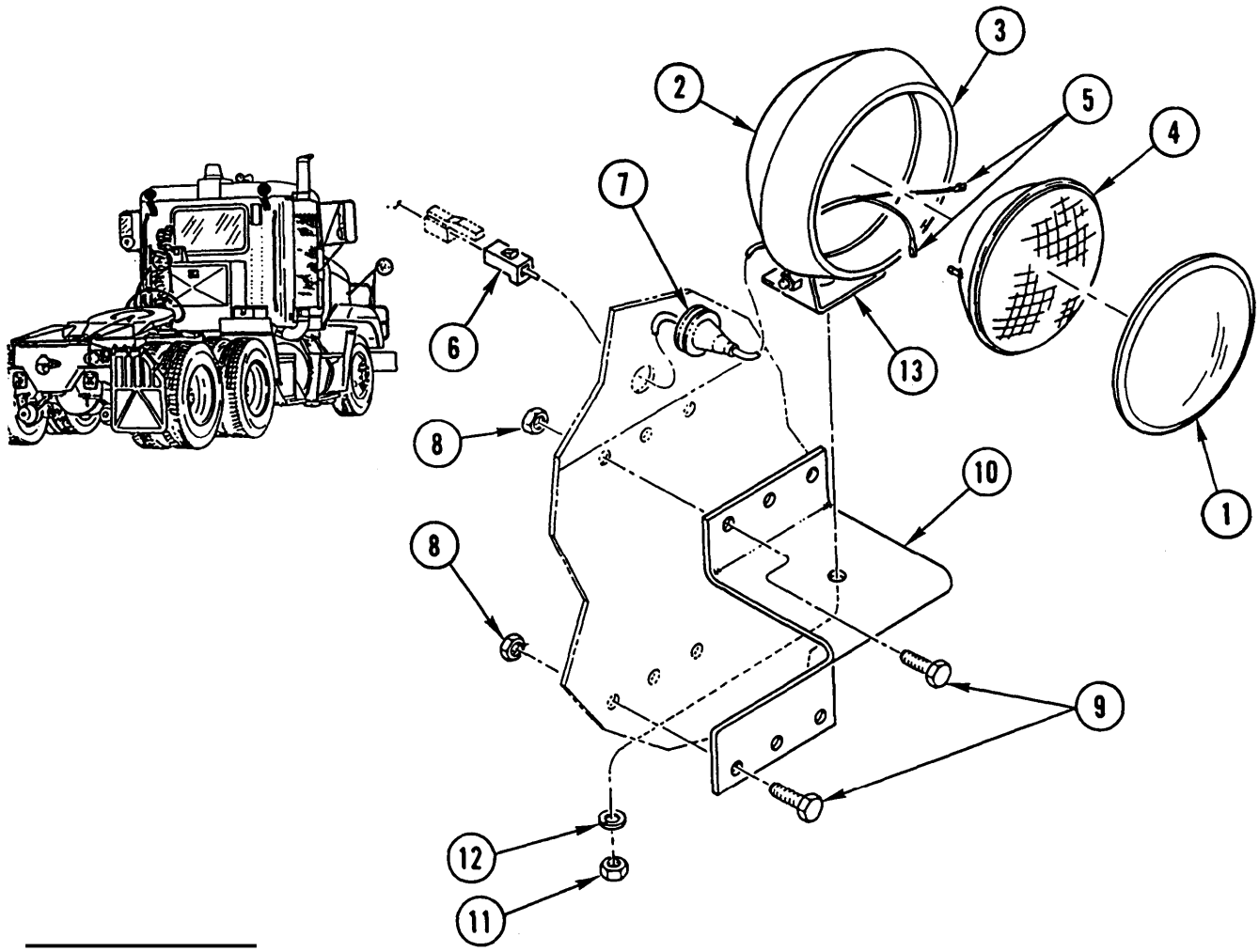
Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 4-736 or 4-738	Cab Liners Removed
Page 4-740	Head Liners Removed

REMOVAL

1. REMOVE LENS RETAINER (1) FROM UTILITY LIGHT (2).
1. ROLL BACK RUBBER SEAL (3), REMOVE LAMP (4), AND DISCONNECT TWO WIRES (5).
3. DISCONNECT CONNECTOR (6) AND REMOVE GROMMET (7).
4. REMOVE SIX LOCK NUTS (8), SIX SCREWS (9), AND MOUNTING BRACKET (10). DISCARD LOCK NUTS.
5. PULL CONNECTOR (6) OUT OF CAB.
6. REMOVE NUT (11), LOCK WASHER (12), AND MOUNTING BRACKET (13) FROM UTILITY LIGHT (2). DISCARD LOCK WASHER.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL MOUNTING BRACKET NEW LOCK WASHER (12), AND NUT (11) ON UTILITY LIGHT (2).
2. FEED CONNECTOR (6) INTO CAB.
3. INSTALL MOUNTING BRACKET (10), SIX SCREWS (9), AND SIX NEW LOCK NUTS (8).
4. INSTALL GROMMET (7) AND CONNECT CONNECTOR (6).
5. CONNECT TWO WIRES (5), INSTALL LAMP (4), AND ROLL RUBBER SEAL (3) OVER LAMP (4).
6. INSTALL LENS RETAINER (1) ON UTILITY LIGHT (2).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).
Install cab liners (page 4-736 or 4-738).
Install head liners (page 4-740).

CLEARANCE LIGHT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

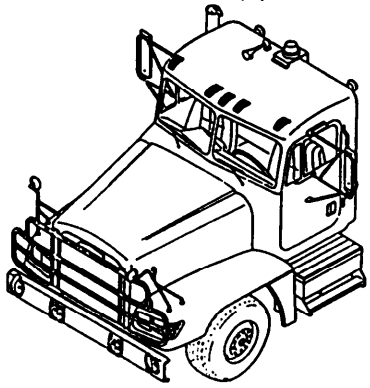
Tool Kit, SC 5180-90-CL-N26

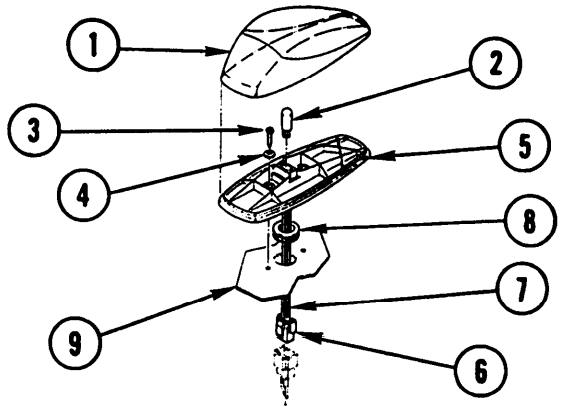
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 4-740	Head Liners Removed

REMOVAL

1. REMOVE LENS COVER (1), LAMP (2), TWO SCREWS (3), AND TWO WASHERS (4) FROM CLEARANCE LIGHT (5).
2. REMOVE CLEARANCE LIGHT (5).
3. DISCONNECT CONNECTOR (6) AND PULL HARNESS (7) THRU HOLE.
4. REMOVE GROMMET (8) FROM CAB (9).





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL GROMMET (8) IN CAB (9).
2. FEED HARNESS (7) THRU HOLE.
3. CONNECT CONNECTOR (6).
4. INSTALL CLEARANCE LIGHT (5), TWO WASHERS (4), TWO SCREWS (3), LAMP (2), AND LENS COVER (1).

NOTE

Follow-on Maintenance:
Install head liners (page 4-740).
Connect batteries (page 2-29).

INTERIOR LIGHT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

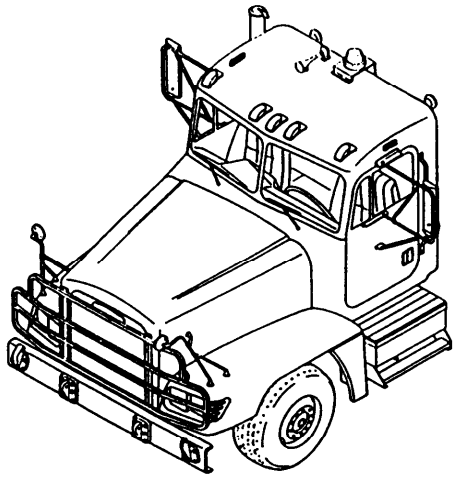
Tool Kit, SC 5180-90-CL-N26

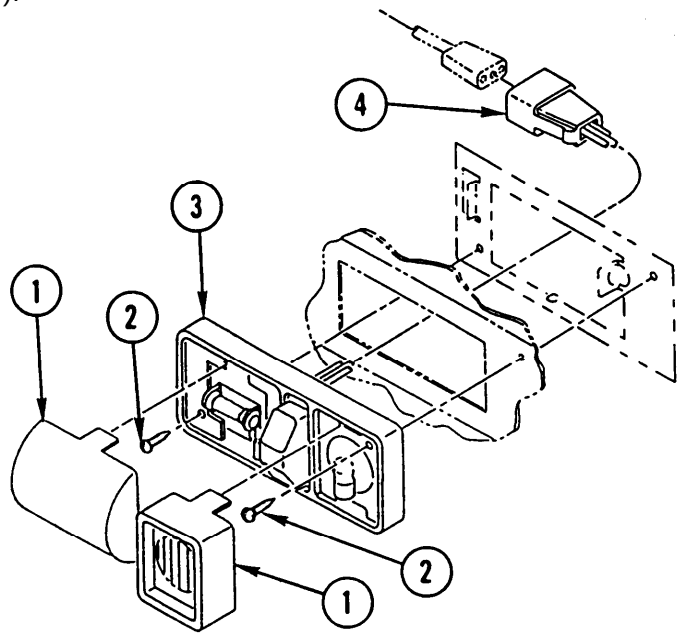
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE TWO COVERS (1), TWO SCREWS (2), AND INTERIOR LIGHT (3).
2. Disconnect HARNESS CONNECTOR (4).





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. CONNECT HARNESS CONNECTOR (4).
2. INSTALL INTERIOR LIGHT (3), TWO SCREWS (2), AND TWO COVERS (1).

NOTE

Fol ow-on Maintenance:
Connect batteries (page 2-29).

BRAKE LIGHT/TRAILER BRAKE LIGHT SENDING UNIT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

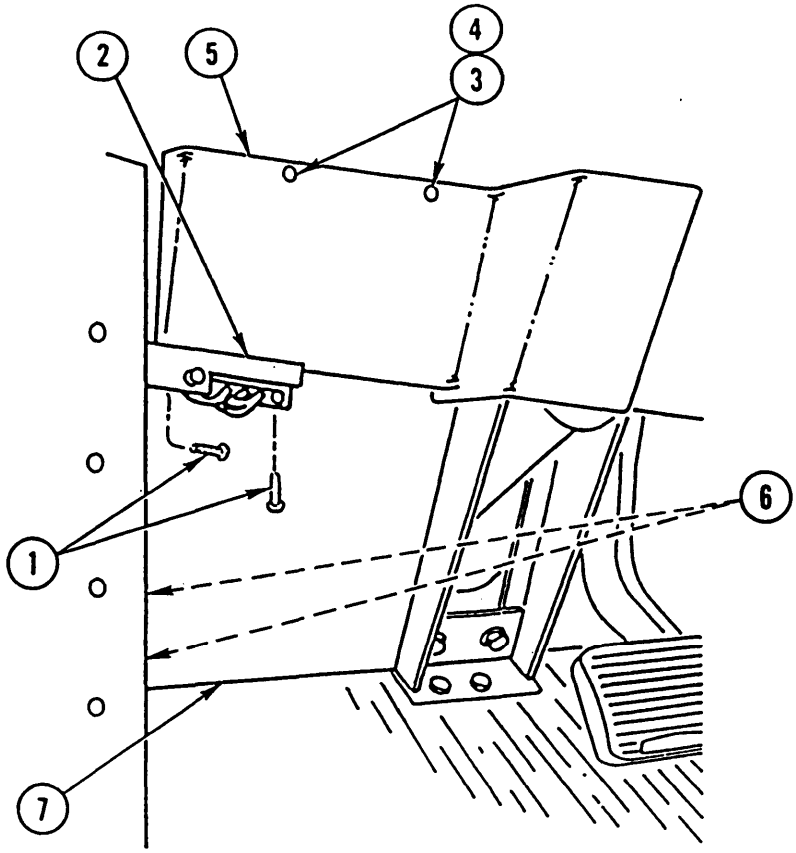
Nut, Lock (2)

Compound, Sealing Appendix C, Item 8

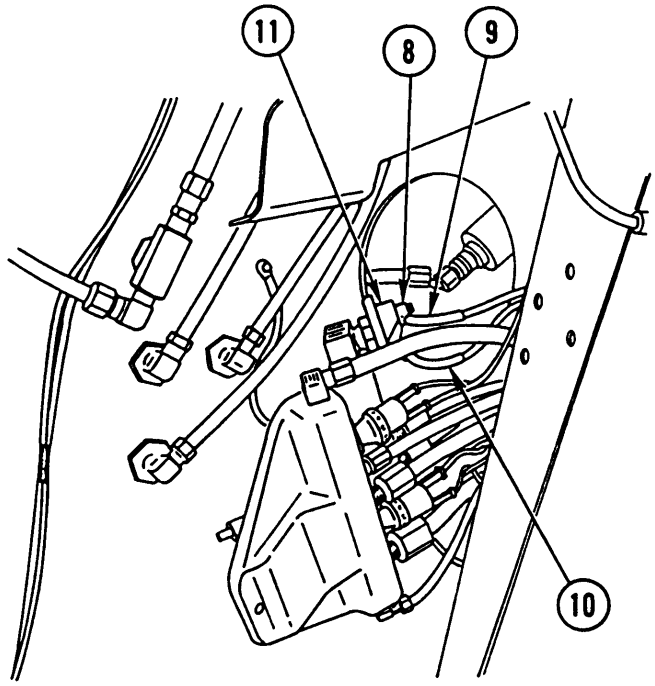
Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected

REMOVAL



1. REMOVE Two SCREWS (1) AND SET ENGINE CHECK SWITCH BRACKET (2) ASIDE.
2. REMOVE FIVE SCREWS (3), FIVE WASHERS (4), AND COVER (5).
3. REMOVE Two SCREWS (6) AND COVER (7).



NOTE

- Tag cables prior to disconnecting to aid in connecting.

- If it is necessary to remove cab air junction block, perform Removal steps 1 and 4 of Cab Air Junction Block Replacement (page 4-521).

4. REMOVE TWO LOCK NUTS (8) AND DISCONNECT TWO ELECTRICAL CABLES (9 AND 10). DISCARD LOCK NUTS.

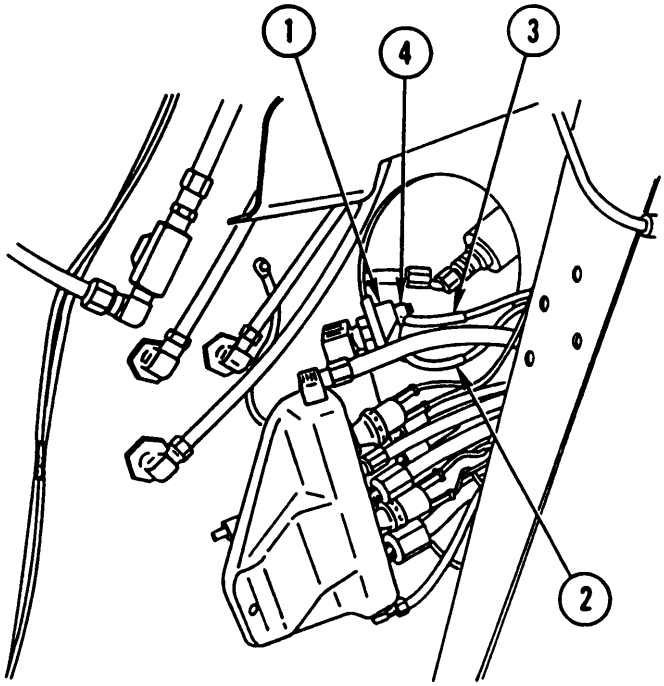
5. REMOVE BRAKE LIGHT/TRAILER BRAKE LIGHT SENDING UNIT (11).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

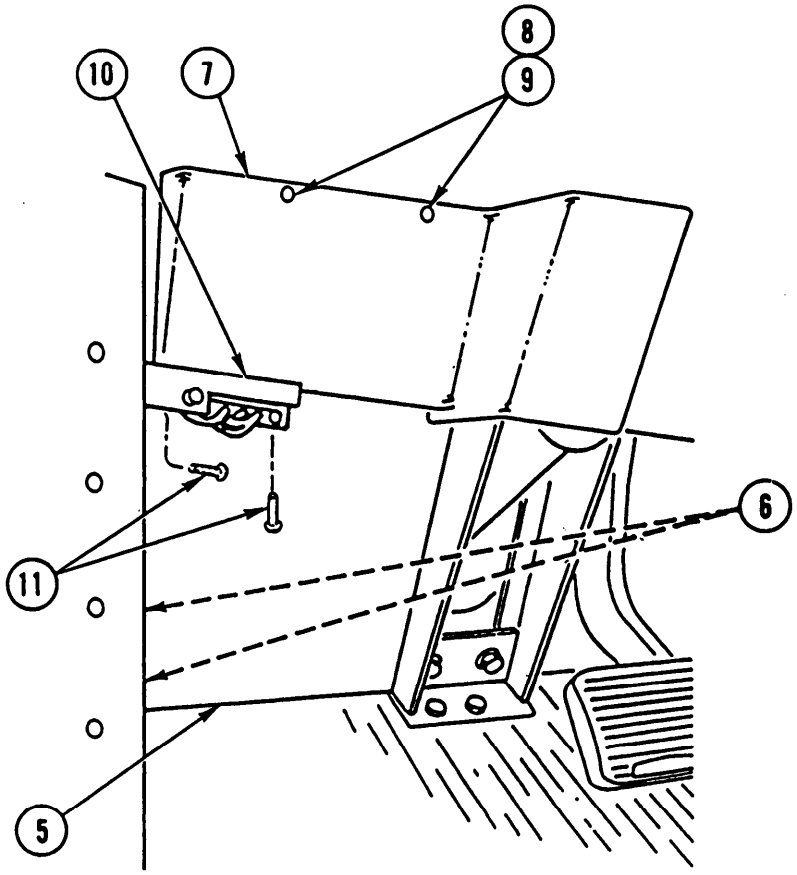
BRAKE LIGHT/TRAILER BRAKE LIGHT SENDING UNIT REPLACEMENT (CONT)

INSTALLATION



1. COAT THREADS WITH SEALING COMPOUND AND INSTALL BRAKE LIGHT/TRAILER BRAKE LIGHT SENDING UNIT (1).

2. CONNECT TWO ELECTRICAL CABLES (2 AND 3) AND INSTALL TWO NEW LOCK NUTS (4).



NOTE

If cab air junction block was removed, perform Installation steps 3 and 6 of Cab Air Junction Block Replacement (page 4-521).

3. INSTALL COVER (5) AND TWO SCREWS (6).

4. INSTALL COVER (7), FIVE WASHERS (8), AND FIVE SCREWS (9).

5. MOVE ENGINE CHECK SWITCH BRACKET (10) IN PLACE AND INSTALL TWO SCREWS (11).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

OIL PRESSURE SENDING UNIT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

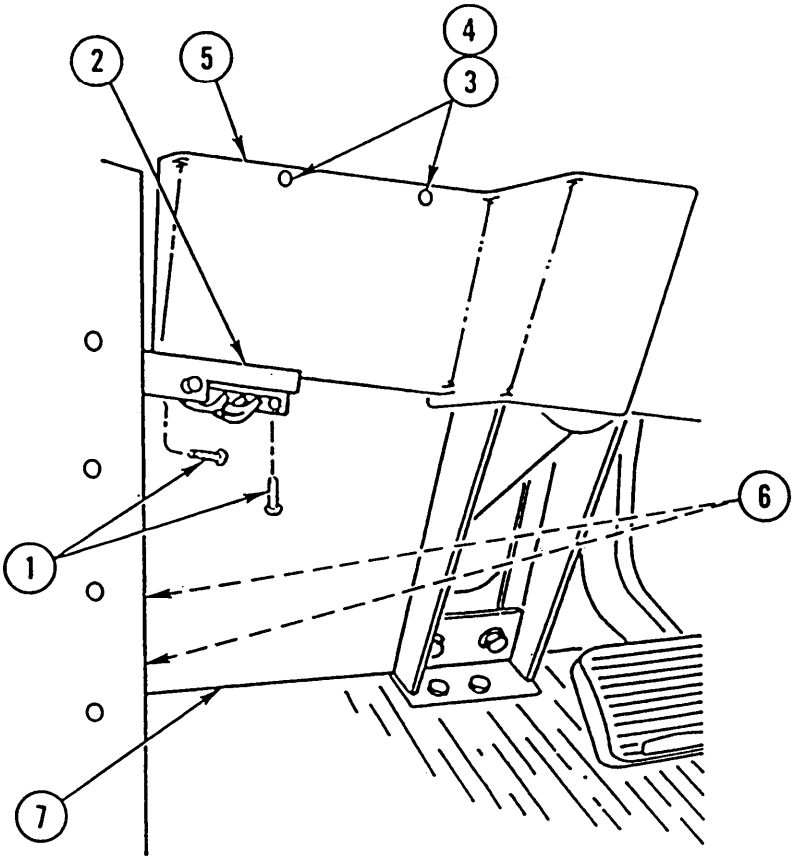
Materials/Parts:

Compound, Sealing Appendix C, Item 8

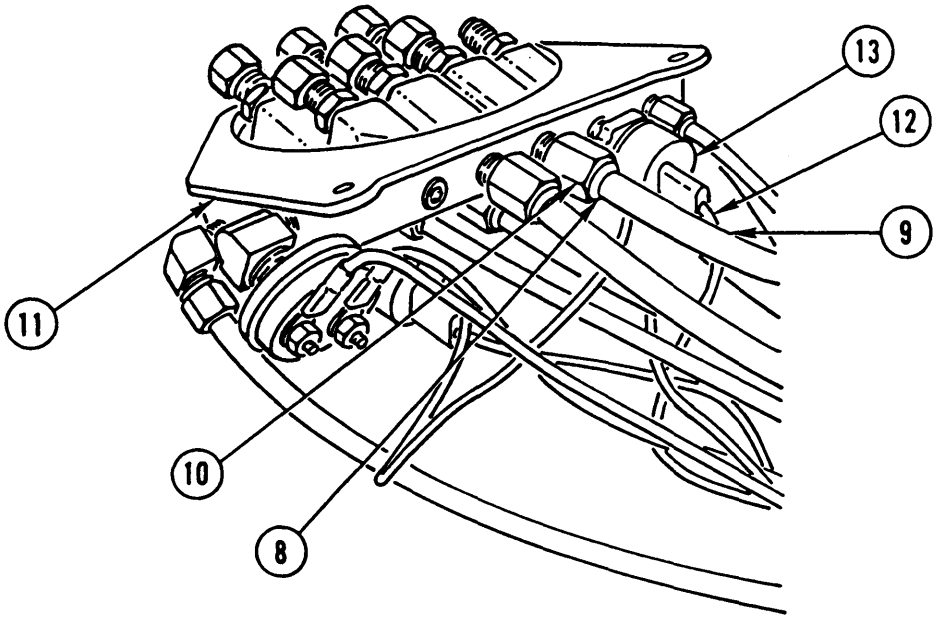
Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected

REMOVAL



1. REMOVE Two SCREWS (1) AND SET ENGINE CHECK SWITCH BRACKET (2) ASIDE.
2. REMOVE FIVE SCREWS (3), FIVE WASHERS (4), AND COVER (5).
3. REMOVE Two SCREWS (6) AND COVER (7).



NOTE

If it is necessary to remove cab air junction block, perform Removal steps 1 and 4 of Cab Air Junction Block Replacement (page 4-521).

4. DEPRESS COLLAR (8) AND DISCONNECT AIR LINE (9).

5. REMOVE FITTING (10) FROM CAB AIR JUNCTION BLOCK (11).

6. DISCONNECT ELECTRICAL CONNECTOR (12).

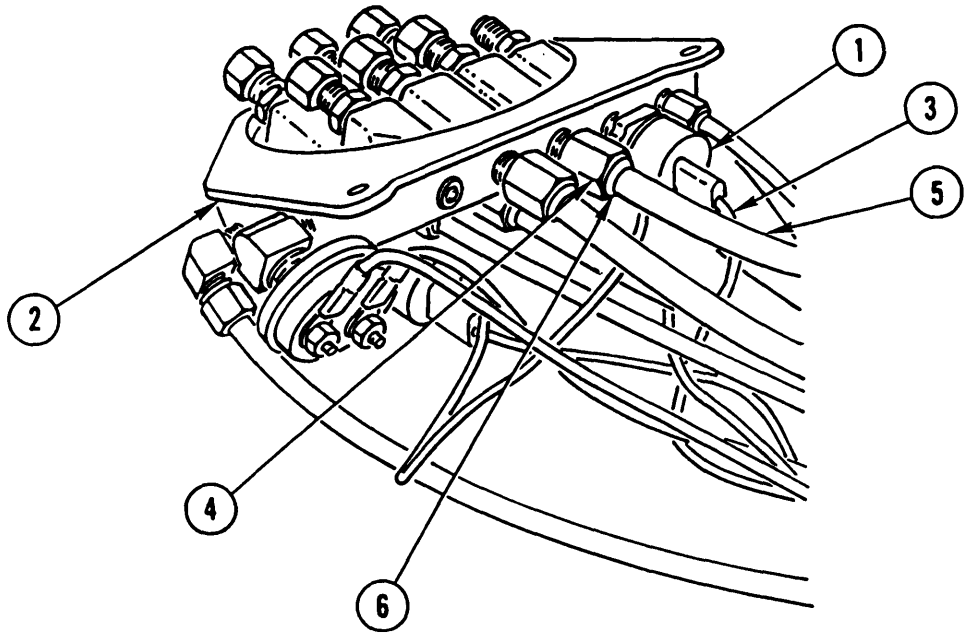
7. REMOVE OIL PRESSURE SENDING UNIT (13) FROM LOWER RIGHT SIDE OF CAB AIR JUNCTION BLOCK (11).

CLEANING/INSPECTION

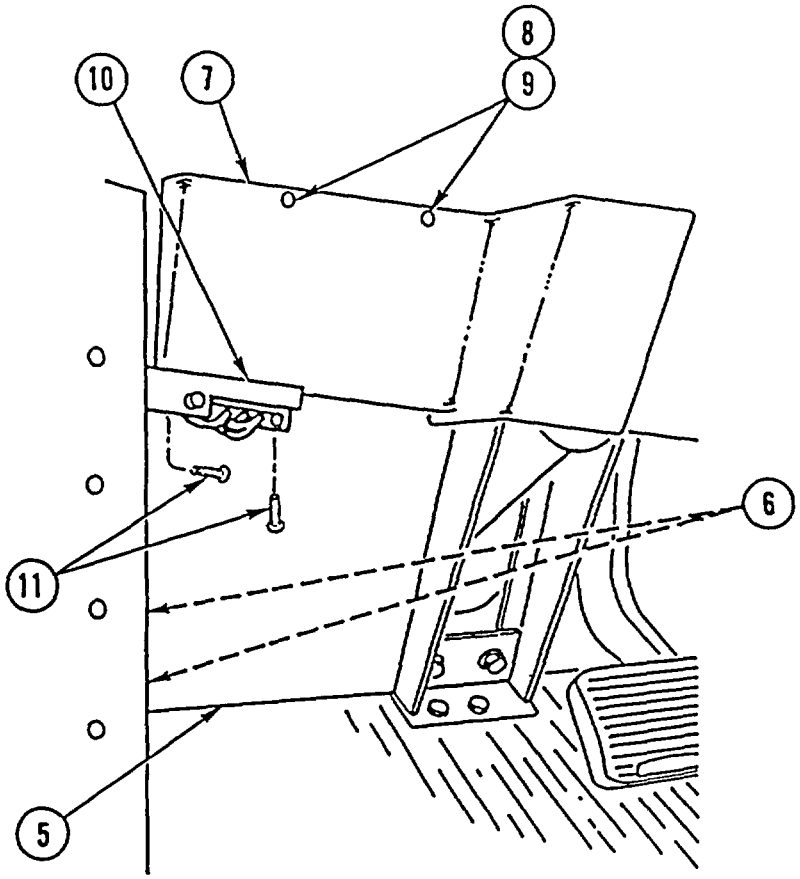
Clean and inspect all parts in accordance with Chapter 2.

OIL PRESSURE SENDING UNIT REPLACEMENT (CONT)

INSTALLATION



1. COAT THREADS WITH SEALING COMPOUND AND INSTALL OIL PRESSURE SENDING UNIT (1) IN LOWER RIGHT SIDE OF CAB AIR JUNCTION BLOCK (2).
2. CONNECT ELECTRICAL CONNECTOR (3).
3. COAT THREADS WITH SEALING COMPOUND AND INSTALL FITTING (4) IN CAB AIR JUNCTION BLOCK (2).
4. INSTALL AIR LINE (5) COMPLETELY IN COLLAR (6).



NOTE

If cab air junction block was removed, perform Installation steps 3 and 6 of Cab Air Junction Block Replacement (page 4-521).

5. INSTALL COVER (7) AND TWO SCREWS (8).

6. INSTALL COVER (9), FIVE WASHERS (10), AND FIVE SCREWS (11).

7. MOVE ENGINE CHECK SWITCH BRACKET (12) IN PLACE AND INSTALL TWO SCREWS (13).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

FAN TEMPERATURE SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (2) P/N 3059-00874-02

Compound, Pipe Sealing Appendix C, Item 8

References:

TM 9-2320-363-20-1

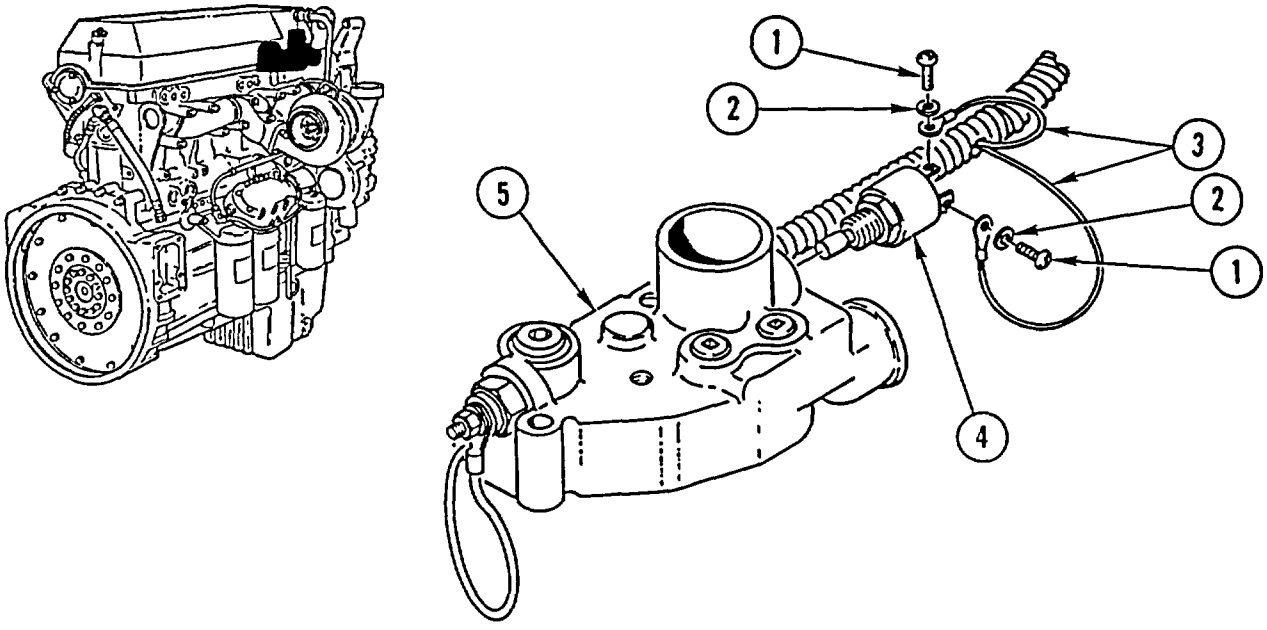
Equipment Condition:

Reference	Condition Description
Page 4-141	Thermostat Housing Drained
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE TWO SCREWS (1) AND TWO LOCK WASHERS (2) AND DISCONNECT TWO WIRES (3) FROM SENSOR (4). DISCARD LOCK WASHERS.

2. REMOVE SENSOR (4) FROM THERMOSTAT HOUSING (5).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. COAT SENSOR (4) WITH PIPE SEALING COMPOUND AND INSTALL IN THERMOSTAT HOUSING (5).

2. CONNECT TWO WIRES (3) AND INSTALL TWO NEW LOCK WASHERS (2) AND TWO SCREWS (1) IN SENSOR (4).

NOTE

Follow-on Maintenance:

Fill radiator (Unit PMCS, TM 9-2320-363-20-1).
Connect batteries (page 2-29).

WATER TEMPERATURE SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock	P/N 171105
Compound, Pipe Sealing	Appendix C, Item 8

References:

TM 9-2320-363-20-1

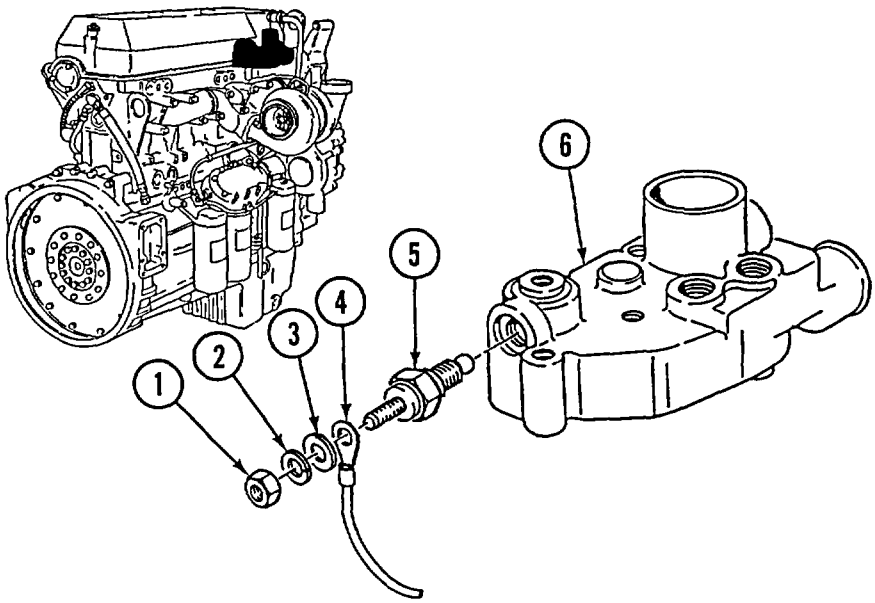
Equipment Condition:

Reference	Condition Description
Page 4-141	Cooling System Drained
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE NUT (1), LOCK WASHER (2), AND WASHER (3) AND DISCONNECT WIRE (4) FROM SENSOR (5). DISCARD LOCK WASHER.

2. REMOVE SENSOR (5) FROM THERMOSTAT HOUSING (6).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. COAT THREADS OF SENSOR (5) WITH PIPE SEALING COMPOUND.
2. INSTALL SENSOR (5) IN THERMOSTAT HOUSING (6).
3. CONNECT WIRE (4) AND INSTALL WASHER (3), NEW LOCK WASHER (2), AND NUT (1) ON SENSOR (5).

NOTE

Follow-on Maintenance:

Fill cooling system (Unit PMCS, TM 9-2320-363-20-1).
Connect batteries (page 2-29)

WATER TEMPERATURE SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing — Appendix C, Item 8

References:

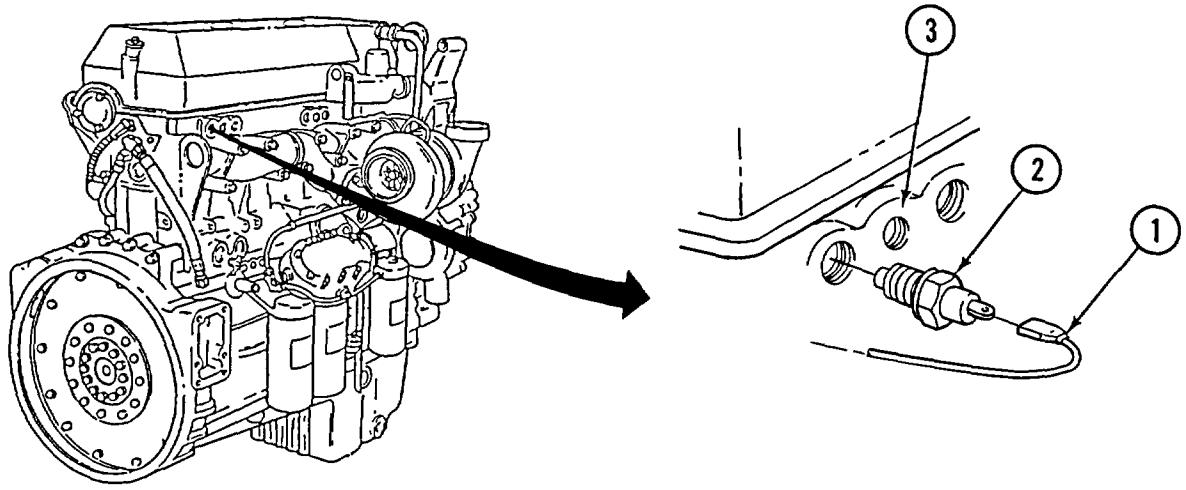
TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Page 4-141	Cooling System Drained
Page 2-29	Batteries Disconnected

REMOVAL

1. DISCONNECT CONNECTOR (1) FROM SENSOR (2).
2. REMOVE SENSOR (2) FROM CYLINDER HEAD (3).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. COAT THREADS OF SENSOR (2) WITH PIPE SEALING COMPOUND.
2. INSTALL SENSOR (2) IN CYLINDER HEAD (3).
3. CONNECT CONNECTOR (1) TO SENSOR (2).

NOTE

Follow-on Maintenance:

Fill cooling system (Unit PMCS, TM 9-2320-363-20-1).
Connect batteries (page 2-29).

WATER LEVEL SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock	P/N 3059-00874-02
Compound, Pipe Sealing	Appendix C, Item B

References:

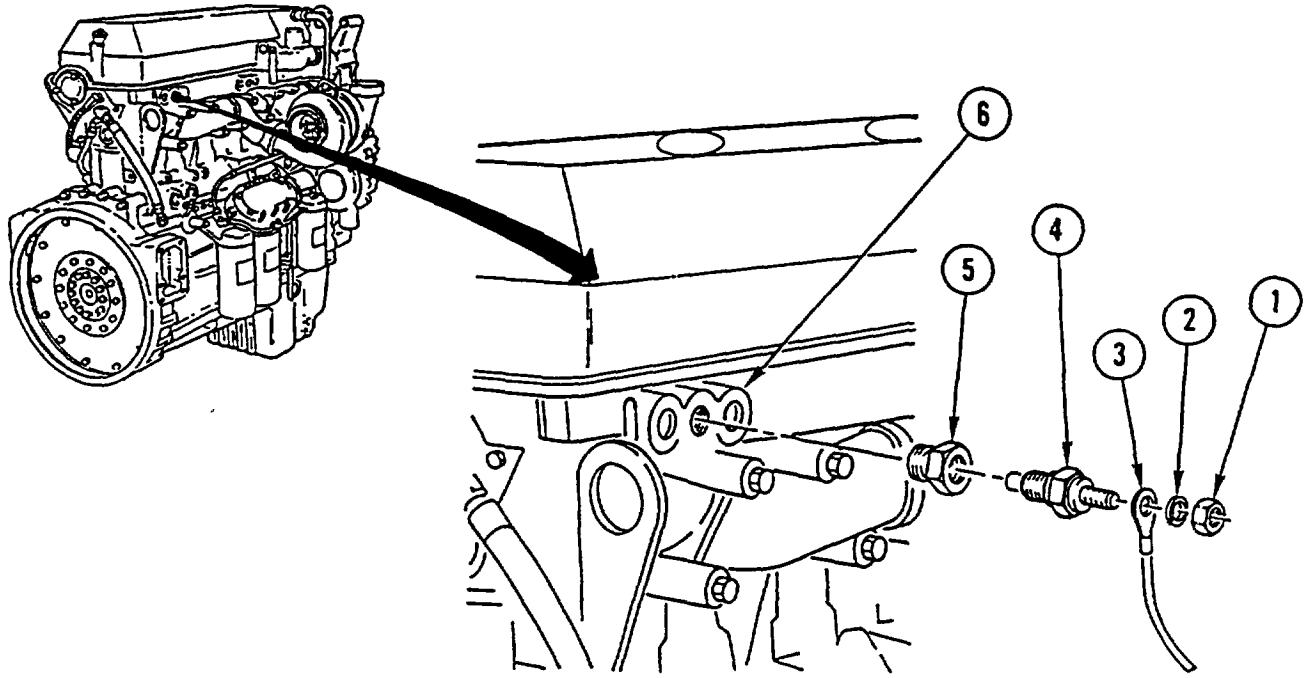
TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Page 4-141	Cooling System Drained
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE NUT (1) AND LOCK WASHER (2) AND DISCONNECT WIRE (3) FROM SENSOR (4). DISCARD LOCK WASHER.
2. REMOVE SENSOR (4) FROM ADAPTER (5).
3. REMOVE ADAPTER (5) FROM ENGINE BLOCK (6).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION I

1. COAT THREADS OF ADAPTER (5) AND SENSOR (4) WITH PIPE SEALING COMPOUND.
2. INSTALL ADAPTER (5) IN ENGINE BLOCK (6).
3. INSTALL SENSOR (4) IN ADAPTER (5).
4. CONNECT WIRE (3) AND INSTALL NEW LOCK WASHER (2) AND NUT (1) IN SENSOR (4).

NOTE
Follow-on Maintenance:
Filling cooling system (Unit PMCS, TM 9-2320-363-20-1).
Connect batteries (page 2-29).

AIR TEMPERATURE SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP I

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

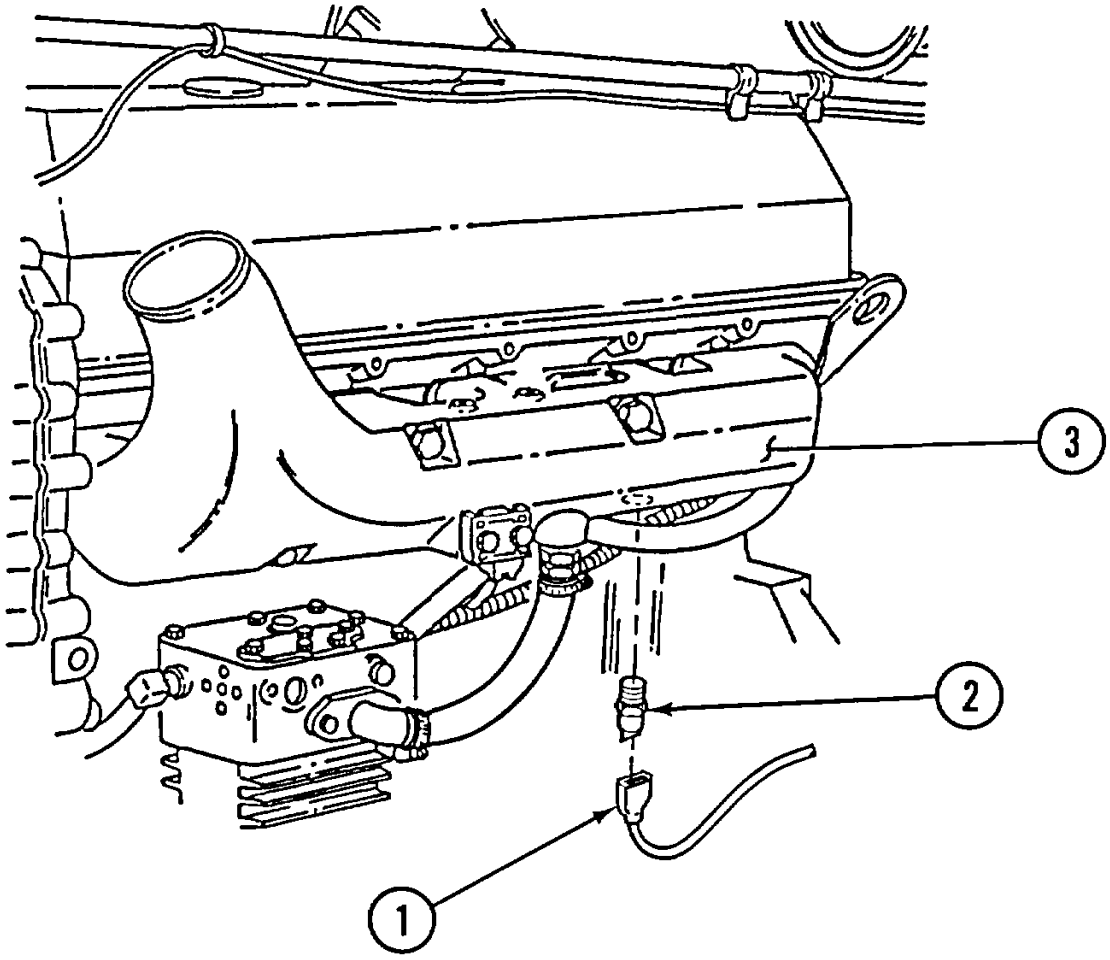
1. DISCONNECT CONNECTOR (1) FROM SENSOR (2).
2. REMOVE SENSOR (2) FROM INTAKE MANIFOLD (3).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. COAT THREADS OF SENSOR (2) WITH PIPE SEALING COMPOUND.
2. INSTALL SENSOR (2) IN INTAKE MANIFOLD (3).
3. CONNECT CONNECTOR (1) TO SENSOR (2).



NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

WATER LEVEL PROBE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

References:

TM 9-2320-363-20-1

Materials/Parts:

Washer, Lock (2)	(M915A2 and M916A1)
Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 4-141	Cooling System Drained
Page 2-29	Batteries Disconnected

REMOVAL

NOTE
Perform step 1 for M915A2 and M916A1.

1. REMOVE SCREW (1), LOCK WASHER (2), NUT (3), AND LOCK WASHER (4) AND DISCONNECT TWO WIRES (5) FROM PROBE (6). DISCARD LOCK WASHERS.

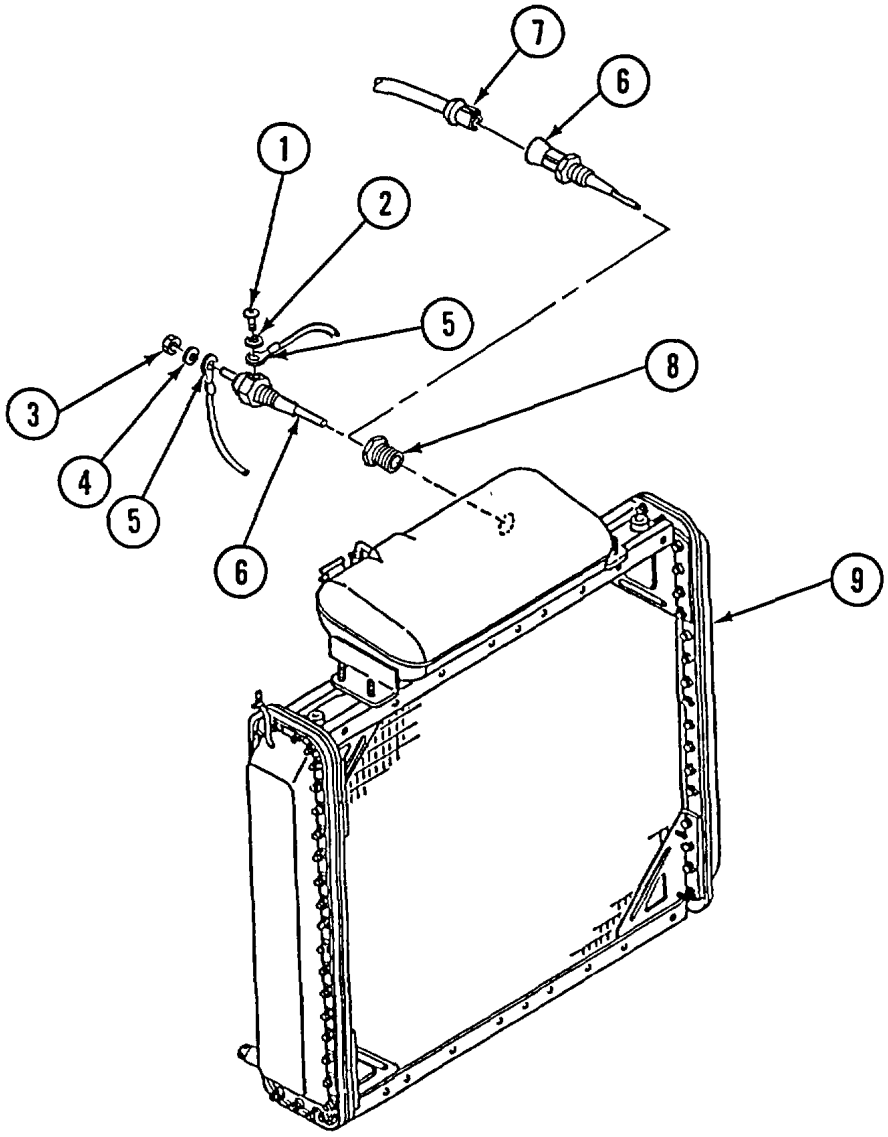
NOTE
Perform step 2 for all except M915A2 and M916A1

2. DISCONNECT CONNECTOR (7) FROM PROBE (6).

3. REMOVE PROBE (6) AND BUSHING (8) FROM RADIATOR (9).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. COAT THREADS OF BUSHING (8) AND PROBE (6) WITH PIPE SEALING COMPOUND.

2. INSTALL BUSHING (8) AND PROBE (6) IN RADIATOR (9).

NOTE
Perform step 3 for all except M915A2 and M916A1.

3. CONNECT CONNECTOR (7) TO PROBE (6).

4. CONNECT TWO WIRES (5) AND INSTALL NEW LOCK WASHER (4), NUT (3), NEW LOCK WASHER (2), AND SCREW (1) ON PROBE (6).

NOTE
Follow-on Maintenance:

Fill cooling system (Unit PMCS, TM 9-2320-363-20-1).
Connect batteries (page 2-29).

FUEL LEVEL SENDING UNIT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock

Seal P/N 22-27156-000

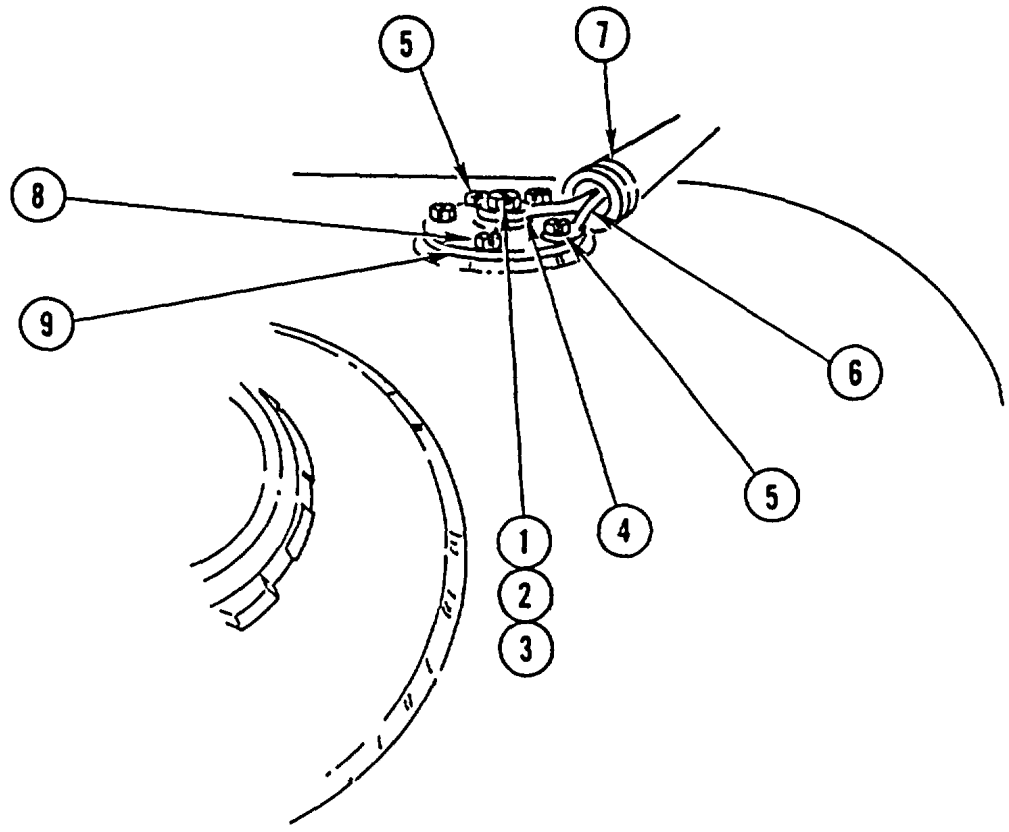
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

General Safety Instructions:

WARNING
Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

REMOVAL



WARNING

Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

NOTE

Tag cables prior to disconnecting to aid in connecting.

1. REMOVE SCREW (1), WASHER (2), AND LOCK WASHER (3) AND DISCONNECT CABLE (4). DISCARD LOCK WASHER.
2. REMOVE SELF-TAPPING SCREW (5) AND DISCONNECT CABLE (6). NOTE POSITION OF CABLE.
3. REMOVE CABLE (6) FROM CABLE CLAMP (7).
4. REMOVE FOUR REMAINING SELF-TAPPING SCREWS (5), CABLE CLAMP (7), FUEL LEVEL SENDING UNIT (8), AND SEAL (9). DISCARD SEAL.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

WARNING

Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

1. INSTALL NEW SEAL (9) AND FUEL LEVEL SENDING UNIT (8) WITH FLOAT TOWARD REAR OF VEHICLE.
2. INSTALL CABLE CLAMP (7) AND FOUR SELF-TAPPING SCREWS (5).
3. INSTALL CABLE (6) THRU CABLE CLAMP (7) AND CONNECT CABLE (6) IN POSITION NOTED IN REMOVAL STEP 2 BY INSTALLING REMAINING SELF-TAPPING SCREW (5).
4. CONNECT CABLE (4) BY INSTALLING NEW LOCK WASHER (3), WASHER (2), AND SCREW (1).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

STE/ICE DIAGNOSTIC (RPM) SENDING UNIT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

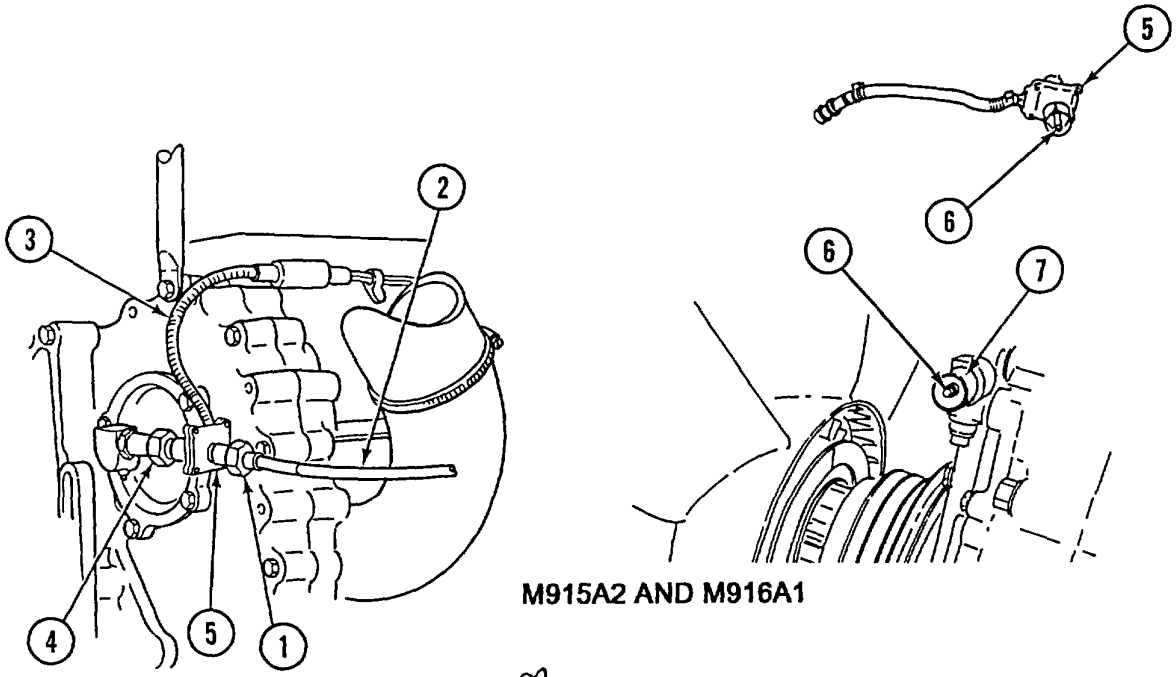
Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

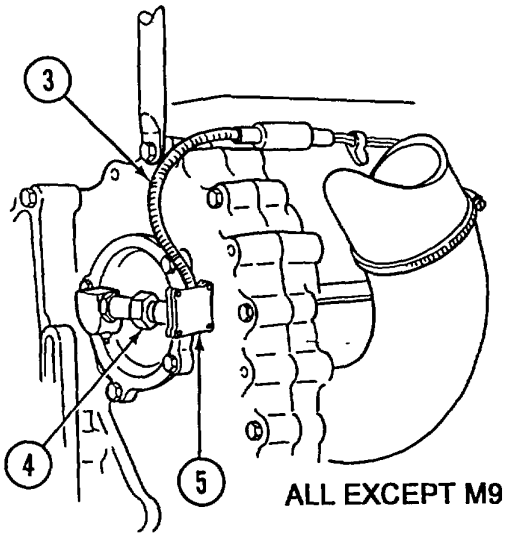
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL



M915A2 AND M916A1



ALL EXCEPT M915A2 AND M916A1

1. ON M915A2 AND M916A1, LOOSEN NUT (1) AND DISCONNECT TACHOMETER CABLE (2).

2. DISCONNECT ELECTRICAL CABLE (3).

3 LOOSEN NUT (4) AND REMOVE STE/ICE DIAGNOSTIC (RPM) SENDING UNIT (5)

4. ON M915A2 AND M916A1, CHECK FOR PRESENCE OF TACHOMETER DRIVE KEY (6) IN SENDING UNIT (5). IF TACHOMETER DRIVE KEY (6) IS PRESENT, REMOVE FROM SENDING UNIT (5). INSPECT TACHOMETER DRIVE KEY (6) FOR SERVICEABILITY.

5. ON M915A2 AND M916A1, INSTALL TACHOMETER DRIVE KEY (6) IN TACHOMETER DRIVE (7). 3

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL STE/ICE DIAGNOSTIC (RPM) SENDING UNIT (5) AND TIGHTEN NUT (4).

2 CONNECT ELECTRICAL CABLE (3).

3. ON M915A2 AND M916A1, INSTALL TACHOMETER CABLE (2) AND TIGHTEN NUT (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

PARKING BRAKE PRESSURE SWITCH REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8

References: *

TM 9-2320-363-10	*

Equipment Condition:

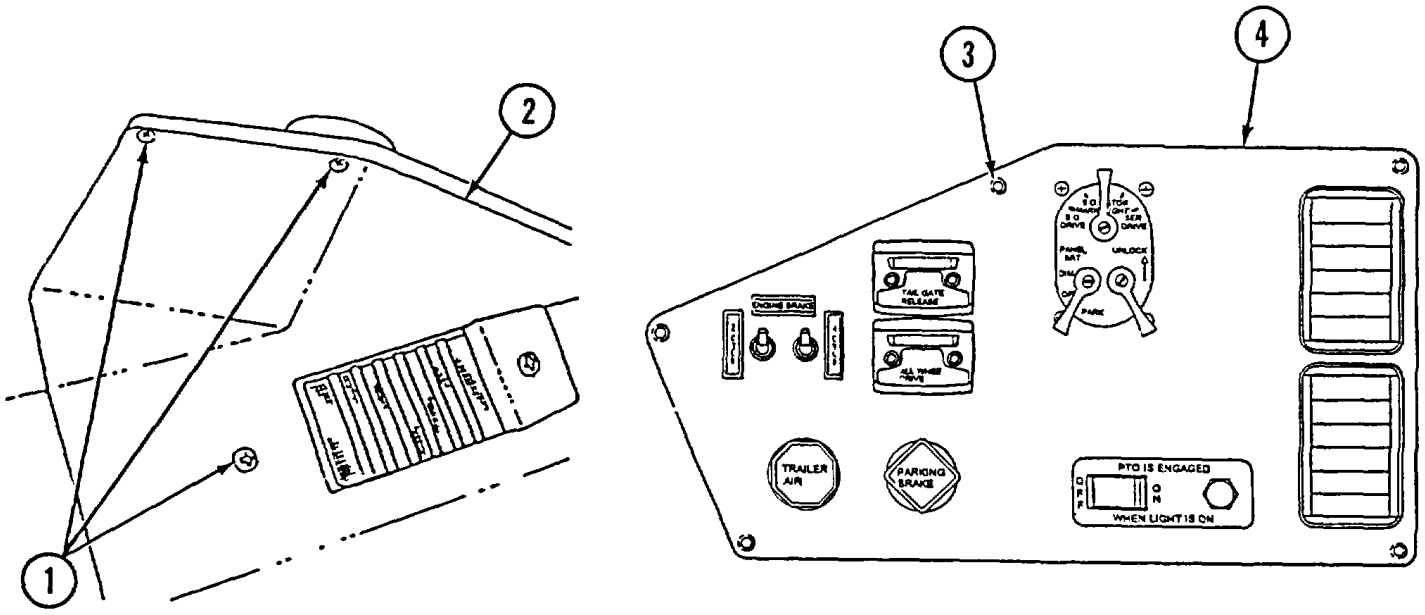
Reference	Condition Description
TM 9-2320-363-10	Vehicle Air System Drained

General Safety Instructions:

WARNING

- **Make sure all air lines and fittings are clear of debris.**
- **Sealing compounds can burn easily and give off harmful vapors**
- **Always wear eye protection when disconnecting air lines.**

REMOVAL



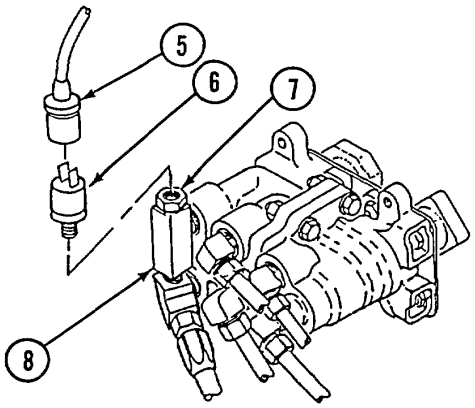
1. REMOVE THREE SCREWS (1) AND DASHBOARD COVER (2).
2. REMOVE FIVE SCREWS (3) AND DASH PANEL COVER (4).

3. DISCONNECT WIRING HARNESS CONNECTOR (5) FROM PARKING BRAKE PRESSURE SWITCH (6).

WARNING

Always wear eye protection when disconnecting air lines. Residual air will be expelled. Failure to follow this warning could cause serious eye injury.

4. REMOVE SWITCH (6) FROM CONNECTOR (7) ON TEE (8).



INSTALLATION I

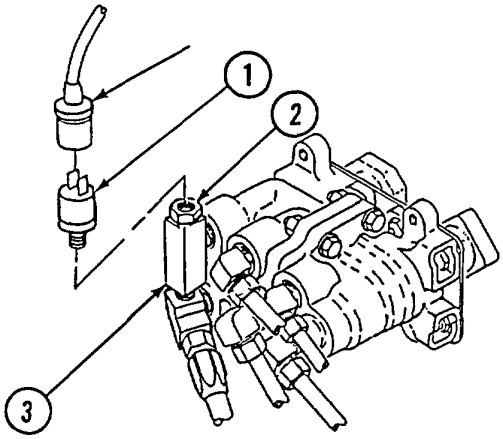
WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**
- **Always wear eye protection when disconnecting air lines. Residual air will be expelled.**

1. APPLY SEALING COMPOUND TO MALE THREADS ON PARKING BRAKE PRESSURE SWITCH (1).

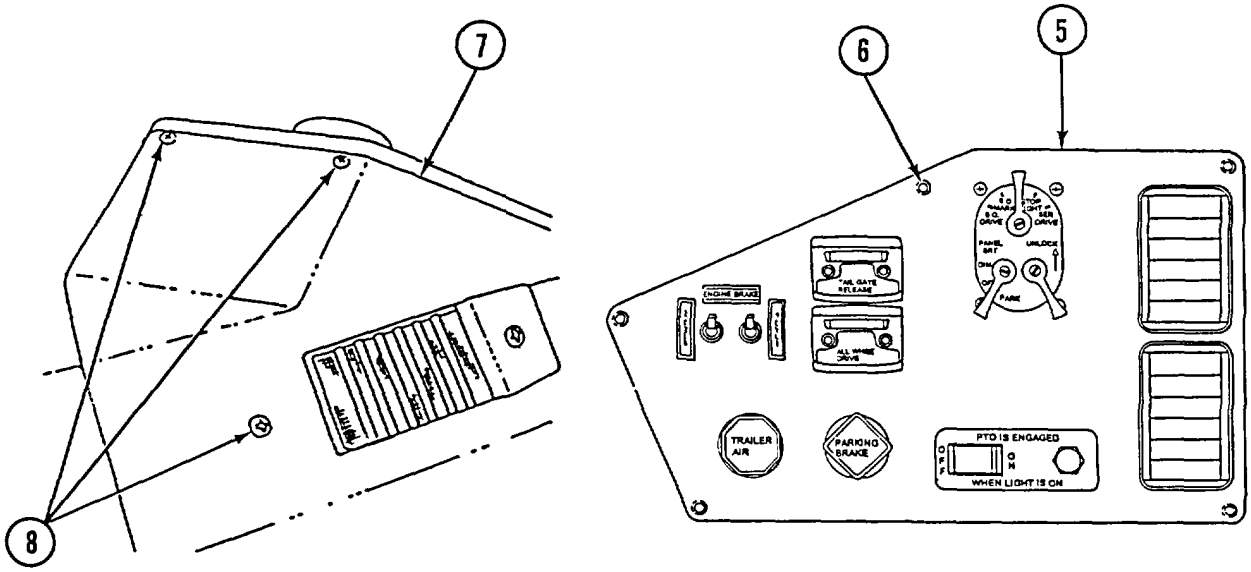
2. INSTALL SWITCH (1) IN CONNECTOR(2) ON TEE (3).

3. CONNECT WIRING HARNESS CONNECTOR (4) TO PARKING BRAKE PRESSURE SWITCH (1).



PARKING BRAKE PRESSURE SWITCH REPLACEMENT (CONT)

4. TURN ON IGNITION SWITCH, PRESSURIZE VEHICLE AIR SYSTEM, AND CHECK THAT PARKING BRAKE LIGHT ILLUMINATES WITH PARKING BRAKES APPLIED (TM 9-2320-363- 10).



5. INSTALL DASH PANEL COVER (5) AND SECURE WITH FIVE SCREWS (6).

6. INSTALL DASHBOARD COVER (7) AND SECURE WITH THREE SCREWS (8).

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ELECTRONIC THROTTLE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

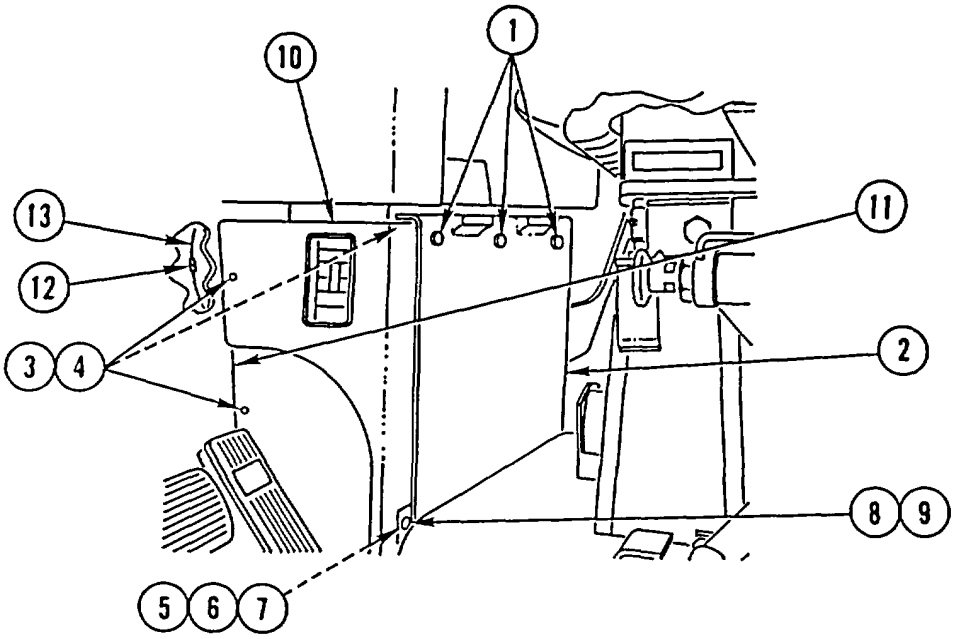
Reference	Condition Description
Page 2-29	Batteries Disconnected

Materials/Parts:

Nut, Lock P/N 23-09900-104

Nut, Lock (3)

REMOVAL



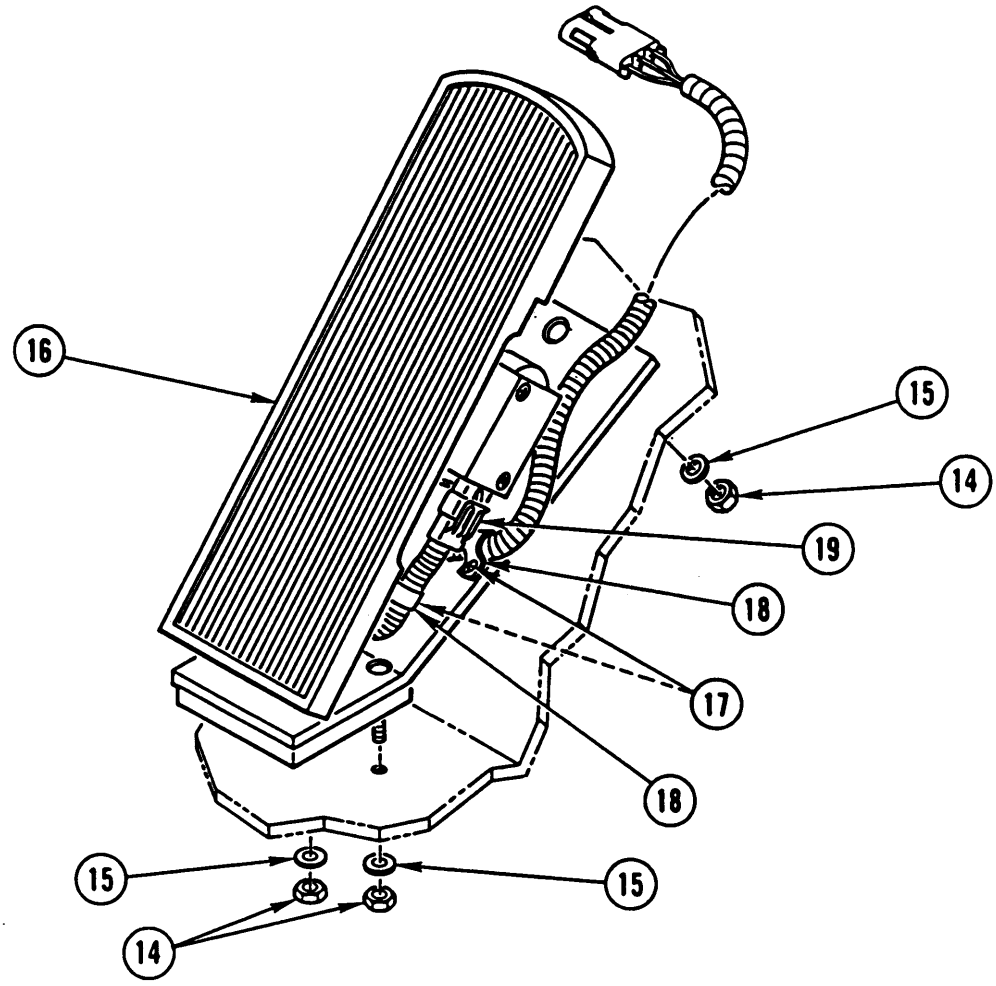
1. ROTATE THREE FASTENERS (1) TO LEFT AND REMOVE COVER (2).

NOTE
Tag screws and mark screw locations during removal to aid in installation.

2. REMOVE THREE SCREWS (3) AND THREE WASHERS (4).

3. REMOVE LOCK NUT (5), WASHER (6), SPACER (7), SCREW (8), WASHERS (9), AND TWO COVERS (10 AND 11). DISCARD LOCK NUT.

4. DISCONNECT THROTTLE CABLE CONNECTOR (12) FROM ELECTRONIC CONTROL MODULE WIRING HARNESS (13).



5. REMOVE THREE LOCK NUTS (14), THREE WASHERS (15), AND ELECTRONIC THROTTLE (16). DISCARD LOCK NUTS.

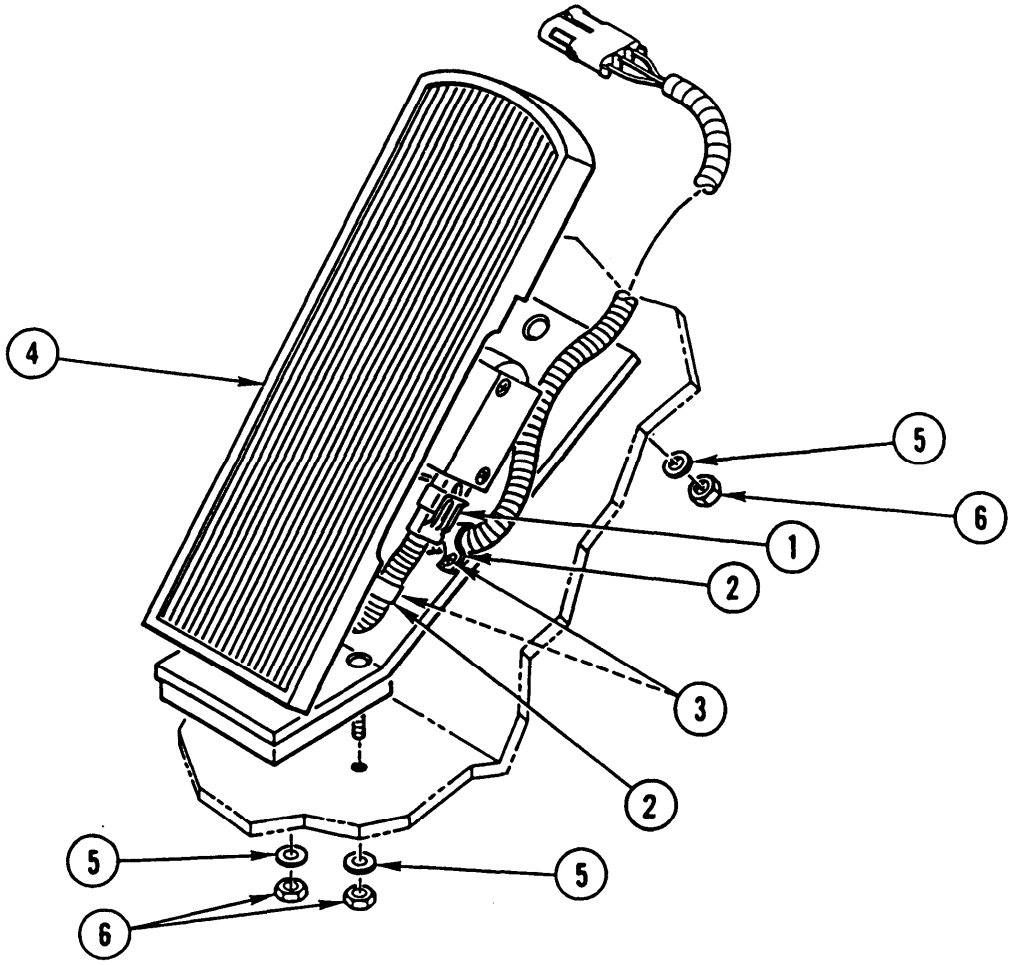
6. REMOVE TWO SCREWS (17), TWO CLAMPS (18), AND THROTTLE CABLE (19).

CLEANING/INSPECTION

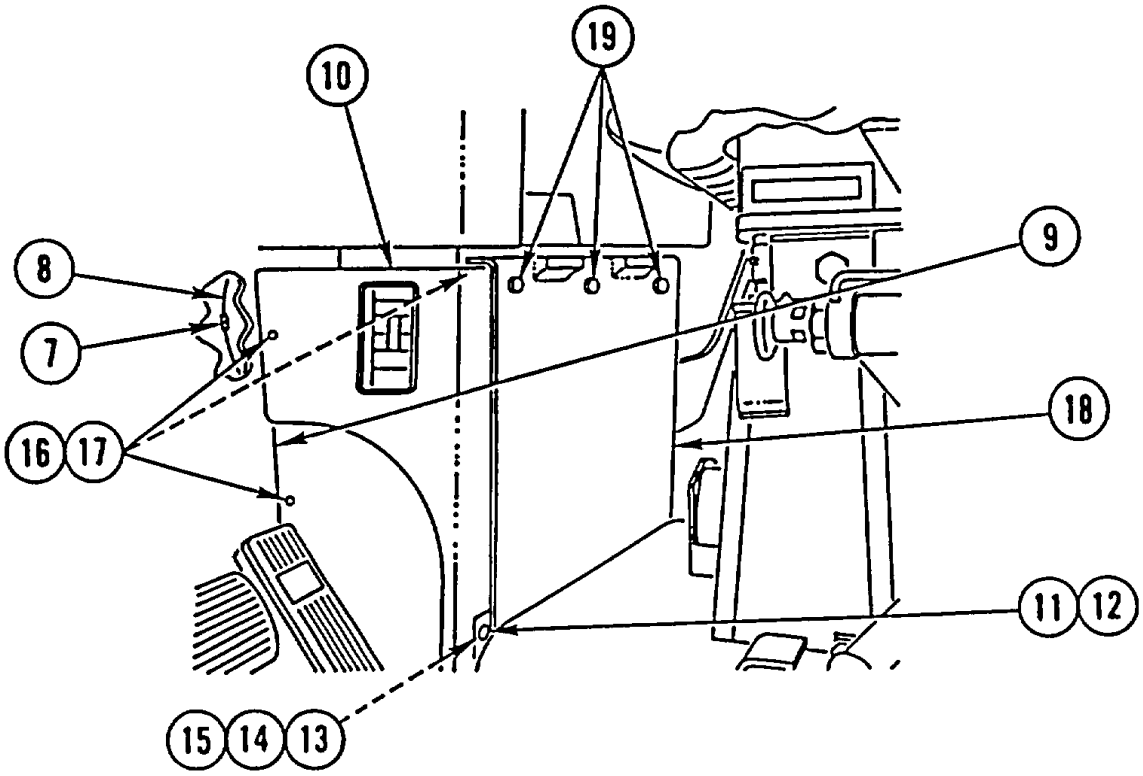
Clean and inspect all parts in accordance with Chapter 2.

ELECTRONIC THROTTLE REPLACEMENT (CONT)

INSTALLATION



1. INSTALL THROTTLE CABLE (1), TWO CLAMPS (2), AND TWO SCREWS (3).
2. INSTALL ELECTRONIC THROTTLE (4), THREE WASHERS (5), AND THREE NEW LOCK NUTS (6).



3. CONNECT THROTTLE CABLE CONNECTOR (7) TO ELECTRONIC CONTROL MODULE WIRING HARNESS (8).

4. INSTALL TWO COVERS (9 AND 10), WASHER (11), SCREW (12), SPACER (13), WASHER (14), AND NEW LOCK NUT (15).

5. INSTALL THREE WASHERS (16) AND THREE SCREWS (17).

6. INSTALL COVER (18) AND ROTATE THREE FASTENERS (19) TO RIGHT.

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

ELECTRIC HORN REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. DISCONNECT CONNECTOR (1) FROM ELECTRIC HORN (2).
2. REMOVE NUT (3), LOCK WASHER (4), AND ELECTRIC HORN (2) FROM BRACKET (5). DISCARD LOCK WASHER.

NOTE
Perform steps 3 and 4 to remove brackets.

3. REMOVE NUT (6), WASHER (7), SCREW (8), AND BRACKET (5) FROM BRACKET (9).
4. REMOVE TWO NUTS (10), WIRE TERMINAL (11), AND BRACKET (9) FROM TWO STUDS (12).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

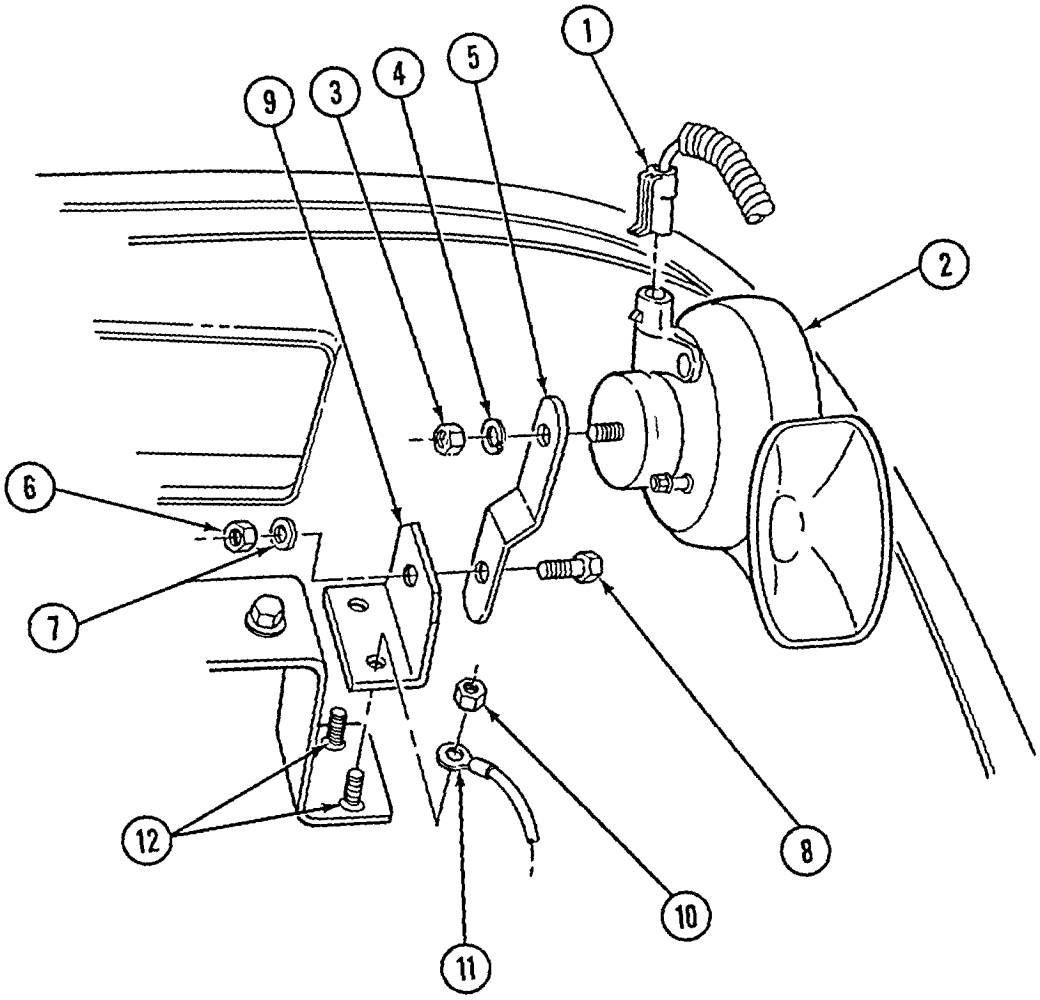
INSTALLATION

NOTE
Perform steps 1 and 2 to install brackets.

1. INSTALL BRACKET (9) AND WIRE TERMINAL (11) TO TWO STUDS (12) WITH TWO NUTS (10).
2. INSTALL BRACKET (5) TO BRACKET (9) WITH SCREW (8), WASHER (7), AND NUT (6).
3. INSTALL ELECTRIC HORN (2) TO BRACKET (5) WITH NEW LOCK WASHER (4) AND NUT (3).
4. CONNECT CONNECTOR (1) TO ELECTRIC HORN (2).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).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BATTERY REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation I

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials Parts:

Nut, Lock (6)

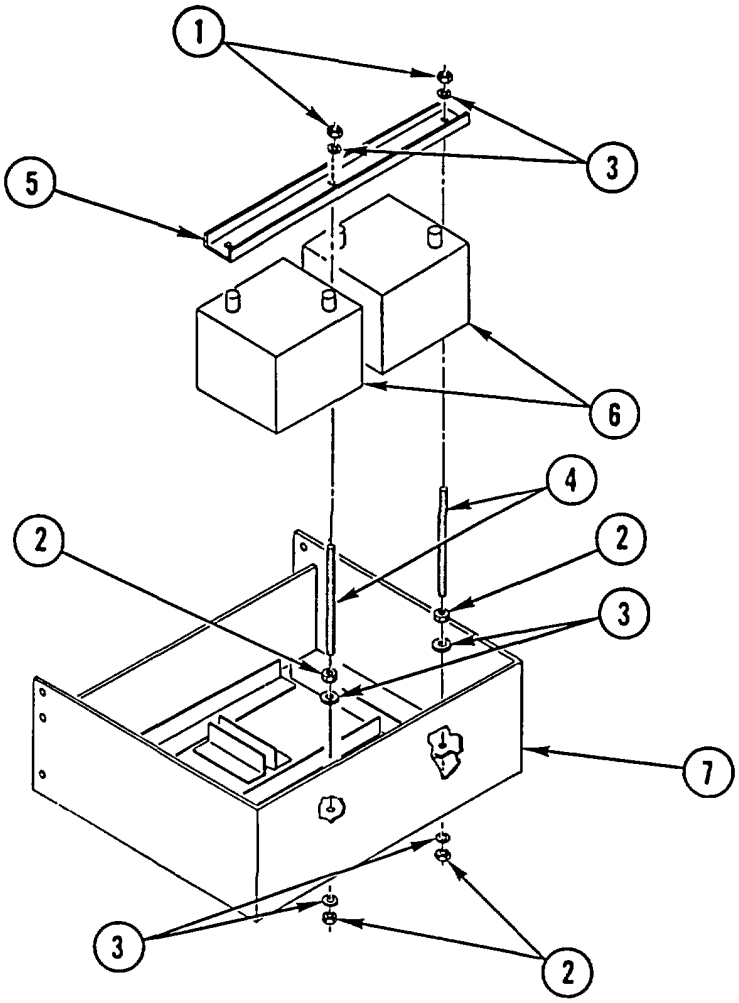
References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
Page 4-256 or 4-257.0	Battery Cables Removed

REMOVAL



1. REMOVE 6 LOCK NUTS (1), 12 NUTS (2), 18 WASHERS (3), 6 STUDS (4), AND 2 BRACKETS (5). DISCARD LOCK NUTS.

2. REMOVE FOUR BATTERIES (6) FROM BATTERY BOX (7).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL FOUR BATTERIES (6) IN BATTERY BOX (7).

2. INSTALL 2 BRACKETS (5), 6 STUDS (4), 18 WASHERS (3), 12 NUTS (2), AND 6 NEW LOCK NUTS (1).

NOTE
Follow-on Maintenance:
Install battery cables (page 4-256 or 4-257.0).
Install battery box cover (TM 9-2320-363-10).

BATTERY CABLE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

References:

TM 9-2320-363-10

Equipment Condition:

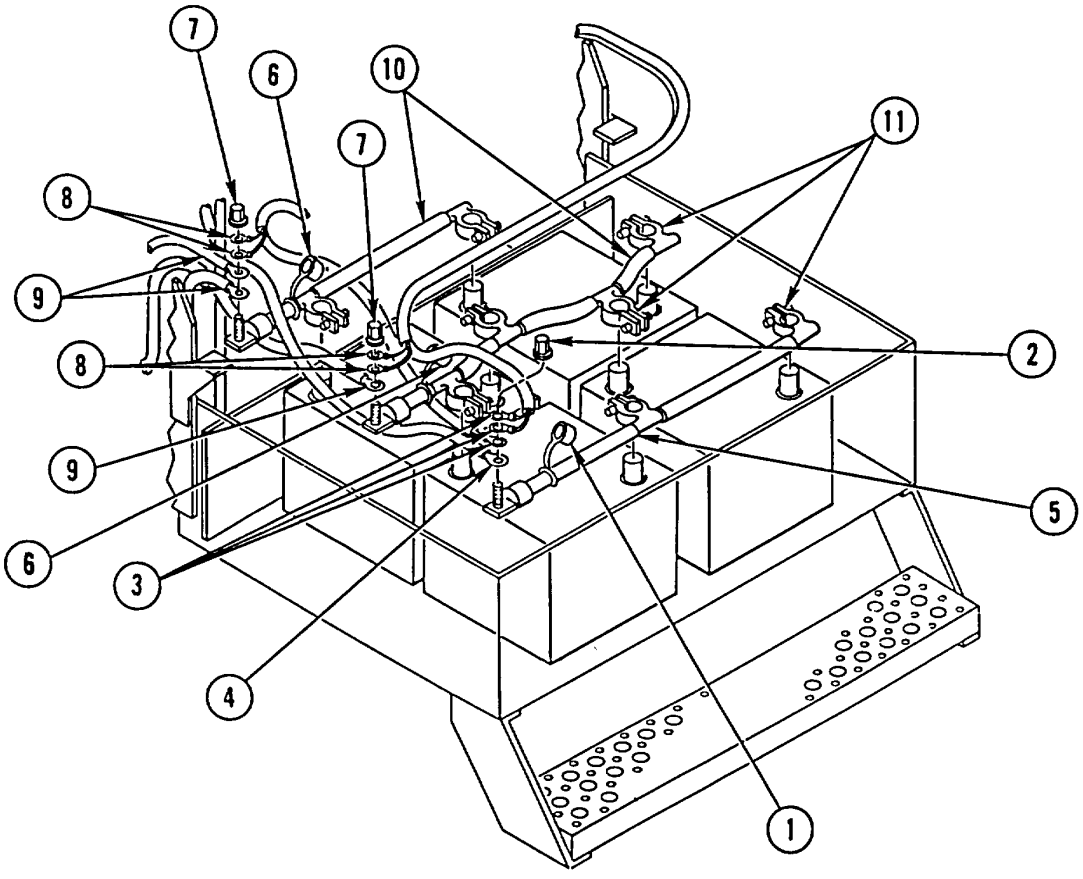
Reference	Condition Description
TM 9-2320-363-10	Battery Box Cover Removed

General Safety Instructions:

WARNING

Disconnect negative battery terminal before connecting or disconnecting any electrical connectors. Failure to do so may result in electrical shock and injury to personnel.

REMOVAL



WARNING

Disconnect negative battery terminal before connecting or disconnecting any electrical connectors. Failure to do so may result in electrical shock and injury to personal.

NOTE

Tag all wires and cables prior to removal to aid in installation.

1. REMOVE CAP (1), NUT (2), THREE WIRES (3), AND CABLE (4) FROM NEGATIVE BATTERY CABLE (5).
2. REMOVE TWO CAPS (6), TWO NUTS (7), FOUR WIRES (8), AND THREE CABLES (9) FROM TWO POSITIVE BATTERY CABLES (10).
3. LOOSEN EIGHT NUTS (11) AND REMOVE NEGATIVE BATTERY CABLE (5) AND TWO POSITIVE BATTERY CABLES (10).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL TWO POSITIVE BATTERY CABLES (10) AND NEGATIVE BATTERY CABLE (5) AND TIGHTEN EIGHT NUTS (11).
2. INSTALL THREE CABLES (9), FOUR WIRES (8), TWO NUTS (7), AND TWO CAPS (6) ON TWO POSITIVE BATTERY CABLES (10).
3. INSTALL CABLE (4), THREE WIRES (3), NUT (2), AND CAP (1) ON NEGATIVE BATTERY CABLE (5).

NOTE

Follow-on Maintenance:

Install battery box cover (TM 9-2320-363-10).

BATTERY CABLE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP I

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Tags, Identification Appendix C, Item 26

References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Battery Box Cover Removed

General Safety Instructions:

WARNING

Disconnect negative battery terminal before connecting or disconnecting any electrical connectors. Failure to do so may result in electrical shock and injury to personnel.

REMOVAL

WARNING

Disconnect negative battery terminal before connecting or disconnecting any electrical connectors. Failure to do so may result in electrical shock and injury to personnel.

NOTE

Tag all wires and cables prior to removal to aid in installation.

1. REMOVE CAP (1), NUT (2), AND TWO CABLES (3) FROM NEGATIVE BATTERY CABLE (4).
2. REMOVE CAP (5), NUT (6), AND TWO CABLES (7) FROM BATTERY CABLE (8).
3. REMOVE CAP (9), NUT (10), TWO WIRES (11), AND TWO CABLES (12) FROM BATTERY CABLE (13).
4. LOOSEN EIGHT NUTS (14), AND REMOVE NEGATIVE BATTERY CABLE (4), AND TWO BATTERY CABLES (8 AND 13).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

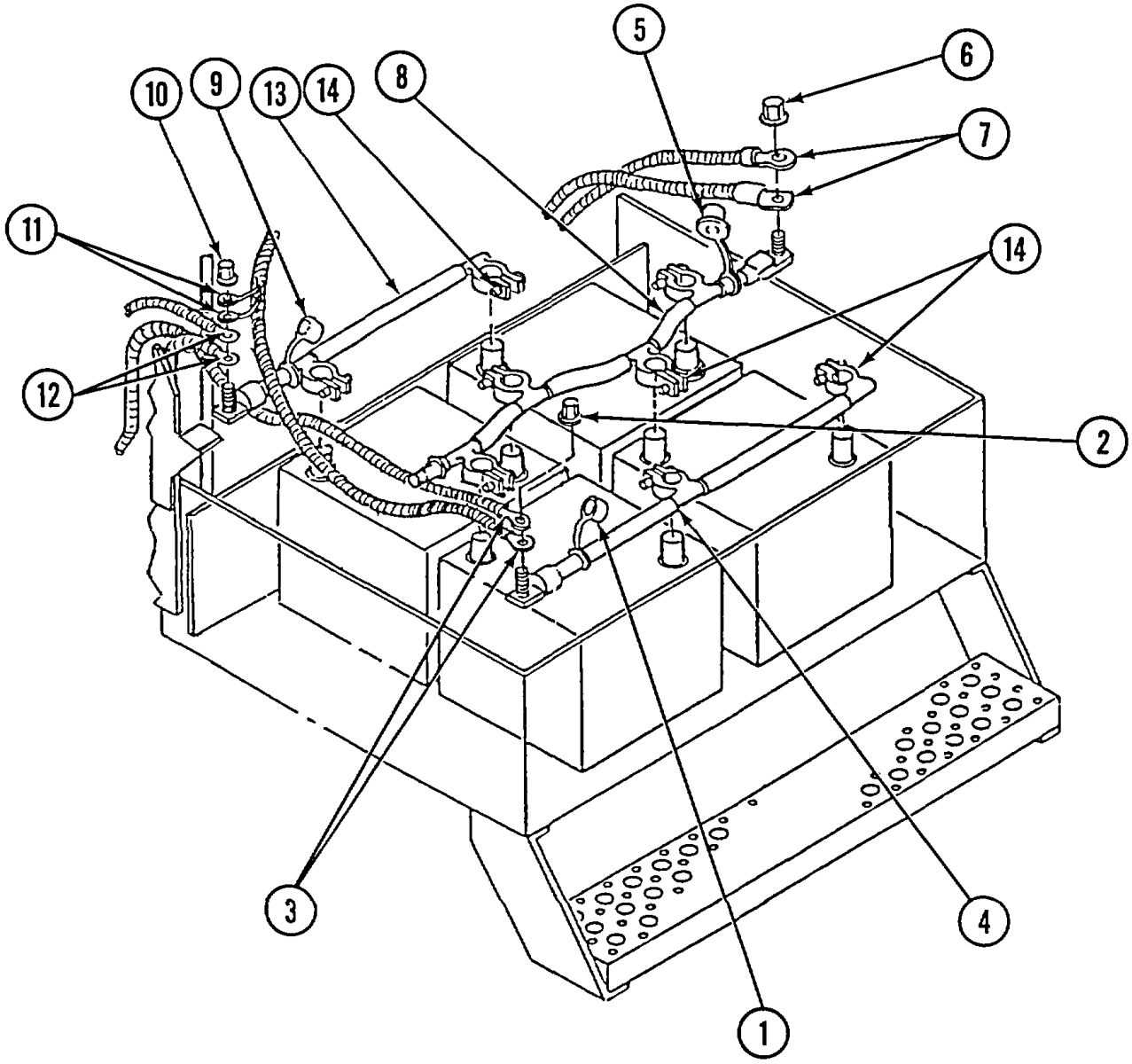
INSTALLATION

1. INSTALL TWO BATTERY CABLES (8 AND 13) AND NEGATIVE BATTERY CABLE (4), AND TIGHTEN EIGHT NUTS (14)

2. INSTALL TWO CABLES (12), TWO WIRES (11), NUT (10), AND CAP (9) TO BATTERY CABLE (13).

3. INSTALL TWO CABLES (7), NUT (6), AND CAP (5) TO BATTERY CABLE (8).

4. INSTALL TWO CABLES (3), NUT (2), AND CAP (1) TO NEGATIVE BATTERY CABLE (4).



NOTE
Follow-on Maintenance:
Install battery box cover (TM 9-2320-363-10).

BATTERY BOX REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Kep (2) P/N 23-10340-125

Nut, Lock (2)

Personnel Required: (2)

Equipment Condition:

Reference	Condition Description
Page 4-254	Batteries Removed
Page 4-270	NATO Slave Receptacle Removed
Page 4-624	Left Step Removed
Page 4-474	Secondary Air Tank Removed (All except M915A2)

REMOVAL

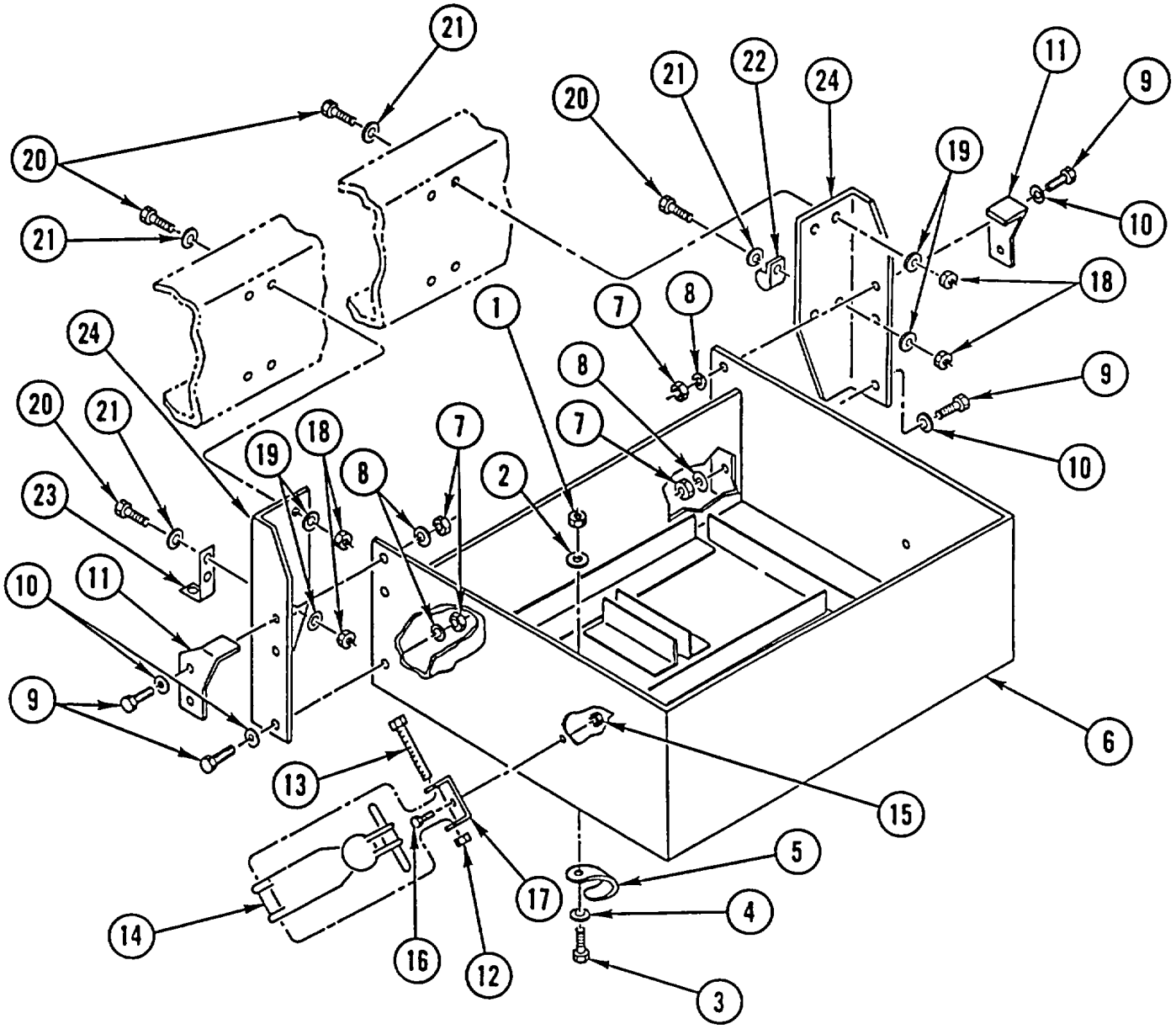
1. REMOVE LOCK NUT (1), WASHER (2), SCREW (3), WASHER (4), AND CLAMP (5) FROM BATTERY BOX (6).
2. USING SUITABLE JACK, SUPPORT BATTERY BOX (6) AND REMOVE SIX NUTS (7), SIX WASHERS (8), SIX SCREWS (9), SIX WASHERS (10), TWO BRACKETS (11), AND BATTERY BOX (6).
3. REMOVE TWO LOCK NUTS (12), TWO SCREWS (13), AND TWO LATCHES (14) FROM BATTERY BOX (6). DISCARD LOCK NUTS.
4. REMOVE TWO KEP NUTS (15), TWO SCREWS (16), AND TWO BRACKETS (17) FROM BATTERY BOX (6). DISCARD KEP NUTS.

NOTE
Step 5 is for all except M915A2 only.

5. REMOVE EIGHT NUTS (18), EIGHT WASHERS (19), EIGHT SCREWS (20), EIGHT WASHERS (21), CLAMP (22), BRACKET (23), AND TWO MOUNTING BRACKETS (24).

NOTE
Step 6 is for M915A2 only.

6. REMOVE EIGHT NUTS (18), EIGHT WASHERS (19), EIGHT SCREWS (20), EIGHT WASHERS (21), BRACKET (23), AND TWO MOUNTING BRACKETS (24).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BATTERY BOX REPLACEMENT (CONT)

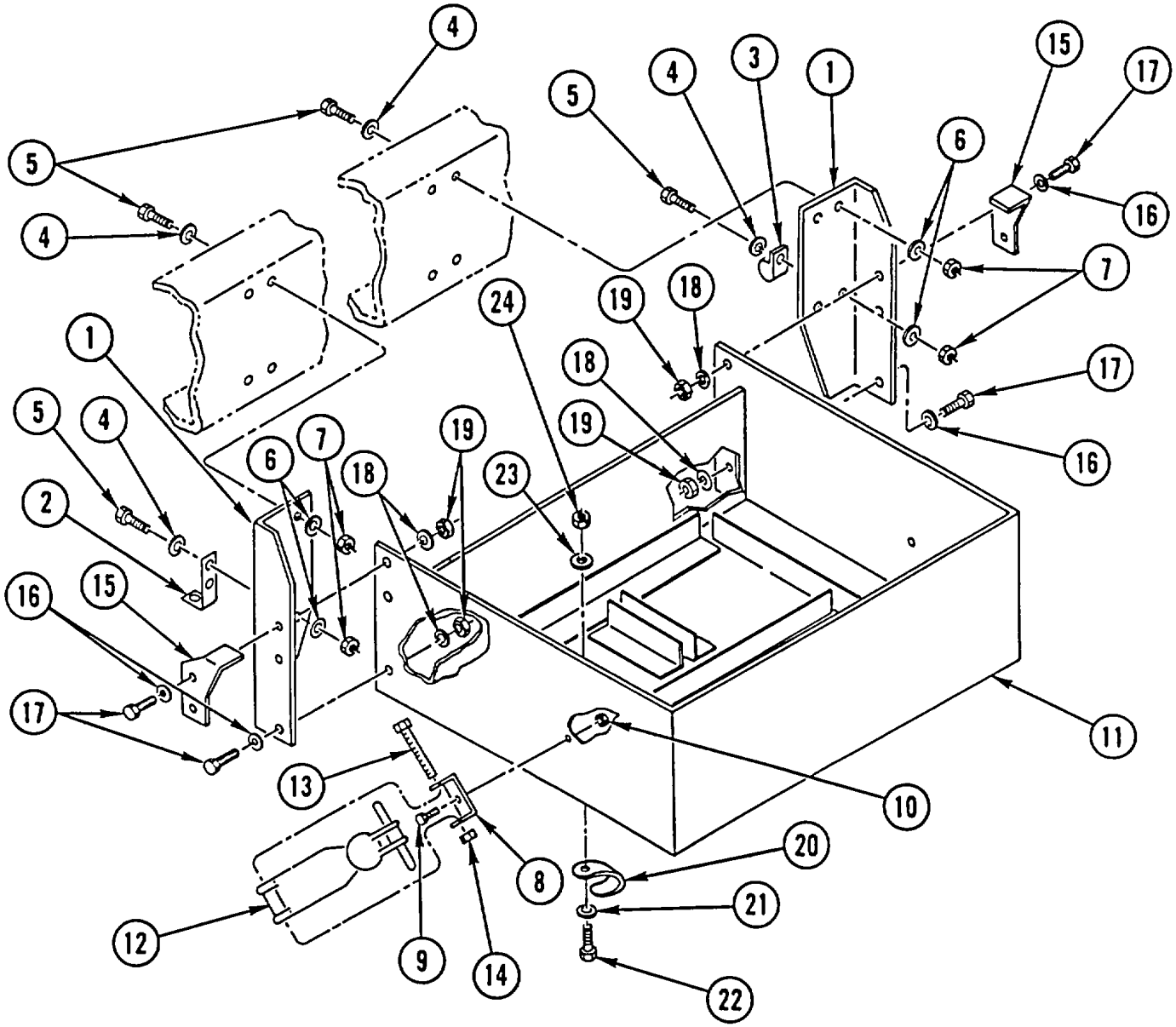
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE
Step 1 is for all except M915A2 only.

1. INSTALL TWO MOUNTING BRACKETS (1), BRACKET (2), CLAMP (3), EIGHT WASHERS (4), EIGHT SCREWS (5), EIGHT WASHERS (6), AND EIGHT NUTS (7).



NOTE
Step 2 is for M915A2 only.

2. INSTALL TWO MOUNTING BRACKETS (1), BRACKET (2), EIGHT WASHERS (4), EIGHT SCREWS (5), EIGHT WASHERS (6), AND EIGHT NUTS (7).

3. INSTALL TWO BRACKETS (8), TWO SCREWS (9), AND TWO NEW KEP NUTS (10) ON BATTERY BOX (11).

4. INSTALL TWO LATCHES (12), TWO SCREWS (13), AND TWO NEW LOCK NUTS (14).

5. USING SUITABLE JACK, INSTALL BATTERY BOX (11), TWO BRACKETS (15), SIX WASHERS (16), SIX SCREWS (17), SIX WASHERS (18), AND SIX NUTS (19).

6. INSTALL CLAMP (20), WASHER (21), SCREW (22), WASHER (23), AND LOCK NUT (24) ON BATTERY BOX (11).

NOTE
Follow-on Maintenance:

Install left step (page 4-624).
Install NATO slave receptacle (page 4-270).
Install batteries (page 4-254).
Install secondary air tank (all except M915A2) (page 4-474).

STE/ICE RESISTOR MODULE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP I

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Tags, Identification Appendix C, Item 26

Nut, Lock (2)

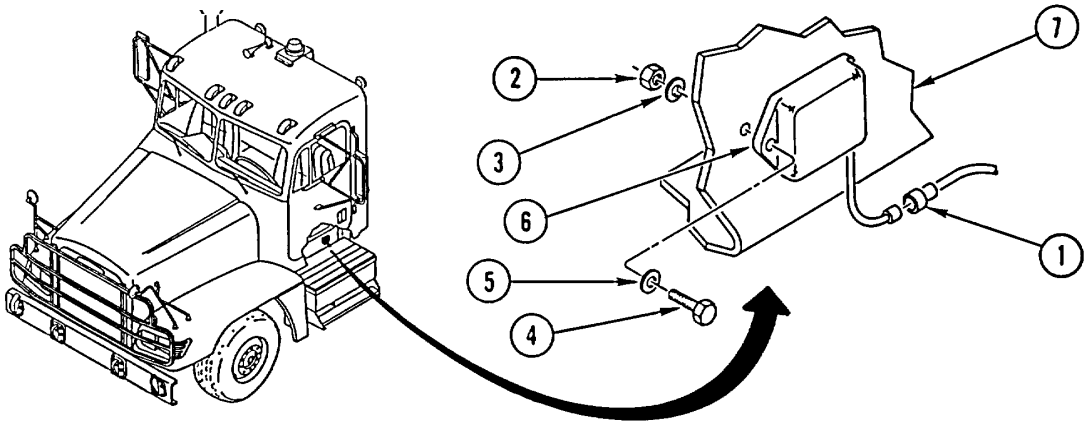
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

NOTE
All except M915A2 and M916A1 have two connectors.

1. DISCONNECT CONNECTOR (1).
2. REMOVE TWO LOCK NUTS (2), TWO WASHERS (3), TWO SCREWS (4), TWO WASHERS (5), AND MODULE (6) FROM FRAME RAIL (7). DISCARD LOCK NUTS.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL MODULE (6), TWO WASHERS (5), TWO SCREWS (4), TWO WASHERS (3), AND TWO NEW LOCK NUTS (2) ON FRAME RAIL (7).

NOTE
All except M915A2 and M916A1 have two connectors.

2. CONNECT CONNECTOR (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

STE/ICE SHUNT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M917A1 and M917A1 w/MCS

Personnel Required: (2)

Equipment Condition:

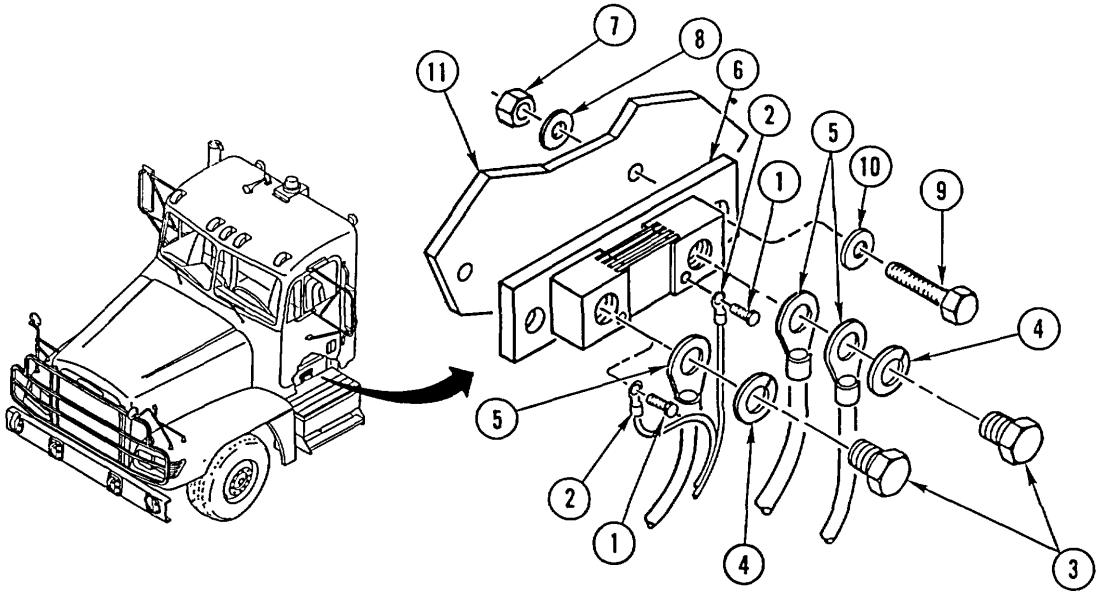
Tools and Special Equipment	Reference	Condition Description
Tool Kit, SC 5180-90-CL-N26	Page 2-29	Batteries Disconnected

Materials/Parts:

Nut, Lock (2)

Washer, Lock (2)

REMOVAL



NOTE
Tag all wires and cables prior to removal to aid in installation.

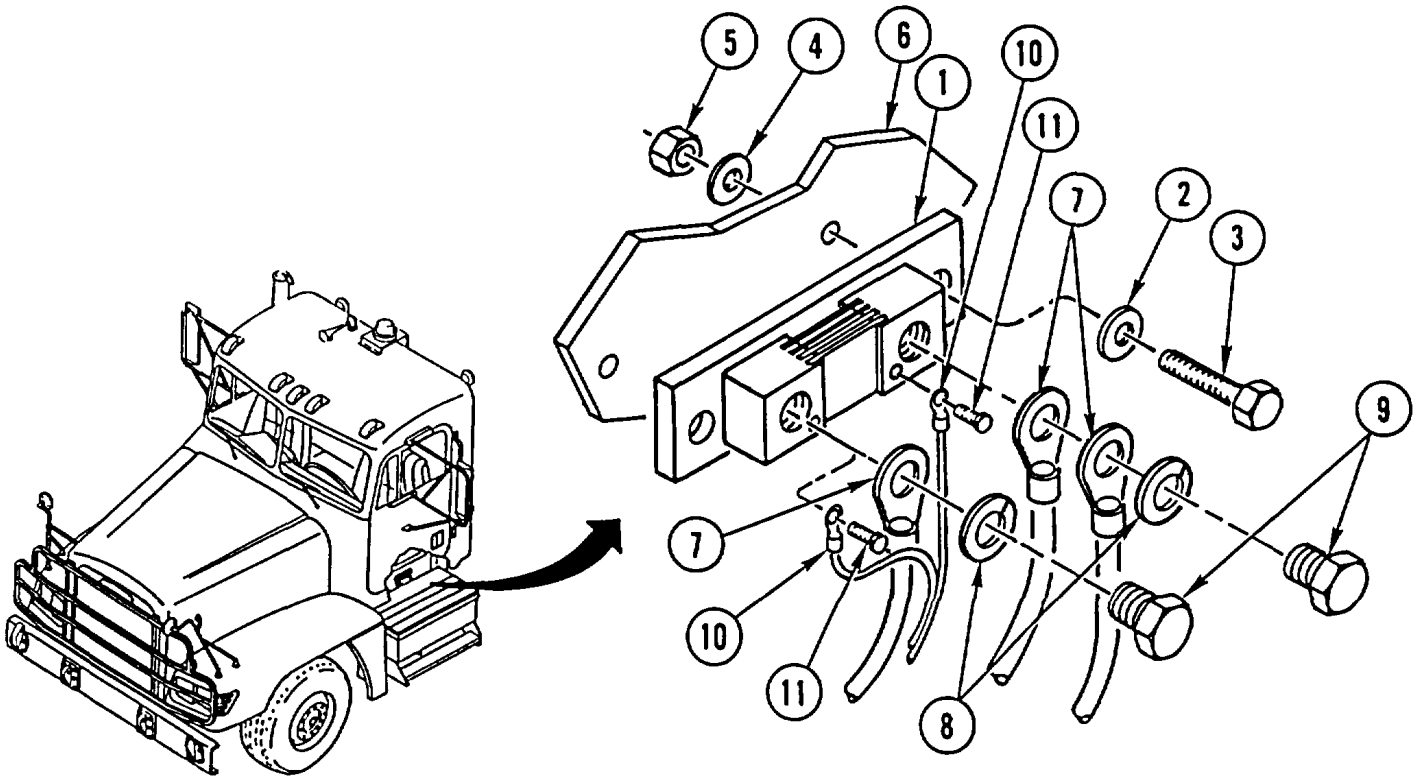
1. REMOVE TWO SCREWS (1) AND TWO WIRES (2).
2. REMOVE TWO SCREWS (3), TWO LOCK WASHERS (4), AND THREE CABLES (5) FROM STE/ICE SHUNT (6). DISCARD LOCK WASHERS.
3. REMOVE TWO LOCK NUTS (7), TWO WASHERS (8), TWO SCREWS (9), TWO WASHERS (10), AND STE/ICE SHUNT (6) FROM FRAME RAIL (11). DISCARD LOCK NUTS.

STE/ICE SHUNT REPLACEMENT (CONT)

CLEANING/INSPECTION(

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL STE/ICE SHUNT (1), TWO WASHERS (2), TWO SCREWS (3), TWO WASHERS (4), AND TWO NEW LOCK NUTS (5) ON FRAME RAIL (6).
2. INSTALL THREE CABLES (7), TWO NEW LOCK WASHERS (8), AND TWO SCREWS (9).
3. INSTALL TWO WIRES (10) AND TWO SCREWS (11) ON STE/ICE SHUNT (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

STE/ICE SHUNT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP I

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

Washer, Lock (2)

Materials/Parts (Cont):

Tags, IdentificationAppendix C, Item 26

Personnel Required: (2)

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

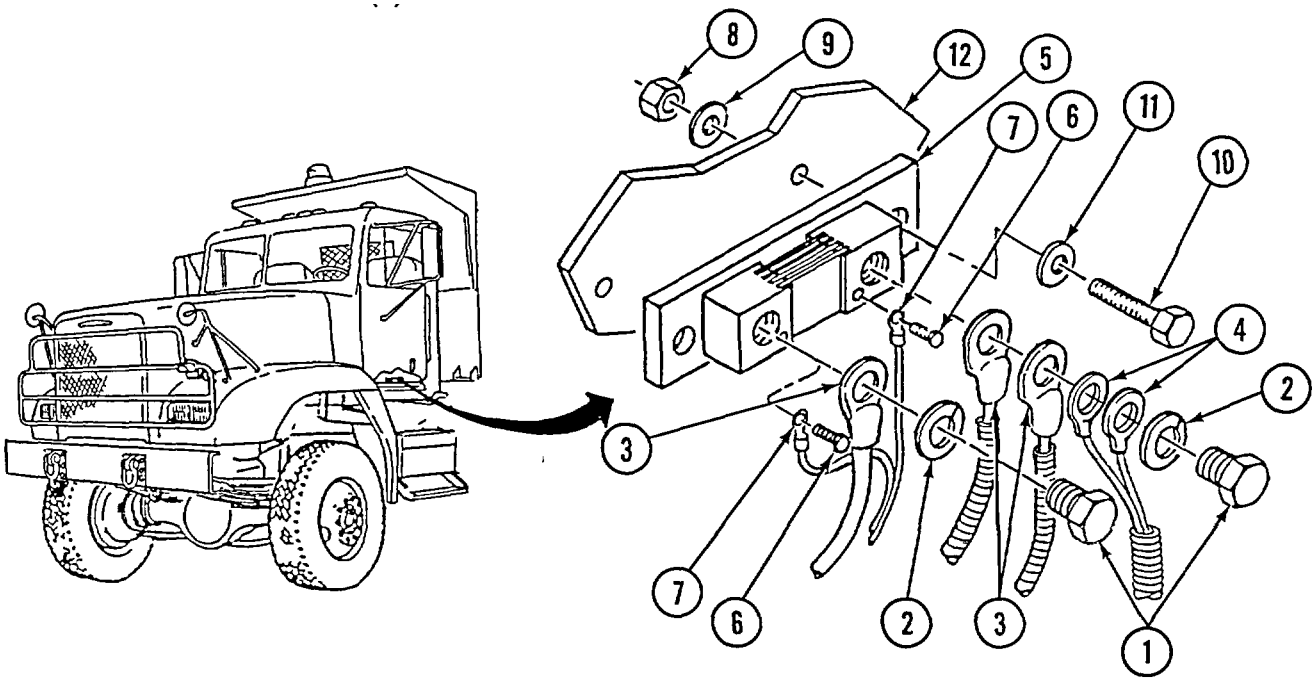
REMOVAL

NOTE
Tag all wires and cables prior to removal to aid in installation.

1. REMOVE TWO SCREWS (1), TWO LOCK WASHERS (2), THREE CABLES (3), AND TWO WIRES (4) FROM STE/ICE SHUNT (5). DISCARD LOCK WASHERS.

2. REMOVE TWO SCREWS (6) AND TWO WIRES (7).

3. REMOVE TWO LOCK NUTS (8), TWO WASHERS (9), TWO SCREWS (10), TWO WASHERS (11), AND STE/ICE SHUNT (5) FROM FRAME RAIL (12). DISCARD LOCK NUTS.



STE/ICE SHUNT REPLACEMENT (CONT)

CLEANING/INSPECTION

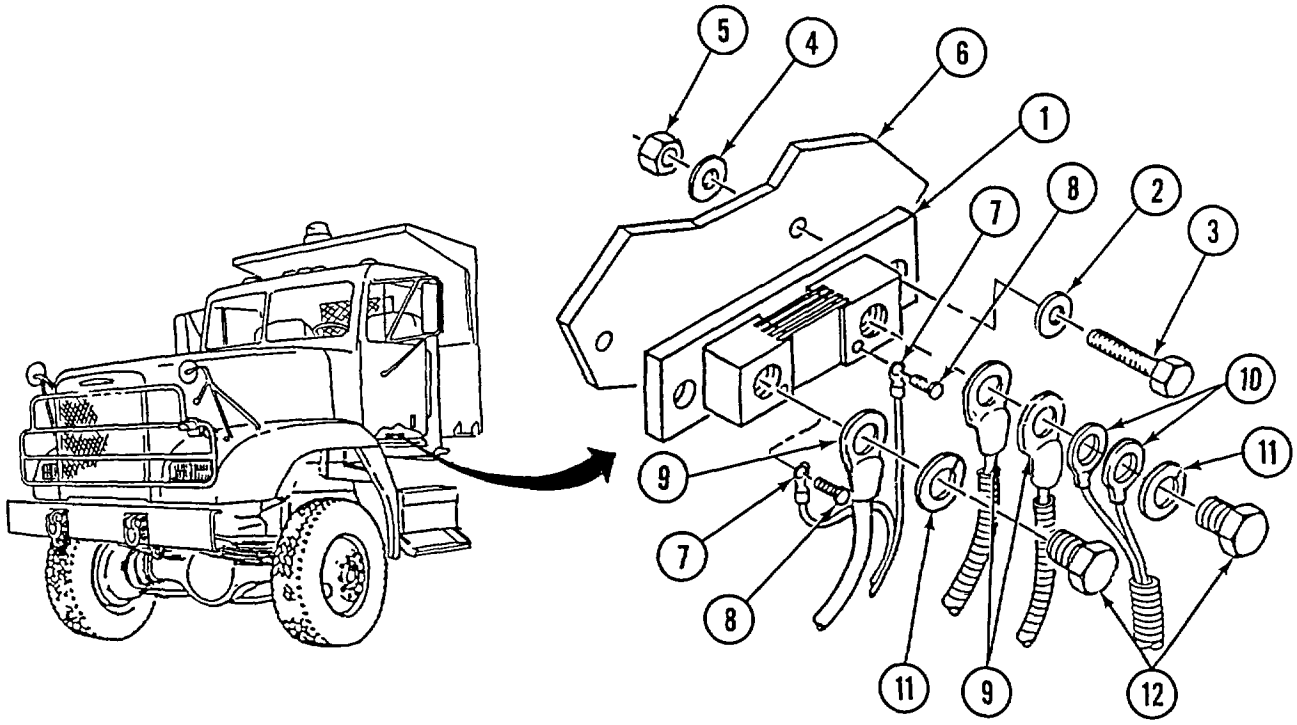
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL STE/ICE SHUNT (1), TWO WASHERS (2), TWO SCREWS (3), TWO WASHERS (4), AND TWO NEW LOCK NUTS (5) ON FRAME RAIL (6).

2. INSTALL TWO WIRES (7) AND TWO SCREWS (8) ON STE/ICE SHUNT (1).

3. INSTALL THREE CABLES (9), TWO WIRES (10), TWO NEW LOCK WASHERS (11), AND TWO SCREWS (12).



NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

STE/ICE DIFFERENTIAL SWITCH REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

General Safety Instructions:

WARNING
Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

STE/ICE DIFFERENTIAL SWITCH REPLACEMENT (CONT)

REMOVAL

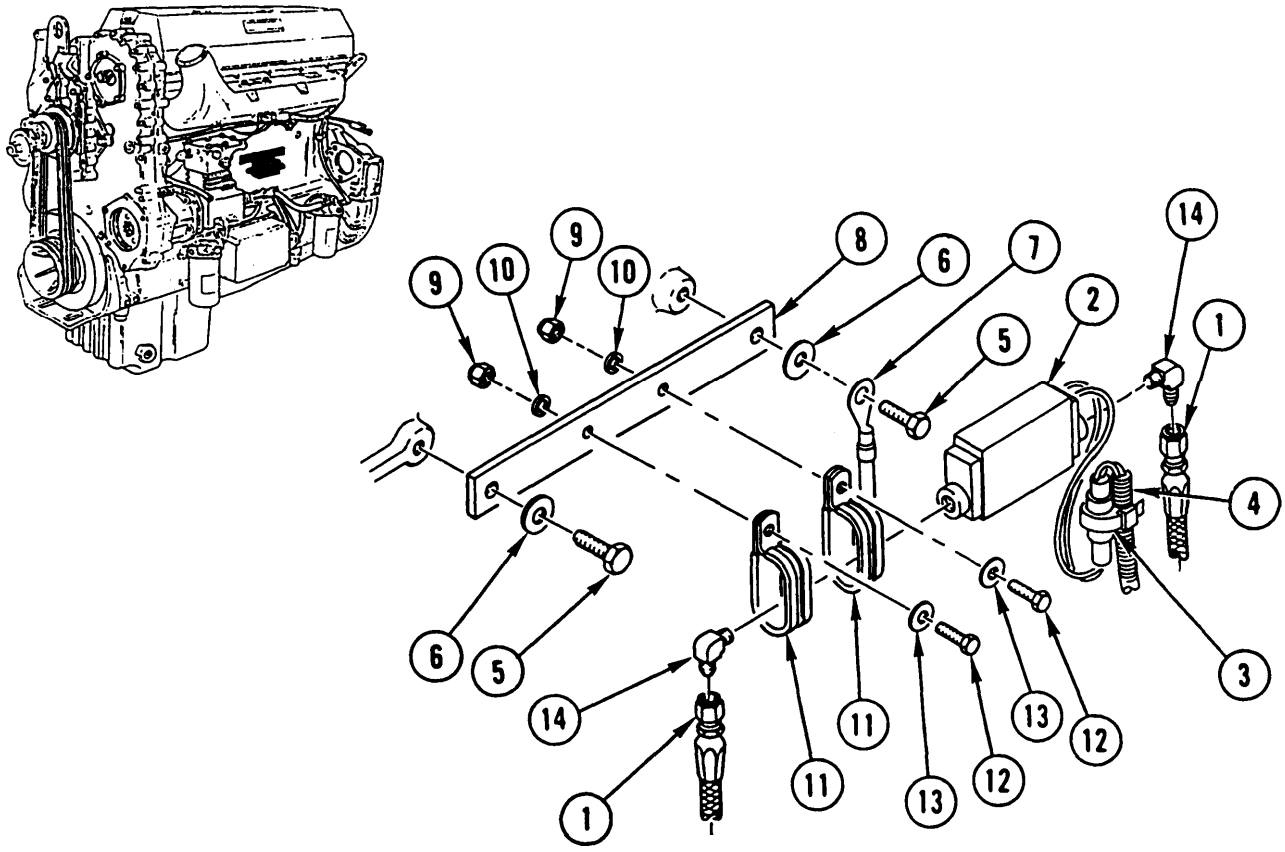
WARNING

Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

NOTE

Have suitable container available to catch any fuel that may be in fuel lines when lines are disconnected.

1. DISCONNECT TWO FUEL LINES (1) FROM STE/ICE DIFFERENTIAL SWITCH (2).
2. DISCONNECT ELECTRICAL CONNECTOR (3) FROM WIRING HARNESS (4).
3. REMOVE TWO CAPSCREWS (5), TWO WASHERS (6), GROUND WIRE (7), AND BRACKET (8).
4. REMOVE TWO LOCK NUTS (9), TWO WASHERS (10), TWO CLAMPS (11), TWO CAPSCREWS (12), TWO WASHERS (13), AND STE/ICE DIFFERENTIAL SWITCH (2). DISCARD LOCK NUTS.
5. REMOVE TWO ELBOWS (14) FROM STE/JCE DIFFERENTIAL SWITCH (2).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

WARNING

Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

1. INSTALL TWO ELBOWS (14) IN STE/ICE DIFFERENTIAL SWITCH (2).
2. INSTALL STE/ICE DIFFERENTIAL SWITCH (2), TWO WASHERS (13), TWO CAPSCREWS (12), TWO CLAMPS (11), TWO WASHERS (10), AND TWO NEW LOCK NUTS (9).
3. INSTALL BRACKET (8), GROUND WIRE (7), TWO WASHERS (6), AND TWO CAPSCREWS (5).
4. CONNECT ELECTRICAL CONNECTOR (3) TO WIRING HARNESS (4).
5. CONNECT TWO FUEL LINES (1) TO STE/ICE DIFFERENTIAL SWITCH (2).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

ELECTRONIC CONTROL MODULE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP I

Applicable Configuration:

M915A2 and M916A1

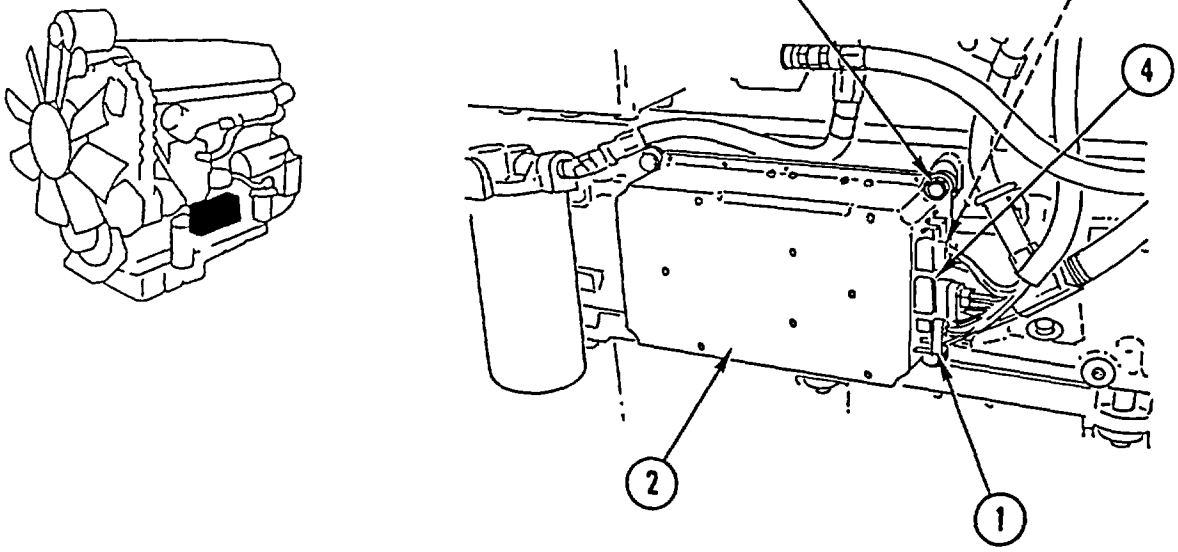
Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL



NOTE
Tag all connectors prior to removal to aid in installation.

1. DISCONNECT THREE CONNECTORS (1) FROM ELECTRONIC CONTROL MODULE (2).
2. LOOSEN TWO SCREWS (3) AND DISCONNECT TWO CONNECTORS (4) FROM ELECTRONIC CONTROL MODULE (2).
3. REMOVE FOUR BOLTS (5), ELECTRONIC CONTROL MODULE (2), FOUR ISOLATORS (6), AND FOUR SPACERS (7).
4. REMOVE FOUR ISOLATORS (8) FROM FOUR BOLTS (5).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL FOUR ISOLATORS (8) ON FOUR BOLTS (5).

2. INSTALL FOUR SPACERS (7), FOUR ISOLATORS (6), ELECTRONIC CONTROL MODULE (2), AND FOUR BOLTS (5).

3. CONNECT TWO CONNECTORS (4) ON ELECTRONIC CONTROL MODULE (2) AND TIGHTEN TWO SCREWS (3).

4. CONNECT THREE CONNECTORS (1) TO ELECTRONIC CONTROL MODULE (2).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

ELECTRONIC CONTROL MODULE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:
All except M915A2 and M916A1

Materials/Parts:
Tags, Identification Appendix C, Item 26

Equipment Condition:

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

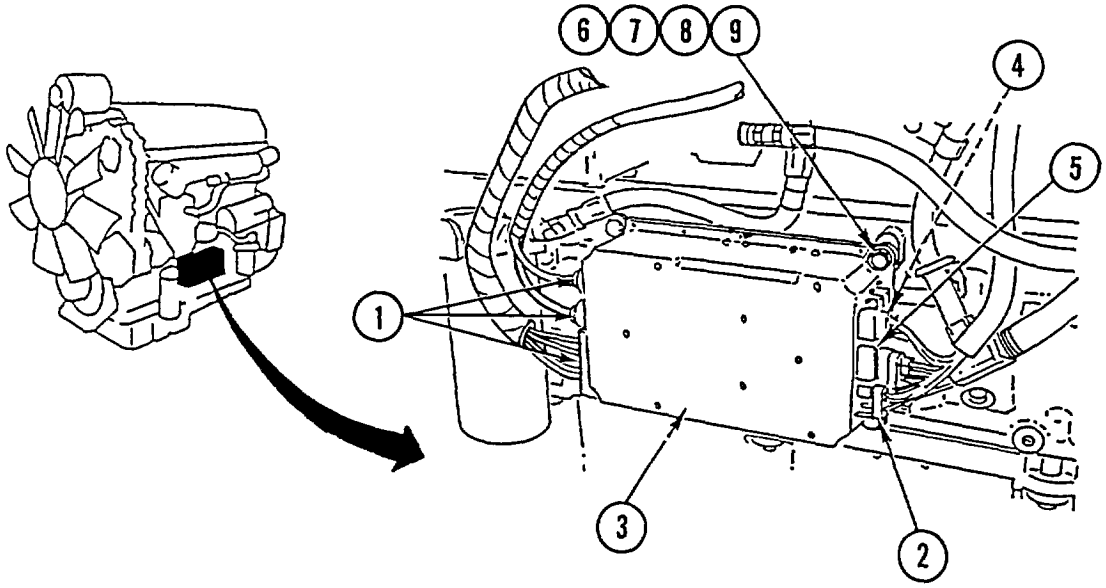
Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

NOTE

Tag all connectors prior to removal to aid in installation.

1. DISCONNECT THREE CONNECTORS (1) AND THREE CONNECTORS (2) FROM ELECTRONIC CONTROL MODULE (3).
2. LOOSEN TWO SCREWS (4) AND DISCONNECT TWO CONNECTORS (5) FROM ELECTRONIC CONTROL MODULE (3).
3. REMOVE FOUR BOLTS (6), ELECTRONIC CONTROL MODULE (3), FOUR ISOLATORS (7), AND FOUR SPACERS (8).
4. REMOVE FOUR ISOLATORS (9) FROM FOUR BOLTS (6).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL FOUR ISOLATORS (9) ON FOUR BOLTS (6).

2. INSTALL FOUR SPACERS (8), FOUR ISOLATORS (7), ELECTRONIC CONTROL MODULE (3), AND FOUR BOLTS (6).

3. CONNECT TWO CONNECTORS (5) TO ELECTRONIC CONTROL MODULE (3) AND TIGHTEN TWO SCREWS (4).

4. CONNECT THREE CONNECTORS (2) AND THREE CONNECTORS (1) TO ELECTRONIC CONTROL MODULE (2).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

DATA LOGGER REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:	**Equipment Condition:**	
All except M915A2 and M916A1	**Reference**	**Condition Description**
Tools and Special Equipment:	Page 2-29	Batteries Disconnected
Tool Kit, SC 5180-90-CL-N26		

REMOVAL

NOTE
Tag wires prior to removal to aid in installation.

1. DISCONNECT TWO CONNECTORS (1) FROM DATA LOGGER (2).
2. REMOVE TWO NUTS (3), SCREWS (4), AND DATA LOGGER (2) FROM MOUNTING PLATE (5).

NOTE

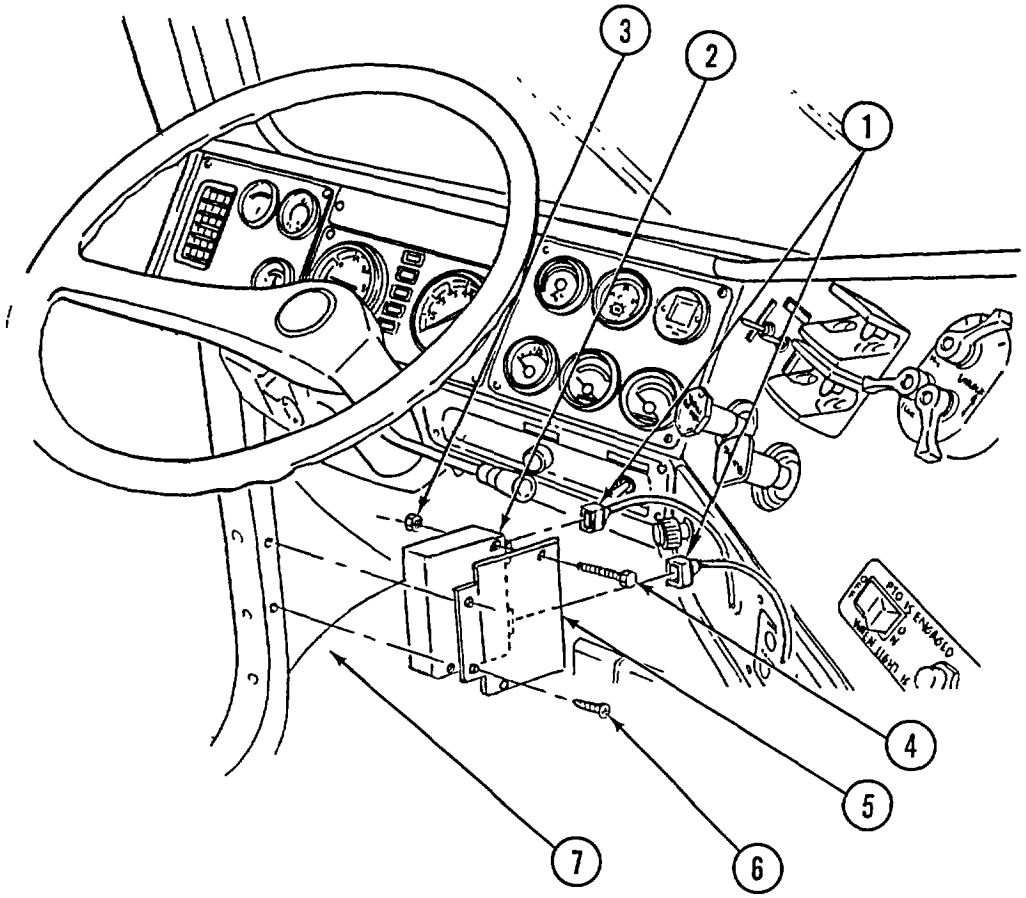
Perform step 3 to remove mounting plate from cab.

3. REMOVE TWO SCREWS (6) AND MOUNTING PLATE (5) FROM CAB (7).

INSTALLATION

NOTE
Perform step 1 to install mounting plate to cab.

1. INSTALL MOUNTING PLATE (5) TO CAB (7) WITH TWO SCREWS (6).
2. INSTALL DATA LOGGER (2) TO MOUNTING PLATE (5) WITH TWO SCREWS (4) AND NUTS (3).
3. CONNECT TWO CONNECTORS (1) TO DATA LOGGER (2).



NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

NATO SLAVE RECEPTACLE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:
Washer, Lock (2)
Nut, Lock (4) P/N 23-09336-005

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

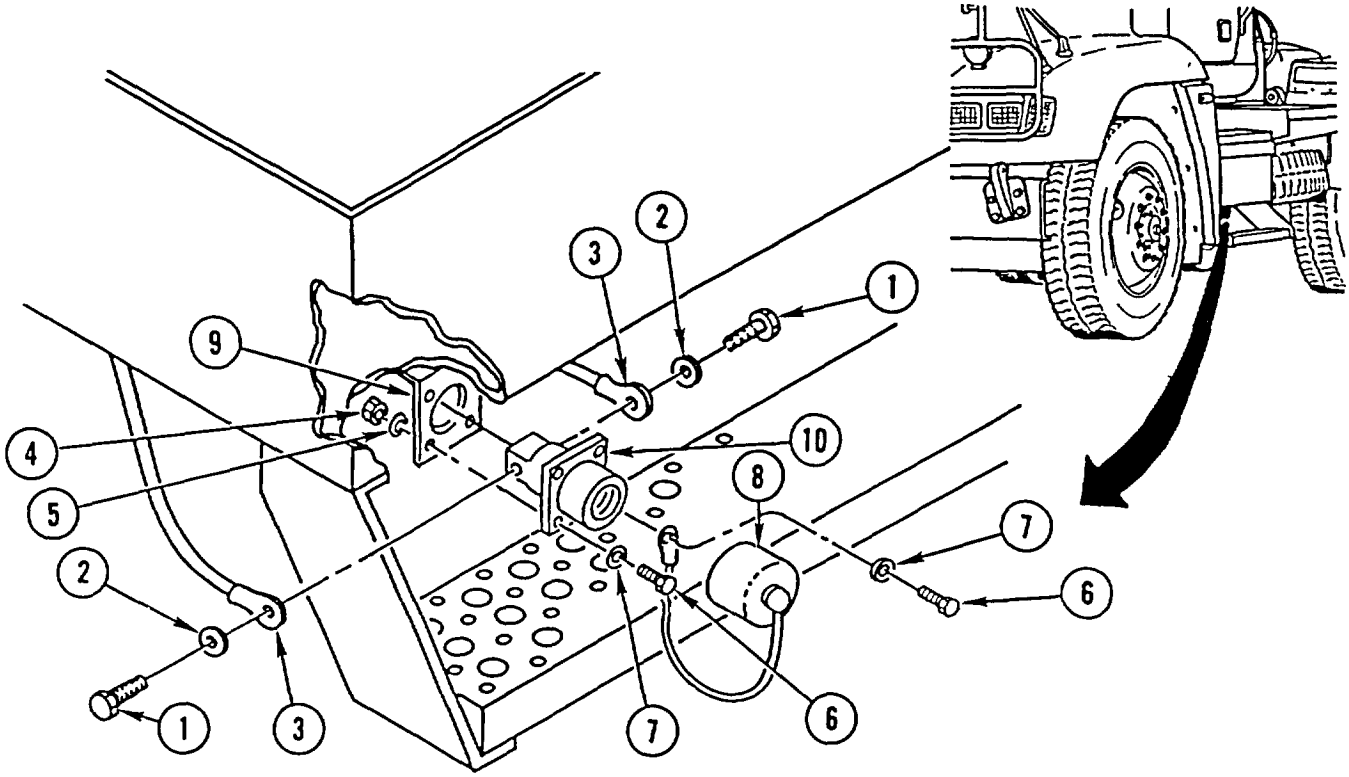
REMOVAL

NOTE
Tag cables prior to removal to aid in installation.

1. REMOVE TWO SCREWS (1), TWO LOCK WASHERS (2), AND TWO CABLES (3). DISCARD LOCK WASHERS.
2. REMOVE FOUR LOCK NUTS (4), FOUR WASHERS (5), FOUR SCREWS (6), FOUR WASHERS (7), CAP (8), BACK PLATE (9), AND NATO SLAVE RECEPTACLE (10). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL NATO SLAVE RECEPTACLE (10), BACK PLATE (9), CAP (8), FOUR WASHERS (7), FOUR SCREWS (6), FOUR WASHERS (5), AND FOUR NEW LOCK NUTS (4).

2. INSTALL TWO CABLES (3), TWO NEW LOCK WASHERS (2), AND TWO SCREWS (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

UTILITY POWER RECEPTACLE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Rivet, Blind (2)	PIN 23-09990-104
Washer, Lock (2)	PIN 23-09318-006
Adhesive	Appendix C, Item 1.1
Tags, Identification	Appendix C, Item 26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 4-736 or 4-738	Cab Liners Removed

REMOVAL

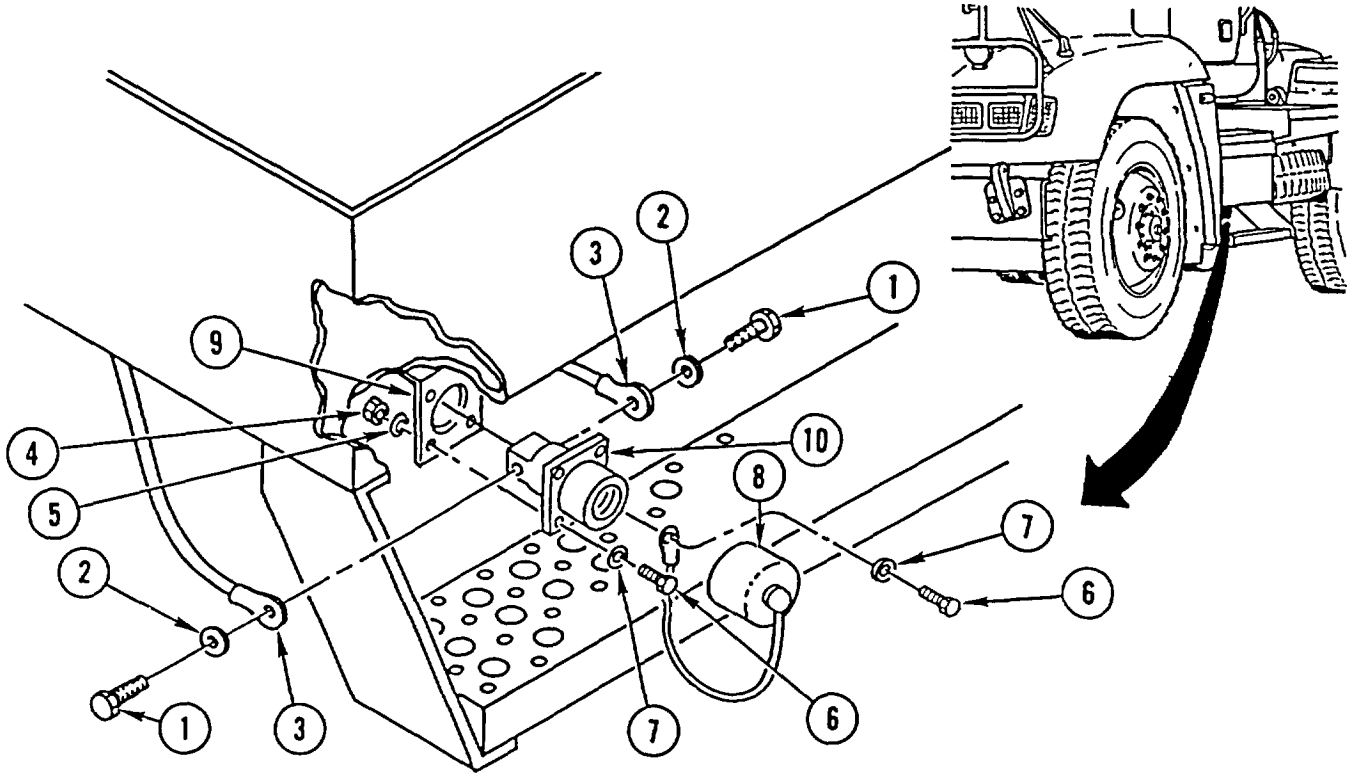
NOTE

- **Cab has two utility power receptacles.**
- **Tag wires prior to removal to aid in installation.**

1. REMOVE TWO SCREWS (1), TWO WIRES (2), AND TWO LOCK WASHERS (3) FROM REAR OF RECEPTACLE (4). DISCARD LOCK WASHERS.
2. REMOVE COVER (5) FROM RECEPTACLE (4).

NOTE
Note position of receptacle for installation.

3. DRILL THRU AND REMOVE TWO RIVETS (6), RECEPTACLE (4), AND CHAIN (7) FROM CAB (8). DISCARD RIVETS.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE
If receptacle has no gasket, use adhesive applied to mating surfaces of receptacle and cab.

1. INSTALL CHAIN (7) AND RECEPTACLE (4) TO CAB (8) WITH TWO NEW RIVETS (6).
2. INSTALL COVER (5) ON RECEPTACLE (4).
3. INSTALL TWO NEW LOCK WASHERS (3) AND TWO WIRES (2) WITH TWO SCREWS (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).
Install cab liners (page 4-736 or 4-738).

TRAILER CONNECTOR COVER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Kep (8) P/N 23-10340-125

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

NOTE
Step 1 is the same for both 24V trailer connectors.

1. REMOVE FOUR KEP NUTS (1), FOUR WASHERS (2), FOUR CAPSCREWS (3), FOUR WASHERS (4), AND CONNECTOR COVER (5). DISCARD KEP NUTS.

NOTE
Steps 2 thru 5 are for the 12V trailer connector.

2. M915A2 ONLY: REMOVE TIE WRAPS (6) AND TWO KEP NUTS (7) FROM FOUR CLAMPS (8). DISCARD KEP NUTS.

3. REMOVE TWO KEP NUTS (9), TWO WASHERS (10), TWO CAPSCREWS (11), AND TWO WASHERS (12). DISCARD KEP NUTS.

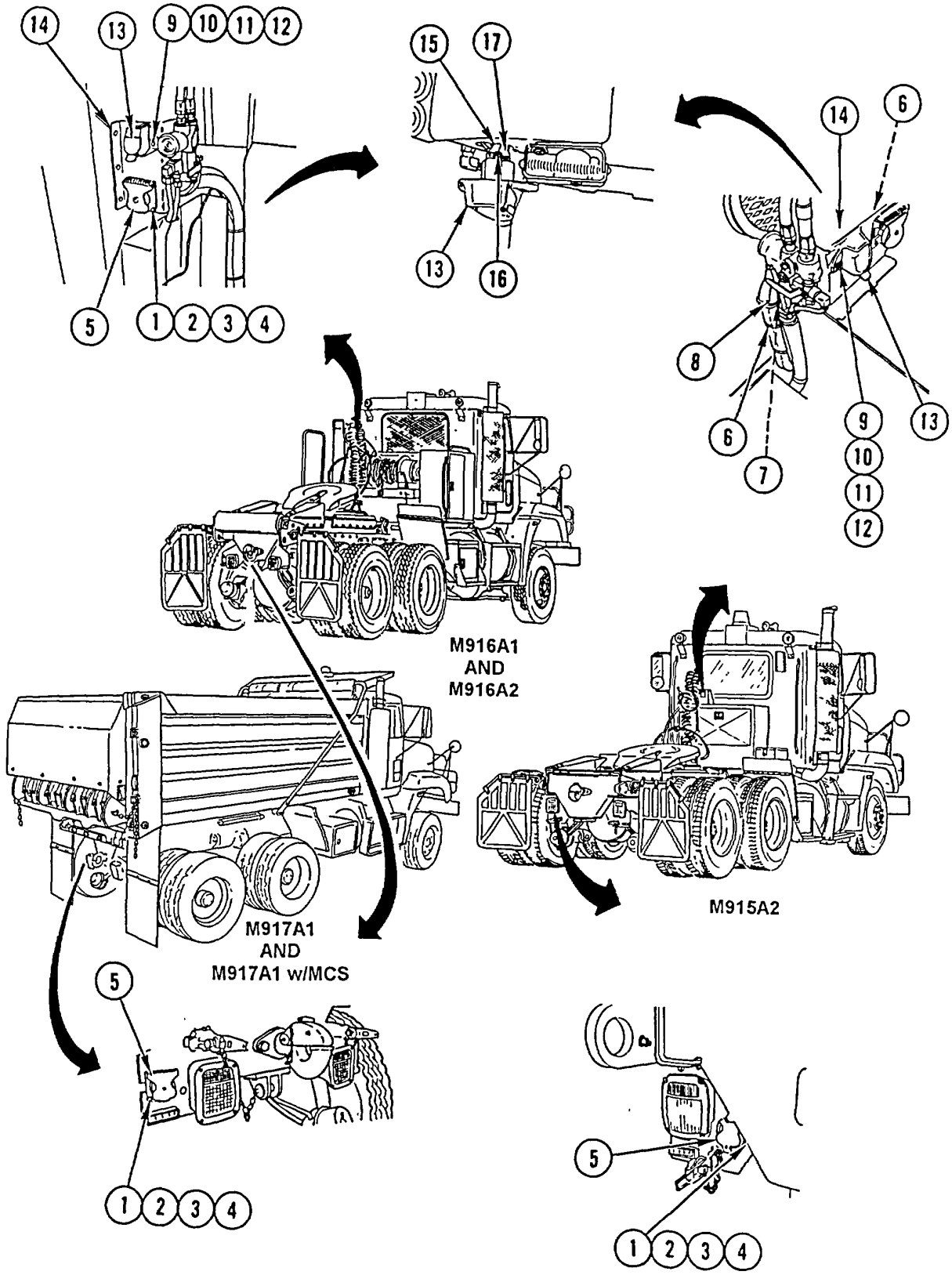
4. REMOVE TRAILER CONNECTOR (13) FROM MOUNT (14) AND SLIDE GROMMET (15) BACK.

NOTE
Tagging wires is not required. Connector has color guide for identifying wires during installation.

5. LOOSEN SEVEN SCREWS (16) AND REMOVE TRAILER CONNECTOR (13) FROM WIRING HARNESS (17).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.


14
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9
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12
13
M916A1
AND
M916A2
M915A2
M917A1
AND
M917A1 w/MCS
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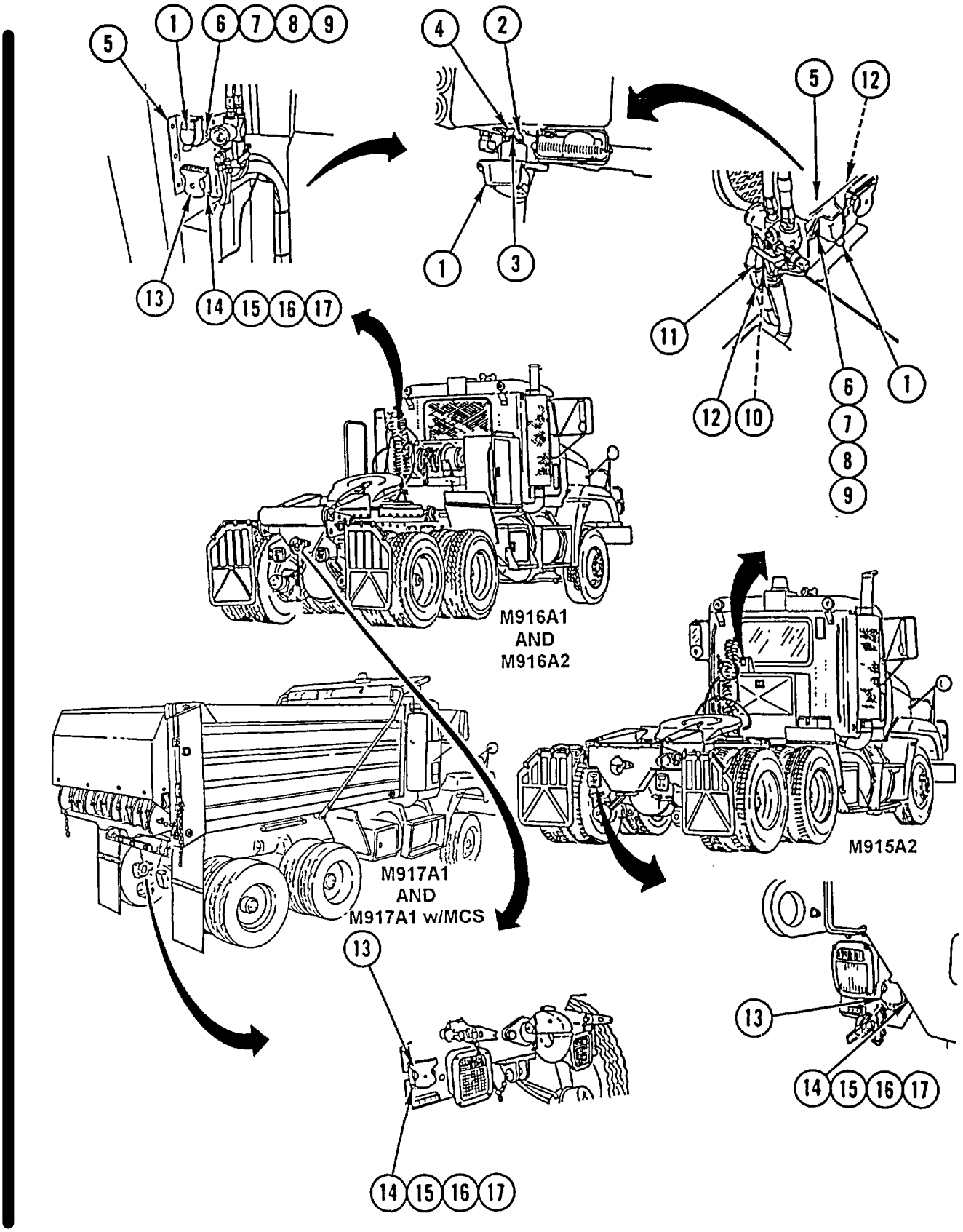
4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7
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9
1
M916A1
AND
M916A2
M915A2
M917A1
AND
M917A1 w/MCS
13
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17

NOTE
Steps 1 thru 4 are for the 12V trailer connector.

1. USING WIRE COLOR GUIDE ON REAR OF TRAILER CONNECTOR (1), INSTALL WIRING HARNESS (2) AND SEVEN SCREWS (3) IN TRAILER CONNECTOR (1). SLIDE GROMMET (4) ON TRAILER CONNECTOR (1).

2. INSTALL TRAILER CONNECTOR (1) IN MOUNT (5).

3. INSTALL TWO WASHERS (6), TWO CAPSCREWS (7), TWO WASHERS (8), AND TWO NEW KEP NUTS (9).

4. M915A2 ONLY: INSTALL TWO NEW KEP NUTS (10) ON TWO CLAMPS (11) AND TIGHTEN KEP NUTS. INSTALL TIE WRAPS (12) AS REQUIRED.

NOTE
Step 5 is the same for both 24V trailer connectors.

5. INSTALL CONNECTOR COVER (13), FOUR WASHERS (14), FOUR CAPSCREWS (15), FOUR WASHERS (16), AND FOUR NEW KEP NUTS (17).

NOTE
Follow-on Maintenance:
Connect battery cables (page 2-29).

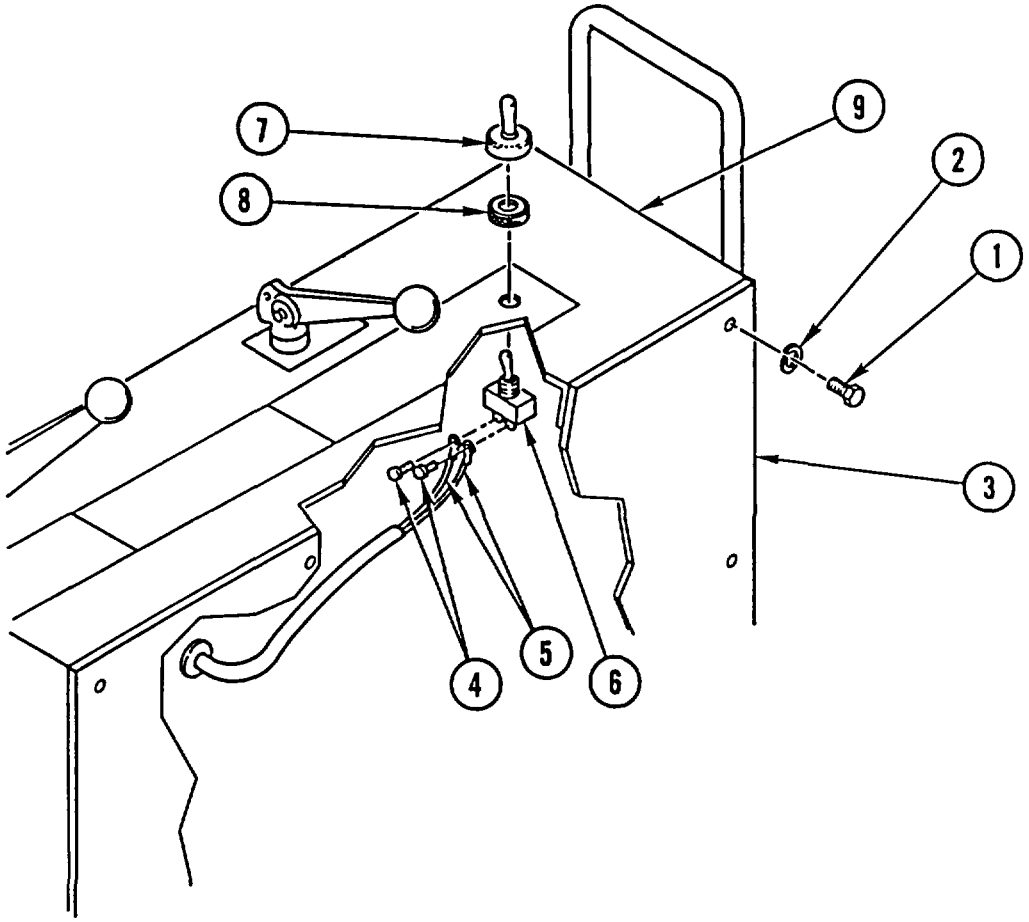
WINCH SPEED CONTROL SWITCH REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:	**Materials/Parts:**	
M916A1 and M916A2	Washer, Lock (6)	
Tools and Special Equipment:	**Equipment Condition:**	
Tool Kit, SC 5180-90-CL-N26	**Reference**	**Condition Description**
	Page 2-29	Batteries Disconnected

REMOVAL



1. REMOVE SIX SCREWS (1), SIX LOCK WASHERS (2), AND COVER (3). DISCARD LOCK WASHERS.
2. REMOVE TWO SCREWS (4) AND DISCONNECT TWO WIRES (5) FROM SWITCH (6).
3. REMOVE BOOT (7), NUT (8), AND SWITCH (6) FROM WINCH CONTROL BOX (9).

CLEANING/INSPECTION
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL SWITCH (6), NUT (8), AND BOOT (7) IN WINCH CONTROL BOX (9).
2. CONNECT TWO WIRES (5) AND INSTALL TWO SCREWS (4) IN SWITCH (6).
3. INSTALL COVER (3), SIX NEW LOCK WASHERS (2), AND SIX SCREWS (1) IN WINCH CONTROL BOX (11).

NOTE
Follow-on Maintenance:
Connect batteries (page 2-29).

CLUTCH TRANSMISSION SWITCH REPLACEMENT

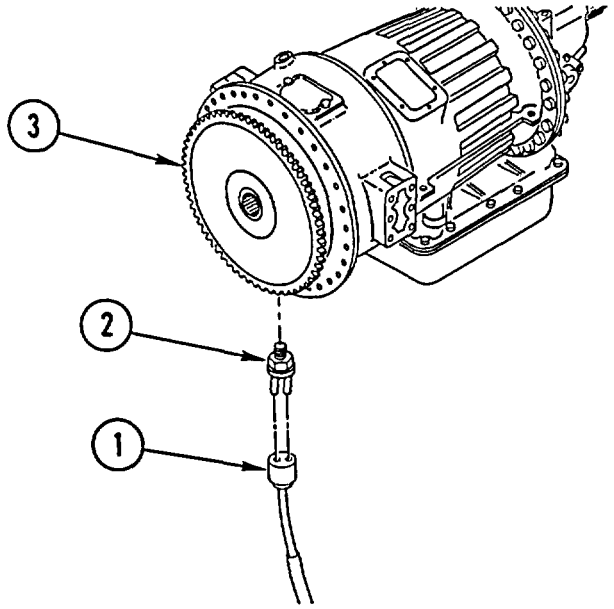
This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:	Equipment Condition:	
Tool Kit, SC 5180-90-CL-N26	**Reference**	**Condition Description**
References:	TM 9-2320-363-20-1	Transmission Drained
TM 9-2320-363-20-1	Page 2-29	Batteries Disconnected

REMOVAL

1. DISCONNECT PLUG (1) AND REMOVE SWITCH (2) FROM TRANSMISSION (3).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

INSTALL SWITCH (2) IN TRANSMISSION (3) AND CONNECT PLUG (1).

NOTE

Follow-on Maintenance:

Fill transmission (Unit PMCS, TM 9-2320-363-20-1).
Connect batteries (page 2-29).

WATER LEVEL MODULE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

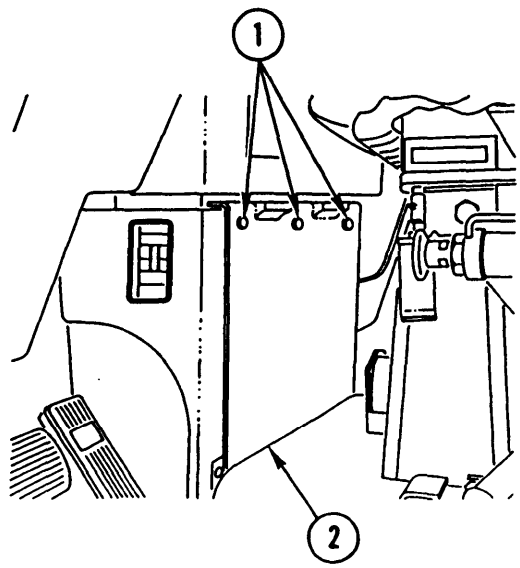
Tool Kit, SC 5180-90 -CL-N26

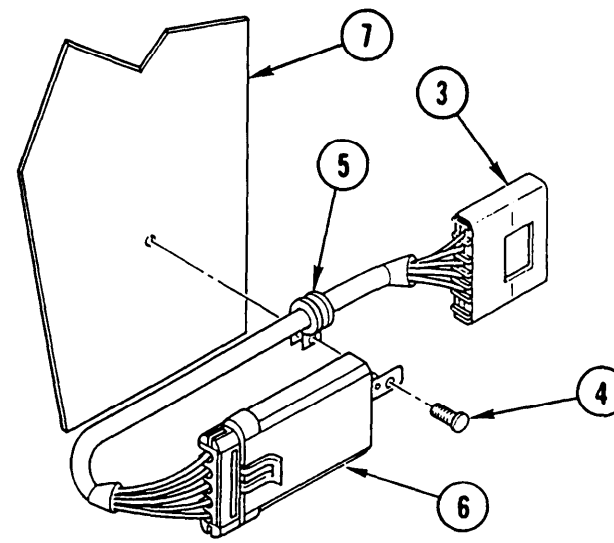
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. UNLOCK THREE FASTENERS (1) BY TURNING TO LEFT, AND REMOVE COVER (2).
2. DISCONNECT CONNECTOR (3) AND REMOVE SCREW (4), CLAMP (5), AND MODULE (6) FROM FIREWALL (7).





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL MODULE (6), CLAMP (5), AND SCREW (4) IN FIREWALL (7) AND CONNECT CONNECTOR (3).
2. INSTALL COVER (2) AND LOCK THREE FASTENERS (1) BY TURNING TO RIGHT.

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

HEADLIGHT ASSEMBLY REPLACEMENT AND REPAIR

This task covers: a. Removal b. Disassembly c. Cleaning/Inspection d. Repair e. Assembly f. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

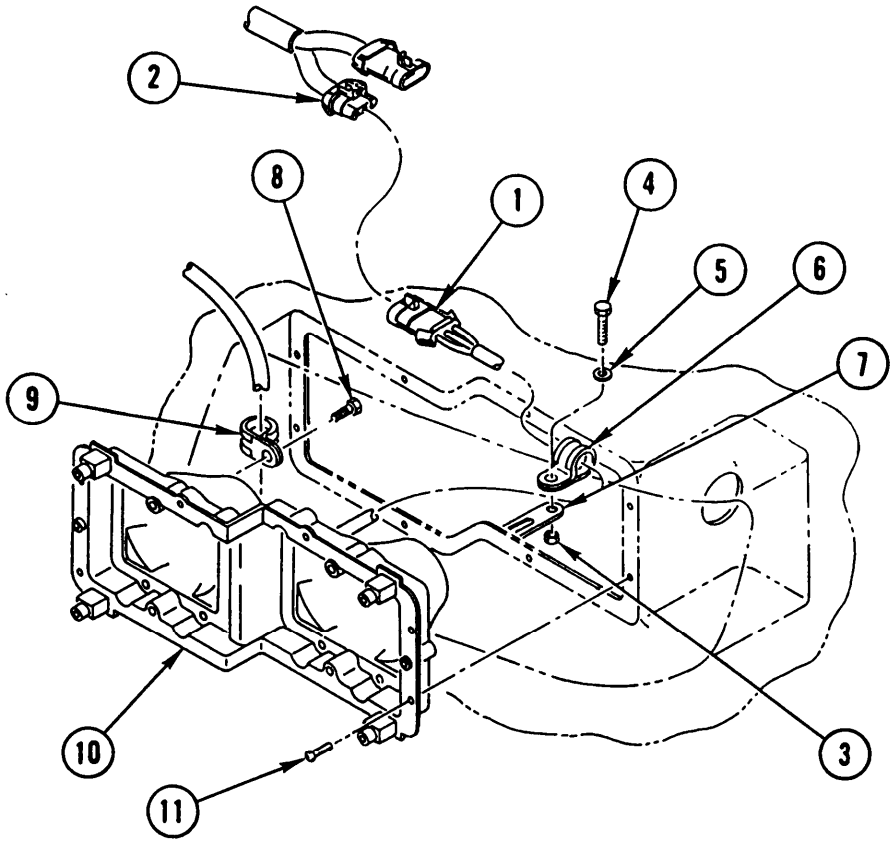
Nut, Lock

Adhesive-Sealant Appendix C, Item 2

Equipment Condition:

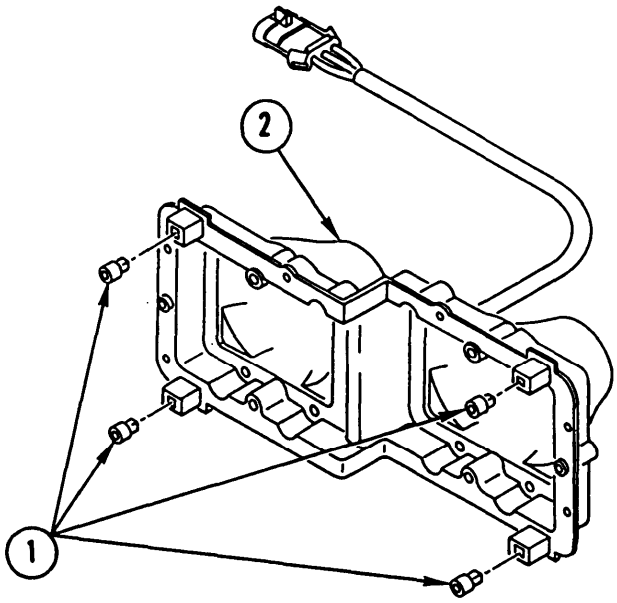
Reference	Condition Description
Page 4-206	Headlamps Removed

REMOVAL



1. DISCONNECT 3-PIN CONNECTOR (1) FROM HARNESS (2).
2. REMOVE LOCK NUT (3), SCREW (4), WASHER (5), AND CLAMP (6) FROM BRACKET (7). DISCARD LOCK NUT.
3. REMOVE SCREW (8) AND CLAMP (9) FROM HEADLIGHT ASSEMBLY (10).
4. REMOVE EIGHT SCREWS (11) AND HEADLIGHT ASSEMBLY (10).

DISASSEMBLY



REMOVE FOUR GROMMETS (1) FROM HEADLIGHT ASSEMBLY (2).

CLEANING/INSPECTION

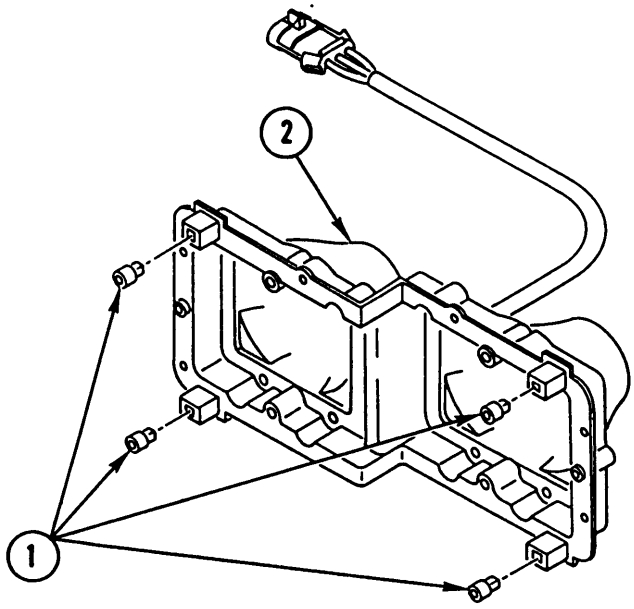
Clean and inspect all parts in accordance with Chapter 2.

REPAIR

Repair 3-pin connector in accordance with Chapter 3, Section 1.

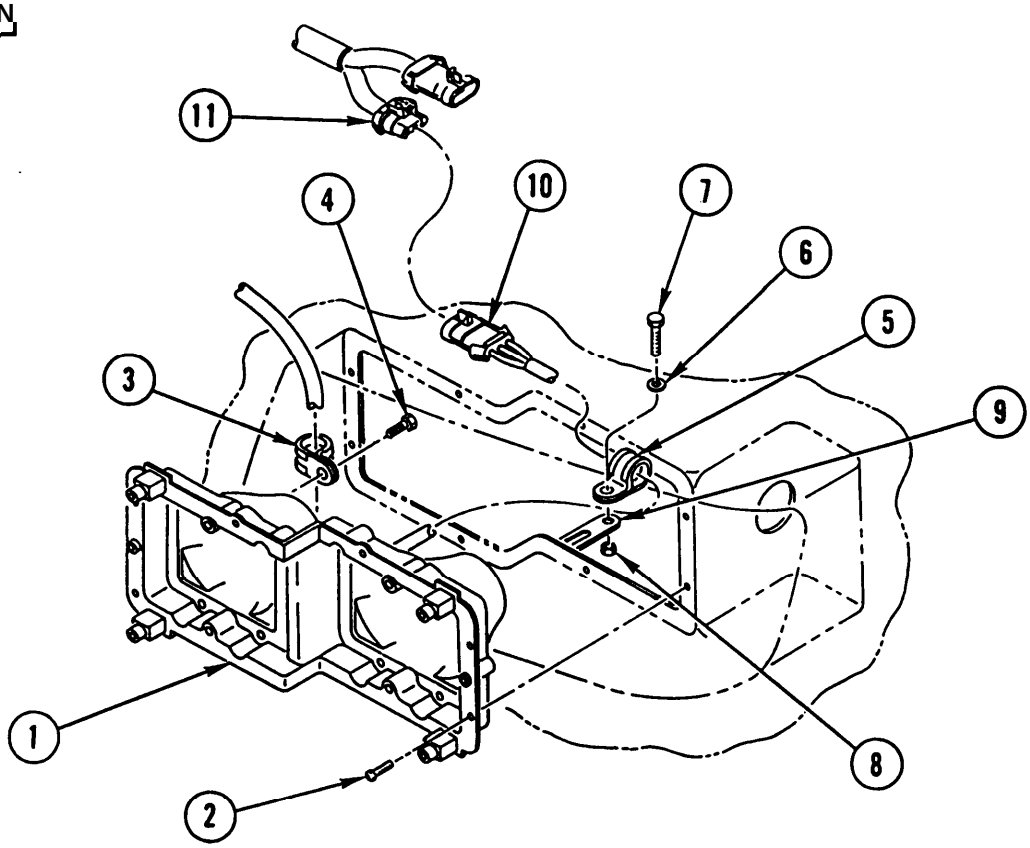
HEADLIGHT ASSEMBLY REPLACEMENT AND REPAIR (CONT)

ASSEMBLY



INSTALL FOUR GROMMETS (1) IN HEADLIGHT ASSEMBLY (2).

INSTALLATION



1. APPLY ADHESIVE-SEALANT TO MATING SURFACE OF HEADLIGHT ASSEMBLY (1) AND INSTALL HEADLIGHT ASSEMBLY (1) AND EIGHT SCREWS (2).
2. INSTALL CLAMP (3) AND SCREW (4) IN HEADLIGHT ASSEMBLY (1).
3. INSTALL CLAMP (5), WASHER (6), SCREW (7), AND NEW LOCK NUT (8) ON BRACKET (9).
4. CONNECT 3-PIN CONNECTOR (10) TO HARNESS (11).

NOTE
Follow-on Maintenance:
Install headlamps (page 4-206).

TAILLIGHT REPAIR

This task covers: a. Disassembly b. Cleaning/Inspection c. Assembly

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Materials/Parts:

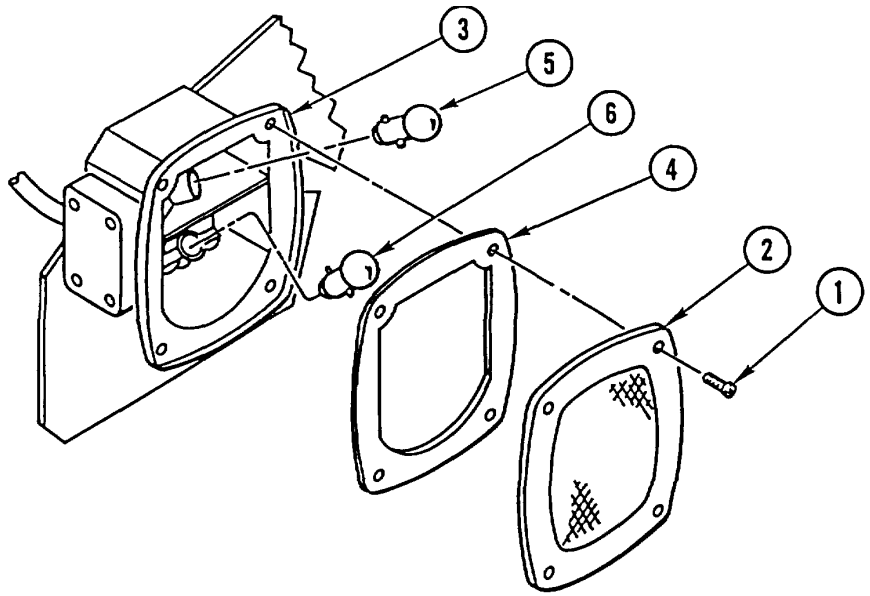
Gasket P/N 61-2037-03

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

DISASSEMBLY

1. REMOVE FOUR SCREWS (1) AND LENS (2) FROM TAILLIGHT HOUSING (3).
2. REMOVE GASKET (4) AND TWO LIGHT BULBS (5 AND 6). DISCARD GASKET.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ASSEMBLY

1. INSTALL TWO LIGHT BULBS (5 AND 6) AND NEW GASKET (4) IN TAILLIGHT HOUSING (3).
2. INSTALL LENS (2) AND FOUR SCREWS (1).

FRONT ANTI-LOCK BRAKE SYSTEM (ABS) SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Bushing P/N 10-12026-000

Wrap, Tie (7)

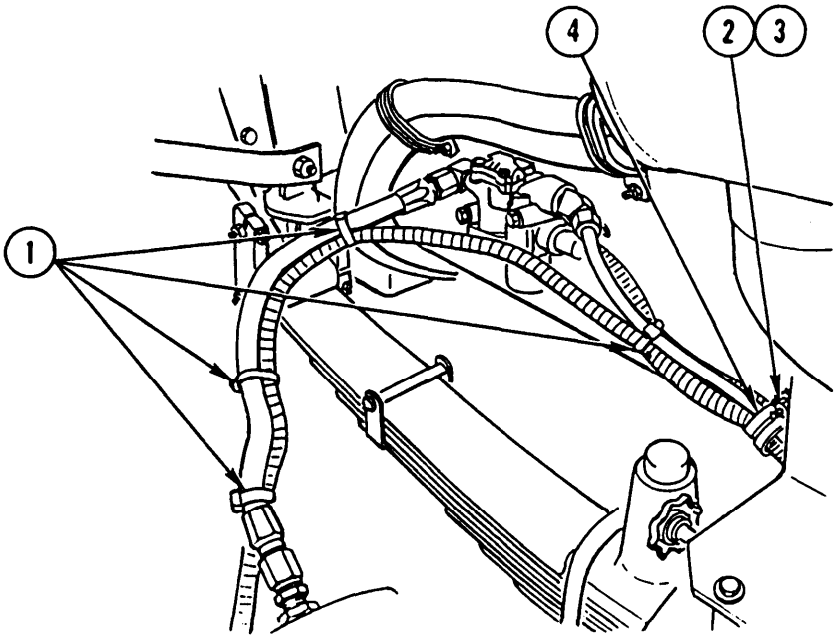
Nut, Lock

Grease, Heat Resistant Appendix C, Item 15

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

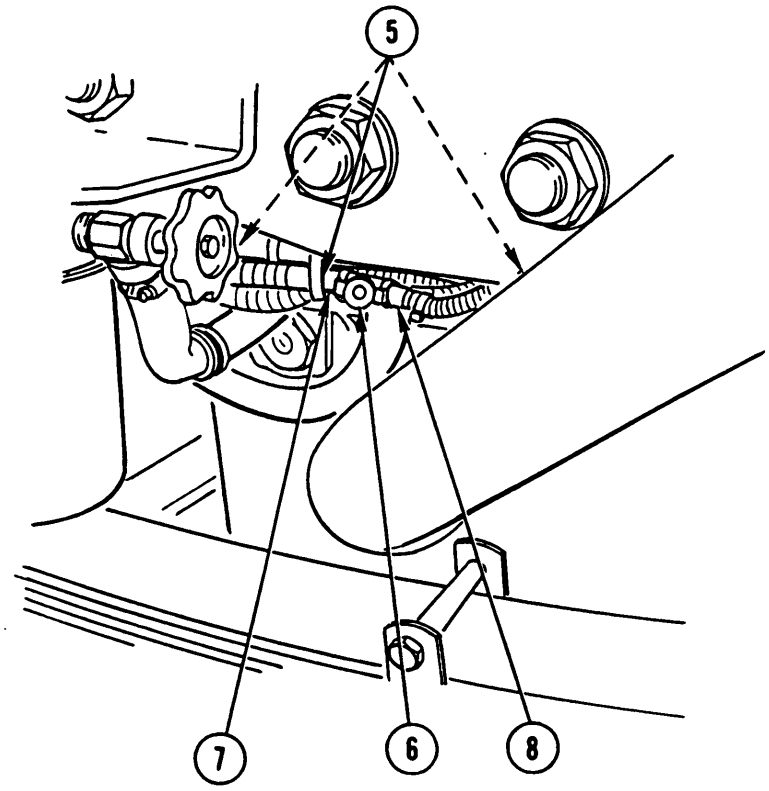


FRONT ANTI-LOCK BRAKE SYSTEM (ABS) SENSOR REPLACEMENT (CONT)

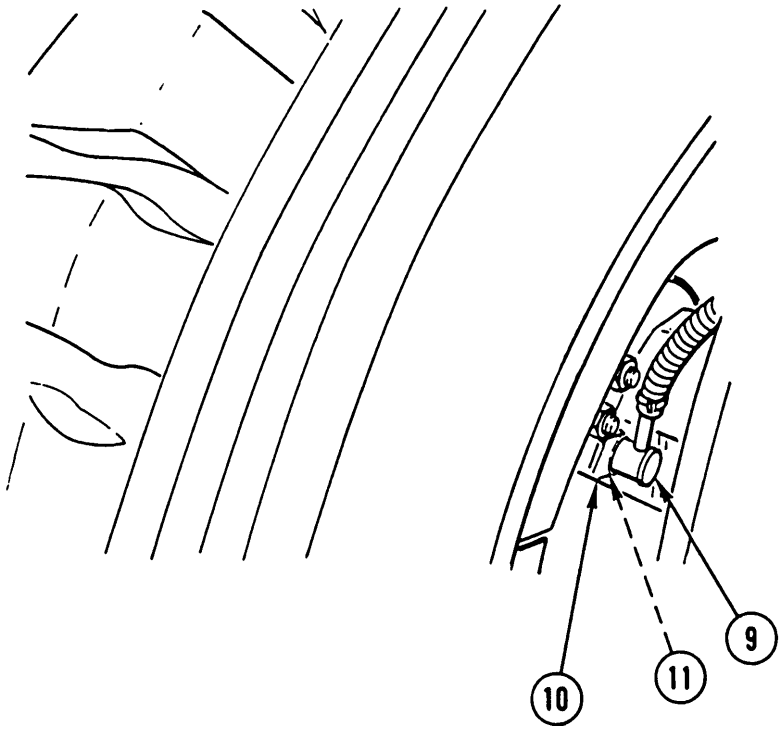
NOTE

Procedure is the same for both sides of vehicle. Right side is shown.

1. REMOVE AND DISCARD FOUR TIE WRAPS (1).
2. REMOVE LOCK NUT (2), WASHER (3), AND CLAMP (4). DISCARD LOCK NUT.



3. REMOVE AND DISCARD THREE TIE WRAPS (5).
4. REMOVE CLAMP (6) FROM ABS CONNECTOR (7) AND WIRING HARNESS CONNECTOR (8).
5. DISCONNECT ABS CONNECTOR (7) FROM WIRING HARNESS CONNECTOR (8).



6. REMOVE SENSOR (9) FROM STEERING KNUCKLE (10).

NOTE

If replacing sensor (9), perform step 7.

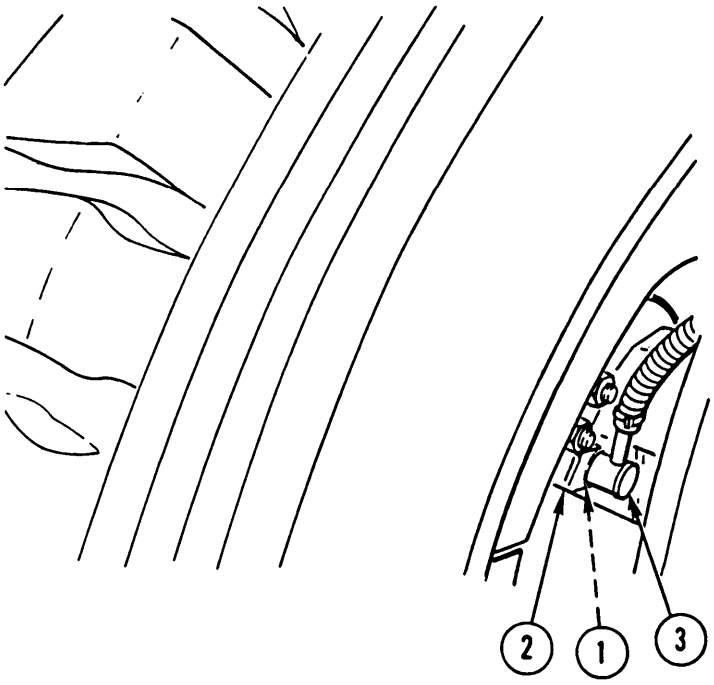
7. REMOVE AND DISCARD BUSHING (11) FROM STEERING KNUCKLE (10).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

FRONT ANTI-LOCK BRAKE SYSTEM (ABS) SENSOR REPLACEMENT (CONT)

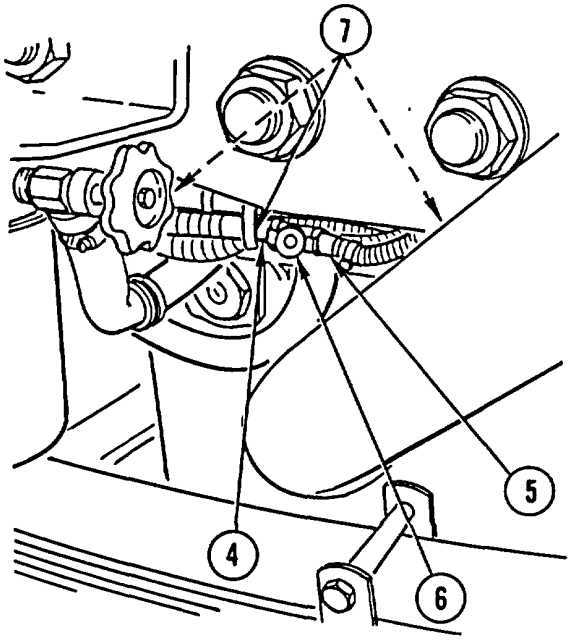
INSTALLATION



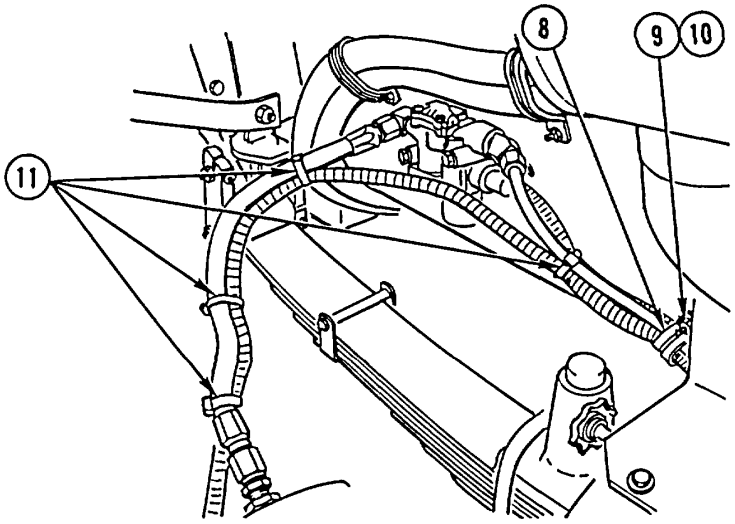
NOTE

- Procedure is the same for both sides of vehicle. Right side is shown.
- If installing new sensor, go to step 1. If installing old sensor, go to step 2.

1. INSTALL NEW BUSHING (1) IN STEERING KNUCKLE (2).
2. COAT OUTSIDE OF SENSOR (3) WITH MOBIL HP HEAT RESISTANT GREASE.
3. INSTALL SENSOR (3) IN STEERING KNUCKLE (2) UNTIL SENSOR IS STOPPED BY TONE WHEEL.



4. CONNECT ABS CONNECTOR (4) TO WIRING HARNESS CONNECTOR (5).
5. INSTALL CLAMP (6) ON ABS CONNECTOR (4) AND WIRING HARNESS CONNECTOR (5).
6. INSTALL THREE NEW TIE WRAPS (7).



7. INSTALL CLAMP (8), WASHER (9), AND NEW LOCK NUT (10).
8. INSTALL FOUR NEW TIE WRAPS (11).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

FRONT ANTI-LOCK BRAKE SYSTEM (ABS) SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Wraps, Tie
Nut, Lock (2)

Materials/Parts (Cont):

Bushing
Grease, Heat Resistant — Appendix C, Item 15

Equipment Condition:

Reference	Condition	Description
	Page 2-29	Batteries Disconnected
Page 4-588		Front Hub and Drum Removed

REMOVAL

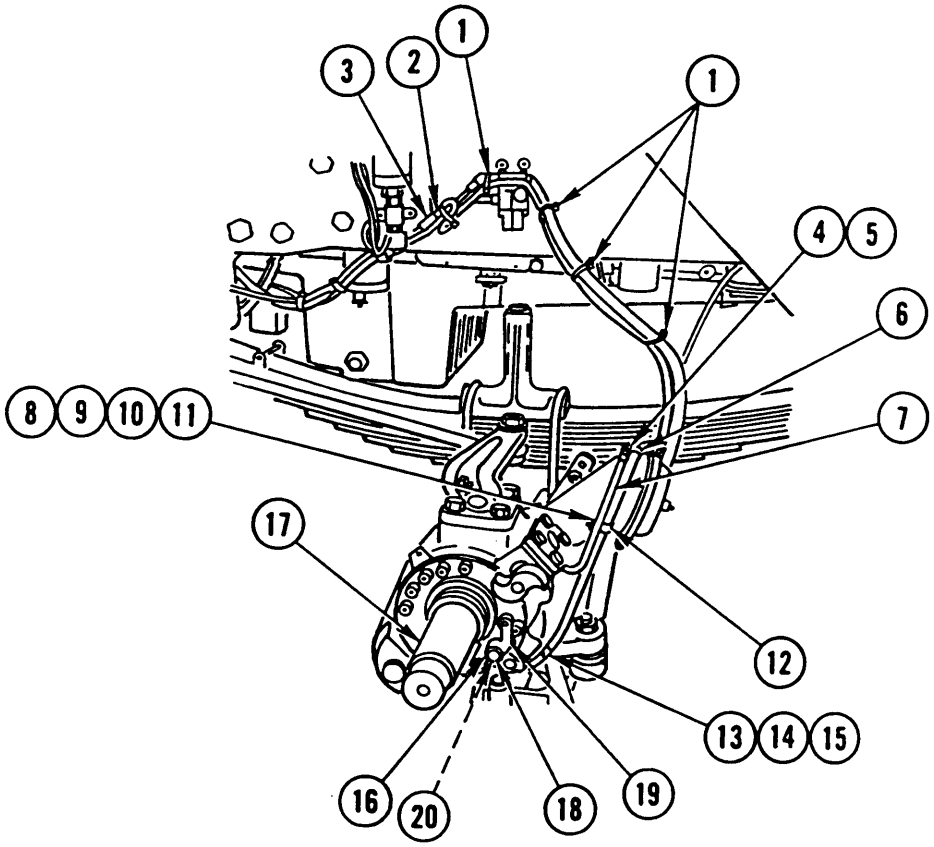
NOTE
Procedure is the same for both sides; left side is shown.

1. REMOVE AND DISCARD TIE WRAPS (1).
2. DISCONNECT ABS CONNECTOR (2) FROM WIRING HARNESS CONNECTOR (3).
3. REMOVE LOCK NUT (4), WASHER (5), AND CLAMP (6) FROM AIR BRAKE CHAMBER BRACKET (7). DISCARD LOCK NUT.
4. REMOVE LOCK NUT (8), WASHER (9), SCREW (10), WASHER (11), AND CLAMP (12) FROM AIR BRAKE CHAMBER BRACKET (7). DISCARD LOCK NUT.
5. REMOVE SCREW (13), WASHER (14), CLAMP (15), AND ABS SENSOR AND MOUNTING BRACKET ASSEMBLY (16) FROM SPINDLE (17).
6. REMOVE ABS SENSOR (18) FROM ABS SENSOR MOUNTING BRACKET (19).
7. REMOVE AND DISCARD BUSHING (20) FROM ABS SENSOR MOUNTING BRACKET (19).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



NOTE

Procedure is the same for both sides; left side is shown.

1. INSTALL NEW BUSHING (20) IN ABS SENSOR MOUNTING BRACKET (19).
2. COAT OUTSIDE OF ABS SENSOR (18) WITH HEAT RESISTANT GREASE.
3. INSTALL ABS SENSOR (18) IN ABS SENSOR MOUNTING BRACKET (19) UNTIL FULLY SEATED.
4. INSTALL ABS SENSOR AND MOUNTING BRACKET ASSEMBLY (16), CLAMP (15), WASHER (14), AND SCREW (13) ON SPINDLE (17).
5. INSTALL CLAMP (12), WASHER (9), SCREW (10), WASHER (11), AND NEW LOCK NUT (8) ON AIR BRAKE CHAMBER BRACKET (7).
6. INSTALL CLAMP (6), WASHER (5), AND NEW LOCK NUT (4) ON AIR BRAKE CHAMBER BRACKET (7).
7. CONNECT ABS CONNECTOR (2) TO WIRING HARNESS CONNECTOR (3) AND INSTALL NEW TIE WRAPS (1).

NOTE

Follow-on Maintenance:
Install front hub and drum (page 4-588).
Connect batteries (page 2-29).

REAR ANTI-LOCK BRAKE SYSTEM (ABS) SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Patis:

Bushing	P/N 10-12026-000
Wrap, Tie (6)	
Nut, Lock (2)	
Grease, Heat Resistant	Appendix C, Item 15

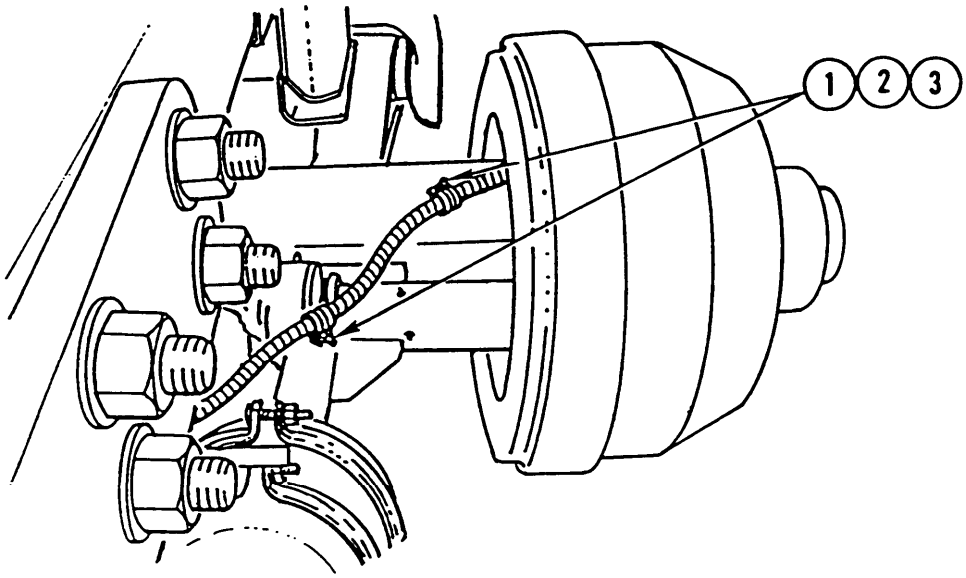
References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Brakes Caged
Page 2-29	Batteries Disconnected
TM 9-2320-363-10	Rear Dual Wheels Removed

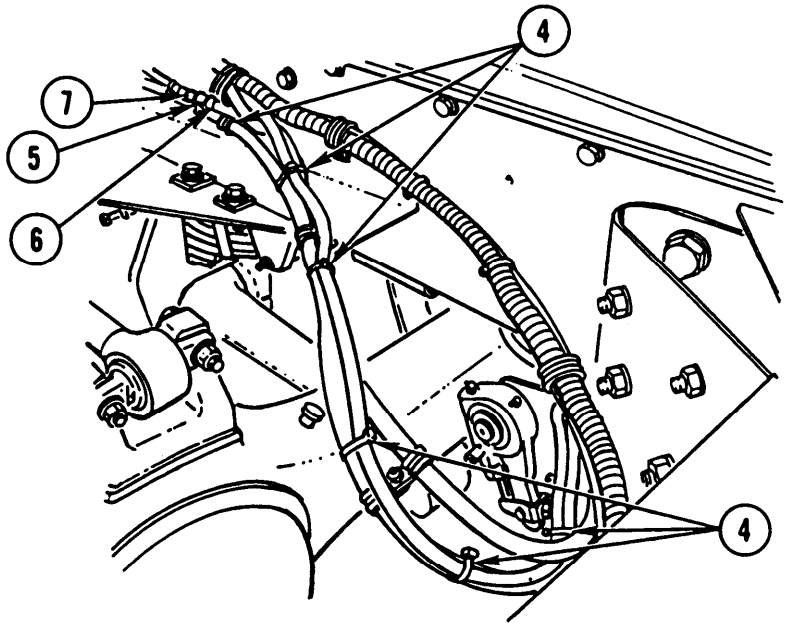
REMOVAL



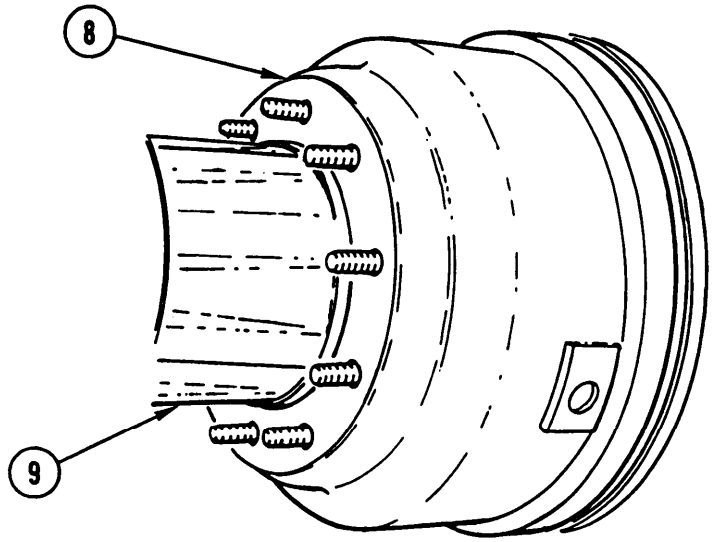
NOTE

Procedure is the same for both sides of vehicle. Right side is shown.

1. REMOVE TWO LOCK NUTS (1), TWO WASHERS (2), AND TWO CLAMPS (3). DISCARD LOCK NUTS.

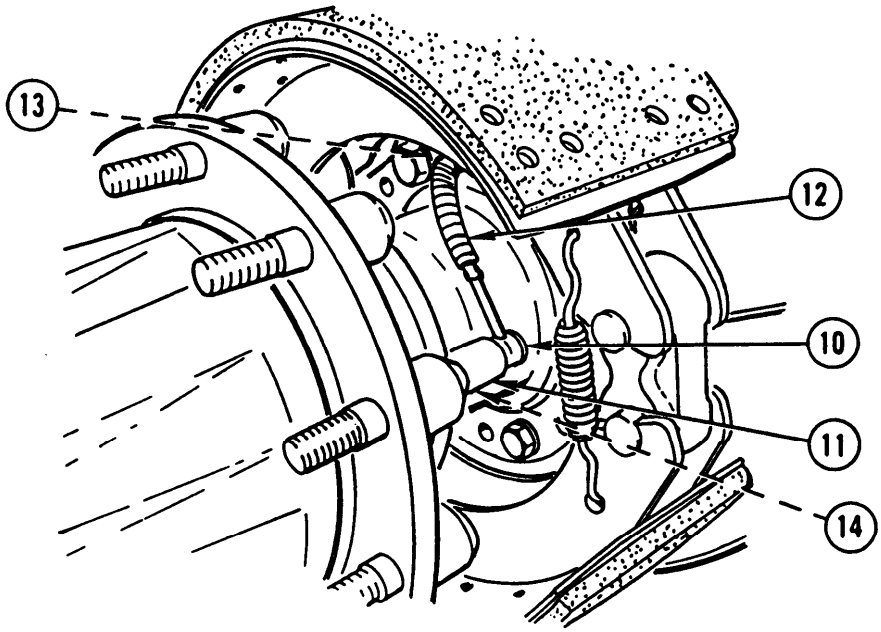


2. REMOVE AND DISCARD SIX TIE WRAPS (4).
3. REMOVE CLAMP (5) FROM ABS CONNECTOR (6) AND WIRING HARNESS CONNECTOR (7).
4. DISCONNECT ABS CONNECTOR (6) FROM WIRING HARNESS CONNECTOR (7).



5. REMOVE DRUM (8) FROM AXLE (9).

REAR ANTI-LOCK BRAKE SYSTEM (ABS) SENSOR REPLACEMENT (CONT)



6. REMOVE SENSOR (10) FROM MOUNTING BRACKET.
7. PULL SENSOR ASSEMBLY (12) THRU BRAKE SPIDER (13).

NOTE

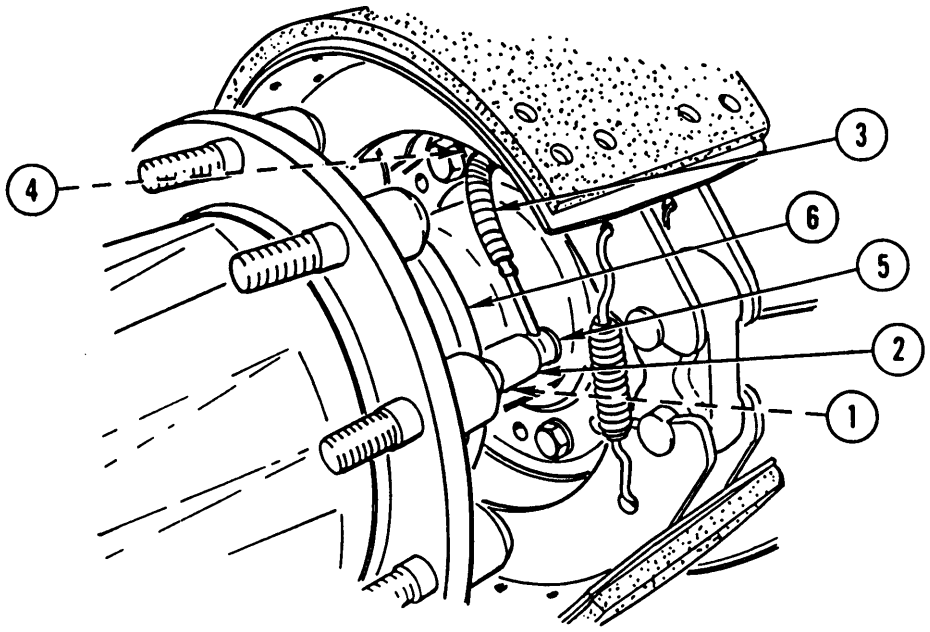
If replacing sensor (10), perform step 8.

8. REMOVE AND DISCARD BUSHING (14) FROM MOUNTING BRACKET (11).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

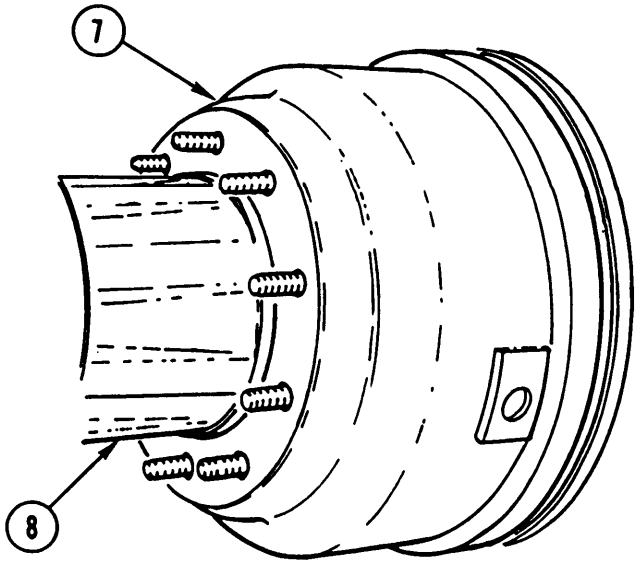


NOTE

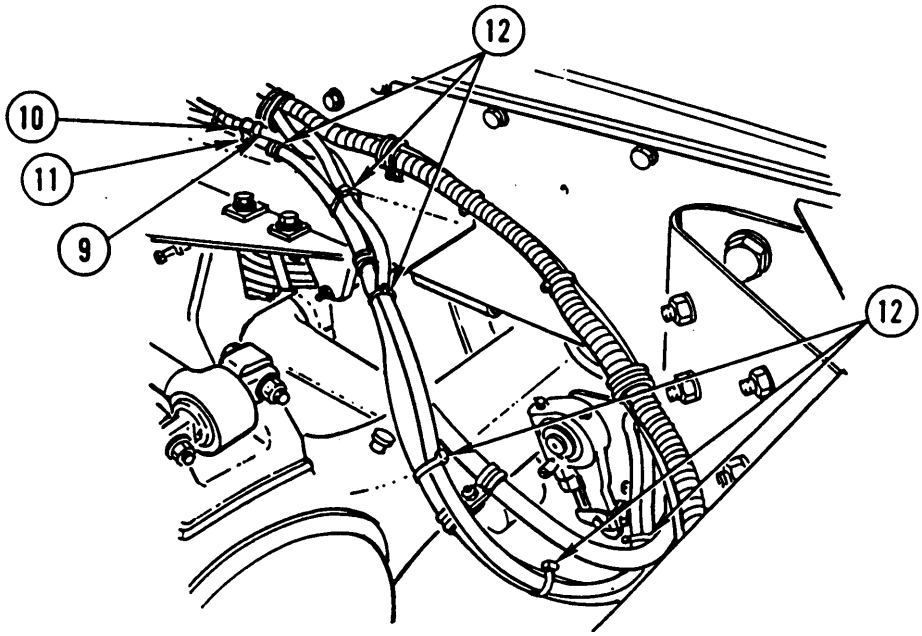
- Procedure is the same for both sides of vehicle. Right side is shown.
- If installing new sensor, go to step 1. If installing old sensor, go to step 2.

1. INSTALL NEW BUSHING (1) IN MOUNTING BRACKET (2).
2. INSTALL SENSOR ASSEMBLY (3) THRU BRAKE SPIDER (4).
3. COAT OUTSIDE OF SENSOR (5) WITH HEAT RESISTANT GREASE.
4. CAREFULLY INSTALL SENSOR (5) IN MOUNTING BRACKET (2) UNTIL SENSOR IS STOPPED BY TONE WHEEL (6).

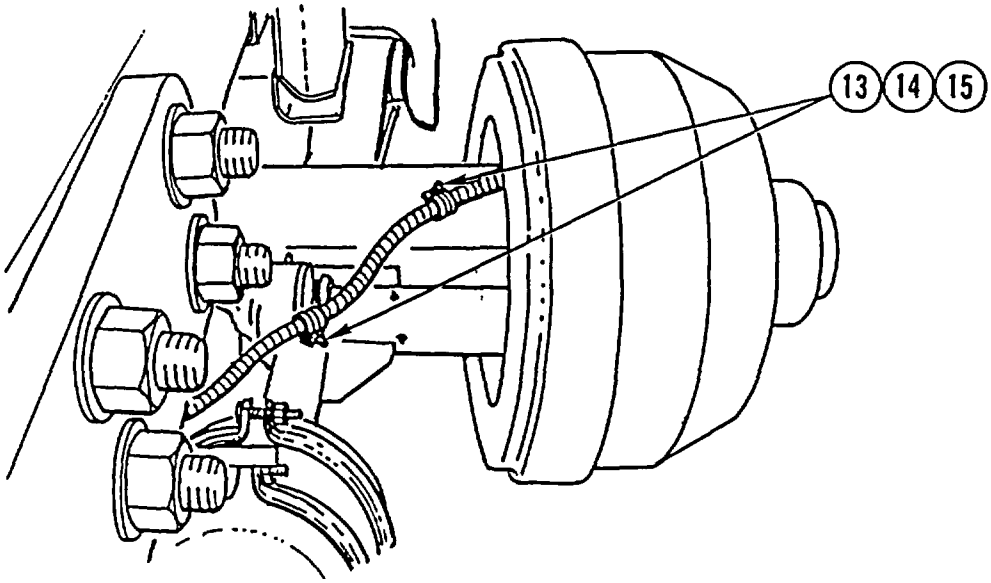
REAR ANTI-LOCK BRAKE SYSTEM (ABS) SENSOR REPLACEMENT (CONT)



5. INSTALL DRUM (7) ON AXLE (8).



6. CONNECT ABS CONNECTOR (9) TO WIRING HARNESS CONNECTOR (10).
7. INSTALL CLAMP (11) ON ABS CONNECTOR (9) AND WIRING HARNESS CONNECTOR (10).
8. INSTALL SIX NEW TIE WRAPS (12).



9. INSTALL TWO CLAMPS (13), TWO WASHERS (14), AND TWO NEW LOCK NUTS (15).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).
Install rear dual wheels (page TM 9-2320-363-10).
Uncage brakes (TM 9-2320-363-10).

ANTI-LOCK BRAKE SYSTEM (ABS) ELECTRONIC CONTROL UNIT

REPLACEMENT
This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

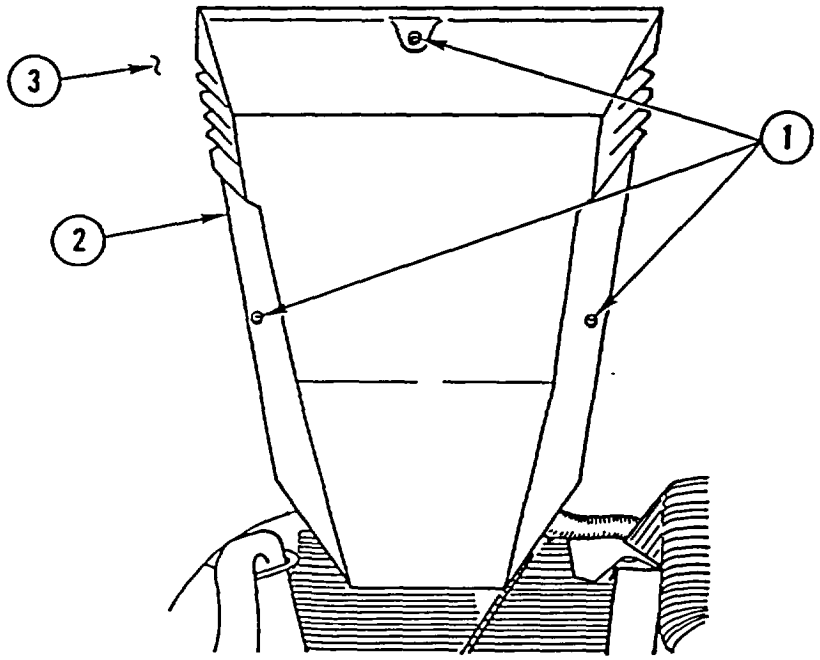
Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

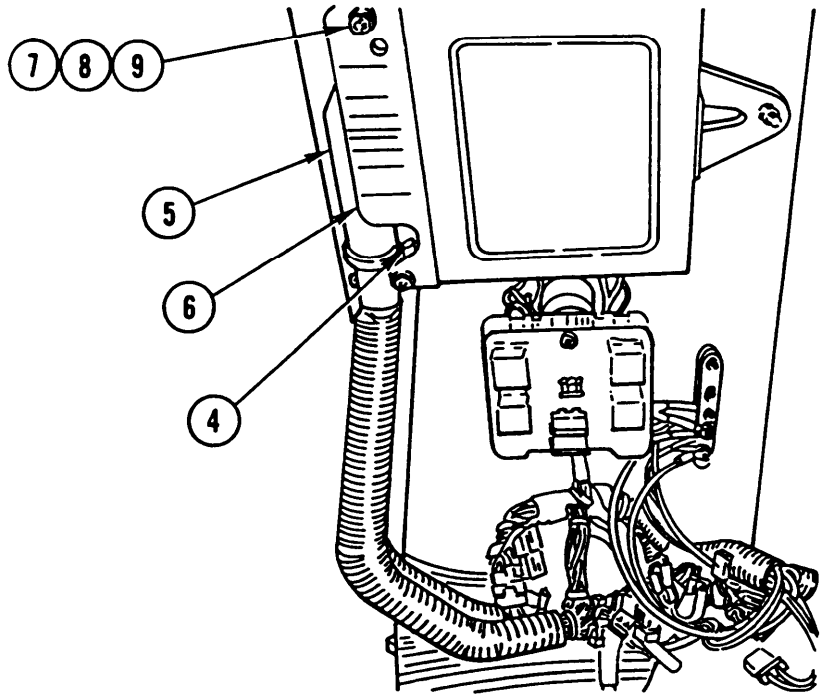
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL



1. REMOVE THREE TORX SCREWS (1) AND COVER (2) FROM MOUNTING PANEL (3).



2. PRESS LOCK (4) AND DISCONNECT CABLE (5) FROM ELECTRONIC CONTROL UNIT (6).

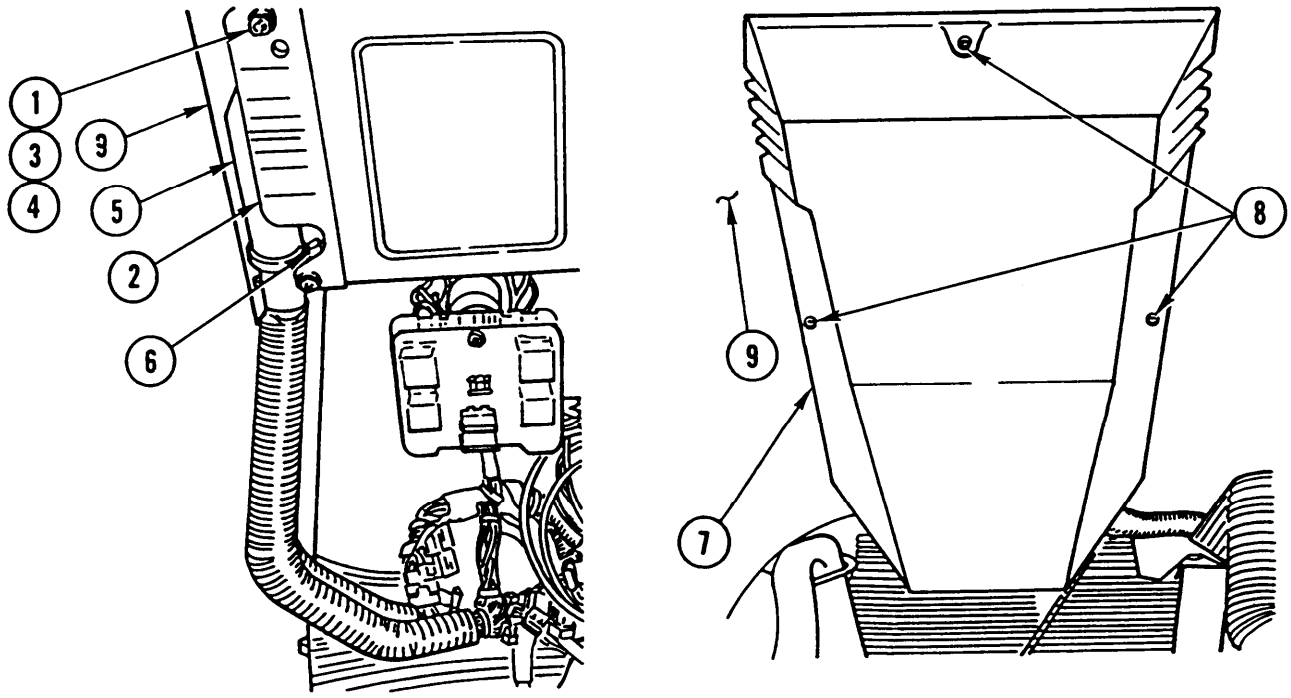
3. REMOVE THREE KEP NUTS (7), THREE WASHERS (8), ELECTRONIC CONTROL UNIT (6), AND THREE CAPSCREWS (9).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ANTI-LOCK BRAKE SYSTEM (ABS) ELECTRONIC CONTROL UNIT REPLACEMENT (CONT)

INSTALLATION



1. INSTALL THREE CAPSCREWS (1), ELECTRONIC CONTROL UNIT (2), THREE WASHERS (3), AND THREE KEP NUTS (4).
2. CONNECT CABLE (5) TO ELECTRONIC CONTROL UNIT (2). PRESS IN AT BOTTOM OF CABLE (5) UNTIL LOCK (6) IS COMPLETELY LATCHED.
3. INSTALL COVER (7) AND THREE TORX SCREWS (8) ON MOUNTING PANEL (9).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

ANTI-LOCK BRAKE SYSTEM (ABS) FUSE AND RELAY PANEL REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

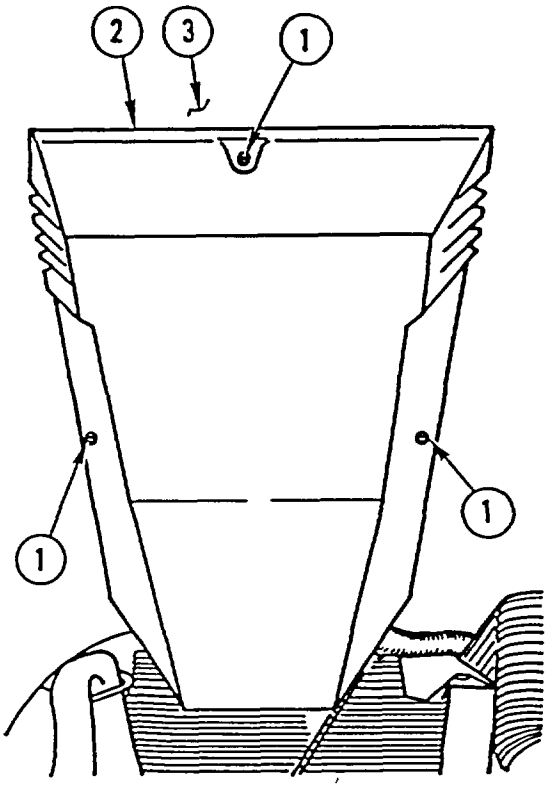
Materials/Parts:

Nut, Lock (2)

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

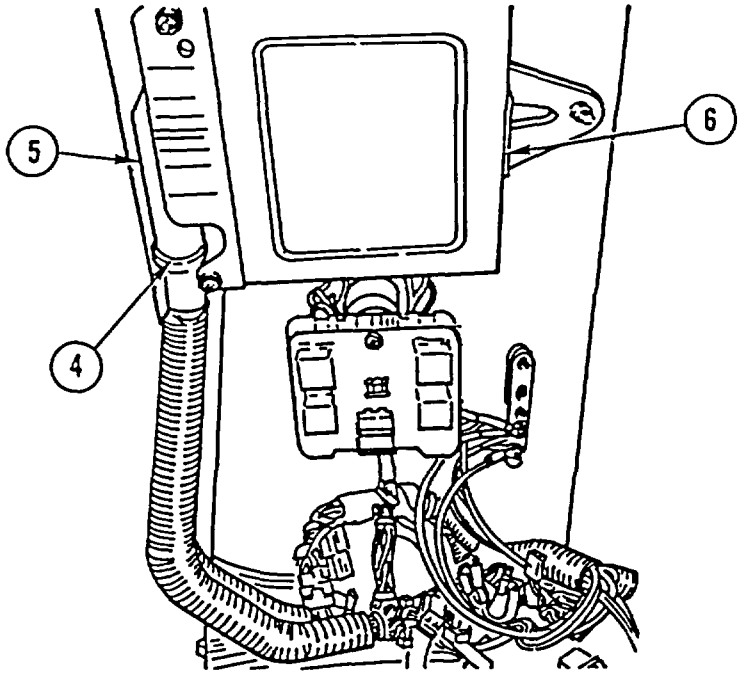
REMOVAL



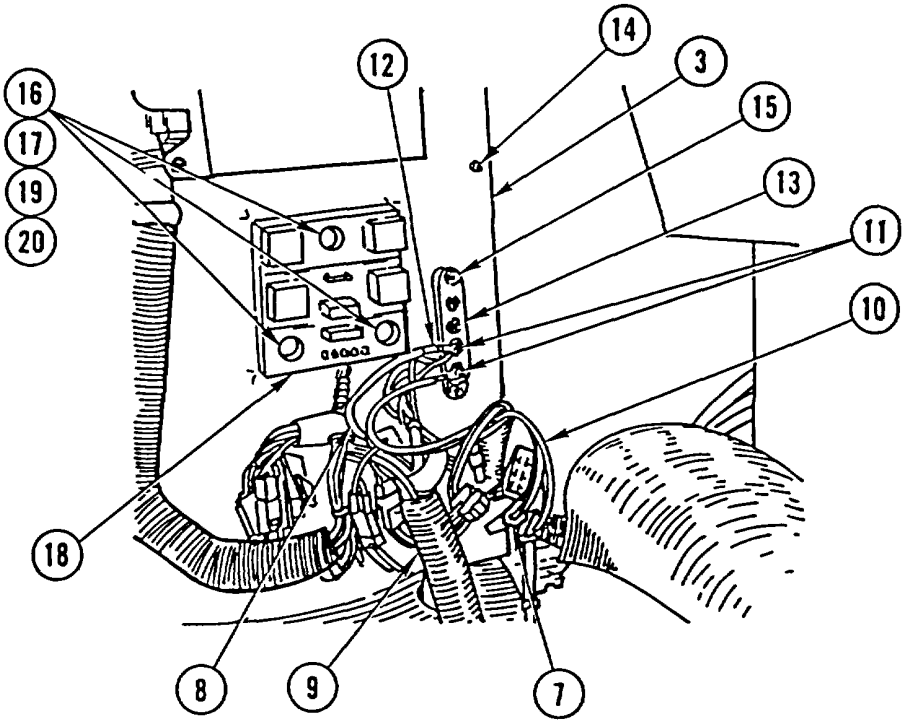
NOTE
Procedure is the same for both vehicles except where noted.

1. REMOVE THREE TORX SCREWS (1) AND COVER (2) FROM MOUNTING PANEL (3).

ANTI-LOCK BRAKE SYSTEM (ABS) FUSE AND RELAY PANEL REPLACEMENT (CONT)



2. PRESS LOCK (4) AND DISCONNECT CABLE (5) FROM ELECTRONIC CONTROL UNIT (6).



NOTE

- Tag connectors and wires prior to removal to aid in installation.
- Step 3 is for the M915A2 only.

3. DISCONNECT 11 CONNECTORS (7) FROM 3 WIRING HARNESSES (8, 9, AND 10).

NOTE

Step 4 is for the M916A1 only.

4. DISCONNECT 12 CONNECTORS (7) FROM 3 WIRING HARNESSES (8, 9, AND 10).
5. REMOVE TWO LOCK NUTS (11) AND DISCONNECT FIVE WIRES (12) FROM JUNCTION BLOCK (13). DISCARD LOCK NUTS.

NOTE

Step 6 is for the M915A2 only.

6. REMOVE EIGHT SELF-TAPPING TORX SCREWS (14) AND MOUNTING PANEL (3) FROM REAR WALL OF VEHICLE.

NOTE

Step 7 is for the M916A1 only.

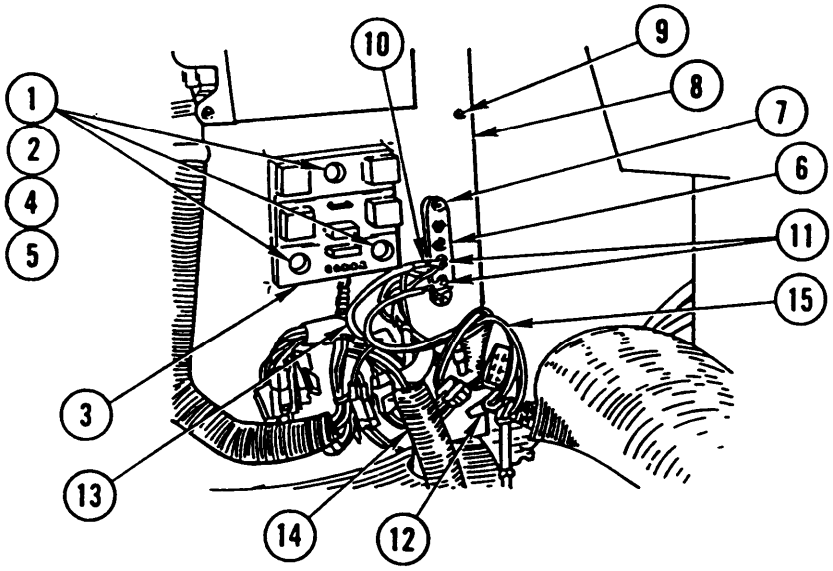
7. REMOVE SIX SELF-TAPPING TORX SCREWS (14) AND MOUNTING PANEL (3) FROM REAR WALL OF VEHICLE.
8. REMOVE TWO SCREWS (15) AND JUNCTION BLOCK (13).
9. REMOVE THREE KEP NUTS (16), THREE WASHERS (17), FUSE AND RELAY PANEL (18), THREE SPACERS (19), AND THREE CAPSCREWS (20).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ANTI-LOCK BRAKE SYSTEM (ABS) FUSE AND RELAY PANEL REPLACEMENT (CONT)

INSTALLATION



1. INSTALL THREE CAPSCREWS (1), THREE SPACERS (2), FUSE AND RELAY PANEL (3), THREE WASHERS (4), AND THREE KEP NUTS (5).
2. INSTALL JUNCTION BLOCK (6) AND TWO SCREWS (7).

NOTE

Step 3 is for the M915A2 only.

3. INSTALL MOUNTING PANEL (8) AND EIGHT SELF-TAPPING TORX SCREWS (9) ON REAR WALL OF VEHICLE.

NOTE

Step 4 is for the M916AI only.

4. INSTALL MOUNTING PANEL (8) AND SIX SELF-TAPPING TORX SCREWS (9) ON REAR WALL OF VEHICLE.
5. CONNECT FIVE WIRES (10) AND Two NEW LOCK NUTS (11) ON JUNCTION BLOCK (6).

NOTE

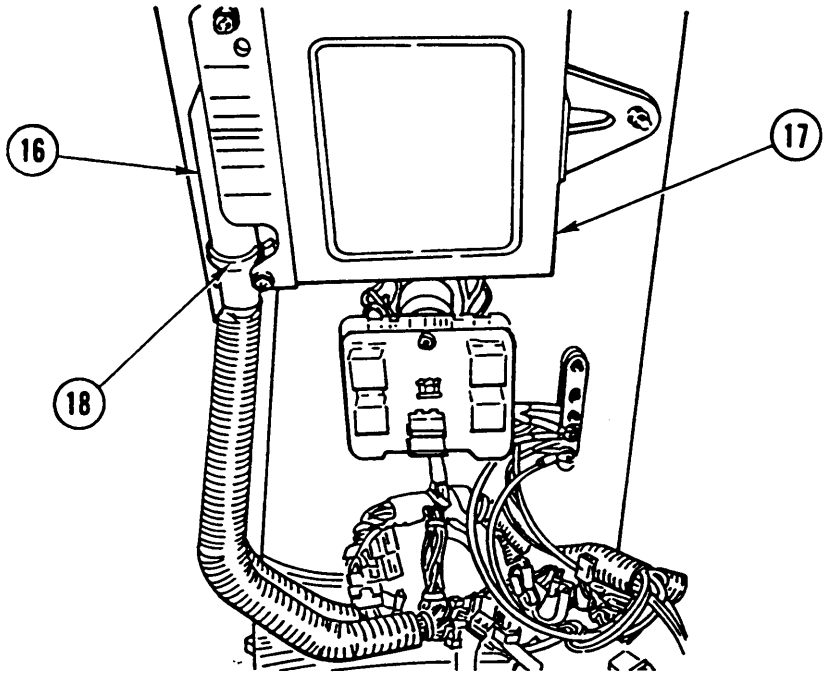
Step 6 is for the M915A2 only.

6. CONNECT 11 CONNECTORS (12) TO 3 WIRING HARNESSES (13, 14, AND 15).

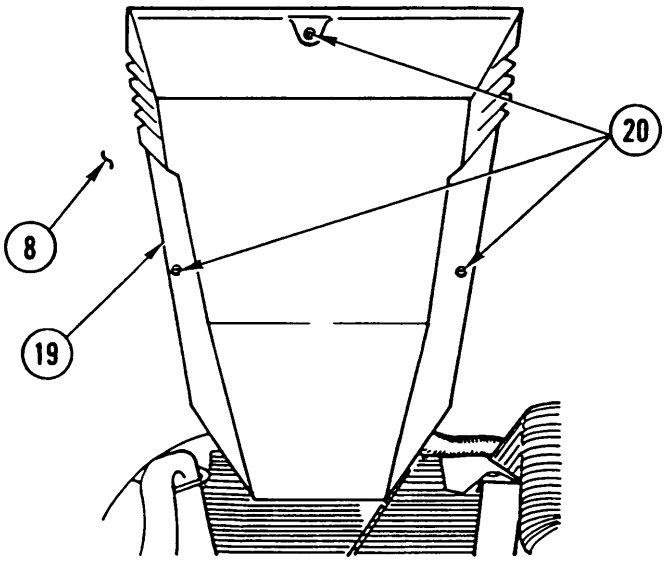
NOTE

Step 7 is for the M916A1 only.

7. CONNECT 12 CONNECTORS (12) TO 3 WIRING HARNESSES (13, 14, AND 15).



8. CONNECT CABLE (16) TO ELECTRONIC CONTROL UNIT (17). PRESS IN AT BOTTOM OF CABLE (16) UNTIL LOCK (18) IS COMPLETELY LATCHED.



9. INSTALL COVER (19) AND THREE TORX SCREWS (20) ON MOUNTING PANEL (8).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

ANTI-LOCK BRAKE SYSTEM (ABS) FUSE REPLACEMENT

This task covers a Removal b Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

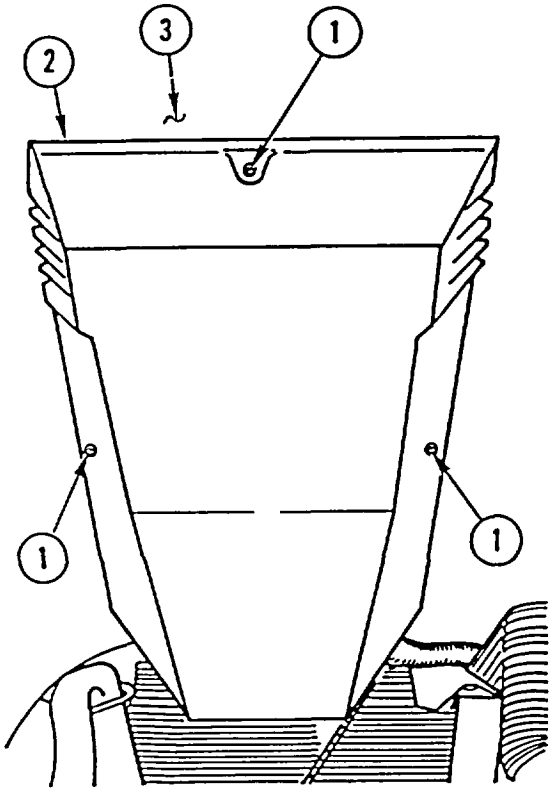
Materials/Parts:

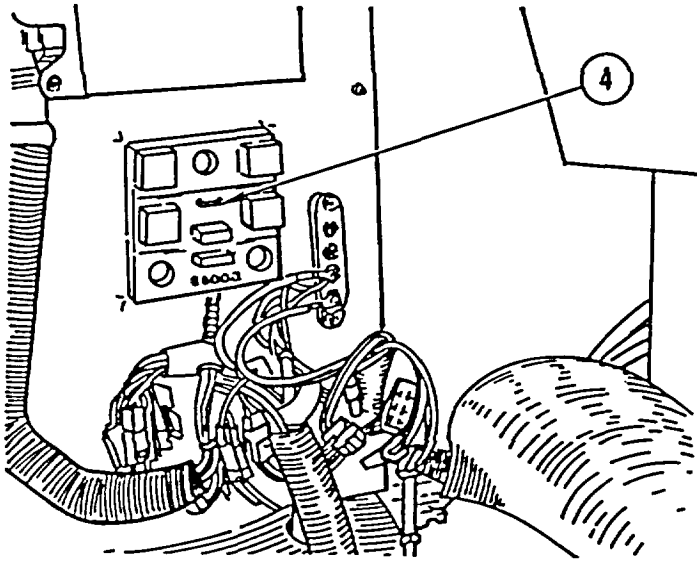
Nut, Lock (2)

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL



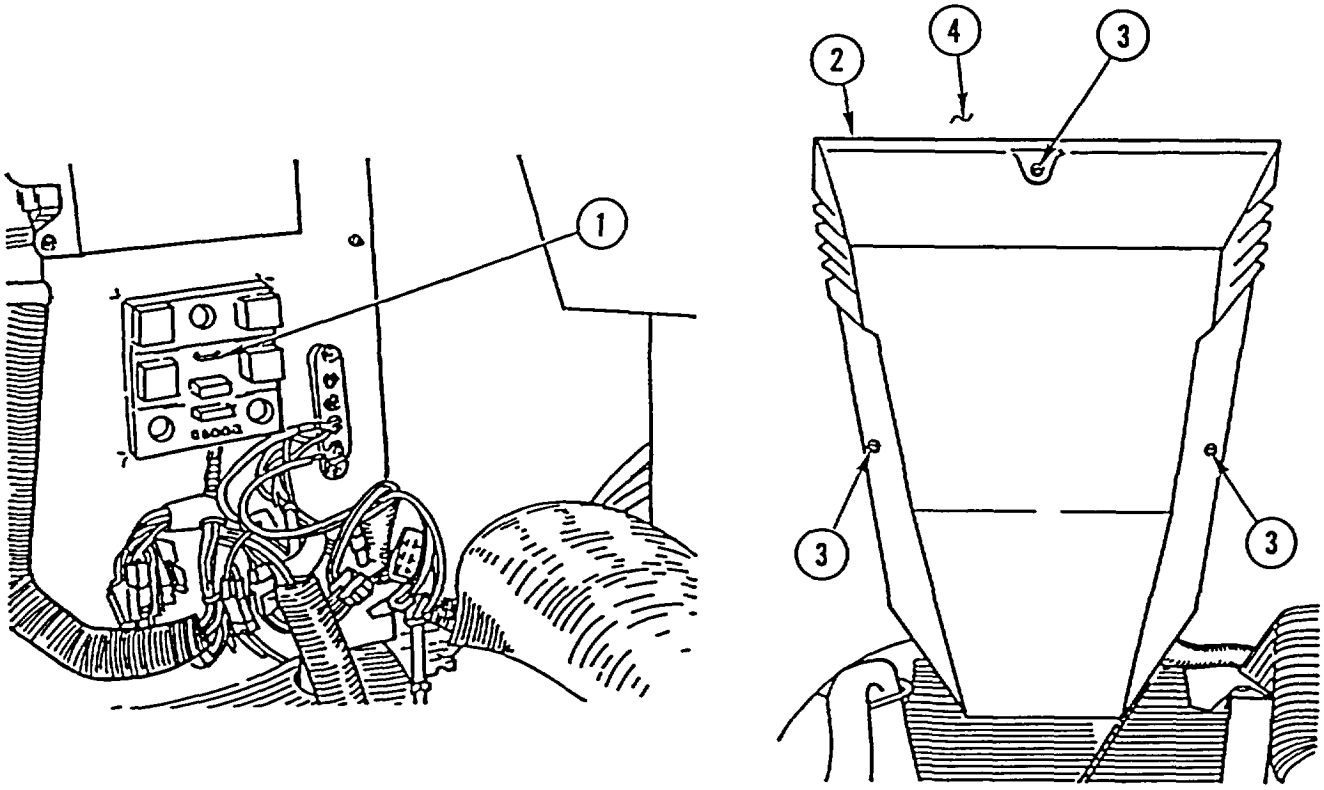


NOTE
Procedure is the same for both vehicles except where noted.

1. REMOVE THREE TORX SCREWS (1) AND COVER (2) FROM MOUNTING PANEL (3).

ANTI-LOCK BRAKE SYSTEM (ABS) FUSE REPLACEMENT (CONT)

INSTALLATION



1. INSTALL FUSE (1).
2. INSTALL COVER (2) AND THREE TORX SCREWS (3) ON MOUNTING PANEL (4).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

ANTI-LOCK BRAKE SYSTEM (ABS) CIRCUIT BREAKER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

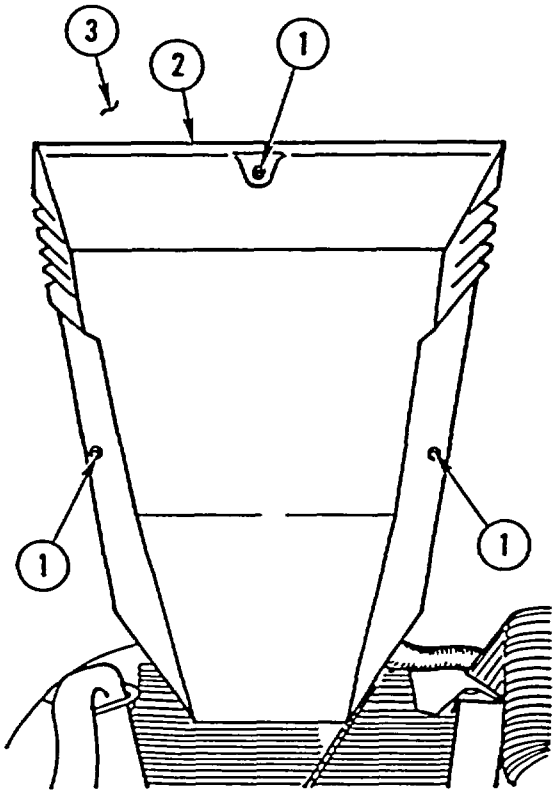
Tools and Special Equipment:

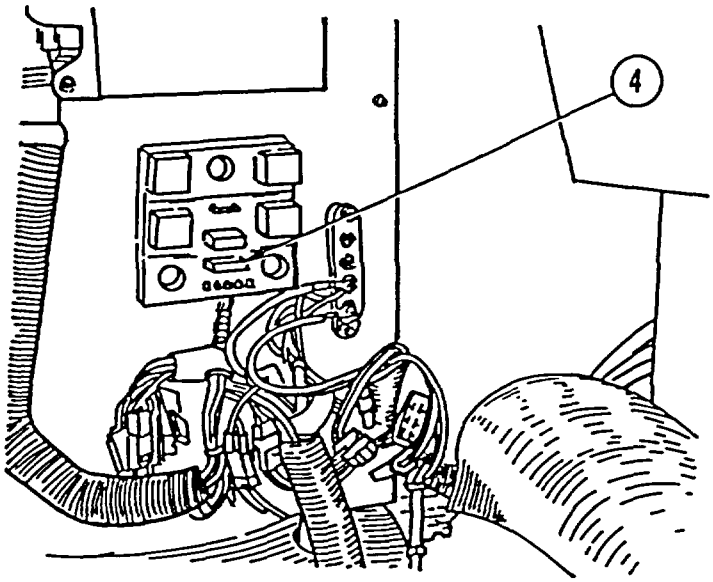
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL





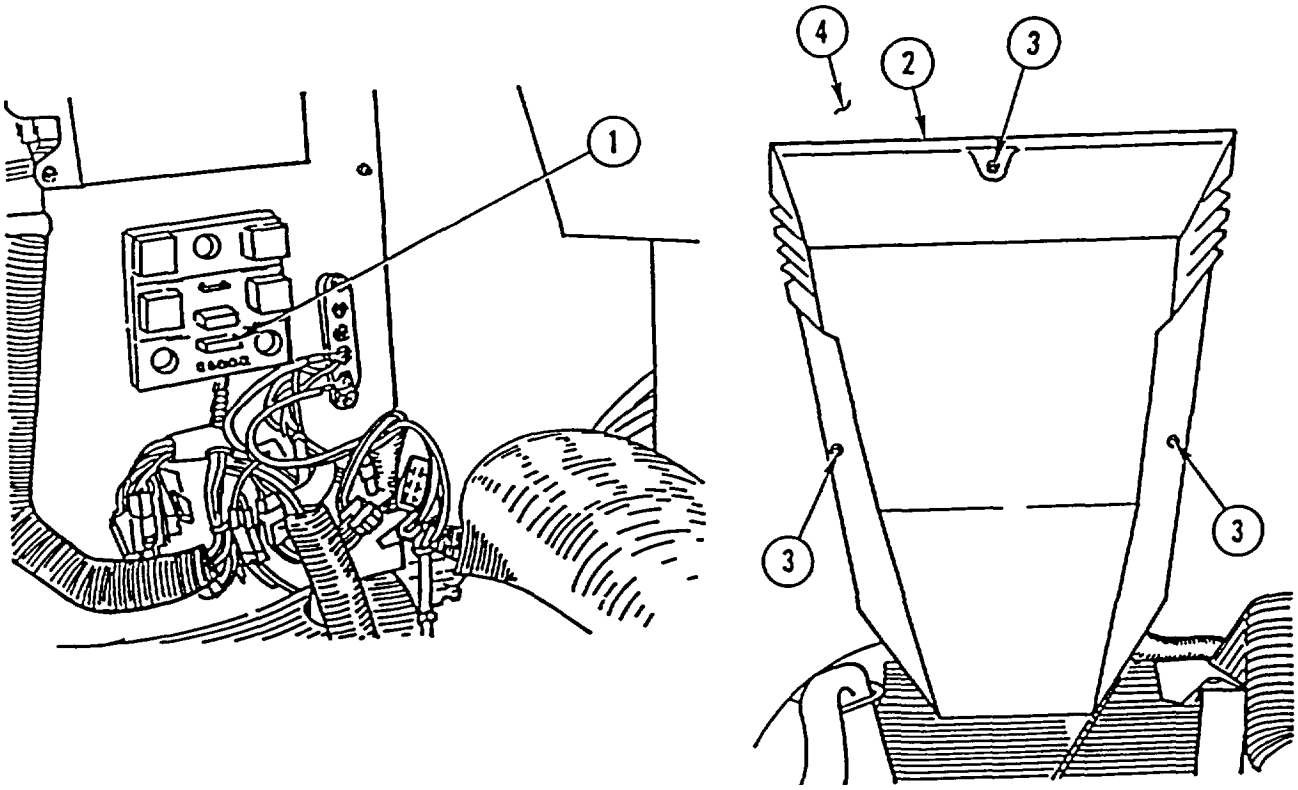
1. REMOVE THREE TORX SCREWS (1) AND COVER (2) FROM MOUNTING PANEL (3)
2. REMOVE CIRCUIT BREAKER (4).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ANTI-LOCK BRAKE SYSTEM (ABS) CIRCUIT BREAKER REPLACEMENT (CONT)

INSTALLATION



1. INSTALL CIRCUIT BREAKER (1).
2. INSTALL COVER (2) AND THREE TORX SCREWS (3) ON MOUNTING PANEL (4).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

ANTI-LOCK BRAKE SYSTEM (ABS) RELAY REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

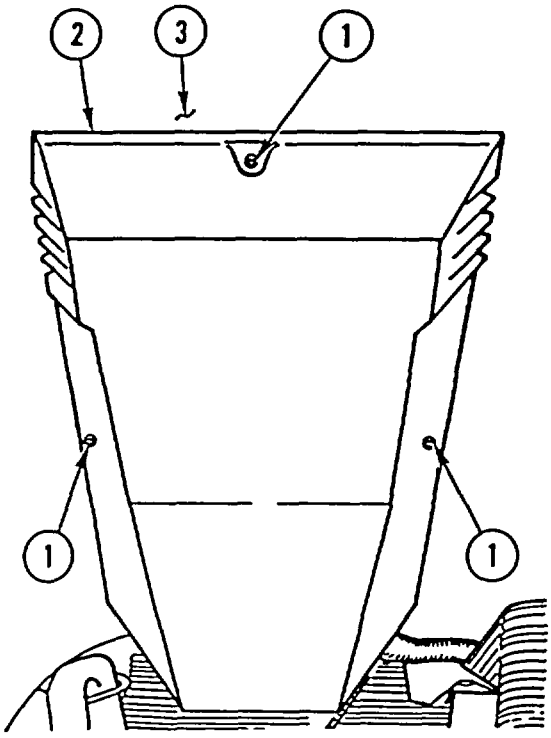
Tools and Special Equipment:

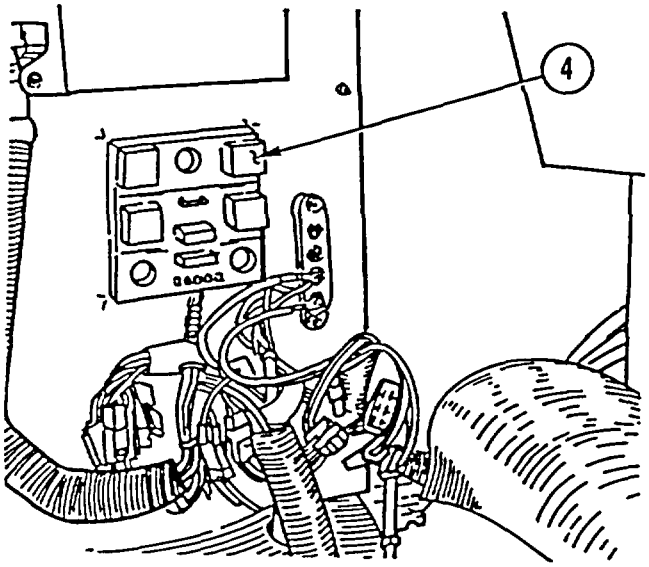
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL





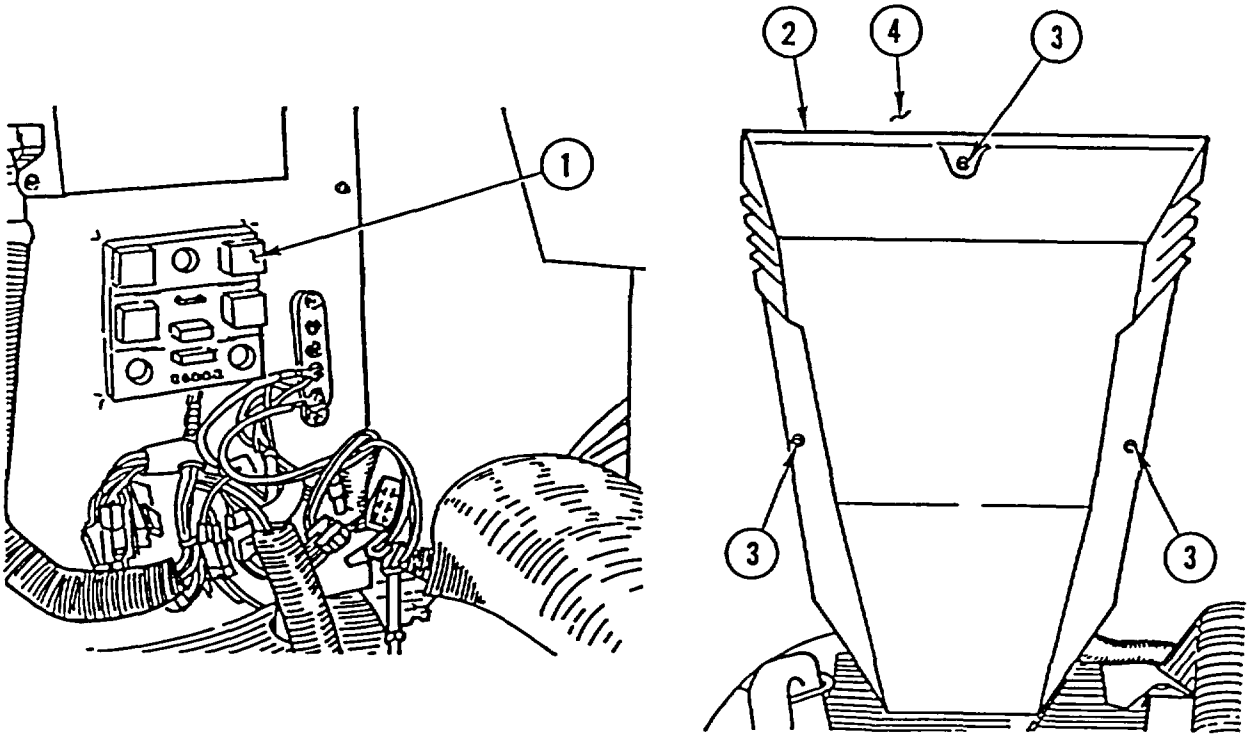
1. REMOVE THREE TORX SCREWS (1) AND COVER (2) FROM MOUNTING PANEL (3).
2. REMOVE RELAY (4).

ANTI-LOCK BRAKE SYSTEM (ABS) RELAY REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL RELAY (1).
2. INSTALL COVER (2) AND THREE TORX SCREWS (3) ON MOUNTING PANEL (4).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

ANTI-LOCK BRAKE SYSTEM (ABS) INDICATOR LAMP REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

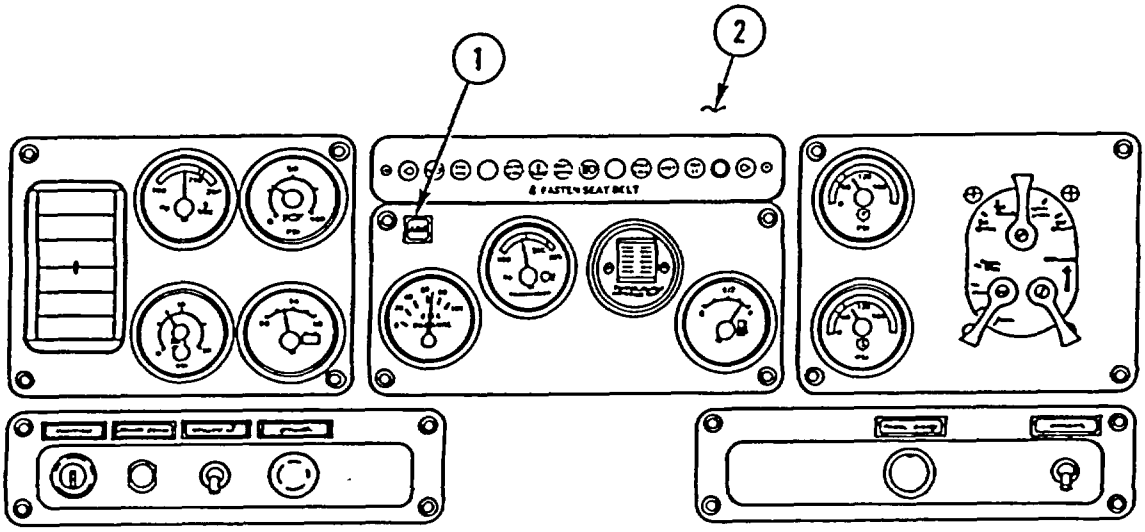
Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

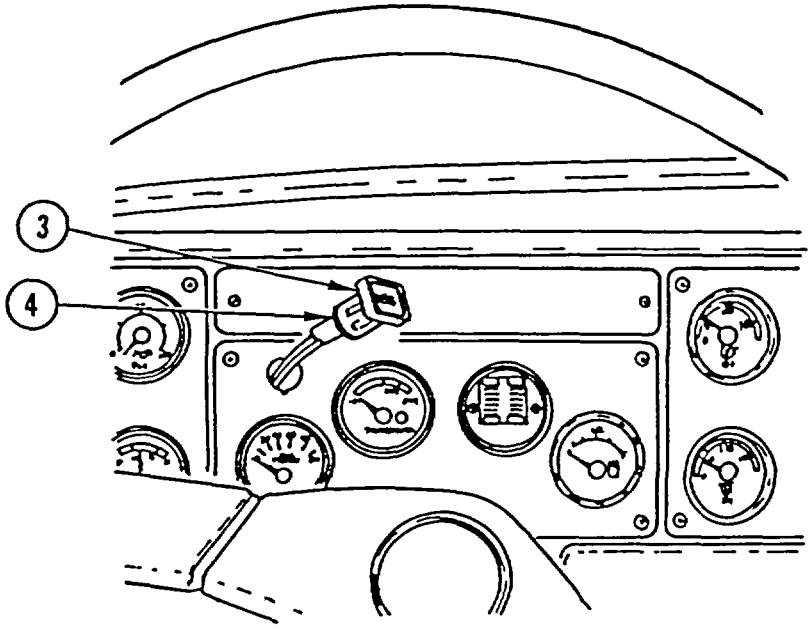
Tool Kit, SC 5180-90-CL-N26

REMOVAL

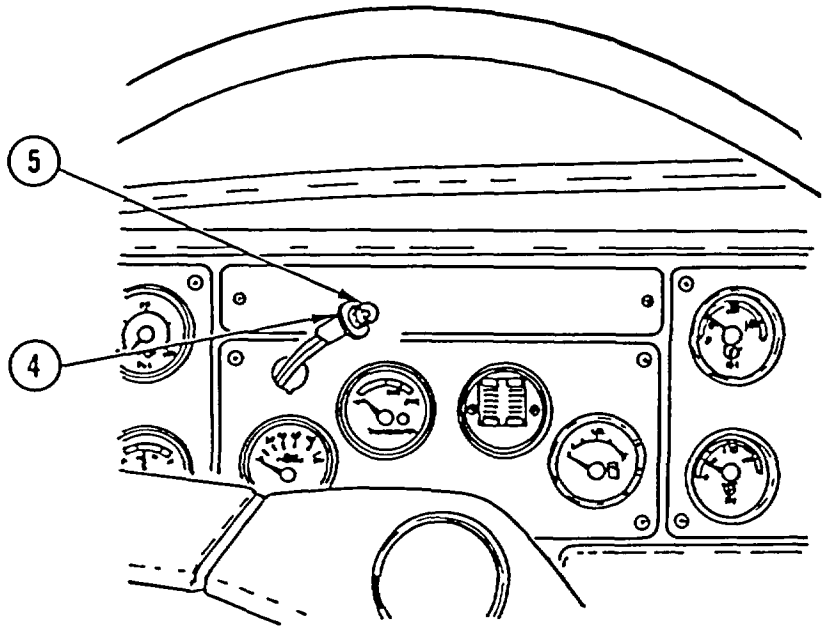


1. REMOVE INDICATOR LAMP ASSEMBLY (1) FROM DASHBOARD (2).

ANTI-LOCK BRAKE SYSTEM (ABS) INDICATOR LAMP REPLACEMENT (CONT)



2. REMOVE INDICATOR LAMP COVER (3) FROM INDICATOR LAMP SOCKET (4).

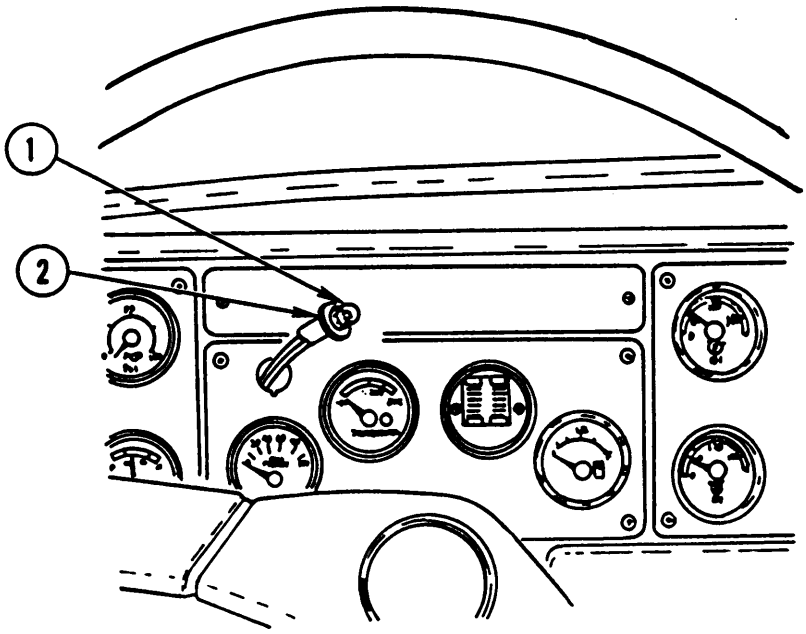


3. REMOVE INDICATOR LAMP (5) FROM INDICATOR LAMP SOCKET (4).

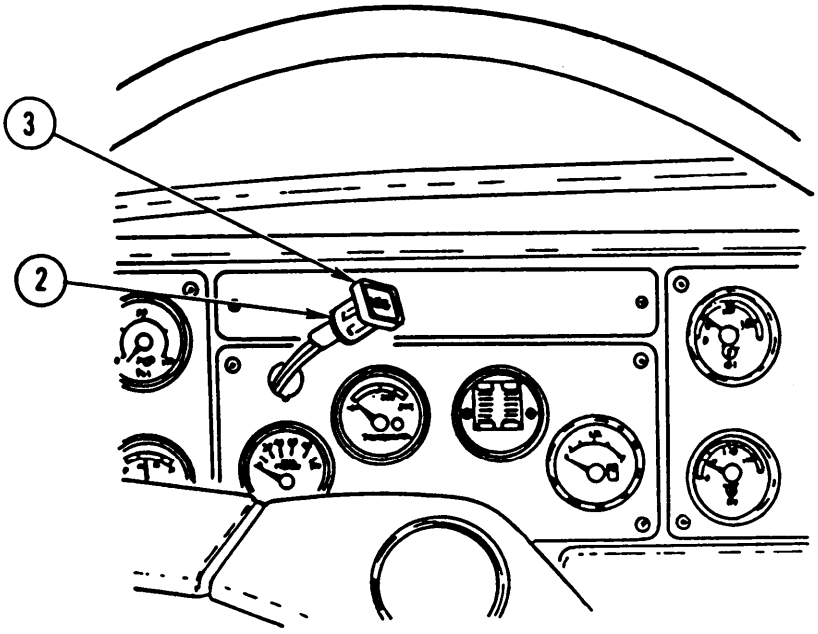
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

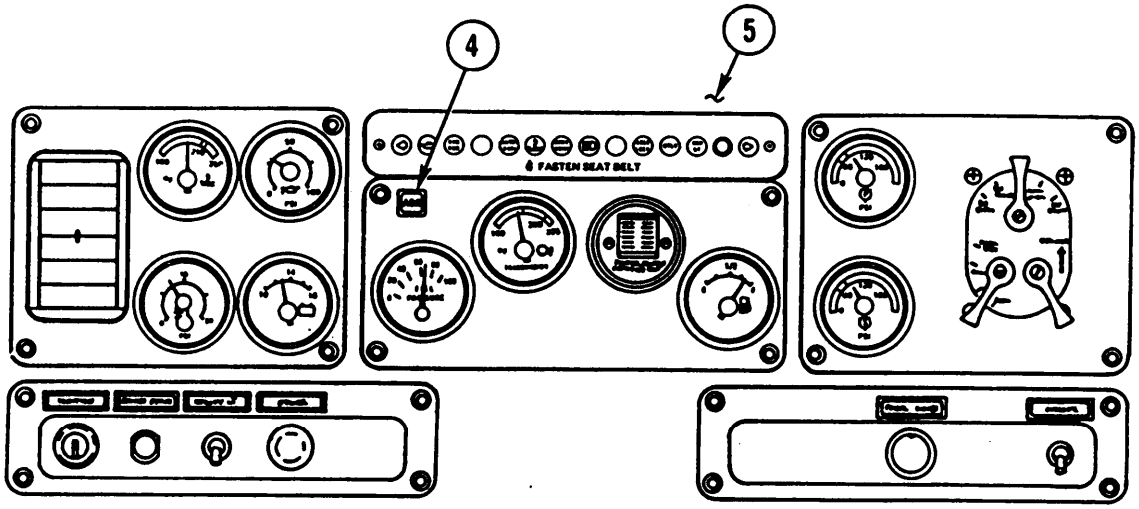


1. **INSTALL INDICATOR LAMP (1) IN INDICATOR LAMP SOCKET (2).**



2. INSTALL INDICATOR LAMP COVER (3) ON INDICATOR LAMP SOCKET (2).

ANTI-LOCK BRAKE SYSTEM (ABS) INDICATOR LAMP REPLACEMENT (CONT)



3. INSTALL INDICATOR LAMP ASSEMBLY (4) IN DASHBOARD (5).

ANTI-LOCK BRAKE SYSTEM (ABS) PLATE ASSEMBLY AND COVER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Rivet (2)

Materials/Parts (Con't):

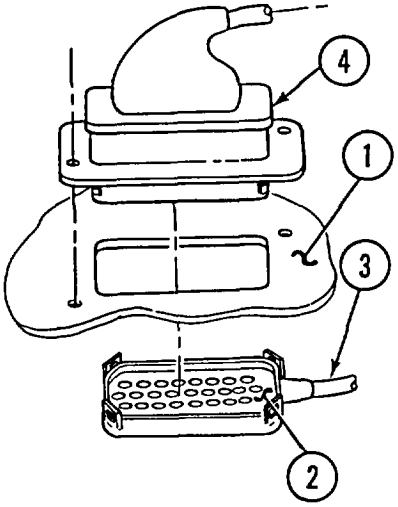
Tags, Identification — Appendix C, Item 26

Equipment Condition:

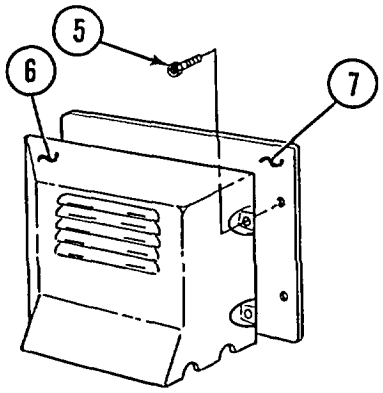
Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. FROM UNDERNEATH CAB FLOOR (1), DISCONNECT CONNECTOR (2) OF WIRING HARNESS (3) FROM SHROUD (4).

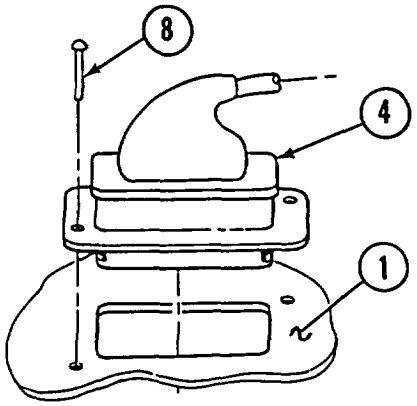


2. REMOVE FOUR SCREWS (5) AND COVER (6) FROM PLATE (7).



ANTI-LOCK BRAKE SYSTEM (ABS) PLATE ASSEMBLY AND COVER REPLACEMENT (CONT)

3. DRILL OUT TWO RIVETS (8) FROM SHROUD (4) AND REMOVE SHROUD FROM CAB FLOOR (1). DISCARD RIVETS.



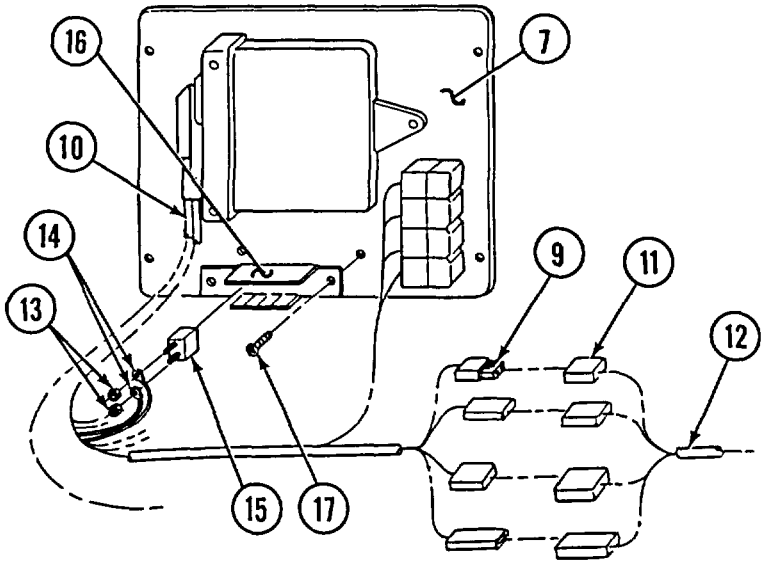
NOTE
Tag wires and connectors prior to removal to aid in installation.

4. DISCONNECT FOUR CONNECTORS (9) OF ECU HARNESS (10) FROM CONNECTORS (11) OF WIRING HARNESS (12).

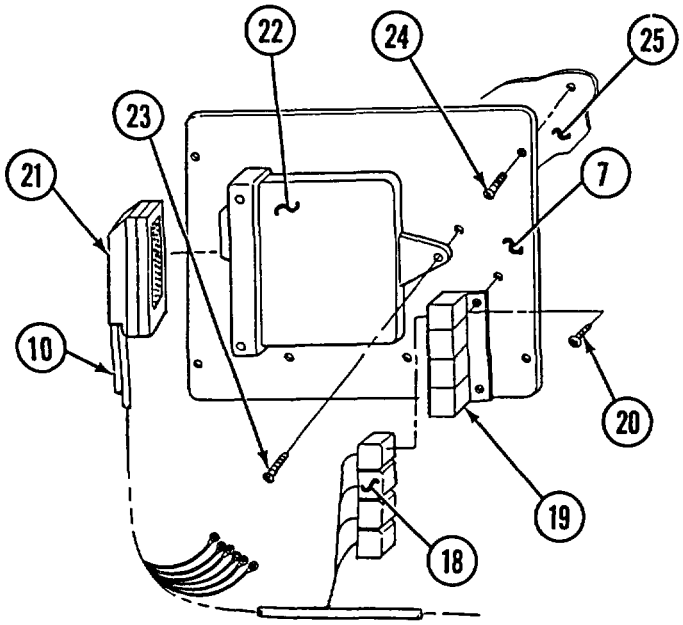
5. REMOVE SIX NUTS (13) AND SIX WIRES (14) FROM THREE RELAYS (15).

6. REMOVE THREE RELAYS (15) FROM RELAY HOLDER (16).

7. REMOVE TWO SCREWS (17) AND RELAY HOLDER (16) FROM PLATE (7).



8. REMOVE FOUR RELAYS (18) FROM RELAY HOLDER (19).
9. REMOVE TWO SCREWS (20) AND RELAY HOLDER (19) FROM PLATE (7).
10. DISCONNECT CONNECTOR (21) OF ECU WIRING HARNESS (10) FROM ELECTRONIC CONTROL UNIT (22).
11. REMOVE THREE SCREWS (23) AND ELECTRONIC CONTROL UNIT (22) FROM PLATE (7)
12. REMOVE FOUR SCREWS (24) AND PLATE (7) FROM CAB (25).



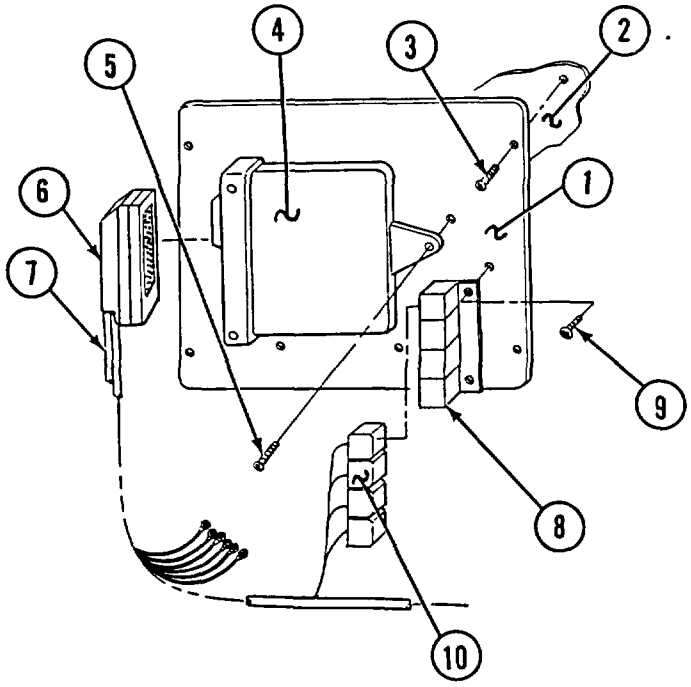
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ANTI-LOCK BRAKE SYSTEM (ABS) PLATE ASSEMBLY AND COVER REPLACEMENT (CONT)

INSTALLATIONI

1. INSTALL PLATE (1) TO CAB (2) WITH FOUR SCREWS (3).
2. INSTALL ELECTRONIC CONTROL UNIT (4) TO PLATE (1) WITH THREE SCREWS (5).
3. CONNECT CONNECTOR (6) OF ECU WIRING HARNESS (7) TO ELECTRONIC CONTROL UNIT (4).
4. INSTALL RELAY HOLDER (8) TO PLATE (1) WITH TWO SCREWS (9).
5. INSTALL FOUR RELAYS (10) TO RELAY HOLDER (8).

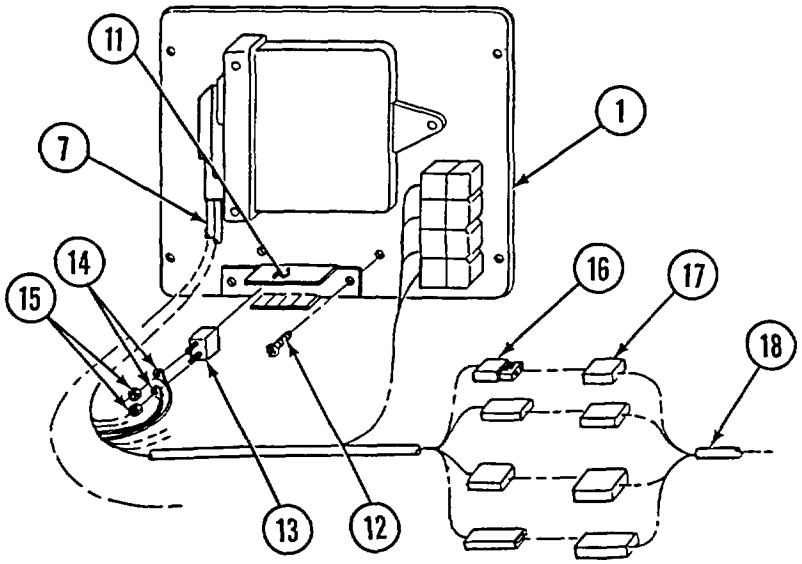


6. INSTALL RELAY HOLDER (11) TO PLATE (1) WITH TWO SCREWS (12).

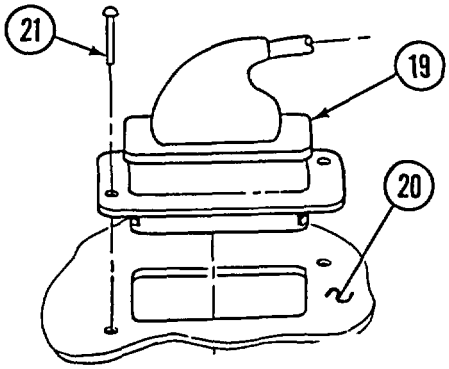
7. INSTALL THREE RELAYS (13) TO RELAY HOLDER (11).

8. CONNECT SIX WIRES (14) TO THREE RELAYS (13) WITH SIX NUTS (15).

9. CONNECT FOUR CONNECTORS (16) OF ECU HARNESS (7) TO CONNECTORS (17) OF WIRING HARNESS (18).

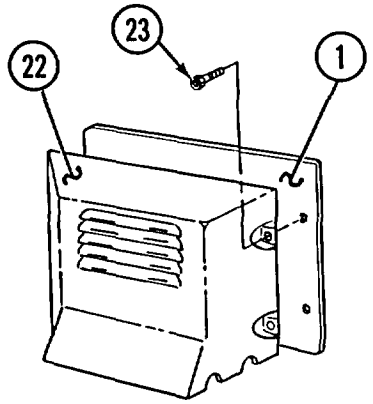


10. INSTALL SHROUD (19) TO CAB FLOOR (20) WITH TWO NEW RIVETS (21).

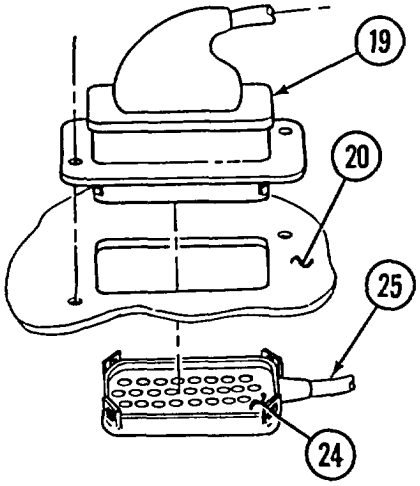


ANTI-LOCK BRAKE SYSTEM (ABS) PLATE ASSEMBLY AND COVER REPLACEMENT (CONT)

11. INSTALL COVER (22) TO PLATE (1) WITH FOUR SCREWS (23).



12. UNDERNEATH CAB FLOOR (20), CONNECT CONNECTOR (24) OF WIRING HARNESS (25) TO SHROUD (19).



NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

ANTI-LOCK BRAKE SYSTEM (ABS) INDICATOR LIGHT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

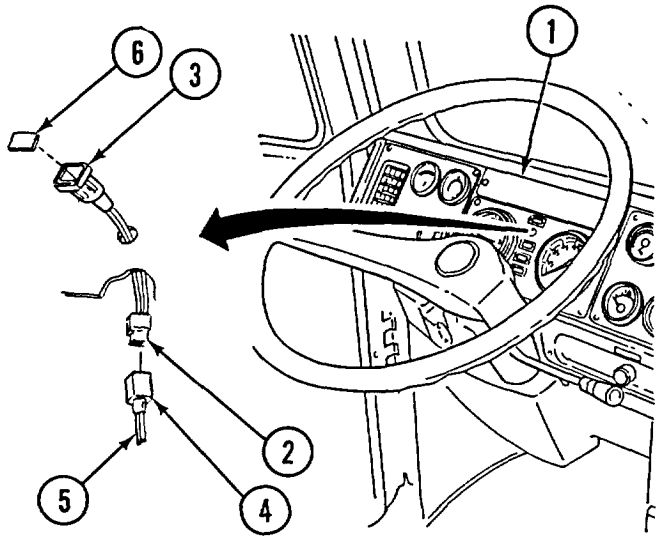
Tool Kit, SC 5180-90-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. FROM BEHIND DASH PANEL (1), DISCONNECT CONNECTOR (2) OF INDICATOR (3) FROM CONNECTOR (4) OF WIRING HARNESS (5).
2. REMOVE INDICATOR LIGHT (3) FROM DASH PANEL (1).
3. REMOVE LENS (6).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL LENS (6) TO INDICATOR LIGHT (3).
2. INSTALL INDICATOR LIGHT (3) TO DASH PANEL (1).
3. CONNECT CONNECTOR (2) OF INDICATOR LIGHT (3) TO CONNECTOR (4) OF WIRING HARNESS (5).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

BACKUP ALARM REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (4) P/N 23-09339-006

Tags, Identification Appendix C, Item 26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

NOTE
Tag wires prior to removal to aid in installation.

1. REMOVE TWO NUTS (1), WASHERS (2), AND WIRE TERMINALS (3) FROM SIDE OF BACKUP ALARM (4).
2. REMOVE FOUR NUTS (5), LOCK WASHERS (6), WASHERS (7), SCREWS (8), AND BACKUP ALARM (4) FROM BRACKET (9). DISCARD LOCK WASHERS.

NOTE
Perform step 3 to remove bracket.

3. REMOVE TWO NUTS (10), WASHERS (11), CUSHIONED CLAMP (12), AND BRACKET (9) FROM TAILLIGHT BRACKET (13).

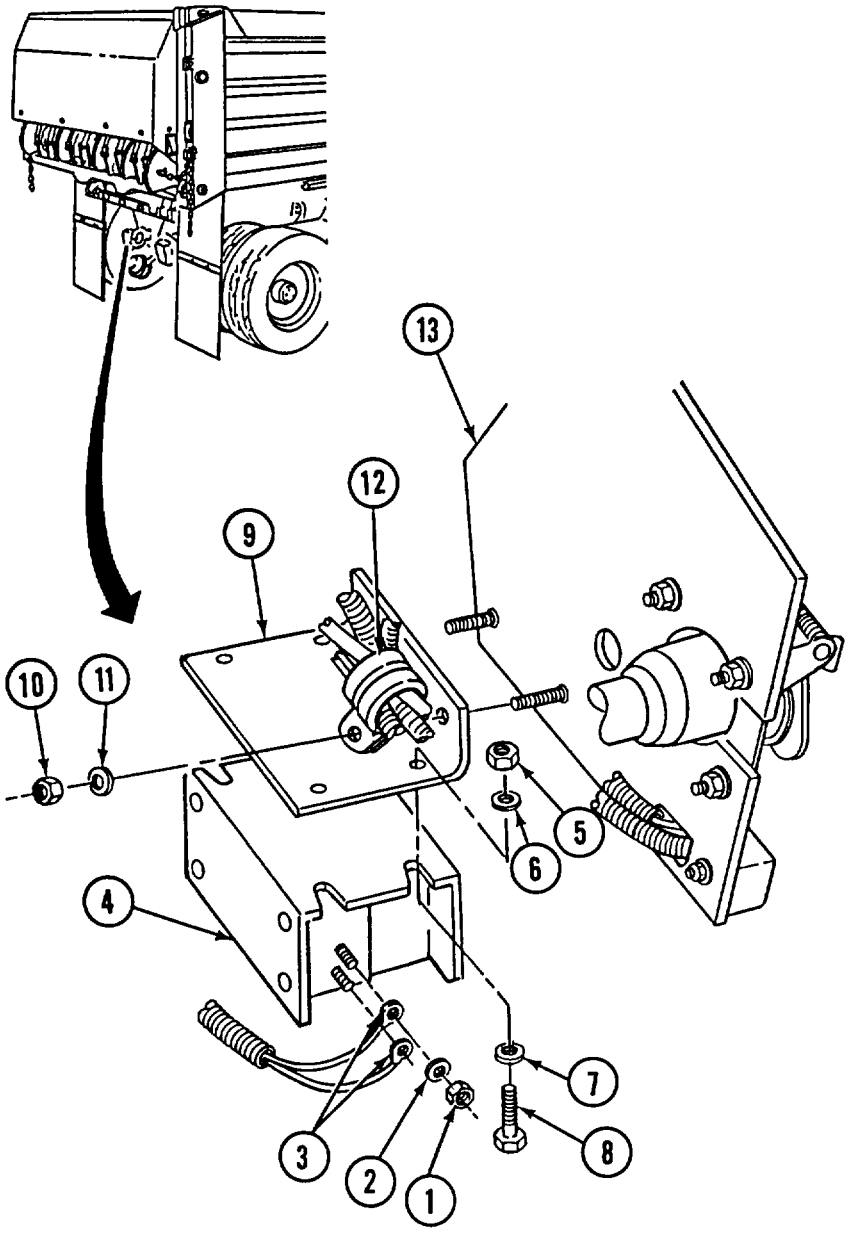
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE
Perform step 1 to install bracket.

1. INSTALL BRACKET (9) AND CUSHIONED CLAMP (12) TO TAILLIGHT BRACKET (13) WITH TWO WASHERS (11) AND NUTS (10).
2. INSTALL BACKUP ALARM (4) TO BRACKET (9) WITH FOUR SCREWS (8), WASHERS (7), NEW LOCK WASHERS (6) AND NUTS (5).
3. INSTALL TWO WIRE TERMINALS (3) TO SIDE OF BACKUP ALARM (4) WITH TWO WASHERS (2) AND NUTS (1).



NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

BACKUP LIGHT SENDING UNIT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (2)

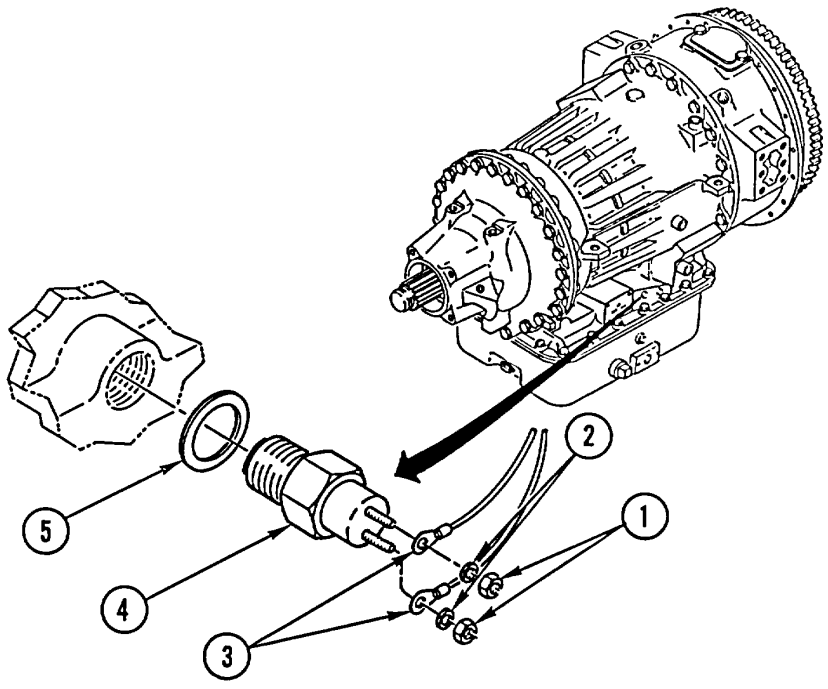
References:

TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Unit PMCS, TM 9-2320-363-20-1	Transmission Fluid Drained
Page 4-353	Transmission Oil Fill/ Level Check Tube Removed

REMOVAL



1. REMOVE TWO NUTS (1) AND TWO LOCK WASHERS (2). DISCARD LOCK WASHERS.

NOTE
Tag wires prior to removal to aid in installation.

2. DISCONNECT TWO WIRES (3) FROM BACKUP LIGHT SENDING UNIT (4).

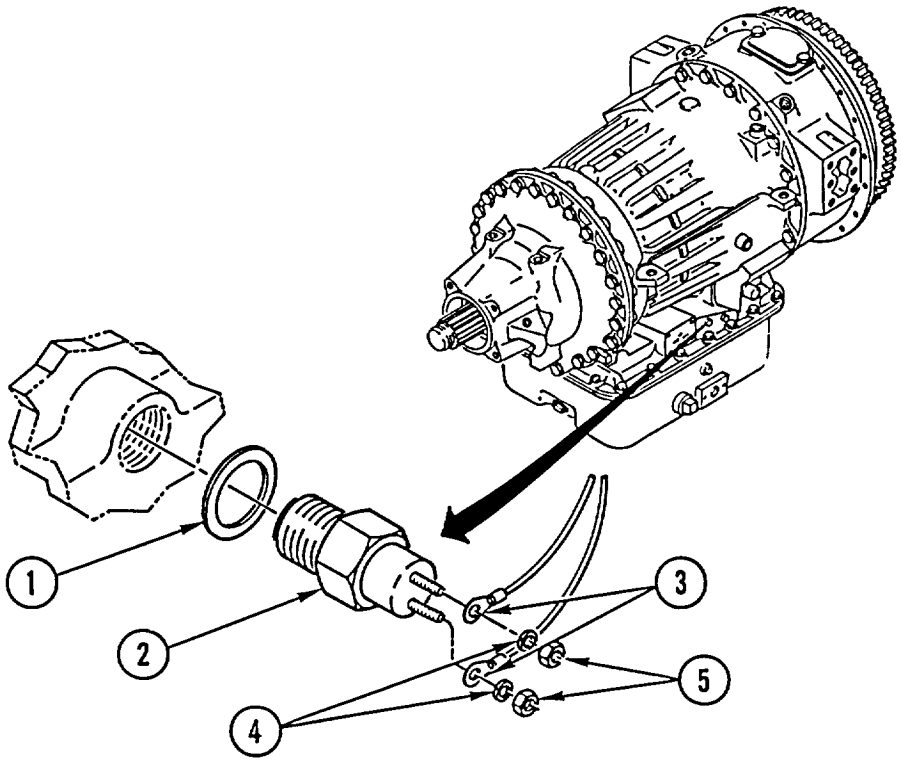
3. REMOVE BACKUP LIGHT SENDING UNIT (4) AND WASHER (5).

BACKUP LIGHT SENDING UNIT REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL WASHER (1) AND BACKUP LIGHT SENDING UNIT (2).
2. CONNECT TWO WIRES (3) TO BACKUP LIGHT SENDING UNIT (2).
3. INSTALL TWO NEW LOCK WASHERS (4) AND TWO NUTS (5)

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).
Fill with transmission fluid (Unit PMCS, TM 9-2320-363-20-1).
Install transmission oil fill/level check tube (page 4-353).

TRANSMISSION NEUTRAL SAFETY SWITCH REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

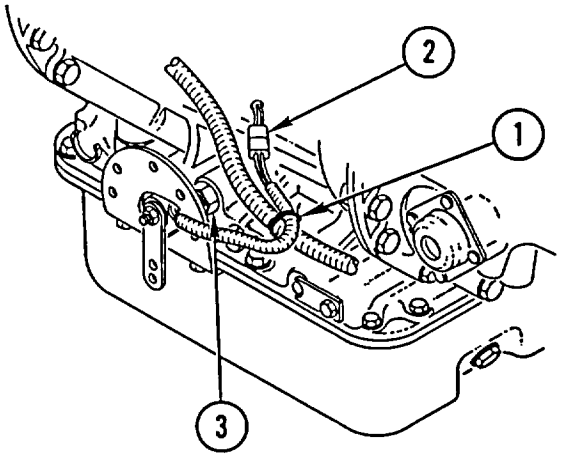
Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE TIE STRAP (1).
2. DISCONNECT CONNECTOR (2).
3. REMOVE NEUTRAL SAFETY SWITCH (3).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL NEUTRAL SAFETY SWITCH (3).
2. CONNECT CONNECTOR (2).
3. INSTALL TIE STRAP (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

TRANSFER CASE OIL TEMPERATURE SENDING UNIT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock P/N 171105

References:

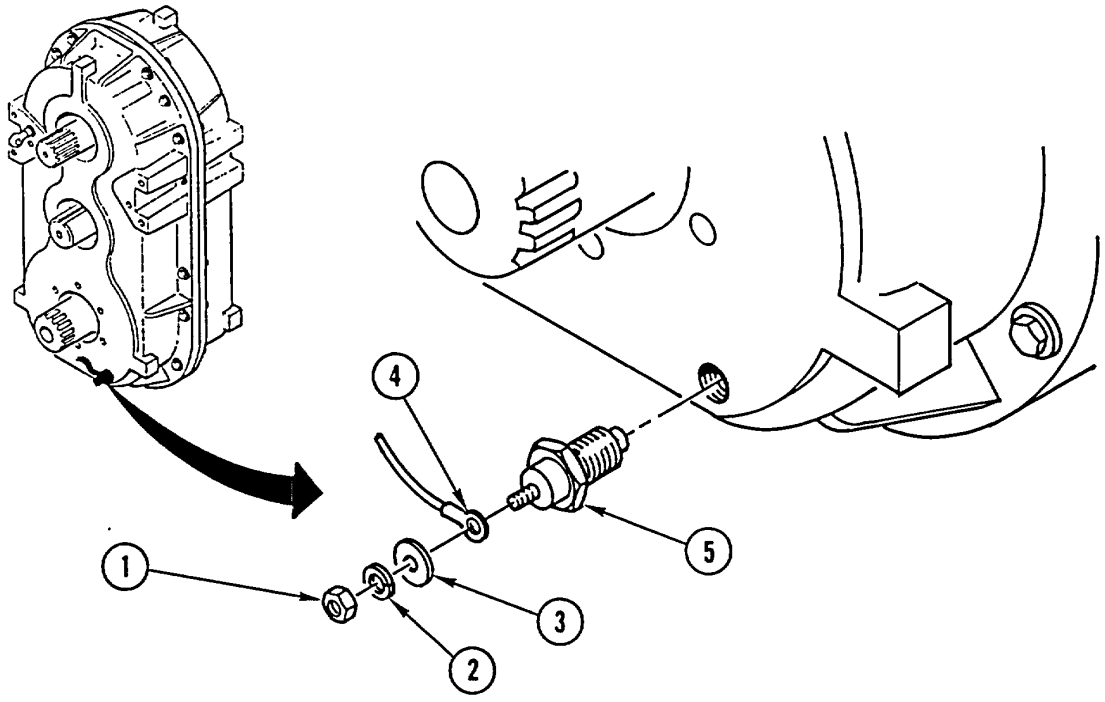
TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Unit PMCS, TM 9-2320-363-20-1	Oil Drained from Transfer Case

REMOVAL

1. REMOVE NUT (1), LOCK WASHER (2), AND WASHER (3). DISCARD LOCK WASHER.
2. DISCONNECT WIRE (4) FROM TRANSFER CASE OIL TEMPERATURE SENDING UNIT (5).
3. REMOVE TRANSFER CASE OIL TEMPERATURE SENDING UNIT (5).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL TRANSFER CASE OIL TEMPERATURE SENDING UNIT (5).
2. CONNECT WIRE (4) TO TRANSFER CASE OIL TEMPERATURE SENDING UNIT (5).
3. INSTALL WASHER (3), NEW LOCK WASHER (2), AND NUT (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).
Fill transfer case with oil (Unit PMCS, TM 9-2320-363-20-1).

TRANSMISSION OIL TEMPERATURE SENDING UNIT REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

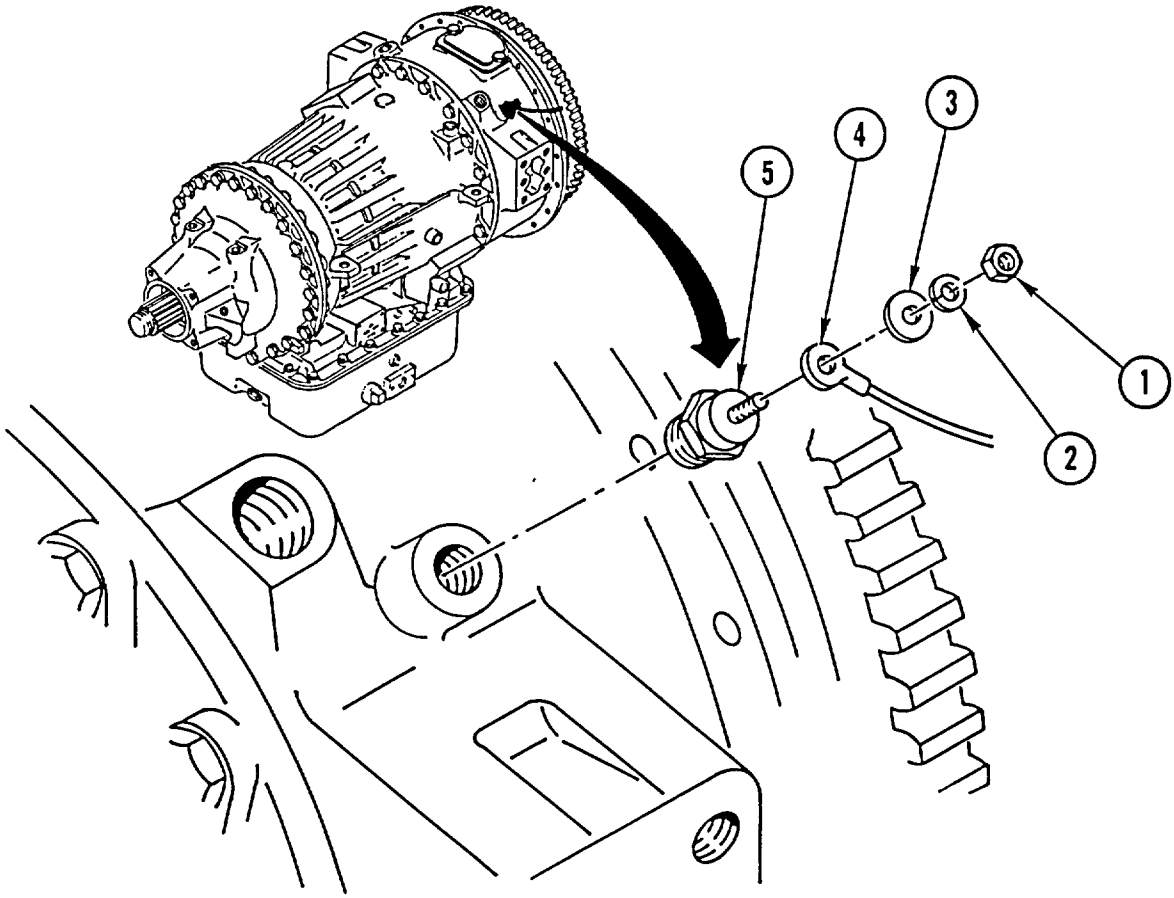
Washer, Lock P/N 171105

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE NUT (1), LOCK WASHER (2), AND WASHER (3). DISCARD LOCK WASHER.
2. DISCONNECT WIRE (4) FROM TRANSMISSION OIL TEMPERATURE SENDING UNIT (5).
3. REMOVE TRANSMISSION OIL TEMPERATURE SENDING UNIT (5).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL TRANSMISSION OIL TEMPERATURE SENDING UNIT (5).
2. CONNECT WIRE (4) TO TRANSMISSION OIL TEMPERATURE SENDING UNIT (5).
3. INSTALL WASHER (3), NEW LOCK WASHER (2), AND NUT (1).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

FUEL PRESSURE SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock

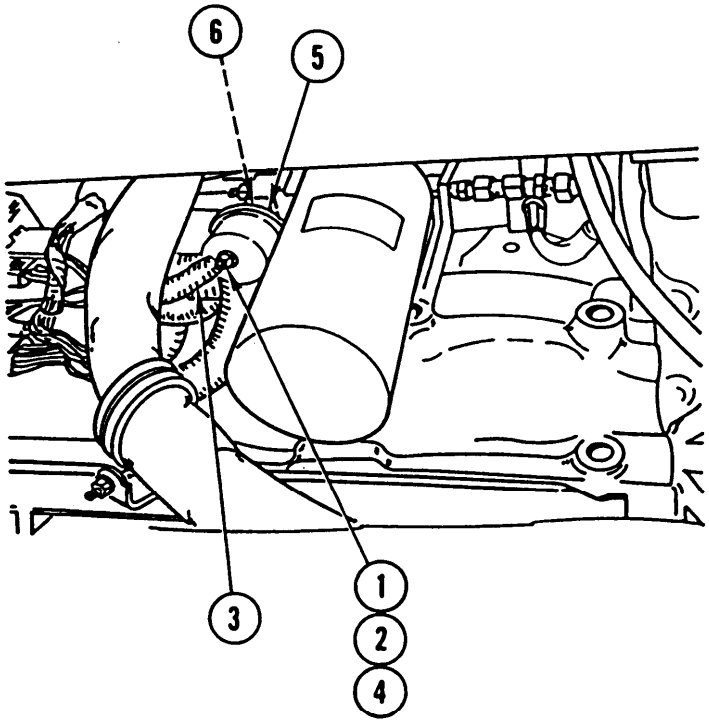
Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE NUT (1), LOCK WASHER (2), ENGINE WIRING HARNESS CONNECTOR (3), AND WASHER (4) FROM FUEL PRESSURE SENSOR (5). DISCARD LOCK WASHER.
2. REMOVE FUEL PRESSURE SENSOR (5) FROM ADAPTER (6).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. COAT THREADS OF FUEL PRESSURE SENSOR (5) WITH PIPE SEALANT AND INSTALL ON ADAPTER (6).
2. INSTALL WASHER (4), ENGINE WIRING HARNESS CONNECTOR (3), NEW LOCK WASHER (2), AND NUT (1) ON FUEL PRESSURE SENSOR (5).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

OIL TEMPERATURE SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

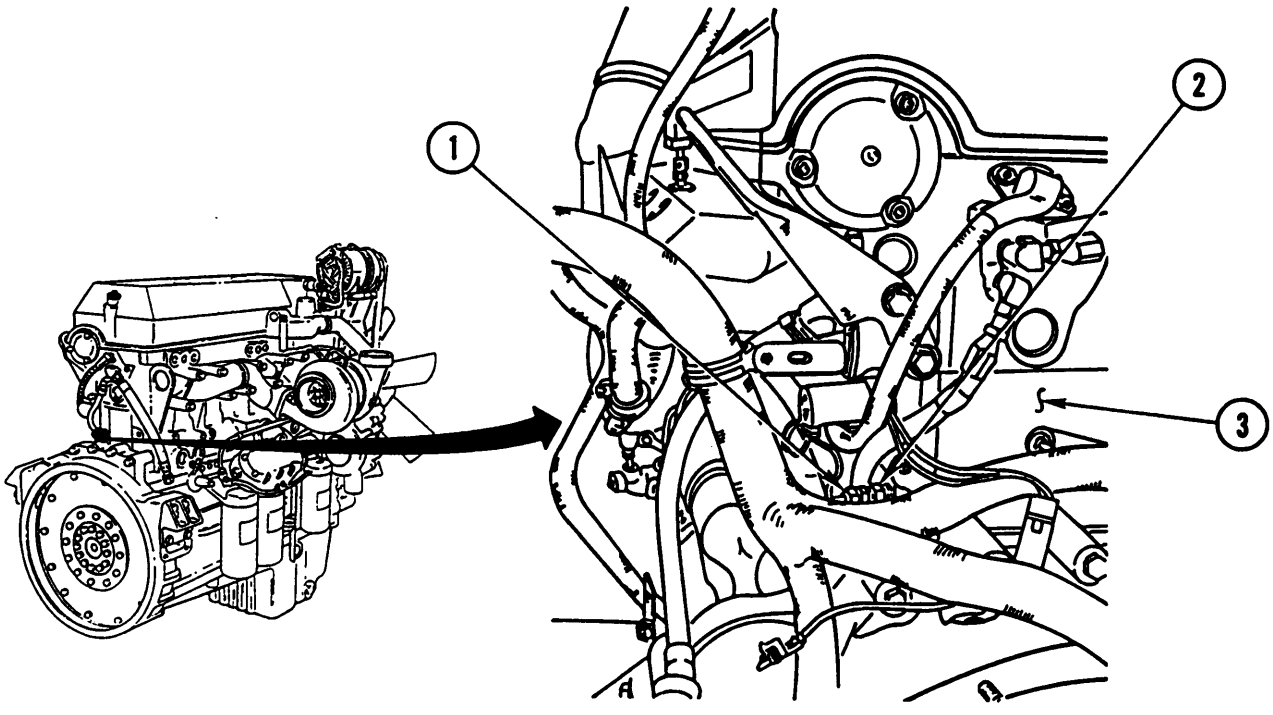
Compound, Pipe Sealing — Appendix C, item 8

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. DISCONNECT ENGINE WIRING HARNESS CONNECTOR (1) FROM OIL TEMPERATURE SENSOR (2).
2. REMOVE OIL TEMPERATURE SENSOR (2) FROM ENGINE BLOCK (3).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. COAT THREADS OF OIL TEMPERATURE SENSOR (2) WITH PIPE SEALANT AND INSTALL IN ENGINE BLOCK (3).
2. CONNECT ENGINE WIRING HARNESS CONNECTOR (1) TO OIL TEMPERATURE SENSOR (2).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

SYNCHRONOUS REFERENCE SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

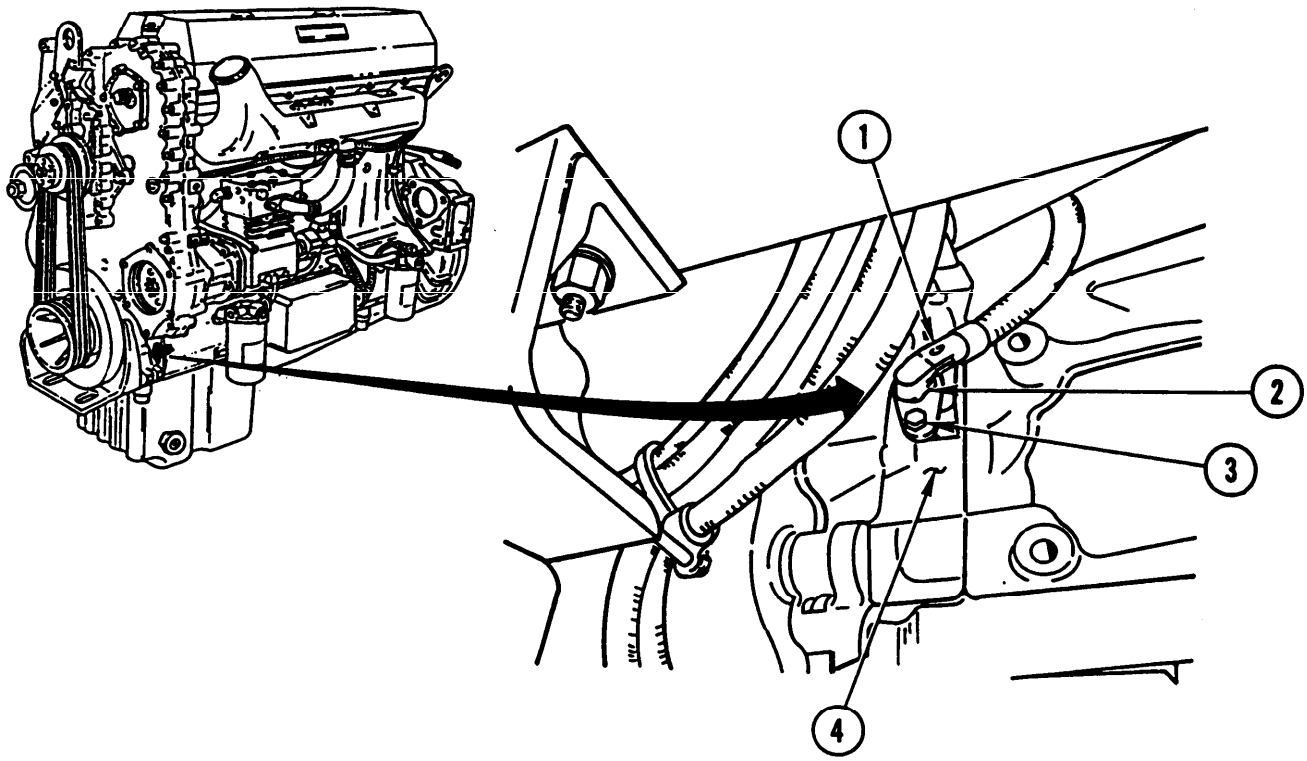
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. DISCONNECT ENGINE WIRING HARNESS CONNECTOR (1) FROM SYNCHRONOUS REFERENCE SENSOR (2).
2. REMOVE CAPSCREW (3) AND SYNCHRONOUS REFERENCE SENSOR (2) FROM GEAR HOUSING ASSEMBLY (4).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL SYNCHRONOUS REFERENCE SENSOR (2) AND CAPSCREW (3) IN GEAR HOUSING ASSEMBLY (4). TIGHTEN CAPSCREW TO 22-28 LB-FT (30-38 N·m).
2. CONNECT ENGINE WIRING HARNESS CONNECTOR (1) TO SYNCHRONOUS REFERENCE SENSOR (2).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

TIMING REFERENCE SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

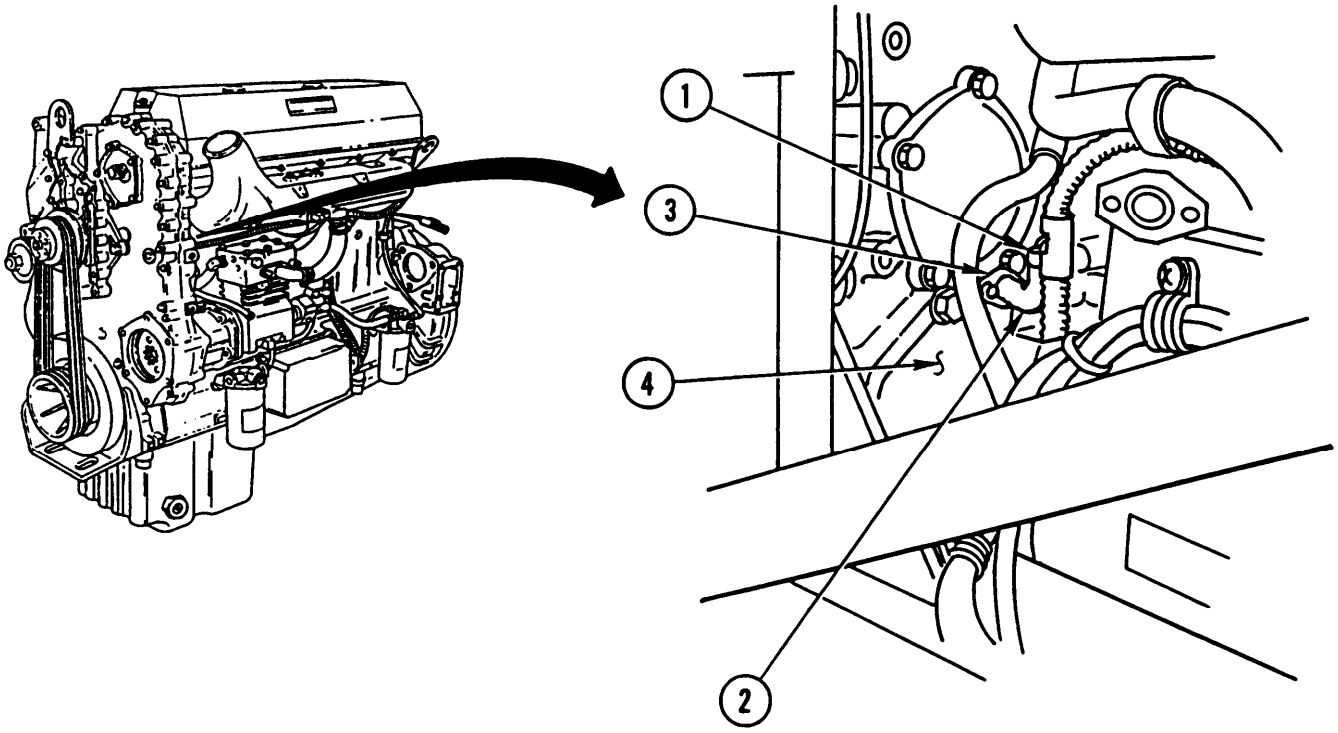
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. DISCONNECT ENGINE WIRING HARNESS CONNECTOR (1) FROM TIMING REFERENCE SENSOR (2).
2. REMOVE CAPSCREW (3) AND TIMING REFERENCE SENSOR (2) FROM GEAR HOUSING ASSEMBLY (4).



CLEANING / INSPECTION

Clean and inspect all pads in accordance with Chapter 2.

INSTALLATION

1. INSTALL TIMING REFERENCE SENSOR (2) AND CAPSCREW (3) IN GEAR HOUSING ASSEMBLY (4). TIGHTEN CAPSCREW TO 22-28 LB-FT (30-38 N·m).

2. CONNECT ENGINE WIRING HARNESS CONNECTOR (1) TO TIMING REFERENCE SENSOR (2).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

TURBO BOOST SENSOR (TBS) REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

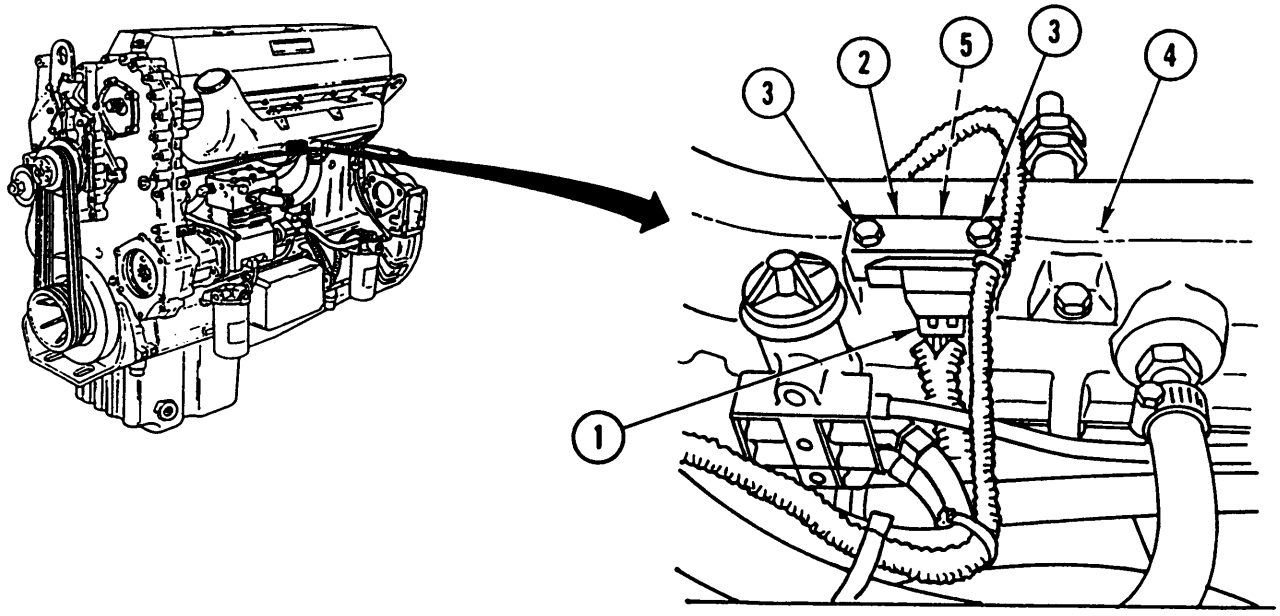
Seal PIN 5189277

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. DISCONNECT ENGINE WIRING HARNESS CONNECTOR (1) FROM REAR OF TURBO BOOST SENSOR (2).
2. REMOVE TWO CAPSCREWS (3) AND TURBO BOOST SENSOR (2) FROM AIR INTAKE MANIFOLD (4).
3. REMOVE AND DISCARD SEAL (5) FROM TURBO BOOST SENSOR (2).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL NEW SEAL (5) IN TURBO BOOST SENSOR (2).
2. INSTALL TURBO BOOST SENSOR (2) AND TWO CAPSCREWS (3) ON AIR INTAKE MANIFOLD (4). TIGHTEN CAPSCREWS TO 21-26 LB-IN. (2.4-3.0 N·m).
3. CONNECT ENGINE WIRING HARNESS CONNECTOR (1) TO REAR OF TURBO BOOST SENSOR (2).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

FUEL TEMPERATURE SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

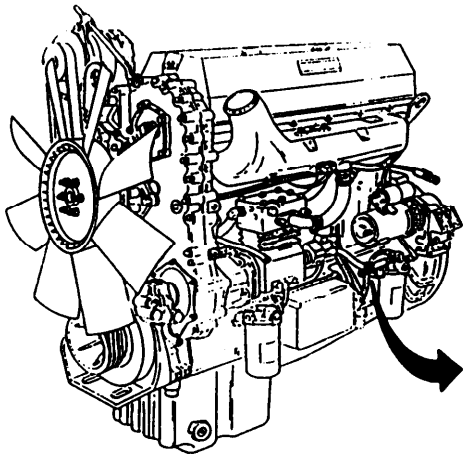
Compound, Pipe Sealing — Appendix C, Item 8

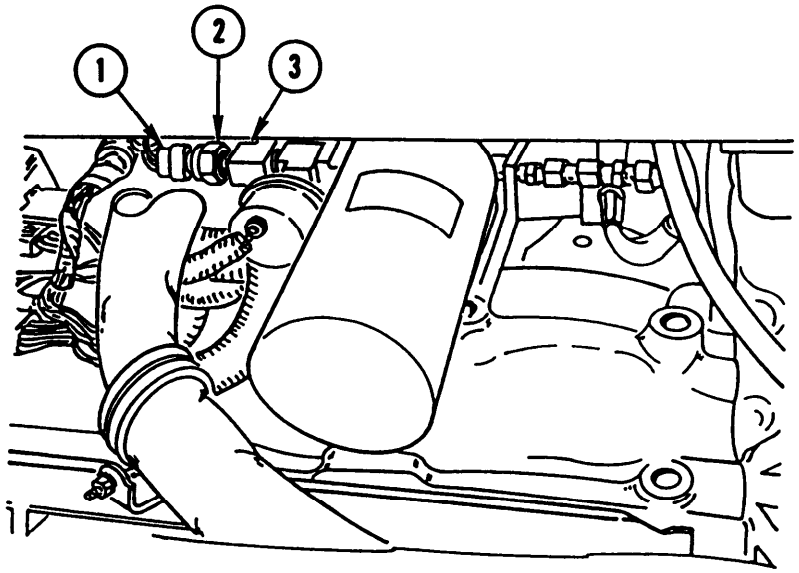
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. DISCONNECT ENGINE WIRING HARNESS CONNECTOR (1) FROM FUEL TEMPERATURE SENSOR (2).
2. REMOVE FUEL TEMPERATURE SENSOR (2) FROM ELBOW (3).





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. COAT THREADS OF FUEL TEMPERATURE SENSOR (2) WITH PIPE SEALANT AND INSTALL IN ELBOW (3).

2. CONNECT ENGINE WIRING HARNESS CONNECTOR (1) TO FUEL TEMPERATURE SENSOR (2).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

OIL PRESSURE SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

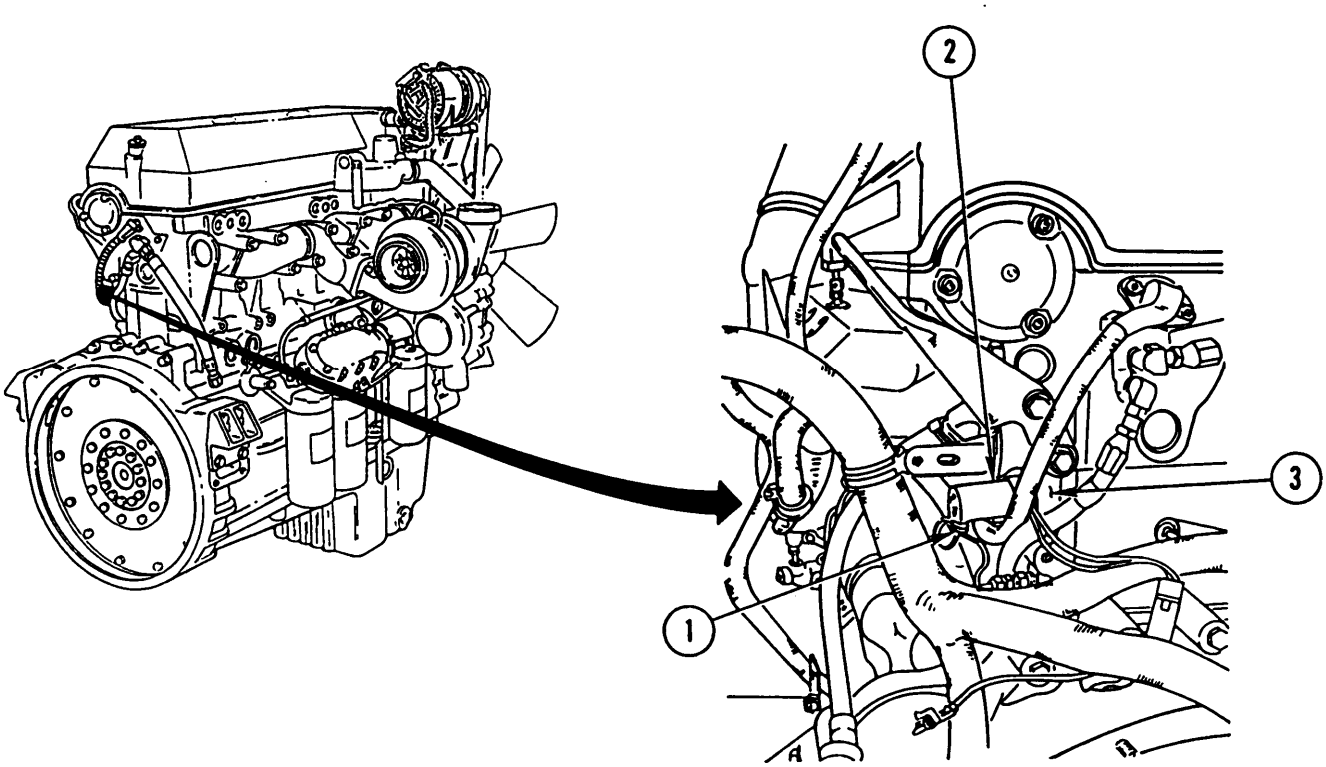
Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. DISCONNECT ENGINE WIRING HARNESS CONNECTOR (1) FROM OIL PRESSURE SENSOR (2) ON LEFT-REAR SIDE OF ENGINE.
2. REMOVE OIL PRESSURE SENSOR (2) FROM ENGINE BLOCK (3).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. COAT THREADS OF OIL PRESSURE SENSOR (2) WITH PIPE SEALANT AND INSTALL IN ENGINE BLOCK (3).

2. CONNECT ENGINE WIRING HARNESS CONNECTOR (1) TO OIL PRESSURE SENSOR (2) ON LEFT-REAR SIDE OF ENGINE.

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

CAB TO FRAME GROUND WIRE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A2 and M917A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

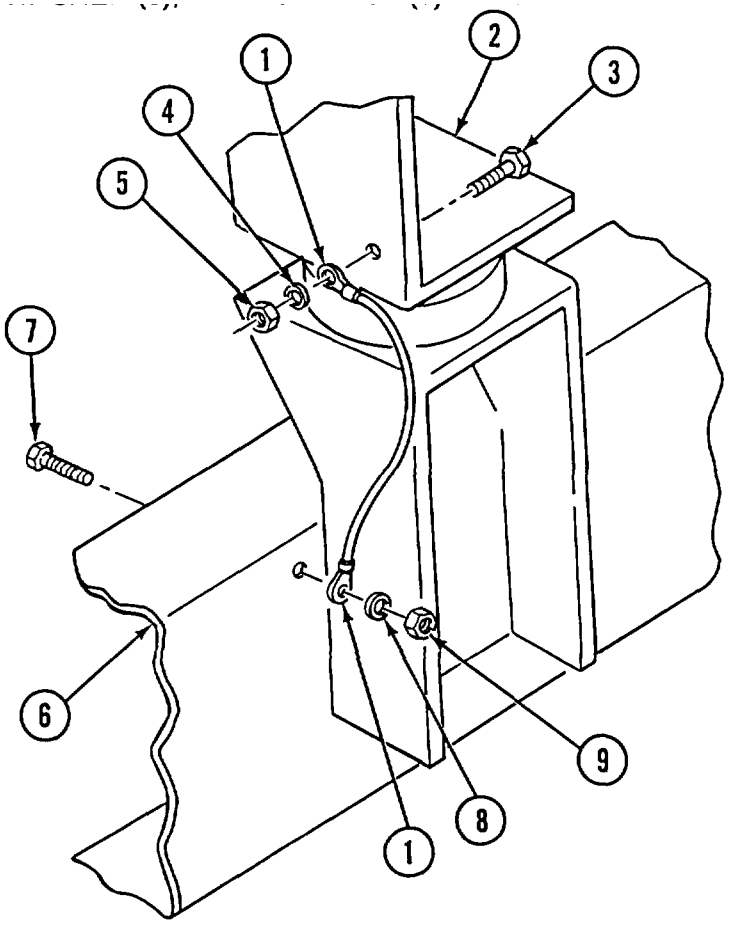
Materials/Parts:

Nut, Lock (2) P/N MS51922-1

REMOVAL

1. DISCONNECT GROUND WIRE LEAD (1) FROM CAB (2) BY REMOVING SCREW (3), GROUND WIRE LEAD (1), WASHER (4), AND LOCK NUT (5). DISCARD LOCK NUT.

2. DISCONNECT GROUND WIRE LEAD (1) FROM FRAME (6) BY REMOVING SCREW (7), GROUND WIRE LEAD (1), WASHER (8). AND LOCK NUT (9). DISCARD LOCK NUT.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. CONNECT GROUND WIRE LEAD (1) TO FRAME (6) BY INSTALLING SCREW (7), GROUND WIRE LEAD (1), WASHER (8), AND NEW LOCK NUT (9).

2. CONNECT GROUND WIRE LEAD (1) TO CAB (2) BY INSTALLING SCREW (3), GROUND WIRE LEAD (1), WASHER (4), AND NEW LOCK NUT (5).

AIR CONDITIONER BINARY SWITCH WIRING HARNESS REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

References: TM 9-2320-363-10

Equipment Condition:

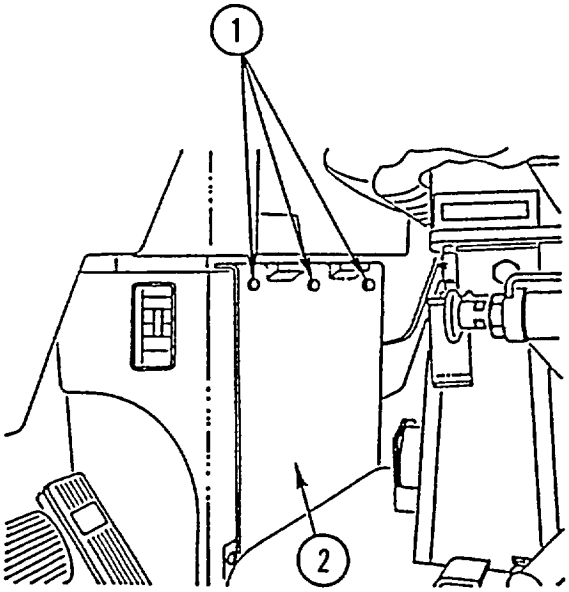
Tools and Special Equipment:	Reference	Condition Description
Tool Kit, SC 5180-90-CL-N26	Page 2-29	Batteries Disconnected

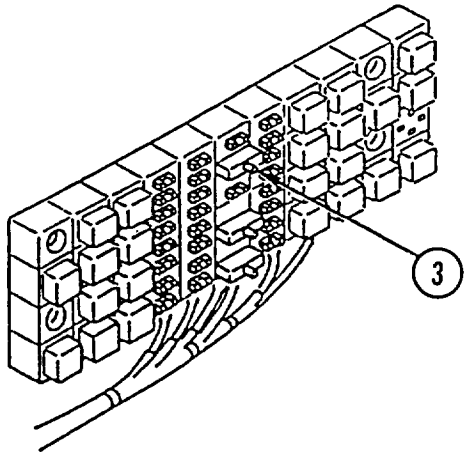
Materials/Parts:

Tie Wraps Appendix C, Item 36

REMOVAL

1. UNLOCK THREE FASTENERS (1) BY TURNING COUNTERCLOCKWISE AND REMOVE ACCESS PANEL (2).
2. REMOVE FUSE, RELAY, AND CIRCUIT BREAKER HOLDER (PAGE 4-205.0).
3. LOCATE CIRCUIT 98A ON CIRCUIT BREAKER PANEL (3) AND DISCONNECT WIRING HARNESS CONNECTOR FROM PANEL.



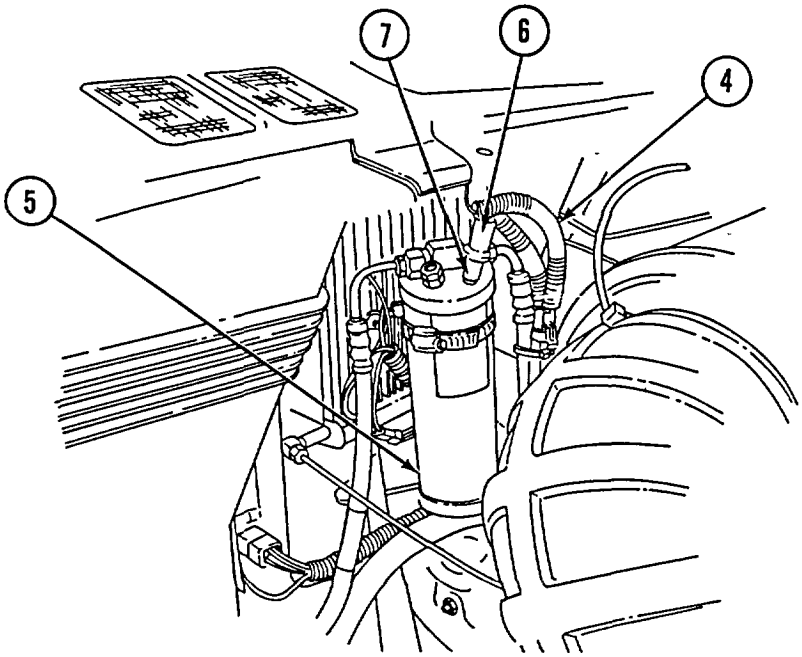


4. TRACE WIRING HARNESS FROM CIRCUIT BREAKER PANEL TO FIREWALL, REMOVING TIE WRAPS. NOTE LOCATION OF TIE WRAPS.

5. REMOVE GROMMET FROM FIREWALL AND FEED WIRING HARNESS INTO ENGINE COMPARTMENT.

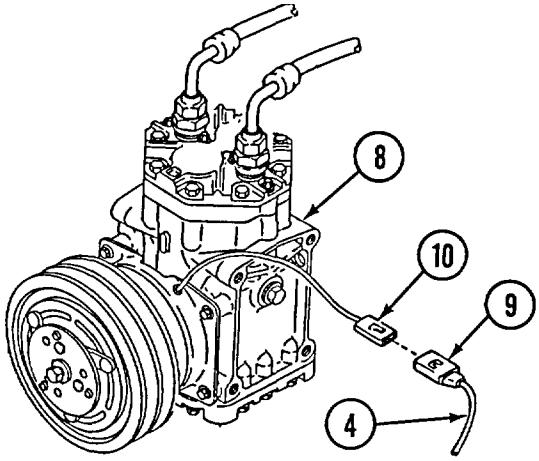
6. TRACE WIRING HARNESS (4) TO RECEIVER-DRIER (5), REMOVING TIE WRAPS. NOTE LOCATION OF TIE WRAPS.

7. DISCONNECT WIRING HARNESS CONNECTOR (6) FROM BINARY SWITCH (7) ON RECEIVER-DRIER (5).



8. TRACE WIRING HARNESS (4) TO COMPRESSOR (8), REMOVING TIE WRAPS. NOTE LOCATION OF TIE WRAPS.

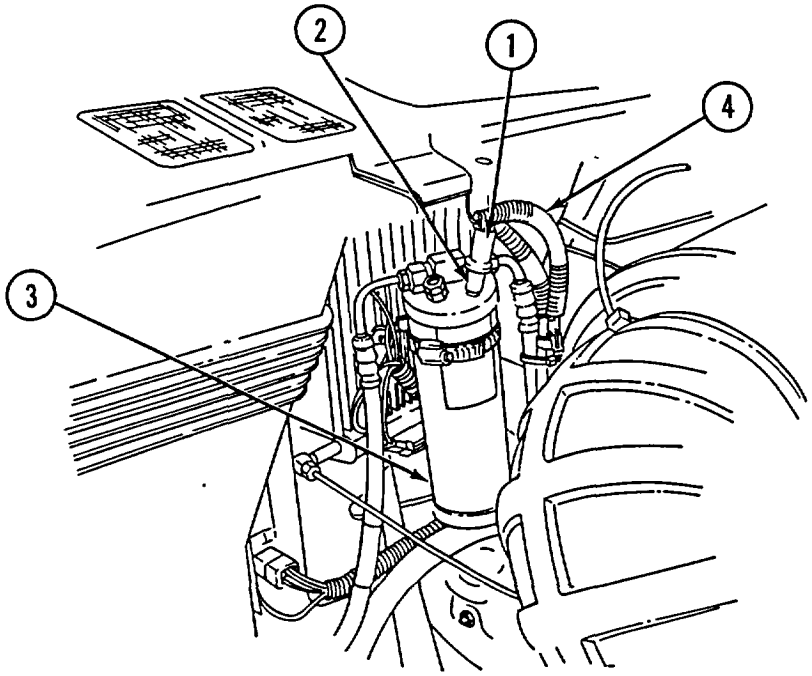
9. DISCONNECT WIRING HARNESS CONNECTOR (9) FROM COMPRESSOR WIRING HARNESS CONNECTOR (10).



AIR CONDITIONER BINARY SWITCH WIRING HARNESS REPLACEMENT (CONT)

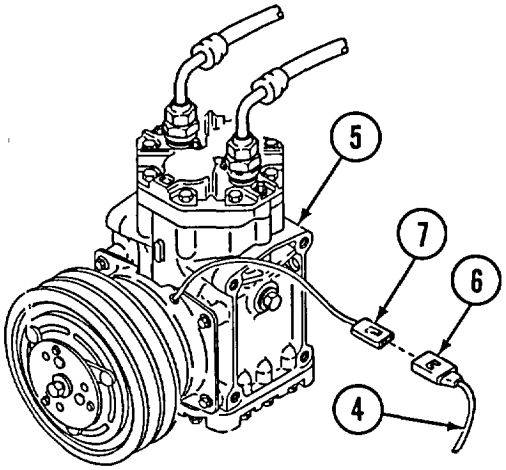
INSTALLATION

1. CONNECT WIRING HARNESS CONNECTOR (1) TO BINARY SWITCH (2) ON RECEIVER-DRIER (3).



2. ROUTE ONE BRANCH OF WIRING HARNESS (4) TO COMPRESSOR (5), SECURING WIRING HARNESS WITH TIE WRAPS.

3. CONNECT WIRING HARNESS CONNECTOR (6) TO COMPRESSOR WIRING HARNESS CONNECTOR (7).



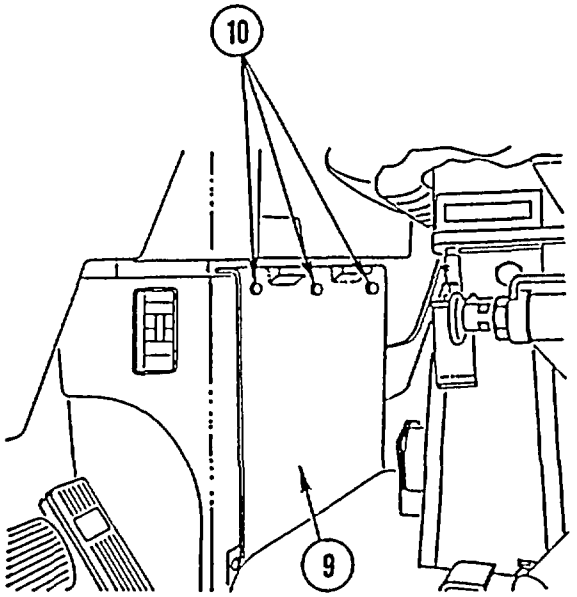
4. INSTALL GROMMET ON BRANCH OF WIRING HARNESS (4) LEADING TO CIRCUIT BREAKER PANEL (8) INSIDE CAB. ROUTE HARNESS THROUGH FIREWALL TO CIRCUIT 98A ON CIRCUIT BREAKER PANEL.

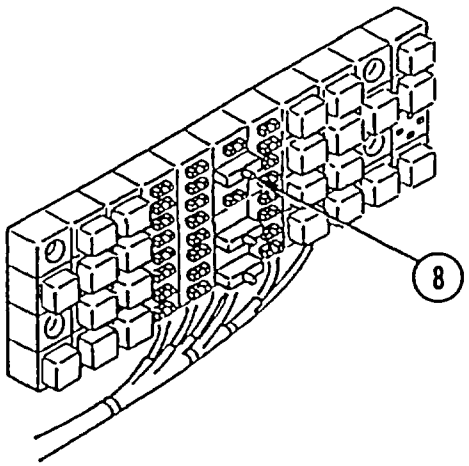
5. INSTALL GROMMET INTO FIREWALL AND SECURE HARNESS WITH TIE WRAPS.

6. CONNECT WIRING HARNESS CONNECTOR TO CIRCUIT 98A ON CIRCUIT BREAKER PANEL (8).

7. INSTALL FUSE, RELAY, AND CIRCUIT BREAKER HOLDER (PAGE 4-205.0).

8. INSTALL ACCESS PANEL (9) AND LOCK THREE FASTENERS (10) BY TURNING CLOCKWISE.





NOTE

Follow-on Maintenance:

Connect batteries(page 2-29).
Operate heater/air conditioner (TM 9-2320-363-10).

AIR DRYER WIRING HARNESS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26
Shop Equipment, SC 4910-95-CL-A72

Materials/Parts:

Washer, Lock (2)

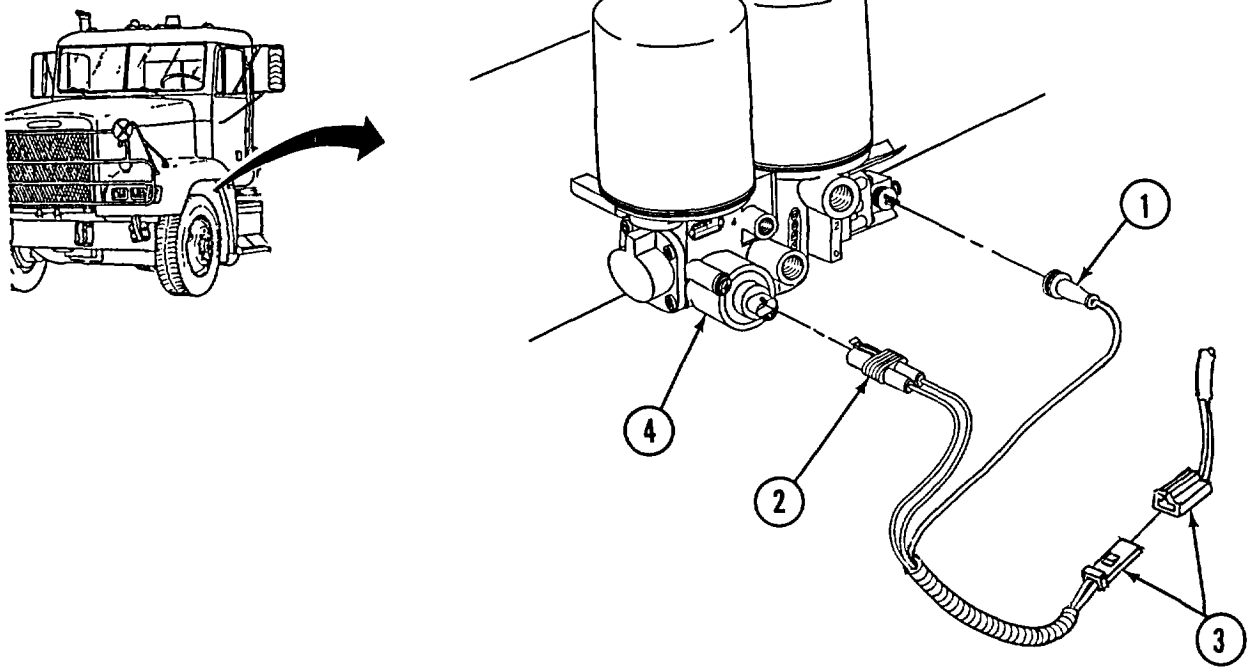
Tags, Identification Appendix C, Item 26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. DISCONNECT CONNECTOR (1) AND CONNECTOR (2) OF AIR DRYER HARNESS (3) FROM AIR DRYER (4).
2. SEPARATE TWO PARTS OF AIR DRYER HARNESS (3) IF NECESSARY.



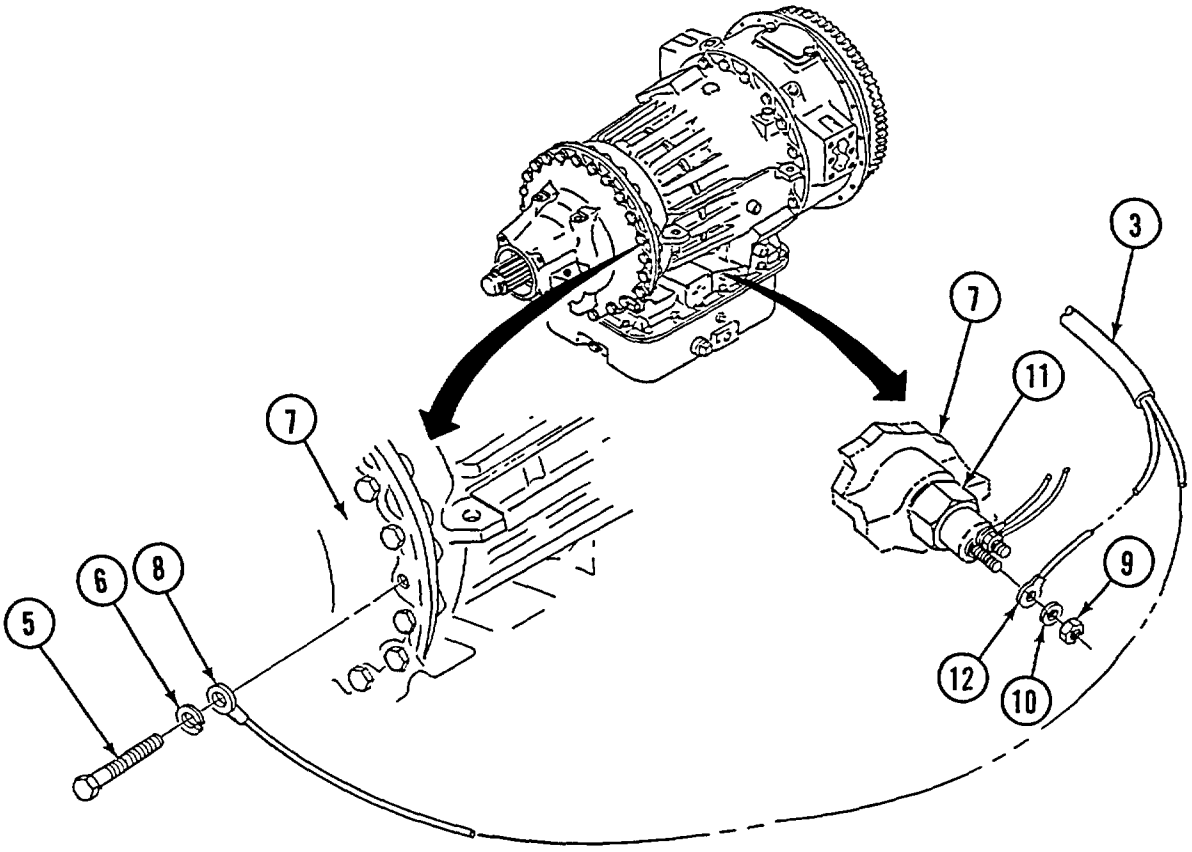
NOTE
Tag wires prior to removal to aid in installation.

3. REMOVE SCREW (5) AND LOCK WASHER (6) FROM TRANSMISSION (7). DISCARD LOCK WASHER.

4. REMOVE WIRE (8) OF AIR DRYER HARNESS (3).

5. REMOVE NUT (9) AND LOCK WASHER (10) FROM IGNITION POWER TERMINAL OF BACKUP LIGHT SENDING UNIT (11). DISCARD LOCK WASHER

6. REMOVE WIRE (12) OF AIR DRYER HARNESS (3).



AIR DRYER WIRING HARNESS REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

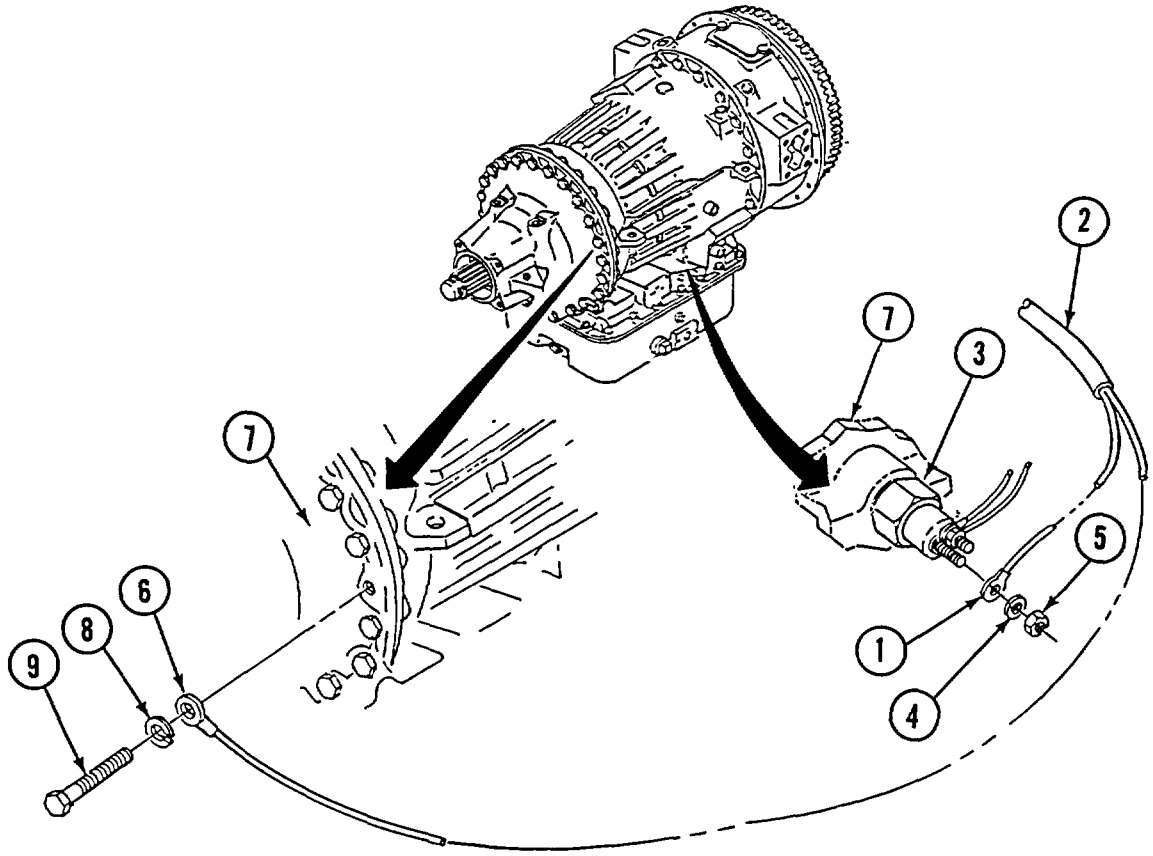
INSTALLATION

1. INSTALL WIRE (1) OF AIR DRYER HARNESS (2) TO IGNITION POWER TERMINAL OF BACKUP LIGHT SENDING UNIT (3). SECURE WITH NEW LOCK WASHER (4) AND NUT (5).

NOTE
Wire may be attached to any suitable ground at transmission or chassis.

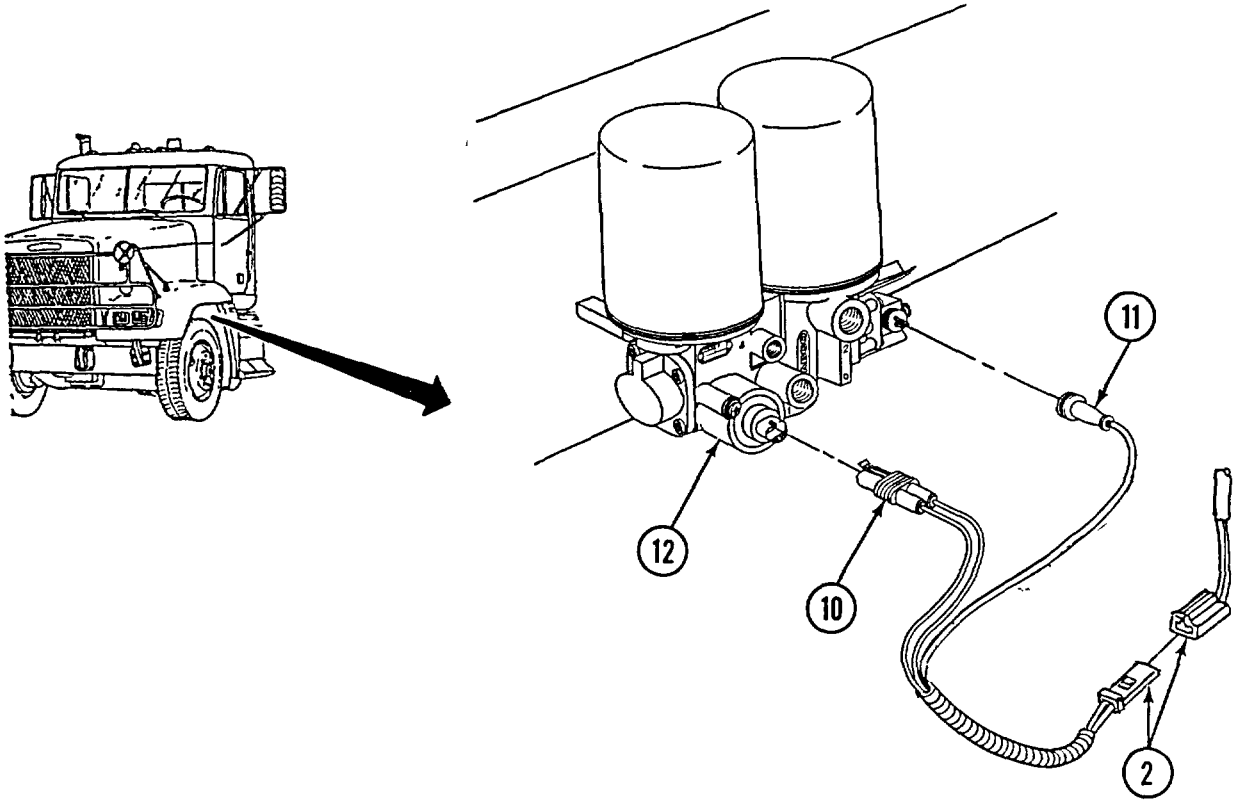
2. POSITION WIRE (6) OF AIR DRYER HARNESS (2) TO TRANSMISSION (7).

3. INSTALL NEW LOCK WASHER (8) AND SCREW (9). TIGHTEN SCREW TO 70-80 LB-FT (95-108 N.m).



4. CONNECT TWO PARTS OF AIR DRYER HARNESS (2), IF SEPARATED.

5. CONNECT CONNECTOR (10) AND CONNECTOR (11) OF AIR DRYER HARNESS (2) TO AIR DRYER (12).



NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

SHIFT TOWER JUMPER HARNESS REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Tags, Identification Appendix C, Item 26

References:

TM 9-2320-363-10

Equipment Condition:

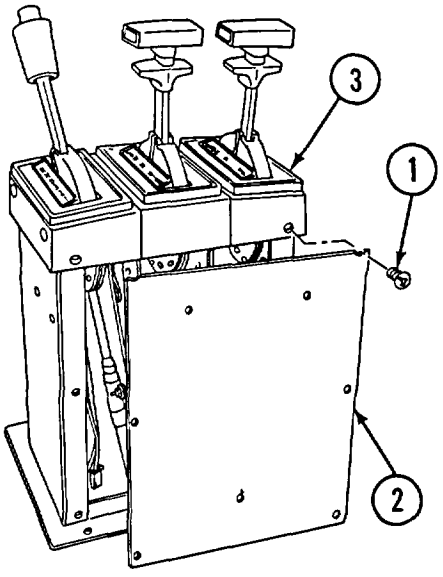
Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

NOTE

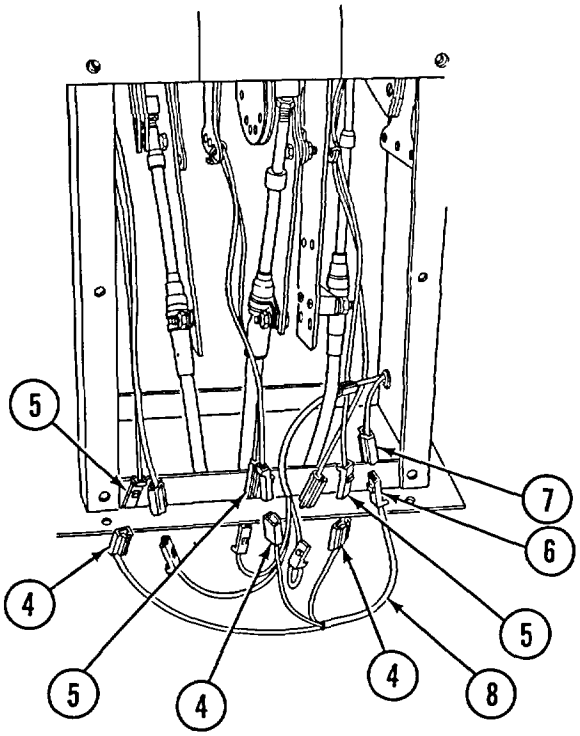
- **This task can be used to replace either jumper harness (power or ground) located within the shift tower.**
- **M916A2 jumper harnesses have three leads each and the M917A1/M917A1 w/MCS have four leads each.**

1. REMOVE SIX SCREWS (1) AND REAR ACCESS COVER (2) FROM SHIFT TOWER (3).



2. DISCONNECT JUMPER HARNESS LEADS (4) FROM SHIFT TOWER LIGHT LEADS (5).

3. DISCONNECT JUMPER HARNESS LEAD (6) FROM VEHICLE HARNESS LEAD (7) AND REMOVE JUMPER HARNESS (8) FROM SHIFT TOWER.



INSTALLATION

1. CONNECT JUMPER HARNESS LEAD (6) TO VEHICLE HARNESS LEAD (7).
2. CONNECT JUMPER HARNESS LEADS (4) TO SHIFT TOWER LIGHT LEADS (5).
3. INSTALL REAR ACCESS COVER (2) TO SHIFT TOWER (3) AND SECURE WITH SIX SCREWS (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).
Check operation of shift tower lights (TM 9-2320-363-10).

STOP/TAIL/BACKUP LIGHTS AND ALARM/BACKUP/TAILLIGHTS WIRING HARNESS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

NOTE

- **Wiring harness and leads are secured in place by clips, wire ties, cushion clamps, and screw terminals.**
- **Only remove hardware securing harness or lead to be removed.**

REMOVE AND DISCONNECT STOP/TAIL/BACKUP LIGHTS AND ALARM/BACKUP/TAILLIGHTS WIRING HARNESS USING ILLUSTRATION AND TABLE AS A GUIDE.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

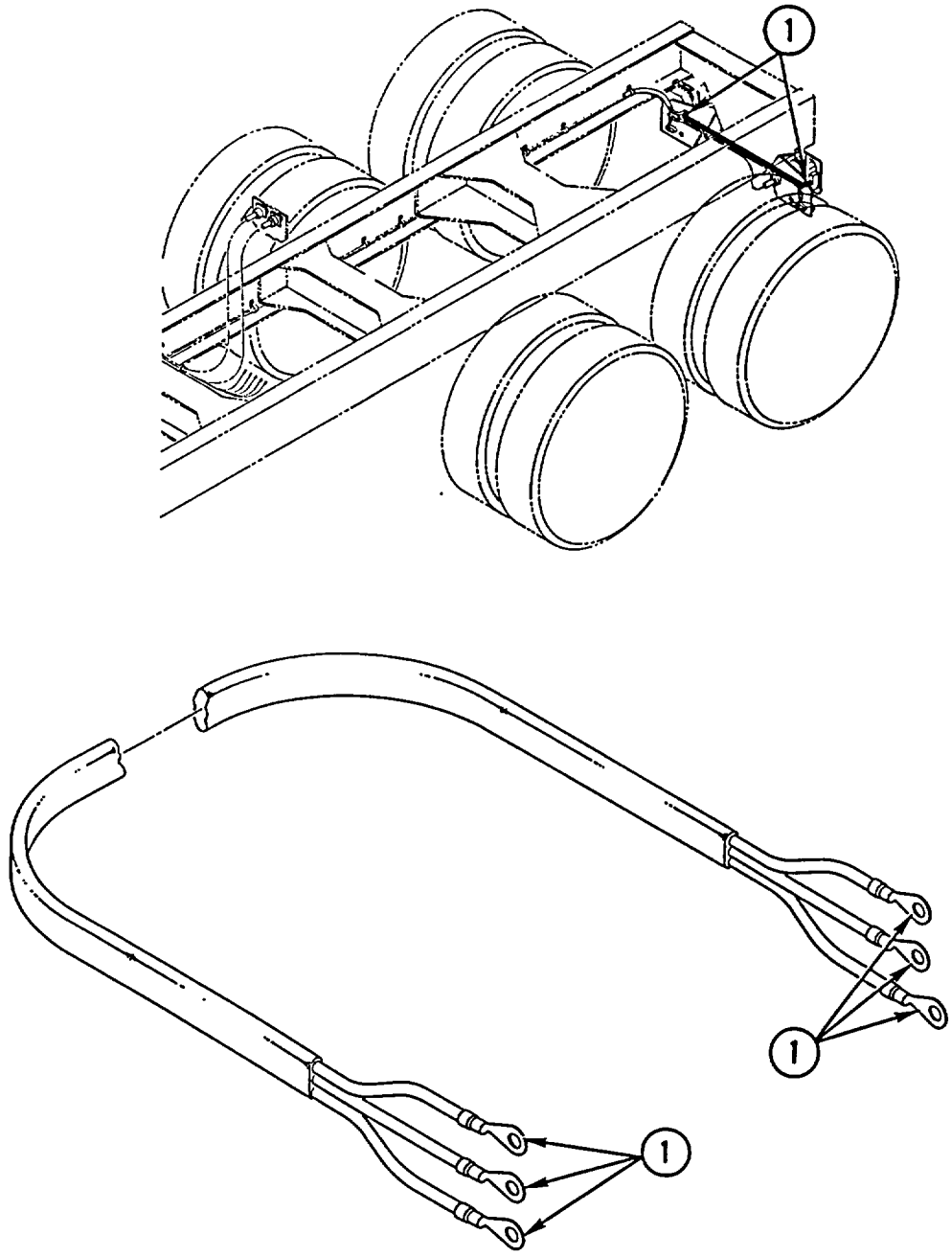
NOTE

- **Wiring harness and leads are secured in place by clips, wire ties, cushion clamps, and screw terminals.**
- **Make sure harness is secure and all hardware is tight.**

INSTALL AND CONNECT STOP/TAIL/BACKUP LIGHTS AND ALARM/BACKUP/TAILLIGHTS WIRING HARNESS USING ILLUSTRATION AND TABLE AS A GUIDE.

NOTE
Follow-on Maintenance:

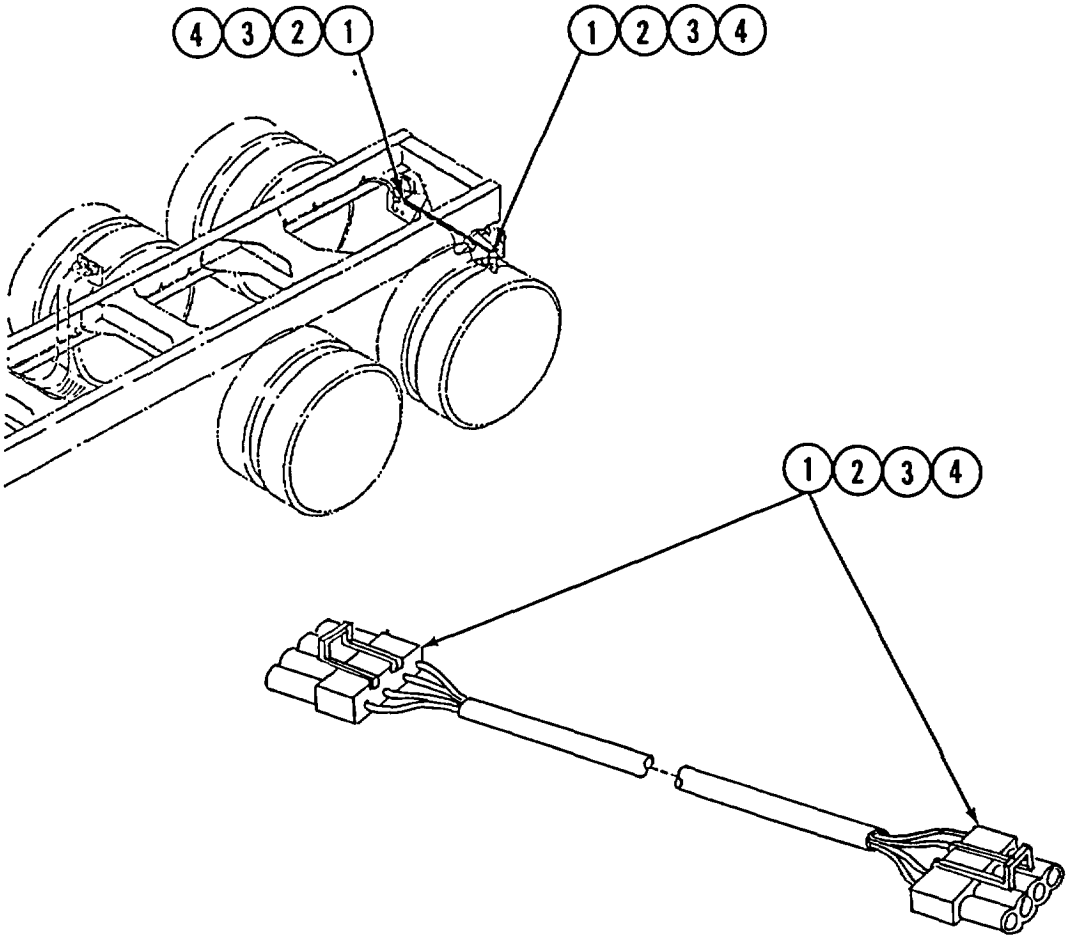
Connect batteries (page 2-29).



M915A2 and M916A1

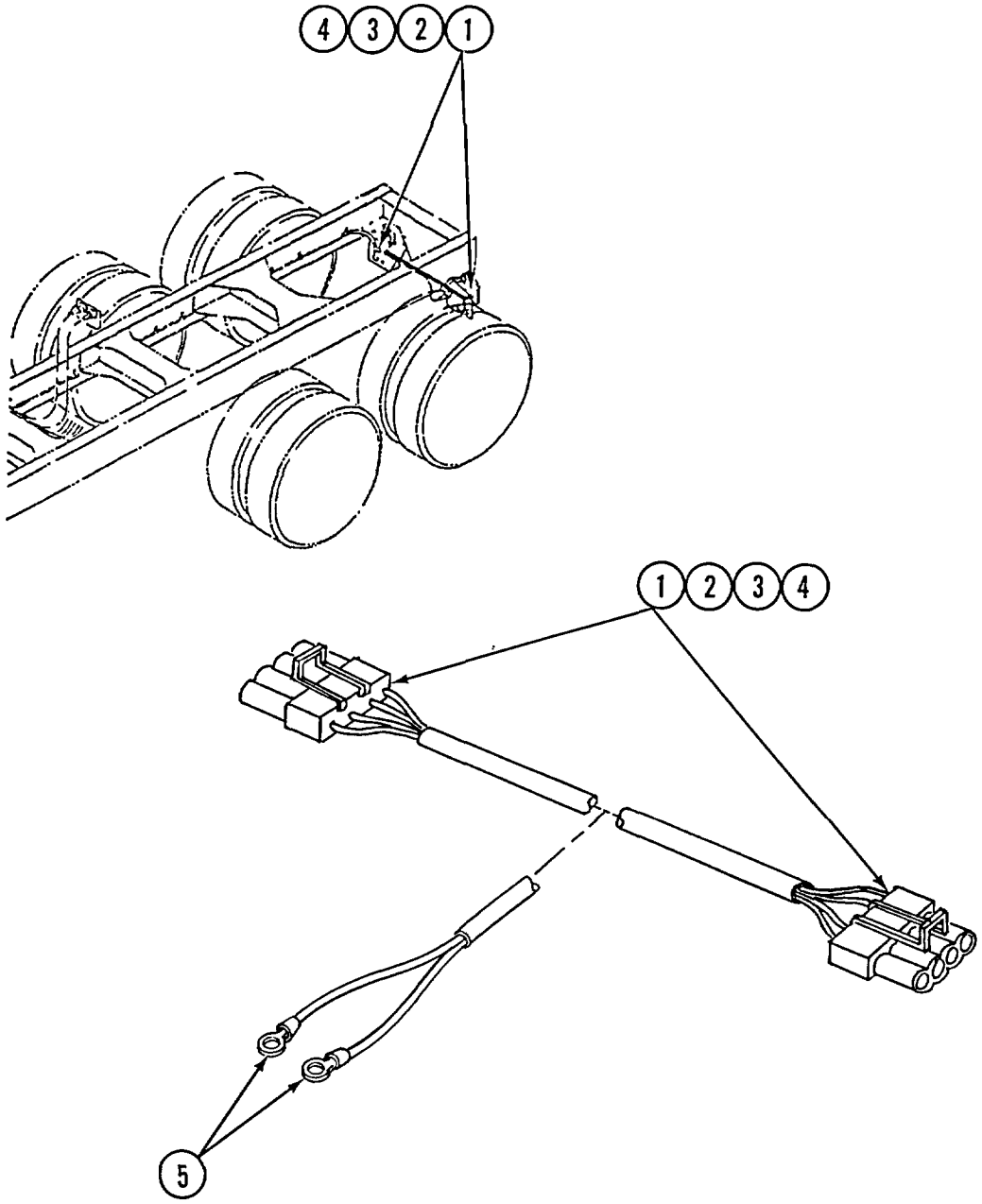
TABLE		QTY
1	Ring Terminal	6

STOP/TAIL/BACKUP LIGHTS AND ALARM/BACKUP/TAILLIGHTS WIRING HARNESS REPLACEMENT (CONT)



M916A2

TABLE		QTY
1	Male Connector, 4-Way	2
2	Terminal Blade, Female	8
3	Wire Seal	8
4	Secondary Lock	2



M917A1 AND M917A1 W/MCS

TABLE		QTY
1	Male Connector, 4-Way	2
2	Terminal Blade, Female	8
3	Wire Seat	8
4	Secondary Lock	2
5	Ring Terminal	2

AUTOMATIC ETHER STARTING AID WIRING HARNESSES REPLACEMENT

This task covers: a. Main Harness Replacement b. Jumper Harness Replacement

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Tie Wraps — Appendix C, Item 36

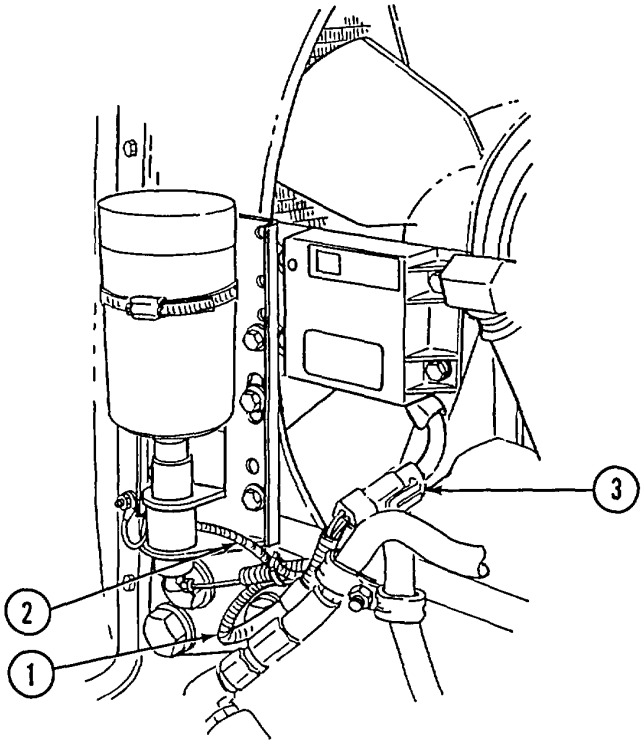
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

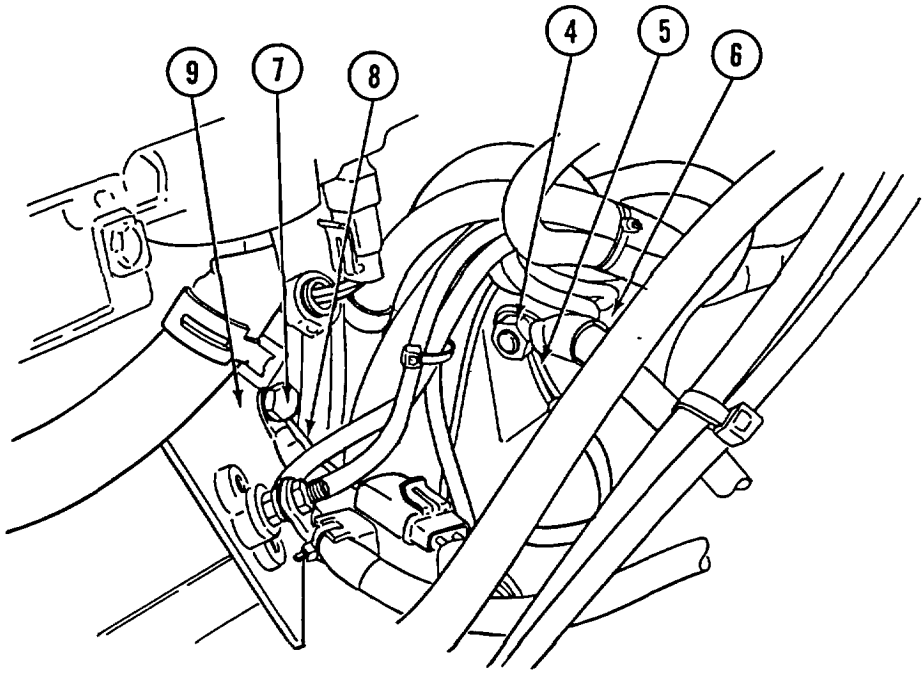
MAIN HARNESS REPLACEMENT

NOTE
To ease in installation, note position of tie wraps.

1. REMOVE TIE WRAPS ALONG MAIN HARNESS (1).
2. DISCONNECT MAIN HARNESS (1) FROM ETHER FILTER HARNESS (2).
3. DISCONNECT MAIN HARNESS (1) FROM ETHER CONTROL RELAY HARNESS (3).



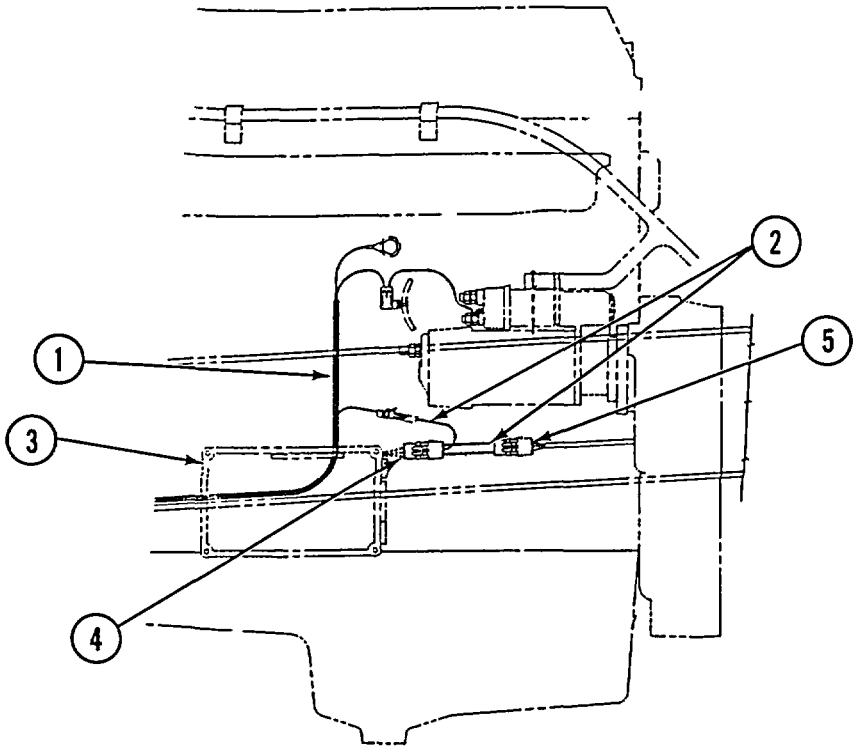
4. TRACE MAIN HARNESS (1) TO JUMPER HARNESS AT ECU AND DISCONNECT.
5. REMOVE NUT (4) AND MAIN HARNESS LEAD (5) FROM STARTER MOTOR (6).
6. REMOVE BOLT (7) AND MAIN HARNESS GROUND (8) FROM ENGINE BLOCK (9).
7. CONNECT MAIN HARNESS GROUND (8) TO ENGINE BLOCK (9) AND INSTALL BOLT (7).
8. CONNECT MAIN HARNESS LEAD (5) TO STARTER MOTOR (6) AND INSTALL NUT (4).
9. CONNECT MAIN HARNESS (1) TO JUMPER HARNESS AT ECU.
10. CONNECT MAIN HARNESS (1) TO ETHER CONTROL RELAY HARNESS (3).
11. CONNECT MAIN HARNESS (1) TO ETHER FILTER HARNESS (2).
12. INSTALL TIE WRAPS TO SECURE MAIN HARNESS (1) IN SAME POSITION AS REMOVAL.



AUTOMATIC ETHER STARTING AID WIRING HARNESSES REPLACEMENT (CONT)

JUMPER HARNESS REPLACEMENT I

1. TRACE MAIN HARNESS (1) ALONG LEFT SIDE OF ENGINE TO JUMPER HARNESS (2) AT ECU (3).
2. DISCONNECT MAIN HARNESS (1) FROM JUMPER HARNESS (2).
3. DISCONNECT JUMPER HARNESS (2) FROM HARNESS CONNECTOR (4) ON ECU (3).
4. DISCONNECT JUMPER HARNESS (2) FROM ECU HARNESS (5).
5. CONNECT JUMPER HARNESS (2) TO ECU HARNESS (5).
6. CONNECT JUMPER HARNESS (2) TO HARNESS CONNECTOR (4) ON ECU (3).
7. CONNECT JUMPER HARNESS (2) TO MAIN HARNESS (1).



NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

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Section VI. TRANSMISSION MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the transmission system and related components. A list of tasks contained in this section is shown below.

	Page
Transmission Shift Control Replacement (M915A2 and M916A1)	4-335
Transmission Shift Linkage Adjustment	4-342
Exterior Transmission Oil Filter Base Replacement	4-343
Exterior Transmission Oil Filter Element Replacement	4-346
Transmission Oil Pan Replacement	4-348
Transmission Oil Fill/Level Check Tube Replacement	4-353
Transmission Oil Cooler Lines and Fittings Replacement	4-356
Transmission Oil Cooler Replacement	4-364
Transmission Breather Replacement	4-366
Transmission Solenoid Valve and Air Pressure Regulator Replacement	4-366.1
Shift Tower Replacement (All Except M915A2 and M916A1)	4-366.4
Shift Tower Light Bulb Replacement (All Except M915A2 and M916A1)	4-366.13
Transmission Shift Control Replacement (All Except M915A2 and M916A1)	4-366.15
Transmission Shift Control Cable Replacement (All Except M915A2 and M916A1)	4-366.23

TRANSMISSION SHIFT CONTROL REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Kit, Cable Mounting P/N 59262-1

Washer, Lock (4) P/N 23-09318-009

Washer, Lock (2)

References:

TM 9-2320-363-10

Equipment Condition:

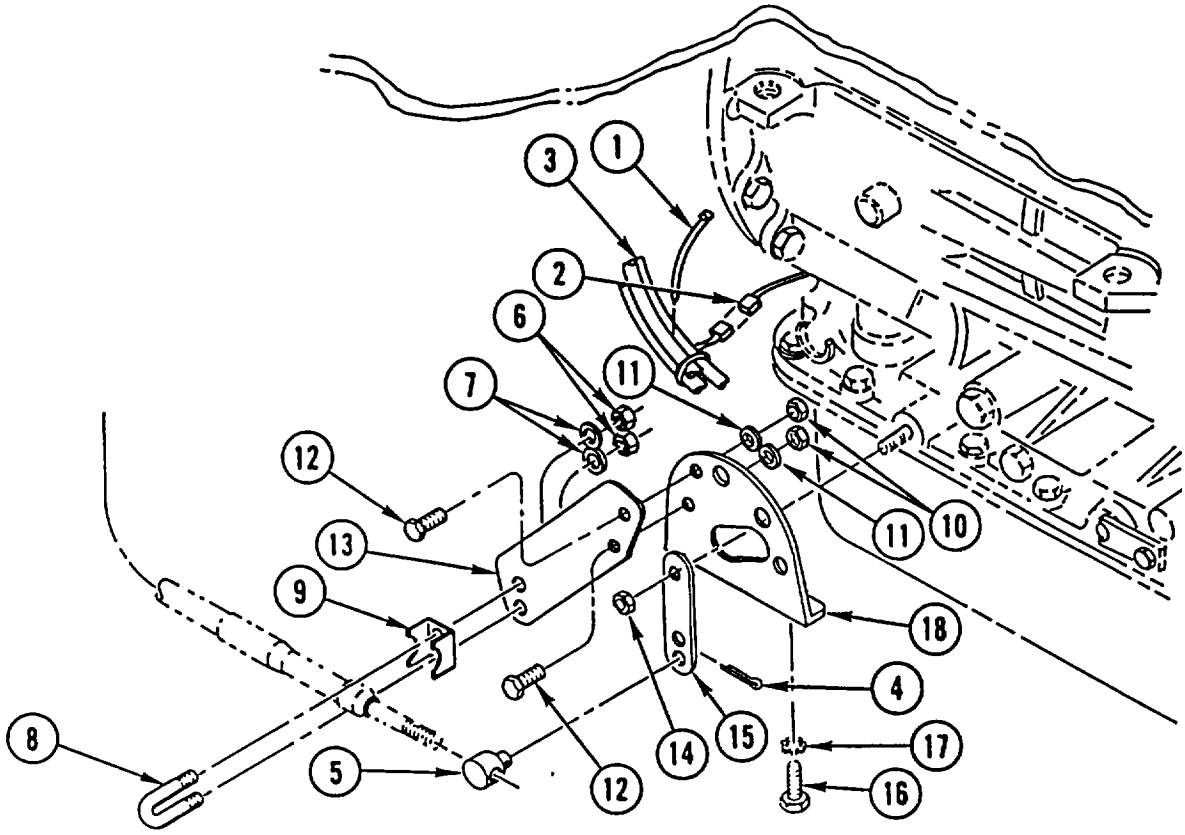
Reference	Condition Description
TM 9-2320-363-10	Fire Extinguisher Removed
Page 2-29	Batteries Disconnected

NOTE

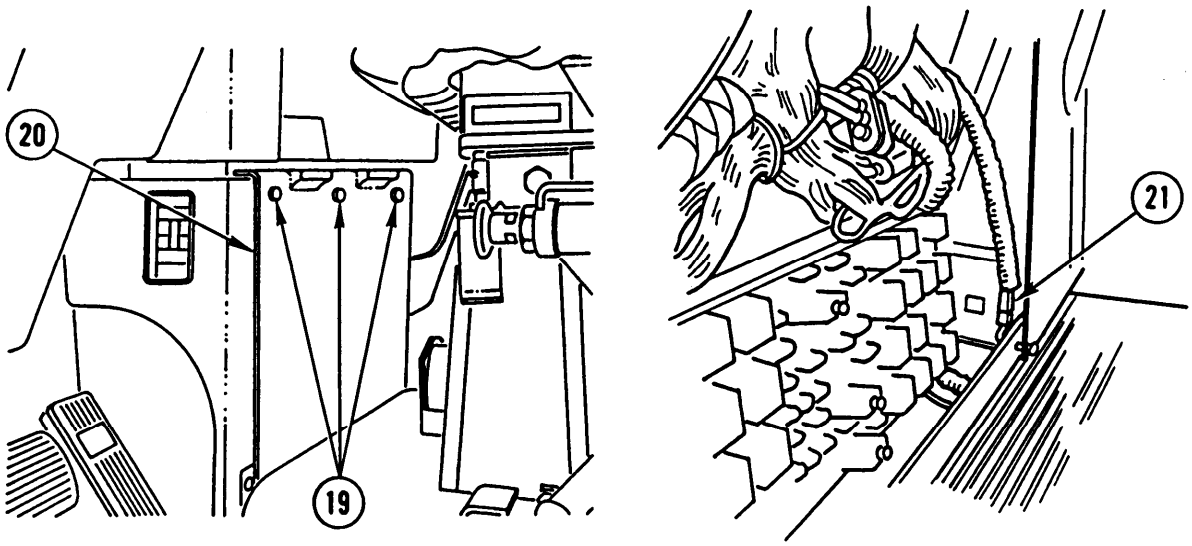
Transmission shift cable connection at transmission end is the same for ALL models.

TRANSMISSION SHIFT CONTROL REPLACEMENT (CONT)

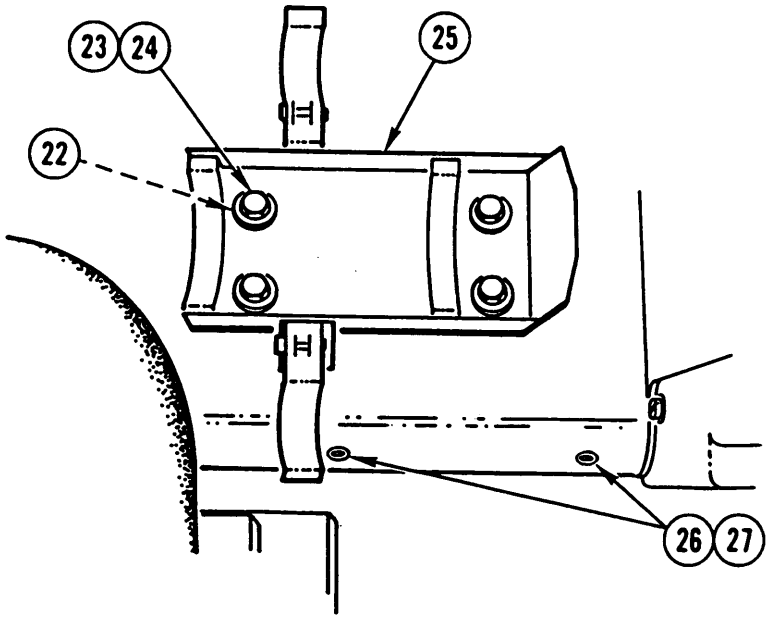
REMOVAL



1. REMOVE AND DISCARD TIE WRAP (1).
2. DISCONNECT NEUTRAL SAFETY START SWITCH CONNECTOR (2) FROM WIRING HARNESS (3).
3. REMOVE AND DISCARD COTTER PIN (4) AND BARREL NUT (5).
4. REMOVE AND DISCARD TWO NUTS (6), TWO LOCK WASHERS (7), U-BOLT (8), AND CLAMP (9).
5. REMOVE TWO NUTS (10), TWO LOCK WASHERS (11), TWO BOLTS (12), AND BRACKET (13). DISCARD LOCK WASHERS.
6. REMOVE NUT (14) AND SHIFT ARM (15).
7. REMOVE TWO BOLTS (16), TWO LOCK WASHERS (17), AND BRACKET (18). DISCARD LOCK WASHERS.

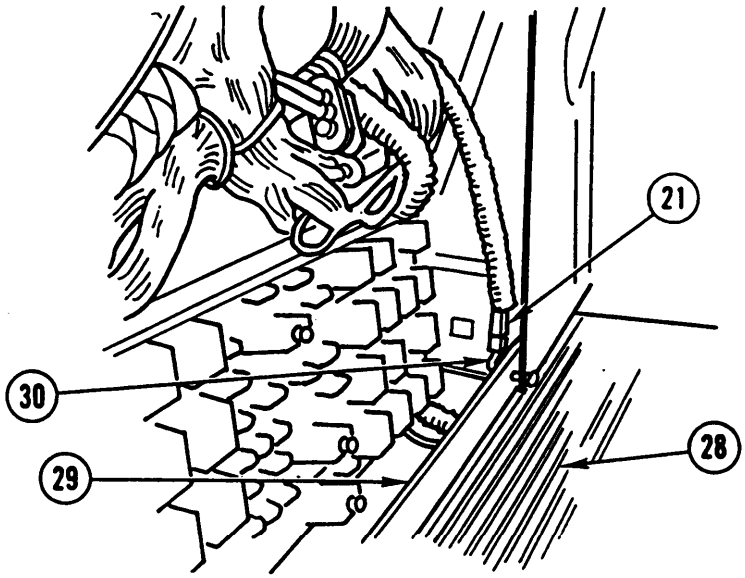


8. TURN THREE FASTENERS (19) TO LEFT AND REMOVE COVER (20).
9. DISCONNECT CONNECTOR (21).



10. REMOVE FOUR NUTS (22), FOUR CAPSCREWS (23), FOUR WASHERS (24), AND BRACKET (25).
11. REMOVE FOUR SELF-TAPPING TORX SCREWS (26) AND FOUR WASHERS (27).

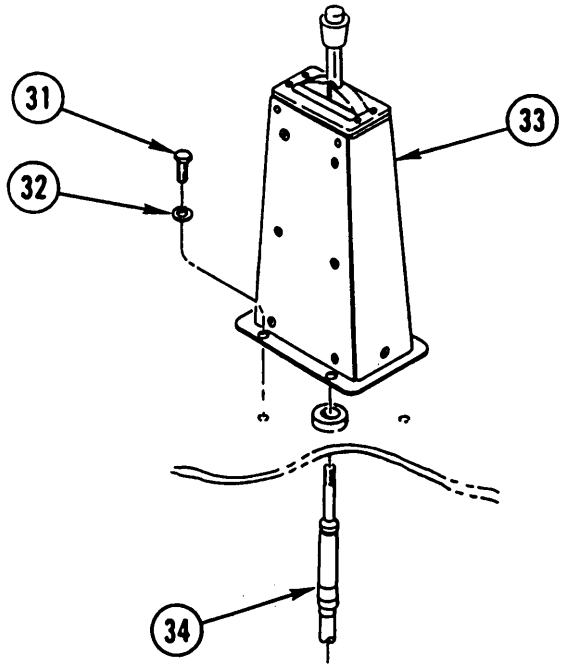
TRANSMISSION SHIFT CONTROL REPLACEMENT (CONT)



12. ROLL FLOOR MAT (28) BACK ENOUGH TO ALLOW CONNECTOR (21) TO BE PULLED UNDER FRAME (29).

13. CAREFULLY REMOVE CONNECTOR (21) FROM UNDER FRAME (29).

14. REMOVE CABLE (30) FROM UNDER FLOOR MAT (28).



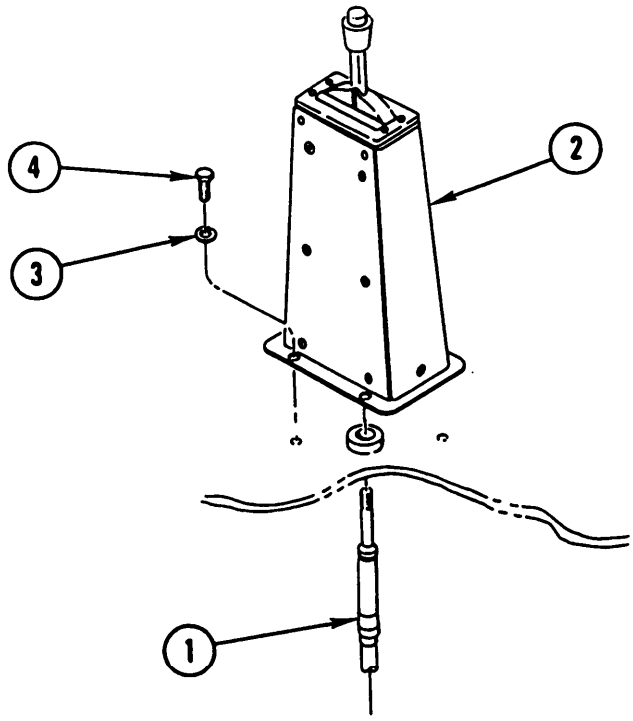
15. REMOVE FOUR CAPSCREWS (31) AND FOUR LOCK WASHERS (32) FROM SHIFT TOWER (33). DISCARD LOCK WASHERS.

16. REMOVE SHIFT TOWER (33) AND SHIFT CABLE ASSEMBLY (34).

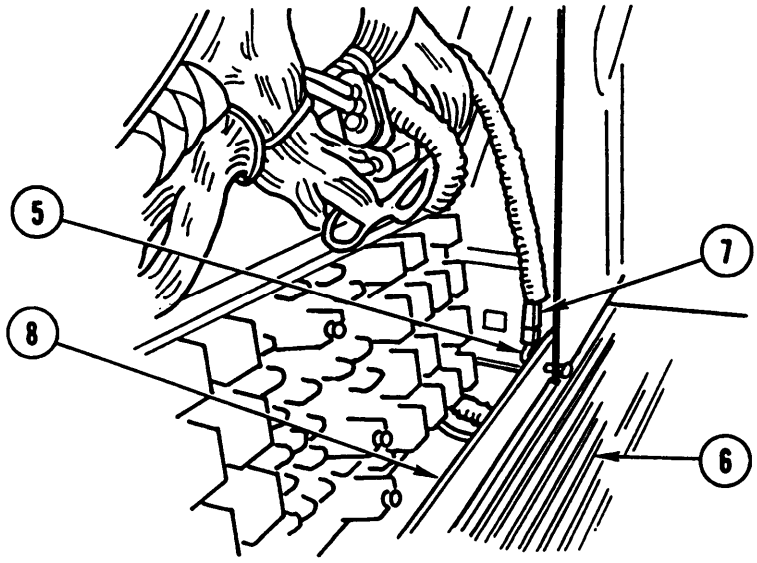
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

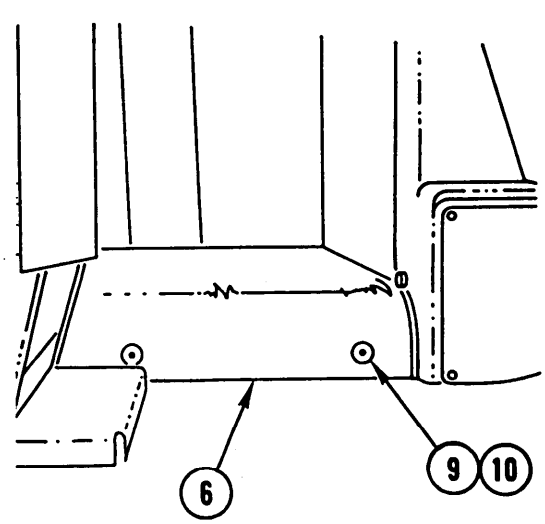


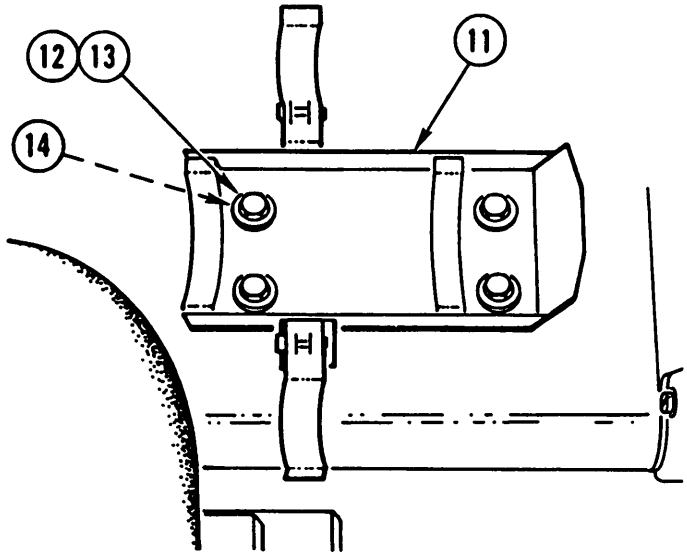
1. INSTALL SHIFT CABLE ASSEMBLY (1) AND SHIFT TOWER (2).
2. INSTALL FOUR NEW LOCK WASHERS (3) AND FOUR CAPSCREWS (4) ON SHIFT TOWER (2).



3. INSTALL CABLE (5) UNDER FLOOR MAT (6).
4. CAREFULLY INSTALL CONNECTOR (7) UNDER FRAME (8).

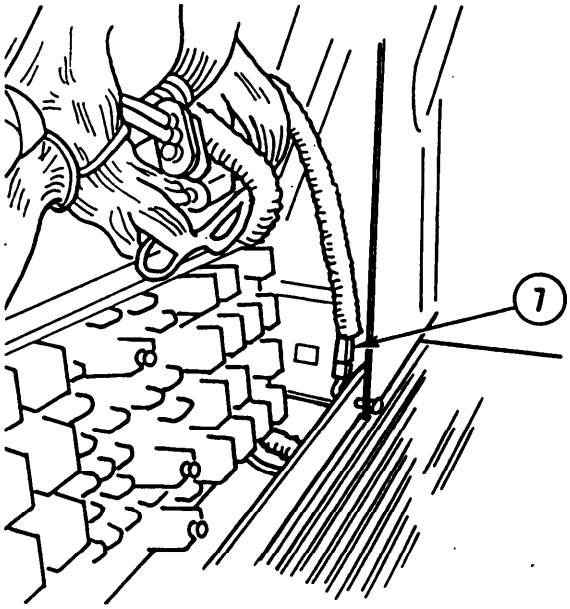
TRANSMISSION SHIFT CONTROL REPLACEMENT (CONT)

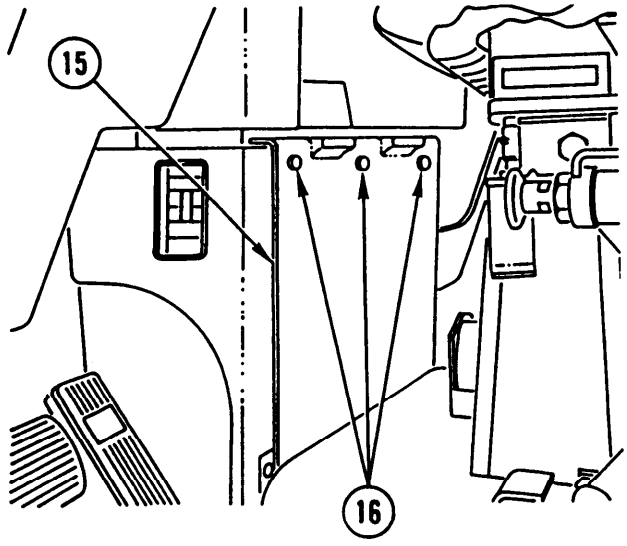




5. POSITION FLOOR MAT (6) AND INSTALL FOUR WASHERS (9) AND FOUR SELF-TAPPING TORX HEAD SCREWS (10).

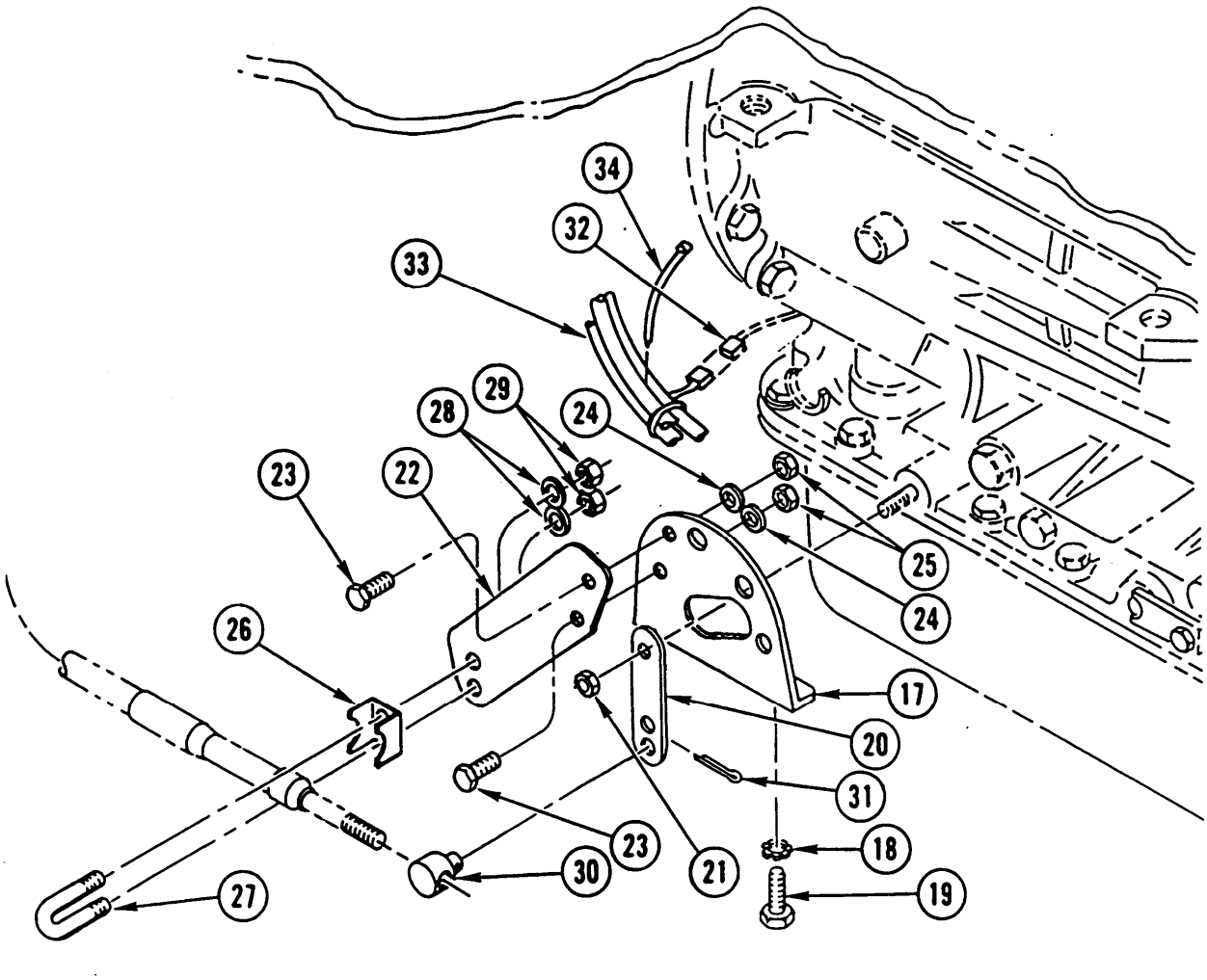
6. INSTALL BRACKET (11), FOUR WASHERS (12), FOUR CAPSCREWS (13), AND FOUR NUTS (14).





7. CONNECT CONNECTOR (7).

8. INSTALL COVER (15) AND TURN THREE FASTENERS (16) TO RIGHT.



9. INSTALL BRACKET (17), TWO NEW LOCK WASHERS (18), AND TWO BOLTS (19).

10. INSTALL SHIFT ARM (20) AND NUT (21).

11. INSTALL BRACKET (22), TWO BOLTS (23), TWO NEW LOCK WASHERS (24), AND TWO NUTS (25).

12. INSTALL NEW CLAMP (26), NEW U-BOLT (27), TWO NEW LOCK WASHERS (28), AND TWO NEW NUTS (29).

13. INSTALL NEW BARREL NUT (30) AND NEW COTTER PIN (31).

14. CONNECT NEUTRAL SAFETY START SWITCH CONNECTOR (32) TO WIRING HARNESS (33).

15. INSTALL NEW TIE WRAP (34).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).
Install fire extinguisher (TM 9-2320-363-10).
Adjust shift linkage (page 4-342).

TRNSMISSION SHIFT LINKAGE ADJUSTMENT

This task covers: Adjustment

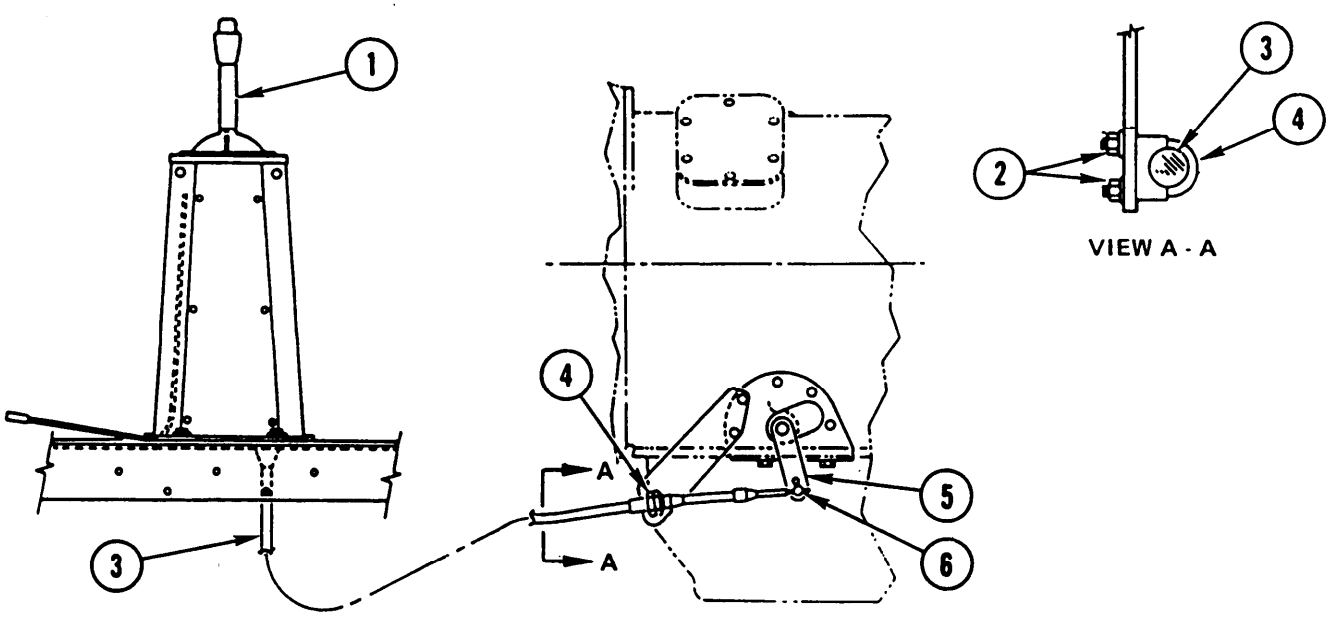
INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Personnel Required: (2)

ADJUSTMENT



1. PLACE TRANSMISSION SELECTOR LEVER (1) IN 3RD GEAR POSITION.
2. LOOSEN TWO NUTS (2) ENOUGH TO ALLOW CABLE ASSEMBLY (3) TO BE MOVED BACK AND FORTH.
3. MOVE CABLE ASSEMBLY (3) TO ACHIEVE MEASUREMENT OF 6.625 IN. BETWEEN CENTER OF U-CLAMP (4) AND CENTER OF SHIFT LEVER (5).
4. TIGHTEN TWO NUTS (2).
5. MOVE SH IFT LEVER (1) TO EACH POSITION AND CHECK THAT BARREL NUT (6) MOVES FREELY.

NOTE

After performing step 6, if barrel nut will not move freely, notify direct support to replace cable.

6. IF BARREL NUT (6) DOES NOT MOVE FREELY, REPEAT STEPS 1 THRU 4 AND CHECK AGAIN.

EXTERIOR TRANSMISSION OIL FILTER BASE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

Packing (2) P/N 3-916 O-ring

Equipment Condition:

Reference	Condition Description
Page 4-346	Oil Filter Element Removed

General Safety Instructions:

WARNING

- Hot oil can cause serious burns. Make sure transmission oil is cool before working on transmission oil filter. Failure to do so could result in serious injury to personnel.
- Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

EXTERIOR TRANSMISSION OIL FILTER BASE REPLACEMENT (CONT)

REMOVAL

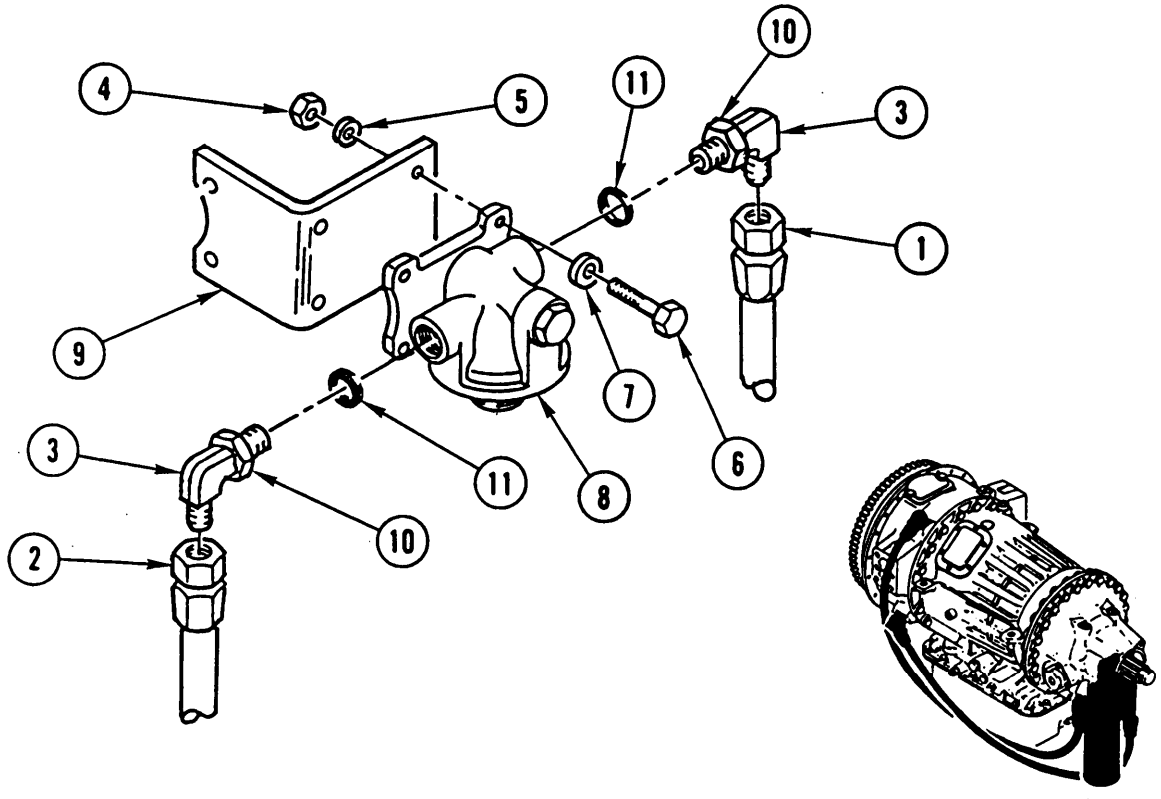
WARNING

- Hot oil can cause serious burns. Make sure transmission oil is cool before working on transmission oil filter. Failure to do so could result in serious injury to personnel.
- Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

NOTE

Fluid will drain when hoses are disconnected. Provide suitable container for drained fluid.

1. DISCONNECT SUPPLY HOSE (1) AND RETURN HOSE (2) FROM TWO ELBOWS (3).
2. REMOVE FOUR LOCK NUTS (4), FOUR WASHERS (5), FOUR CAPSCREWS (6), FOUR WASHERS (7), AND BASE ASSEMBLY (8) FROM FILTER BRACKET (9). DISCARD LOCK NUTS.
3. LOOSEN TWO JAM NUTS (10) AND REMOVE TWO ELBOWS (3) AND TWO PACKINGS (11) FROM BASE ASSEMBLY (8). DISCARD PACKINGS.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL TWO NEW PACKINGS (11) AND TWO ELBOWS (3) ON BASE ASSEMBLY (8) AND TIGHTEN TWO JAM NUTS (10).

WARNING

Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

2. INSTALL BASE ASSEMBLY (8), FOUR WASHERS (7), FOUR CAPSCREWS (6), FOUR WASHERS (5), AND FOUR NEW LOCK NUTS (4) ON FILTER BRACKET (9).

3. CONNECT SUPPLY HOSE (1) AND RETURN HOSE (2) TO TWO ELBOWS (3).

NOTE

Follow-on Maintenance:

Install oil filter element (page 4-346).

EXTERIOR TRANSMISSION OIL FILTER ELEMENT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment::

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Element, Oil Filter w/Seal P/N 25010335

Oil, Lubricating Appendix C, Item 16

References:

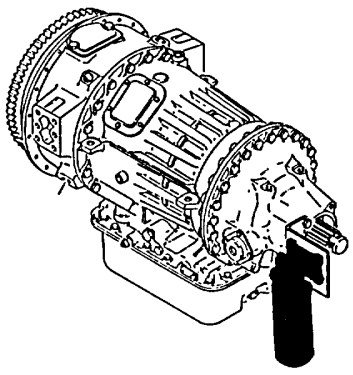
TM 9-2320-363-20-1

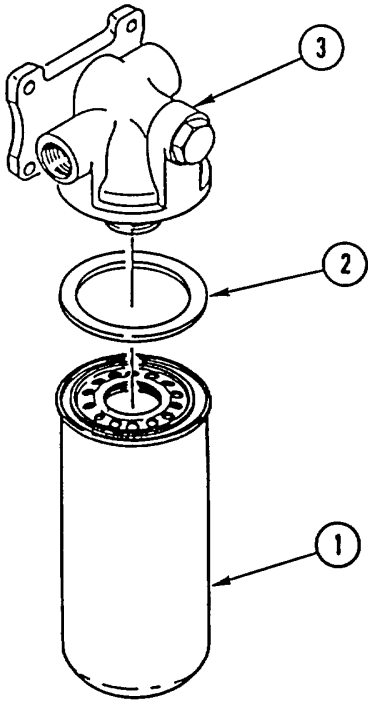
General Safety Instructions:

WARNING

- **Hot oil can cause series burns. Make sure transmission oil is cool before working on transmission oil filter. Failure to do so could result in serious injury to personnel.**
- **Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.**

REMOVAL





WARNING

- **Hot oil can cause serious burns. Make sure transmission oil is cool before working on transmission oil filter. Failure to do so could result in serious injury to personnel.**
- **Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.**

NOTE
Place suitable drain pan under transmission oil filter.

REMOVE OIL FILTER ELEMENT (1) AND SEAL (2) FROM OIL FILTER BASE ASSEMBLY (3). DISCARD OIL FILTER ELEMENT AND SEAL.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. APPLY LIGHT COATING OF LUBRICATING OIL ON SEAL (2).

WARNING

Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

2. INSTALL NEW OIL FILTER ELEMENT (1) WITH NEW SEAL (2) IN OIL FILTER BASE ASSEMBLY (3). TIGHTEN OIL FILTER ELEMENT 2/3-TURN AFTER CONTACTING SEAL.

NOTE
Follow-on Maintenance:
Fill transmission to proper oil level (Unit PMCS, TM 9-2320-363-20-1).

TRANSMISSION OIL PAN REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (2)

Gasket P/N 23016681

Nut, Lock

Grease, Automotive and Artillery (GAA) Appendix C, Item 14

Compound, Pipe Sealing Appendix C, Item 8

References:

TM 9-2320-363-20-1

Equipment Condition:

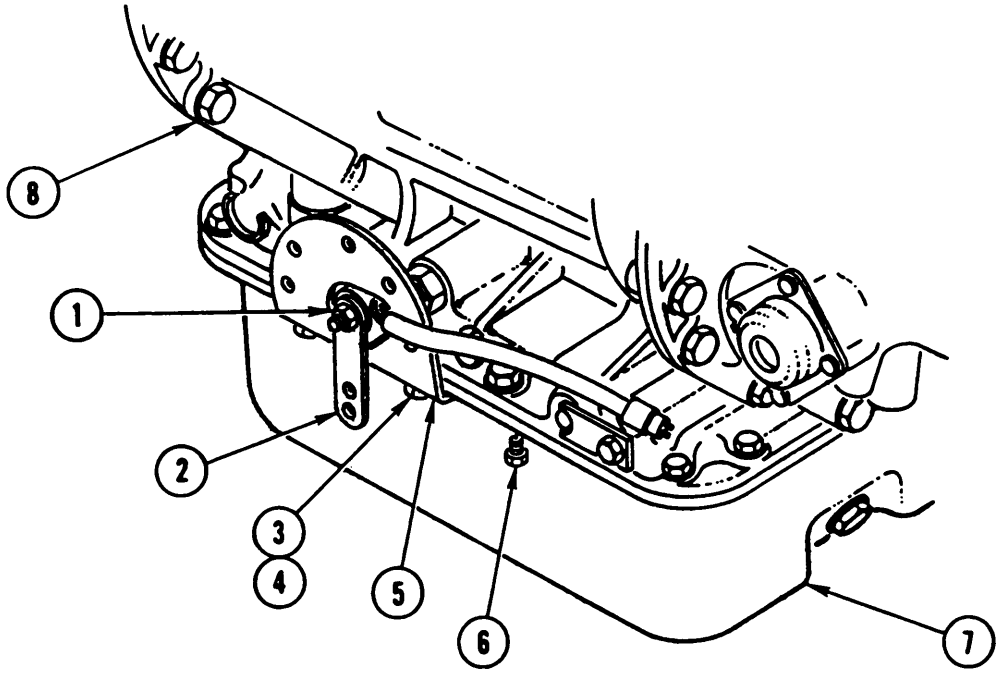
Reference	Condition Description
Page 4-353	Oil Fill/Level Check Tube Removed
Page 4-335	Transmission Shift Cable Disconnected

General Safety Instructions:

WARNING

- **Hot oil can cause serious burns. Make sure transmission is cool before working on transmission. Failure to do so could result in serious injury to personnel.**
- **Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

REMOVAL



WARNING

Hot oil can cause serious burns. Make sure transmission oil is cool before working on transmission. Failure to do so could result in serious injury to personnel.

1. REMOVE LOCK NUT (1) AND LEVER (2). DISCARD LOCK NUT.
2. REMOVE TWO SCREWS (3), TWO LOCK WASHERS (4), AND BRACKET (5). DISCARD LOCK WASHERS.

WARNING

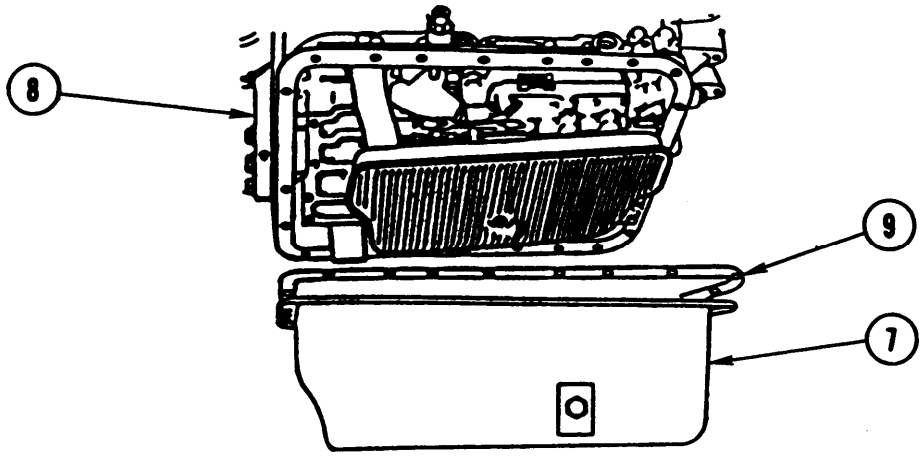
Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

NOTE

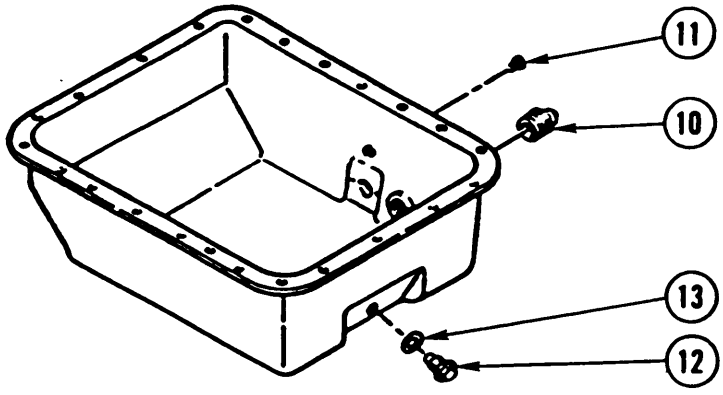
Support oil pan while removing screws.

3. REMOVE REMAINING 21 SCREWS (6) HOLDING OIL PAN (7) TO TRANSMISSION (8).

TRANSMISSION OIL PAN REPLACEMENT (CONT)



4. REMOVE OIL PAN (7) FROM TRANSMISSION (8).
5. REMOVE AND DISCARD GASKET (9) FROM OIL PAN (7).

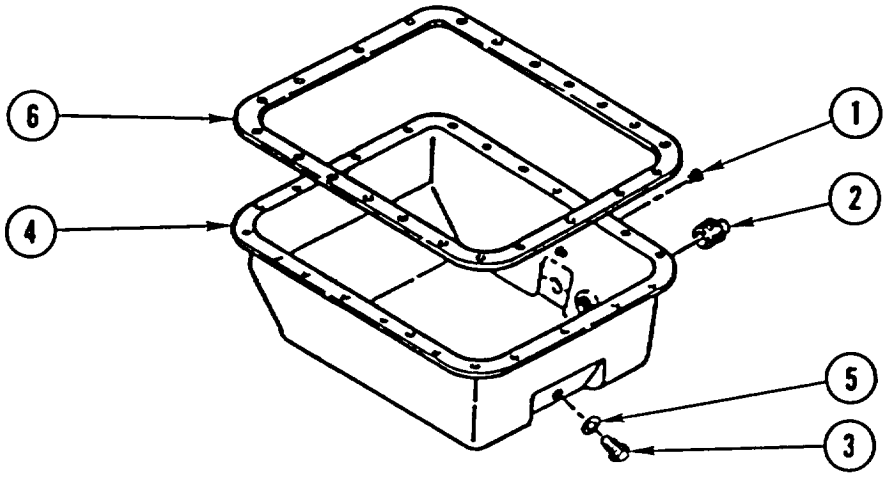


6. REMOVE PLUG (10) FROM OIL PAN (9).
7. REMOVE PLUG (11).
8. REMOVE PLUG (12) AND WASHER (13). DISCARD WASHER.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



WARNING

Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

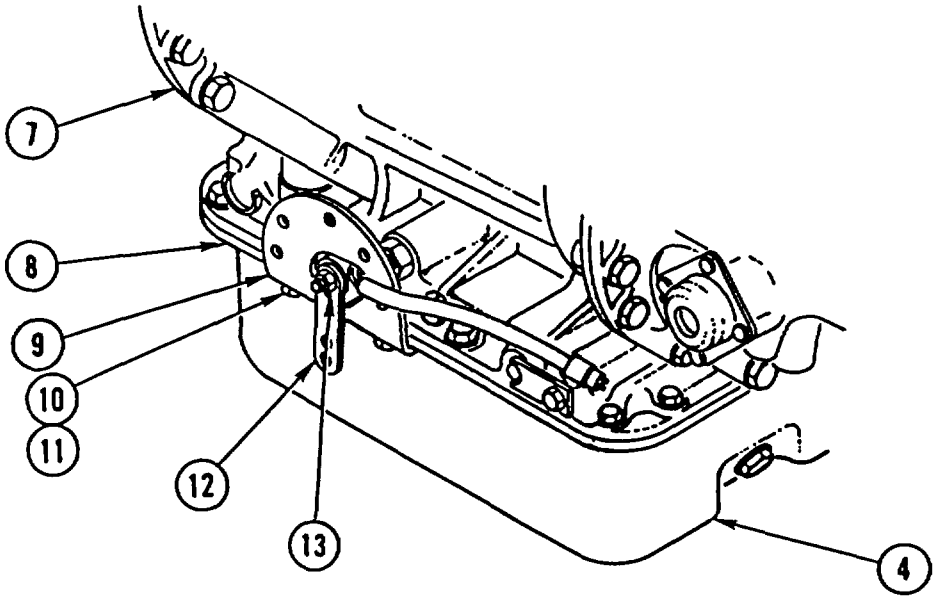
1. APPLY LIGHT COAT OF PIPE SEALANT COMPOUND TO THREADS OF THREE PLUGS (1, 2, AND 3).

WARNING

Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

2. INSTALL PLUG (1) IN OIL PAN (4).
3. INSTALL PLUG (2).
4. INSTALL PLUG (3) AND NEW WASHER (5).
5. APPLY GAA TO LIP OF OIL PAN (4) AND INSTALL NEW GASKET (6).

TRANSMISSION OIL PAN REPLACEMENT (CONT)



NOTE
Pull oil pan evenly onto transmission.

6. INSTALL OIL PAN (4) ON TRANSMISSION (7) WITH 21 SCREWS (8). DO NOT TIGHTEN SCREWS.

7. INSTALL BRACKET (9), TWO NEW LOCK WASHERS (10), AND TWO SCREWS (11) ON OIL PAN (4).

8. INSTALL LEVER (12) AND NEW LOCK NUT (13).

9. TIGHTEN EACH SECOND SCREW (8 AND 11) IN ONE DIRECTION AROUND OIL PAN (4) UNTIL ALL 23 SCREWS HAVE BEEN TIGHTENED TO 10-13 LB-FT (14-18 N.m).

NOTE
Follow-on Maintenance:
Connect transmission shift cable (page 4-335).
Install oil fill/level check tube (page 4-353).
Fill transmission with oil (Unit PMCS, TM 9-2320-363-20-1).
Check for leaks.
Adjust shift linkage (page 4-342).

TRANSMISSION OIL FILL/LEVEL CHECK TUBE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

Gasket P/N 4N699

References:

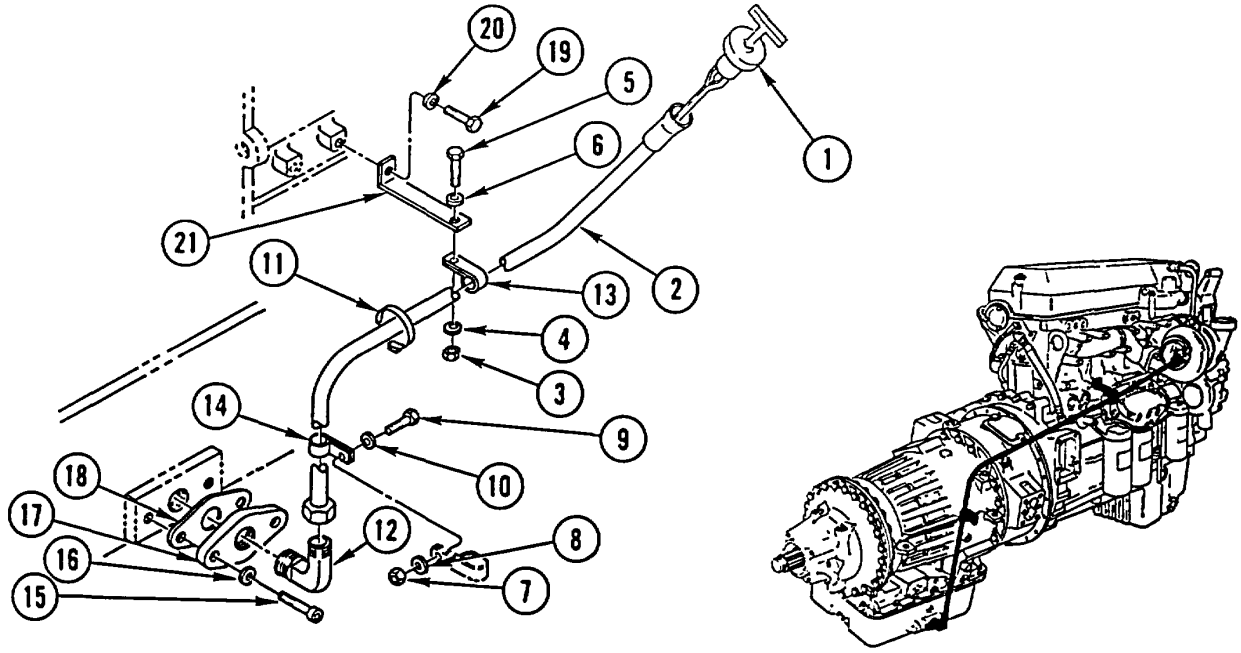
TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Unit PMCS, TM 9-2320-363-20-1	Transmission Fluid Drained

TRANSMISSION OIL FILL/LEVEL CHECK TUBE REPLACEMENT (CONT)

REMOVAL



NOTE
Procedure is the same for all vehicles except where noted.

1. REMOVE DIPSTICK (1) FROM TUBE (2).
2. REMOVE LOCK NUT (3), WASHER (4), CAPSCREW (5), AND WASHER (6). DISCARD LOCK NUT.

NOTE
Steps 3 and 4 are for M915A2 only.

3. REMOVE LOCK NUT (7), WASHER (8), CAPSCREW (9), AND WASHER (10). DISCARD LOCK NUT.
4. REMOVE AND DISCARD TWO TIE WRAPS (11).
5. DISCONNECT TUBE (2) FROM ELBOW (12).

NOTE
Steps 6 and 7 are for all except M915A2 only.

6. REMOVE TUBE (2) WITH CLAMP (13) ATTACHED.
7. REMOVE CLAMP (13).

NOTE
Steps 8 and 9 are for M915A2 only.

8. REMOVE TUBE (2) WITH TWO CLAMPS (13 AND 14) ATTACHED.
9. REMOVE TWO CLAMPS (13 AND 14).

10. REMOVE ELBOW (12), TWO ALLEN HEAD SCREWS (15), TWO WASHERS (16), FLANGE (17), AND GASKET (18). DISCARD GASKET.

11. IF DAMAGED, REMOVE CAPSCREW (19), WASHER (20), AND BRACKET (21).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE
Procedure is the same for all vehicles except where noted.

1. IF REMOVED, INSTALL NEW BRACKET (21), WASHER (20), AND CAPSCREW (19).

2. INSTALL NEW GASKET (18), FLANGE (17), TWO WASHERS (16), TWO ALLEN HEAD SCREWS (15), AND ELBOW (12).

NOTE
Step 3 is for M915A2 only.

3. INSTALL TWO CLAMPS (13 AND 14) ON TUBE (2).

NOTE
Steps 4 is for all except M915A2 only.

4. INSTALL CLAMP (13) ON TUBE (2).

5. INSTALL TUBE (2).

6. CONNECT TUBE (2) TO ELBOW (12).

7. INSTALL TWO NEW TIE WRAPS (11).

NOTE
Step 8 is for M915A2 only.

8. INSTALL WASHER (10), CAPSCREW (9), WASHER (8), AND NEW LOCK NUT (7).

9. INSTALL WASHER (6), CAPSCREW (5), WASHER (4), AND NEW LOCK NUT (3).

10. INSTALL DIPSTICK (1) IN TUBE (2).

NOTE
Follow-on Maintenance:
Fill transmission (Unit PMCS, TM 9-2320-363-20-1).

TRANSMISSION OIL COOLER LINES AND FITTINGS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

Packing (4) P/N 3-916 O-ring

References:

TM 9-2320-363-20-1

Equipment Condition:

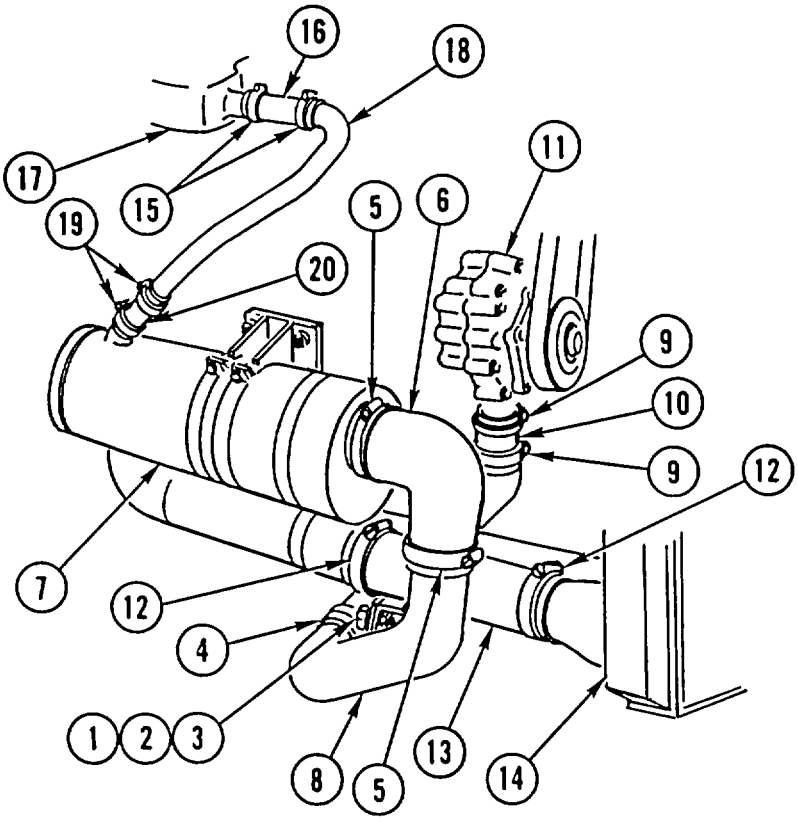
Reference	Condition Description
Page 4-141	Cooling System Drained
Page 4-752 or 4-756.1	Transmission Tunnel Access Cover Removed

General Safety Instructions:

WARNING

Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

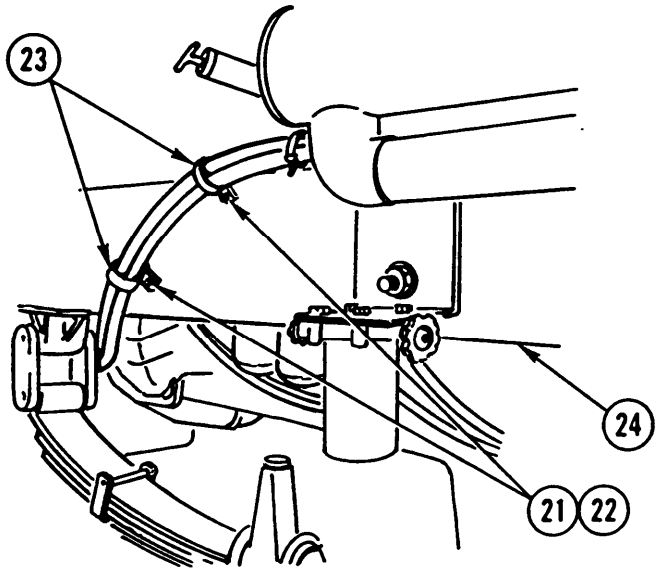
REMOVAL



NOTE

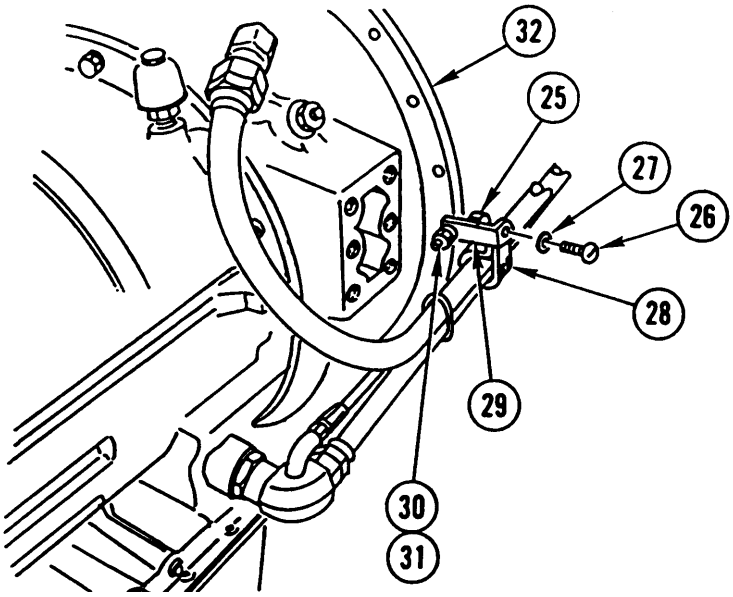
Procedure is the same for both vehicles except as noted.

1. REMOVE LOCK NUT (1), SCREW (2), TWO WASHERS (3), AND CLAMP (4). DISCARD LOCK NUT.
2. REMOVE TWO CLAMPS (5) AND HOSE ELBOW (6) BETWEEN TRANSMISSION OIL COOLER (7) AND PIPE (8).
3. REMOVE TWO CLAMPS (9), HOSE (10), AND PIPE (8) FROM WATER PUMP (11).
4. REMOVE TWO CLAMPS (12) AND HOSE (13) BETWEEN TRANSMISSION OIL COOLER (7) AND RADIATOR (14).
5. REMOVE TWO CLAMPS (15) AND HOSE (16) BETWEEN THERMOSTAT HOUSING (17) AND PIPE (18).
6. REMOVE TWO CLAMPS (19), PIPE (18), AND HOSE (20) FROM TRANSMISSION OIL COOLER (7).



7. REMOVE TWO LOCK NUTS (21), TWO WASHERS (22), AND TWO CLAMPS (23) FROM FRAME RAIL (24). DISCARD LOCK NUTS.

TRANSMISSION OIL COOLER LINES AND FITTINGS REPLACEMENT (CONT)

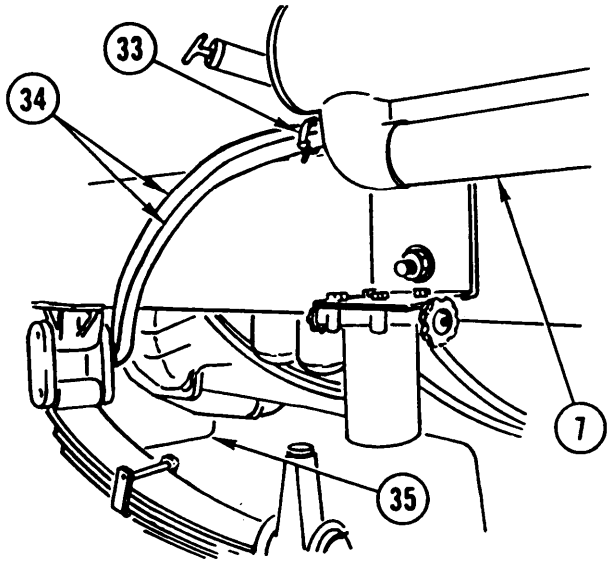


NOTE

Steps 8 and 9 are for M915A2 only.

8. REMOVE LOCK NUT (25), SCREW (26), WASHER (27), AND CLAMP (28) FROM BRACKET (29). DISCARD LOCK NUT.

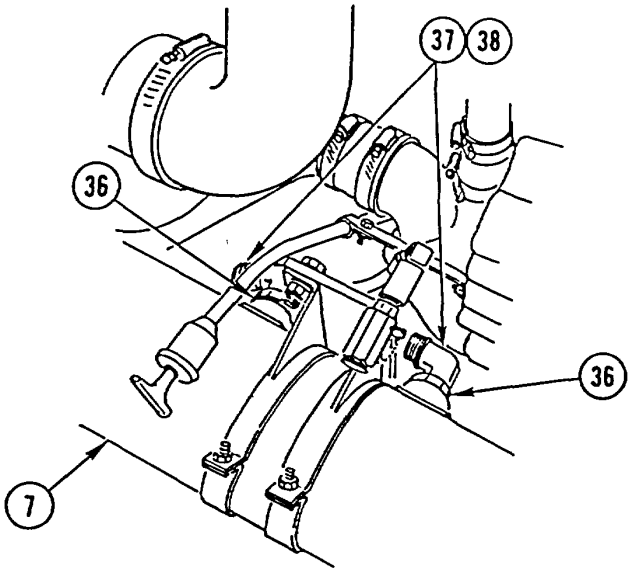
9. REMOVE SCREW (30), WASHER (31), AND BRACKET (29) FROM FLYWHEEL HOUSING (32).



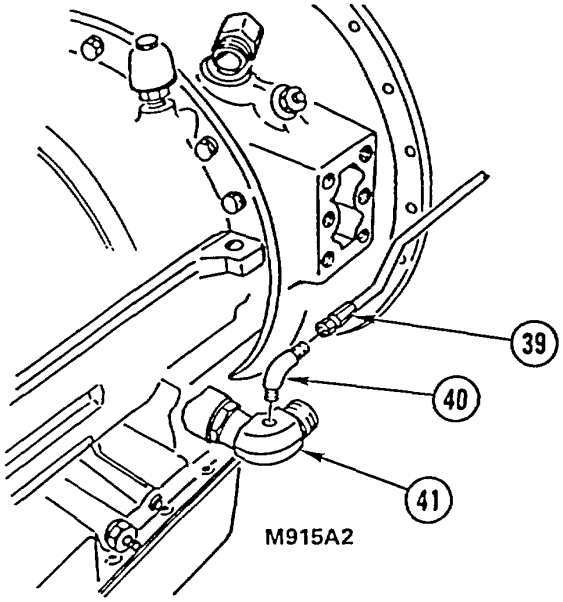
WARNING

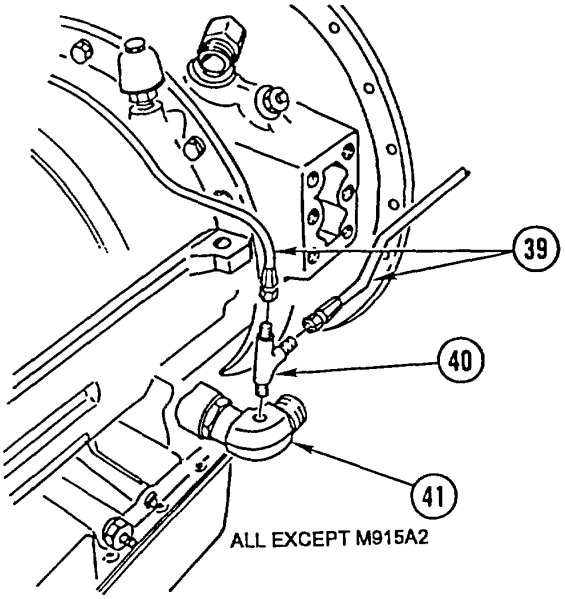
Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

10. REMOVE TIE WRAP(S) (33) AND TWO HOSES (34) BETWEEN TRANSMISSION OIL COOLER (7) AND TRANSMISSION (35).



11. LOOSEN TWO JAM NUTS (36) AND REMOVE TWO ELBOWS (37) AND TWO PACKINGS (38) FROM TRANSMISSION OIL COOLER (7). DISCARD PACKINGS.





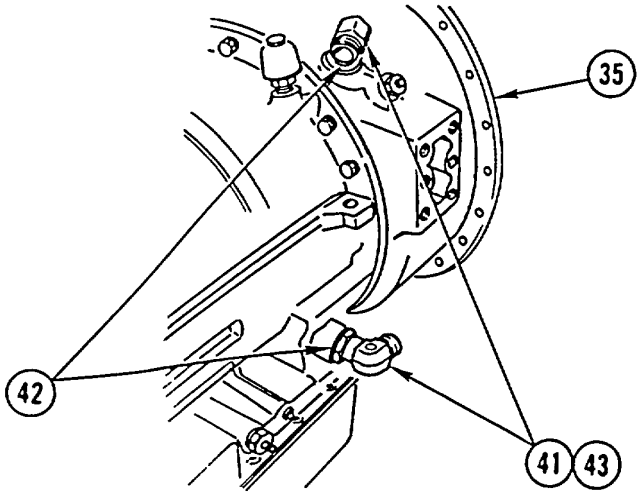
NOTE
Step 12 is for M915A2 only.

12. DISCONNECT HOSE (39) AND REMOVE ELBOW (40) FROM ELBOW (41).

NOTE
Step 13 is for all except M915A2 only.

13. DISCONNECT TWO HOSES (39) AND TEE (40) FROM ELBOW (41).

TRANSMISSION OIL COOLER LINES AND FITTINGS REPLACEMENT (CONT)



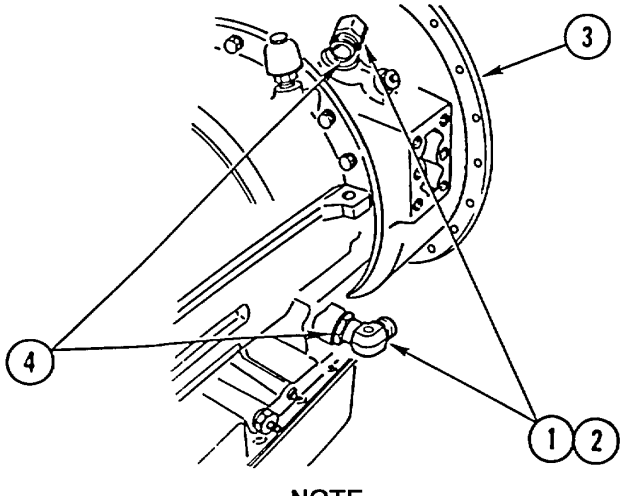
NOTE
Note position of elbow prior to removal to aid in installation.

14. LOOSEN TWO JAM NUTS (42) AND REMOVE TWO ELBOWS (41) AND TWO PACKINGS (43) FROM TRANSMISSION (35). DISCARD PACKINGS.

CLEANING/INSPECTION

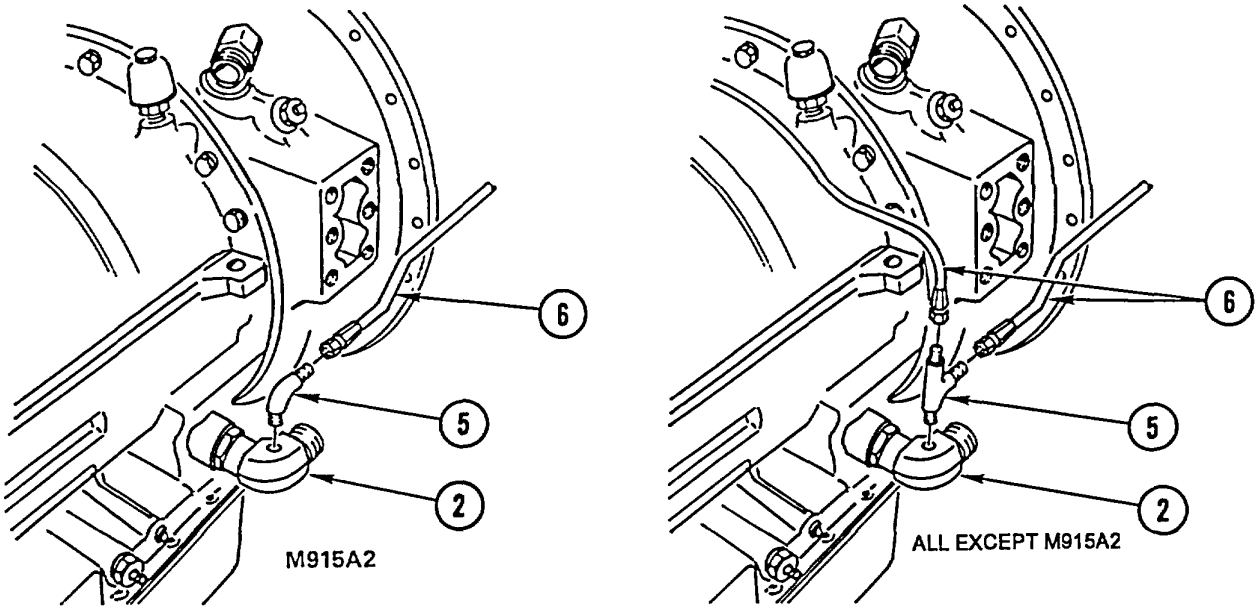
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



NOTE
Procedure is the same for all vehicles except as noted.

1. INSTALL TWO NEW PACKINGS (1) AND TWO ELBOWS (2) IN TRANSMISSION (3) AND TIGHTEN TWO JAM NUTS (4).

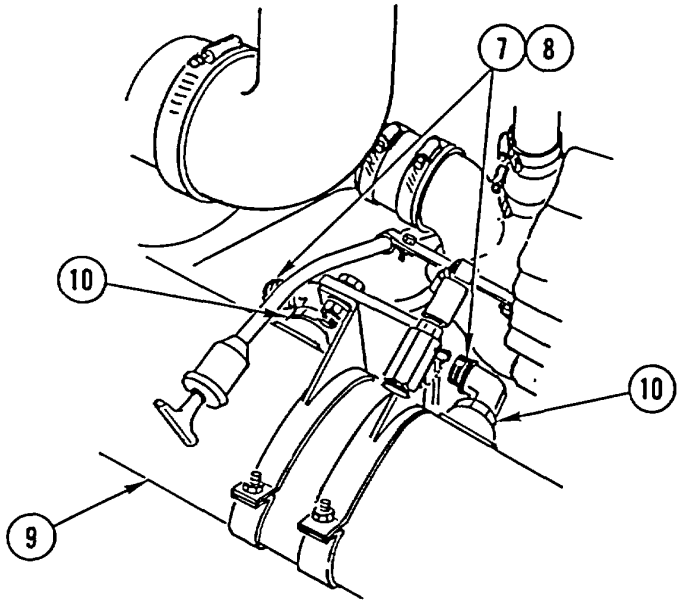


NOTE
Step 2 is for M915A2 only.

2. INSTALL FINE THREADED END OF ELBOW (5) IN ELBOW (2) AND CONNECT HOSE (6).

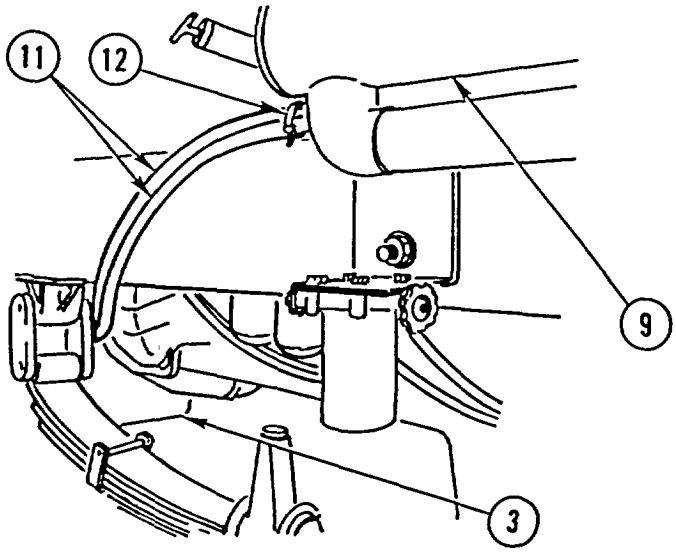
NOTE
Step 3 is for all except M915A2 only.

3. INSTALL FINE THREADED END OF TEE (5) IN ELBOW (2) AND CONNECT TWO HOSES (6).



4. INSTALL TWO NEW PACKINGS (7) AND TWO ELBOWS (8) IN TRANSMISSION OIL COOLER (9) AND TIGHTEN TWO JAM NUTS (10).

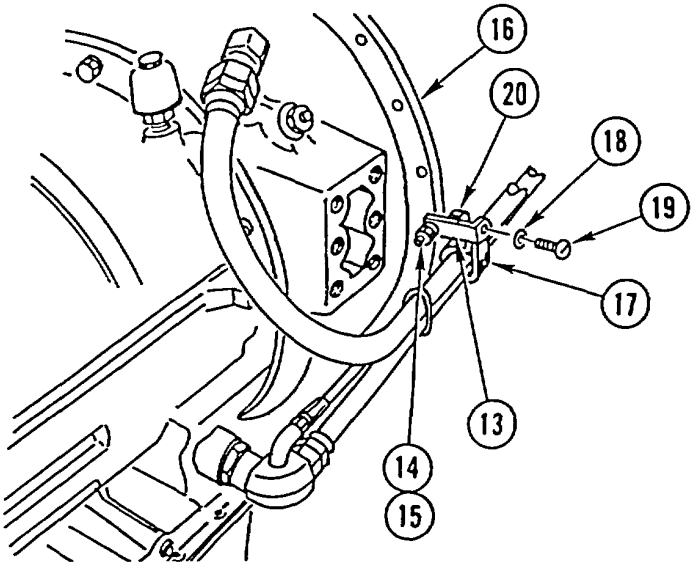
TRANSMISSION OIL COOLER LINES AND FITTINGS REPLACEMENT (CONT)



WARNING

Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

5. INSTALL TWO HOSES (11) AND TIE WRAP(S) (12) BETWEEN TRANSMISSION OIL COOLER (9) AND TRANSMISSION (3).

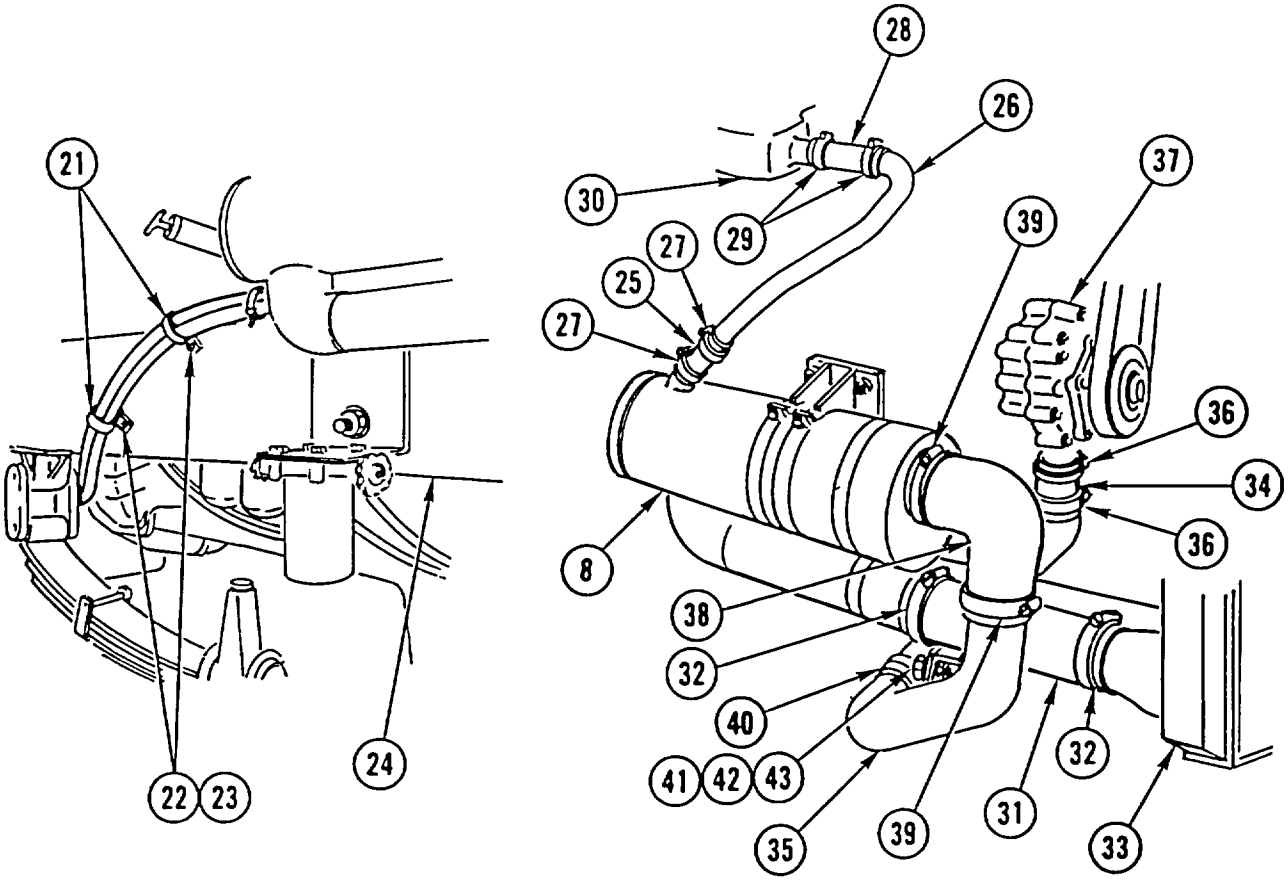


NOTE

Steps 6 and 7 are for M915A2 only.

6. INSTALL BRACKET (13), WASHER (14), AND SCREW (15) IN FLYWHEEL HOUSING (16). TIGHTEN SCREW TO 40 LB-FT (54 N.m).

7. INSTALL CLAMP (17), WASHER (18), SCREW (19), AND NEW LOCK NUT (20) ON BRACKET (13).



8. INSTALL TWO CLAMPS (21), TWO WASHERS (22), AND TWO NEW LOCK NUTS (23) ON FRAME RAIL (24).

9. INSTALL HOSE (25), PIPE (26), AND TWO CLAMPS (27) ON TRANSMISSION OIL COOLER (8).

10. INSTALL HOSE (28) AND TWO CLAMPS (29) BETWEEN THERMOSTAT HOUSING (30) AND PIPE (26).

11. INSTALL HOSE (31) AND TWO CLAMPS (32) BETWEEN TRANSMISSION OIL COOLER (8) AND RADIATOR (33).

12. INSTALL HOSE (34), PIPE (35), AND TWO CLAMPS (36) ON WATER PUMP (37).

13. INSTALL HOSE ELBOW (38) AND TWO CLAMPS (39) BETWEEN TRANSMISSION OIL COOLER (8) AND PIPE (35).

14. INSTALL CLAMP (40), TWO WASHERS (41), SCREW (42), AND NEW LOCK NUT (43).

NOTE
Follow-on Maintenance:

Fill cooling system (Unit PMCS, TM 9-2320-363-20-1).
Add transmission fluid (Unit PMCS, TM 9-2320-363-20-1).
Install transmission tunnel access cover (page 4-752 or 4-756.1).

TRANSMISSION OIL COOLER REPLACEMENT

This task covers: a. Removal b. Disassembly c. Cleaning/Inspection d. Assembly e. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:
Nut, Lock (4)

Equipment Condition:

Reference	Condition Description
Page 4-356	Transmission Oil Cooler Lines and Fittings Removed.

General Safety Instructions:

WARNING
Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

REMOVAL

WARNING
Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

1. REMOVE LOCK NUT (1), WASHER (2), SCREW (3), AND WASHER (4) AND SET OIL SAMPLE VALVE (5) ASIDE. DISCARD LOCK NUT.

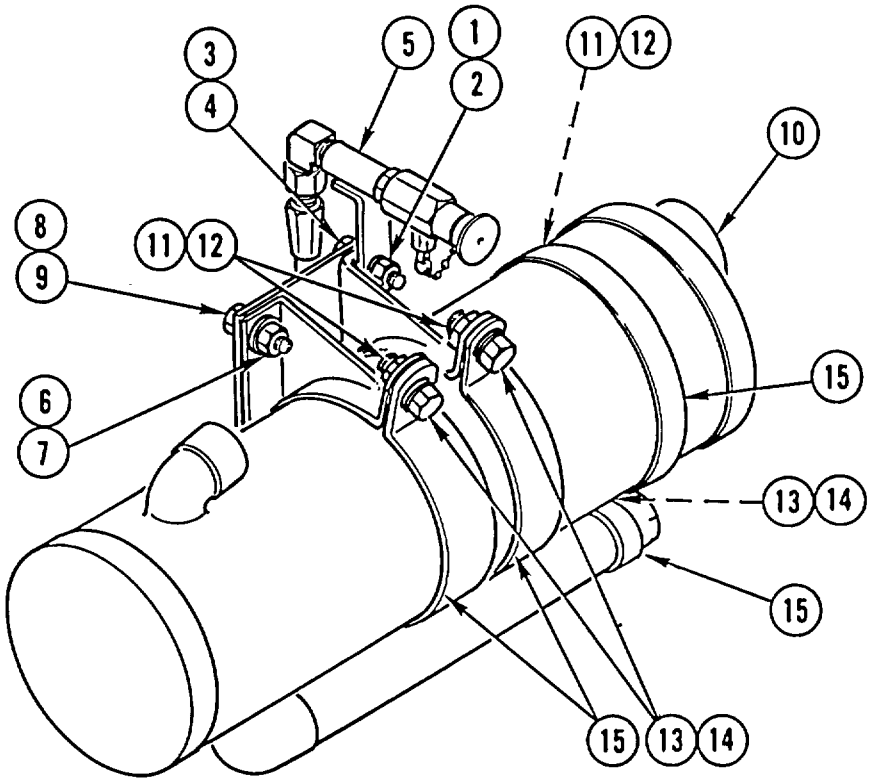
2. REMOVE THREE LOCK NUTS (6), THREE WASHERS (7), THREE SCREWS (8), THREE WASHERS (9), AND TRANSMISSION OIL COOLER (10). DISCARD LOCK NUTS.

DISASSEMBLY

REMOVE THREE NUTS (11), THREE WASHERS (12), THREE CAPSCREWS (13), THREE WASHERS (14), AND FOUR BRACKETS (15).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



ASSEMBLY

INSTALL FOUR BRACKETS (15), THREE WASHERS (14), THREE CAPSCREWS (13), THREE WASHERS (12), AND THREE NUTS (11).

INSTALLATION

WARNING

Spilled transmission fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

1. INSTALL TRANSMISSION OIL COOLER (10), THREE WASHERS (9), THREE SCREWS (8), THREE WASHERS (7), AND THREE NEW LOCK NUTS (6).

2. INSTALL OIL SAMPLE VALVE (5), WASHER (4), SCREW (3), WASHER (2), AND NEW LOCK NUT (1).

NOTE

Follow-on Maintenance:

Install transmission oil cooler lines and fittings (page 4-356).

TRANSMISSION BREATHER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

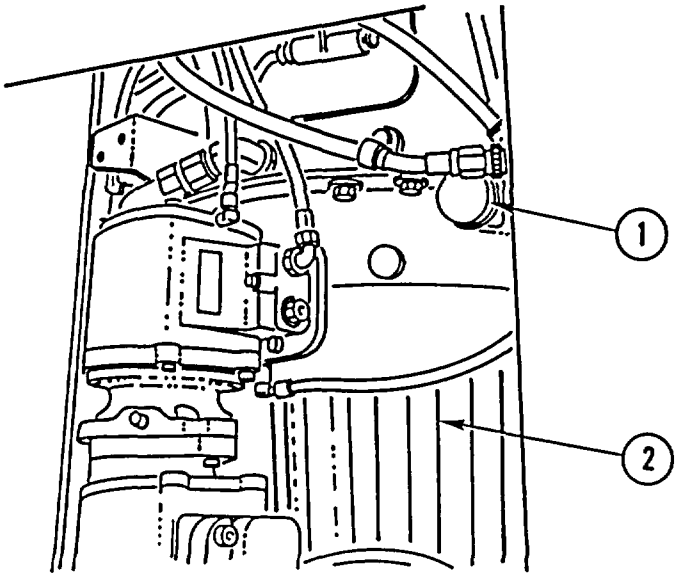
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 4-752 or 4-756.1	Transmission Tunnel Access Cover Removed

REMOVAL

REMOVE BREATHER (1) FROM TRANSMISSION (2).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

INSTALL BREATHER (1) IN TRANSMISSION (2).

NOTE
Follow-on Maintenance:
Install transmission tunnel access cover (page 4-752 or 4-756.1).

TRANSMISSION SOLENOID VALVE AND AIR PRESSURE REGULATOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26
Shop Equipment, SC 4910-95-CL-A72

Materials/Parts:

Packing	P/N M83248/1-115
Compound, Pipe Sealing	Appendix C, Item 8

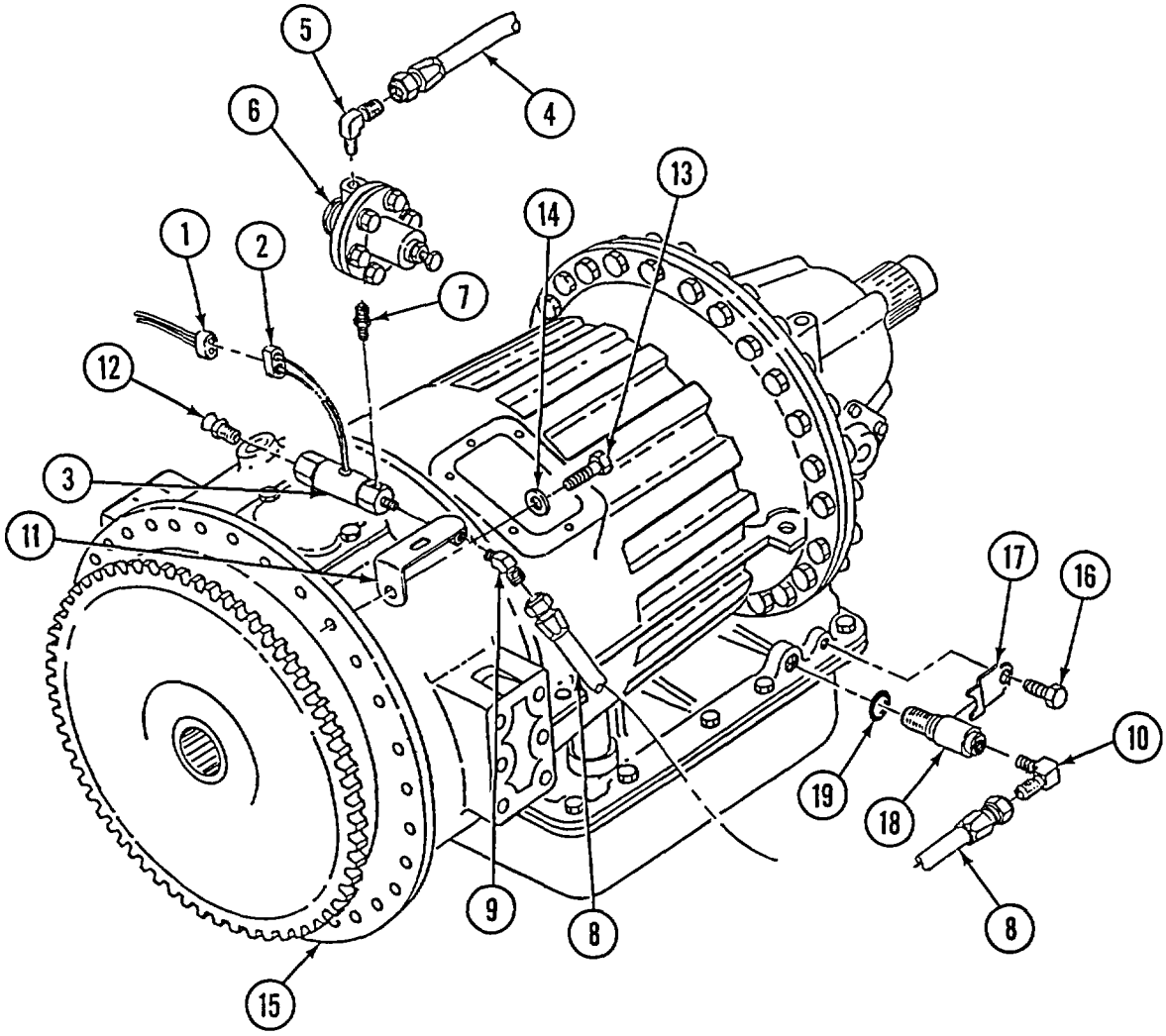
References:

TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected
Page 4-752 or 4-756.1	Transmission Tunnel Access Cover Removed

TRANSMISSION SOLENOID VALVE AND AIR PRESSURE REGULATOR REPLACEMENT (CONT)



REMOVAL

1. DISCONNECT CONNECTOR (1) FROM CONNECTOR (2) OF SOLENOID VALVE (3).
2. DISCONNECT HOSE (4) AND REMOVE ELBOW (5) FROM PRESSURE REGULATOR (6).
3. REMOVE PRESSURE REGULATOR (6) AND REDUCER (7) FROM SOLENOID VALVE (3).
4. DISCONNECT AND REMOVE HOSE (8) FROM ELBOW (9) AND ELBOW (10).
5. REMOVE ELBOW (9) AND SOLENOID VALVE (3) FROM BRACKET (11).
6. REMOVE VENT EXHAUST (12) FROM SOLENOID VALVE (3).

7. REMOVE SCREW (13), WASHER (14), AND BRACKET (11) FROM TRANSMISSION HOUSING (15).

8. REMOVE SCREW (16), CLIP (17), MODULATOR (18), AND PACKING (19). DISCARD PACKING.

9. REMOVE ELBOW (10) FROM MODULATOR (18).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. COAT PIPE THREADS OF ELBOW (5), ELBOW (9), ELBOW (10), REDUCER (7), VENT EXHAUST (12), AND SOLENOID VALVE (3) WITH PIPE SEALING COMPOUND.

2. INSTALL ELBOW (10) TO MODULATOR (18).

3. INSTALL NEW PACKING (19) AND MODULATOR (18) TO TRANSMISSION HOUSING (15). INSTALL CLIP (17) AND SCREW (16). TORQUE SCREW TO 8-10 LB-FT. (11-14 N.m).

4. INSTALL BRACKET (11) WITH WASHER (14) AND SCREW (13). TORQUE SCREW TO 40 LP-FT. (55 N.m)

5. INSTALL VENT EXHAUST (12) TO SOLENOID VALVE (3).

6. INSTALL SOLENOID VALVE (3) AND ELBOW (9) TO BRACKET (11).

7. CONNECT HOSE (8) TO ELBOW (9) AND ELBOW (10).

8. INSTALL REDUCER (7) AND PRESSURE REGULATOR (6) TO SOLENOID VALVE (3).

9. INSTALL ELBOW (5) TO PRESSURE REGULATOR (6). CONNECT HOSE (4) TO ELBOW.

10. CONNECT CONNECTOR (1) TO CONNECTOR (2) OF SOLENOID VALVE (3).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).
Install transmission tunnel access cover (page 4-752 or 4-756.1).

SHIFT TOWER REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (6) P/N MS35338-43
Tags, Identification Appendix C, Item 26

References:

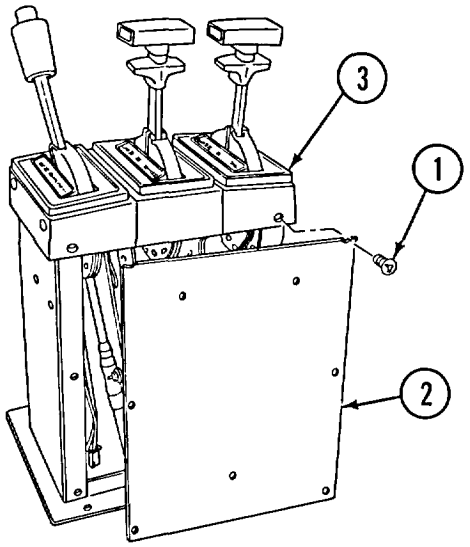
TM 9-2320-363-10
TM 5-3805-264-14&P

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Fire Extinguisher Removed
TM 9-2320-363-10	Wheels Blocked
Page 4-604.3	CTIS ECU Removed (M917A1 and M917A1 w/MCS)
TM 5-3805-264-14&P	MCS Control Unit Removed (M917A1 w/MCS)

REMOVAL

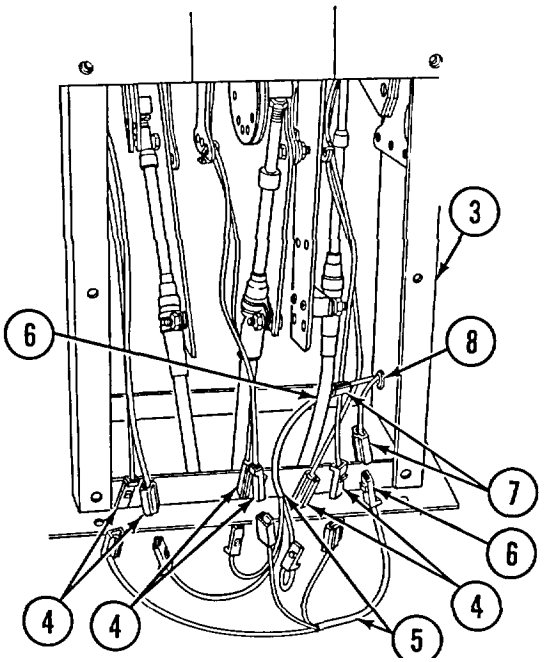
1. REMOVE SIX SCREWS (1) AND REAR ACCESS PANEL (2) FROM SHIFT TOWER (3).
2. REPEAT STEP 1 TO REMOVE FRONT ACCESS PANEL FROM SHIFT TOWER (3).
3. TO KEEP SHIFT TOWER RIGID, REINSTALL TWO TOP AND TWO BOTTOM SCREWS (1) ON FRONT AND REAR OF SHIFT TOWER (3).



4. TAG AND DISCONNECT THREE POWER AND THREE GROUND CONNECTORS (4) FROM SHIFT TOWER JUMPER HARNESS (5).

5. DISCONNECT SHIFT TOWER JUMPER HARNESS POWER AND GROUND CONNECTORS (6) FROM CAB HARNESS (7) AND REMOVE JUMPER HARNESS (5) FROM SHIFT TOWER (3)

6. REMOVE GROMMET (8) AND CAB HARNESS (7) FROM SHIFT TOWER (3).



NOTE

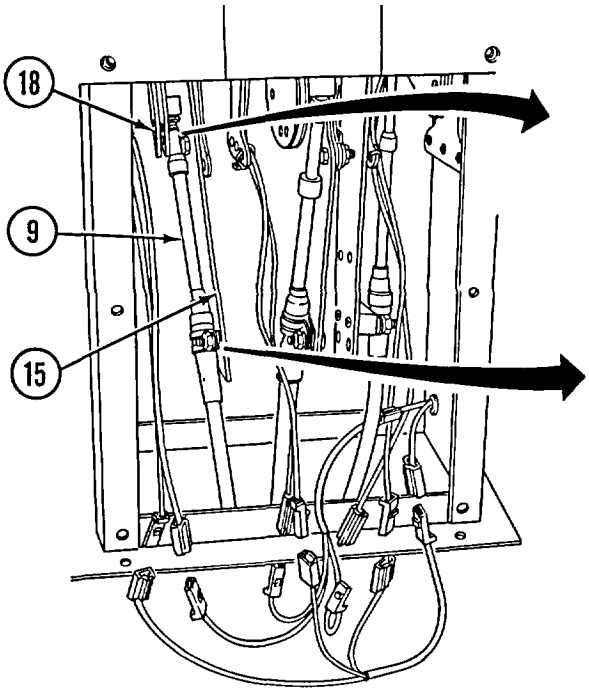
To ease installation, note mounting position of cable pivot pins and hold-down clamps prior to disconnecting cables.

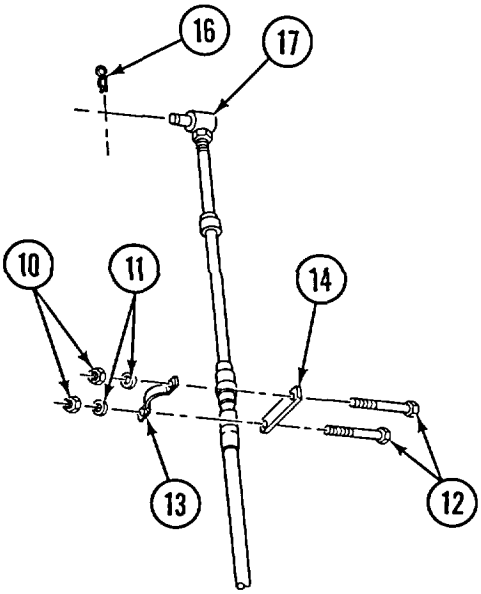
7. PLACE TRANSMISSION SELECTOR LEVER IN "D" POSITION

8. TAG TRANSMISSION SHIFT CABLE (9).

9. REMOVE TWO NUTS (10), TWO LOCK WASHERS (11), TWO SCREWS (12), CLAMP (13), AND SPACER (14) FROM BRACKET (15). DISCARD LOCK WASHERS.

10. REMOVE RETAINING PIN (16) FROM PIVOT PIN (17) AND PIVOT PIN FROM BRACKET (18).





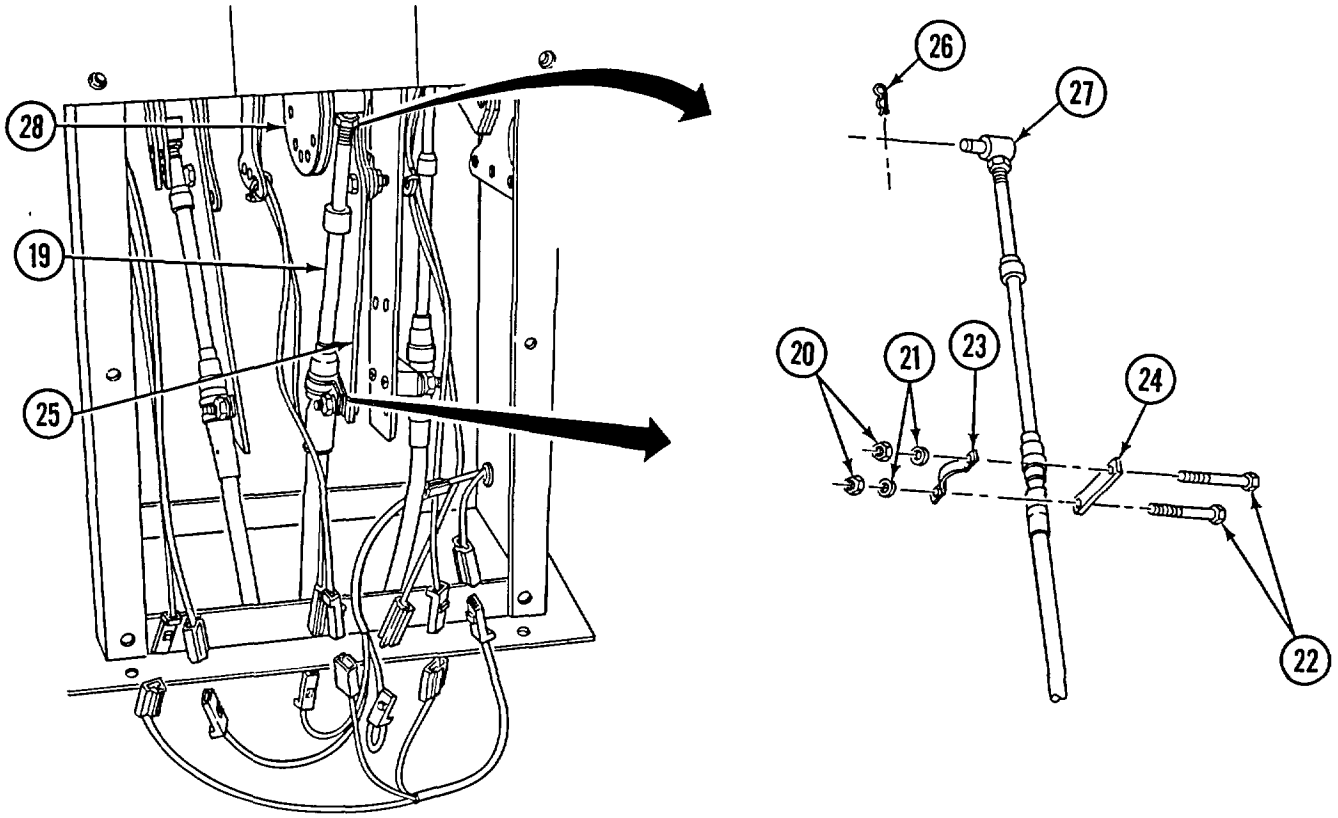
SHIFT TOWER REPLACEMENT (CONT)

11. PLACE TRANSFER CASE SELECTOR LEVER IN "N" POSITION.

12. TAG TRANSFER CASE SHIFT CABLE (19).

13. REMOVE TWO NUTS (20), TWO LOCK WASHERS (21), TWO SCREWS (22), CLAMP (23), AND SPACER (24) FROM BRACKET (25). DISCARD LOCK WASHERS.

14. REMOVE RETAINING PIN (26) FROM PIVOT PIN (27) AND PIVOT PIN FROM BRACKET (28)



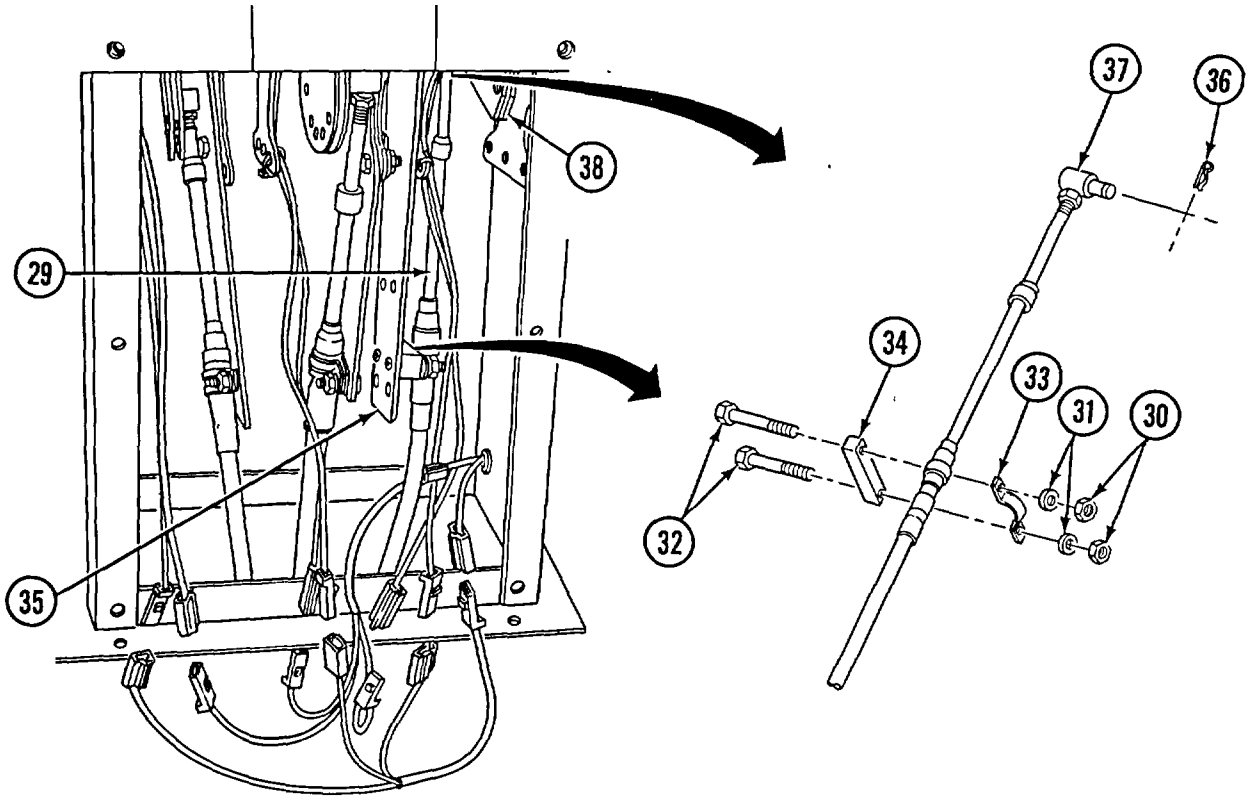
NOTE
Perform steps 15 through 18 for M917A1 and M917A1 w/MCS.

15. PLACE HYDRAULIC CONTROL LEVER IN "DOWN" POSITION.

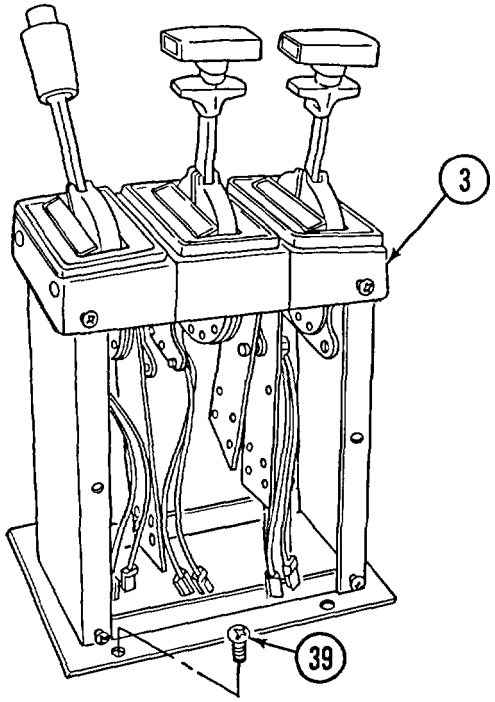
16. TAG HYDRAULIC CONTROL CABLE (29).

17. REMOVE TWO NUTS (30), TWO LOCK WASHERS (31), TWO SCREWS (32), CLAMP (33), AND SPACER (34) FROM BRACKET (35). DISCARD LOCK WASHERS.

18. REMOVE RETAINING PIN (36) FROM PIVOT PIN (37) AND PIVOT PIN FROM BRACKET (38).



19. REMOVE FOUR BOLTS (39) AND SHIFT TOWER (3) FROM CAB FLOOR.

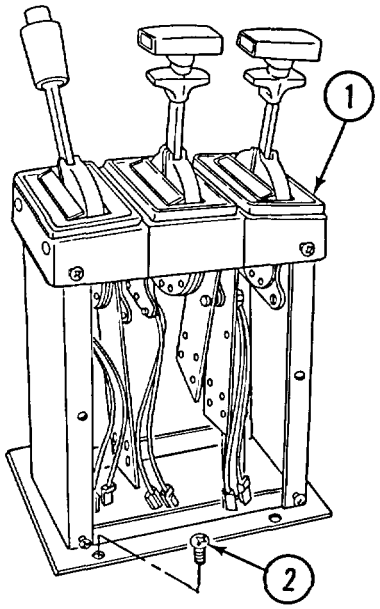


SHIFT TOWER REPLACEMENT (CONT)

INSTALLATION

1. IF INSTALLED, REMOVE FRONT AND REAR ACCESS PANELS FROM SHIFT TOWER. TO KEEP SHIFT TOWER RIGID, REINSTALL TWO TOP AND TWO BOTTOM SCREWS ON FRONT AND REAR OF SHIFT TOWER.

2. WITH TRANSMISSION SELECTOR LEVER ON LEFT, POSITION SHIFT TOWER (1) ON CAB FLOOR AND INSTALL FOUR BOLTS (2).

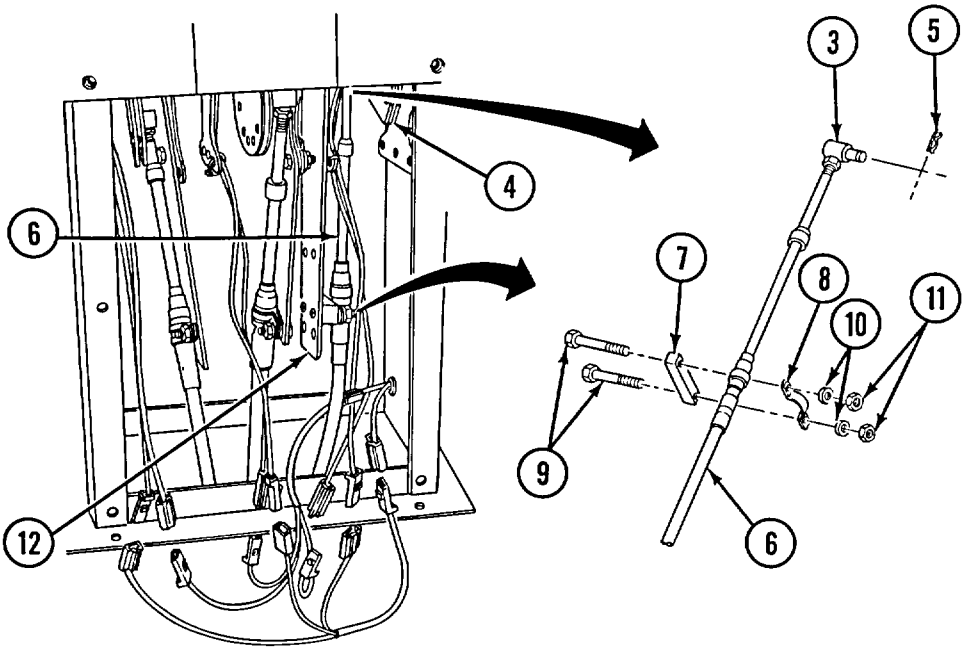


NOTE
Perform steps 3 through 5 for M917A1 and M917A1 w/MCS.

3. WITH HYDRAULIC CONTROL LEVER IN "DOWN" POSITION, INSTALL HYDRAULIC CONTROL CABLE PIVOT PIN (3) IN BRACKET (4) AND SECURE WITH RETAINING PIN (5). REMOVE TAG FROM CABLE (6).

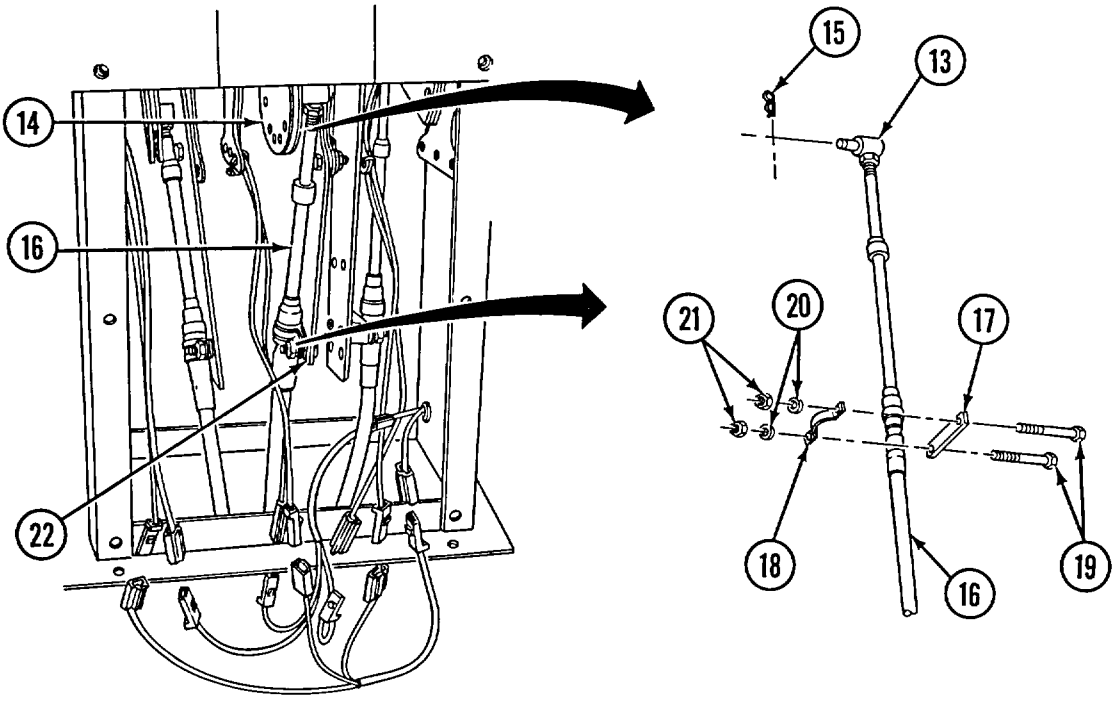
4. INSTALL SPACER (7), CABLE (6), CLAMP (8), TWO SCREWS (9), TWO NEW LOCK WASHERS (10), AND TWO NUTS (11) TO BRACKET (12).

5. PLACE HYDRAULIC CONTROL LEVER IN "N" POSITION.



6. WITH TRANSFER CASE SELECTOR LEVER IN "N" POSITION, INSTALL TRANSFER CASE CONTROL CABLE PIVOT PIN (13) IN BRACKET (14) AND SECURE WITH RETAINING PIN (15). REMOVE TAG FROM CABLE (16).

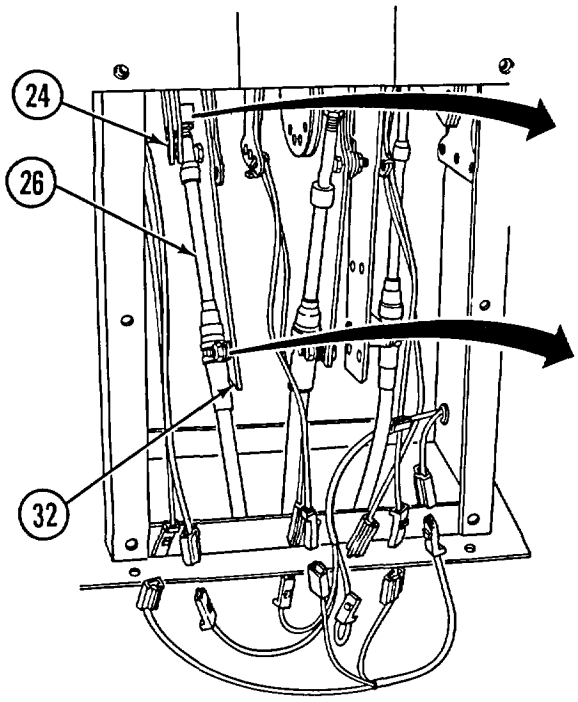
7. INSTALL SPACER (17), CABLE (16), CLAMP (18), TWO SCREWS (19), TWO NEW LOCK WASHERS (20), AND TWO NUTS (21) TO BRACKET (22).

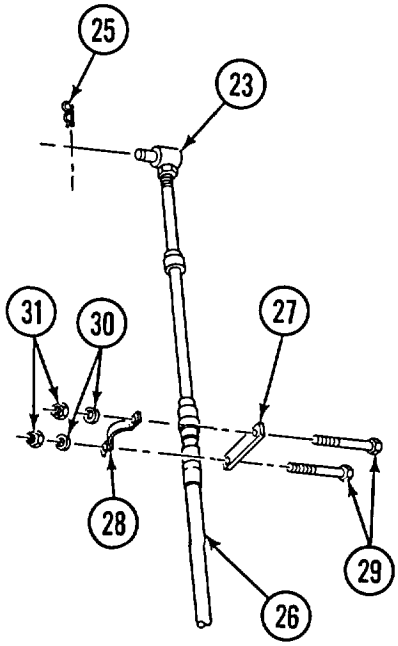


SHIFT TOWER REPLACEMENT (CONT)

8. WITH TRANSMISSION SELECTOR LEVER IN "D" POSITION, INSTALL TRANSMISSION CONTROL CABLE PIVOT PIN (23) IN BRACKET (24) AND SECURE WITH RETAINING PIN (25). REMOVE TAG FROM CABLE (26).

9. INSTALL SPACER (27), CABLE (26), CLAMP (28), TWO SCREWS (29), TWO NEW LOCK WASHERS (30), AND TWO NUTS (31) TO BRACKET (32).



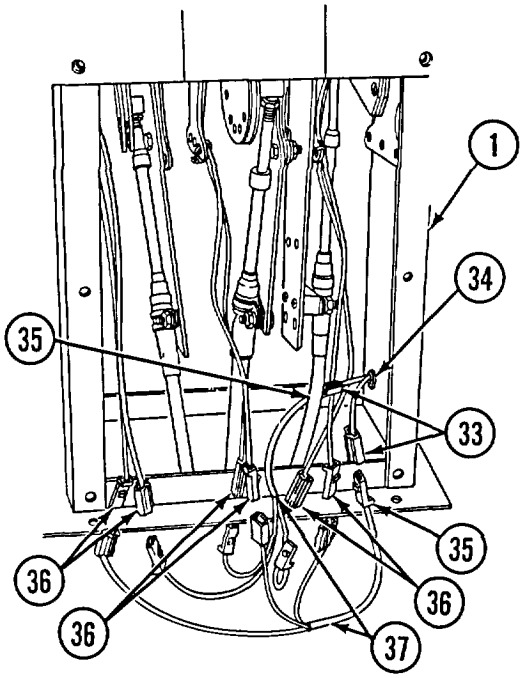


10. PLACE TRANSMISSION SELECTOR LEVER IN "N" POSITION.

11. FEED CAB HARNESS (33) INTO SHIFT TOWER (1) AND INSTALL GROMMET (34).

12. CONNECT SHIFT TOWER JUMPER HARNESS POWER AND GROUND CONNECTORS (35) TO CAB HARNESS (33).

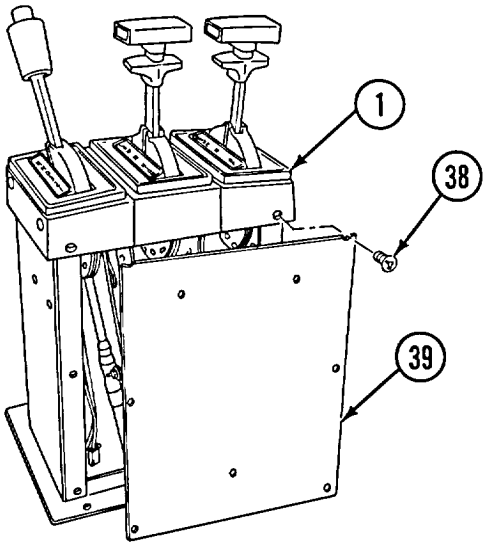
13. CONNECT THREE POWER AND THREE GROUND CONNECTORS (36) TO SHIFT TOWER JUMPER HARNESS(37). REMOVE TAGS.



14. REMOVE TWO TOP AND TWO BOTTOM SCREWS (38) ON FRONT AND REAR OF SHIFT TOWER (1).

15. INSTALL REAR ACCESS PANEL (39) AND SIX SCREWS (38).

16 REPEAT STEP 15 TO INSTALL FRONT ACCESS PANEL.



NOTE
Follow-on Maintenance:

Adjust transmission shift linkage (page 4-342).
Adjust transfer case shift linkage (page 4-376).
Adjust hydraulic control linkage (M917A1 and M917A1 w/MCS)(TM 5-3805-264-14&P).
Install CTIS ECU (M917A1 and M917A1 w/MCS)(page 4-604.3).
Install MCS control unit (M917A1 w/MCS)(TM 5-3805-264-14&P).
Install fire extinguisher (TM 9-2320-363-10).

SHIFT TOWER LIGHT BULB REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

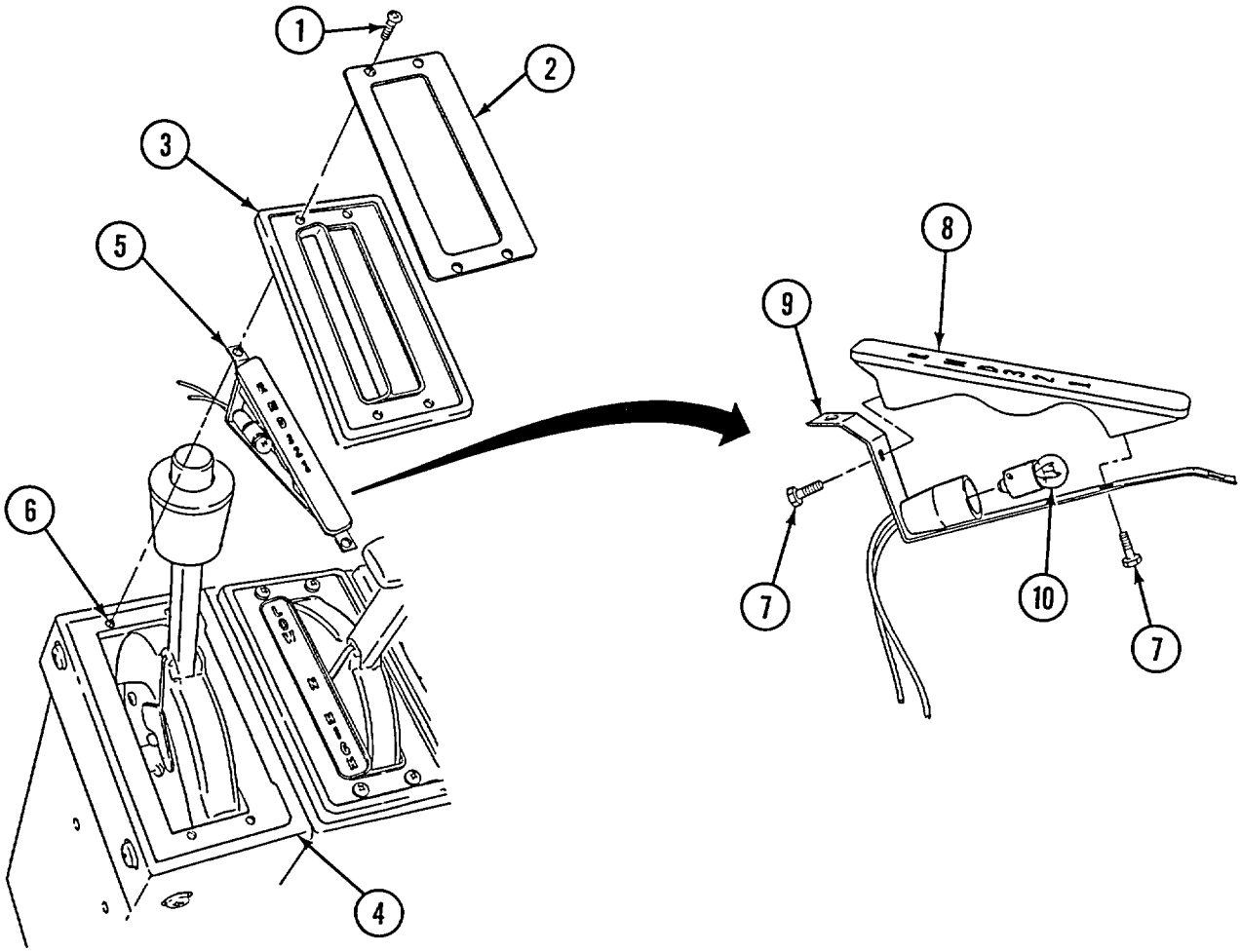
REMOVAL

NOTE
This task can be used to replace any bulb in the shift tower.

1. REMOVE FOUR SCREWS (1), PLATE (2), AND RUBBER GASKET (3) FROM SHIFT TOWER (4).
2. LIFT LIGHT STRIP (5) OFF OF THREADED INSERTS (6) ON SHIFT TOWER (4).
3. REMOVE TWO PLASTIC RIVETS (7) CONNECTING ORANGE LIGHT STRIP (8) AND METAL STRIP (9).
4. REMOVE LIGHT BULB (10).

INSTALLATION

1. INSTALL LIGHT BULB (10).
2. ALIGN HOLES ON ORANGE LIGHT STRIP (8) AND METAL STRIP (9) AND INSTALL TWO PLASTIC RIVETS (7).
3. INSTALL LIGHT STRIP (5) ONTO RUBBER GASKET (3) AND POSITION RUBBER GASKET OVER THREADED INSERTS (6) ON SHIFT TOWER (4).
4. INSTALL PLATE (2) AND FOUR SCREWS (1).


1
2
3
5
6
4
8
9
7
10
7

TRANSMISSION SHIFT CONTROL REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (6)	P/N MS35338-43
Tags, Identification	Appendix C, Item 26

References:

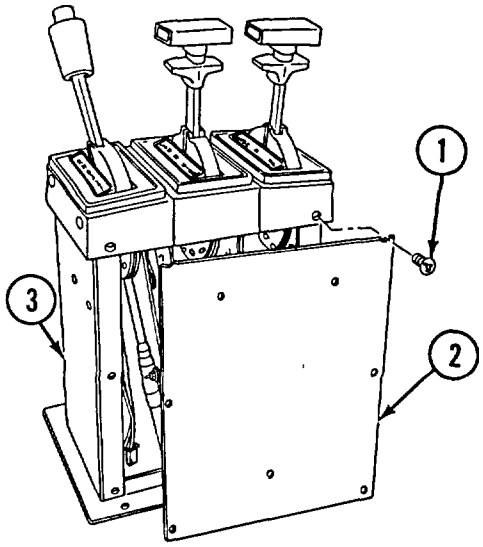
TM 9-2320-363-10
TM 5-3805-264-14&P

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Wheels Blocked
Page 4-604.3	CTIS ECU Removed (M917A1 and M917A1 w/MCS)
TM 5-3805-264-14&P	MCS Control Unit Removed (M917A1 w/MCS)

REMOVAL

1. REMOVE SIX SCREWS (1) AND REAR ACCESS PANEL (2) FROM SHIFT TOWER (3).
2. REPEAT STEP 1 TO REMOVE FRONT ACCESS PANEL FROM SHIFT TOWER (3).
3. TO KEEP SHIFT TOWER RIGID, REINSTALL TWO TOP AND TWO BOTTOM SCREWS (1) ON FRONT AND REAR OF SHIFT TOWER (3).



4. TAG AND DISCONNECT THREE POWER AND THREE GROUND CONNECTORS (4) FROM SHIFT TOWER JUMPER HARNESS (5).

NOTE

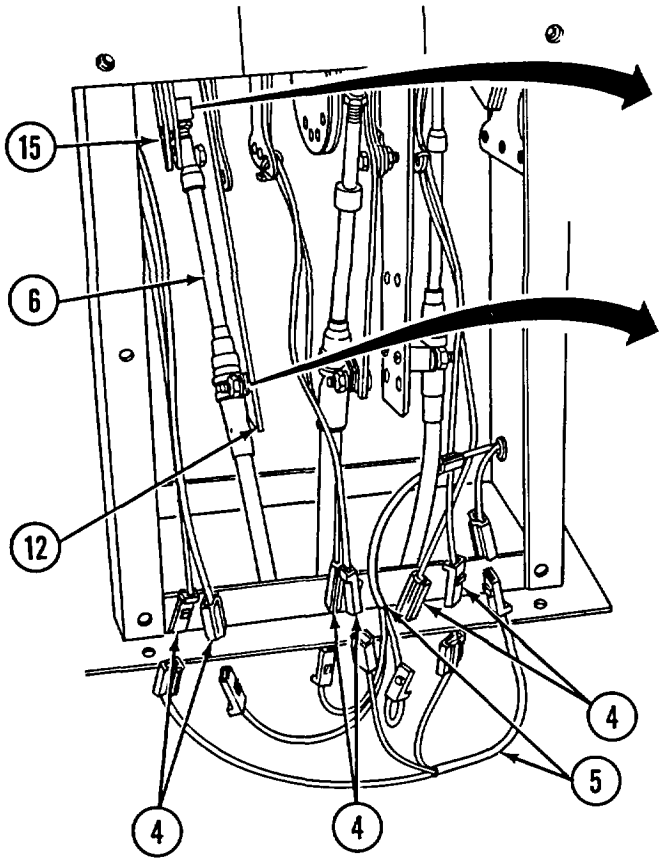
To ease installation, note mounting position of cable pivot pins and hold-down clamps prior to disconnecting cables

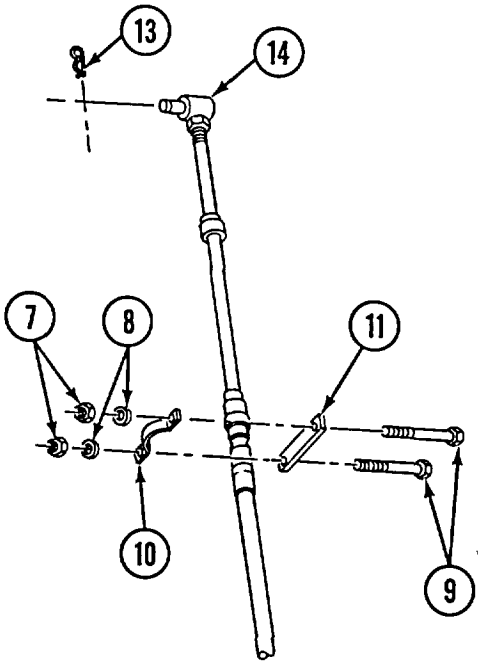
5. PLACE TRANSMISSION SELECTOR LEVER IN "D" POSITION.

6. TAG TRANSMISSION SHIFT CABLE (6).

7. REMOVE TWO NUTS (7), TWO LOCK WASHERS (8), TWO SCREWS (9), CLAMP (10), AND SPACER (11) FROM BRACKET (12). DISCARD LOCK WASHERS

8. REMOVE RETAINING PIN (13) FROM PIVOT PIN (14) AND PIVOT PIN FROM BRACKET (15).





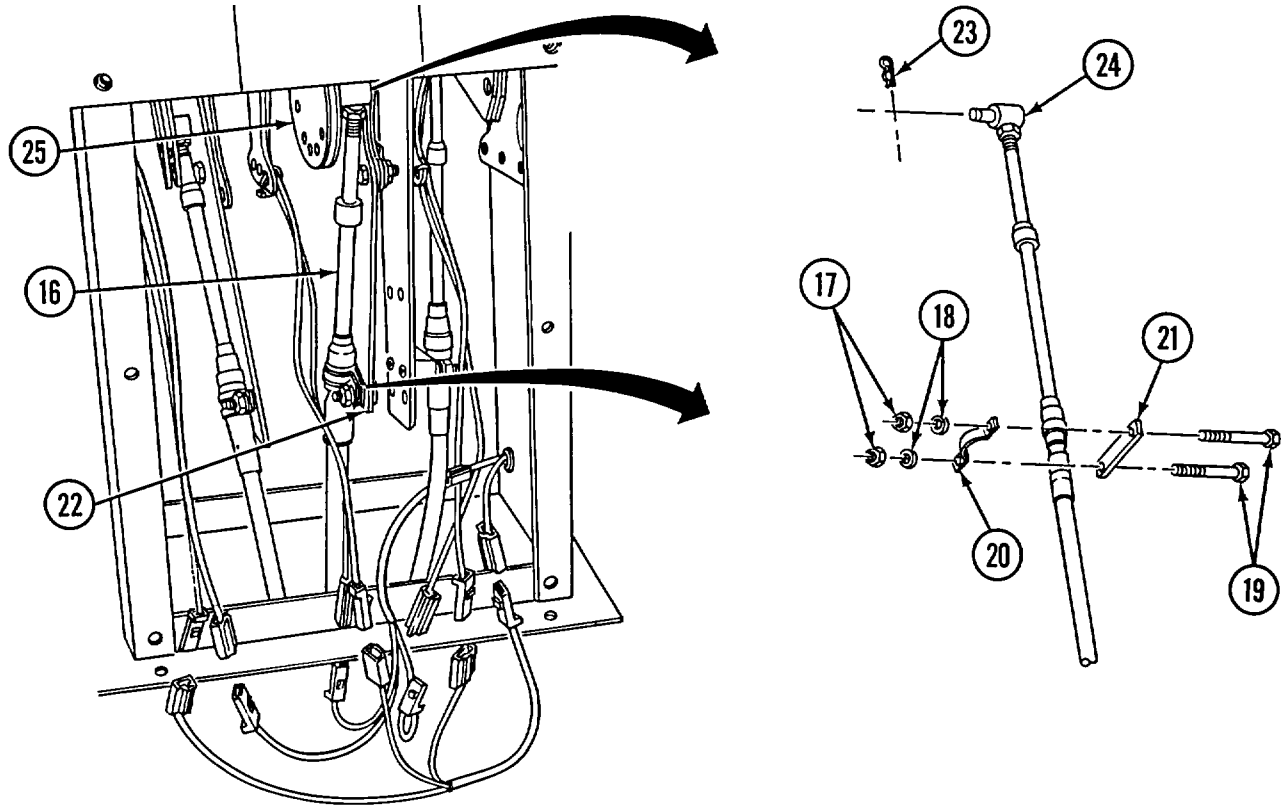
TRANSMISSION SHIFT CONTROL REPLACEMENT (CONT)

9. PLACE TRANSFER CASE SELECTOR LEVER IN "N" POSITION.

10. TAG TRANSFER CASE SHIFT CABLE (16).

11. REMOVE TWO NUTS (17), TWO LOCK WASHERS (18), TWO SCREWS (19), CLAMP (20), AND SPACER (21) FROM BRACKET (22). DISCARD LOCK WASHERS.

12. REMOVE RETAINING PIN (23) FROM PIVOT PIN (24) AND PIVOT PIN FROM BRACKET (25).



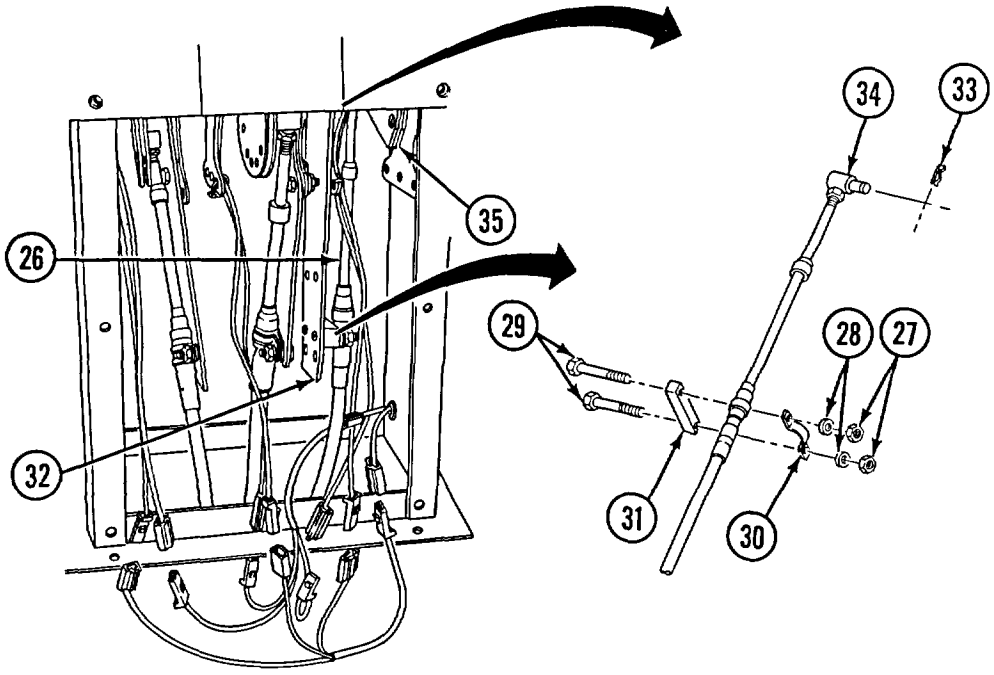
NOTE
Perform steps 13 through 16 for M917A1 and M917A1 w/MCS.

13. PLACE HYDRAULIC CONTROL LEVER IN "DOWN" POSITION.

14. TAG HYDRAULIC CONTROL CABLE (26).

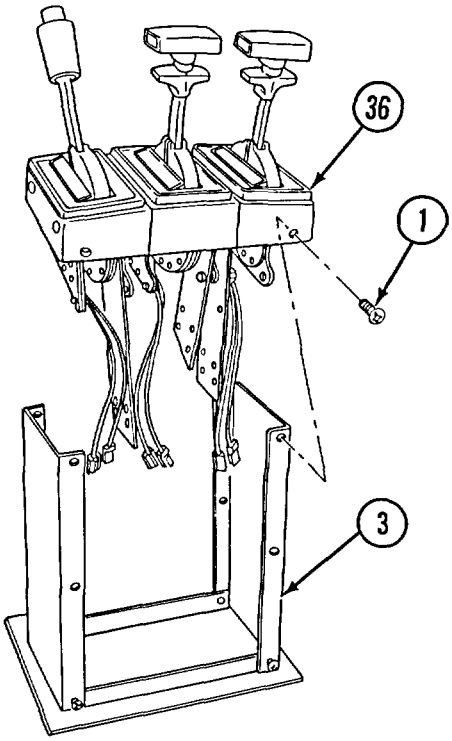
15. REMOVE TWO NUTS (27), TWO LOCK WASHERS (28), TWO SCREWS (29), CLAMP (30), AND SPACER (31) FROM BRACKET (32). DISCARD LOCK WASHERS.

16. REMOVE RETAINING PIN (33) FROM PIVOT PIN (34) AND PIVOT PIN FROM BRACKET (35).



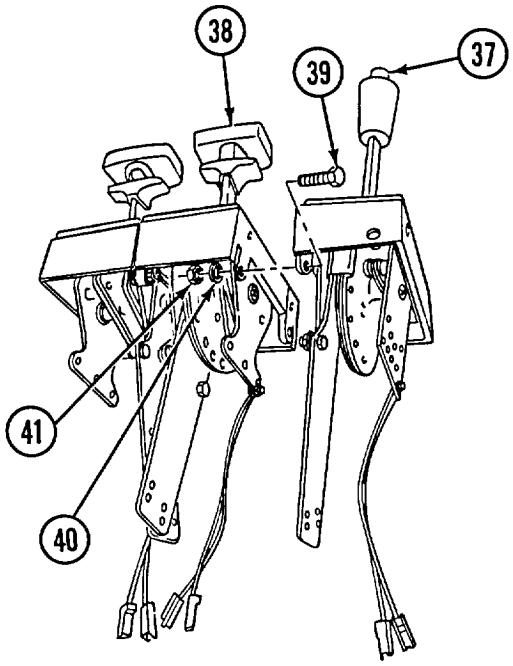
17. REMOVE TWO TOP SCREWS (1) FROM FRONT AND REAR OF SHIFT TOWER (3).

18. LIFT HANDLE ASSEMBLY (36) FROM SHIFT TOWER (3).



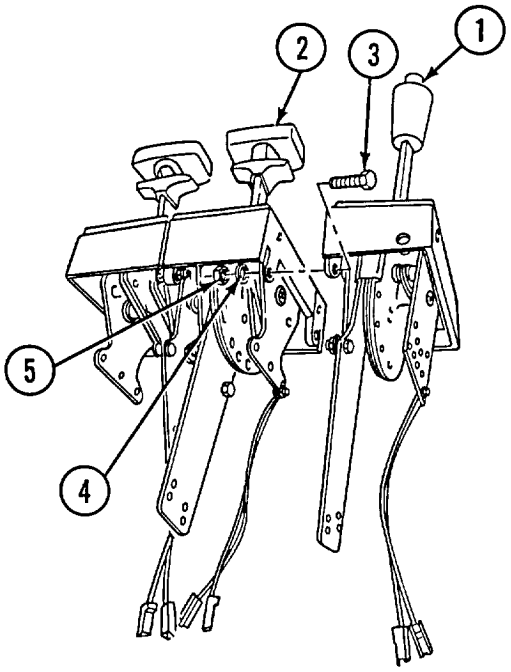
TRANSMISSION SHIFT CONTROL REPLACEMENT (CONT)

19. SEPARATE TRANSMISSION SHIFT CONTROL (37) FROM TRANSFER CASE SHIFT CONTROL (38) BY REMOVING TWO BOLTS (39), TWO FLATWASHERS (40), AND TWO NUTS (41).



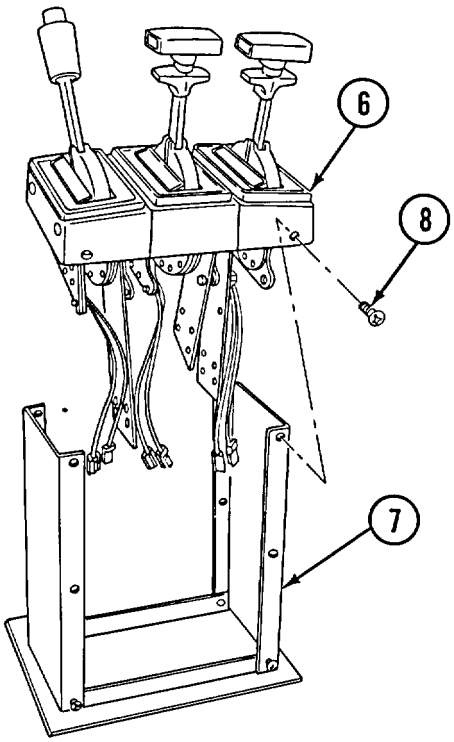
INSTALLATION

1. ASSEMBLE TRANSMISSION SHIFT CONTROL (1) TO TRANSFER CASE SHIFT CONTROL (2) WITH TWO BOLTS (3), TWO FLATWASHERS (4), AND TWO NUTS (5).



2. POSITION HANDLE ASSEMBLY (6) ON SHIFT TOWER (7).

3. TO KEEP SHIFT TOWER RIGID, INSTALL TWO TOP SCREWS (8) ON FRONT AND REAR OF SHIFT TOWER (7).



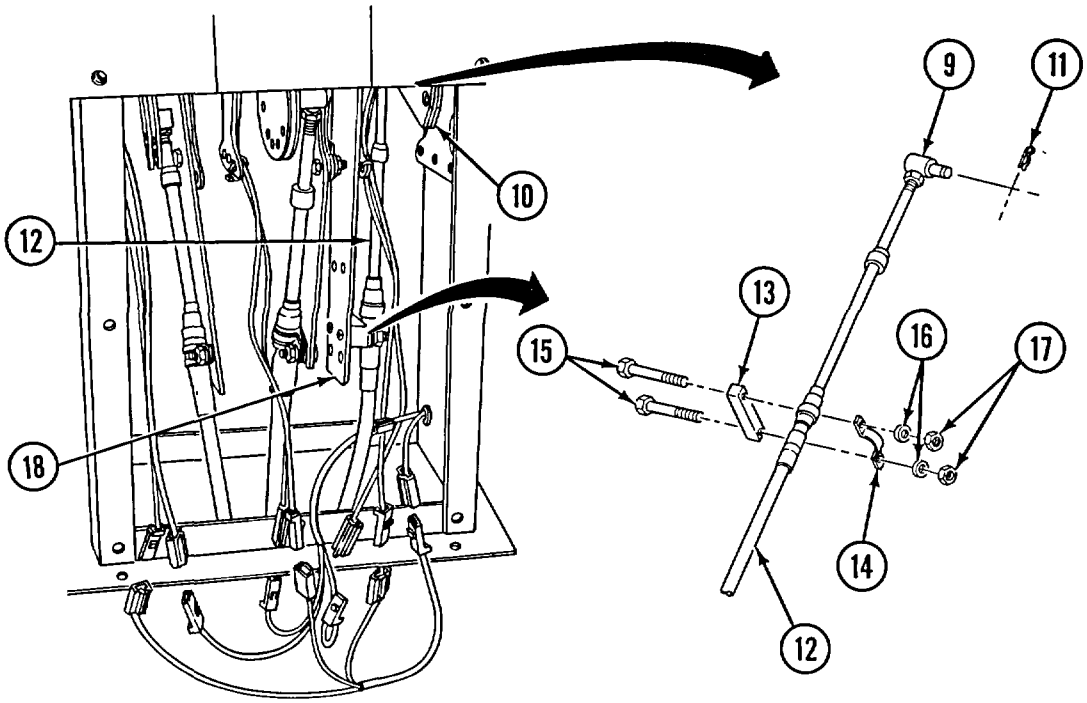
TRANSMISSION SHIFT CONTROL REPLACEMENT (CONT)

NOTE
Perform steps 4 through 6 for M917A1 and M917A1 w/MCS.

4. WITH HYDRAULIC CONTROL LEVER IN "DOWN" POSITION, INSTALL HYDRAULIC CONTROL CABLE PIVOT PIN (9) IN BRACKET (10) AND SECURE WITH RETAINING PIN (11). REMOVE TAG FROM CABLE (12).

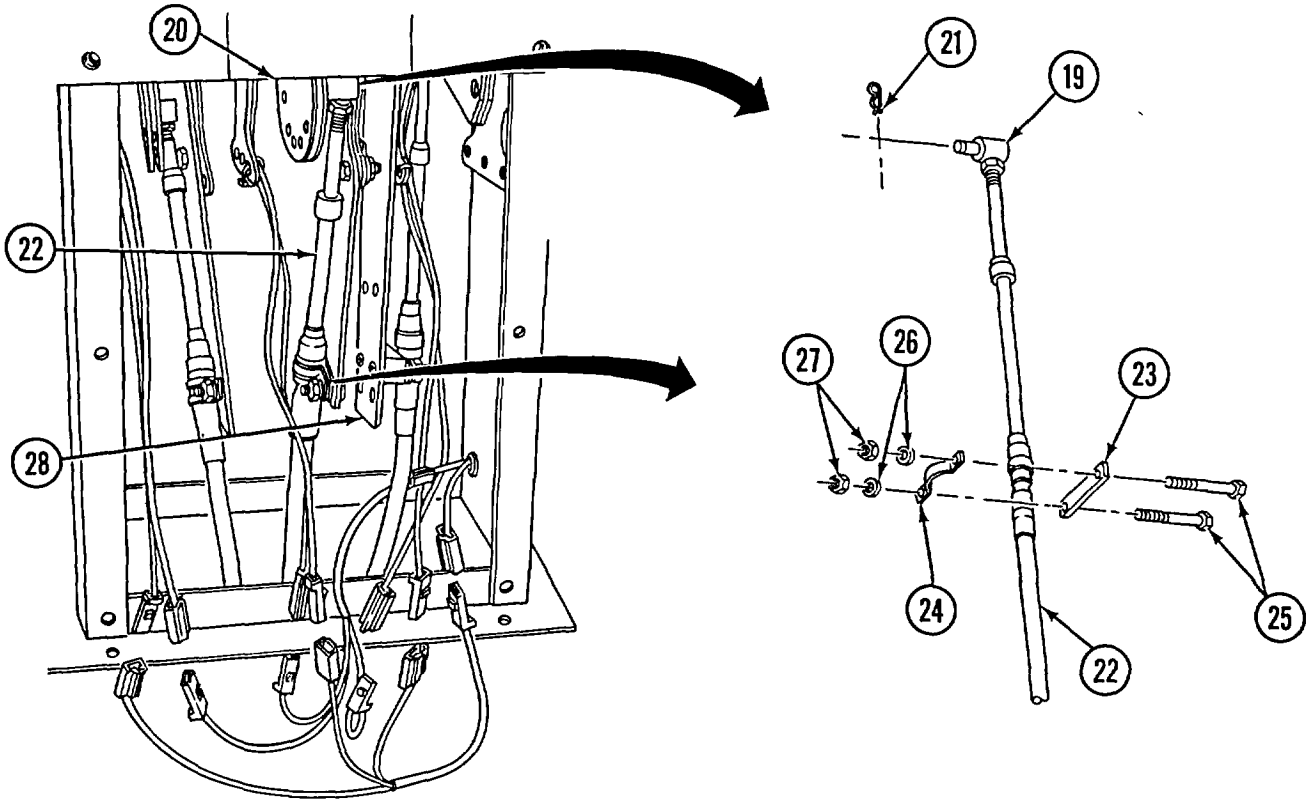
5. INSTALL SPACER (13), CABLE (12), CLAMP (14), TWO SCREWS (15), TWO NEW LOCK WASHERS (16), AND TWO NUTS (17) TO BRACKET (18).

6. PLACE HYDRAULIC CONTROL LEVER IN "N" POSITION.



7. WITH TRANSFER CASE SELECTOR LEVER IN "N" POSITION, INSTALL TRANSFER CASE CONTROL CABLE PIVOT PIN (19) IN BRACKET (20) AND SECURE WITH RETAINING PIN (21). REMOVE TAG FROM CABLE (22).

8. INSTALL SPACER (23), CABLE (22), CLAMP (24), TWO SCREWS (25), TWO NEW LOCK WASHERS (26), AND TWO NUTS (27) TO BRACKET (28).



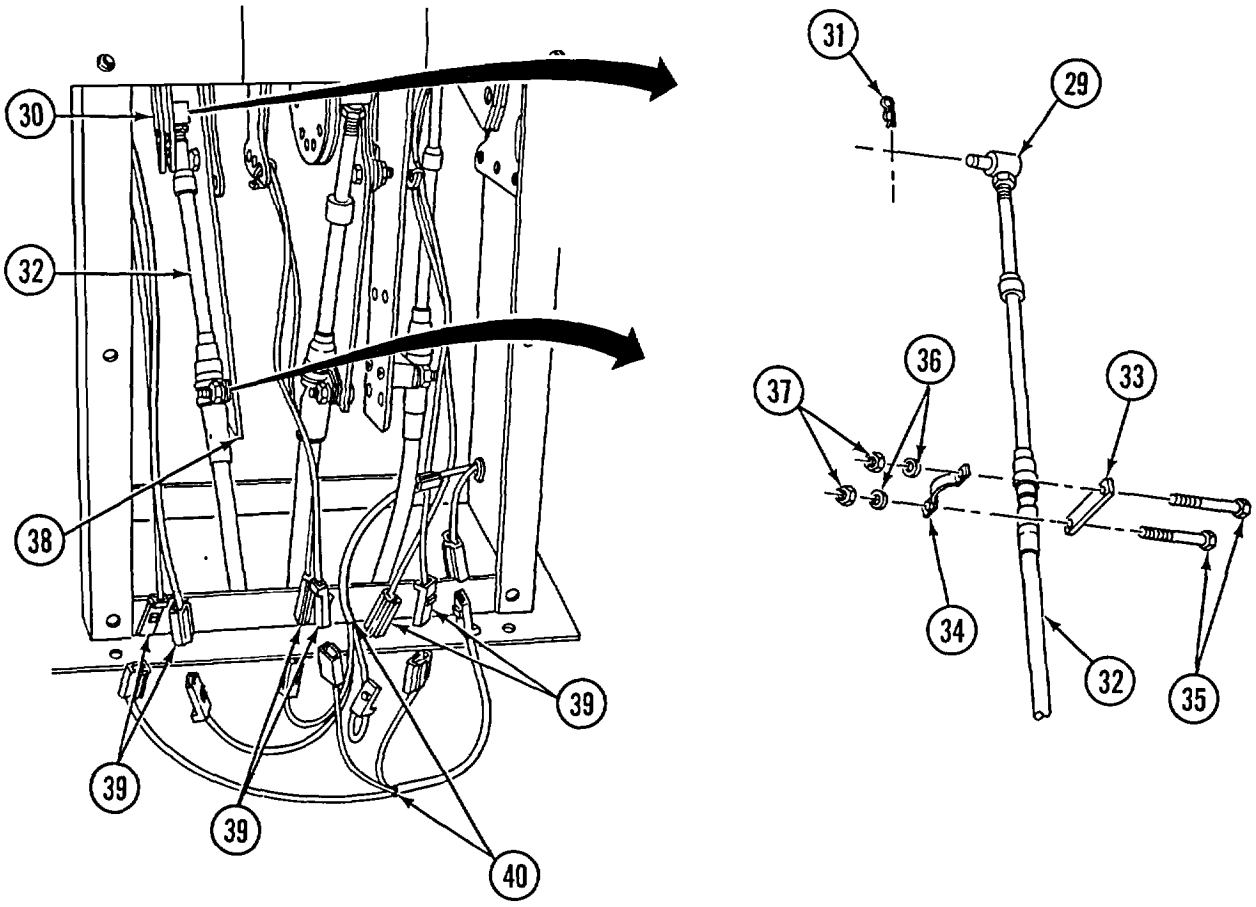
TRANSMISSION SHIFT CONTROL REPLACEMENT (CONT)

9. WITH TRANSMISSION SELECTOR LEVER IN "D" POSITION, INSTALL TRANSMISSION CONTROL CABLE PIVOT PIN (29) IN BRACKET (30) AND SECURE WITH RETAINING PIN (31). REMOVE TAG FROM CABLE (32).

10. INSTALL SPACER (33), CABLE (32), CLAMP (34), TWO SCREWS (35), TWO NEW LOCK WASHERS (36), AND TWO NUTS (37) TO BRACKET (38).

11. PLACE TRANSMISSION SELECTOR LEVER IN "N" POSITION.

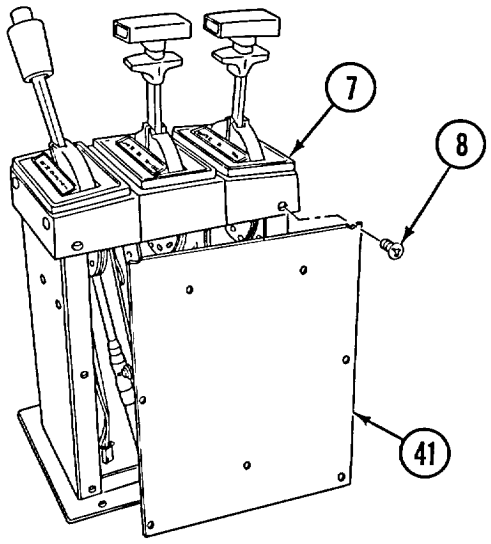
12. CONNECT THREE POWER AND THREE GROUND CONNECTORS (39) TO SHIFT TOWER JUMPER HARNESS (40). REMOVE TAGS.



13. REMOVE TWO TOP AND TWO BOTTOM SCREWS (8) ON FRONT AND REAR OF SHIFT TOWER (7).

14. INSTALL REAR ACCESS PANEL (41) AND SIX SCREWS (8).

15. REPEAT STEP 14 TO INSTALL FRONT ACCESS PANEL.



NOTE

Follow-on Maintenance:

Install CTIS ECU (M917A1 and M917A1 w/MCS)(page 4-604.3).
Install MCS control unit (M917A1 w/MCS)(TM 5-3805-264-14&P).

TRANSMISSION SHIFT CONTROL CABLE REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (2) P/N MS35338-43
Washer, Lock (2) PIN MS35338-44

Personnel Required: (2)

References:

TM 9-2320-363-10
TM 5-3805-264-14&P

Equipment Condition:

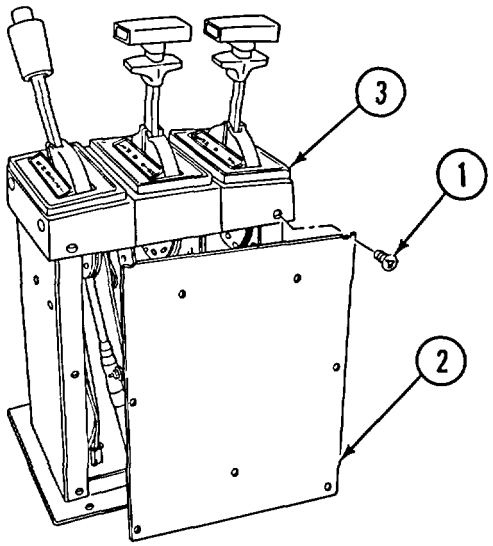
Reference	Condition Description
TM 9-2320-363-10	Wheels Blocked
Page 4-604.3	CTIS ECU Removed (M917A1 and M917A1 w/MCS)
TM 5-3805-264-14&P	MCS Control Unit Removed (M917A1 w/MCS)

REMOVAL

NOTE

To ease installation, note mounting position of shift cable pivot pin and hold-down clamp at each end of cable prior to disconnecting cable.

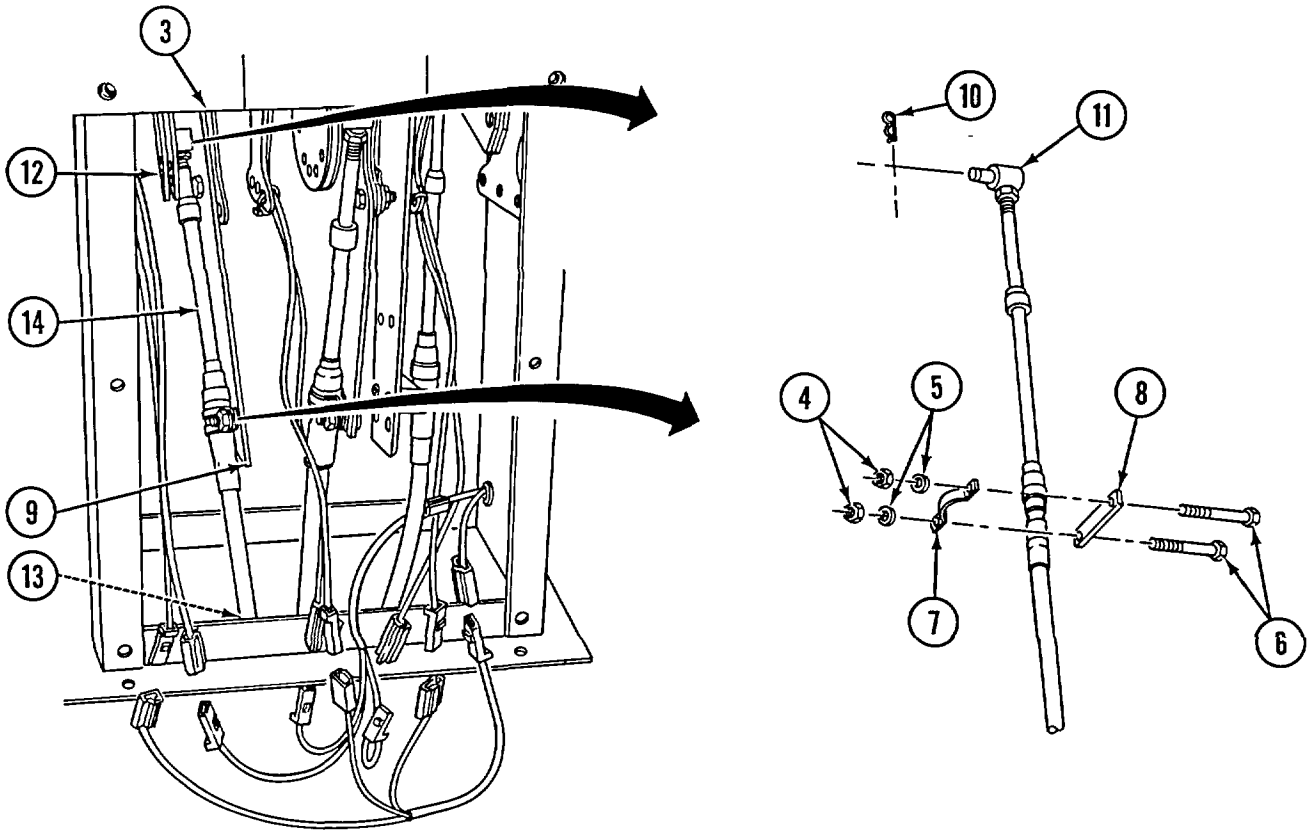
1. AT TRANSMISSION, DISCONNECT TRANSMISSION CABLE (PAGE 4-335).
2. PLACE TRANSMISSION SELECTOR LEVER IN "D" POSITION.
3. IN CAB, REMOVE SIX SCREWS (1) AND REAR ACCESS PANEL (2) FROM SHIFT TOWER (3).
4. REPEAT STEP 3 TO REMOVE FRONT ACCESS PANEL FROM SHIFT TOWER (3).
5. TO KEEP SHIFT TOWER RIGID, REINSTALL TWO TOP AND TWO BOTTOM SCREWS (1) ON FRONT AND REAR OF SHIFT TOWER (3).



6. REMOVE TWO NUTS (4), TWO LOCK WASHERS (5), TWO SCREWS (6), CLAMP (7), AND SPACER (8) FROM BRACKET (9). DISCARD LOCK WASHERS.

7. REMOVE RETAINING PIN (10) FROM PIVOT PIN (11) AND REMOVE PIVOT PIN FROM BRACKET (12).

8. REMOVE GROMMET (13) FROM CAB FLOOR AND FEED CABLE (14) INTO CAB AND OUT THROUGH SHIFT TOWER (3).



TRANSMISSION SHIFT CONTROL CABLE REPLACEMENT (CONT)

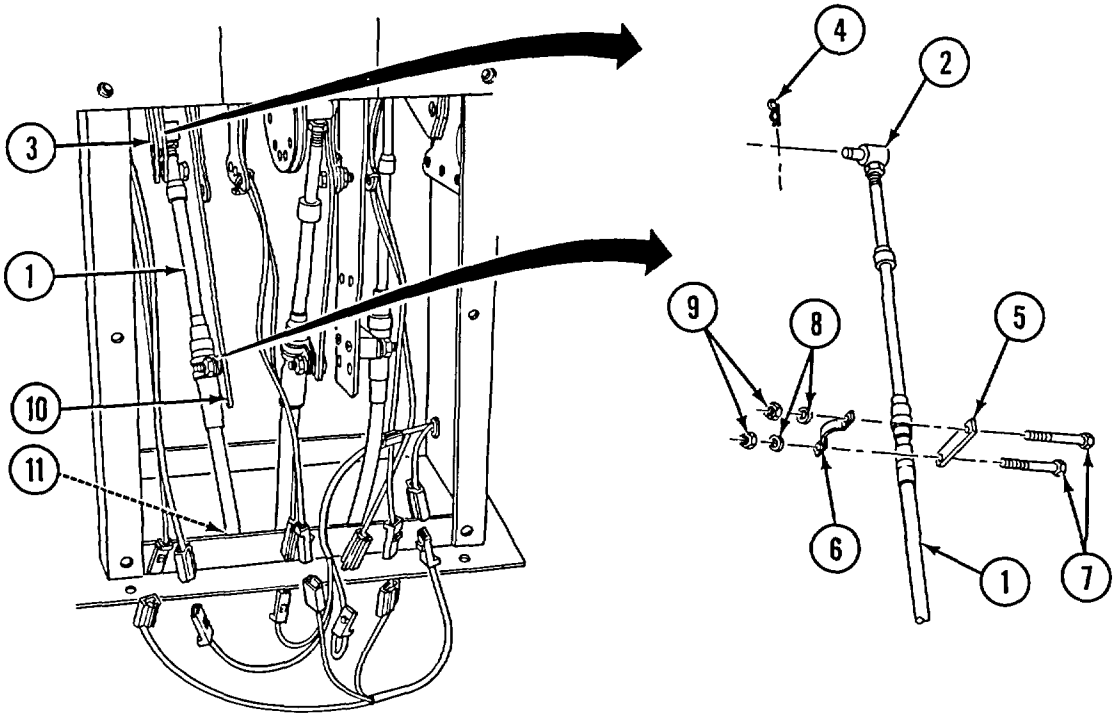
INSTALLATION

1. IN CAB, FEED TRANSMISSION END OF CABLE (1) THROUGH FLOOR TO TRANSMISSION.

2. WITH TRANSMISSION SELECTOR LEVER IN "D" POSITION, POSITION PIVOT PIN (2) ON BRACKET (3) AND SECURE WITH RETAINING PIN (4).

3. INSTALL SPACER (5), CABLE (1), CLAMP (6), TWO SCREWS (7), TWO NEW LOCK WASHERS (8), AND TWO NUTS (9) TO BRACKET (10).

4. SLIDE GROMMET (11) ON CABLE (1) INTO CAB FLOOR.



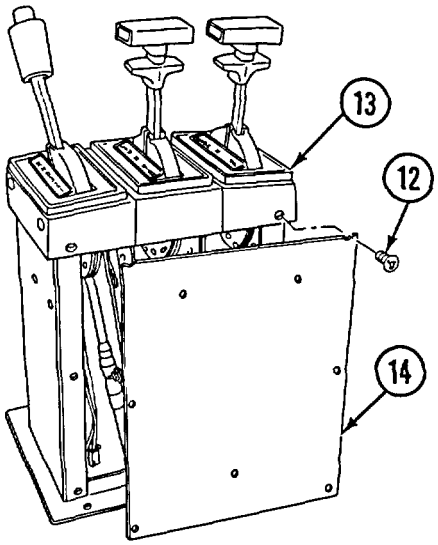
5. REMOVE TWO TOP AND TWO BOTTOM SCREWS (12) FROM FRONT AND REAR OF SHIFT TOWER (13).

6. INSTALL REAR ACCESS PANEL (14) AND SIX SCREWS (12).

7. REPEAT STEP 6 TO INSTALL FRONT ACCESS PANEL.

8. PLACE TRANSMISSION SELECTOR LEVER IN "N" POSITION.

9. AT TRANSMISSION, CONNECT TRANSMISSION CABLE (PAGE 4-335).



NOTE

Follow-on Maintenance:

Adjust transmission shift linkage (page 4-342).
Install CTIS ECU (M917A1 and M917A1 w/MCS)(page 4-604.3).
Install MCS control unit (M917A1 w/MCS)(TM 5-3805-264-14&P).

Section VII. TRANSFER CASE MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the transfer case and related components. A list of tasks contained in this section is shown below.

Page

Transfer Case Shift Control Replacement and Repair (M916A1) 4-368
Transfer Case Shift Control Cable Replacement and Adjustment (M916A1) 4-376
Transfer Case Lockup Valve Replacement (All Except M915A2) 4-381
Transfer Case Breather Replacement (All Except M915A2) 4-384
Transfer Case Push Valve Replacement (All Except M915A2) 4-384.1
Transfer Case Shift Control Replacement (All Except M915A2 and M916A1) 4-384.4
Transfer Case Shift Control Cable Replacement (All Except M915A2 and M916A1) 4-384.12

TRANSFER CASE SHIFT CONTROL REPLACEMENT AND REPAIR

This task covers: a. Removal b. Disassembly c. Cleaning/Inspection d. Repair e. Assembly f. Installation

INITIAL SETUP

Applicable Configuration:

M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Pin, Cotter (2)

Washer, Lock (3)

Materials/Parts (Con't):

Washer, Lock (4)

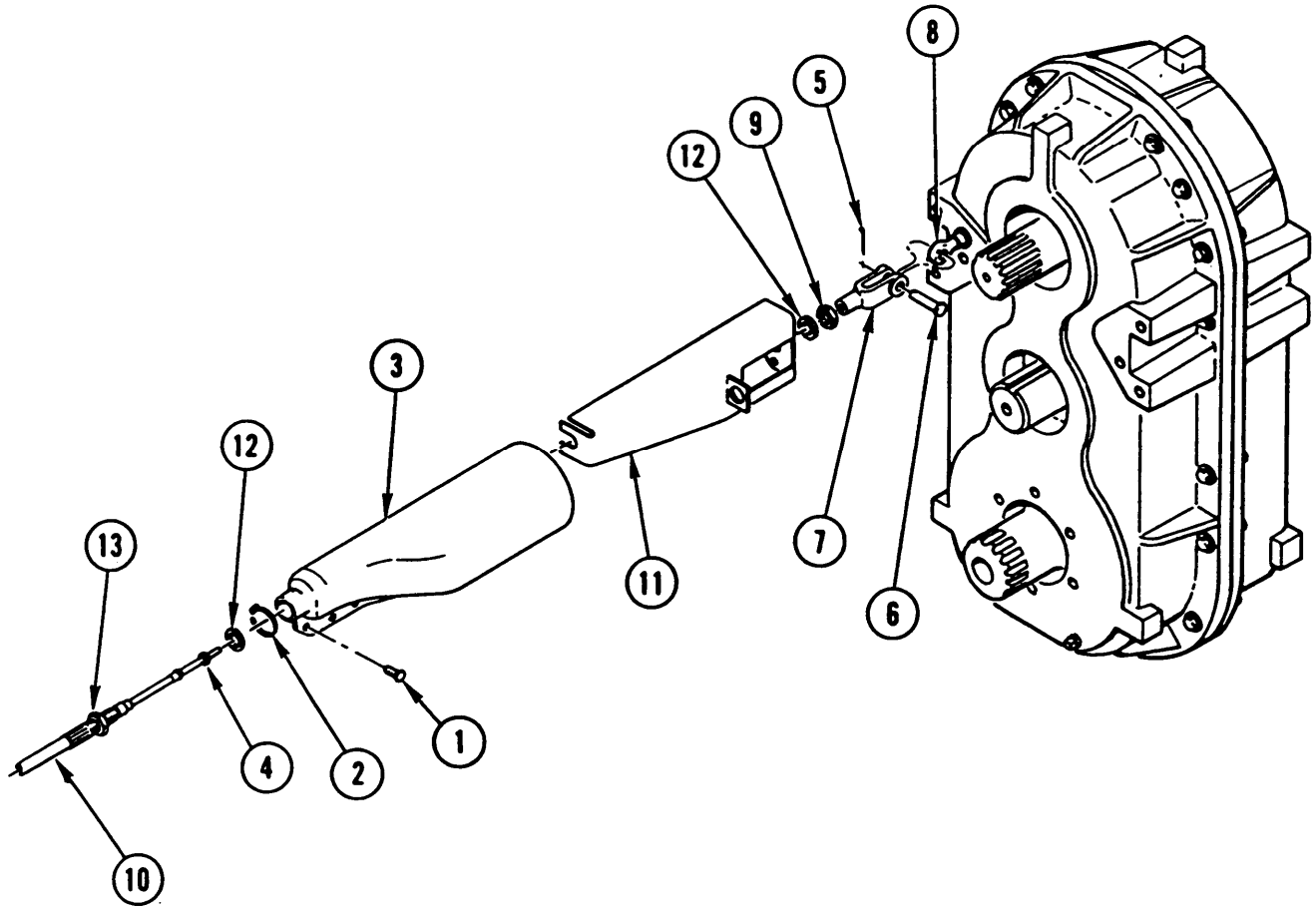
Nut, Lock (4)

Personnel Required: (2)

Equipment Condition:

Reference	Condition Description
Page 4-384.1	Push Valve Removed

REMOVAL

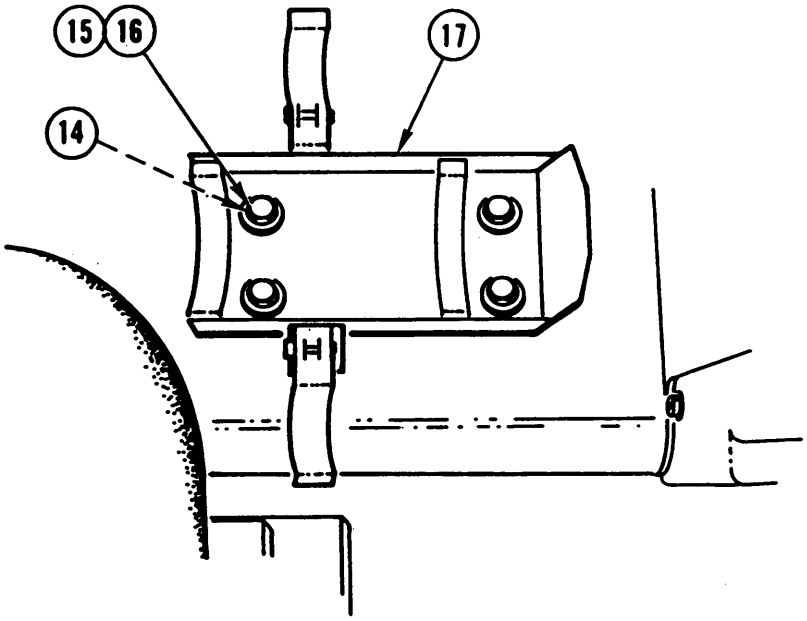


NOTE

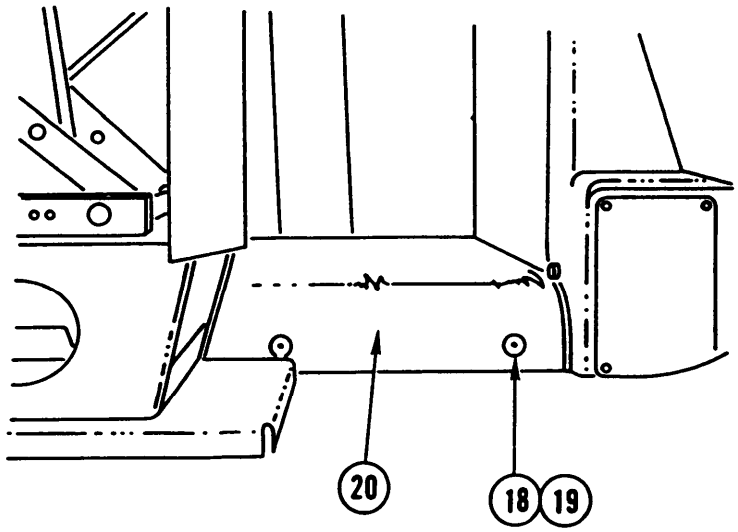
- Transfer case shift selector and transfer case shift lever must be in NEUTRAL prior to removal.
- Quantity of tie straps may vary. Remove as needed.

1. REMOVE SEVEN FASTENERS (1), TIE STRAP(S) (2), AND BOOT (3).
2. LOOSEN NUT (4).
3. REMOVE COTTER PIN (5) AND PIN (6). DISCARD COTTER PIN.
4. DISCONNECT CLEVIS (7) FROM TRANSFER CASE SHIFT LEVER (8).
5. LOOSEN NUT (9) AND REMOVE CABLE (10) FROM BRACKET (11).
6. REMOVE CLEVIS (7). NOTE NUMBER OF TURNS NECESSARY FOR REMOVAL.
7. REMOVE NUT (9), TWO LOCK WASHERS (12), AND NUT (13). DISCARD LOCK WASHERS.

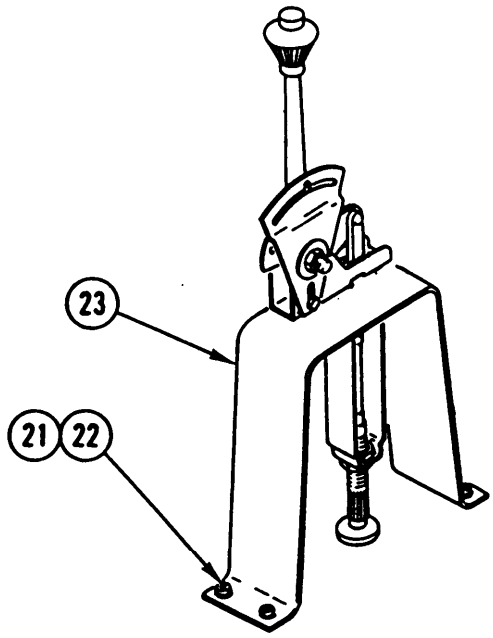
TRANSFER CASE SHIFT CONTROL REPLACEMENT AND REPAIR (CONT)



8. FROM INSIDE CAB, REMOVE FOUR LOCK NUTS (14), FOUR SCREWS (15), FOUR WASHERS (16), AND FIRE EXTINGUISHER BRACKET (17). DISCARD LOCK NUTS.

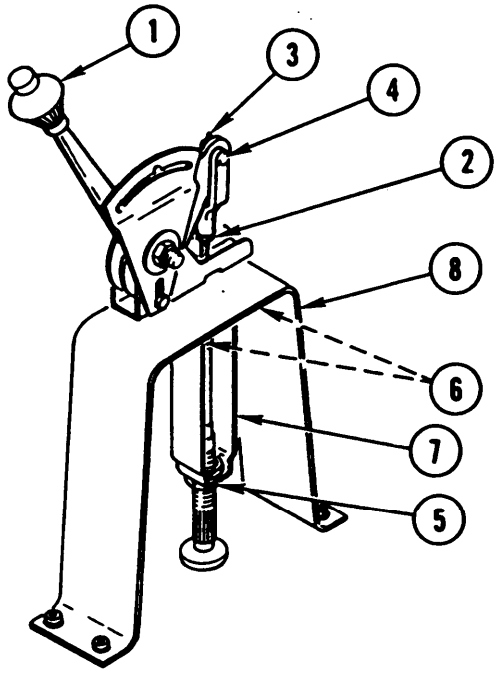


9. REMOVE NINE SELF-TAPPING TORX SCREWS (18), NINE WASHERS (19), AND FLOOR MAT (20).



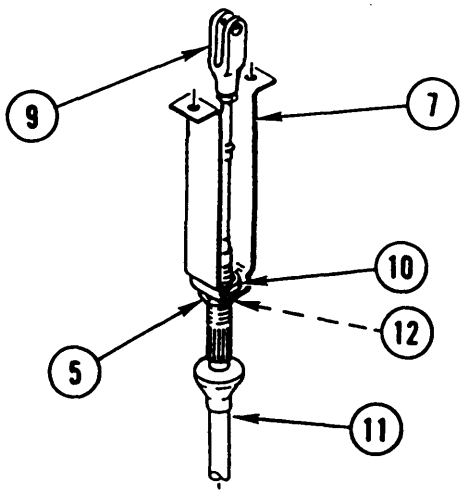
10. REMOVE FOUR SCREWS (21), FOUR LOCK WASHERS (22), AND TRANSFER CASE SHIFT CONTROL ASSEMBLY (23). DISCARD LOCK WASHERS.

DISASSEMBLY



1. PUSH SHIFT SELECTOR (1) ALL THE WAY FORWARD AND LOOSEN NUT (2).
2. REMOVE COTTER PIN (3) AND PIN (4). DISCARD COTTER PIN.
3. LOOSEN LOWER NUT (5).
4. REMOVE TWO SCREWS (6), BRACKET (7), AND SHIFT SELECTOR (1) FROM MOUNTING BRACKET (8).

TRANSFER CASE SHIFT CONTROL REPLACEMENT AND REPAIR (CONT)



5. REMOVE CLEVIS (9). NOTE NUMBER OF TURNS NECESSARY FOR REMOVAL.
6. REMOVE TOP NUT (10) AND BRACKET (7) FROM CABLE (11).
7. REMOVE LOCK WASHER (12) AND NUT (5). DISCARD LOCK WASHER.

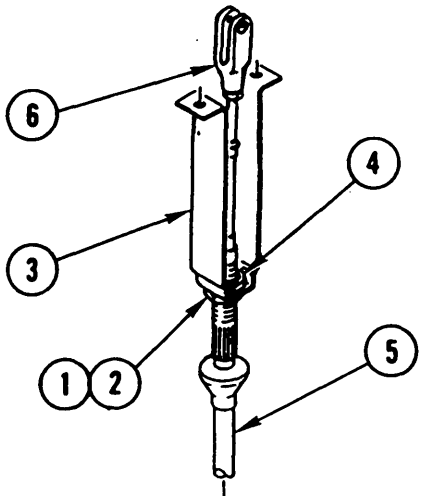
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

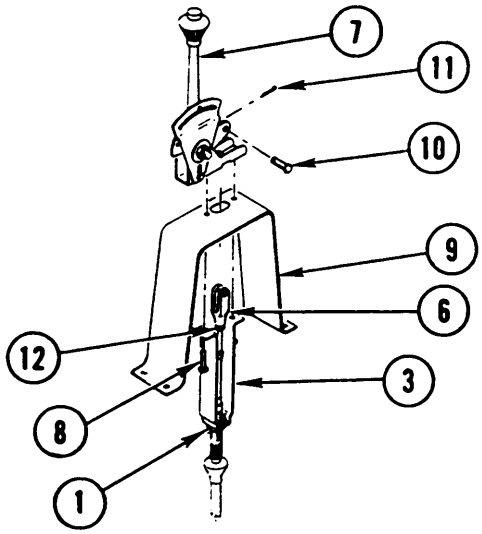
REPAIR

Repair of transfer case shift control is the replacement of any unserviceable part(s).

ASSEMBLY

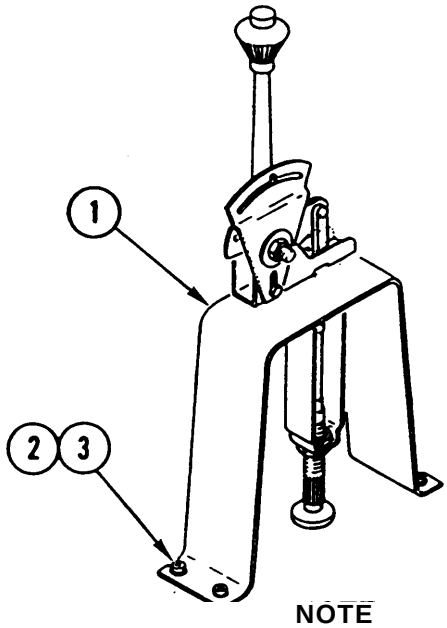


1. INSTALL NUT (1) AND NEW LOCK WASHER (2).
2. INSTALL BRACKET (3) AND NUT (4) ON CABLE (5).
3. INSTALL CLEVIS (6) NUMBER OF TURNS NOTED DURING DISASSEMBLY, STEP 5.



4. INSTALL SHIFT SELECTOR (7), BRACKET (3), AND TWO SCREWS (8) ON MOUNTING BRACKET (9).
5. TIGHTEN LOWER NUT (1).
6. INSTALL CLEVIS (6) ON SHIFT SELECTOR (7).
7. INSTALL PIN (1 O) AND NEW COTTER PIN (11).
8. TIGHTEN NUT (12) AND PLACE SHIFT SELECTOR (7) IN NEUTRAL POSITION.

INSTALLATION

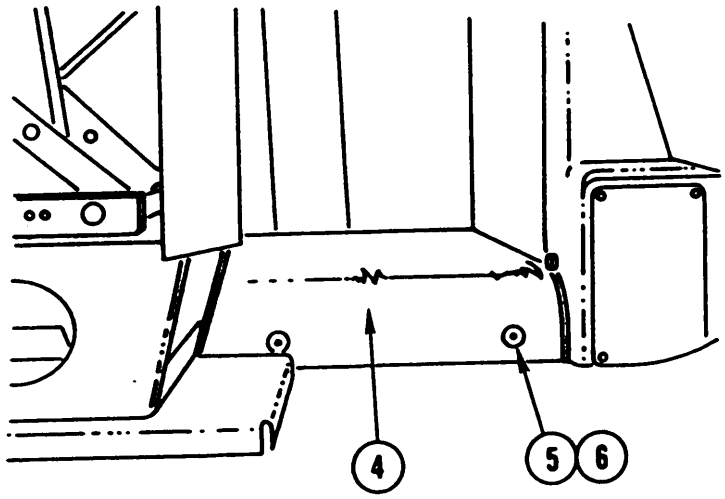


NOTE

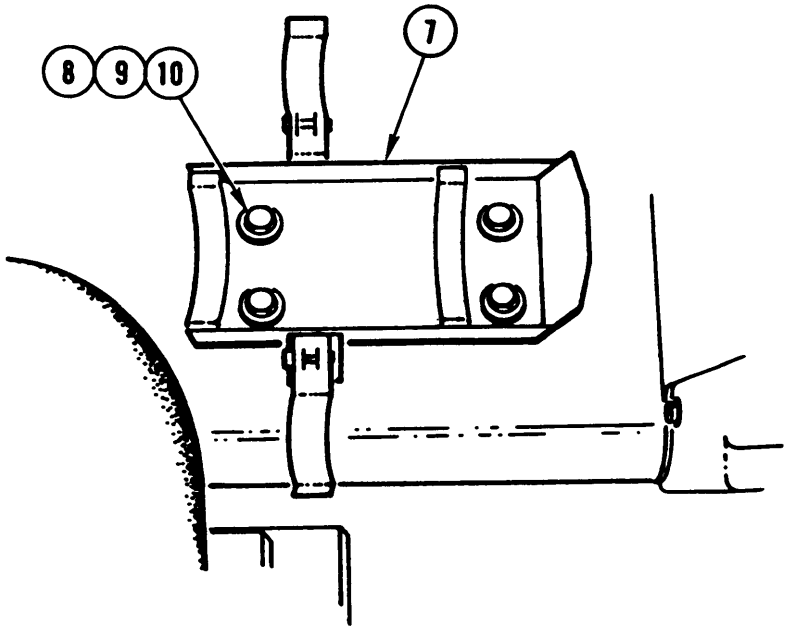
Transfer case shift selector and transfer case shift lever must be in NEUTRAL prior to installation.

1. INSTALL TRANSFER CASE SHIFT CONTROL ASSEMBLY (1), FOUR NEW LOCK WASHERS (2), AND FOUR SCREWS (3).

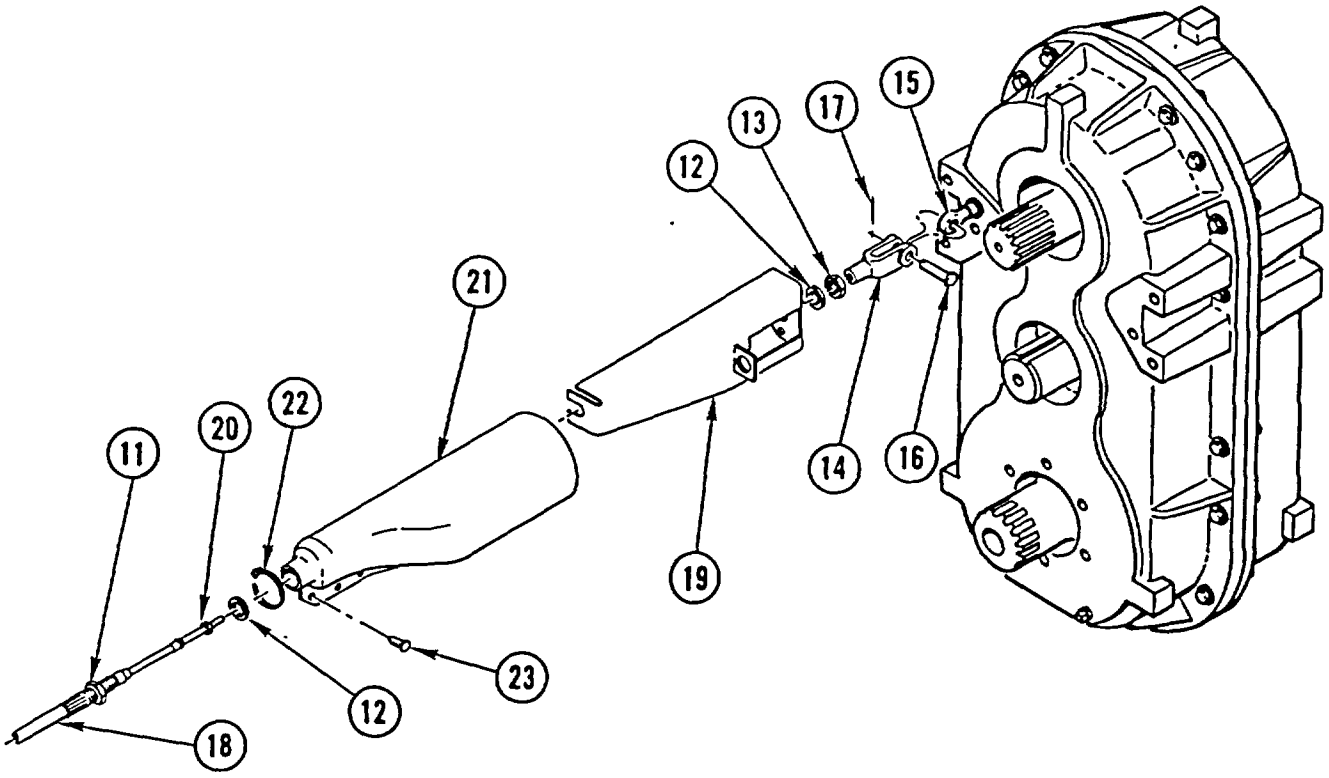
TRANSFER CASE SHIFT CONTROL REPLACEMENT AND REPAIR (CONT)



2. INSTALL FLOOR MAT (4), NINE WASHERS (5), AND NINE SELF-TAPPING TORX SCREWS (6).



3. INSTALL FIRE EXTINGUISHER BRACKET (7), FOUR WASHERS (8), FOUR SCREWS (9), AND FOUR NEW LOCK NUTS (10).



4. INSTALL NUT (11), TWO NEW LOCK WASHERS (12), AND NUT (13).

5. INSTALL CLEVIS (14) NUMBER OF TURNS NOTED DURING REMOVAL, STEP 6.

NOTE
Make sure transfer case shift lever is in NEUTRAL position.

6. CONNECT CLEVIS (14) TO TRANSFER CASE SHIFT LEVER (15).

7. INSTALL PIN (16) AND NEW COTTER PIN (17).

8. INSTALL CABLE (18) IN BRACKET (19) WITH NUT (11) AND NEW LOCK WASHER (12) ON FORWARD SIDE OF BRACKET (19). TIGHTEN TWO NUTS (11 AND 13).

9. TIGHTEN NUT (20).

10. INSTALL BOOT (21), TIE STRAP(S) (22), AND SEVEN FASTENERS (23).

NOTE
Follow-on Maintenance:

Adjust shift control cable (page 4-376).
Install push valve (page 4-384.1).

TRANSFER CASE SHIFT CONTROL CABLE REPLACEMENT AND ADJUSTMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation d. Adjustment

INITIAL SETUP

Applicable Configuration:

M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Pin, Cotter (2)

Washer, Lock (2)

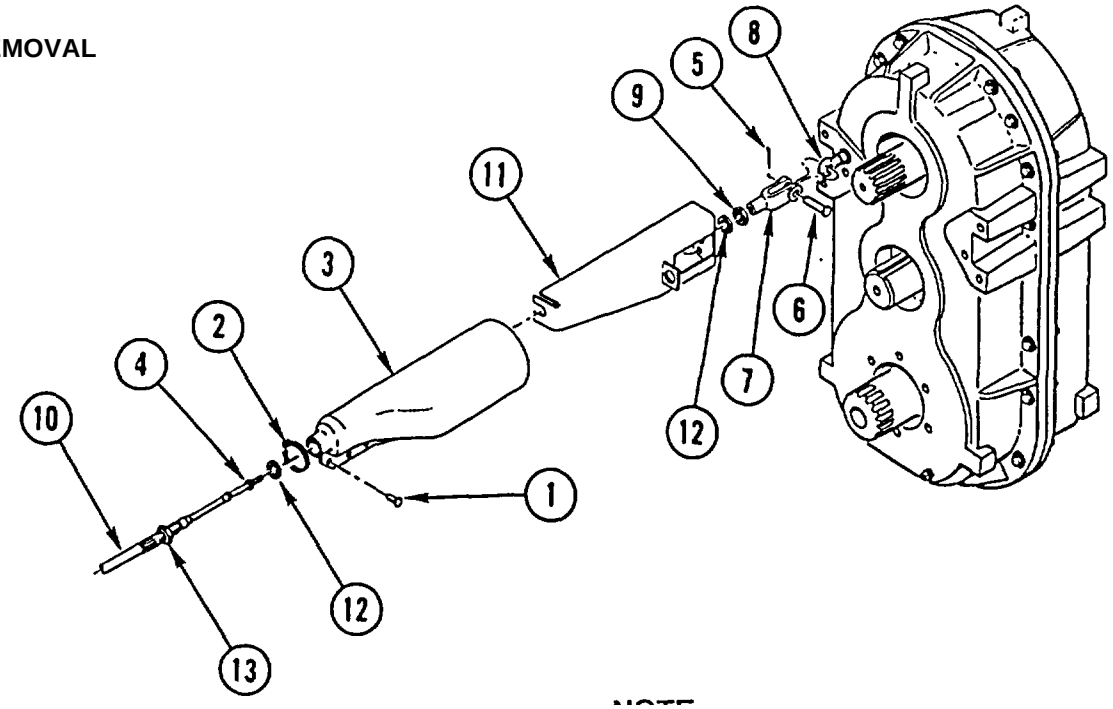
Equipment Condition:

Reference	Condition Description
Page 4-384.1	Push Valve Removed

NOTE

Transfer case shift cable connection at transfer case end is the same for ALL models.

REMOVAL

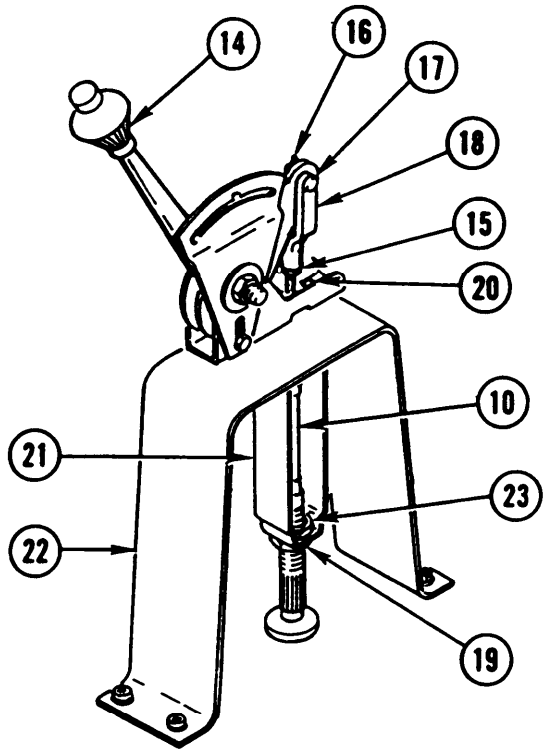


NOTE

- **Transfer case shift selector and transfer case shift lever must be in NEUTRAL prior to removal.**
- **Quantity of tie straps may vary. Remove as needed.**

1. REMOVE SEVEN FASTENERS (1), TIE STRAP(S) (2), AND BOOT (3).
2. LOOSEN NUT (4).

3. REMOVE COTTER PIN (5) AND PIN (6). DISCARD COTTER PIN.
4. DISCONNECT CLEVIS (7) FROM TRANSFER CASE SHIFT LEVER (8).
5. LOOSEN NUT (9) AND REMOVE CABLE (10) FROM BRACKET (11).
6. REMOVE CLEVIS (7). NOTE NUMBER OF TURNS NECESSARY FOR REMOVAL.
7. REMOVE NUT (9), TWO LOCK WASHERS (12), AND NUT (13). DISCARD LOCK WASHERS.



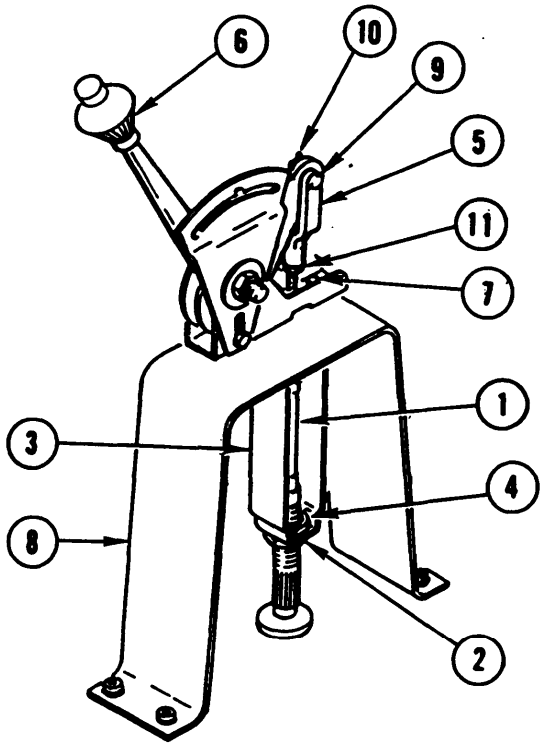
8. PUSH SHIFT SELECTOR (14) ALL THE WAY FORWARD AND LOOSEN NUT (15).
9. REMOVE COTTER PIN (16) AND PIN (17). DISCARD COTTER PIN.
10. DISCONNECT CLEVIS (18) FROM SHIFT SELECTOR (14).
11. LOOSEN LOWER NUT (19).
12. REMOVE TWO CAPSCREWS (20), BRACKET (21), AND SHIFT SELECTOR (14) FROM MOUNTING BRACKET (22).
13. REMOVE CLEVIS (18). NOTE NUMBER OF TURNS NECESSARY FOR REMOVAL.
14. REMOVE NUT (23) AND BRACKET (21) FROM CABLE (10).
15. REMOVE LOWER NUT (19).
16. REMOVE CABLE (10).

TRANSFER CASE SHIFT CONTROL CABLE REPLACEMENT AND ADJUSTMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

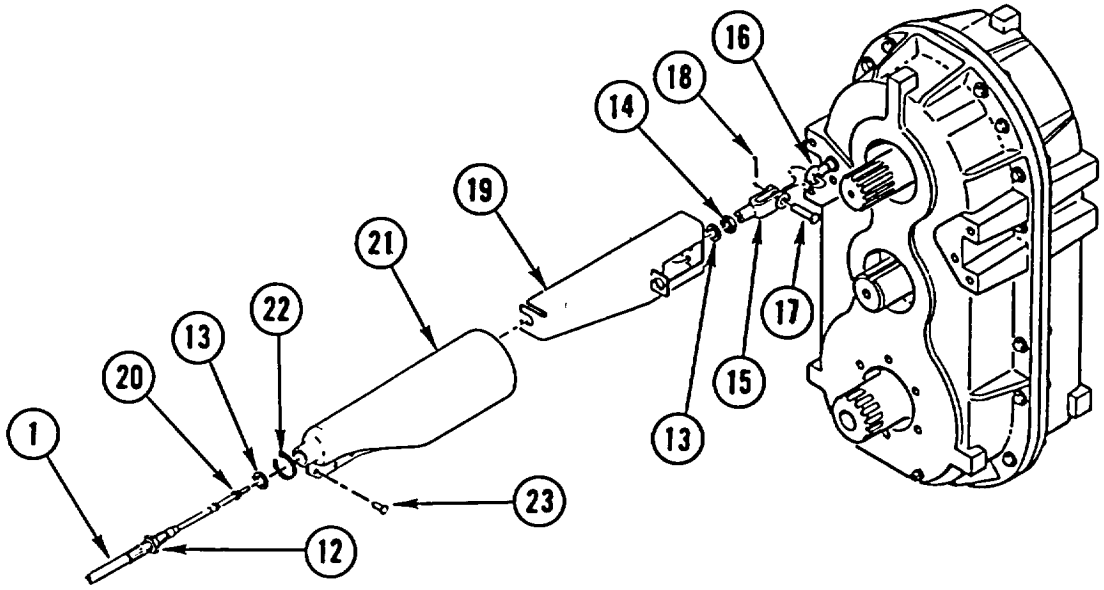
INSTALLATION



NOTE

Transfer case shift selector and transfer case shift lever must be in NEUTRAL prior to installation.

1. INSTALL CABLE (1).
2. INSTALL LOWER NUT (2).
3. INSTALL BRACKET (3) AND NUT (4) ON CABLE (1).
4. INSTALL CLEVIS (5) NUMBER OF TURNS NOTED DURING REMOVAL, STEP 13.
5. INSTALL SHIFT SELECTOR (6). BRACKET (3), AND TWO CAPSCREWS (7) ON MOUNTING BRACKET (8).
6. TIGHTEN LOWER NUT (2).
7. CONNECT CLEVIS (5) ON SHIFT SELECTOR (6).
8. INSTALL PIN (9) AND NEW COTTER PIN (10).
9. TIGHTEN NUT (11) AND PLACE SHIFT SELECTOR (6) IN NEUTRAL POSITION.



10. INSTALL NUT (12), TWO NEW LOCK WASHERS (13), AND NUT (14).

11. INSTALL CLEVIS (15) NUMBER OF TURNS NOTED DURING REMOVAL, STEP 6.

NOTE
Make sure transfer case shift lever is in NEUTRAL position.

12. CONNECT CLEVIS (15) TO TRANSFER CASE SHIFT LEVER (16).

13. INSTALL PIN (17) AND NEW COTTER PIN (18).

14. INSTALL CABLE (1) IN BRACKET (19) WITH NUT (12) AND LOCK WASHER (13) ON FORWARD SIDE OF BRACKET (19). TIGHTEN TWO NUTS (12 AND 14).

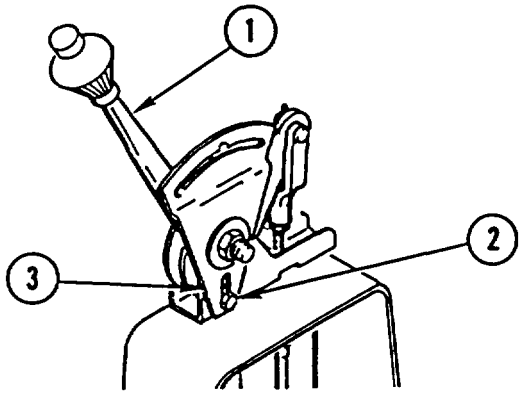
15. TIGHTEN NUT (20).

16. INSTALL BOOT (21), TIE STRAP(S) (22), AND SEVEN FASTENERS (23).

17. INSTALL PUSH VALVE (page 4-384.1).

TRANSFER CASE SHIFT CONTROL CABLE REPLACEMENT AND ADJUSTMENT (CONT)

ADJUSTMENT



NOTE

- **During step 1, do not release shift selector after shift selector seats in LOW RANGE position detent.**
- **Shift selector must be in NEUTRAL position.**

1. SLOWLY PUSH SHIFT SELECTOR (1) FORWARD UNTIL SHIFT SELECTOR (1) SEATS IN LOW RANGE POSITION DETENT, THEN ATTEMPT TO PUSH LEVER FORWARD FROM THAT POSITION.

2. IF SHIFT SELECTOR (1) WENT FARTHER THAN LOW RANGE POSITION DETENT, LOOSEN NUT (2) AND RAISE STOP BLOCK (3) SLIGHTLY. REPEAT STEP 1.

3. REPEAT STEPS 1 AND 2 UNTIL THERE IS NO MOVEMENT WHEN SHIFT SELECTOR IS MOVED FROM NEUTRAL TO LOW RANGE.

TRANSFER CASE LOCKUP VALVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected

General Safety Instructions:

WARNING

- **Do not disconnect any air system lines or fittings unless vehicle engine is shut off and air system pressure is relieved. To do so could result in serious injury to personnel.**
- **Disconnect negative battery terminal before connecting or disconnecting any electrical connectors. Failure to do so may result in electrical shock and injury to personnel.**

TRANSFER CASE LOCKUP VALVE REPLACEMENT (CONT)

REMOVAL

WARNING

Do not disconnect any air system lines or fittings unless vehicle engine is shut off and air system pressure is relieved. To do so could result in serious injury to personnel.

NOTE

Tag air hoses prior to removal to aid in installation.

1. DISCONNECT THREE AIR HOSES (1, 2, AND 3).

WARNING

Disconnect negative battery terminal before connecting or disconnecting any electrical connectors. Failure to do so may result in electrical shock and injury to personnel.

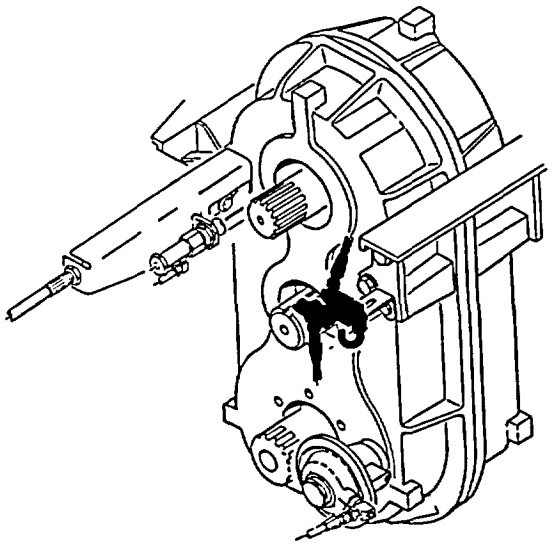
NOTE

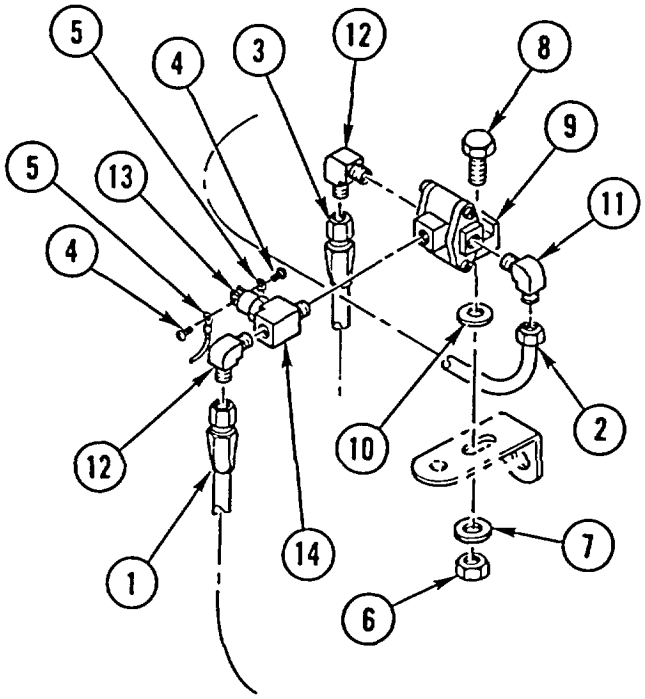
Tag wires prior to removal to aid in installation.

2. REMOVE TWO SCREWS (4) AND DISCONNECT TWO WIRES (5).
3. REMOVE LOCK NUT (6), WASHER (7), CAPSCREW (8), VALVE (9), AND WASHER (10). DISCARD LOCK NUT.
4. REMOVE ELBOW (11) AND TWO FITTINGS (12).
5. REMOVE SENSOR (13) AND TEE (14).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.





INSTALLATION

1. INSTALL TEE (14) AND SENSOR (13).

2. INSTALL TWO FITTINGS (12) AND ELBOW (11).

3. INSTALL WASHER (10), VALVE (9), CAPSCREW (8), WASHER (7), AND NEW LOCK NUT (6).

WARNING

Disconnect negative battery terminal before connecting or disconnecting any electrical connectors. Failure to do so may result in electrical shock and injury to personnel.

4. CONNECT TWO WIRES (5) AND INSTALL TWO SCREWS (4).

5. CONNECT THREE AIR HOSES (3, 2, AND 1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

TRANSFER CASE BREATHER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

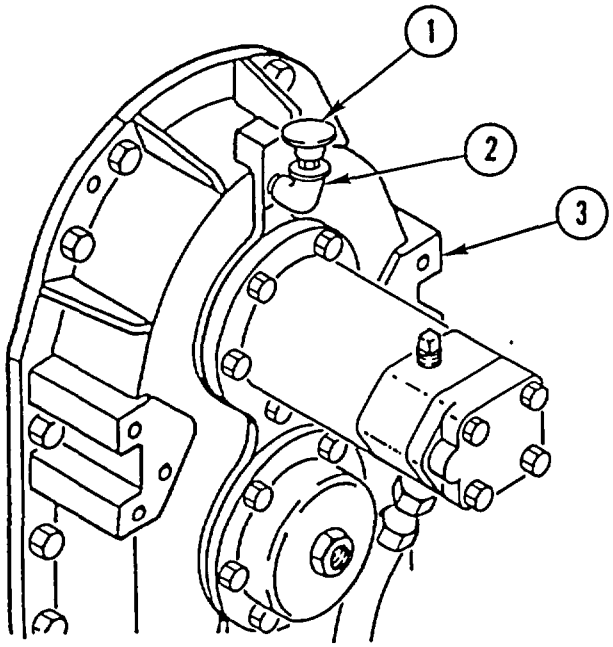
INITIAL SETUP

Applicable Configuration:
All except M915A2

Tools and Special Equipment:
Tool Kit, SC 5180-90-CL-N26

REMOVAL

REMOVE BREATHER (1) AND ELBOW (2) FROM TRANSFER CASE (3).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

INSTALL ELBOW (2) AND BREATHER (1) IN TRANSFER CASE (3).

TRANSFER CASE PUSH VALVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Tags, Identification Appendix C, Item 26

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:

WARNING

Do not disconnect any air system lines or fittings unless vehicle engine is shut off and air system pressure is relieved To do so could result in serious injury to personnel.

TRANSFER CASE PUSH VALVE REPLACEMENT (CONT)

REMOVAL

1. PULL BACK PROTECTIVE BOOT (1) TO EXPOSE PUSH VALVE (2).

WARNING

Do not disconnect any air system lines or fittings unless vehicle engine is shut off and air system pressure is relieved. To do so could result in serious injury to personnel.

NOTE

Tag air hoses prior to removing to aid in installation.

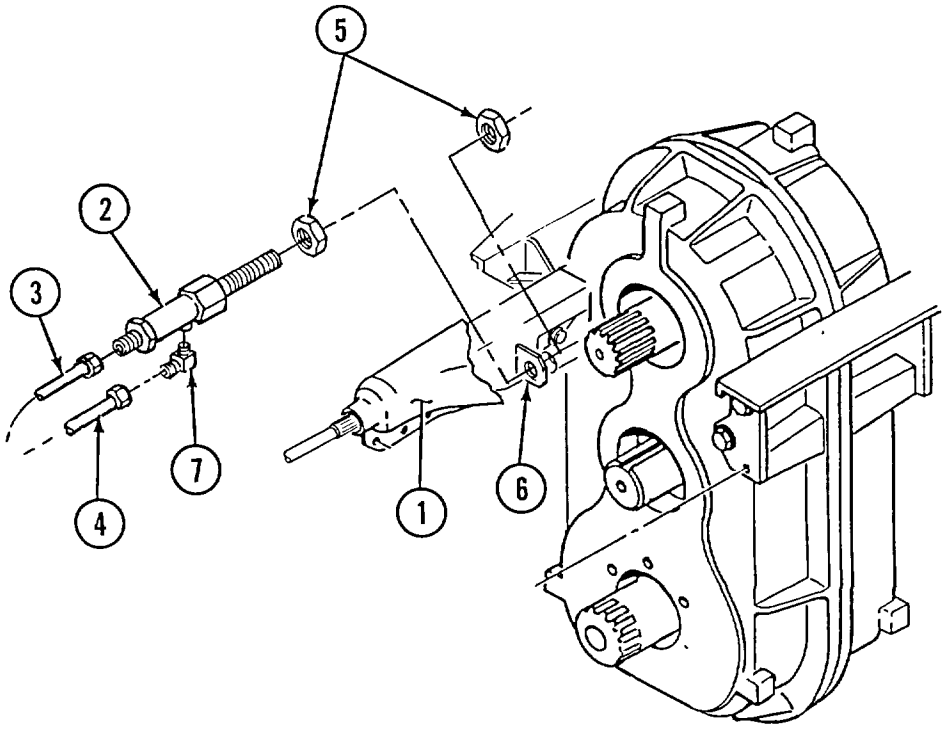
2. DISCONNECT TWO AIR HOSES (3 AND 4). REMOVE AIR HOSES FROM PROTECTIVE BOOT (1) AS NECESSARY.

NOTE

Note position of valve in bracket for installation.

3. REMOVE TWO JAM NUTS (5) AND PUSH VALVE (2) FROM BRACKET (6).

4. REMOVE ELBOW (7) FROM PUSH VALVE (2).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL ELBOW (7) TO PUSH VALVE (2).

2. INSTALL PUSH VALVE (2) AND TWO JAM NUTS (5) TO BRACKET (6). ADJUST POSITION OF VALVE IN BRACKET AND TIGHTEN JAM NUTS.

3. INSTALL TWO AIR HOSES (3 AND 4) THRU PROTECTIVE BOOT (1), IF REMOVED, AND CONNECT TWO AIR HOSES.

4. COVER PUSH VALVE (2) WITH PROTECTIVE BOOT (1).

TRANSFER CASE SHIFT CONTROL REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (6)	P/N MS35338-43
Tags, Identification	Appendix C, Item 26

References:

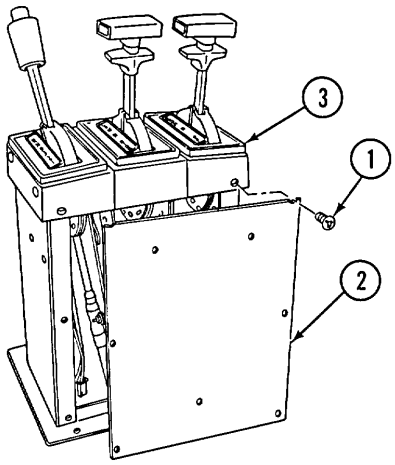
TM 9-2320-363-10
TM 5-3805-264-14&P

Equipment Condition:

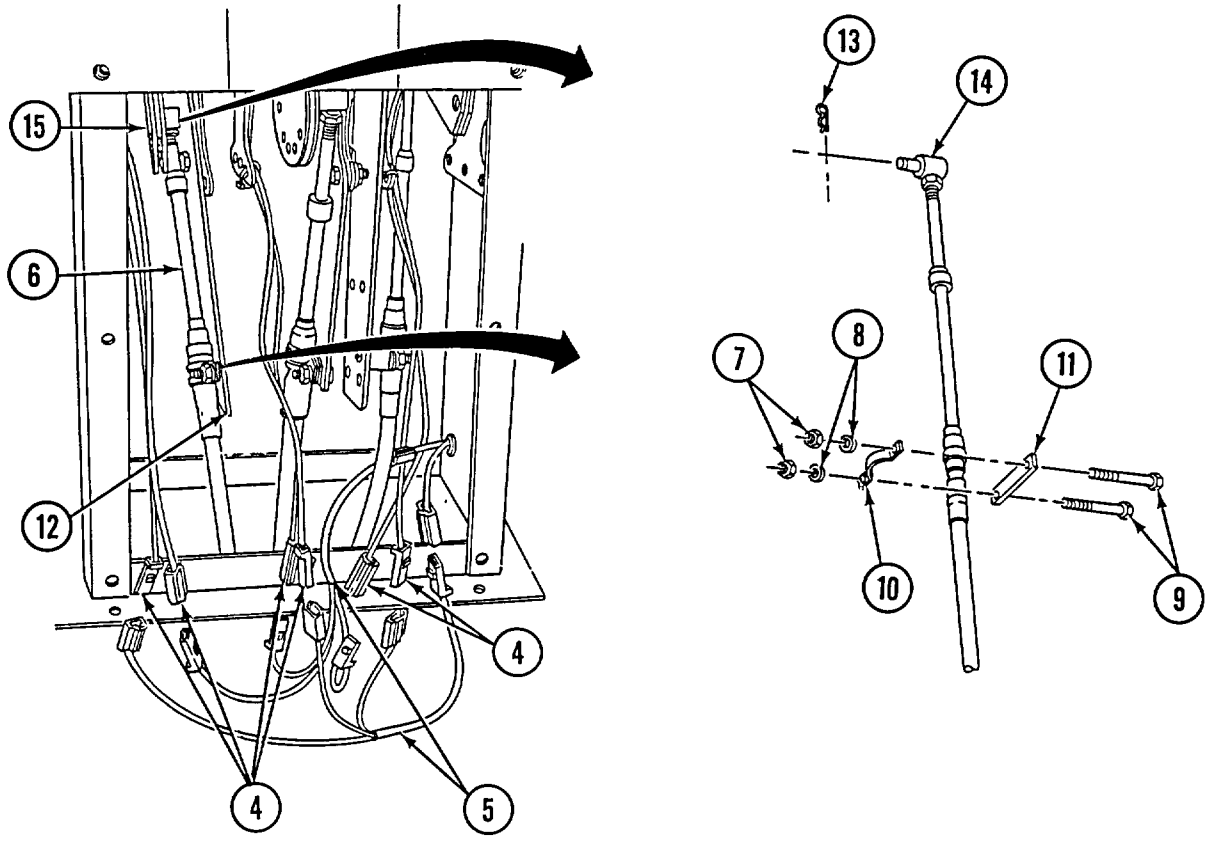
Reference	Condition Description
TM 9-2320-363-10	Wheels Blocked
Page 4-604.3	CTIS ECU Removed (M917A1 and M917A1 w/MCS)
TM 5-3805-264-14&P	MCS Control Unit Removed (M917A1 w/MCS)

REMOVAL

1. REMOVE SIX SCREWS (1) AND REAR ACCESS PANEL (2)FROM SHIFT TOWER (3).
2. REPEAT STEP 1 TO REMOVE FRONT ACCESS PANEL FROM SHIFT TOWER (3).
3. TO KEEP SHIFT TOWER RIGID, REINSTALL TWO TOP AND TWO BOTTOM SCREWS (1) ON FRONT AND REAR OF SHIFT TOWER (3).



4. TAG AND DISCONNECT THREE POWER AND THREE GROUND CONNECTORS (4) FROM SHIFT TOWER JUMPER HARNESS (5).



NOTE

To ease installation, note mounting position of cable pivot pins and hold-down clamps prior to disconnecting cables

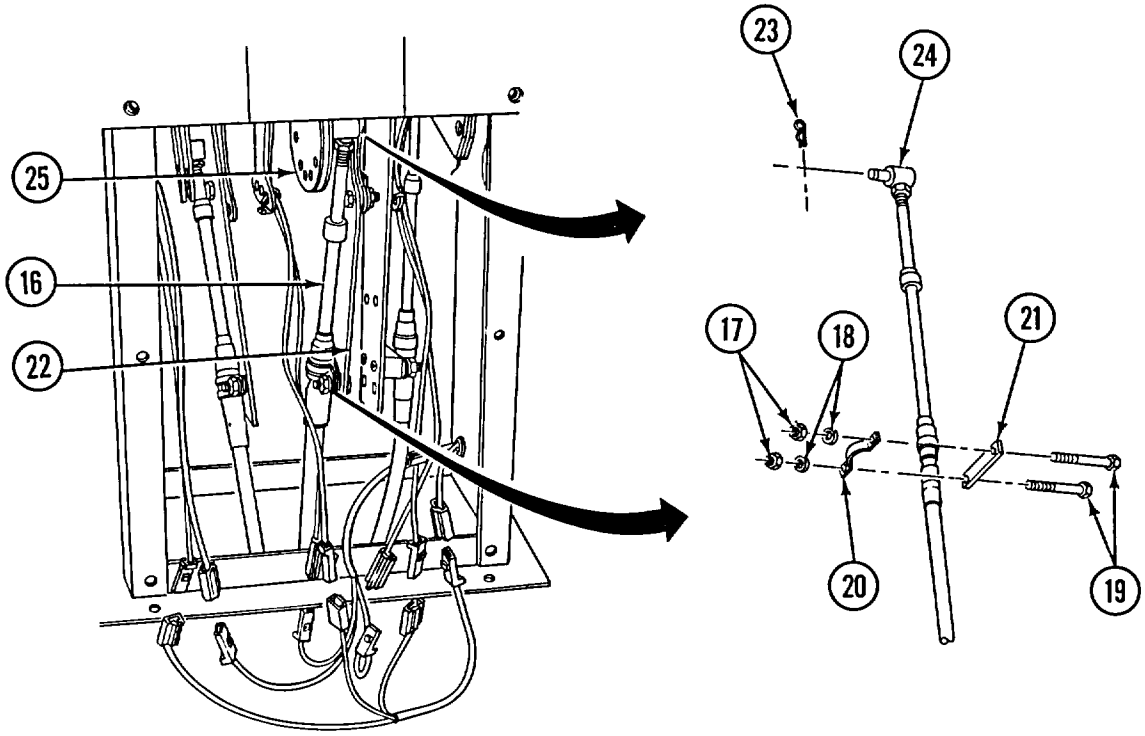
5 PLACE TRANSMISSION SELECTOR LEVER IN "D" POSITION.

6. TAG TRANSMISSION SHIFT CABLE (6).

7. REMOVE TWO NUTS (7), TWO LOCK WASHERS (8), TWO SCREWS (9), CLAMP (10), AND SPACER (11) FROM BRACKET (12). DISCARD LOCK WASHERS.

8 REMOVE RETAINING PIN (13) FROM PIVOT PIN (14) AND PIVOT PIN FROM BRACKET (15).

TRANSFER CASE SHIFT CONTROL REPLACEMENT (CONT)



9. PLACE TRANSFER CASE SELECTOR LEVER IN "N" POSITION.

10. TAG TRANSFER CASE SHIFT CABLE (16).

11. REMOVE TWO NUTS (17), TWO LOCK WASHERS (18), TWO SCREWS (19), CLAMP (20), AND SPACER (21) FROM BRACKET (22). DISCARD LOCK WASHERS.

12. REMOVE RETAINING PIN (23) FROM PIVOT PIN (24) AND PIVOT PIN FROM BRACKET (25).

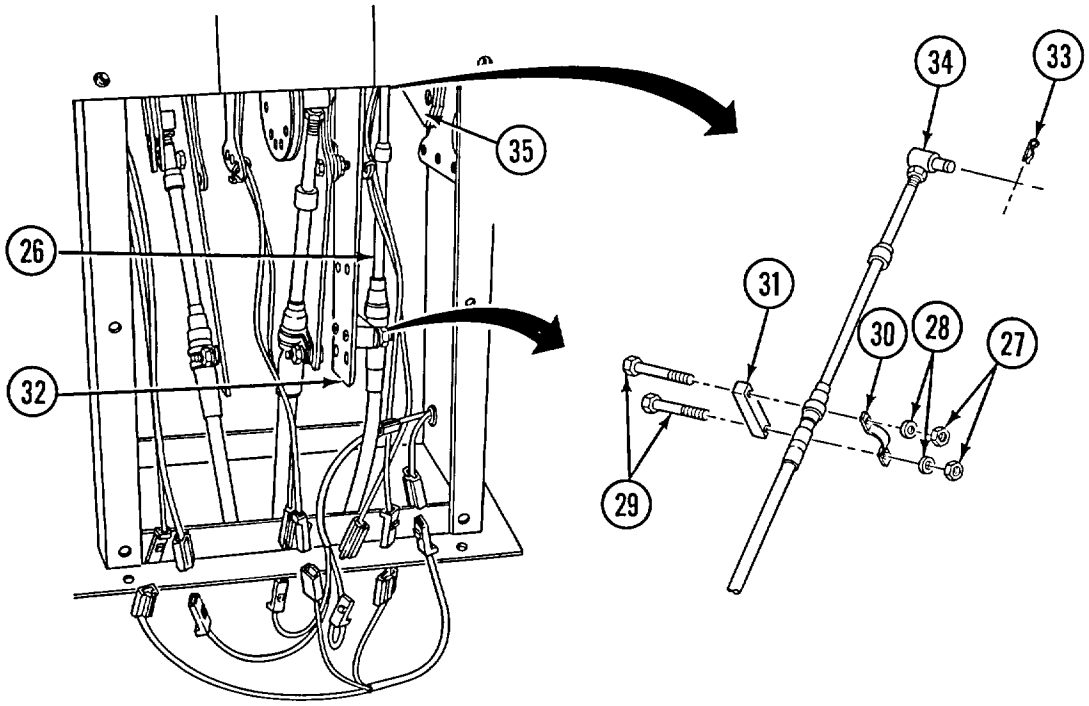
NOTE
Perform steps 13 through 16 for M917A1 and M917A1 w/MCS.

13. PLACE HYDRAULIC CONTROL LEVER IN "DOWN" POSITION.

14. TAG HYDRAULIC CONTROL CABLE (26).

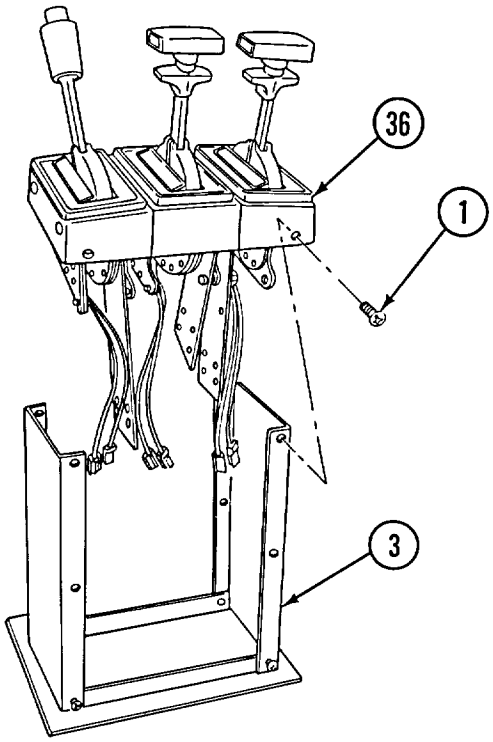
15. REMOVE TWO NUTS (27), TWO LOCK WASHERS (28), TWO SCREWS (29), CLAMP (30), AND SPACER (31) FROM BRACKET (32). DISCARD LOCK WASHERS.

16. REMOVE RETAINING PIN (33) FROM PIVOT PIN (34) AND PIVOT PIN FROM BRACKET (35).



17. REMOVE TWO TOP SCREWS (1) FROM FRONT AND REAR OF SHIFT TOWER (3).

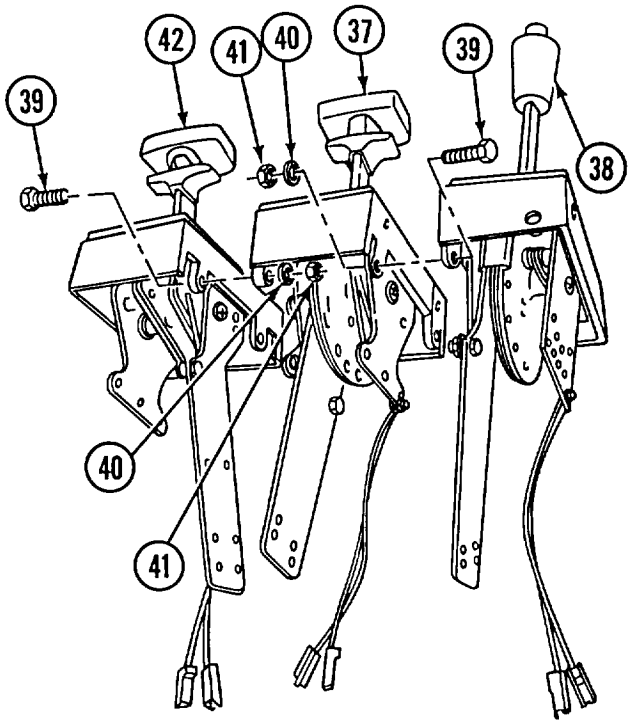
18. LIFT HANDLE ASSEMBLY (36) FROM SHIFT TOWER (3).



TRANSFER CASE SHIFT CONTROL REPLACEMENT (CONT)

19. FOR M916A2, SEPARATE TRANSFER CASE SHIFT CONTROL (37) FROM TRANSMISSION SHIFT CONTROL (38) BY REMOVING TWO BOLTS (39), TWO FLATWASHERS (40), AND TWO NUTS (41).

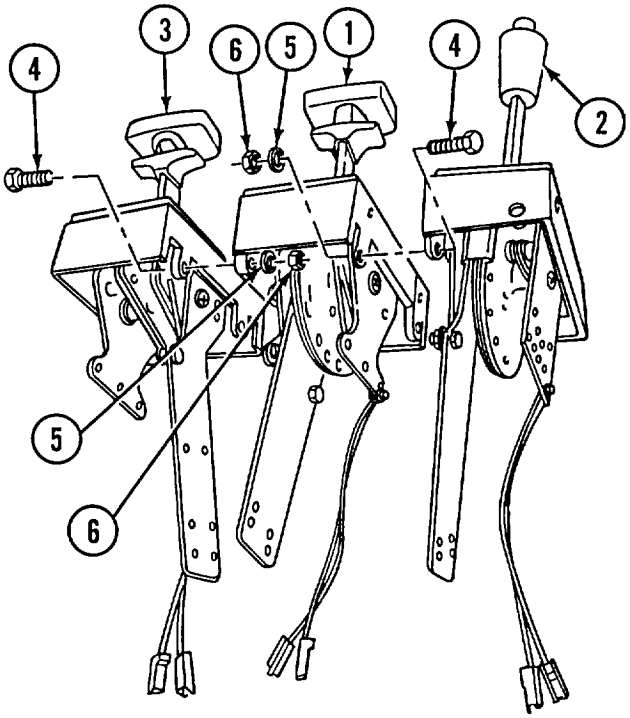
20. FOR M917A1 AND M917A1 W/MCS, SEPARATE TRANSFER CASE SHIFT CONTROL (37) FROM TRANSMISSION SHIFT CONTROL (38) AND HYDRAULIC CONTROL (42) BY REMOVING FOUR BOLTS (39), FOUR FLATWASHERS (40), AND FOUR NUTS (41).



INSTALLATION

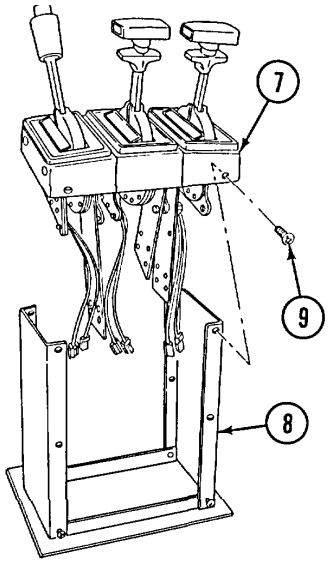
1. FOR M917A1 AND M917A1 W/MCS, ASSEMBLE TRANSFER CASE SHIFT CONTROL (1) TO TRANSMISSION SHIFT CONTROL (2) AND HYDRAULIC CONTROL (3) WITH FOUR BOLTS (4), FOUR FLATWASHERS (5), AND FOUR NUTS (6).

2. FOR M916A2, ASSEMBLE TRANSFER CASE SHIFT CONTROL (1) TO TRANSMISSION SHIFT CONTROL (2) WITH TWO BOLTS (4), TWO FLATWASHERS (5), AND TWO NUTS (6).



3. POSITION HANDLE ASSEMBLY (7) ON SHIFT TOWER (8).

4. TO KEEP SHIFT TOWER RIGID, INSTALL TWO TOP SCREWS (9) ON FRONT AND REAR OF SHIFT TOWER (8).

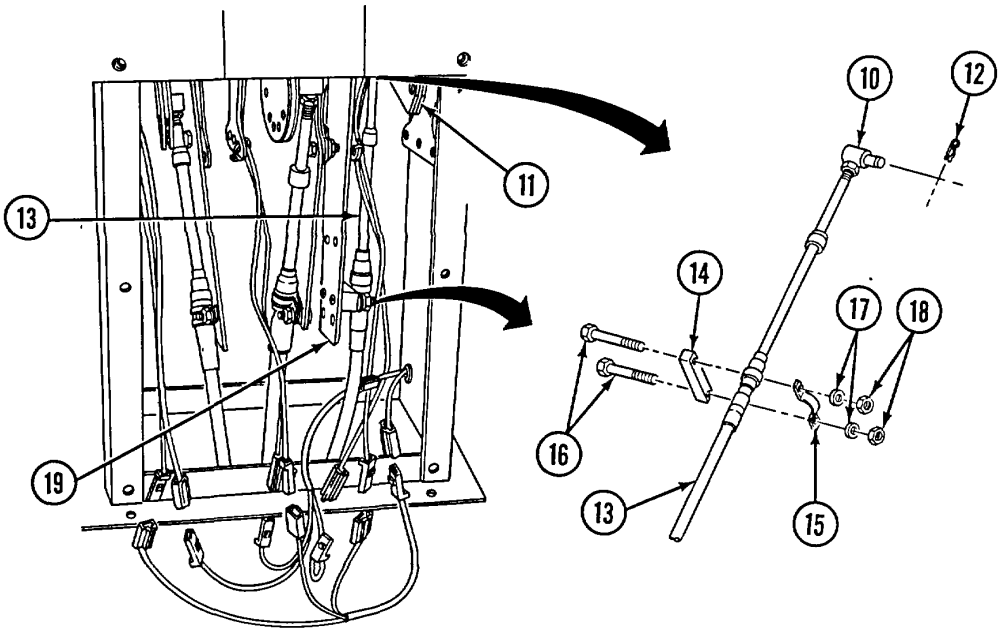


NOTE
Perform steps 5 through 7 for M917A1 and M917A1 w/MCS.

5. WITH HYDRAULIC CONTROL LEVER IN "DOWN" POSITION, INSTALL HYDRAULIC CONTROL CABLE PIVOT PIN (10) IN BRACKET (11) AND SECURE WITH RETAINING PIN (12). REMOVE TAG FROM CABLE (13).

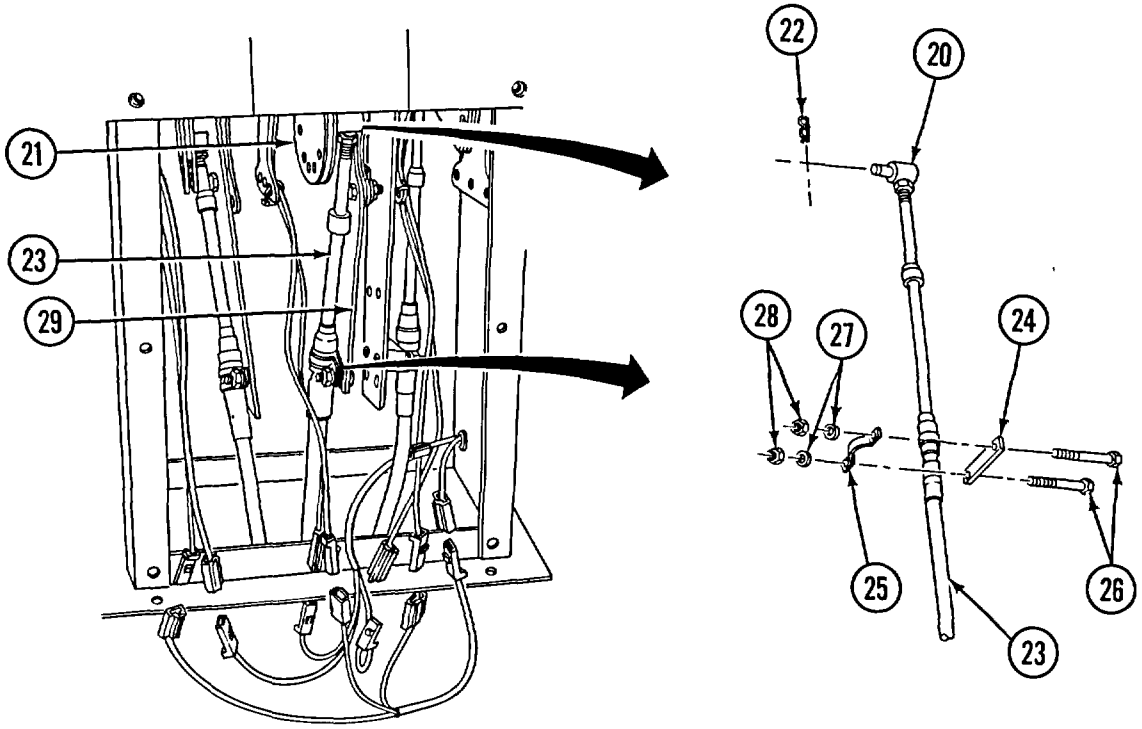
6. INSTALL SPACER (14), CABLE (13), CLAMP (15), TWO SCREWS (16), TWO NEW LOCK WASHERS (17), AND TWO NUTS (18) TO BRACKET (19).

7. PLACE HYDRAULIC CONTROL LEVER IN "N" POSITION.



TRANSFER CASE SHIFT CONTROL REPLACEMENT (CONT)

8. WITH TRANSFER CASE SELECTOR LEVER IN "N" POSITION, INSTALL TRANSFER CASE CONTROL CABLE PIVOT PIN (20) IN BRACKET (21) AND SECURE WITH RETAINING PIN (22). REMOVE TAG FROM CABLE (23).
9. INSTALL SPACER (24), CABLE (23), CLAMP (25), TWO SCREWS (26), TWO NEW LOCK WASHERS (27), AND TWO NUTS (28) TO BRACKET (29).

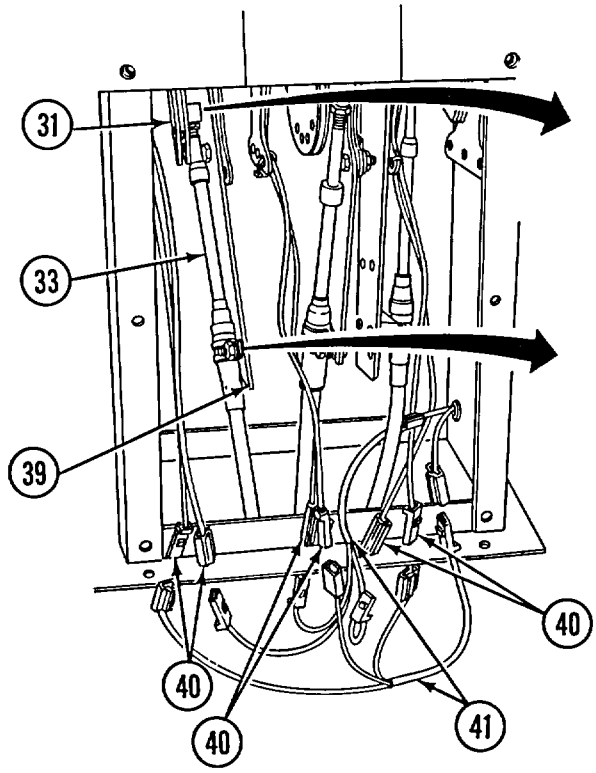


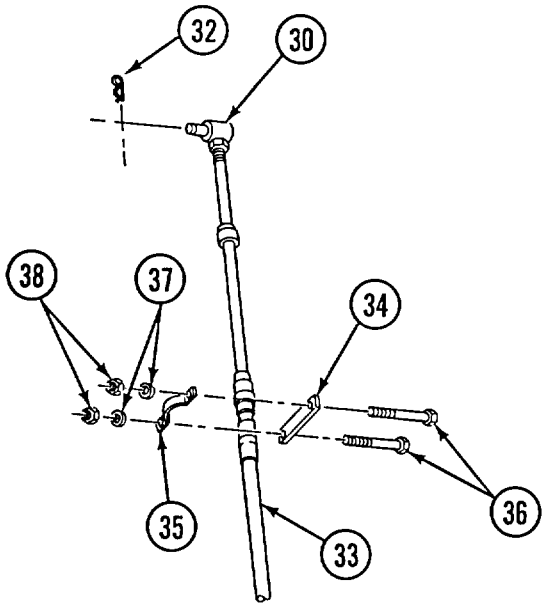
10. WITH TRANSMISSION SELECTOR LEVER IN "D" POSITION, INSTALL TRANSMISSION CONTROL CABLE PIVOT PIN (30) IN BRACKET (31) AND SECURE WITH RETAINING PIN (32). REMOVE TAG FROM CABLE (33).

11. INSTALL SPACER (34), CABLE (33), CLAMP (35), TWO SCREWS (36), TWO NEW LOCK WASHERS (37), AND TWO NUTS (38) TO BRACKET (39).

12. PLACE TRANSMISSION SELECTOR LEVER IN "N" POSITION.

13. CONNECT THREE POWER AND THREE GROUND CONNECTORS (40) TO SHIFT TOWER JUMPER HARNESS (41). REMOVE TAGS.

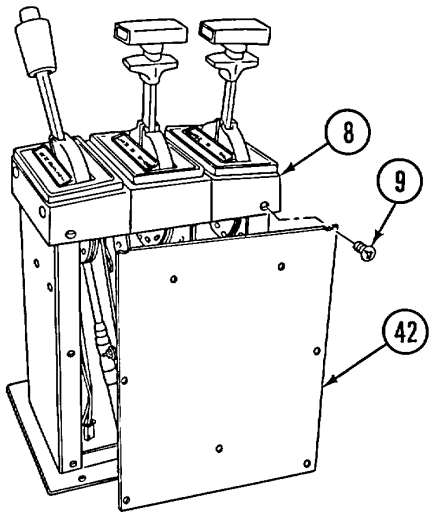




14. REMOVE TWO TOP AND TWO BOTTOM SCREWS (9) ON FRONT AND REAR OF SHIFT TOWER (8).

15. INSTALL REAR ACCESS PANEL (42) AND SIX SCREWS (9).

16. REPEAT STEP 15 TO INSTALL FRONT ACCESS PANEL.



NOTE
Follow-on Maintenance:

Install CTIS ECU (M917A1 and M917A1 w/MCS)(page 4-604.3).
Install MCS control unit (M917A1 w/MCS)(TM 5-3805-264-14&P).

TRANSFER CASE SHIFT CONTROL CABLE REPLACEMENT

This task covers: a. Removal b. Installation c. Adjustment

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (2) P/N MS35338-43

Personnel Required: (2)

References:

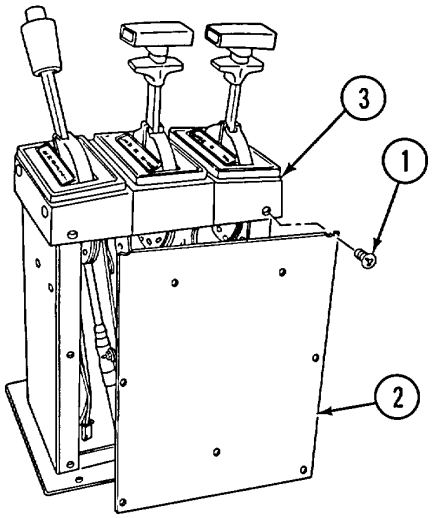
TM 9-2320-363-10
TM 5-3805-264-14&P

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Wheels Blocked
Page 4-604.3	CTIS ECU Removed (M917A1 and M917A1 w/MCS)
TM 5-3805-264-14&P	MCS Control Unit Removed (M917A1 w/MCS)

REMOVAL

1. PLACE TRANSFER CASE SELECTOR LEVER IN "N" POSITION.
2. AT TRANSFER CASE, DISCONNECT TRANSFER CASE SHIFT CABLE (PAGE 4-376).
3. IN CAB, REMOVE SIX SCREWS (1) AND REAR ACCESS PANEL (2) FROM SHIFT TOWER (3).
4. REPEAT STEP 3 TO REMOVE FRONT ACCESS PANEL FROM SHIFT TOWER (3).
5. TO KEEP SHIFT TOWER RIGID, REINSTALL TWO TOP AND TWO BOTTOM SCREWS (1) ON FRONT AND REAR OF SHIFT TOWER (3).

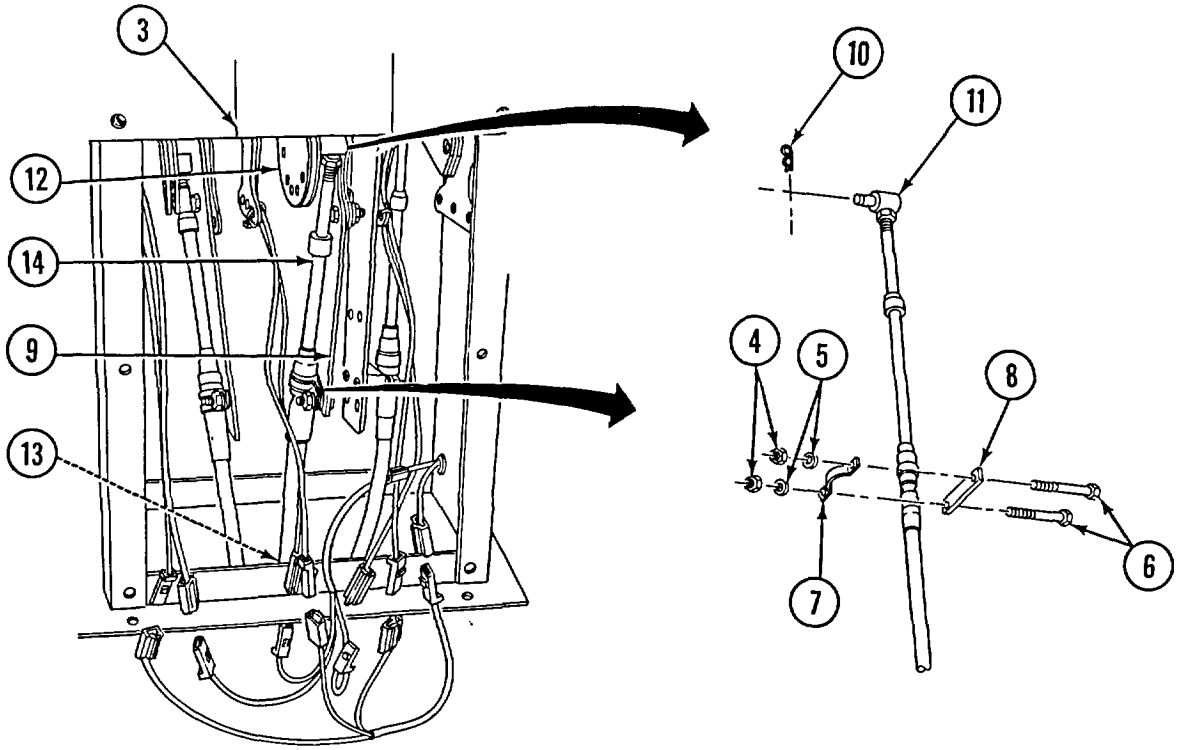


NOTE

To ease installation, note mounting position of shift cable pivot pin and hold-down clamp prior to disconnecting cable

6. REMOVE TWO NUTS (4), TWO LOCK WASHERS (5), TWO SCREWS (6), CLAMP (7), AND SPACER (8) FROM BRACKET (9). DISCARD LOCK WASHERS.
7. REMOVE RETAINING PIN (10) FROM PIVOT PIN (11) AND REMOVE PIVOT PIN FROM BRACKET (12).

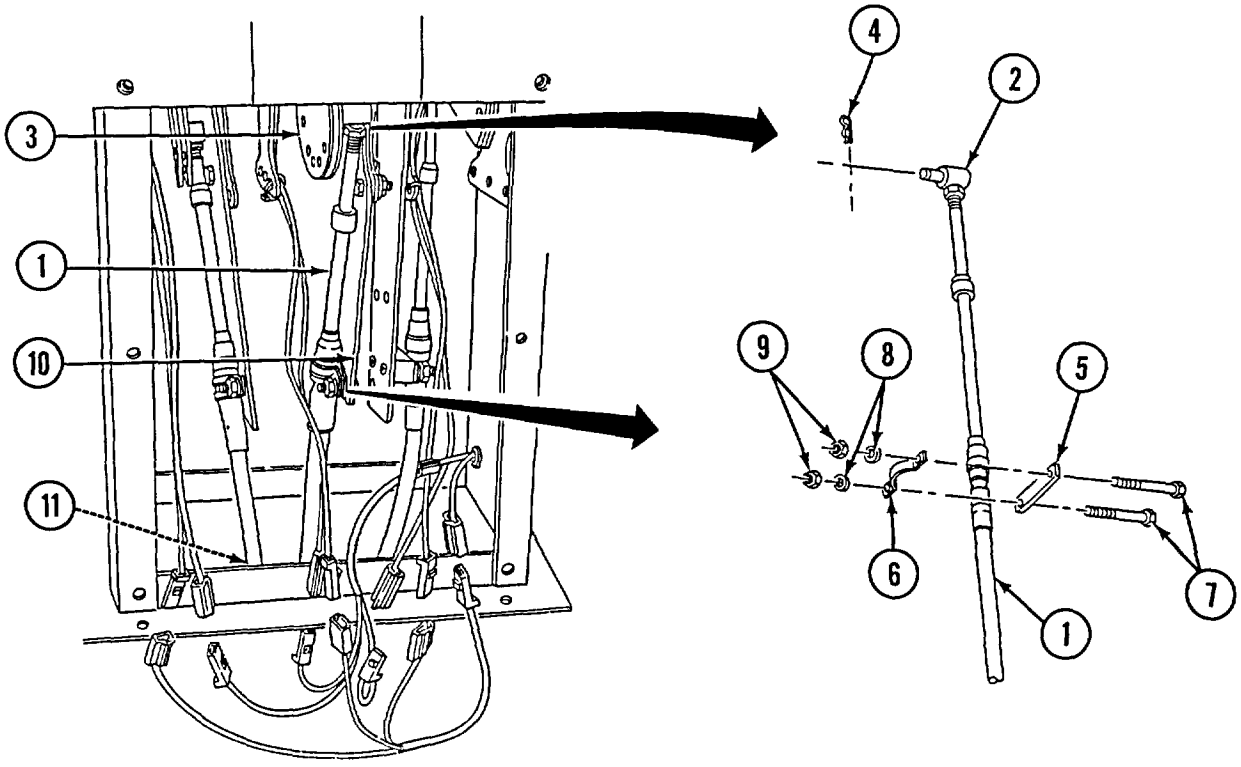
8. REMOVE GROMMET (13) FROM CAB FLOOR AND FEED CABLE (14) INTO CAB AND OUT THROUGH SHIFT TOWER (3).



TRANSFER CASE SHIFT CONTROL CABLE REPLACEMENT (CONT)

INSTALLATION

1. IN CAB, FEED TRANSFER CASE END OF CABLE (1) THROUGH FLOOR TO TRANSFER CASE.
2. WITH TRANSFER CASE SELECTOR LEVER IN "N" POSITION, POSITION PIVOT PIN (2) ON BRACKET (3) AND SECURE WITH RETAINING PIN (4).
3. INSTALL SPACER (5), CABLE (1), CLAMP (6), TWO SCREWS (7), TWO NEW LOCK WASHERS (8), AND TWO NUTS (9) TO BRACKET (10).
4. SLIDE GROMMET (11) ON CABLE INTO CAB FLOOR.

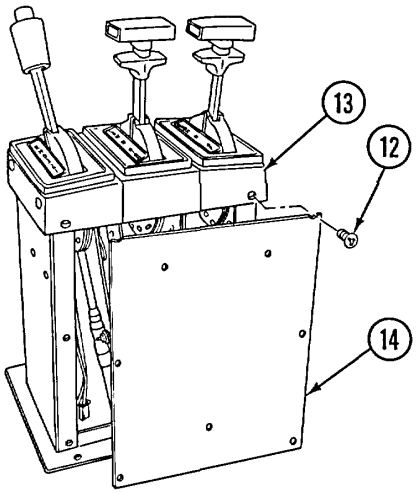


5. REMOVE TWO TOP AND TWO BOTTOM SCREWS (12) FROM FRONT AND REAR OF SHIFT TOWER (13).

6 INSTALL REAR ACCESS PANEL (14) AND SIX SCREWS (12).

7. REPEAT STEP 6 TO INSTALL FRONT ACCESS PANEL.

8. AT TRANSFER CASE, CONNECT TRANSFER CASE SHIFT CABLE (PAGE 4-376).



ADJUSTMENT

1. PLACE TRANSFER CASE SELECTOR LEVER IN "LOW" POSITION.

2. DISCONNECT CLEVIS (1) FROM TRANSFER CASE SHIFT LEVER (2) BY REMOVING COTTER PIN (3) AND PIN (4).

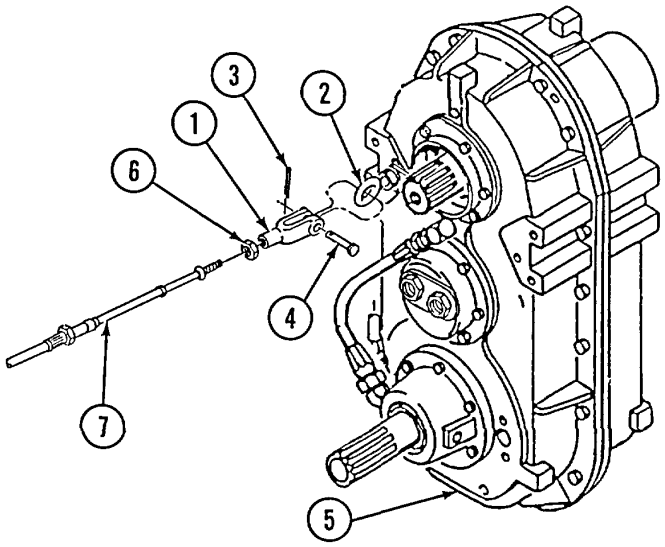
3. PUSH TRANSFER CASE SHIFT LEVER (2) TOWARD TRANSFER CASE (5) AS FAR AS IT WILL GO.

4. LOOSEN NUT (6) AT CLEVIS (1).

5. KEEPING CABLE FULLY EXTENDED (TOWARD TRANSFER CASE) BY HAND, ROTATE CLEVIS (1) UNTIL IT IS ALIGNED WITH TRANSFER CASE SHIFT LEVER (2) AND PIN (4) CAN BE INSTALLED WITHOUT MOVING CABLE (7) OR TRANSFER CASE SHIFT LEVER (2)

6. TIGHTEN NUT (6) AT CLEVIS (1).

7. CONNECT CLEVIS (1) TO TRANSFER CASE SHIFT LEVER (2) WITH PIN (4) AND COTTER PIN (3).



TRANSFER CASE SHIFT CONTROL CABLE REPLACEMENT (CONT)

NOTE
Follow-on Maintenance:

Install CTIS ECU (M917A1 and M917A1 w/MCS)(page 4-604.3).
Install MCS control unit (M917A1 w/MCS)(TM 5-3805-264-14&P).

Section VIII. DRIVELINE MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the drivelines and related components A list of tasks contained in this section is shown below.

	Page
Drivelines Replacement (M915A2)	4-386
Drivelines Replacement (All Except M915A2)	4-388
Driveline U-Joint and Dust Cap Replacement	4-390

DRIVELINES REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

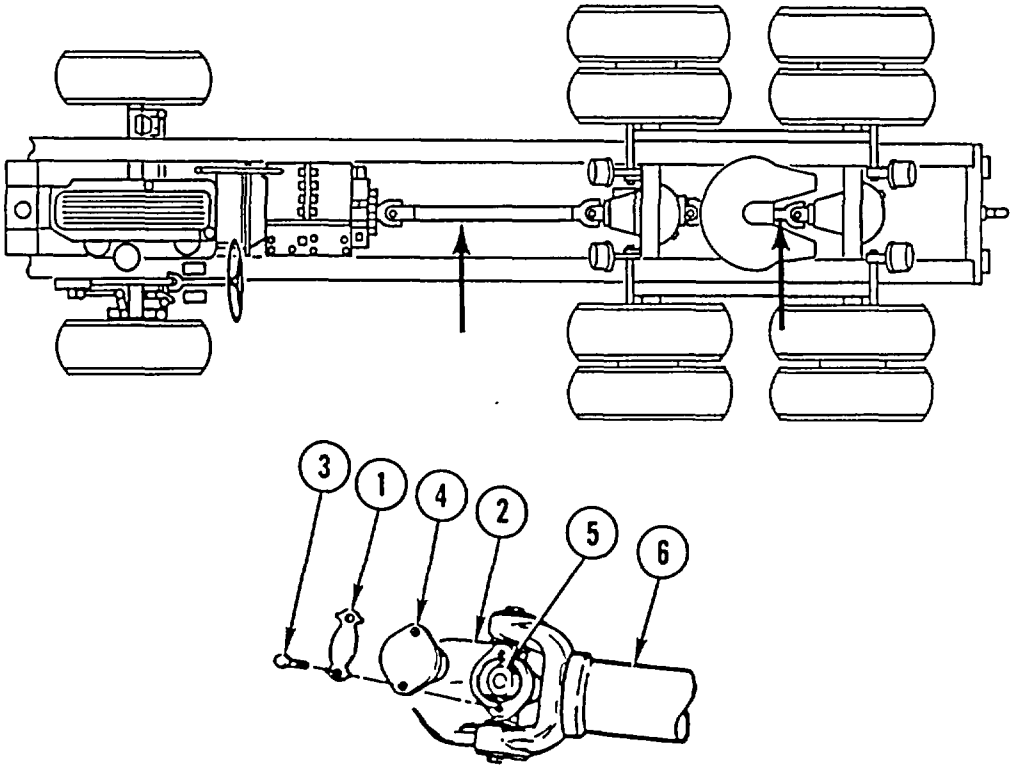
References:

TM 9-2320-363-10
TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Transmission Shift Lever Set to N
Page 2-27	Vehicle Blocked

REMOVAL



NOTE
Procedure is the same for all drivelines.

1. BEND TABS ON LOCKSTRAPS (1) ON BOTH SIDES OF FLANGE YOKE (2) AWAY FROM SCREWS (3).
2. REMOVE TWO SCREWS (3) AND LOCKSTRAP (1) FROM EACH SIDE OF FLANGE YOKE (2).

WARNING
Be careful when removing bearing caps, or needle bearings may fall out and be damaged or lost.

3. REMOVE BEARING CAPS (4) FROM EACH SIDE OF FLANGE YOKE (2) AND UNIVERSAL JOINT (5).
4. PULL DRIVELINE (6) TO ONE SIDE AND PULL OUT TO REMOVE DRIVELINE (6) FROM FLANGE YOKE (2).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE

Procedure is the same for all drivelines.

1. INSTALL UNIVERSAL JOINT (5) IN FLANGE YOKE (2).
2. INSTALL DRIVELINE (6) ON FLANGE YOKE (2).

NOTE

Make sure bearing caps are sealed against flange yoke.

3. INSTALL BEARING CAPS (4) ON BOTH SIDES OF UNIVERSAL JOINT (5) AND FLANGE YOKE (2).
4. INSTALL LOCKSTRAP (1) AND TWO SCREWS (3) ON EACH BEARING CAP (4).
5. TIGHTEN TWO SCREWS (3) TO 33-38 LB-FT (44-52 N.m).
6. BEND TABS ON LOCKSTRAP (1) AROUND SCREWS (3).

NOTE
Follow-on Maintenance:
Lubricate drivelines (Unit PMCS, TM 9-2320-363-20-1).

DRIVELINES REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

References:

TM 9-2320-363-10
TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Transmission Shift Lever Set to N

Equipment Condition (Cont):

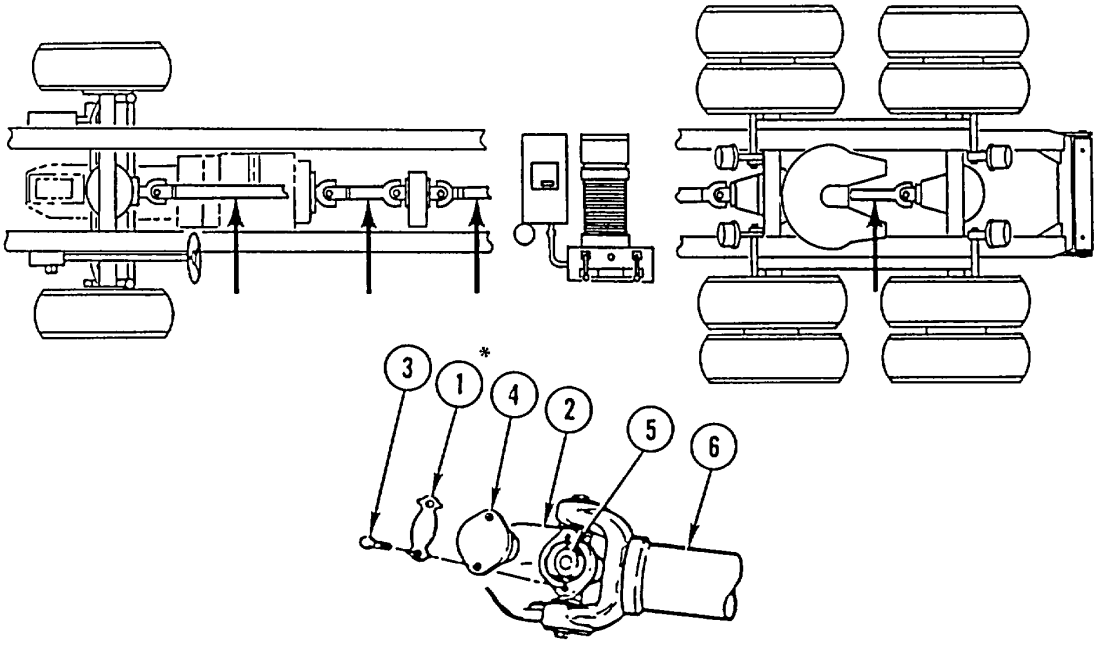
Reference	Condition Description
TM 9-2320-363-10	Vehicle Jacked Up
TM 9-2320-363-10	Transfer Case Shift Lever Set to Neutral

General Safety Instructions:

WARNING

- **Do not get under vehicle unless vehicle is supported by jack stands. To do so could result in serious injury to personnel**
- **Drivelines are heavy. Use extreme caution during replacement of drivelines to prevent injury to personnel**

REMOVAL



*M916A1 ONLY

WARNING

Do not get under vehicle unless vehicle is supported by jack stands. To do so could result in serious injury to personnel.

NOTE

M916A2, M917A1, and M917A1 w/MCS drivelines are not equipped with lockstraps

1. BEND TABS ON LOCKSTRAPS (1) ON BOTH SIDES OF FLANGE YOKE (2) AWAY FROM SCREWS (3).
2. REMOVE TWO SCREWS (3) AND LOCKSTRAP (1) FROM EACH SIDE OF FLANGE YOKE (2).

WARNING

Drivelines are heavy. Use extreme caution during removal of drivelines to prevent injury to personnel.

CAUTION

Be careful when removing bearing caps, or needle bearings may fall out and be damaged or lost

3. REMOVE BEARING CAPS (4) FROM EACH SIDE OF FLANGE YOKE (2) AND UNIVERSAL JOINT (5).
4. PULL DRIVELINE (6) TO ONE SIDE. PULL OUT TO REMOVE DRIVELINE (6) FROM FLANGE YOKE (2).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

DRIVELINES REPLACEMENT (CONT)

INSTALLATION

WARNING

- **Do not get under vehicle unless vehicle is supported by jack stands. To do so could result in serious injury to personnel.**
- **Drivelines are heavy. Use extreme caution during installation of drivelines to prevent injury to personnel.**

1. INSTALL UNIVERSAL JOINT (1) IN FLANGE YOKE (2).
2. INSTALL DRIVELINE (3) ON FLANGE YOKE (2).

NOTE

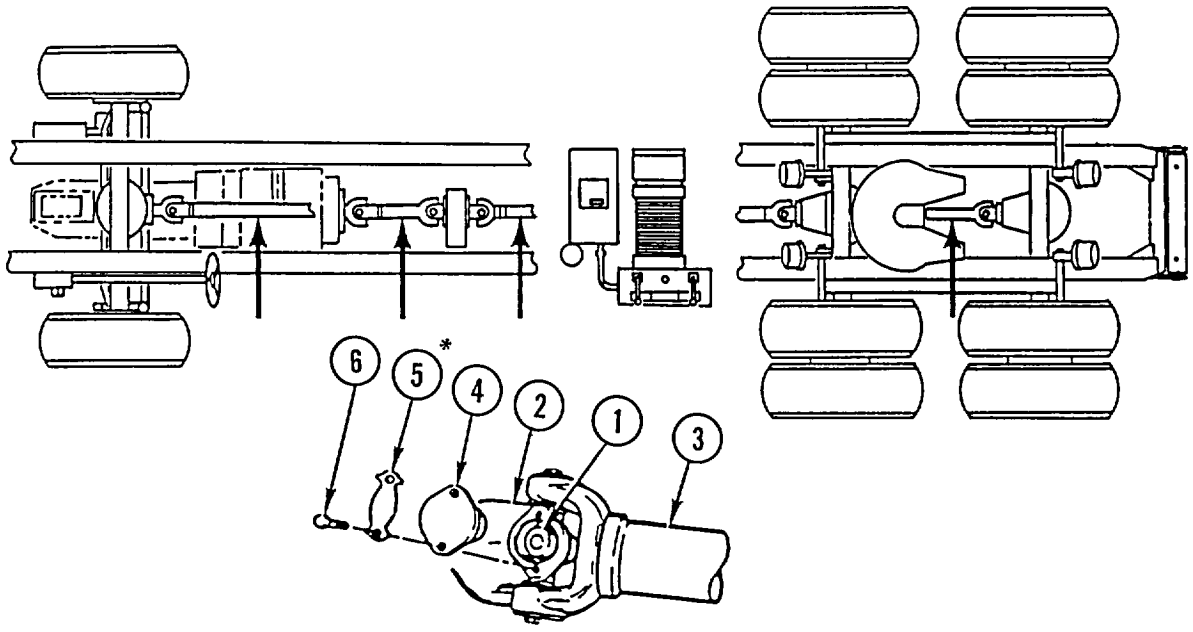
Make sure bearing caps are sealed against flange yoke.

3. INSTALL BEARING CAPS (4) ON BOTH SIDES OF UNIVERSAL JOINT (1) AND FLANGE YOKE (2).

NOTE

M916A2, M917A1, and M917A1 w/MCS drivelines are not equipped with lockstraps.

4. INSTALL LOCKSTRAP (5) AND TWO SCREWS (6) ON EACH BEARING CAP (4).
5. TIGHTEN SCREWS (6) TO 28 LB-FT (38 N.m) FOR M916A2, M917A1, AND M917A1 w/MCS. TIGHTEN SCREWS TO 33-38 LB-FT (44-52 N.m) FOR M916A1.
6. BEND TABS ON LOCKSTRAP (5) AROUND SCREWS (6).



* M916A1 ONLY

NOTE
Follow-on Maintenance:

Lubricate drivelines (Unit PMCS, TM 9-2320-363-20-1).

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DRIVELINE U-JOINT AND DUST CAP REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

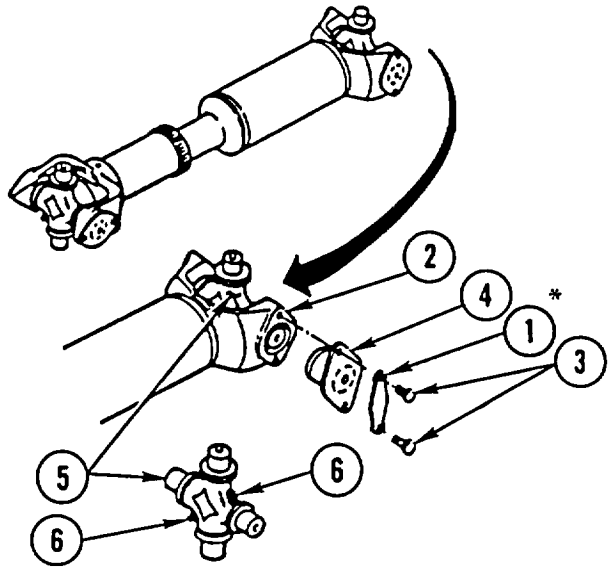
References:

TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Page 4-386	Drivelines Removed from Vehicle (M915A2)
Page 4-388	Drivelines Removed from Vehicle (All Except M915A2)

REMOVAL



*M916A1 ONLY

NOTE

M916A2, M917A1, and M917A1 w/MCS drivelines are not equipped with lockstraps.

1. BEND TABS ON LOCKSTRAPS (1) ON BOTH SIDES OF FLANGE YOKE (2) AWAY FROM TWO SCREWS (3).
2. REMOVE TWO SCREWS (3) AND LOCKSTRAP (1) FROM EACH SIDE OF FLANGE YOKE (2).

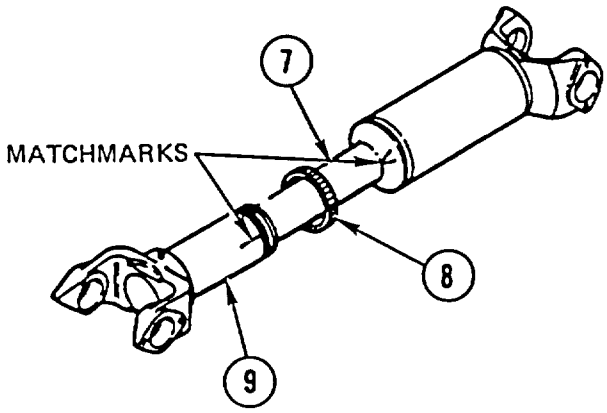
CAUTION

Be careful when removing bearing caps, or needle bearings may fall out and be damaged or lost.

3. REMOVE BEARING CAPS (4) FROM EACH SIDE OF FLANGE YOKE (2) AND UNIVERSAL JOINT (5).

4. REMOVE UNIVERSAL JOINT (5) FROM FLANGE YOKE (2).

5. REMOVE TWO GREASE FITTINGS (6) FROM UNIVERSAL JOINT (5).



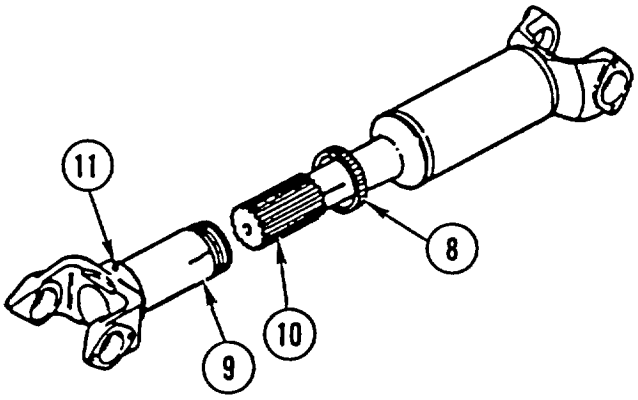
NOTE

If driveline matchmarks are missing, scribe a line on each half of driveline.

6. MATCHMARK BOTH HALVES OF DRIVELINE (7) BEFORE REMOVING DUST CAP (8).

7. REMOVE DUST CAP (8) FROM SLIP YOKE (9).

DRIVELINE U-JOINT AND DUST CAP REPLACEMENT (CONT)

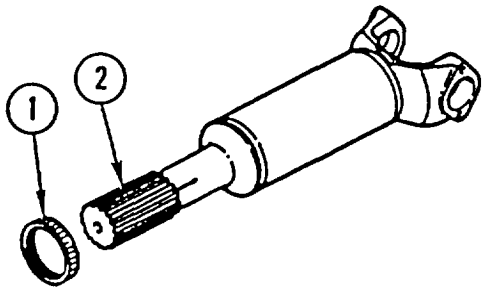


8. REMOVE SPLINED SHAFT (10) FROM SLIP YOKE (9).
9. REMOVE DUST CAP (8) FROM SPLINED SHAFT (10).
10. REMOVE GREASE FITTING (11) FROM SLIP YOKE (9).

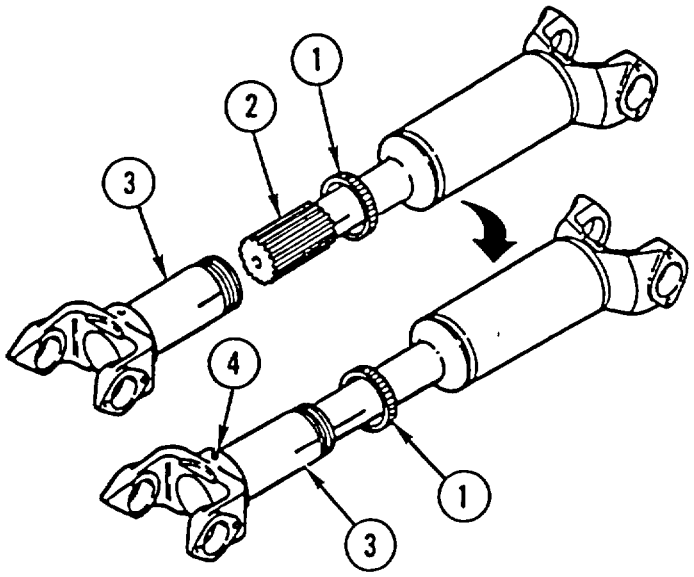
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

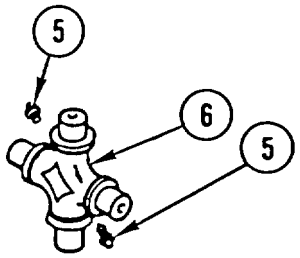
INSTALLATION



1. INSTALL DUST CAP (1) ON SPLINED SHAFT (2).

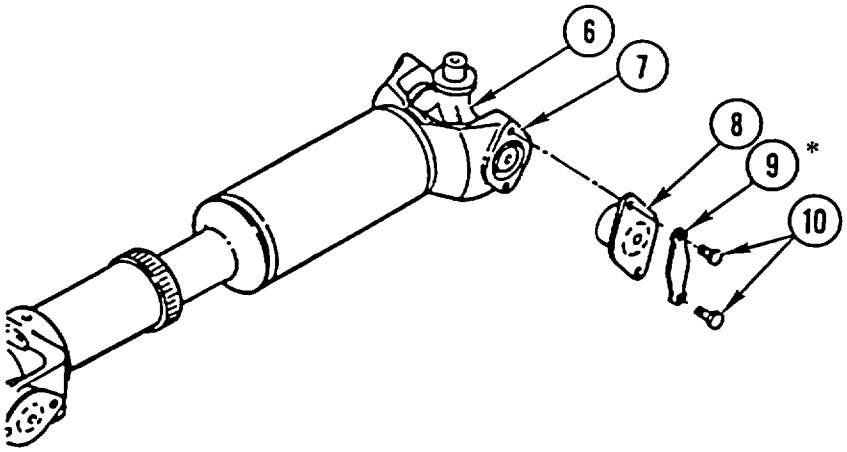


2. INSTALL SPLINED SHAFT (2) IN SLIP YOKE (3).
3. INSTALL DUST CAP (1) ON SLIP YOKE (3).
4. INSTALL GREASE FITTING (4) IN SLIP YOKE (3).



5. INSTALL TWO GREASE FITTINGS (5) IN UNIVERSAL JOINT (6).

DRIVELINE U-JOINT AND DUST CAP REPLACEMENT (CONT)



*M916A1 ONLY

6. INSTALL UNIVERSAL JOINT (6) IN FLANGE YOKE (7).

CAUTION

Be careful when installing bearing caps, or needle bearings may fall out and be damaged or lost.

NOTE

Make sure bearing caps are seated against flange yoke.

7. INSTALL TWO BEARING CAPS (8) ON EACH SIDE OF FLANGE YOKE (7) AND UNIVERSAL JOINT (6).

NOTE

M916A2, M917A1, and M917A1 w/MCS drivelines are not equipped with lockstraps.

8. INSTALL LOCKSTRAPS (9) AND TWO SCREWS (10) ON BEARING CAPS (8). TIGHTEN SCREWS TO 28 LB-FT (38 N.m) FOR M916A2, M917A1, AND M917A1 W/MCS. TIGHTEN SCREWS TO 33-38 LB-FT (44-52 N.m) FOR M916A1.

9. BEND TABS ON LOCKSTRAPS (9) AROUND SCREWS (10).

NOTE

Follow-on Maintenance:

Install drivelines (page 4-386 or 4-388).
Lubricate driveline and universal joint (Unit PMCS, TM 9-2320-363-20-1).

Section IX. FRONT AND REAR AXLES MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the front and rear axles and related components A list of tasks contained in this section is shown below.

Page

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Front Axle Toe-In Alinement (All Except M915A2) 4-398

Front Axle Stop Cushion Replacement 4-400

Rear Axle Breather Replacement 4-400.1

FRONT AXLE TOE-IN ALINEMENT

This task covers: a. Alinement Check b. Adjustment

INITIAL SETUP

Applicable Configuration:

M915A2

Materials/Parts:

Spray Paint/Chalk Appendix C, Item 23

Tools and Special Equipment:

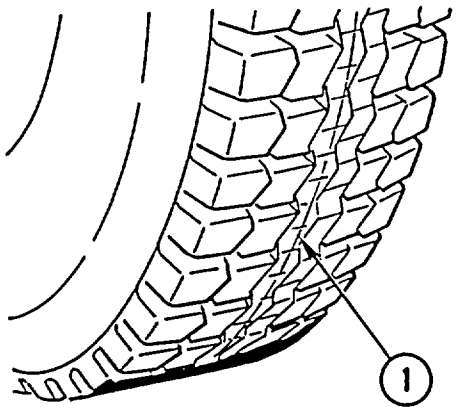
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Personnel Required: (2)

ALINEMENT CHECK

1. BLOCK REAR WHEELS AND RAISE FRONT END OF VEHICLE SO FRONT TIRES CAN BE ROTATED. SUPPORT VEHICLE ON JACK STANDS.

2. SLOWLY ROTATE TIRE AND WHITEN CENTER OF TIRE AROUND COMPLETE CIRCUMFERENCE USING SPRAY PAINT OR CHALK. REPEAT FOR OPPOSITE FRONT TIRE.



3. ROTATE TIRE AND SCRIBE A LINE (1) AROUND COMPLETE CIRCUMFERENCE NEAR CENTER SO THAT LINE IS VISIBLE IN WHITENED AREA. REPEAT FOR OPPOSITE FRONT TIRE.

4. LOWER VEHICLE FROM JACK STANDS.

5. REMOVE CHOCKS. BACK UP VEHICLE A FEW FEET, THEN DRIVE FORWARD APPROXIMATELY 10 FEET.

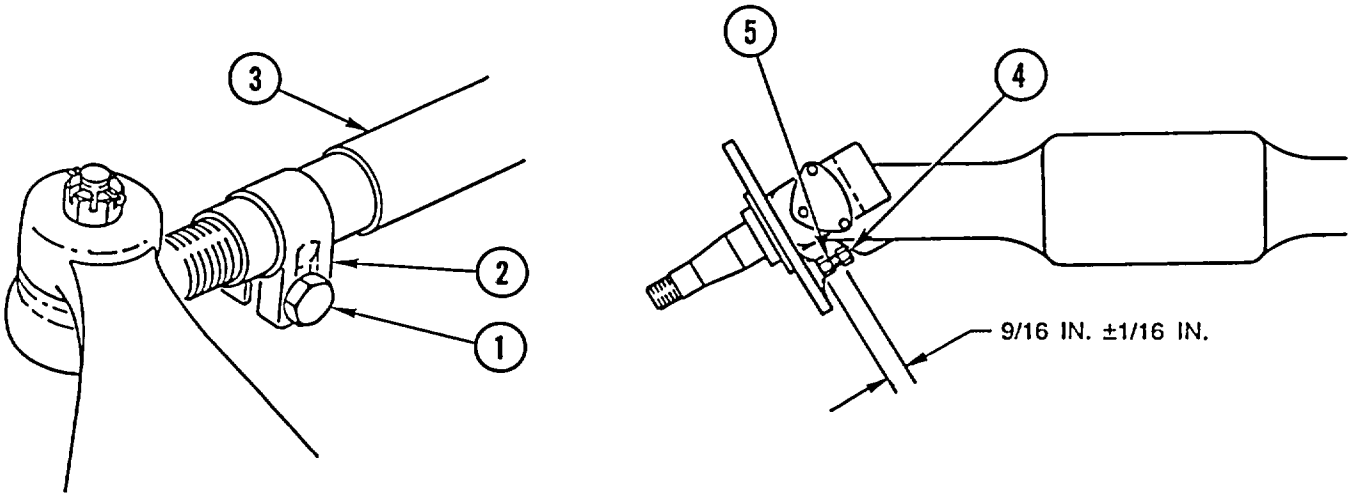
6. PLACE TRANSMISSION IN NEUTRAL AND SET PARKING BRAKE.

7. AT FRONT OF TIRES, USE TAPE MEASURE HELD AT AXLE HEIGHT TO MEASURE DISTANCE BETWEEN SCRIBE LINES (1) ON FRONT OF EACH TIRE. RECORD MEASUREMENT TO NEAREST 1/32 INCH.

8. AT REAR OF TIRES, USE TAPE MEASURE HELD AT AXLE HEIGHT TO MEASURE DISTANCE BETWEEN SCRIBE LINES (1) ON REAR OF EACH TIRE. RECORD MEASUREMENT TO NEAREST 1/32 INCH.

9. MEASUREMENT AT FRONT OF TIRES MUST BE 1/16 INCH OR LESS THAN REAR MEASUREMENT FOR PROPER TOE-IN ALINEMENT. IF NOT, PERFORM ADJUSTMENT PROCEDURE.

ADJUSTMENT



NOTE

Perform steps 1 thru 4 to adjust toe-in and perform steps 5 thru 7 to adjust turn stop bolts.

1. LOOSEN CAPSCREWS (1) AT CLAMPS (2) ON EACH END OF TIE ROD (3).

2. ROTATE TIE ROD (3) TOWARD FRONT OF VEHICLE TO INCREASE TOE-IN; TOWARD REAR OF VEHICLE TO DECREASE TOE-IN.

3. TIGHTEN CAPSCREWS (1) TO 40-55 LB-FT (54-75 N.m).

4. REPEAT ALINEMENT CHECK STEPS 1 THRU 9.

NOTE

Steps 5 thru 7 are the same for both sides.

5. MEASURE LENGTH OF STOP BOLT (4). LENGTH MUST BE 9/16 IN. ±1/16 IN.

6. IF MEASUREMENT FROM STEP 5 IS NOT WITHIN TOLERANCE, LOOSEN LOCK NUT (5) AND ADJUST STOP BOLT (4) TO REQUIRED LENGTH.

7. TIGHTEN LOCK NUT (5) TO 28 LB-FT (38 N.m).

FRONT AXLE TOE-IN ALINEMENT

This task covers: a. Alinement Check b. Adjustment

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Pin, Cotter

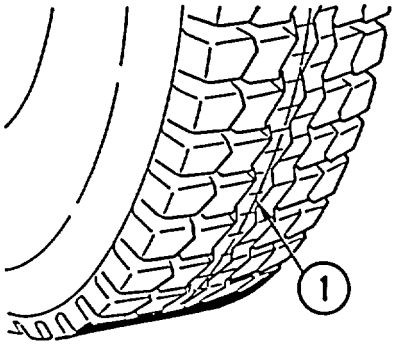
Spray Paint/Chalk Appendix C, Item 23

Personnel Required: (2)

ALINEMENT CHECK

1. BLOCK REAR WHEELS AND RAISE FRONT END OF VEHICLE SO FRONT TIRES CAN BE ROTATED. SUPPORT VEHICLE ON JACK STANDS.

2. SLOWLY ROTATE TIRE AND WHITEN CENTER OF TIRE AROUND COMPLETE CIRCUMFERENCE USING SPRAY PAINT OR CHALK. REPEAT FOR OPPOSITE FRONT TIRE.



3. ROTATE TIRE AND SCRIBE A LINE (1) AROUND COMPLETE CIRCUMFERENCE NEAR CENTER SO THAT LINE IS VISIBLE IN WHITENED AREA. REPEAT FOR OPPOSITE FRONT TIRE.

4. LOWER VEHICLE FROM JACK STANDS.

5. REMOVE CHOCKS. BACK UP VEHICLE A FEW FEET, THEN DRIVE FORWARD APPROXIMATELY 10 FEET.

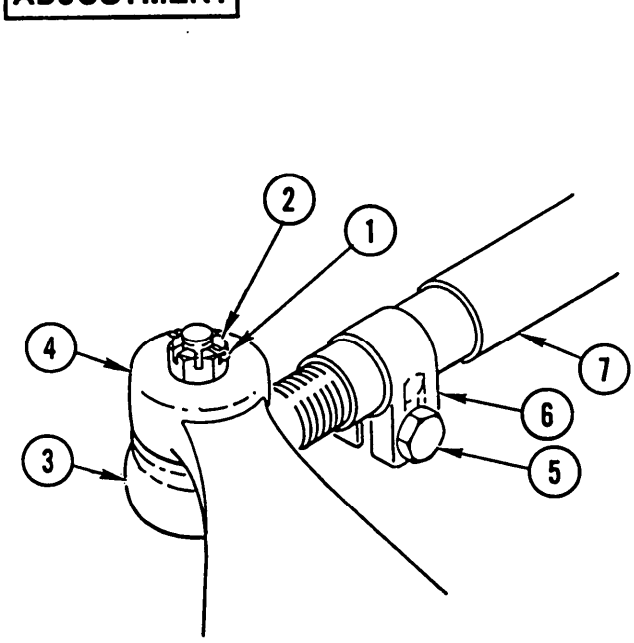
6. PLACE TRANSMISSION IN NEUTRAL AND SET PARKING BRAKE.

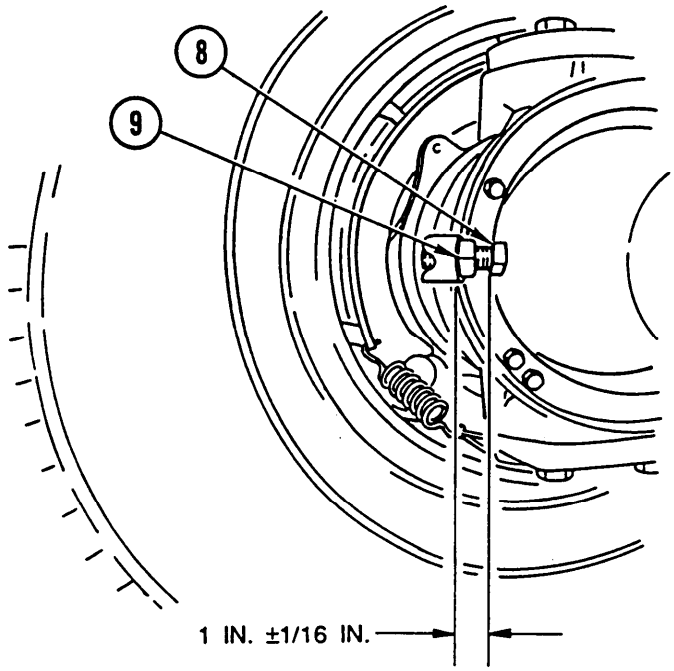
7. AT FRONT OF TIRES, USE TAPE MEASURE HELD AT AXLE HEIGHT TO MEASURE DISTANCE BETWEEN SCRIBE LINES (1) ON FRONT OF EACH TIRE. RECORD MEASUREMENT TO NEAREST 1/32 INCH.

8. AT REAR OF TIRES, USE TAPE MEASURE HELD AT AXLE HEIGHT TO MEASURE DISTANCE BETWEEN SCRIBE LINES (1) ON REAR OF EACH TIRE. RECORD MEASUREMENT TO NEAREST 1/32 INCH.

9. MEASUREMENT AT FRONT OF TIRES MUST BE 1/4 INCH OR LESS THAN REAR MEASUREMENT FOR PROPER TOE-IN ALINEMENT. IF NOT, PERFORM ADJUSTMENT PROCEDURE.

ADJUSTMENT





NOTE

Perform steps 1 thru 6 to adjust toe-in and perform steps 7 thru 9 to adjust turn stop bolts.

1. REMOVE COTTER PIN (1), CASTELLATED NUT (2), AND RIGHT TIE ROD END (3) FROM SPINDLE ARM (4). DISCARD COTTER PIN.
2. LOOSEN CAPSCREW (5) AT CLAMP (6) ON END OF TIE ROD (7).
3. ROTATE TIE ROD. END (3) ONE COMPLETE TURN TOWARD REAR OF VEHICLE TO INCREASE TOE-IN; TOWARD FRONT OF VEHICLE TO DECREASE TOE-IN.
4. TIGHTEN CAPSCREW (5) TO 40-55 LB-FT (54-75 N•m).

NOTE

It may be necessary to raise front end of vehicle to aline spindle arm after adjustment.

5. INSTALL TIE ROD END (3) AND CASTELLATED NUT (2). TIGHTEN CASTELLATED NUT (2) TC 165-180 LB-FT (224-244 N•.m) AND INSTALL NEW COTTER PIN (l).
6. REPEAT ALINEMENT CHECK STEPS 1 THRU 9, IF REQUIRED.

NOTE

Steps 7 thru 9 are the same for both sides.

7. MEASURE LENGTH OF STOP BOLT (8). LENGTH MUST BE 1 IN. ± 1/16 IN.
8. IF MEASUREMENT FROM STEP 7 IS NOT WITHIN TOLERANCE, LOOSEN LOCK NUT (9) AND ADJUST STOP BOLT (8) TO REQUIRED LENGTH.
9. TIGHTEN LOCK NUT (9) TO 38 LB-FT (52 NŽ.m).

FRONT AXLE STOP CUSHION REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

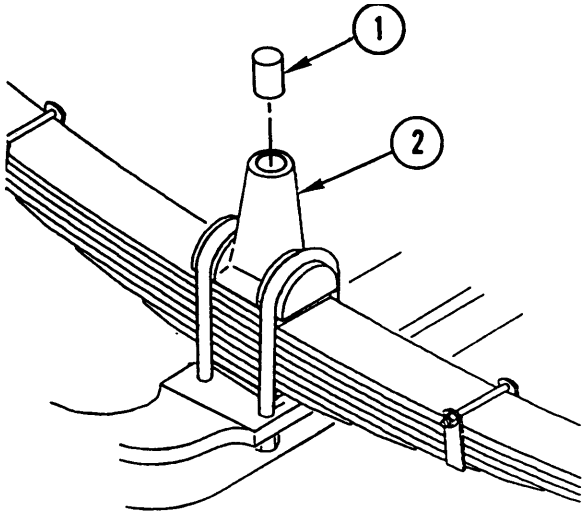
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Adhesive — Appendix C, Item 1

REMOVAL

REMOVE STOP CUSHION (1) FROM FRONT AXLE STOP (2).



CLEANING INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. APPLY ADHESIVE TO INSIDE DIAMETER OF FRONT AXLE STOP (2).
2. INSTALL STOP CUSHION (1) IN FRONT AXLE STOP (2).

REAR AXLE BREATHER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-27	Vehicle Blocked

REMOVAL

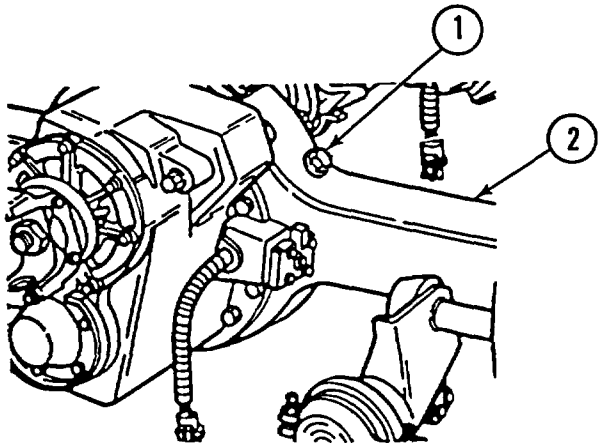
REMOVE BREATHER (1) FROM AXLE HOUSING (2).

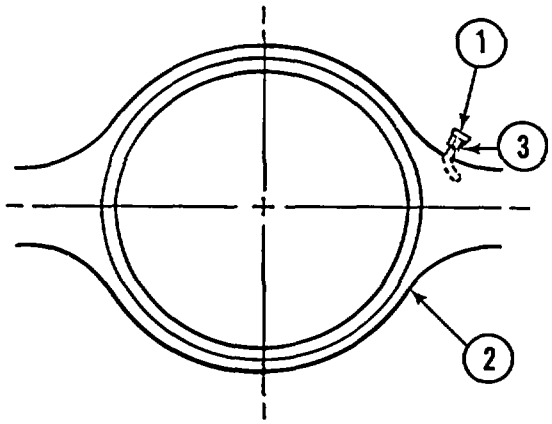
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2

INSTALLATION

1. INSTALL BREATHER (1) IN AXLE HOUSING (2). TIGHTEN BREATHER TO 20 LB-FT (27 N m).
2. TIGHTEN BREATHER (1) FURTHER UNTIL RAISED MARK (3) ON HEX FLAT OF BREATHER IS POINTING AWAY FROM RING GEAR.





Section X. BRAKE MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the brake system and related components. A list of tasks contained in this section is shown below.

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Front Anti-Lock Brake System (ABS) Air Solenoid Replacement 4-576

Rear Anti-Lock Brake System (ABS) Air Solenoid Replacement 4-579

BRAKE PEDAL REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

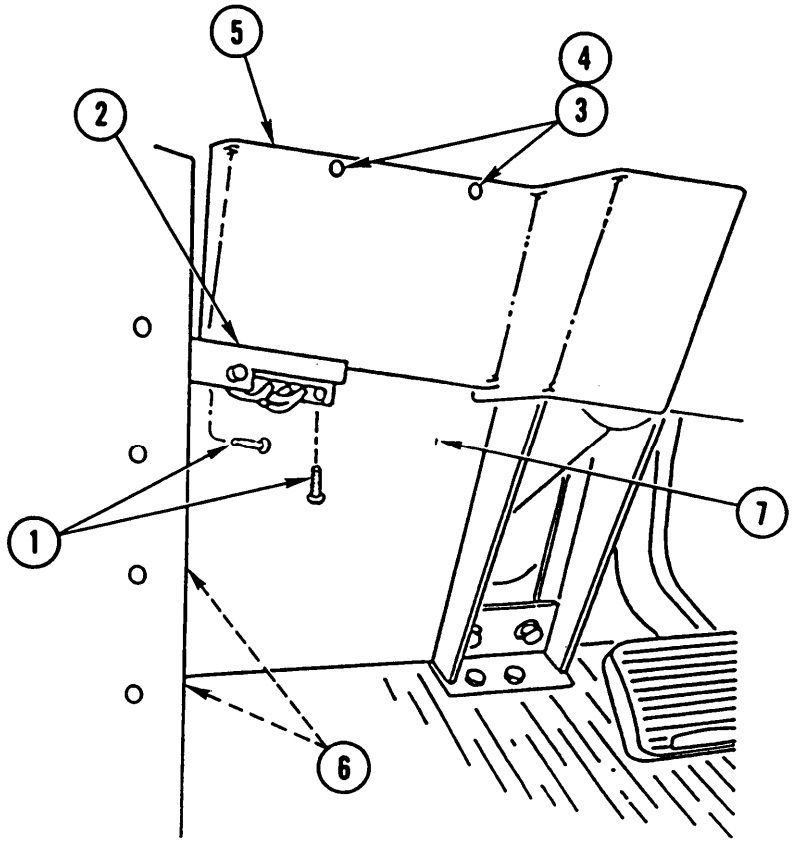
Materials/Parts:

Pin, Hitch

Equipment Condition:

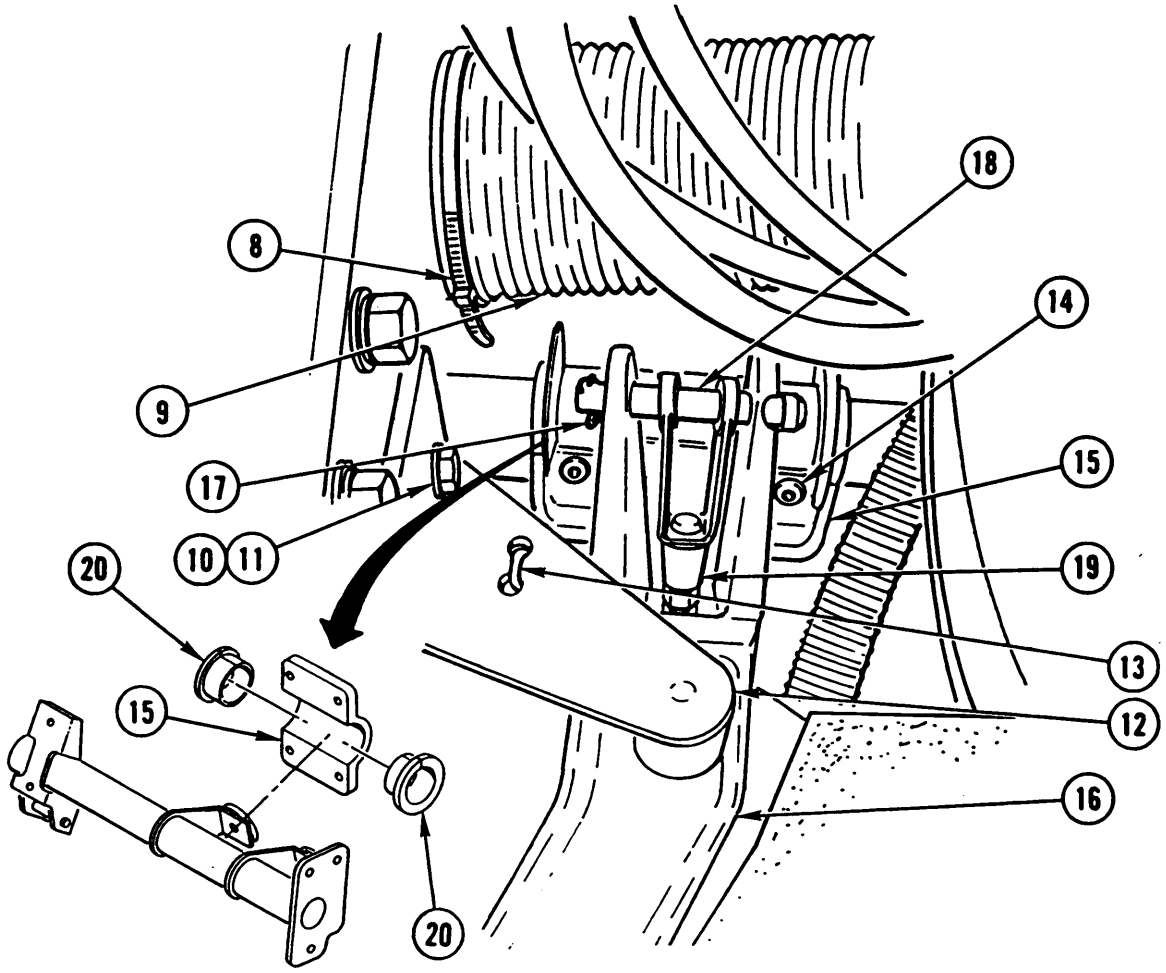
Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL



1. REMOVE Two SCREWS (1) AND SET ENGINE CHECK SWITCH BRACKET (2) ASIDE.
2. REMOVE FIVE TORX SCREWS (3), FIVE WASHERS (4), AND COVER (5).
3. REMOVE Two SCREWS (6) AND COVER (7).

BRAKE PEDAL REPLACEMENT (CONT)

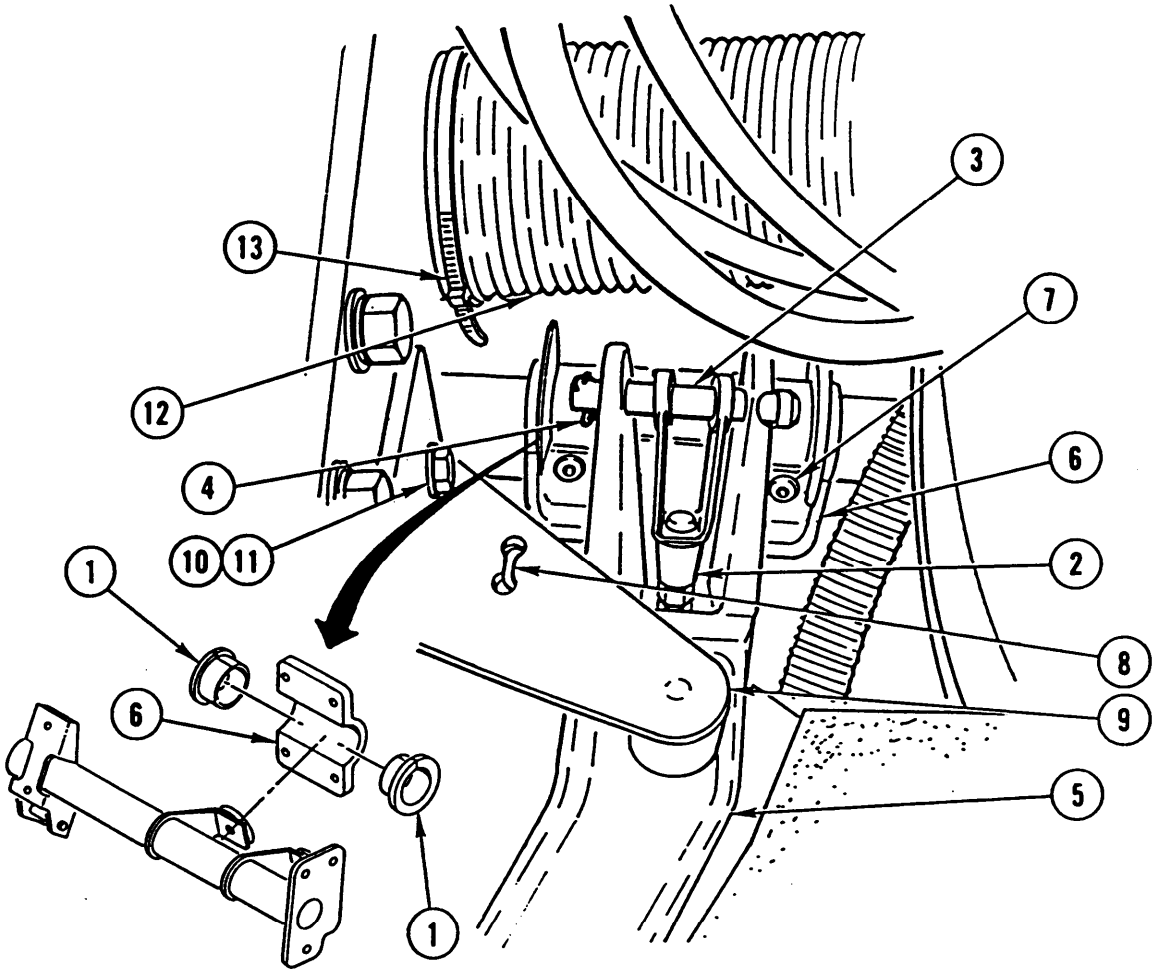


4. REMOVE TIE WRAP (8) AND DISCONNECT DEFROSTER HOSE (9).
5. REMOVE TWO CAPSCREWS (10), TWO WASHERS (1 1), BRACKET (12), AND SPRING (13).
6. REMOVE FOUR SOCKET HEAD SCREWS (14), CAP (15), AND BRAKE PEDAL (16).
7. REMOVE HITCH PIN (17), PIN (18), AND ROD (19) FROM BRAKE PEDAL (16). DISCARD HITCH PIN.
8. IF DAMAGED, REMOVE TWO BEARINGS (20).

CLEANING/INSPECTION

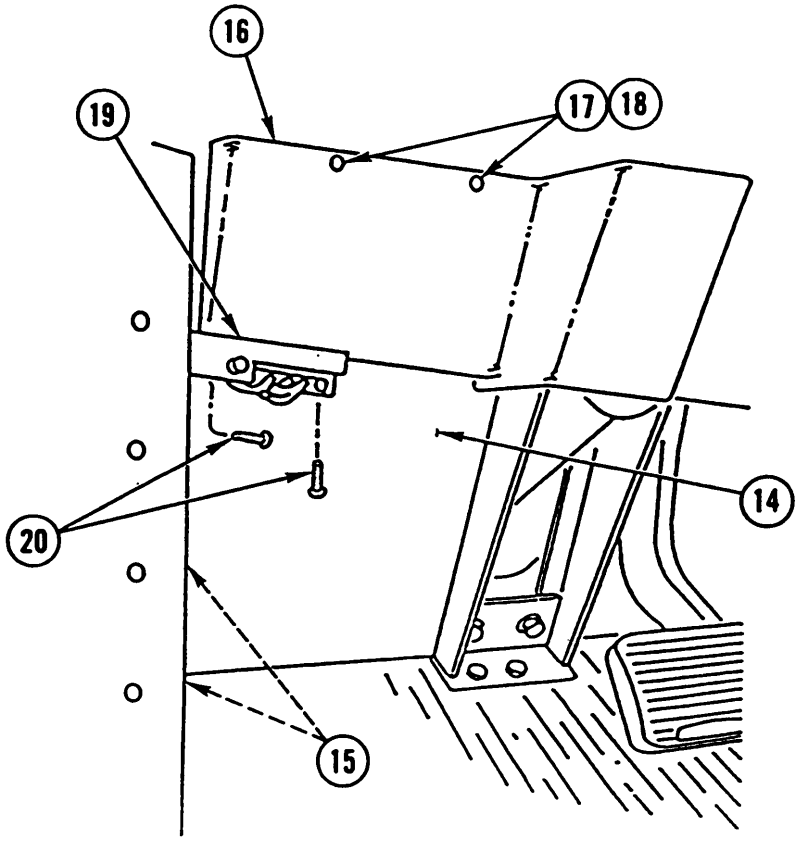
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. IF REMOVED, INSTALL TWO BEARINGS (1).
2. INSTALL ROD (2), PIN (3), AND NEW HITCH PIN (4) ON BRAKE PEDAL (5).
3. INSTALL BRAKE PEDAL (5), CAP (6), AND FOUR SOCKET HEAD SCREWS (7).
4. INSTALL SPRING (8), BRACKET (9), TWO WASHERS (1 O), AND TWO CAPSCREWS (11).
5. CONNECT DEFROSTER HOSE (12) AND INSTALL TIE WRAP (13).

BRAKE PEDAL REPLACEMENT (CONT)



6. INSTALL COVER (14) AND TWO SCREWS (15).
7. INSTALL COVER (16), FIVE WASHERS (17), AND FIVE TORX SCREWS (18).
8. MOVE ENGINE CHECK SWITCH BRACKET (19) INTO PLACE AND INSTALL TWO SCREWS (20).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

FRONT BRAKESHOE AND LINING REPLACEMENT

This task covers: a. Removal b. Cleaning c. Inspection d. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

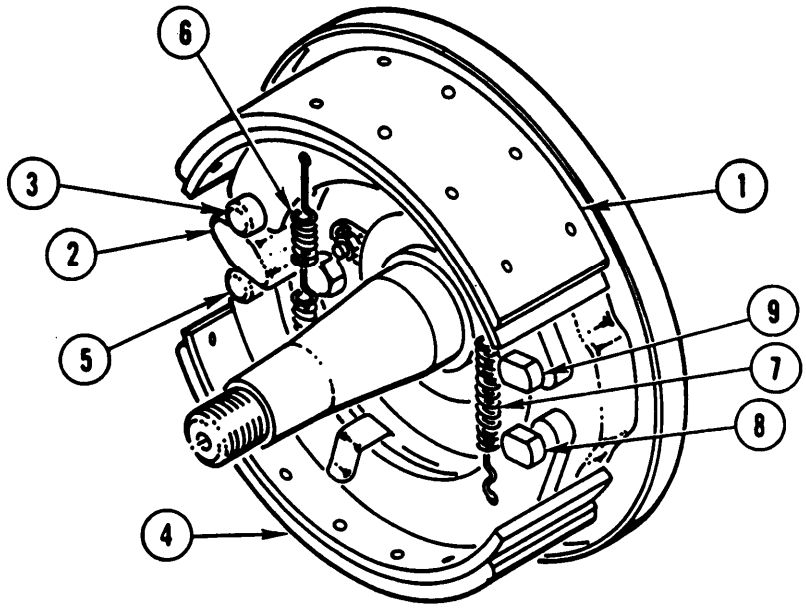
Compound, Antiseize — Appendix C, Item 5

Personnel Required: (2)

Equipment Condition:

Reference	Condition Description
Page 4-584	Hub and Drum Removed

REMOVAL



1. LIFT UPPER BRAKESHOE (1) AWAY FROM S-CAM (2) AND REMOVE UPPER CAM ROLLER (3).
2. PUSH LOWER BRAKESHOE (4) AWAY FROM S-CAM (2) AND REMOVE LOWER CAM ROLLER (5).
3. REMOVE RELEASE SPRING (6) FROM UPPER AND LOWER BRAKESHOES (1 AND 4).
4. GRASP EACH BRAKESHOE (1 AND 4) AND PULL TO OPEN POSITION. REMOVE TWO BRAKESHOES (1 AND 4) AND RETAINING SPRING (7) FROM TWO SPIDER ANCHOR PINS **(8** AND 9).
5. REMOVE RETAINING SPRING (7) FROM TWO BRAKESHOES (1 AND 4).

CLEANING

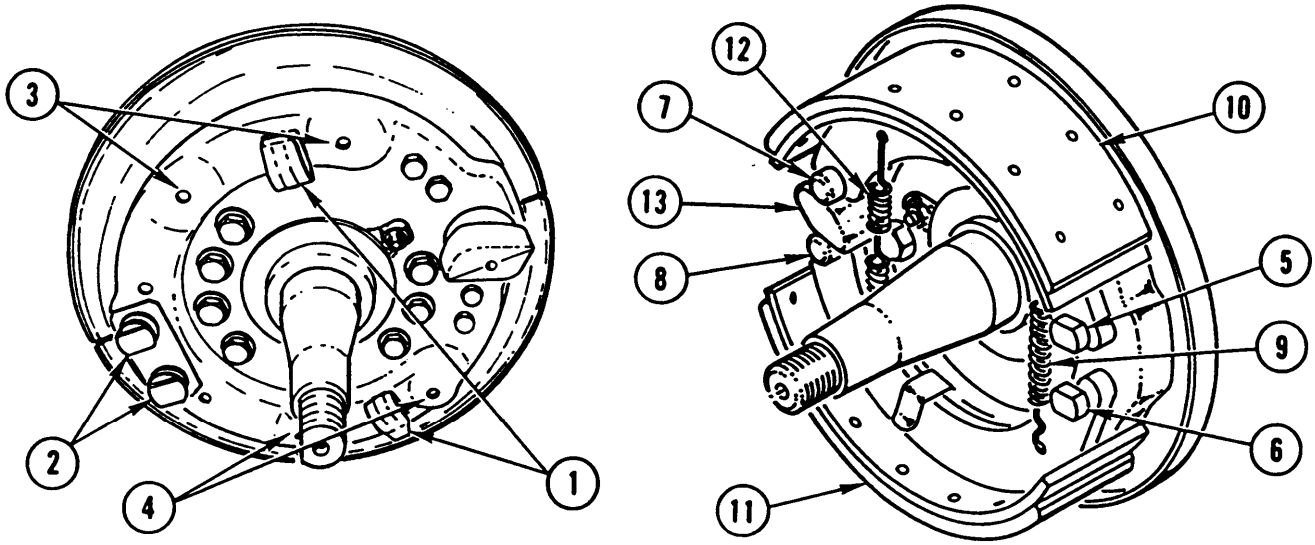
Clean all parts in accordance with Chapter 2.

FRONT BRAKESHOE AND LINING REPLACEMENT (CONT)

INSPECTION

1. BRAKE LINING THICKNESS MUST BE NO LESS THAN 1/4 IN. IF BRAKE LINING IS LESS THAN 1/4 IN., REPLACE BRAKE LINING.
2. THERE MUST BE NO LESS THAN 1/32-IN. CLEARANCE BETWEEN TOP OF BRAKE LINING AND TOP OF ALL RIVET HEADS. IF THERE IS LESS THAN 1/32-IN. CLEARANCE BETWEEN TOP OF BRAKE LINING AND ANY RIVET HEAD, REPLACE BRAKE LINING.
3. INSPECT REMAINING PARTS IN ACCORDANCE WITH CHAPTER 2.

INSTALLATION



1. APPLY THIN FILM OF ANTISEIZE COMPOUND TO CONTACT POINTS (1, 2, 3, AND 4), TWO SPIDER ANCHOR PINS (5 AND 6), AND SMALL DIAMETER OF UPPER AND LOWER CAM ROLLERS (7 AND 8).
2. INSTALL RETAINING SPRING (9) ON EACH BRAKESHOE (10 AND 11).
3. INSTALL TWO BRAKESHOES (10 AND 11) ON TWO SPIDER ANCHOR PINS (5 AND 6).
4. INSTALL RELEASE SPRING (12) ON TWO BRAKESHOES (10 AND 11).
5. INSTALL UPPER CAM ROLLER (7) BETWEEN UPPER BRAKESHOE (10) AND S-CAM (13).
6. INSTALL LOWER CAM ROLLER (8) BETWEEN LOWER BRAKESHOE (11) AND S-CAM (13).

NOTE

Follow-on Maintenance:
Install hub and drum (page 4-584).

FRONT BRAKESHOE AND LINING REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

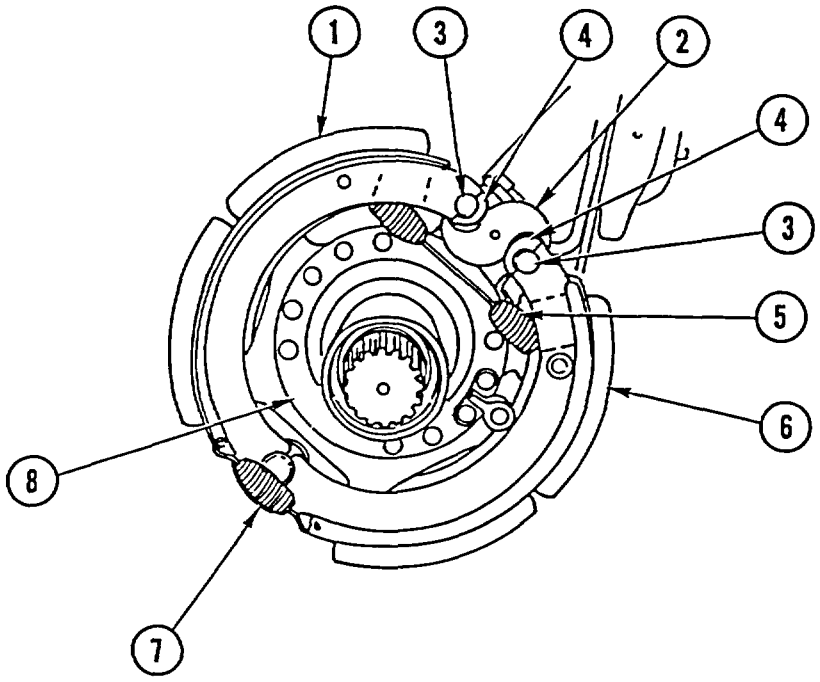
All except M915A2

Personnel Required: (2)

Equipment Condition:

Tools and Special Equipment:	Reference	Condition Description
Tool Kit, SC 5180-90-CL-N26	Page 4-588	Hub and Drum Removed

REMOVAL



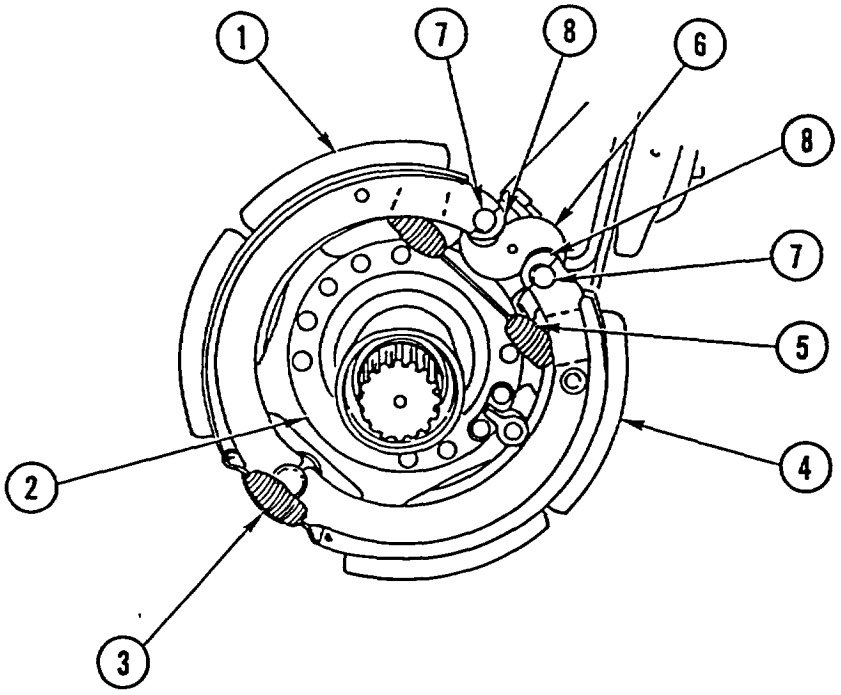
1. PRY UPPER BRAKESHOE (1) AWAY FROM CAM (2).
2. REMOVE TWO CAM ROLLER PINS (3) AND TWO CAM ROLLERS (4).
3. REMOVE RELEASE SPRING (5) AND LET LOWER BRAKESHOE (6) DROP DOWN.
4. UNHOOK TWO RETAINING SPRINGS (7) AND REMOVE LOWER BRAKESHOE (6) FROM BRAKE SPIDER (8).
5. REMOVE UPPER BRAKESHOE (1)

FRONT BRAKESHOE AND LINING REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL UPPER BRAKESHOE (1) ON BRAKE SPIDER (2).
2. INSTALL TWO RETAINING SPRINGS (3) ON UPPER BRAKESHOE (1).
3. INSTALL LOWER BRAKESHOE (4) ON TWO RETAINING SPRINGS (3).
4. INSTALL LOWER BRAKESHOE (4) ON BRAKE SPIDER (2).
5. INSTALL RELEASE SPRING (5).
6. PRY UPPER BRAKESHOE (1) AWAY FROM CAM (6).
7. INSTALL TWO CAM ROLLER PINS (7) AND TWO CAM ROLLERS (8).

NOTE

Follow-on Maintenance:

Install hub and drum (page 4-588).
Adjust slack adjuster (page 4-448).

All data on pages 4-411 and 4-412 deleted.

REAR BRAKESHOE AND LINING REPLACEMENT

This task covers: a. Removal b. Cleaning c. Inspection d. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

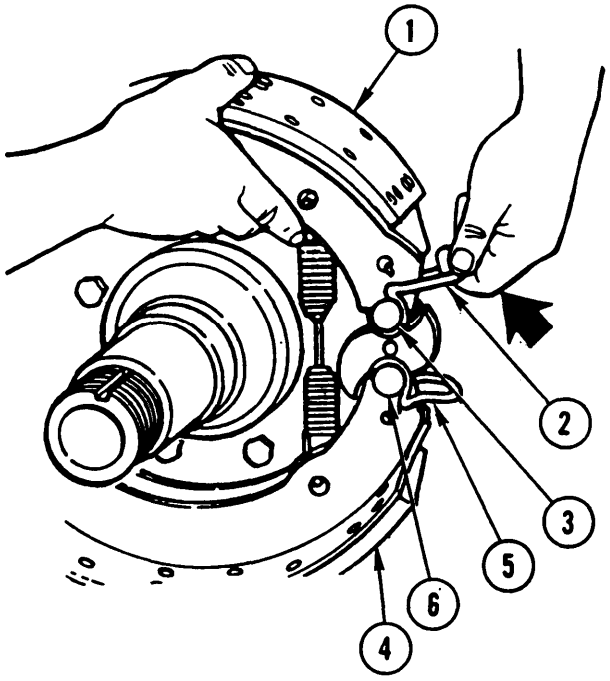
Materials/Parts:

Compound, Antiseize — Appendix C, Item 5

Equipment Condltlon:

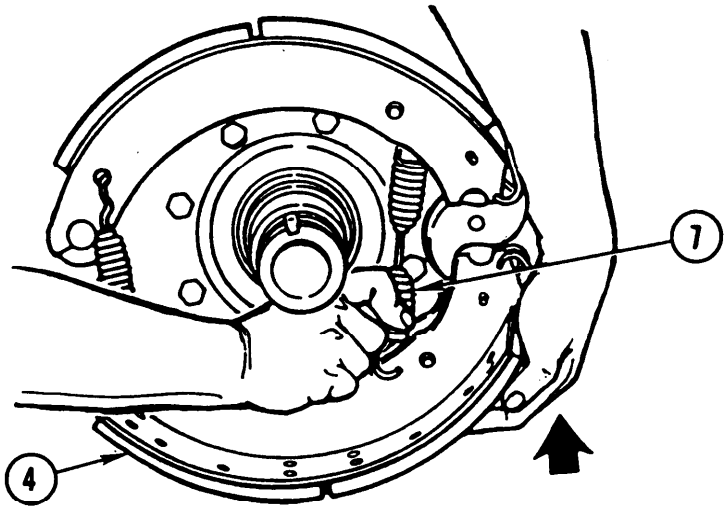
Reference	Condition Description
Page 4-594	Rear Hub, Drum, Wheel Bearings, and Seal Removed

REMOVAL

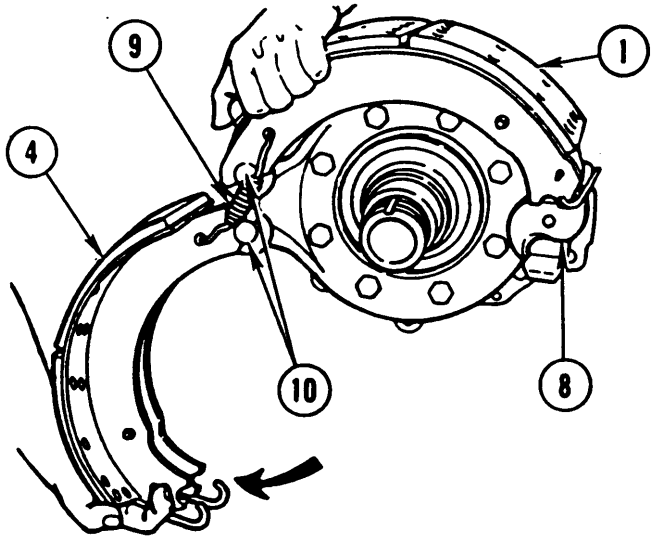


1. LIFT UPPER BRAKESHOE (1) AND PULL ROLLER RETAINING CLIP (2).
2. REMOVE CAM ROLLER (3) AND ROLLER RETAINING CLIP (2).
3. PUSH ON BOTTOM BRAKESHOE (4) AND PULL ROLLER RETAINING CLIP (5).
4. REMOVE CAM ROLLER (6) AND ROLLER RETAINING CLIP (5).

REAR BRAKESHOE AND LINING REPLACEMENT (CONT)



5. LIFT LOWER BRAKESHOE (4) AND REMOVE RETURN SPRING (7).



6. ROTATE LOWER BRAKESHOE (4) AWAY FROM S-CAM (8).

7. REMOVE TWO RETAINING SPRINGS (9), BRAKESHOES (1 AND 4), AND TWO ANCHOR PINS (10).

CLEANING

Clean all parts in accordance with Chapter 2.

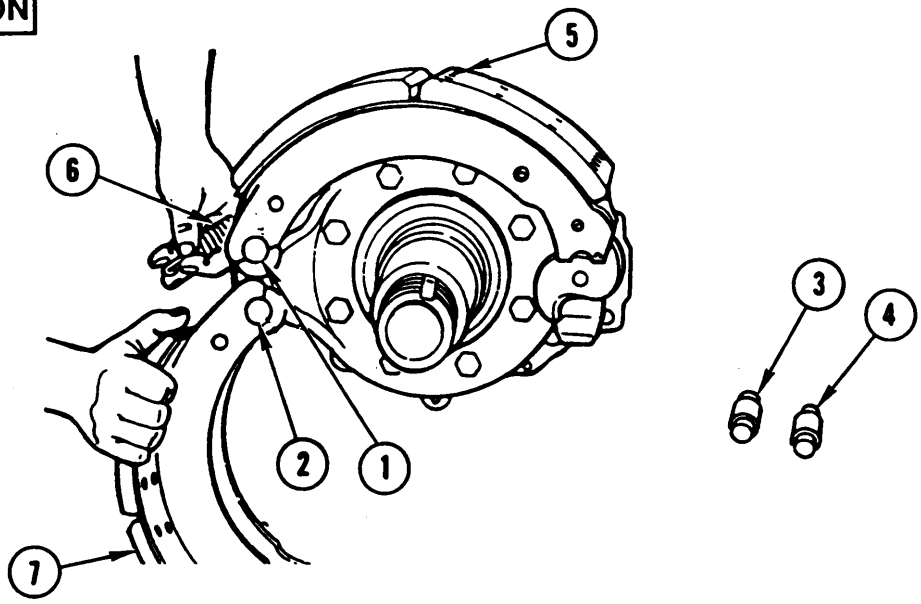
INSPECTION

1. BRAKE LINING THICKNESS MUST BE NO LESS THAN 1/4 IN.

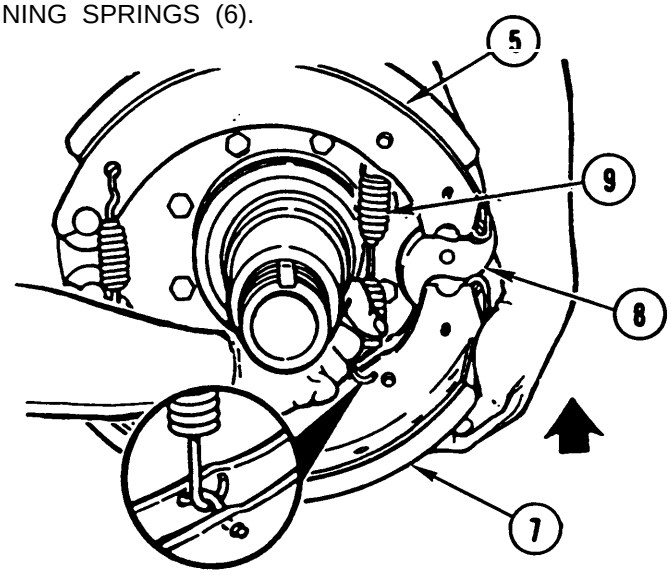
2. THERE MUST BE NO LESS THAN 1/32-IN. CLEARANCE BETWEEN TOP OF BRAKE LINING AND TOP OF ALL RIVET HEADS.

3. INSPECT ALL REMAINING PARTS IN ACCORDANCE WITH CHAPTER 2.

INSTALLATION

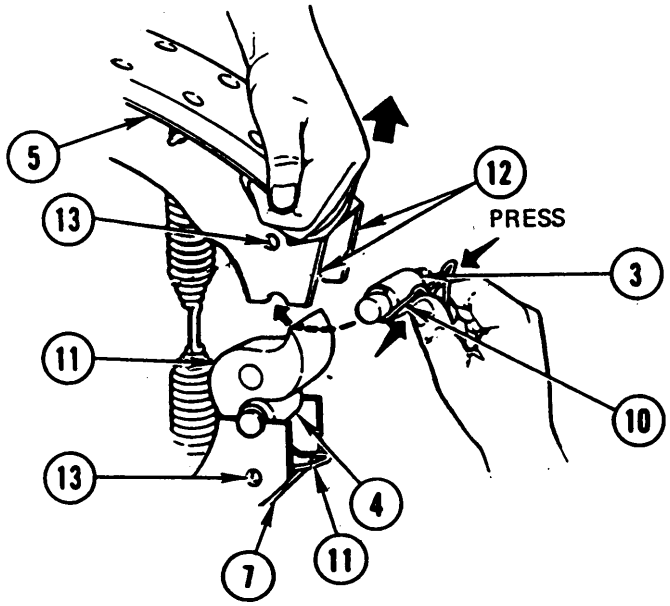


1. APPLY THIN FILM OF ANTISEIZE COMPOUND TO EACH ANCHOR PIN (1 AND 2) AND SMALL DIAMETER OF TWO CAM ROLLERS (3 AND 4).
2. INSTALL TWO ANCHOR PINS (1 AND 2).
3. INSTALL UPPER BRAKESHOE (5) ON UPPER ANCHOR PIN (1).
4. INSTALL TWO RETAINING SPRINGS (6).
5. INSTALL LOWER BRAKESHOE (7) ON LOWER ANCHOR PIN (2).
6. INSTALL TWO RETAINING SPRINGS (6).



7. ROTATE LOWER BRAKESHOE (7) TOWARD S-CAM (8).
8. INSTALL RETURN SPRING (9) BETWEEN UPPER AND LOWER BRAKESHOES (5 AND 7).

REAR BRAKESHOE AND LINING REPLACEMENT (CONT)



9. PULL EACH BRAKESHOE (5 AND 7) AWAY FROM S-CAM (8).

10. INSTALL TWO CAM ROLLERS (3 AND 4) AND TWO ROLLER RETAINING CLIPS (10 AND 11).

NOTE

Press ears of roller retaining clips together so that retainer will fit between brakeshoe webs.

11. PRESS EACH ROLLER RETAINING CLIP (10 AND 11) INTO BRAKESHOE WEBS (12) UNTIL EARS OF ROLLER RETAINING CLIPS (10 AND 11) LOCK IN HOLES (13) OF BRAKESHOE WEBS (12).

NOTE

Follow-on Maintenance:
Install rear hub, drum, wheel bearings, and seal (page 4-594).

REAR BRAKESHOE AND LINING REPLACEMENT

This task covers: a. Removal b. Cleaning c. Inspection d. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

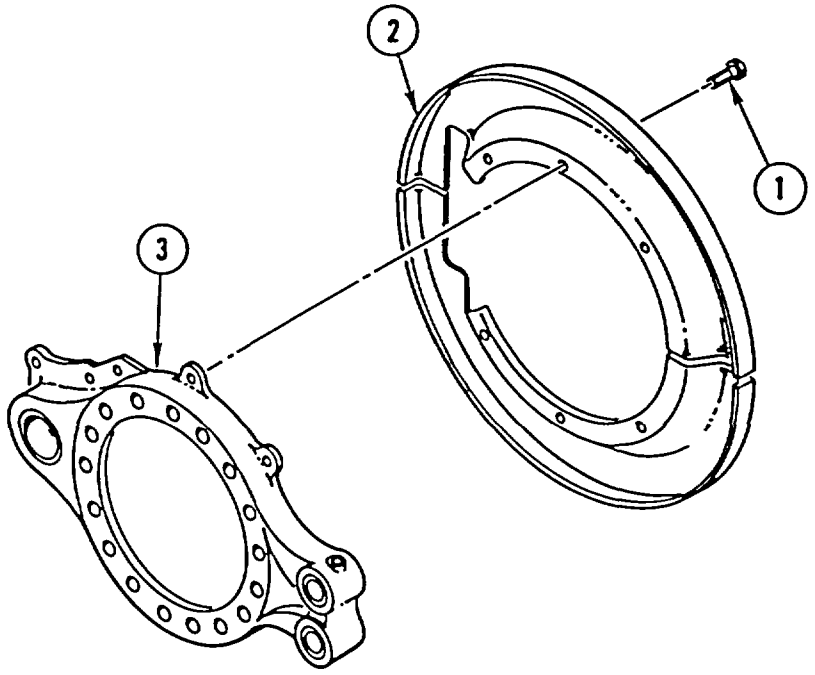
Lockwire
Seal, Felt (2) P/N 5X-640

Compound, Antiseize Appendix C, Item 5

Equipment Condition:

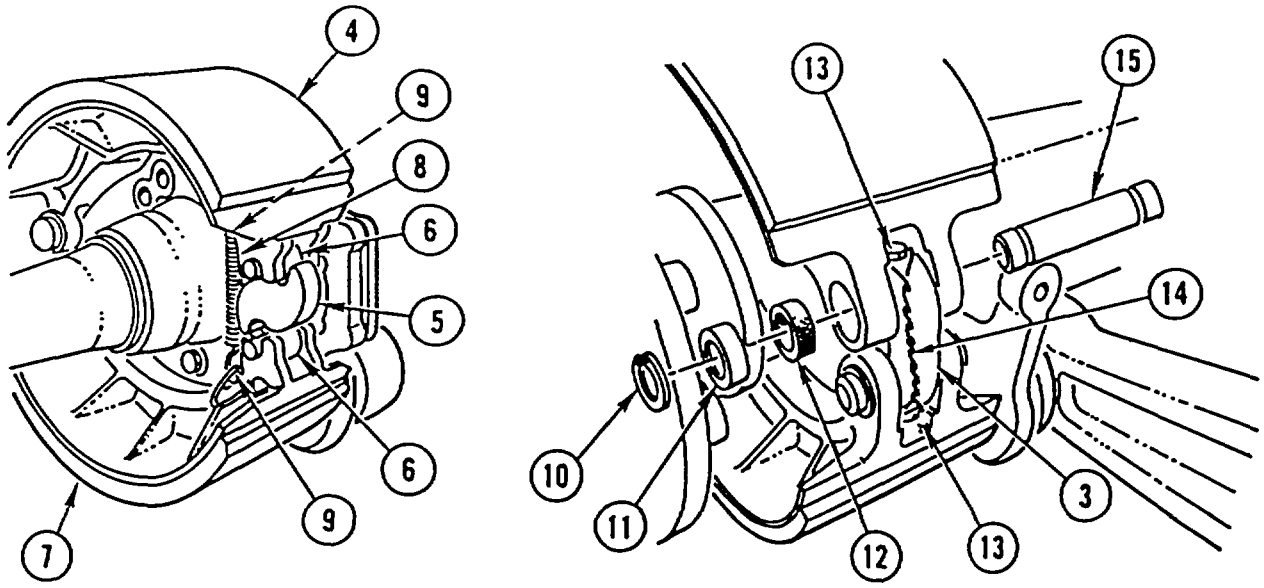
Reference	Condition Description
Page 4-594	Rear Hub, Drum, Wheel Bearings, and Seal Removed

REMOVAL



1. REMOVE SIX CAPSCREWS (1) AND 2-PIECE DUST SHIELD (2) FROM BRAKE SPIDER (3).

REAR BRAKESHOE AND LINING REPLACEMENT (CONT)



2. PRY UPPER BRAKESHOE (4) AWAY FROM S-CAM (5).

3. REMOVE TWO CAM ROLLERS (6) BETWEEN BRAKESHOES (4 AND 7) AND S-CAM (5).

4. REMOVE BRAKE SPRING (8) AND TWO SPRING RETAINING CLIPS (9).

5. REMOVE TWO RETAINING RINGS (10), TWO SEAL CUPS (11), AND TWO FELT SEALS (12). DISCARD FELT SEALS.

6. PIVOT BRAKESHOES (4 AND 7) OVER FOR ACCESS TO TWO LOCK SCREWS (13).

7. REMOVE LOCKWIRE (14) AND BACK OUT TWO LOCK SCREWS (13) UNTIL TWO ANCHOR PINS (15) ARE FREE. DISCARD LOCKWIRE.

8. REMOVE TWO ANCHOR PINS (15) FROM BRAKESHOES (4 AND 7).

9. REMOVE BRAKESHOES (4 AND 7).

CLEANING

Clean all parts in accordance with Chapter 2.

INSPECTION

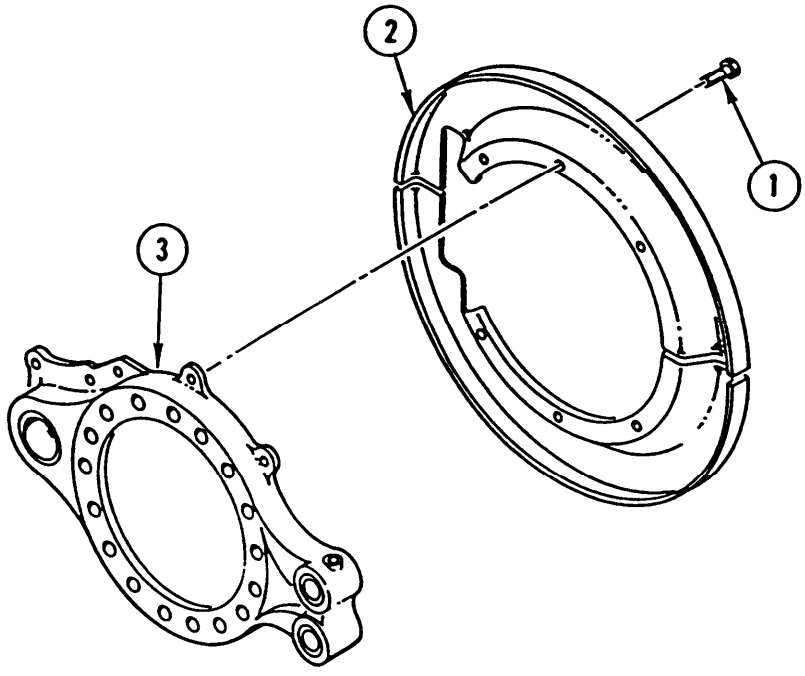
1. BRAKE LINING THICKNESS MUST BE NO LESS THAN 1/4 IN.

2. THERE MUST BE NO LESS THAN 1/32-IN. CLEARANCE BETWEEN TOP OF BRAKE LINING AND TOP OF ALL RIVET HEADS.

3. INSPECT ALL REMAINING PARTS IN ACCORDANCE WITH CHAPTER 2.

INSTALLATION

1. APPLY THIN FILM OF ANTISEIZE COMPOUND TO TWO ANCHOR PINS (15) AND TO SMALL DIAMETER OF TWO CAM ROLLERS (6).
2. ALINE MOUNTING LUGS ON EACH BRAKESHOE (4 AND 7) OVER BRAKE SPIDER (3) AND INSTALL TWO ANCHOR PINS (15) SO THAT LOCKING GROOVES FACE UP.
3. INSTALL TWO NEW FELT SEALS (12) AND TWO SEAL CUPS (11) OVER TWO ANCHOR PINS (15).
4. INSTALL TWO RETAINING RINGS (10).
5. TIGHTEN TWO LOCK SCREWS (13) UNTIL BOTTOMED IN GROOVES OF TWO ANCHOR PINS (15).
6. INSTALL NEW LOCKWIRE (14).
7. INSTALL TWO SPRING RETAINING CLIPS (9) ON TWO BRAKESHOES (4 AND 7).
8. HOLD LOWER BRAKESHOE (7) IN PLACE AND INSTALL BRAKE SPRING (8) BETWEEN TWO SPRING RETAINING CLIPS (9).
9. INSTALL TWO CAM ROLLERS (6) BETWEEN BRAKESHOES (4 AND 7) AND S-CAM (5).



10. INSTALL 2-PIECE DUST SHIELD (2) ON BRAKE SPIDER (3) WITH SIX CAPSCREWS (1).

NOTE

Follow-on Maintenance:
Install rear hub, drum, wheel bearings, and seal (page 4-594).

FRONT AIR BRAKE CHAMBER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Pin, Cotter	P/N K-248
Pin, Cotter	P/N K-235
Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:

WARNING

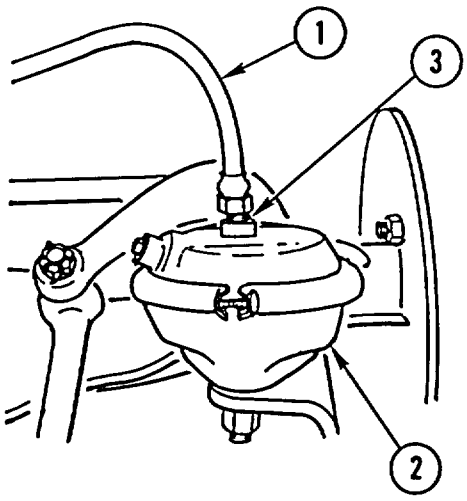
Do not disconnect any air system lines or fittings unless vehicle engine is shut off and air system pressure is relieved. To do so could result in serious injury to personnel.

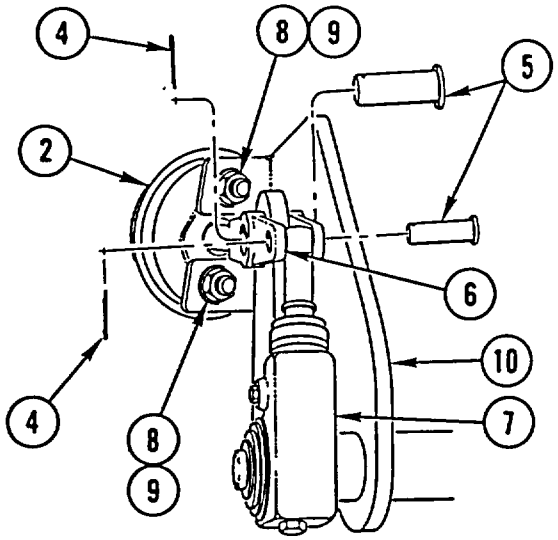
REMOVAL

WARNING

Do not disconnect any air system lines or fittings unless vehicle engine is shut off and air system pressure is relieved. To do so could result in serious injury to personnel.

1. DISCONNECT AIR HOSE (1) FROM BRAKE CHAMBER (2).
2. REMOVE FITTING (3) FROM BRAKE CHAMBER (2).
3. REMOVE TWO COTTER PINS (4) AND TWO YOKE PINS (5) CONNECTING BRAKE CHAMBER YOKE (6) TO SLACK ADJUSTER (7). DISCARD COTTER PINS.
4. REMOVE TWO NUTS (8) AND TWO WASHERS (9).
5. REMOVE BRAKE CHAMBER (2) FROM MOUNTING BRACKET (10).





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL BRAKE CHAMBER (2) ON MOUNTING BRACKET (10) AND INSTALL TWO NUTS (8) AND TWO WASHERS (9).

2. ALINE BRAKE CHAMBER YOKE (6) TO SLACK ADJUSTER (7) AND INSTALL TWO YOKE PINS (5) AND TWO NEW COTTER PINS (4).

3. COAT FITTING (3) WITH PIPE SEALANT AND INSTALL FITTING (3) IN BRAKE CHAMBER (2).

4. CONNECT AIR HOSE (1) TO BRAKE CHAMBER (2).

NOTE

Follow-on Maintenance:

Adjust brake slack adjuster (page 4-447).

FRONT AIR BRAKE CHAMBER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

Pin, Cotter

Adhesive-Sealant Appendix C, Item 2

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

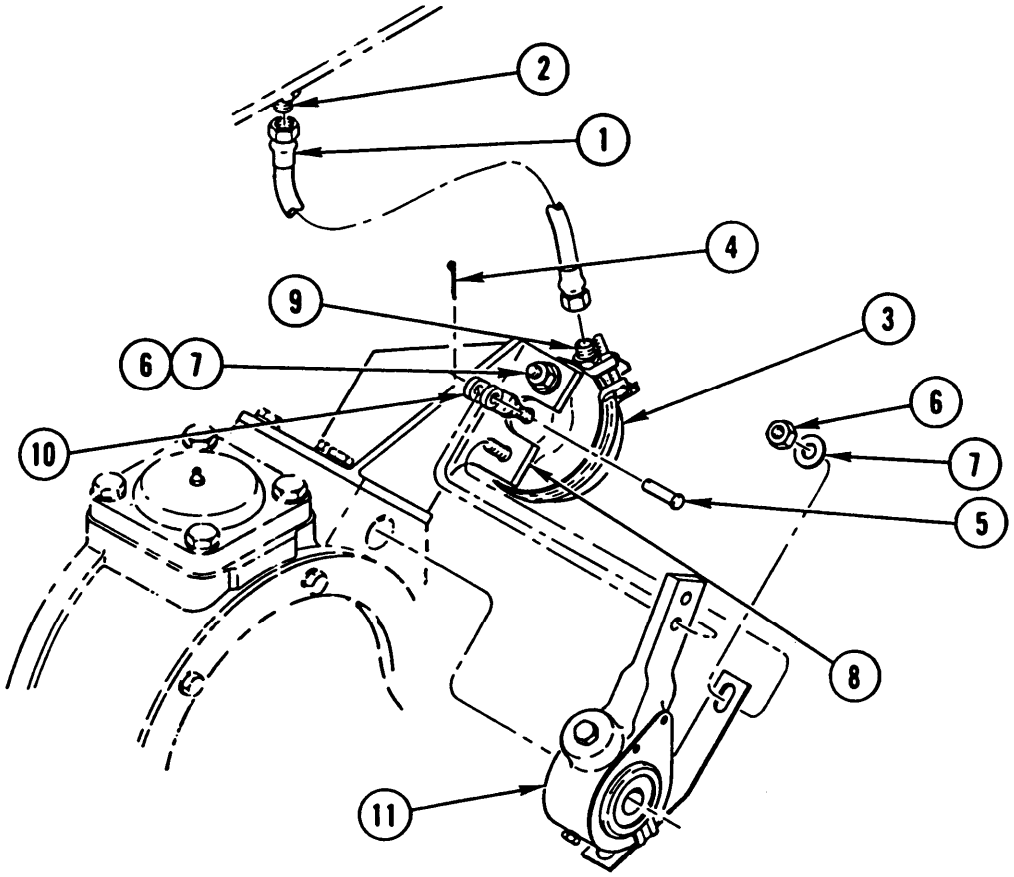
REMOVAL

1. DISCONNECT BRAKE AIR HOSE (1) FROM FRAME FITTING (2).
2. DISCONNECT BRAKE AIR HOSE (1) FROM BRAKE CHAMBER (3).
3. REMOVE COTTER PIN (4) AND CLEVIS PIN (5). DISCARD COTTER PIN.
4. REMOVE TWO LOCK NUTS (6) AND TWO WASHERS (7). DISCARD LOCK NUTS.
5. REMOVE BRAKE CHAMBER (3) FROM MOUNTING BRACKET (8).

NOTE

Apply adhesive-sealant to threads of elbow prior to installing in new brake chamber.

6. REMOVE ELBOW (9) AND INSTALL ON NEW BRAKE CHAMBER (3) IN SAME POSITION.
7. REMOVE YOKE (10) FROM BRAKE CHAMBER (3).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL BRAKE CHAMBER (3) ON MOUNTING BRACKET (8) SO ELBOW (9) IS IN SAME POSITION AS WHEN BRAKE CHAMBER (3) WAS REMOVED.
2. INSTALL TWO WASHERS (7) AND TWO NEW LOCK NUTS (6).
3. INSTALL AND ALINE BRAKE CHAMBER YOKE (10) WITH SLACK ADJUSTER ARM (11) AND INSTALL CLEVIS PIN (5) AND NEW COTTER PIN (4).
4. CONNECT BRAKE AIR HOSE (1) TO ELBOW (9).
5. CONNECT BRAKE AIR HOSE (1) TO FRAME FITTING (2).

REAR BRAKE CHAMBERS REPLACEI'WNT

This task covers: a. Removal b. Cleaning/inspection c. Installation d. Uncaging Power Spring

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Pin, Cotter	P/N K-235
Pin, Cotter	PIN K-248
Nut, Lock (2)	P/N 9002001
Compound, Pipe Sealing	Appendix C, item 8

References:

TM 9-2320-363-10

Equipment Condition:

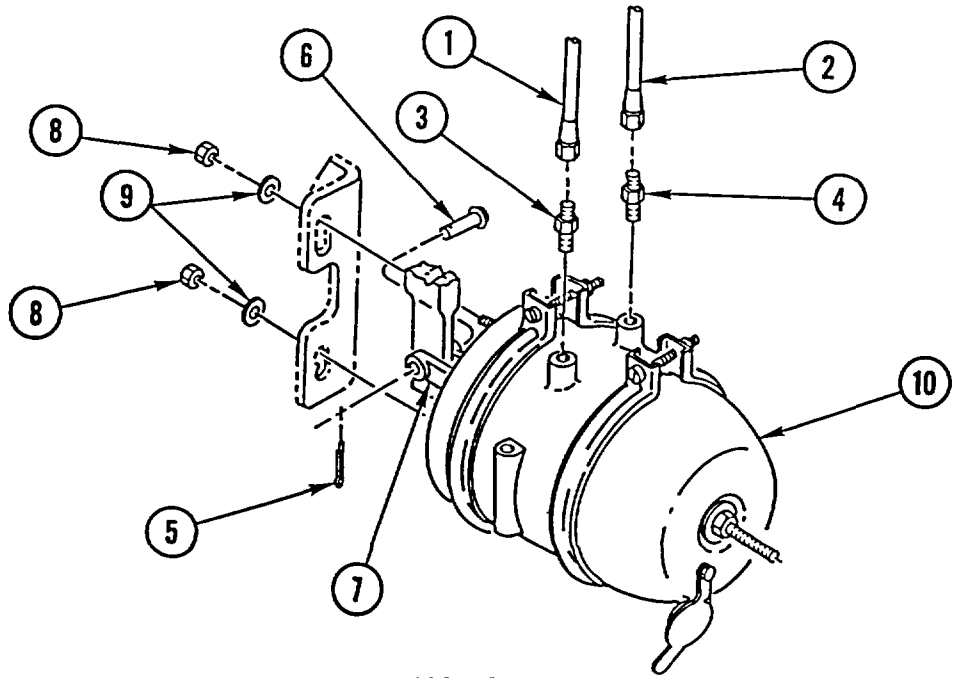
Reference	Condition Description
TM 9-2320-363-10	Brake Chambers Caged
TM 9-2320-363-10	Parking Brake Released
Page 2-27	Vehicle Blocked
Page 2-28	Air System Drained

General Safety Instructions:

WARNING

- Spring brake chamber contains a powerful spring. Do not remove clamp rings or disassemble chambers even **with** compression spring caged. To do so could result in serious injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

REMOVAL



NOTE

Tag air hoses prior to removal to aid in installation.

1. DISCONNECT SERVICE BRAKE HOSE (1) AND SPRING BRAKE HOSE (2) FROM TWO FITTINGS (3 AND 4).

NOTE

Step 2 is for all except M915A2 only.

2. REMOVE COTTER PIN (5) AND CLEVIS PIN (6) FROM BRAKE CHAMBER CLEVIS (7). DISCARD COTTER PIN.

NOTE

Step 3 is for M915A2 only.

3. REMOVE TWO COTTER PINS (5) AND TWO CLEVIS PINS (6) FROM BRAKE CHAMBER CLEVIS (7). DISCARD COTTER PINS.

4. REMOVE TWO LOCK NUTS (8) AND TWO FLAT WASHERS (9). DISCARD LOCK NUTS.

WARNING

Spring brake chamber contains a powerful spring. Do not remove clamp rings or disassemble chambers even with compression spring caged. To do so could result in serious injury to personnel.

5. REMOVE BRAKE CHAMBER (10).

6. REMOVE SERVICE BRAKE FITTING (3) FROM BRAKE CHAMBER (10).

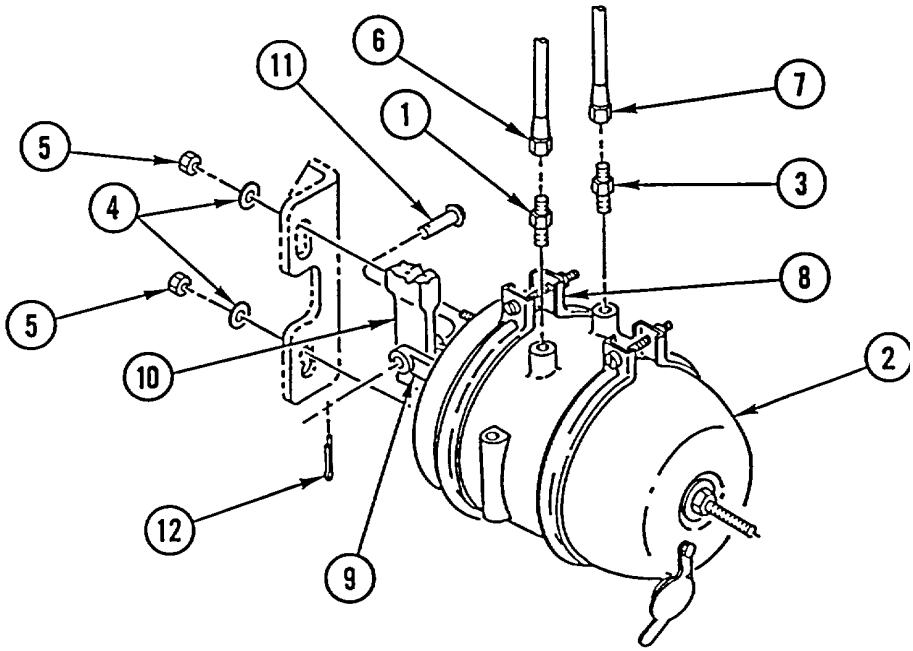
7. REMOVE SPRING BRAKE FITTING (4) FROM BRAKE CHAMBER (10).

REAR BRAKE CHAMBERS REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



WARNING

Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

1. COAT SERVICE BRAKE FITTING (1) WITH PIPE SEALANT COMPOUND AND INSTALL IN BRAKE CHAMBER (2).

2. COAT SPRING BRAKE FITTING (3) WITH PIPE SEALANT COMPOUND AND INSTALL IN BRAKE CHAMBER (2).

NOTE

M915A2 brake chamber is mounted in upper part of figure 8 hole. All except M915A2 brake chamber is mounted in lower part of figure 8 hole.

3. INSTALL BRAKE CHAMBER (2) SO THAT TWO FITTINGS (1 AND 3) ARE ACCESSIBLE.

4. INSTALL TWO FLAT WASHERS (4) AND TWO NEW LOCK NUTS (5).

5. IF TWO FITTINGS (1 AND 3) ARE NOT PROPERLY ALINED WITH TWO HOSES (6 AND 7), LOOSEN NUT (8) AND ROTATE BRAKE CHAMBER (2) UNTIL TWO FITTINGS (1 AND 3) AND TWO HOSES (6 AND 7) ARE ALINED.

NOTE
Step 6 is for all except M915A2 only.

6. CONNECT BRAKE CHAMBER CLEVIS (9) TO SLACK ADJUSTER (10) WITH CLEVIS PIN (11) AND NEW COTTER PIN (12).

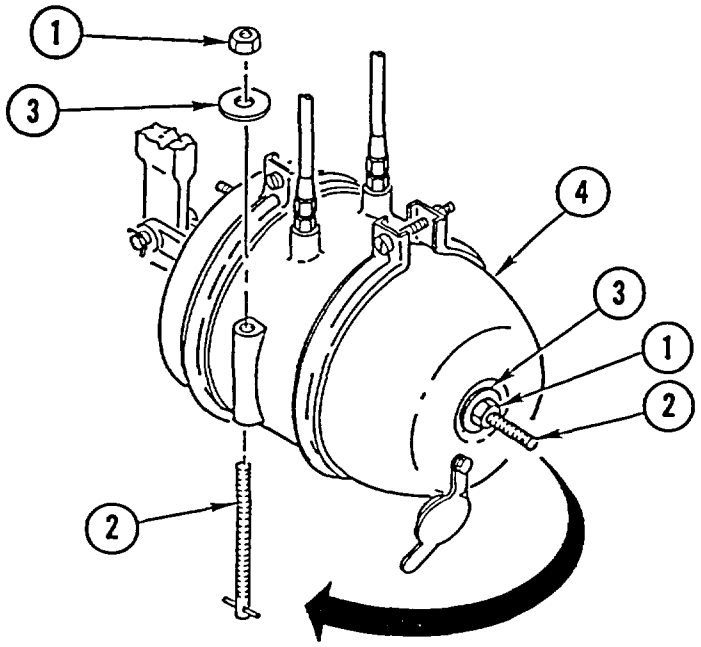
NOTE

Step 7 is for M915A2 only.

7. CONNECT BRAKE CHAMBER CLEVIS (9) TO SLACK ADJUSTER (10) WITH TWO CLEVIS PINS (11) AND TWO NEW COTTER PINS (12).

8. CONNECT SERVICE BRAKE HOSE (6) AND SPRING BRAKE HOSE (7) TO TWO FITTINGS (1 AND 3).

UNCAGING POWER SPRING



NOTE
Refer to TM 9-2320-363-10 for engine start and stop procedures.

1. START ENGINE AND RUN UNTIL CAB AIR PRESSURE GAGE INDICATES SUFFICIENT AIR PRESSURE (105-120 PSI) TO RELEASE PARKING BRAKE.

2. PUSH IN PARKING BRAKE CONTROL IN CAB TO APPLY PRESSURE AT BRAKE COMPRESSION SPRING. TURN ENGINE OFF.

3. BACK OFF NUT (1) FROM CAGING STUD (2) UNTIL CAGING STUD (2) CAN BE ROTATED 1/4 TURN COUNTERCLOCKWISE.

4. REMOVE CAGING STUD (2), NUT (1), AND WASHER (3) FROM BRAKE CHAMBER (4).

5. PRESS DUST COVER (5) INTO ACCESS HOLE IN BRAKE CHAMBER (4).

6. INSTALL CAGING STUD (2), WASHER (3), AND NUT (1) IN BRAKE CHAMBER (4).

FRONT BRAKE SPIDER AND BRAKE CHAMBER BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (7)	PIN N-34
Washer, Lock (4)	P/N 1229-V-516
Washer, Lock (2)	P/N 1229-R-512
Seal (2)	P/N A-1205-D-2110

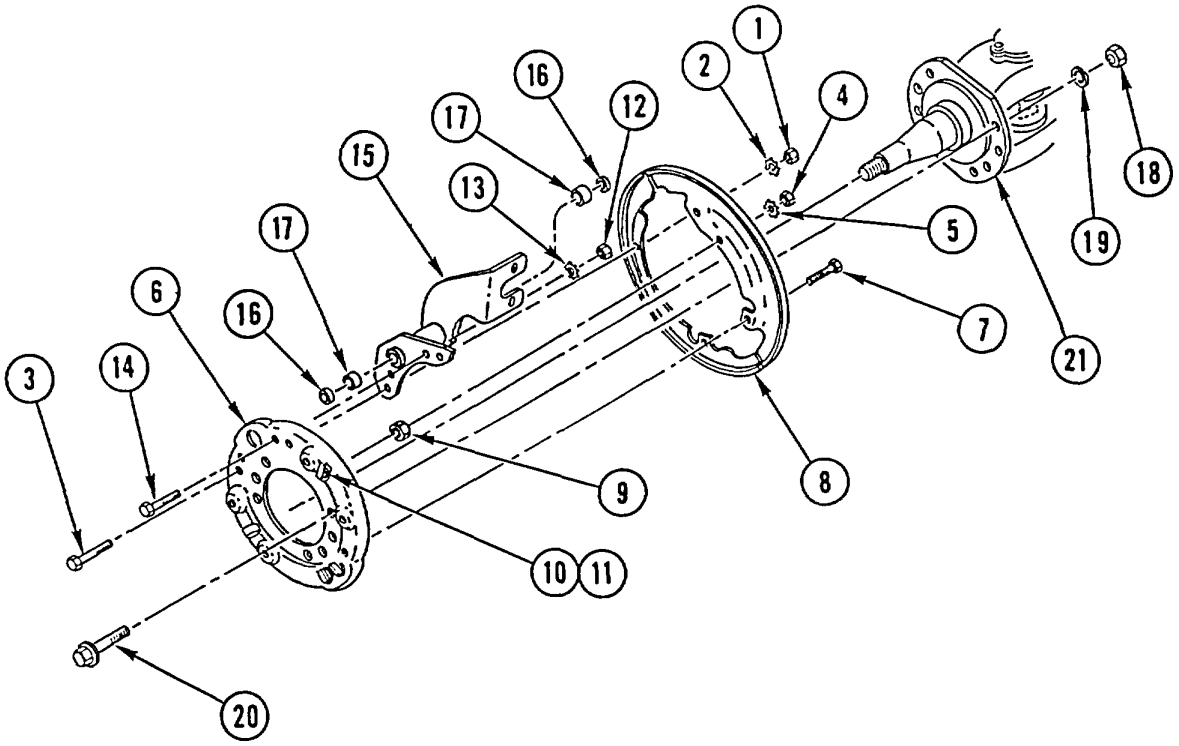
Materials/Parts (Cont):

Grease, Automotive and Artillery (GAA)	Appendix C, Item 14
Oil, Lubricating	Appendix C, Item 16

Equipment Condition:

Reference	Condition Description
Page 4-420	Front Air Brake Chamber Removed
Page 4-437	Front Slack Adjuster and S-Cam Removed

REMOVAL



1. REMOVE TWO NUTS (1), TWO LOCK WASHERS (2), AND TWO CAPSCREWS (3). DISCARD LOCK WASHERS.
2. REMOVE TWO NUTS (4) AND TWO LOCK WASHERS (5) FROM BRAKE SPIDER (6). DISCARD LOCK WASHERS.
3. REMOVE TWO CAPSCREWS (7) AND 2-PIECE DUST SHIELD (8) FROM BRAKE SPIDER (6).
4. REMOVE TWO NUTS (9), TWO CAPSCREWS (10), AND TWO CLAMPS (11) FROM BRAKE SPIDER (6).

NOTE

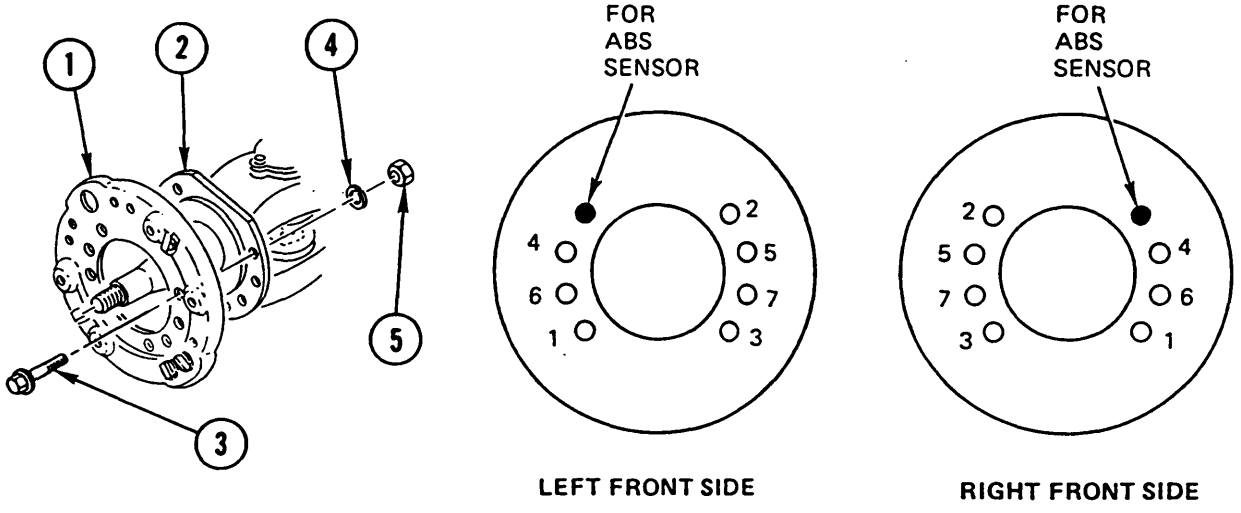
Note position of brake chamber bracket prior to removal to aid in installation.

5. REMOVE TWO NUTS (12), TWO LOCK WASHERS (13), TWO CAPSCREWS (14), AND BRAKE CHAMBER BRACKET (15) FROM BRAKE SPIDER (6). DISCARD LOCK WASHERS.
6. REMOVE TWO SEALS (16) AND TWO BUSHINGS (17) FROM BRAKE CHAMBER BRACKET (15). DISCARD SEALS.
7. REMOVE SEVEN LOCK NUTS (18), SEVEN WASHERS (19), SEVEN CAPSCREWS (20), AND BRAKE SPIDER (6) FROM AXLE FLANGE (21). DISCARD LOCK NUTS.

CLEANING/INSPECTION

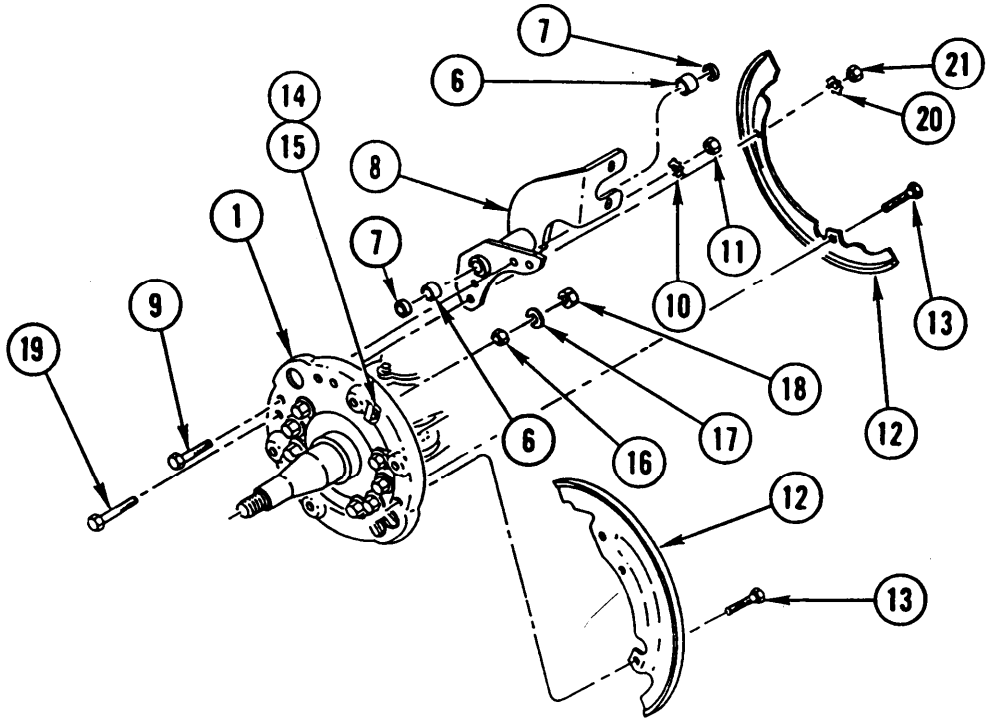
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL BRAKE SPIDER (1) ON AXLE FLANGE (2).
2. INSTALL SEVEN CAPSCREWS (3), SEVEN WASHERS (4), AND SEVEN NEW LOCK NUTS (5) IN BRAKE SPIDER (l). TIGHTEN LOCK NUTS TO 75 LB-FT (102 NŽm) IN SEQUENCE SHOWN. TIGHTEN LOCK NUTS AGAIN TO 150-175 LB-~ (203-237 N•m) IN SEQUENCE SHOWN.

FRONT BRAKE SPIDER AND BRAKE CHAMBER BRACKET REPLACEMENT (CONT)



3. APPLY LIGHT COATING OF OIL TO TWO BUSHINGS (6) AND TWO NEW SEALS (7).
4. INSTALL TWO BUSHINGS (6), WITH LABEL ENDS FACING EACH OTHER, IN BRAKE CHAMBER BRACKET (8) TO DEPTH OF 0.375 IN. (9.5 mm) FROM EACH END OF BRAKE CHAMBER BRACKET (8).
5. INSTALL TWO NEW SEALS (7) IN BRAKE CHAMBER BRACKET (8) WITH LIP OF BOTH SEALS (7) FACING TOWARD VEHICLE.
6. INSTALL BRAKE CHAMBER BRACKET (8) ON BRAKE SPIDER (1) AS NOTED DURING REMOVAL, STEP 5.
7. INSTALL TWO CAPSCREWS (9), TWO NEW LOCK WASHERS (10), AND TWO NUTS (11).
8. APPLY LIGHT COATING OF GAA TO TWO BUSHINGS (6) IN BRAKE CHAMBER BRACKET (8).
9. INSTALL 2-PIECE DUST SHIELD (12) AND TWO CAPSCREWS (13) ON BRAKE SPIDER (1).
10. INSTALL TWO CLAMPS (14), TWO CAPSCREWS (15), AND TWO NUTS (16) ON BRAKE SPIDER (1).
11. INSTALL TWO NEW LOCK WASHERS (17) AND TWO NUTS (18) ON BRAKE SPIDER (1).
12. INSTALL TWO CAPSCREWS (19), TWO NEW LOCK WASHERS (20), AND TWO NUTS (21).

NOTE

Follow-on Maintenance:

Install front air brake chamber (page 4-420).
Install front slack adjuster and S-cam (page 4-437).

REAR BRAKE SPIDER AND BRAKE CHAMBER BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

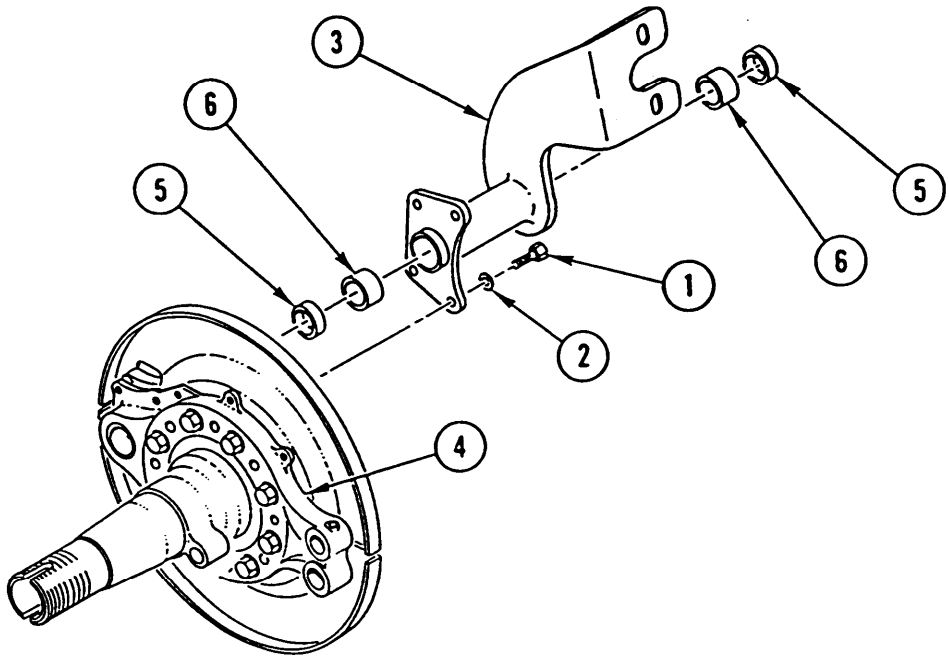
Materials/Parts:

Nut, Lock (8)	P/N N-38-P
Grease, Automotive and Artillery (GAA)	Appendix C, Item 14

Equipment Condition:

Reference	Condition Description
Page 4-413	Rear Brakeshoe and Lining Removed
Page 4-424	Rear Air Brake Chamber Removed
Page 4-290.2	Rear Anti-Lock Brake System (ABS) Sensor Removed
Page 4-437	Slack Adjuster and S-Cam Removed

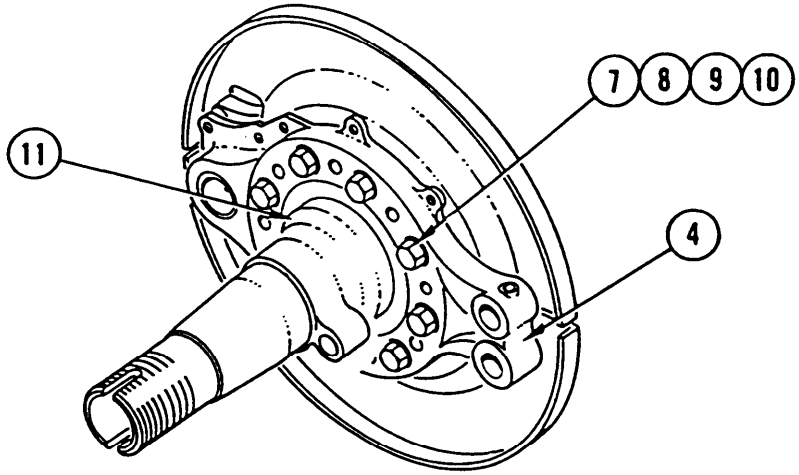
REMOVAL



1. REMOVE FOUR CAPSCREWS (1), FOUR WASHERS (2), AND BRAKE CHAMBER BRACKET (3) FROM SPIDER (4).

2. REMOVE TWO GREASE SEALS (5) AND TWO BUSHINGS (6) FROM SPIDER (4).

REAR BRAKE SPIDER AND BRAKE CHAMBER BRACKET REPLACEMENT (CONT)



NOTE

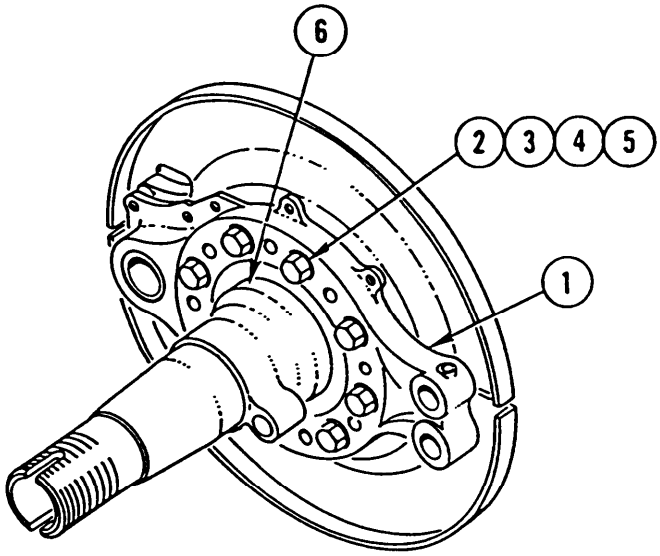
Matchmark spider position prior to removal to aid in installation.

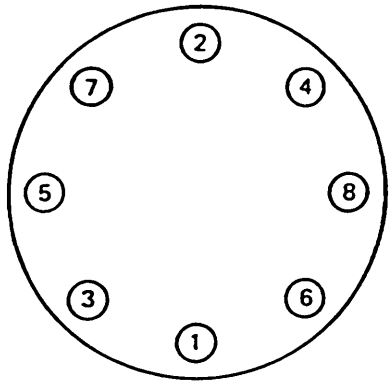
3. REMOVE EIGHT LOCK NUTS (7), EIGHT WASHERS (8), EIGHT FIANGE BOLTS (9), EIGHT WASHERS (10), AND SPIDER (4) FROM AXLE FLANGE (11). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

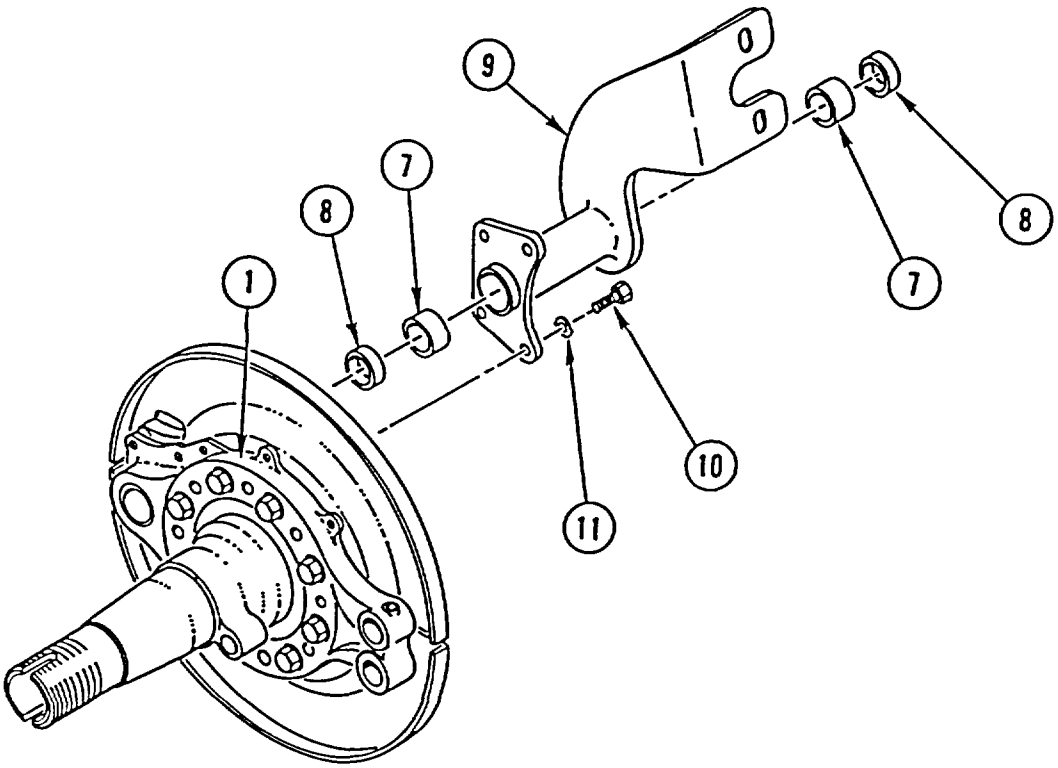




NOTE

Position spider as matchmarked during removal.

1. INSTALL SPIDER (1), EIGHT WASHERS (2), EIGHT FLANGE BOLTS (3), EIGHT WASHERS (4), AND EIGHT NEW LOCK NUTS (5) ON AXLE FLANGE (6). TIGHTEN LOCK NUTS TO 150-175 LB-FT (203.4-237.3 N.m) IN SEQUENCE SHOWN.



2. APPLY LIGHT COAT OF GAA TO TWO BUSHINGS (7) AND TWO GREASE SEALS (8).

NOTE

- **Install bushings with label ends facing each other. Install to depth of 3/8 in. from each end.**
- **Install each grease seal with lip facing toward slack adjuster.**

3. INSTALL TWO BUSHINGS (7) AND TWO GREASE SEALS (8) ON SPIDER (1).

4. INSTALL BRAKE CHAMBER BRACKET (9), FOUR CAPSCREWS (10), AND FOUR WASHERS (11) ON SPIDER (1).

NOTE

Follow-on Maintenance:

Install rear brakeshoe and lining (page 4-413).
Install rear air brake chamber (page 4-424).
Install rear Anti-Lock Brake System (ABS) sensor (page 4-290.2).
Install rear slack adjuster and S-cam (page 4-437).
Lubricate brake chamber bracket (Unit PMCS, TM 9-2320-363-20-1).

REAR BRAKE SPIDER AND BRAKE CHAMBER BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

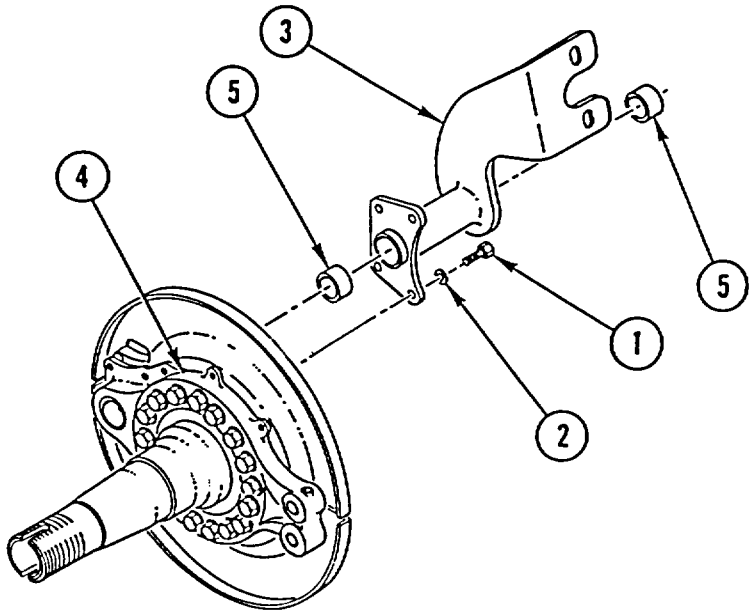
Materials/Parts:

Bushing (2)	P/N 1225-N-378
Nut, Lock (16)	
Grease, Automotive and Artillery (GAA)	Appendix C, Item 14

Equipment Condition:

Reference	Condition Description
Page 4-417	Rear Brakeshoe and Lining Removed
Page 4-424	Rear Air Brake Chamber Removed
Page 4-450	Rear Slack Adjuster and S-Cam Removed

REMOVAL



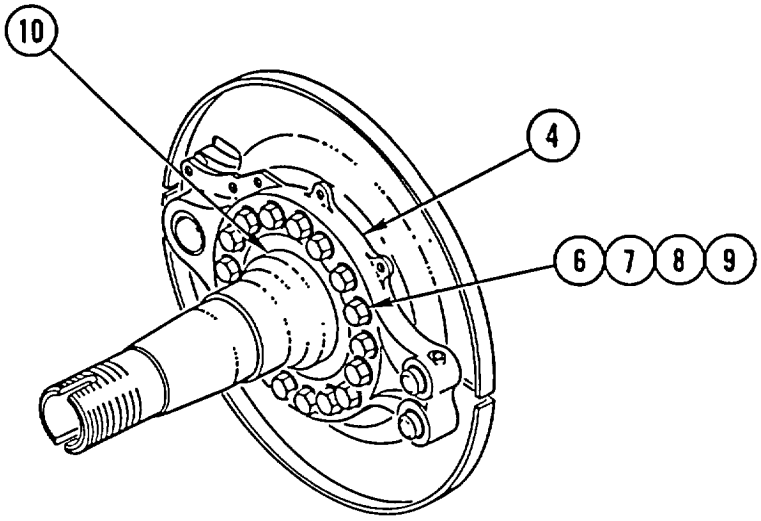
1. REMOVE FOUR CAPSCREWS (1), FOUR WASHERS (2), AND BRAKE CHAMBER BRACKET (3) FROM SPIDER (4).

NOTE

NOTE

If bushings were removed during Rear Slack Adjuster and S-Cam Replacement, do not perform step 2.

2. REMOVE TWO BUSHINGS (5) FROM TUBE OF BRAKE CHAMBER BRACKET (3). DISCARD BUSHINGS.

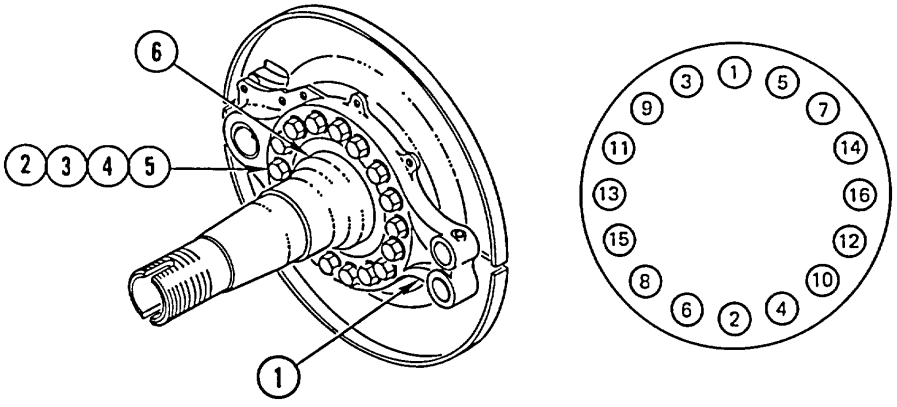


3. REMOVE 16 LOCK NUTS (6), 16 WASHERS (7), 16 FLANGE BOLTS (8), 16 WASHERS (9), AND SPIDER (4) FROM AXLE FLANGE (10). DISCARD LOCK NUTS.

CLEANING/INSPECTION

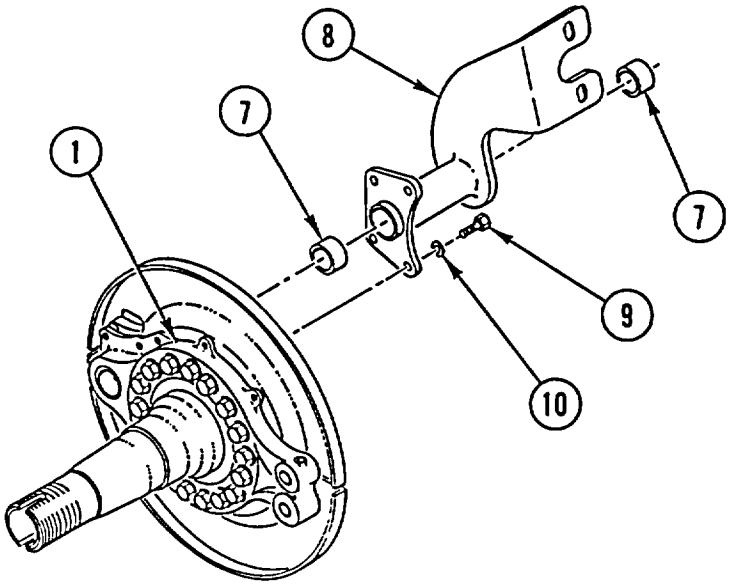
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL SPIDER (1), 16 WASHERS (2), 16 FLANGE BOLTS (3), 16 WASHERS (4), AND 16 NEW LOCK NUTS (5) ON AXLE FLANGE (6). TIGHTEN LOCK NUTS TO 150-175 LB-FT (203.4-237.3 N.m) IN SEQUENCE SHOWN.

REAR BRAKE SPIDER AND BRAKE CHAMBER BRACKET REPLACEMENT (CONT)



NOTE
If bushings were not removed, do not perform steps 2 and 3.

2. APPLY LIGHT COAT OF GAA TO TWO NEW BUSHINGS (7).

NOTE
Install bushings with label ends facing each other. Install to depth of 3/8 in. from each end.

3. INSTALL TWO NEW BUSHINGS (7) IN TUBE OF BRAKE CHAMBER BRACKET (8).
4. INSTALL BRAKE CHAMBER BRACKET (8), FOUR CAPSCREWS (9), AND FOUR WASHERS (10) ON SPIDER (1).

NOTE
Follow-on Maintenance:

Install rear brakeshoe and lining (page 4-417).
Install rear air brake chamber (page 4-424).
Install rear slack adjuster and S-cam (page 4-450).
Lubricate brake chamber bracket (Unit PMCS, TM 9-2320-363-20-1).

SLACK ADJUSTER AND S-CAM REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26
Dial Indicator, P/N J7872

Materials/Parts:

Pin, Cotter	P/N K-248

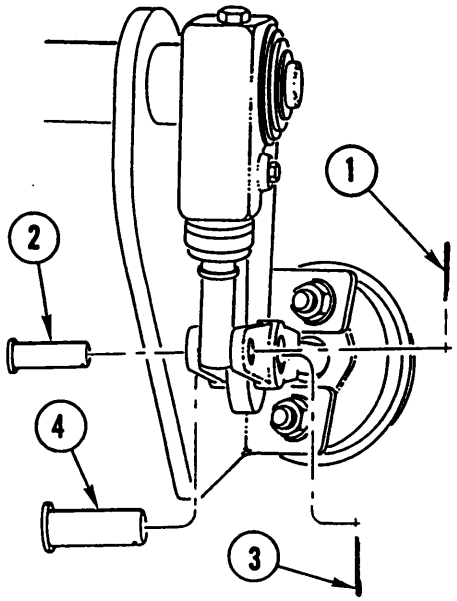
Materials/Parts (Cont):

Pin, Cotter	P/N K-235
Compound, Antiseize	Appendix C, Item 5

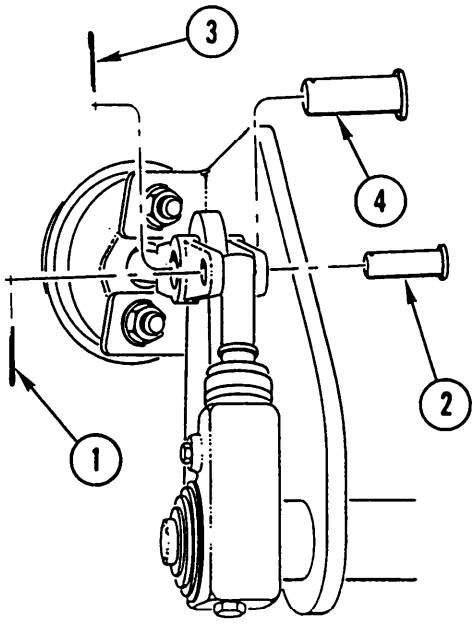
Equipment Condition:

Reference	Condition Description
Page 4-407	Front Brakeshoe and Lining Removed
Page 4-413	Rear Brakeshoe and Lining Removed

REMOVAL



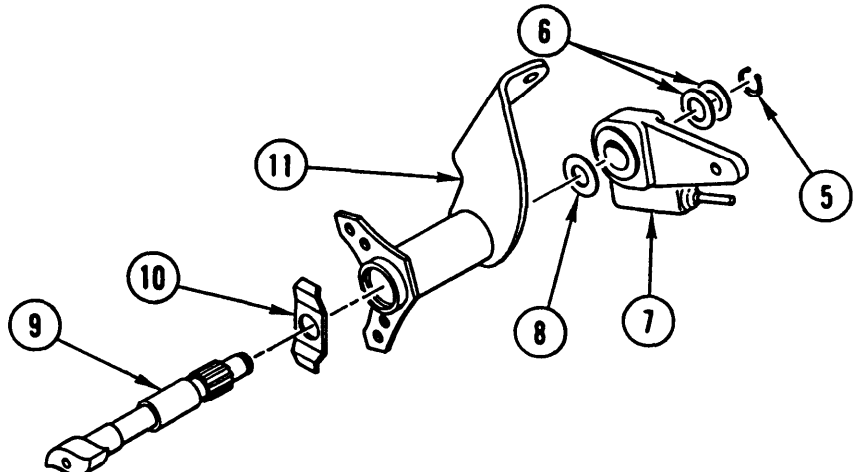
REAR



FRONT

1. REMOVE SMALL COTTER PIN (1) AND SMALL CLEVIS PIN (2). DISCARD COTTER PIN.
2. REMOVE LARGE COTTER PIN (3) AND LARGE CLEWS PIN (4). DISCARD COTTER PIN.

SLACK ADJUSTER AND S-CAM REPLACEMENT (CONT)



NOTE

Tag washers removed during steps 3 and 4 to aid in installation.

3. REMOVE RETAINING RING (5) AND WASHERS (6).

4. REMOVE SLACK ADJUSTER (7) AND WASHER (8) FROM SPLINED SHAFT OF S-CAM (9).

NOTE

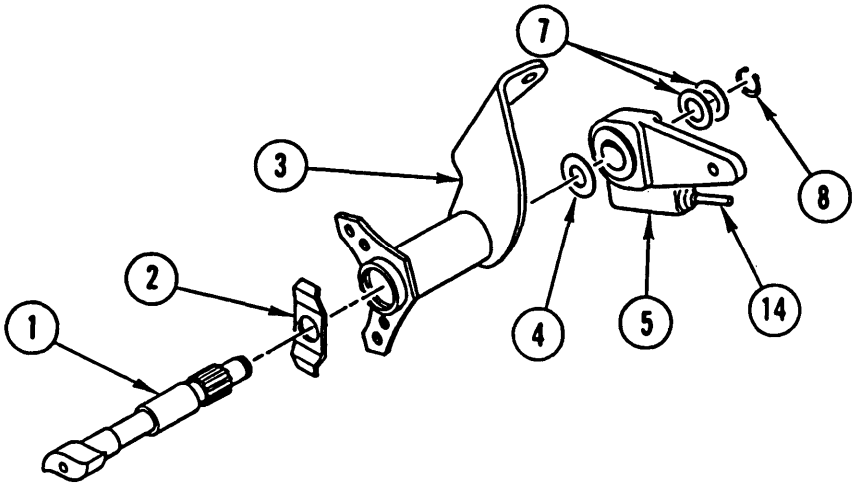
Prior to performing step 5, mark position of S-cam.

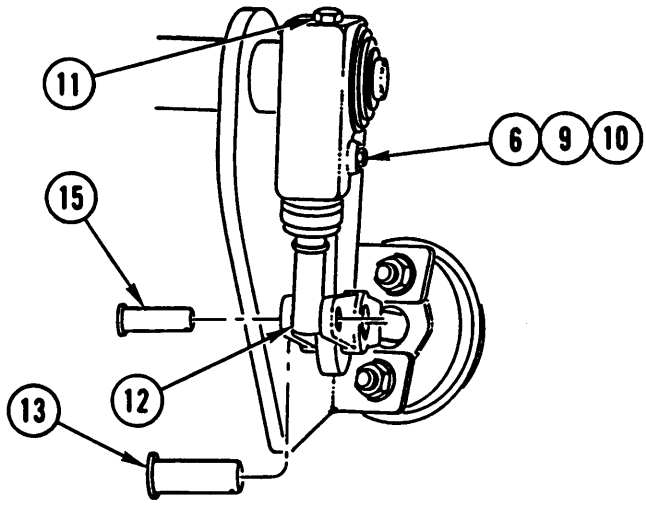
5. REMOVE S-CAM (9) AND WASHER (10) FROM MOUNTING BRACKET (11).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION





1. APPLY THIN FILM OF ANTISEIZE COMPOUND ON SPLINES OF S-CAM (1).
2. INSTALL WASHER (2) ON S-CAM (1).
3. INSTALL S-CAM (1) THRU TUBE OF MOUNTING BRACKET (3).
4. INSTALL WASHER (4), AS TAGGED DURING REMOVAL, ON SHAFT OF S-CAM (1).
5. INSTALL SLACK ADJUSTER (5) OVER SPLINES OF S-CAM (1) WITH CAPSCREW (6) TOWARD VEHICLE.
6. INSTALL WASHERS (7), AS TAGGED DURING REMOVAL, AND RETAINING RING (8) TO SECURE SLACK ADJUSTER (5) TO S-CAM (1).

NOTE

If repeating installation because measurement in step 16 exceeded 0.06 in. (1.5 mm), add one more washer than noted in step 3 of Removal.

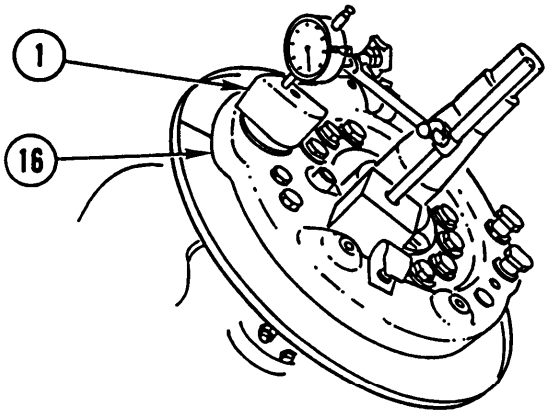
7. REMOVE CAPSCREW (6), SPRING (9), AND PAWL (10).
8. TURN ADJUSTING SCREW (11) TO ALINE SLACK ADJUSTER (5) WITH BRAKE CHAMBER CLEVIS (12).

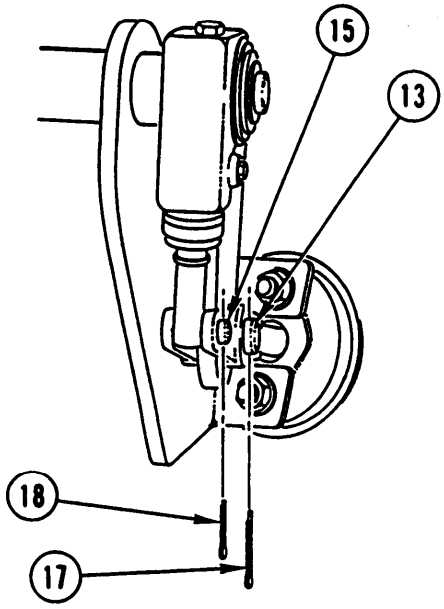
NOTE

Step 9 is for front of vehicle.

9. HOLD S-CAM (1) IN POSITION NOTED DURING REMOVAL AND TURN ADJUSTING SCREW (11) TO ALINE SLACK ADJUSTER (5) WITH BRAKE CHAMBER CLEVIS (12).
10. INSTALL LARGE CLEVIS PIN (13) IN BRAKE CHAMBER CLEWS (12).
11. PULL OUT ACTUATOR ROD (14) UNTIL HOLE IN TOP OF ACTUATOR ROD (14) IS ALINED WITH SMALL HOLE IN BRAKE CHAMBER CLEVIS (12).
12. INSTALL SMALL CLEWS PIN (15) IN BRAKE CHAMBER CLEVIS (12).
13. INSTALL PAWL (10), SPRING (9), AND CAPSCREW (6). TIGHTEN CAPSCREW TO 15-20 LB-FT (20-27 N.m).

SLACK ADJUSTER AND S-CAM REPLACEMENT (CONT)





REAR

14. MAKE SURE S-CAM (1) IS AGAINST BRAKE SPIDER (16).

15. ATTACH MAGNETIC BASE OF DIAL INDICATOR TO BRAKE SPIDER (16) AND RESET DIAL INDICATOR TO ZERO.

NOTE

If reading is more than 0.06 in. (1.5 mm), perform steps 3 thru 5 of Removal and steps 1 thru 16 of Installation.

16. PUSH S-CAM (1) OUTWARD TO END OF ITS TRAVEL AND CHECK READING ON DIAL INDICATOR.

17. INSTALL NEW LARGE COTTER PIN (17) IN LARGE CLEWS PIN (13).

18. INSTALL NEW SMALL COTTER PIN (18) IN SMALL CLEW PIN (15).

NOTE

Follow-on Maintenance:
Install front brakeshoe and lining (page 4-407).
Install rear brakeshoe and lining (page 4-413).

FRONT SLACK ADJUSTER AND S-CAM REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:
All except M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26
Dial Indicator, P/N J7872

Materials/Parts:

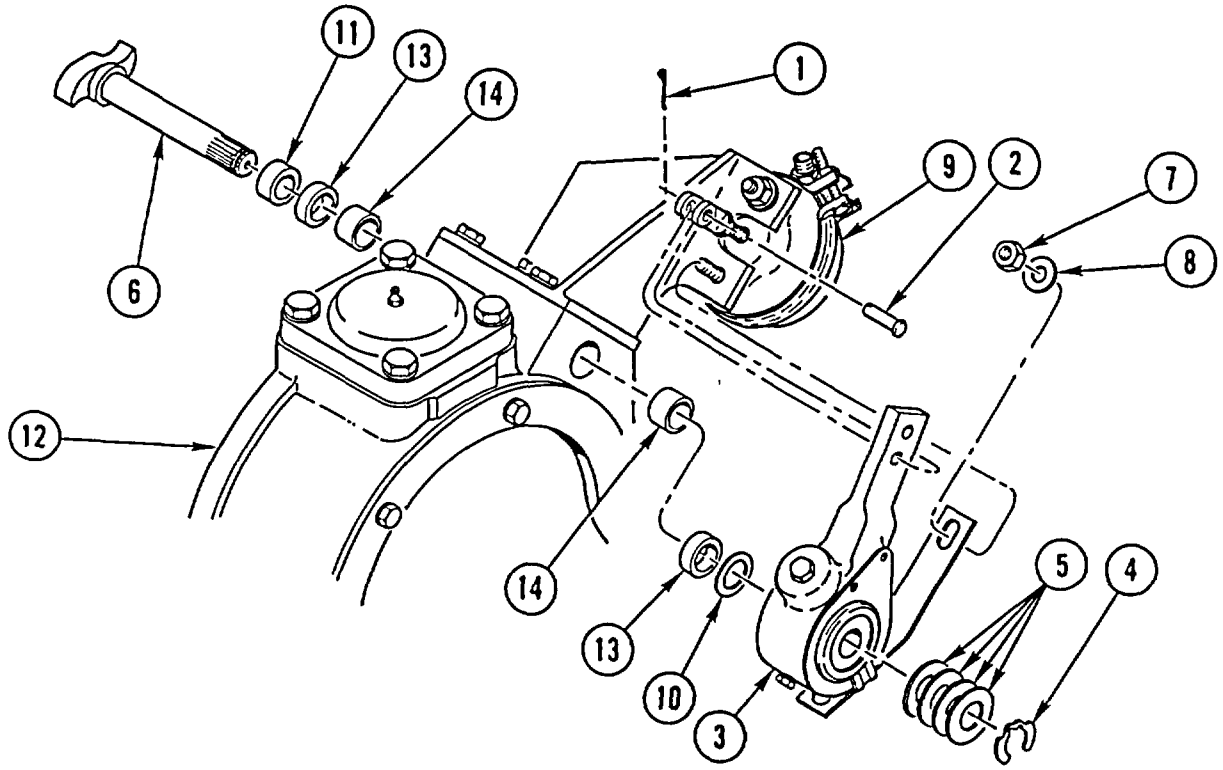
Pin, Cotter	P/N 1386HX
Oil, Lubricating	Appendix C, Item 16
Compound, Antiseize	Appendix C, Item 5

Equipment Condition:

Reference	Condition Description
Page 4-409	Front Brakeshoe and Lining Removed

FRONT SLACK ADJUSTER AND S-CAM REPLACEMENT (CONT)

REMOVAL



1. REMOVE COTTER PIN (1) AND CLEVIS PIN (2) FROM SLACK ADJUSTER (3). DISCARD COTTER PIN.

NOTE
Note quantity and sizes of washers removed to aid in installation.

2. REMOVE SNAP RING (4) AND WASHERS (5) FROM SPLINED SHAFT OF S-CAM (6).
3. REMOVE NUT (7) AND WASHER (8) FROM SLACK ADJUSTER (3) AND BRAKE CHAMBER (9).
4. REMOVE SLACK ADJUSTER (3) AND WASHER (10) FROM SPLINED SHAFT OF S-CAM (6).

NOTE
Mark position of S-cam prior to removal to aid in installation.

5. REMOVE S-CAM (6) AND SPACER (11) FROM BALL SOCKET (12).
6. REMOVE TWO SEALS (13) FROM BALL SOCKET (12).

NOTE

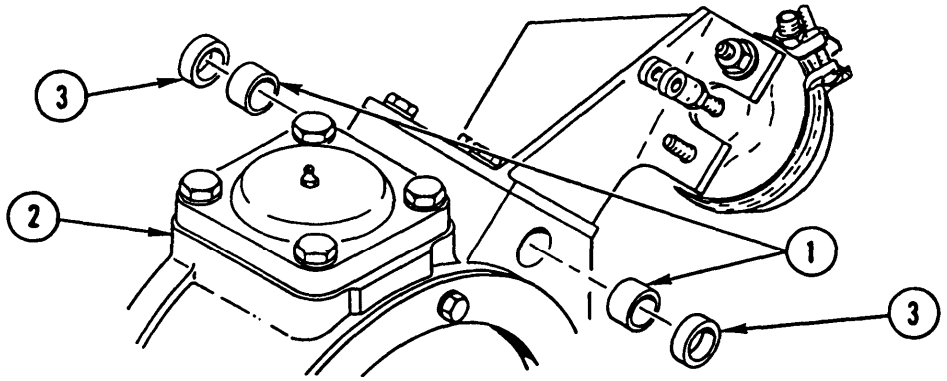
Perform step 7 only if bushings are worn or damaged.

7. REMOVE TWO BUSHINGS (14) FROM BALL SOCKET (12).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



NOTE

- Perform step 1 only if bushings were removed.
- Coat each new bushing with oil to aid in installation.
- Install bushings with label ends facing each other. Install to depth of 3/8 in. from each end.

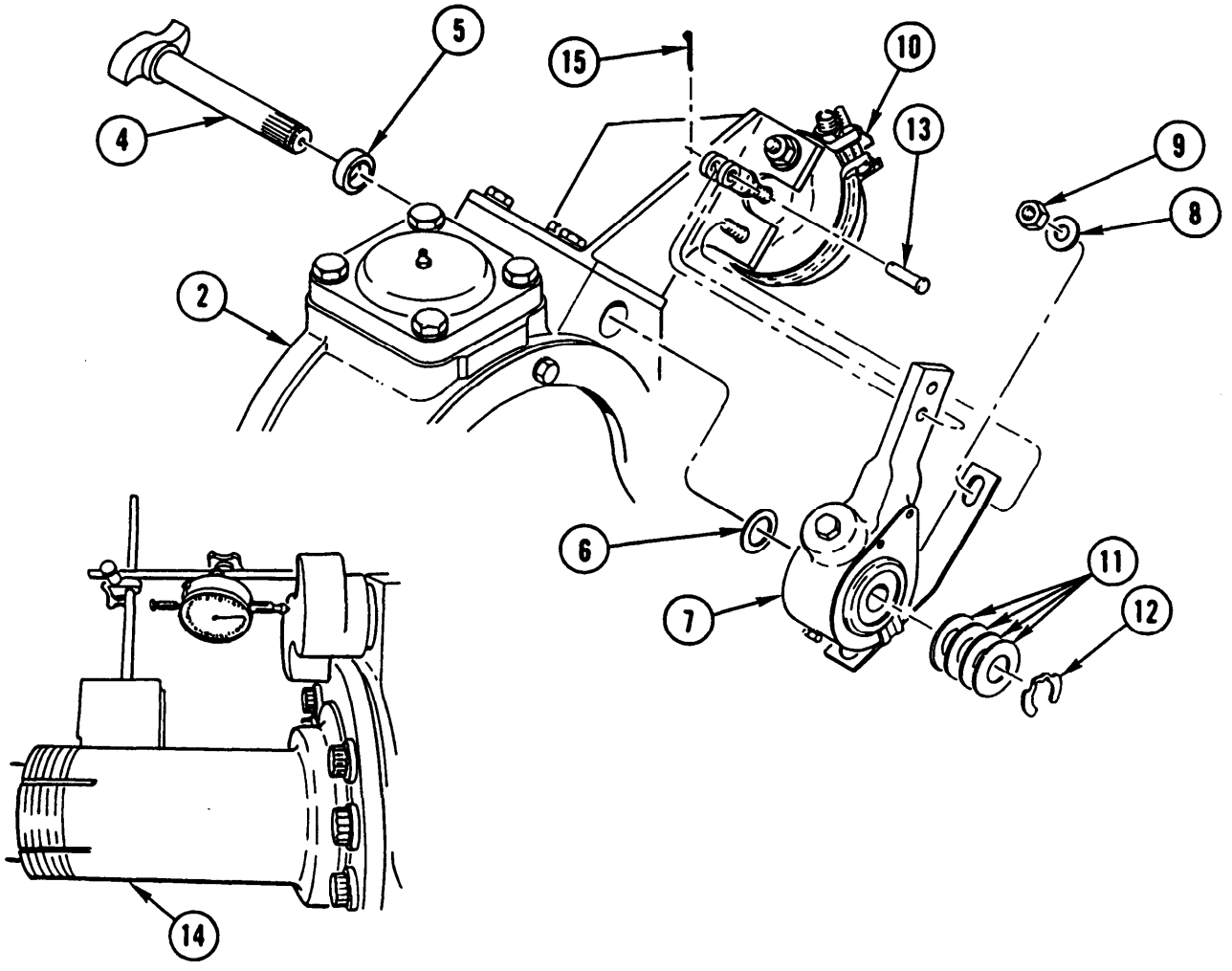
1. INSTALL TWO NEW BUSHINGS (1) IN BALL SOCKET (2).

NOTE

Install each seal with lip facing outward.

2. COAT OUTSIDE DIAMETER OF TWO SEALS (3) WITH OIL AND INSTALL TWO SEALS (3) IN BALL SOCKET (2).

FRONT SLACK ADJUSTER AND S-CAM REPLACEMENT (CONT)



3. APPLY THIN FILM OF ANTISEIZE COMPOUND TO SPLINED END OF S-CAM (4).

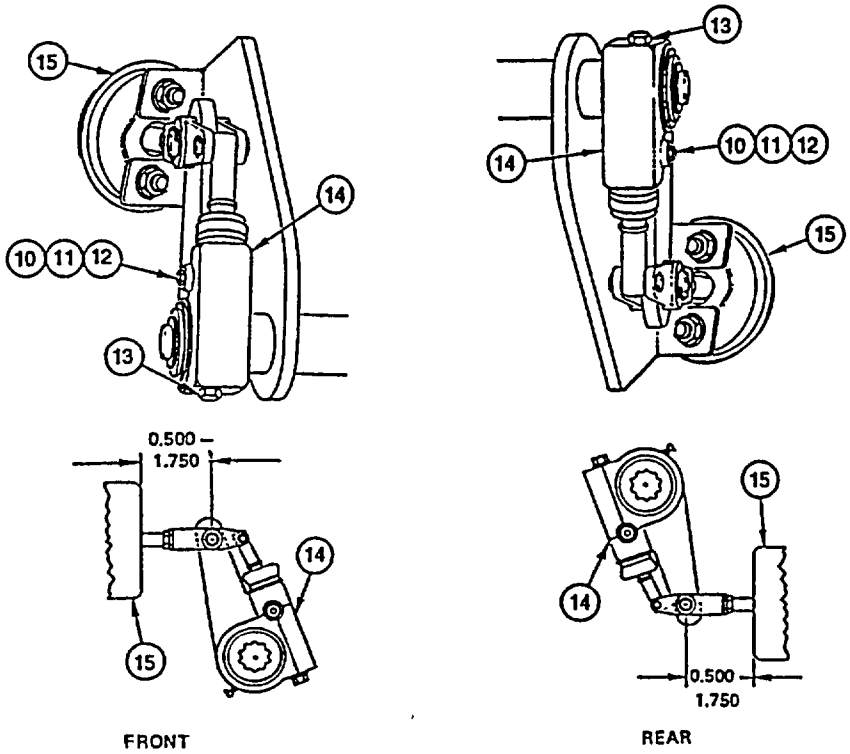
NOTE

During step 4, locate S-cam as marked during removal.

4. INSTALL SPACER (5) AND S-CAM (4) IN BALL SOCKET (2).
5. INSTALL WASHER (6) AND SLACK ADJUSTER (7) ON SPLINED END OF S-CAM (4).
6. INSTALL WASHER (8) AND NUT (9) ON SLACK ADJUSTER (7) AND BRAKE CHAMBER (10).

7. THERE MUST BE AT LEAST 1/2 INCH (12.7 mm) OF THREAD ENGAGEMENT BETWEEN THE CLEVIS AND THE PUSH ROD. THE PUSH ROD MUST NOT EXTEND THROUGH THE CLEVIS MORE THAN 1/8 INCH (3.18 mm).

8. IF ADJUSTMENT CANNOT BE OBTAINED, INSTALL NEW AIR BRAKE CHAMBER (PARA 4-420 OR PARA 4-424).



9. REMOVE CAPSCREW (10), SPRING (11), AND PAWL (12).

10. ROTATE WHEEL AND TIGHTEN SCREW (13) UNTIL WHEEL WILL NOT ROTATE.

NOTE
A slight amount of drag will be felt during wheel rotation.

11. LOOSEN SCREW (13) 1/4 TURN AND ROTATE WHEEL.

12. INSTALL PAWL (12), SPRING (11), AND CAPSCREW (10). TIGHTEN CAPSCREW TO 15-20 LB-FT (20-27 N.m).

13. USING FLATTIP SCREWDRIVER, MANUALLY PULL SLACK ADJUSTER (14) IN DIRECTION AWAY FROM BRAKE CANISTER (15) WHILE MEASURING TOTAL DISTANCE OF TRAVEL BETWEEN SLACK ADJUSTER (14) AND BRAKE CANISTER (15).

14. IF TOTAL DISTANCE OF TRAVEL EXCEEDS 1-3/4 IN. (44.45 mm), OR IF TOTAL DISTANCE IS NOT MINIMUM OF 1/2 IN. (12.7 mm), REPEAT STEPS 9 THRU 13.

NOTE
Follow-on Maintenance:
Remove jack stands (TM 9-2320-363-10).

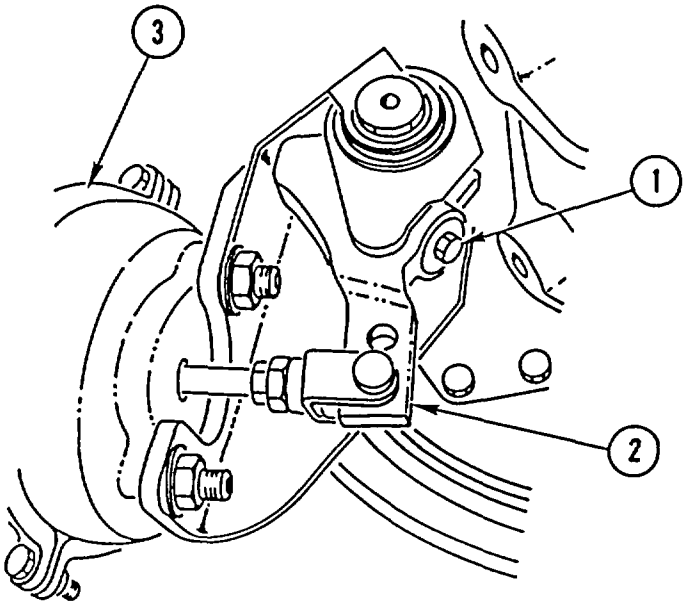
SLACK ADJUSTER ADJUSTMENT

This task covers: Adjustment

INITIAL SETUP

Applicable Configuration:	**References:**	
All except M915A2	TM 9-2320-363-10	
Tools and Special Equipment:	**Equipment Condition:**	
Tool Kit, SC 5180-90-CL-N26	**Reference**	**Condition Description**
Personnel Required: (2)	TM 9-2320-363-10	Wheel Jacked Up and Jack Stands Installed

ADJUSTMENT



NOTE

If performing this procedure on rear side, make sure parking brakes are released and air pressure is built up.

1. ROTATE WHEEL WHILE TIGHTENING NUT (1), UNTIL WHEEL WILL NOT ROTATE.

NOTE
A slight amount of drag will be felt during wheel rotation.

2. LOOSEN NUT (1) 1/4 TURN AND ROTATE WHEEL.

3. USING FLAT TIP SCREWDRIVER, MANUALLY PULL SLACK ADJUSTER (2) AWAY FROM BRAKE CANISTER (3) WHILE MEASURING TOTAL DISTANCE OF TRAVEL BETWEEN SLACK ADJUSTER (2) AND BRAKE CANISTER (3).

4. IF TOTAL DISTANCE OF TRAVEL EXCEEDS 1-3/4 IN. (44.45 mm), OR IF TOTAL DISTANCE IS NOT A MINIMUM OF 1/2 IN. (12.7 mm), REPEAT STEPS 1 THRU 3.

NOTE
Follow-on Maintenance:
Remove jack stands (TM 9-2320-363-10).

REAR SLACK ADJUSTER AND S-CAM REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26
Dial Indicator, P/N J7872

Materials/Parts:

Pin, Cotter	P/N K-248
Seal (2)	P/N A-1205-V-1556
Page 4-417 Oil, Lubricating	Appendix C, Item 16

Materials/Parts (Cont):

Compound, Antiseize	Appendix C, Item 5

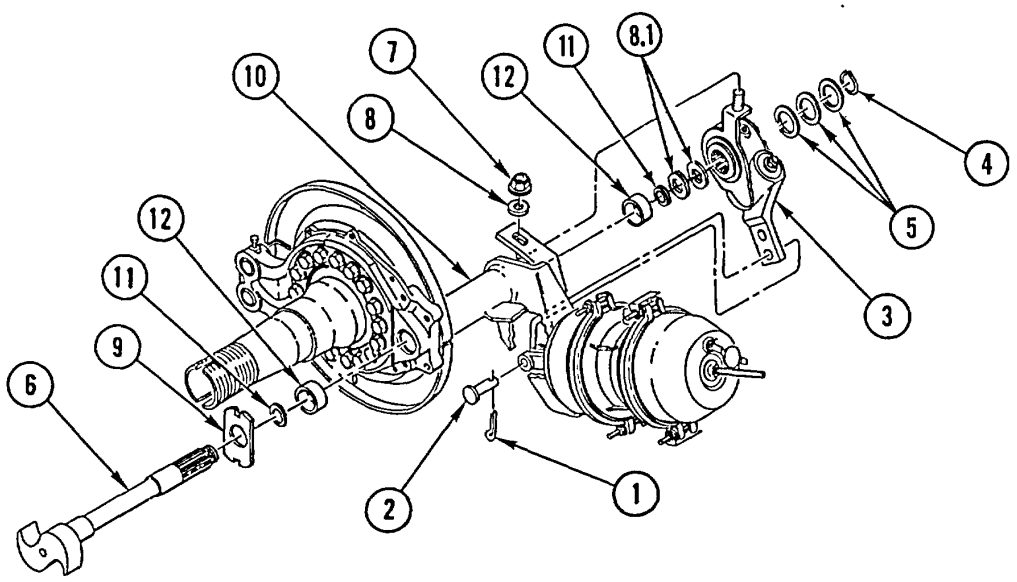
References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Brakes Caged
	Rear Brakeshoe and Lining Removed

REMOVAL



NOTE
Note location of clevis pin to slack adjuster.

1. REMOVE COTTER PIN (1) AND CLEVIS PIN (2) FROM SLACK ADJUSTER (3). DISCARD COTTER PIN.

NOTE
Note quantity and sizes of washers removed to aid in installation.

2. REMOVE SNAP RING (4) AND WASHERS (5) FROM SPLINED SHAFT OF S-CAM (6).

3. REMOVE NUT (7) AND WASHER (8) FROM SLACK ADJUSTER (3).

4. REMOVE SLACK ADJUSTER (3) AND TWO WASHERS (8 1) FROM SPLINED SHAFT OF S-CAM (6).

NOTE
Mark position of S-cam prior to removal.

5. REMOVE S-CAM (6) AND WASHER (9) FROM MOUNTING BRACKET (10).

6. REMOVE TWO SEALS (11) FROM MOUNTING BRACKET (10). DISCARD SEALS.

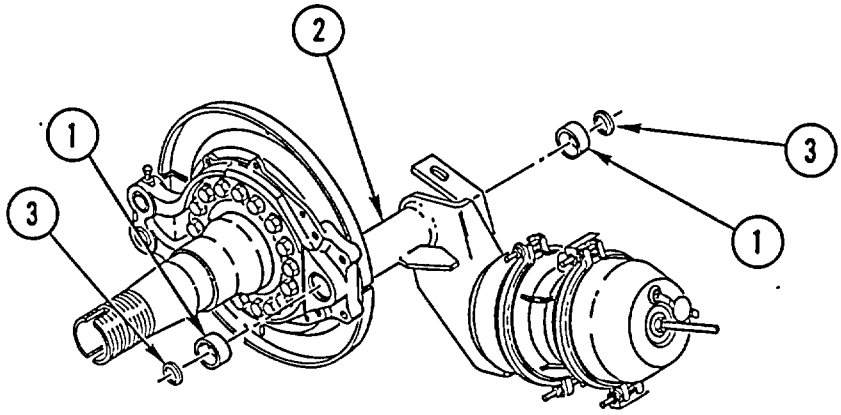
NOTE
Perform step 7 only if bushings are worn or damaged.

7. REMOVE TWO BUSHINGS (12) FROM MOUNTING BRACKET (10).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



NOTE

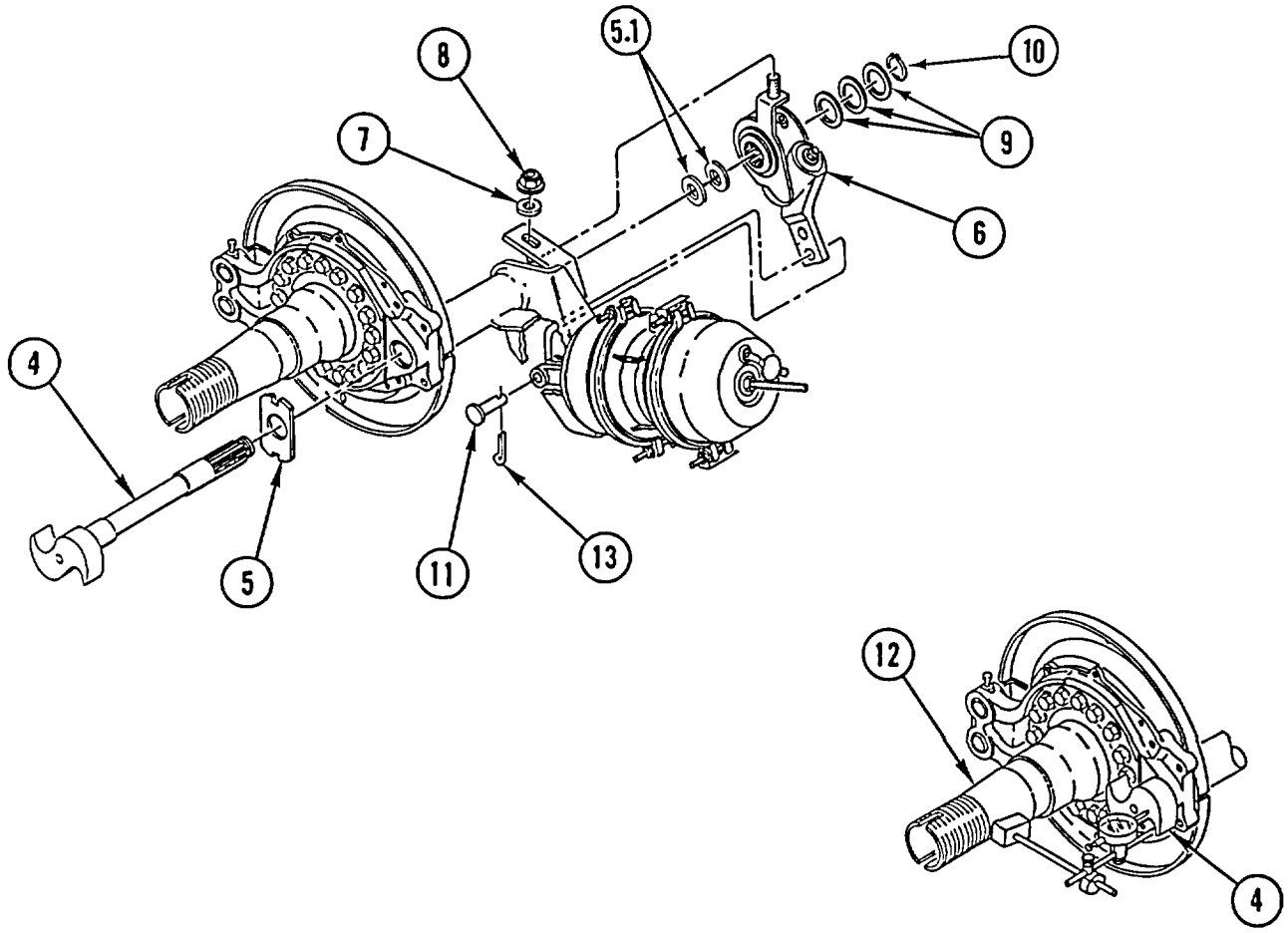
- **Perform step 1 only if bushings were removed.**
- **Coat each new bushing with oil to aid in installation.**
- **Install bushings with label ends facing each other. Install to depth of 3/8 in. from each end.**

1. INSTALL TWO NEW BUSHINGS (1) IN MOUNTING BRACKET (2).

NOTE
Install each seal with lip facing outward.

2. COAT OUTSIDE DIAMETER OF TWO NEW SEALS (3) WITH OIL AND INSTALL TWO SEALS (3) IN MOUNTING BRACKET (2).

REAR SLACK ADJUSTER AND S-CAM REPLACEMENT (CONT)



3. APPLY THIN FILM OF ANTISEIZE COMPOUND TO SPLINED END OF S-CAM (4).

NOTE
Position S-cam as marked during removal.

4. INSTALL WASHER (5) AND S-CAM (4) IN MOUNTING BRACKET (2).

5. INSTALL TWO WASHERS (5.1) AND SLACK ADJUSTER (6) ON SPLINED END OF S-CAM (4).

6. INSTALL WASHER (7) AND NUT (8) ON SLACK ADJUSTER (6).

NOTE

- **If repeating Installation because measurement in step 10 exceeded 0.045 in. (1.5 mm), add one more washer than noted in step 2 of Removal.**
- **If repeating Installation because measurement in step 10 was less than 0.005 in. (0.13 mm), install one less washer than noted in step 2 of Removal.**

7. INSTALL WASHERS (9) AND SNAP RING (10) ON SPLINED SHAFT OF S-CAM (4).

8. INSTALL CLEVIS PIN (11) IN SLACK ADJUSTER (6).

NOTE

Make sure S-cam is pushed against brake spider.

9. ATTACH MAGNETIC BASE OF DIAL INDICATOR TO SPINDLE (12) AND SET DIAL INDICATOR TO ZERO.

NOTE

- If reading is more than 0.045 in. (1.5 mm), perform Removal step 2 and Installation steps 7 thru 10.
- If reading is less than 0.005 in. (0.13 mm), perform Removal step 2 and Installation steps 7 thru 10.

10. PUSH S-CAM (4) OUTWARD TO END OF ITS TRAVEL AND CHECK READING ON DIAL INDICATOR.

11. INSTALL NEW COTTER PIN (13) IN CLEVIS PIN (11).

NOTE

Follow-on Maintenance:
Install rear brakeshoe and lining (page 4-417).

PRIMARY I AIR TANK AND FITTINGS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 4-734	Rear Platform Removed

General Safety Instructions:

WARNING

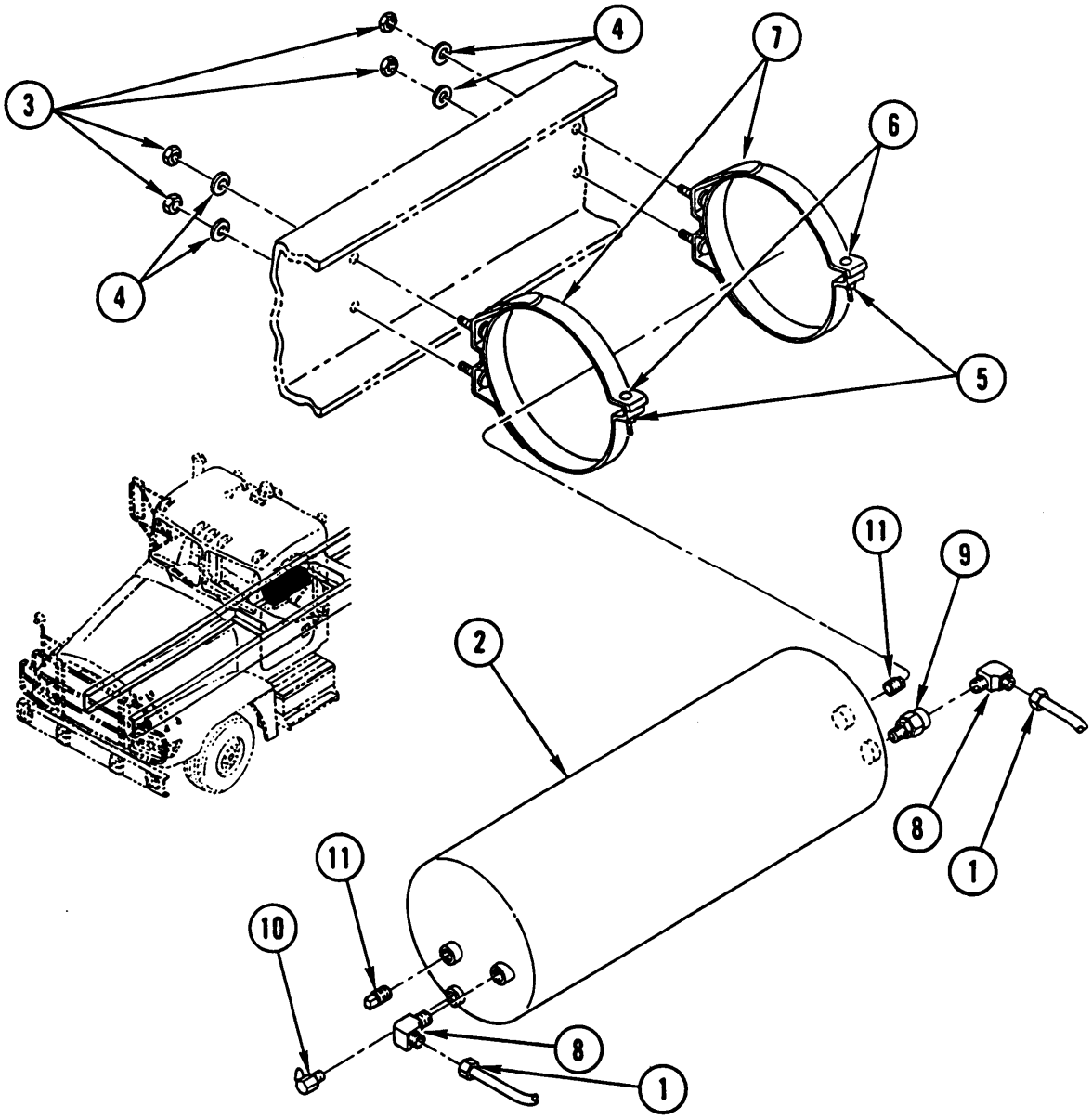
- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

REMOVAL

NOTE

Tag all tubes prior to disconnecting to aid in connecting.

1. DISCONNECT TWO TUBES (1) FROM AIR TANK (2),
2. REMOVE FOUR NUTS (3), FOUR WASHERS (4), AND AIR TANK (2).



NOTE

Perform steps 3 and 4 only if fittings or air tank are to be replaced.

3. REMOVE TWO NUTS (5), TWO SCREWS (6), AND TWO MOUNTING BRACKETS (7) FROM AIR TANK (2).

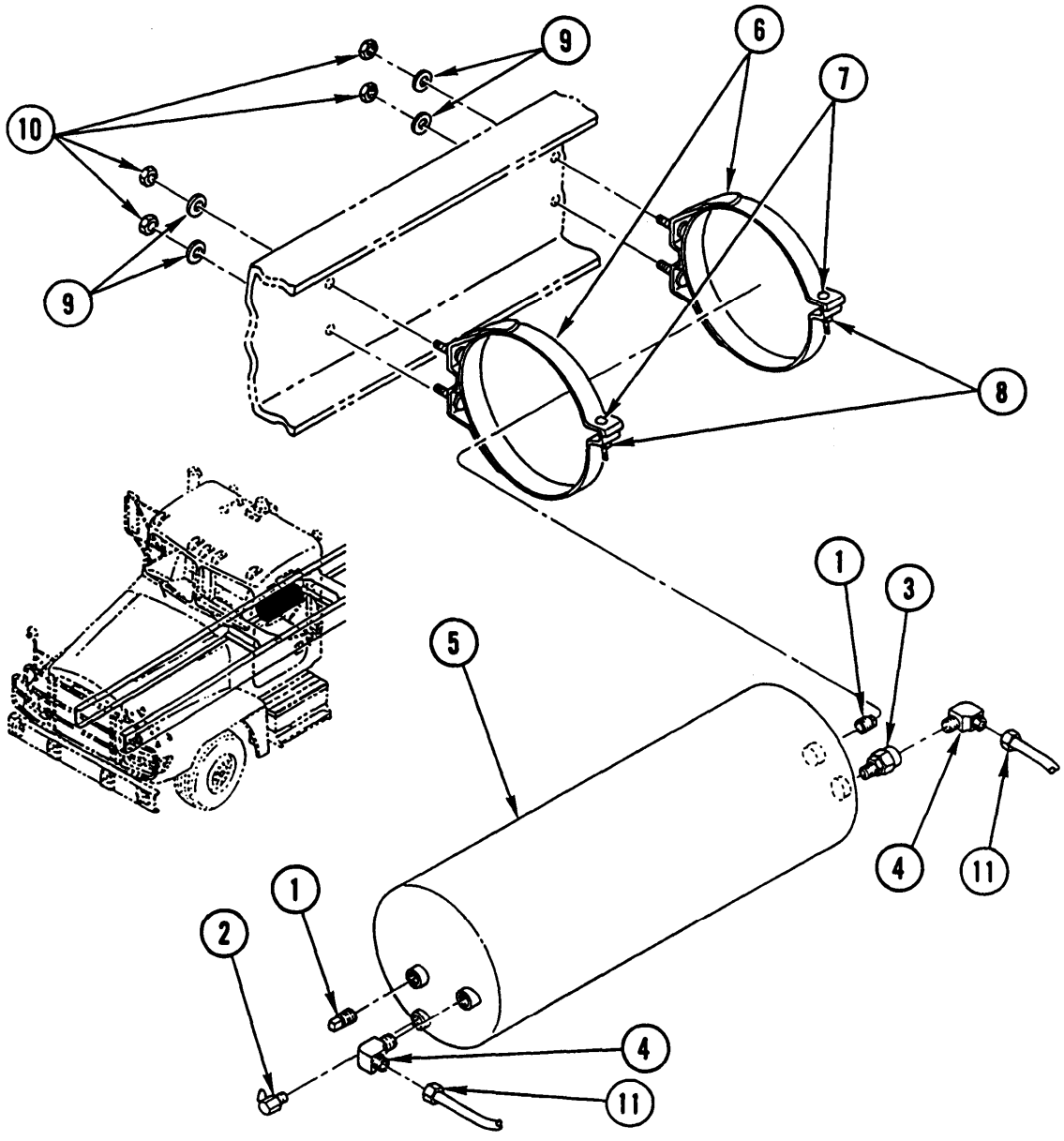
4. REMOVE TWO ELBOWS (8), CHECK VALVE (9), DRAIN VALVE (10), AND TWO PLUGS (11).

PRIMARY I AIR TANK AND FITTINGS REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**

- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

NOTE
Perform steps 1 thru 3 only if fittings have been removed from air tank.

1. COAT PIPE THREADS OF TWO NEW PLUGS (1), NEW DRAIN VALVE (2), NEW CHECK VALVE (3), AND TWO NEW ELBOWS (4) WITH PIPE SEALANT COMPOUND.

2. INSTALL TWO PLUGS (1), DRAIN VALVE (2), CHECK VALVE (3), AND TWO ELBOWS (4) IN NEW AIR TANK (5).

3. INSTALL TWO MOUNTING BRACKETS (6), TWO SCREWS (7), AND TWO NUTS (8).

4. INSTALL AIR TANK (5), FOUR WASHERS (9), AND FOUR NUTS (10).

5. CONNECT TWO TUBES (11) TO AIR TANK (5).

NOTE
Follow-on Maintenance:

Install rear platform (page 4-734).
Perform standard leak test (page 2-24).

PRIMARY I AIR TANK AND FITTINGS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and special Equipment:
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:
Nut, Lock (4)

Compound, Pipe Sealing	Appendix C, Item 8

References:

TM 9-2320-363-10

Reference	Condition Description
Page 2-28	Air System Drained
TM 9-2320-363-10	Spare Tire Removed

General Safety Instructions:

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

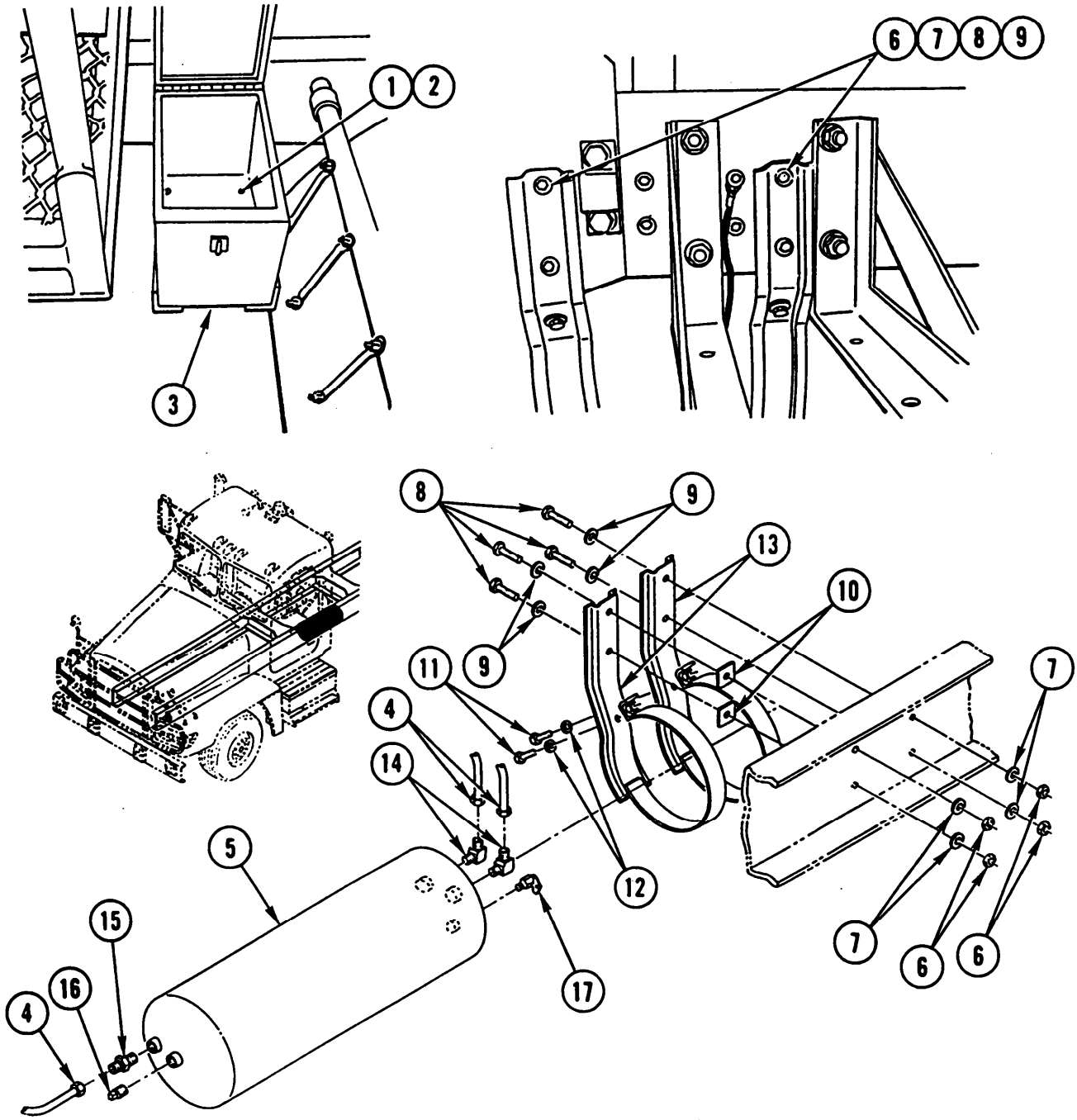
REMOVAL

1. REMOVE SIX SCREWS (1), SIX WASHERS (2), AND STORAGE BOX (3).

NOTE
Tag all tubes prior to disconnecting to aid in connecting.

2. DISCONNECT THREE TUBES (4) FROM AIR TANK (5).

3. REMOVE FOUR LOCK NUTS (6), FOUR WASHERS (7), FOUR SCREWS (8), FOUR WASHERS (9), AIR TANK (5), AND TWO SPACERS (10). DISCARD LOCK NUTS.



NOTE

Perform steps 4 and 5 only if fittings or air tank are to be replaced.

4. REMOVE TWO SCREWS (11), TWO WASHERS (12), AND TWO MOUNTING BRACKETS (13) FROM AIR TANK (5).

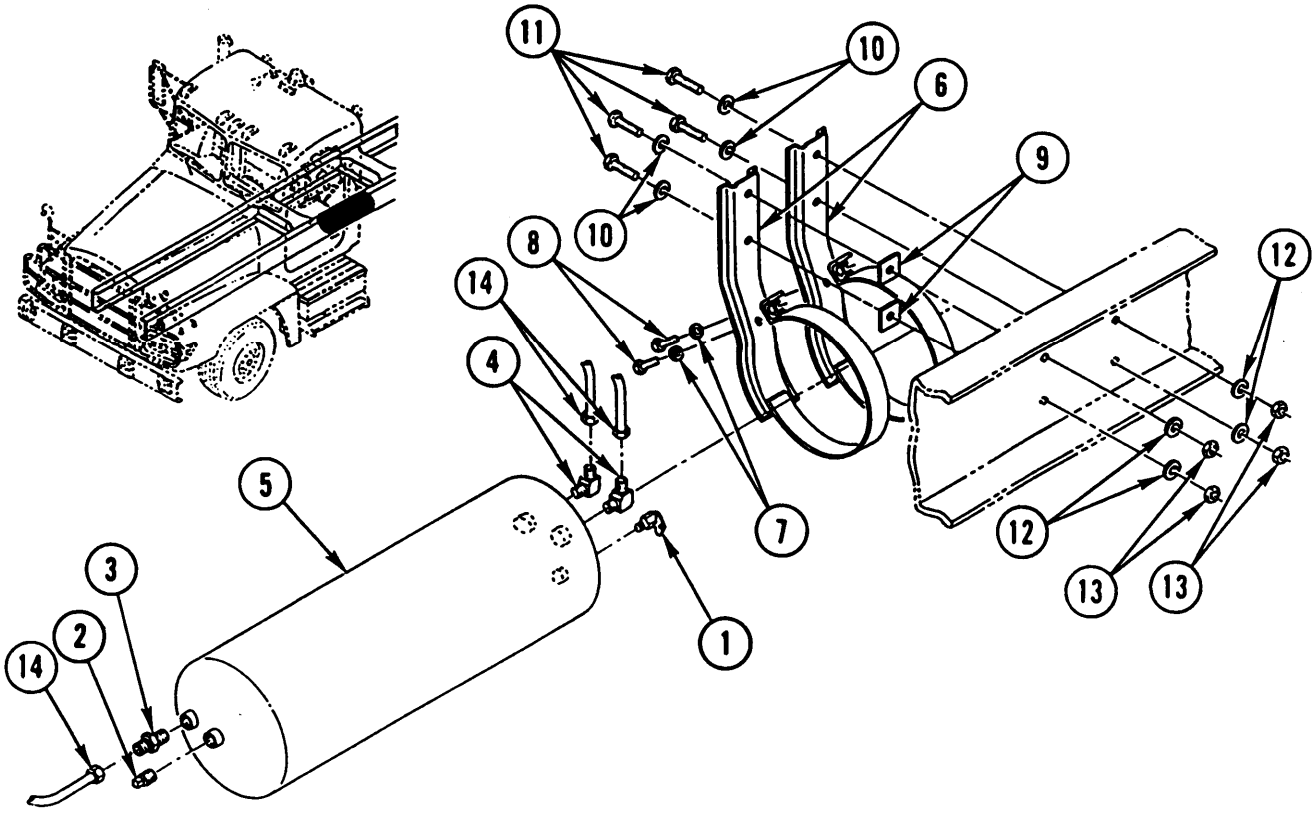
5. REMOVE TWO ELBOWS (14), CONNECTOR (15), PLUG (16), AND DRAIN VALVE (17).

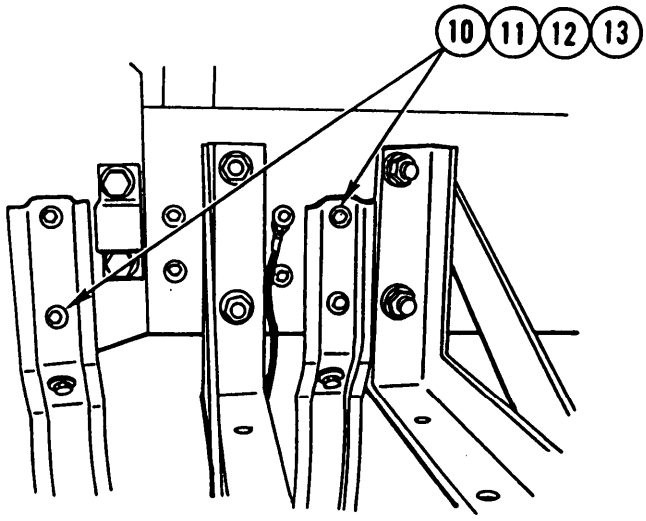
PRIMARY I AIR TANK AND FITTINGS REPLACEMENT (CONT)

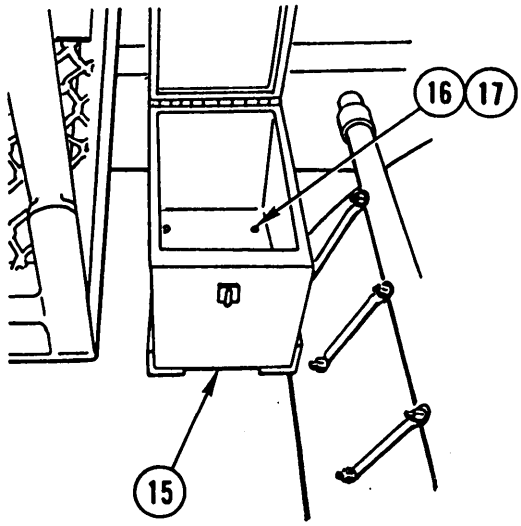
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION







WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

NOTE

Perform steps 1 thru 3 only if fittings have been removed from air tank.

1. COAT PIPE THREADS OF NEW DRAIN VALVE (1), NEW PLUG (2), NEW CONNECTOR (3), AND TWO NEW ELBOWS (4) WITH PIPE SEALANT COMPOUND.
2. INSTALL DRAIN VALVE (1), PLUG (2), CONNECTOR (3), AND TWO ELBOWS (4) IN NEW AIR TANK (5).
3. INSTALL TWO MOUNTING BRACKETS (6), TWO WASHERS (7), AND TWO SCREWS (8).
4. INSTALL TWO SPACERS (9), AIR TANK (5), FOUR WASHERS (10), FOUR SCREWS (11), FOUR WASHERS (12), AND FOUR NEW LOCK NUTS (13).
5. CONNECT THREE TUBES (14) TO AIR TANK (5).
6. INSTALL STORAGE BOX (15), SIX WASHERS (16), AND SIX SCREWS (17).

NOTE

Follow-on Maintenance:
Install spare tire (TM 9-2320-363-10).
Perform standard leak test (page 2-24).

PRIMARY II AIR TANK AND FITTINGS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (6)

Compound, Pipe Sealing	Appendix C, Item 8

References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
TM 9-2320-363-10	Spare Tire Removed

General Safety Instructions:

WARNING

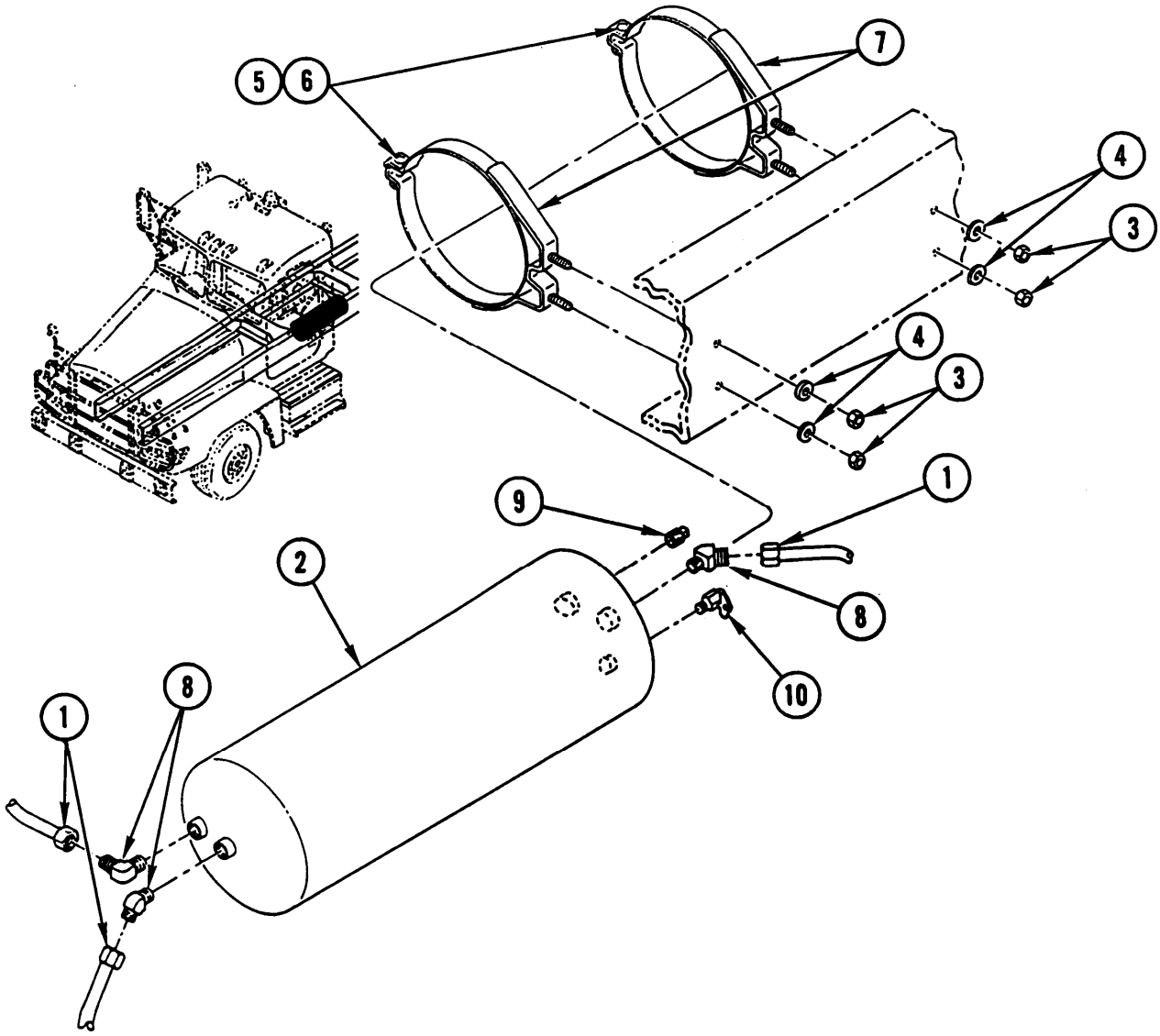
- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

REMOVAL

NOTE

Tag all tubes prior to disconnecting to aid in connecting.

1. DISCONNECT THREE TUBES (1) FROM AIR TANK (2).
2. REMOVE FOUR LOCK NUTS (3), FOUR WASHERS (4), AND AIR TANK (2). DISCARD LOCK NUTS.



NOTE

Perform steps 3 and 4 only if fittings or air tank are to be replaced.

3. REMOVE TWO LOCK NUTS (5), TWO SCREWS (6), AND TWO MOUNTING BRACKETS (7) FROM AIR TANK (2). DISCARD LOCK NUTS.

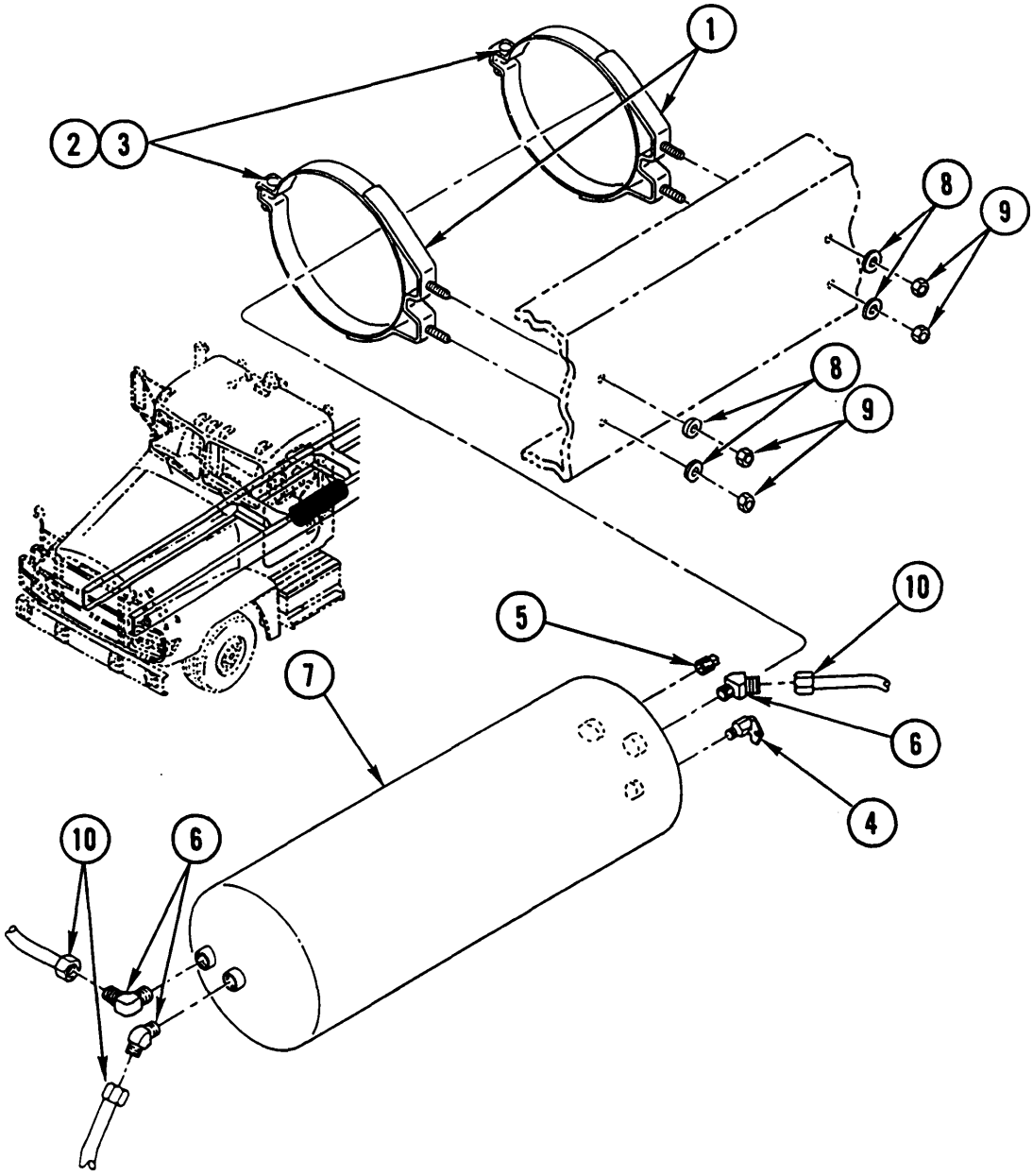
4. REMOVE THREE ELBOWS (8), PLUG (9), AND DRAIN VALVE (10).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

PRIMARY II AIR TANK AND FITTINGS REPLACEMENT (CONT)

INSTALLATION



NOTE

Perform steps 1 thru 3 only if fittings have been removed from air tank.

1. INSTALL TWO MOUNTING BRACKETS (1), TWO SCREWS (2), AND TWO NEW LOCK NUTS (3).

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**

- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

2. COAT PIPE THREADS OF NEW DRAIN VALVE (4), NEW PLUG (5), AND THREE NEW ELBOWS (6) WITH PIPE SEALANT COMPOUND.

3. INSTALL DRAIN VALVE (4), PLUG (5), AND THREE ELBOWS (6) IN NEW AIR TANK (7).

4. INSTALL AIR TANK (7), FOUR WASHERS (8), AND FOUR NEW LOCK NUTS (9).

5. CONNECT THREE TUBES (10) TO AIR TANK (7).

NOTE
Follow-on Maintenance:
Install spare tire (TM 9-2320-363-10).
Perform standard leak test (page 2-24).

PRIMARY II AIR TANK AND FITTINGS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe	Appendix C, Item 8
Sealing	Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:

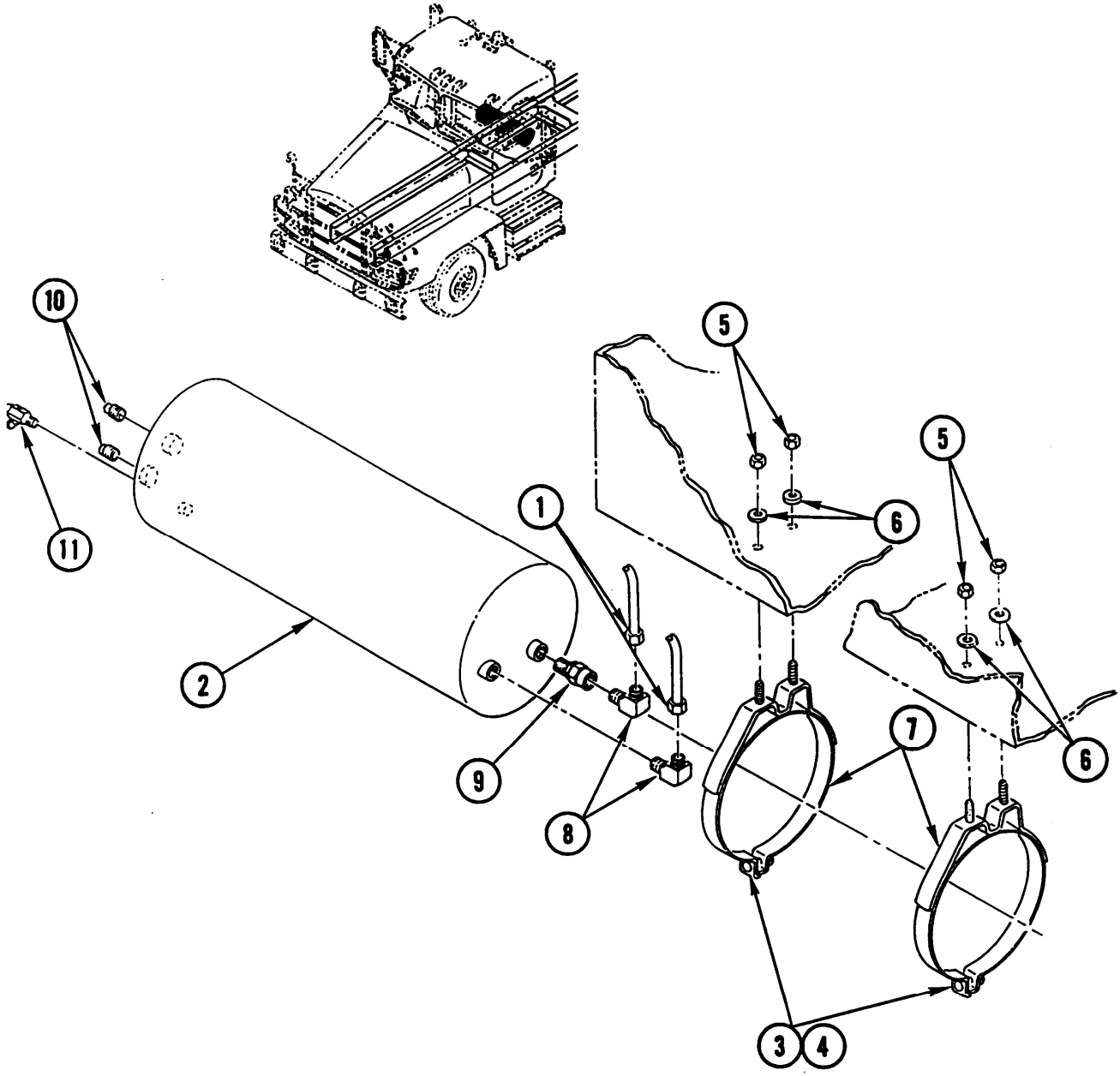
WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

REMOVAL

NOTE
Tag all tubes prior to disconnecting to aid in connecting.

1. DISCONNECT TWO TUBES (1) FROM AIR TANK (2).
2. REMOVE TWO NUTS (3), TWO SCREWS (4), AND AIR TANK (2).



NOTE

Perform steps 3 and 4 only if fittings or air tank are to be replaced.

3. REMOVE FOUR NUTS (5), FOUR WASHERS (6), AND TWO MOUNTING BRACKETS (7).

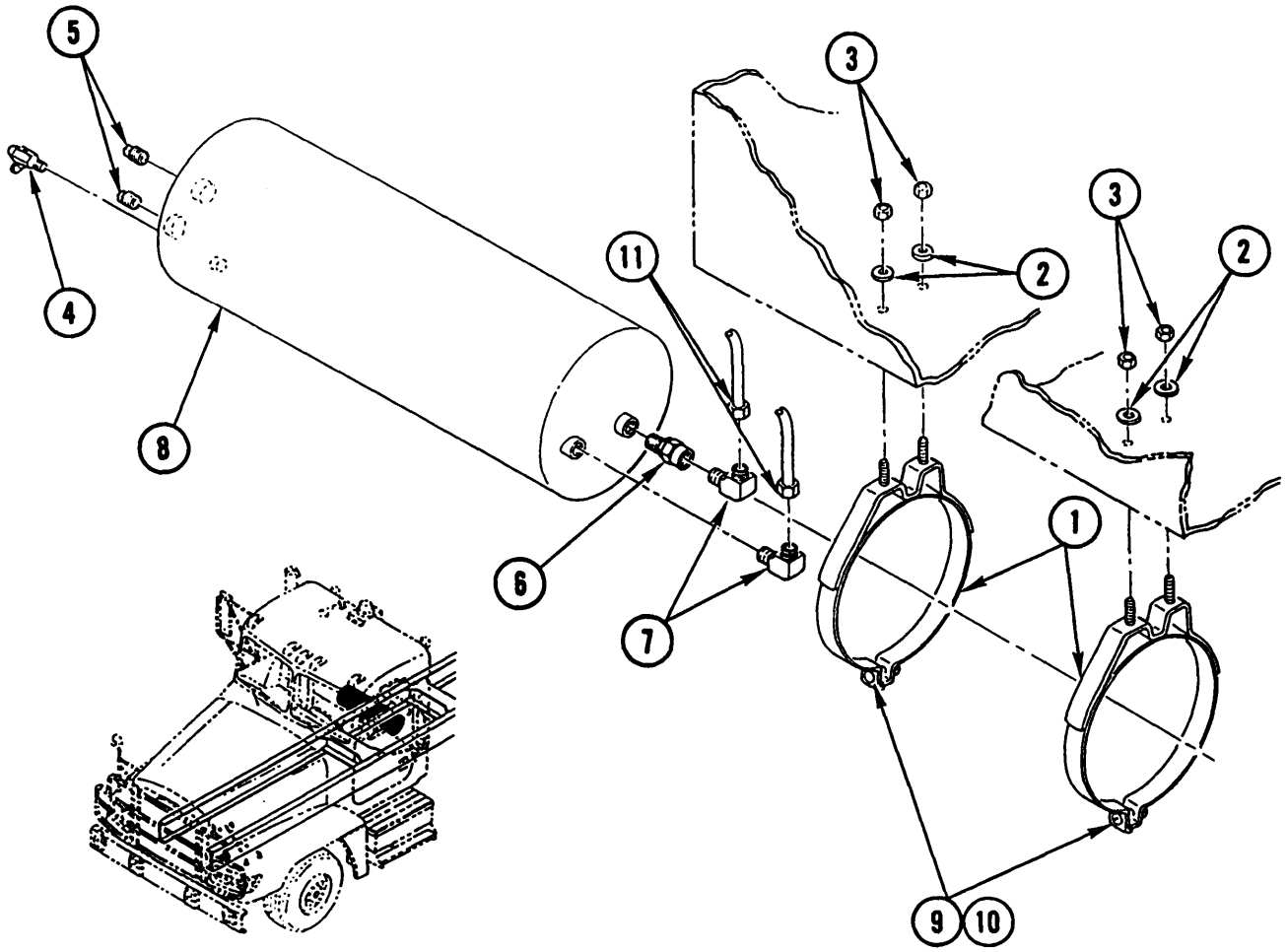
4. REMOVE TWO ELBOWS (8), CHECK VALVE (9), TWO PLUGS (10), AND DRAIN VALVE (11).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

PRIMARY II AIR TANK AND FITTINGS REPLACEMENT (CONT)

INSTALLATION



NOTE

Perform steps 1 thru 3 only if fittings have been removed from air tank.

1. INSTALL IWO MOUNTING BRACKETS (1), FOUR WASHERS (2), AND FOUR NUTS (3).

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

2. COAT PIPE THREADS OF NEW DRAIN VALVE (4), TWO NEW PLUGS (5), NEW CHECK VALVE (6), AND TWO NEW ELBOWS (7) WITH PIPE SEALANT COMPOUND.
3. INSTALL DRAIN VALVE (4), TWO PLUGS (5), CHECK VALVE (6), AND TWO ELBOWS (7) IN NEW AIR TANK (8).
4. INSTALL AIR TANK (8), TWO SCREWS (9), AND TWO NUTS (10).
5. CONNECT TWO TUBES (11) IN AIR TANK (8).

NOTE

Follow-on Maintenance:
Perform standard leak test (page 2-24).

SECONDARY AIR TANK AND FITTINGS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (10)

Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:

WARNING

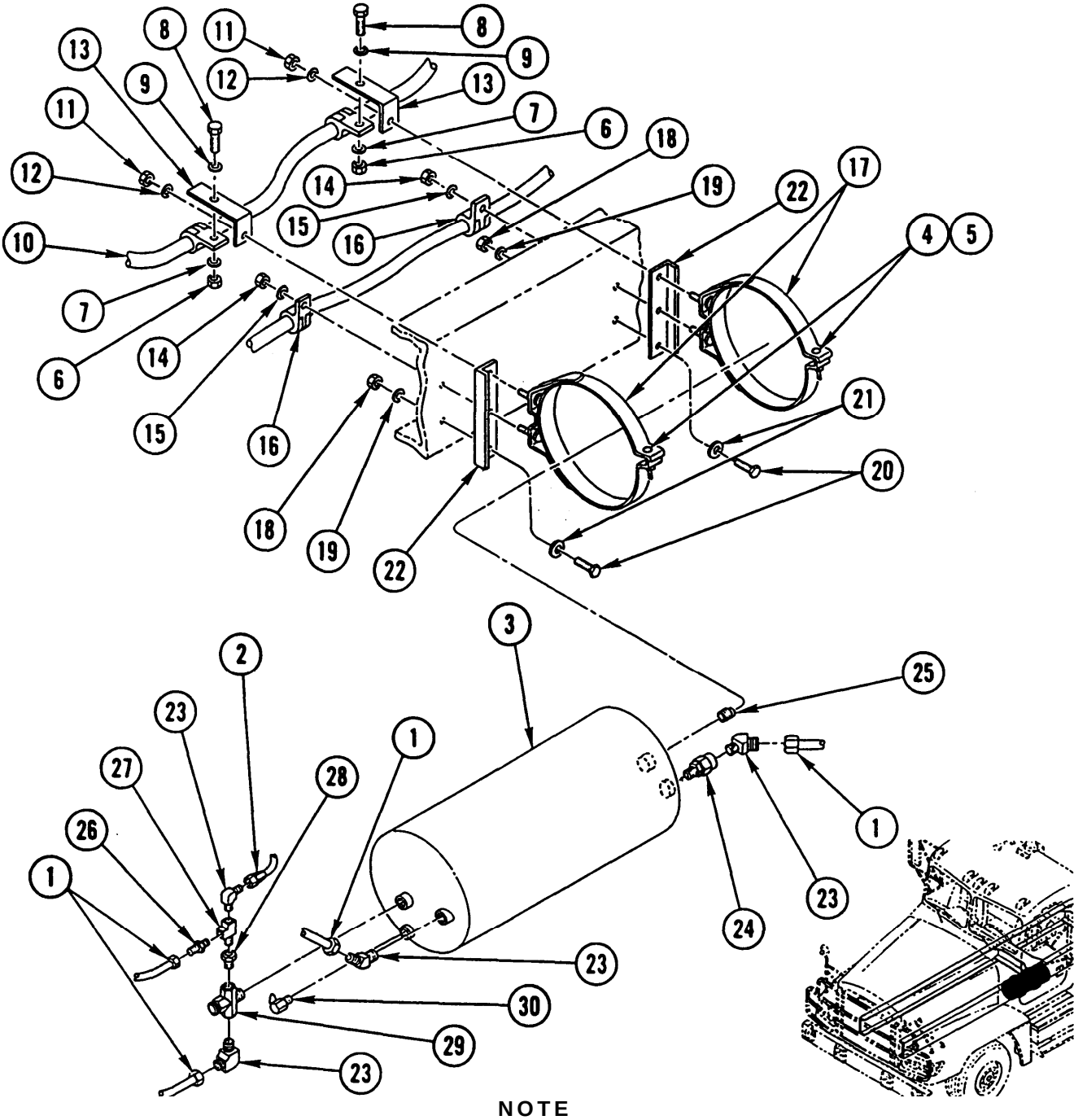
- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

REMOVAL

NOTE

Tag all tubes prior to disconnecting to aid in connecting.

1. DISCONNECT FOUR TUBES (1) AND HOSE (2) FROM AIR TANK (3).
2. REMOVE TWO LOCK NUTS (4), TWO SCREWS (5), AND AIR TANK (3). DISCARD LOCK NUTS.
3. REMOVE TWO LOCK NUTS (6), TWO WASHERS (7), TWO CAPSCREWS (8), AND TWO WASHERS (9) AND SET CABLE (10) ASIDE. DISCARD LOCK NUTS.
4. REMOVE TWO LOCK NUTS (11), TWO WASHERS (12), AND TWO BRACKETS (13). DISCARD LOCK NUTS.
5. REMOVE TWO LOCK NUTS (14), TWO WASHERS (15), TWO CLAMPS (16), AND TWO MOUNTING BRACKETS (17). DISCARD LOCK NUTS.
6. REMOVE TWO LOCK NUTS (18), TWO WASHERS (19), TWO CAPSCREWS (20), TWO WASHERS (21), AND TWO BRACKETS (22). DISCARD LOCK NUTS.



NOTE

Perform step 7 only if fittings or air tank are to be replaced.

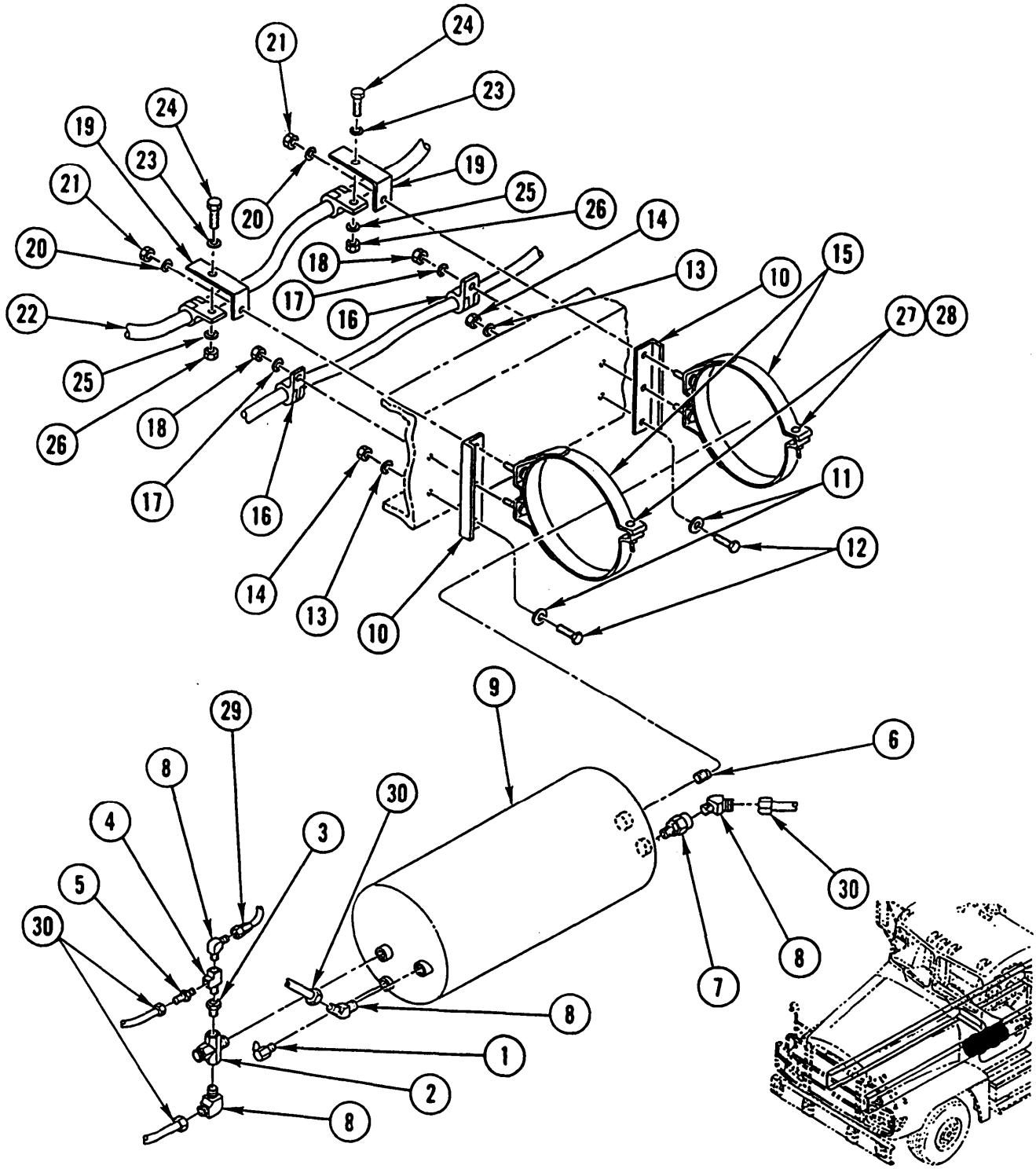
7. REMOVE FOUR ELBOWS (23), CHECK VALVE (24), PLUG (25), CONNECTOR (26), TEE (27), BUSHING (28), PRESSURE PROTECT VALVE (29), AND DRAIN VALVE (30).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

SECONDARY AIR TANK AND FITTINGS REPLACEMENT (CONT)

INSTALLATION



WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**

- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

NOTE

Perform steps 1 and 2 only if fittings have been removed from air tank.

1. COAT PIPE THREADS OF NEW DRAIN VALVE (1), NEW PRESSURE PROTECT VALVE (2), NEW BUSHING (3), NEW TEE (4), NEW CONNECTOR (5), NEW PLUG (6), NEW CHECK VALVE (7), AND FOUR NEW ELBOWS (8) WITH PIPE SEALANT COMPOUND.

2. INSTALL DRAIN VALVE (1), PRESSURE PROTECT VALVE (2), BUSHING (3), TEE (4), CONNECTOR (5), PLUG (6), CHECK VALVE (7), AND FOUR ELBOWS (8) IN NEW AIR TANK (9).

3. INSTALL TWO BRACKETS (10), TWO WASHERS (11), TWO CAPSCREWS (12), TWO WASHERS (13), AND TWO NEW LOCK NUTS (14).

4. INSTALL TWO MOUNTING BRACKETS (15), TWO CLAMPS (16), TWO WASHERS (17), AND TWO NEW LOCK NUTS (18).

5. INSTALL TWO BRACKETS (19), TWO WASHERS (20), AND TWO NEW LOCK NUTS (21).

6. INSTALL CABLE (22), TWO WASHERS (23), TWO CAPSCREWS (24), TWO WASHERS (25), AND TWO NEW LOCK NUTS (26).

7. INSTALL AIR TANK (9), TWO SCREWS (27), AND TWO NEW LOCK NUTS (28).

8. CONNECT HOSE (29) AND FOUR TUBES (30) TO AIR TANK (9).

NOTE

Follow-on Maintenance:

Perform standard leak test (page 2-24).

SECONDARY AIR TANK AND FITTINGS REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8

References:

TM 9-2320-363-10

Reference	Condition Description
Page 2-28	Air System Drained
TM 9-2320-363-10	Spare Tire Removed

General Safety Instructions:

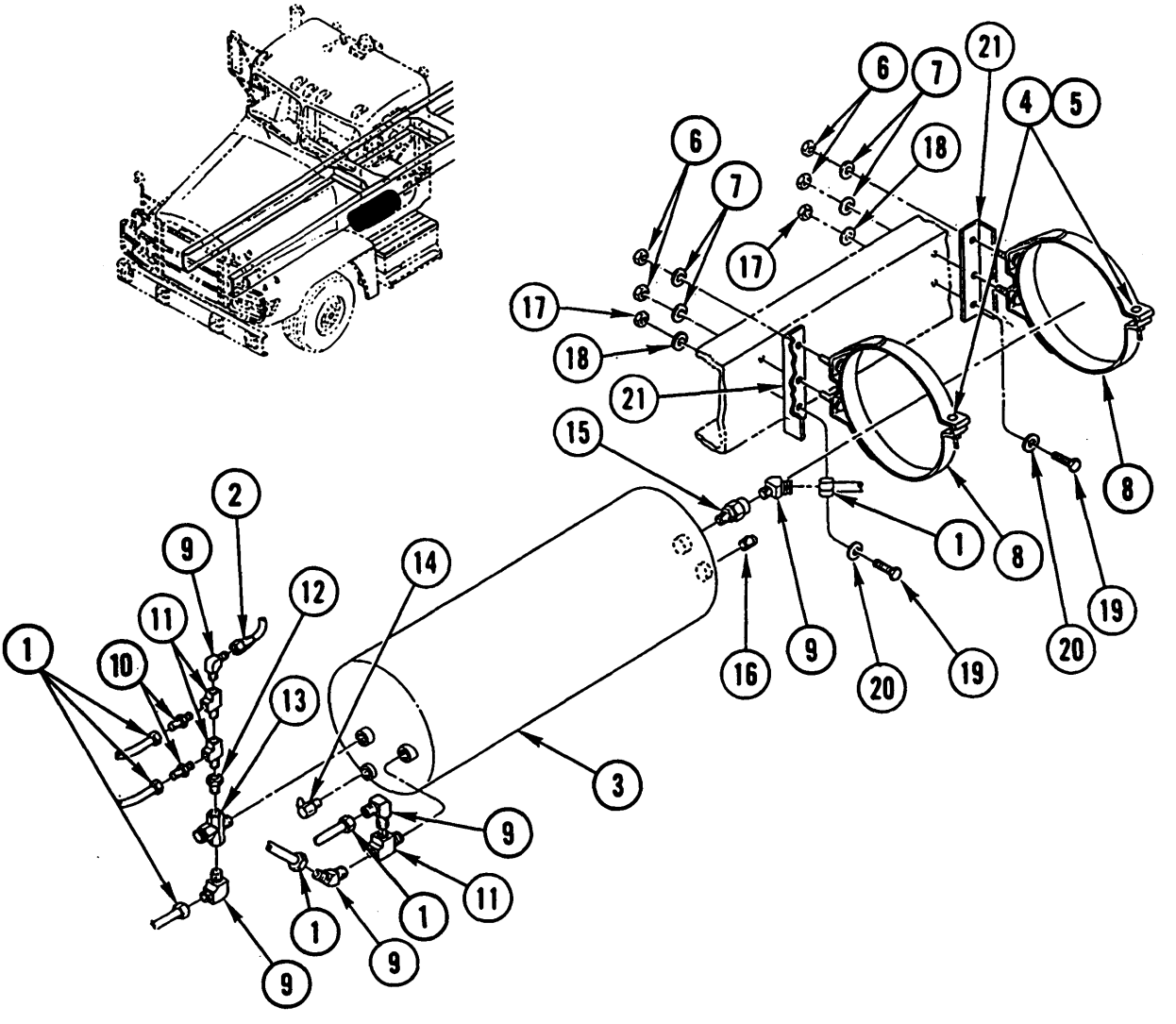
WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

REMOVAL

NOTE
Tag all tubes prior to disconnecting to aid in connecting.

1. DISCONNECT SIX TUBES (1) AND HOSE (2) FROM AIR TANK (3).
2. REMOVE TWO LOCK NUTS (4), TWO SCREWS (5), AND AIR TANK (3). DISCARD LOCK NUTS.



NOTE

Perform steps 3 thru 5 only if fittings or air tank are to be replaced.

3. REMOVE FOUR LOCK NUTS (6), FOUR WASHERS (7), AND TWO MOUNTING BRACKETS (8). DISCARD LOCK NUTS.

4. REMOVE FIVE ELBOWS (9), TWO CONNECTORS (10), THREE TEES (11), BUSHING (12), PRESSURE PROTECT VALVE (13), DRAIN VALVE (14), CHECK VALVE (15), AND PLUG (16).

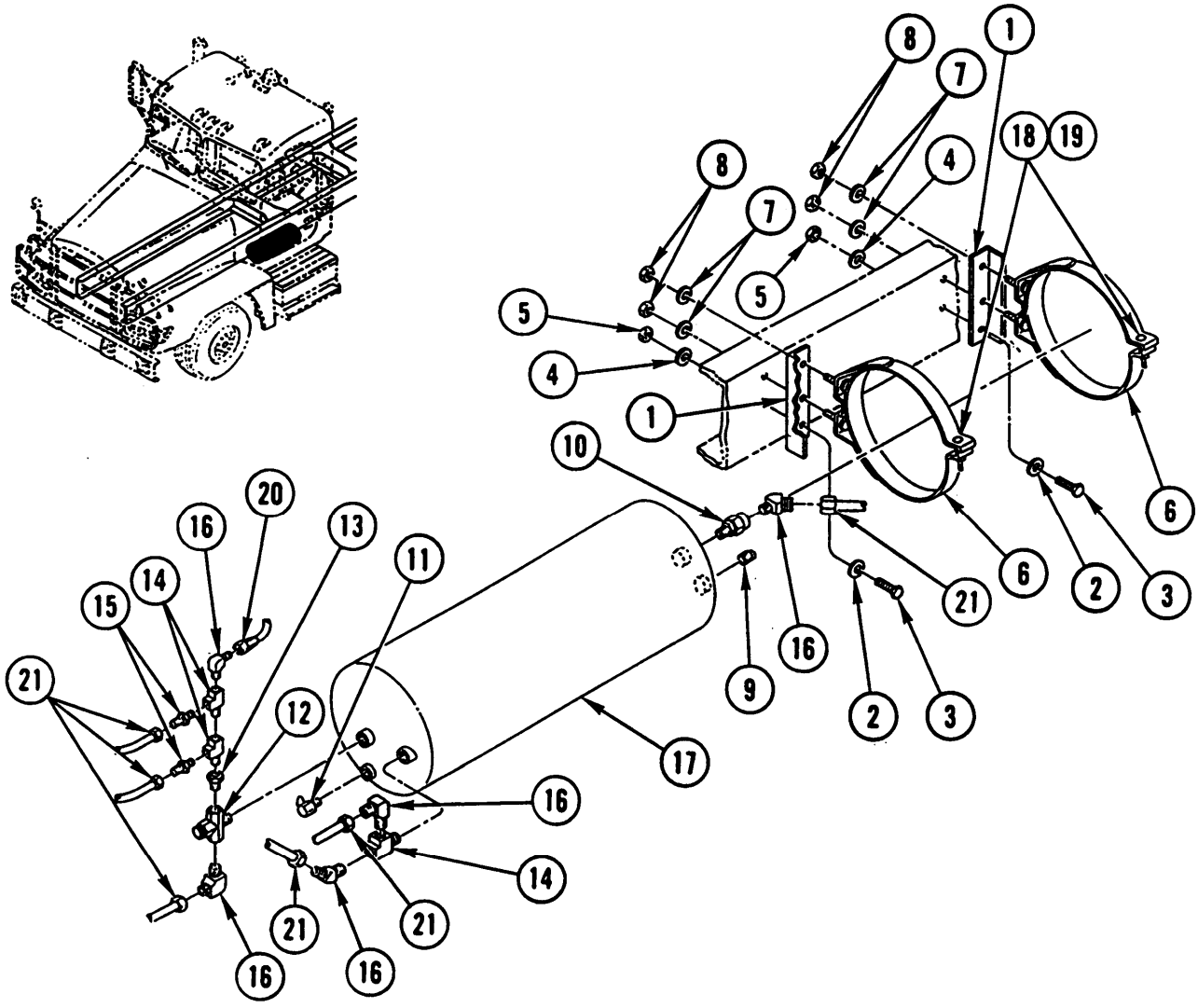
5. REMOVE TWO LOCK NUTS (17), TWO WASHERS (18), TWO SCREWS (19), TWO WASHERS (20), AND TWO BRACKETS (21). DISCARD LOCK NUTS.

SECONDARY AIR TANK AND FITTINGS REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with chapter 2.

INSTALLATION



NOTE

Perform steps 1 thru 4 only if fittings have been removed from air tank.

1. INSTALL TWO BRACKETS (1), TWO WASHERS (2), TWO SCREWS (3), TWO WASHERS (4), AND TWO NEW LOCK NUTS (5).

2. INSTALL TWO MOUNTING BRACKETS (6), FOUR WASHERS (7), AND FOUR NEW LOCK NUTS (8).

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn **easily, can give off harmful vapors, and** are **harmful to skin and clothing. To** avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

3. COAT PIPE THREADS OF NEW PLUG (9), NEW CHECK VALVE (10) NEW DRAIN VALVE (11), NEW PRESSURE PROTECT VALVE (12), NEW BUSHING (13), THREE NEW TEES (14), TWO NEW CONNECTORS (15), AND FIVE NEW ELBOWS (16) WITH PIPE SEALANT COMPOUND.

4. INSTALL PLUG (9), CHECK VALVE (10), DRAIN VALVE (11), PRESSURE PROTECT VALVE (12), BUSHING (13), THREE TEES (14), TWO CONNECTORS (15), AND FIVE ELBOWS (16) ON NEW AIR TANK (17).

5. INSTALL AIR TANK (17), TWO SCREWS (18), AND TWO NEW LOCK NUTS (19).

6. CONNECT HOSE (20) AND SIX TUBES (21) TO AIR TANK (17).

NOTE

Follow-on Maintenance:
Install spare tire (TM 9-2320-363-10).
Perform standard leak test (page 2-24).

AIR SUPPLY TANK AND FITTINGS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Pin, Cotter

Washer, Lock (2)

Nut, Lock (8)

Compound, Pipe Sealing — **Appendix C, Item 8**

Equipment Condition:

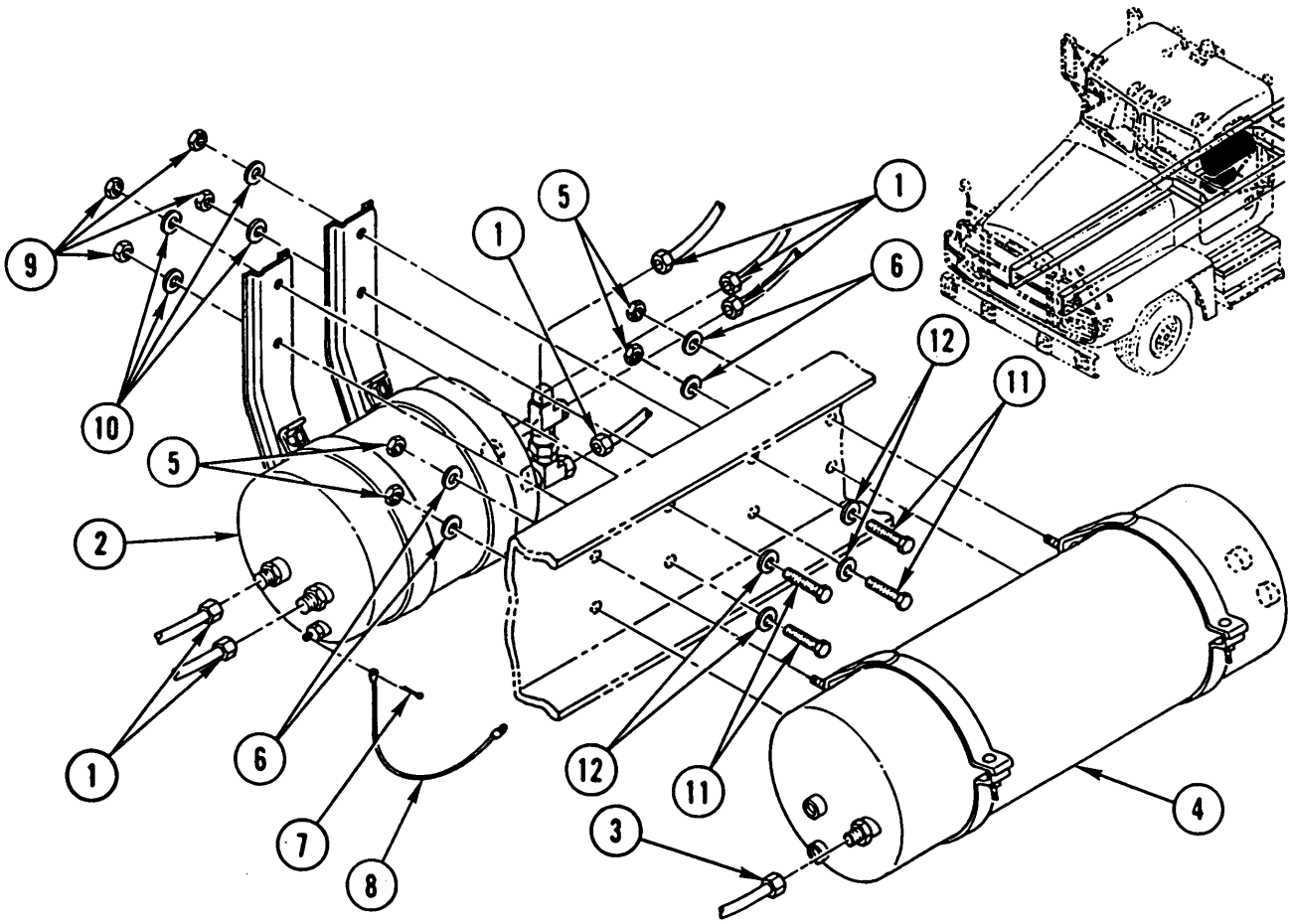
Reference	Condition Description
Page 2-28	Air System Drained
Page 4-734	Rear Platform Removed

General Safety Instructions:

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

REMOVAL

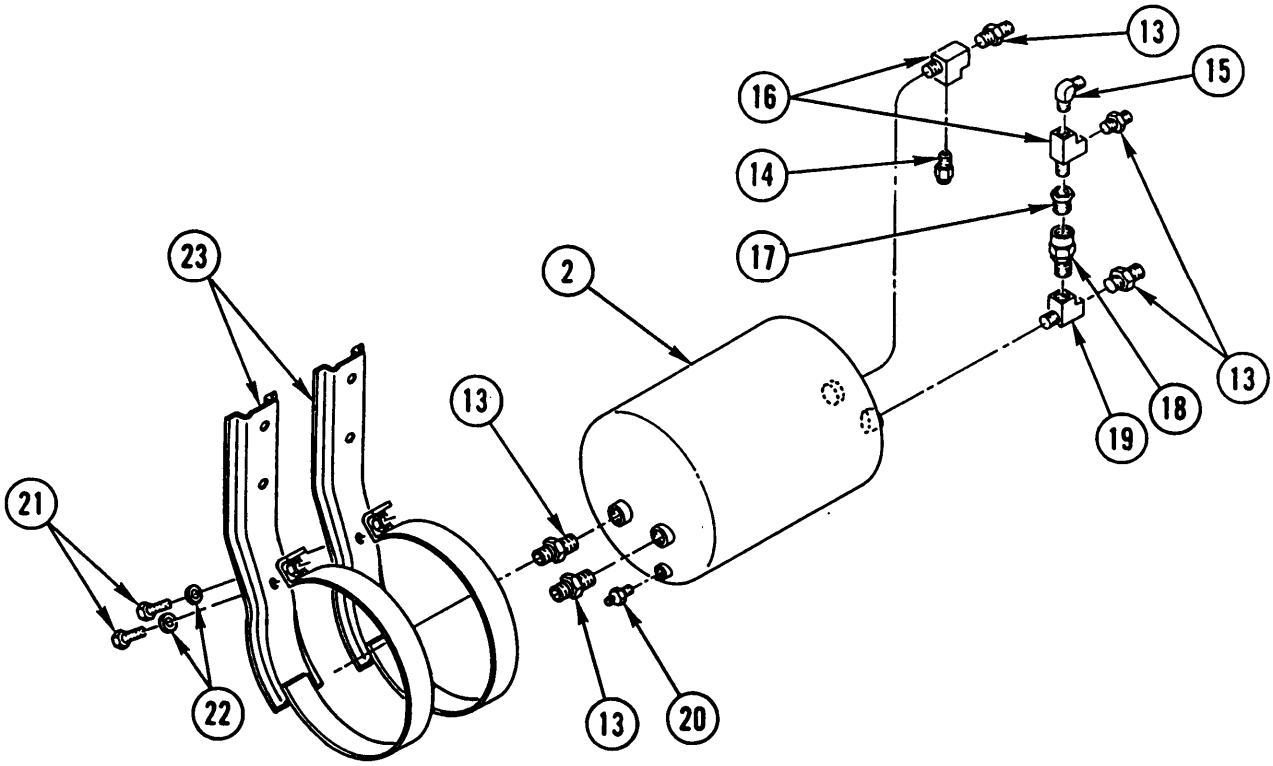


NOTE

Tag all tubes prior to disconnecting to aid in connecting.

1. DISCONNECT SIX TUBES (1) FROM AIR SUPPLY TANK (2).
2. DISCONNECT TUBE (3) FROM PRIMARY 1 AIR TANK (4).
3. REMOVE FOUR LOCK NUTS (5) AND FOUR WASHERS (6) AND SET PRIMARY I AIR TANK (4) ASIDE. DISCARD LOCK NUTS.
4. REMOVE COTTER PIN (7) AND DISCONNECT CABLE (8). DISCARD COTTER PIN.
5. REMOVE FOUR LOCK NUTS (9), FOUR WASHERS (10), FOUR SCREWS (11), FOUR WASHERS (12), AND AIR SUPPLY TANK (2). DISCARD LOCK NUTS.

AIR SUPPLY TANK AND FITTINGS REPLACEMENT (CONT)



NOTE

Perform steps 6 and 7 only if fittings or air tank are to be replaced.

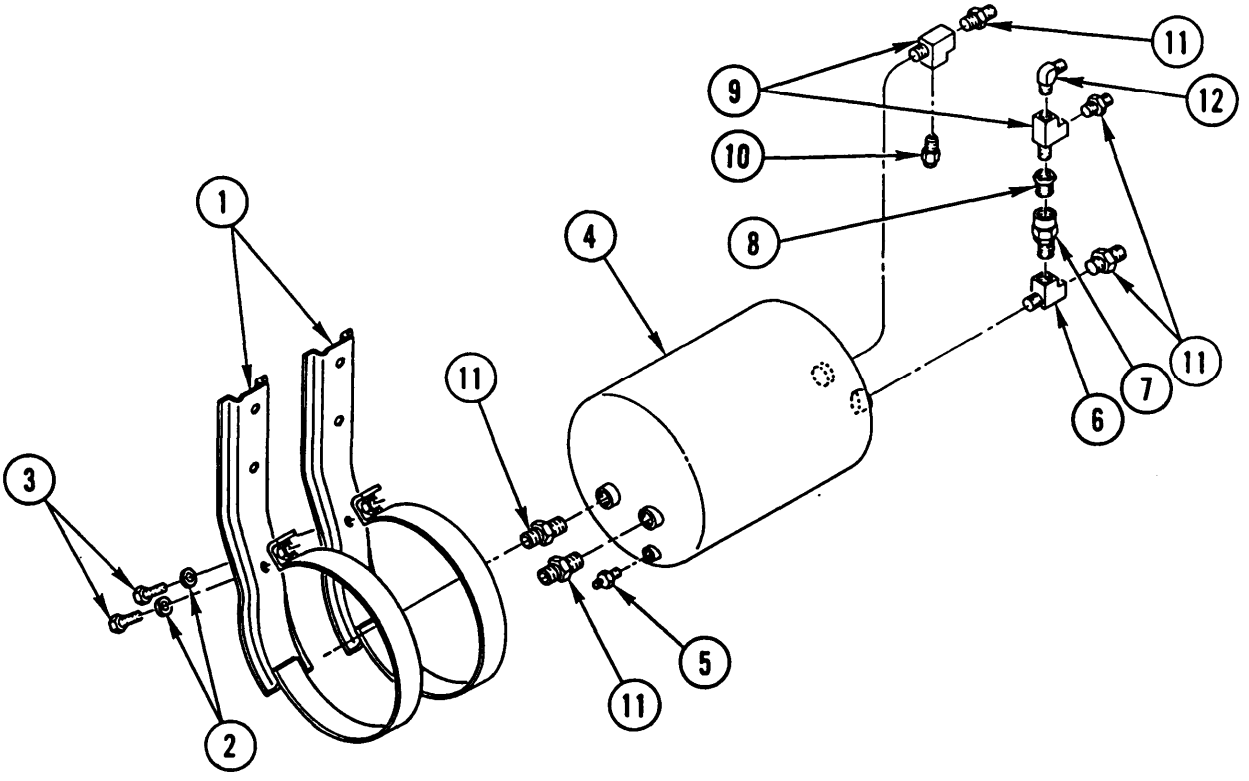
6. REMOVE FIVE CONNECTORS (13), SAFTY VALVE (14), ELBOW (15), TWO TEES (16), BUSHING (17), CHECK VALVE (18), TEE (19), AND DRAIN VALVE (20) FROM AIR SUPPLY TANK (2).

7. REMOVE TWO SCREWS (21), TWO LOCK WASHERS (22), AND TWO MOUNTING BRACKETS (23) FROM AIR SUPPLY TANK (2). DISCARD LOCK WASHERS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



NOTE

Perform steps 1 thru 3 only if fittings have been removed from air tank.

1. INSTALL TWO MOUNTING BRACKETS (1), TWO NEW LOCK WASHERS (2), AND TWO SCREWS (3) ON AIR SUPPLY TANK (4).

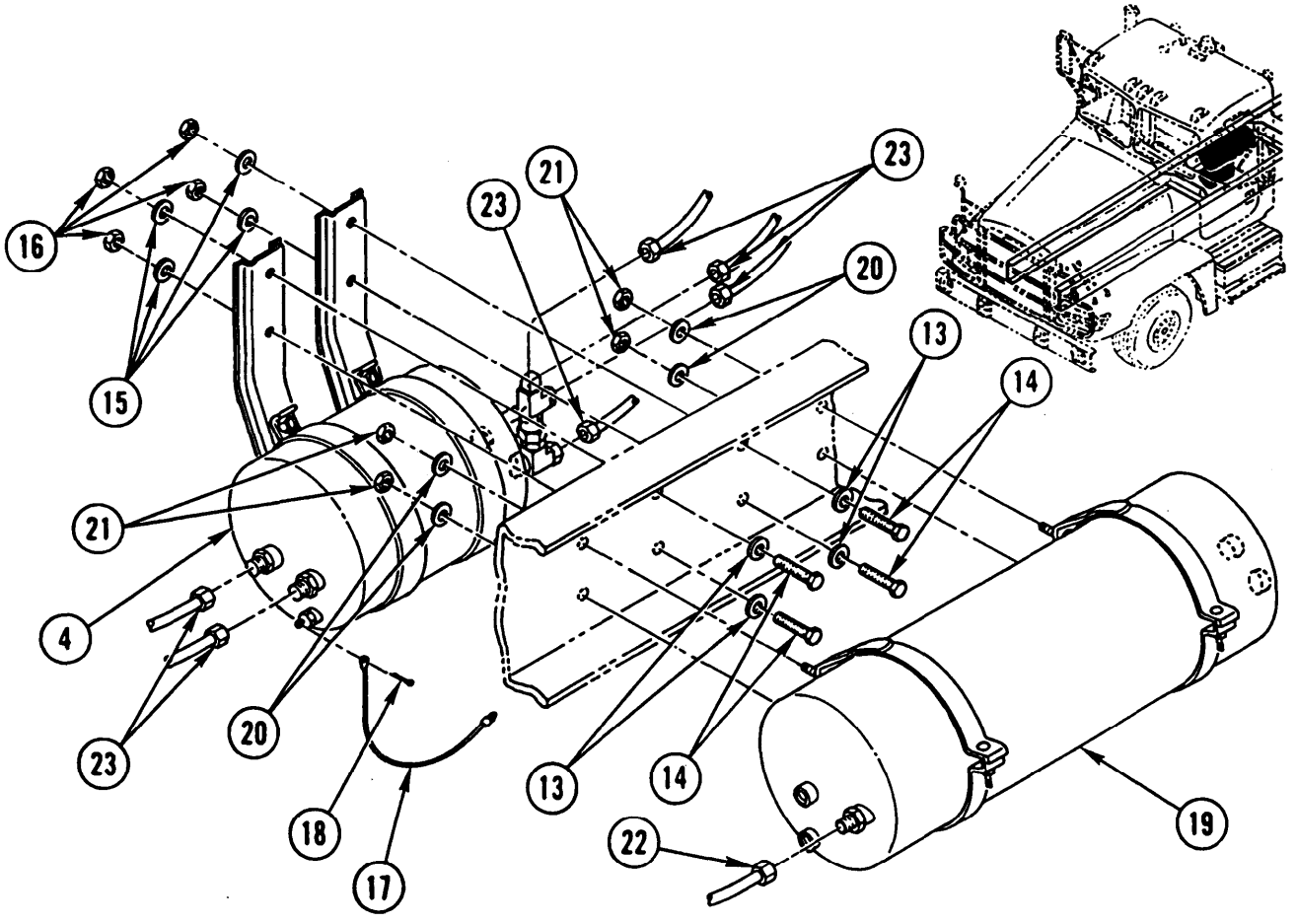
WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

2. COAT PIPE THREADS OF NEW DRAIN VALVE (5), NEW TEE (6), NEW CHECK VALVE (7), NEW BUSHING (8), TWO NEW TEES (9), NEW SAFETY VALVE (10), AND FIVE NEW CONNECTORS (11) WITH PIPE SEALANT COMPOUND.

3. INSTALL DRAIN VALVE (5), TEE (6), CHECK VALVE (7), BUSHING (8), TWO TEES (9), SAFETY VALVE (10), FIVE CONNECTORS (11), AND ELBOW (12) IN NEW AIR SUPPLY TANK (4).

AIR SUPPLY TANK AND FITTINGS REPLACEMENT (CONT)



4. INSTALL AIR SUPPLY TANK (4), FOUR WASHERS (13), FOUR SCREWS (14), FOUR WASHERS (15), AND FOUR NEW LOCK NUTS (16) .
5. CONNECT CABLE (17) AND INSTALL NEW COTTER PIN (18).
6. INSTALL PRIMARY I AIR TANK (19), FOUR WASHERS (20), AND FOUR NEW LOCK NUTS (21).
7. CONNECT TUBE (22) TO PRIMARY I AIR TANK (19).
8. CONNECT SIX TUBES (23) TO AIR SUPPLY TANK (4).

NOTE

Follow-on Maintenance:
Install rear platform (page 4-734).
Perform standard leak test (page 2-24).

AIR SUPPLY TANK AND FITTINGS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:
Pin, Cotter

Nut, Lock (6)

Compound, Pipe Sealing — Appendix C, Item 8

Equipment condition:

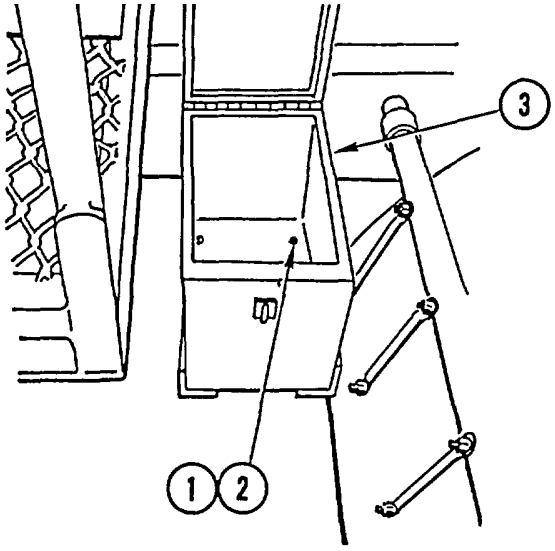
Reference	Condition Description
Page 2-28	Air System Drained
Page 4-734	Rear Platform Removed

General Safety Instructions:

WARNING

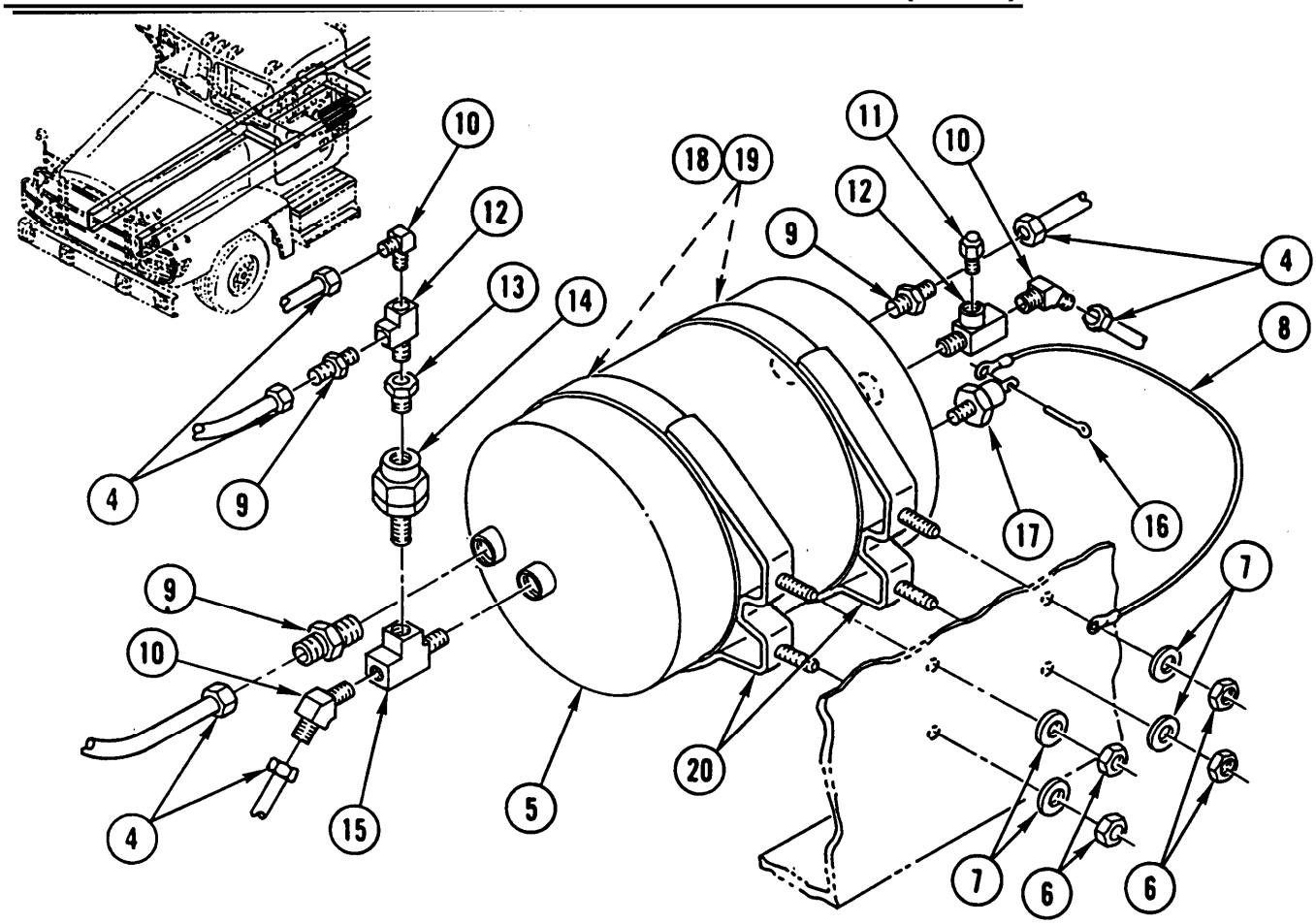
- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or compound gets on skin or clothing, wash immediately with soap and water.**

REMOVAL



1. REMOVE SIX SCREWS (1), SIX WASHERS (2), AND STORAGE BOX (3).

AIR SUPPLY TANK AND FITTINGS REPLACEMENT (CONT)



NOTE

Tag all tubes prior to disconnecting to aid in connecting.

2. DISCONNECT SIX TUBES (4) FROM AIR SUPPLY TANK (5).

3. REMOVE FOUR LOCK NUTS (6), FIVE WASHERS (7), CABLE (8), AND AIR SUPPLY TANK (5). DISCARD LOCK NUTS.

NOTE

Perform steps 4 and 5 only if fittings or air tank are to be replaced.

4. REMOVE THREE CONNECTORS (9), THREE ELBOWS (10), SAFETY VALVE (11), TWO TEES (12), BUSHING (13), CHECK VALVE (14), AND TEE (15) FROM AIR SUPPLY TANK (5).

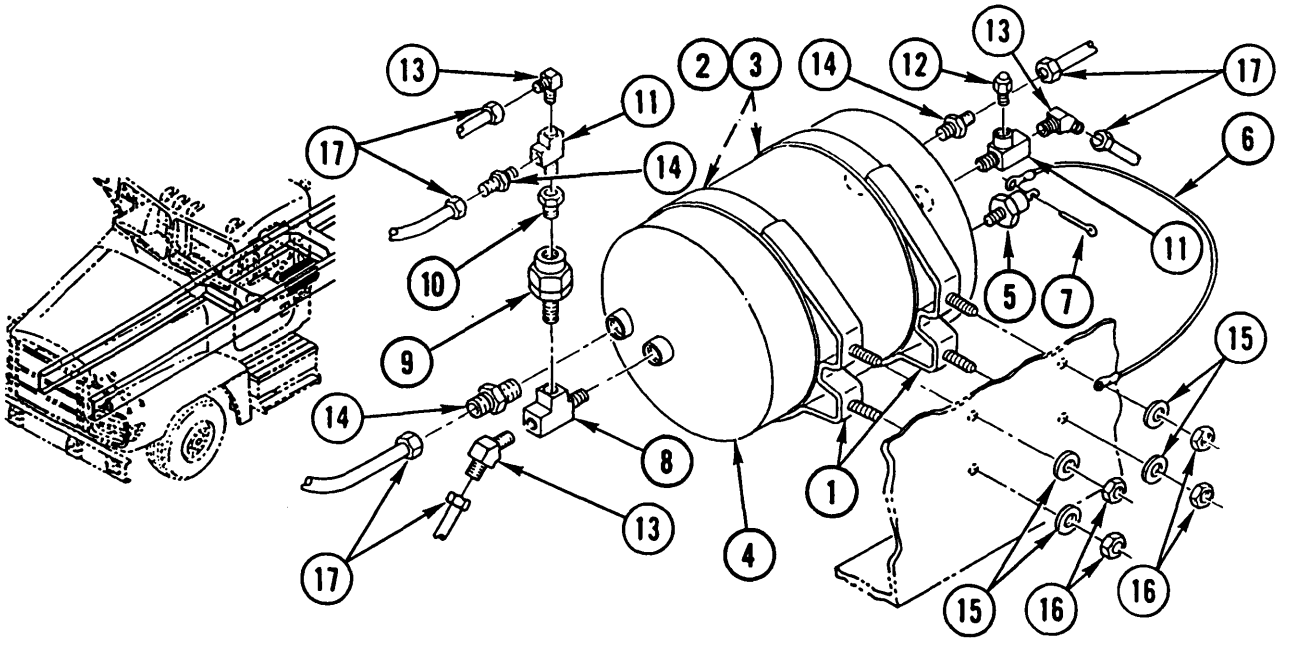
5. REMOVE COTTER PIN (16), CABLE (8), AND DRAIN VALVE (17). DISCARD COTTER PIN.

6. REMOVE TWO LOCK NUTS (18), TWO SCREWS (19), AND TWO MOUNTING BRACKETS (20). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



NOTE

Perform steps 1 thru 4 only if fittings have been removed from air tank.

1. INSTALL TWO MOUNTING BRACKETS (1), TWO SCREWS (2), AND TWO NEW LOCK NUTS (3) ON AIR SUPPLY TANK (4).

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area, If sealant compound gets on skin or clothing, wash immediately with soap and water.

2. COAT PIPE THREADS WITH PIPE SEALANT COMPOUND AND INSTALL DRAIN VALVE (5), CABLE (6), AND NEW COTTER PIN (7).

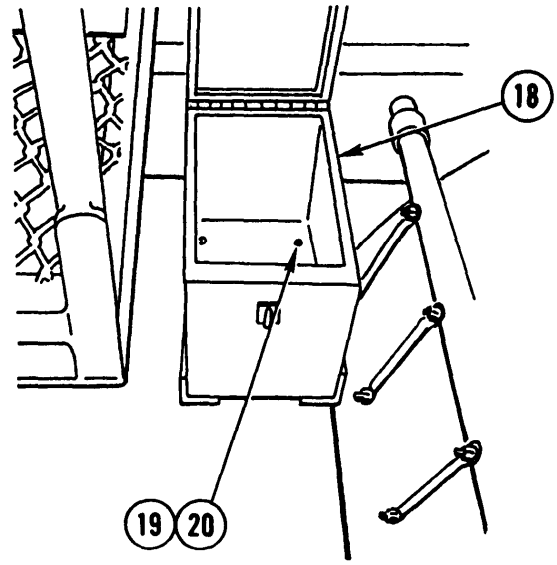
3. COAT PIPE THREADS OF NEW TEE (8), NEW CHECK VALVE (9), NEW BUSHING (10), TWO NEW TEES (11), NEW SAFETY VALVE (12), THREE NEW ELBOWS (13), AND THREE NEW CONNECTORS (14) WITH PIPE SEALANT COMPOUND.

4. INSTALL TEE (8), CHECK VALVE (9), BUSHING (10), TWO TEES (1 1), SAFETY VALVE (12), THREE ELBOWS (13), AND THREE CONNECTORS (14) ON NEW AIR SUPPLY TANK (4).

5. INSTALL AIR SUPPLY TANK (4), CABLE (6), FIVE WASHERS (15), AND FOUR NEW LOCK NUTS (16).

6. CONNECT SIX TUBES (17) TO AIR SUPPLY TANK (4).

AIR SUPPLY TANK AND FITTINGS REPLACEMENT (CONT)



7. INSTALL STORAGE BOX (18), SIX WASHERS (19), AND SIX SCREWS (20).

NOTE

Follow-On Maintenance:
Install rear platform (page 4-734).
Perform standard leak test (page 2-24).

AIR TUBE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

General Safety instructions:

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

AIR TUBE REPLACEMENT (CONT)

REMOVAL

NOTE

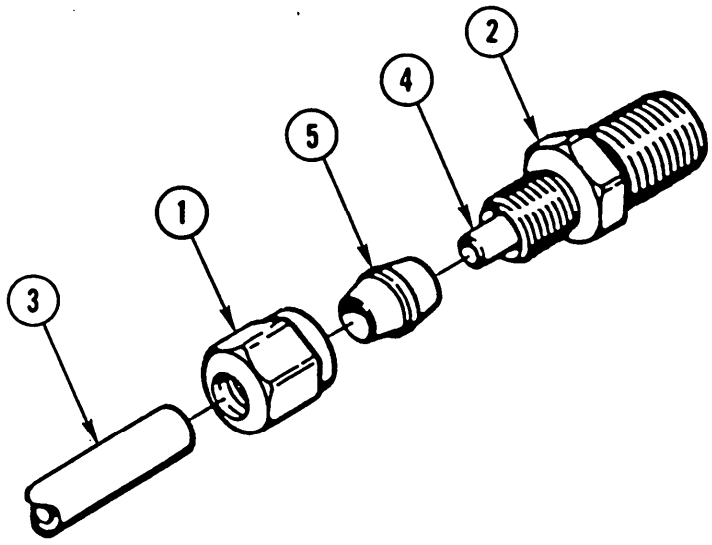
- Procedure is the same for all air tubes.
- For location of air tubes, refer to Air Tube Locator Table.
- Tag all air tubes and fittings prior to removal to aid in installation.
- Remove plastic cable ties as necessary to remove air tubes.
- When replacing air tube, remove tube from vehicle and cut new tube 1/4-1/2 in. longer than air tube being replaced.

1. REMOVE NUT (1) FROM FlITING (2).
2. REMOVE AIR TUBE (3) FROM FlITING (2).

NOTE

If insert remains in fitting, do not remove.

3. REMOVE INSERT (4), FERRULE (5), AND NUT (1) FROM AIR TUBE (3).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE

Procedure is the same for all air tubes.

1. INSTALL NUT (l), FERRULE (5), AND INSERT (4) ON AIR TUBE (3).

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

CAUTION

Route air tube so that tube does not bend to radius smaller than allowed in Nylon Tube Bend Radius Table. If bent smaller than allowed, tube may kink causing loss of air pressure to component.

2. COAT THREADS OF FITTING (2) WITH PIPE SEALANT COMPOUND AND INSTALL AIR TUBE (3) IN FITTING (2).

3. INSTALL NUT (1) ON FITTING (2).

Nylon Tube Bend Radius Table

Outside Diameter in.	(mm)	Minimum Bend Radius in.	(mm)
0.25	(6.40)	1.0	(25.0)
0.38	(9.50)	1.5	(38.0)
0.50	(13.00)	2.0	(51.0)
0.63	(17.00)	2.5	(64.0)
0.75	(19.00)	3.0	(76.0)

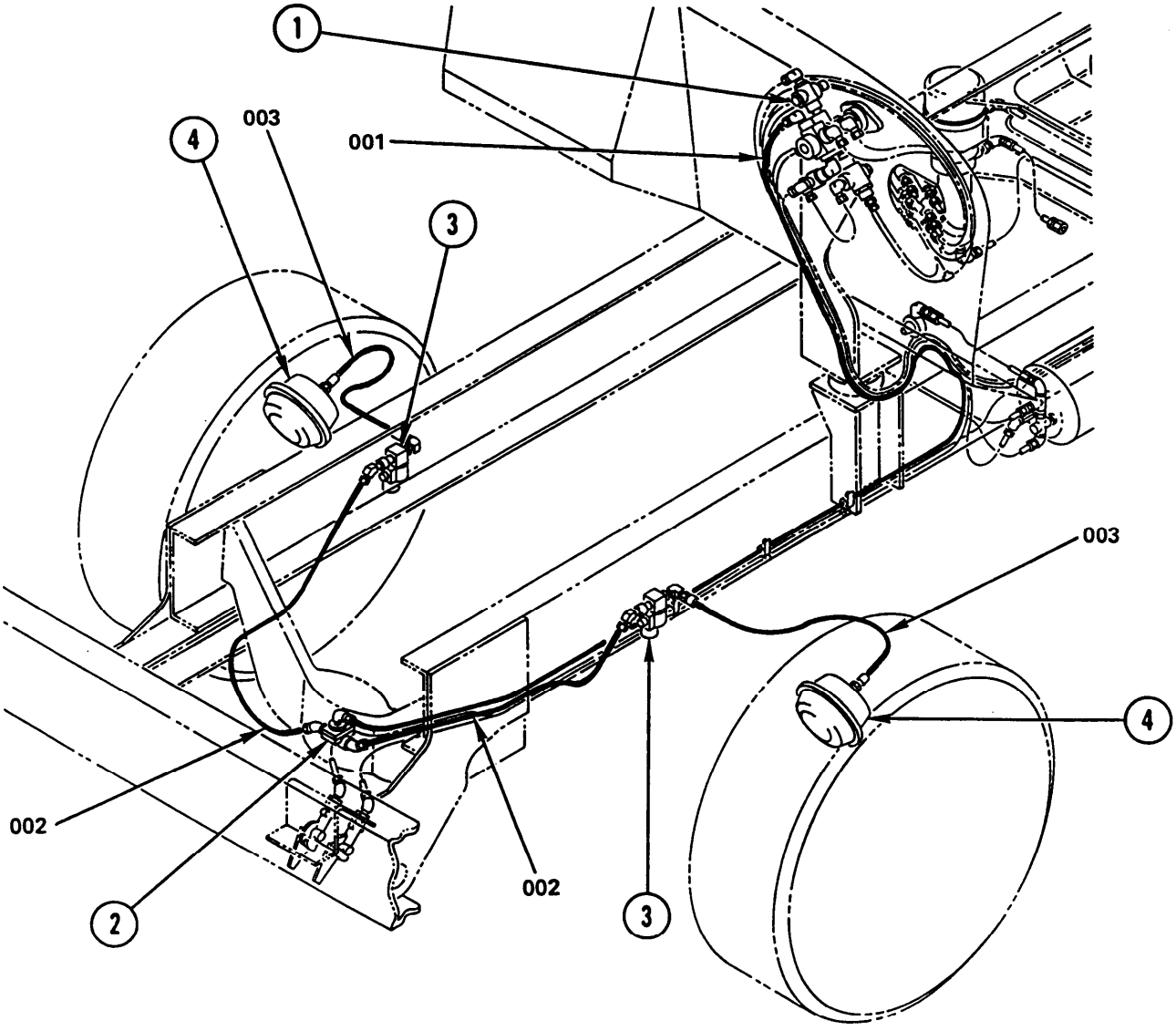
NOTE

Follow-on Maintenance:
Perform standard leak test (page 2-24).

AIR TUBE REPLACEMENT (CONT)

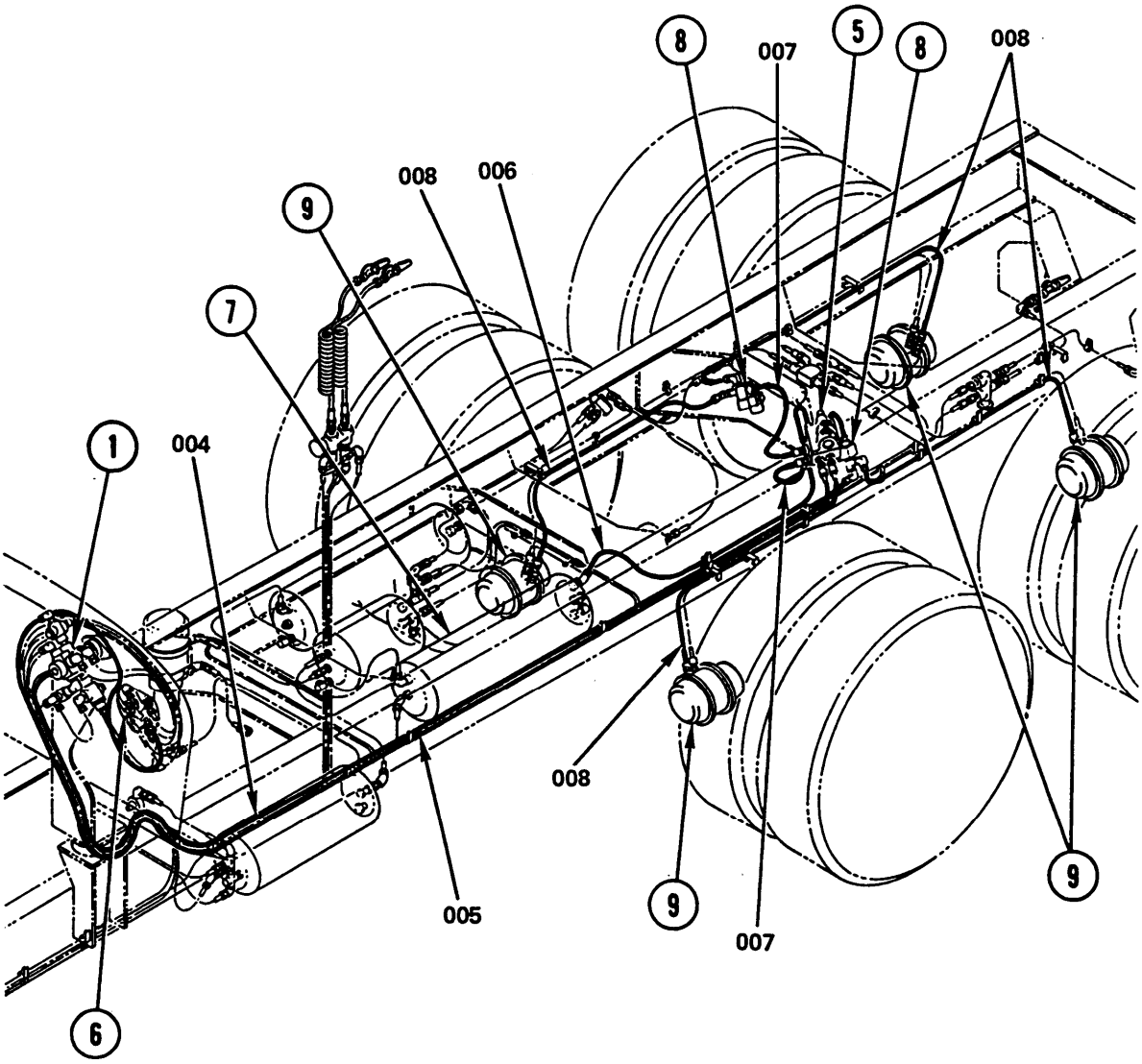
Air Tube Locator Table

Tube No.	From	To/From	To
001	Foot Brake Valve, D2 (1)		Quick Release
002	Quick Release (2)		ABS Solenoid Valve (3)
003	ABS Solenoid Valve (3)		Front Brake Chamber (4)



Air Tube Locator Table (Cont)

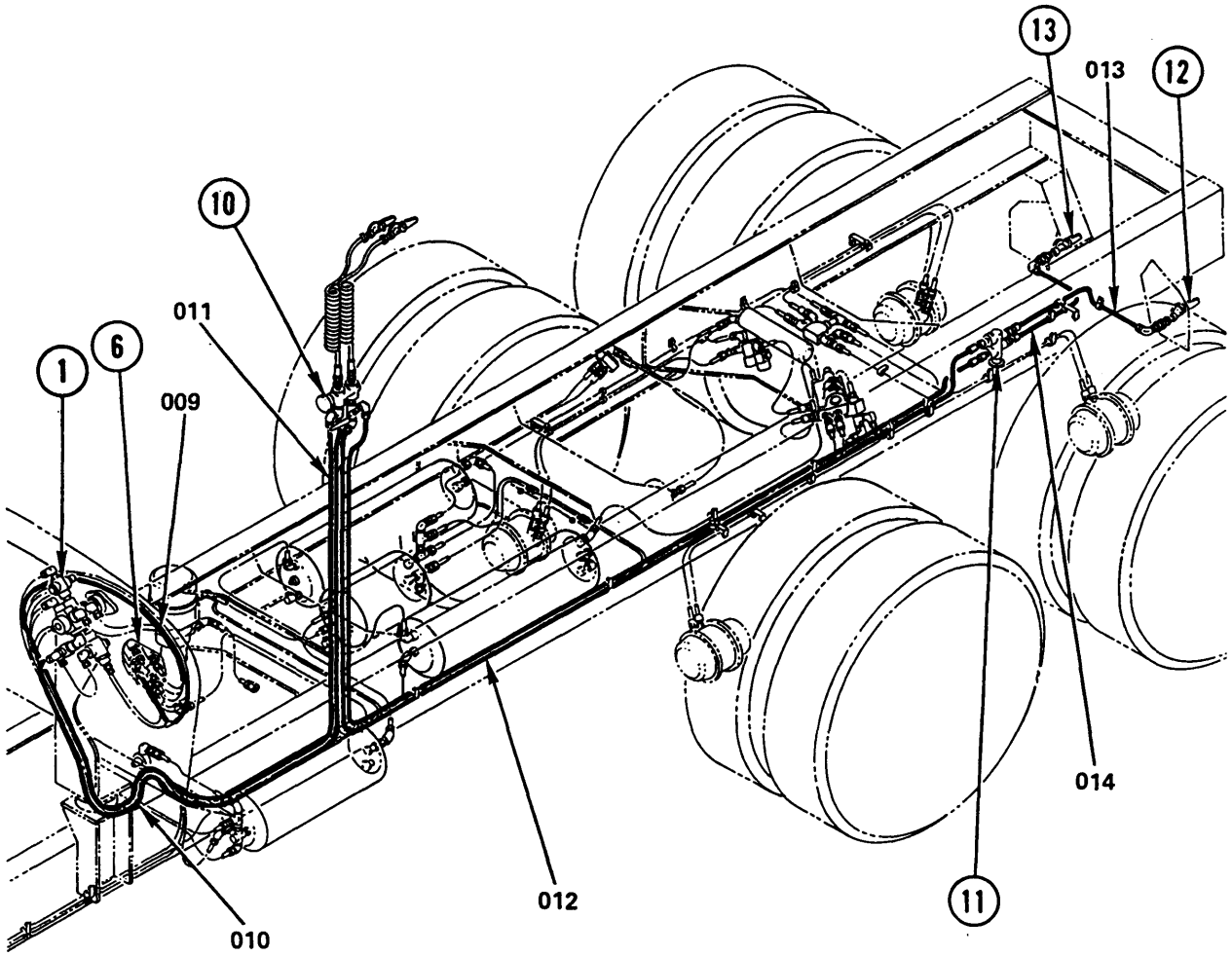
Tube No.	From	To/From	To
004	Foot Brake Valve, D2 (1)		Rear Relay Valve, SER (5)
005	Air Junction Block, No. 18 (6)		Rear Relay Valve, CONT (5)
006	Primary II Air Tank (7)		Rear Relay Valve, SUP (5)
007	Rear Relay Valve, DEL (5)		ABS Solenoid Valve (8)
008	ABS Solenoid Valve (8)		Rear Brake Chamber (9)



AIR TUBE REPLACEMENT (CONT)

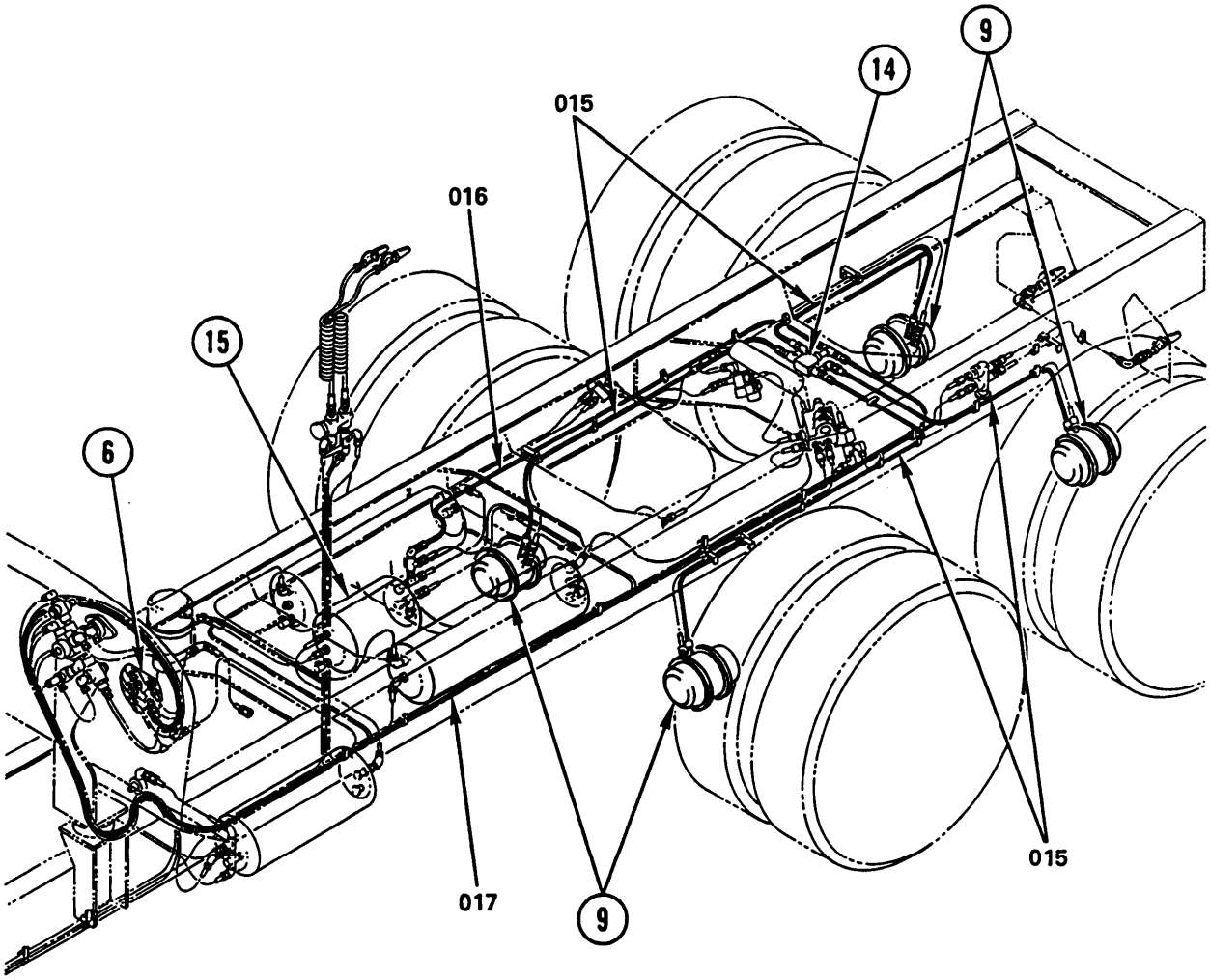
Air Tube Locator Table (Cont)

Tube No.	From	To/From	To
009	Air Junction Block, No. 18 (6)		Tractor Protection Valve, E (10)
010	Foot Brake Valve, D2 (1)		Tractor Protection Valve, S (10)
011	Tractor Protection Valve, E (10)		Rear Protection Valve, E (11)
012	Tractor Protection Valve, S (10)		Rear Protection Valve, S (11)
013	Rear Protection Valve, E (11)		Emergency Gladhand (12)
014	Rear Protection Valve, S (11)		Service Gladhand (13)



Air Tube Locator Table (Cont)

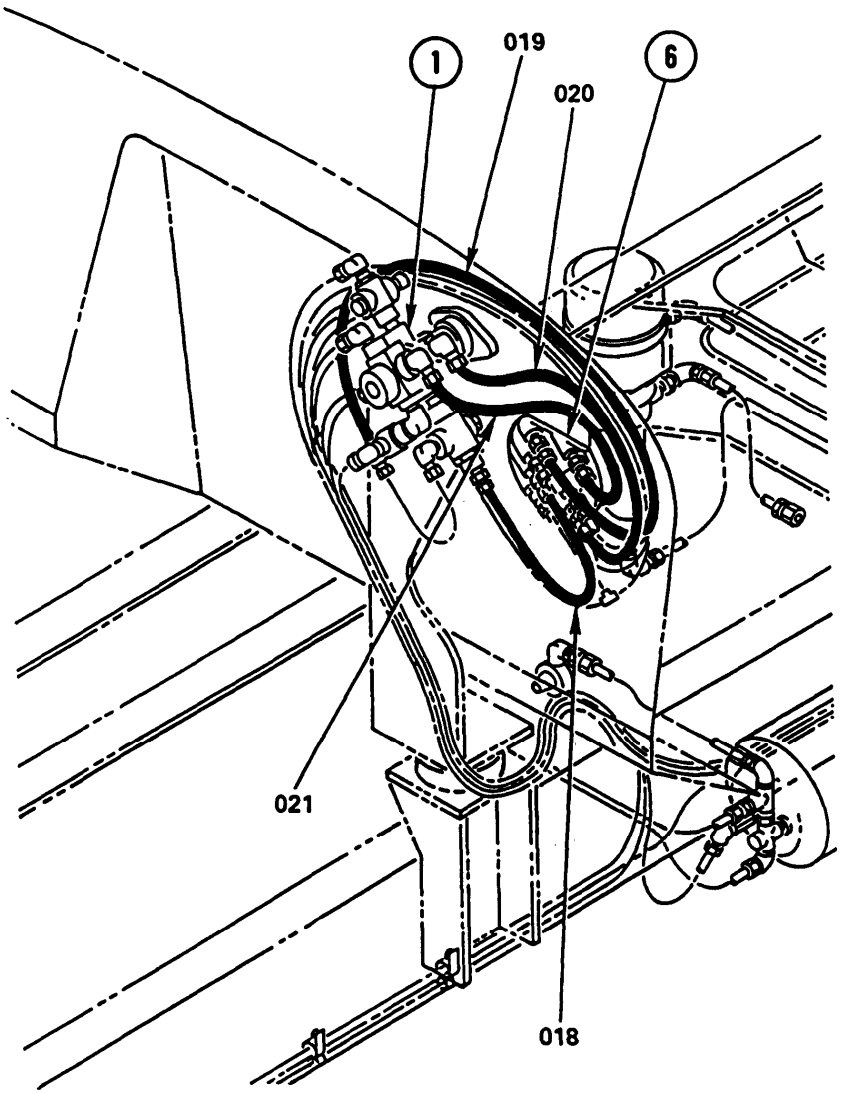
Tube No.	From	To/From	To
015	Rear Quick Release (14)		Rear Brake Chamber (9)
016	Rear Quick Release (14)		Supply Air Tank (15)
017	Rear Quick Release (14)		Air Junction Block, No. 21 (6)



AIR TUBE REPLACEMENT (CONT)

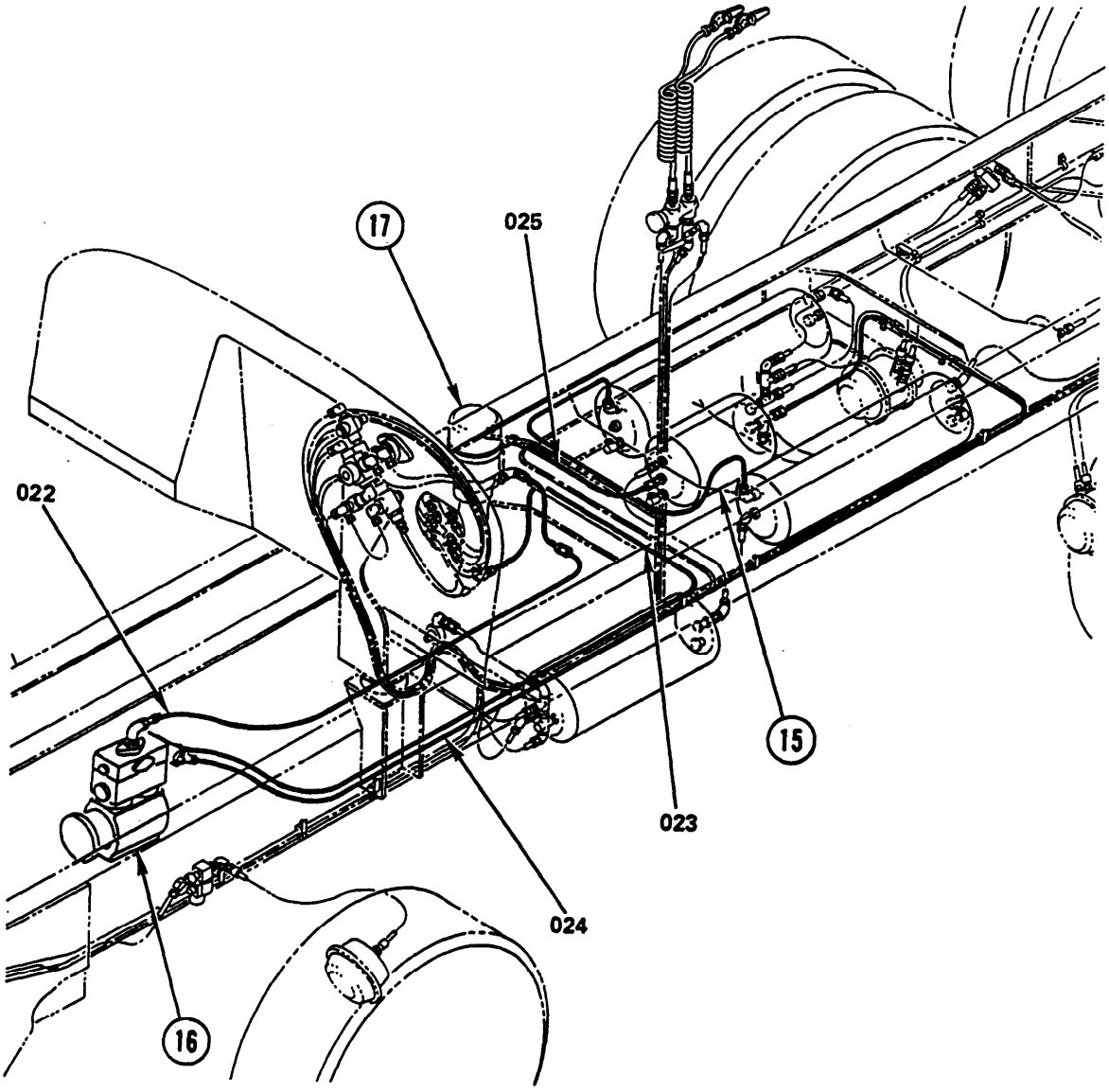
Air Tube Locator Table (Cont)

Tube No.	From	To/From	To
018	Air Junction Block, No. 17 (6)		Foot Brake Valve, D1 (1)
019	Air Junction Block, No. 19 (6)		Foot Brake Valve, 02 (1)
020	Air Junction Block, No. 13 (6)		Foot Brake Valve, S1 (1)
021	Air Junction Block, No. 22 (6)		Foot Brake Valve, S2 (1)



Air Tube Locator Table (Cont)

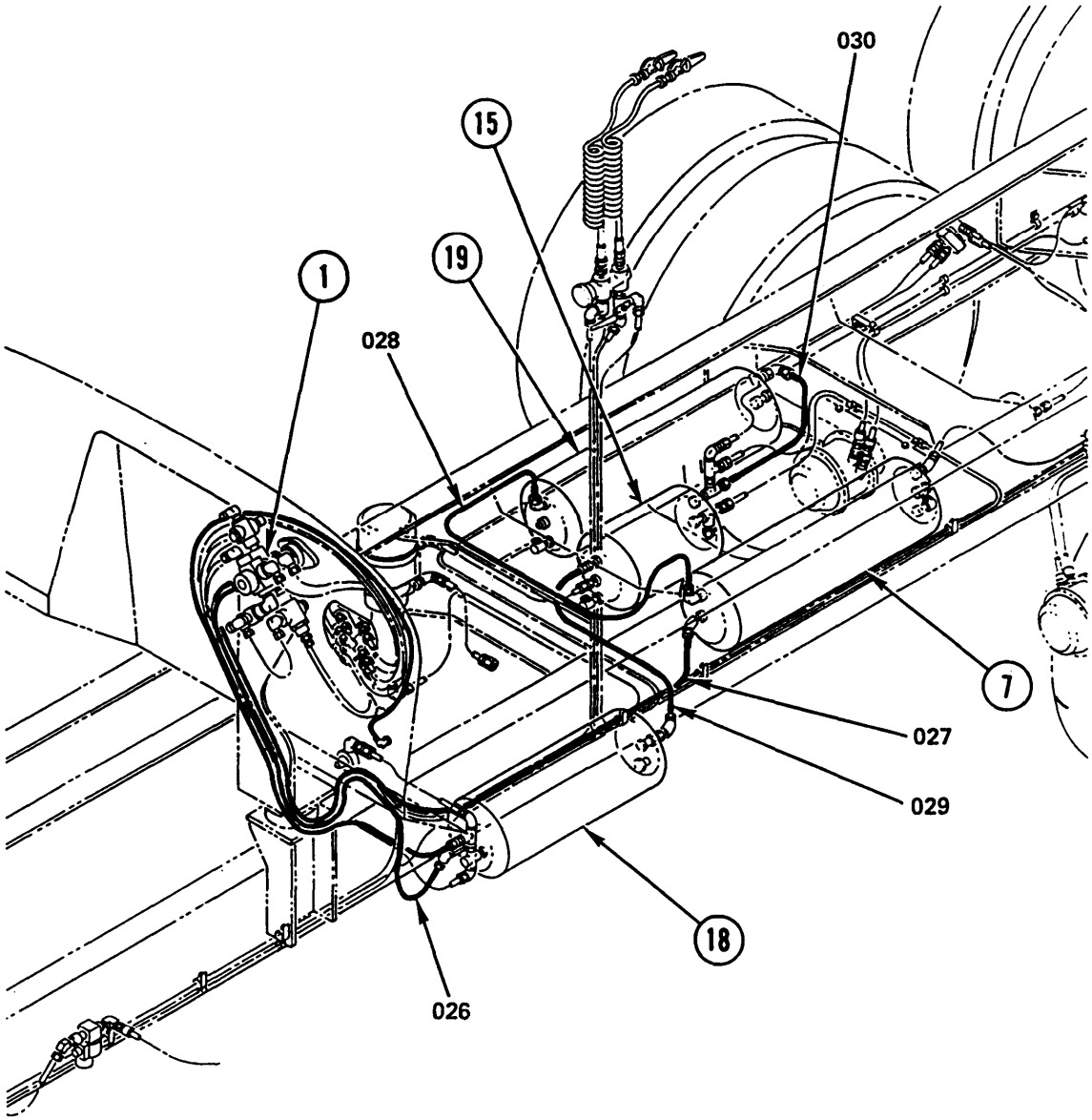
Tube No.	From	To/From	To
022	Air Compressor (16)	Adapter Fitting	Air Dryer (17)
023	Air Compressor (16)		Air Dryer (17)
024	Air Compressor (16)		Supply Air Tank (15)
025	Air Dryer (17)		Supply Air Tank (15)



AIR TUBE REPLACEMENT (CONT)

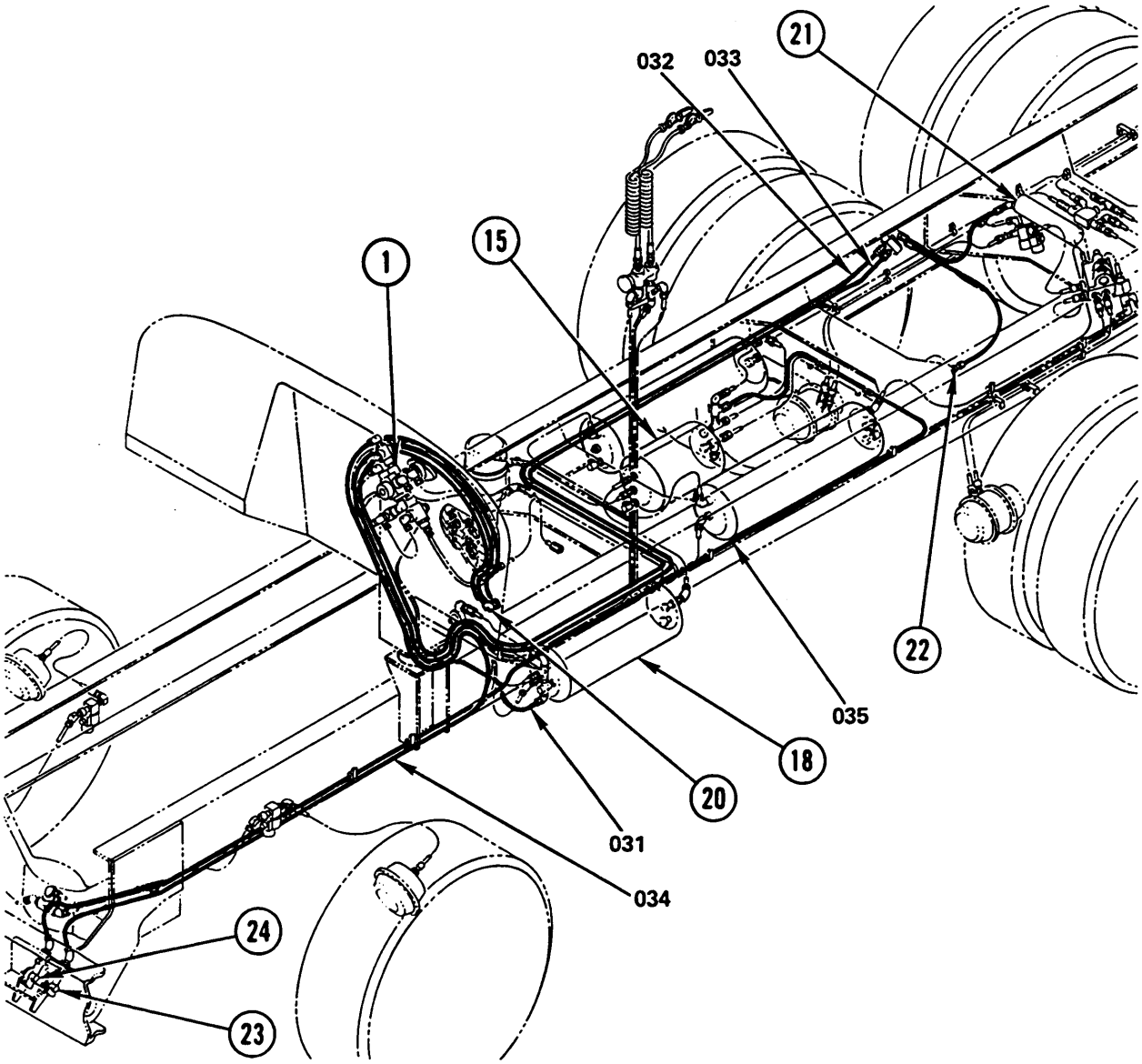
Air Tube Locator Table (Cont)

Tube No.	From	To/From	To
026	Secondary Air Tank (18)		Foot Brake Valve (1)
027	Primary II Air Tank (7)		Foot Brake Valve (1)
028	Primary II Air Tank (7)		Primary I Air Tank (19)
029	Supply Air Tank (15)		Secondary Air Tank (18)
030	Supply Air Tank (15)		Primary I Air Tank (19)



Air Tube Locator Table (Cont)

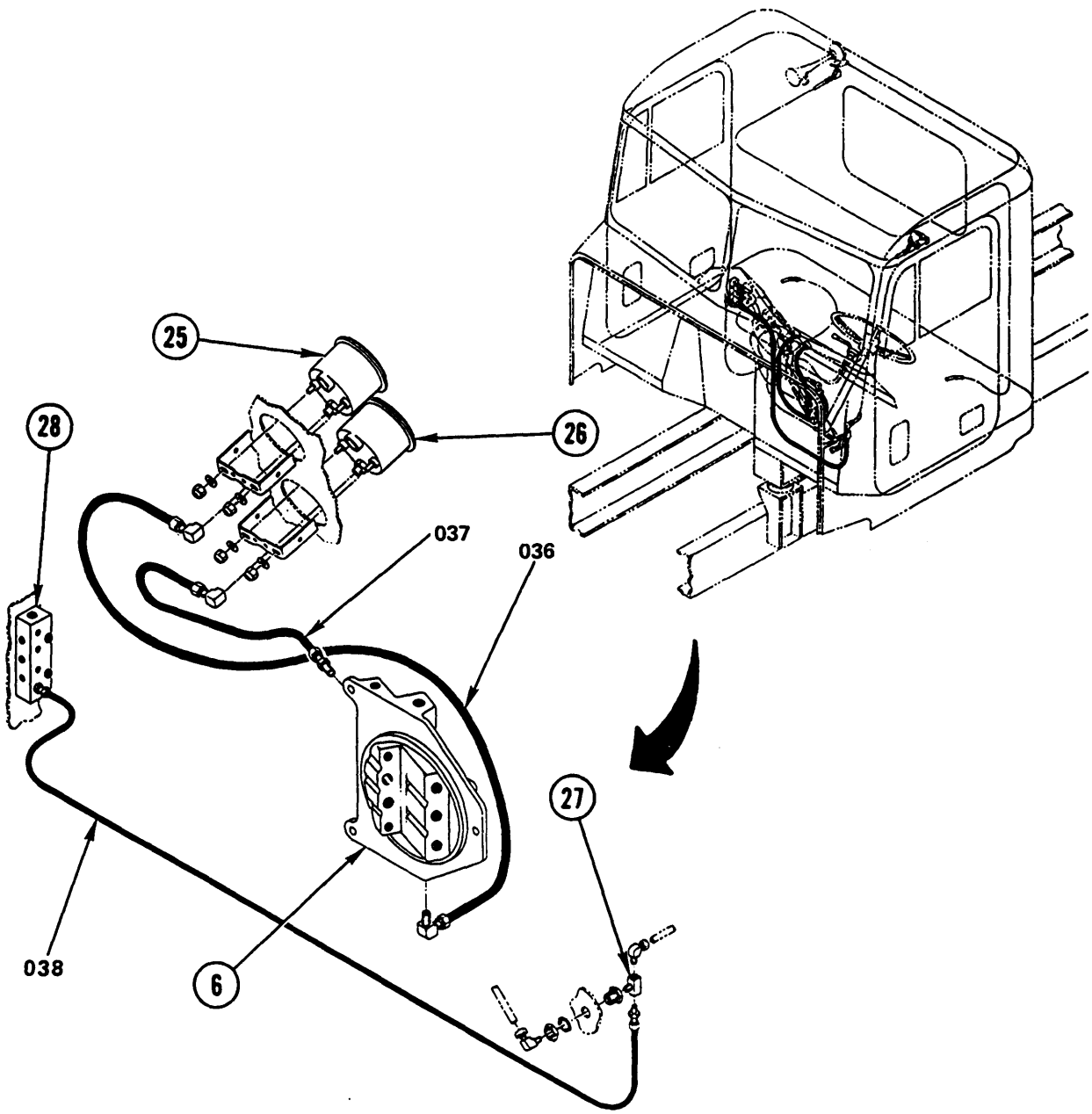
Tube No.	From	To/From	To
031	Secondary Air Tank (18)		Firewall (20)
032	Fifth Wheel (21)	Junction Block	Firewall (20)
033	Axle Interlock (22)	Junction Block	Firewall (20)
034	Front Service Gladhand (23)		Foot Brake Valve (1)
035	Front Emergency Gladhand (24)		Supply Air Tank (15)



AIR TUBE REPLACEMENT (CONT)

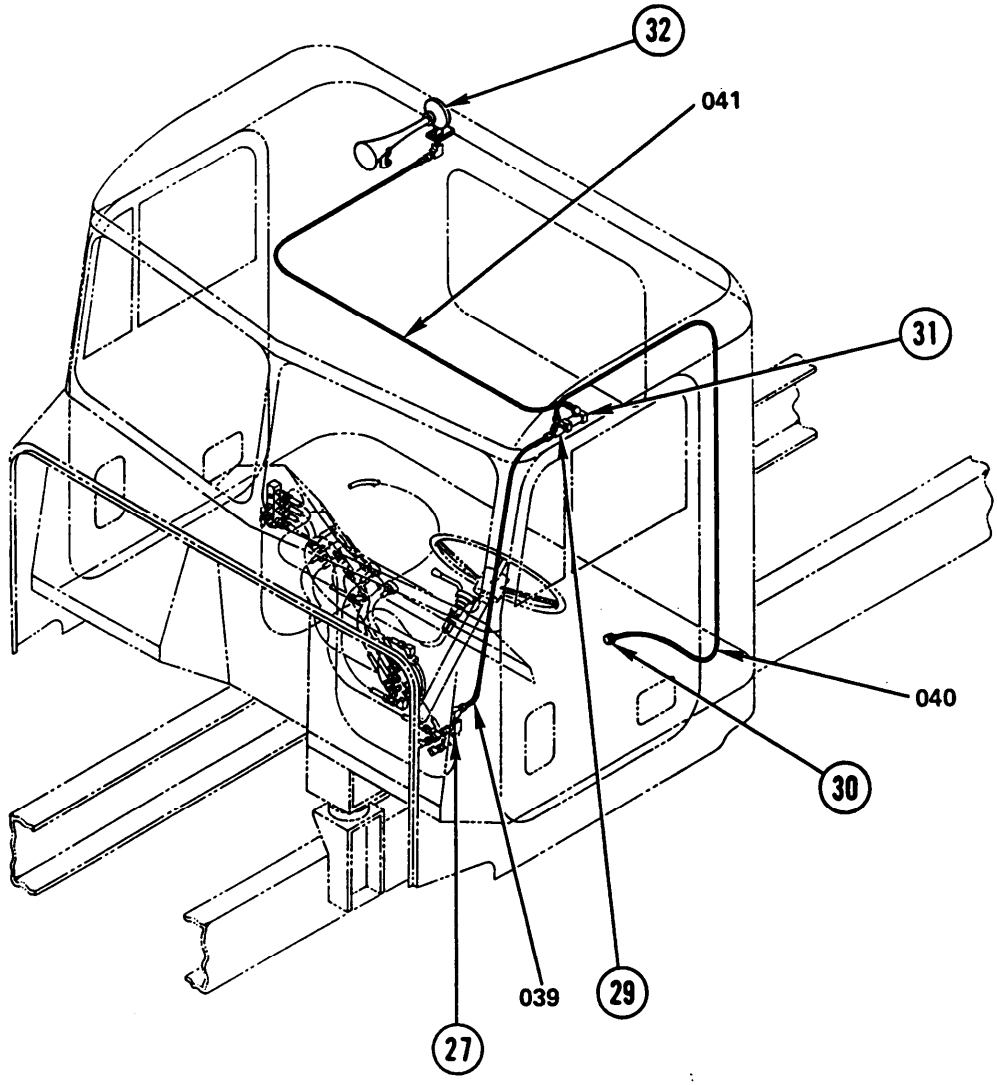
Air Tube Locator Table (Cont)

Tube No.	From	To/From	To
036	Air Junction Block, No. 15 (6)		Primary Air Pressure Gage (25)
037	Air Junction Block, No. 11 (6)		Secondary Air Pressure Gage (26)
038	Firewall Tee (27)		Constant Air Junction Block (28)



Air Tube Locator Table (Cont)

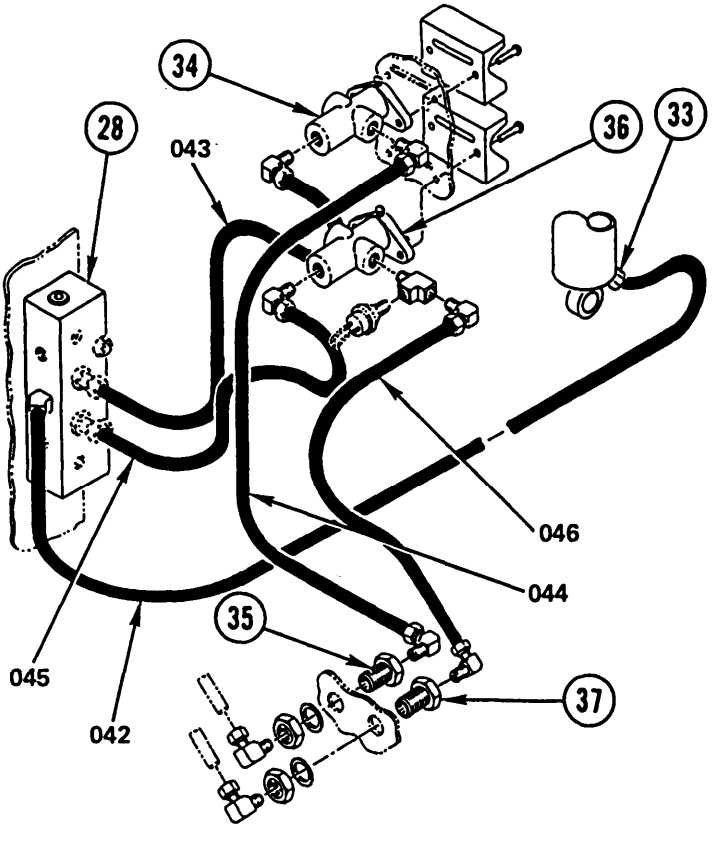
Tube No.	From	To/From	To
039	Firewall Tee (27)		Air Horn Tee (29)
040	Air Horn Tee (29)		Driver Seat Air Cylinder (30)
041	Air Horn Tee (29)	Air Horn Valve (31)	Air Horn (32)

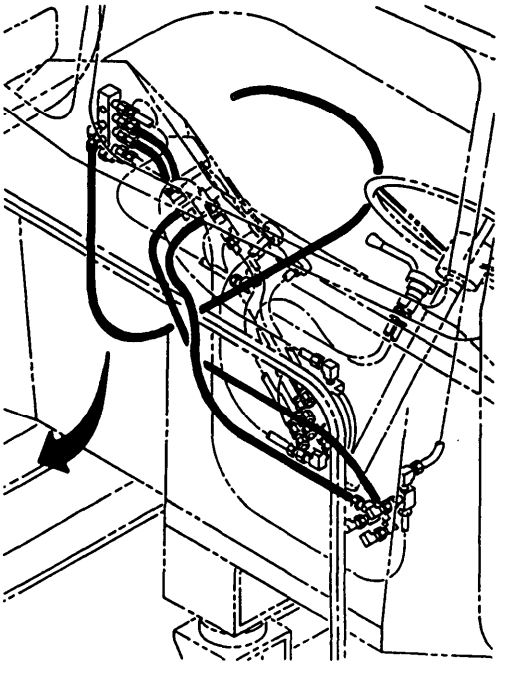


AIR TUBE REPLACEMENT (CONT)

Alr Tube Locator Table (Cont)

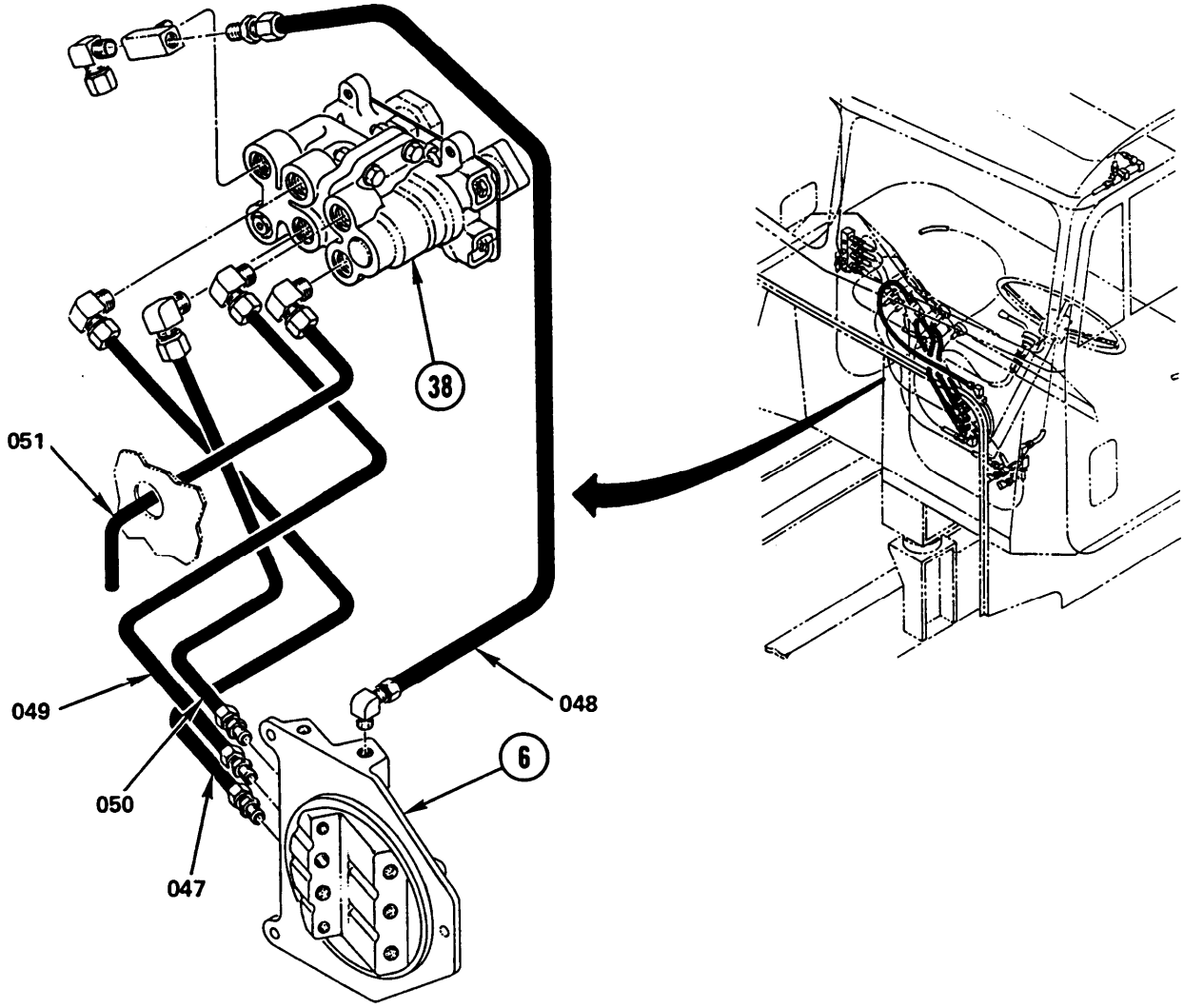
Tube No.	From	To/From	To
042	Constant Air Junction Block (28)		Passenger Seat Air Cylinder (33)
043	Constant Air Junction Block (28)		Interaxle Lockup Valve (34)
044	Interaxle Lockup Valve (34)		Firewall Fitting, No. 1 (35)
045	Constant Air Junction Block (28)		Fifth Wheel Slide Valve (36)
046	Fifth Wheel Slide Valve (36)		Firewall Fitting, No. 2 (37)





Air Tube Locator Table (Cont)

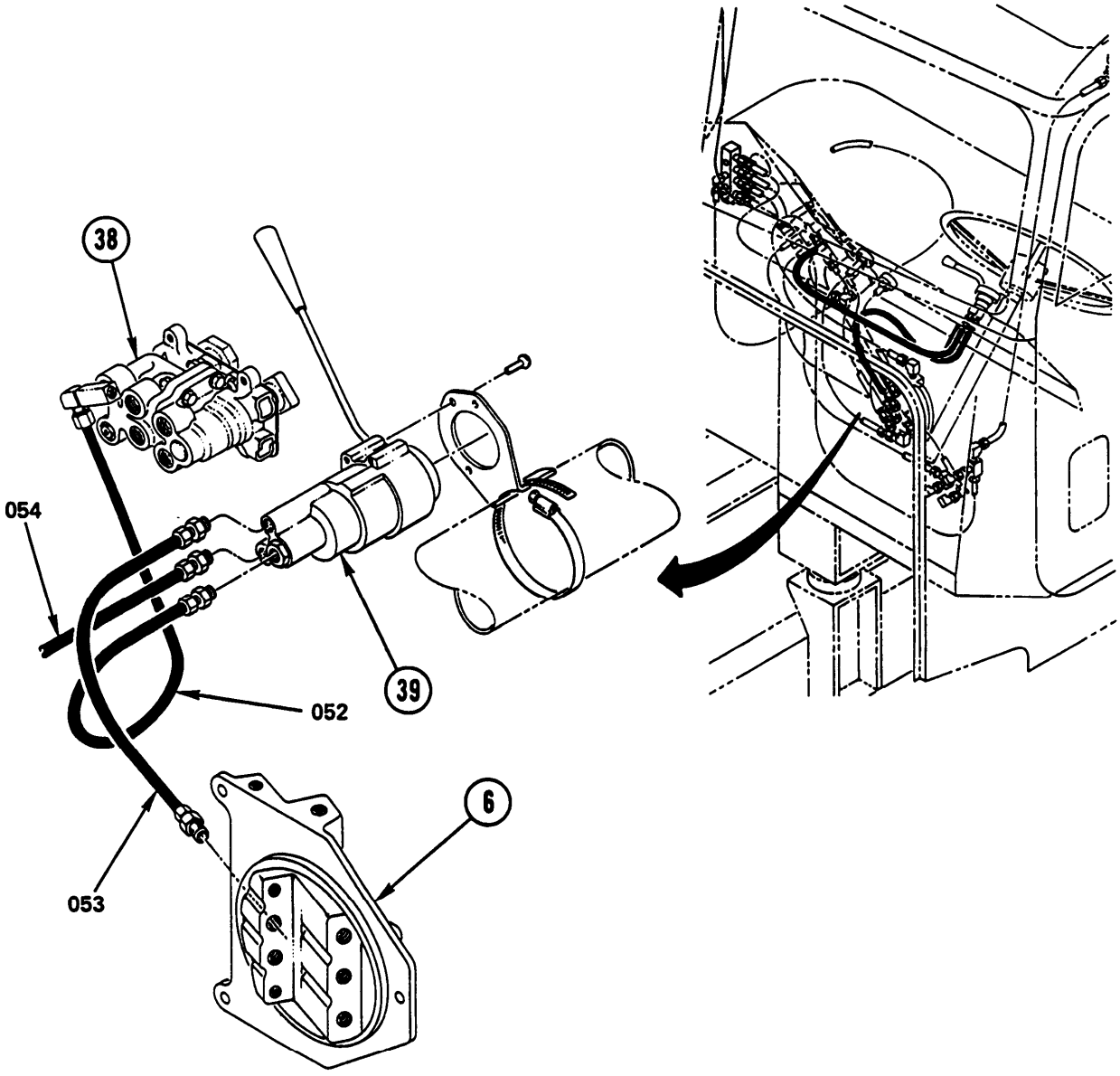
Tube No.	From	To/From	To
047	Air Junction Block, No. 14 (6)		Parking Brake/Trailer Air Supply, S1 (38)
048	Air Junction Block, No. 9 (6)		Parking Brake/Trailer Air Supply, S2 (38)
049	Parking Brake/Trailer Air Supply, DEL TRC (38)		Air Junction Block, No. 12 (6)
050	Parking Brake/Trailer Air Supply, DEL TRL (38)		Air Junction Block, No. 4 (6)
051	Parking Brake/Trailer Air Supply, EXH (38)	Firewall	Not Connected



AIR TUBE REPLACEMENT (CONT)

Air Tube Locator Table (Cont)

Tube No.	From	To/From	To
052	Parking Brake/Trailer Air Supply, S2 (38)		Trailer Hand Brake, S (39)
053	Trailer Hand Brake, D (39)		Air Junction Block, No. 5 (6)
054	Trailer Hand Brake, E (39)	Firewall	Not Connected



AIR TUBE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

AIR TUBE REPLACEMENT (CONT)

REMOVAL

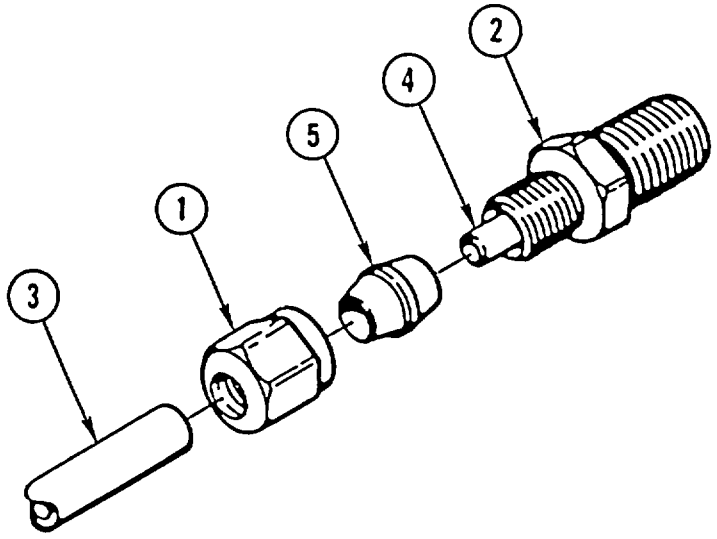
NOTE

- **Procedure is the same for all air tubes.**
- **For location of air tubes, refer to Air Tube Locator Table.**
- **Tag all air tubes and fittings prior to removal to aid in installation.**
- **Remove plastic cable ties as necessary to remove air tubes.**
- **When replacing air tube, remove tube from vehicle and cut new tube 1/4-1/2 in. longer than air tube being replaced.**

1. REMOVE NUT (1) FROM FITTING (2).
2. REMOVE AIR TUBE (3) FROM FITTING (2).

NOTE
If insert remains in fitting, do not remove.

3. REMOVE INSERT (4), FERRULE (5), AND NUT (1) FROM AIR TUBE (3).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE

Procedure is the same for all air tubes.

1. INSTALL NUT (l), FERRULE (5), AND INSERT (4) ON AIR TUBE (3).

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

CAUTION

Route air tube so that tube does not bend to radius smaller than allowed in Nylon Tube Bend Radius Table. If bent smaller than allowed, tube may kink causing loss of air pressure to component.

2. COAT THREADS OF FITTING (2) WITH PIPE SEALANT COMPOUND AND INSTALL AIR TUBE (3) IN FITTING (2).

3. INSTALL NUT (1) ON FITTING (2).

Nylon Tube Bend Radius Table

Outside Diameter		Minimum Bend Radius	
in.	(mm)	in.	(mm)
0.25	(6.40)	1.0	(25.0)
0.38	(9.50)	1.5	(38.0)
0.50	(13.00)	2.0	(51.0)
0.63	(17.00)	2.5	(64.0)
0.75	(19.00)	3.0	(76.0)

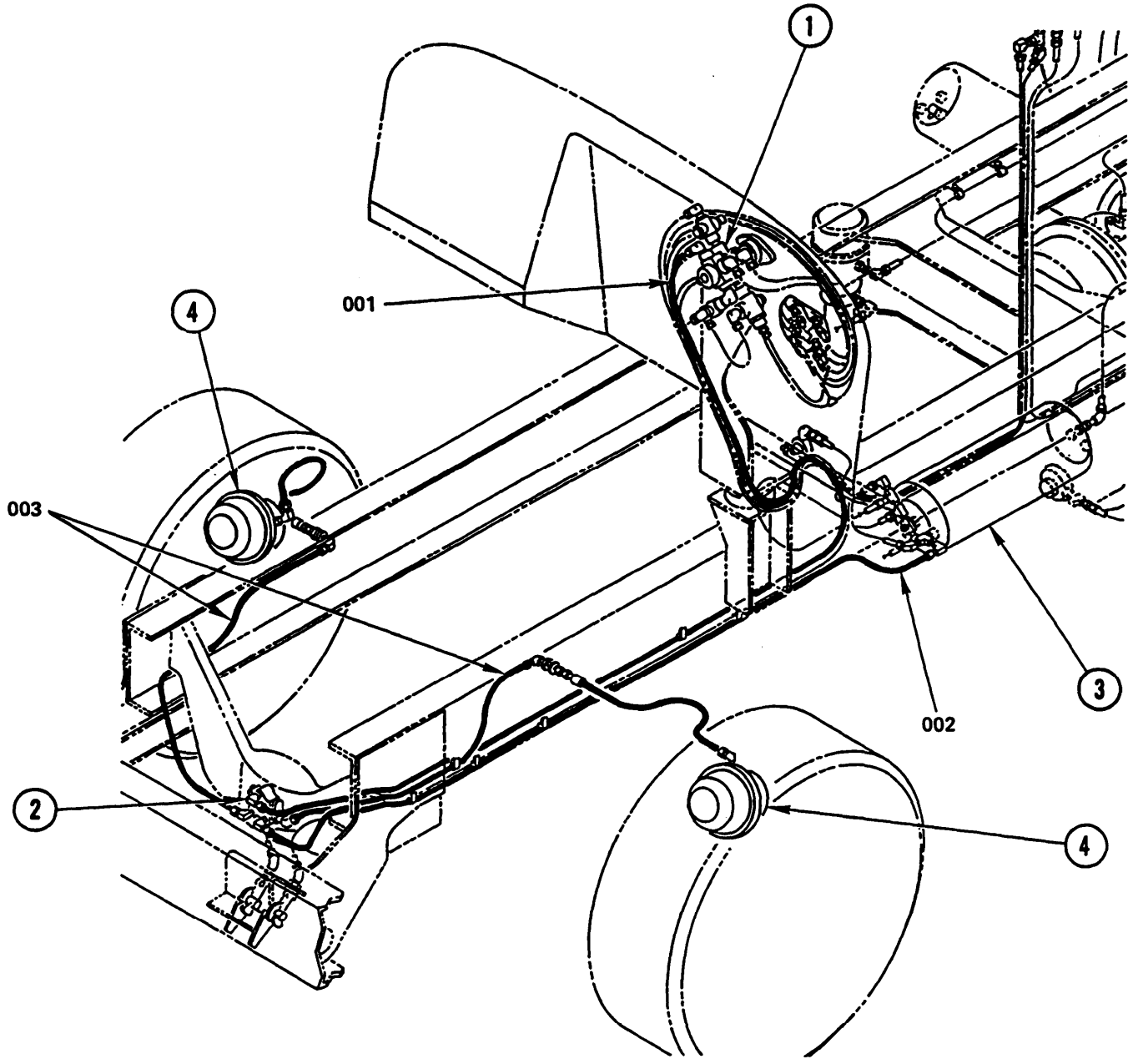
NOTE

Follow-on Maintenance:
Perform standard leak test (page 2-24).

AIR TUBE REPLACEMENT (CONT)

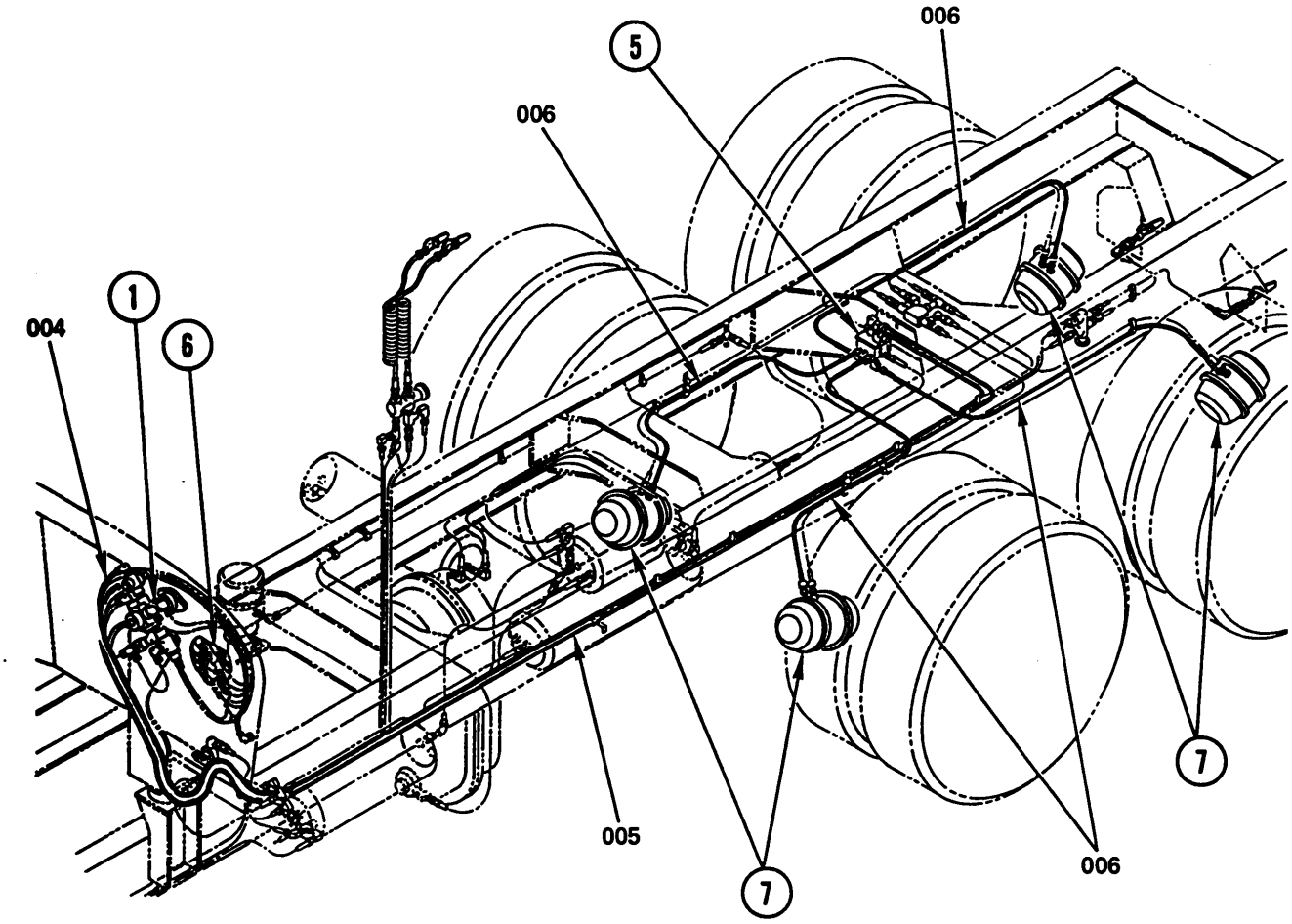
Air Tube Locator Table

Tube No.	From	To/From	To
001	Foot Brake Valve, D2 (1)		Front Relay Valve, C (2)
002	Secondary Air Tank (3)		Front Relay Valve, S (2)
003	Front Relay Valve, D (2)	Bulkhead Fitting	Front Brake Chamber (4)



Air Tube Locator Table (Cont)

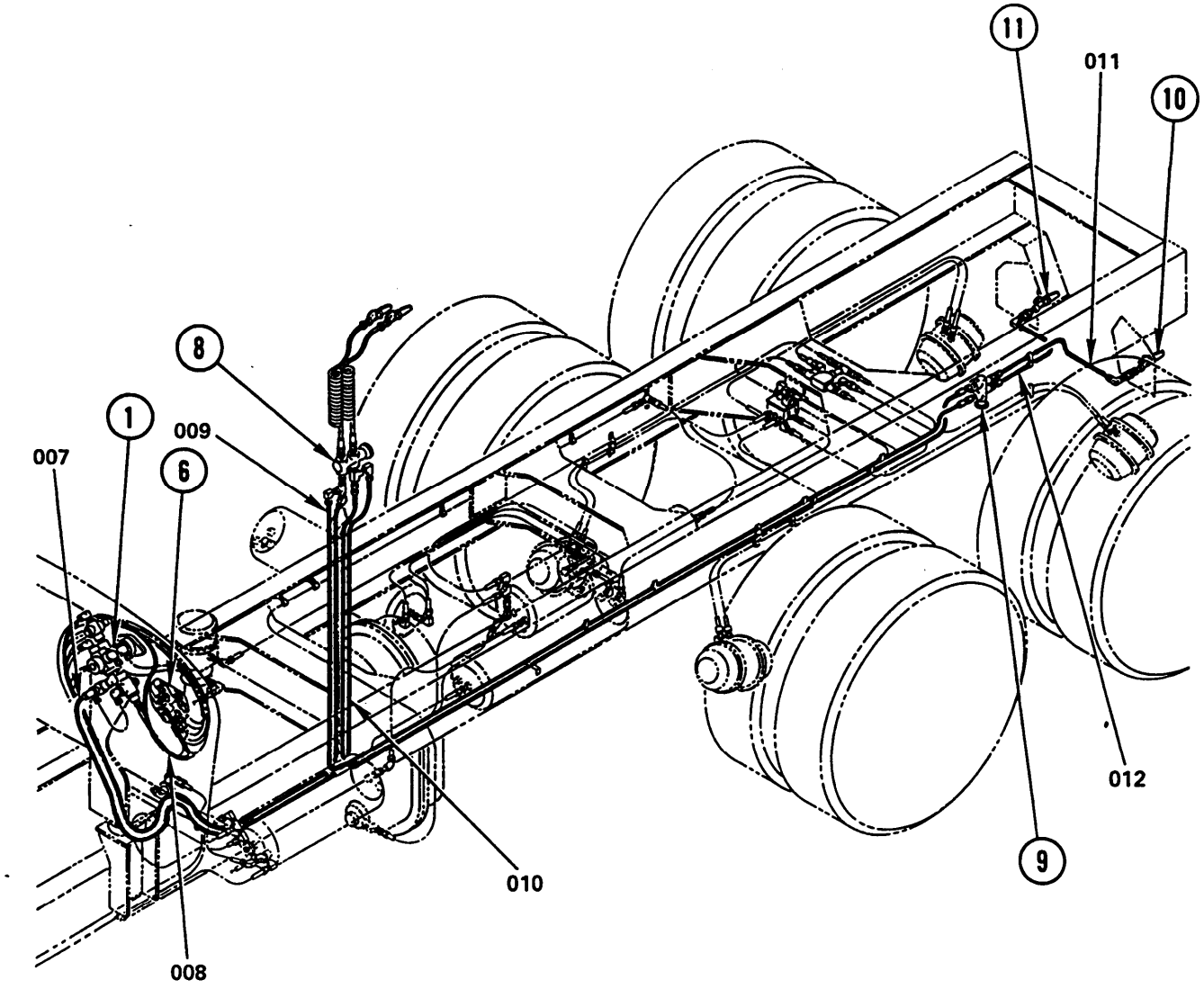
Tube No.	From	To/From	To
004	Foot Brake Valve, D2 (1)		Rear Relay Valve, S (5)
005	Air Junction Block, No. 18 (6)		Rear Relay Valve, C (5)
006	Rear Relay Valve, S (5)		Rear Brake Chamber (7)



AIR TUBE REPLACEMENT (CONT)

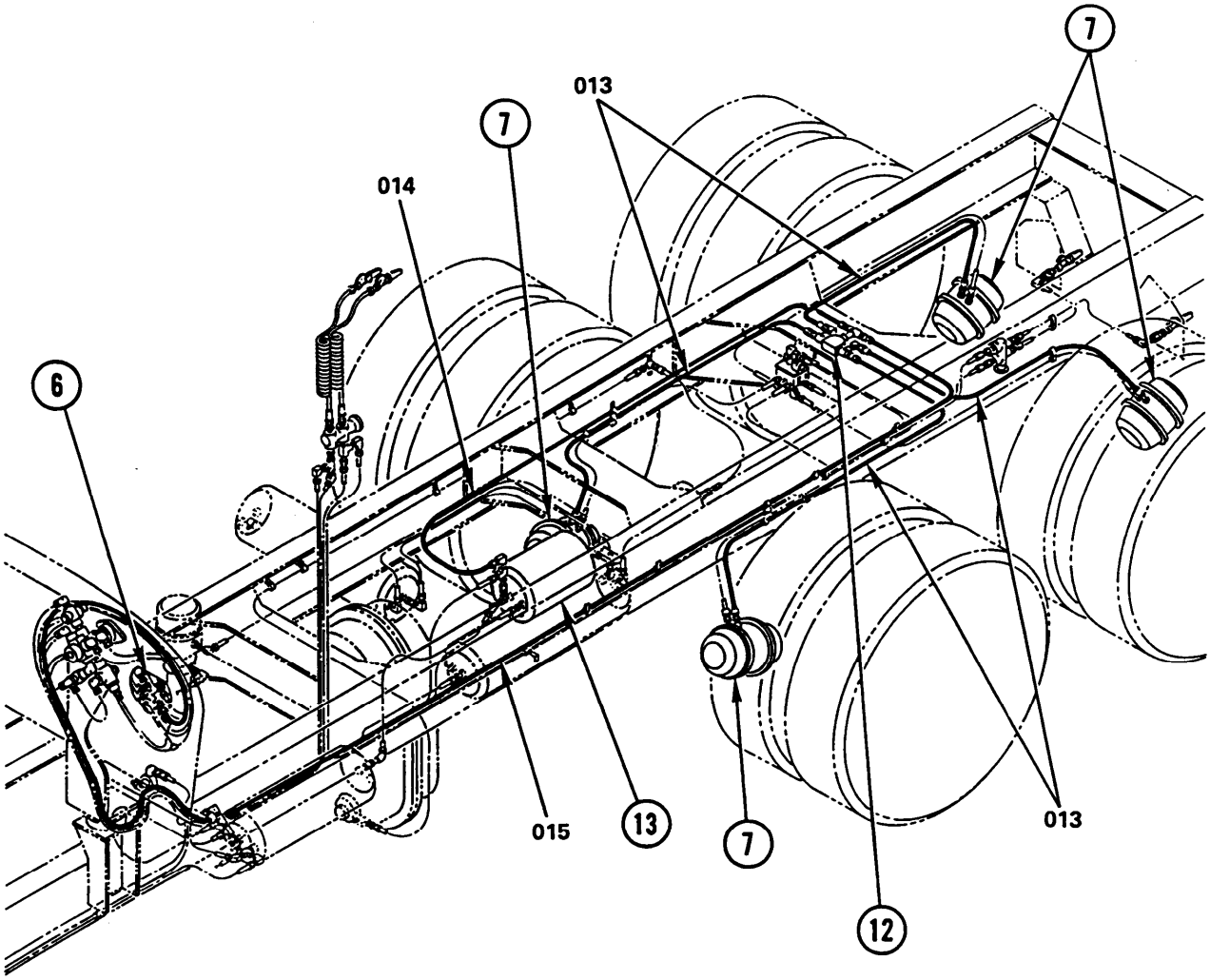
Alr Tube Locator Table (Cont)

Tube No.	From	To/From	To
007	Foot Brake Valve, D2 (1)		Tractor Protection Valve, S (8)
008	Air Junction Block, No. 18 (6)		Tractor Protection Valve, E (8)
009	Tractor Protection Valve, E (8)		Rear Tractor Protection Valve, E (9)
010	Tractor Protection Valve, S (8)		Rear Tractor Protection Valve, S (9)
011	Rear Tractor Protection Valve, E (9)		Rear Emergency Gladhand (10)
012	Rear Tractor Protection Valve, S (9)		Rear Service Gladhand (11)



Air Tube Locator Table (Cont)

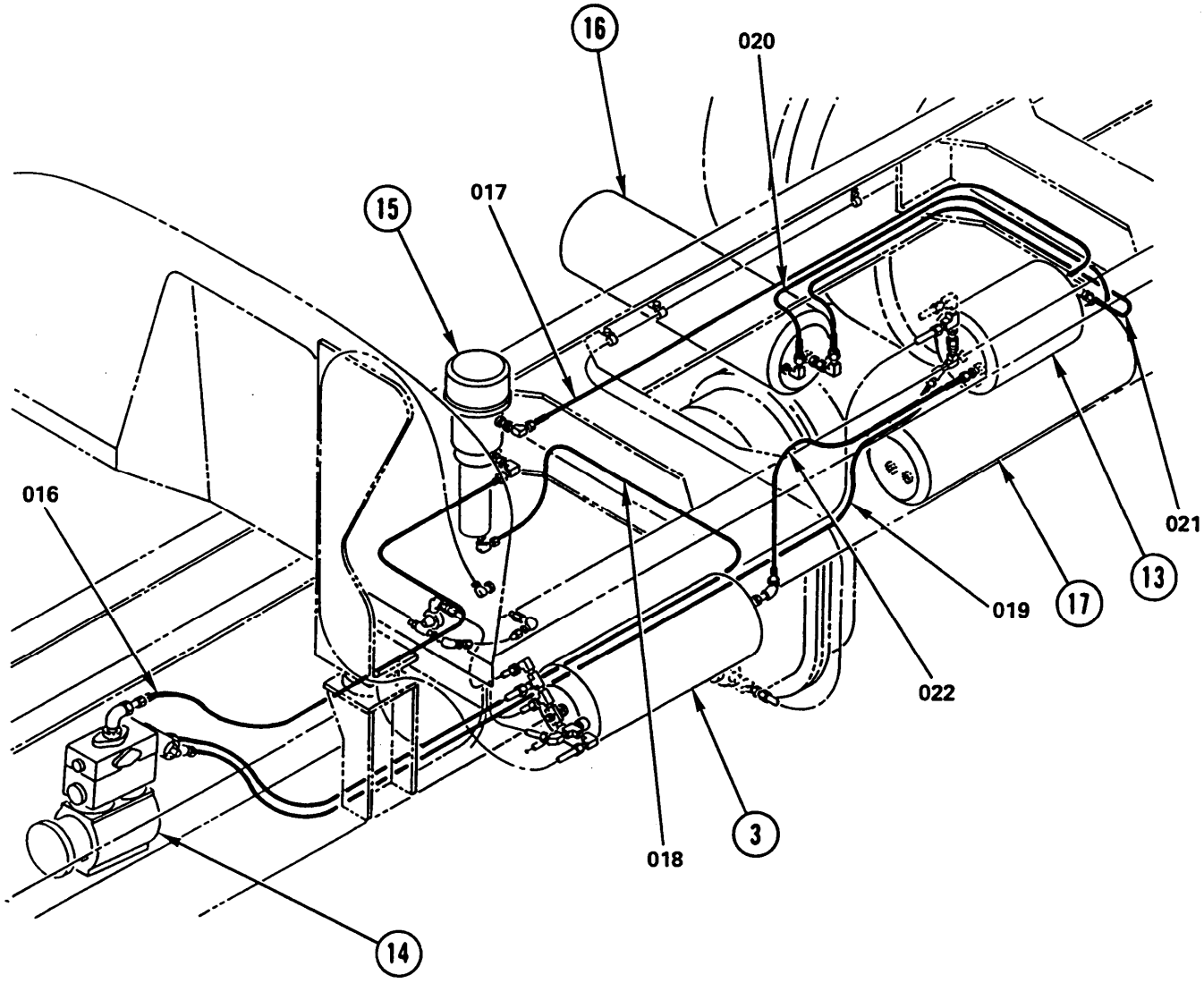
Tube No.	From	To/From	To
013	Rear Brake Chamber (7)		Rear Quick Release (12)
014	Rear Quick Release (12)		Air Supply Tank (13)
015	Rear Quick Release (12)		Air Junction Block, No. 21 (6)



AIR TUBE REPLACEMENT (CONT)

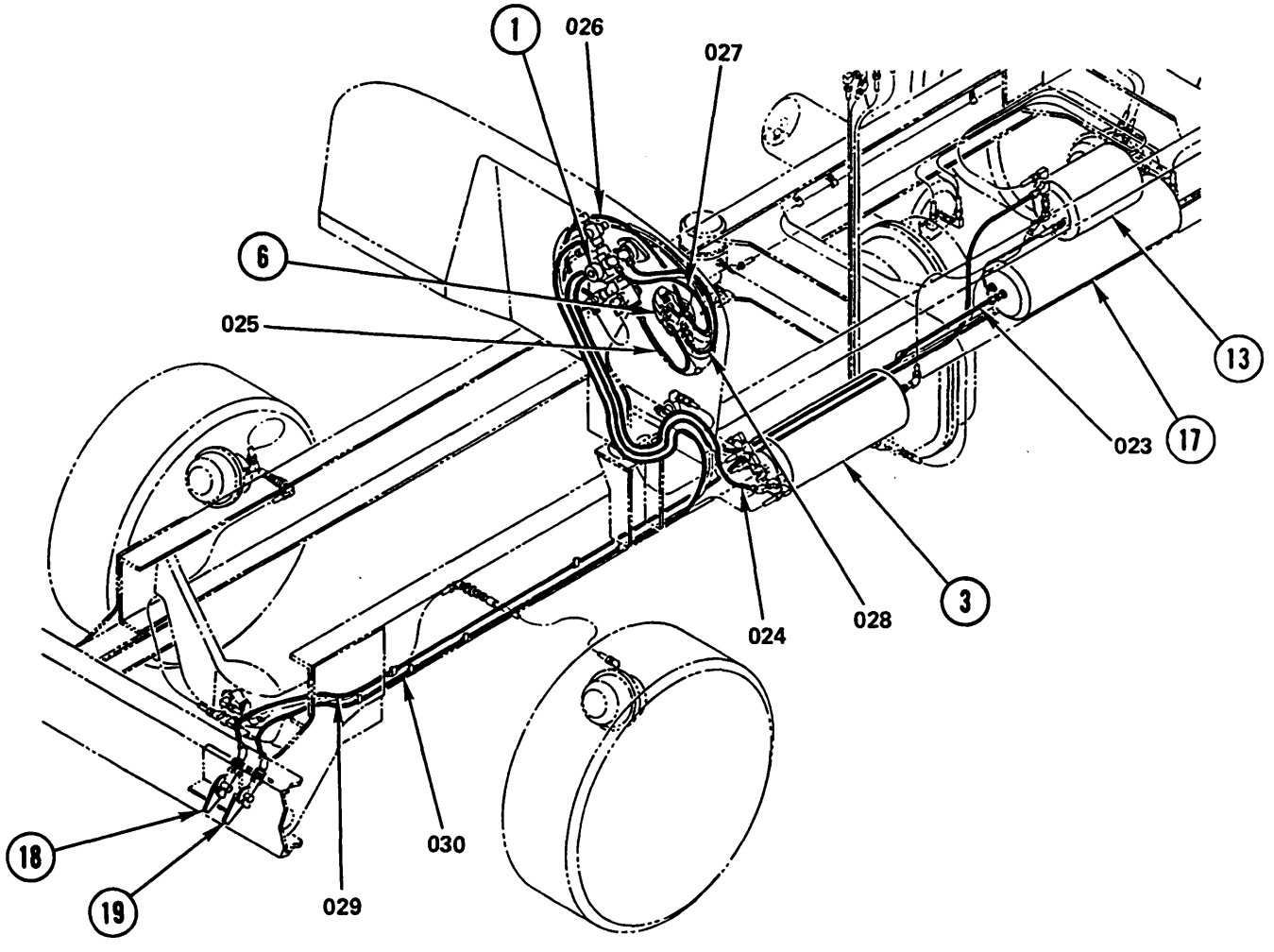
Air Tube Locator Table (Cont)

Tube No.	From	To/From	To
016	Air Compressor (14)	Adapter Fitting	Air Dryer (15)
017	Air Dryer (15)		Air Supply Tank (13)
018	Air Dryer (15)		Air Compressor (14)
019	Air Supply Tank (13)		Air Compressor (14)
020	Primary II Air Tank (16)		Primary i Air Tank (17)
021	Air Supply Tank (13)		Primary II Air Tank (16)
022	Air Supply Tank (13)		Secondary Air Tank (3)



Air Tube Locator Table (Cont)

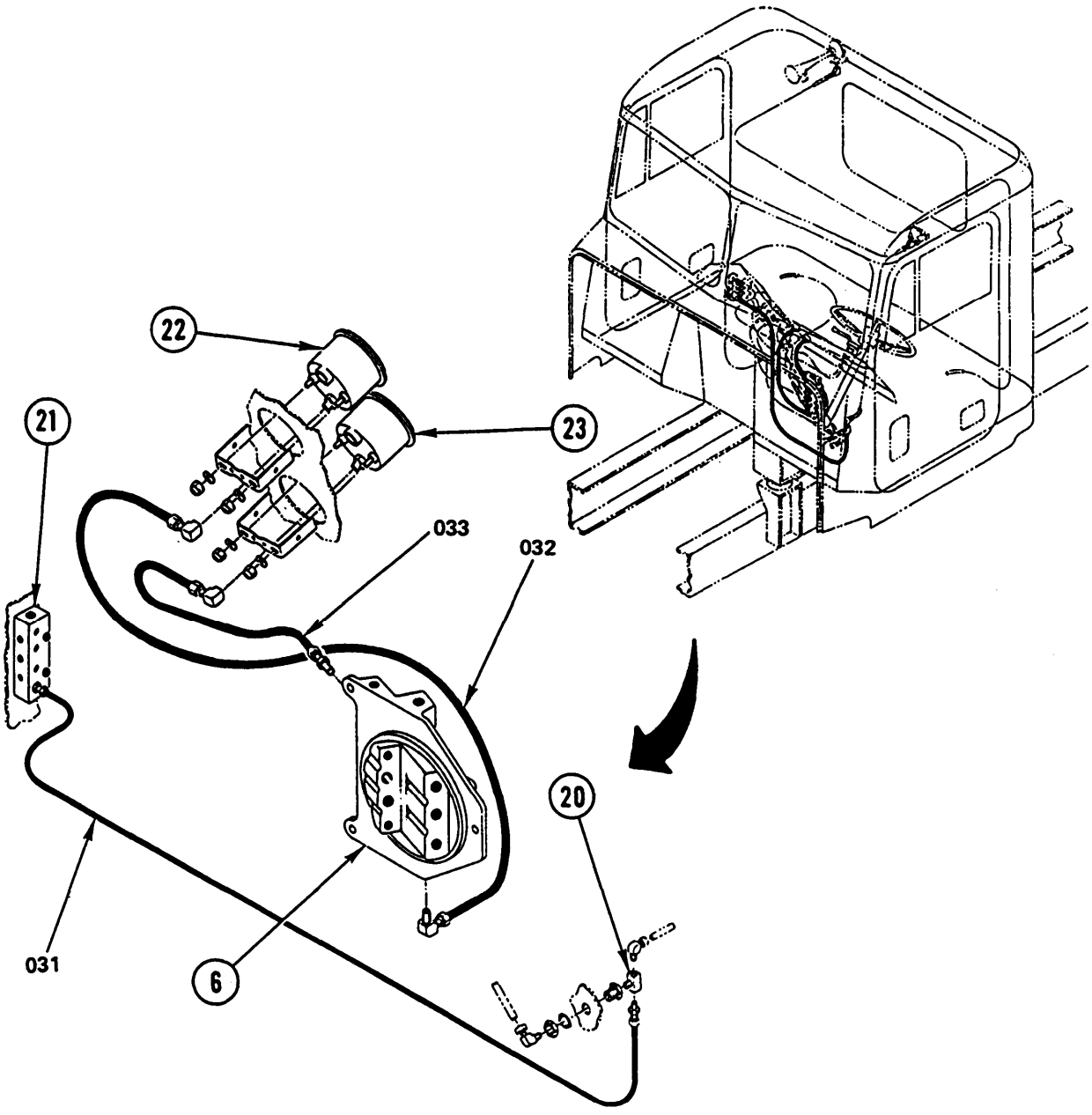
Tube No.	From	To/From	To
023	Primary 1 Air Tank (17)		Foot Brake Valve, S1 (1)
024	Secondary Air Tank (3)		Foot Brake Valve, S2 (1)
025	Foot Brake Valve, D1 (1)		Air Junction Block, No. 17 (6)
026	Foot Brake Valve, D2 (1)		Air Junction Block, No. 17 (6)
027	Foot Brake Valve, S2 (1)		Air Junction Block, No. 22 (6)
028	Foot Brake Valve, S1 (1)		Air Junction Block, No. 20 (6)
029	Front Emergency Gladhand (18)		Air Supply Tank (13)
030	Front Service Gladhand (19)		Foot Brake Valve, D1 (1)



AIR TUBE REPLACEMENT (CONT)

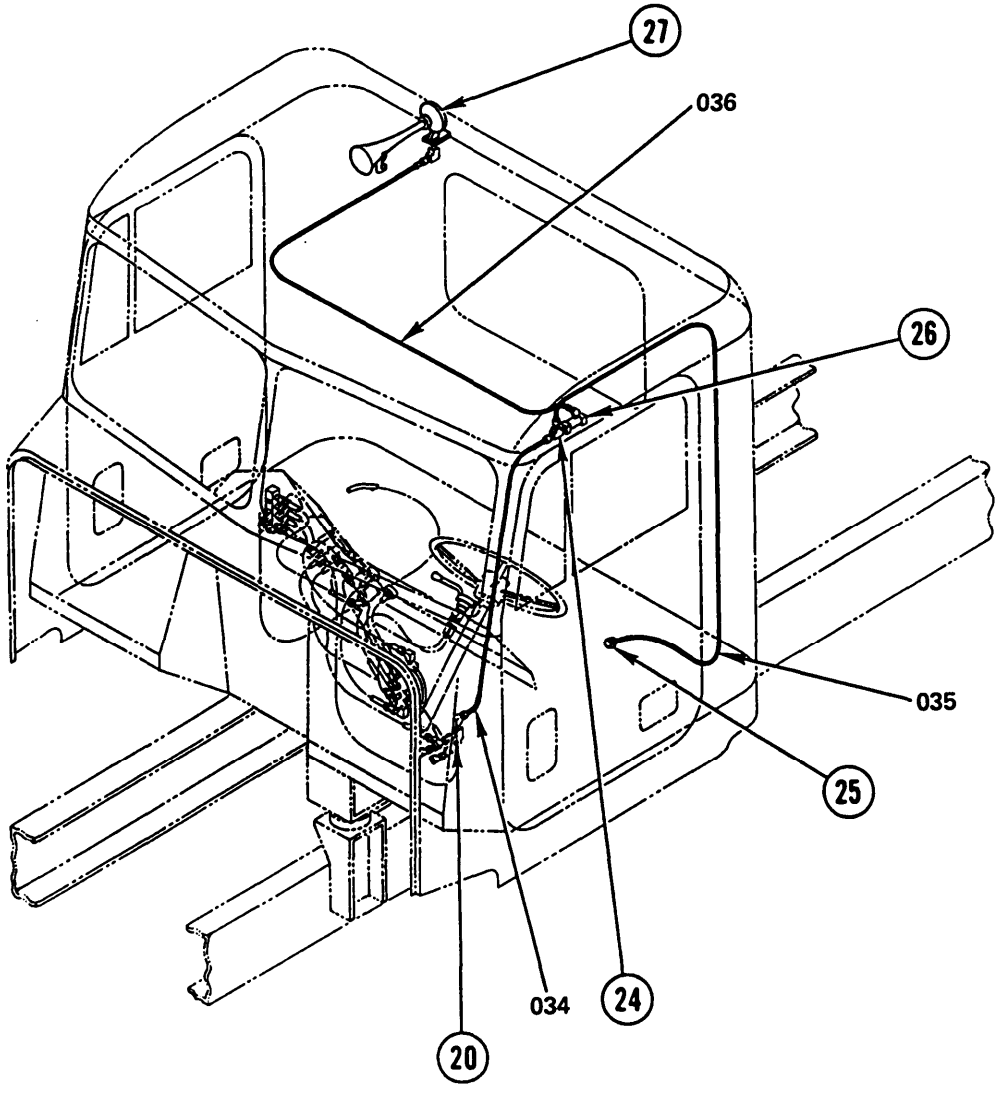
Air Tube Locator Table (Cont)

Tube No.	From	To/From	To
031	Bulkhead Tee Fitting (20)		Constant Air Junction Block (21)
032	Air Junction Block, No. 15 (6)		Primary Air Gage (22)
033	Air Junction Block, No. 11 (6)		Secondary Air Gage (23)



Air Tube Locator Table (Cont)

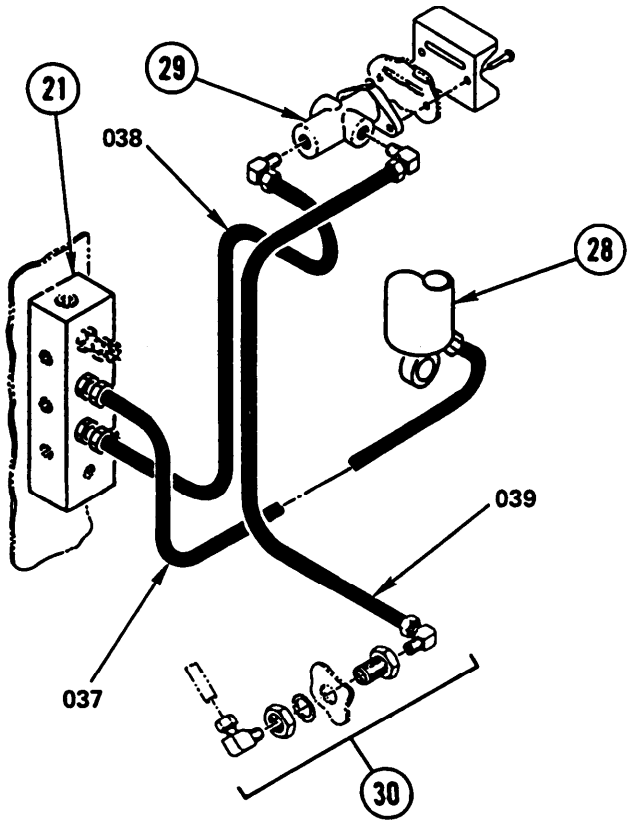
Tube No.	From	To/From	To
034	Bulkhead Tee Fitting (20)		Air Horn Tee (24)
035	Air Horn Tee (24)		Driver Seat Air cylinder (25)
036	Air Horn Tee (24)	Air Horn Valve (26)	Air Horn (27)

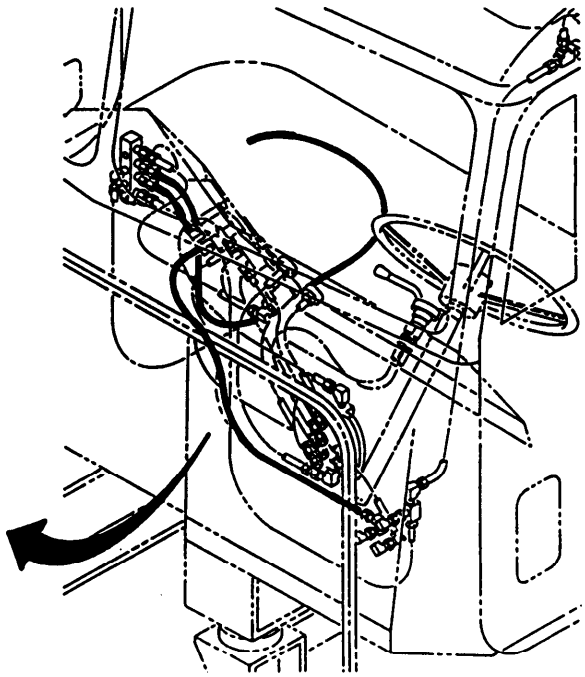


AIR TUBE REPLACEMENT (CONT)

Alr Tube Locator Table (Cont)

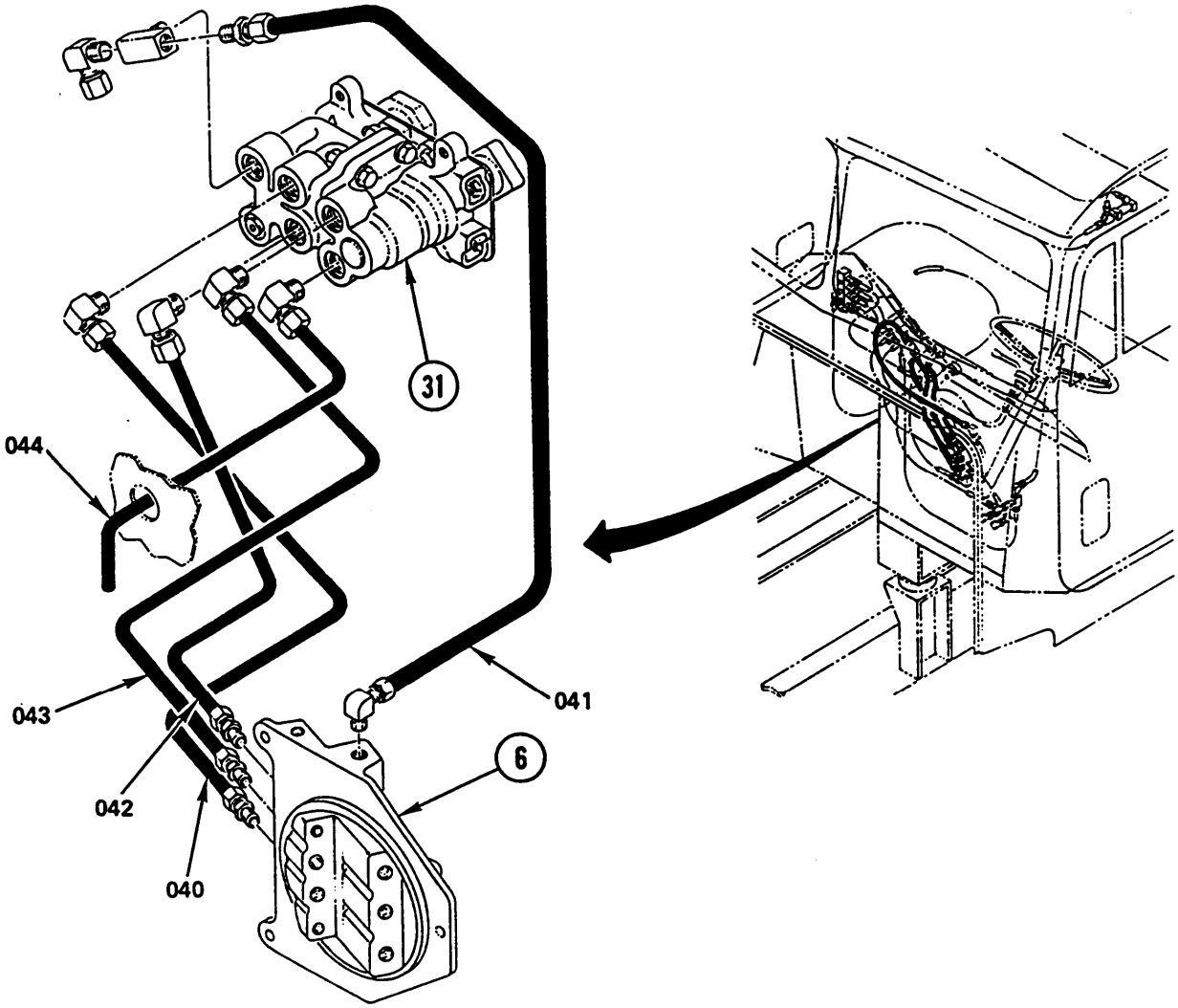
Tube No.	From	To/From	To
037	Constant Air Junction Block (21)		Passenger Seat Air Cylinder (28)
038	Constant Air Junction Block (21)		All-Wheel Drive Valve (29)
039	All-Wheel Drive Valve (29)		Firewall Fitting (30)





Air Tube Locator Table (Cont)

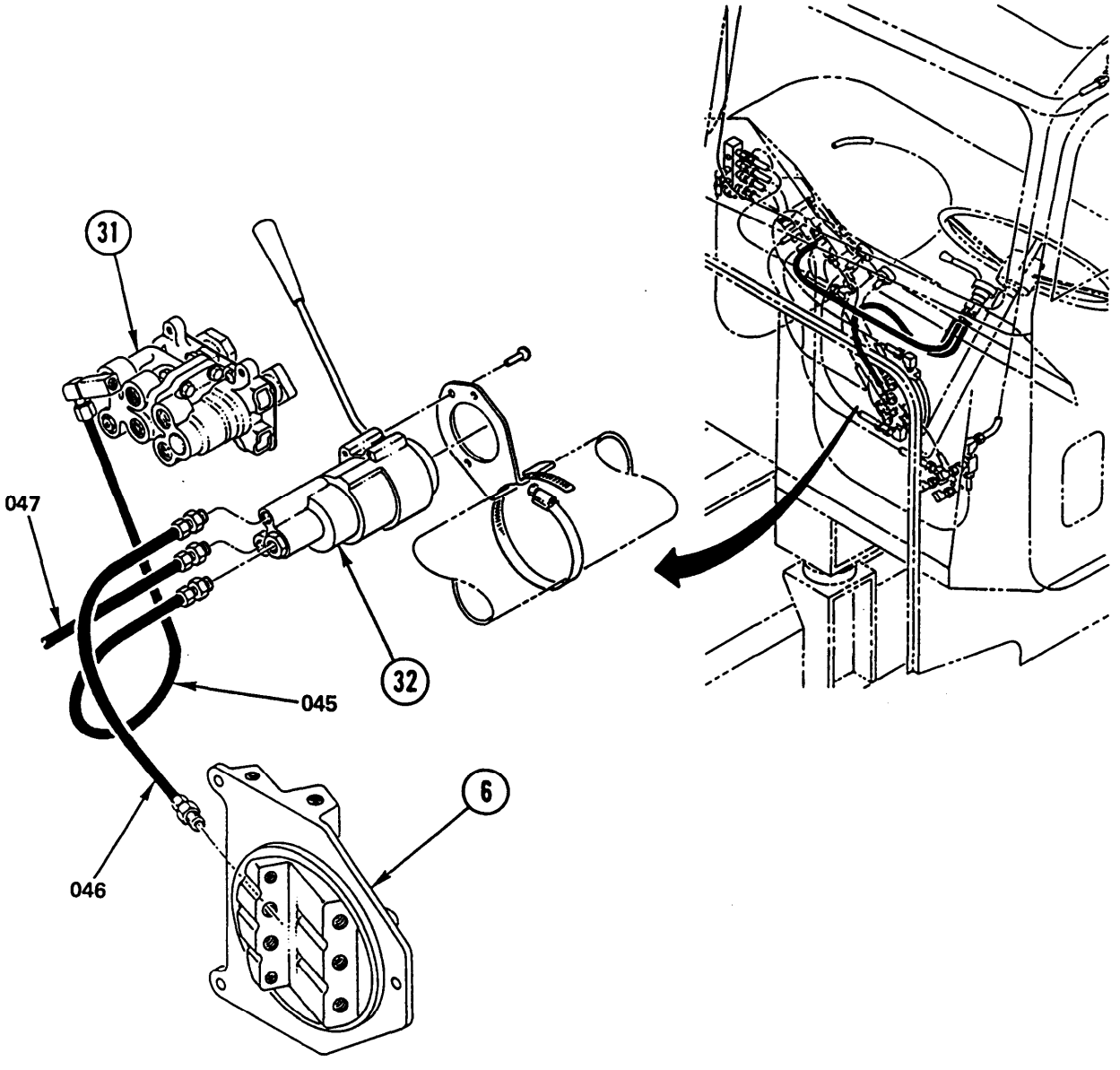
Tube No.	From	To/From	To
040	Air Junction Block, No. 14 (6)		Parking Brake/Trailer Air Supply, S1 (31)
041	Air Junction Block, No. 9 (6)		Parking Brake/Trailer Air Supply, S2 (31)
042	Parking Brake/Trailer Air SUPPLY, DEL TRC (31)		Air Junction Block, No. 12 (6)
043	Parking Brake/Trailer Air Supply DEL TRL (31)		Air Junction Block, No. 4 (6)
044	Parking Brake/Trailer Air Supply, EXH (31)	Firewall	Not Connected



AIR TUBE REPLACEMENT (CONT)

Air Tube Locator Table (Cont)

Tube No.	From	To/From	To
045	Parking Brake/Trailer Air Supply, S2 (31)		Trailer Hand Brake, S (32)
046	Trailer Hand Brake, D (32)		Air Junction Block, No. (6)
047	Trailer Hand Brake, E (32)	Firewall	Not Connected



AIR TUBE REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash Immediately with soap and water.**

NOTE

This task covers air tubes unique to M917A1 and M917A1 w/MCS vehicles. Included are air tubes for CTIS, MCS, tailgate release, air dryer, and air horn. Refer to task on page 4-503 for replacement of air tubes (e.g. brakes) that are the same as the M916A1 and M916A2.

AIR TUBE REPLACEMENT (CONT)

REMOVAL

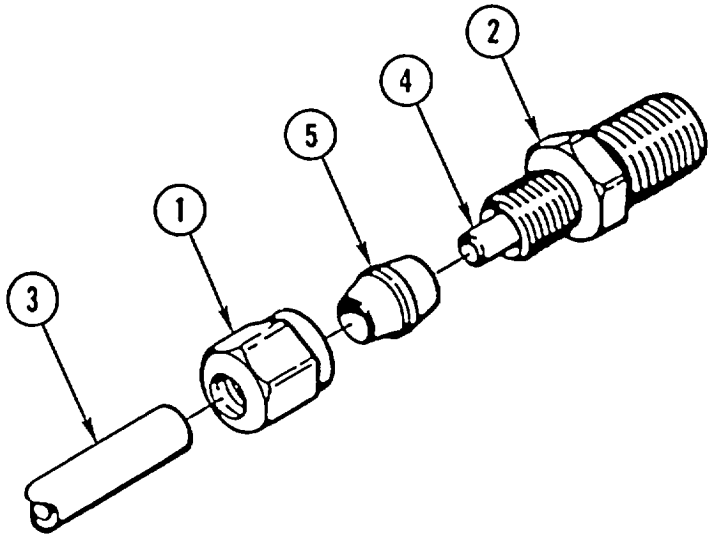
NOTE

- **Procedure is the same for all air tubes.**
- **For location of air tubes, refer to Air Tube Locator Table.**
- **Tag all air tubes and fittings prior to removal to aid in installation.**
- **Remove plastic cable ties as necessary to remove air tubes.**
- **When replacing air tube, remove tube from vehicle and cut new tube 1/4-1/2 in. longer than air tube being replaced.**

1. REMOVE NUT (1) FROM FITTING (2).
2. REMOVE AIR TUBE (3) FROM FITTING (2).

NOTE
If insert remains in fitting, do not remove.

3. REMOVE INSERT (4), FERRULE (5), AND NUT (1) FROM AIR TUBE (3).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE
Procedure is the same for all air tubes.

1. INSTALL NUT (1), FERRULE (5), AND INSERT (4) ON AIR TUBE (3).

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**

- **Sealant compounds can bum easily, can give off harmful vapors, and are harmful to skin and clothing To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

CAUTION
Route air tube so that tube does not bend to radius smaller than allowed in Nylon Tube Bend Radius Table. If bent smaller than allowed, tube may kink causing loss of air pressure to component.

2. COAT THREADS OF FITTING (2) WITH PIPE SEALANT COMPOUND AND INSTALL AIR TUBE (3) IN FITTING (2).

3. INSTALL NUT (1) ON FITTING (2).

Nylon Tube Bend Radius Table

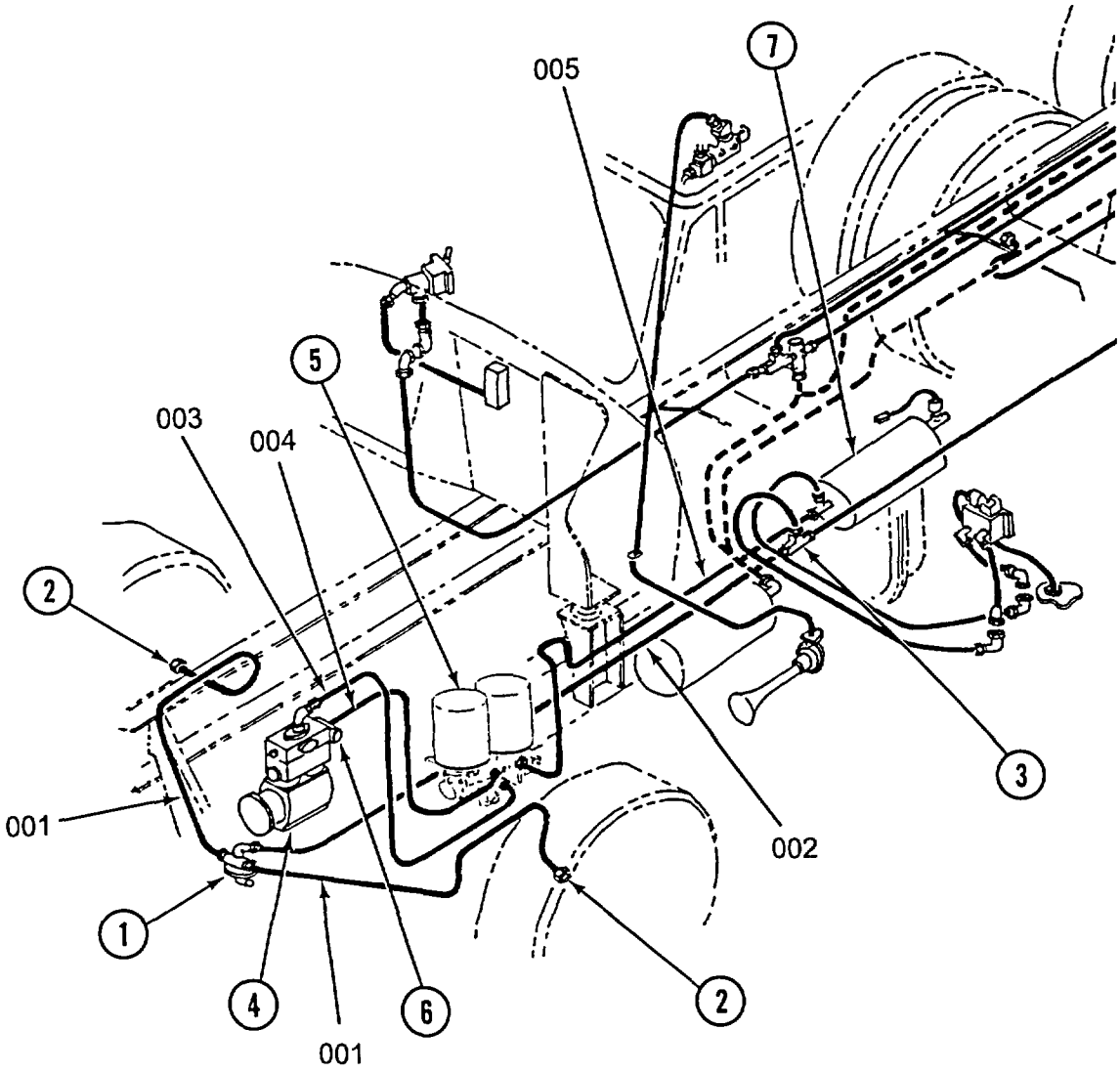
Outside Diameter in.	(mm)	Minimum Bend Radius in.	(mm)
0.25	(6.40)	1.0	(25.0)
0.38	(9.50)	1.5	(38.0)
0.50	(13.00)	2.0	(51.0)
0.63	(17.00)	2.5	(64.0)
0.75	(19.00)	3.0	(76.0)

NOTE
Follow-on Maintenance:
Perform standard leak test (page 2-24).

AIR TUBE REPLACEMENT (CONT)

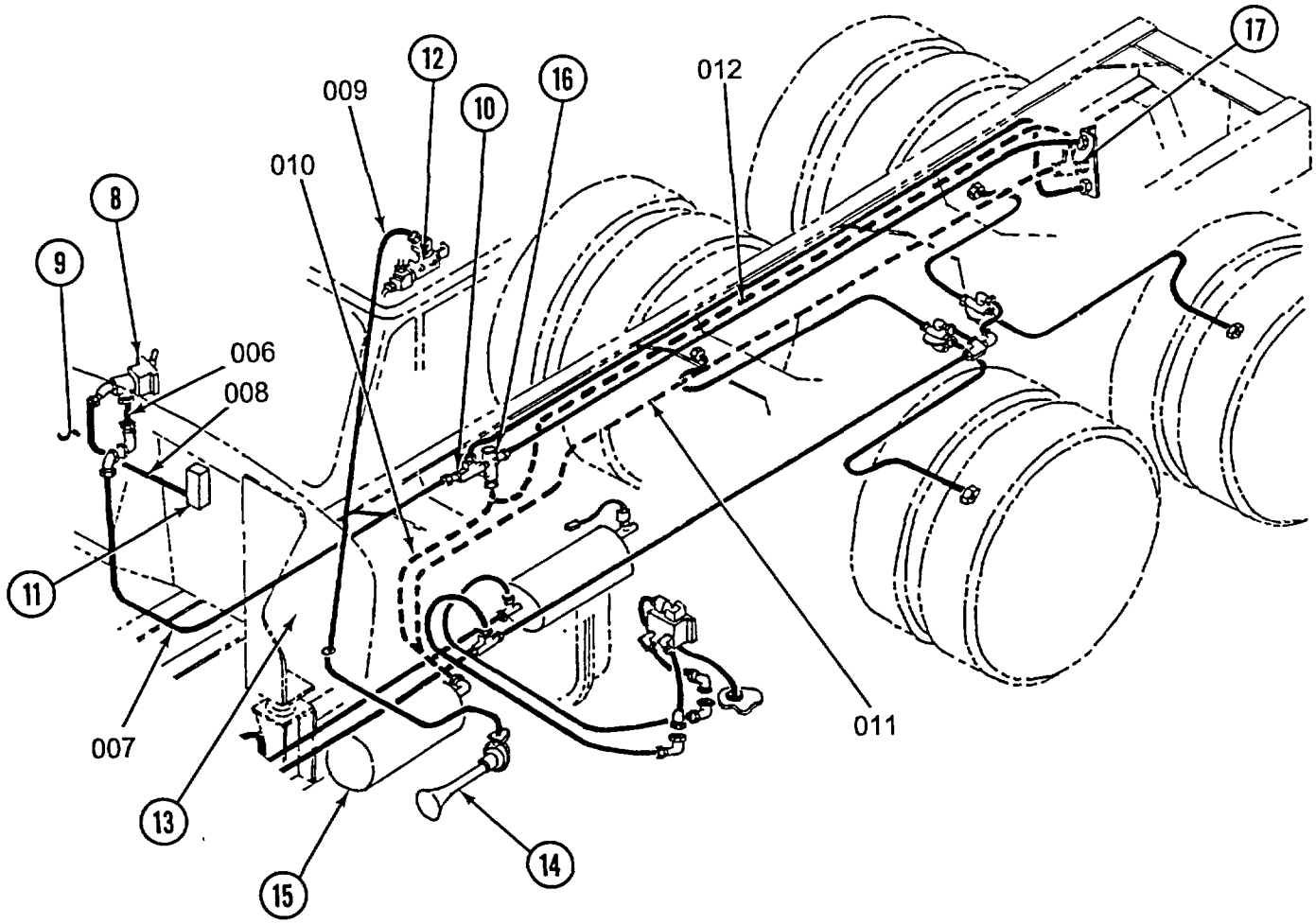
Air Tube Locator Table

Tube No.	From	To/From	To
001	Quick Release Valve (1)		Front Wheel Hub (2)
002	Quick Release Valve (1)		Tee (3)
003	Air Compressor (4)		Air Dryer (5)
004	Air Compressor Governor (6)		Air Dryer (5)
005	Air Dryer (5)		Air Supply Tank (7)



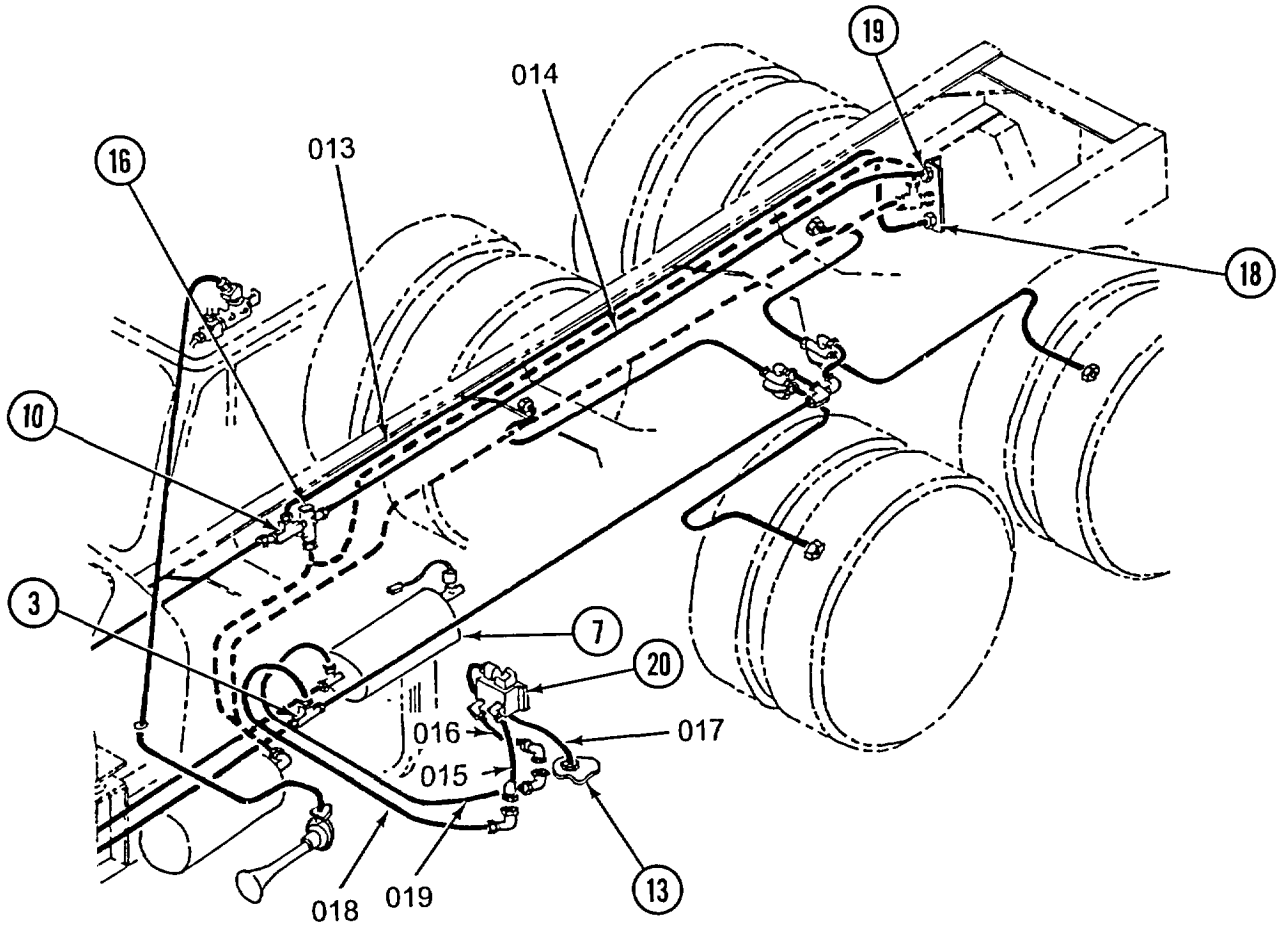
Air Tube Locator Table (Cont)

Tube No.	From	To/From	To
006	Tailgate Release Valve (8)		Firewall (9)
007	Firewall (9)		Inversion Valve Tee (10)
008	Tailgate Release Valve (8)		Constant Air Junction Box (11)
009	Air Horn Valve (12)	Cab Floor (13)	Air Horn (14)
010	Secondary Air Tank (15) (M917A1 only)		Inversion Valve (16), Supply Port
011	Secondary Air Tank (15) (M917A1 w/MCS only)		Material Handling Tee (17)
012	Inversion Valve (16),Supply Port (M917A1 w/MCS only)		Material Handling Tee (17)



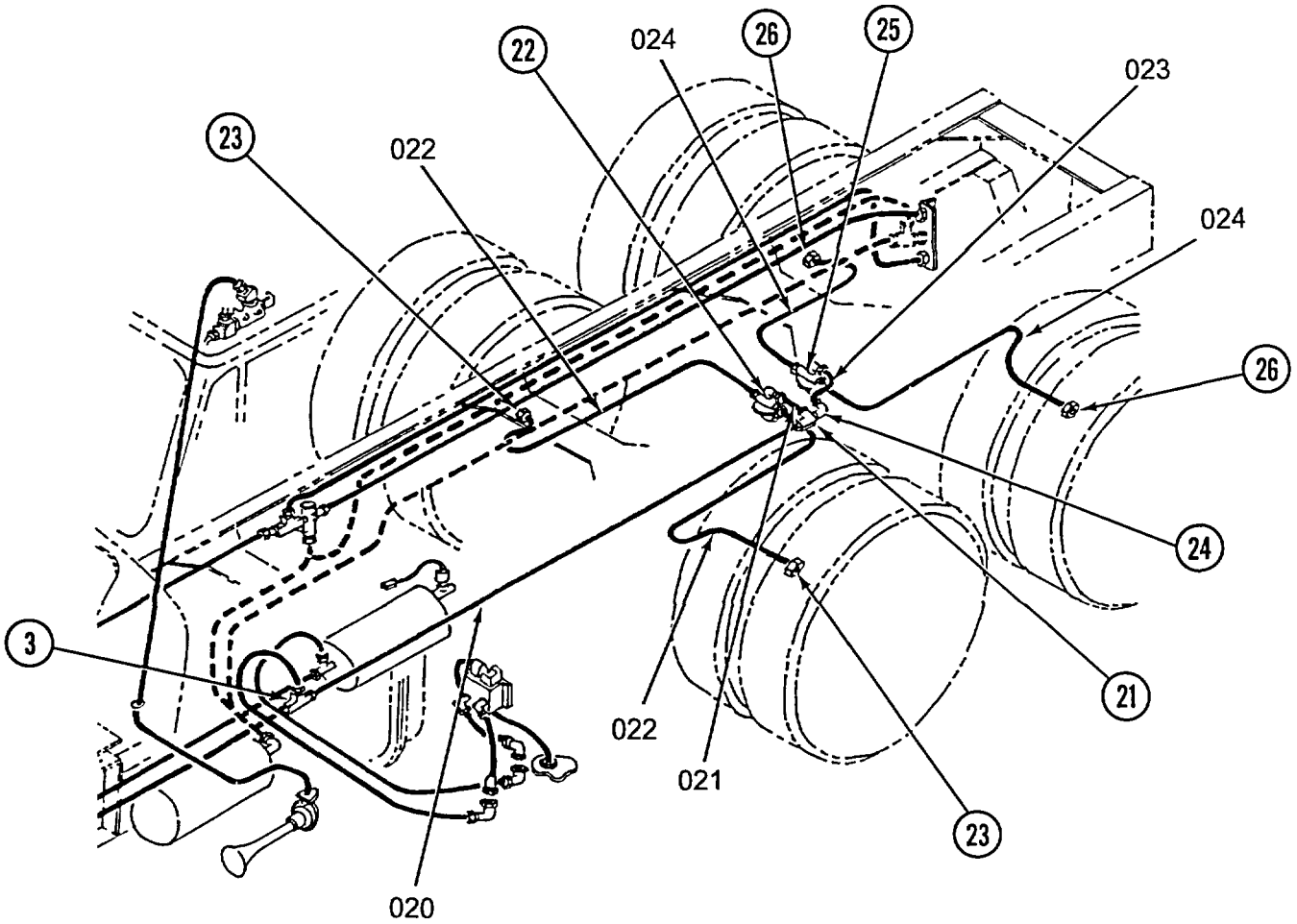
Air Tube Locator Table (Cont)

Tube No.	From	To/From	To
013	Inversion Valve Tee (10)		Tailgate Release Port (18)
014	Inversion Valve (16), Delivery Port		Tailgate Lock Port (19)
015	Pneumatic Control Valve Axle Port (20)		Cab Floor (13)
016	Pneumatic Control Valve Supply Port (20)		Cab Floor (13)
017	Pneumatic Control Valve Exhaust Port (20)		Cab Floor (13)
018	Cab Floor (13)		Tee (3)
019	Cab Floor (13)		Air Supply Tank (7)



Air Tube Locator Table (Cont)

Tube No.	From	To/From	To
020	Tee (3)		Tee (12)
021	Tee (21)		Quick Release Valve (22)
022	Quick Release Valve (22)		Forward Rear Axle (23)
023	Elbow (24)		Quick Release Valve (25)
024	Quick Release Valve (25)		Rear Rear Axle (26)



CONSTANT AIR JUNCTION BLOCK REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Kep (2)	P/N 420Z
Compound, Pipe	Appendix C, Item 8

Equipment Condition:

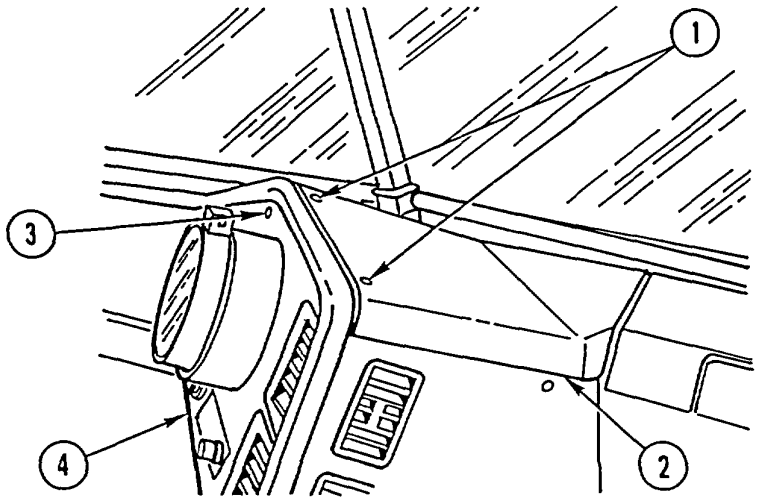
Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

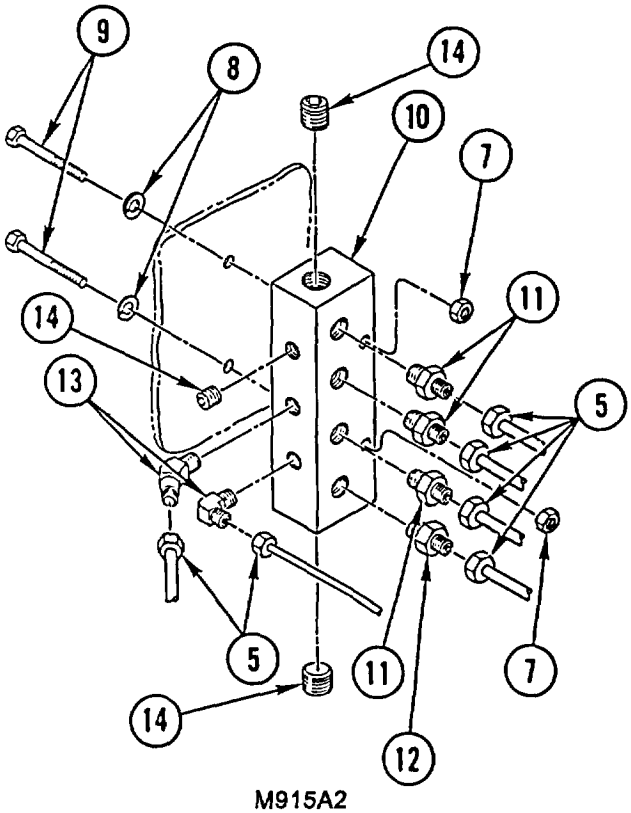
REMOVAL



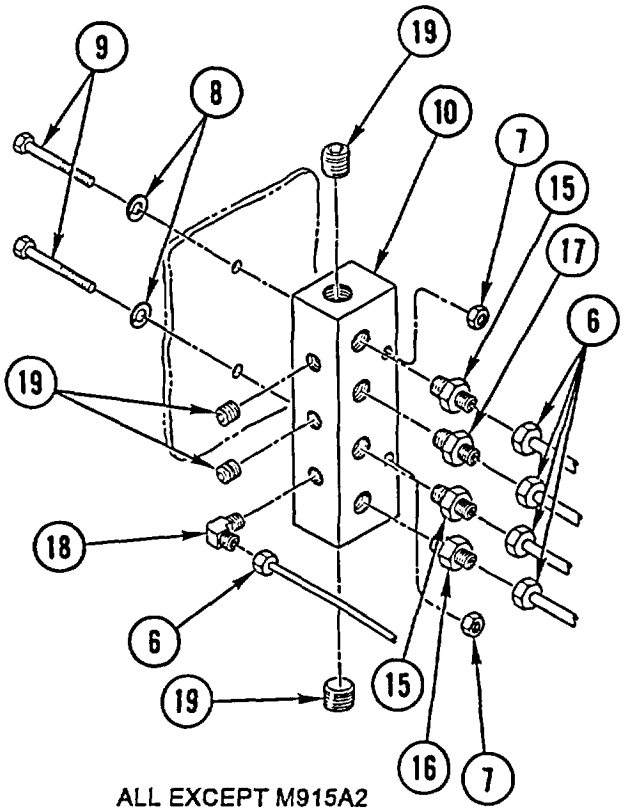
NOTE
Procedure is the same for all vehicles except as noted.

1. REMOVE SIX TORX SCREWS (1), DASH TOP COVER (2), AND FIVE TORX SCREWS (3). SET TACHOGRAPH PANEL (4) ASIDE.

CONSTANT AIR JUNCTION BLOCK REPLACEMENT (CONT)



M915A2



ALL EXCEPT M915A2

NOTE

- **Step 2 is for M915A2 only.**
- **Step 3 is for all except M915A2 only.**
- **Tag all tubes, connectors, and plugs prior to disconnecting/removal to aid in installation/connecting.**

2. DISCONNECT SIX TUBES (5).

3. DISCONNECT FIVE TUBES (6).

4. REMOVE TWO KEP NUTS (7), TWO WASHERS (8), TWO CAPSCREWS (9), AND CONSTANT AIR JUNCTION BLOCK (10). DISCARD KEP NUTS.

NOTE

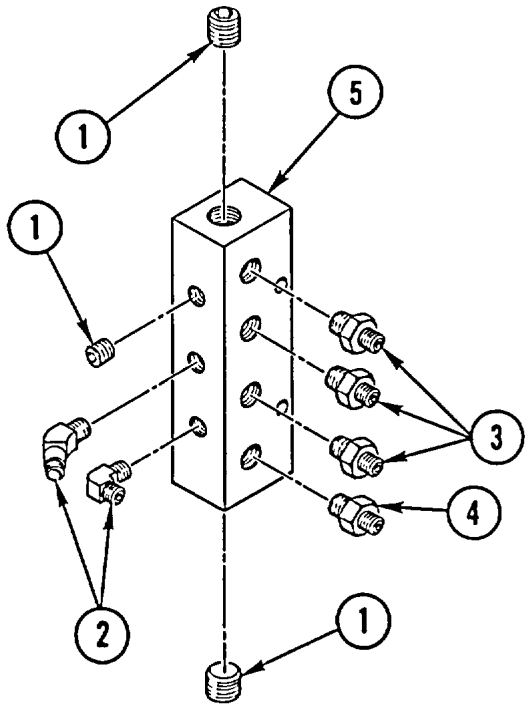
- **Step 5 is for M915A2 only.**
- **Step 6 is for all except M915A2 only.**

5. REMOVE THREE CONNECTORS (11), CONNECTOR (12), TWO ELBOWS (13), AND THREE PLUGS(14) FROM CONSTANT AIR JUNCTION BLOCK (10).
6. REMOVE TWO CONNECTORS (15), CONNECTOR (16), FITTING (17), ELBOW (18), AND FOUR PLUGS (19) FROM CONSTANT AIR JUNCTION BLOCK (10).

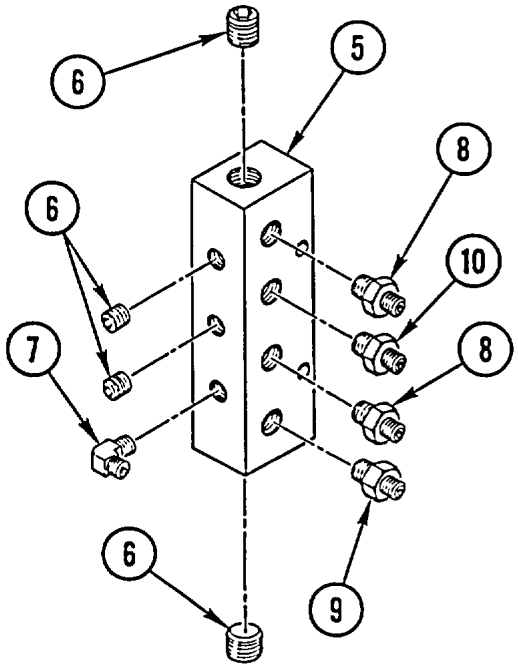
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



M915A2



ALL EXCEPT M915A2

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**

- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

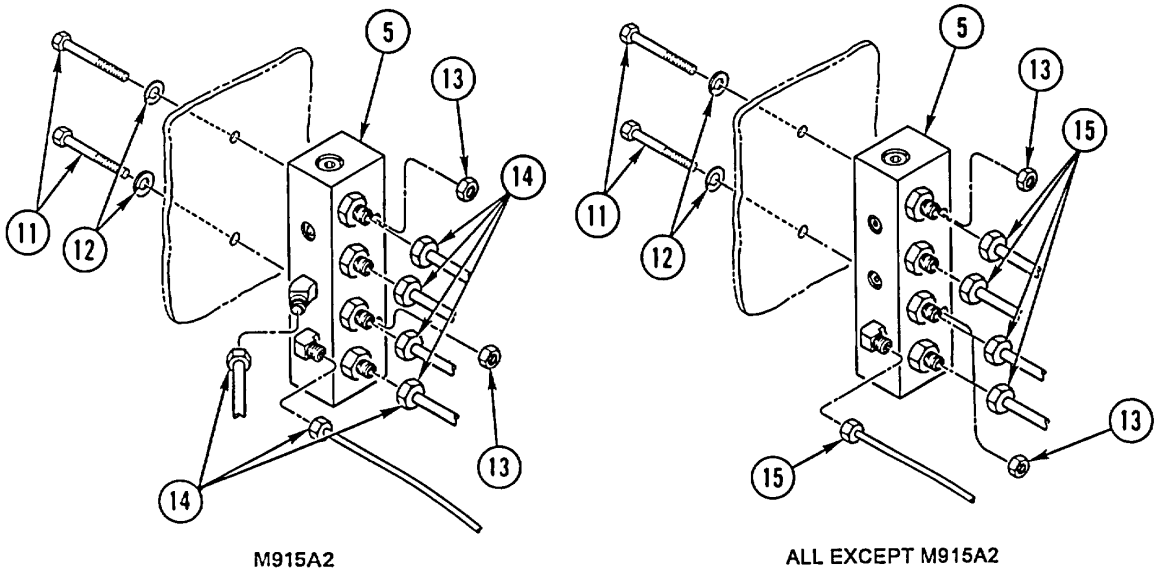
NOTE

- **Procedure is the same for all vehicles except as noted.**
- **Step 1 is for M915A2 only.**
- **Step 2 is for all except M915A2 only.**

1. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL THREE PLUGS (1), TWO ELBOWS (2), THREE CONNECTORS (3), AND CONNECTOR (4) IN CONSTANT AIR JUNCTION BLOCK (5).

2. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL FOUR PLUGS (6), ELBOW (7), TWO CONNECTORS (8), CONNECTOR (9), AND FITTING (10) IN CONSTANT AIR JUNCTION BLOCK (5).

CONSTANT AIR JUNCTION BLOCK REPLACEMENT (CONT)



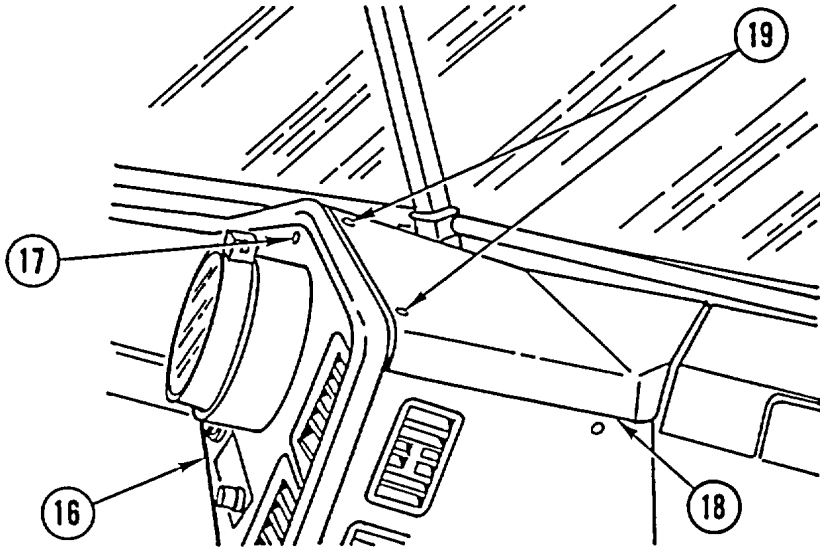
3. INSTALL CONSTANT AIR JUNCTION BLOCK (5), TWO CAPSCREWS (11), TWO WASHERS (12), AND TWO NEW KEP NUTS (13).

NOTE

- **Step 4 is for M915A2 only.**
- **Step 5 is for all except M915A2 only.**

4. CONNECT SIX TUBES (14) TO CONSTANT AIR JUNCTION BLOCK (5).

5. CONNECT FIVE TUBES (15) TO CONSTANT AIR JUNCTION BLOCK (5).



6. POSITION TACHOGRAPH PANEL (16) AND INSTALL FIVE TORX SCREWS (17), DASH TOP COVER (18), AND SIX TORX SCREWS (19).

CAB AIR JUNCTION BLOCK REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

Compound, Pipe Sealing	Appendix C, Item 8
Seal 'N' Caulk	Appendix C, Item, 24

Equipment Condition:

Reference	Condition Description
Page 2-28	Alr System Drained
Page 2-29	Batteries Disconnected

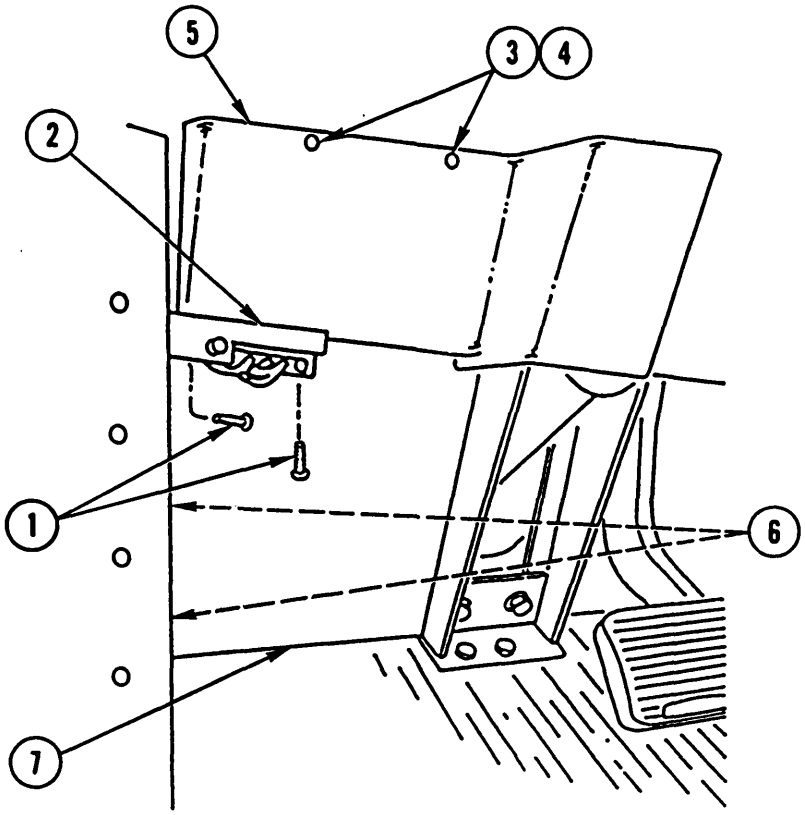
General Safety Instructions:

WARNING

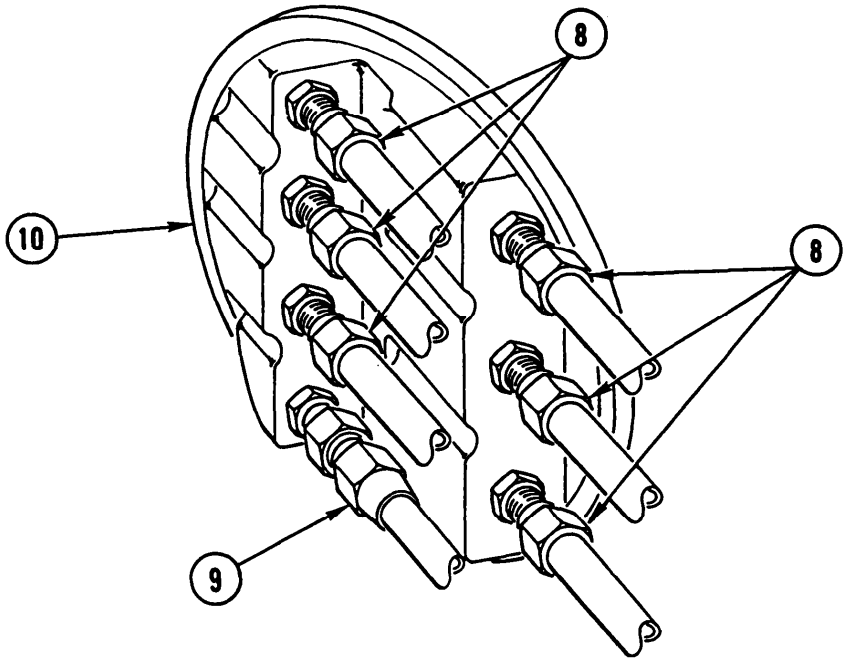
- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

CAB AIR JUNCTION BLOCK REPLACEMENT (CONT)

REMOVAL



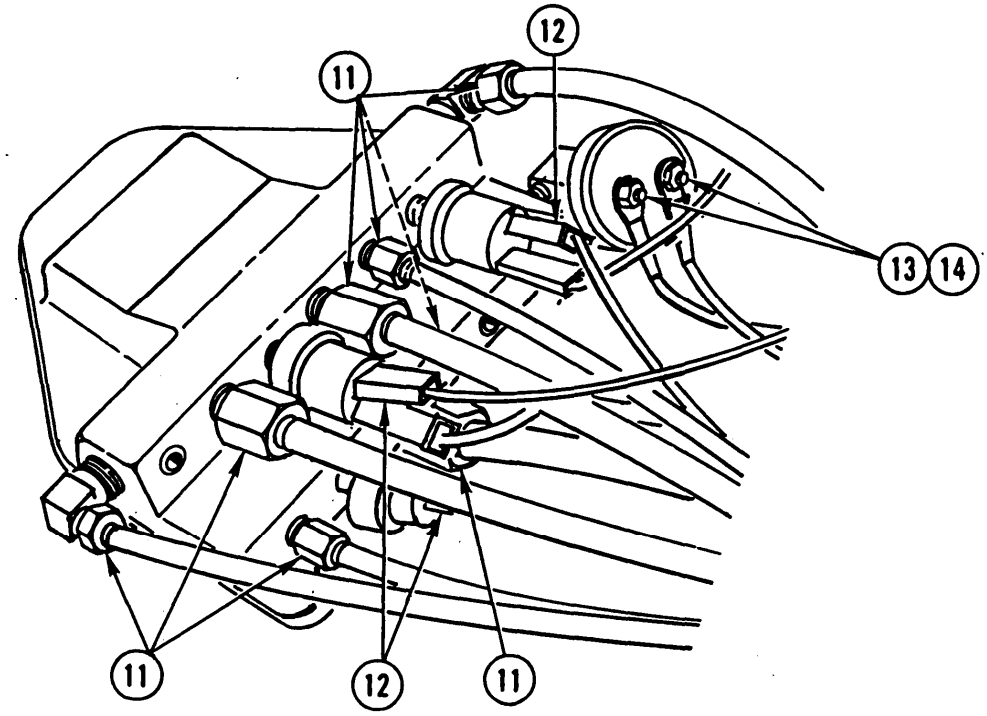
1. REMOVE TWO SCREWS (1) AND SET ENGINE CHECK SWITCH BRACKET (2) ASIDE.
2. REMOVE FIVE SCREWS (3), FIVE WASHERS (4), AND COVER (5).
3. REMOVE TWO SCREWS (6) AND COVER (7).



NOTE

Tag all tubes, fittings, and wires prior to disconnecting/removal to aid in installation/connecting.

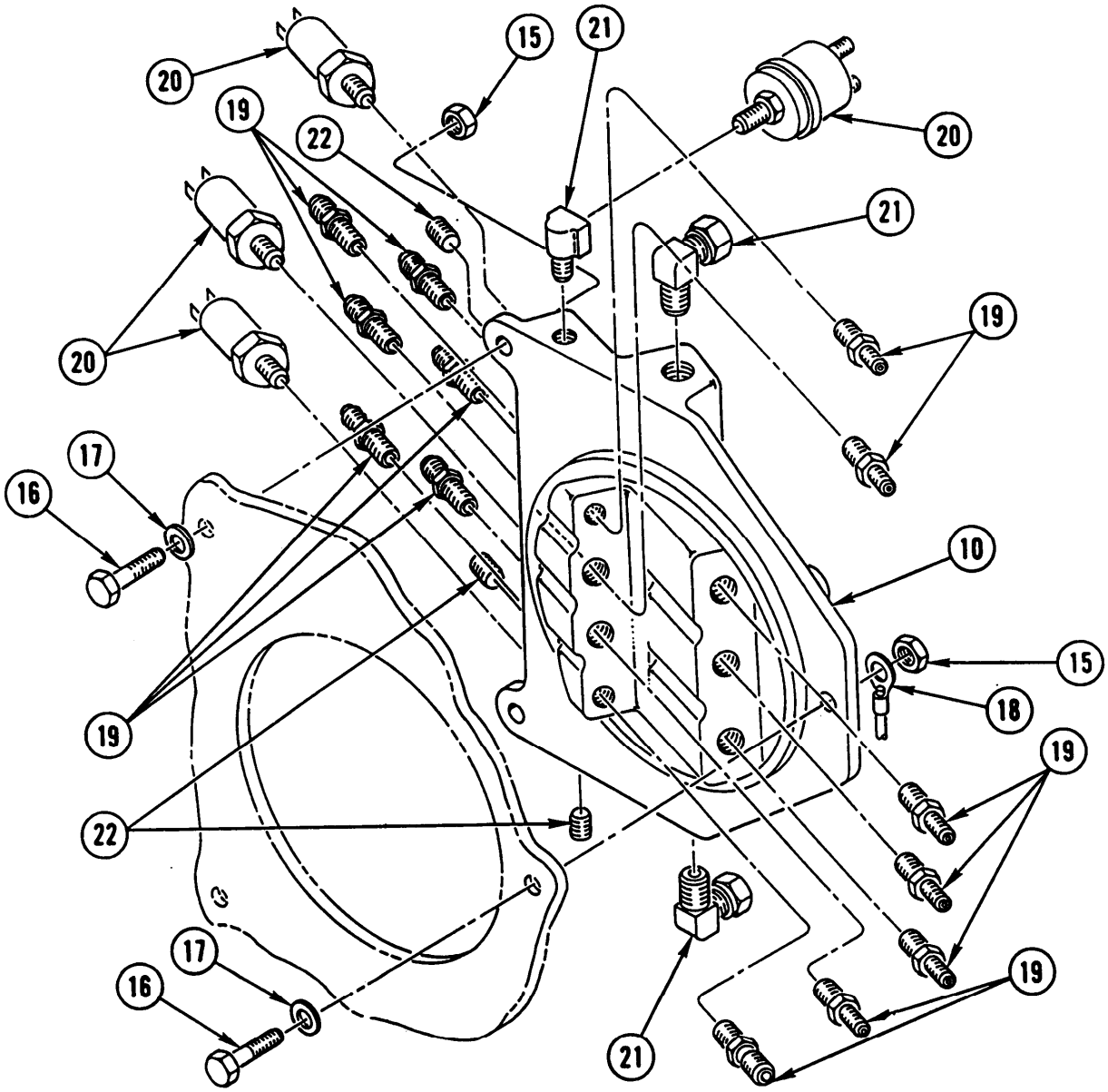
4. DISCONNECT SIX TUBES (8) AND OIL LINE (9) FROM CAB AIR JUNCTION BLOCK (10).



5. DISCONNECT EIGHT TUBES (11) AND THREE PLUG CONNECTORS (12).

6. REMOVE TWO LOCK NUTS (13) AND TWO WIRES (14). DISCARD LOCK NUTS.

CAB AIR JUNCTION BLOCK REPLACEMENT (CONT)



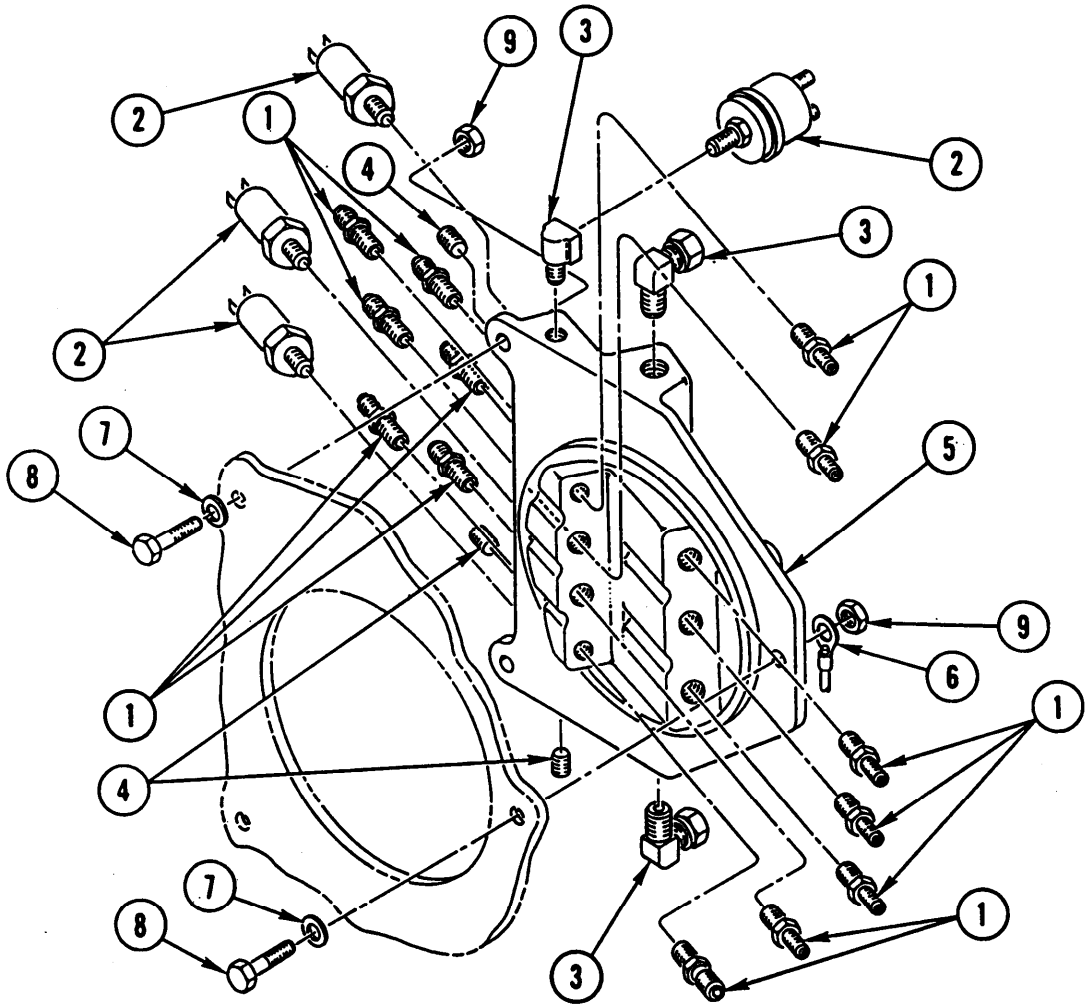
7. REMOVE THREE KEP NUTS (15), THREE SCREWS (16), THREE WASHERS (17), GROUND WIRE (18), AND CAB AIR JUNCTION BLOCK (10).

8. REMOVE 13 CONNECTORS (19), 4 SENDING UNITS (20), 3 ELBOWS (21), AND 3 PIPE PLUGS (22) FROM CAB AIR JUNCTION BLOCK (10).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

REMOVAL

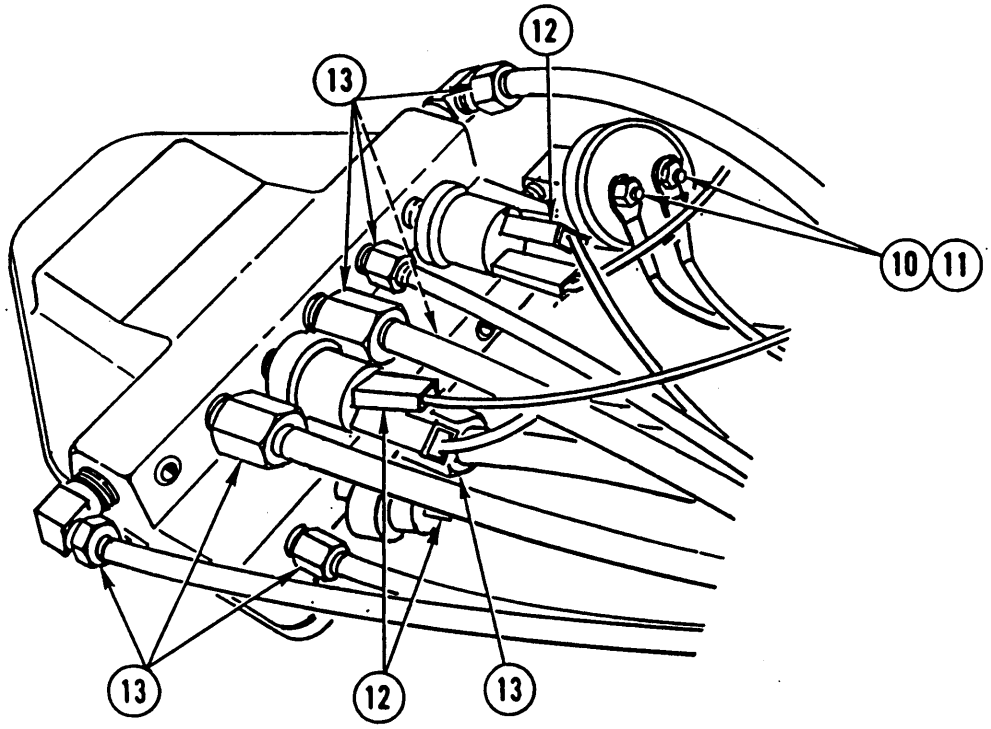


WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

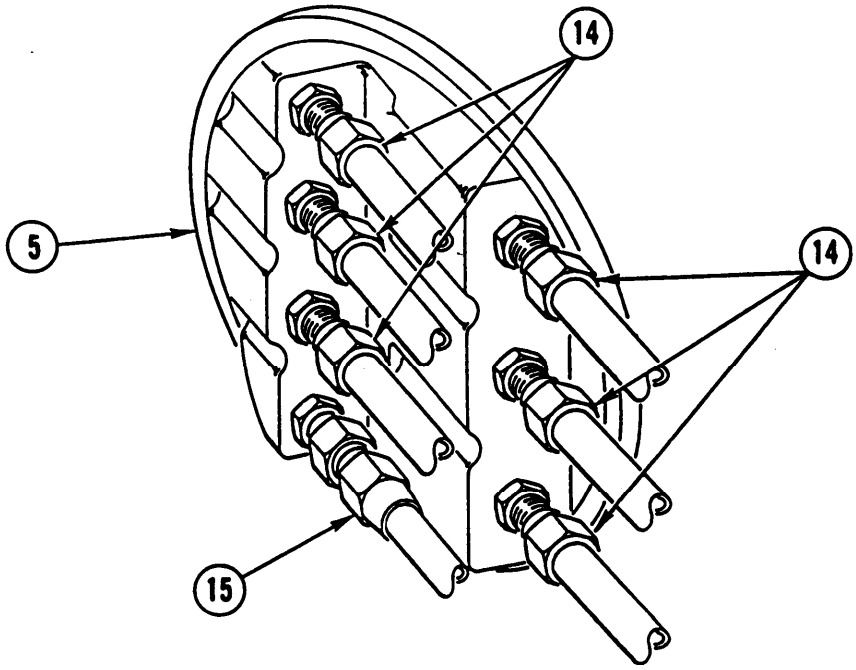
1. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL 13 CONNECTORS (1), 4 SENDING UNITS (2), 3 ELBOWS (3), AND 3 PIPE PLUGS (4) IN CAB AIR JUNCTION BLOCK (5).
2. APPLY SEAL 'N' CAULK TO MATING SURFACE OF CAB AIR JUNCTION BLOCK (5).
3. INSTALL CAB AIR JUNCTION BLOCK (5), GROUND WIRE (6), THREE WASHERS (7), THREE SCREWS (8), AND THREE KEP NUTS (9).

CAB AIR JUNCTION BLOCK REPLACEMENT (CONT)

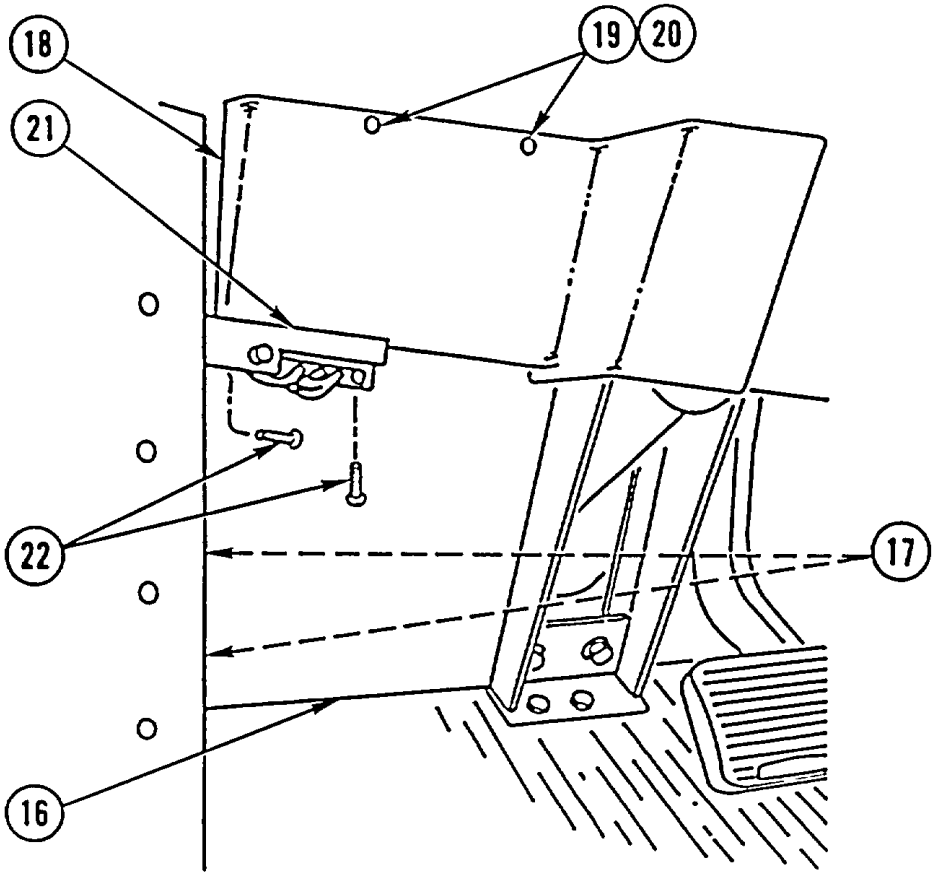


4. INSTALL TWO WIRES (10) AND TWO NEW LOCK NUTS (11).

5. CONNECT THREE PLUG CONNECTORS (12) AND EIGHT TUBES (13).



6. CONNECT SIX TUBES (14) AND OIL LINE (15) TO CAB AIR JUNCTION BLOCK (5).



7. INSTALL COVER (16) AND TWO SCREWS (17).

8. INSTALL COVER (18), FIVE WASHERS (19), AND FIVE SCREWS (20).

9. MOVE ENGINE CHECK SWITCH BRACKET (21) INTO PLACE AND INSTALL TWO SCREWS (22).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

FORWARD TRACTOR PROTECTION VALVE REPLACEMENT X

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)	P/N 23-10340-125
Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to vapors, and clothing. To avoid skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

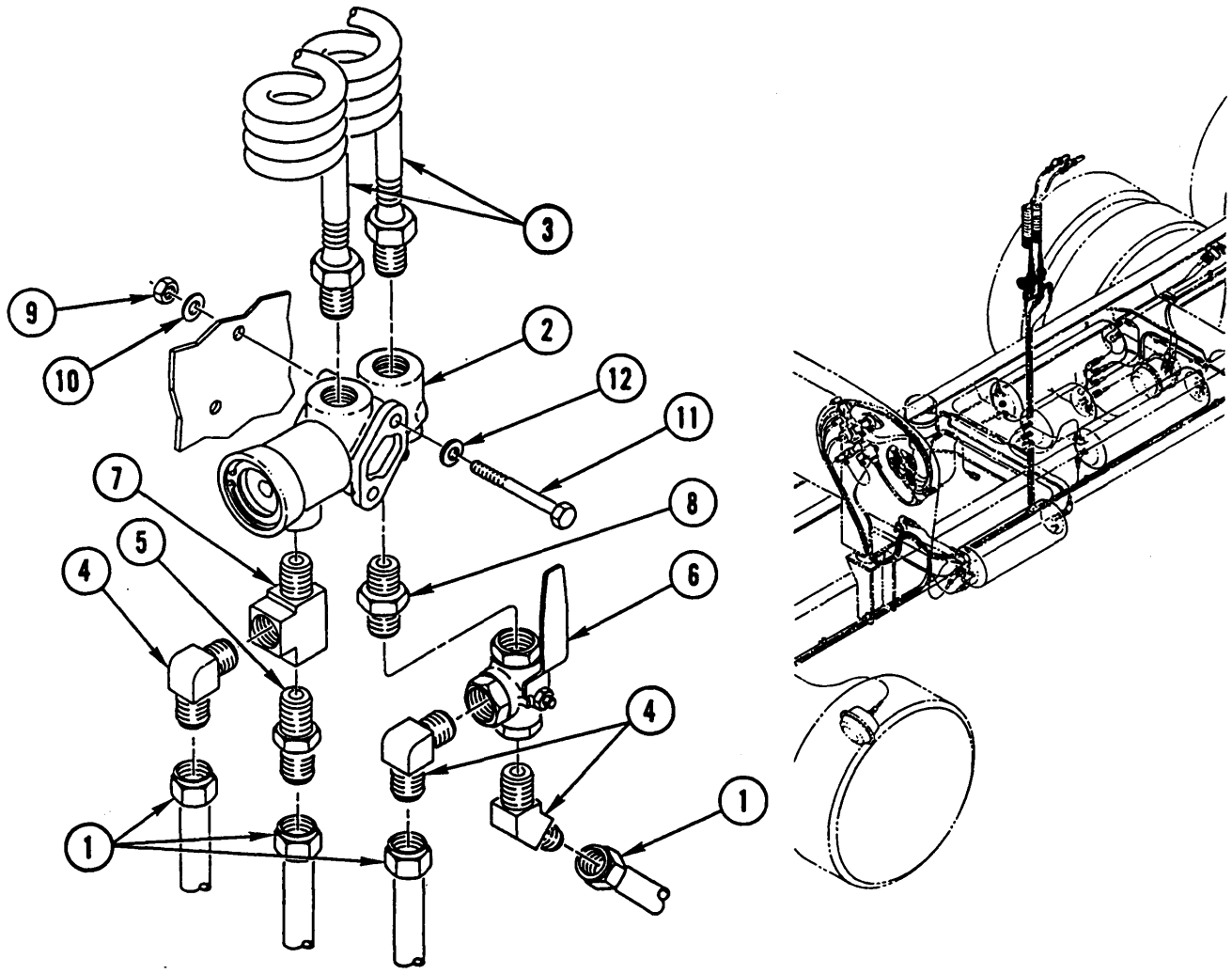
REMOVAL

NOTE
Tag all tubes prior to disconnecting to aid in installation.

1. DISCONNECT FOUR TUBES (1) FROM TRACTOR PROTECTION VALVE (2).
2. REMOVE TWO COUPLING HOSES (3), THREE ELBOWS (4), CONNECTOR (5), VALVE (6), TEE (7), AND ADAPTER (8).
3. REMOVE TWO LOCK NUTS (9), TWO WASHERS (10), TWO SCREWS (11), TWO WASHERS (12), AND TRACTOR PROTECTION VALVE (2). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL TRACTOR PROTECTION VALVE (2), TWO WASHERS (1 2), TWO SCREWS (11), TWO WASHERS (10), AND TWO NEW LOCK NUTS (9).

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

2. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL ADAPTER (8), TEE (7), VALVE (6), CONNECTOR (5), THREE ELBOWS (4), AND TWO COUPLING HOSES (3).

3. CONNECT FOUR TUBES (1) IN TRACTOR PROTECTION VALVE (2).

REAR TRACTOR PROTECTION VALVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)	P/N 23-10340-125
Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

General Safety instructions:

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

REMOVAL

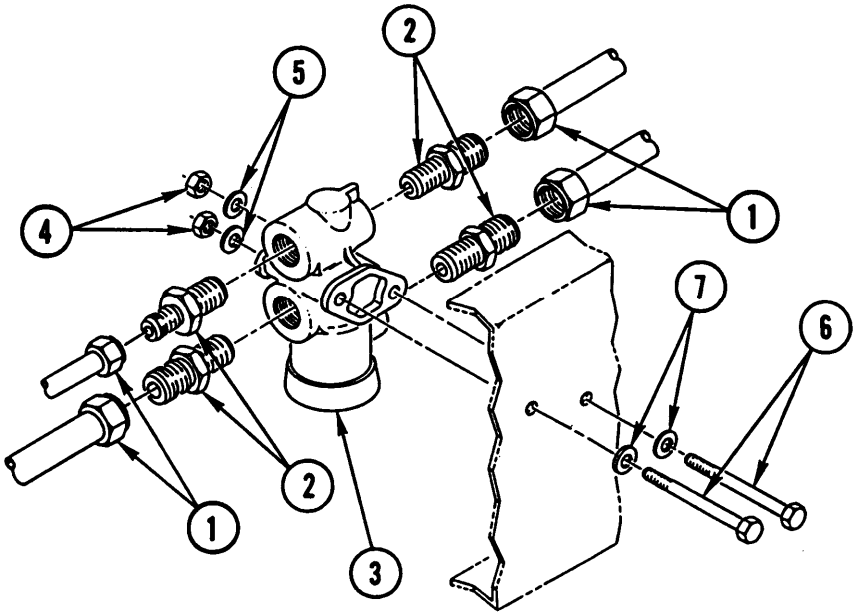
NOTE

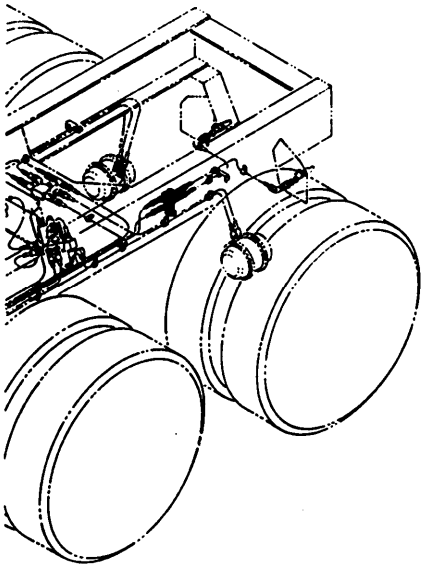
Tag all tubes prior to disconnecting to aid in installation.

1. DISCONNECT FOUR TUBES (1) AND REMOVE FOUR CONNECTORS (2) FROM TRACTOR PROTECTION VALVE (3).
2. REMOVE TWO LOCK NUTS (4), TWO WASHERS (5), TWO SCREWS (6), TWO WASHERS (7), AND TRACTOR PROTECTION VALVE (3). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.





INSTALLATION

1. INSTALL TRACTOR PROTECTION VALVE (3), TWO WASHERS (7), TWO SCREWS (6), TWO WASHERS (5), AND TWO NEW LOCK NUTS" (4).

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

2. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL FOUR CONNECTORS (2) IN TRACTOR PROTECTION VALVE (3) AND CONNECT FOUR TUBES (1).

REAR RELAY VALVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

Compound, Pipe Sealing — Appendix C, item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

General Safety instructions:

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

REMOVAL

NOTE

Tag ail tubes prior to disconnecting to aid in installation.

1. Disconnect THREE TUBES (1) AND FOUR HOSES (2) FROM RELAY VALVE (3).
2. REMOVE TWO LOCK NUTS (4), TWO WASHERS (5), TWO SCREWS (6), TWO WASHERS (7), AND RELAY VALVE (3). DiSCARD LOCK NUTS.
3. REMOVE FOUR ELBOWS (8) AND CONNECTOR (9).

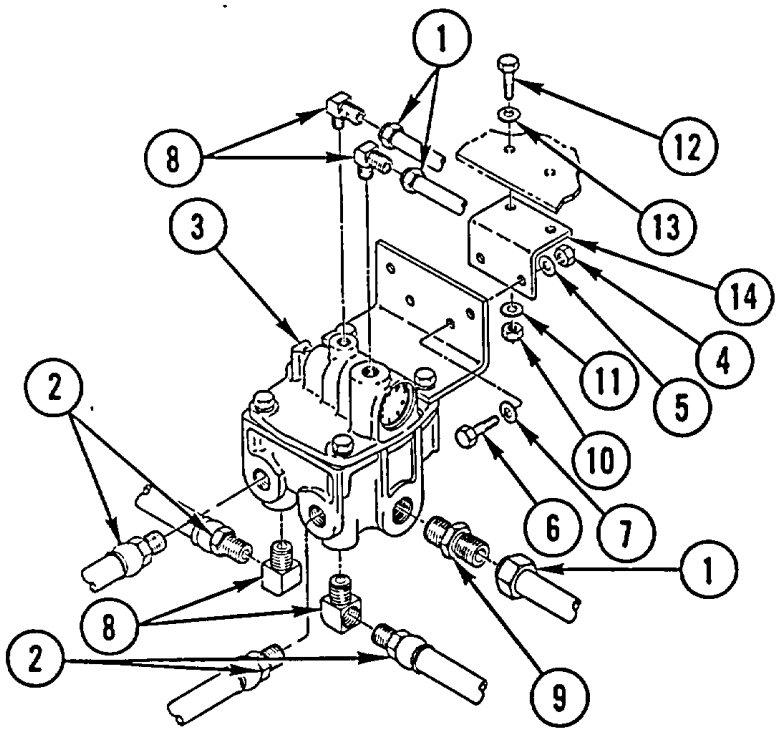
NOTE

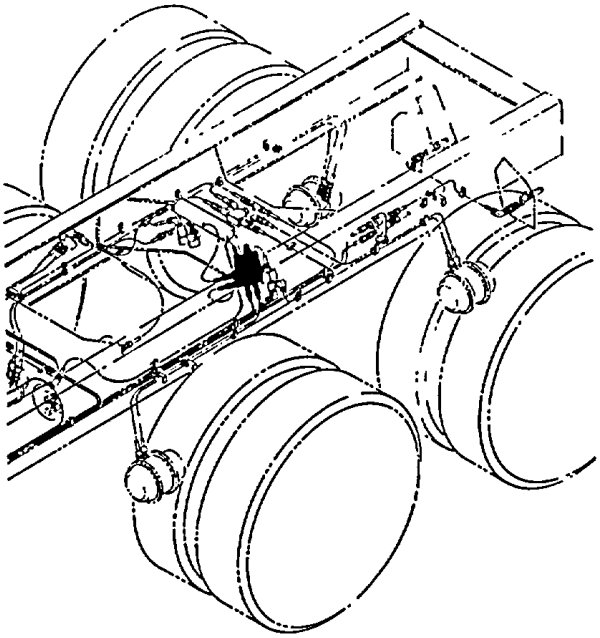
- M916A1 only: Mounting bracket is attached to top of crossmember.
- M915A2 only: Mounting bracket is attached to bottom of crossmember, as shown.

4. REMOVE TWO LOCK NUTS (10), TWO WASHERS (11), TWO SCREWS (12), TWO WASHERS (13), AND MOUNTING BRACKET (14). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.





INSTALLATION

NOTE

- **M915A2 only: Mounting bracket is attached to bottom of crossmember, as shown.**
- **All except M915A2 only: Mounting bracket is attached to top of crossmember.**

1. INSTALL MOUNTING BRACKET (14), TWO WASHERS (13), TWO SCREWS (12), TWO WASHERS (11), AND TWO NEW LOCK NUTS (10).

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

2. COAT PIPE THREADS OF FOUR ELBOWS (8) AND CONNECTOR (9) WITH PIPE SEALANT COMPOUND.

3. INSTALL FOUR ELBOWS (8) AND CONNECTOR (9) ON RELAY VALVE (3).

4. INSTALL RELAY VALVE (3), TWO WASHERS (7), TWO SCREWS (6), TWO WASHERS (5), AND TWO NEW LOCK NUTS (4).

5. CONNECT THREE TUBES (1) AND FOUR HOSES (2) TO RELAY VALVE (3).

FRONT SERVICE BRAKE RELAY VALVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

*
Tool Kit, SC 5180-90-CL-N26

Material/Parts:

Nut, Lock (2)

Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

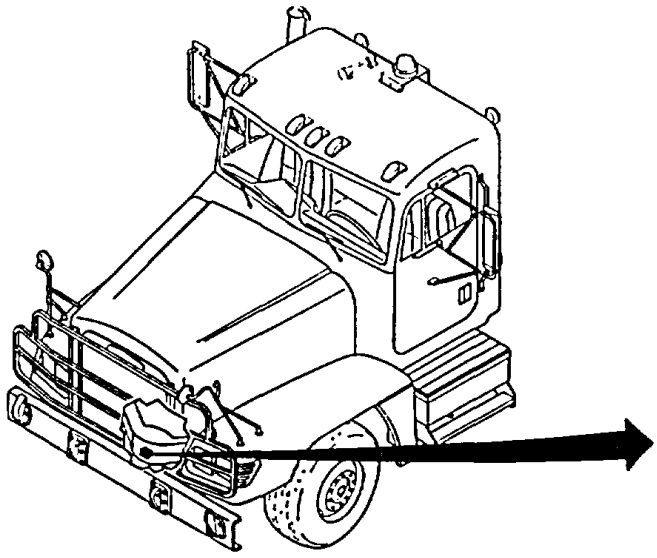
Reference	Condition Description
Page 2-28	Air System Drained

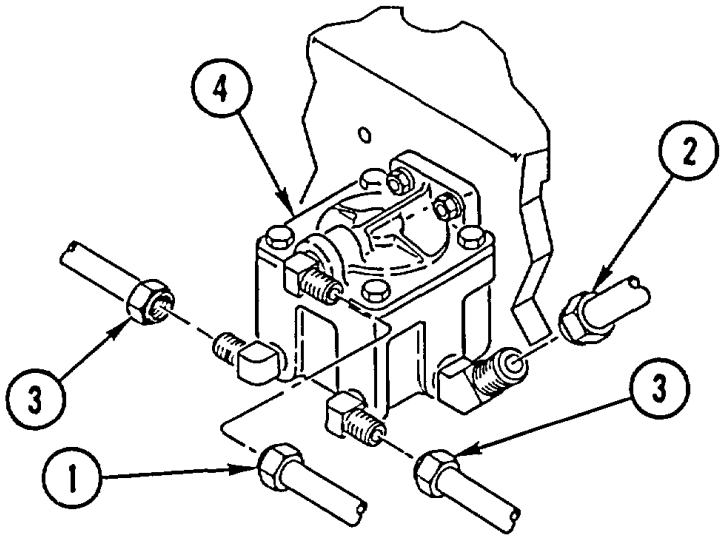
General Safety Instructions:

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

REMOVAL

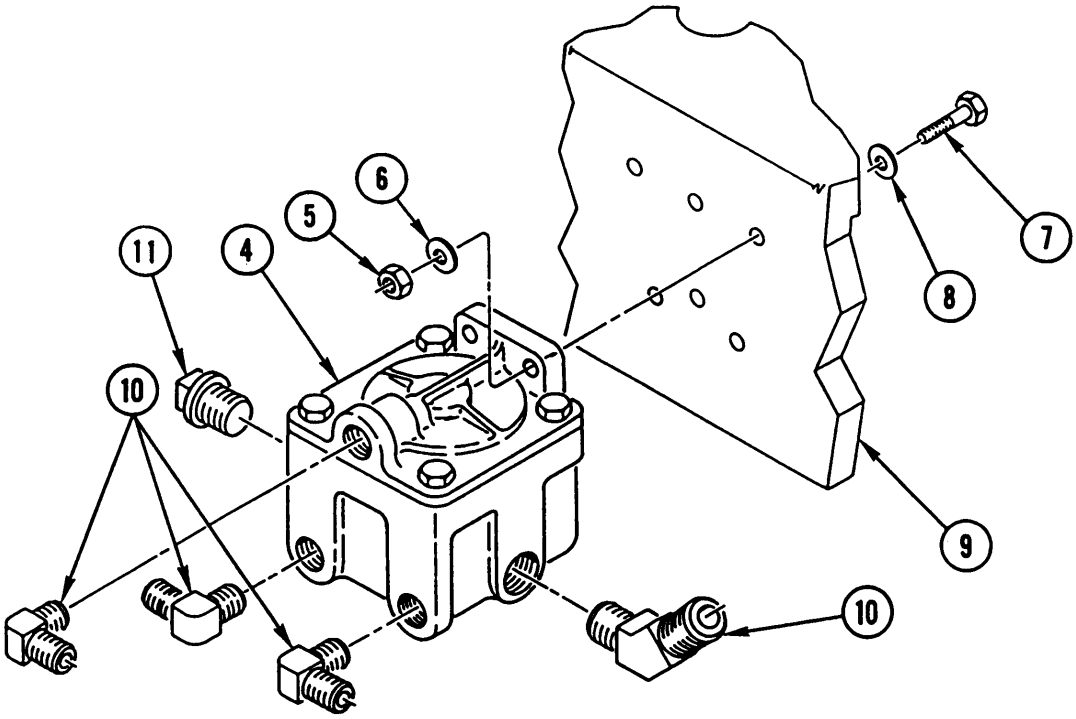




NOTE

Tag tubes prior to removal to aid in installation.

1. DISCONNECT CONTROL TUBE (1), SUPPLY TUBE (2), AND TWO DELIVERY TUBES (3) FROM BRAKE RELAY VALVE (4).



2. REMOVE TWO LOCK NUTS (5), TWO WASHERS (6), TWO SCREWS (7), TWO WASHERS (8), AND BRAKE RELAY VALVE (4) FROM CROSSMEMBER (9). DISCARD LOCK NUTS.

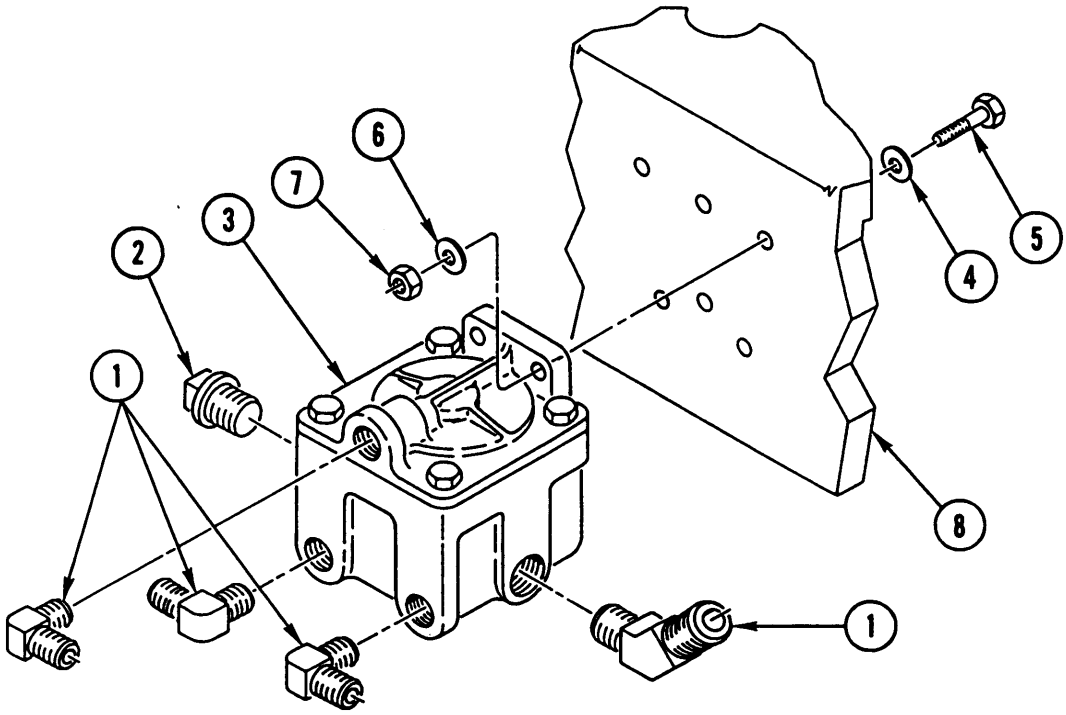
3. REMOVE FOUR ELBOWS (10) AND PLUG (11) FROM BRAKE RELAY VALVE (4).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

FRONT SERVICE BRAKE RELAY VALVE REPLACEMENT (CONT)

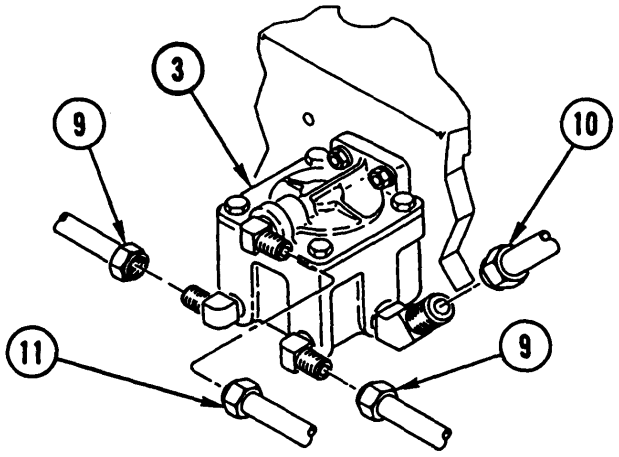
INSTALLATION



WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

1. COAT PIPE THREADS OF FOUR ELBOWS (1) AND PLUG (2) WITH PIPE SEALANT COMPOUND.
2. INSTALL FOUR ELBOWS (1) AND PLUG (2) IN BRAKE RELAY VALVE (3).
3. INSTALL BRAKE RELAY VALVE (3), TWO WASHERS (4), TWO SCREWS (5), TWO WASHERS (6), AND TWO NEW LOCK NUTS (7) ON CROSSMEMBER (8).



4. CONNECT TWO DELIVERY TUBES (9), SUPPLY TUBE (10), AND CONTROL TUBE (11) TO BRAKE RELAY VALVE (3).

FRONT GLADHANDS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (2)

Nut, Lock (2) P/N 23-10340-125

Compound, Pipe Sealing Appendix C, Item 8

Equipment Condition:

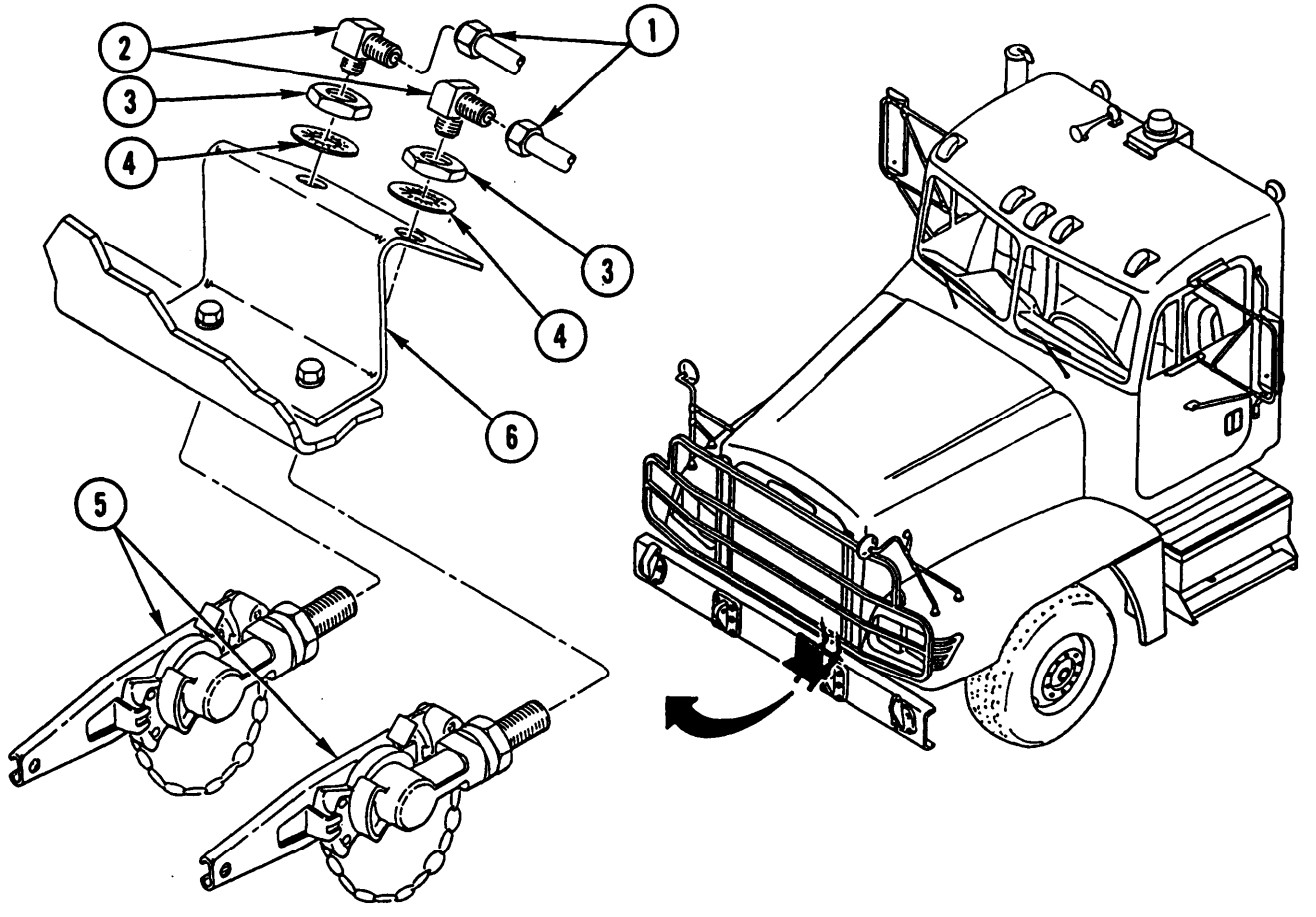
Reference	Condition Description
Page 2-28	Air System Drained

General Safety instructions:

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

REMOVAL



NOTE

Tag all tubes and fittings prior to removal to aid in installation.

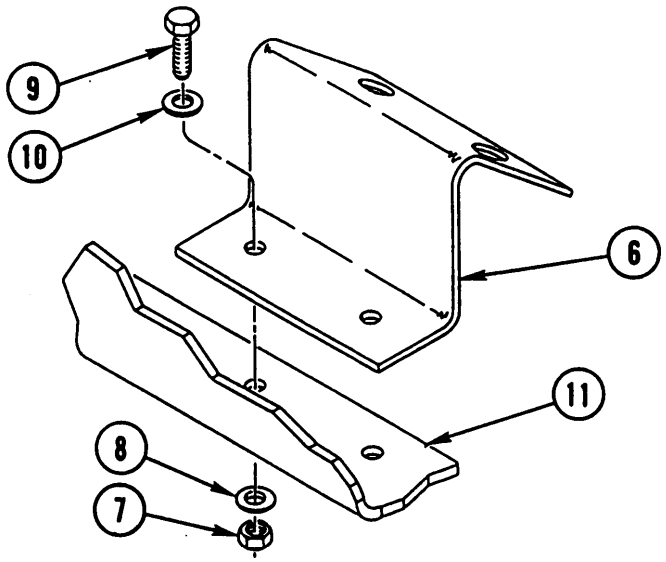
1. DISCONNECT TWO TUBES (1) FROM TWO ELBOWS (2).

NOTE

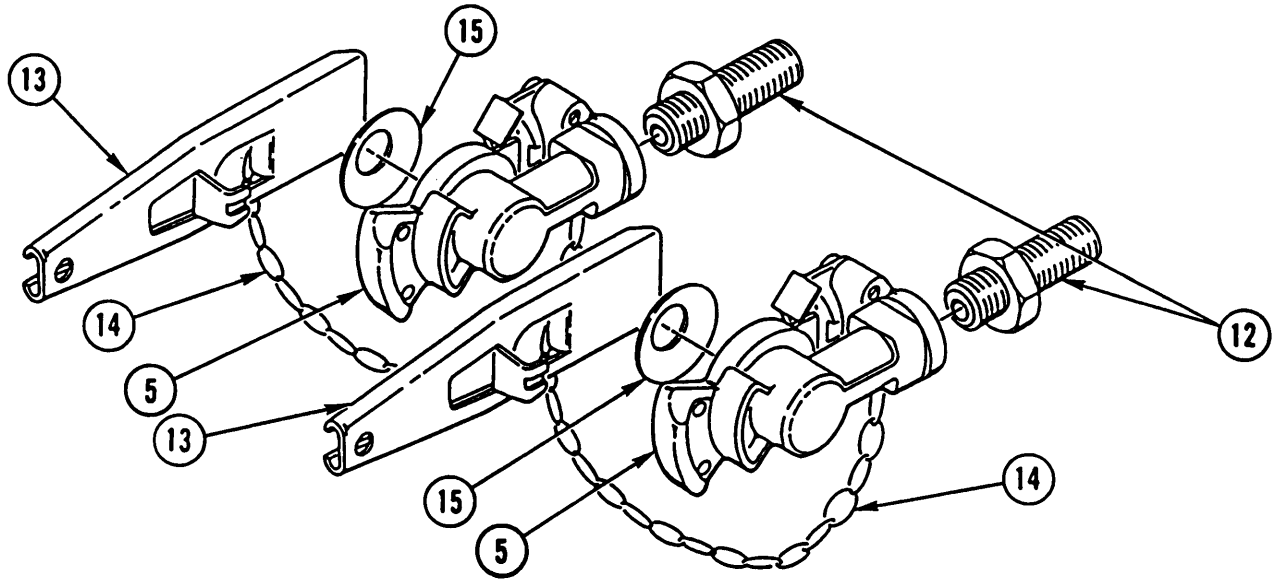
It is not necessary to remove gladhands in order to replace gladhand seals.

2. REMOVE TWO ELBOWS (2), TWO NUTS (3), TWO LOCK WASHERS (4), AND TWO GLADHANDS (5) FROM MOUNTING BRACKET (6). DISCARD LOCK WASHERS.

FRONT GLADHANDS REPLACEMENT (CONT)



3. REMOVE TWO LOCK NUTS (7), TWO WASHERS (8), TWO SCREWS (9), TWO WASHERS (10), AND MOUNTING BRACKET (6) FROM BUMPER (11). DISCARD LOCK NUTS.



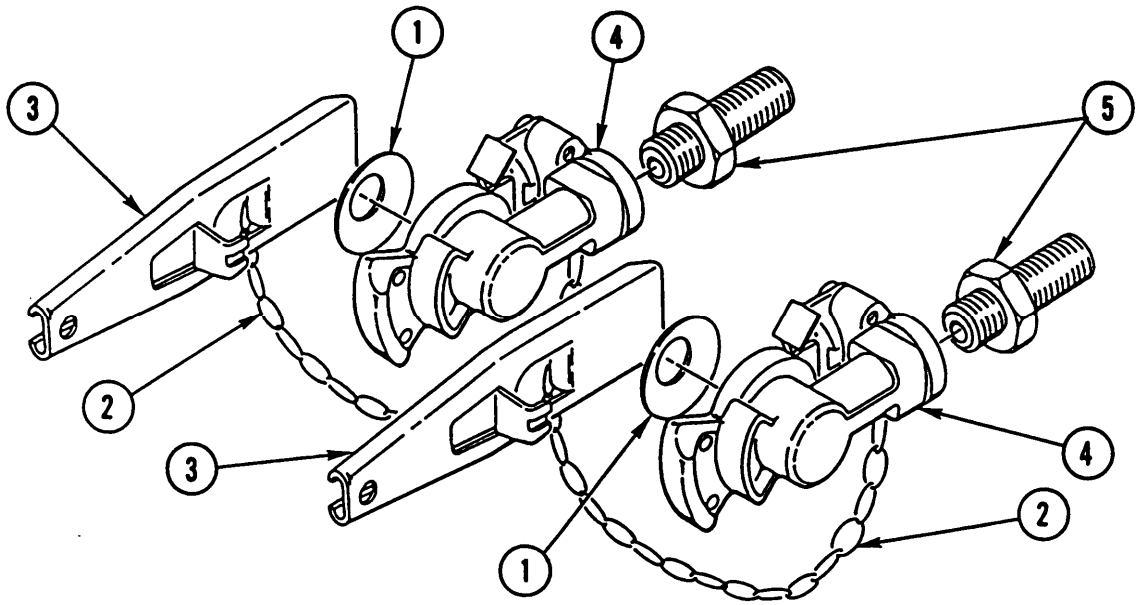
4. REMOVE TWO BULKHEAD FITTINGS (12), TWO DUMMYS (13), TWO CHAINS (14), AND TWO SEALS (15) FROM TWO GLADHANDS (5).

CLEANING/INSPECTION

1. INSPECT GLADHAND SEALS FOR CRACKS, TEARS, OR ANY EXCESSIVE WEAR. IF PRESENT, REPLACE GLADHAND SEALS.

2. CLEAN AND INSPECT ALL REMAINING PARTS IN ACCORDANCE WITH CHAPTER 2.

INSTALLATION



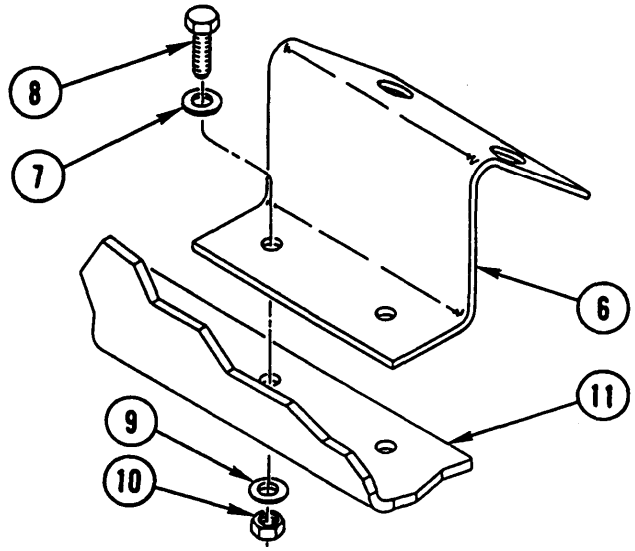
1. INSTALL TWO SEALS (1), TWO CHAINS (2), AND TWO DUMMYS (3) IN TWO GLADHANDS (4).

WARNING

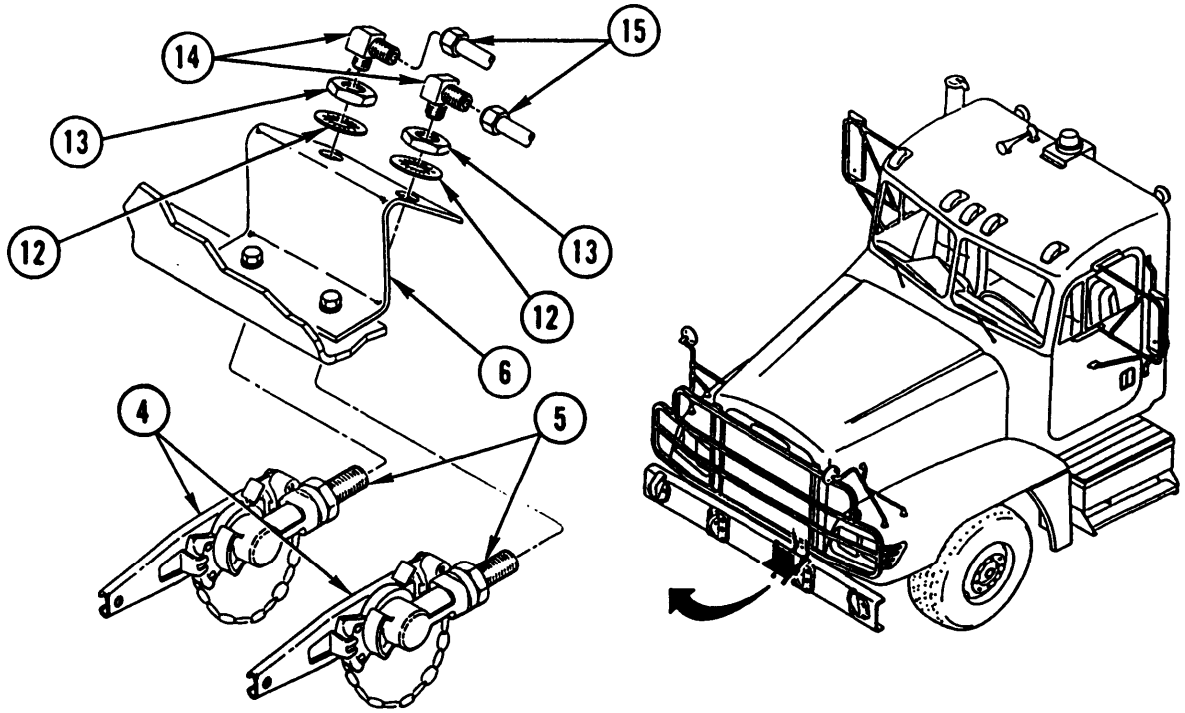
- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

2. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL TWO BULKHEAD FITTINGS (5) IN TWO GLADHANDS (4).

FRONT GLADHANDS REPLACEMENT (CONT)



3. INSTALL MOUNTING BRACKET (6), TWO WASHERS (7), TWO SCREWS (8), TWO WASHERS (9), AND TWO NEW LOCK NUTS (10) ON BUMPER (11).



4. INSTALL TWO GLADHANDS (4), TWO NEW LOCK WASHERS (12), AND TWO NUTS (13) IN MOUNTING BRACKET (6).

5. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL TWO ELBOWS (14) IN TWO BULKHEAD FITTINGS (5).

6. CONNECT TWO TUBES (15) TO TWO ELBOWS (14).

REAR GLADHAND REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock

Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

General Safety instructions:

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

REAR GLADHAND REPLACEMENT (CONT)

REMOVAL

NOTE

Procedure is for emergency gladhand and is the same for service gladhand.

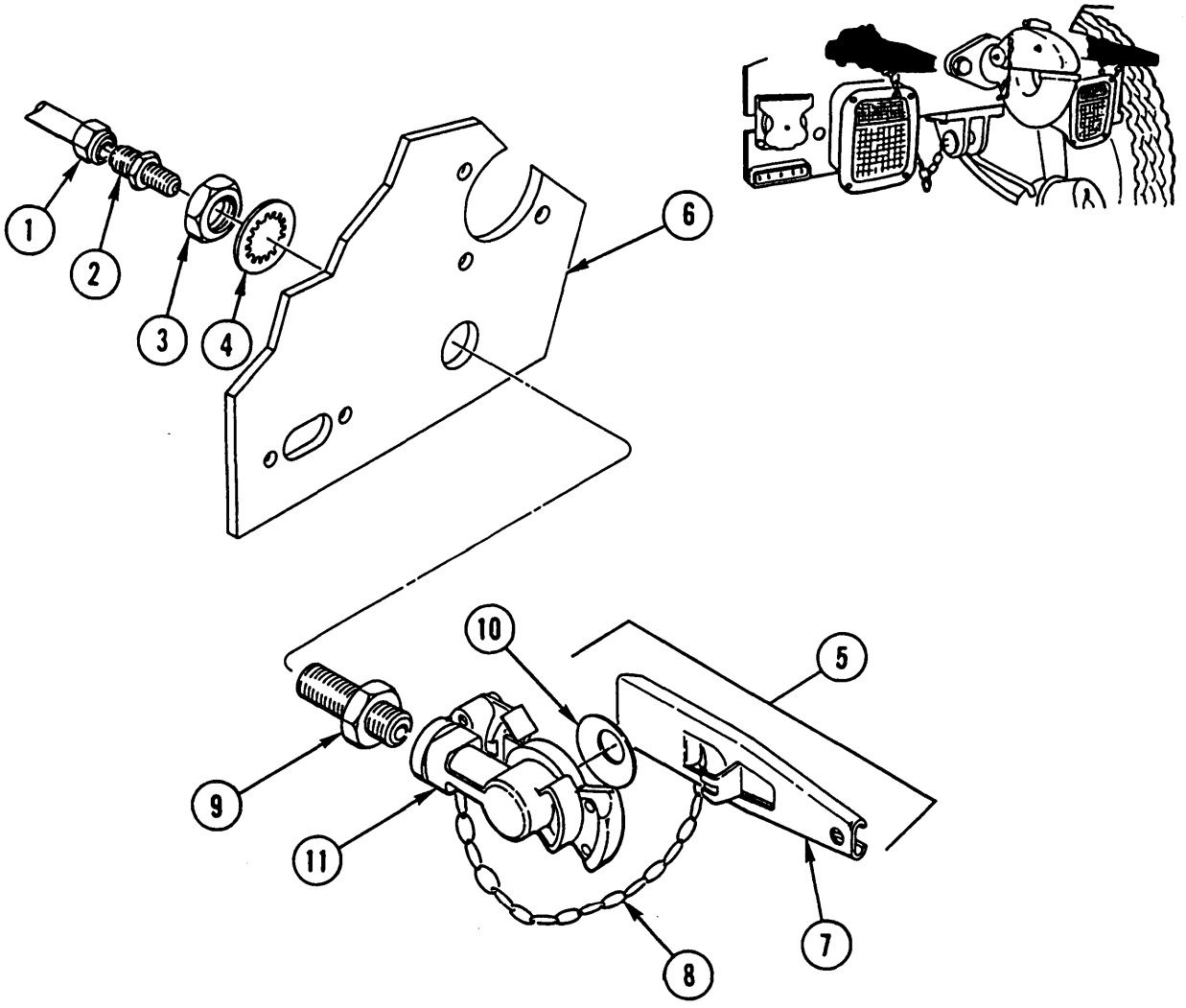
1. DISCONNECT TUBE (1) FROM CONNECTOR (2).

NOTE

It is not necessary to remove gladhand in order to replace gladhand seal.

2. REMOVE CONNECTOR (2), NUT (3), LOCK WASHER (4), AND GLADHAND ASSEMBLY (5) FROM BRACKET (6). DISCARD LOCK WASHER.

3. REMOVE DUMMY (7), CHAIN (8), BULKHEAD FITTING (9), AND SEAL (10) FROM GLADHAND (11).



CLEANING/INSPECTION

1. INSPECT GLADHAND SEAL FOR CRACKS, TEARS, OR ANY EXCESSIVE WEAR. IF PRESENT, REPLACE GLADHAND SEAL.
2. CLEAN AND INSPECT ALL REMAINING PARTS IN ACCORDANCE WITH CHAPTER 2.

INSTALLATION

NOTE

Procedure is for emergency gladhand and is the same for service gladhand.

1. INSTALL SEAL (10), CHAIN (8), AND DUMMY (7) ON GLADHAND (11).

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

2. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL BULKHEAD FITTING (9) IN GLADHAND (11).
3. INSTALL GLADHAND ASSEMBLY (5), NEW LOCK WASHER (4), AND NUT (3) IN BRACKET (6).
4. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL CONNECTOR (2).
5. CONNECT TUBE (1) TO CONNECTOR (2).

FRONT QUICK-RELEASE VALVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

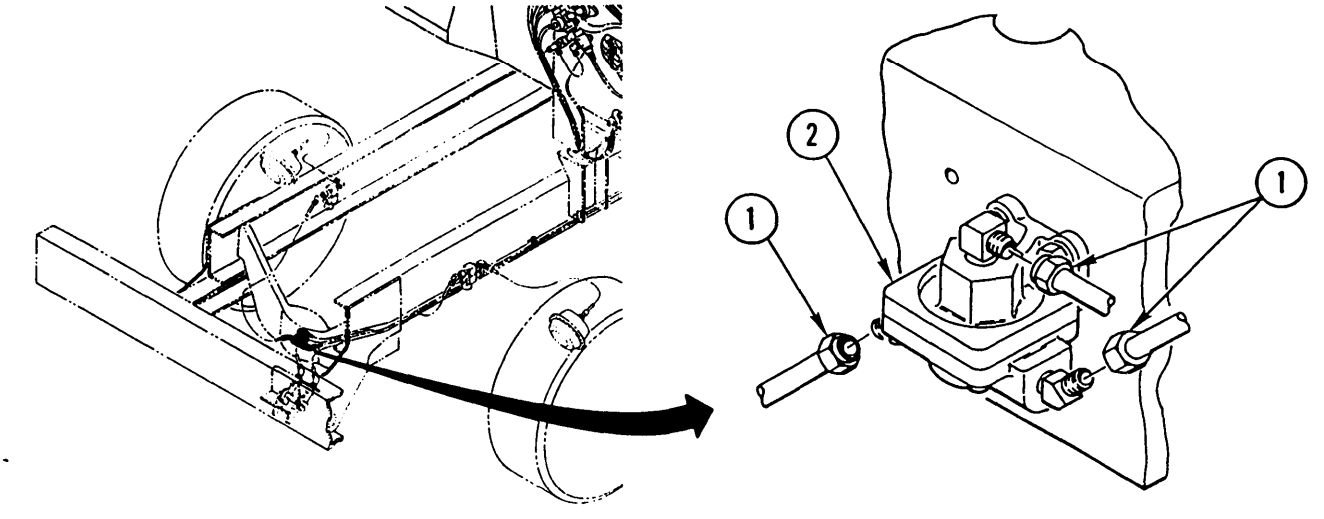
Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

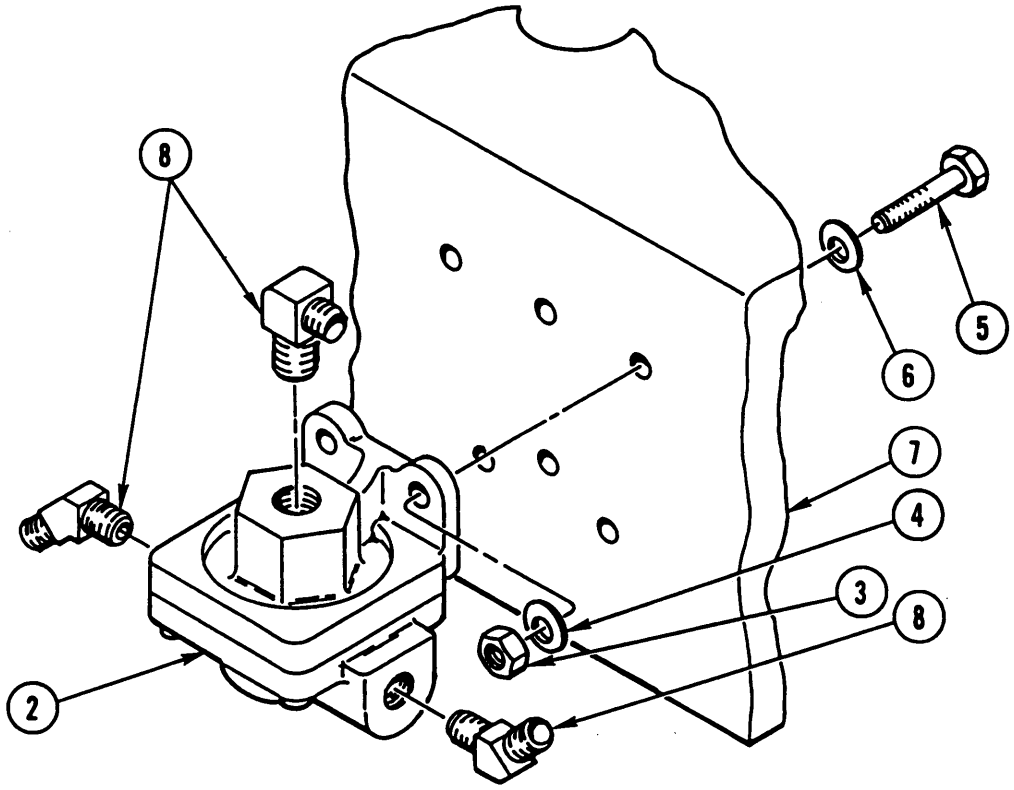
REMOVAL



NOTE

Tag tubes prior to removal to aid in installation.

1. DISCONNECT THREE TUBES (1) FROM QUICK-RELEASE VALVE (2).



2. REMOVE TWO LOCK NUTS (3), TWO WASHERS (4), TWO SCREWS (5), TWO WASHERS (6), AND QUICK-RELEASE VALVE (2) FROM CROSSMEMBER (7). DISCARD LOCK NUTS.

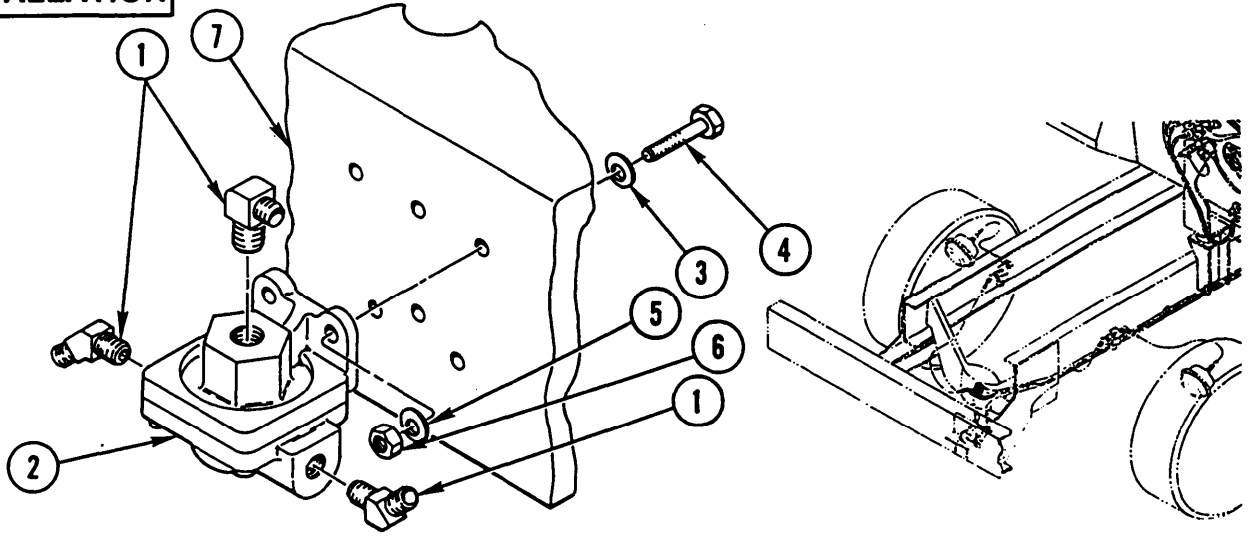
3. REMOVE THREE ELBOWS (8) FROM QUICK-RELEASE VALVE (2).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

FRONT QUICK-RELEASE VALVE REPLACEMENT (CONT)

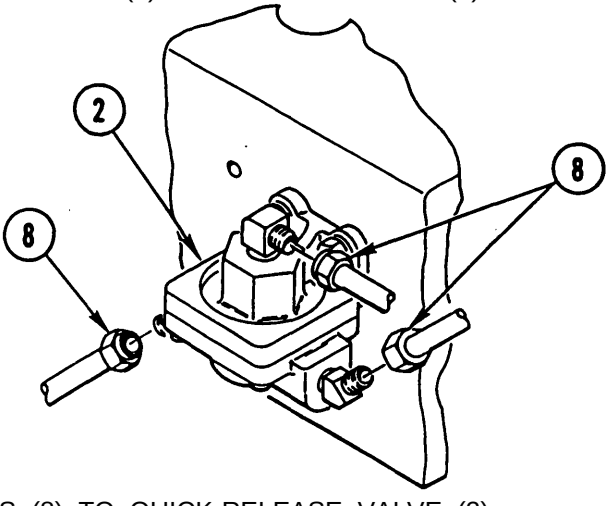
INSTALLATION



WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

1. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL THREE ELBOWS (1) IN QUICK-RELEASE VALVE (2).
2. INSTALL QUICK-RELEASE VALVE (2), TWO WASHERS (3), TWO SCREWS (4), TWO WASHERS (5), AND TWO NEW LOCK NUTS (6) ON CROSSMEMBER (7).



3. CONNECT THREE TUBES (8) TO QUICK-RELEASE VALVE (2).

REAR QUICK-RELEASE VALVE REPLACEMENT

This task covers: a. Removal b. CleaninG/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

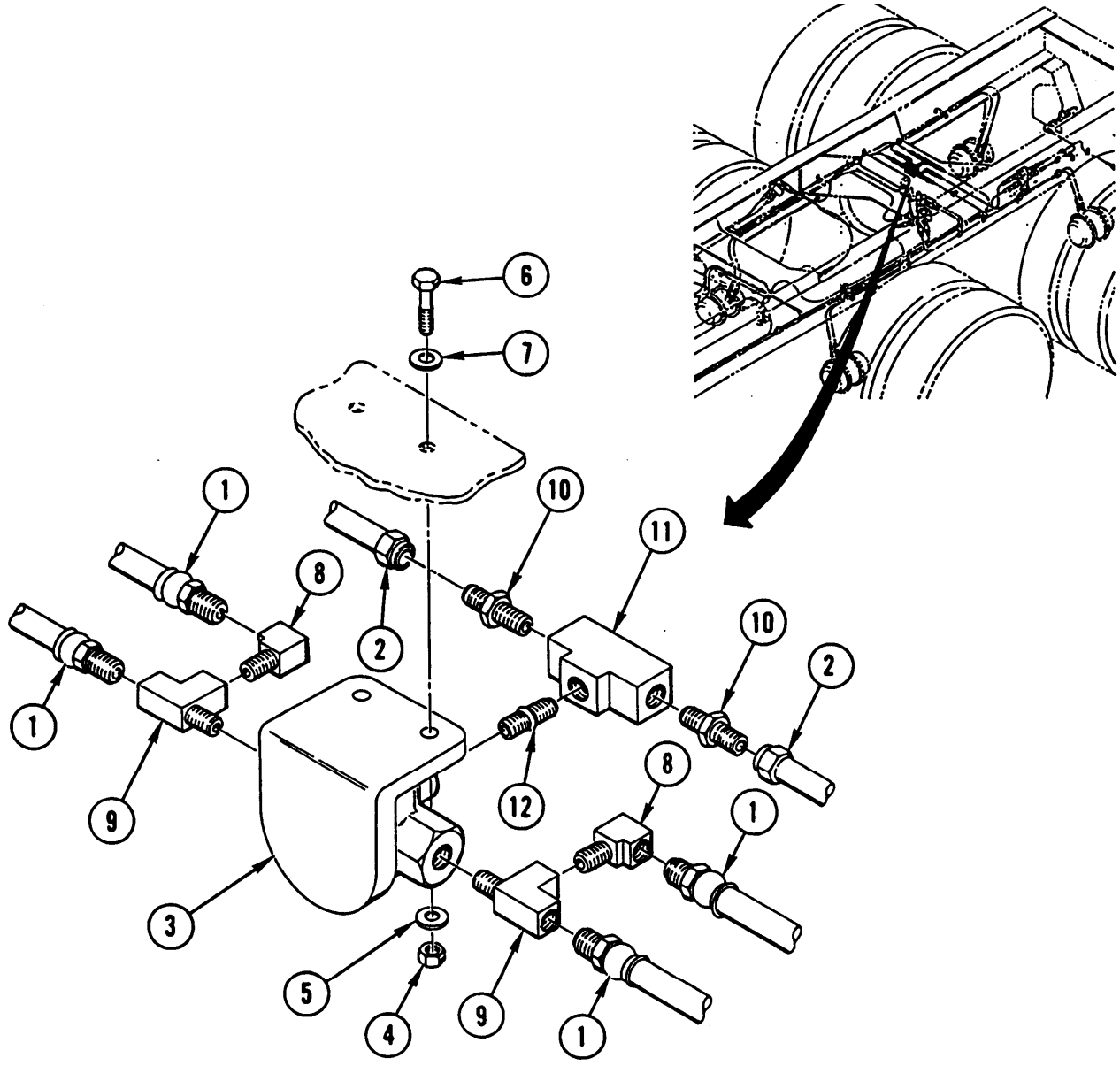
REAR QUICK-RELEASE VALVE REPLACEMENT (CONT)

REMOVAL

NOTE

Tag hoses and tubes prior to removal to aid in installation.

1. DISCONNECT FOUR HOSES (1) AND TWO TUBES (2) FROM QUICK-RELEASE VALVE (3).
2. REMOVE TWO LOCK NUTS (4), TWO WASHERS (5), TWO SCREWS (6), TWO WASHERS (7), AND QUICK-RELEASE VALVE (3). DISCARD LOCK NUTS.
3. REMOVE TWO ELBOWS (8), TWO TEES (9), TWO CONNECTORS (10), TWO-WAY CHECK VALVE (11), AND PIPE NIPPLE (12) FROM QUICK-RELEASE VALVE (3).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

1. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL PIPE NIPPLE (12), TWO-WAY CHECK VALVE (11), TWO CONNECTORS (10), TWO TEES (9), AND TWO ELBOWS (8) IN QUICK-RELEASE VALVE (3).
2. INSTALL QUICK-RELEASE VALVE (3), TWO WASHERS (7), TWO SCREWS (6), TWO WASHERS (5), AND TWO NEW LOCK NUTS (4).
3. CONNECT FOUR HOSES (1) AND TWO TUBES (2) TO QUICK-RELEASE VALVE (3).

AIR DRYER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

Nut, Lock (2)

Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

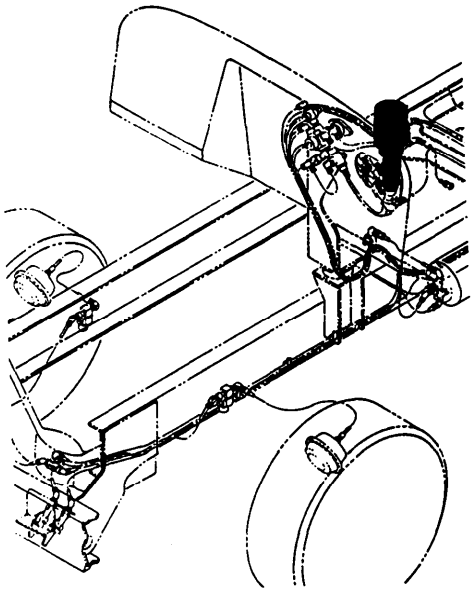
Reference	Condition Description
Page 2-28	Air System Drained

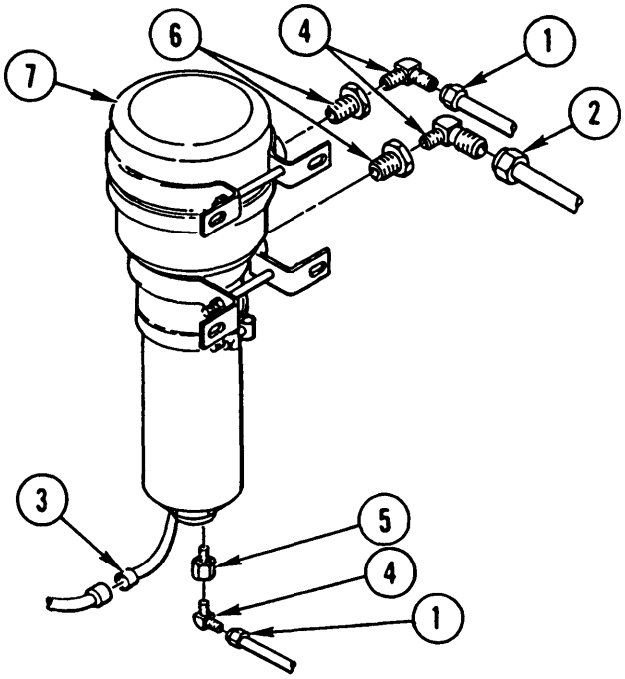
General Safety Instructions:

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

REMOVAL

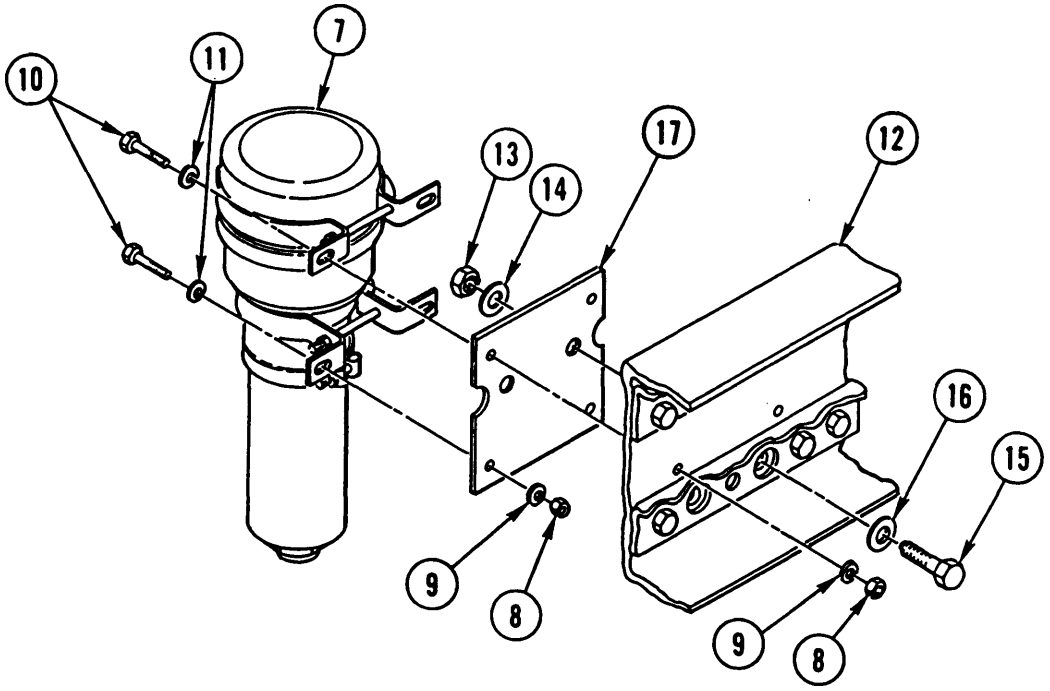




NOTE

Tag tubes prior to removal to aid in installation.

1. DISCONNECT TWO TUBES (1), HOSE (2), AND PLUG CONNECTOR (3).
2. REMOVE THREE ELBOWS (4), ADAPTER (5), AND TWO BUSHINGS (6) FROM AIR DRYER (7).



NOTE

Assistance will be needed to support air dryer.

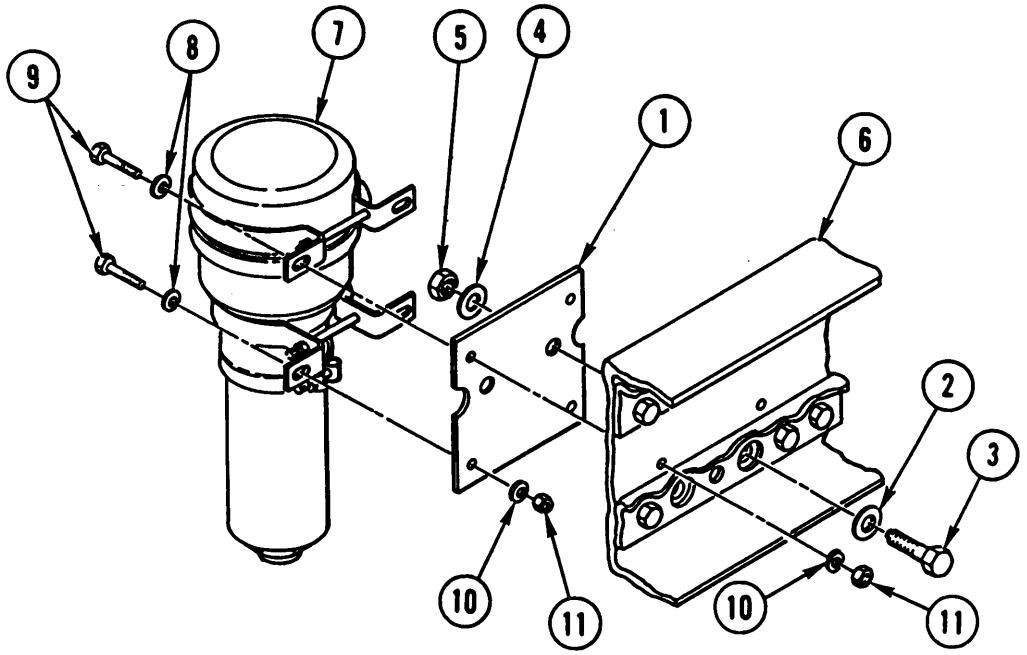
3. REMOVE FOUR LOCK NUTS (8), FOUR WASHERS (9), FOUR SCREWS (10), FOUR WASHERS (1 1), AND AIR DRYER (7) FROM FRAME RAIL (12). DISCARD LOCK NUTS.
4. REMOVE TWO LOCK NUTS (13), TWO WASHERS (14), TWO SCREWS (15), TWO WASHERS (16), AND MOUNTING PLATE (17) FROM FRAME RAIL (12). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

AIR DRYER REPLACEMENT (CONT)

INSTALMTI ON

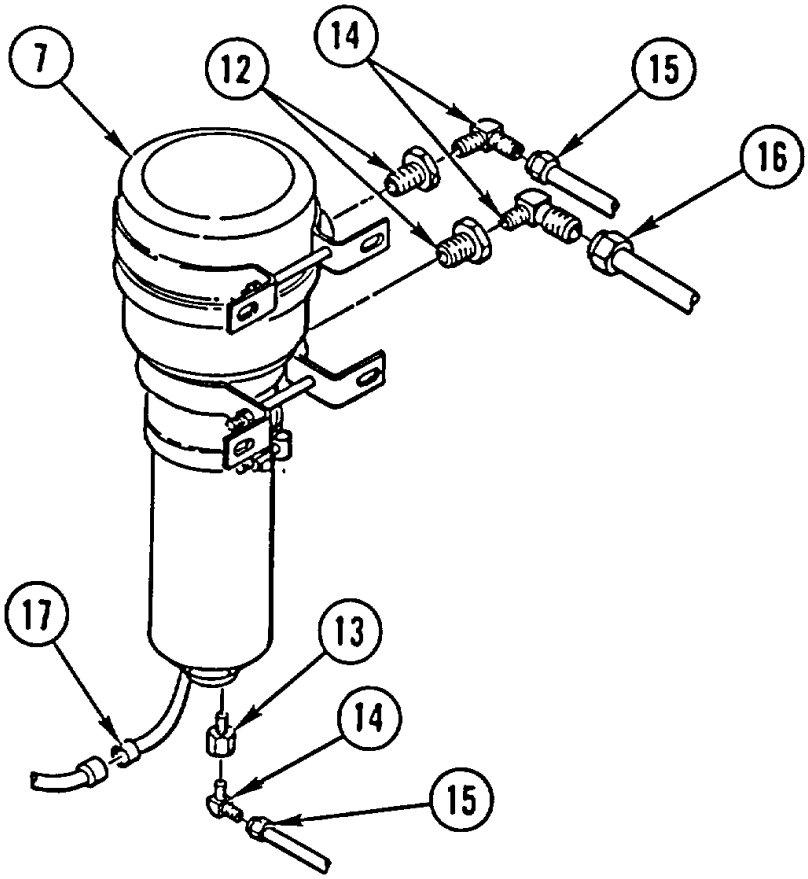


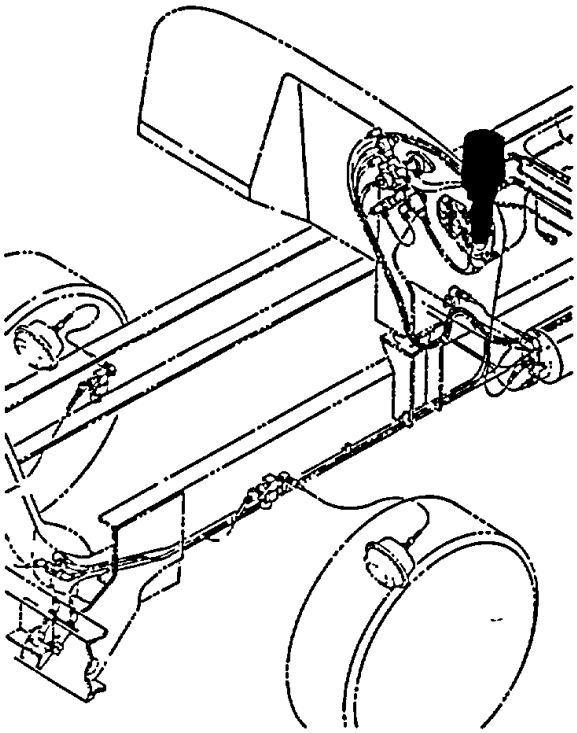
1. INSTALL MOUNTING PLATE (1), TWO WASHERS (2), TWO SCREWS (3), TWO WASHERS (4), AND TWO NEW LOCK NUTS (5) ON FRAME RAIL (6).

NOTE

Assistance will be needed to support air dryer.

2. INSTALL AIR DRYER (7), FOUR WASHERS (8), FOUR SCREWS (9), FOUR WASHERS (10), AND FOUR NEW LOCK NUTS (11) ON FRAME RAIL (6).





WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**

- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

3. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL TWO BUSHINGS (12), ADAPTER (13), AND THREE ELBOWS (14) ON AIR DRYER (7).

4. CONNECT TWO TUBES (15), HOSE (16), AND PLUG CONNECTOR (17).

AIR DRYER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

Nut, Lock (4)

Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

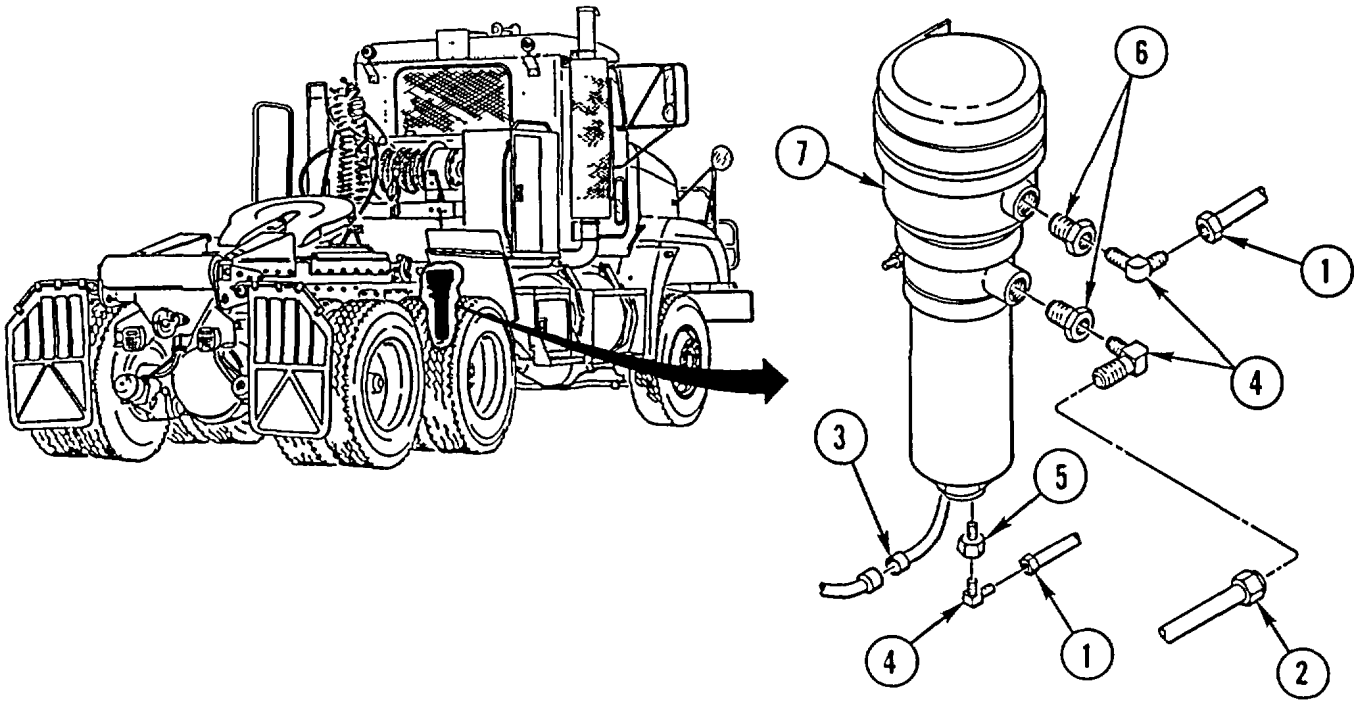
Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:)

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away fromopen fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

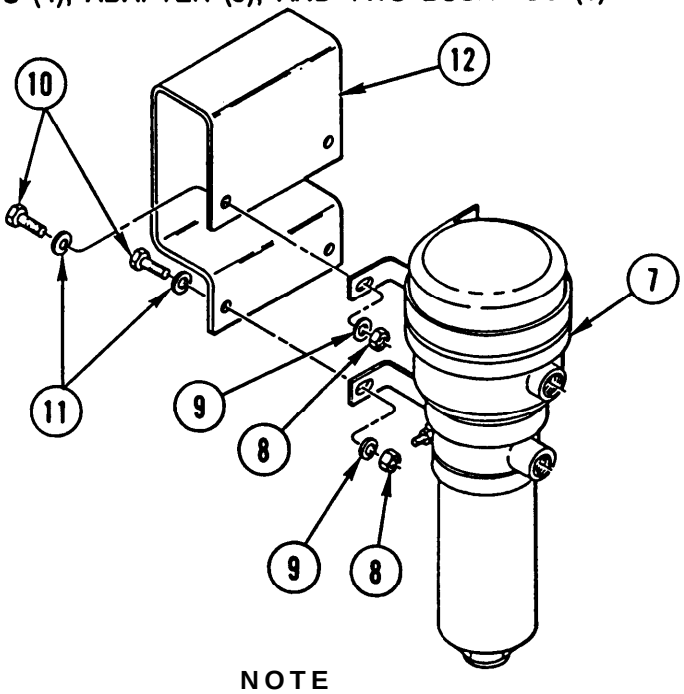
REMOVAL



NOTE

Tag all tubes and fittings prior to removal to aid in installation.

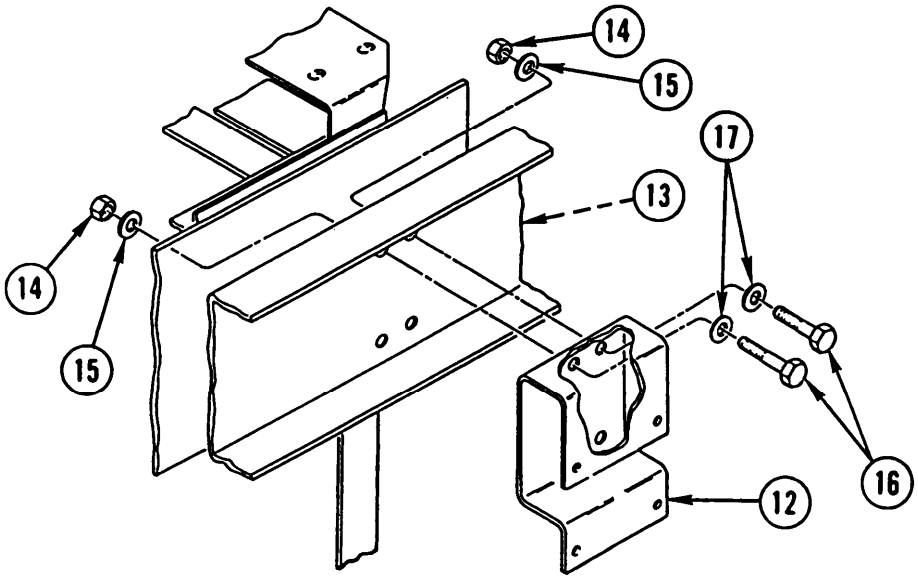
1. DISCONNECT TWO TUBES (1), HOSE (2), AND PLUG CONNECTOR (3).
2. REMOVE THREE ELBOWS (4), ADAPTER (5), AND TWO BUSHINGS (6) FROM AIR DRYER (7).



NOTE

Assistance will be needed to support air dryer.

3. REMOVE FOUR LOCK NUTS (8), FOUR WASHERS (9), FOUR CAPSCREWS (10), FOUR WASHERS (11), AND AIR DRYER (7) FROM MOUNTING BRACKET (12). DISCARD LOCK NUTS.



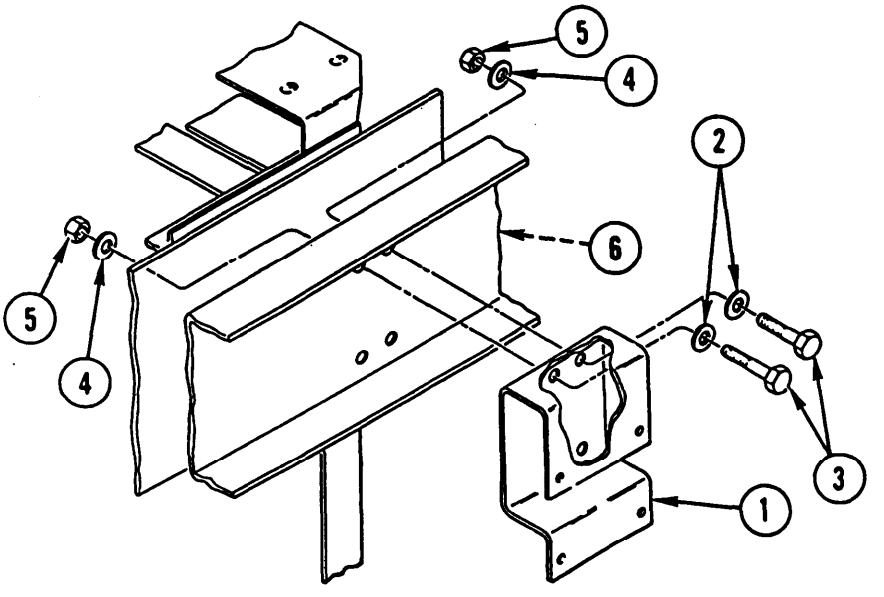
4. USING SUITABLE JACK, SUPPORT STOWAGE BOX (13) AND REMOVE FOUR LOCK NUTS (14), FOUR WASHERS (15), FOUR SCREWS (16), FOUR WASHERS (17), AND MOUNTING BRACKET (12). DISCARD LOCK NUTS.

AIR DRYER REPLACEMENT (CONT)

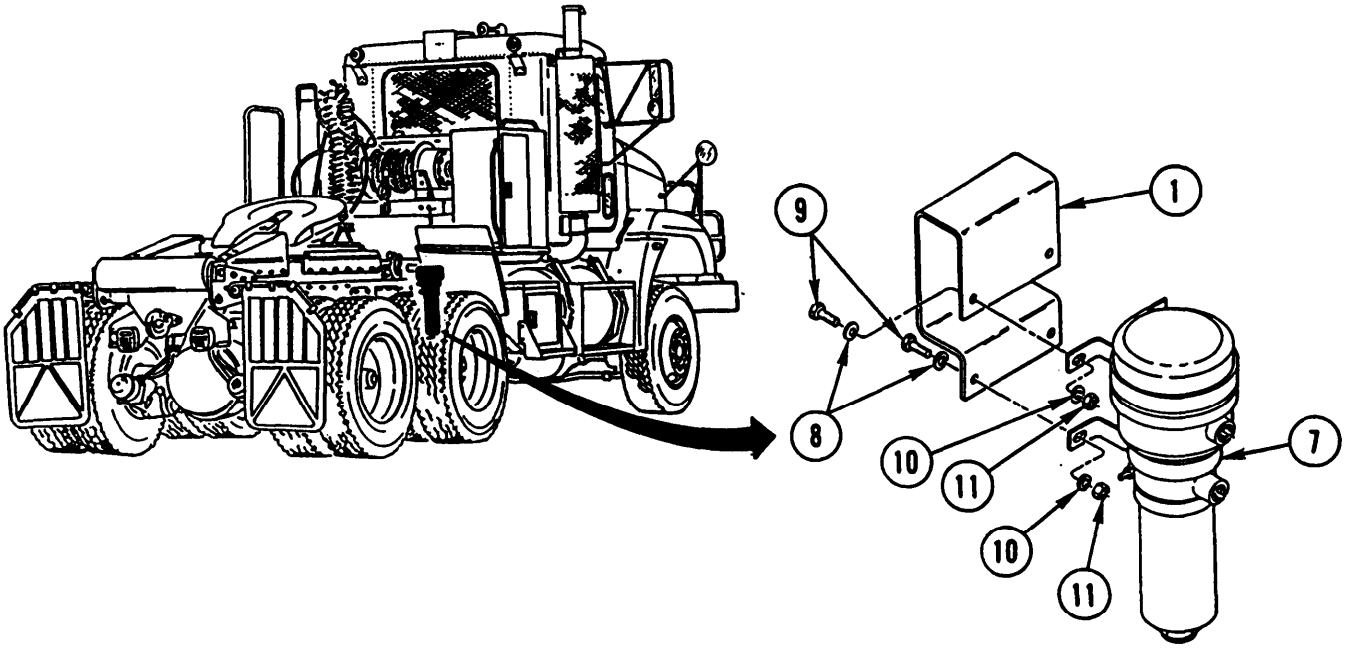
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

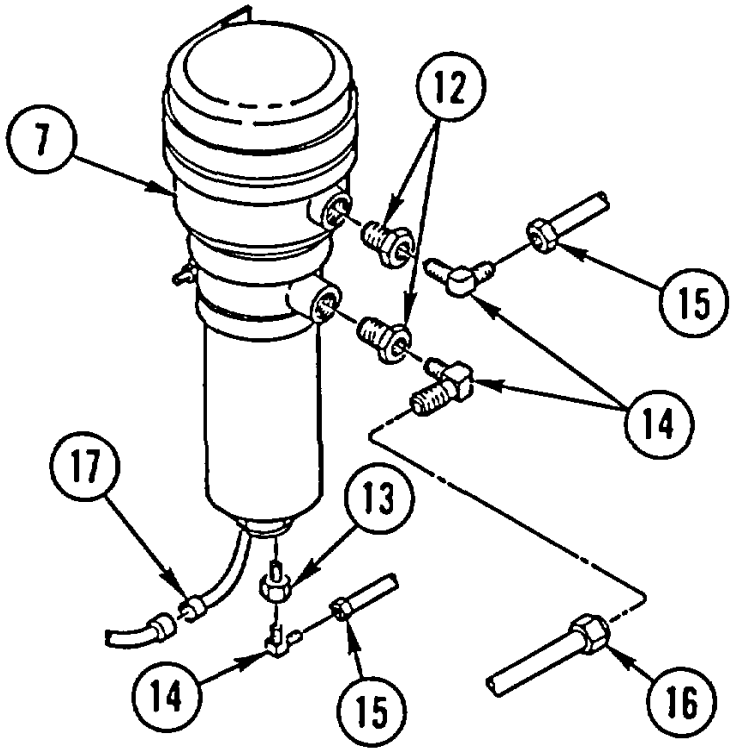


1. INSTALL MOUNTING BRACKET (1), FOUR WASHERS (2), FOUR SCREWS (3), FOUR WASHERS (4), AND FOUR NEW LOCK NUTS (5) ON STOWAGE BOX (6).



NOTE
Assistance will be needed to support air dryer.

2. INSTALL AIR DRYER (7), FOUR WASHERS (8), FOUR CAPSCREWS (9), FOUR WASHERS (10), AND FOUR NEW LOCK NUTS (11) IN MOUNTING BRACKET (1).



WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**

- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

3. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL TWO BUSHINGS (12), ADAPTER (13), AND THREE ELBOWS (14) IN AIR DRYER (7).

4. CONNECT TWO TUBES (15), HOSE (16), AND PLUG CONNECTOR (17).

AIR DRYER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation ,

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 51 80-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8
Tags, Identification	Appendix C, Item 26

Equipment Description:

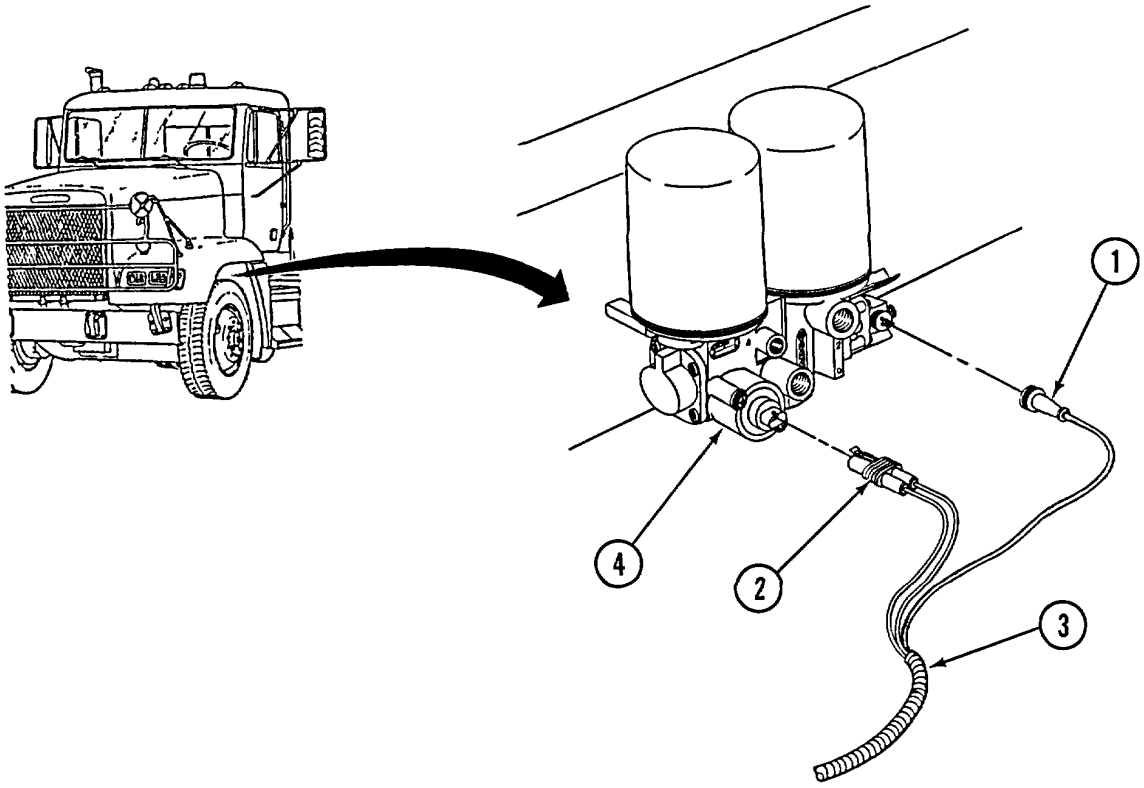
Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 2-28	Air System Drained

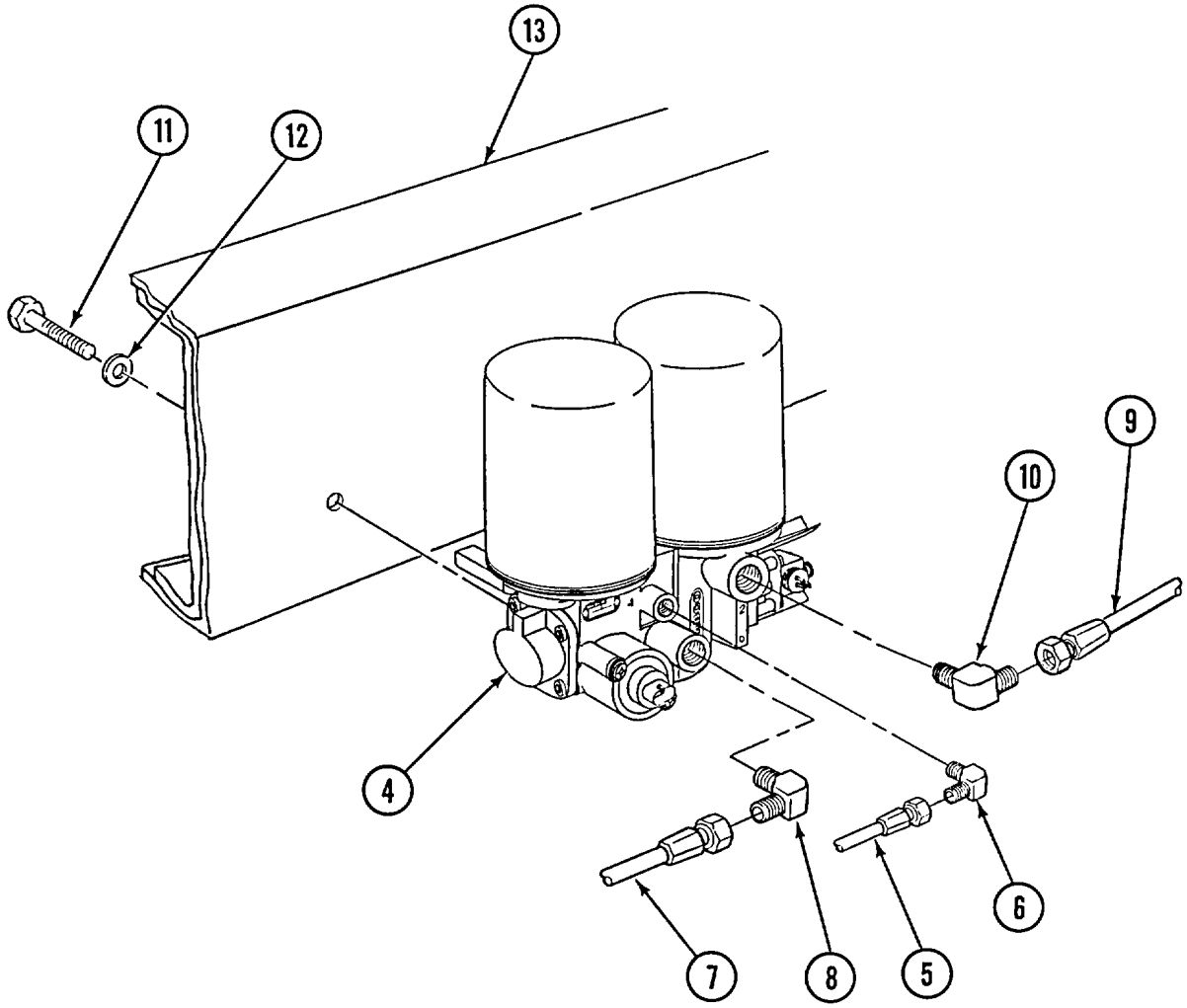
WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

REMOVAL

1. DISCONNECT CONNECTOR (1) AND CONNECTOR (2) OF AIR DRYER HEATER HARNESS (3) FROM AIR DRYER (4).





NOTE
Tag lines prior to removal to aid in installation.

2. DISCONNECT TUBE (5) FROM ELBOW (6).

3. DISCONNECT HOSE (7) FROM ELBOW (8).

4. DISCONNECT HOSE (9) FROM ELBOW (10).

NOTE
Note position of elbows for installation.

5. REMOVE ELBOWS (6,8, AND 10).

6. REMOVE THREE SCREWS (11), FLAT WASHERS (12) AND AIR DRYER (4) FROM FRAME (13).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

AIR DRYER REPLACEMENT (CONT)

INSTALLATION

1. INSTALL AIR DRYER (1) TO FRAME (2) WITH THREE FLAT WASHERS (3) AND SCREWS (4).

WARNING

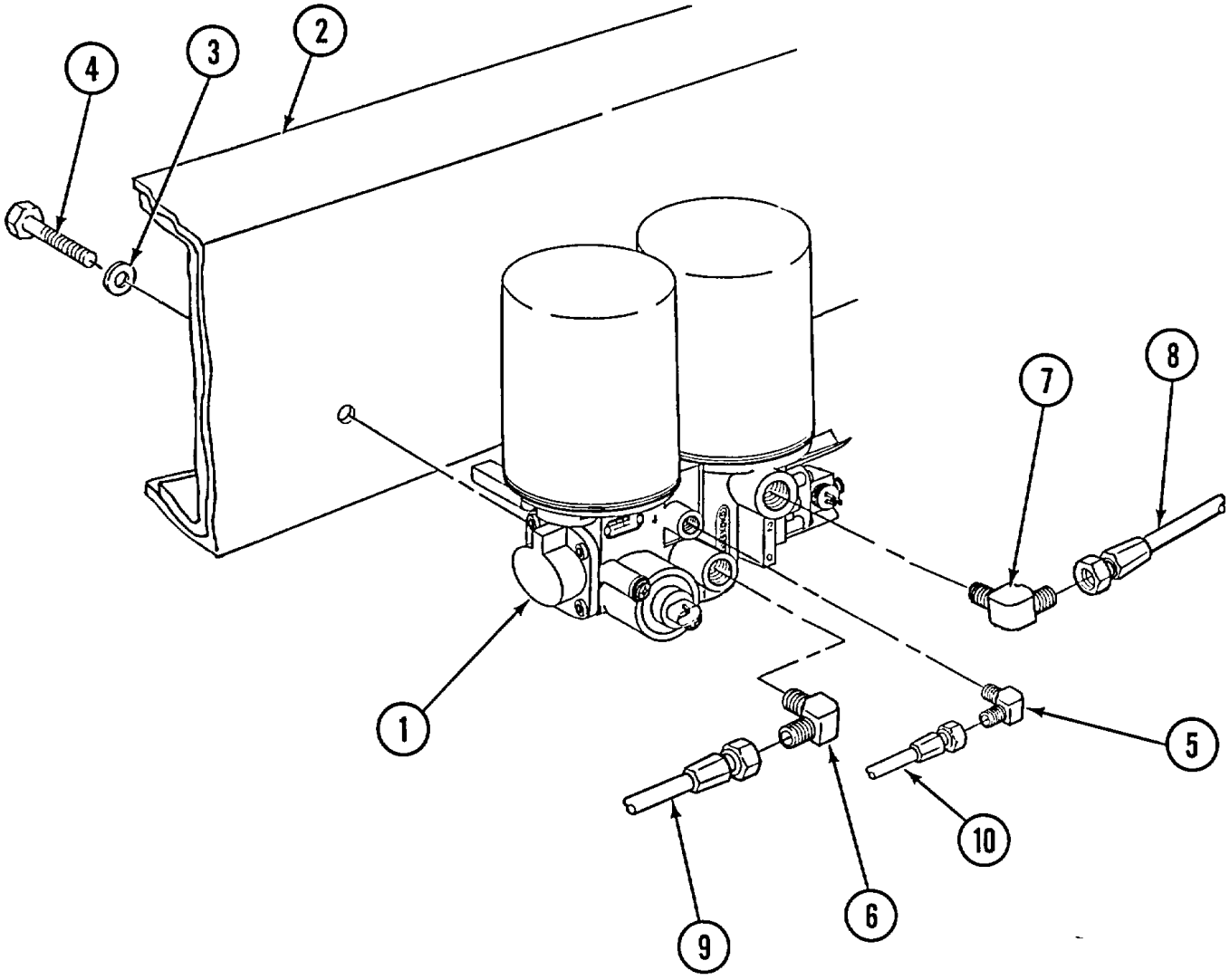
Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel

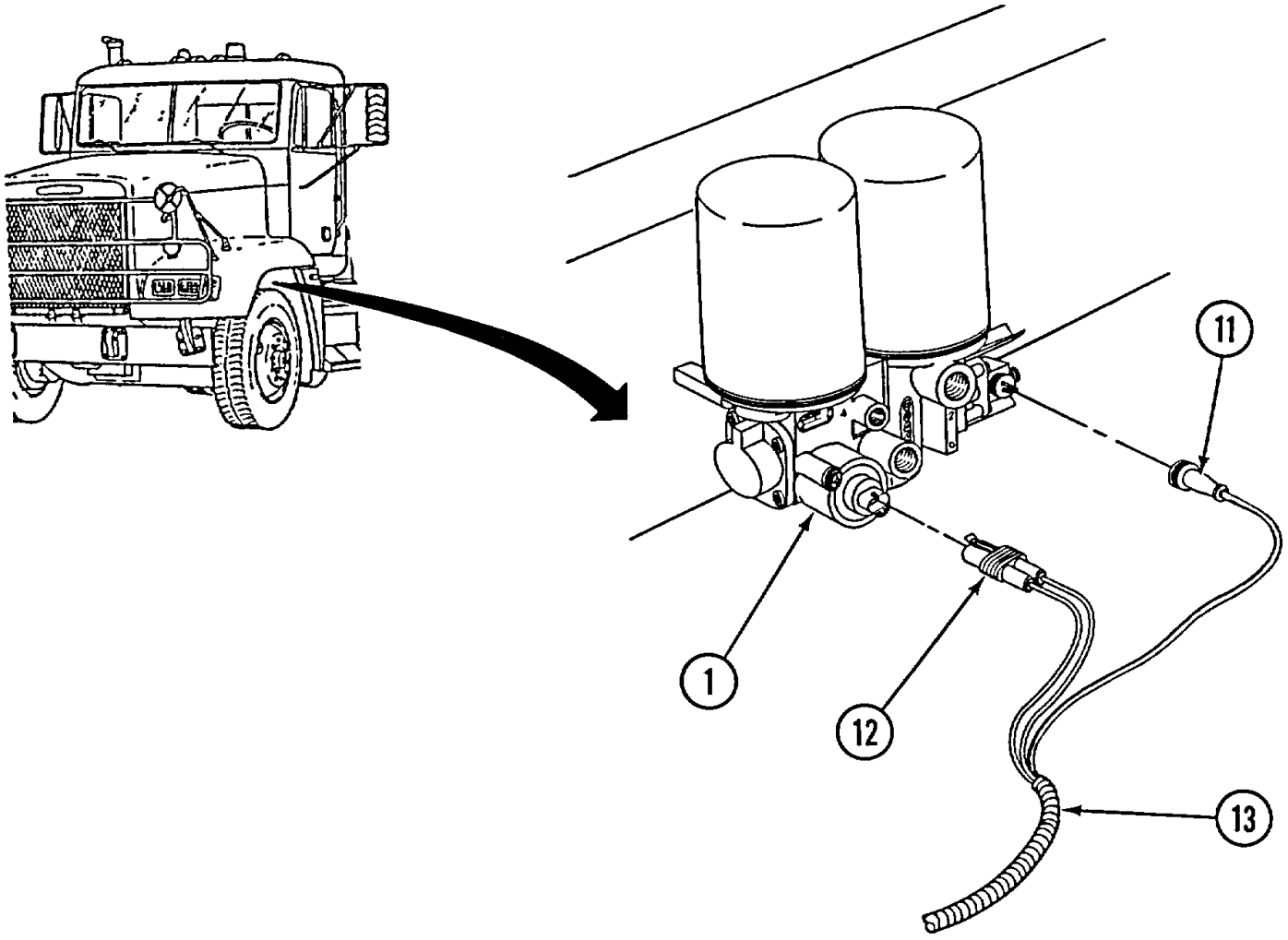
2. COAT THREADS WITH PIPE SEALING COMPOUND AND INSTALL THREE ELBOWS (5, 6, AND 7) TO AIR DRYER (1).

3. CONNECT HOSE (8) TO ELBOW (7).

4. CONNECT HOSE (9) TO ELBOW (6).

5. CONNECT TUBE (10) TO ELBOW (5).





6. CONNECT CONNECTOR (11) AND CONNECTOR (12) OF AIR DRYER HEATER HARNESS (13) TO AIR DRYER (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

AIR DRYER CANISTER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Kit, Cartridge PIN KAF953

Oil, Lubricating Appendix C, Item 16

Equipment Description:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 2-28	Air System Drained

REMOVAL

1. REMOVE TIE STRAP (1) AND DISCONNECT CONNECTOR (2) FROM AIR DRYER CANISTER HOUSING (3).

2. DISCONNECT AIR LINE (4) FROM AIR DRYER CANISTER HOUSING (3).

NOTE

Prior to performing step 3, note position of elbow on bottom of air dryer canister housing to ensure that elbow is installed in same position.

3. LOOSEN LOCK NUT (5) AND REMOVE CLAMP (6) AND AIR DRYER CANISTER HOUSING (3).

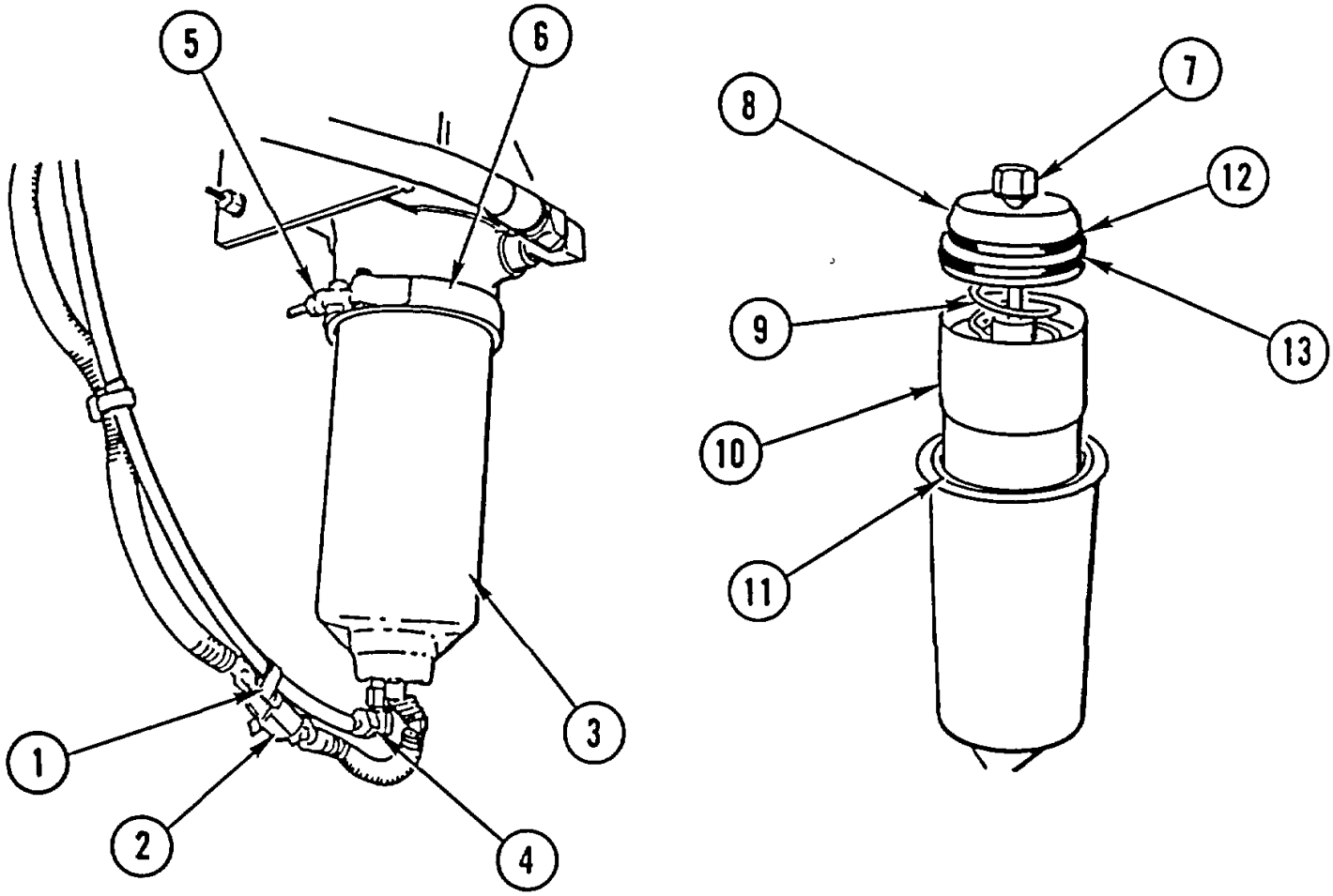
4. REMOVE NUT (7), PURGE PLATE (8), SPRING (9), AND CANISTER (10). DISCARD CANISTER.

5. REMOVE AND DISCARD PACKING (11) FROM AIR DRYER CANISTER HOUSING (3).

6. REMOVE AND DISCARD TWO PACKINGS (12 AND 13) FROM PURGE PLATE (8).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

NOTE
Coat all packings with light coat of engine oil prior to installation.

1. INSTALL TWO NEW PACKINGS (13 AND 12) ON PURGE PLATE (8).
2. INSTALL NEW PACKING (11) IN AIR DRYER CANISTER HOUSING (3).
3. INSTALL NEW CANISTER (10), SPRING (9), PURGE PLATE (8), AND NUT (7). TIGHTEN NUT SECURELY.
4. INSTALL AIR DRYER CANISTER HOUSING (3) WITH ELBOW FACING AS NOTED IN REMOVAL, STEP 3.
5. INSTALL CLAMP (6) AND TIGHTEN LOCK NUT (5) ON AIR DRYER CANISTER HOUSING (3).
6. CONNECT AIR LINE (4) TO AIR DRYER CANISTER HOUSING (3).
7. CONNECT CONNECTOR (2) TO AIR DRYER CANISTER HOUSING (3) AND INSTALL TIE STRAP (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

AIR DRYER DESICCANT CARTRIDGE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Strap Wrench

Materials/Parts:

Cartridge, Desiccant (2) P/N R950011

Materials/Parts (Cont):

Grease, Automotive Appendix C, Item 14 and Artillery

Equipment Description:

Reference	Condition Description
Page 2-28	Air System Drained

REMOVAL

1. USING STRAP WRENCH, LOOSEN TWO DESICCANT CARTRIDGES (1) ON AIR DRYER (2).
2. REMOVE DESICCANT CARTRIDGES (1) WITH PREFORMED PACKINGS (3) FROM AIR DRYER (2). DISCARD CARTRIDGES AND PREFORMED PACKINGS.

CLEANING/INSPECTION

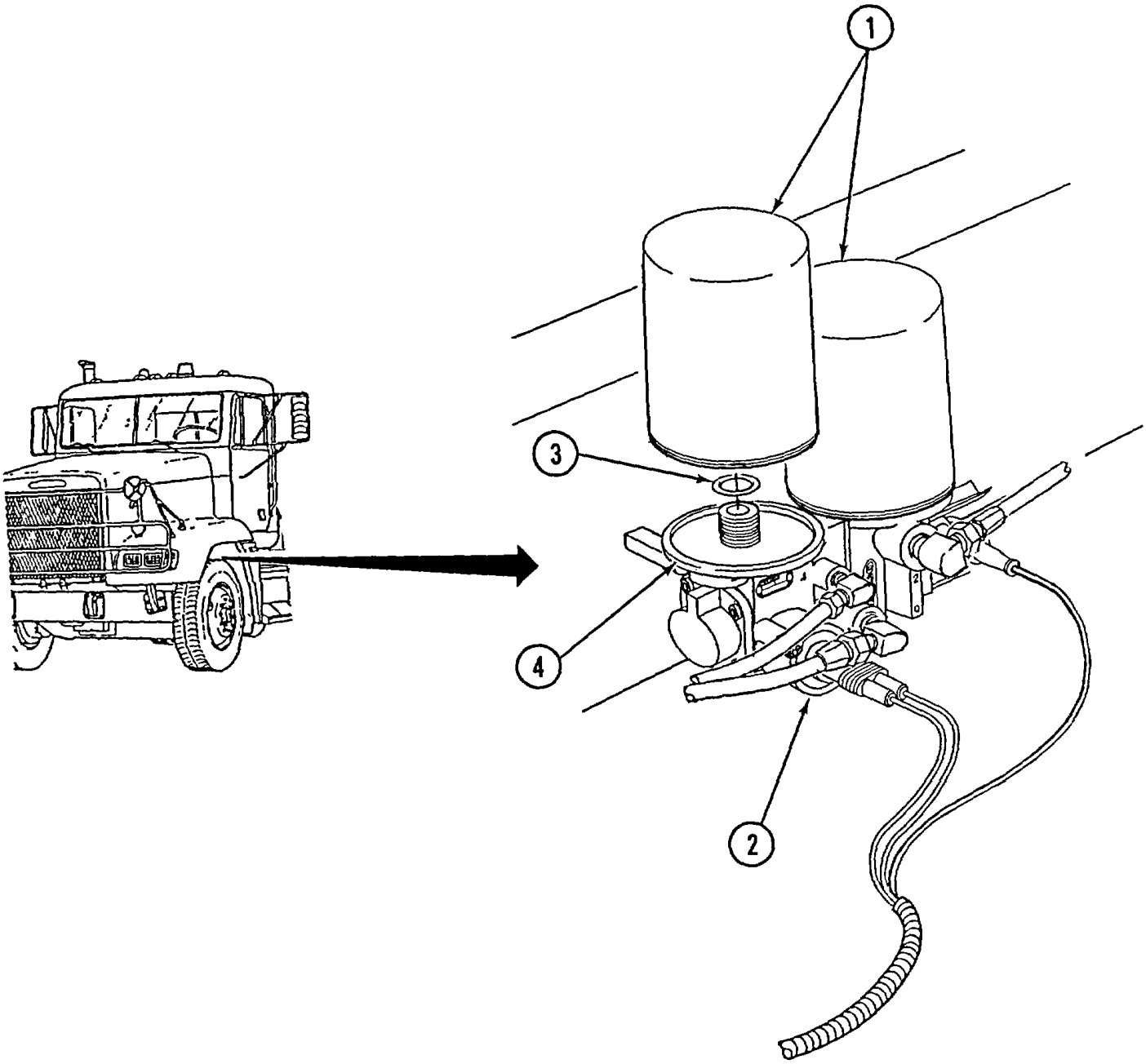
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. APPLY GREASE TO SEALING SURFACES (4) AND NEW PREFORMED PACKINGS (3).
2. INSTALL TWO NEW DESICCANT CARTRIDGES (1) WITH PREFORMED PACKINGS (3) TO AIR DRYER (2) AND HAND TIGHTEN UNTIL EACH CARTRIDGE CONTACTS TOP OF AIR DRYER.

CAUTION
Over tightening of desiccant cartridges may damage them.

3. USING STRAP WRENCH, TIGHTEN EACH DESICCANT CARTRIDGE (1) AN ADDITIONAL ONE- HALF TURN.


1
3
4
2

TRAILER HAND BRAKE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8

Equipment Condition:

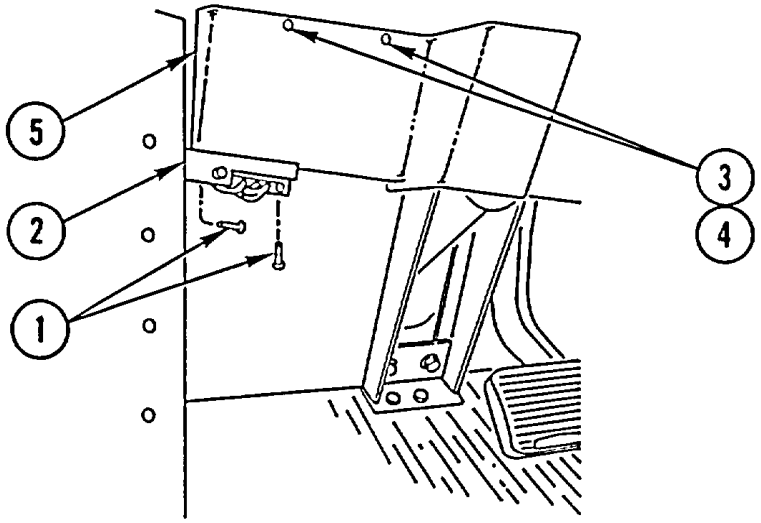
Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:

WARNING

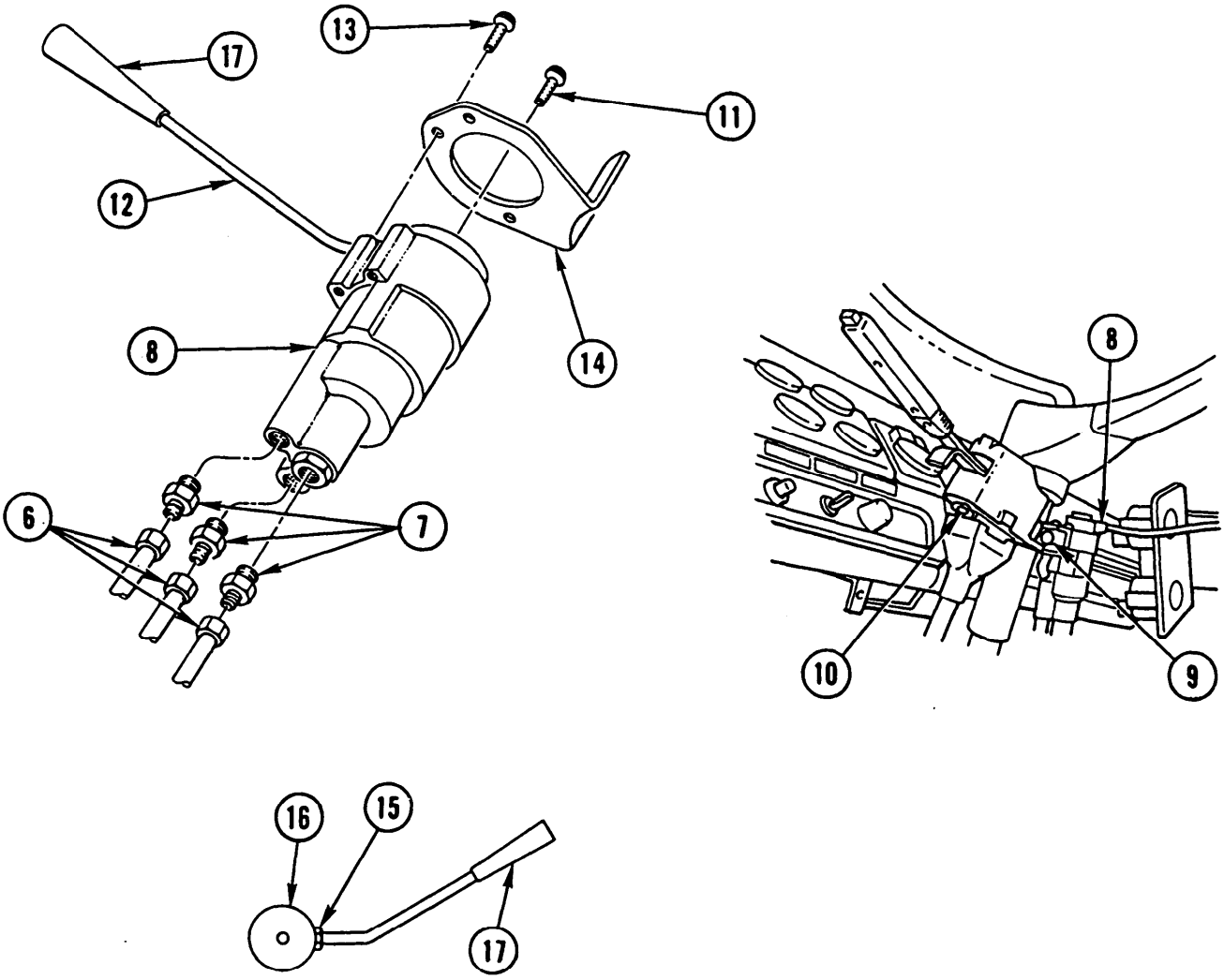
- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

REMOVAL



1. REMOVE TWO SCREWS (1) AND SET ENGINE CHECK SWITCH (2) ASIDE.

2. REMOVE SIX SCREWS (3), SIX WASHERS (4), AND COVER (5).



NOTE

Tag all tubes and connectors prior to removal to aid in installation.

3. DISCONNECT THREE TUBES (6) AND REMOVE THREE CONNECTORS (7) FROM TRAILER HAND BRAKE (8).

4. REMOVE CLAMP (9), TRAILER HAND BRAKE (8), AND TURN SIGNAL SWITCH ASSEMBLY (10). SET TURN SIGNAL SWITCH ASSEMBLY ASIDE.

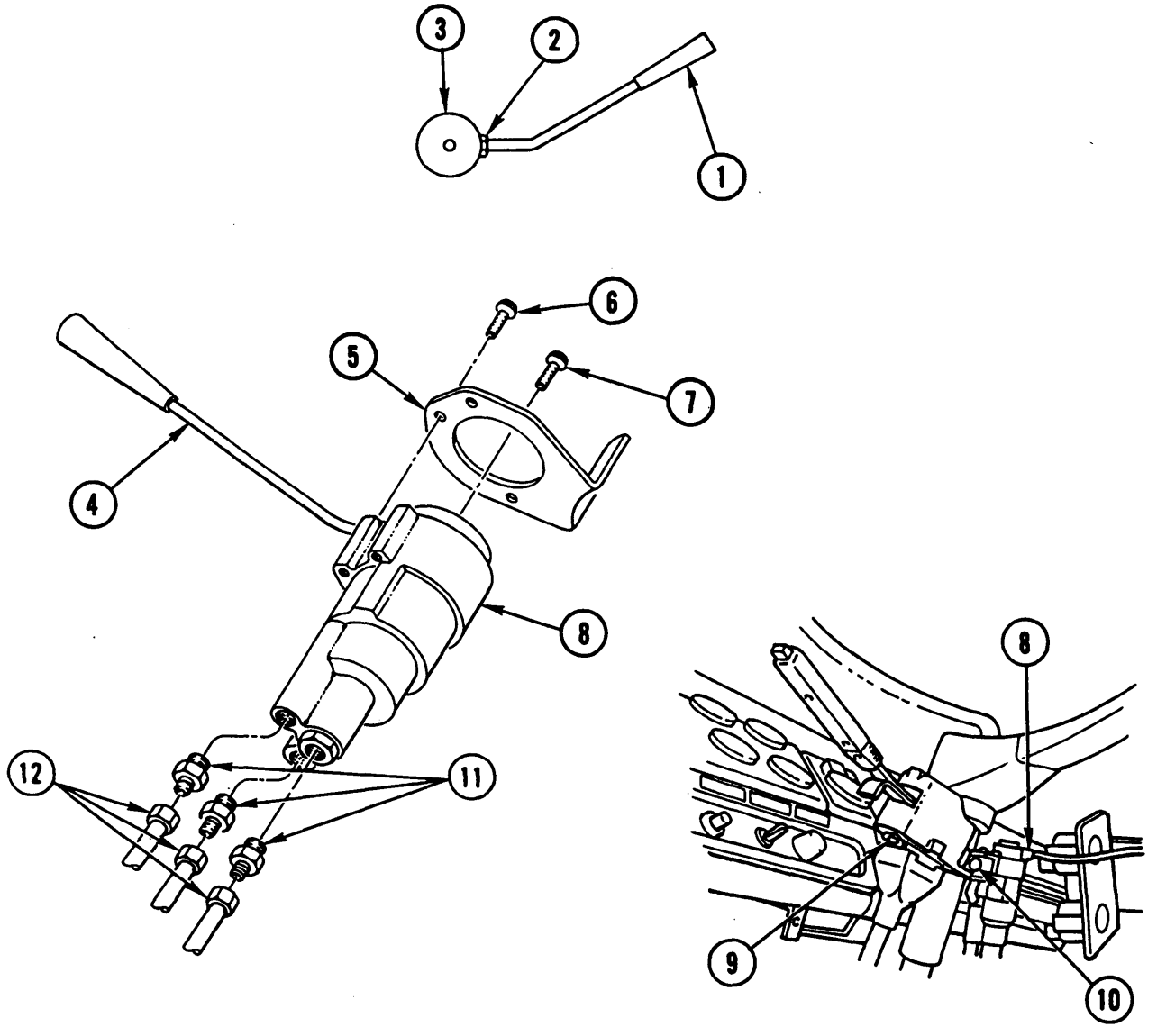
5. REMOVE SCREW (1 1), HANDLE (12), THREE SCREWS (13), AND BRACKET (14) FROM TRAILER HAND BRAKE (8).

6. BACK OFF JAM NUT (15) AND REMOVE HANDLE BASE (16), JAM NUT (15), AND KNOB (17) FROM HANDLE (12).

Clean and inspect all parts in accordance with Chapter 2.

TRAILER HAND BRAKE REPLACEMENT (CONT)

INSTALLATION



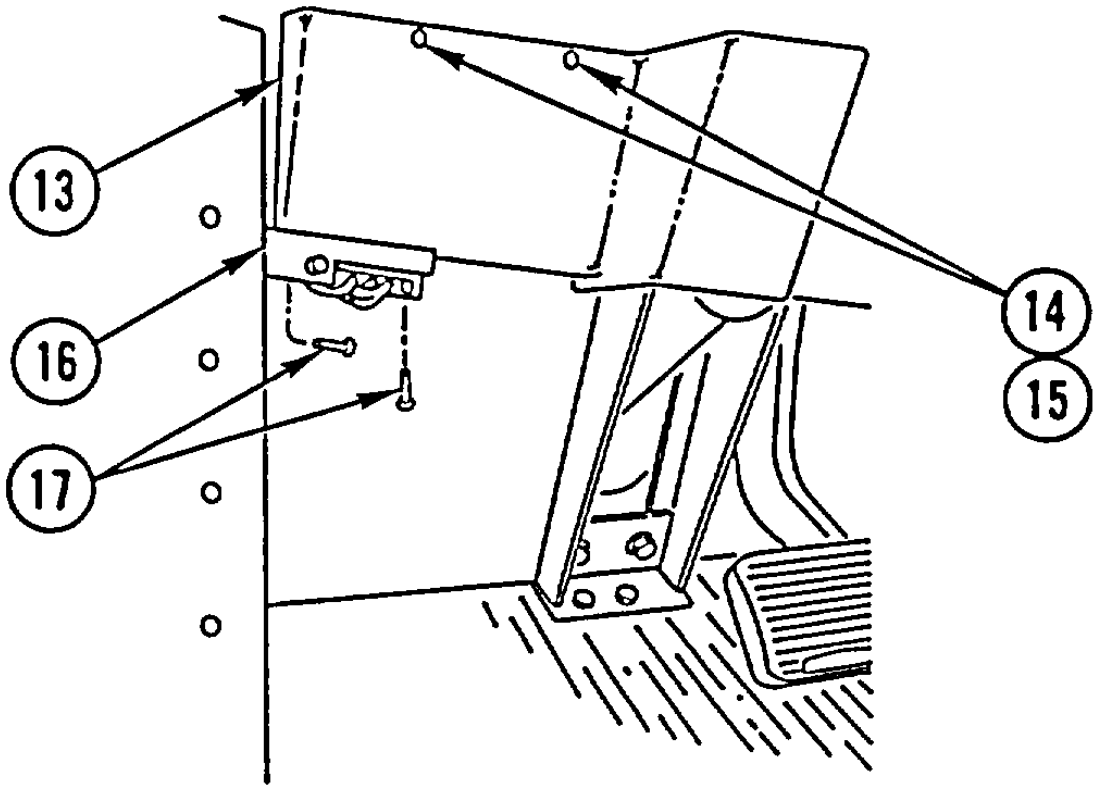
1. INSTALL KNOB (1), JAM NUT (2), AND HANDLE BASE (3). TIGHTEN JAM NUT (2) ON HANDLE (4).
2. INSTALL BRACKET (5), THREE SCREWS (6), HANDLE (4), AND SCREW (7) ON TRAILER HAND BRAKE (8).
3. INSTALL TRAILER HAND BRAKE (8) AND TURN SIGNAL SWITCH ASSEMBLY (9) AND TIGHTEN CLAMP (10).

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**

- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

4. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL THREE CONNECTORS (11) AND CONNECT THREE TUBES (12) ON TRAILER HAND BRAKE (8).



5. INSTALL COVER (13), SIX WASHERS (14), AND SIX SCREWS (15).
6. MOVE ENGINE CHECK SWITCH (16) INTO PLACE AND INSTALL TWO SCREWS (17).

AIR HORN AND VALVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (3)

Seal, Rubber (2)

Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 4-740	Head Liners Removed

General Safety Instructions:

WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

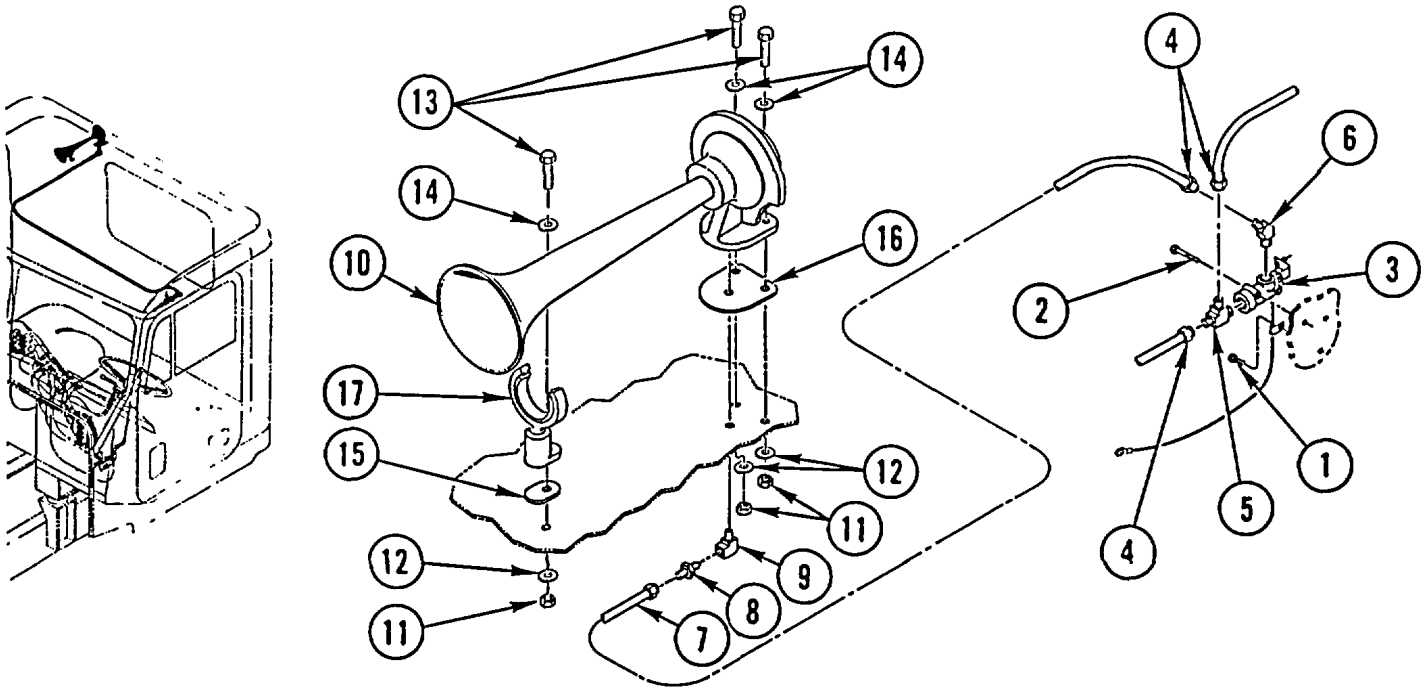
REMOVAL

NOTE
Tag all tubes prior to disconnecting to aid in connecting.

1. REMOVE SCREW (1), TWO SCREWS (2), AND VALVE (3).
2. DISCONNECT THREE TUBES (4) FROM VALVE (3).
3. REMOVE TEE (5) AND ELBOW (6) FROM VALVE (3).
4. DISCONNECT TUBE (7) AND REMOVE CONNECTOR (8) AND ELBOW (9) FROM AIR HORN (10).
5. REMOVE THREE LOCK NUTS (11), THREE WASHERS (12), THREE SCREWS (13), THREE WASHERS (14), AIR HORN (10), RUBBER SEAL (15), RUBBER SEAL (16), AND BRACKET (17). DISCARD LOCK NUTS AND RUBBER SEALS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL NEW RUBBER SEAL (15), BRACKET (17), NEW RUBBER SEAL (16), AIR HORN (10), THREE WASHERS (14), THREE SCREWS (13), THREE WASHERS (12), AND THREE NEW LOCK NUTS (11).

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

2. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL ELBOW (9) AND CONNECTOR (8) IN AIR HORN (10).

3. CONNECT TUBE (7) TO CONNECTOR (8).

4. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL ELBOW (6) AND TEE (5) IN VALVE (3).

5. CONNECT THREE TUBES (4) TO VALVE (3).

6. INSTALL VALVE (3), TWO SCREWS (2), AND SCREW (1).

NOTE
Follow-on Maintenance:

Install head liners (page 4-740).

AIR HORN AND VALVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (3)

Compound, Pipe Sealing	Appendix C, Item 8
Tags, Identification	Appendix C, Item 26

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 4-740	Head Liners Removed

General Safety Instructions:

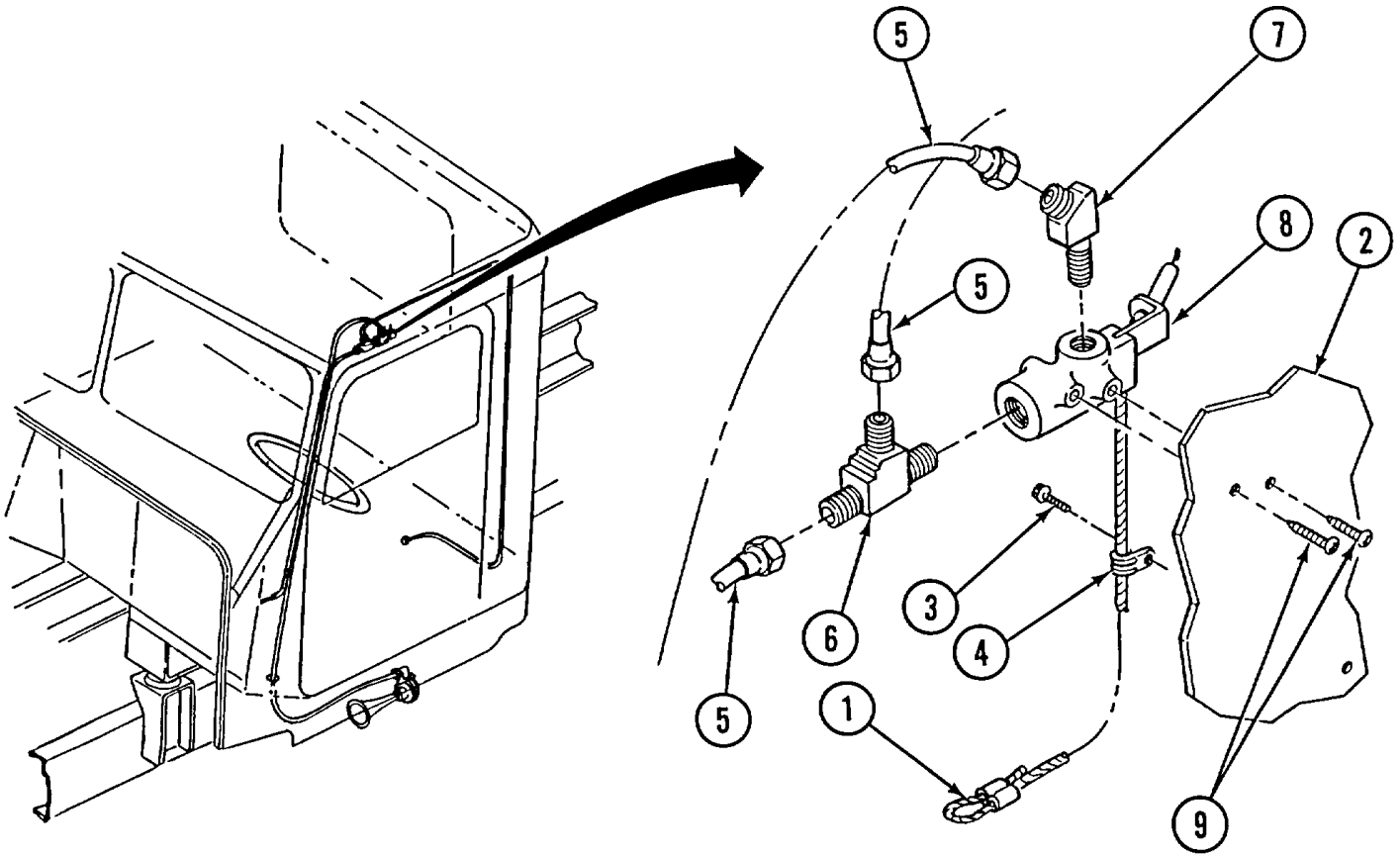
WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

REMOVAL

NOTE
Tag all tubes prior to disconnecting to aid in connecting.

1. RELEASE END OF PULL CORD (1) FROM CAB (2).
2. REMOVE SCREW (3) AND LOOP CLAMP (4) FROM CAB (2). REMOVE LOOP CLAMP FROM PULL CORD (1).
3. DISCONNECT THREE TUBES (5), AND REMOVE TEE (6) AND ELBOW (7) FROM VALVE (8).
4. REMOVE TWO SCREWS (9) AND VALVE (8) FROM CAB (2).



AIR HORN AND VALVE REPLACEMENT (CONT)

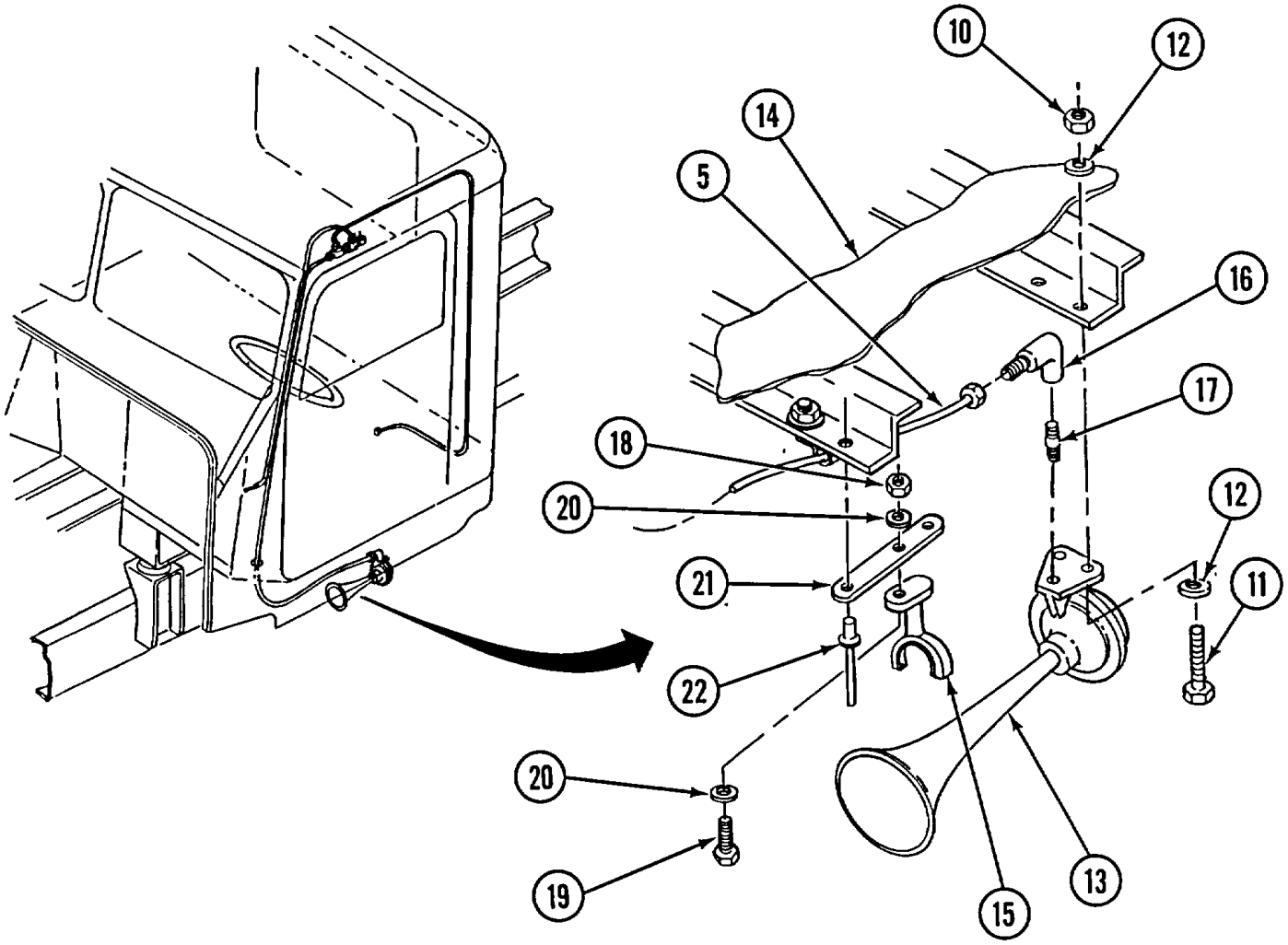
5. REMOVE TWO LOCK NUTS (10), SCREWS (11), AND FOUR WASHERS (12) FROM REAR OF AIR HORN (13). DISCARD LOCK NUTS.

6. SEPARATE AIR HORN (13) FROM CAB FLOOR (14) AND BRACKET (15). J

7. REMOVE TUBE (5), ELBOW (16), AND NIPPLE (17) FROM AIR HORN (13).

8. REMOVE LOCK NUT (18), SCREW (19), TWO WASHERS (20), AND BRACKET (15) FROM PLATE (21). DISCARD LOCK NUT.

9. IF DAMAGED, REMOVE RIVET (22), AND PLATE (21) FROM CAB FLOOR (14). DISCARD RIVET.

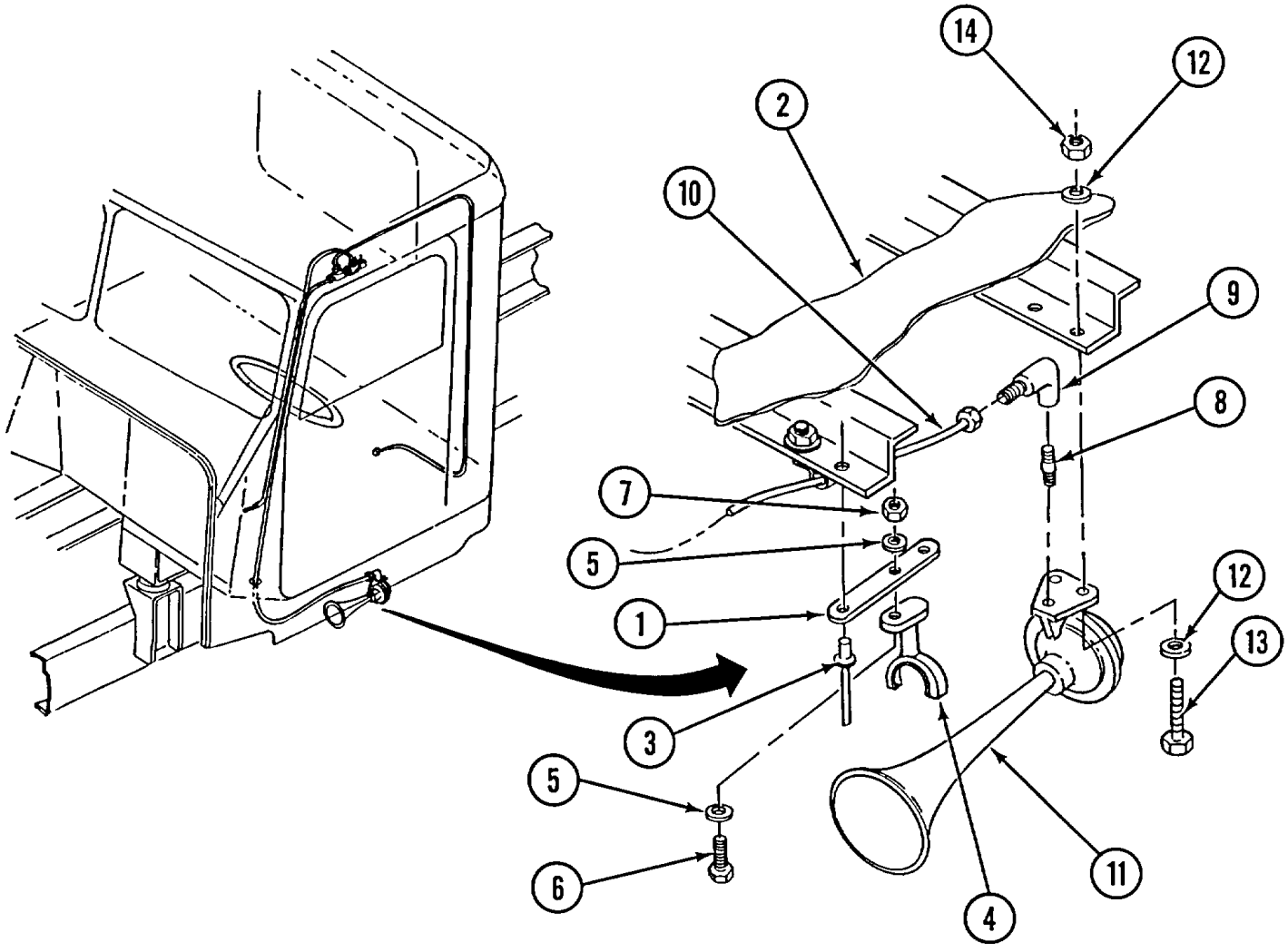


CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2

INSTALLATION

1. IF REMOVED, INSTALL PLATE (1) TO CAB FLOOR (2) WITH NEW RIVET (3)
2. INSTALL BRACKET (4) TO PLATE (1) WITH TWO WASHERS (5), SCREW (6), AND NEW LOCK NUT (7).
3. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL NIPPLE (8), ELBOW (9), AND TUBE (10) TO AIR HORN (11).
4. POSITION AIR HORN (11) TO BRACKET (4) AND CAB FLOOR (2).
5. INSTALL FOUR WASHERS (12), TWO SCREWS (13), AND NEW LOCK NUTS (14) TO REAR OF AIR HORN (11).



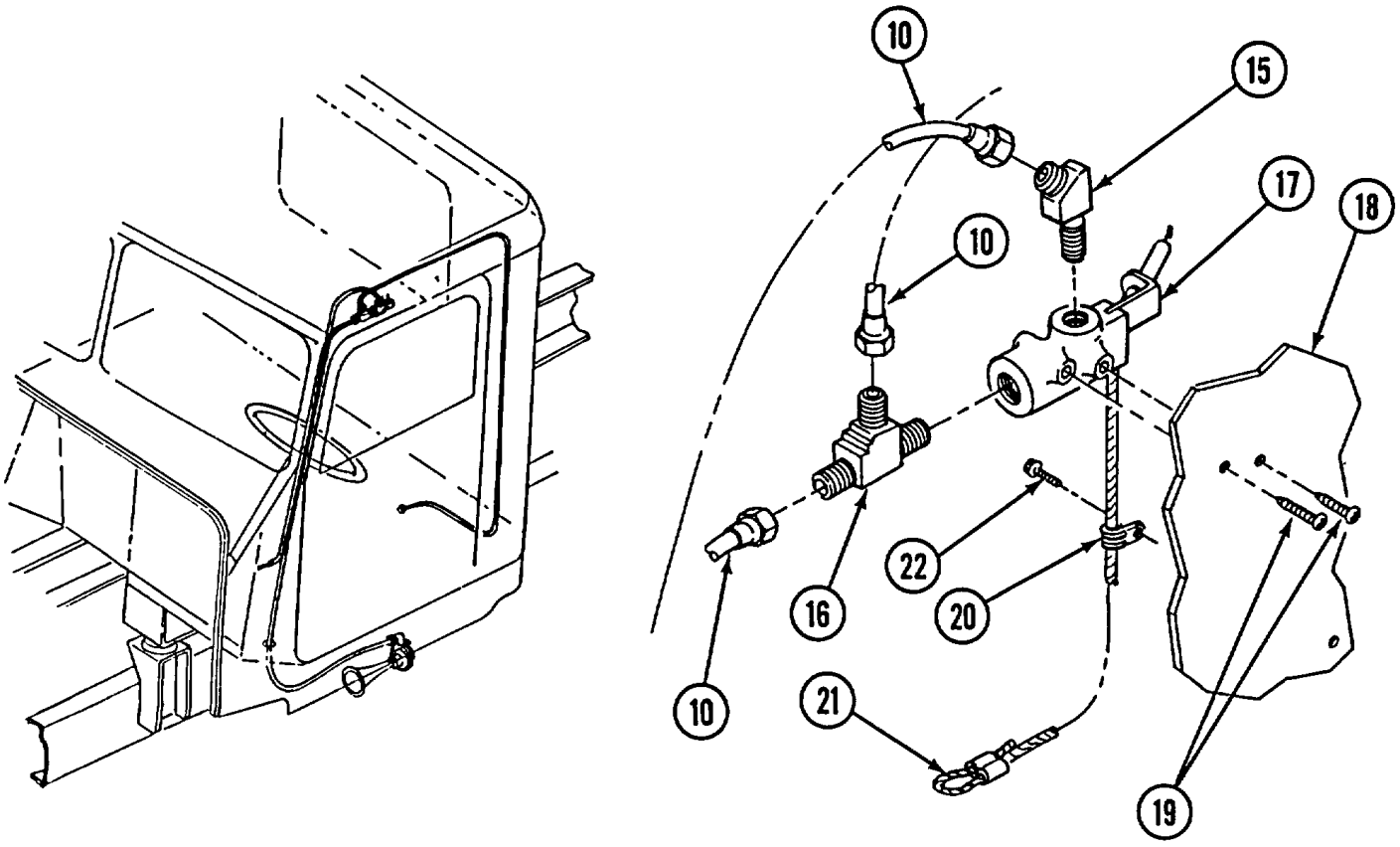
AIR HORN AND VALVE REPLACEMENT (CONT)

6. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL ELBOW (15), TEE (16), AND THREE TUBES (10) TO VALVE (17).

7. INSTALL VALVE (17) TO CAB (18) WITH TWO SCREWS (19).

8. INSTALL LOOP CLAMP (20) TO PULL CORD (21) AND INSTALL LOOP CLAMP TO CAB (18) WITH SCREW (22).

9. FASTEN END OF PULL CORD (21) TO CAB (18).



NOTE
Follow-on Maintenance:

Install head liners (page 4-740).

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PARKING BRAKE AND TRAILER AIR SUPPLY VALVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe. Sealing — Appendix C, Item 8

Equipment Condition:

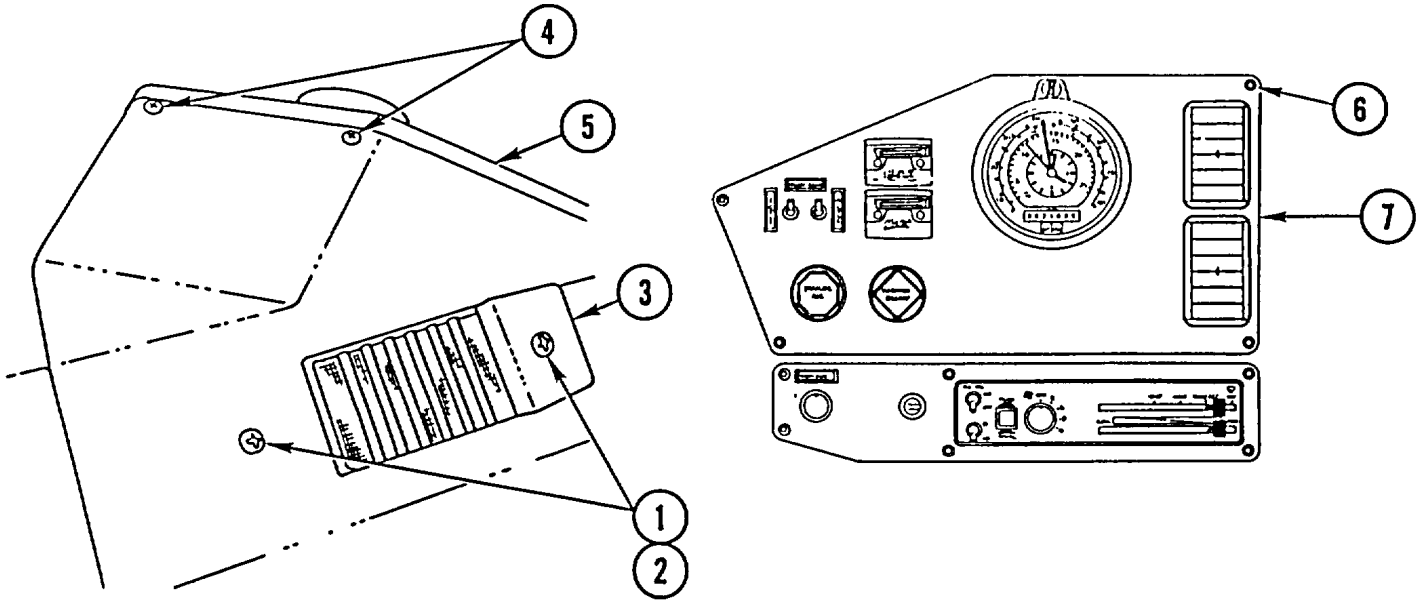
Reference	Condition Description
Page 2-28	Air System Drained

General Safety Instructions:

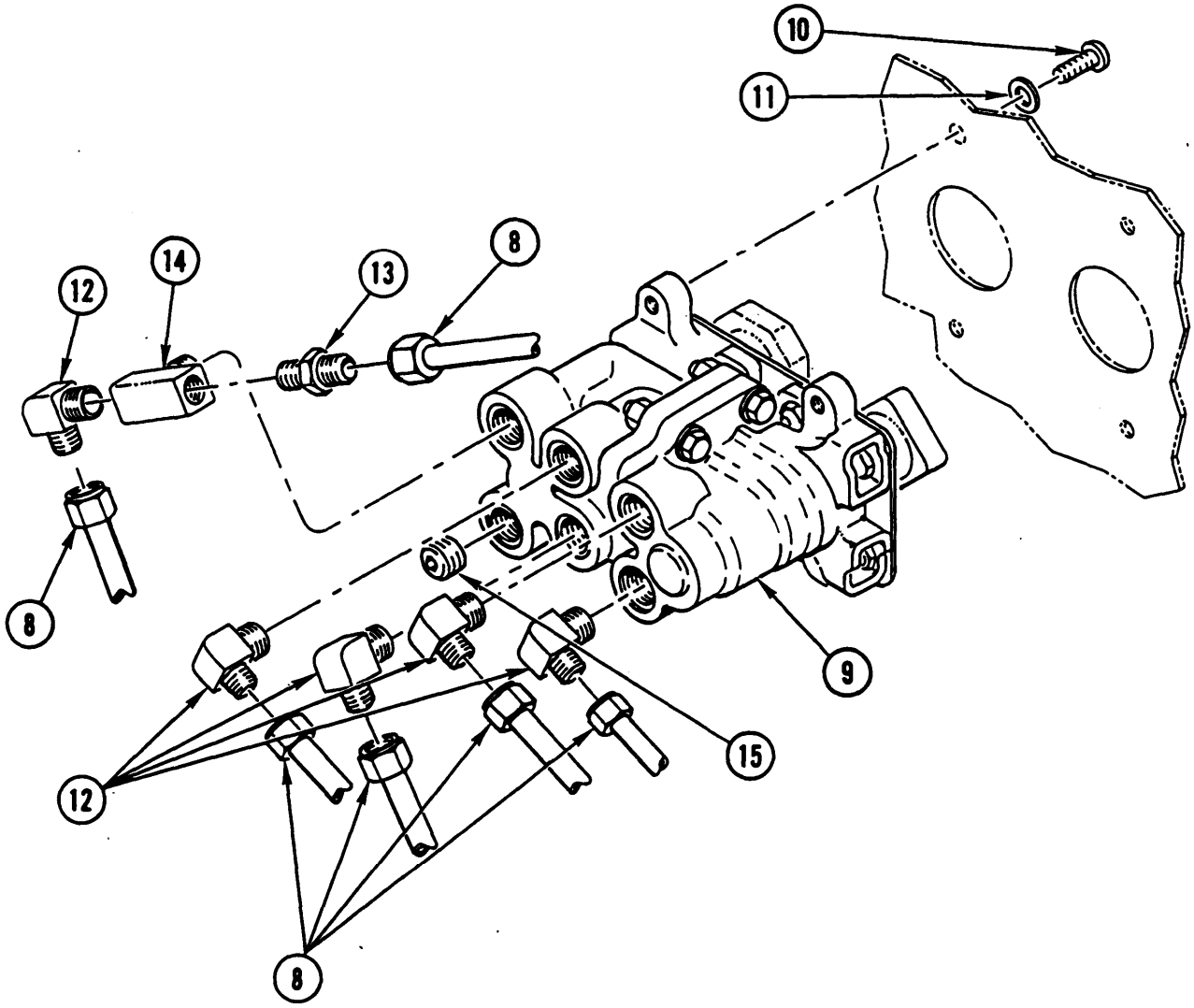
WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

REMOVAL



1. REMOVE TWO TORX SCREWS (1), TWO WASHERS, AND DEFROSTER VENT (3).
2. REMOVE FOUR TORX SCREWS (4) AND COVER (5).
3. REMOVE FIVE TORX SCREWS (6) AND MOVE TACHOGRAPH PANEL (7) ASIDE.



NOTE

Tag all tubes prior to disconnecting to aid in connecting.

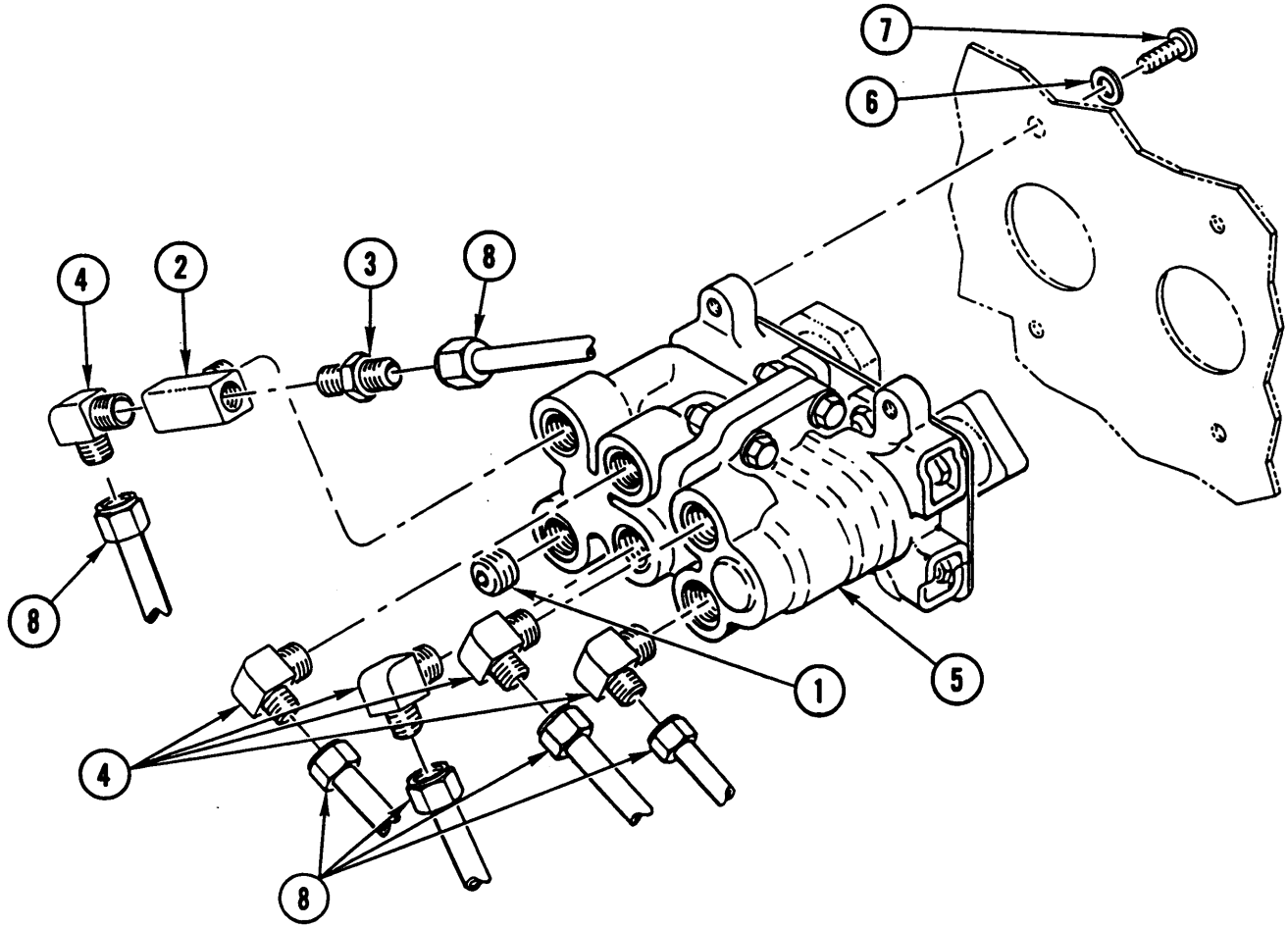
4. DISCONNECT SIX TUBES (8) FROM VALVE (9).
5. REMOVE FOUR SCREWS (10), FOUR WASHERS (11), AND VALVE (9).
6. REMOVE FIVE ELBOWS (12), ADAPTER (13), TEE (14), AND PLUG (15) FROM VALVE (9).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

PARKING BRAKE AND TRAILER AIR SUPPLY VALVE REPLACEMENT (CONT)

INSTALLATION



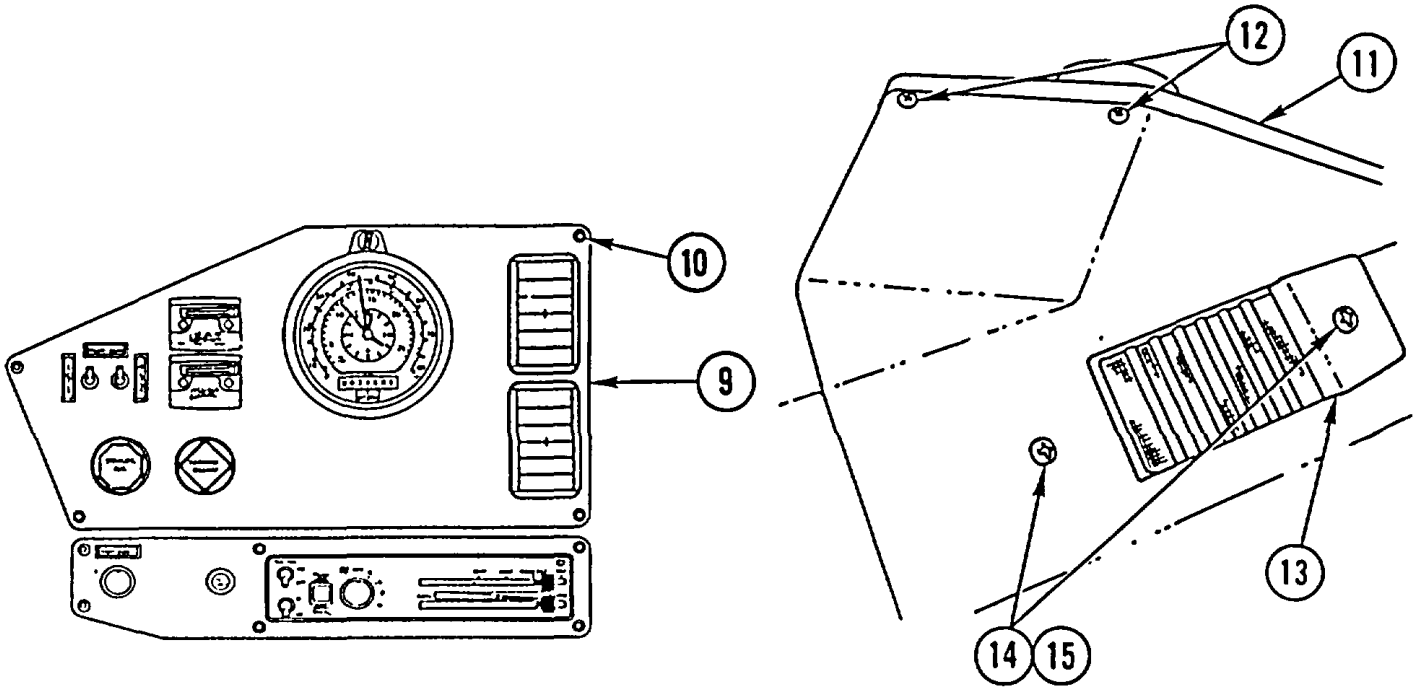
WARNING

- Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.
- Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.

1. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL PLUG (l), TEE (2), ADAPTER (3), AND FIVE ELBOWS (4) IN VALVE (5).

2. INSTALL VALVE (5), FOUR WASHERS (6), AND FOUR SCREWS (7).

3. CONNECT SIX TUBES (8) TO VALVE (5).



4. INSTALL TACHOGRAPH PANEL (9) AND FIVE TORX SCREWS (10).

5. INSTALL COVER (11) AND FOUR TORX SCREWS (12).

6. INSTALL DEFROSTER VENT (13), TWO WASHERS (14), AND TWO TORX SCREWS (15).

FOOT BRAKE VALVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts: *

Gasket	P/N 12-13041-000
Compound, Pipe Sealing	Appendix C, Item 8
Grease, Silicone	Appendix C, Item 15.1
Tags, Identification	Appendix C, Item 26

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 4-403	Foot Brake Valve Plunger Rod Disconnected from Brake Pedal

General Safety Instructions:

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

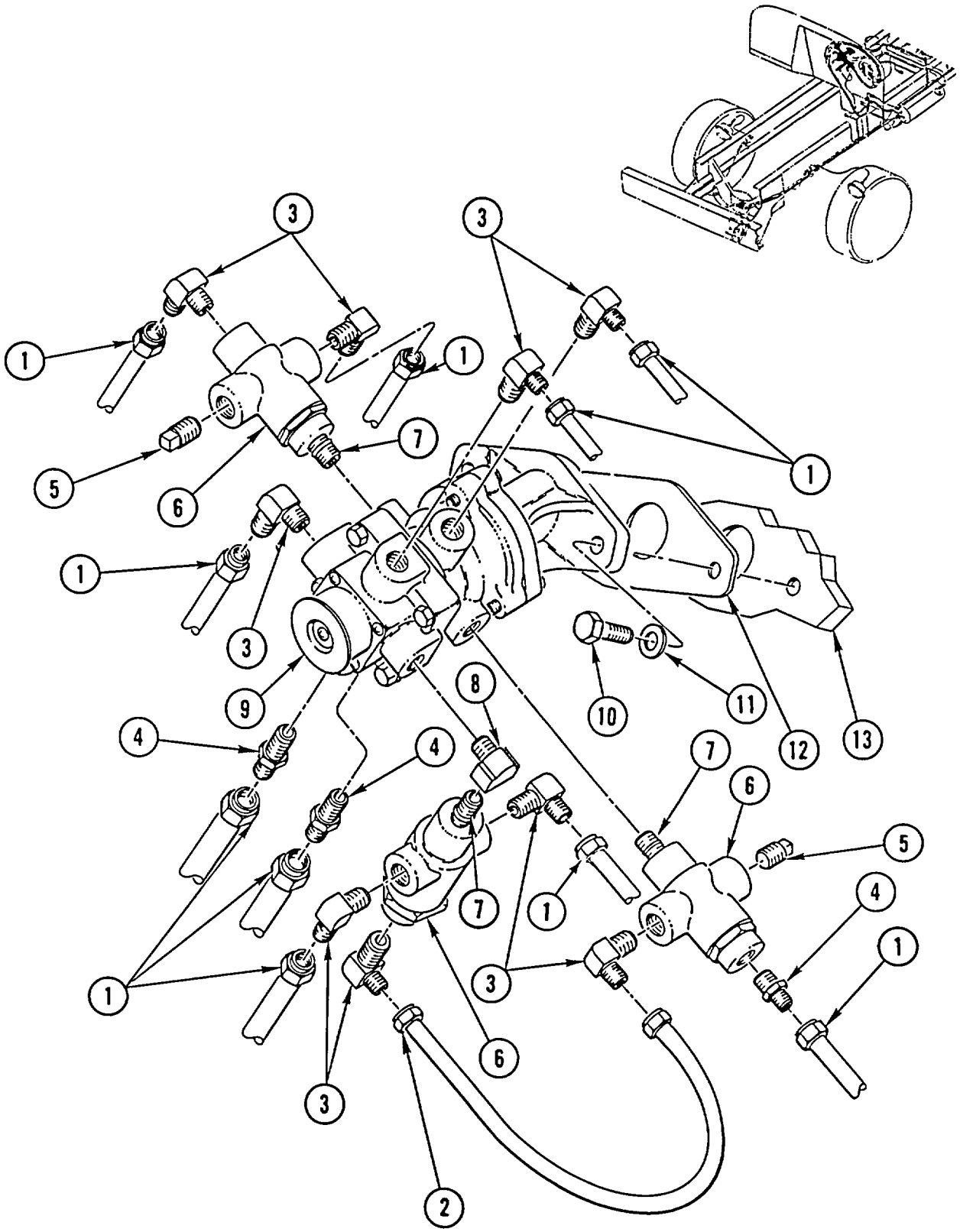
REMOVAL

NOTE
Tag all tubes and fittings prior to removal to aid in installation.

1. DISCONNECT 10 TUBES (1) AND REMOVE TUBE (2).
2. REMOVE NINE ELBOWS (3), THREE ADAPTERS (4), TWO PLUGS (5), THREE CHECK VALVES (6), THREE NIPPLES (7), AND ELBOW (8) FROM FOOT BRAKE VALVE (9).
3. REMOVE TWO SCREWS (10), TWO WASHERS (11), FOOT BRAKE VALVE (9), AND GASKET (12) FROM FIREWALL (13). DISCARD GASKET.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.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FOOT BRAKE VALVE REPLACEMENT (CONT)

INSTALLATION

0.1 APPLY SILICONE GREASE TO SLIDING SURFACES OF FOOT BRAKE VALVE PLUNGER AND ADAPTER BORE.

1. INSTALL FOOT BRAKE VALVE (1), NEW GASKET (2) TWO WASHERS (3), AND TWO SCREWS (4) IN FIREWALL (5).

WARNING

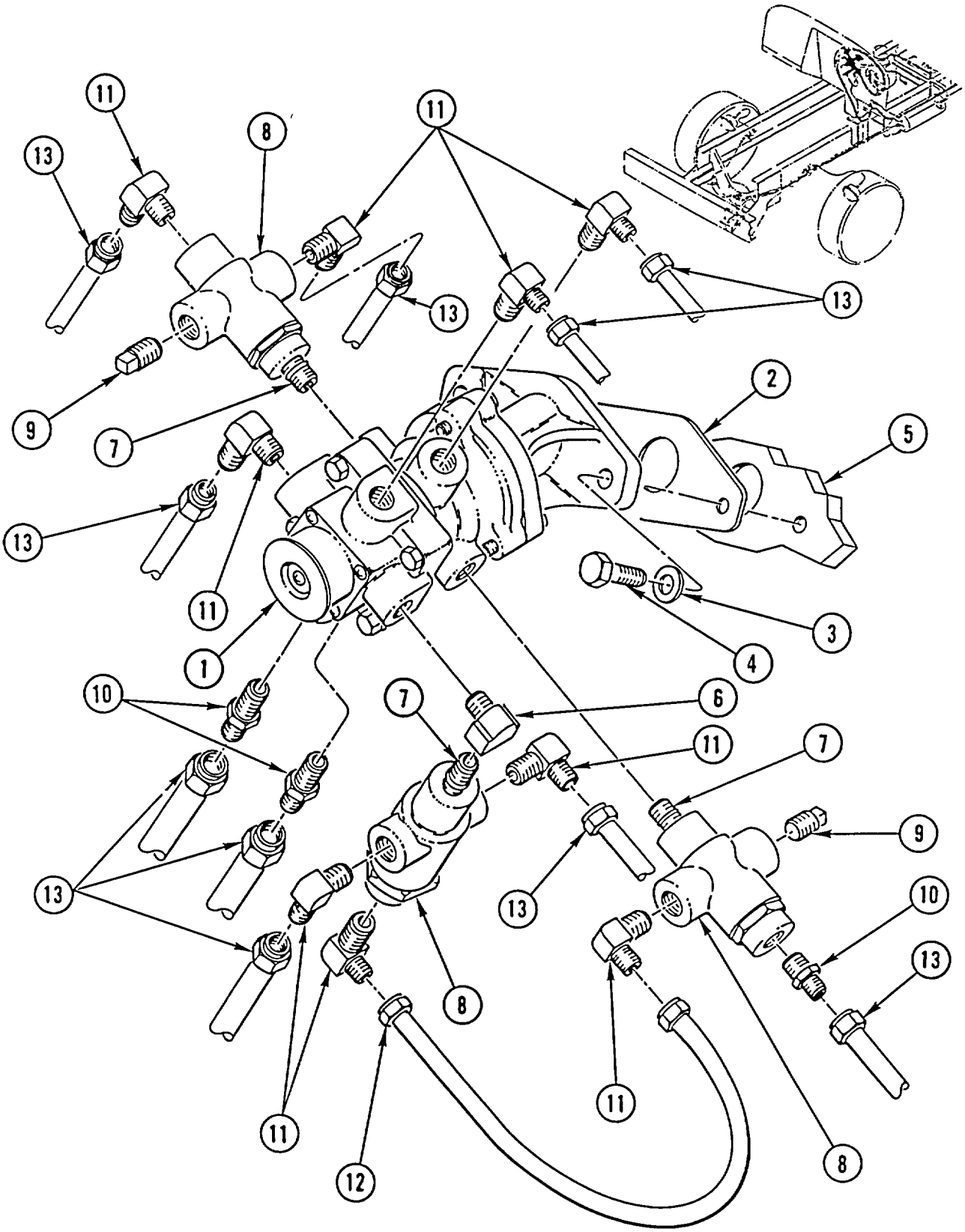
- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**

- **Sealant compounds can bum easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

2. COAT THREADS WITH PIPE SEALANT COMPOUND AND INSTALL ELBOW (6), THREE NIPPLES (7), THREE CHECK VALVES (8), TWO PLUGS (9), THREE ADAPTERS (10), AND NINE ELBOWS (11) IN FOOT BRAKE VALVE (1).

3. INSTALL TUBE (12) AND CONNECT 10 TUBES (13) TO FOOT BRAKE VALVE (1).

NOTE
Follow-on Maintenance:
Connect foot brake valve plunger rod to brake pedal (page 4-403).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FRONT ANTI-LOCK BRAKE SYSTEM (ABS) AIR SOLENOID REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)
Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

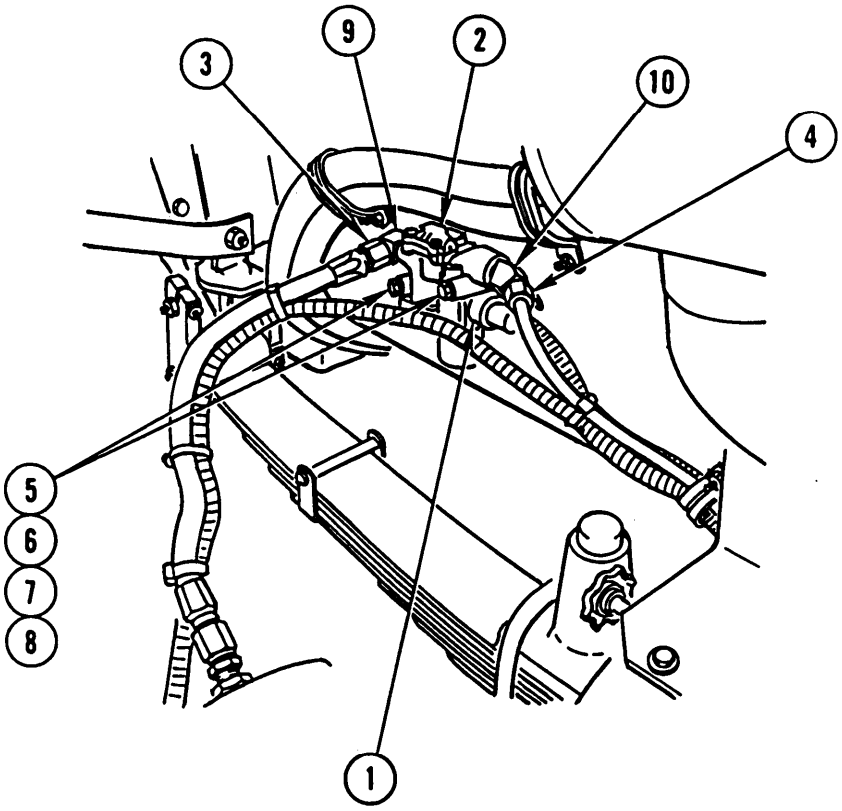
Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected

General Safety Instructions:

WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealing compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

REMOVAL



WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealing compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

NOTE

Procedure is the same for both sides of vehicle. Right side is shown.

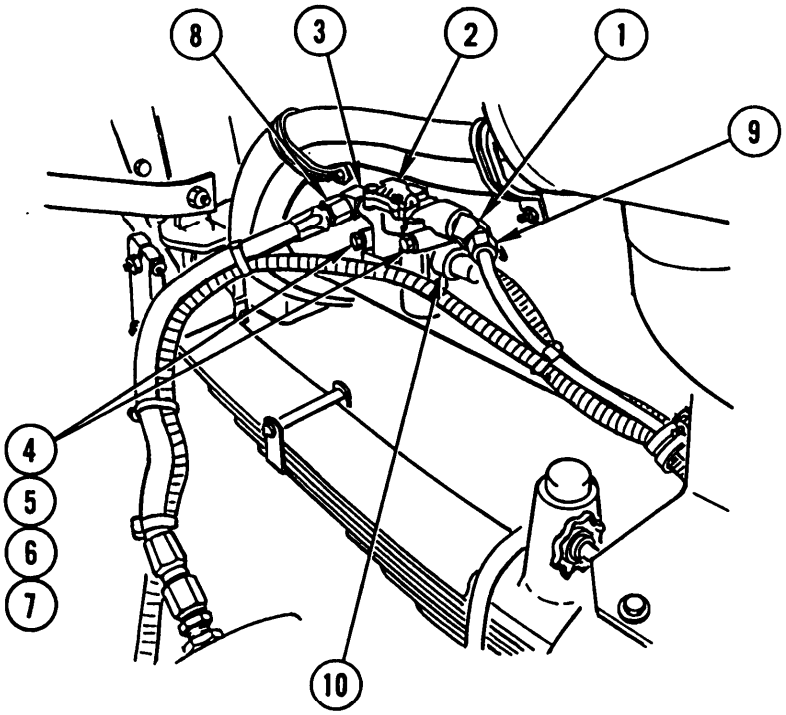
1. DISCONNECT ELECTRICAL CONNECTOR (1) FROM AIR SOLENOID (2).
2. DISCONNECT TWO AIR LINES (3 AND 4) FROM AIR SOLENOID (2).
3. REMOVE TWO LOCK NUTS (5), TWO WASHERS (6), TWO CAPSCREWS (7), TWO WASHERS (8), AND AIR SOLENOID (2). DISCARD LOCK NUTS.
4. REMOVE ELBOW (9) FROM AIR SOLENOID (2).
5. REMOVE FITTING (10) FROM AIR SOLENOID (2).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

FRONT ANTI-LOCK BRAKE SYSTEM (ABS) AIR SOLENOID REPLACEMENT (CONT)

INSTALLATION



WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealing compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

NOTE

Procedure is the same for both sides of vehicle. Right side is shown.

1. COAT THREADS OF FITTING (1) WITH PIPE SEALANT AND INSTALL FITTING (1) IN AIR SOLENOID (2).
2. COAT THREADS OF ELBOW (3) WITH PIPE SEALANT AND INSTALL ELBOW (3) IN AIR SOLENOID (2).
3. INSTALL AIR SOLENOID (2), TWO WASHERS (4). TWO CAPSCREWS (5), TWO WASHERS (6), AND TWO NEW LOCK NUTS (7).
4. CONNECT TWO AIR LINES (8 AND 9) TO AIR SOLENOID (2).
5. CONNECT ELECTRICAL CONNECTOR (10) TO AIR SOLENOID (2).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).

REAR ANTI-LOCK BRAKE SYSTEM (ABS) AIR SOLENOID REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition: **I**

Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected
Page 4-734	Rear Platform Removed

General Safety Instructions:

WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

REAR ANTI-LOCK BRAKE SYSTEM (ABS) AIR SOLENOID REPLACEMENT (CONT)

REMOVAL

WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

NOTE

Procedure is the same for both sides of vehicle. Right side is shown.

1. DISCONNECT ELECTRICAL CONNECTOR (1) FROM AIR SOLENOID (2).
2. DISCONNECT THREE AIR LINES (3, 4, AND 5) FROM AIR SOLENOID (2).
3. REMOVE TWO LOCK NUTS (6), TWO WASHERS (7), AIR SOLENOID (2), TWO SPACERS (8), TWO CAPSCREWS (9), AND TWO WASHERS (10). DISCARD LOCK NUTS.
4. REMOVE TWO ELBOWS (11) AND FITTING (12) FROM AIR SOLENOID (2).
5. REMOVE FITTING (13) FROM AIR SOLENOID (2).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

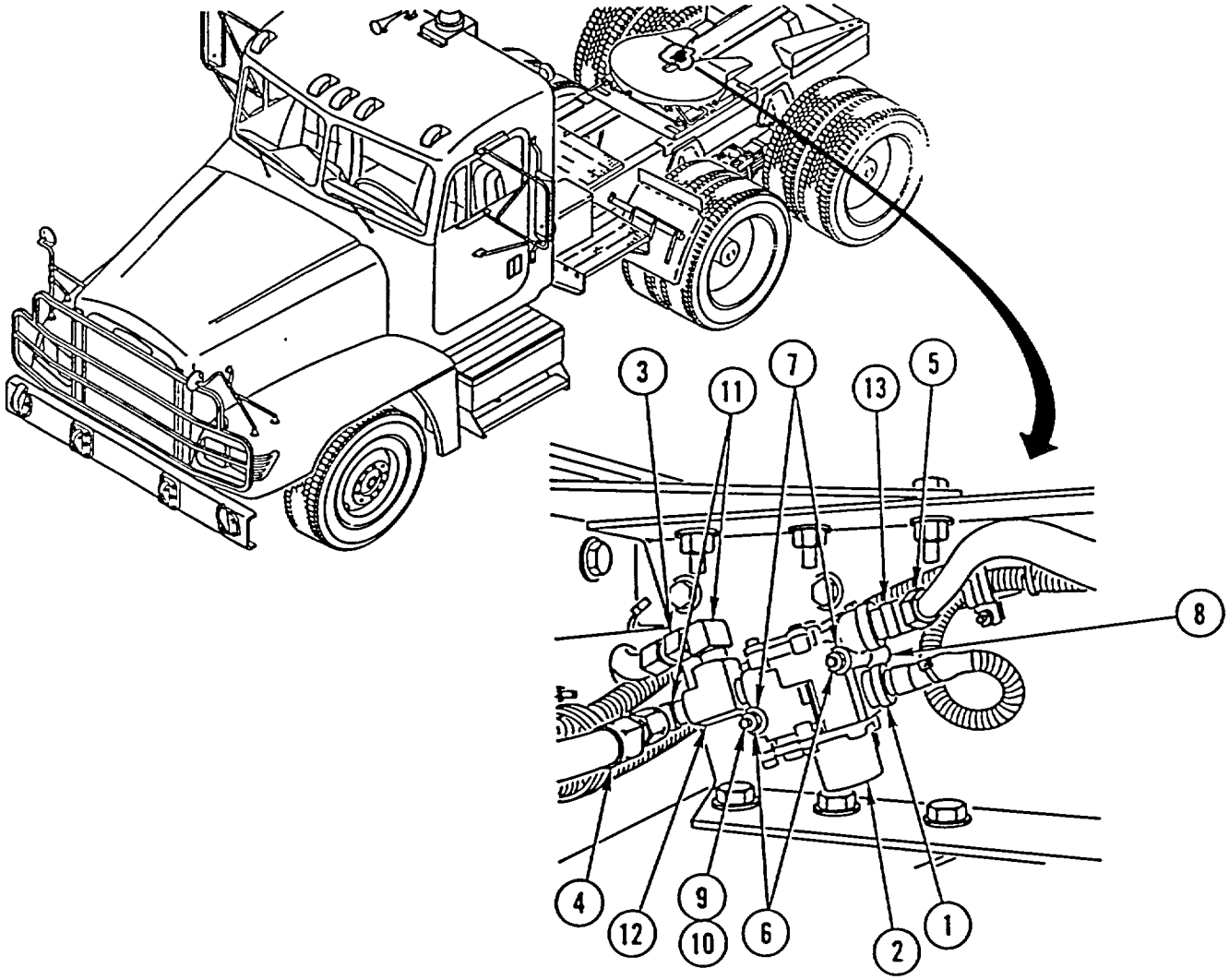
WARNING

Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.

NOTE

Procedure is the same for both sides of vehicle. Right side is shown.

1. COAT THREADS OF FITTING (13) WITH PIPE SEALANT AND INSTALL FITTING (13) IN AIR SOLENOID (2).
2. COAT THREADS OF TWO ELBOWS (11) AND FITTING (12) WITH PIPE SEALANT AND INSTALL TWO ELBOWS (11) AND FITTING (12) IN AIR SOLENOID (2).



3. INSTALL TWO WASHERS (10), TWO CAPSCREWS (9), TWO SPACERS (8), AIR SOLENOID (2), TWO WASHERS (7), AND TWO NEW LOCK NUTS (6).

4. CONNECT THREE AIR LINES (3, 4, AND 5) TO AIR SOLENOID (2).

5. CONNECT ELECTRICAL CONNECTOR (1) TO AIR SOLENOID (2).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).
Install rear platform (page 4-734).

Section XI. WHEEL MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the wheels and related components and the M917A1 and M917A1 w/MCS CTIS (Central Tire Inflation System). A list of tasks contained in this section is shown below.

Page

Front and Dual Rear Wheel Lug Nut Tightening Procedures 4-583

Front Hub, Drum, Wheel Bearings, and Seal Replacement (M915A2) 4-584

Front Hub, Drum, Wheel Bearings, and Seal Replacement (All Except M915A2) 4-588

Front Axle CTIS Seal Replacement (M917A1 and M917A1 w/MCS) 4-593.0

Rear Hub, Drum, Wheel Bearings, and Seal Replacement 4-594

Rear Hub, Drum, Wheel Bearings, and Seal Replacement (M916A1) 4-599

Rear Axle CTIS Seal Replacement (M917A1 and M917A1 w/MCS) 4-604.1

CTIS Electronic Control Unit (ECU) Replacement (M917A1 and M917A1 w/MCS) 4-604.3

CTIS Pneumatic Control Unit Maintenance (M917A1 and M917A1w/MCS) 4-604.5

CTIS Speed Sensor Replacement (M917A1 and M917A1 w/MCS) 4-604.12

CTIS Pressure Switch Replacement (M917A1 and M917A1w/MCS) 4-604.14

CTIS Wheel Valve and Hose Assembly Replacement, Front (M917A1 and M917A1 w/MCS) 4-604.16

CTIS Wheel Valve and Hose Assembly Replacement, Rear (M917A1 and M917A1 w/MCS) 4-604.20

CTIS Wheel Valve Repair (M917A1 and M917A1 w/MCS) 4-604.24

CTIS Quick Release Valve Maintenance (M917A1 and M917A1 w/MCS) 4-604.26

CTIS Air Tube Replacement 4-604.30

FRONT AND DUAL REAR WHEEL LUG NUT TIGHTENING PROCEDURES

This task covers: a Front Wheel Lug Nut Tightening Procedure
b. Dual Rear Wheel Lug Nut Tightening Procedure

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Wheel Socket, PIN 6991

General Safety Instructions:

WARNING

Whenever any inner and/or outer wheel lug nuts require tightening or a wheel has been removed and replaced, all inner and outer lug nuts must be retorqued to the required torque. Failure to follow this warning may result in serious injury to personnel or damage to equipment.

FRONT WHEEL LUG NUT TIGHTENING PROCEDURE

WARNING

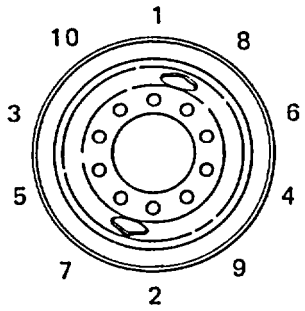
Whenever any Inner and/or outer wheel lug nuts require tightening or a wheel has been removed and replaced, all inner and outer lug nuts must be retorqued to the required torque. Failure to follow this warning may result in serious injury to personnel or damage to equipment

NOTE

- **Tightening pattern is the same for all wheel assemblies. Wheel nuts on left side of vehicle are left hand threads (turn right to loosen, turn left to tighten). Wheel nuts on right side of vehicle are right hand threads (turn left to loosen, turn right to tighten).**
- **After operating vehicle for 50 to 100 miles (80 to 160 km), retorque wheel nuts.**

FRONT AND DUAL REAR WHEEL LUG NUT TIGHTENING PROCEDURES (CONT)

1. INSTALL A WHEEL LUG NUT ON EACH WHEEL STUD AND HANDTIGHTEN UNTIL EACH NUT IS FLUSH WITH FACE OR CHAMFER OF WHEEL.
2. ROTATE WHEEL HALF A TURN TO SEAT PARTS AND HANDTIGHTEN EACH WHEEL LUG NUT AGAIN.
3. TORQUE EACH WHEEL LUG NUT TO 50 LB-FT (68 N•m) ACCORDING TO TIGHTENING PATTERN.



OUTER AND INNER LUG NUT TIGHTENING SEQUENCE

4. USING SAME TIGHTENING PATTERN, TORQUE EACH WHEEL LUG NUT TO 450-500 LB-FT (610-690 N•m).
5. USING SAME TIGHTENING PATTERN, RETORQUE EACH WHEEL LUG NUT TO 450-500 LB-FT (610-690 N•m).

DUAL REAR WHEEL LUG NUT TIGHTENING PROCEDURE

WARNING

- **Whenever any inner and/or outer wheel lug nuts require tightening or a wheel has been removed and replaced, all Inner and outer lug nuts must be retorqued to the required torque Failure to follow this warning may result in serious injury to personnel or damage to equipment.**
- **Whenever outer wheel lug nut(s) requires tightening, torque inner wheel lug nut(s) prior to torquing outer wheel lug nut(s). Failure to follow this warning may result in serious injury to personnel or damage to equipment.**

NOTE

- **Tightening pattern is the same for all wheel assemblies. Wheel nuts on left side of vehicle are left hand threads (turn right to loosen, turn left to tighten). Wheel nuts on right side of vehicle are right hand threads (turn left to loosen, turn right to tighten).**
- **After operating vehicle for 50 to 100 miles (80 to 160 km), retorque wheel nuts.**
- **When retightening inner wheel lug nuts, loosen outer wheel lug nuts several turns, retighten inner wheel lug nuts, then retighten outer wheel lug nuts.**

1. INSTALL A WHEEL LUG NUT ON EACH INNER WHEEL STUD AND HANDTIGHTEN UNTIL EACH NUT IS FLUSH WITH FACE OR CHAMFER OF WHEEL.

2. ROTATE WHEEL HALF A TURN TO SEAT PARTS AND HANDTIGHTEN EACH INNER WHEEL LUG NUT AGAIN.

3. TORQUE EACH INNER WHEEL LUG NUT TO 50 LB-FT (68 N•m) ACCORDING TO TIGHTENING PATTERN.

4. USING SAME TIGHTENING PATTERN, TORQUE EACH INNER WHEEL LUG NUT TO 450-500 LBFT (610-690 N•m).

5. USING SAME TIGHTENING PATTERN, RETORQUE EACH INNER WHEEL LUG NUT TO 450-500 LB-FT (610-690 N•m) 6. REPEAT STEPS 1-5 FOR OUTER WHEEL LUG NUTS.

FRONT HUB, DRUM, WHEEL BEARINGS, AND SEAL REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Gasket	P/N 450751
Seal, Oil	P/N A-1205-W-1375
Washer, Lock	P/N 1229F474
Washer, Lock (6)	
Oil, Lubricating	Appendix C, Item 16

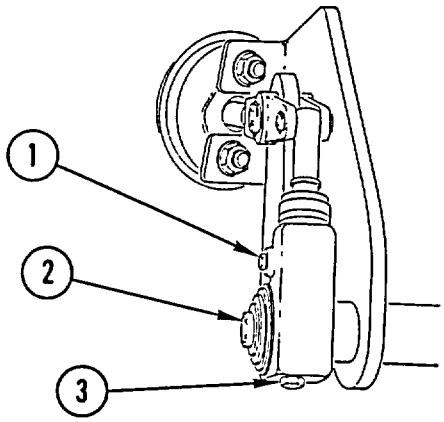
References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Front Wheel Removed
Page 4-285	Front Anti-Lock Brake System (ABS) Sensor Removed

REMOVAL

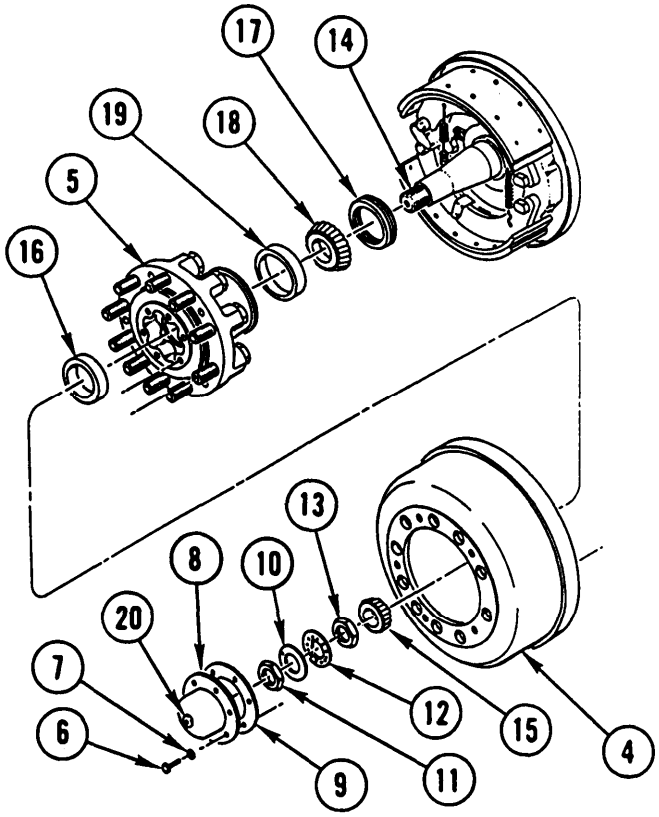


1. REMOVE PRESSURE RELIEF CAPSCREW, SPRING, AND PAWL ASSEMBLY (1) FROM SLACK ADJUSTER (2).

NOTE

Perform step 2 to obtain enough clearance between brake drum and brakeshoes to remove brake drum.

2. TURN ADJUSTING NUT (3) COUNTERCLOCKWISE.



3. REMOVE BRAKE DRUM (4) FROM HUB (5).

NOTE

Place suitable container under hub opening to catch axle oil.

4. REMOVE SIX CAPSCREWS (6), SIX LOCK WASHERS (7), HUB CAP (8), AND GASKET (9). DISCARD GASKET AND LOCK WASHERS.

5. BEND BACK TAB ON LOCK WASHER (10).

6. REMOVE JAM NUT (1 1), LOCK WASHER (10), LOCK RING (12), AND ADJUSTING NUT (13) FROM AXLE SPINDLE (14). DISCARD LOCK WASHER.

7. REMOVE OUTSIDE WHEEL BEARING (15) FROM AXLE SPINDLE (14). OUTER BEARING RACE (16) WILL REMAIN IN BORE OF HUB (5).

8. REMOVE HUB (5) FROM AXLE SPINDLE (14).

9. REMOVE OIL SEAL (17) AND INSIDE WHEEL BEARING (18) FROM HUB (5). DISCARD OIL SEAL,

NOTE

Perform step 10 if bearing races are damaged or if installing new bearings (15 and 18).

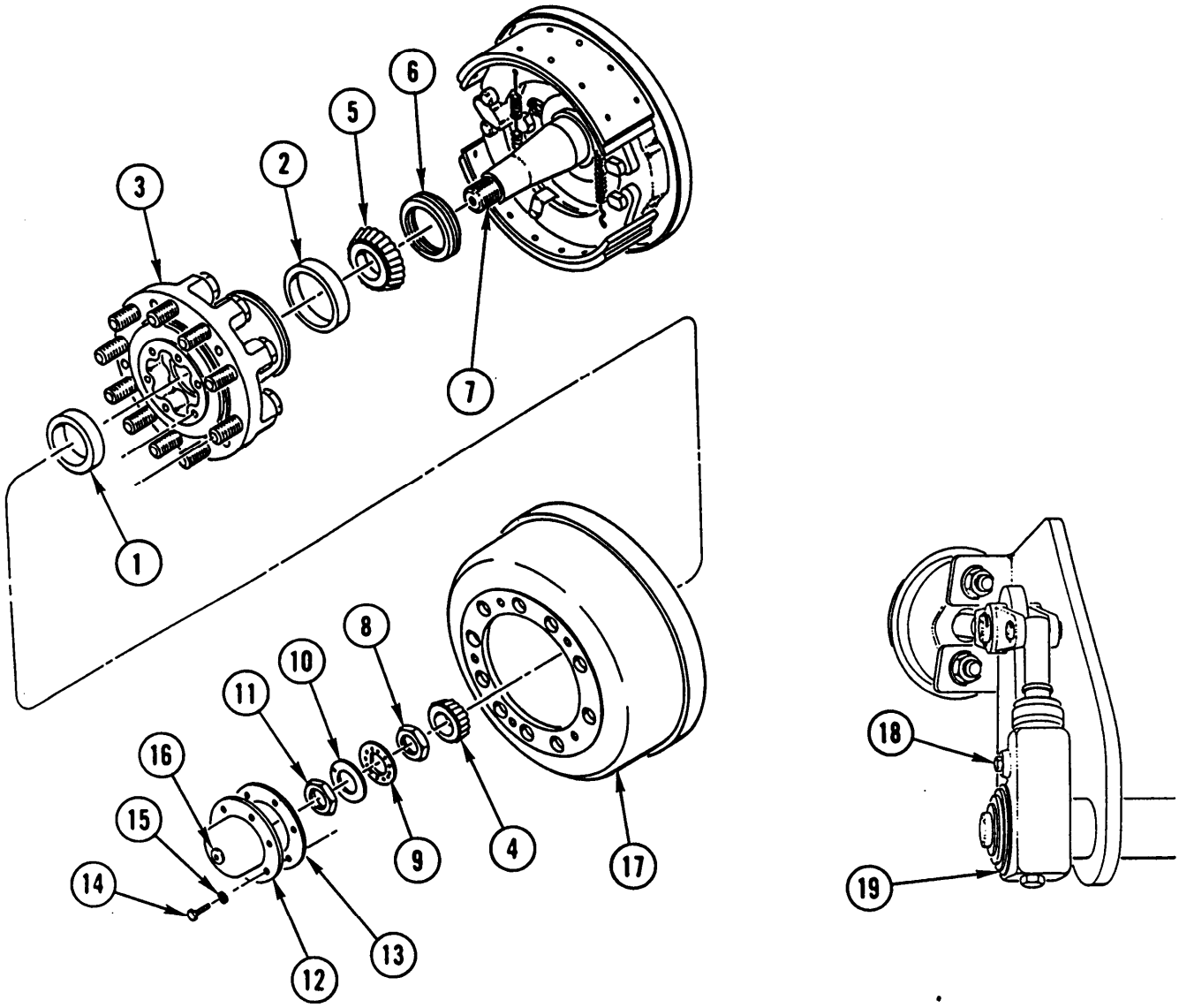
10. REMOVE INNER BEARING RACE (19) AND OUTER BEARING RACE (16) FROM BORE OF HUB (5).

FRONT HUB, DRUM, WHEEL BEARINGS, AND SEAL REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



NOTE

Perform step 1 if new bearing races or new bearings are being installed.

1. INSTALL OUTER BEARING RACE (1) AND INNER BEARING RACE (2) IN BORE OF HUB (3).
2. COAT TWO BEARINGS (4 AND 5) WITH CLEAN LUBRICATING OIL.

3. INSTALL INSIDE WHEEL BEARING (5) AND NEW OIL SEAL (6) IN HUB (3).

4. APPLY FILM OF LUBRICATING OIL ON AXLE SPINDLE (7).

CAUTION
To prevent damage to equipment, do not unseat oil seal or bearing when mounting hub.

5. MOUNT HUB (3) FULLY OVER AXLE SPINDLE (7).

6. FILL CAVITY IN HUB (3) WITH LUBRICATING OIL.

7. INSTALL OUTSIDE WHEEL BEARING (4) IN HUB (3).

NOTE
Install adjusting nut dimple facing out.

8. WHILE TURNING HUB (3), THREAD ADJUSTING NUT (8) ON AXLE SPINDLE (7) UNTIL IT IS AGAINST OUTSIDE WHEEL BEARING (4).

9. WHILE TURNING HUB (3) IN BOTH DIRECTIONS, TIGHTEN ADJUSTING NUT (8) TO 100 LB-FT (136 N•m).

10. LOOSEN ADJUSTING NUT (8) COMPLETELY TO ZERO TORQUE AND SPIN WHEEL A FEW TURNS. TIGHTEN ADJUSTING NUT TO 50 LB-FT (68 N•m).

11. BACK OFF ADJUSTING NUT (8) 1/6 TO 1/4 TURN.

12. INSTALL LOCK RING (9) AND NEW LOCK WASHER (10) OVER AXLE SPINDLE (7).

13. THREAD JAM NUT (11) ONTO AXLE SPINDLE (7) AND TIGHTEN TO 100-150 LB-FT (136-203 N•m).

14. BEND TAB OF LOCK WASHER (10) OVER A FLAT OF JAM NUT (11).

15. ALINE HUB CAP (12) AND NEW GASKET (13) OVER HUB (3) AND INSTALL SIX CAPSCREWS (14) AND SIX NEW LOCK WASHERS (15). TIGHTEN CAPSCREWS TO 15 LB-FT (20 N•m).

16. REMOVE HUB FILLER CAP (16) AND ADD LUBRICATING OIL TO LEVEL OF FILLER HOLE. WAIT 5 MINUTES; ADD OIL, AS NEEDED.

17. INSTALL HUB FILLER CAP (16).

18. INSTALL BRAKE DRUM (17) OVER HUB (3).

19. INSTALL PRESSURE RELIEF CAPSCREW, SPRING, AND PAWL ASSEMBLY (18) IN SLACK ADJUSTER (19). TIGHTEN TO 15-20 LB-FT (20-27 N•m).

NOTE
Follow-on Maintenance:

Install front wheel (TM 9-2320-363-10).
Adjust slack adjuster (page 4-447).
Install front Anti-Lock Brake System (ABS) sensor (page 4-285).

FRONT HUB, DRUM, WHEEL BEARINGS, AND SEAL REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26
Capscrew (2), 1/2 x 13 x 3-1/2 in.
Bearing Nut Wrench, P/N 409GX

Materials/Parts:

Seal P/N 1367260

Washer, Lock (10)

Washer, Lock P/N 351AX

Materials/Parts (Cont):

Grease, Appendix C, Item 14
Automotive and
Artillery (GAA)

Oil, LubricatingAppendix C, Item 16

Personnel Required: (2)

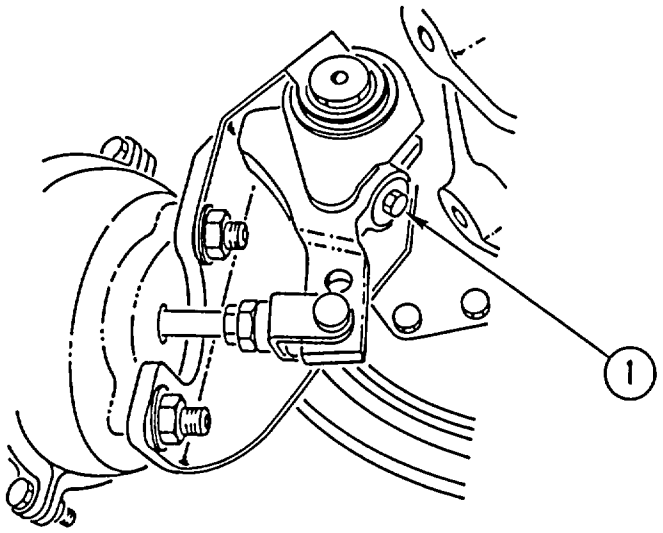
References:

TM 9-214
TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Front Wheel Removed

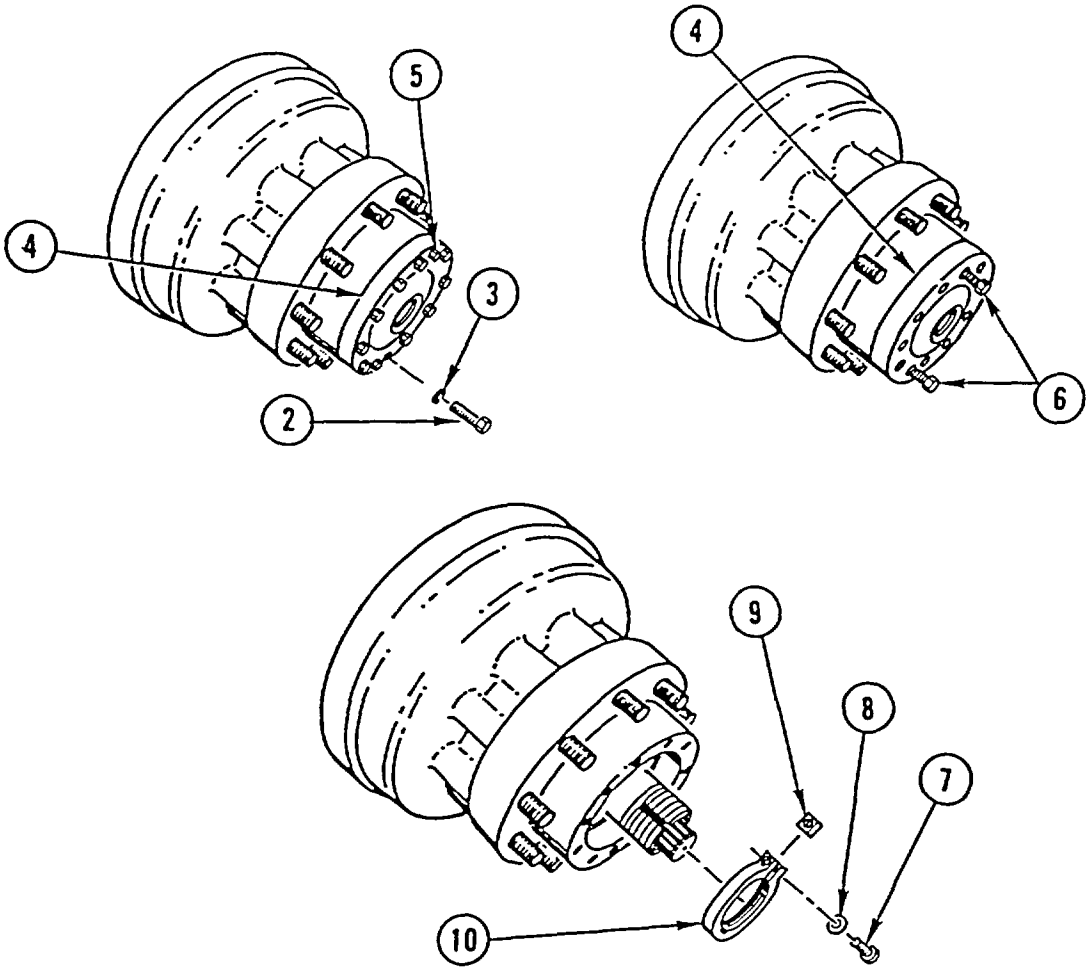
REMOVAL



NOTE

Perform step 1 to obtain enough clearance between brake drum and brakeshoes to remove hub and drum assembly.

1. TURN SLACK ADJUSTER NUT (1) COUNTERCLOCKWISE.



2. REMOVE 10 SCREWS (2) AND 10 LOCK WASHERS (3) FROM HUB CAP (4). DISCARD LOCK WASHERS.

3. REMOVE TWO SCREWS (5) FROM HUB CAP (4).

NOTE
To perform step 4, use two 1/2 x 13 x 3-1/2 in. capscrews.

4. INSTALL TWO SCREWS (6) IN HUB CAP (4) IN SAME LOCATION AS TWO SCREWS (5) REMOVED IN STEP 3.

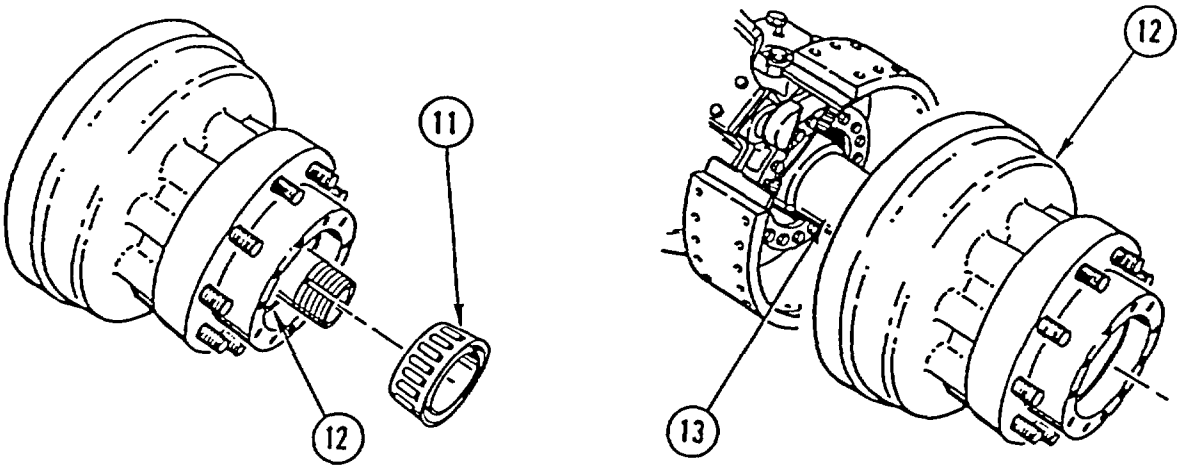
5. ALTERNATELY TIGHTEN TWO SCREWS (6) UNTIL HUB CAP (4) CAN BE REMOVED.

6. REMOVE TWO SCREWS (6) FROM HUB CAP (4).

NOTE
To perform step 7, it may be necessary to rotate hub and drum assembly.

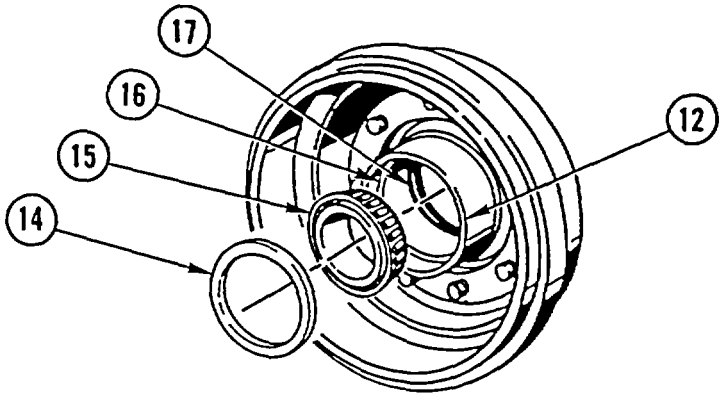
7. REMOVE SCREW (7), LOCK WASHER (8), AND LOCK (9). DISCARD LOCK WASHER.

8. USING BEARING NUT WRENCH, REMOVE LOCK NUT (10).



9. REMOVE OUTER BEARING (11) FROM HUB AND DRUM ASSEMBLY (12).

10. REMOVE HUB AND DRUM ASSEMBLY (12) FROM AXLE SPINDLE (13).



11. REMOVE OIL SEAL (14) FROM HUB AND DRUM ASSEMBLY (12). DISCARD SEAL.

12. REMOVE INNER BEARING (15) FROM HUB AND DRUM ASSEMBLY (12).

NOTE
Perform steps 13 and 14 only if bearings or bearing cups are damaged.

13. REMOVE INNER BEARING CUP (16) FROM HUB AND DRUM ASSEMBLY (12).

14. REMOVE OUTER BEARING CUP (17) FROM HUB AND DRUM ASSEMBLY (12).

15. ON M917A1 AND M917A1 W/MCS, REMOVE CTIS SEALS (PAGE 4-593.0).

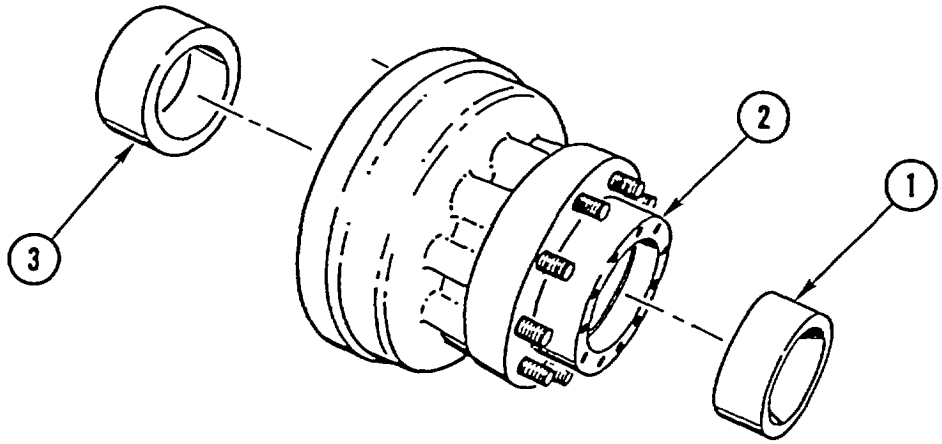
CLEANING/INSPECTION

1. INSPECT BEARINGS IN ACCORDANCE WITH TM 9-214. IF BEARINGS ARE UNSERVICEABLE, PERFORM STEPS 13 AND 14 OF REMOVAL.

2. CLEAN AND INSPECT ALL REMAINING PARTS IN ACCORDANCE WITH CHAPTER 2.

INSTALLATION

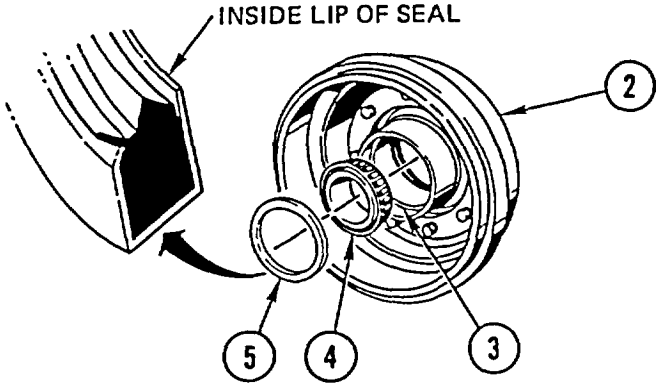
0.1 ON M917A1 AND M917A1 W/MCS, INSTALL CTIS SEALS (PAGE 4-593 0).

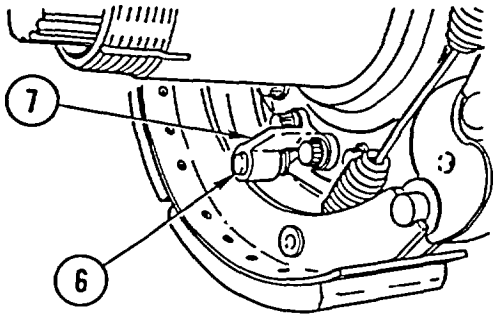


NOTE
Perform steps I and 2 only if bearing cups have been removed.

1. INSTALL NEW OUTER BEARING CUP (1) IN HUB AND DRUM ASSEMBLY (2)

2. INSTALL NEW INNER BEARING CUP (3) IN HUB AND DRUM ASSEMBLY (2).





3. APPLY GAA TO INSIDE OF INNER BEARING CUP (3).

4. PACK INNER BEARING (4) WITH GAA.

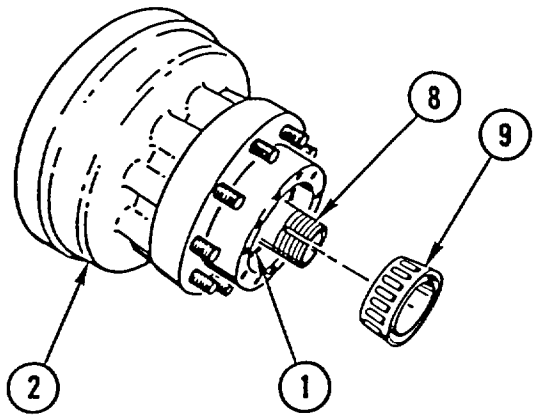
5. INSTALL INNER BEARING (4) IN HUB AND DRUM ASSEMBLY (2).

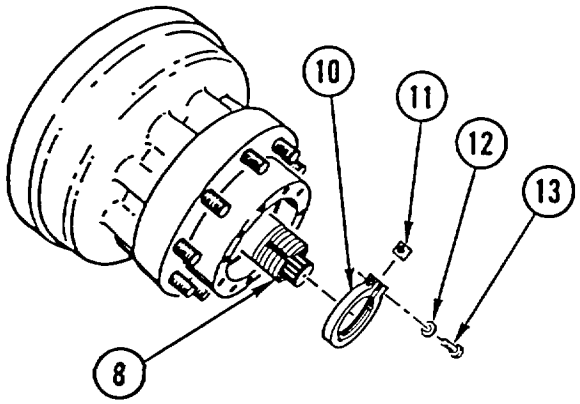
NOTE
Oil seal must be installed with inside lip facing hub and drum assembly.

6. COAT NEW OIL SEAL (5) WITH LUBRICATING OIL AND INSTALL OIL SEAL (5) IN HUB AND DRUM ASSEMBLY (2).

7. PUSH ABS SENSOR (6) INWARD UNTIL IT IS COMPLETELY SEATED IN ABS SENSOR MOUNTING BRACKET (7).

FRONT HUB, DRUM, WHEEL BEARINGS, AND SEAL REPLACEMENT (CONT)





NOTE

During installation of hub and drum assembly, it is critical that hub and drum assembly be installed straight and evenly to allow proper adjustment of ABS sensor.

8. INSTALL HUB AND DRUM ASSEMBLY (2) ON AXLE SPINDLE (8).
9. APPLY GAA TO INSIDE OF OUTER BEARING CUP (1).
10. PACK OUTER BEARING (9) WITH GAA.
11. INSTALL OUTER BEARING (9) ON AXLE SPINDLE (8).
12. INSTALL LOCK NUT (10) ON AXLE SPINDLE (8) UNTIL LOCK NUT (10) CONTACTS OUTER BEARING (9).

CAUTION

During step 13, hub must be rotated in both directions. Failure to do so could result in premature bearing failure.

13. USING BEARING NUT WRENCH, TIGHTEN LOCK NUT (10).
14. LOOSEN LOCK NUT (10) 1/4 TURN.

NOTE

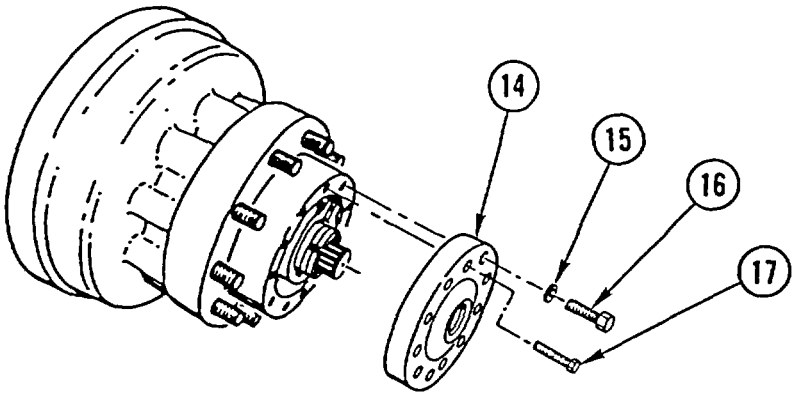
During step 15, it may be necessary to tighten lock nut to aline recess in axle spindle with lock nut opening.

15. INSTALL LOCK (11) IN LOCK NUT (10) AND AXLE SPINDLE (8) RECESS.

NOTE

To perform step 16, it may be necessary to rotate hub and drum assembly.

16. INSTALL NEW LOCK WASHER (12) AND SCREW (13). J



17. INSTALL HUB CAP (14), 10 NEW LOCK WASHERS (15), AND 10 SCREWS (16).

18. INSTALL TWO SCREWS (17) IN HUB CAP (14).

NOTE
Follow-on Maintenance:

Install front wheel (TM 9-2320-363-10).
Adjust slack adjuster (page 4-448).

FRONT AXLE CTIS SEAL REPLACEMENT

This task covers: a. Disassembly b. Cleaning/Inspection c. Assembly

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Material/Parts:

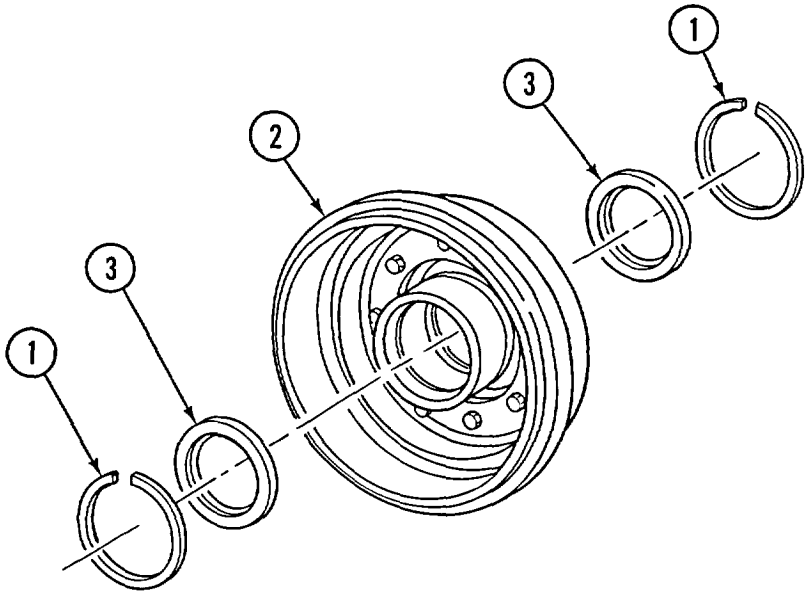
Seal (2)	P/N 2031960
Grease, Automotive and Artillery	Appendix C, Item 14

Equipment Condition:

Reference	Condition Description
Page 4-588	Front Hub, Drum, Wheel Bearings, and Seal Removed

DISASSEMBLY

1. REMOVE TWO RETAINING RINGS (1) FROM HUB AND DRUM ASSEMBLY (2).



NOTE
Note position of CTIS seals for assembly.

2. USING PULLER, REMOVE TWO CTIS SEALS (3) DISCARD SEALS

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ASSEMBLY

1. APPLY GAA TO INNER SURFACE OF TWO NEW CTIS SEALS (3).

2. WITH LIPS OF CTIS SEALS (3) FACING INWARD, PRESS TWO SEALS INTO HUB AND DRUM ASSEMBLY (2).

3. INSTALL TWO RETAINING RINGS (1).

NOTE
Follow-on Maintenance:
Install front hub, drum, wheel bearings, and seal (page 4-588).

REAR HUB, DRUM, WHEEL BEARINGS, AND SEAL REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Gasket	P/N 2208-X-440
Seal, Oil	P/N 47697
Seal, Oil	P/N 47690
Washer, Lock (8)	
Oil, Lubricating	Appendix C, Item 20
Compound, Antiseize	Appendix C, Item 5

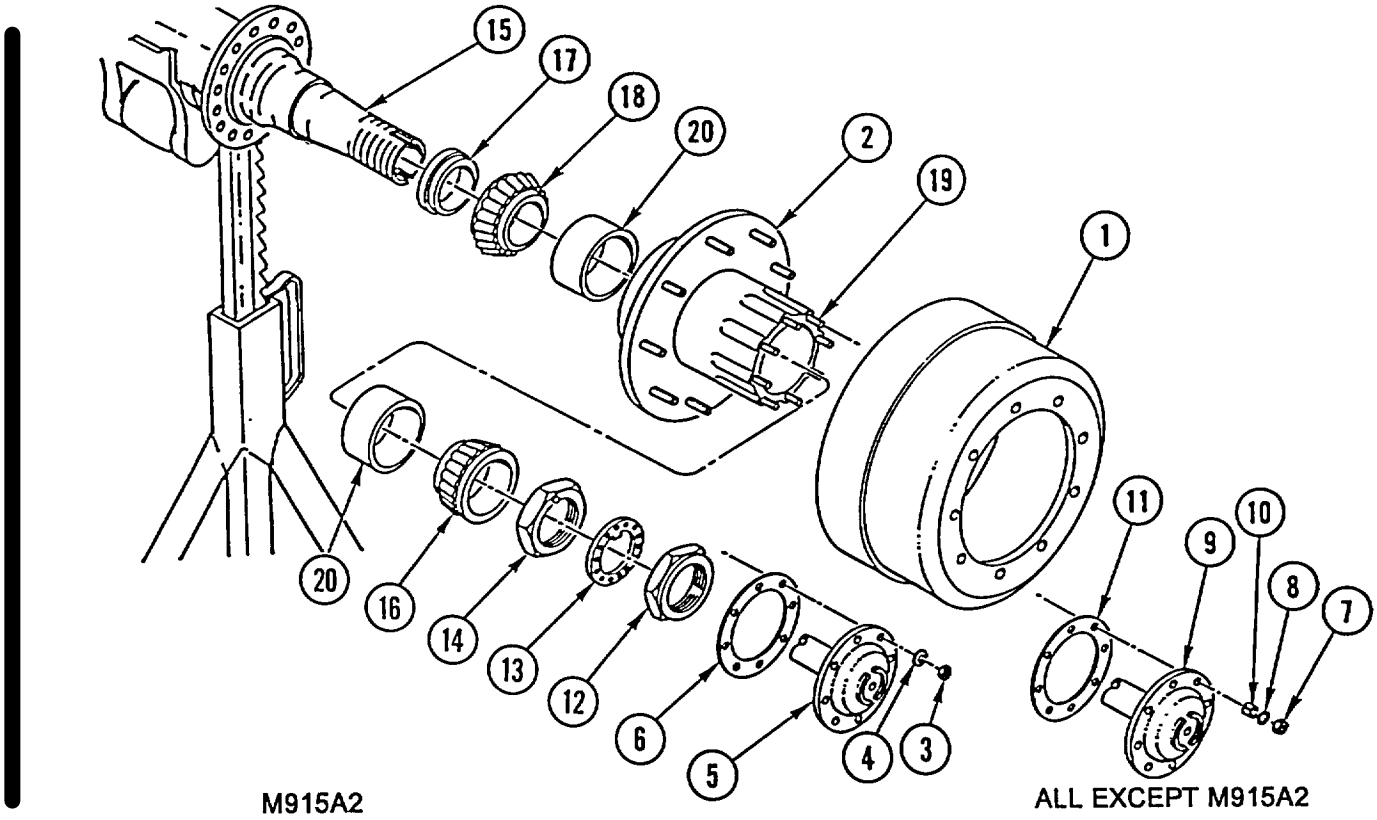
References:

TM 9-2320-363-10
TM 9-214
TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Rear Brake Caged
TM 9-2320-363-10	Rear Wheels Removed

REMOVAL



NOTE

- **Procedure is the same for both sides.**
- **Procedure is the same for both rear axles except as noted.**

1. REMOVE BRAKE DRUM (1) FROM HUB (2).

NOTE

- **Have suitable container available to catch oil that will spill when axle shaft is removed.**
- **Step 2 is for M915A2; steps 3, 4, and 5 are for all except M915A2.**

2. REMOVE EIGHT NUTS (3), EIGHT WASHERS (4), AXLE SHAFT (5), AND GASKET (6). DISCARD GASKET.

3. REMOVE EIGHT NUTS (7) AND EIGHT LOCK WASHERS (8). DISCARD LOCK WASHERS.

CAUTION

Make sure axle hub studs are not damaged during axle shaft removal. If damage occurs, replace stud to allow proper installation of tapered dowels and nuts.

4. USING SLEDGE HAMMER, SHARPLY STRIKE CENTER OF AXLE SHAFT (9) UNTIL SEAL TO HUB (2) IS BROKEN AND EIGHT TAPERED DOWELS (10) ARE LOOSENED.

5. REMOVE EIGHT TAPERED DOWELS (10), AXLE SHAFT (9), AND GASKET (11). DISCARD GASKET.

6. REMOVE JAM NUT (12), LOCK RING (13), AND ADJUSTING NUT (14) FROM AXLE SPINDLE (15).

7. REMOVE OUTER WHEEL BEARING (16) FROM AXLE SPINDLE (15).

8. REMOVE HUB (2) FROM AXLE SPINDLE (15).

9. REMOVE AND DISCARD OIL SEAL (17) FROM HUB (2).

10. REMOVE INNER WHEEL BEARING (18) FROM HUB (2).

11. IF DAMAGED, REMOVE EIGHT STUDS (19) FROM HUB (2).

NOTE

Perform step 12 only after performing step 1 of Cleaning/Inspection, and only if bearings are damaged.

12. USING BRASS DRIFT PIN, CAREFULLY REMOVE AND DISCARD TWO BEARINGS CUPS (20) FROM HUB (2).

13. ON M917A1 AND M917A1 W/MCS, REMOVE CTIS SEALS (PAGE 4-604.1).

14. ON M917A1 AND M917A1 W/MCS, REMOVE CTIS TUBE FROM AXLE SPINDLE AND AXLE FLANGE (PAGE 4-604.30).

CLEANING/INSPECTION

1. INSPECT BEARINGS IN ACCORDANCE WITH TM 9-214. IF BEARING(S) ARE DAMAGED, PERFORM STEP 12 OF REMOVAL.

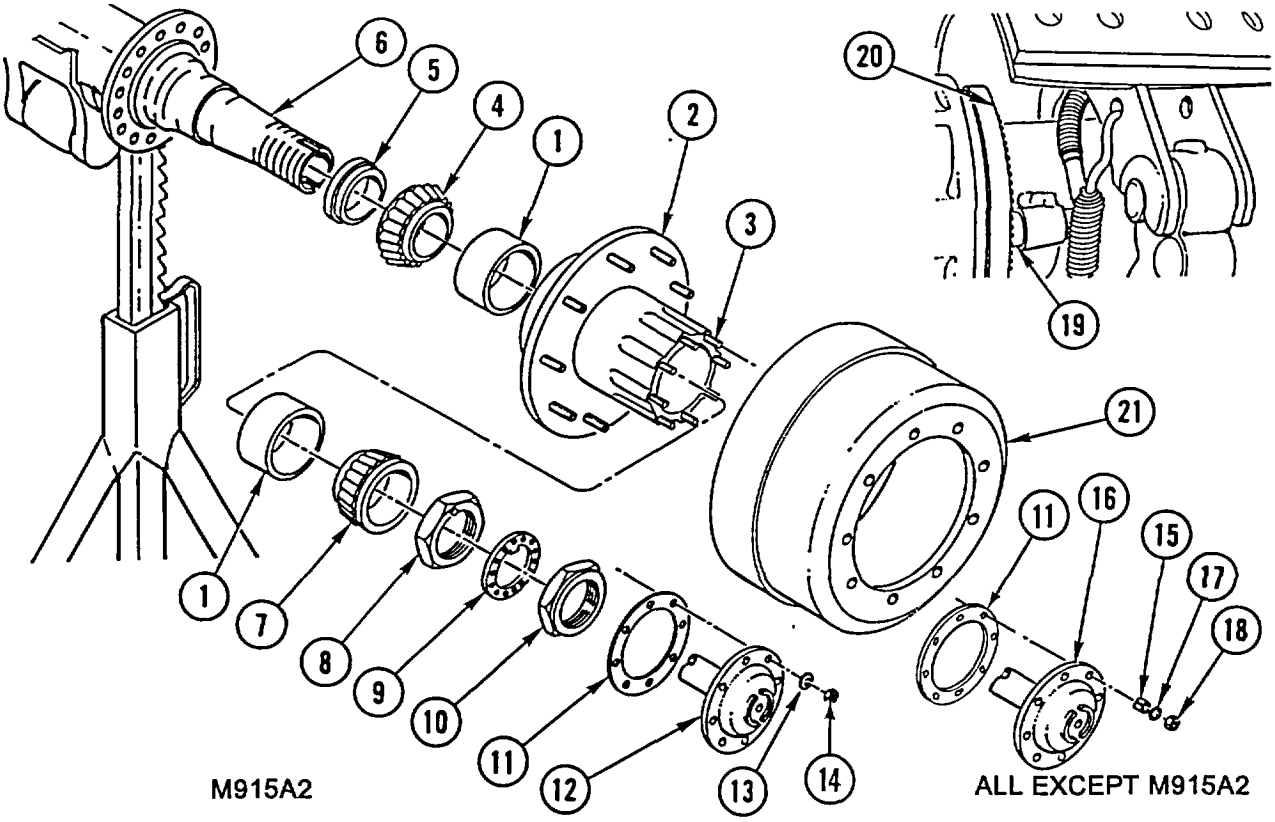
2. CLEAN AND INSPECT ALL PARTS IN ACCORDANCE WITH CHAPTER 2.

REAR HUB, DRUM, WHEEL BEARINGS, AND SEAL REPLACEMENT (CONT)

INSTALLATION

0.1 ON M917A1 AND M917A1 W/MCS, INSTALL CTIS TUBE ON AXLE SPINDLE AND AXLE FLANGE (PAGE 4-604.29).

0.2 ON M917A1 AND M917A1 W/MCS, INSTALL CTIS SEALS (PAGE 4-604.1).



CAUTION

Bearings and bearing cups must be replaced as a set. Failure to do so could result in premature damage to either bearings or bearing cups.

NOTE

- Procedure is the same for both sides.
- Procedure is the same for both rear axles except as noted.

1. USING BRASS DRIFT PIN, CAREFULLY INSTALL TWO NEW BEARING CUPS (1) IN HUB (2).
2. IF REMOVED, INSTALL EIGHT NEW STUDS (3) IN HUB (2).
3. COAT INNER WHEEL BEARING (4) WITH AXLE OIL.
4. INSTALL INNER WHEEL BEARING (4) IN HUB (2).
5. INSTALL NEW OIL SEAL (5) IN HUB (2).
6. INSTALL HUB (2) ON AXLE SPINDLE (6) AND FILL CAVITY WITH AXLE OIL.

7. COAT OUTER WHEEL BEARING (7) WITH AXLE OIL.

8 INSTALL OUTER WHEEL BEARING (7) IN HUB (2).

NOTE
Adjusting nut can be identified by protrusion on one side

9. WITH PROTRUSION FACING OUT, INSTALL ADJUSTING NUT (8) UNTIL ADJUSTING NUT CONTACTS OUTER WHEEL BEARING (7).

CAUTION
Hub must be rotated in both directions while tightening adjusting nut. Failure to do so will result in premature bearing failure.

10. TIGHTEN ADJUSTING NUT (8) TO 100 LB-FT (136 N•m).

11. LOOSEN ADJUSTING NUT (8) COMPLETELY AND TIGHTEN TO 50 LB-FT (68 N•m).

12. LOOSEN ADJUSTING NUT (8) 1/4 TURN.

NOTE
During step 13, it may be necessary to tighten adjusting nut to aline protrusion with alinement hole in lock ring

13. INSTALL LOCK RING (9) ON AXLE SPINDLE (6).

14. INSTALL JAM NUT (10) ON AXLE SPINDLE (6). TIGHTEN JAM NUT TO 250-400 LB-FT (339-542 N•m)

15. INSTALL NEW GASKET (11) ON STUDS (3).

NOTE

- **Splines on axle shaft must engage in differential before axle flange will seat against hub.**
- **Step 16 is for M915A2; steps 17 and 18 are for all except M915A2**

16 INSTALL AXLE SHAFT (12), EIGHT WASHERS (13), AND EIGHT NUTS (14). TIGHTEN NUTS TO 155 LB-FT (210 N•m).

NOTE
Perform step 17 on rear hub only.

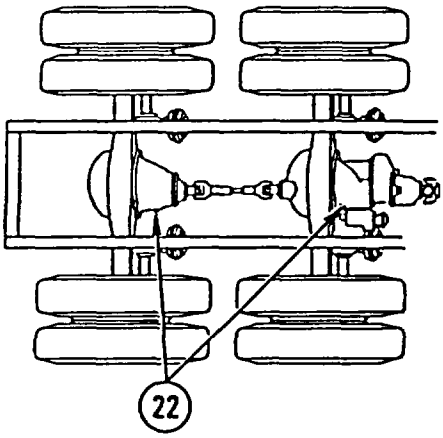
17. COAT EIGHT TAPERED DOWELS (15) WITH ANTISEIZE COMPOUND.

18. INSTALL AXLE SHAFT (16), EIGHT TAPERED DOWELS (15), EIGHT NEW LOCK WASHERS (17), AND EIGHT NUTS (18). TIGHTEN NUTS TO 155 LB-FT (210 N•m).

19. PUSH ANTI-LOCK BRAKE SYSTEM (ABS) SENSOR (19) UNTIL SENSOR CONTACTS TONE WHEEL (20).

20. INSTALL BRAKE DRUM (21) ON HUB (2).

REAR HUB, DRUM, WHEEL BEARINGS, AND SEAL REPLACEMENT (CONT)



21. REMOVE PLUG (22) AND CHECK OIL LEVEL IN ACCORDANCE WITH UNIT PMCS, TM 9-2320-363-20-1.

22. INSTALL PLUG (22) AND TIGHTEN TO 35 LB-FT (47 N•m).

NOTE
Follow-on Maintenance:

Uncage rear brakes (TM 9-2320-363-10).
Install rear wheels (TM 9-2320-363-10).

All data on page 4-599 thru 4-604 deleted.

REAR HUB, DRUM, WHEEL BEARINGS, AND SEAL REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuratlon:

M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Gasket	P/N 2208-X-440
Seal, Oil (FWD-Rear)	P/N 47697
Seal, 011 (Rear-Rear)	P/N 47690
Washer, Lock (8)	
Oil, Lubricating	Appendix C, Item 20
Compound, Antiseize	Appendix C, Item 5

References:

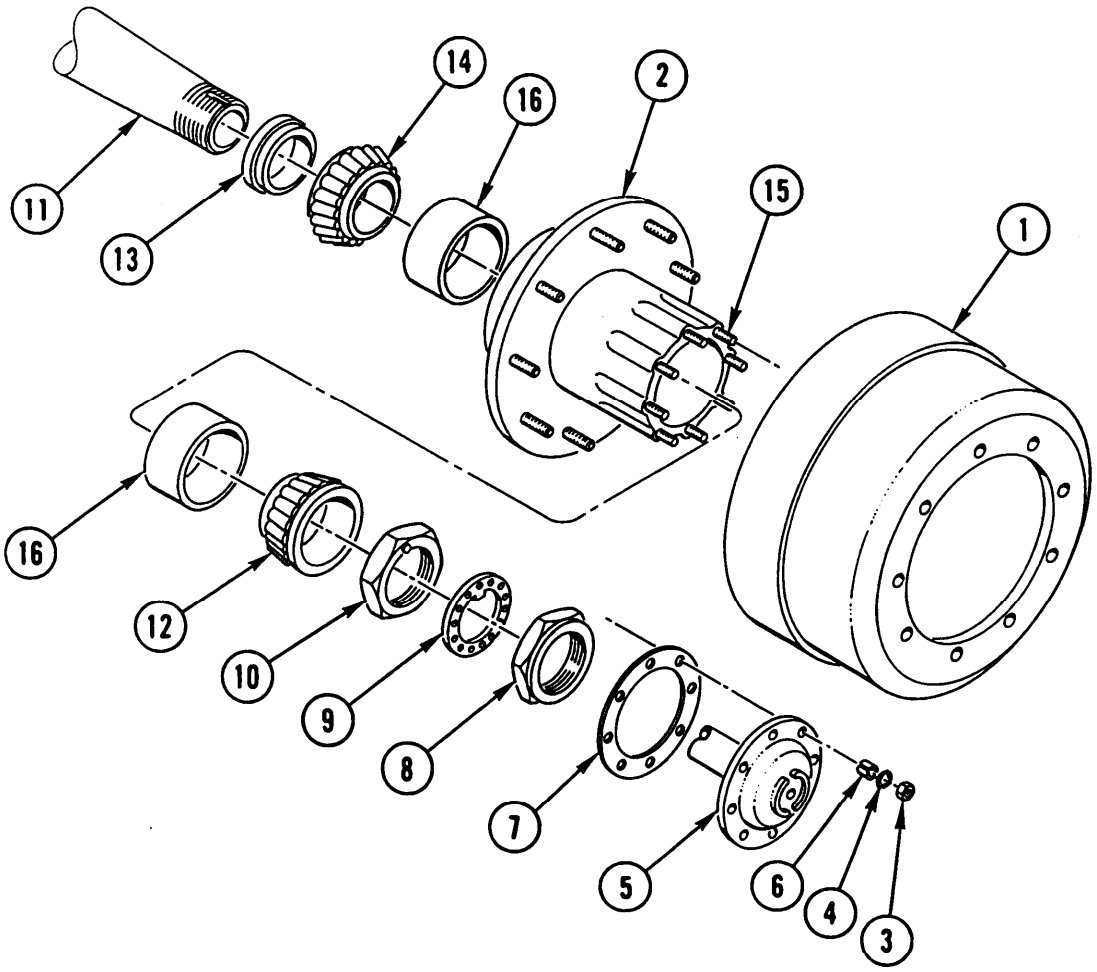
TM 9-2320-363-10
TM 9-214
LO 9-2320-363-12

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Rear Brakes Caged
TM 9-2320-363-10	Rear Wheels Removed

REAR HUB, DRUM, WHEEL BEARINGS, AND SEAL REPLACEMENT (CONT)

REMOVAL



NOTE

- Procedure is the same for both sides.
- Procedure is the same for both rear axles.

1. REMOVE BRAKE DRUM (1) FROM HUB (2).

NOTE

Have suitable container available to catch oil that will spill when axle shaft is removed.

2. REMOVE EIGHT NUTS (3) AND EIGHT LOCK WASHERS (4). DISCARD LOCK WASHERS.

CAUTION

Make sure axle hub studs are not damaged during axle shaft removal. If damage occurs, replace stud to allow proper installation of tapered dowels and nuts.

3. USING SLEDGE HAMMER, SHARPLY STRIKE CENTER OF AXLE SHAW (5) UNTIL SEAL TO HUB (2) IS BROKEN AND EIGHT TAPERED DOWELS (6) ARE LOOSENED.
4. REMOVE EIGHT TAPERED DOWELS (6), AXLE SHAW (5), AND GASKET (7). DISCARD GASKET.
5. REMOVE JAM NUT (8), LOCK RING (9), AND ADJUSTING NUT (10) FROM AXLE SPINDLE (11).
6. REMOVE OUTER WHEEL BEARING (12) FROM AXLE SPINDLE (11).
7. REMOVE HUB (2) FROM AXLE SPINDLE (11).
8. REMOVE AND DISCARD OIL SEAL (13) FROM HUB (2).
9. REMOVE INNER WHEEL BEARING (14) FROM HUB (2).
10. IF DAMAGED, REMOVE EIGHT STUDS (15) FROM HUB (2).

NOTE

Perform step 11 only after performing step 1 of Cleaning/Inspection, and only if bearings are damaged.

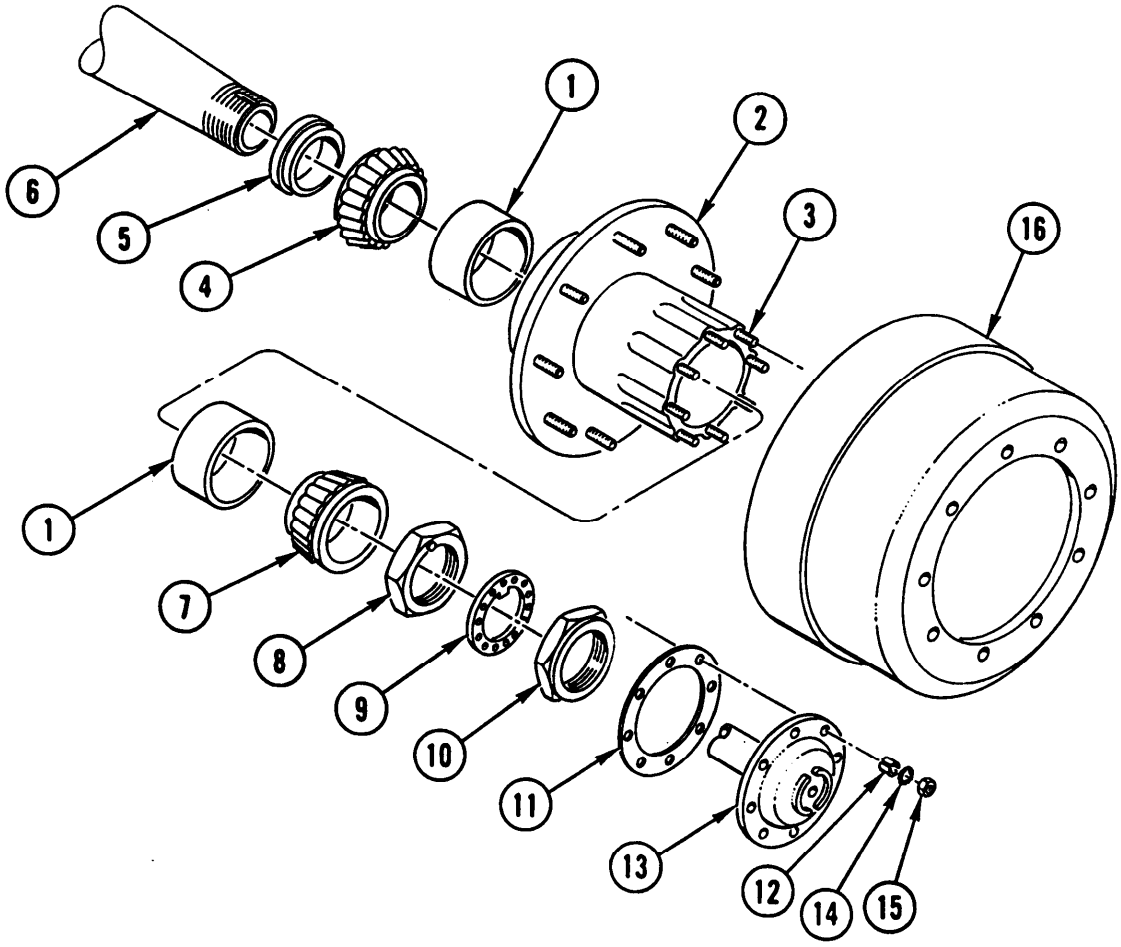
11. USING BRASS DRIFT PIN, CAREFULLY REMOVE AND DISCARD TWO BEARING CUPS (16) FROM HUB (2).

CLEANING/INSPECTION

1. INSPECT BEARINGS IN ACCORDANCE WITH TM 9-214. IF BEARING(S) ARE DAMAGED, PERFORM STEP 11 OF REMOVAL.
2. CLEAN AND INSPECT ALL OTHER PARTS IN ACCORDANCE WITH CHAPTER 2.

REAR HUB, DRUM, WHEEL BEARINGS, AND SEAL REPLACEMENT (CONT)

INSTALLATION



CAUTION

Bearings and bearing cups must be replaced as a set. Failure to do so could result in premature damage to either bearings or bearing cups.

NOTE

- Procedure is the same for both sides.
- Procedure is the same for both rear axles.

1. USING BRASS DRIFT PIN, CAREFULLY INSTALL TWO NEW BEARING CUPS (1) IN HUB (2).
2. IF REMOVED, INSTALL EIGHT NEW STUDS (3) IN HUB (2).
3. COAT INNER WHEEL BEARING (4) WITH AXLE OIL.

4. INSTALL INNER WHEEL BEARING (4) IN HUB (2).
5. INSTALL NEW OIL SEAL (5) IN HUB (2).
6. INSTALL HUB (2) ON AXLE SPINDLE (6) AND FILL CAVITY WITH AXLE OIL.
7. COAT OUTER WHEEL BEARING (7) WITH AXLE OIL.
0. INSTALL OUTER WHEEL BEARING (7) IN HUB (2).

NOTE

Adjusting nut can be identified by protrusion on one side.

9. WITH PROTRUSION FACING OUT, INSTALL ADJUSTING NUT (8) UNTIL ADJUSTING NUT CONTACTS OUTER WHEEL BEARING (7).

CAUTION

Hub must be rotated in both directions while tightening adjusting nut. Failure to do so will result in premature bearing failure.

10. TIGHTEN ADJUSTING NUT (8) TO 100 LB-FT (136 N•m).
11. LOOSEN ADJUSTING NUT (8) COMPLETELY AND TIGHTEN TO 50 LB-FT (68 N•m).
12. LOOSEN ADJUSTING NUT (8) 1/4 TURN.

NOTE

During step 13, it may be necessary to tighten adjusting nut to aline protrusion with alinement hole in lock ring.

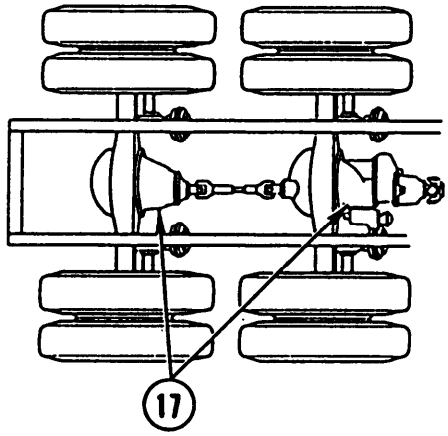
13. INSTALL LOCK RING (9) ON AXLE SPINDLE (6).
14. INSTALL JAM NUT (10) ON AXLE SPINDLE (6). TIGHTEN JAM NUT TO 250-400 LB-FT (339-542 N•m).
15. INSTALL NEW GASKET (11) ON STUDS (3).

NOTE

Splines on axle shaft must engage in differential before axle flange will seat against hub.

16. COAT EIGHT TAPERED DOWELS (12) WITH ANTISEIZE COMPOUND.
17. INSTALL AXLE SHAFT (13), EIGHT TAPERED DOWELS (12), EIGHT NEW LOCK WASHERS (14), AND EIGHT NUTS (15). TIGHTEN NUTS TO 155 LB-FT (210 N•m).
18. INSTALL BRAKE DRUM (16) ON HUB (2).

REAR HUB, DRUM, WHEEL BEARINGS, AND SEAL REPLACEMENT (CONT)



19. REMOVE PLUG (17) AND CHECK OIL LEVEL IN ACCORDANCE WITH LO 9-2320-363-12.

20. INSTALL PLUG (17) AND TIGHTEN TO 35 LB-FT (47 N•m).

NOTE

Follow-on Maintenance:
Uncage rear brakes (TM 9-2320-363-10).
Install rear wheels (TM 9-2320-363-10).

REAR AXLE CTIS SEAL REPLACEMENT

This task covers: a. Disassembly b. Cleaning/Inspection c. Assembly

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

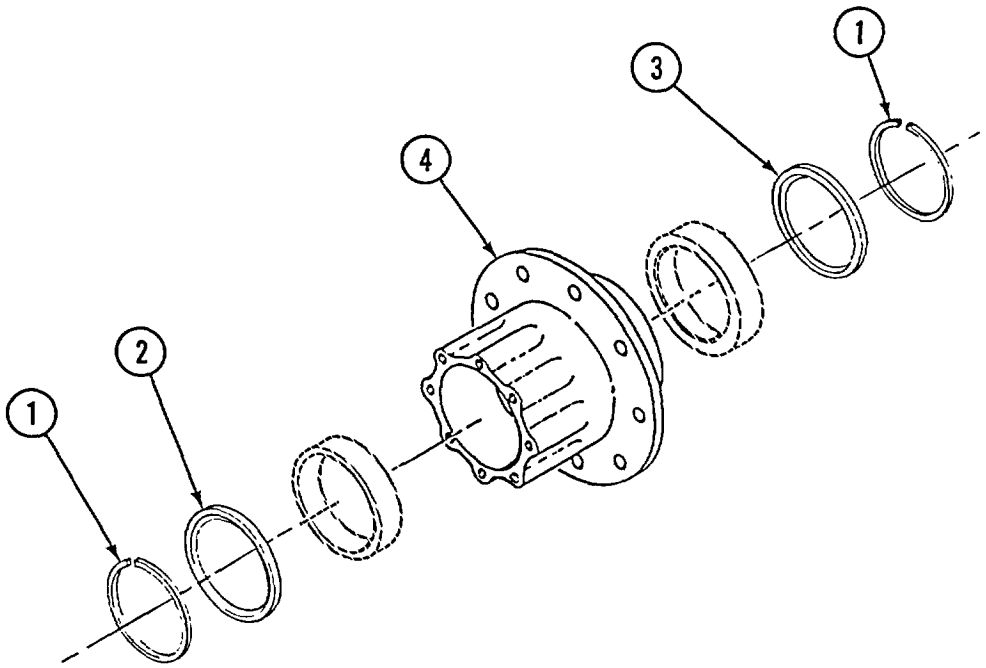
Seal (2)	A-1205-D-2162
Grease, Automotive and Artillery	Appendix C, Item 14

Equipment Condition:

Reference	Condition Description
Page 4-594	Rear Hub, Drum, Wheel Bearings, and Seal Removed

DISASSEMBLY

1. REMOVE TWO SNAP RINGS (1), OUTER SEAL GUIDE (2) AND INNER SEAL GUIDE (3) FROM HUB (4).



REAR AXLE CTIS SEAL REPLACEMENT (CONT)

NOTE
Note position of CTIS seals for assembly.

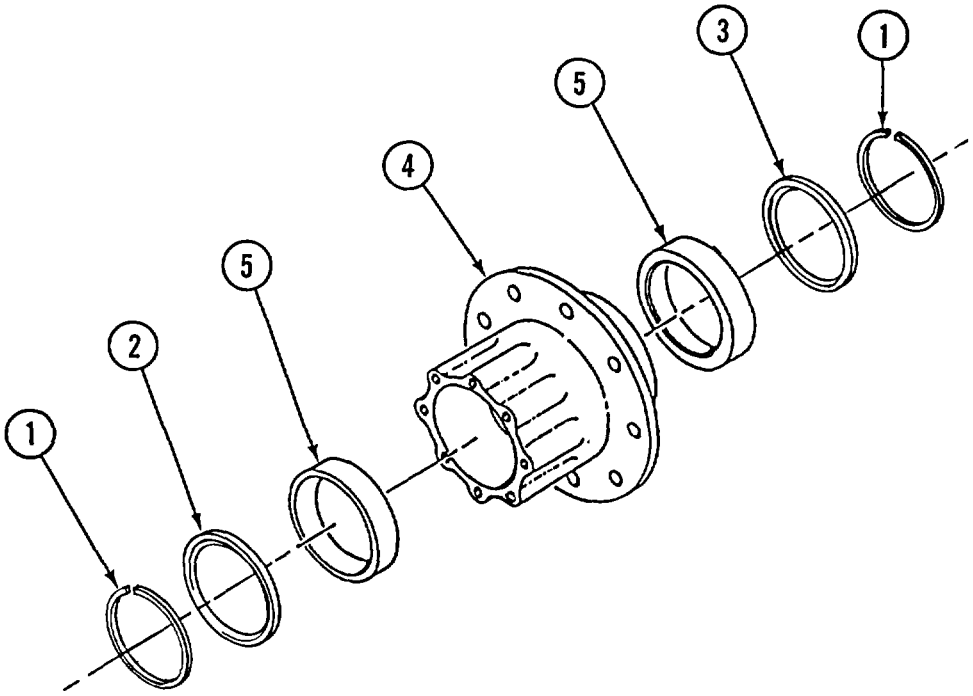
2. USING PULLER, REMOVE TWO CTIS SEALS (5). DISCARD SEALS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ASSEMBLY

1. APPLY GAA TO INNER SURFACE OF TWO NEW CTIS SEALS (5).
2. WITH LIPS OF CTIS SEALS (5) FACING INWARD, PRESS CTIS SEALS INTO HUB (4).
3. INSTALL INNER SEAL GUIDE (3), OUTER SEAL GUIDE (2), AND TWO SNAP RINGS (1).



NOTE
Follow-on Maintenance:
Install rear hub, drum, wheel bearings and seal (page 4-594).

CTIS ELECTRONIC CONTROL UNIT (ECU) REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (3)

References:

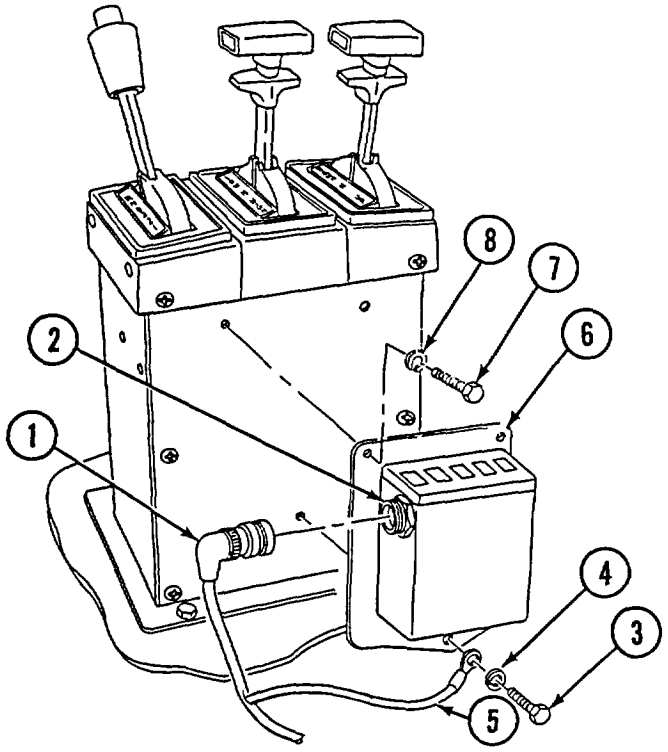
TM 5-3805-264-14&P

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
TM 5-3805-264-14&P	MCS Control Unit Removed

REMOVAL

1. DISCONNECT CTIS CAB WIRING HARNESS CONNECTOR P110 (1) FROM ECU CONNECTOR (2).
2. REMOVE SCREW (3), LOCK WASHER (4), AND WIRING HARNESS GROUND LEAD (5) FROM ECU (6). DISCARD LOCK WASHER.



3. REMOVE TWO SCREWS (7), LOCK WASHERS (8), AND ECU (6) FROM SHIFT TOWER (9). DISCARD LOCK WASHERS.

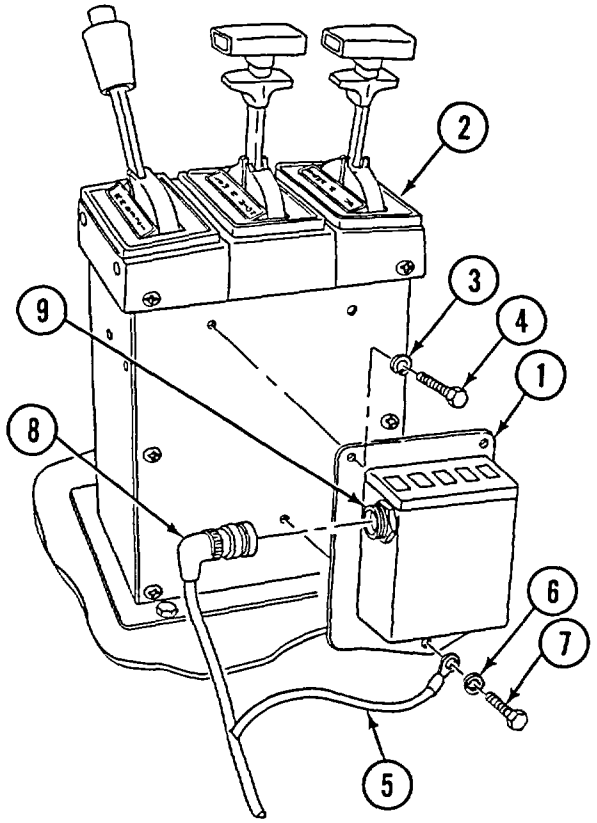
CTIS ELECTRONIC CONTROL UNIT (ECU) REPLACEMENT (CONT)

CLEANING/INSPECTION I

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL ECU (1) ON SHIFT TOWER (2) WITH TWO NEW LOCK WASHERS (3) AND SCREWS (4).
2. INSTALL WIRING HARNESS GROUND LEAD (5) WITH NEW LOCK WASHER (6) AND SCREW (7).
3. CONNECT CTIS CAB WIRING HARNESS CONNECTOR P110 (8) TO ECU CONNECTOR (9).



NOTE
Follow-on Maintenance:
Install MCS control unit (TM 5-3805-264-14&P).
Connect batteries (page 2-29).

CTIS PNEUMATIC CONTROL UNIT MAINTENANCE

This task covers: a. Removal b. Disassembly c. Cleaning/inspection
d. Assembly e. Installation

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8
Loctite	Appendix C, Item 15.2
Oil, Lubricating	Appendix C, Item 16
Tags, Identification	Appendix C, Item 26
Washer, Lock (3)	P/N 23-00701-100
Kit, Repair	P/N 673870

References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Vehicle Air System Drained
Page 2-29	Batteries Disconnected

General Safety Instructions:

WARNING

- **Always wear eye protection.**
- **Make sure all air lines and fittings are clear of debris.**
- **Sealing compounds can burn easily and give off harmful vapors.**

REMOVAL

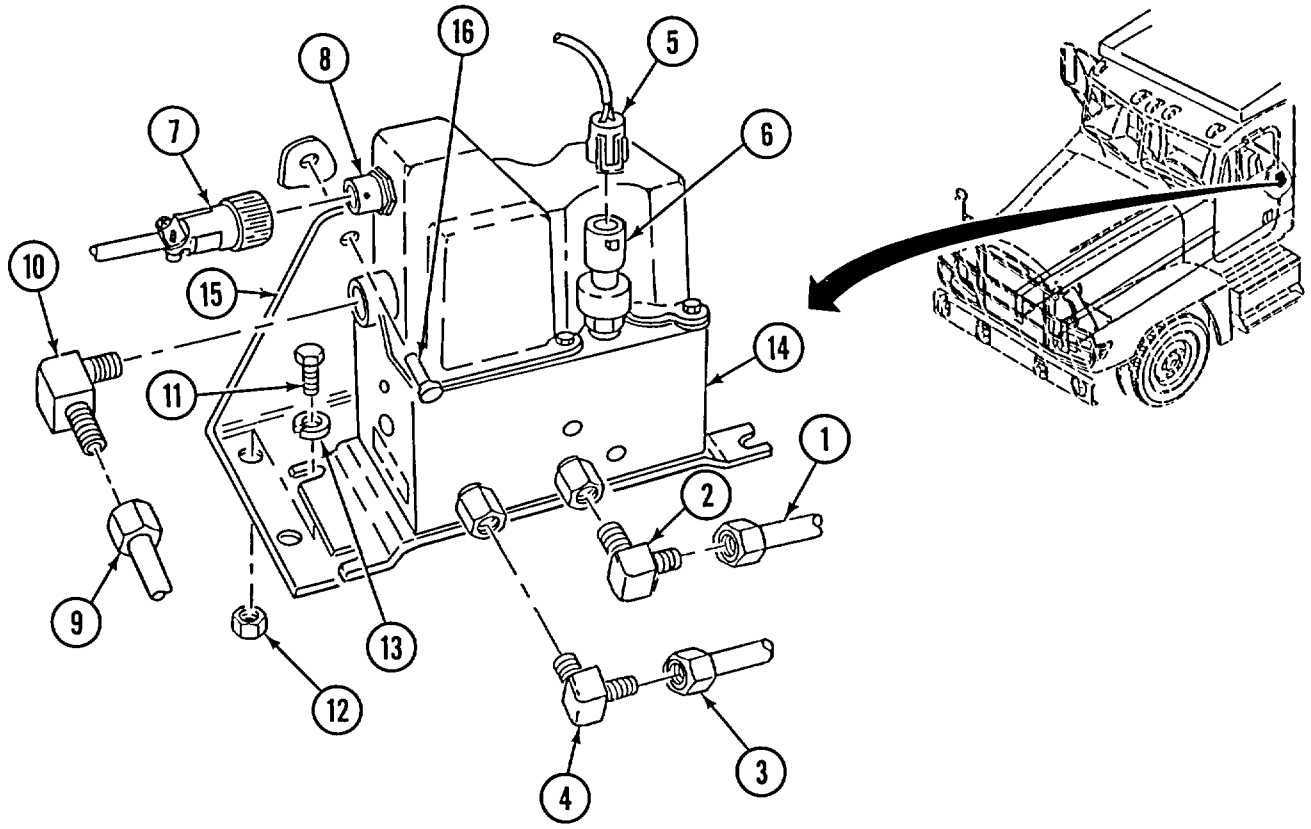
WARNING

Always wear eye protection when disconnecting air lines. Residual air will be expelled. Failure to follow this warning could cause serious eye injury.

NOTE
Tag all lines prior to disconnecting to aid in connecting.

CTIS PNEUMATIC CONTROL UNIT MAINTENANCE (CONT)

1. DISCONNECT HOSE CONNECTOR (1) FROM ELBOW (2) AT PORT MARKED "TO AXLES".
2. DISCONNECT HOSE CONNECTOR (3) FROM ELBOW (4) AT PORT MARKED "SUPPLY".
3. DISCONNECT ELECTRICAL CONNECTOR (5) FROM PRESSURE TRANSDUCER (6).
4. DISCONNECT ELECTRICAL CONNECTOR (7) FROM RECEPTACLE (8).
5. DISCONNECT HOSE CONNECTOR (9) FROM ELBOW (10) ON PORT MARKED "VENT'.
6. REMOVE THREE BOLTS (11), THREE NUTS (12), THREE LOCK WASHERS (13), AND PCU (14) FROM BRACKET (15). DISCARD LOCK WASHERS.
7. REMOVE SIX RIVETS (16) AND BRACKET (15), IF DAMAGED.

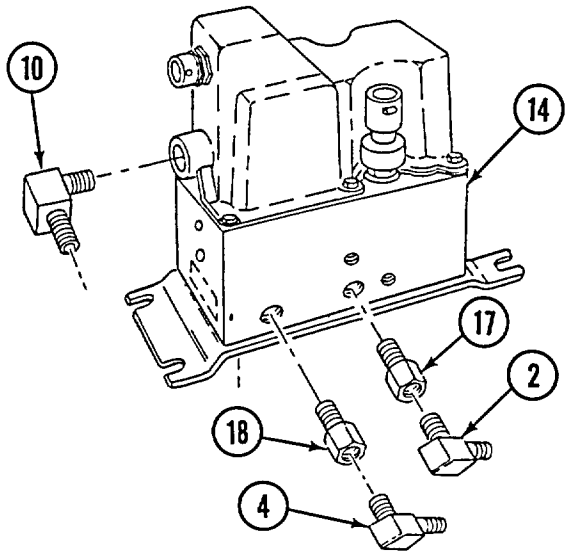


DISASSEMBLY

1. REMOVE ELBOW (10) FROM PORT MARKED "VENT".

2. REMOVE ELBOW (2) AND ADAPTER (17) FROM PORT MARKED "TO AXLES" ON PCU (4).

3. REMOVE ELBOW (4) AND ADAPTER (18) FROM PORT MARKED "SUPPLY".

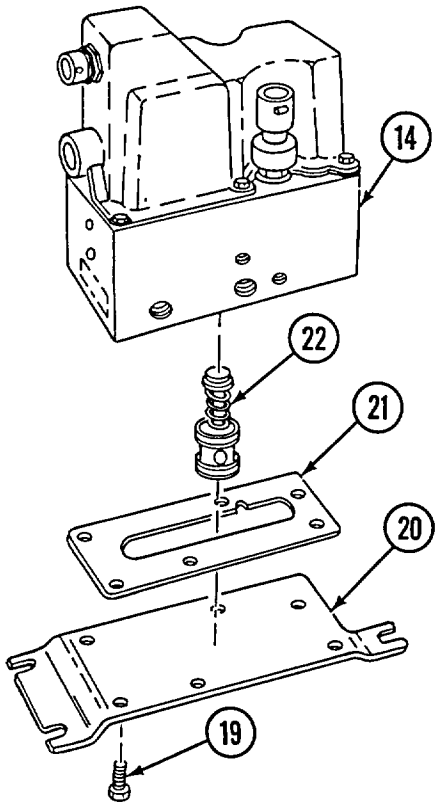


4. REMOVE SIX SCREWS (19), MOUNTING PLATE (20), AND GASKET (21) FROM PCU (14).

NOTE

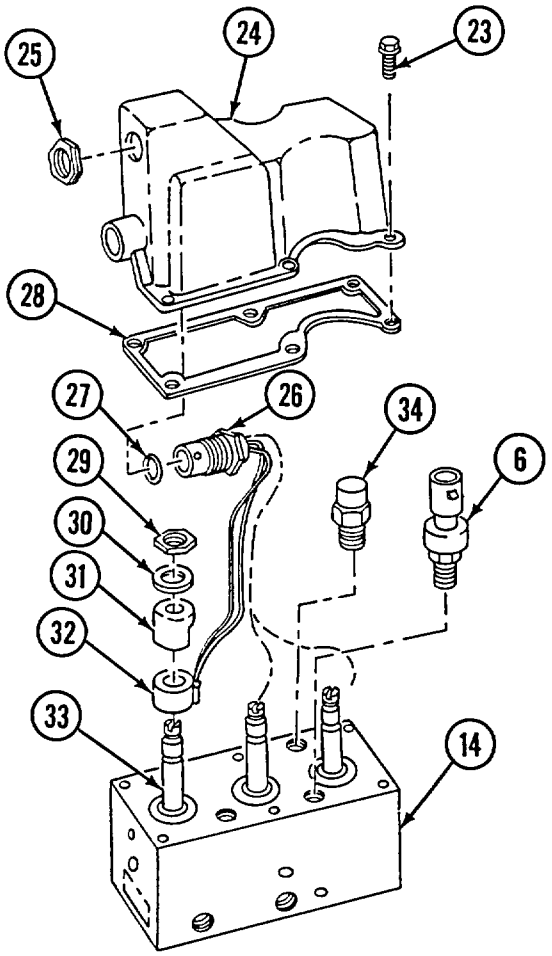
To ease in installation, note that center cartridge contains a crosstipped screw in center

5. GENTLY REMOVE THREE CARTRIDGES (22) THROUGH CHANNEL PORTS IN PCU (14).



CTIS PNEUMATIC CONTROL UNIT MAINTENANCE (CONT)

6. REMOVE SIX SCREWS (23) AND LIFT COVER (24) WITH GASKET OFF OF PCU (14).
7. REMOVE HARNESS NUT (25) AND HARNESS CONNECTOR (26) FROM COVER (24).
8. REMOVE AND DISCARD PREFORMED PACKING (27) FROM HARNESS CONNECTOR (26).
9. REMOVE AND DISCARD GASKET (28) FROM COVER (24).
10. REMOVE PRESSURE TRANSDUCER (6).
11. REMOVE NUT (29), METAL GASKET (30), AND SOLENOID PROTECTOR (31) FROM EACH SOLENOID (32).
12. TAG AND REMOVE EACH SOLENOID (32) FROM SPOOL (33).
13. REMOVE RELIEF VALVE (34).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ASSEMBLY

1. INSTALL RELIEF VALVE (1).

2. INSTALL GASKET (2) ON COVER (3).

3. INSTALL PREFORMED PACKING (4) ON HARNESS CONNECTOR (5).

4. INSERT HARNESS CONNECTOR (5) THROUGH HOLE IN COVER (3) AND INSTALL HARNESS NUT (6).

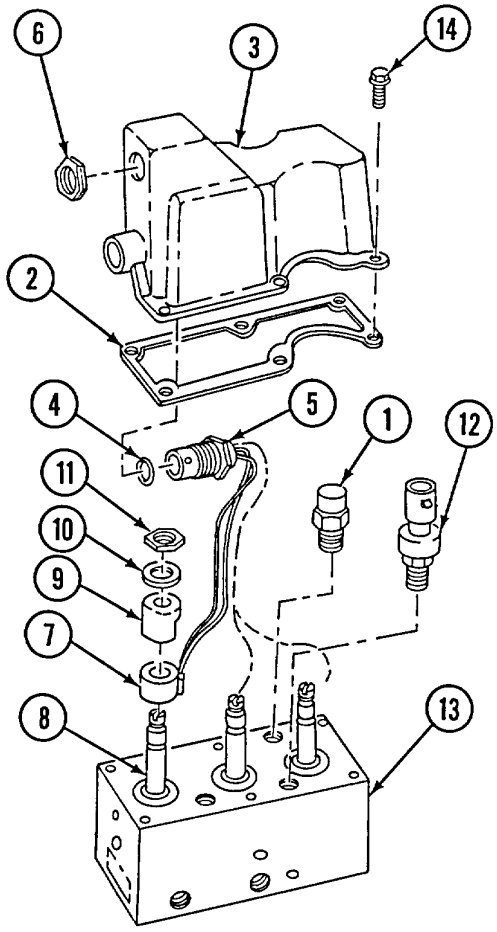
5. INSTALL SOLENOID (7) ON EACH SPOOL (8) AND REMOVE TAGS 6. INSTALL SOLENOID PROTECTOR (9) ON EACH SOLENOID (7) 7. INSTALL METAL GASKET (10) WITH PRINTED SIDE UP ON EACH SOLENOID PROTECTOR (9) 8. INSTALL NUT (11) WITH BEVELED EDGE DOWN ON EACH SPOOL (8).

9. APPLY LOCTITE TO THREADS ON PRESSURE TRANSDUCER (12).

10. INSTALL PRESSURE TRANSDUCER (12) ENSURING ELECTRICAL CONNECTOR LOCK IS ORIENTED OUTWARD. TORQUE TO 16-20 LB-FT (22-27 N.m).

11. TUCK SOLENOID WIRES NEXT TO SOLENOIDS (7) AND AWAY FROM RELIEF VALVE (1) WHILE POSITIONING COVER (3) ON PCU (13).

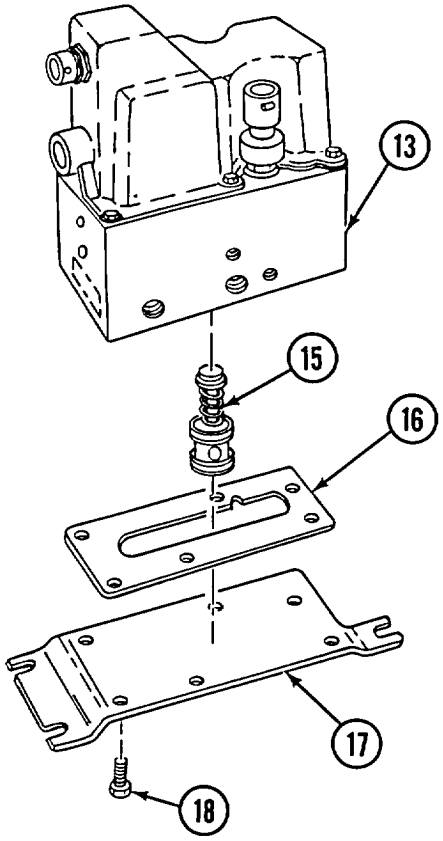
12. INSTALL COVER (3) AND SIX SCREWS (14). TORQUE TO 40-45 LB-IN (4-5 N.m).



CTIS PNEUMATIC CONTROL UNIT MAINTENANCE (CONT)

13. LUBE PREFORMED PACKINGS ON CARTRIDGES (15) AND INSTALL CARTRIDGES INTO PCU (13) IN SAME ORDER AS REMOVED.

14. INSTALL GASKET (16) AND MOUNTING PLATE (17) WITH RAISED SIDE AGAINST PCU (13) AND SECURE WITH SIX SCREWS (18). TORQUE SCREWS TO 40-45 LB-IN (4-5 N.m).



WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**

- **Sealant compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

NOTE
Apply thin coat of sealant compound to all male threads.

15. INSTALL ELBOW (19) IN PORT MARKED "VENT".

16. INSTALL ADAPTER (20) IN PORT MARKED "SUPPLY".

17. INSTALL ELBOW (21) IN ADAPTER (20).

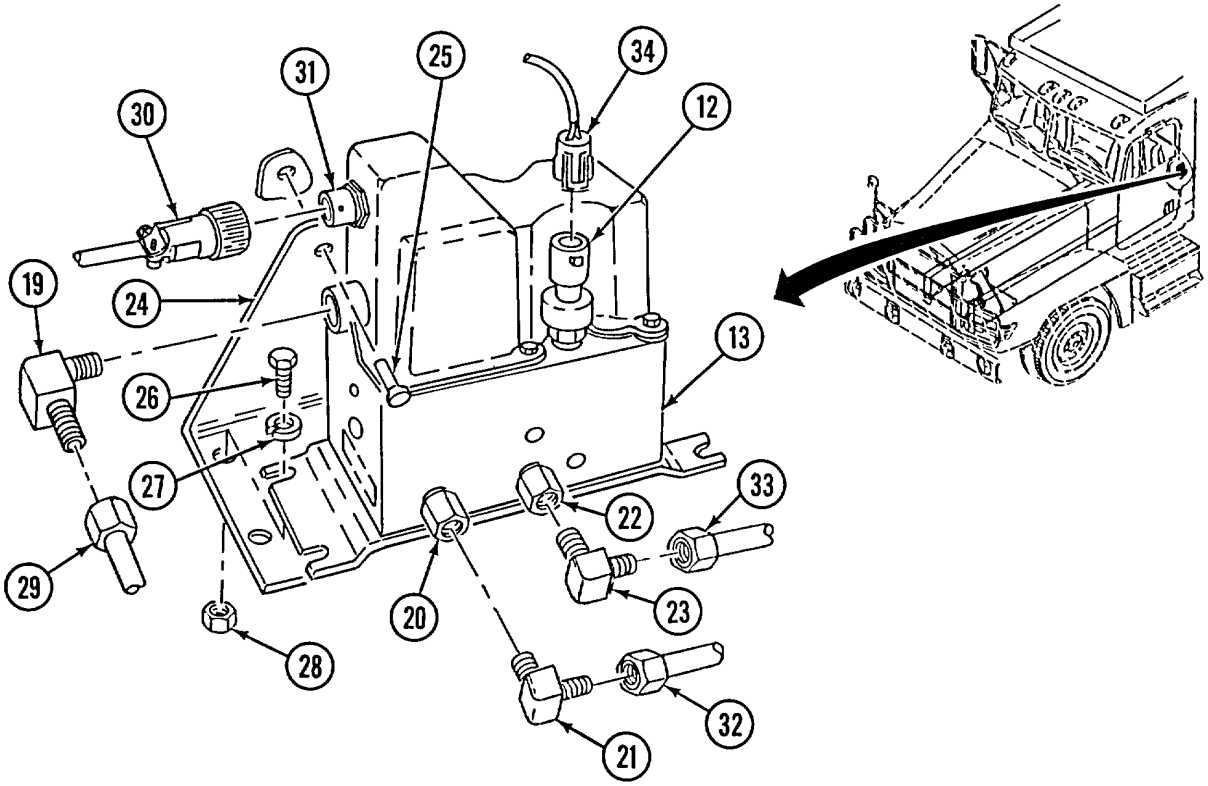
18. INSTALL ADAPTER (22) IN PORT MARKED "TO AXLES".

19. INSTALL ELBOW (23) IN ADAPTER (22).

INSTALLATION

1. INSTALL BRACKET (24) AND SECURE WITH SIX RIVETS (25).

2. INSTALL PCU (13) ON BRACKET (24) AND SECURE WITH THREE BOLTS (26), THREE NEW LOCK WASHERS (27), AND THREE NUTS (28).



WARNING

- **Make sure all air lines and fittings are clear of debris Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**

- **Sealant compounds can bum easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

NOTE
Apply thin coat of sealant compound to all male threads.

3. CONNECT HOSE CONNECTOR (29) ON ELBOW (19) AT PORT MARKED "VENT".

4. CONNECT ELECTRICAL CONNECTOR (30) TO RECEPTACLE (31).

5. CONNECT HOSE CONNECTOR (32) TO ELBOW (21) AT PORT MARKED "SUPPLY".

6. CONNECT HOSE CONNECTOR (33) TO ELBOW (23) AT PORT MARKED "TO AXLES".

7. CONNECT ELECTRICAL CONNECTOR (34) TO PRESSURE TRANSDUCER (12).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).
Start vehicle and perform standard leak test (page 2-24).

CTIS SPEED SENSOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:	**Materials/Parts:**	
M917A1 and M917A1 w/MCS	Compound, Pipe Sealing	Appendix C, Item 8
Tools and Special Equipment:	**Equipment Condition:**	
Tool Kit, SC 5180-90-CL-N26	**Reference**	**Condition Description**
	Page 2-29	Batteries Disconnected

REMOVAL

NOTE
Remove tie wraps as required. Replace with new tie wraps on installation.

1. DISCONNECT TWO SPEED SENSOR CONNECTORS (1) FROM TWO WIRING HARNESS CONNECTORS (2).

NOTE
Note seating depth of speed sensor to ensure correct installation.

2. REMOVE SPEED SENSOR (3) FROM TRANSFER CASE COVER PLATE (4).

CLEANING/INSPECTION

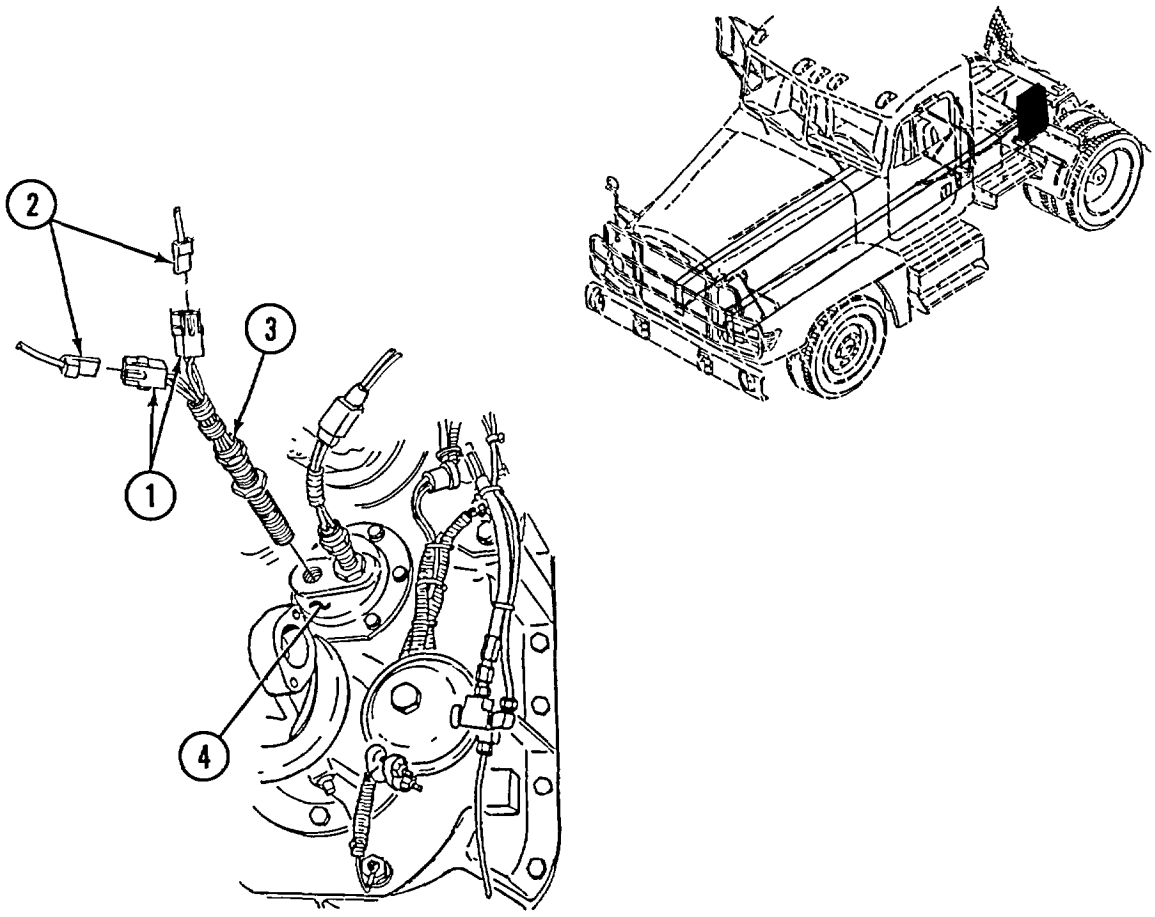
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE
- **Apply a thin coat of thread sealing compound on male threads of fittings.**
- **Ensure that seating depth of speed sensor is the same as noted during removal.**

1. INSTALL SPEED SENSOR (3) ON TRANSFER CASE COVER PLATE (4).

2. CONNECT TWO WIRING HARNESS CONNECTORS (2) TO TWO SPEED SENSOR CONNECTORS (1).



NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

CTIS PRESSURE SWITCH REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 2-29	Batteries Disconnected

REMOVAL

WARNING

Drain all air from the wet tank before disconnecting any air lines, hoses, tubes, or fittings. Always use eye protection. Failure to observe this warning can result in serious injury.

1. DISCONNECT CTIS WIRING HARNESS CONNECTOR (1) FROM PRESSURE SWITCH CONNECTOR (2).
2. REMOVE PRESSURE SWITCH (3) FROM AIR TANK TEE (4).

CLEANING/INSPECTION

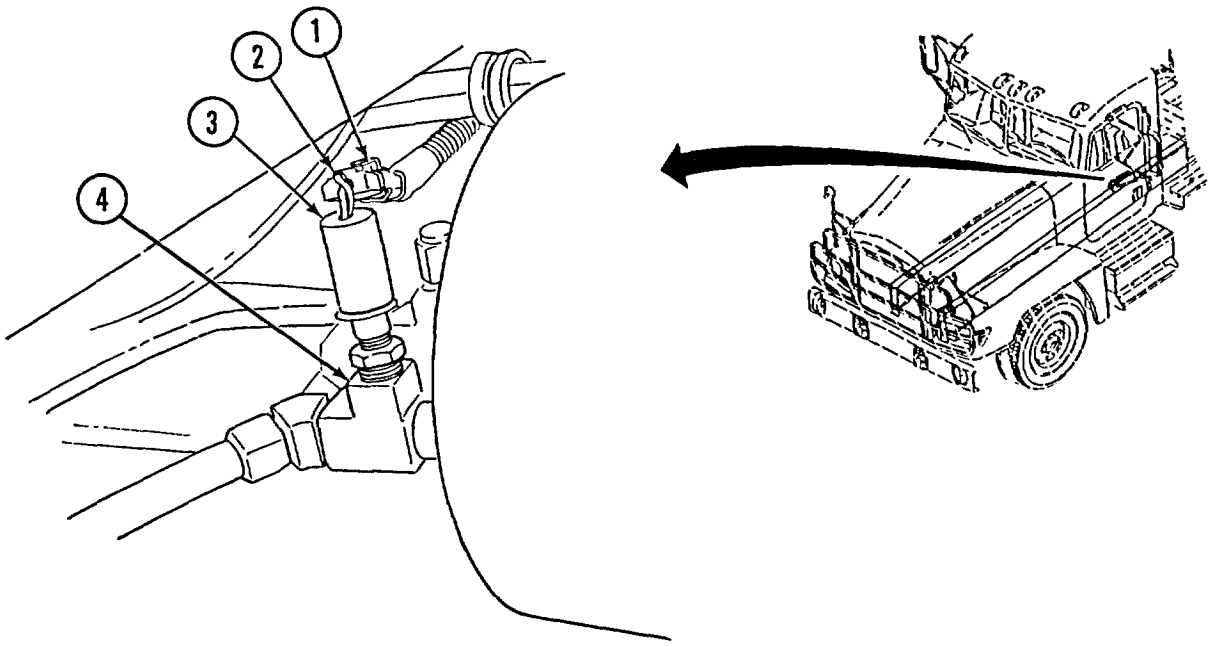
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE

Apply a thin coat of thread sealing compound on male threads of fittings.

1. INSTALL PRESSURE SWITCH (3) ON AIR TANK TEE (4).
2. CONNECT CTIS WIRING HARNESS CONNECTOR (1) TO PRESSURE SWITCH CONNECTOR (2).



NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).
Start vehicle and perform standard leak test (page 2-24).

CTIS WHEEL VALVE AND HOSE ASSEMBLY REPLACEMENT, FRONT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8
Washer, Lock (2)	P/N 599791
Filter, Air	P/N 23-00702-025

References:

TM 9-2320-363-10

Equipment Condition:

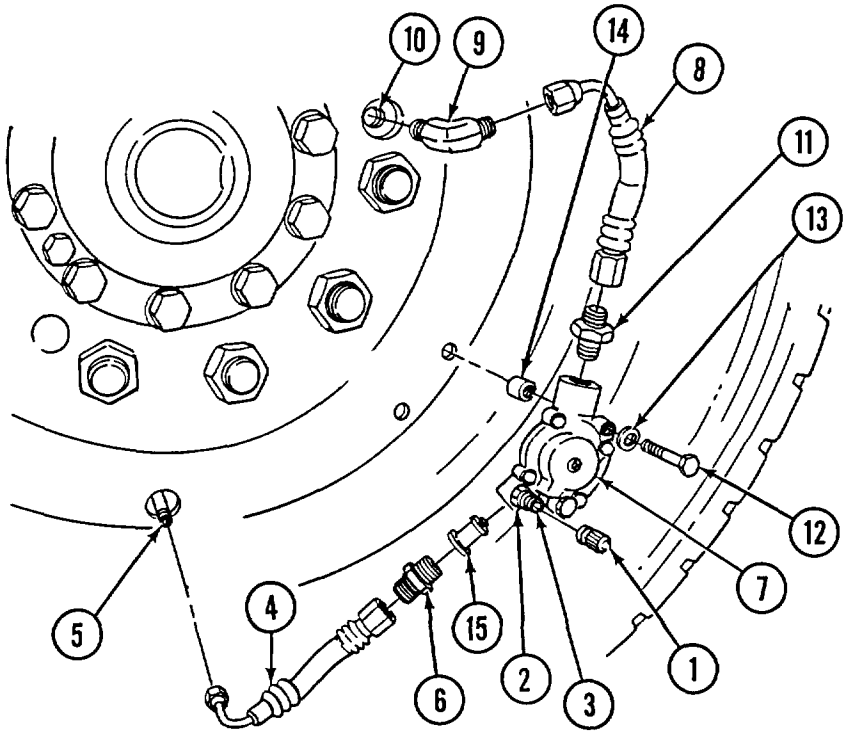
Reference	Condition Description
TM 9-2320-363-10	Vehicle Air System Drained

General Safety Instructions:

WARNING

- **Make sure all air lines and fittings are clear of debris.**
- **Sealing compounds can burn easily and give off harmful vapors.**
- **Always wear eye protection.**

REMOVAL



WARNING

Always wear eye protection when disconnecting air lines. Residual air will be expelled. Failure to follow this warning could cause serious eye injury.

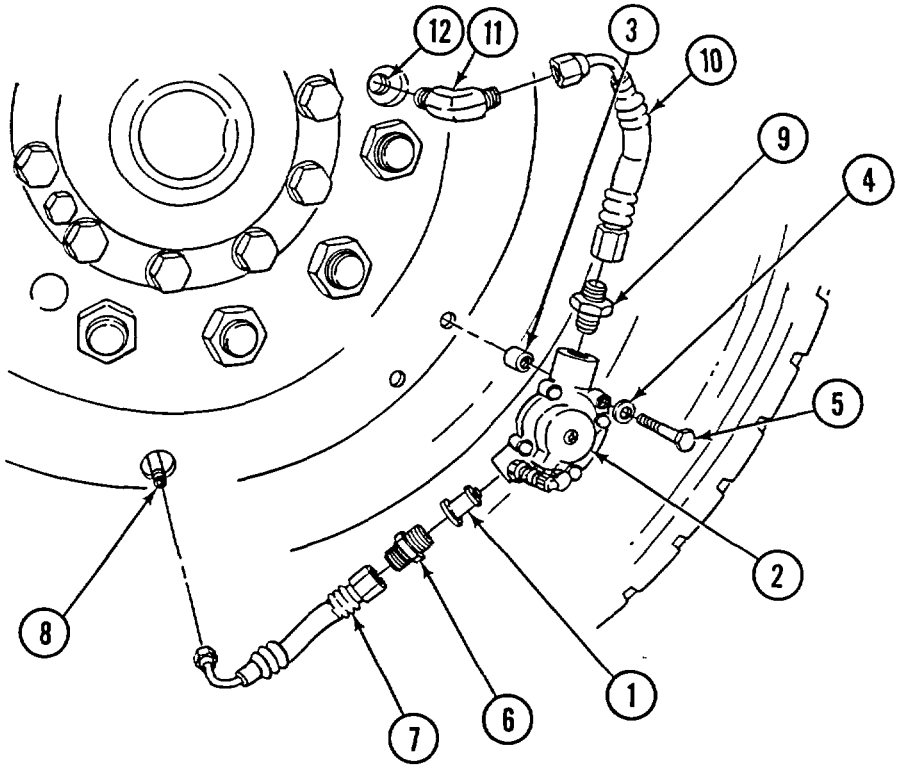
1. REMOVE VALVE CAP (1) ON WHEEL VALVE STEM (2) AND DEFLATE TIRE BY DEPRESSING STEM ON VALVE CORE (3). REINSTALL VALVE CAP.
2. DISCONNECT ONE END OF HOSE (4) FROM TIRE VALVE STEM (5).
3. DISCONNECT OPPOSITE END OF HOSE (4) FROM WHEEL VALVE CONNECTOR (6).
4. REMOVE WHEEL VALVE CONNECTOR (6) FROM WHEEL VALVE (7).
5. DISCONNECT ONE END OF HOSE (8) FROM HUB AIR PORT ELBOW (9).
6. REMOVE HUB AIR PORT ELBOW (9) FROM WHEEL HUB AIR PORT (10).
7. DISCONNECT OPPOSITE END OF HOSE (8) FROM WHEEL VALVE CONNECTOR (11).
8. REMOVE WHEEL VALVE CONNECTOR (11) FROM WHEEL VALVE (7).
9. REMOVE TWO SCREWS (12), TWO LOCK WASHERS (13), WHEEL VALVE (7), AND TWO SPACERS (14). DISCARD LOCK WASHERS.
10. REMOVE AIR FILTER (15) FROM WHEEL VALVE (7). DISCARD AIR FILTER.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

CTIS WHEEL VALVE AND HOSE ASSEMBLY REPLACEMENT, FRONT (CONT)

INSTALLATION



1. INSTALL NEW AIR FILTER (1) WITH OPEN END OUT IN WHEEL VALVE (2).
2. INSTALL TWO SPACERS (3), WHEEL VALVE (2), TWO NEW LOCK WASHERS (4), AND TWO SCREWS (5).

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can bum easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

NOTE

Apply thin coat of sealing compound to all male threads.

3. INSTALL WHEEL VALVE CONNECTOR (6) ON WHEEL VALVE (2).
4. CONNECT ONE END OF HOSE (7) TO WHEEL VALVE CONNECTOR (6).

5. CONNECT OPPOSITE END OF HOSE (7) TO TIRE VALVE STEM (8).

6. INSTALL WHEEL VALVE CONNECTOR (9) ON WHEEL VALVE (2).

7. INSTALL ONE END OF HOSE (10) ON WHEEL VALVE CONNECTOR (9).

8. INSTALL HUB AIR PORT ELBOW (11) WITH OPEN ELBOW PORT PERPENDICULAR TO OUTER EDGE OF WHEEL ON WHEEL HUB AIR PORT (12).

NOTE
Ensure hose is not kinked after connecting to elbow. Rotate elbow, if necessary.

9. CONNECT OPPOSITE END OF HOSE (10) TO HUB AIR PORT ELBOW (11)

NOTE
Follow-On Maintenance'

Check operation of CTIS (TM 9-2320-363-10).

CTIS WHEEL VALVE AND HOSE ASSEMBLY REPLACEMENT, REAR

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Compound, Pipe Sealing	Appendix C, Item 8
Filter, Air	P/N 599791
Washer, Lock (2)	P/N 23-00702-025

References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Vehicle Air System Drained

General Safety Instructions:

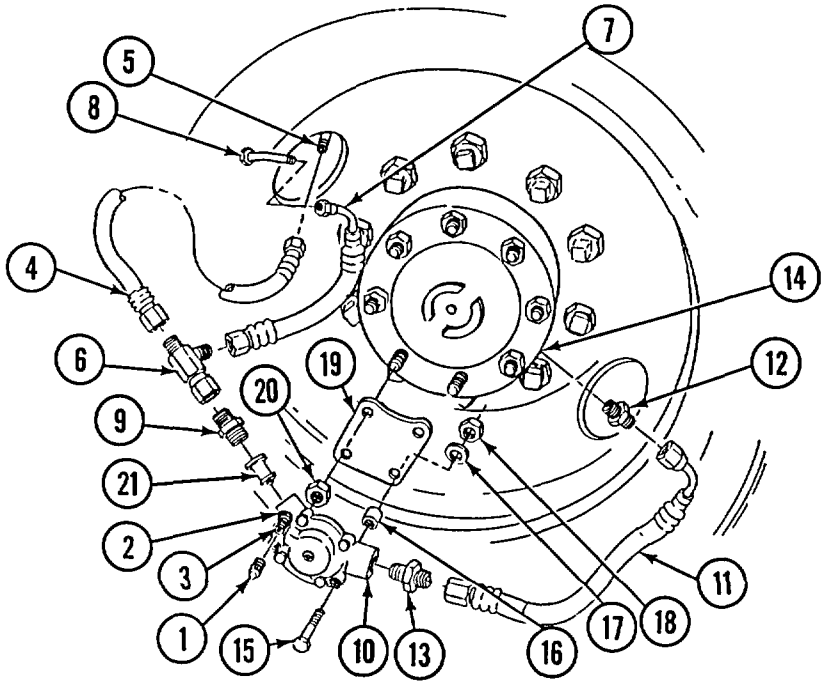
WARNING

- **Make sure all air lines and fittings are clear of debris.**
- **Sealing compounds can burn easily and give off harmful vapors.**
- **Always wear eye protection.**

REMOVAL

WARNING

Always wear eye protection when disconnecting air lines. Residual air will be expelled. Failure to follow this warning could cause serious eye injury.



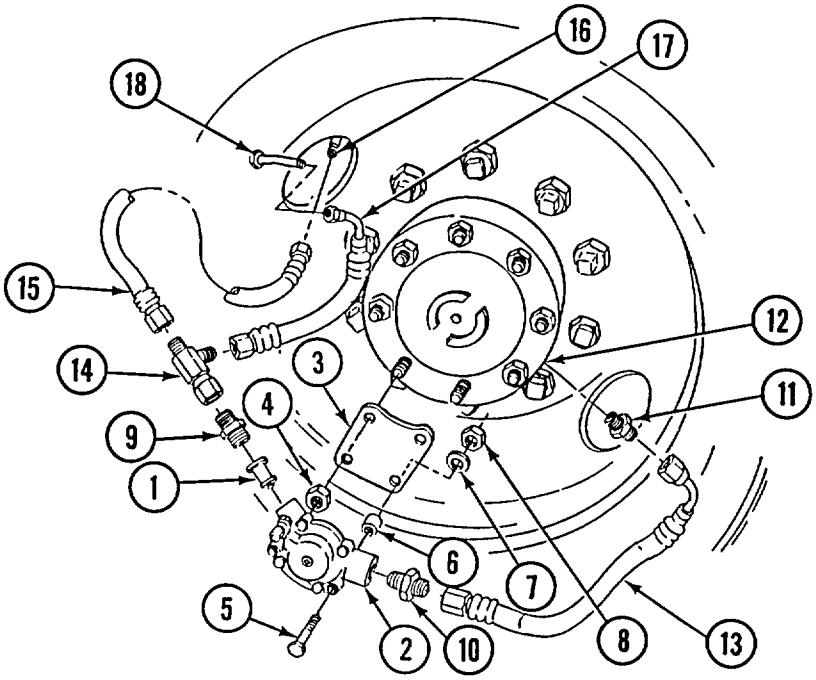
1. REMOVE VALVE CAP (1) ON WHEEL VALVE STEM (2) AND DEFLATE TIRES BY DEPRESSING STEM ON VALVE CORE (3). REINSTALL VALVE CAP.
2. DISCONNECT ONE END OF HOSE (4) FROM INNER WHEEL VALVE STEM (5).
3. DISCONNECT OPPOSITE END OF HOSE (4) FROM TEE CONNECTOR (6)
4. DISCONNECT ONE END OF HOSE (7) FROM OUTER WHEEL VALVE STEM (8).
5. DISCONNECT OPPOSITE END OF HOSE (7) FROM TEE CONNECTOR (6).
6. REMOVE TEE CONNECTOR (6) FROM WHEEL VALVE CONNECTOR (9)
7. REMOVE WHEEL VALVE CONNECTOR (9) FROM WHEEL VALVE (10).
8. DISCONNECT ONE END OF HOSE (11) FROM HUB AIR PORT CONNECTOR (12)
9. DISCONNECT OPPOSITE END OF HOSE (11) FROM WHEEL VALVE CONNECTOR (13).
10. REMOVE HUB AIR PORT CONNECTOR (12) FROM HUB AIR PORT (14).
11. REMOVE WHEEL VALVE CONNECTOR (13) FROM WHEEL VALVE (10).
12. REMOVE TWO SCREWS (15), TWO SPACERS (16), TWO LOCK WASHERS (17), TWO NUTS (18), AND WHEEL VALVE (10) FROM MOUNTING PLATE (19). DISCARD LOCK WASHERS
13. REMOVE TWO HUB NUTS (20) AND MOUNTING PLATE (19).
14. REMOVE AIR FILTER (21) FROM WHEEL VALVE (10). DISCARD AIR FILTER

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

CTIS WHEEL VALVE AND HOSE REPLACEMENT, REAR (CONT)

INSTALLATION



1. INSTALL NEW AIR FILTER (1) WITH OPEN END OUT IN WHEEL VALVE (2).
2. INSTALL MOUNTING PLATE (3) AND TWO HUB NUTS (4).
3. TORQUE HUB NUTS TO 155 LB-FT (210 N.m).
4. POSITION WHEEL VALVE (2) ON MOUNTING PLATE (3) AND INSTALL TWO SCREWS (5), TWO SPACERS (6), TWO NEW LOCK WASHERS (7), AND TWO NUTS (8).

WARNING

- **Make sure all air lines and fittings are clear of debris. Make sure excess pipe sealant compound does not enter air lines or fittings. Failure to do so could result in equipment failure and/or injury to personnel.**
- **Sealant compounds can bum easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If sealant compound gets on skin or clothing, wash immediately with soap and water.**

NOTE
Apply thin coat of sealing compound to all male threads.

5. INSTALL WHEEL VALVE CONNECTOR (9) ON WHEEL VALVE (2).
6. INSTALL WHEEL VALVE CONNECTOR (10) ON WHEEL VALVE (2).
7. INSTALL HUB AIR PORT CONNECTOR (11) ON HUB AIR PORT (12).

8. CONNECT ONE END OF HOSE (13) TO WHEEL VALVE CONNECTOR (10).
9. CONNECT OPPOSITE END OF HOSE (13) TO HUB AIR PORT CONNECTOR (11)
10. CONNECT TEE CONNECTOR (14) TO WHEEL VALVE CONNECTOR (9).
11. CONNECT ONE END OF HOSE (15) TO INNER WHEEL VALVE STEM (16).
12. CONNECT OPPOSITE END OF HOSE (15) TO TEE CONNECTOR (14).
13. CONNECT ONE END OF HOSE (17) TO OUTER WHEEL VALVE STEM (18).
14. CONNECT OPPOSITE END OF HOSE (17) TO TEE CONNECTOR (14).

NOTE
Follow-on Maintenance.

Check operation of CTIS (TM 9-2320-363-10).

CTIS WHEEL VALVE REPAIR

This task covers: a. Disassembly b. Cleaning/Inspection c. Assembly

INITIAL SETUP

Applicable Configuration:
M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26
Shop Equipment, SC 4910-95-CL-A72

Materials/Parts:
Kit, Repair P/N 673856

Equipment Condition:

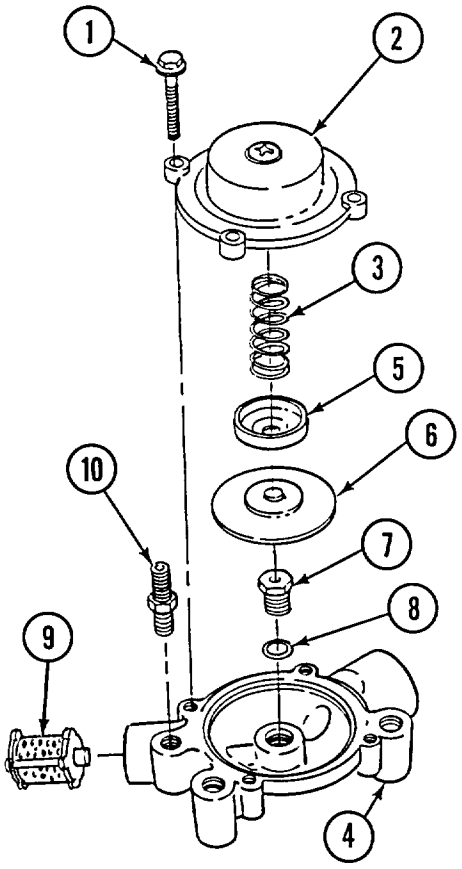
Reference	Condition Description
Page 4-604.16	CTIS Front Wheel Valve Removed, or
Page 4-604.20	CTIS Rear Wheel Valve Removed

DISASSEMBLY

NOTE

Wheel valve cover is under spring tension. Apply hand pressure to cover when removing screws.

1. REMOVE FOUR SCREWS (1), COVER (2), AND SPRING (3) FROM VALVE BODY (4).
2. REMOVE BACKING PLATE (5), DIAPHRAGM (6) AND SEAT (7) FROM VALVE BODY (4).
3. REMOVE PREFORMED PACKING (8) FROM SEAT (7). DISCARD PREFORMED PACKING.
4. REMOVE AIR FILTER (9) FROM VALVE BODY (4). DISCARD FILTER.
5. REMOVE VALVE STEM (10) FROM VALVE BODY (4).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ASSEMBLY

1. INSTALL VALVE STEM (10) AND TORQUE TO 40 LB-IN (5 N.m).
2. INSTALL NEW AIR FILTER (9) WITH OPEN END OUT IN VALVE BODY (4).
3. INSTALL NEW PREFORMED PACKING (8) TO SEAT (7) AND INSTALL SEAT. TORQUE SEAT TO 96-120 LB-IN (11-14 N.m).
4. INSTALL DIAPHRAGM (6) WITH BEVELED EDGE DOWN TO VALVE BODY (4).
5. INSTALL BACKING PLATE (5) WITH FLANGE UP ON DIAPHRAGM (6).
6. POSITION SPRING (3) ON CENTER OF BACKING PLATE (5).
7. POSITION COVER (2) ON SPRING (3) AND PRESS COVER TO VALVE BODY (4), COMPRESSING SPRING.
8. WHILE APPLYING HAND PRESSURE TO COVER (2), INSTALL FOUR SCREWS (1).
9. TORQUE SCREWS (1) TO 40 LB-IN (5 N.m).

NOTE
Follow-on Maintenance:
Install CTIS front wheel valve (page 4-604.16); or
Install CTIS rear wheel valve (page 4-604.20).

CTIS QUICK RELEASE VALVE MAINTENANCE

This task covers: a. Removal b. Disassembly c. Cleaning/Inspection d. Assembly e. Installation

INITIAL SETUP I

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Kit, Repair P/N 599819

References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Vehicle Air System Drained

General Safety Instructions:

WARNING
Always wear eye protection.

REMOVAL

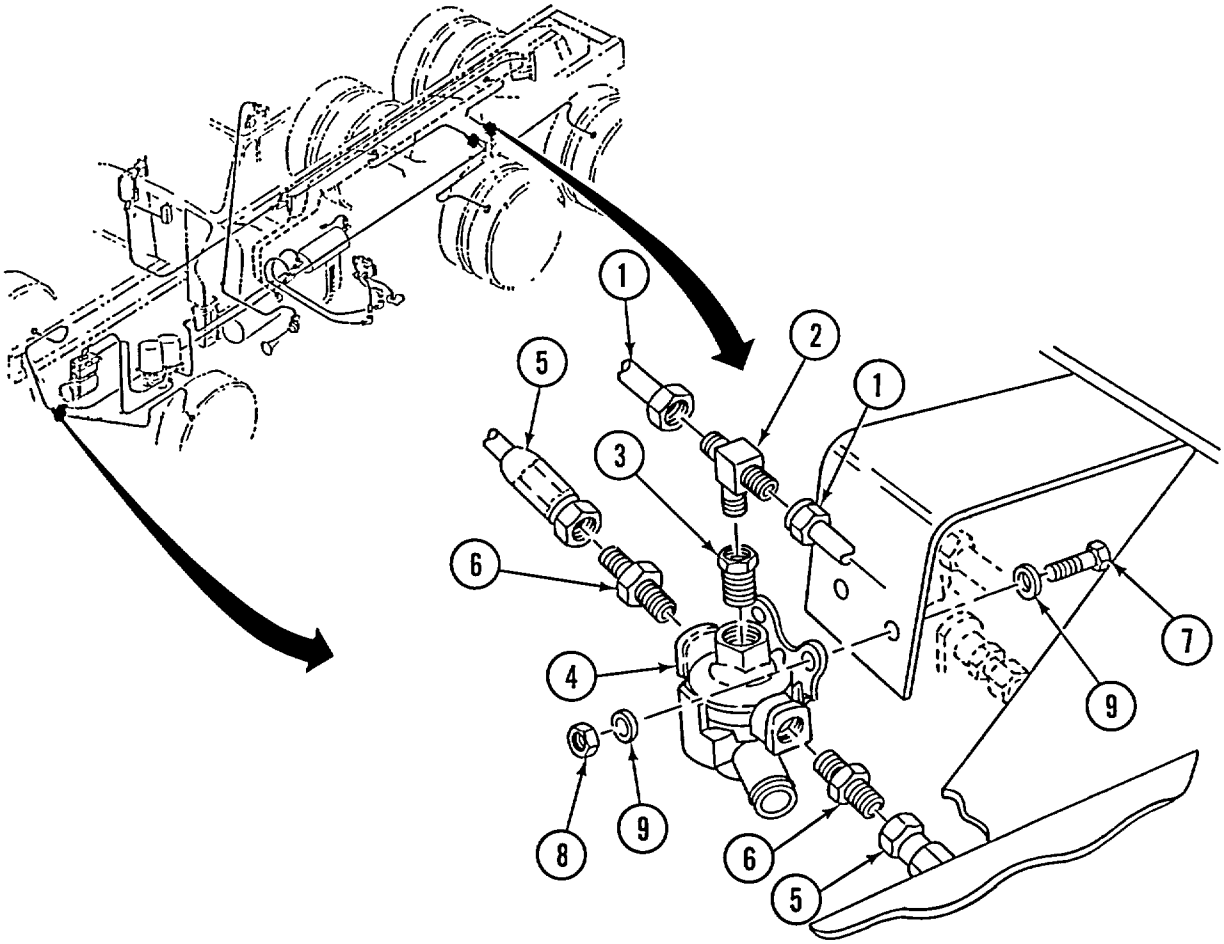
WARNING

Always wear eye protection when disconnecting CTIS air lines. Residual air in air lines will be expelled even though vehicle air system is drained. Failure to follow this warning could result in eye injury.

NOTE

Replacement of CTIS quick release valve at front or rear is similar. Replacement of rearmost quick release valve is illustrated.

1. DISCONNECT TWO HOSES (1) AND REMOVE TEE (2) AND ADAPTER (3) FROM AIR INLET PORT ON QUICK RELEASE VALVE (4).
2. DISCONNECT TWO HOSES (5) AND REMOVE TWO ADAPTERS (6) FROM TWO AIR OUTLET PORTS ON QUICK RELEASE VALVE (4).
3. REMOVE TWO BOLTS (7), TWO NUTS (8), FOUR FLAT WASHERS (9), AND QUICK RELEASE VALVE (4).



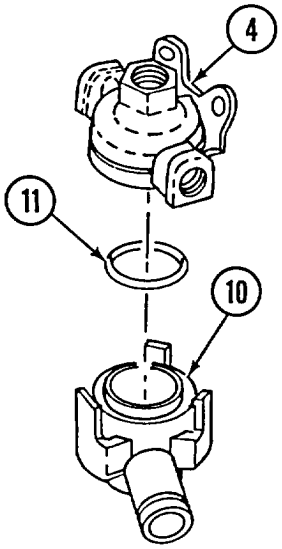
DISASSEMBLY

NOTE

- **Disassembly can be performed with quick release valve installed.**
- **Note orientation of snorkel exhaust port prior to removal.**

1. PRY THREE LEGS ON SNORKEL ADAPTER (10) OFF OF SEAT ON QUICK RELEASE VALVE (4).

2. REMOVE SNORKEL ADAPTER (10) AND PREFORMED PACKING (11) FROM QUICK RELEASE VALVE (4). DISCARD PREFORMED PACKING.



CTIS QUICK RELEASE VALVE MAINTENANCE (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

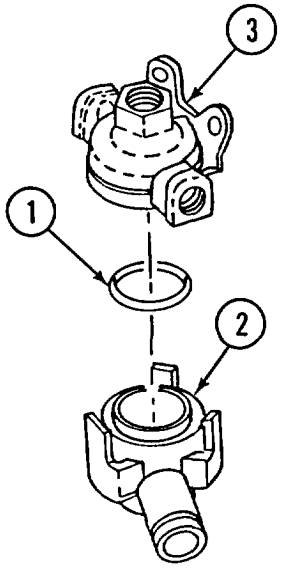
ASSEMBLY

1. INSTALL NEW PREFORMED PACKING (1) ONTO SNORKEL ADAPTER (2).

NOTE

Orient snorkel exhaust port same as when removed.

2. BY HAND, PRESS SNORKEL ADAPTER (2) ONTO QUICK RELEASE VALVE (3) UNTIL LEGS ON SNORKEL ADAPTER ENGAGE SEAT ON QUICK RELEASE VALVE.

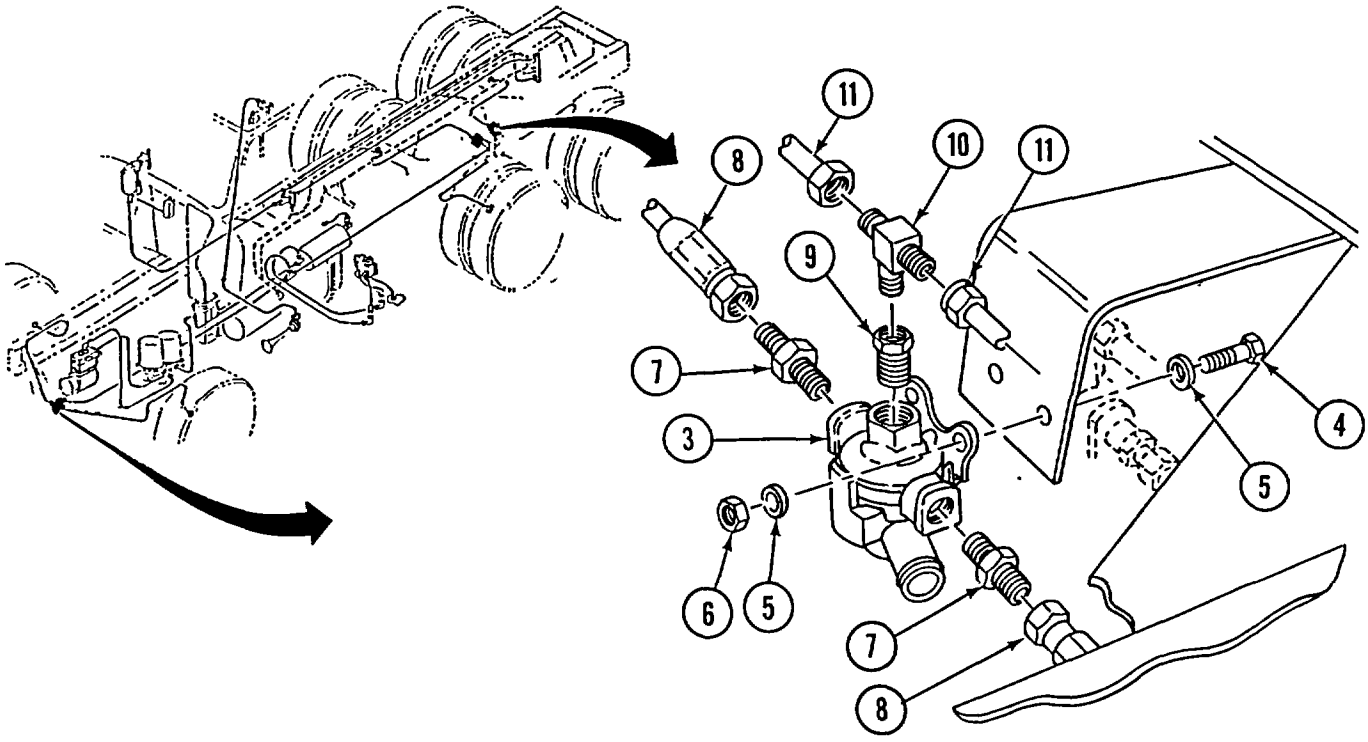


INSTALLATION

1. WITH AIR INLET PORT UP, SECURE QUICK RELEASE VALVE (3) WITH TWO BOLTS (4), FOUR FLATWASHERS (5), AND TWO NUTS (6).

2. INSTALL TWO ADAPTERS (7) AND CONNECT TWO AIR HOSES (8) TO TWO AIR OUTLET PORTS.

3. INSTALL ADAPTER (9), TEE (10), AND CONNECT TWO AIR HOSES (11) TO AIR INLET PORT.



NOTE
Follow-on Maintenance:

Operate CTIS (TM 9-2320-363-10).

CTIS AIR TUBE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:
M917A1 and M917A1 w/MCS

Tools and Special Equipment:
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:
Compound, Pipe Sealing — Appendix C, Item 8

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained

REMOVAL

WARNING

Drain all air from the wet tank before disconnecting any air lines, hoses, tubes, or fittings. Always use eye protection. Failure to observe this warning can result In serious injury.

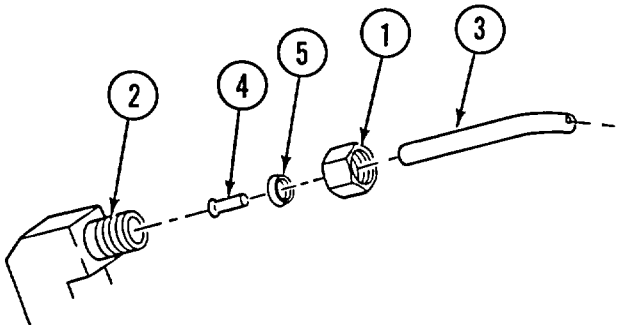
NOTE

- **Procedure is the same for all air tubes.**
- **Tag all air tubes and fittings prior to removal to aid during installation.**
- **Remove cable ties as necessary to remove air tubes.**
- **When replacing air tubes, remove tube from vehicle and cut new tube 1/4-1/2 in. longer than tube being replaced.**

1. REMOVE NUT (1) FROM FITTING (2).
2. REMOVE AIR TUBE (3) FROM FITTING (2).
3. REMOVE INSERT (4), FERRULE (5), AND NUT (1) FROM AIR TUBE (3).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

NOTE
Procedure is the same for all air tubes.

1. INSTALL NUT (1), FERRULE (5), AND INSERT (4) ON AIR TUBE (3)

CAUTION
Route air tubes so that tube does not bend to radius smaller than allowed in Nylon Tube Bend Radius Table. If bent smaller than allowed, tube may kink causing loss of air pressure.

NOTE
Apply a thin coat of thread sealing compound on male threads of fittings

2. INSTALL NUT (1) ON FITTING (2).

Nylon Tube Bend Radius Table

Outside Diameter		Minimum Bend Radius	
in.	(mm)	in.	(mm)
0.25	(6.40)	1.0	(25.0)
0.38	(9.50)	1.5	(38 0)
0.50	(13 00)	2.0	(51.0)
0.63	(17.00)	2.5	(64.0)
0.75	(19.00)	3.0	(76.0)

NOTE
Follow-on Maintenance:

Start vehicle and perform standard leak test (page 2-24).

Section XII. STEERING MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the steering system and related components. A list of tasks contained in this section is shown below.

	Page
Steering Wheel and Column Replacement	4-606
Universal Shaft Replacement and Repair	4-608
Drag Link Replacement	4-611
Power Steering Reservoir and Hoses Replacement	4-613
Power Steering Reservoir Repair..	4-616

STEERING WHEEL AND COLUMN REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (4)	
Nut, Lock	P/N 11 5307A
Nut, Lock	P/N 026124

Personnel Required: (2)

Equipment Condition:

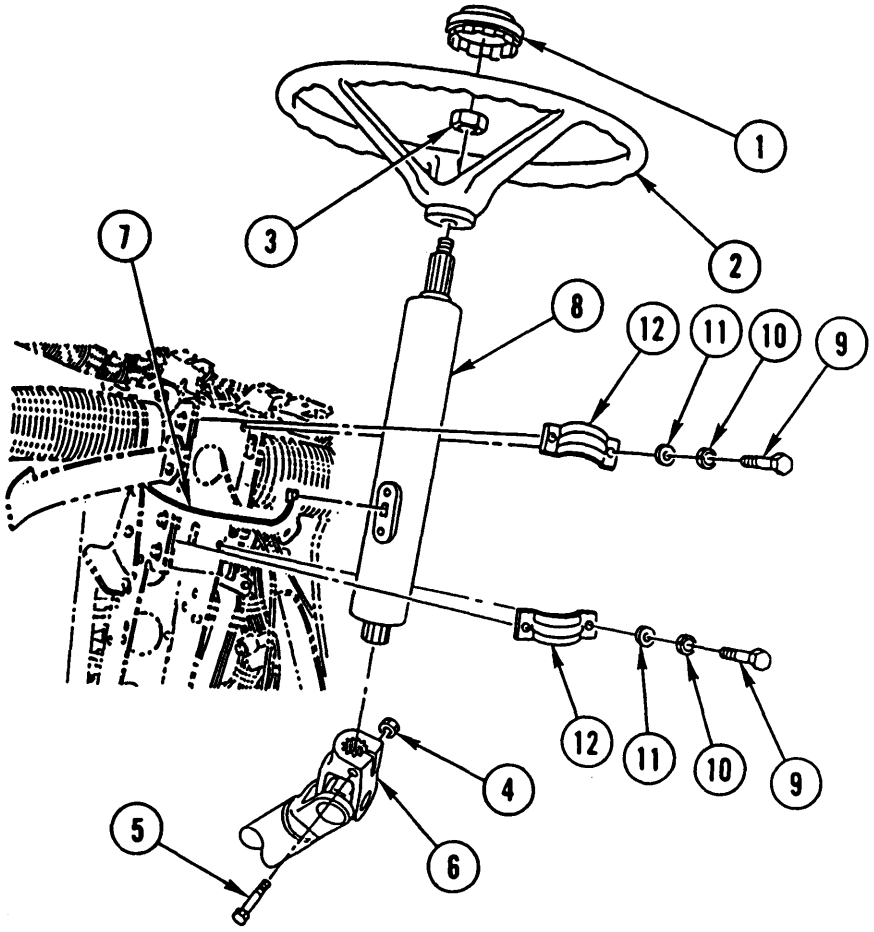
Reference	Condition Description
Page 4-562	Trailer Hand Brake Valve Removed
Page 4-168	Turn Signal Switch Removed
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE HORN BUTTON (1) FROM STEERING WHEEL (2).
2. REMOVE LOCK NUT (3) FROM STEERING WHEEL (2). DISCARD LOCK NUT.
3. USING STEERING WHEEL PULLER, REMOVE STEERING WHEEL (2).
4. REMOVE LOCK NUT (4) AND SCREW (5) FROM UNIVERSAL SHAFT (6). DISCARD LOCK NUT.
5. Disconnect WIRE (7) FROM STEERING COLUMN (8).
6. REMOVE FOUR SCREWS (9), FOUR LOCK WASHERS (10), FOUR WASHERS (11), AND TWO CAPS (12) FROM STEERING COLUMN (8). DISCARD LOCK WASHERS.
7. REMOVE STEERING COLUMN (8) FROM UNIVERSAL SHAFT (6).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL STEERING COLUMN (8) IN UNIVERSAL SHAFT (6).
2. INSTALL SCREW (5) AND NEW LOCK NUT (4) IN UNIVERSAL SHAFT (6).
3. INSTALL TWO CAPS (12), FOUR WASHERS (11), FOUR NEW LOCK WASHERS (10), AND FOUR SCREWS (9) ON STEERING COLUMN (8).
4. CONNECT WIRE (7) TO STEERING COLUMN (8).
5. INSTALL STEERING WHEEL (2) AND NEW LOCK NUT (3).
6. INSTALL HORN BUYTON (1) IN STEERING WHEEL (2).

NOTE

Follow-on Maintenance:
Install turn signal switch (page 4-168).
Install trailer hand brake valve (page 4-562).
Connect batteries (page 2-29).

UNIVERSAL SHAFT REPLACEMENT AND REPAIR

This task covers: a. Removal b. Disassembly c. Cleaning/Inspection d. Repair e. Assembly f. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

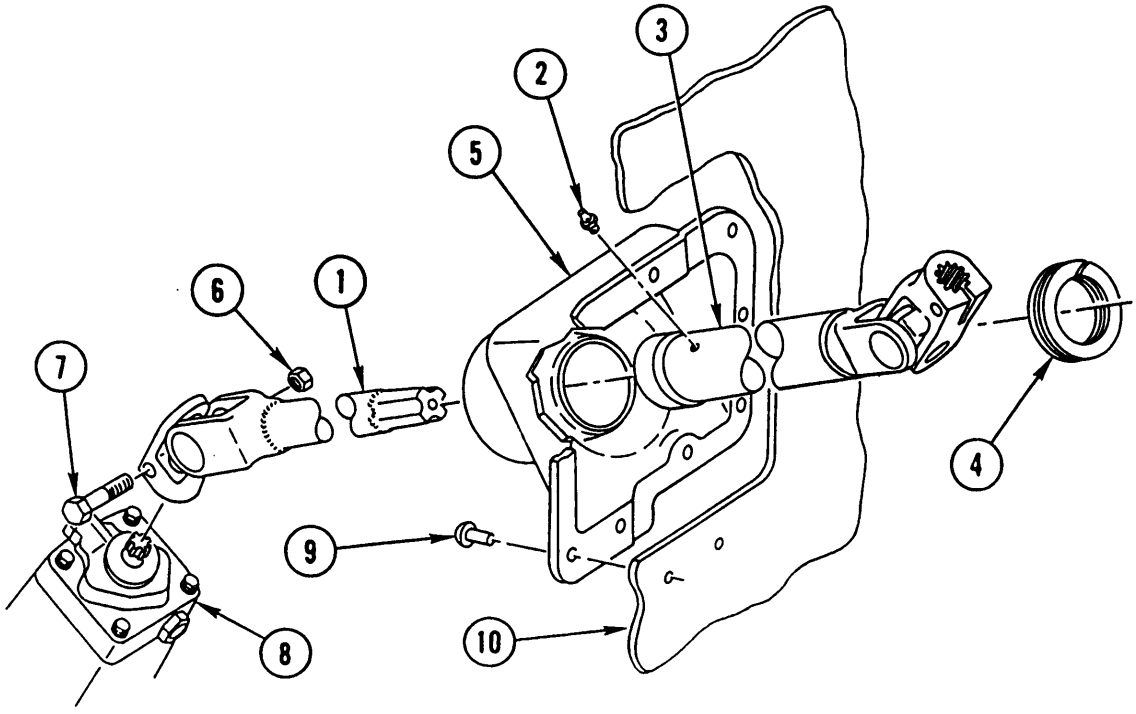
Nut, Lock	P/N 2C447622
Kit (2)	P/N 5-170X

Personnel Required: (2)

Equipment Condition:

Reference	Condition Description
Page 4-606	Steering Wheel and Column Removed

REVIEW



1. SUPPORT LOWER SHAFT (1) AND REMOVE GREASE FITTING (2) FROM UPPER SHAFT (3). REMOVE BUSHING (4) FROM BOOT (5).

2. SEPARATE UPPER SHAFT (3) FROM LOWER SHAFT (1) AND REMOVE UPPER SHAFT (3) FROM BOOT (5).

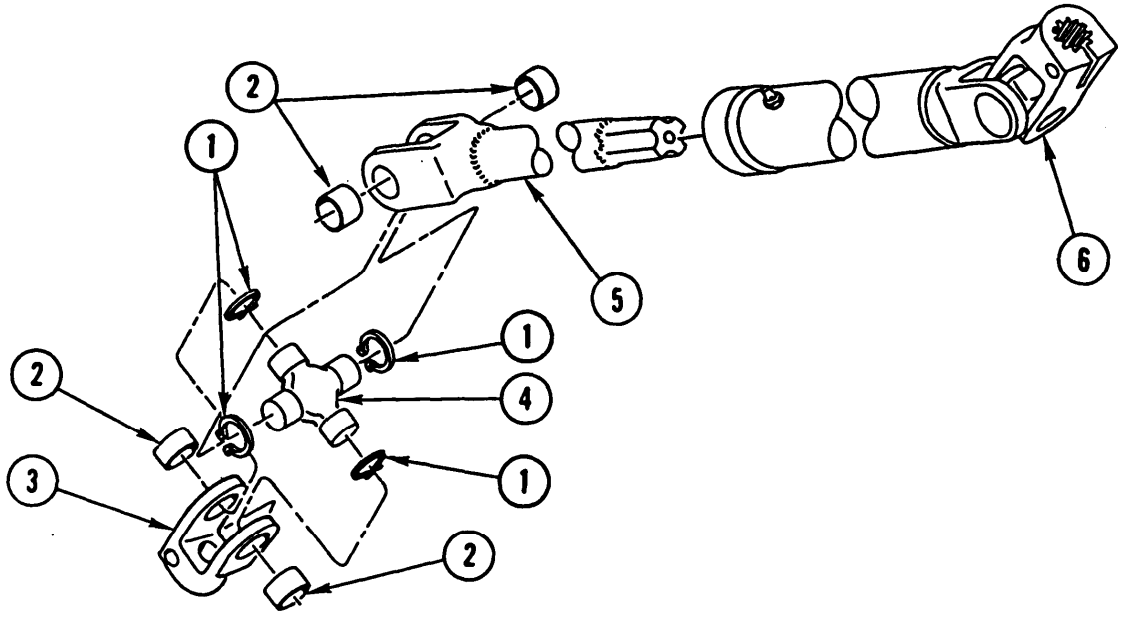
3. REMOVE LOCK NUT (6), BOLT (7), AND LOWER SHAFT (1) FROM STEERING GEAR (8). DISCARD LOCK NUT.

4. IF DAMAGED, REMOVE SIX RIVETS (9) AND BOOT (5) FROM FIREWALL (10). DISCARD RIVETS.

DISASSEMBLY

1. REMOVE FOUR SNAP RINGS (1), FOUR BEARINGS (2), LOWER YOKE (3), AND CROSS (4) FROM LOWER SHAFT (5).

2. REPEAT FOR UPPER YOKE (6).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

REPAIR

Repair of universal shaft is replacement of parts in Kits.

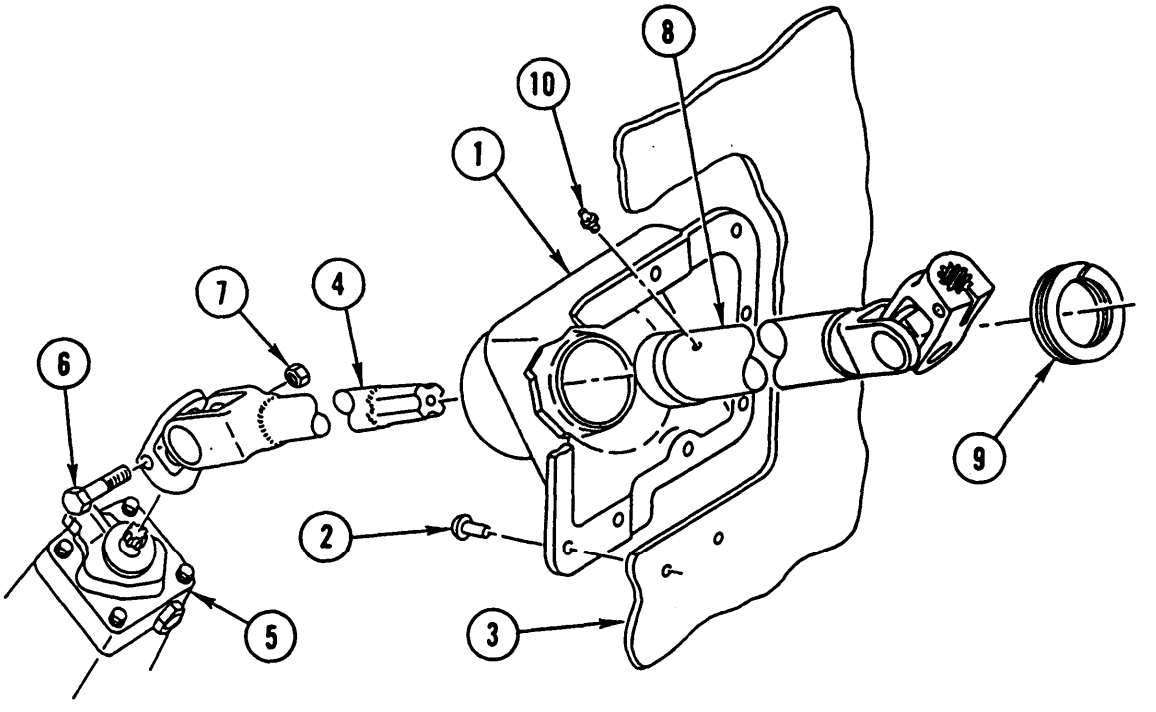
ASSEMBLY

1. INSTALL CROSS (4), LOWER YOKE (3), FOUR BEARINGS (2), AND FOUR SNAP RINGS (1) IN LOWER SHAFT (5).

2. REPEAT FOR UPPER YOKE (6).

UNIVERSAL SHAFT REPLACEMENT AND REPAIR (CONT)

INSTALLATION



1. IF REMOVED, INSTALL BOOT (1) AND SIX NEW SELF-TAPPING SCREWS (2) ON FIREWALL (3).
2. INSTALL SPLINED END OF LOWER SHAT (4) THRU BOOT (1).
3. INSTALL LOWER SHAFT (4) ON STEERING GEAR (5).
4. SUPPORT LOWER SHAFT (4) AND INSTALL BOLT (6) AND NEW LOCK NUT (7).
5. INSTALL UPPER SHAFT (8) THRU BOOT (1) AND ONTO LOWER SHAFT (4).
6. INSTALL BUSHING (9) ON BOOT (1).
7. INSTALL GREASE FITTING (1O) IN UPPER SHAFT (8).

NOTE

Follow-on Maintenance:
Install steering wheel and column (page 4-606).

DRAG LINK REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

References:

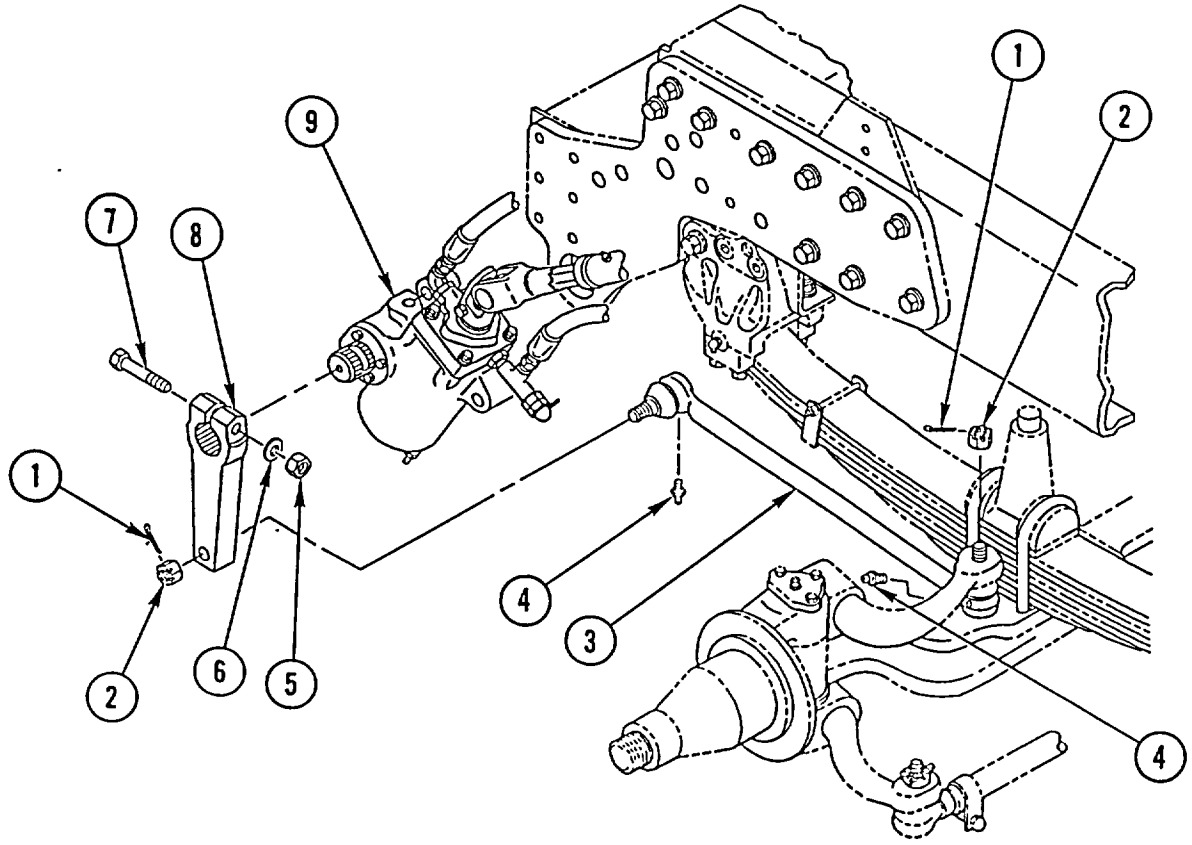
TM 9-2320-363-20-1

Materials/Parts:

Pin, Cotter (2)

Nut, Lock

REMOVAL



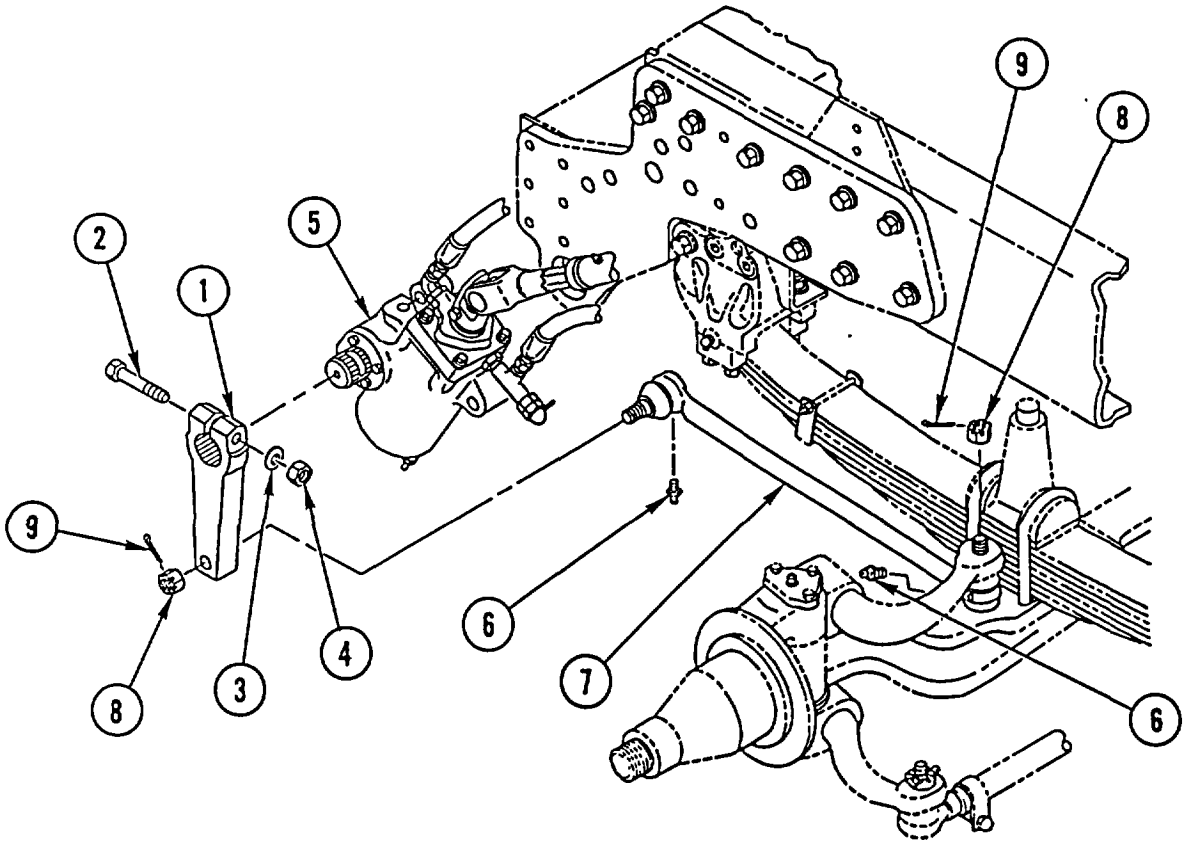
1. REMOVE TWO COTTER PINS (1), TWO NUTS (2), AND DRAG LINK (3). DISCARD COTTER PINS.
2. IF DAMAGED, REMOVE TWO GREASE FITTINGS (4) FROM DRAG LINK (3).
3. REMOVE LOCK NUT (5), WASHER (6), SCREW (7), AND PITMAN ARM (8) FROM STEERING GEAR (9). DISCARD LOCK NUT.

DRAG LINK REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL PITMAN ARM (1), SCREW (2), WASHER (3), AND NEW LOCK NUT (4) ON STEERING GEAR (5). TIGHTEN LOCK NUT TO 150-230 LB-FT (203-312 N.m).
2. IF REMOVED, INSTALL TWO NEW GREASE FITTINGS (6) IN DRAG LINK (7).
3. INSTALL DRAG LINK (7) AND TWO NUTS (8). TIGHTEN NUTS TO 160-215 LB-FT (217-292 N.m).

NOTE

Nuts may be tightened further, but not to exceed 300 lb-ft (407 N.m.), if necessary for installation of cotter pins.

4. INSTALL TWO NEW COTTER PINS (9).

NOTE

Follow-on Maintenance:

Lubricate drag link (Unit PMCS, TM 9-2320-363-20-1).

POWER STEERING RESERVOIR AND HOSES REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

References:

TM 9-2320-363-20-1

General Safety Instructions:

WARNING

Spilled hydraulic fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

POWER STEERING RESERVOIR AND HOSES REPLACEMENT (CONT)

REMOVAL

WARNING

Spilled hydraulic fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

1. REMOVE PLUG (1) AND DRAIN POWER STEERING RESERVOIR (2).

NOTE

Oil will be present when hoses are removed.

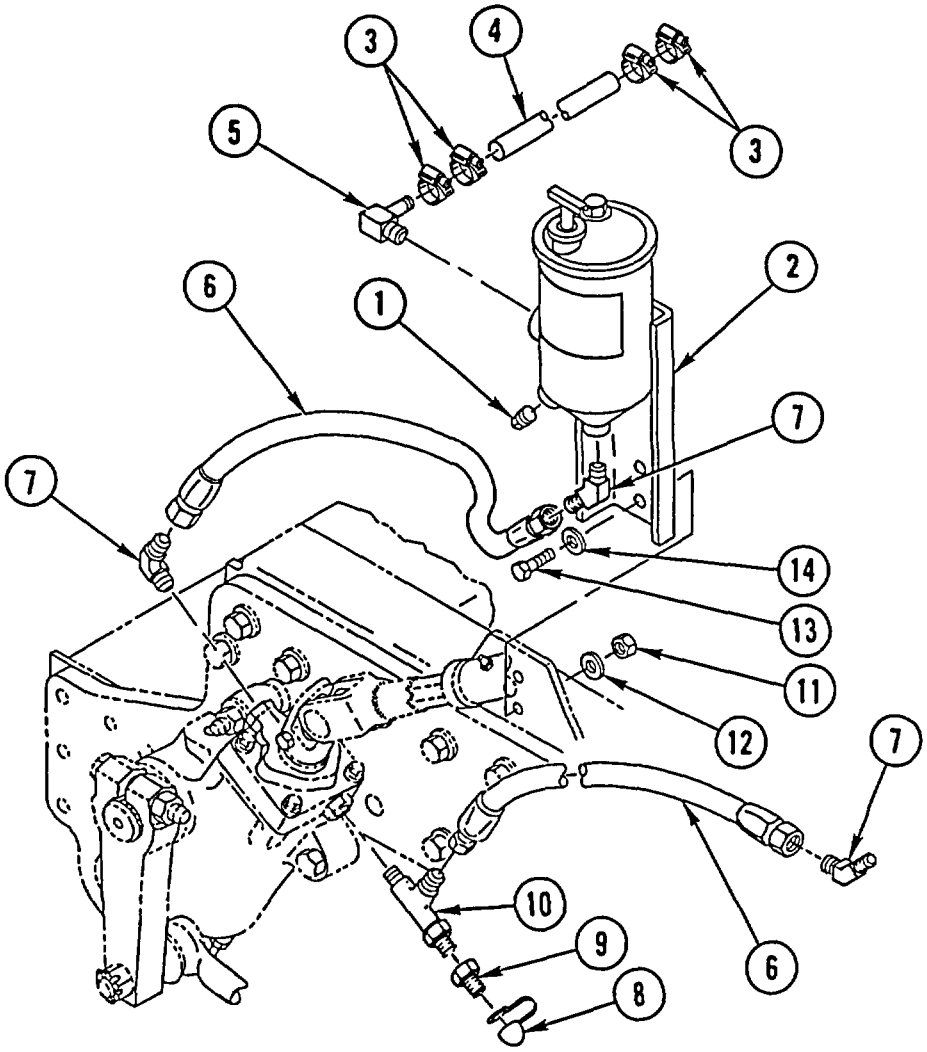
2. REMOVE FOUR CLAMPS (3), HOSE (4), AND ELBOW (5) FROM POWER STEERING RESERVOIR (2).

3. REMOVE TWO HOSES (6), THREE ELBOWS (7), CAP (8), TAP (9), AND TEE (10).

4. REMOVE TWO LOCK NUTS (11), TWO WASHERS (12), TWO SCREWS (13), TWO WASHERS (14), AND POWER STEERING RESERVOIR (2). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL POWER STEERING RESERVOIR (2), TWO WASHERS (14), TWO SCREWS (13), TWO WASHERS (12), AND TWO NEW LOCK NUTS (11).

WARNING

Spilled hydraulic fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

2. INSTALL TEE (10), TAP (9), CAP (8), THREE ELBOWS (7), AND TWO HOSES (6).

3. INSTALL PLUG (1), ELBOW (5), HOSE (4), AND FOUR CLAMPS (3) IN POWER STEERING RESERVOIR (2).

NOTE

Follow-on Maintenance:
Fill power steering reservoir (Unit PMCS, TM 9-2320-363-20-1).

POWER STEERING RESERVOIR REPAIR

This task covers: a. Disassembly b. Cleaning/Inspection c. Assembly

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Element, Filter P/N 83213D

References:

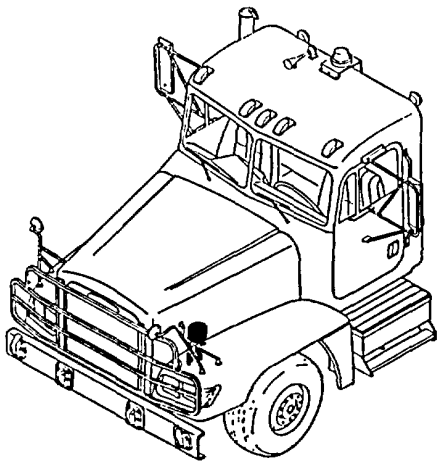
TM 9-2320-363-20-1

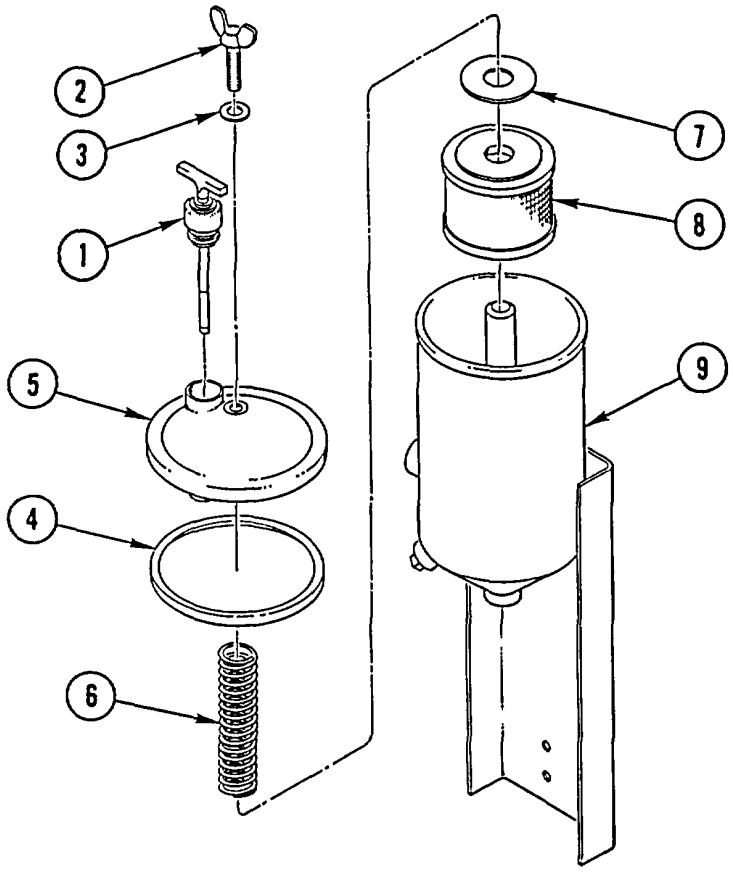
Equipment Condition:

Reference	Condition Description
Unit PMCS, TM 9-2320-363-20-1	Power Steering Reservoir Drained

DISASSEMBLY

1. REMOVE DIPSTICK (1), WING SCREW (2), WASHER (3), SEAL (4), AND COVER ASSEMBLY (5).
2. REMOVE SPRING (6), WASHER (7), AND FILTER ELEMENT (8) FROM POWER STEERING RESERVOIR (9). DISCARD FILTER ELEMENT.





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ASSEMBLY

1. INSTALL NEW FILTER ELEMENT (8), WASHER (7), AND SPRING (6).

2. INSTALL COVER ASSEMBLY (5), SEAL (4), WASHER (3), WING SCREW (2), AND DIPSTICK (1) IN POWER STEERING RESERVOIR (9).

NOTE

Follow-on Maintenance:
Fill power steering reservoir (Unit PMCS, TM 9-2320-363-20-1).

Section XIII. FRAME AND TOWING ATTACHMENTS MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the frame and towing attachments and related components. A list of tasks contained in this section is shown below.

Page

Right Step Replacement 4-619

Left Step Replacement 4-624

Right Rear Step Replacement 4-626

Front Bumper Replacement 4-628

Spare Wheel Hoist Replacement (M915A2) 4-630

Spare Tire Strap Replacement (M916A1 and M916A2) 4-632

Spare Tire Carrier Replacement (M917A1 and M917A1 w/MCS) 4-633.0

Rear Tie Down Replacement (M915A2) 4-634

Rear Tie Down and Roller Replacement (M916A1 and M916A2) 4-636

Fifth Wheel Adjustment (M915A2) 4-639

Fifth Wheel Adjustment (M916A1 and M916A2) .....4-641'

Pintle Hook Replacement and Repair 4-642

Towing Bracket Replacement (M915A2) 4-646

Towing Bracket Replacement (All Except M915A2) 4-647

Grate Replacement (M916A1 and M916A2) 4-648

Taillight Bracket Replacement 4-649

Left Side Platform Replacement (M915A2) 4-651

RIGHT STEP REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Screw, (8)
1/4 x 1x13

Nut, Lock, (8)
1/4 x 13

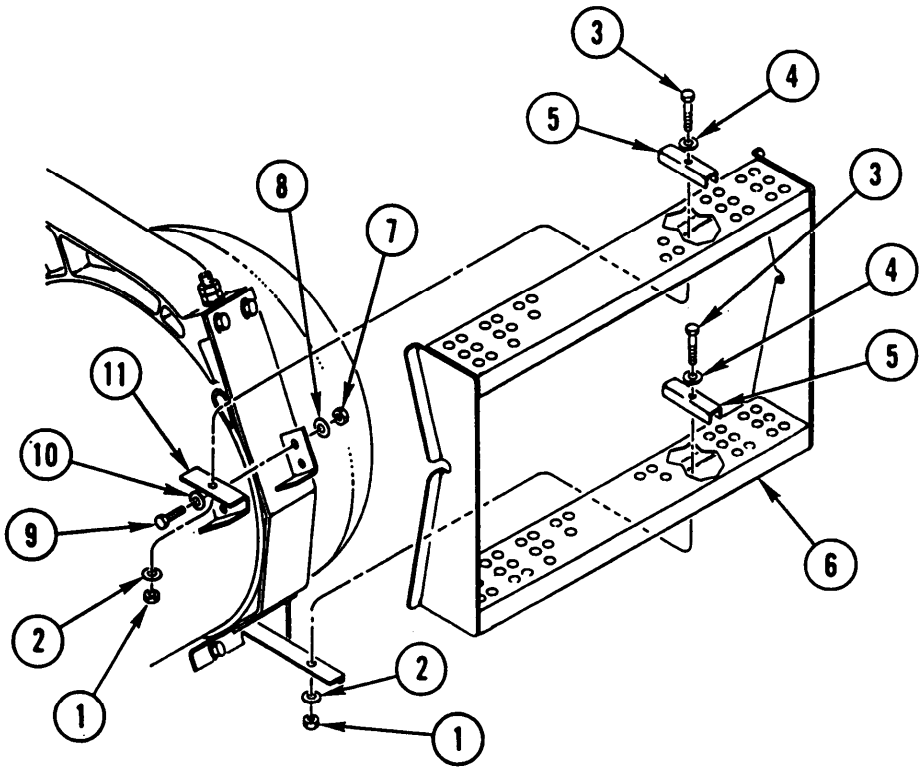
Materials/Parts (Cont):

Washer, (8) 1/4

Nut, Lock (4)

Nut, Lock (2)

REMOVAL



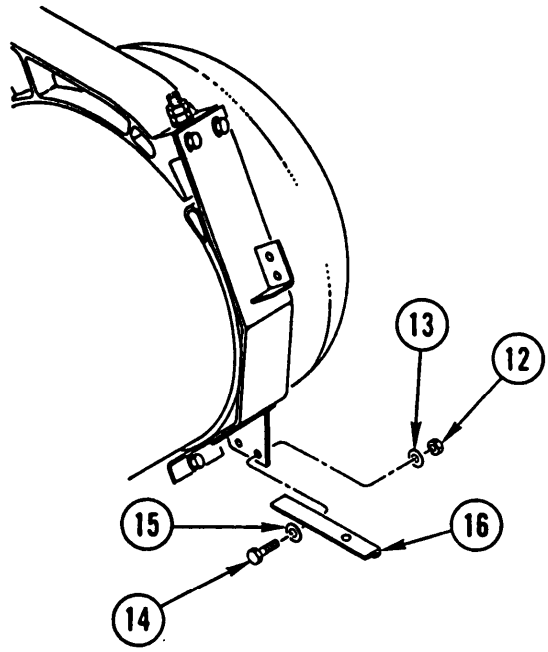
NOTE

Steps 1 thru 5 are for front bracket assembly.

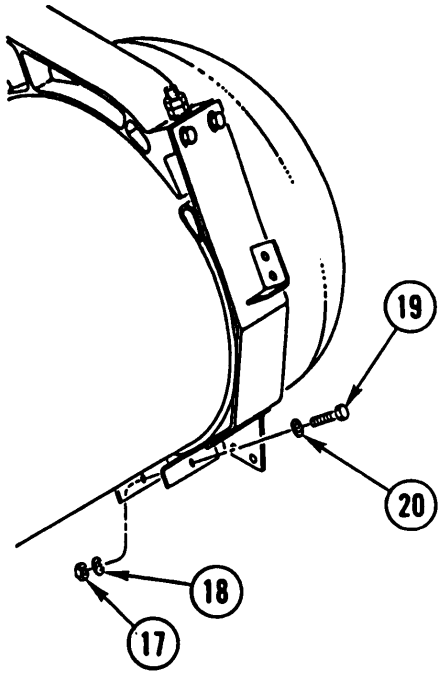
1. REMOVE FOUR LOCK NUTS (1), FOUR WASHERS (2), FOUR BOLTS (3), FOUR WASHERS (4), FOUR CLAMPS (5), AND STEP ASSEMBLY (6). DISCARD LOCK NUTS.

2. REMOVE TWO LOCK NUTS (7), TWO WASHERS (8), TWO BOLTS (9), TWO WASHERS (10), AND BRACKET (11). DISCARD LOCK NUTS.

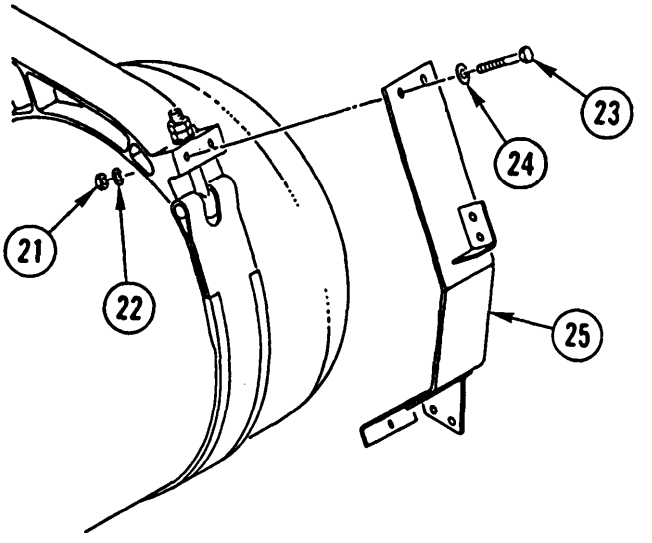
RIGHT STEP REPLACEMENT (CONT)



3. REMOVE TWO NUTS 12), TWO WASHERS (13), TWO BOLTS 14) TWO WASHERS (15), AND BRACKET (16).

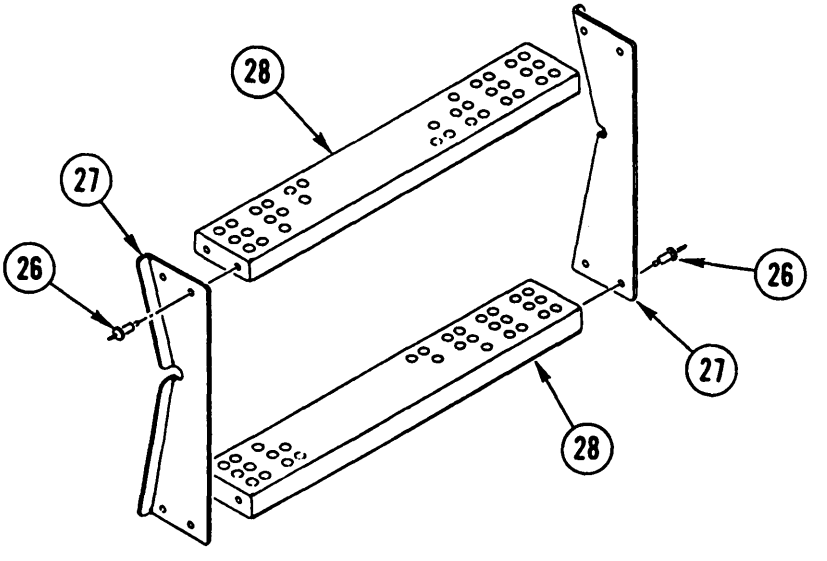


4. REMOVE NUT (17), WASHER (18), BOLT (19), AND WASHER (20).



5. REMOVE TWO NUTS (21), TWO WASHERS (22), TWO BOLTS (23), TWO WASHERS (24), AND BRACKET (25).

6. REPEAT STEPS 2 THRU 5 FOR REAR BRACKET ASSEMBLY.



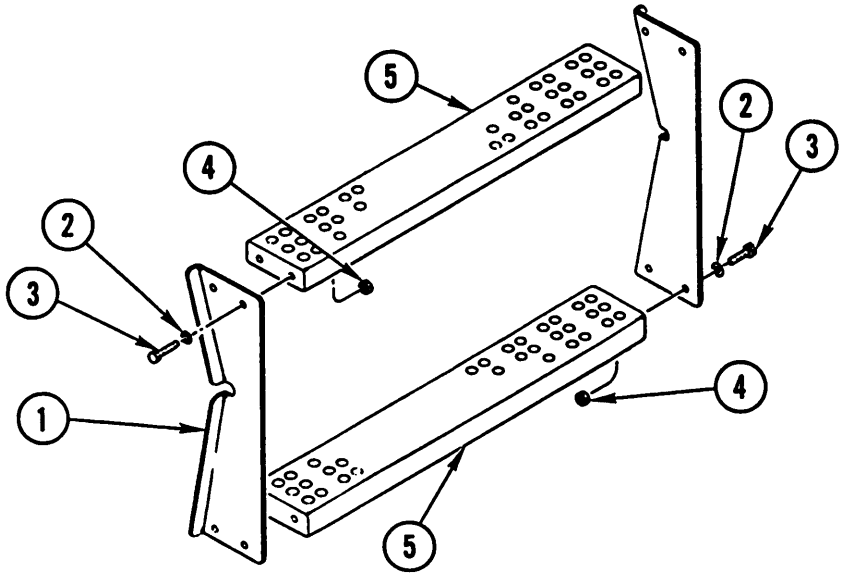
7. REMOVE EIGHT RIVETS (26) AND TWO SUPPORT BRACKETS (27) FROM TWO STEPS (28). DISCARD RIVETS.

CLEANING/INSPECTION

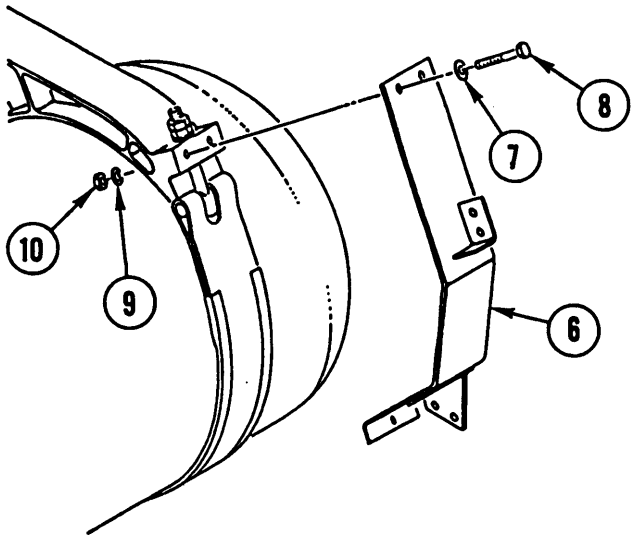
Clean and inspect all parts in accordance with Chapter 2.

RIGHT STEP REPLACEMENT (CONT)

INSTALLATION



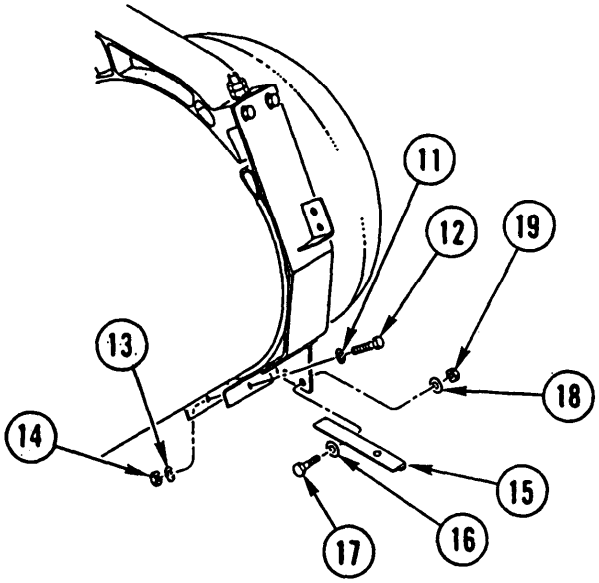
1. INSTALL TWO SUPPORT BRACKETS (1), EIGHT NEW 1/4 WASHERS (2), EIGHT NEW 1/4 X 1 X 13 SCREWS (3), AND EIGHT NEW 1/4 X 13 LOCK NUTS (4) ON TWO STEPS (5).



NOTE

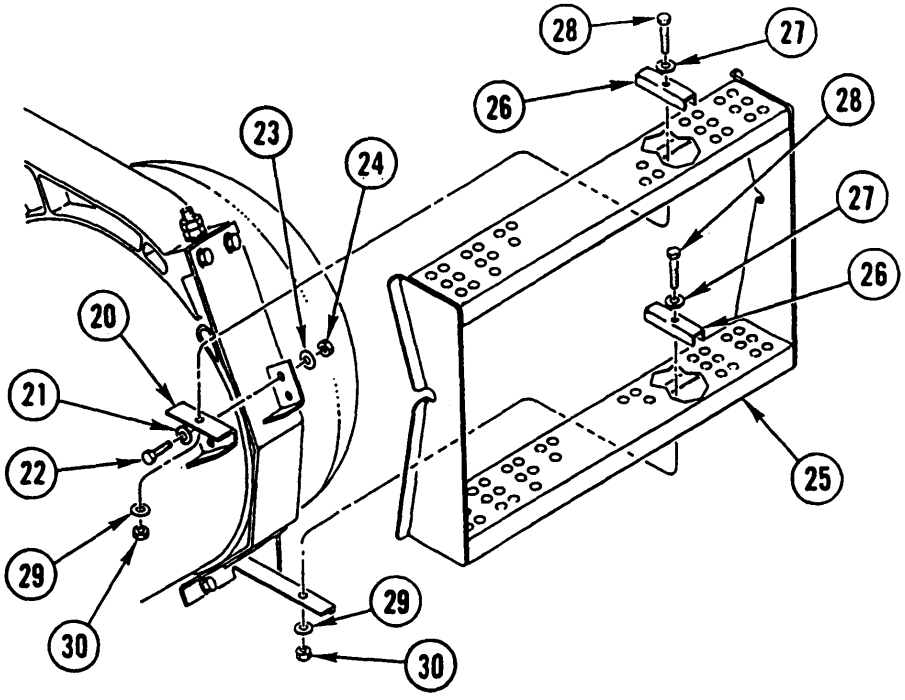
Steps 2 thru 5 are for front bracket assembly.

2. INSTALL BRACKET (6), TWO WASHERS (7), TWO BOLTS (8), TWO WASHERS (9), AND TWO NUTS (10).



3. INSTALL WASHER (11), BOLT (12), WASHER (13), AND NUT (14).

4. INSTALL BRACKET (15), TWO WASHERS (16), TWO BOLTS (17), TWO WASHERS (18), AND TWO NUTS (19).



5. INSTALL BRACKET (20), TWO WASHERS (21), TWO BOLTS (22), TWO WASHERS (23), AND TWO NEW LOCK NUTS (24).

6. REPEAT STEPS 2 THRU 5 FOR REAR BRACKET ASSEMBLY.

7. INSTALL STEP ASSEMBLY (25), FOUR CLAMPS (26), FOUR WASHERS (27), FOUR BOLTS (28), FOUR WASHERS (29), AND FOUR NEW LOCK NUTS (30).

LEFT STEP REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

Nut, Lock (3)

References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Battery Box Cover Removed

General Safety Instructions:

WARNING
Do not allow tools to come in contact with batteries. Electrical shock may occur.

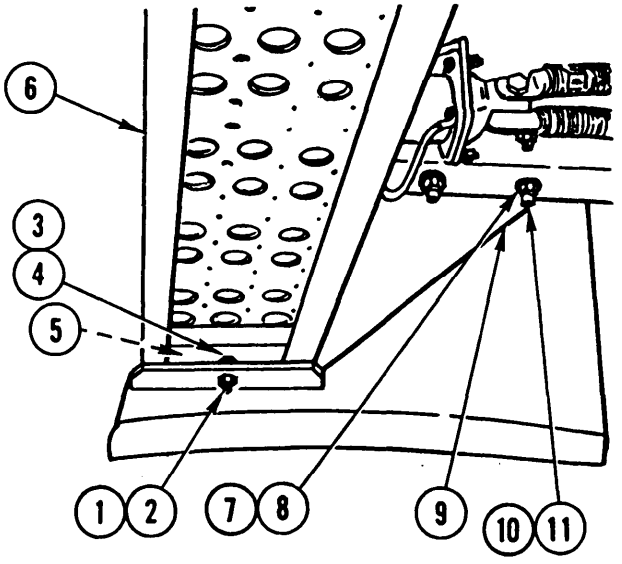
REMOVAL

WARNING
Do not allow tools to come in contact with batteries. Electrical shock may occur.

1. REMOVE TWO LOCK NUTS (1), TWO WASHERS (2), TWO SCREWS (3), WASHER (4), TWO CLAMPS (5), AND STEP (6). DISCARD LOCK NUTS.
2. REMOVE THREE LOCK NUTS (7), THREE WASHERS (8), FRONT STEP BRACKET (9), THREE SCREWS (10), AND THREE WASHERS (11). DISCARD LOCK NUTS.
3. REPEAT STEP 2 FOR REMOVAL OF REAR STEP BRACKET.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

WARNING

Do not allow tools to come in contact with batteries. Electrical shock may occur.

1. INSTALL THREE WASHERS (11), THREE SCREWS (10), FRONT STEP BRACKET (9), THREE WASHERS (8), AND THREE NEW LOCK NUTS (7).
2. REPEAT STEP 1 FOR INSTALLATION OF REAR STEP BRACKET.
3. INSTALL STEP (6), TWO CLAMPS (5), WASHER (4), TWO SCREWS (3), TWO WASHERS (2), AND TWO NEW LOCK NUTS (1).

NOTE

Follow-on Maintenance:
Install battery box cover (TM 9-2320-363-10).

RIGHT REAR STEP REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

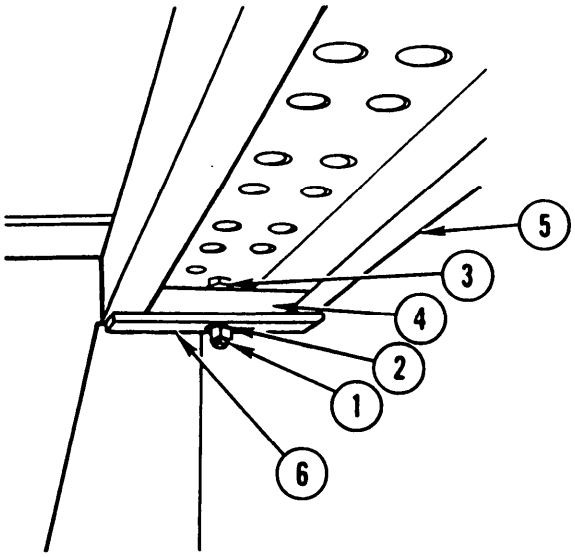
Nut, Lock (2)

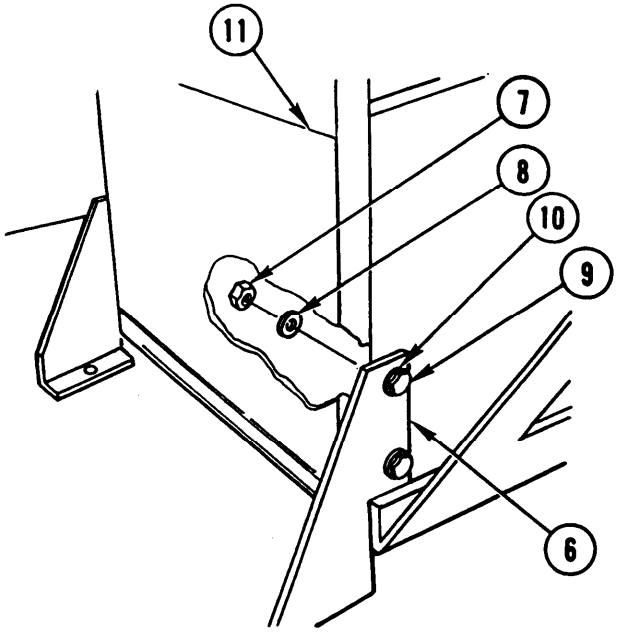
Nut, Lock (4)

REMOVAL

1. REMOVE TWO LOCK NUTS (1), TWO WASHERS (2), TWO SCREWS (3), TWO CLAMP BARS (4), AND STEP (5) FROM TWO MOUNTING BRACKETS (6). DISCARD LOCK NUTS.

2. REMOVE FOUR LOCK NUTS (7), FOUR WASHERS (8), FOUR SCREWS (9), FOUR WASHERS (10), AND TWO MOUNTING BRACKETS (6) FROM STORAGE BOX (11). DISCARD LOCK NUTS.





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL TWO MOUNTING BRACKETS (6), FOUR WASHERS (10), FOUR SCREWS (9), FOUR WASHERS (8), AND FOUR NEW LOCK NUTS (7) ON STORAGE BOX (11).

2. INSTALL STEP (5), TWO CLAMP BARS (4), TWO SCREWS (3), TWO WASHERS (2), AND TWO NEW LOCK NUTS (1) ON TWO MOUNTING BRACKETS (6).

FRONT BUMPER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Material/Parts:

Nut, Lock (2)

Nut, Lock (20)

Personnel Required: (2)

General Safety Instructions:

WARNING

Front bumper weighs 260 lb (118 kg). Use suitable lifting device to remove or install front bumper to prevent possible injury to personnel.

REMOVAL

1. REMOVE TWO LOCK NUTS (1), TWO WASHERS (2), TWO SCREWS (3), TWO WASHERS (4), AND BRACKET (5) FROM FRONT BUMPER (6). DISCARD LOCK NUTS.

WARNING

Front bumper weighs 260 lb (118 kg). Use suitable lifting device to remove or install front bumper to prevent possible injury to personnel.

2. ATTACH SUITABLE LIFTING DEVICE TO FRONT BUMPER (6) USING LIFTING SHACKLES (7) AS ATTACHING POINTS. ON M917A1 AND M917A1 W/MCS, USE LIFTING SHACKLES ON COMBINATION TOWING/LIFT/TIE-DOWN BRACKETS (8).

NOTE

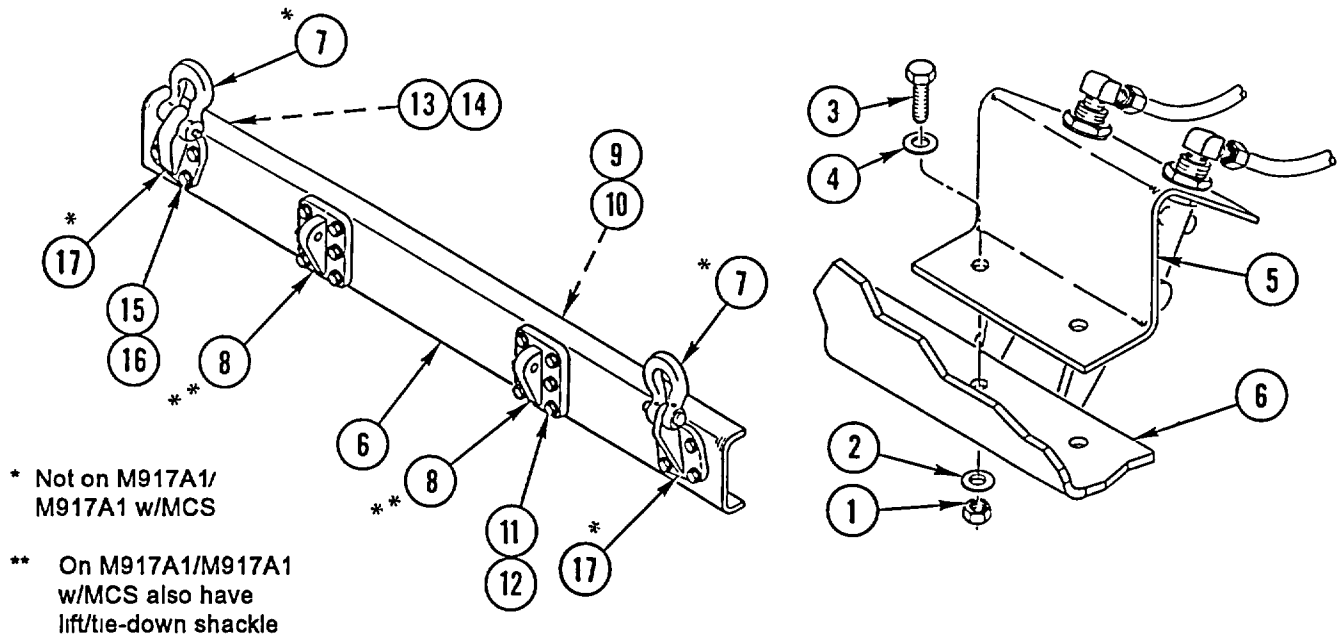
- **Note bolt size and location during removal to aid in installation.**
- **M915A2 towing brackets are shown. M916A1 and M916A2 towing brackets are installed pointing down. On M917A1 and M917A1 w/MCS, towing brackets are configured to serve as combination towing/lift/tie-down brackets.**

3. REMOVE 12 LOCK NUTS (9), 12 WASHERS (10), 12 BOLTS (11), 12 WASHERS (12), 2 TOWING BRACKETS (8), AND FRONT BUMPER (6). DISCARD LOCK NUTS.

4. LOWER BUMPER (6) TO GROUND AND DISCONNECT LIFTING DEVICE.

5. REMOVE EIGHT LOCK NUTS (13), EIGHT WASHERS (14), EIGHT BOLTS (15), EIGHT WASHERS (16), AND TWO LIFTING BRACKETS (17) FROM FRONT BUMPER (6). DISCARD LOCK NUTS.

CLEANING/INSPECTION



INSTALLATION

1. INSTALL TWO LIFTING BRACKETS (17), EIGHT WASHERS (16), EIGHT BOLTS (15), EIGHT WASHERS (14), AND EIGHT NEW LOCK NUTS (13) ON FRONT BUMPER (6). TIGHTEN LOCK NUTS TO 180-200 LB-FT (244-271 N.m).

WARNING

Front bumper weighs 260 lb (118 kg). Use suitable lifting device to remove or install front bumper to prevent possible injury to personnel.

2. ATTACH SUITABLE LIFTING DEVICE TO FRONT BUMPER (6) USING LIFTING SHACKLES (7) AS ATTACHING POINTS. ON M917A1 AND M917A1 W/MCS, USE LIFTING SHACKLES ON COMBINATION TOWING/LIFT/TIE-DOWN BRACKETS (8).

NOTE

M915A2 towing brackets are shown. M916A1 and M916A2 towing brackets are installed pointing down.

3. INSTALL FRONT BUMPER (6), 2 TOWING BRACKETS (8), 12 WASHERS (12), 12 BOLTS (11), 12 WASHERS (10), AND 12 NEW LOCK NUTS (9). TIGHTEN LOCK NUTS TO 180-200 LB-FT (244271 N.m).

4. INSTALL BRACKET (5), TWO WASHERS (4), TWO SCREWS (3), TWO WASHERS (2), AND TWO NEW LOCK NUTS (1) ON FRONT BUMPER (6).

SPARE WHEEL HOIST REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

Alumilastic Appendix C, Item 3

Personnel Required: (2)

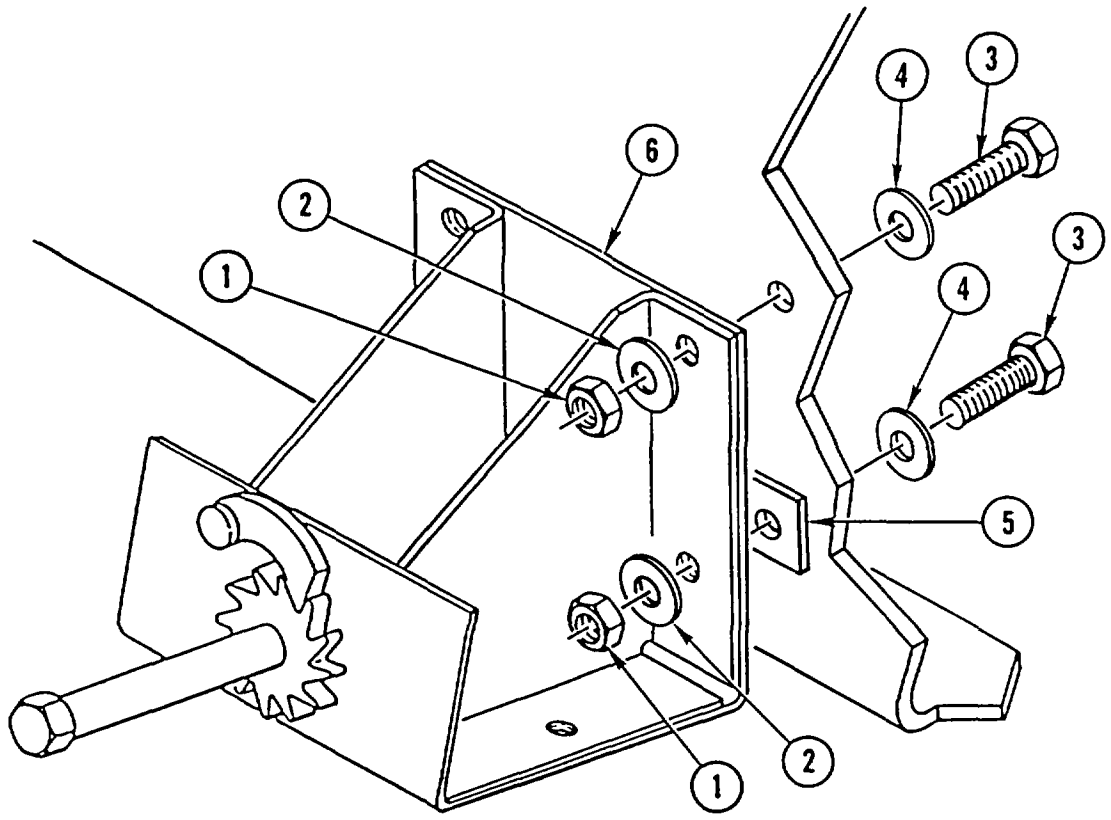
References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Spare Tire Removed
Page 4-462	Primary II Air Tank Removed

REMOVAL

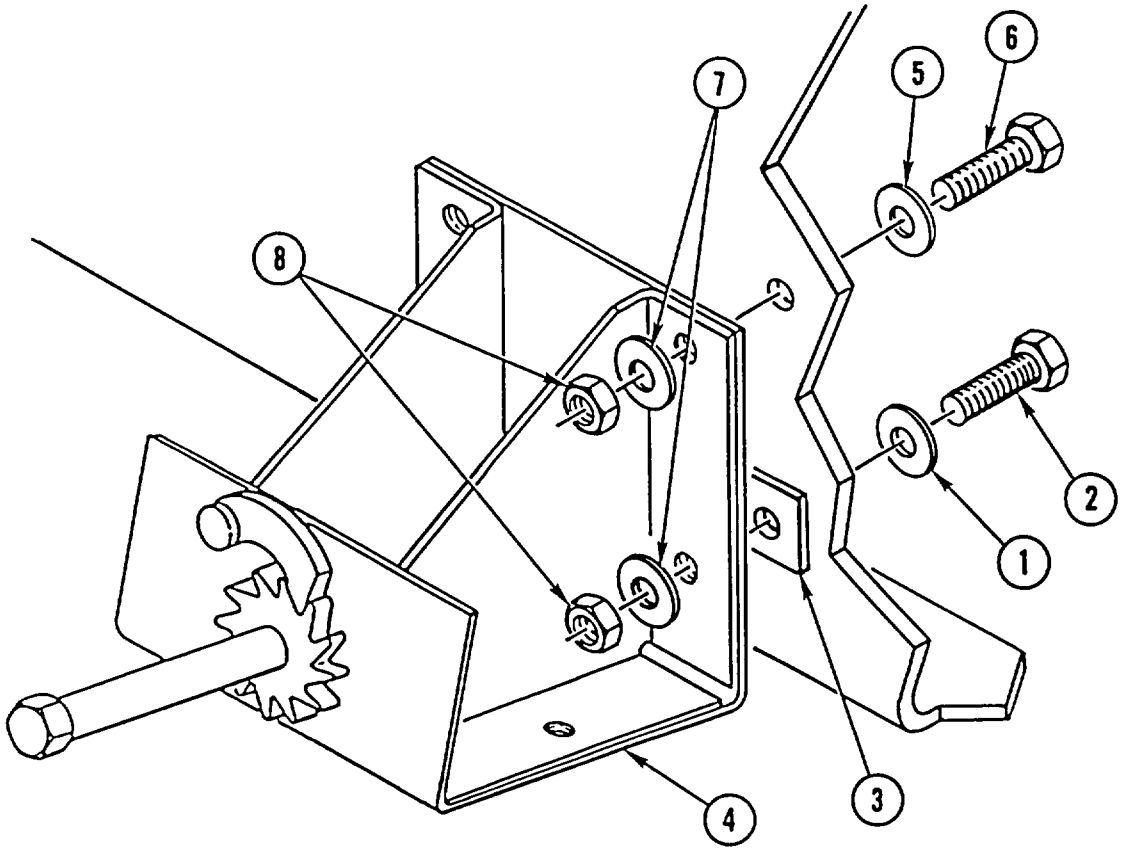


REMOVE FOUR LOCK NUTS (1), FOUR WASHERS (2), FOUR BOLTS (3), FOUR WASHERS (4), TWO SPACERS (5), AND SPARE WHEEL HOIST (6). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL TWO WASHERS (1) AND TWO BOLTS (2).
2. COAT TWO SPACERS (3) WITH ALUMILASTIC ON BOTH SIDES AND INSTALL ON TWO BOLTS (2).
3. INSTALL SPARE WHEEL HOIST (4), TWO WASHERS (5), TWO BOLTS (6), FOUR WASHERS (7), AND FOUR NEW LOCK NUTS (8).

NOTE

Follow-on Maintenance:

Install primary II air tank (page 4-462).
Install spare tire (TM 9-2320-363-10).

SPARE TIRE STRAP REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Spare Tire Removed

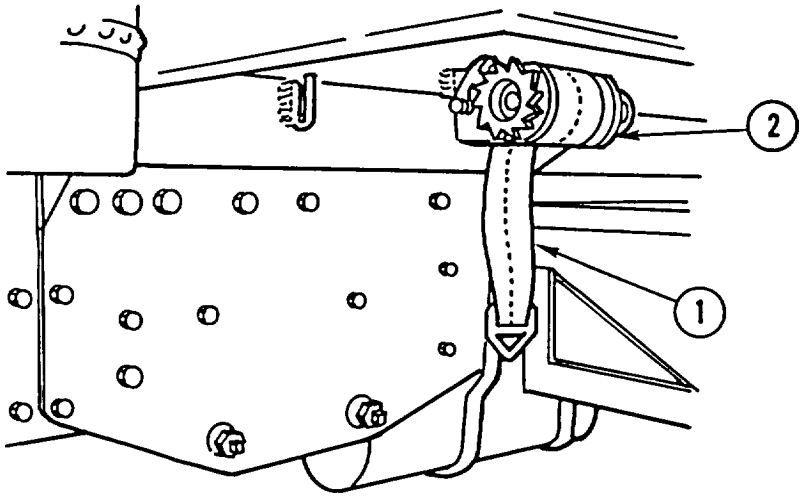
General Safety Instructions:

WARNING

When installing strap, make sure end of strap is on vehicle side. Failure to do so could result in injury to personnel.

REMOVAL

REMOVE STRAP (1) FROM HOIST (2).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

WARNING

When installing strap, make sure end of strap is on vehicle side. Failure to do so could result in injury to personnel.

INSTALL STRAP (1) ON HOIST (2) BY ROTATING SPINDLE AWAY FROM VEHICLE.

NOTE

Follow-on Maintenance:

Install spare tire (TM 9-2320-363-10).

SPARE TIRE CARRIER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26
Shop Equipment, SC 4910-95-CL-A72
Swaging Tool, URS/P21-005

Materials/Parts:

Nut, Lock (5)

Personnel Required: (2)

References:

TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Spare Wheel and Tire Assembly Removed

General Safety Instructions:

Use extreme caution when handling heavy parts.

REMOVAL

1. IF DAMAGED, CUT CABLE (1) FROM SPARE TIRE CARRIER (2) AND BRACKET (3). DISCARD CABLE.

WARNING

Use extreme caution when handling heavy parts. Failure to follow this warning may cause injury to personnel or damage to equipment.

NOTE

Note position of screws for installation.

2. REMOVE FIVE LOCK NUTS (4), WASHERS (5), SCREWS (6), SPARE TIRE CARRIER (2) AND SPACER (7) FROM CHASSIS (8). DISCARD LOCK NUTS.

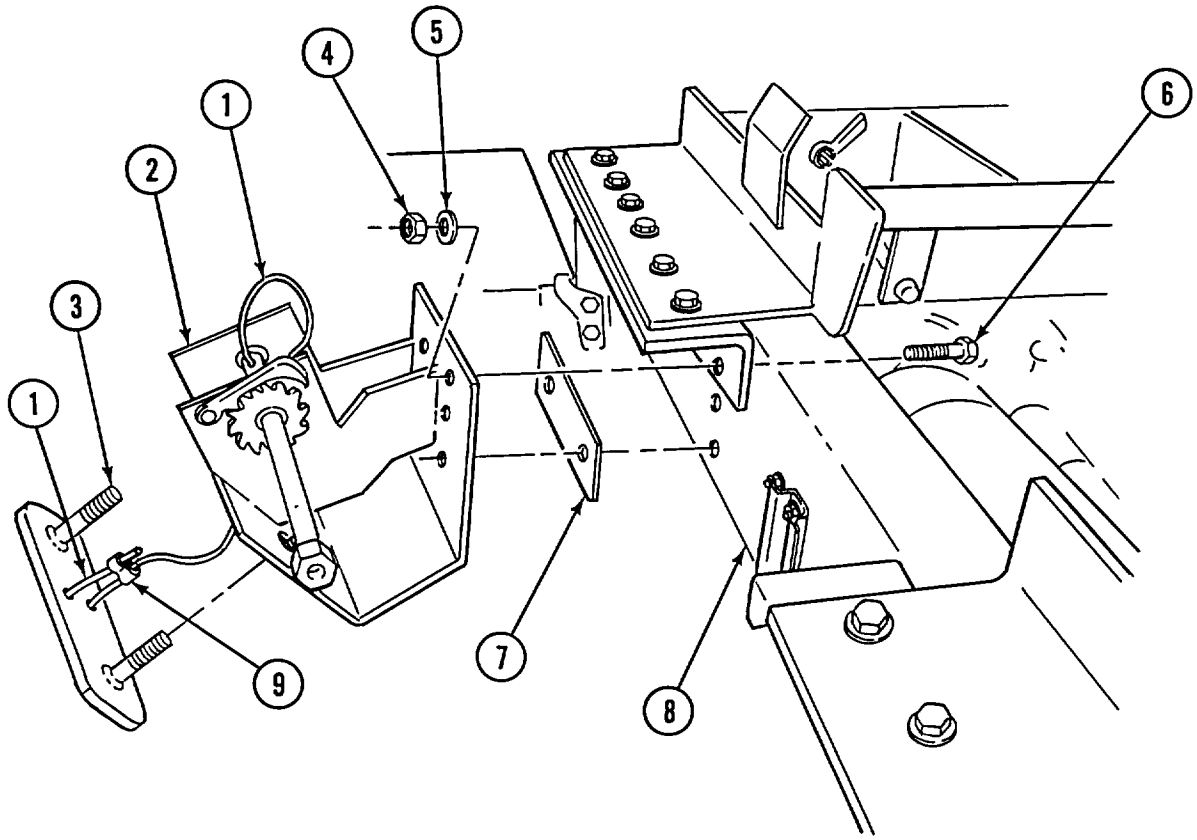
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL SPACER (7) AND SPARE TIRE CARRIER (2) TO CHASSIS (8) WITH FIVE SCREWS (6), WASHERS (5) AND NEW LOCK NUTS (4). TIGHTEN LOCK NUTS TO 200 LB-FT (271 N.m).

2. IF REMOVED, USE SWAGING TOOL TO INSTALL NEW CABLE (1) TO SPARE TIRE CARRIER (2) AND BRACKET (3) WITH TWO NEW SLEEVES (9).



NOTE

Follow-on Maintenance:

Install spare wheel and tire assembly (TM 9-2320-363-10).

REAR TIE DOWN REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

Nut, Lock (6) P/N 23-09901-116

Personnel Required: (2)

Equipment Condition:

Reference	Condition Description
Page 4-709	Mud Flap Assembly Removed

REMOVAL

NOTE

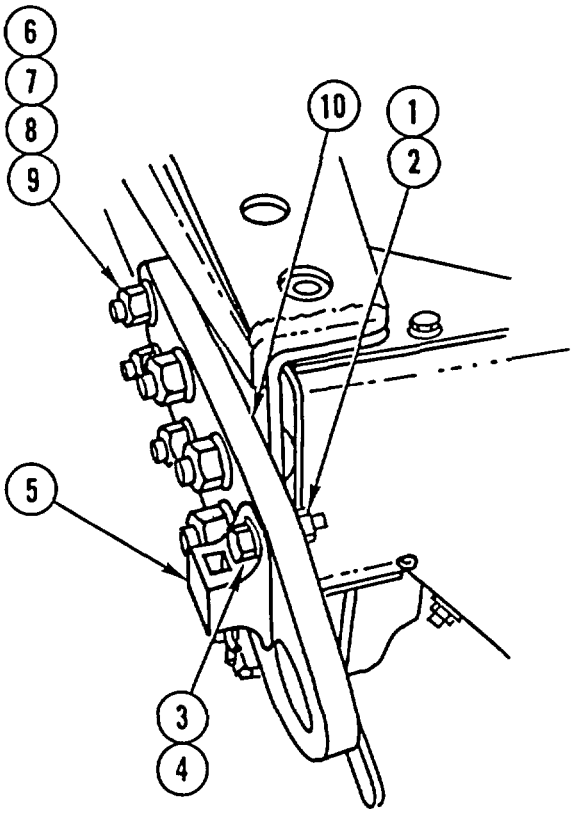
Procedure is the same for both sides.

1. REMOVE TWO LOCK NUTS (1), TWO WASHERS (2), TWO SCREWS (3), TWO WASHERS (4), AND MUD FLAP BRACKET (5). DISCARD LOCK NUTS.

2. REMOVE SIX LOCK NUTS (6), SIX WASHERS (7), SIX BOLTS (8), SIX WASHERS (9), AND TIE DOWN BRACKET (10). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

NOTE

Procedure is the same for both sides.

1. INSTALL TIE DOWN BRACKET (10), SIX WASHERS (9), SIX BOLTS (8), SIX WASHERS (7), AND SIX NEW LOCK NUTS (6).

2. INSTALL MUD FLAP BRACKET (5), TWO WASHERS (4), TWO SCREWS (3), TWO WASHERS (2), AND TWO NEW LOCK NUTS (1).

NOTE

Follow-on Maintenance:

Install mud flap assembly (page 4-709).

REAR TIE DOWN AND ROLLER REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock P/N 23-09901-107

Nut, Lock (4)

Nut, Lock (12) P/N 23-00901-116

Personnel Required: (2)

References:

TM 9-2320-363-20-1

Equipment Condition:

Reference	Condition Description
Page 4-709	Mud Flap Assembly Removed

General Safety Instructions:

WARNING

Roller weighs 200 lb (91 kg). Attach suitable hoist prior to removal or installation to prevent possible injury to personnel.

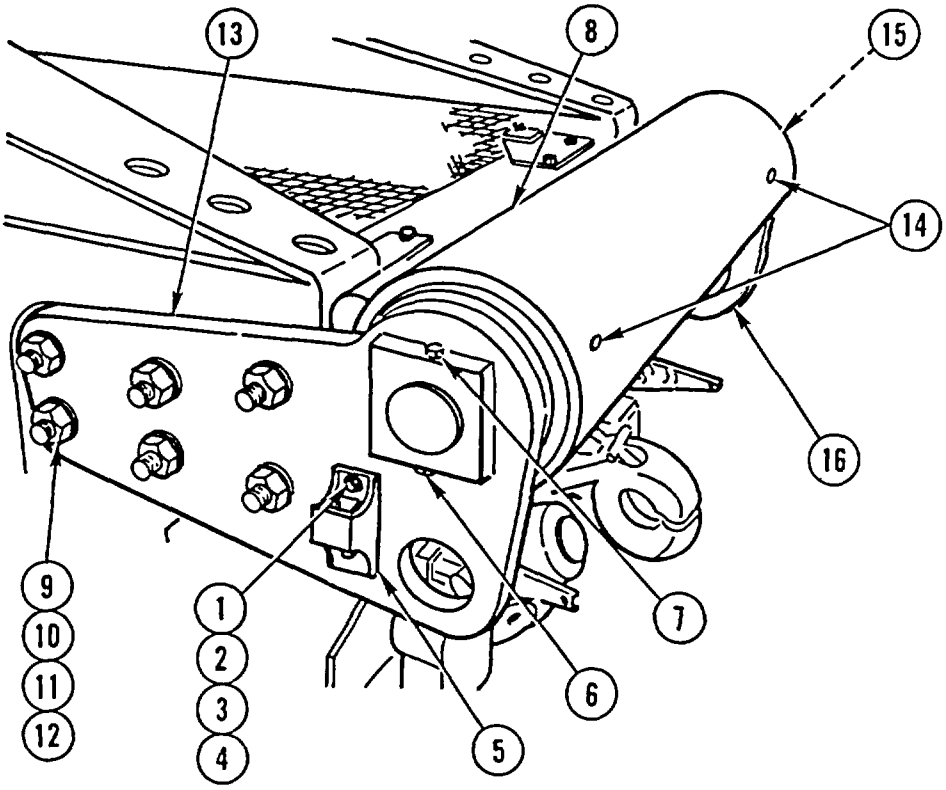
REMOVAL

1. REMOVE TWO LOCK NUTS (1), TWO WASHERS (2), TWO SCREWS (3), TWO WASHERS (4), AND LEFT MUD FLAP BRACKET (5). DISCARD LOCK NUTS.
2. REMOVE LOCK NUT (6) AND SCREW (7). DISCARD LOCK NUT.

WARNING

Roller weighs 200 lb (91 kg). Attach suitable hoist prior to removal to prevent possible injury to personnel.

3. USING SUITABLE HOIST, SUPPORT TAIL ROLLER (8).
4. REMOVE SIX LOCK NUTS (9), SIX WASHERS (10), SIX BOLTS (11), SIX WASHERS (12), AND LEFT TIE DOWN BRACKET (13). DISCARD LOCK NUTS.
5. REMOVE TAIL ROLLER (8).
6. REMOVE TWO LUBRICATION FITTINGS (14) FROM TAIL ROLLER (8).
7. REPEAT STEPS 1 AND 4 FOR RIGHT MUD FLAP BRACKET (15) AND RIGHT TIE DOWN BRACKET (16).

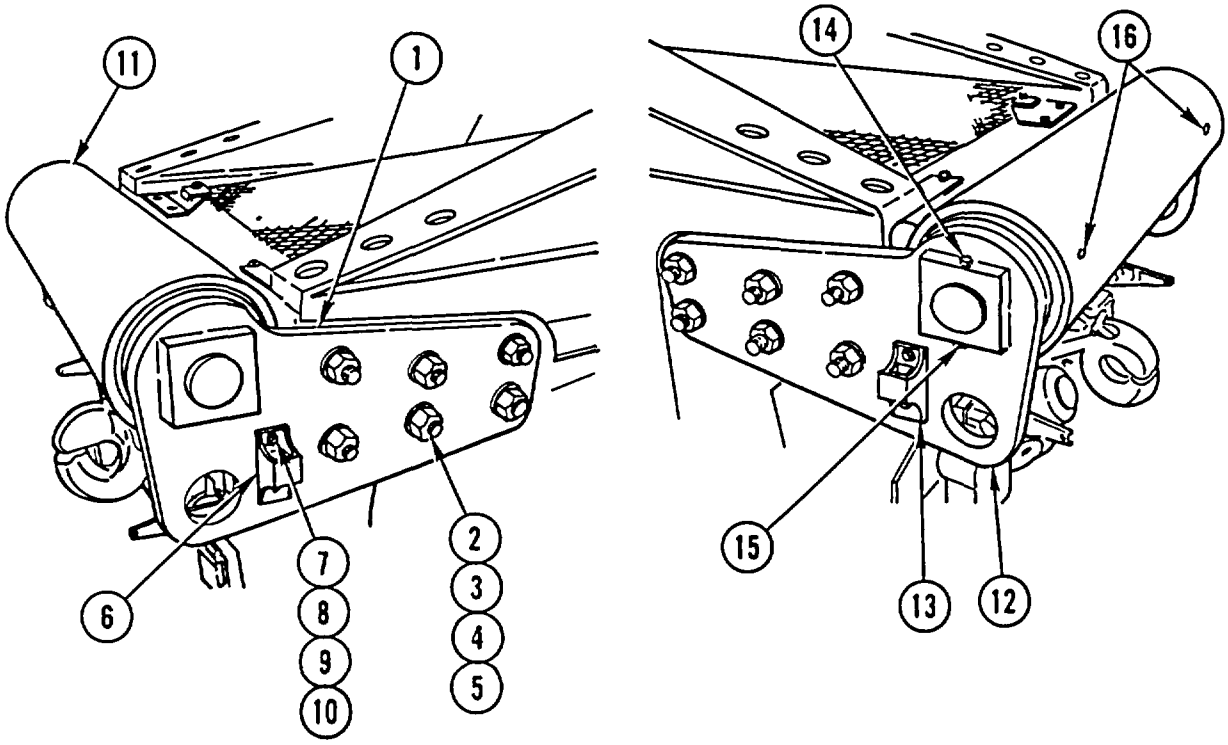


CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

REAR TIE DOWN AND ROLLER REPLACEMENT (CONT)

INSTALLATION



1. INSTALL RIGHT TIE DOWN BRACKET (1), SIX WASHERS (2), SIX BOLTS (3), SIX WASHERS (4), AND SIX NEW LOCK NUTS (5).

2. INSTALL RIGHT MUD FLAP BRACKET (6), TWO WASHERS (7), TWO BOLTS (8), TWO WASHERS (9), AND TWO NEW LOCK NUTS (10).

WARNING

Roller weighs 200 lb (91 kg). Attach suitable hoist prior to installation to prevent possible Injury to personnel.

3. USING SUITABLE HOIST, SUPPORT AND INSTALL TAIL ROLLER (11).

4. REPEAT STEPS 1 AND 2 FOR LEFT TIE DOWN BRACKET (12) AND LEFT MUD FLAP BRACKET (13).

5. INSTALL SCREW (14) AND NEW LOCK NUT (15).

6. INSTALL TWO LUBRICATION FITTINGS (16) IN TAIL ROLLER (11).

NOTE

Follow-on Maintenance:

Install mud flap assembly (page 4-709).
Lubricate tail roller (Unit PMCS, TM 9-2320-363-20-1).

FIFTH WHEEL ADJUSTMENT

This task covers: Adjustment

INITIAL SETUP

Applicable Configuration:

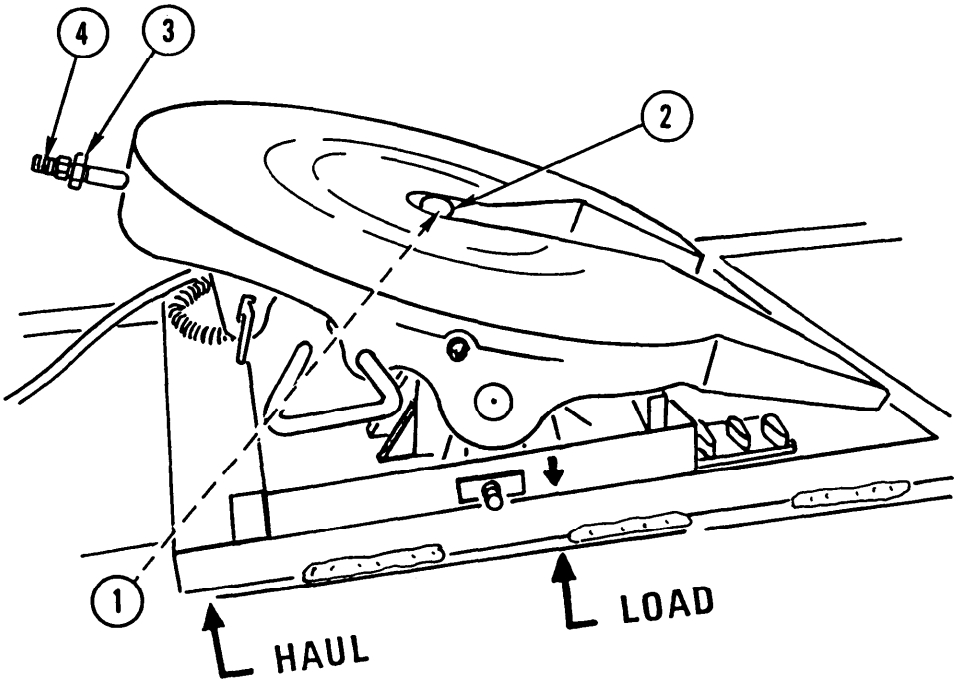
M915A2

Personnel Required: (2)

Tools and Special Equipment:

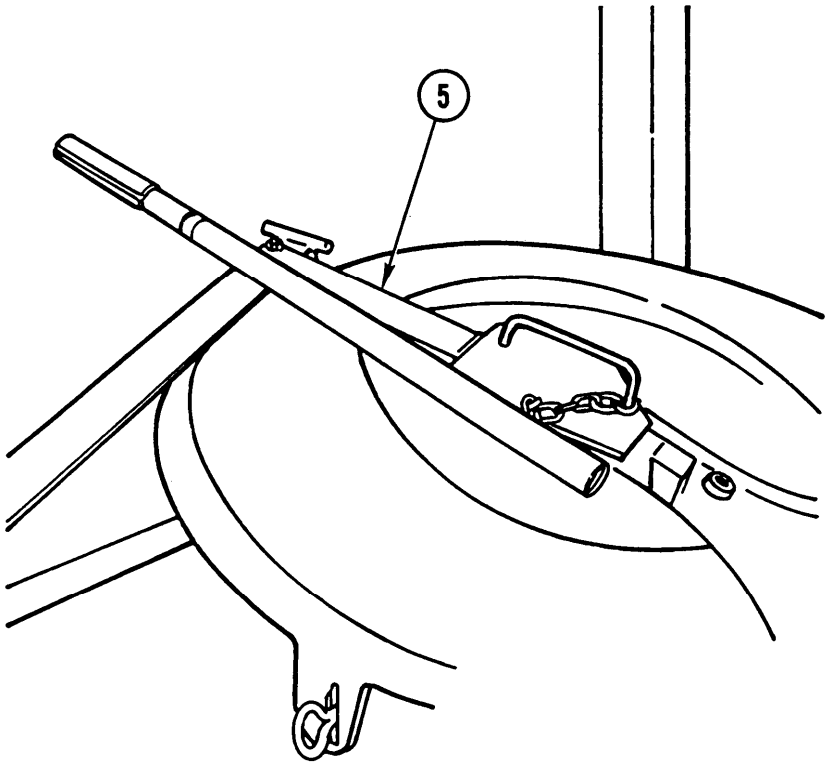
Tool Kit, SC 5180-90-CL-N26
Plug, P/N TF-0237
Lock Tester, P/N TF-TLN-1000

ADJUSTMENT



1. CLOSE LOCKS (1) AND INSERT PLUG (2).
2. CHECK PLUG (2) FOR TIGHT FIT BY TURNING PLUG.
3. IF PLUG (2) FITS LOOSELY, TURN NUT (3) ON SHANK (4) TO LEFT UNTIL PLUG FITS SNUG, BUT CAN STILL BE TURNED.
4. IF PLUG (2) FITS TOO TIGHTLY, TURN NUT (3) ON SHANK (4) TO RIGHT UNTIL PLUG FITS SNUG, BUT CAN STILL BE TURNED.

FIFTH WHEEL ADJUSTMENT (CONT)



5. VERIFY ADJUSTMENT BY LOCKING AND UNLOCKING SEVERAL TIMEES USING LOCK TESTER (5).

FIFTH WHEEL ADJUSTMENT

This task covers: Adjustment

INITIAL SETUP

Applicable Configuration:

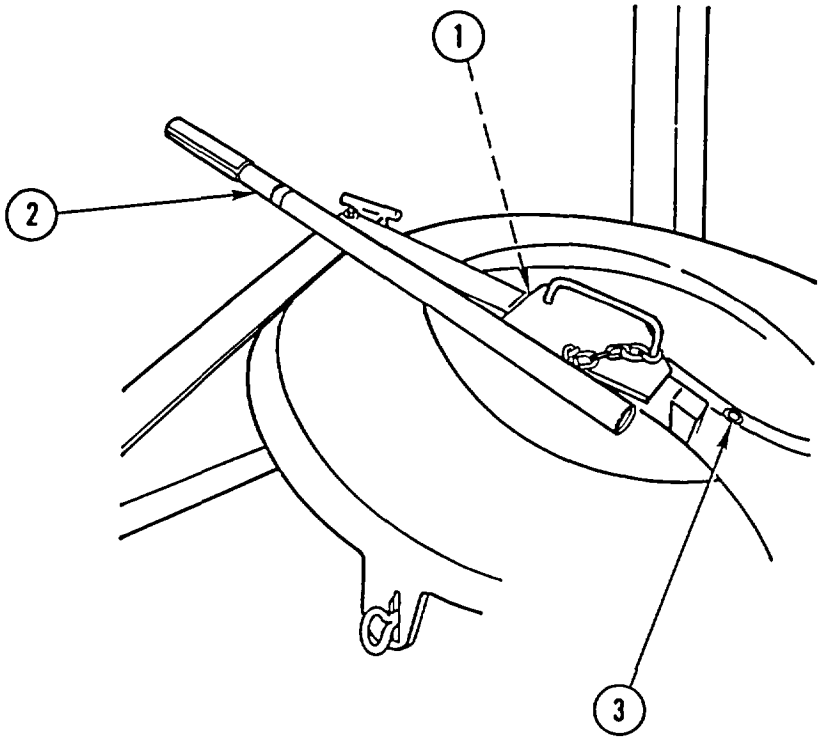
M916A1 and M916A2

Personnel Required: (2)

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26
Lock Tester, P/N TLN-1500

ADJUSTMENT



1. CLOSE LOCKS (1) USING LOCK TESTER (2).
2. TIGHTEN SOCKET HEAD ADJUSTMENT SCREW (3) BY TURNING TO RIGHT.
3. TURN SOCKET HEAD ADJUSTMENT SCREW (3) 1-1/2 TURNS TO LEFT.
4. VERIFY ADJUSTMENT BY LOCKING AND UNLOCKING SEVERAL TIMES USING LOCK TESTER (2).

PINTLE HOOK REPLACEMENT AND REPAIR

This task covers: a. Removal b. Disassembly c. Cleaning/Inspection d. Assembly e. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

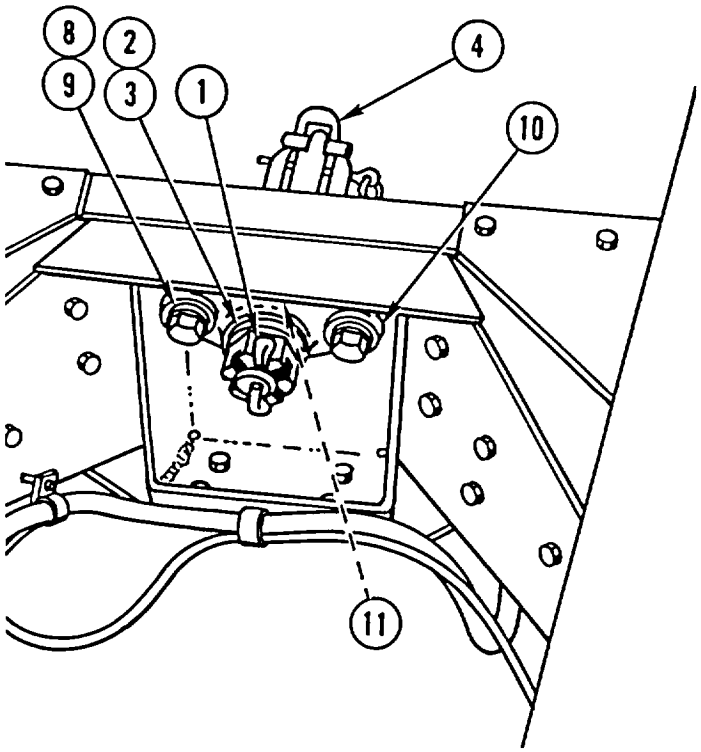
References:

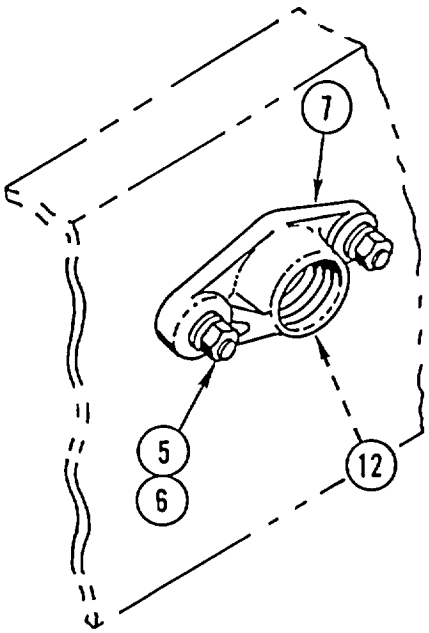
TM 9-2320-363-20-1

Materials/Parts:

Pin, Cotter	P/N 119-1
Pin, Cotter	P/N XB-773
Nut, Lock (2)	PIN XB-769
Screw	P/N XB-128

REMOVAL



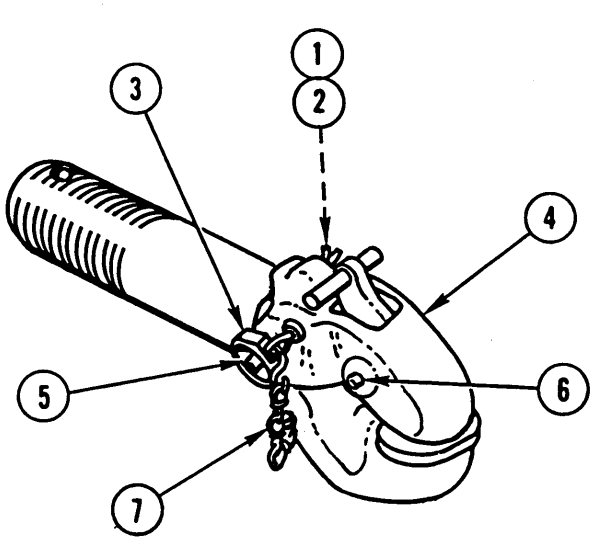


1. REMOVE COTTER PIN (1), CASTLE NUT (2), WASHER (3), AND PINTLE HOOK (4). DISCARD COTTER PIN.
2. REMOVE TWO LOCK NUTS (5), TWO WASHERS (6), AND OUTER BRACKET (7). DISCARD LOCK NUTS.

3. REMOVE TWO BOLTS (8), TWO WASHERS (9), AND INNER BRACKET (10).

4. REMOVE TWO LUBRICATION FITTINGS (11 AND 12) FROM INNER AND OUTER BRACKETS (10 AND 7).

DISASSEMBLY



1. REMOVE COTTER PIN (1), CASTLE NUT (2), BOLT (3), AND LATCH (4). DISCARD COTTER PIN.

2. REMOVE TWO LUBRICATION FITTINGS (5 AND 6).

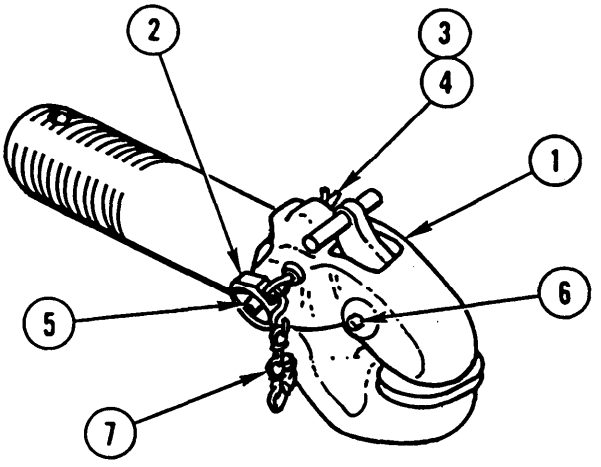
3. REMOVE SCREW AND CHAIN ASSEMBLY (7). DISCARD SCREW.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

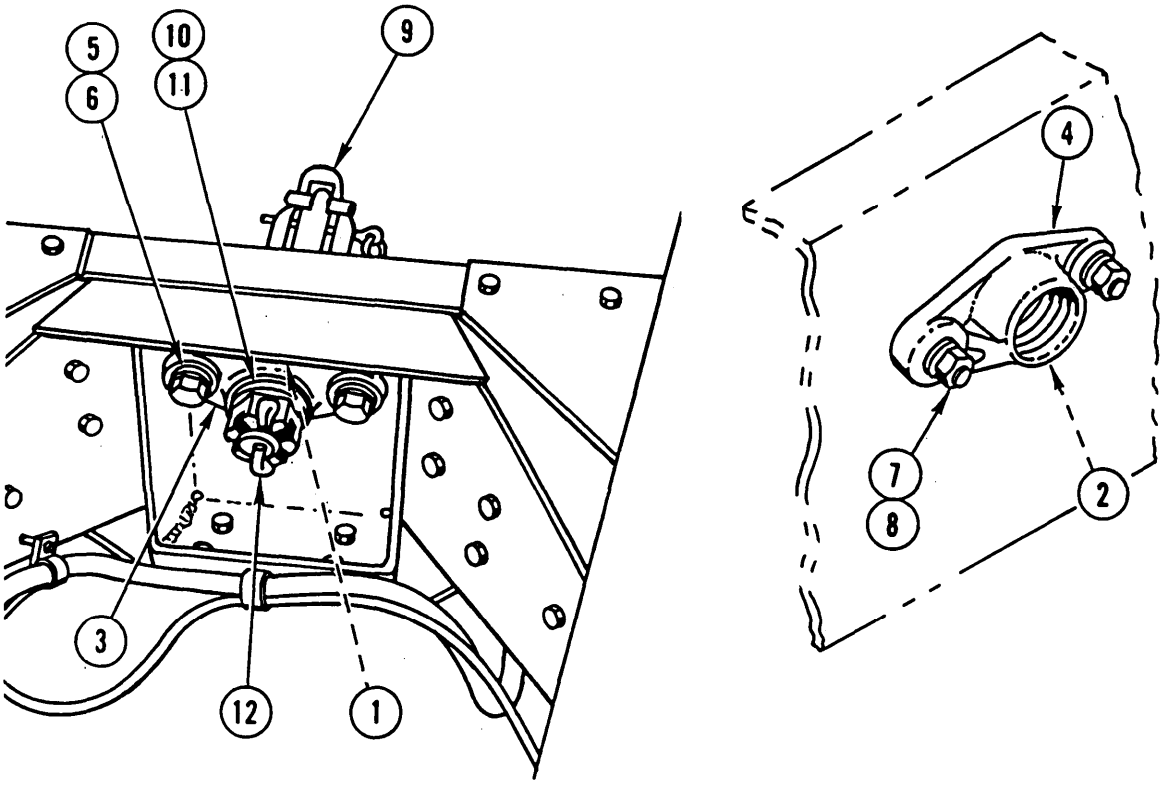
PINTLE HOOK REPLACEMENT AND REPAIR (CONT)

ASSEMBLY



1. INSTALL LATCH (1), BOLT (2), CASTLE NUT (3), AND NEW COTTER PIN (4).
2. INSTALL TWO LUBRICATION FITTINGS (5 AND 6).
3. INSTALL NEW SCREW AND CHAIN ASSEMBLY (7).

INSTALLATION



1. INSTALL TWO LUBRICATION FITTINGS (1 AND 2) IN INNER AND OUTER BRACKETS (3 AND 4).
2. INSTALL INNER BRACKET (3), TWO WASHERS (5), AND TWO BOLTS (6).
3. INSTALL OUTER BRACKET (4), TWO WASHERS (7), AND TWO NEW LOCK NUTS (8).
4. INSTALL PINTLE HOOK (9), WASHER (10), AND CASTLE NUT (11).
5. LOOSEN CASTLE NUT (11) UNTIL PINTLE HOOK (9) ROTATES FREELY.
6. INSTALL NEW COTTER PIN (12) THRU CASTLE NUT (11).

NOTE

Follow-on Maintenance:
Lubricate pintle hook (Unit PMCS, TM 9-2320-363-20-1).

TOWING BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Materials/Parts:

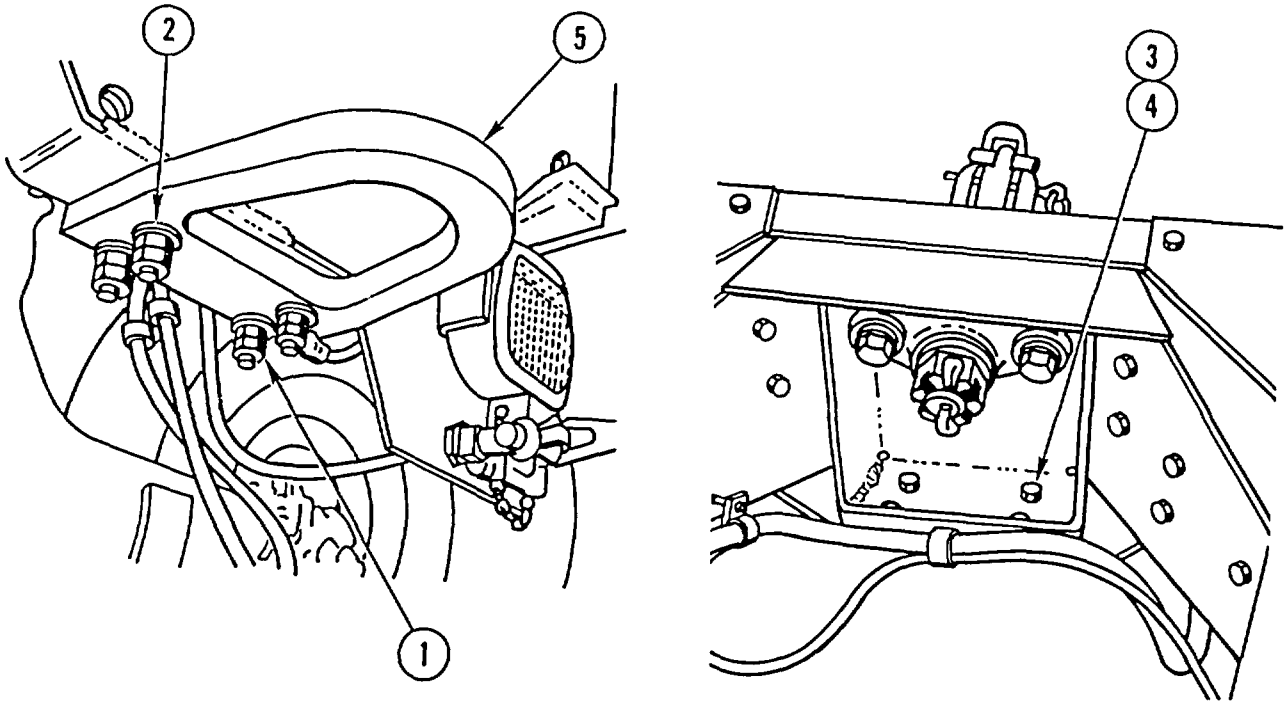
Nut, Lock (8)

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

REMOVAL

REMOVE EIGHT LOCK NUTS (1), FOUR WASHERS (2), FOUR BOLTS (3), FOUR WASHERS (4), AND BRACKET (5). DISCARD LOCK NUTS.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

INSTALL BRACKET (5), FOUR WASHERS (4), FOUR BOLTS (3), FOUR WASHERS (2), AND EIGHT NEW LOCK NUTS (1).

TOWING BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All Except M915A2

Materials/Parts:

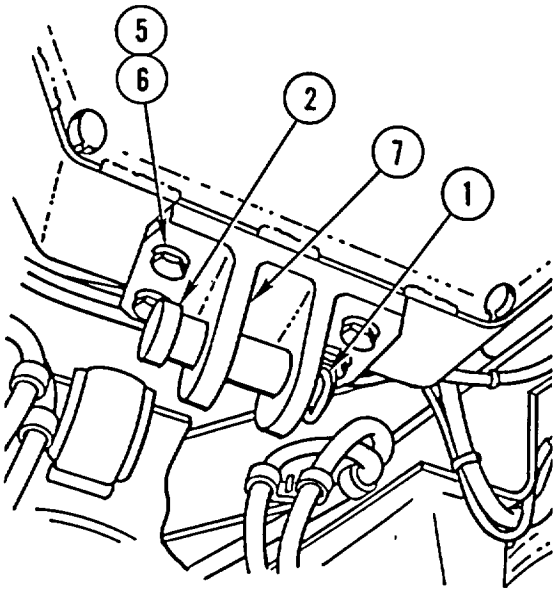
Nut, Lock (8)

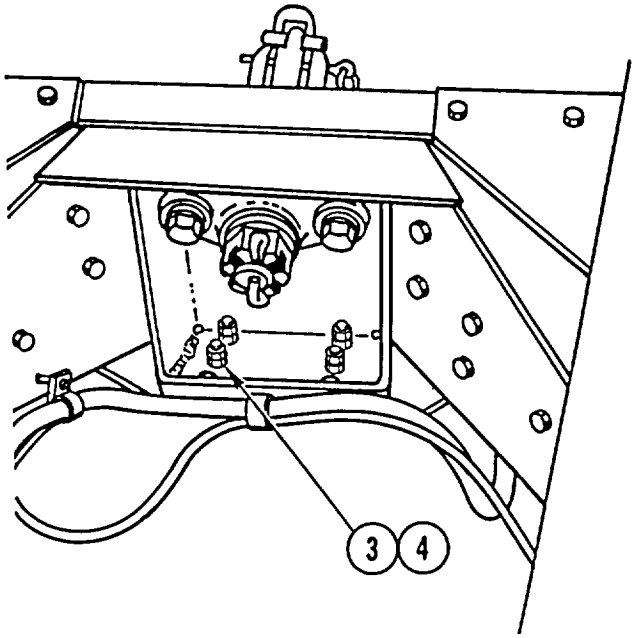
Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

REMOVAL

1. REMOVE SPRING PIN (1) AND PIN (2).
2. REMOVE EIGHT LOCK NUTS (3), FOUR WASHERS (4), FOUR BOLTS (5), FOUR WASHERS (6), AND BRACKET (7). DISCARD LOCK NUTS.





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL BRACKET (7), FOUR WASHERS (6), FOUR BOLTS (5), FOUR WASHERS (4), AND EIGHT NEW LOCK NUTS (3).
2. INSTALL PIN (2) AND SPRING PIN (1).

GRATE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2

Materials/Parts:

Nut, Lock (5)

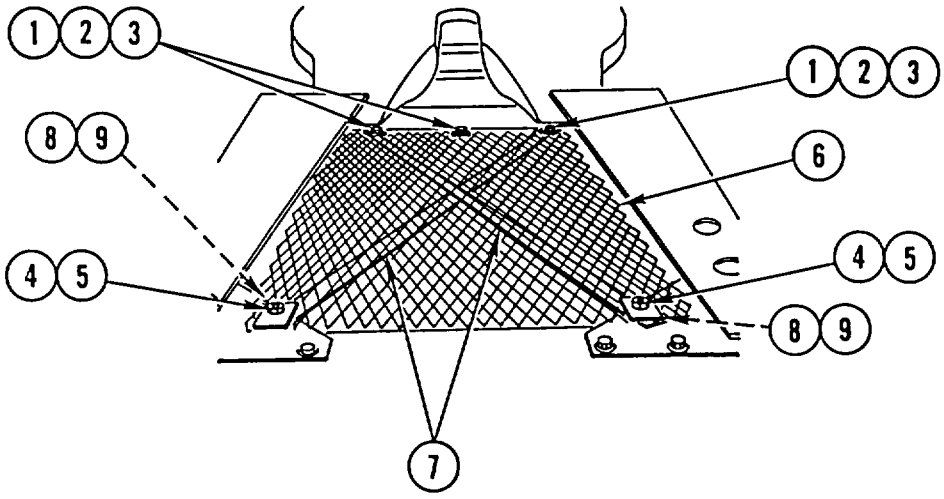
Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Personnel Required: (2)

REMOVAL

1. REMOVE THREE LOCK NUTS (1), THREE SPACERS (2), AND THREE SCREWS (3). DISCARD LOCK NUTS.
2. REMOVE TWO LOCK NUTS (4), TWO SPACERS (5), GRATE (6), AND TWO CROSS BARS (7). DISCARD LOCK NUTS.
3. REMOVE TWO NUTS (8) AND TWO SCREWS (9).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL TWO SCREWS (9) AND TWO NUTS (8).
2. INSTALL TWO CROSS BARS (7), GRATE (6), TWO SPACERS (5), AND TWO NEW LOCK NUTS (4).
3. INSTALL THREE SCREWS (3), THREE SPACERS (2), AND THREE NEW LOCK NUTS (1).

TAILLIGHT BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

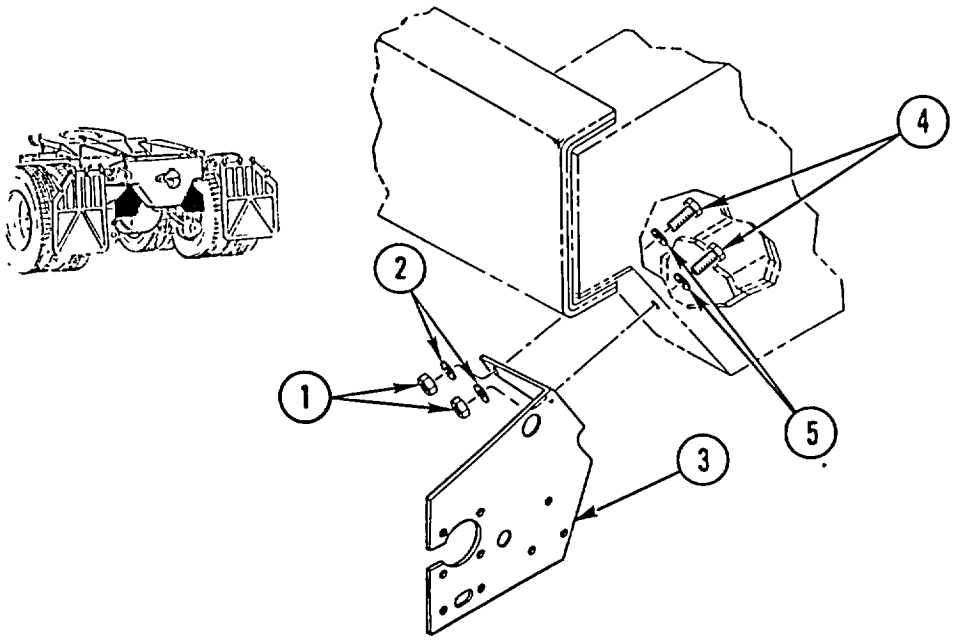
Materials/Parts:

Nut, Lock (2)

Equipment Condition:

Reference	Condition Description
Page 4-272	Trailer Connector Cover Removed
Page 4-216	Rear Blackout Marker Removed
Page 4-220 or 4-223.0	Left Taillight Removed
Page 4-222 or 4-223.0	Right Taillight Removed
Page 4-543	Rear Gladhand Removed

REMOVAL



NOTE

Procedure is the same for both sides of vehicle.

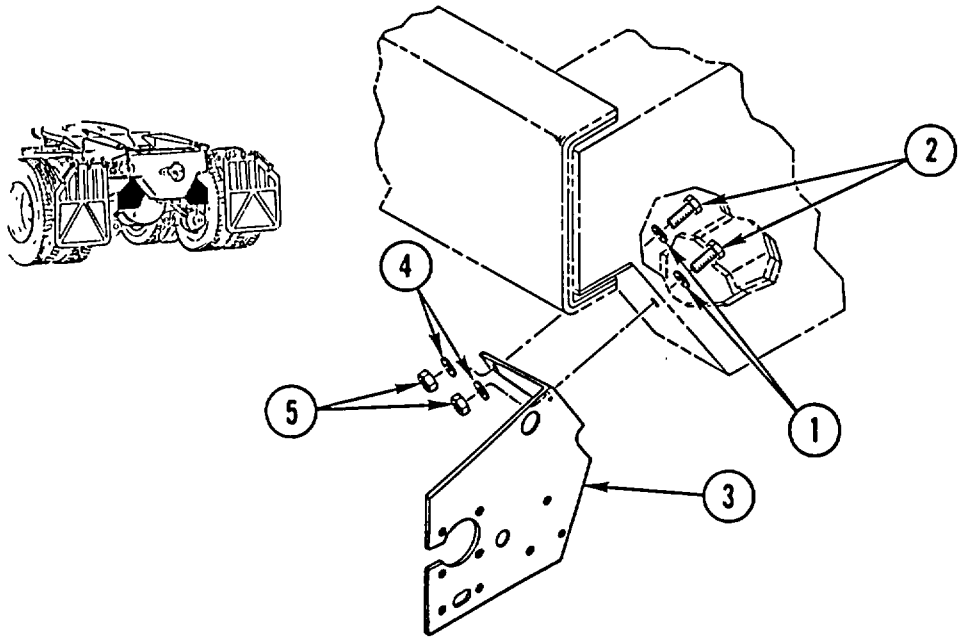
REMOVE TWO LOCK NUTS (1), TWO WASHERS (2), BRACKET (3), TWO BOLTS (4), AND TWO WASHERS (5). DISCARD LOCK NUTS.

TAILLIGHT BRACKET REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



NOTE

Procedure is the same for both sides of vehicle.

INSTALL TWO WASHERS (1), TWO BOLTS (2), BRACKET (3), TWO WASHERS (4), AND TWO NEW LOCK NUTS (5).

NOTE

Follow-on Maintenance:

Install trailer connector cover (page 4-272).
Install rear blackout marker (page 4-216).
Install right taillight (page 4-222 or 4-223.0).
Install rear gladhand (page 4-543).
Install left taillight (page 4-220 or 4-223.0).

LEFT SIDE PLATFORM REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

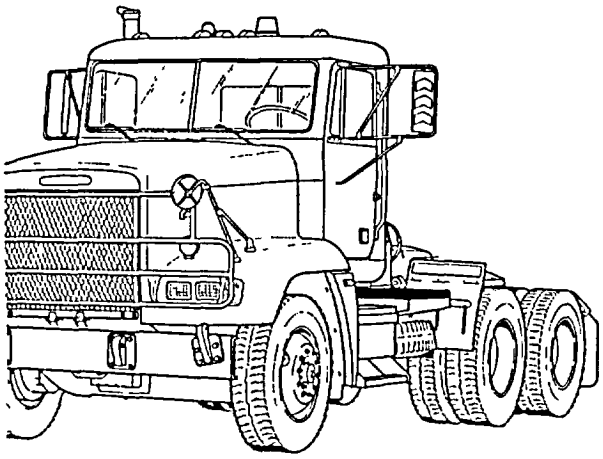
Personnel Required: (2)

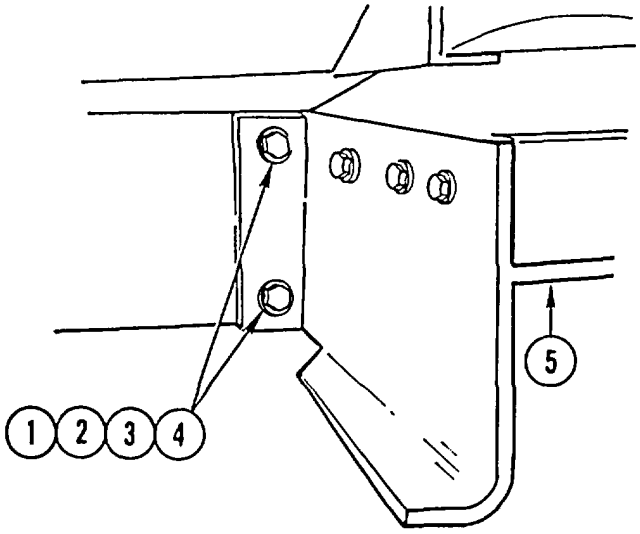
Equipment Condition:

Reference	Condition Description
Page 4-462	Primary II Air Tank Removed

REMOVAL

REMOVE FOUR LOCK NUTS (1), FOUR WASHERS (2), FOUR SCREWS (3), FOUR WASHERS (4), AND LEFT SIDE PLATFORM (5). DISCARD LOCK NUTS.





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

INSTALL LEFT SIDE PLATFORM (5), FOUR WASHERS (4), FOUR SCREWS (3), FOUR WASHERS (2), AND FOUR NEW LOCK NUTS (1).

NOTE

Follow-on Maintenance:

Install primary II air tank (page 4-462).

Section XIV. BODY, CAB, AND HOOD MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the body, cab, hood, and related components. A list of tasks contained in this section is shown below.

Page

Brush Guard Replacement 4-654

Engine Hood Removal and Installation 4-656

Engine Hood Replacement 4-660

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Hood Hardware Replacement 4-671

Hood Mount Replacement 4-674

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Hood Tilt Assist Replacement and Repair 4-680

Seat Replacement 4-682

Seat Assembly Repair (M915A2 and M916A1) 4-684

Seat Assembly Repair (All Except M915A2 and M916A1) 4-695.0

Seat Belt Replacement 4-696

Fender Extension Replacement (M915A2) 4-698

Fender Extension Replacement (All Except M915A2) 4-704

Rear Fender Replacement 4-708

Mud Flap Assembly Replacement
(All Except M917A1 and M917A1 w/MCS) 4-709

Tire Chain Storage Box Replacement (M915A2) 4-710

Tire Chain Storage Box and Mounting Bracket (Left Side) Replacement
(M916A1 and M916A2) 4-712

Tire Chain Storage Box and Mounting Bracket (Right Side) Replacement
(M916A1 and M916A2) 4-717

Personal Gear Storage Box and Mounting Bracket Replacement (M915A2) 4-719

Personal Gear Storage Box and Mounting Bracket Replacement
(M916A1 and M916A2) 4-724

Basic Issue Items (BII) Storage Box and Mounting Bracket Replacement
(M915A2) 4-726

Basic Issue Items (BII) Storage Box and Mounting Bracket Replacement
(M916A1 and M916A2) 4-728
Storage Box Latch Replacement 4-733
Tool Storage Box and Mounting Brackets Replacement
(M917A1 and M917A1 w/MCS) 4-733.0
Rear Platform Replacement 4-734
Floor Mats Replacement 4-735
Cab Liners Replacement (M915A2) 4-736
Cab Liners Replacement (All Except M915A2) 4-738
Head Liners Replacement 4-740
Steering Column Support Bracket Replacement 4-741
Cab Door Adjustment 4-746
Transmission Tunnel Access Cover Replacement (M915A2 and M916A1) 4-752
Transmission Tunnel Access Cover Replacement
(All Except M915A2 and M916A1) 4-756.1

BRUSH GUARD REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:	materials/Parts:	
Tool Kit, SC 5180-90-CL-N26	Nut, Lock (6)	
	Nut, Lock (2)	P/N SR250000 SOH

REMOVAL

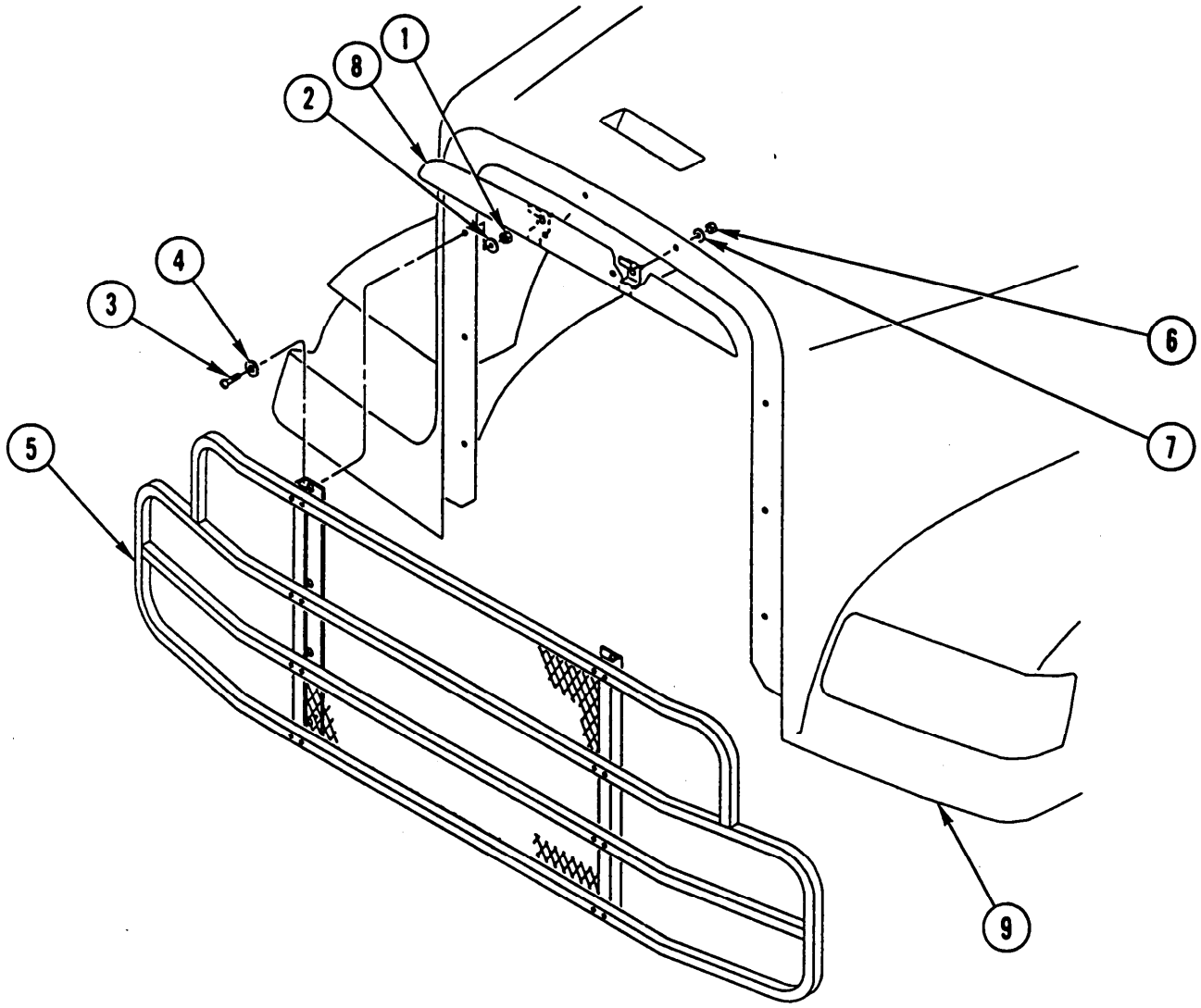
NOTE
Note location of mounting holes used in removal to aid in installation.

1. REMOVE SIX LOCK NUTS (1), SIX WASHERS (2), SIX SCREWS (3), SIX WASHERS (4), AND BRUSH GUARD (5). DISCARD LOCK NUTS.

2. REMOVE TWO LOCK NUTS (6), TWO WASHERS (7), AND TOP PLATE (8) FROM HOOD (9). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL TOP PLATE (8), TWO WASHERS (7), AND TWO NEW LOCK NUTS (6) ON HOOD (9).
2. INSTALL BRUSH GUARD (5), SIX WASHERS (4), SIX SCREWS (3), SIX WASHERS (2), AND SIX NEW LOCK NUTS (1).

ENGINE HOOD REMOVAL AND INSTALLATION

This task covers: a. Removal b. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

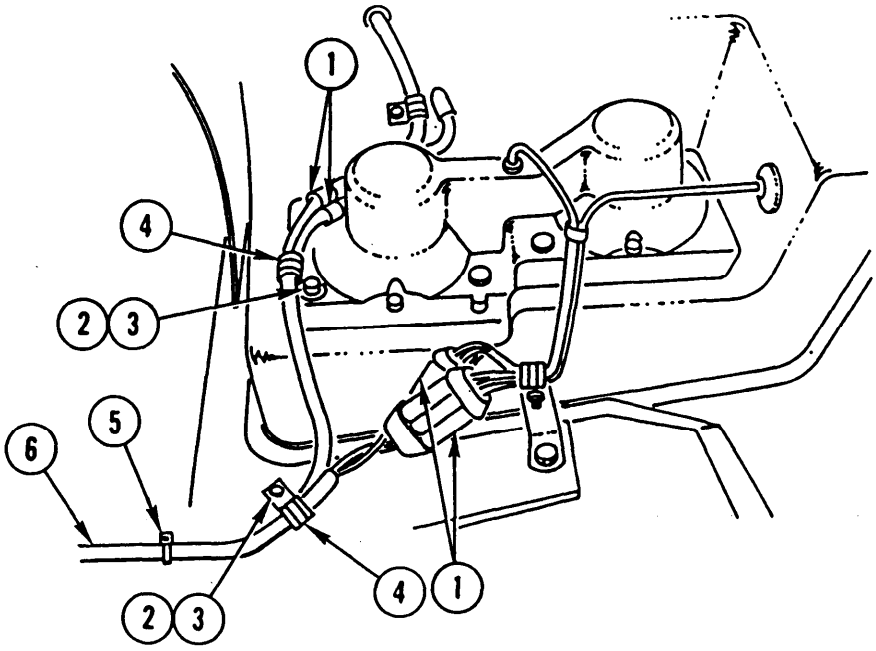
Nut, Lock (2)

Personnel Required: (4)

General Safety Instructions:

WARNING
When removing or installing tilt assist cables, hood must be supported to prevent damage to hood or injury to personnel.

REMOVAL



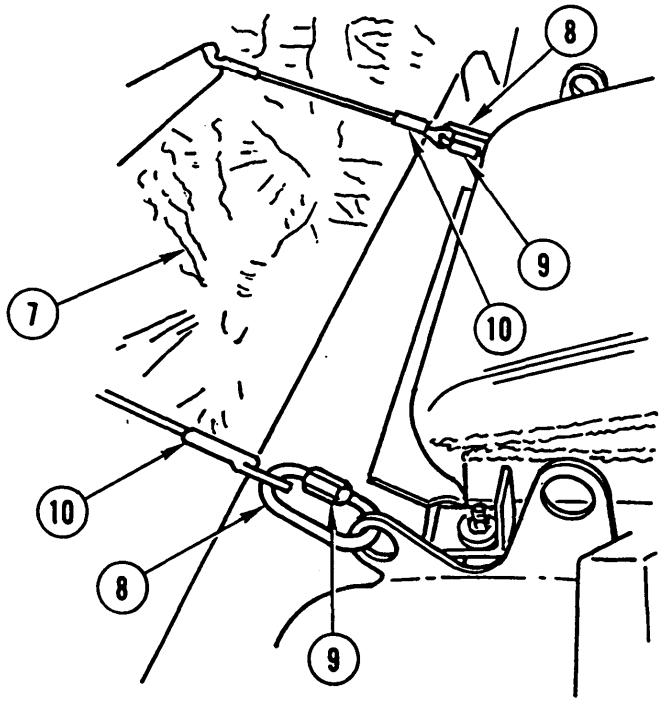
NOTE
Right side shown.

1. DISCONNECT NINE CONNECTORS (1).

NOTE

Quantity of wire ties may vary. Remove as needed.

2. REMOVE FOUR SCREWS (2), TWO WASHERS (3), FOUR CLAMPS (4), AND WIRE TIE(S) (5) AND SET WIRING HARNESS (6) ASIDE. DISCARD WIRE TIE(S).



WARNING

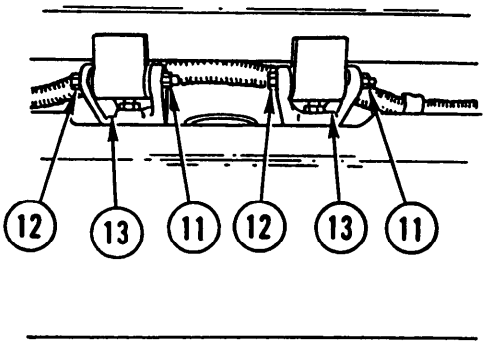
When removing tilt assist cables, hood must be supported to prevent damage to hood or injury to personnel.

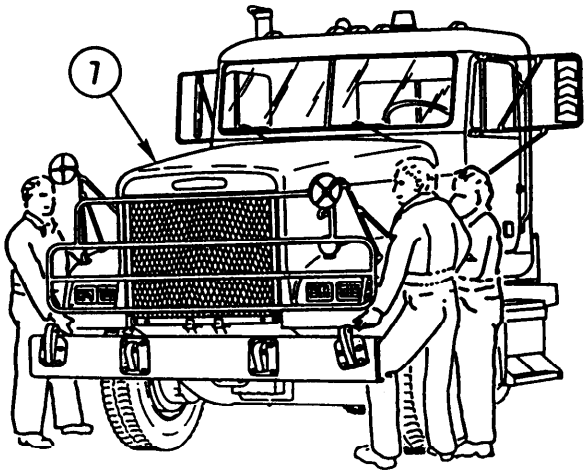
3. SUPPORT CENTER OF HOOD (7).

4. OPEN TWO CHAIN LINKS (8) BY LOOSENING TWO NUTS (9) AND REMOVE TWO TILT ASSIST CABLES (10) FROM CHAIN LINKS (8).

5. CLOSE HOOD (7).

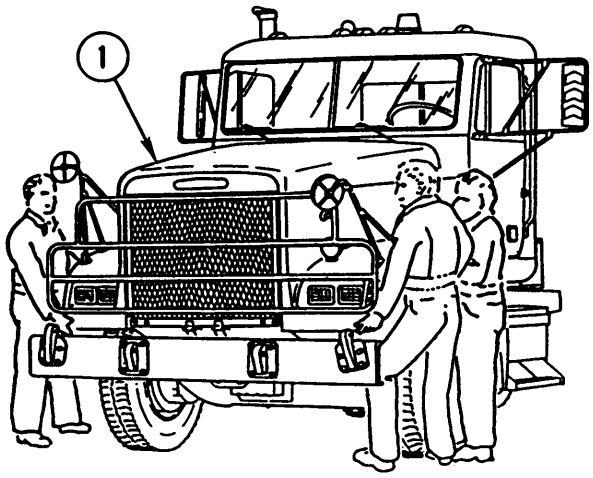
ENGINE HOOD REMOVAL AND INSTALLATION (CONT)

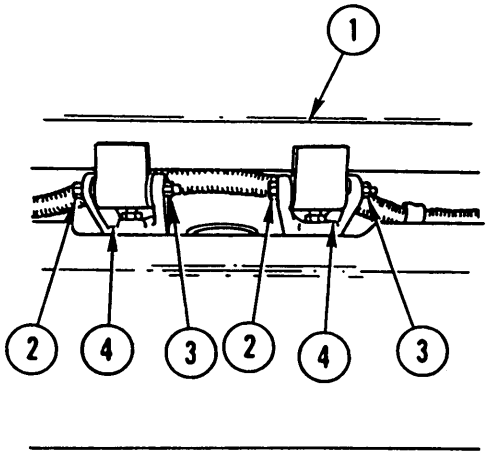




6. REMOVE TWO LOCK NUTS (11) AND TWO SCREWS (12) FROM HINGES (13). DISCARD LOCK NUTS.

7. USING FOUR PERSONNEL, LIFT HOOD (7) APPROXIMATELY 4 IN. AND WALK TOWARD FRONT OF VEHICLE UNTIL HOOD (7) IS CLEAR OF VEHICLE.

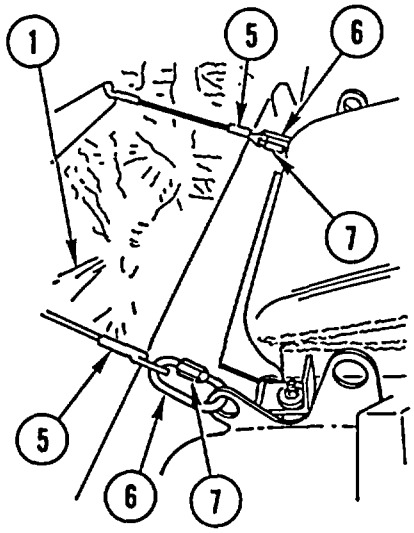




INSTALLATION

1. USING FOUR PERSONNEL, INSTALL HOOD (1) ON VEHICLE.

2. INSTALL TWO SCREWS (2) AND TWO NEW LOCK NUTS (3) IN HINGES (4).

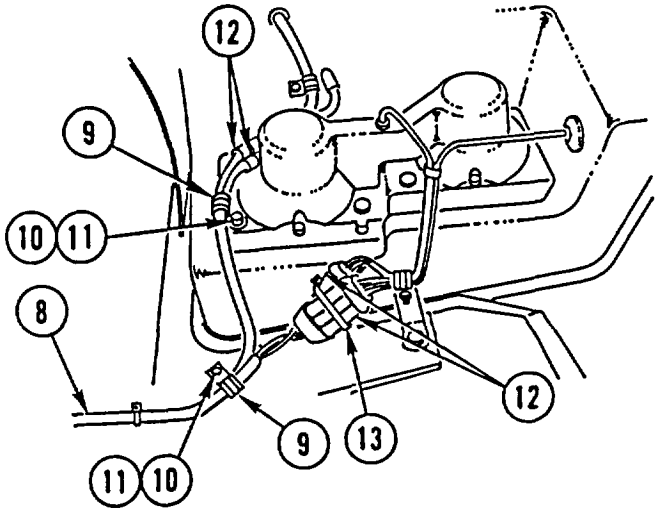


WARNING

When installing tilt assist cables, hood must be supported to prevent damage to hood or injury to personnel.

3. OPEN AND SUPPORT HOOD (1).

4. INSTALL TWO TILT ASSIST CABLES (5) IN TWO CHAIN LINKS (6) AND CLOSE CHAIN LINKS (6) BY TIGHTENING TWO NUTS (7).



5. PROPERLY POSITION WIRING HARNESS (8) AND INSTALL FOUR CLAMPS (9), TWO WASHERS (10), AND FOUR SCREWS (11).

6. CONNECT NINE CONNECTORS (12).

7. INSTALL NEW WIRE TIE(S) (13) AS NECESSARY.

ENGINE HOOD REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4) P/N 23-09336-005

Personnel Required: (4)

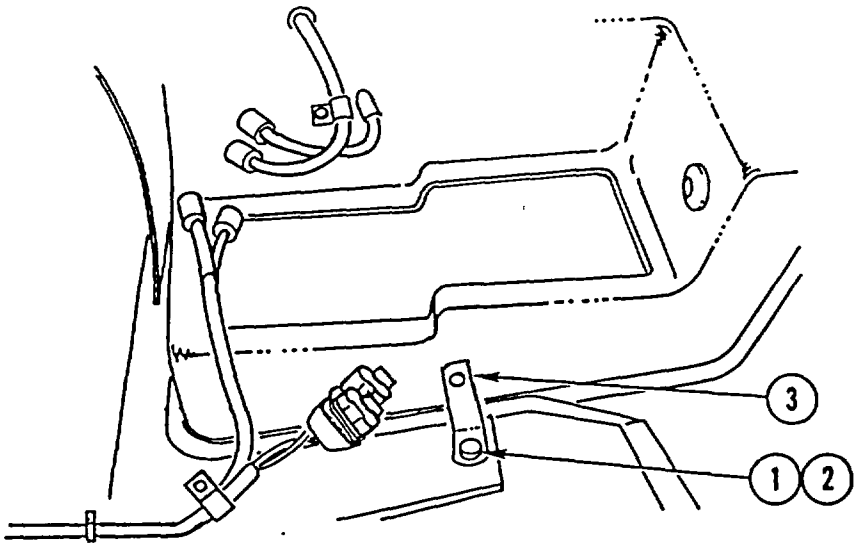
Equipment Condition

Reference	Condition Description
Page 4-280	Headlight Assemblies Removed
Page 4-213.0	Blackout Marker Light Removed (All Except M915A2 and M916A1)

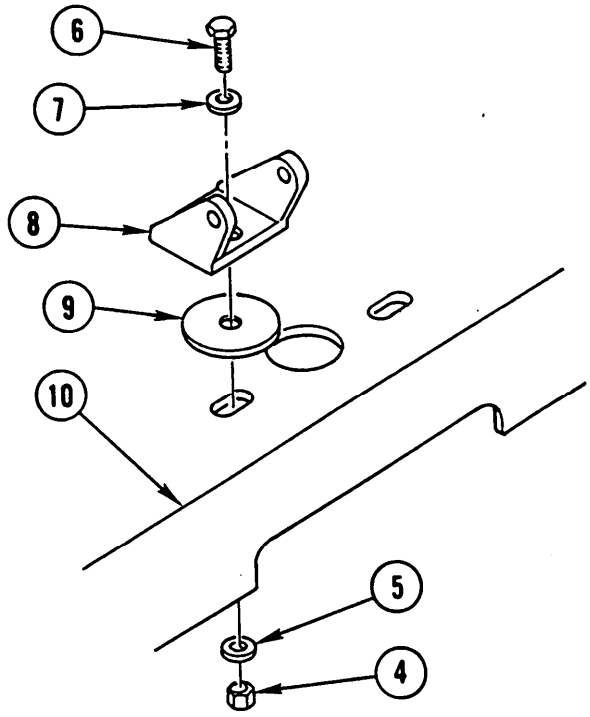
Equipment Condition (Cont):

Reference Condition	Description
Page 4-211	Blackout Drive and Marker Light Removed (M915A2 and M916A1)
Page 4-214	Right Front Blackout Marker Removed (M915A2 and M916A1)
Page 4-780	Spotter Mirrors Removed
Page 4-654	Brush Guard Removed
Page 4-677	Hood Liner Removed

REMOVAL

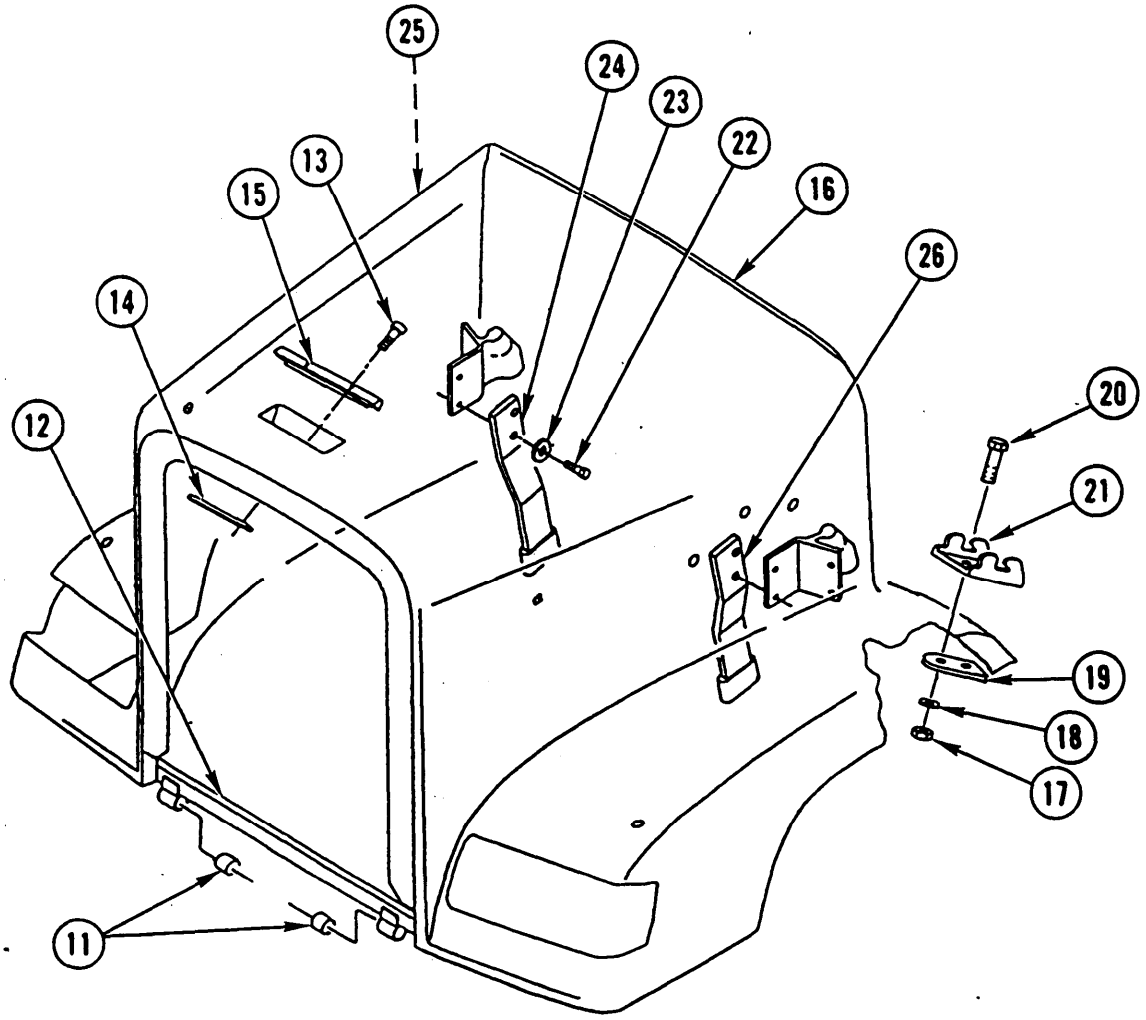


1. REMOVE TWO CAPSCREWS (1), TWO WASHERS (2), AND TWO BRACKETS (3).



2. REMOVE TWO LOCK NUTS (4), TWO WASHERS (5), TWO SCREWS (6), TWO WASHERS (7), TWO HINGES (8), AND TWO SPACERS (9) FROM FRONT CROSSMEMBER (10). DISCARD LOCK NUTS.

ENGINE HOOD REPLACEMENT (CONT)

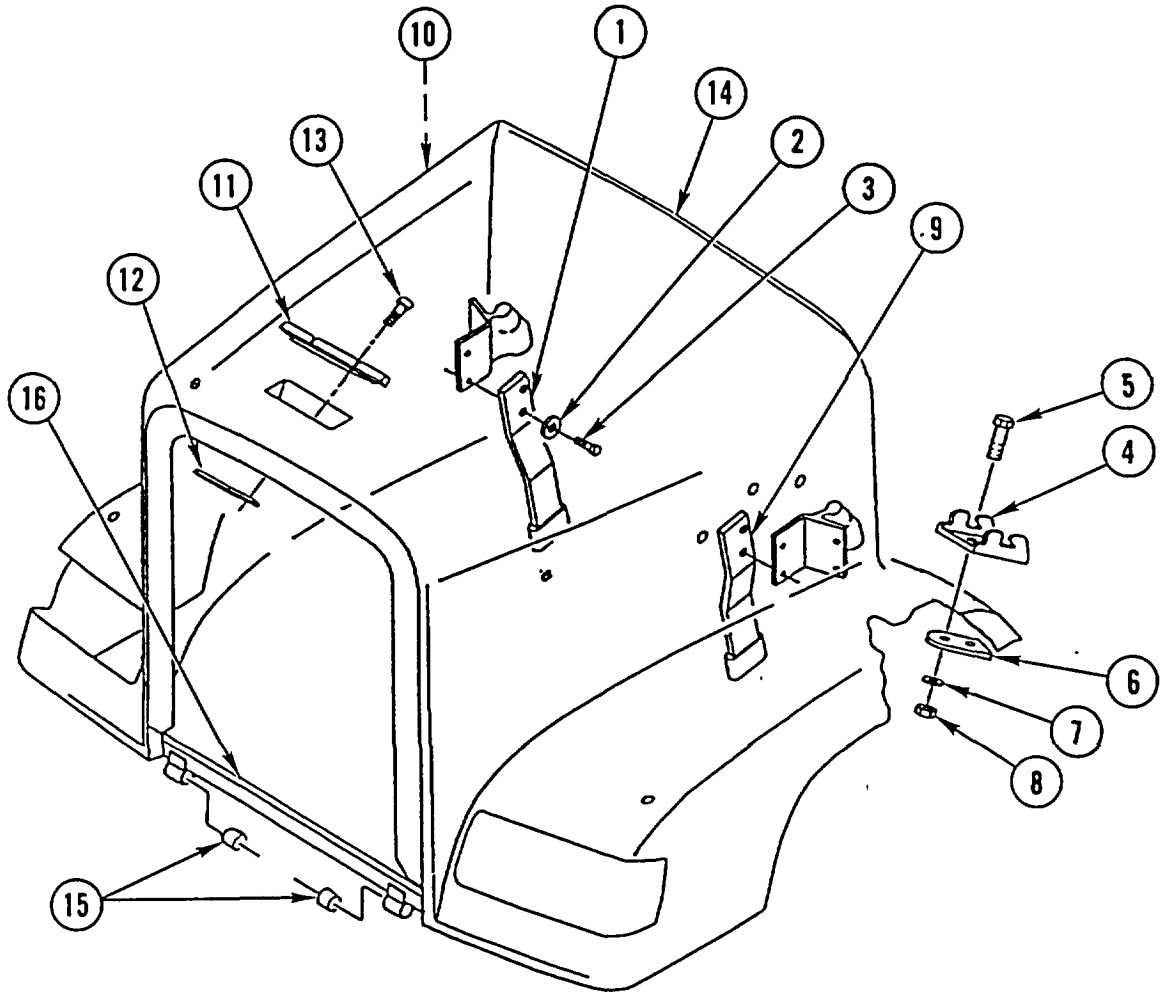


3. REMOVE TWO BUSHINGS (11) FROM CROSSTIE (12):
4. REMOVE TWO SCREWS (13), BACKING PLATE (14), AND HANDLE (15) FROM HOOD (16).
5. REMOVE TWO LOCK NUTS (17), TWO WASHERS (18), BACKING PLATE (19), TWO SCREWS (20), AND LATCH BRACKET (21). DISCARD LOCK NUTS.
6. REMOVE IWO SCREWS (22), TWO WASHERS (23), AND HOOD GUIDE (24).
7. REPEAT STEPS 5 AND 6 FOR OPPOSITE SIDE LATCH BRACKET (25) AND HOOD GUIDE (26).

CLEANING/INSPECTION

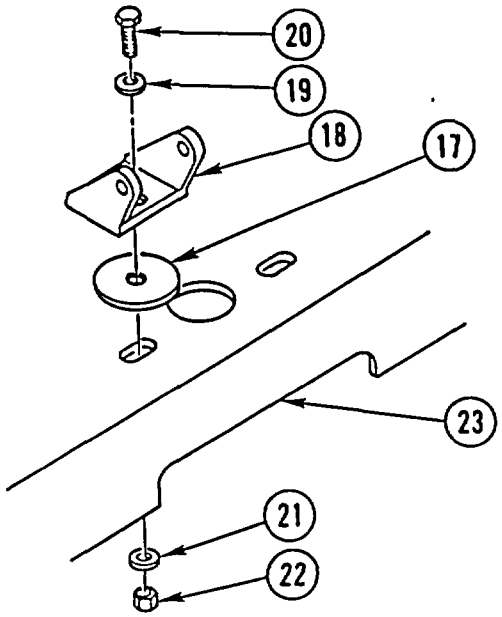
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

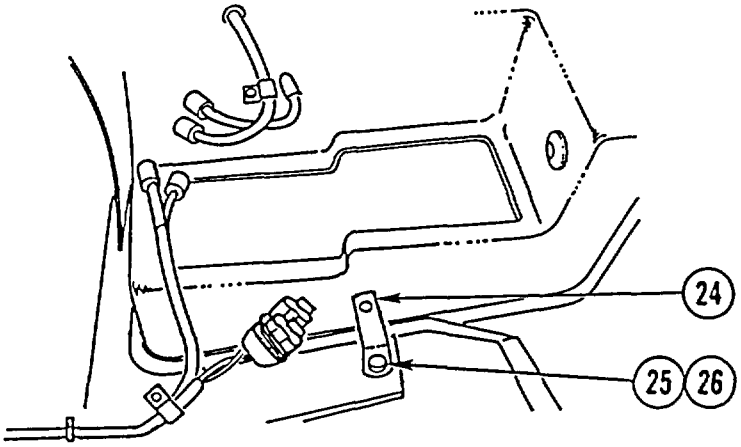


1. INSTALL HOOD GUIDE (1), TWO WASHERS (2), AND TWO SCREWS (3).
2. INSTALL LATCH BRACKET (4), TWO SCREWS (5), BACKING PLATE (6), TWO WASHERS (7), AND TWO NEW LOCK NUTS (8).
3. REPEAT STEPS 1 AND 2 FOR OPPOSITE SIDE HOOD GUIDE (9) AND LATCH BRACKET (10).
4. INSTALL HANDLE (11), BACKING PLATE (12), AND TWO SCREWS (13) IN HOOD (14).
5. INSTALL TWO BUSHINGS (15) IN CROSSTIE (16).

ENGINE HOOD REPLACEMENT (CONT)



6. INSTALL TWO SPACERS (17), TWO HINGES (18), TWO WASHERS (19), TWO SCREWS (20), TWO WASHERS (21), AND TWO NEW LOCK NUTS (22) ON FRONT CROSSMEMBER (23).



7. INSTALL TWO BRACKETS (24), TWO WASHERS (25), AND TWO CAPSCREWS (26).

NOTE
Follow-on Maintenance:

Install headlight assemblies (page 4-280).
Install blackout marker light (all except M915A2 and M916A1)(page 4-213.0).
Install blackout drive and marker light (M915A2 and M916A1) (page 4-211).
Install right front blackout marker (M915A2 and M916A1) (page 4-214).
Install spotter mirrors (page 4-780).
Install brush guard (page 4-654).
Adjust hood (page 4-665).
Install hood liner (page 4-677).

HOOD ADJUSTMENT

This task covers: Adjustment

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (5)

Shim P/N 17-10320-001

Personnel Required: (2)

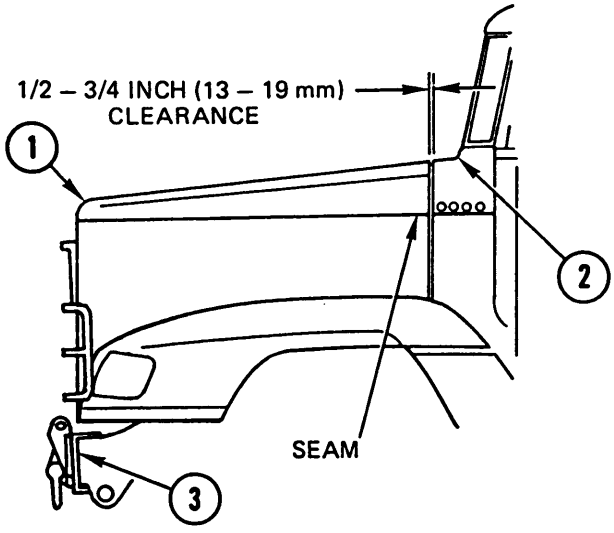
References:

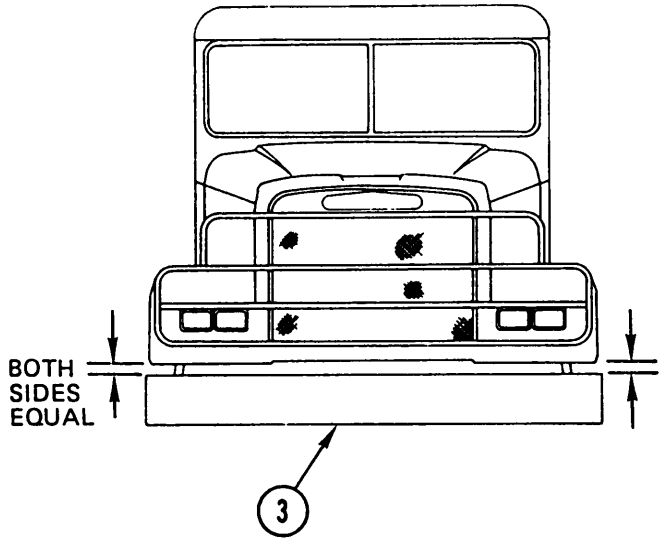
TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Vehicle Parked on Flat Level Surface

ADJUSTMENT



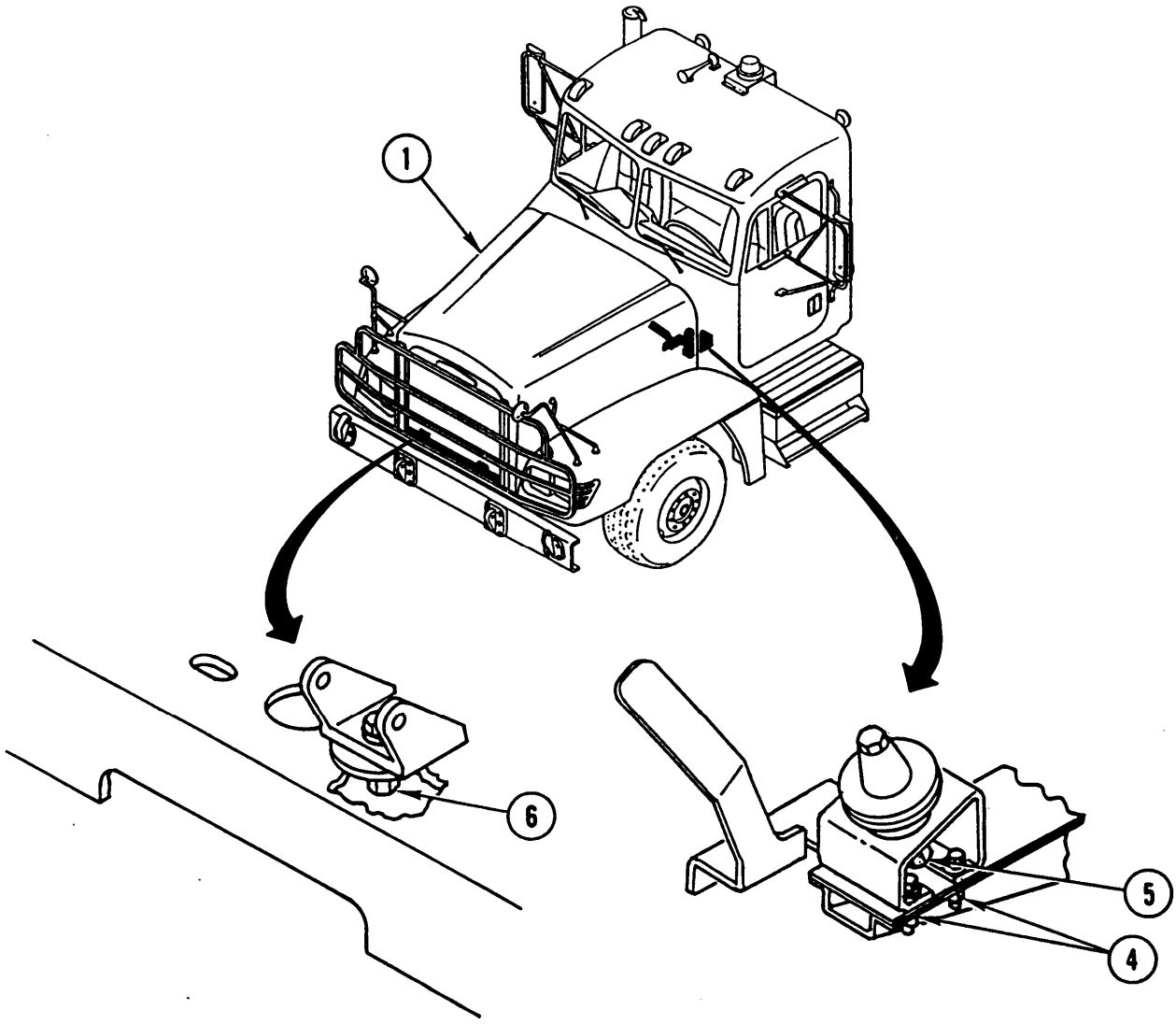


NOTE

Steps 1 thru 4 are to determine if hood adjustment is necessary.

1. MEASURE AND NOTE GAP BETWEEN REAR EDGE OF HOOD (1) AND COWL (2) AT SEAM AND 8 IN. (203 mm) BELOW SEAM. GAP SHOULD BE 1/2-3/4 IN. (13-19 mm).
2. CHECK THAT FRONT OF HOOD (1) IS CENTERED WITH BUMPER (3). CHECK THAT SPACE BETWEEN TOP EDGE OF BUMPER (3) AND LOWER EDGE OF HOOD (1) IS EQUAL AT BOTH ENDS.
3. MAKE SURE HOOD (1) IS NOT TOUCHING ANY COMPONENTS ATTACHED TO FRAME.
4. IF ANY COMPONENTS ARE FOUND TO BE TOUCHING HOOD (1), IDENTIFY AND CORRECT PROBLEM AND REPEAT STEPS 1 AND 2.
5. TILT HOOD (1) TO FULLY OPEN POSITION.

HOOD ADJUSTMENT (CONT)



NOTE

Repeat steps 6 and 7 for both sides of vehicle.

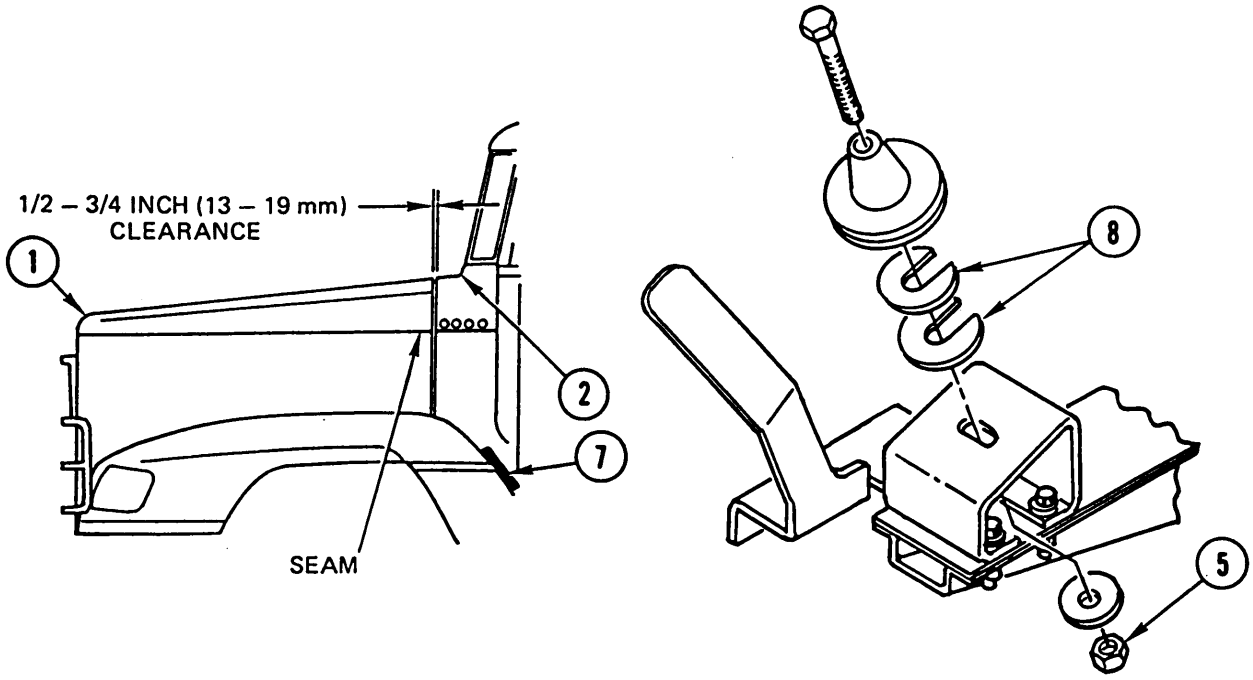
6. LOOSEN FOUR NUTS (4) JUST ENOUGH TO ALLOW HOOD (1) TO SLIDE FORWARD AND BACKWARD FOR ADJUSTMENT.

7. LOOSEN NUT (5) JUST ENOUGH TO ALLOW HOOD (1) TO SLIDE SIDE-TO-SIDE FOR ADJUSTMENT.

NOTE

- In step 8, nut must be kept tight enough for brackets to remain stationary despite pulling force of hood tilt assist springs.
- Repeat step 8 for both nuts.

8. LOOSEN NUT (6) JUST ENOUGH TO ALLOW HOOD (1) TO SLIDE FOR ADJUSTMENT.



NOTE

Prior to performing step 9, make sure hood is centered so no components will touch under hood when hood is lowered.

9. CLOSE HOOD (1) AND FASTEN TWO HOOD LATCHES (7).

10. MEASURE GAP BETWEEN HOOD (1) AND COWL (2) 8 IN. (203 mm) BELOW SEAM ON BOTH SIDES. GAP SHOULD BE 1/2-3/4 IN. (13-19 mm). IF GAP IS INCORRECT, MOVE HOOD (1) FORWARD OR BACKWARD UNTIL GAP IS CORRECT ON BOTH SIDES.

11. CHECK SEAMS ON BOTH SIDES OF HOOD (1) AND COWL (2) FOR ALINEMENT. IF SEAMS ARE NOT ALINED, NOTE DISTANCE BETWEEN SEAMS.

NOTE

During step 12, be careful not to disturb adjustment from step 10.

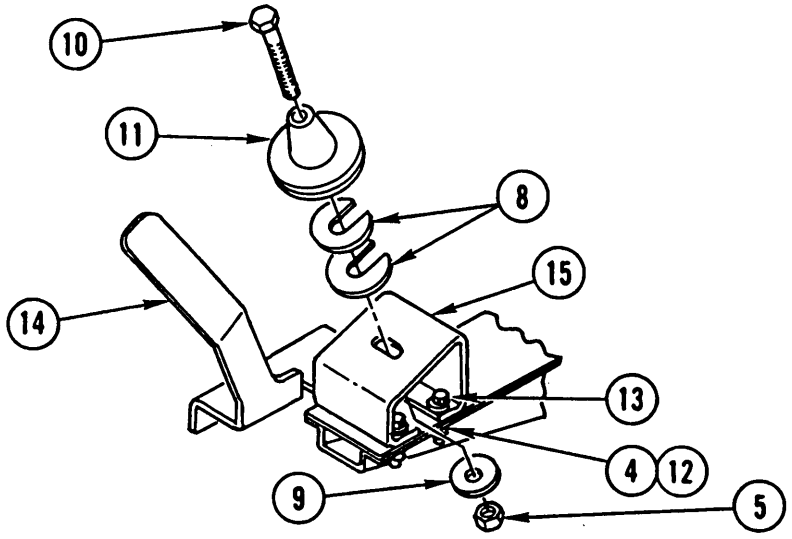
12. TILT HOOD (1) TO FULLY OPEN POSITION.

13. LOOSEN NUT (5) ENOUGH TO ALLOW INSTALLATION OR REMOVAL OF SHIMS (8), AS NECESSARY.

14. INSTALL OR REMOVE ONLY ENOUGH SHIMS (8) TO EITHER RAISE OR LOWER HOOD (1) TO ALINE SEAMS.

15. CLOSE HOOD (1) AND REPEAT STEPS 11 THRU 14 UNTIL SEAM IS ALINED.

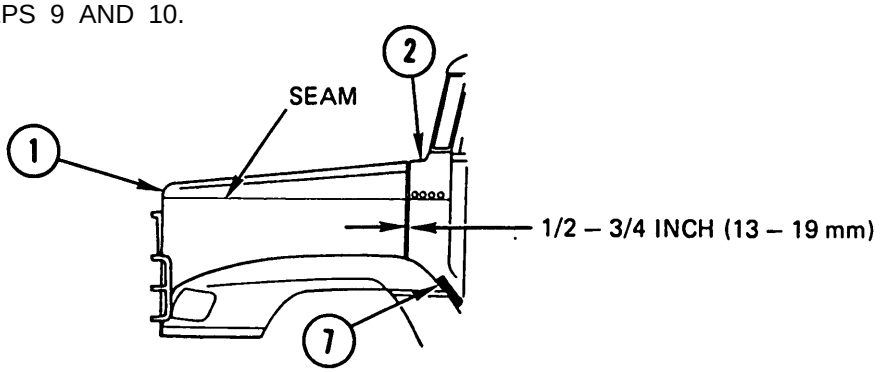
HOOD ADJUSTMENT (CONT)



NOTE

Perform steps 16 thru 24 only if all shims have been removed and seam is still not in alinement.

16. REMOVE LOCK NUT (5), WASHER (9), BOLT (10), AND LOCATOR (11). DISCARD LOCK NUT.
17. REMOVE FOUR LOCK NUTS (4), FOUR WASHERS (12), AND FOUR SCREWS (13). DISCARD LOCK NUTS.
18. REMOVE HOOD GUIDE (14) FROM UNDER LOCATOR BRACKET (15). INSTALL HOOD GUIDE (14) ON TOP OF LOCATOR BRACKET (15).
19. INSTALL FOUR SCREWS (13), FOUR WASHERS (12), AND FOUR NEW LOCK NUTS (4) JUST TIGHT ENOUGH TO ALLOW FORWARD OR BACKWARD ADJUSTMENT.
20. INSTALL LOCATOR (11), BOLT (10), WASHER (9), AND NEW LOCK NUT (5). TIGHTEN LOCK NUT (5) JUST TIGHT ENOUGH TO ALLOW FOR INSTALLATION OF SHIMS (8).
21. REPEAT STEPS 12 THRU 15 UNTIL SEAM ALINEMENT IS ATTAINED.
22. TIGHTEN LOCK NUT (5) JUST ENOUGH TO ALLOW SIDE-TO-SIDE MOVEMENT FOR ADJUSTMENT.
23. REPEAT STEPS 13 THRU 22 FOR OPPOSITE SIDE, IF NECESSARY.
24. REPEAT STEPS 9 AND 10.

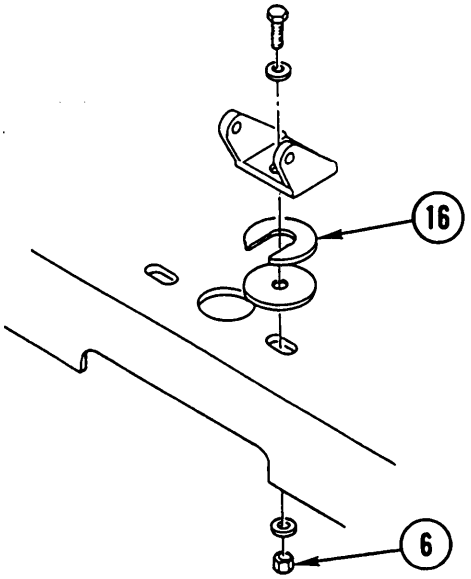


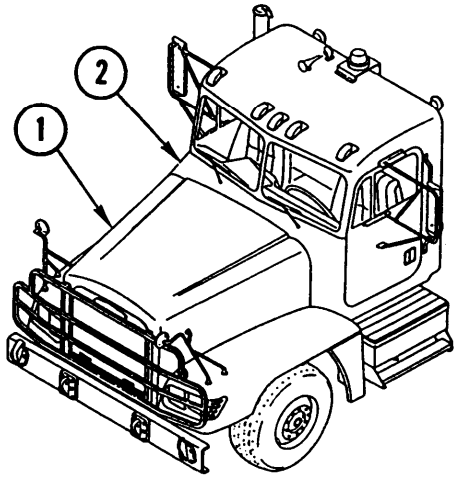
NOTE

Perform step 25 only if required.

25. CLOSE HOOD (1) AND FASTEN TWO HOOD LATCHES (7).

26. MEASURE AND NOTE GAP BETWEEN REAR EDGE OF HOOD (1) AND COWL (2) 1 IN. (25.4 mm) BELOW SEAM AND 12 IN. (305 mm) BELOW SEAM. GAP SHOULD BE 1/2-3/4 IN. (13-19 mm).





NOTE

- Perform steps 27 thru 29 if gap is not correct.
- Repeat step 27 for both nuts.

27. LOOSEN NUT (6) TO ALLOW FOR INSTALLATION OR REMOVAL OF SHIMS (16).

NOTE

During step 28, amount of shims must be equal under both hood mounting brackets. Do not use more than 3/4 in. (19 mm) of shims.

28. USING PRY BAR, RAISE FRONT OF HOOD (1) ENOUGH TO INSERT OR REMOVE SHIMS (16) AS NEEDED TO MAKE GAP BETWEEN HOOD (1) AND COWL (2) EQUAL, AS MEASURED IN STEP 26.

29. REPEAT STEP 26.

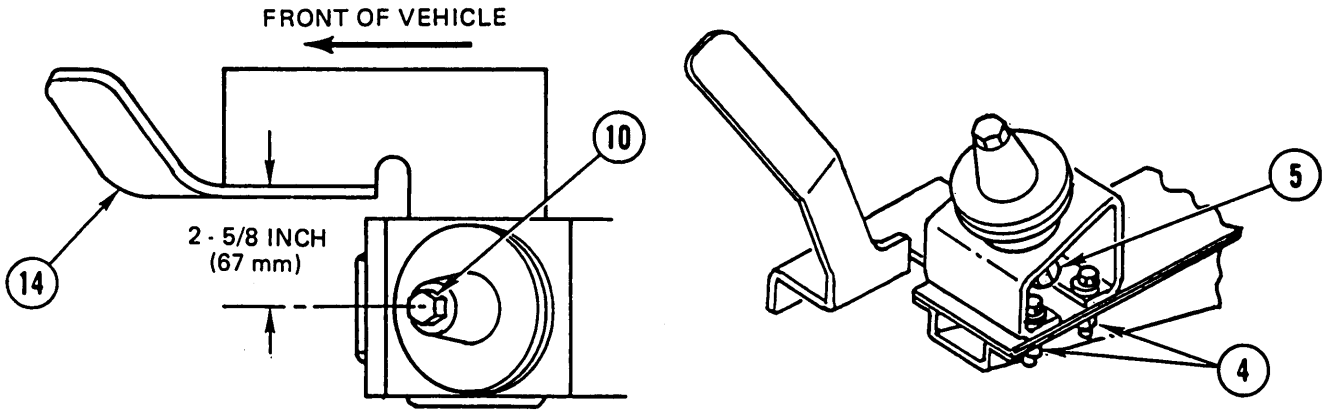
30. TIGHTEN TWO NUTS (6) TO 85 LB-FT (115 N.m).

NOTE

During step 31, be extremely careful to prevent movement of locator brackets.

31. CAREFULLY TILT HOOD (1) TO FULLY OPEN POSITION.

HOOD ADJUSTMENT (CONT)



32. MEASURE DISTANCE BETWEEN CENTERLINE OF BOLT (10) AND OUTBOARD FACE OF HOOD GUIDE (14). DISTANCE MUST BE 2-5/8 IN. (67 mm). IF NECESSARY, MOVE HOOD GUIDE (14) TO OBTAIN CORRECT MEASUREMENT.

33. TIGHTEN FOUR NUTS (4) TO 178 LB-IN. (20 N.m).

34. TIGHTEN NUT (5) TO 70 LB-FT (95 N.m).

35. REPEAT STEPS 32 THRU 34 FOR OPPOSITE SIDE.

HOOD HARDWARE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

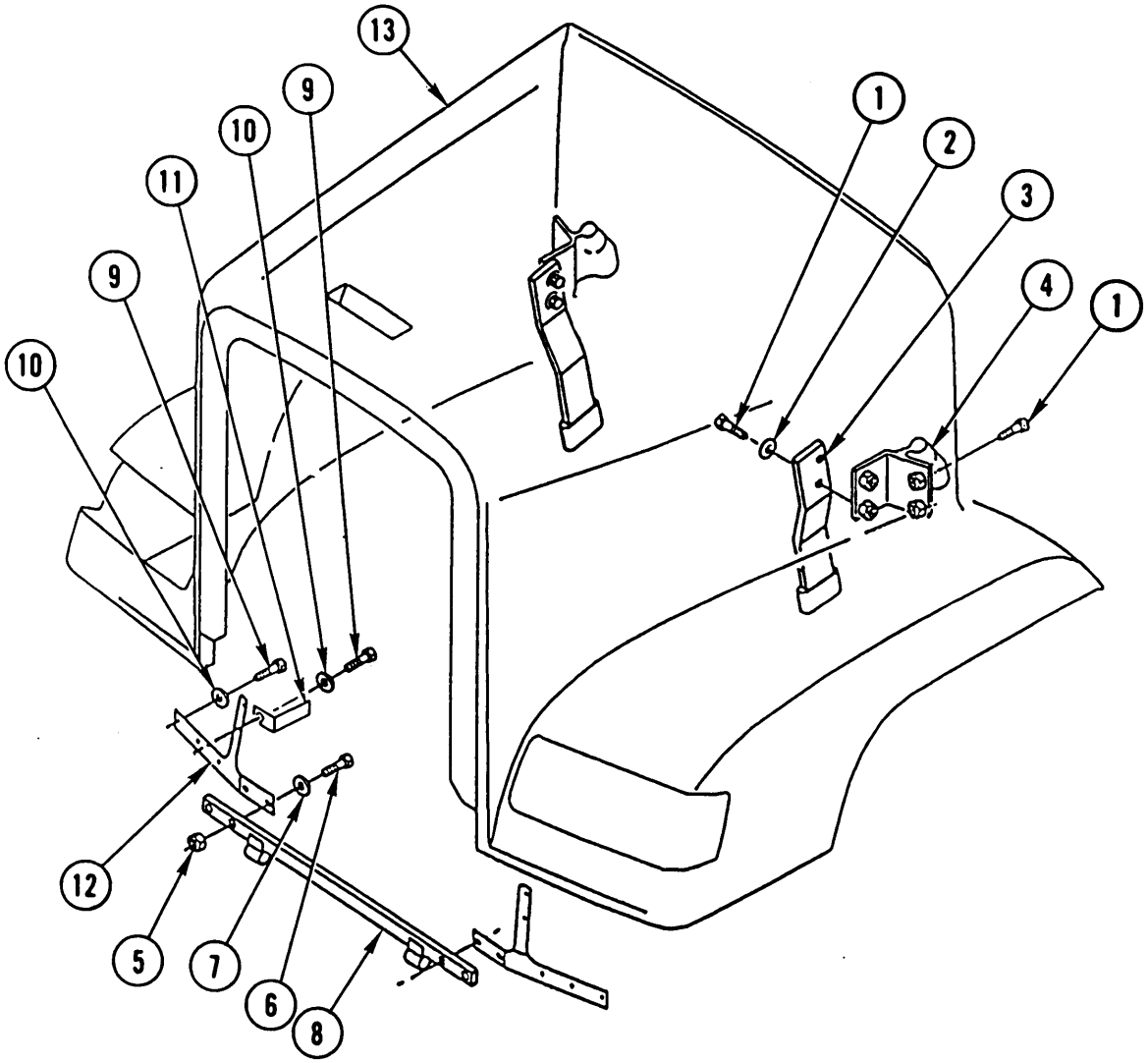
Equipment Condition:

Reference	Condition Description
Page 4-660	Hood Removed

HOOD HARDWARE REPLACEMENT (CONT)

REMOVAL

1. REMOVE FOUR SCREWS (1), TWO WASHERS (2), HOOD GUIDE (3), AND MOUNT (4).
2. REPEAT STEP 1 FOR OPPOSITE HOOD MOUNT.
3. REMOVE FOUR LOCK NUTS (5), FOUR SCREWS (6), FOUR WASHERS (7), AND CROSSTIE (8). DISCARD LOCK NUTS.
4. REMOVE FOUR SCREWS (9), FOUR WASHERS (10), BRACKET (11), AND CROSSTIE PLATE (12) FROM HOOD (13).
5. REPEAT STEP 4 FOR OPPOSITE CROSSTIE PLATE.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL CROSSTIE PLATE (12), BRACKET (11), FOUR WASHERS (10), AND FOUR SCREWS (9).
2. REPEAT STEP 1 FOR OPPOSITE CROSSTIE PLATE.
3. INSTALL CROSSTIE (8), FOUR WASHERS (7), FOUR SCREWS (6), AND FOUR NEW LOCK NUTS (5).
4. INSTALL MOUNT (4), HOOD GUIDE (3), TWO WASHERS (2), AND FOUR SCREWS (1) ON HOOD (13).
5. REPEAT STEP 4 FOR OPPOSITE HOOD MOUNT.

NOTE

Follow-on Maintenance:
Install hood (page 4-660).

HOOD MOUNT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut , Lock

Nut, Lock (2)

REMOVAL

NOTE

Procedure is the same for both sides.

1. REMOVE LOCK NUT (1), WASHER (2), CAPSCREW (3), LOCATOR (4), AND THREE SPACERS (5) FROM MOUNTING BRACKET (6). DISCARD LOCK NUT.
2. REMOVE FOUR LOCK NUTS (7), FOUR WASHERS (8), FOUR CAPSCREWS (9), MOUNTING BRACKET (6), AND HOOD GUIDE (10). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE
Procedure is the same for both sides.

1. INSTALL HOOD GUIDE (10), MOUNTING BRACKET (6), FOUR CAPSCREWS (9), FOUR WASHERS (8), AND FOUR NEW LOCK NUTS (7).

2. INSTALL THREE SPACERS (5), LOCATOR (4), CAPSCREW (3), WASHER (2), AND NEW LOCK NUT (1) ON MOUNTING BRACKET (6).

NOTE
Follow-on Maintenance:

Adjust hood (page 4-665).

HOOD LATCH REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)P/N 23-09336-006

REMOVAL

NOTE
Procedure is the same for both sides.

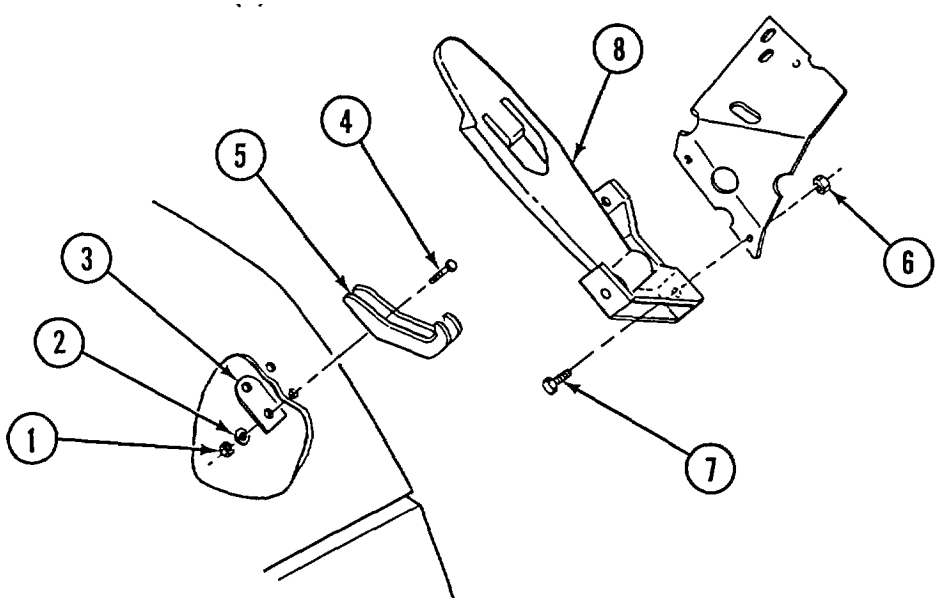
1. REMOVE TWO LOCK NUTS (1), TWO WASHERS (2), BACKING PLATE (3), TWO SCREWS (4) AND HOOD CATCH (5). DISCARD LOCK NUTS.
2. REMOVE TWO LOCK NUTS (6), TWO SCREWS (7) AND HOOD LATCH (8). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL HOOD LATCH (8), TWO SCREWS (7) AND TWO NEW LOCK NUTS (6).
2. INSTALL HOOD CATCH (5), TWO SCREWS (4), BACKING PLATE (3), TWO WASHERS (2) AND TWO NEW LOCK NUTS (1).



HOOD LINER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Flat (10)

Screw, Self-Tapping,
1/4 x 20 x 3/4 in. (6)

Screw,
1/4 x 20 x 1 in. (10)

Nut, Lock (26)

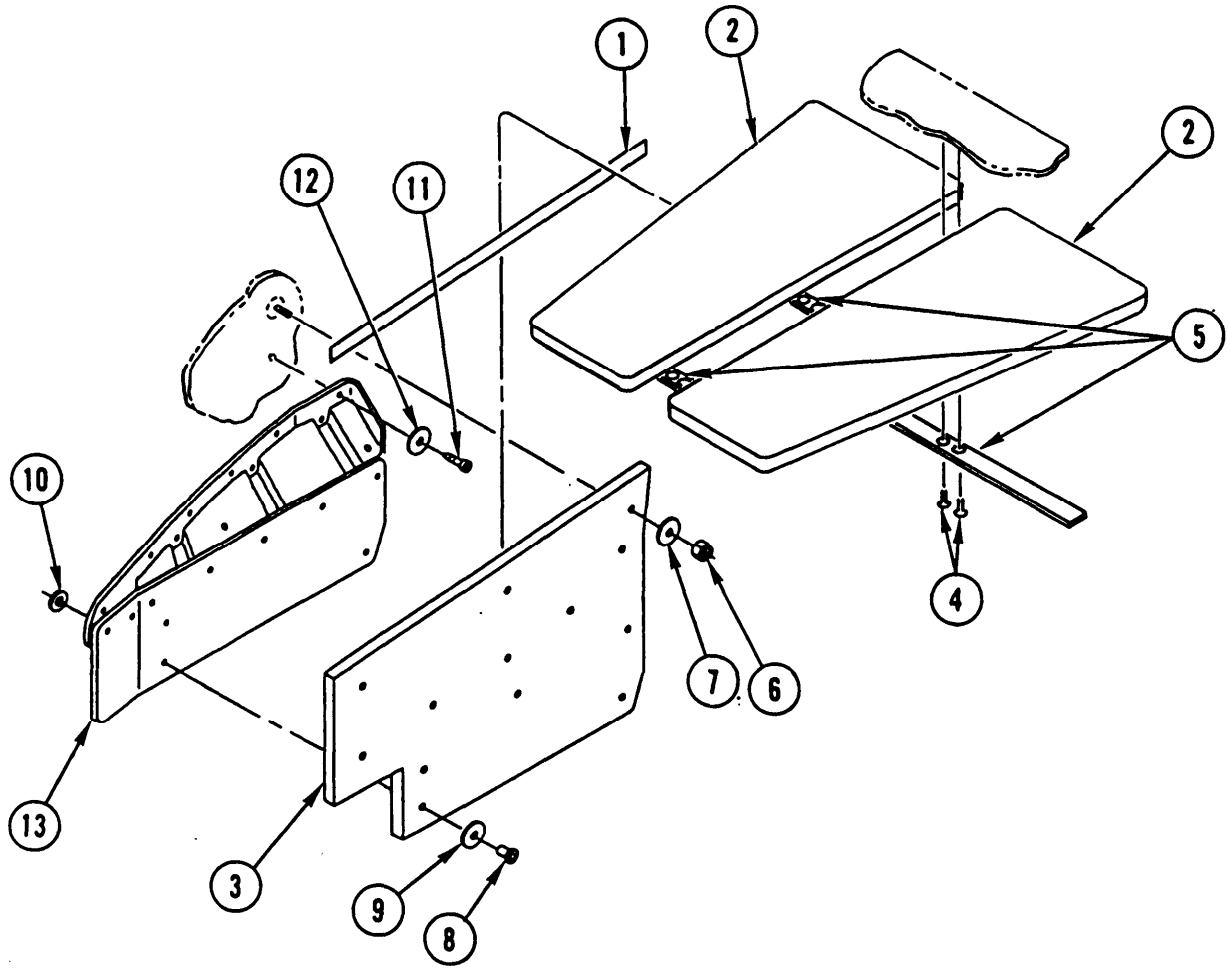
Washer, Body (10)	P/N 2332
Tape, Double-Sided	Appendix C, Item 29
Tape, Aluminum	Appendix C, Item 27

Equipment Condition:

Reference	Condition Description
Page 4-660	Hood Removed

HOOD LINER REPLACEMENT (CONT)

REMOVAL

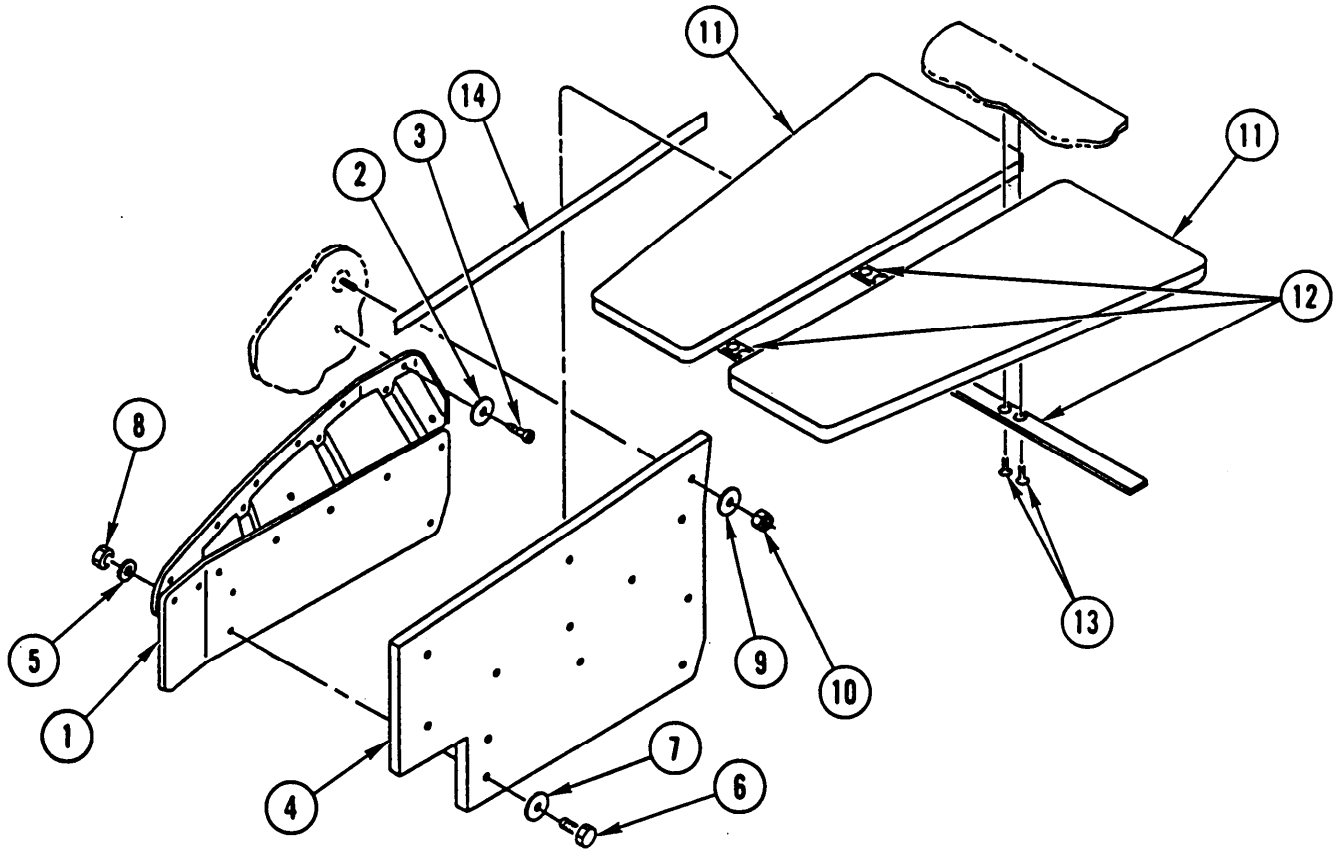


1. CUT OR REMOVE TAPE (1) BETWEEN TWO TOP LINERS (2) AND TWO SIDE LINERS (3).
2. REMOVE SIX RIVETS (4), THREE SUPPORT STRAPS (5), AND TWO TOP LINERS (2). DISCARD RIVETS.
3. REMOVE EIGHT LOCK NUTS (6), EIGHT WASHERS (7). FIVE RIVETS (8), FIVE WASHERS (9), FIVE BACKINGS (10), AND SIDE LINER (3). DISCARD LOCK NUTS, WASHERS (9), RIVETS, AND BACKINGS.
4. REMOVE 10 SCREWS (11), 10 WASHERS (12), AND INNER FENDER ASSEMBLY (13).
5. REPEAT STEPS 3 AND 4 FOR OPPOSITE LINER.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL INNER FENDER ASSEMBLY (1), 10 WASHERS (2), AND 10 SCREWS (3).

NOTE

Use double-sided adhesive tape to hold liners in place.

2. INSTALL SIDE LINER (4), FIVE BODY WASHERS (5), FIVE NEW SCREWS (6), FIVE NEW FLAT WASHERS (7), AND FIVE NEW LOCK NUTS (8).
3. INSTALL EIGHT WASHERS (9) AND EIGHT NEW LOCK NUTS (10).
4. REPEAT STEPS 1 THRU 3 FOR OPPOSITE LINER.
5. INSTALL TWO TOP LINERS (11), THREE SUPPORT STRAPS (12), AND SIX NEW SELF-TAPPING SCREWS (13).
6. INSTALL ALUMINUM TAPE (14) ON EACH SEAM BETWEEN TWO TOP LINERS (11) AND TWO SIDE LINERS (4).

NOTE

Follow-on Maintenance:

Install hood (page 4-660).

HOOD TILT ASSIST REPLACEMENT AND REPAIR

This task covers: a. Removal b. Disassembly c. Cleaning/Inspection d. Assembly e. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (3)

Nut, Lock **(2)**

REMOVAL

NOTE

Make sure support is padded and is as long and wide as front of hood.

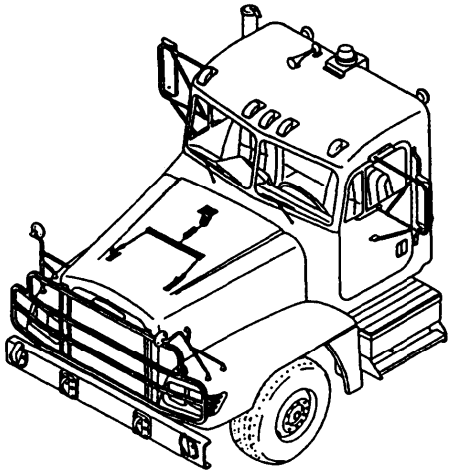
1. RAISE HOOD AND PLACE SUITABLE SUPPORT BETWEEN HOOD AND GROUND.
2. REMOVE TWO CHAIN LINKS (1) FROM BETWEEN TWO RADIATOR BRACKETS (2) AND TILT ASSIST ASSEMBLY (3).
3. REMOVE FOUR SCREWS (4), FOUR WASHERS (5), AND TILT ASSIST ASSEMBLY (3) FROM HOOD.

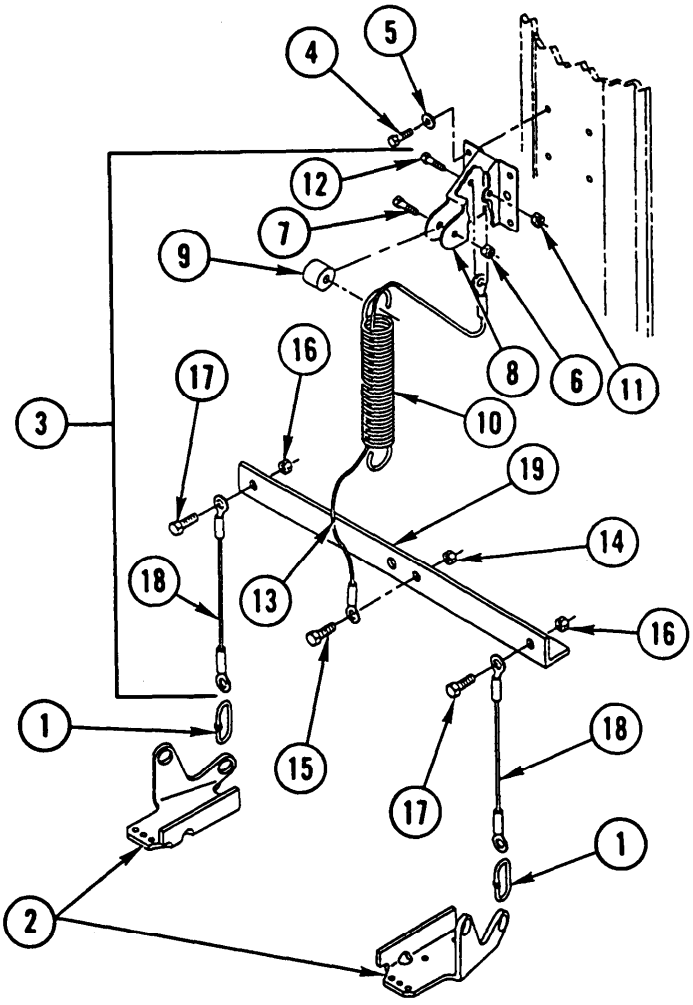
DISASSEMBLY

1. REMOVE LOCK NUT (6), SCREW (7), BRACKET (8), AND SPACER (9) FROM SPRING (10). DISCARD LOCK NUT.
2. REMOVE LOCK NUT (11), SCREW (12), AND TILT STOP CABLE (13) FROM BRACKET (8). DISCARD LOCK NUT.
3. REMOVE LOCK NUT (14), SCREW (15), TILT STOP CABLE (13), TWO LOCK NUTS (16), TWO SCREWS (17), AND TWO CABLES (18) FROM YOKE (19). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.





ASSEMBLY

1. INSTALL TWO CABLES (18), TWO SCREWS (17), TWO NEW LOCK NUTS (16), TILT STOP CABLE (13), SCREW (15), AND NEW LOCK NUT (14) ON YOKE (19).
2. INSTALL TILT STOP CABLE (13), SCREW (12), AND NEW LOCK NUT (11) ON BRACKET (8).
3. INSTALL SPRING (10), SPACER (9), SCREW (7), AND NEW LOCK NUT (6) ON BRACKET (8).

INSTALLATION

1. INSTALL TILT ASSIST ASSEMBLY (3), FOUR WASHERS (5), AND FOUR SCREWS (4) IN HOOD.
2. INSTALL TWO CHAIN LINKS (1) BETWEEN TILT ASSIST ASSEMBLY (3) AND TWO RADIATOR BRACKETS (2).
3. REMOVE SUPPORT AND LOWER HOOD.

SEAT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 4-696	Seat Belt Removed

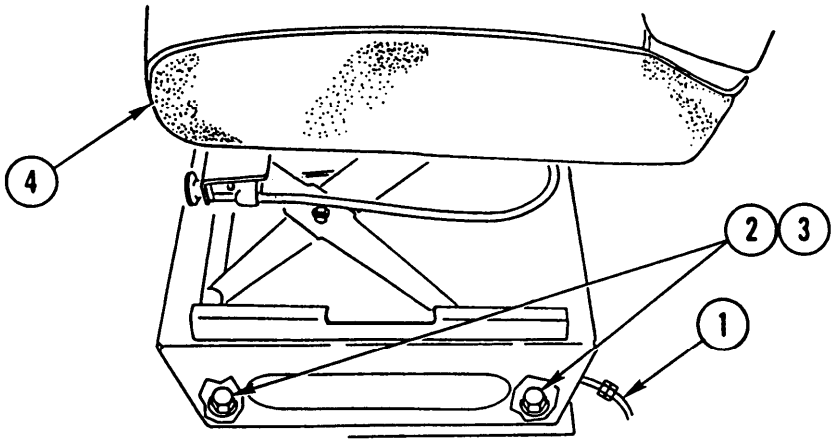
General Safety Instructions:

WARNING
Do not disconnect any air system lines or fittings unless vehicle engine is shut off and air system pressure is relieved. To do so could result in serious injury to personnel.

REMOVAL

WARNING
Do not disconnect any air system lines or fittings unless vehicle engine is shut off and air system pressure is relieved. To do so could result in serious injury to personnel.

1. DISCONNECT AIR LINE (1).
2. REMOVE FOUR BOLTS (2), FOUR WASHERS (3), AND SEAT (4).



CLEANING/INSPECTION

Clean and Inspect all parts in accordance with Chapter 2..

INSTALLATION

1. INSTALL SEAT (4), FOUR WASHERS (3), AND FOUR BOLTS (2).
2. CONNECT AIR LINE (1).

NOTE
Follow-on Maintenance:

Install seat belt (page 4-696).

SEAT ASSEMBLY REPAIR

This task covers: a. Disassembly b. Cleaning/Inspection c. Assembly

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4190-95-CL-A72

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Kit, Major Repair P/N 1107838-001

Materials/Parts (Cont):

Damper Assembly P/N 1106732-001

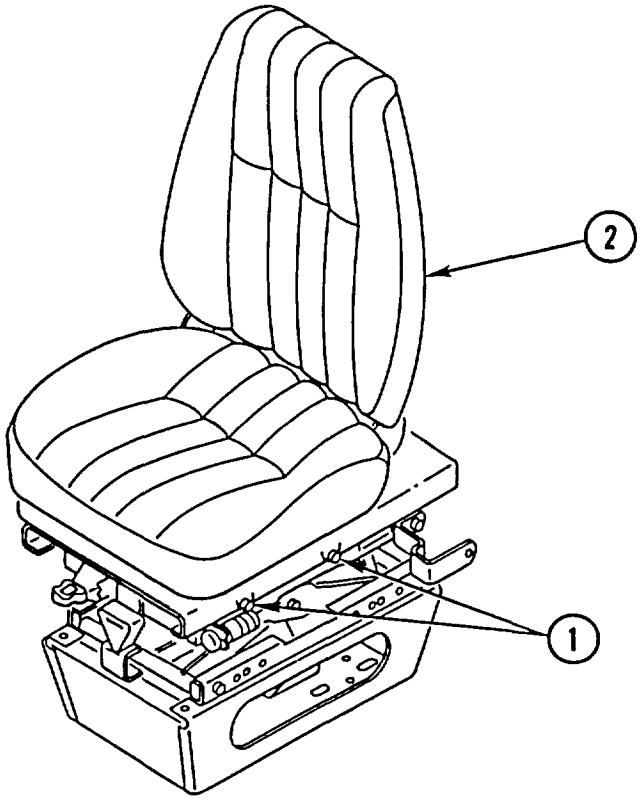
Nut, Lock (2) P/N 1349236-002

Washer, Lock P/N 1104385-002

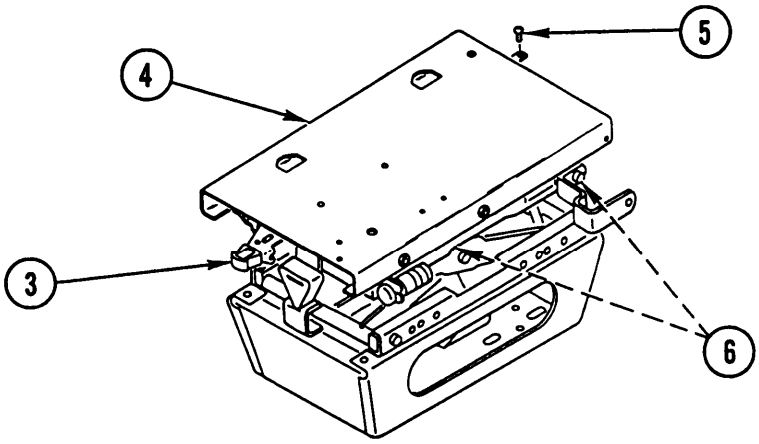
Equipment Condition:

Reference Condition	Description
Page 4-682	Seat Removed

DISASSEMBLY

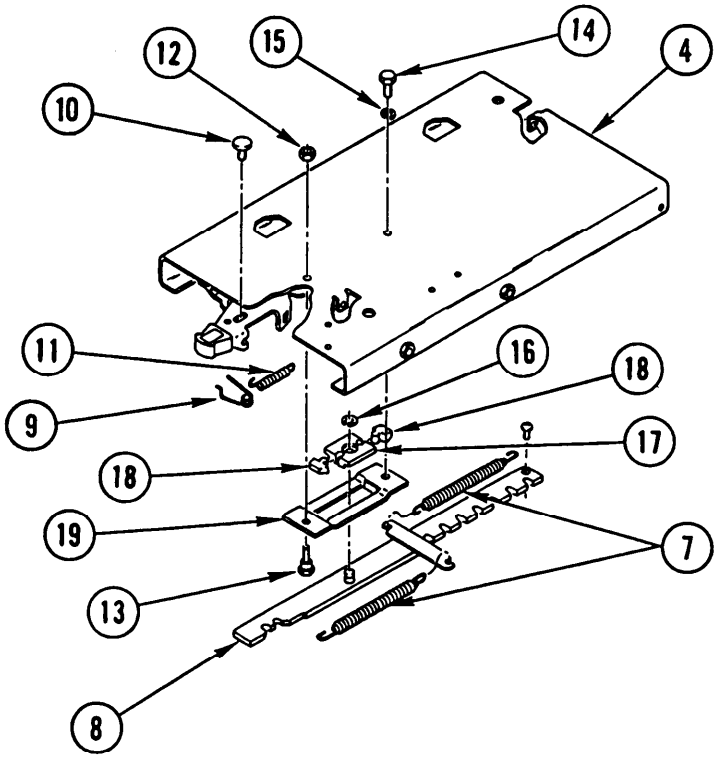


1. REMOVE FOUR CAPSCREWS (1) AND SEAT (2).



2. WITH ISOLATOR HANDLE (3) IN ISOLATE POSITION, SLIDE CHANNEL ASSEMBLY (4) FORWARD AND REMOVE SCREW (5).

3. WITH ISOLATOR HANDLE (3) IN ADJUST POSITION, SLIDE CHANNEL ASSEMBLY (4) FORWARD PAST FOUR ROLLERS (6).



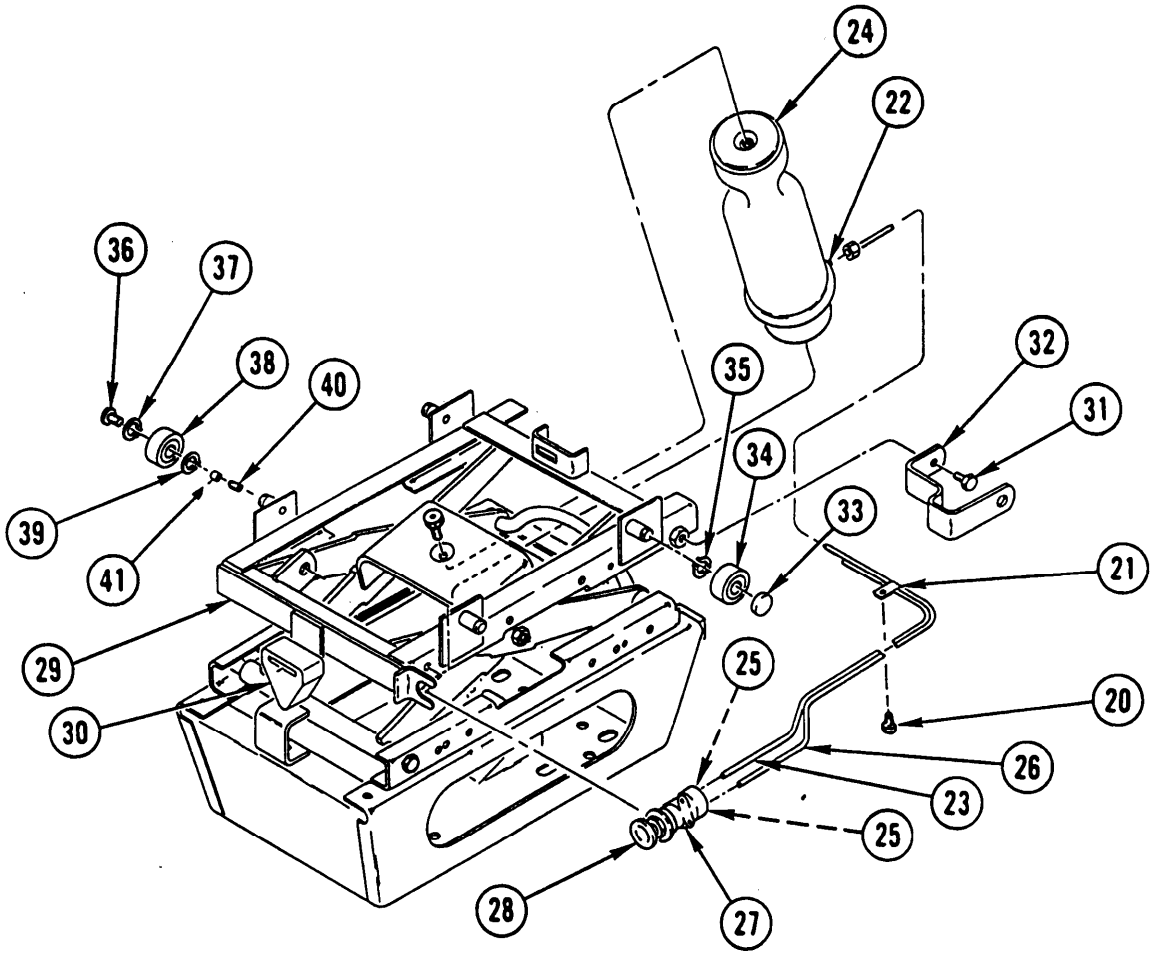
4. REMOVE TWO SPRINGS (7) FROM LATCH BAR ASSEMBLY (8). DISCARD SPRINGS.

5. REMOVE SPRING (9), DETENT PIN (10), AND SPRING (11) FROM CHANNEL ASSEMBLY (4). DISCARD SPRINGS.

6. REMOVE LOCK NUT (12), CAPSCREW (13), CAPSCREW (14), LOCK WASHER (15), AND LATCH BAR ASSEMBLY (8). DISCARD LOCK NUT AND LOCK WASHER.

7. REMOVE RETAINING RING (16), PIVOT BLOCK (17), TWO BUMPERS (18), AND GUIDE (19) FROM LATCH BAR ASSEMBLY (8).

SEAT ASSEMBLY REPAIR (CONT)



8. REMOVE THREE SELF-TAPPING SCREW ASSEMBLIES (20) AND THREE CLAMPS (21).

9. PRESS IN OUTER SLEEVE (22) AND DISCONNECT TUBE (23) FROM AIR SPRING (24).

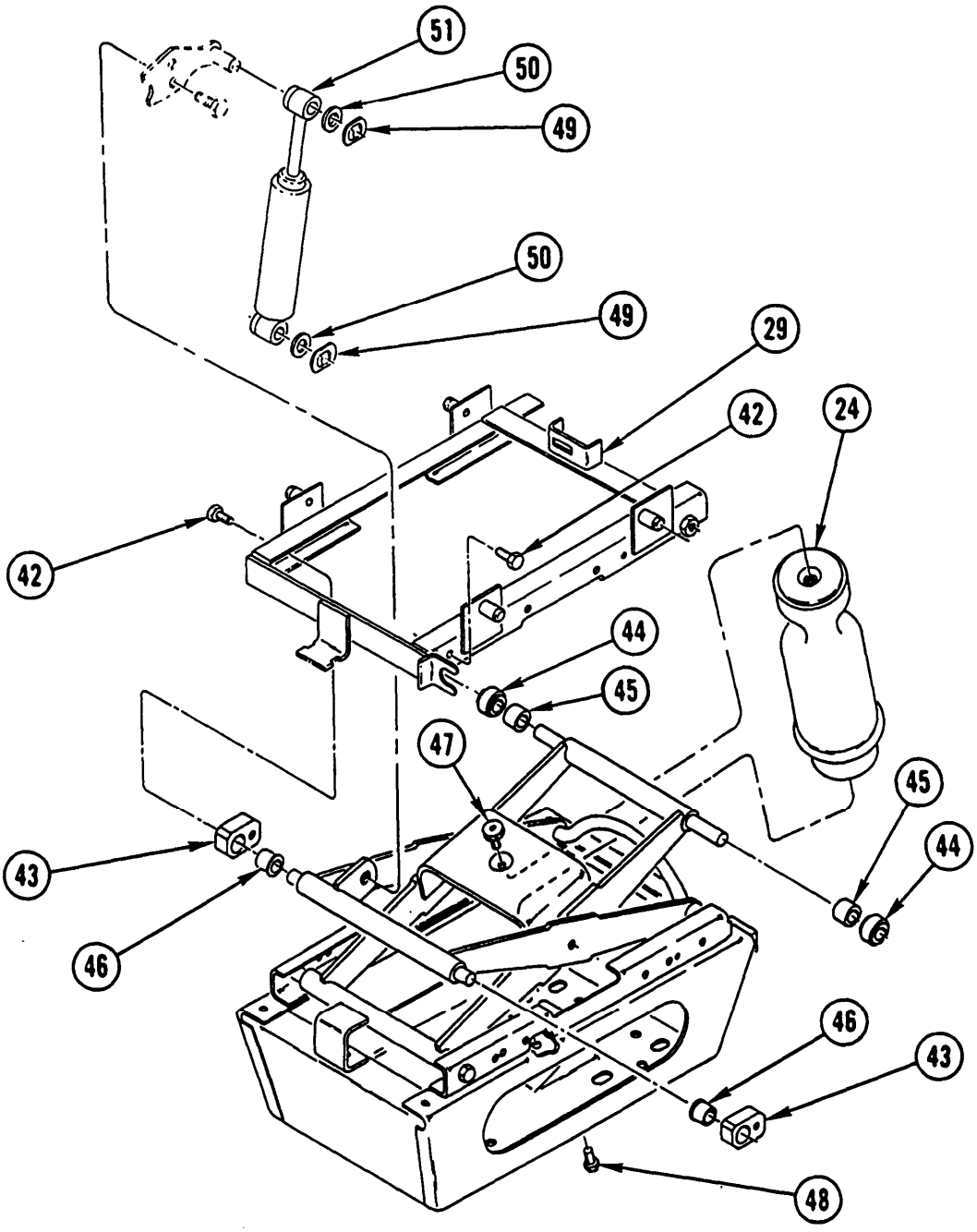
10. PRESS IN TWO OUTER SLEEVES (25) AND REMOVE TWO TUBES (23 AND 26) FROM VALVE (27).

11. LOOSEN NUT (28) AND REMOVE VALVE (27) FROM UPPER PLATE ASSEMBLY (29).

12. REMOVE BUMPER (30), TWO CAPSCREWS (31), AND TWO BRACKETS (32) FROM UPPER PLATE ASSEMBLY (29).

13. REMOVE AND DISCARD TWO END CAPS (33), TWO BEARINGS (34), AND TWO RETAINING RINGS (35).

14. REMOVE AND DISCARD TWO THRUST PADS (36), TWO RETAINING RINGS (37). TWO BEARINGS (38), TWO RETAINING RINGS (39), TWO SETSCREWS (40), AND TWO TUBES (41) FROM UPPER PLATE ASSEMBLY (29).



15. REMOVE TWO CAPSCREWS (42) FROM UPPER PLATE ASSEMBLY (29).

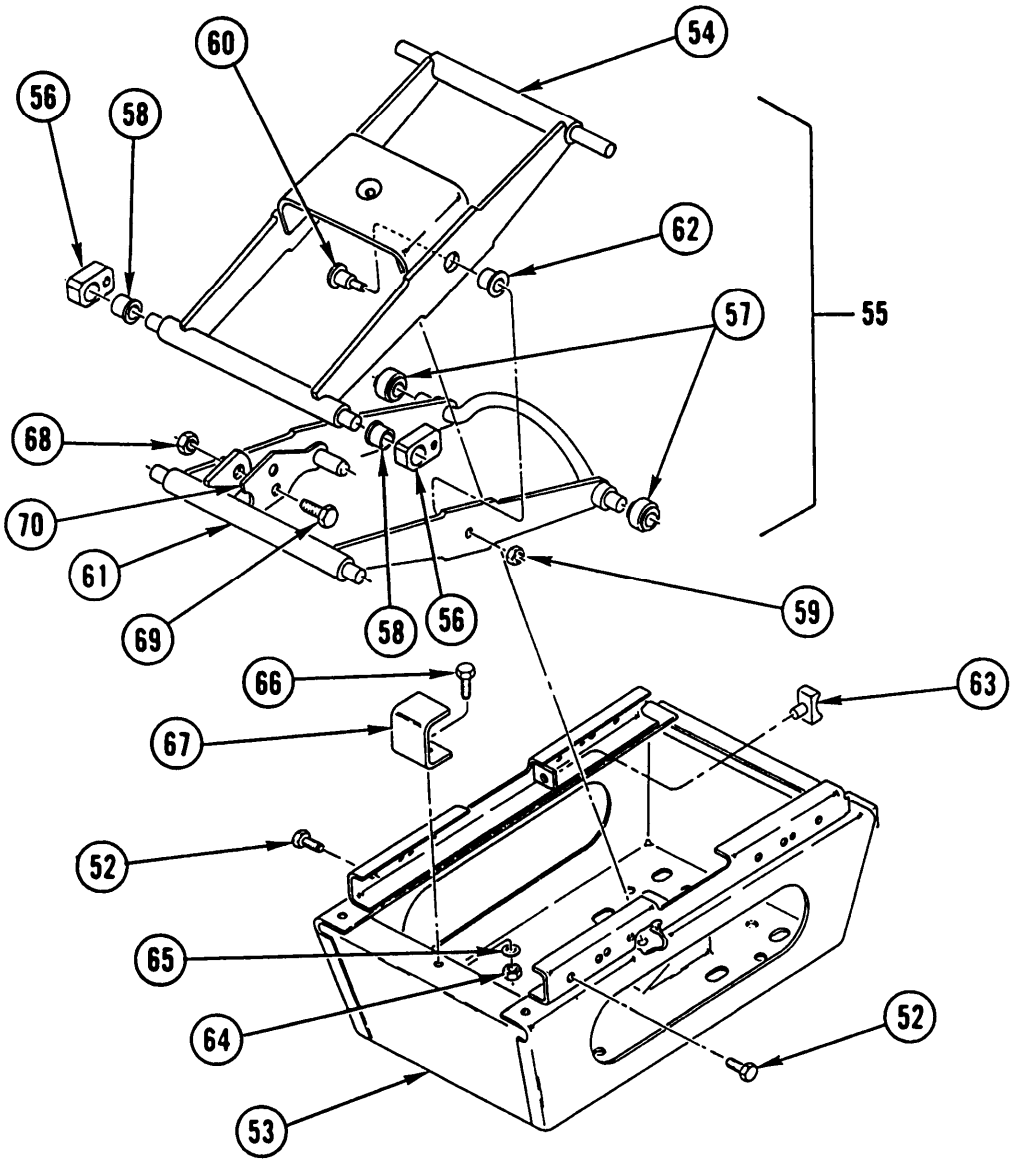
16. REMOVE UPPER PLATE ASSEMBLY (29), TWO BEARING BLOCKS (43), TWO ROLLERS (44), AND TWO SPACERS (45). DISCARD ROLLERS.

17. REMOVE TWO BEARINGS (46) FROM TWO BEARING BLOCKS (43). DISCARD BEARINGS.

18. REMOVE TORX SCREW (47), CAPSCREW (48), AND AIR SPRING (24).

19. REMOVE AND DISCARD TWO FASTENERS (49), TWO THRUST WASHERS (50), AND DAMPER (51).

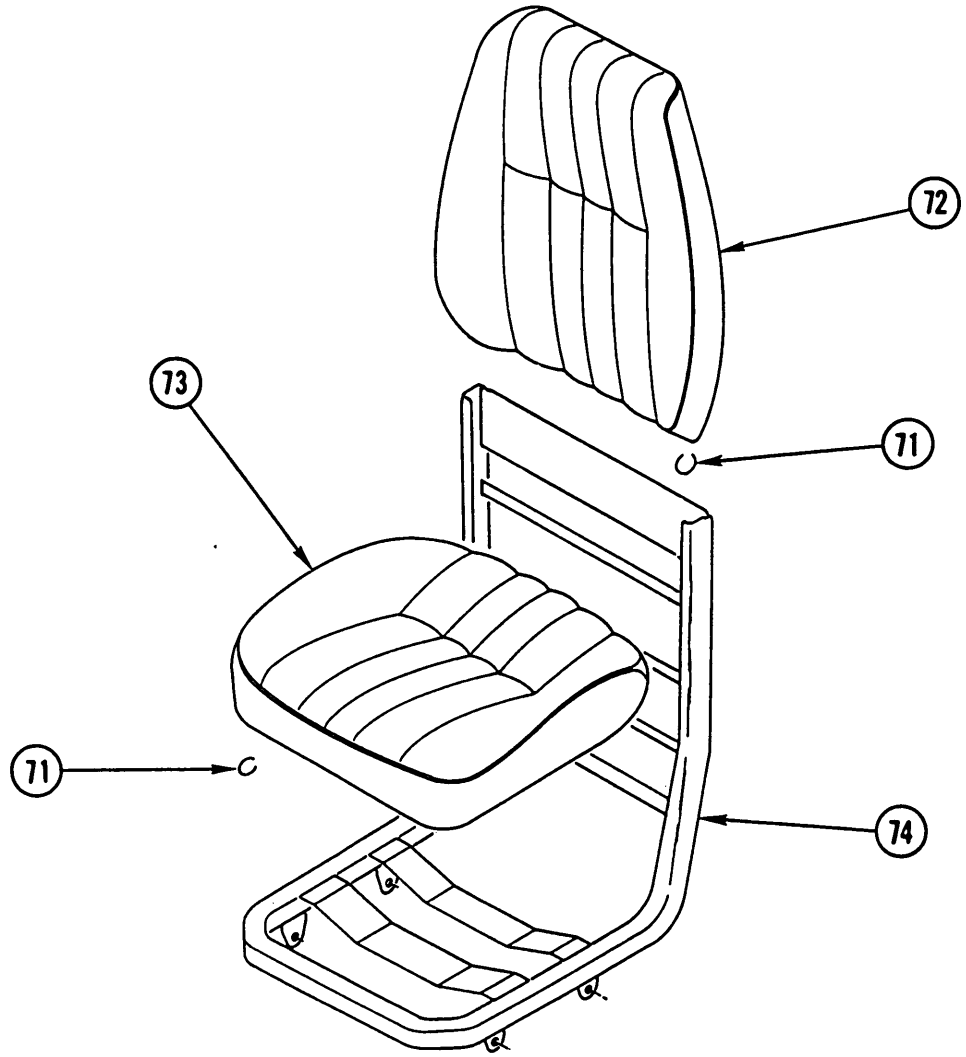
SEAT ASSEMBLY REPAIR (CONT)



20. REMOVE TWO CAPSCREWS (52) FROM RISER ASSEMBLY (53).
21. SLIDE INNER LEVER (54) REARWARD AND LIFT OUT.
22. ROTATE AND REMOVE LEVER ASSEMBLY (55) FROM RISER ASSEMBLY (53).
23. REMOVE TWO BEARING BLOCKS (56) AND TWO ROLLERS (57) FROM LEVER ASSEMBLY (55).
24. REMOVE TWO BEARINGS (56) FROM TWO BEARING BLOCKS (56). DISCARD BEARINGS.
25. REMOVE TWO LOCK NUTS (59), TWO SCREWS (60), OUTER LEVER (61), AND TWO BEARINGS (62) FROM INNER LEVER (54). “DISCARD LOCK NUTS AND BEARINGS.

26. REMOVE TWO STOPS (63), NUT (64), LOCK WASHER (65), CAPSCREW (66), AND BRACKET (67) FROM RISER ASSEMBLY (53). DISCARD STOPS AND LOCK WASHER.

27. REMOVE LOCK NUT (68), CAPSCREW (69), AND BRACKET (70) FROM OUTER LEVER (61).



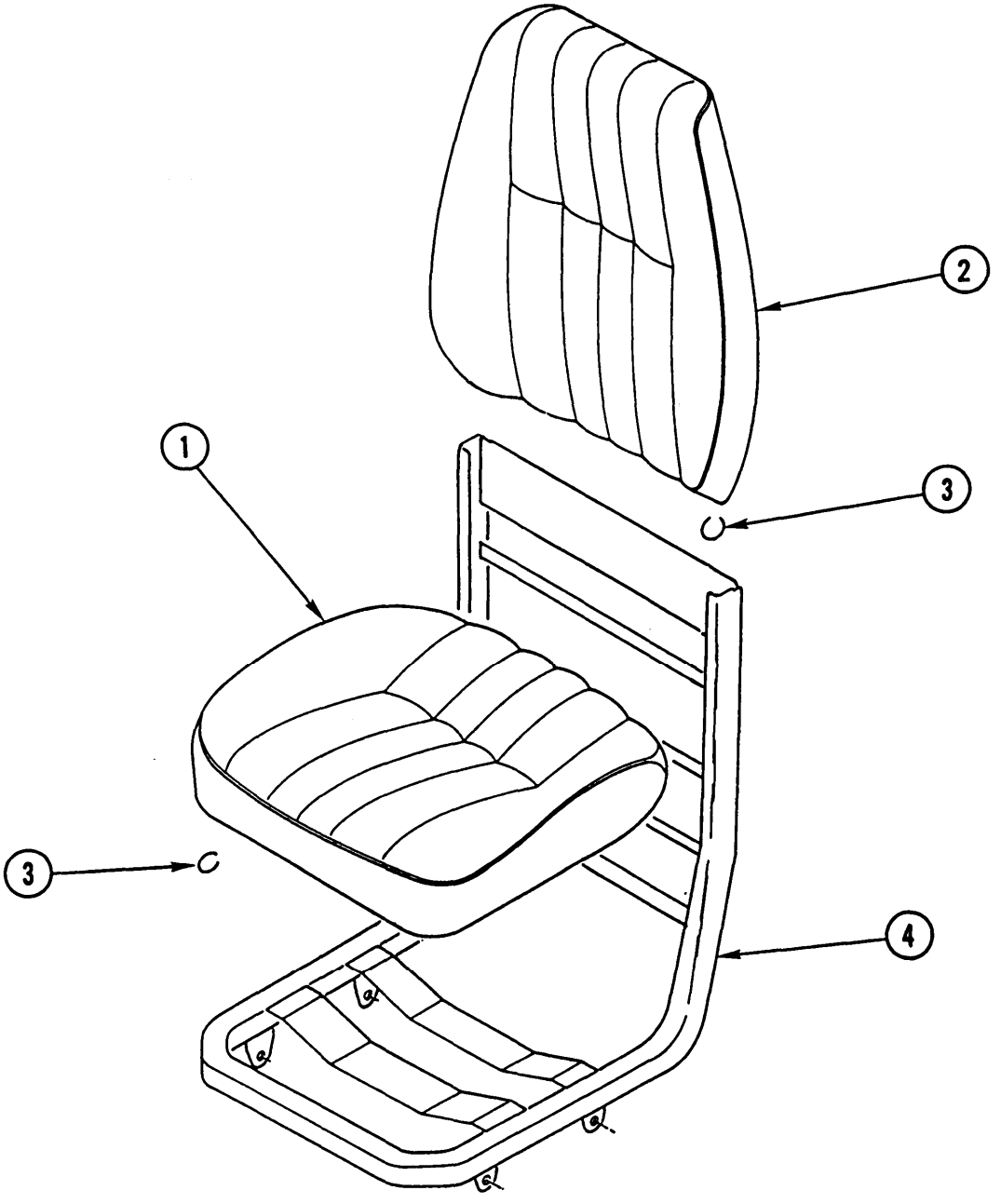
28. REMOVE 25 FABRIC FASTENERS (71), BACK COVER AND PAD ASSEMBLY (72), AND SEAT COVER AND PAD ASSEMBLY (73) FROM FRAME (74).

CLEANING/INSPECTION

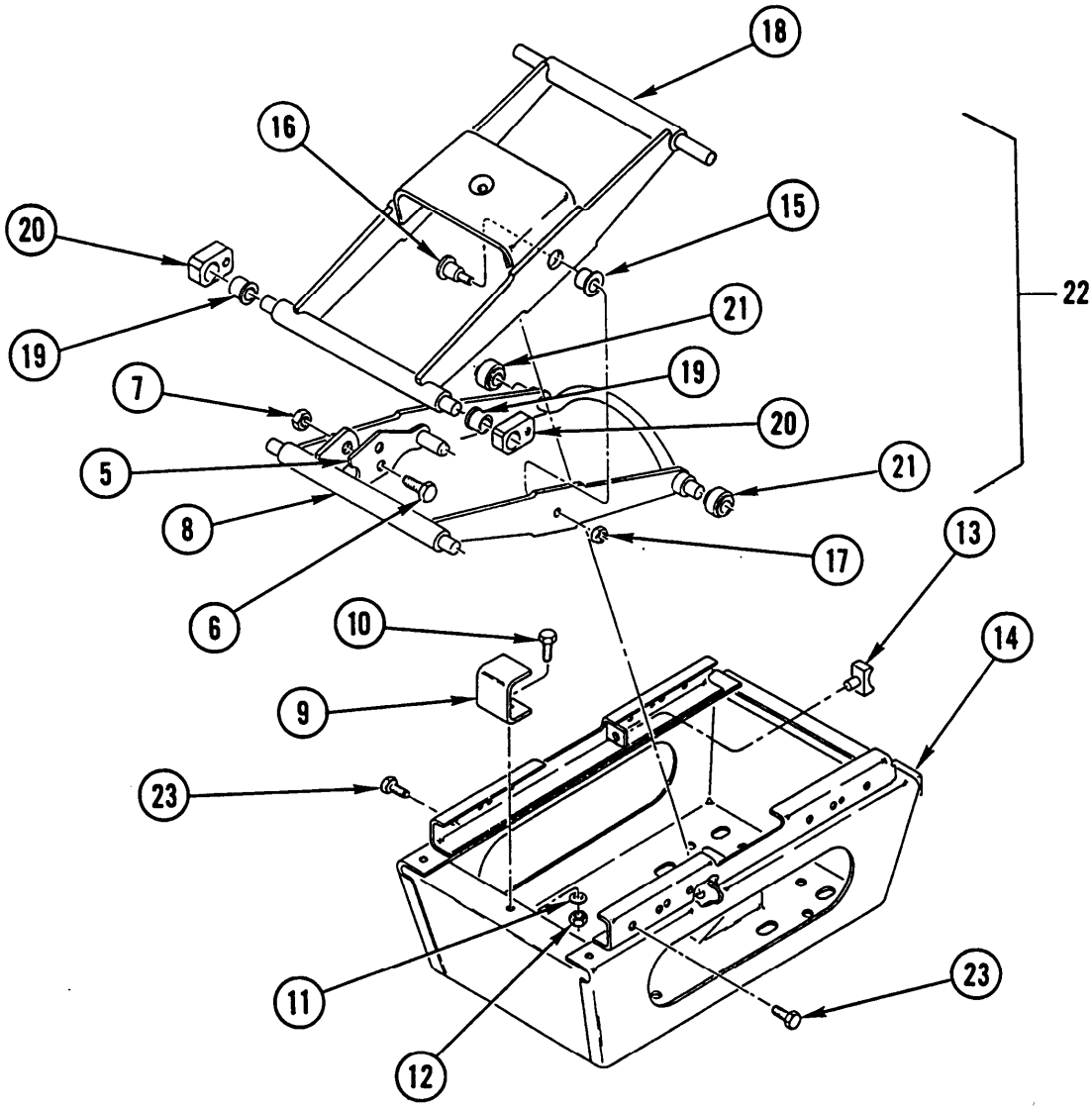
Clean and inspect all parts in accordance with Chapter 2.

SEAT ASSEMBLY REPAIR (CONT)

ASSEMBLY



1. INSTALL SEAT COVER AND PAD ASSEMBLY (1), BACK COVER AND PAD ASSEMBLY (2), AND 25 FABRIC FASTENERS (3) ON FRAME (4).



2. INSTALL BRACKET (5), CAPSCREW (6), AND NEW LOCK NUT (7) ON OUTER LEVER (8).

3. INSTALL BRACKET (9), CAPSCREW (10), NEW LOCK WASHER (11), NUT (12), AND TWO NEW STOPS (13) IN RISER ASSEMBLY (14).

4. INSTALL TWO NEW BEARINGS (15), OUTER LEVER (8), TWO SCREWS (16), AND TWO NEW LOCK NUTS (17) ON INNER LEVER (18).

5. INSTALL TWO NEW BEARINGS (19) IN TWO BEARING BLOCKS (20).

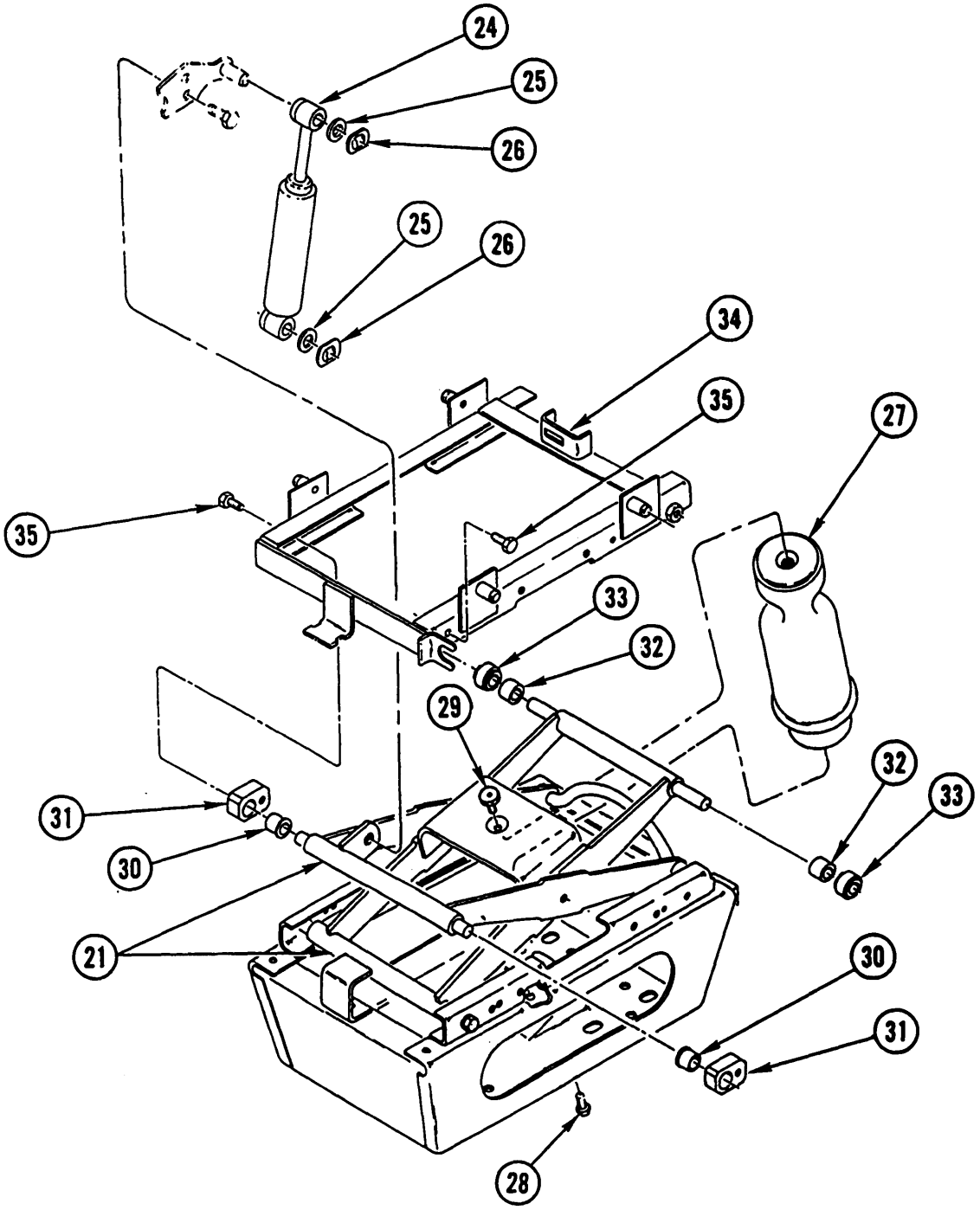
6. INSTALL TWO ROLLERS (21) AND IWO BEARING BLOCKS (20) ON LEVER ASSEMBLY (22).

7. ROTATE LEVER ASSEMBLY (22) INTO RISER ASSEMBLY (14).

8. SLIDE INNER LEVER (18) INTO POSITION IN RISER ASSEMBLY (14).

9. INSTALL TWO CAPSCREWS (23) IN RISER ASSEMBLY (14).

SEAT ASSEMBLY REPAIR (CONT)



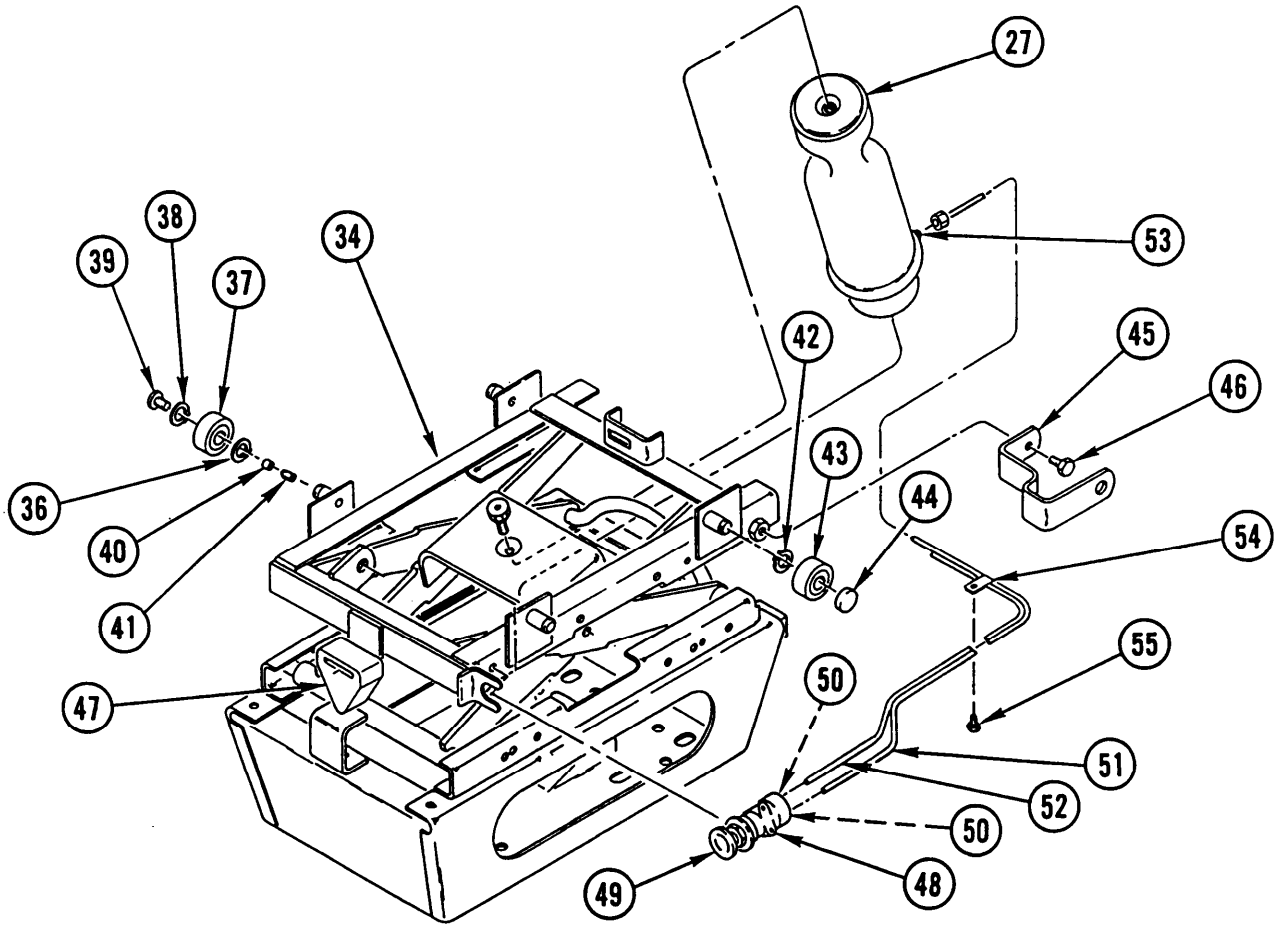
10. INSTALL NEW DAMPER (24), TWO NEW THRUST WASHERS (25), AND TWO NEW FASTENERS (26).

11. INSTALL AIR SPRING (27), CAPSCREW (28), AND TORX SCREW (29).

12. INSTALL TWO NEW BEARINGS (30) IN TWO BEARING BLOCKS (31).

13. INSTALL TWO SPACERS (32), TWO NEW ROLLERS (33), AND TWO BEARING BLOCKS (31).

14. INSTALL UPPER PLATE ASSEMBLY (34) AND TWO CAPSCREWS (35).



15. INSTALL TWO NEW RETAINING RINGS (36), TWO NEW BEARINGS (37), TWO NEW RETAINING RINGS (38), TWO NEW THRUST PADS (39), TWO NEW TUBES (40), AND TWO NEW SETSCREWS (41) IN UPPER PLATE ASSEMBLY (34).

16. INSTALL TWO NEW RETAINING RINGS (42), TWO NEW BEARINGS (43), AND TWO NEW END CAPS (44) IN UPPER PLATE ASSEMBLY (34).

17. INSTALL TWO BRACKETS (45), TWO CAPSCREWS (46), AND BUMPER (47) ON UPPER PLATE ASSEMBLY (34).

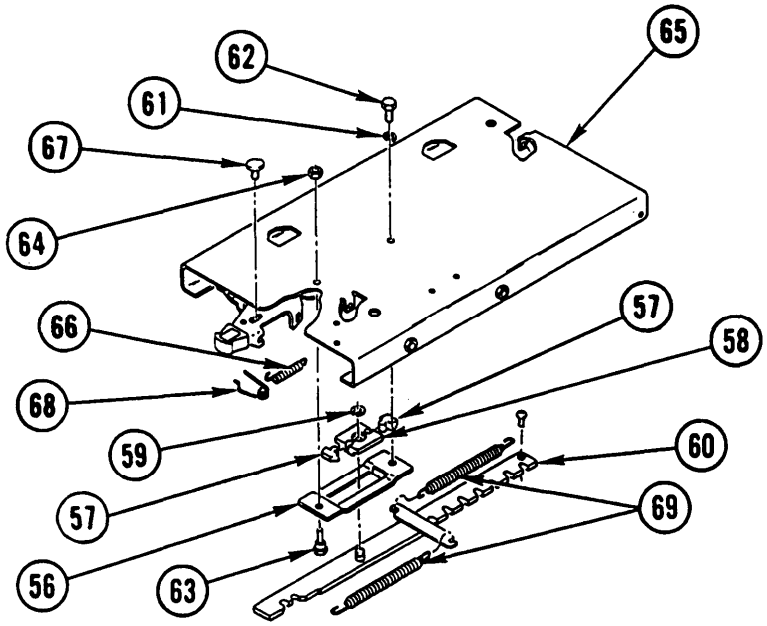
18. INSTALL VALVE (48) ON UPPER PLATE ASSEMBLY (34) AND TIGHTEN NUT (49).

19. PRESS IN TWO OUTER SLEEVES (50) AND INSTALL TWO TUBES (51 AND 52) IN VALVE (48).

20. PRESS IN OUTER SLEEVE (53) AND CONNECT TUBE (52) TO AIR SPRING (27).

21. INSTALL THREE CLAMPS (54) AND THREE SELF-TAPPING SCREW ASSEMBLIES (55).

SEAT ASSEMBLY REPAIR (CONT)

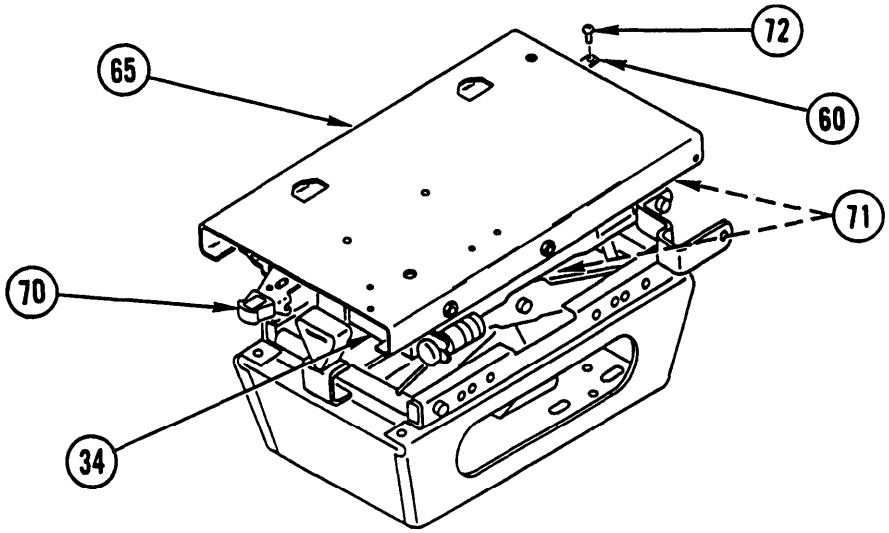


22. INSTALL GUIDE (56), TWO BUMPERS (57), PIVOT BLOCK (58), AND RETAINING RING (59) ON LATCH BAR ASSEMBLY (60).

23. INSTALL LATCH BAR ASSEMBLY (60), LOCK WASHER (61), CAPSCREW (62), CAPSCREW (63), AND NEW LOCK NUT (64) ON CHANNEL ASSEMBLY (65).

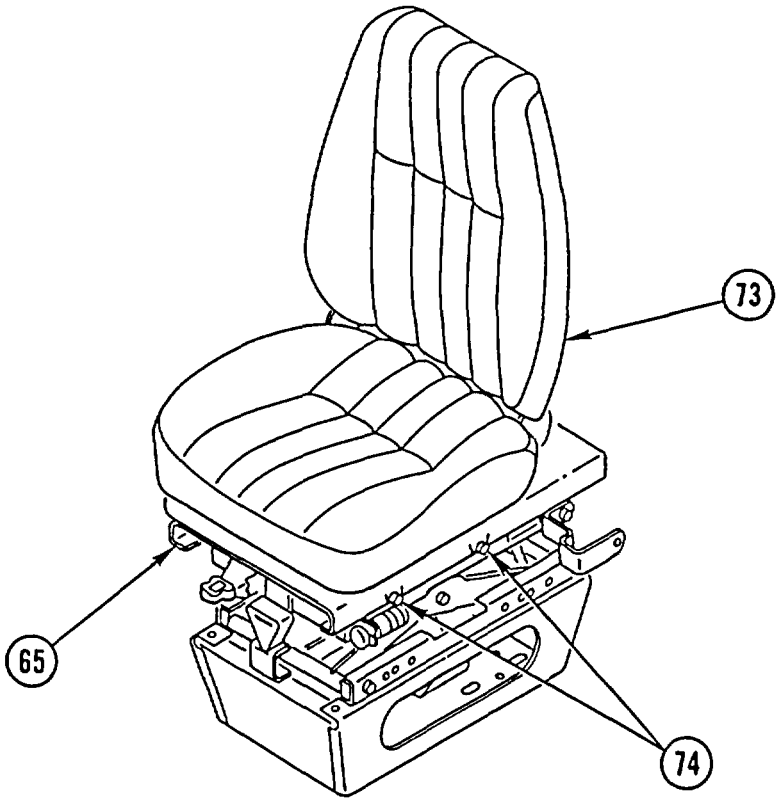
24. INSTALL NEW SPRING (66), DETENT PIN (67), AND NEW SPRING (68) IN CHANNEL ASSEMBLY (65).

25. INSTALL TWO NEW SPRINGS (69) BETWEEN LATCH BAR ASSEMBLY (60) AND CHANNEL ASSEMBLY (65).



26. WITH ISOLATOR HANDLE (70) IN ADJUST POSITION, SLIDE CHANNEL ASSEMBLY (65) ONTO FOUR ROLLERS (71). INSERT LATCH BAR ASSEMBLY (60) THRU SLOT IN UPPER PLATE ASSEMBLY (34).

27. WITH ISOLATOR HANDLE (70) IN ISOLATE POSITION, SLIDE CHANNEL ASSEMBLY (65) FORWARD AND INSTALL SCREW (72) IN LATCH BAR ASSEMBLY (60).



28. INSTALL SEAT (73) AND FOUR CAPSCREWS (74) ON CHANNEL ASSEMBLY (65).

NOTE
Follow-on Maintenance:

Install seat (page 4-682).

SEAT ASSEMBLY REPAIR

This task covers: a. Disassembly b. Cleaning/Inspection c. Assembly

INITIAL SETUP

Applicable Configuration:
All except M915A2 and M916A1

Tools and Special Equipment:
Shop Equipment, SC 4190-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (3)

Washer, Lock

Materials/Parts (cont):
Rivet, Pop

Pushnut (4)
Roll Pin
Push-on Fastener (2)

Equipment Condition:

Reference Condition	Description
Page 4-682	Seat Removed

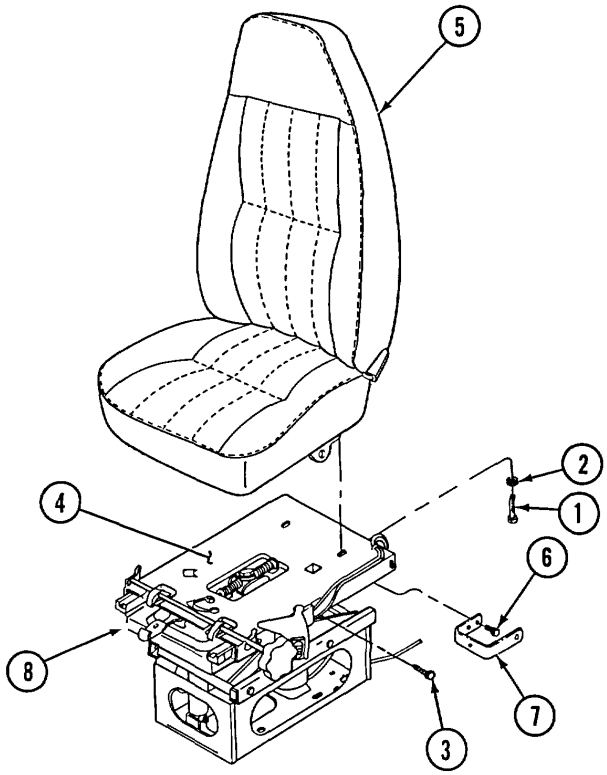
DISASSEMBLY

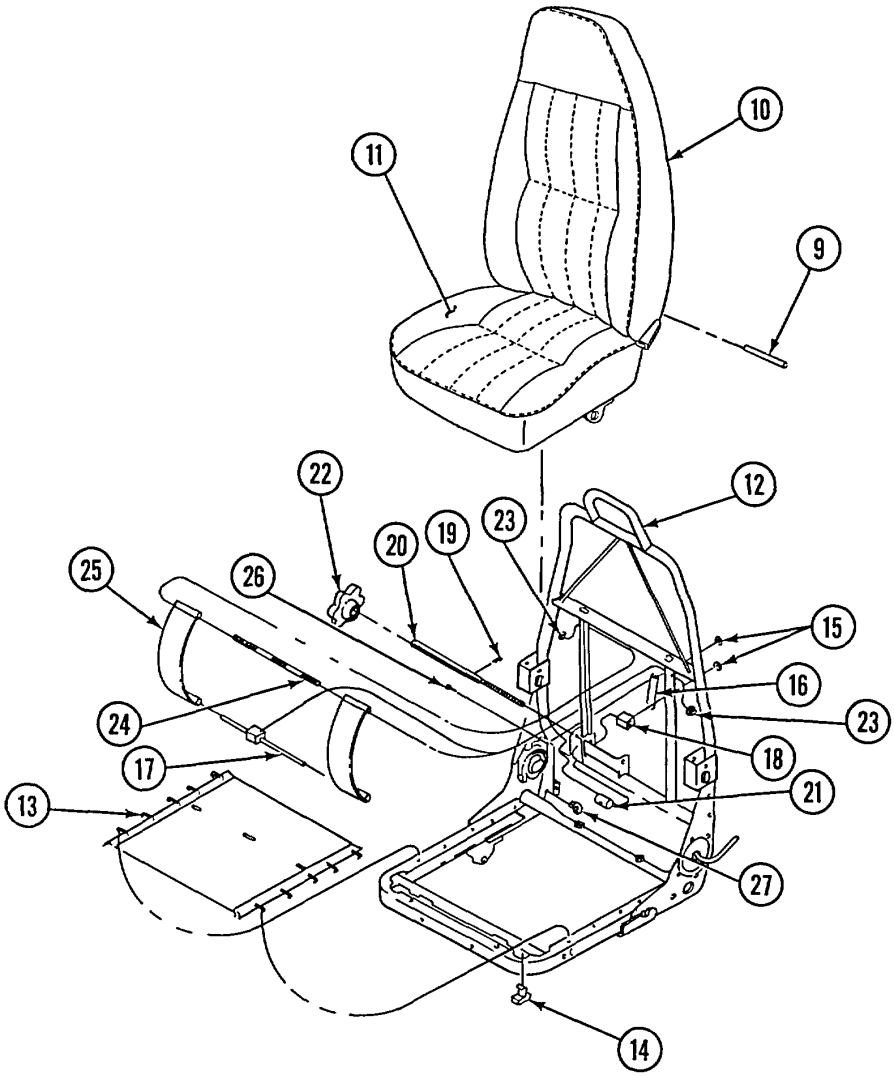
1. ADJUST TO REAR POSITION AND REMOVE TWO SCREWS (1) AND WASHERS (2) AND TWO SHOULDER BOLTS (3) FROM CHANNEL (4) ASSEMBLY.

2. REMOVE SEAT (5) FROM CHANNEL (4) ASSEMBLY.

NOTE
Perform steps 3 thru 8 to disassemble seat frame.

3. REMOVE TWO SCREWS (6) AND BRACKET (7) FROM EACH SIDE OF UPPER PLATE (8).





4. REMOVE TWO WIRES (9) AND REMOVE BACK COVER (10) AND PAD (11) FROM FRAME (12).

5. REMOVE SEAT PAD SUPPORT (13) AND TWO SEAT TILT BLOCKS (14).

6. REMOVE TWO PUSHNUTS (15) AND REMOVE LINKAGE (16) FROM SLIDE SHAFT (17) AND ADJUSTMENT BLOCK (18).

7. REMOVE ROLL PIN (19), ADJUSTMENT SHAFT (20), SPACER (21) AND ADJUSTMENT BLOCK (18) FROM FRAME (12). REMOVE KNOB (22) FROM ADJUSTMENT SHAFT. DISCARD ROLL PIN.

8. REMOVE TWO PUSHNUTS (23), SUPPORT SHAFT (24), TWO SPRINGS (25) AND SLIDE SHAFT (17). DISCARD PUSHNUTS.

9. REMOVE SCREW (26) AND STOP BLOCK (27).

SEAT ASSEMBLY REPAIR (CONT)

10. WITH CHANNEL (4) ASSEMBLY STILL IN REAR POSITION, REMOVE ISOLATOR SPRING (28) AND RUBBER BUMPER (29) AT REAR.

11. ADJUST CHANNEL (4) ASSEMBLY TO FORWARD POSITION AND REMOVE ISOLATOR SPRING (28) AND RUBBER BUMPER (29) AT FRONT.

12. REMOVE THREE WIRE TIES (30) FROM AIR LINES (31).

13. REMOVE SIX SCREWS (32) AND LOCK WASHERS (33) FROM SIDES OF CHANNEL (4) AND SIX SCREWS (32) AND LOCK WASHERS (33) FROM UNDERNEATH CHANNEL TO FREE TWO GUIDE ASSEMBLIES (34). DISCARD LOCK WASHERS.

14. REMOVE TWO GUIDE ASSEMBLIES (34) AND VALVE MOUNT (35) FROM CHANNEL (4).

15. REMOVE TWO ROLLERS (36) FROM EACH GUIDE ASSEMBLY (34).

16. DISCONNECT END OF SPRING (37) FROM LATCH BAR (38).

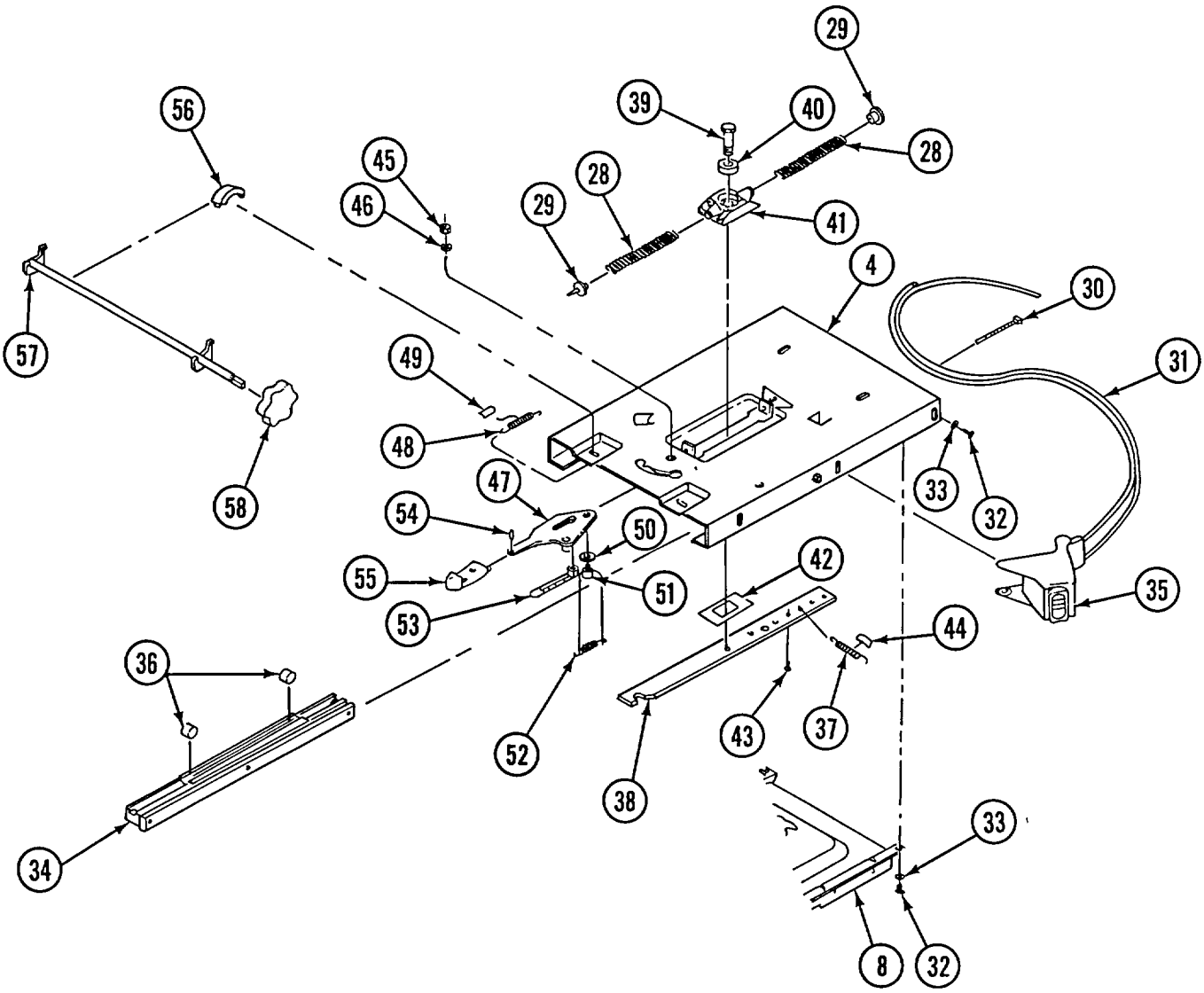
17. REMOVE BOLT (39), WASHER (40), PIVOT BLOCK (41), LATCH BAR (38) AND SPACER (42) FROM CHANNEL (4). REMOVE SCREW (43) FROM LATCH BAR.

18. SEPARATE CHANNEL (4) FROM UPPER PLATE (8) AND DISCONNECT SPRING (37) AND SPLIT POLY LOOM (44) FROM CHANNEL.

19. REMOVE LOCK NUT (45), WASHER (46), CONTROL HANDLE (47), SPRING (48), SPLIT POLY LOOM (49), WASHER (50) AND SHOULDER BOLT (51) FROM CHANNEL (4). DISCARD LOCK NUT.

20. REMOVE SPRING (52), DETENT PIN (53), POP RIVET (54) AND KNOB (55) FROM CONTROL HANDLE (47).

21. REMOVE TWO BRACKETS (56) AND TILT ROD (57) FROM CHANNEL (4). REMOVE KNOB (58) FROM TILT ROD.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SEAT ASSEMBLY REPAIR (CONT)

22. USE BLOCKING BETWEEN UPPER PLATE (8) AND RISER (59) TO HOLD UPPER PLATE IN FULLY RAISED POSITION.

NOTE
Perform steps 23 and 24 to remove air spring.

23. DISCONNECT AIR LINE (31) FROM AIR SPRING (60).

24. REMOVE SCREW (61), SCREW (62), WASHER (63) AND AIR SPRING (60).

NOTE
Perform steps 25 and 26 to remove damper.

25. REMOVE TWO PUSH-ON FASTENERS (64), WASHERS (65) AND DAMPER (66) FROM LEVER (67) AND RISER (59). DISCARD PUSH-ON FASTENERS.

26. PRESS TWO BEARINGS (68) FROM DAMPER (66).

27. AT FRONT OF UPPER PLATE (8), REMOVE TWO SCREWS (69) FROM BEARING BLOCKS (70).

28. AT REAR OF RISER (59), REMOVE TWO SCREWS (71) AND STOP BLOCKS (72).

29. REMOVE BLOCKING SUPPORTING UPPER PLATE (8).

30. SLIDE UPPER PLATE (8) FORWARD AND REARWARD TO REMOVE UPPER PLATE FROM BEARING BLOCKS (70) AND SLIDE BLOCKS (73).

31. REMOVE BEARING BLOCKS (70) FROM ENDS OF LEVER (74) AND REMOVE TWO SLIDE BLOCKS (73) AND SPACERS (75) FROM ENDS OF LEVER (67).

32. AT FRONT OF RISER (59), REMOVE TWO SCREWS (76) FROM BEARING BLOCKS (77).

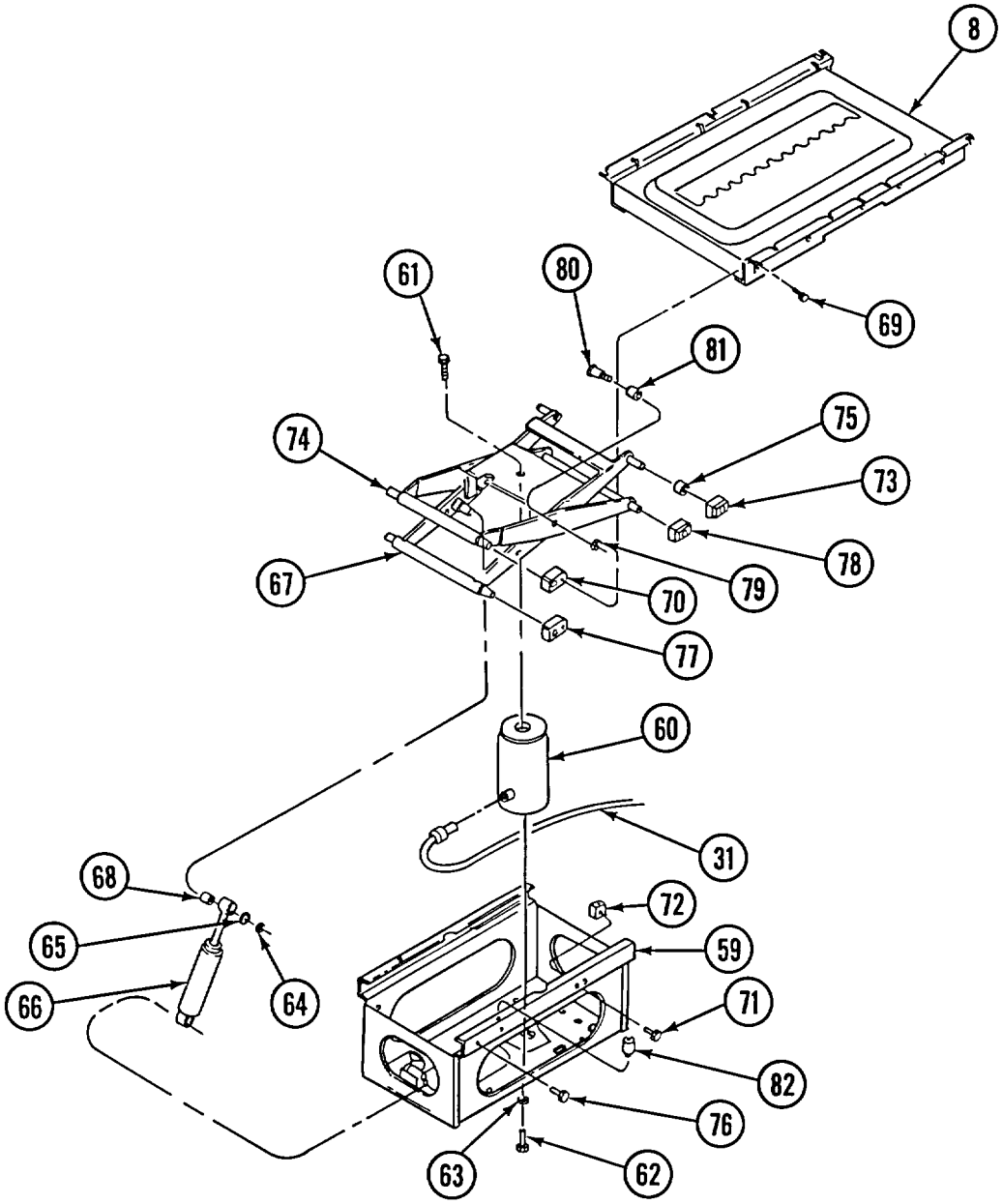
33. SLIDE LEVER (67 AND 74) ASSEMBLY FORWARD TO REMOVE TWO BEARING BLOCKS (77) AND LEVER ASSEMBLY FROM RISER (59).

34. REMOVE BEARING BLOCKS (77) FROM ENDS OF LEVER (67) AND SLIDE BLOCKS (78) FROM ENDS OF LEVER (74).

35. REMOVE TWO NUTS (79) AND SHOULDER BOLTS (80) TO SEPARATE LEVER (67) AND LEVER (74).

36. PRESS OUT TWO BEARINGS (81) FROM LEVER (67).

37. REMOVE TWO RUBBER BUMPERS (82) FROM RISER (59).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SEAT ASSEMBLY REPAIR (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ASSEMBLY

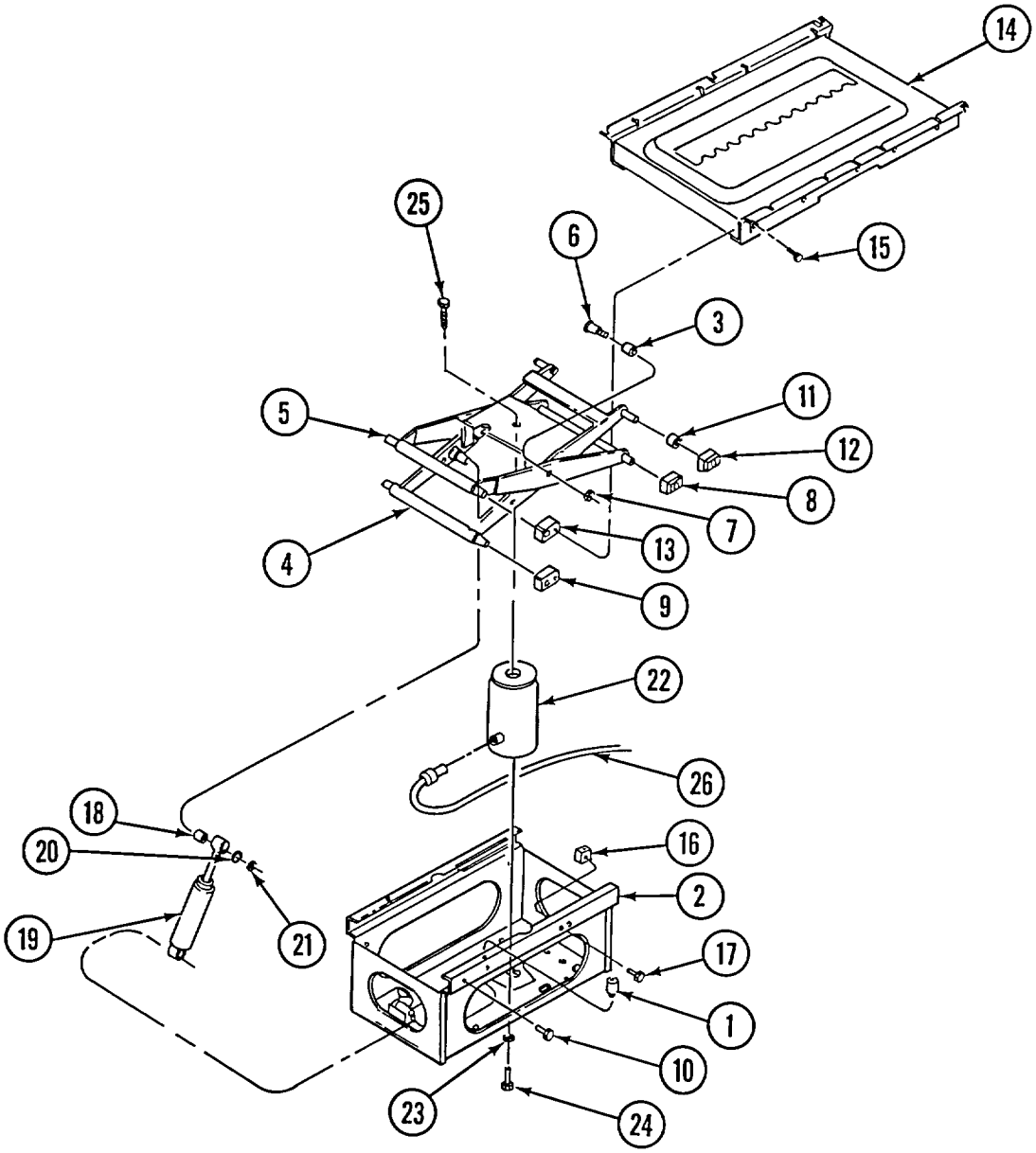
1. INSTALL TWO RUBBER BUMPERS (1) TO RISER (2).
2. PRESS TWO BEARINGS (3) INTO LEVER (4) WITH FLANGES OF BEARINGS ON OUTSIDE OF LEVER.
3. INSTALL LEVER (5) TO LEVER (4) WITH TWO SHOULDER BOLTS (6) AND NUTS (7). TIGHTEN NUTS TO 16 TO 20 LB-FT (22 TO 27 N.m).
4. INSTALL TWO SLIDE BLOCKS (8) ON REAR OF LEVER (5) AND TWO BEARING BLOCKS (9) ON FRONT OF LEVER (4).
5. INSTALL LEVER (4 AND 5) ASSEMBLY INTO RISER (2) AND INSTALL TWO SCREWS (10) INTO BEARING BLOCKS (9).
6. INSTALL TWO SPACERS (11) AND SLIDE BLOCKS (12) ON ENDS OF LEVER (4) AND TWO BEARING BLOCKS (13) ON ENDS OF LEVER (5).
7. INSTALL UPPER PLATE (14) OVER BEARING BLOCKS (13) AND SLIDE BLOCKS (12).
8. INSTALL TWO SCREWS (15) TO BEARING BLOCKS (13).
9. USE BLOCKING BETWEEN UPPER PLATE (14) AND RISER (2) TO HOLD UPPER PLATE IN FULLY RAISED POSITION.
10. AT REAR OF RISER (2), INSTALL TWO STOP BLOCKS (16) WITH TWO SCREWS (17).

NOTE
Perform steps 11 and 12 to install damper.

11. PRESS TWO BEARINGS (18) INTO DAMPER (19).
12. INSTALL DAMPER (19) TO RISER (2) AND LEVER (4) WITH TWO WASHERS (20) AND NEW PUSH-ON FASTENERS (21).

NOTE
Perform steps 13 thru 15 to install air spring.

13. POSITION AIR SPRING (22) WITH FITTING FACING FORWARD.
14. INSTALL AIR SPRING (22) WITH WASHER (23), SCREW (24) AND SCREW (25). TIGHTEN SCREW (25) TO 15 TO 19 LB-FT (20.3 TO 25.7 N.m). TIGHTEN SCREW (24) TO 9 TO 11 LB-FT (12 TO 15 N.m).
15. CONNECT AIR LINE (26) TO AIR SPRING (22).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SEAT ASSEMBLY REPAIR (CONT)

16. REMOVE BLOCKING SUPPORTING UPPER PLATE (14).

17. INSTALL KNOB (27) TO TILT ROD (28) AND INSTALL TWO BRACKETS (29) AND TILT ROD TO CHANNEL (30).

18. INSTALL KNOB (31), NEW POP RIVET (32), DETENT PIN (33) AND SPRING (34) TO CONTROL HANDLE (35).

19. INSTALL SHOULDER BOLT (36), WASHER (37), SPLIT POLY LOOM (38), SPRING (39), CONTROL HANDLE (35) AND WASHER (40) WITH NEW LOCK NUT (41).

20. CONNECT SPRING (42) AND SPLIT POLY LOOM (43) TO CHANNEL (30) AND POSITION CHANNEL TO UPPER PLATE (14).

21. INSTALL SCREW (44) TO LATCH BAR (45) AND INSTALL SPACER (46),LATCH BAR (45) AND PIVOT BLOCK (47) TO CHANNEL (30) WITH WASHER (48) AND BOLT (49). TIGHTEN BOLT TO 26 TO 34 LB-FT (36 TO 46 N.m).

22. CONNECT END OF SPRING (42) TO LATCH BAR (45).

23. INSTALL TWO ROLLERS (50) TO EACH OF TWO GUIDE ASSEMBLIES (51).

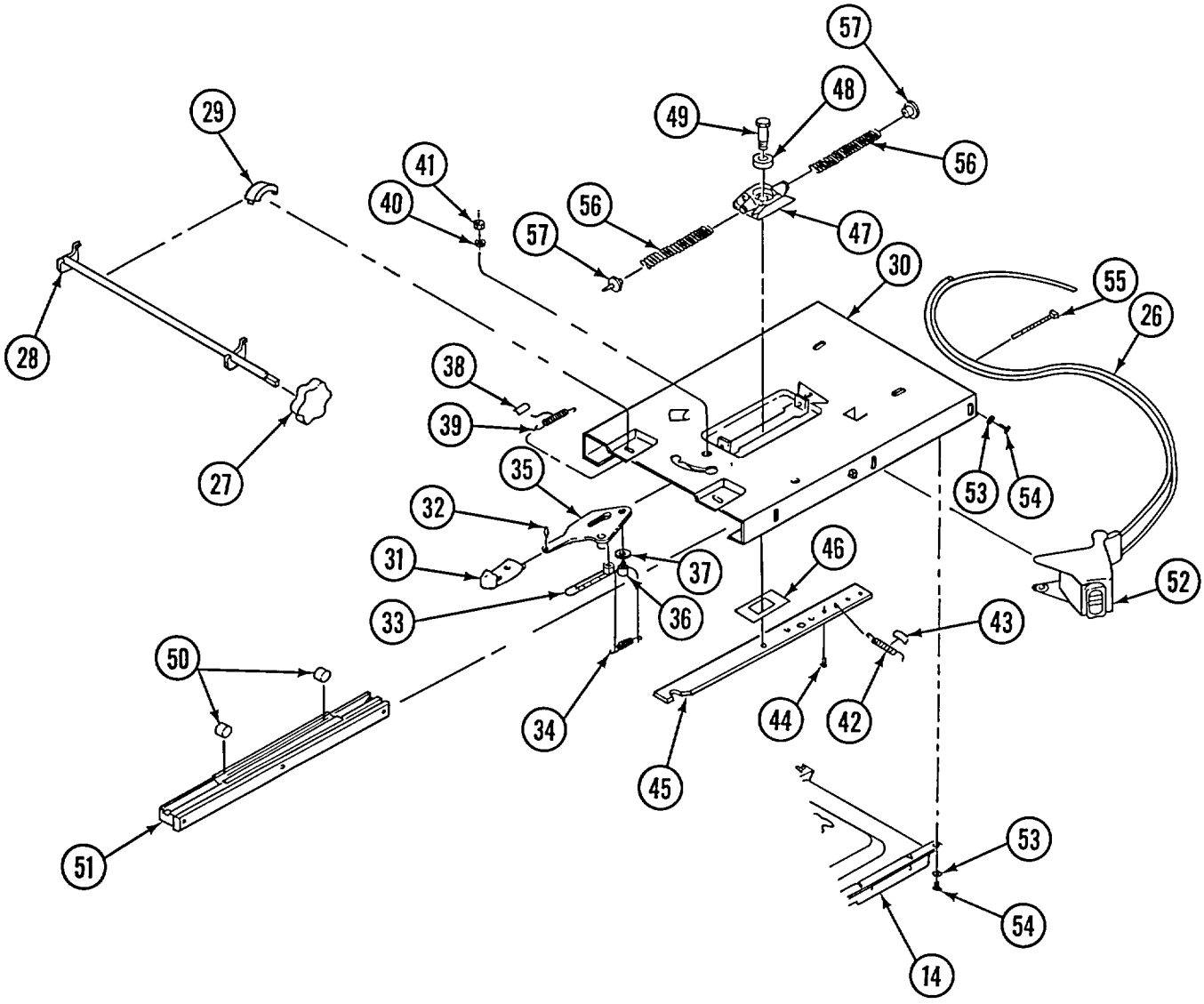
24. POSITION VALVE MOUNT (52) AND TWO GUIDE ASSEMBLIES (51) TO CHANNEL (30).

25. INSTALL SIX NEW LOCK WASHERS (53) AND SCREWS (54) UNDERNEATH CHANNEL (30) AND SIX NEW LOCK WASHERS (53) AND SCREWS (54) TO SIDES OF CHANNEL.

26. SECURE AIR LINES (26) WITH THREE WIRE TIES (55).

27. ADJUST CHANNEL (30) ASSEMBLY TO FORWARD POSITION AND INSTALL FRONT ISOLATOR SPRING (56) AND RUBBER BUMPER (57).

28. ADJUST CHANNEL (30) ASSEMBLY TO REAR POSITION AND INSTALL REAR ISOLATOR SPRING (56) AND RUBBER BUMPER (57).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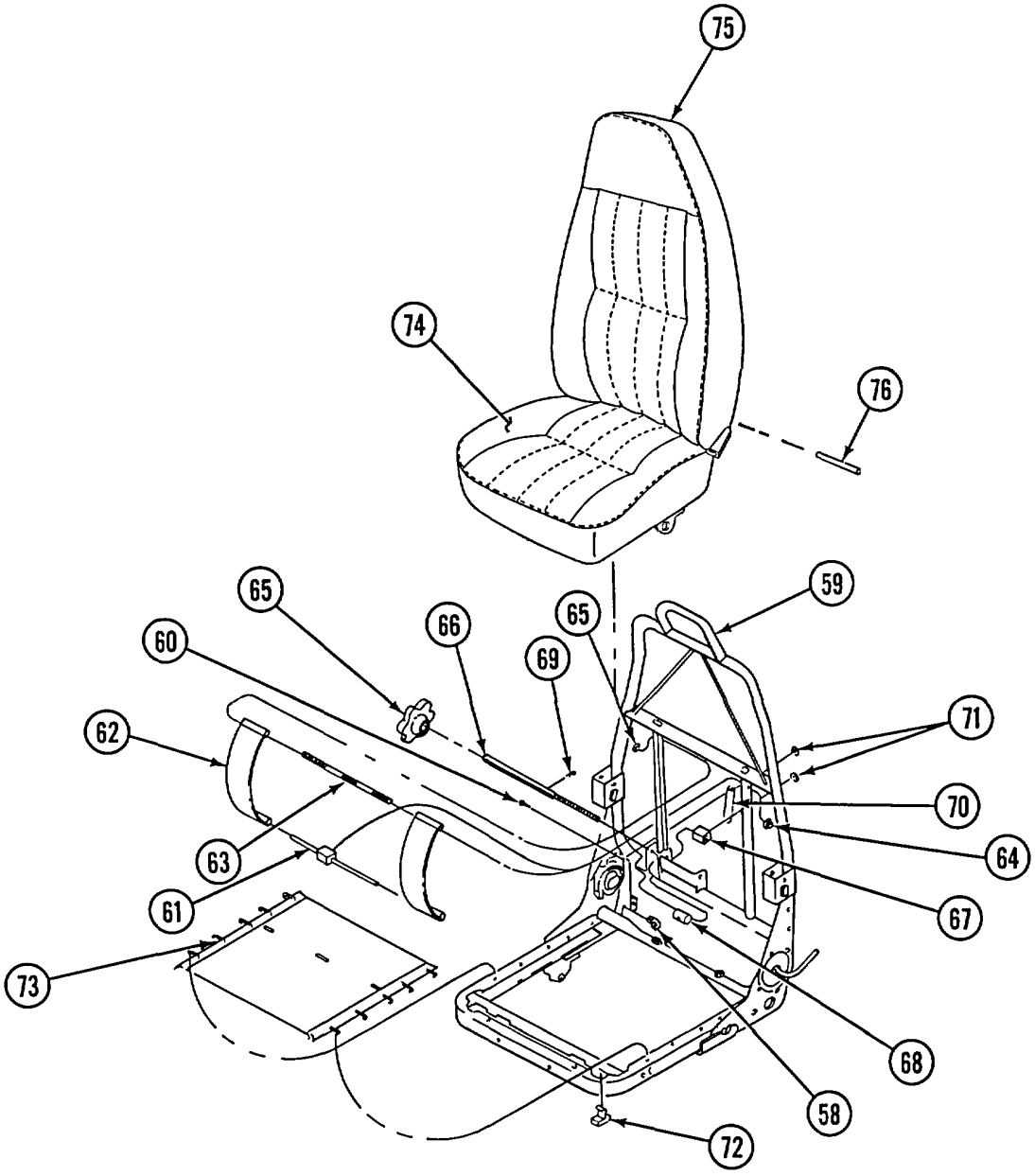
SEAT ASSEMBLY REPAIR (CONT)



NOTE
Perform steps 29 thru 34 to assemble seat frame.

29. INSTALL STOP BLOCK (58) TO SEAT FRAME (59) WITH SCREW (60).

30. INSTALL SLIDE SHAFT (61), TWO SPRINGS (62), SUPPORT SHAFT (63) AND TWO PUSHNUTS (64).

31. INSTALL KNOB (65) TO ADJUSTMENT SHAFT (66) AND INSTALL ADJUSTMENT BLOCK (67), SPACER (68), ADJUSTMENT SHAFT (66) AND NEW ROLL PIN (69).

32. INSTALL LINKAGE (70) TO ADJUSTMENT BLOCK (67) AND SLIDE SHAFT (61) WITH TWO NEW PUSHNUTS (71).

33 INSTALL TWO SEAT TILT BLOCKS (72) AND SEAT PAD SUPPORT (73).

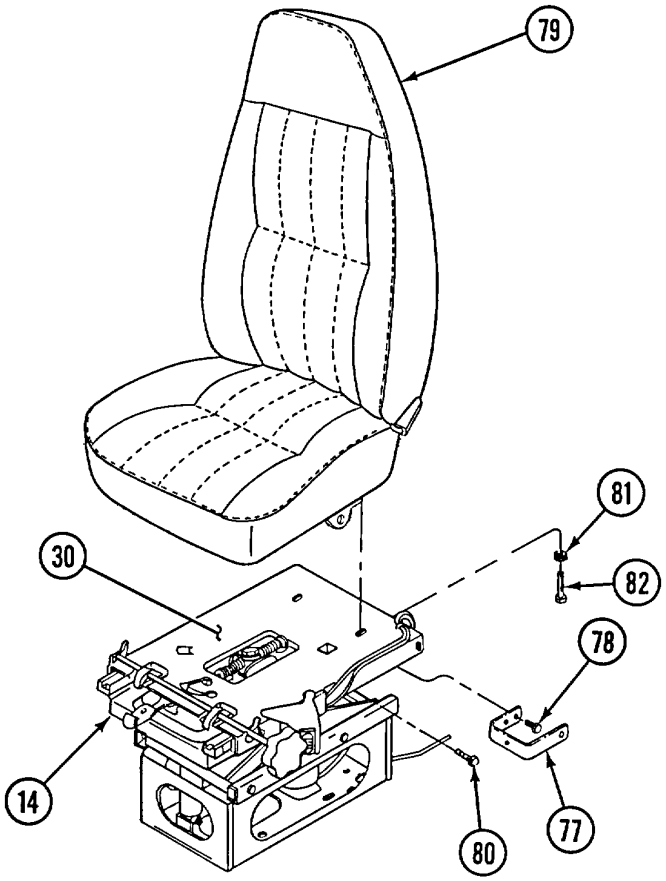
34. INSTALL PAD (74) AND BACK COVER (75) TO FRAME (59) WITH TWO WIRES (76).

35. INSTALL BRACKET (77) TO EACH SIDE OF UPPER PLATE (14) WITH TWO SCREWS (78). TIGHTEN SCREWS TO 18 TO 22 LB-FT (25 TO 29 N.m).

36. POSITION SEAT (79) TO CHANNEL (30) ASSEMBLY.

37. INSTALL TWO SHOULDER BOLTS (80). TIGHTEN BOLTS TO 18 TO 22 LB-FT (25 TO 29 N.m)

38. INSTALL TWO WASHERS (81) AND SCREWS (82). TIGHTEN SCREWS TO 18 TO 22 LB-FT (25 TO 29 N.m).



NOTE
Follow-on Maintenance:

Install seat (page 4-682).

SEAT BELT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Personnel Required: (2)

Materials/Parts:

Nut, Lock (5)

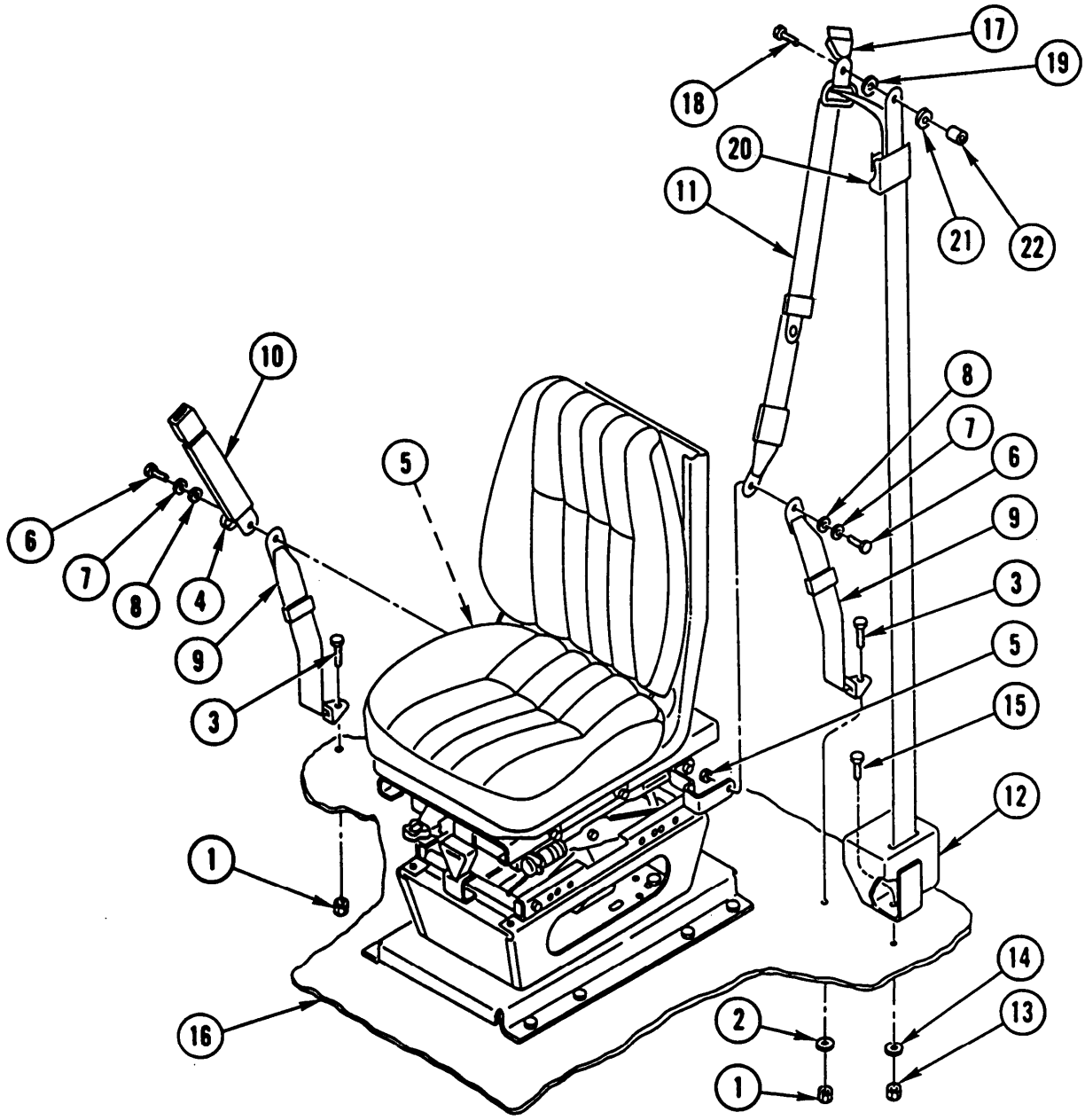
Washer, Lock (2)

REMOVAL

1. REMOVE TWO LOCK NUTS (1), WASHER (2), AND TWO SCREWS (3). DISCARD LOCK NUTS.
2. LIFT COVER (4) AND REMOVE TWO LOCK NUTS (5), TWO SCREWS (6), TWO LOCK WASHERS (7), TWO WASHERS (8), TWO TETHER BELTS (9), AND LOCK BELT (10). DISCARD LOCK NUTS AND LOCK WASHERS.
3. DISCONNECT SEAT BELT (11).
4. LIFT COVER (12) AND REMOVE LOCK NUT (13), WASHER (14), AND SCREW (15). DISCARD LOCK NUT.
5. DISCONNECT SEAT BELT (11) FROM FLOOR (16).
6. LIFT COVER (17) AND REMOVE SCREW (18), SEAT BELT (11), WASHER (19), LOCK (20), WASHER (21), AND BUSHING (22).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL BUSHING (22), WASHER (21), LOCK (20), WASHER (19)(SEAT BELT (11), AND SCREW (18). CLOSE COVER (17).

2. CONNECT SEAT BELT (11) AND INSTALL SCREW (15), WASHER (14), AND NEW LOCK NUT (13) IN FLOOR (16).

3. CLOSE COVER (12).

4. CONNECT SEAT BELT (11) AND INSTALL LOCK BELT (10), TWO TETHER BELTS (9), TWO WASHERS (8), TWO NEW LOCK WASHERS (7), TWO SCREWS (6), AND TWO NEW LOCK NUTS (5).

5. CLOSE COVER (4). INSTALL TWO SCREWS (3), WASHER (2), AND TWO NEW LOCK NUTS (1).

FENDER EXTENSION REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materiais/Parts:

Nut, Lock (4) P/N 23-09900-106

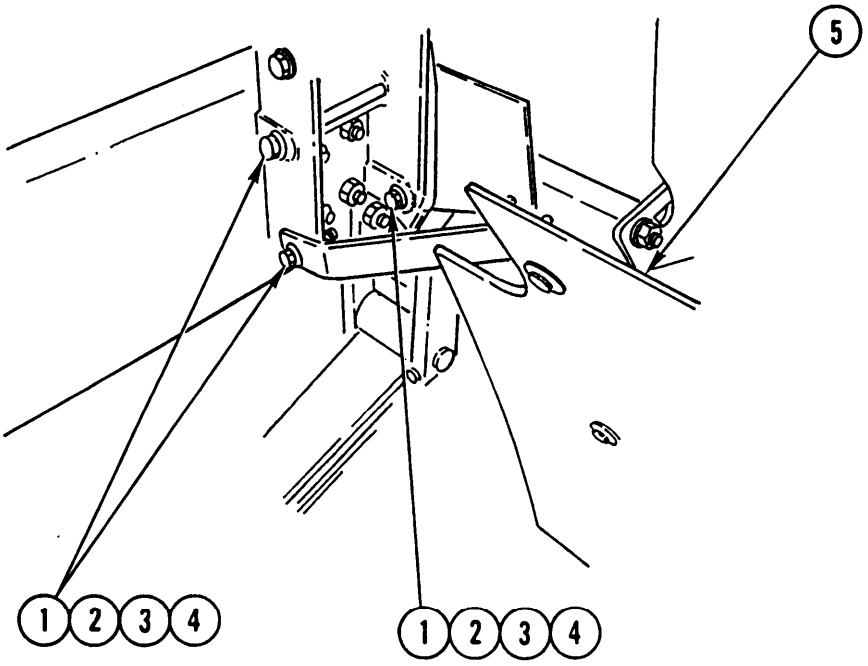
Nut, Lock (8)

Personnel Required: (2)

Equipment Condition:

Reference	Condition Description
Page 4-218	Side Marker/Turn Signal Light Removed

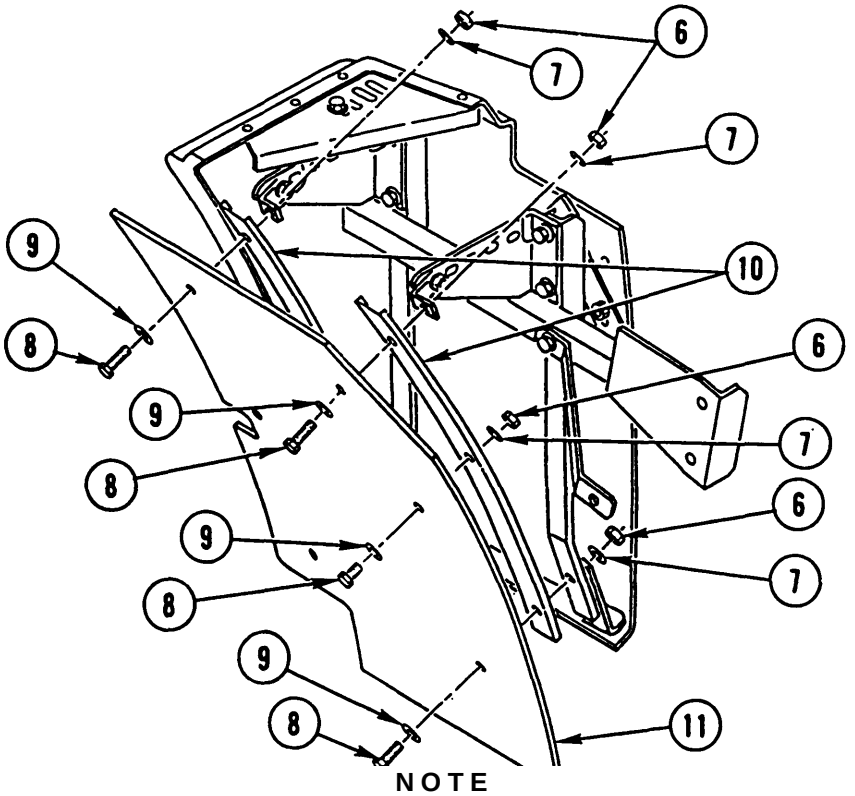
REMOVAL



NOTE

Procedure is the same for both fender extensions.

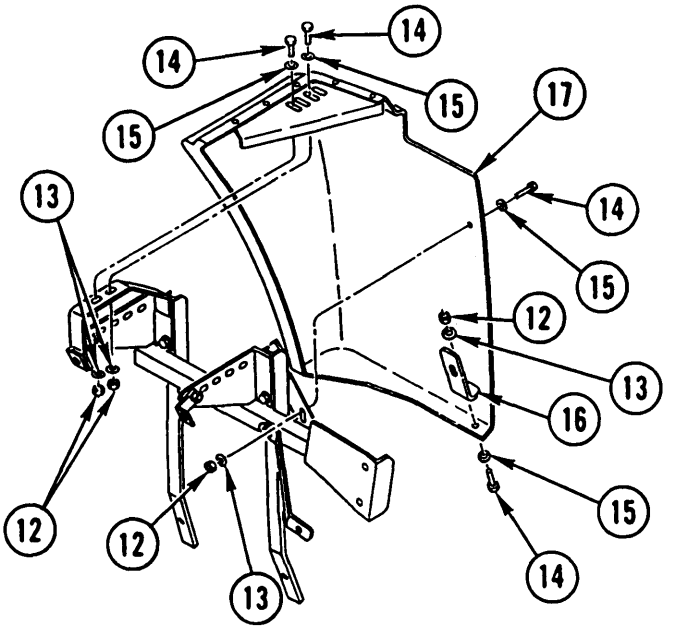
1. REMOVE THREE NUTS (1), THREE WASHERS (2), THREE SCREWS (3), THREE WASHERS (4), AND FENDER EXTENSION (5).



NOTE

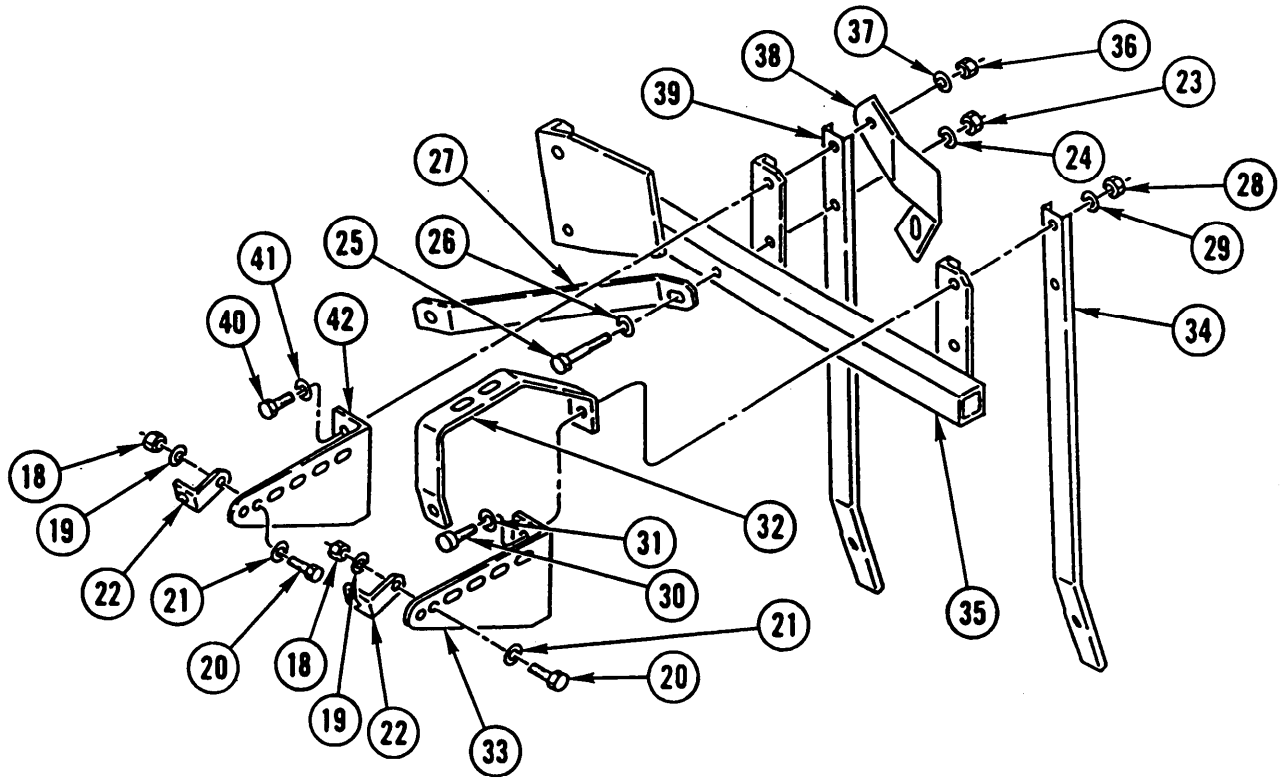
Capscrews are different lengths. Mark location of each capscrew during removal to aid in installation.

2. REMOVE SIX LOCK NUTS (6), SIX WASHERS (7), SIX CAPSCREWS (8), SIX WASHERS (9), TWO BRACES (10), AND MUD FLAP (11). DISCARD LOCK NUTS.



3. REMOVE FOUR NUTS (12), FOUR WASHERS (13), FOUR SCREWS (14), FOUR WASHERS (15), BRACKET (16), AND FENDER (17).

FENDER EXTENSION REPLACEMENT (CONT)



4. REMOVE TWO LOCK NUTS (18), TWO WASHERS (19), TWO CAPSCREWS (20), TWO WASHERS (21), AND TWO BRACKETS (22). DISCARD LOCK NUTS.

5. REMOVE LOCK NUT (23), WASHER (24), CAPSCREW (25), WASHER (26), AND BRACKET (27). DISCARD LOCK NUT.

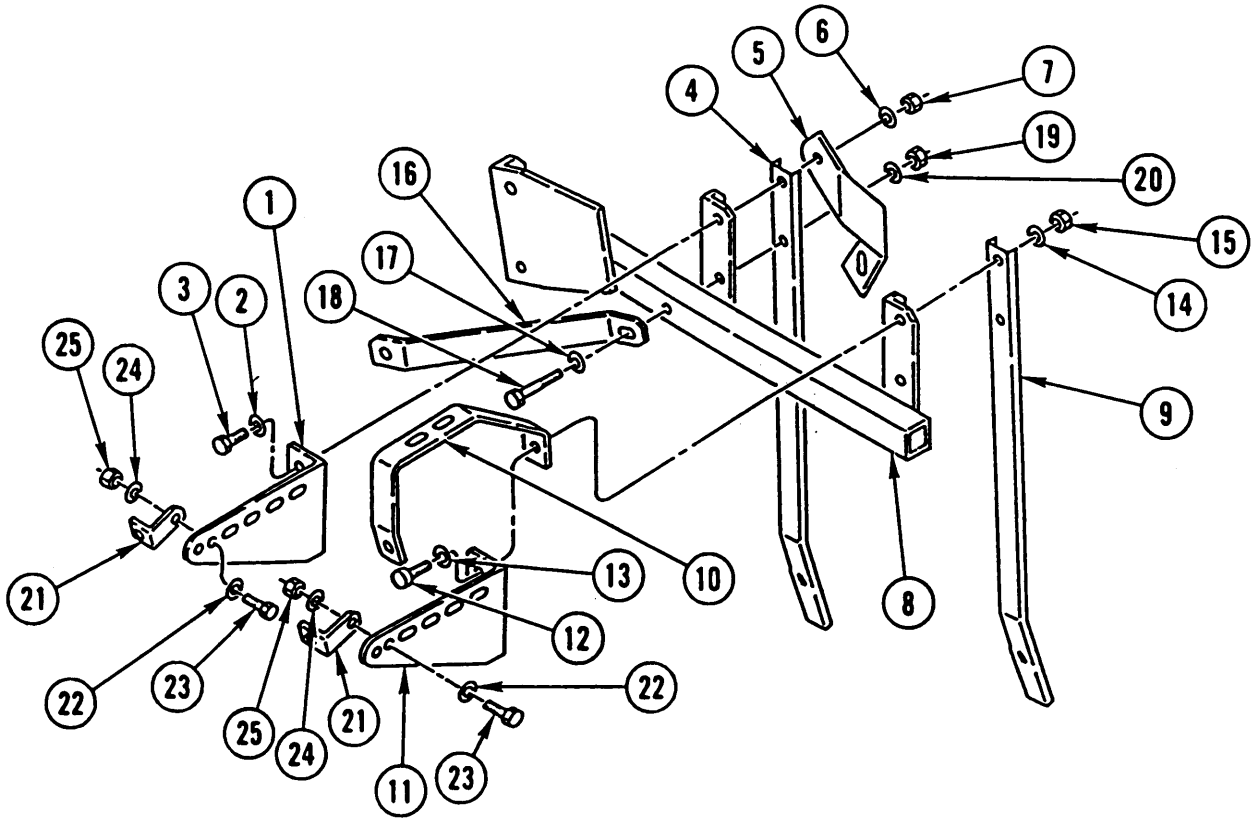
6. REMOVE TWO LOCK NUTS (28), TWO WASHERS (29), TWO CAPSCREWS (30), TWO WASHERS (31), TWO BRACKETS (32 AND 33), AND BRACE (34) FROM BRACKET (35). DISCARD LOCK NUTS.

7. REMOVE TWO LOCK NUTS (36), TWO WASHERS (37), BRACKET (38), BRACE (39), TWO CAPSCREWS (40), TWO WASHERS (41), AND BRACKET (42) FROM BRACKET (35). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



NOTE

Procedure is the same for both fender extensions.

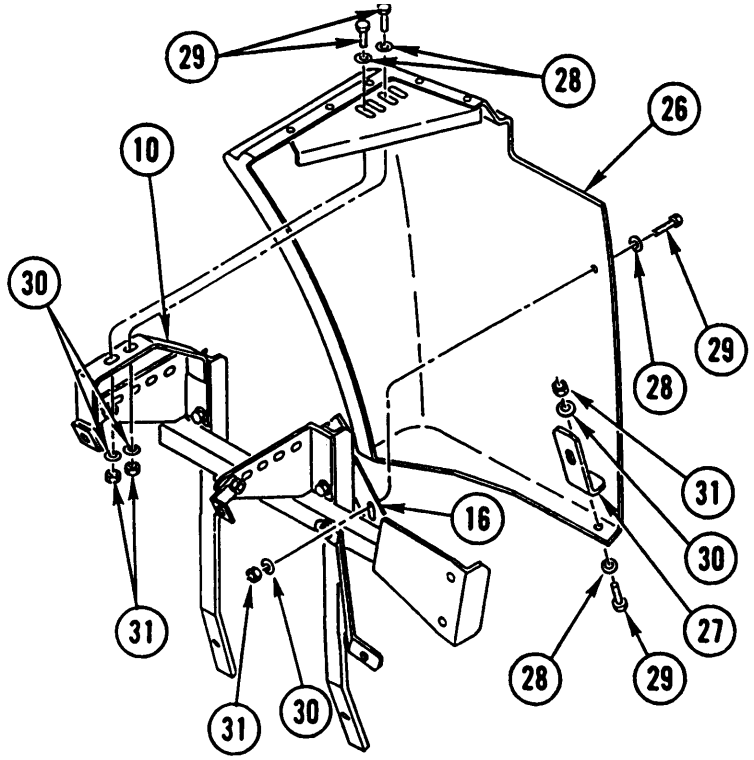
1. INSTALL BRACKET (1), TWO WASHERS (2), TWO CAPSCREWS (3), BRACE (4), BRACKET (5), TWO WASHERS (6), AND TWO NEW LOCK NUTS (7) ON BRACKET (8).

2. INSTALL BRACE (9), TWO BRACKETS (10 AND 11), TWO WASHERS (12), TWO CAPSCREWS (13), TWO WASHERS (14), AND TWO NEW LOCK NUTS (15) ON BRACKET (8).

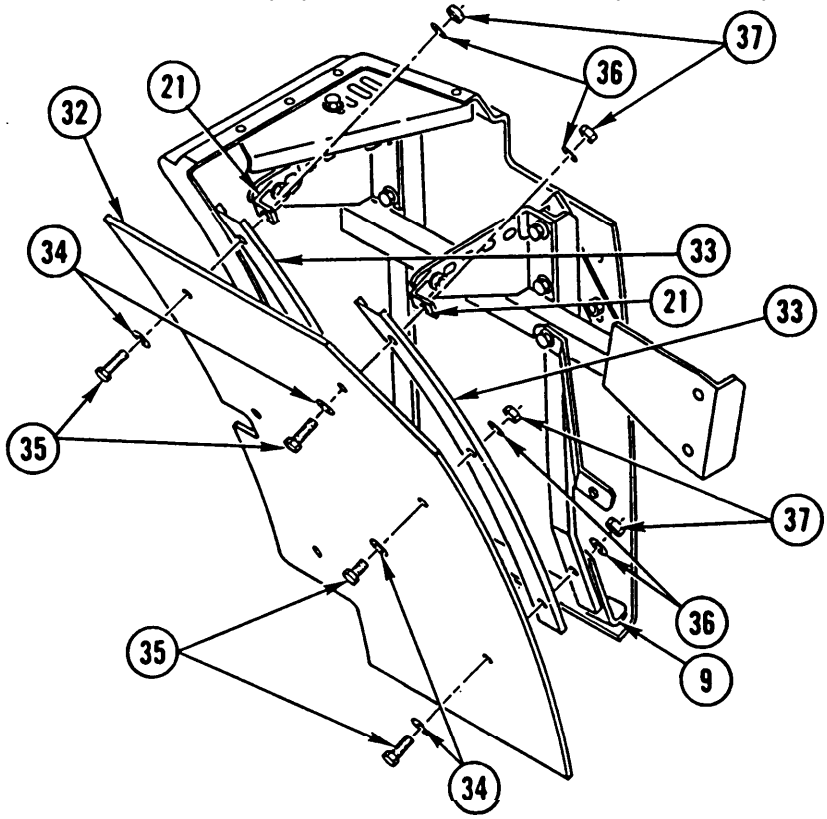
3. INSTALL BRACKET (16), WASHER (17), CAPSCREW (18), WASHER (19), AND NEW LOCK NUT (20) AND TIGHTEN HAND-TIGHT ON BRACKET (8).

4. INSTALL TWO BRACKETS (21), TWO WASHERS (22), TWO CAPSCREWS (23), TWO WASHERS (24), AND TWO NEW LOCK NUTS (25) ON TWO BRACKETS (1 AND 11).

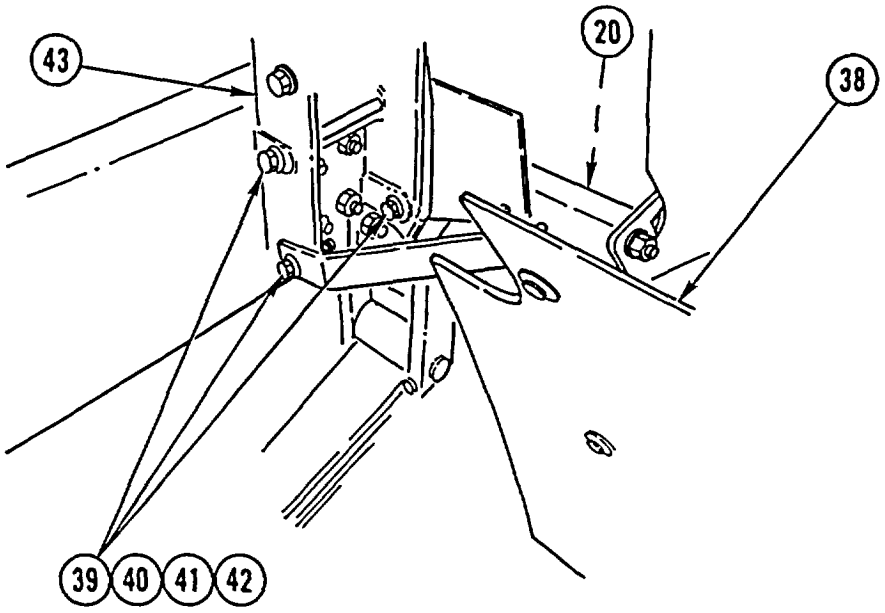
FENDER EXTENSION REPLACEMENT (CONT)



5. INSTALL FENDER (26), BRACKET (27), FOUR WASHERS (28), FOUR SCREWS (29), FOUR WASHERS (30), AND FOUR NUTS (31) ON TWO BRACKETS (10 AND 16).



6. INSTALL MUD FLAP (32), TWO BRACES (33), SIX WASHERS (34), SIX CAPSCREWS (35), SIX WASHERS (36), AND SIX NEW LOCK NUTS (37) ON TWO BRACKETS (21) AND TWO BRACES (5 AND 9).



NOTE
Have assistant help with step 7.

7. INSTALL FENDER EXTENSION (38), THREE WASHERS (39), THREE SCREWS (40), THREE WASHERS (41), AND THREE NUTS (42) ON CAB MOUNT (43).

8. TIGHTEN LOCK NUT (20).

NOTE
Follow-on Maintenance:
Install side marker/turn signal light (page 4-218).

FENDER EXTENSION REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Personnel Required: (2)

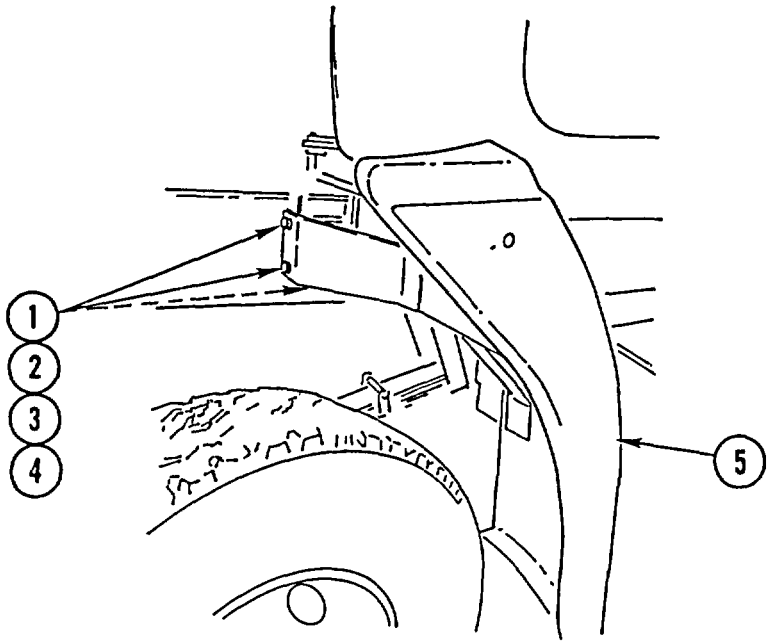
Equipment Condition:

Tools and Special Equipment:	Reference Condition	Description
Tool Kit, SC 5180-90-CL-N26	Page 4-218	Side Marker/Turn Signal Light Removed

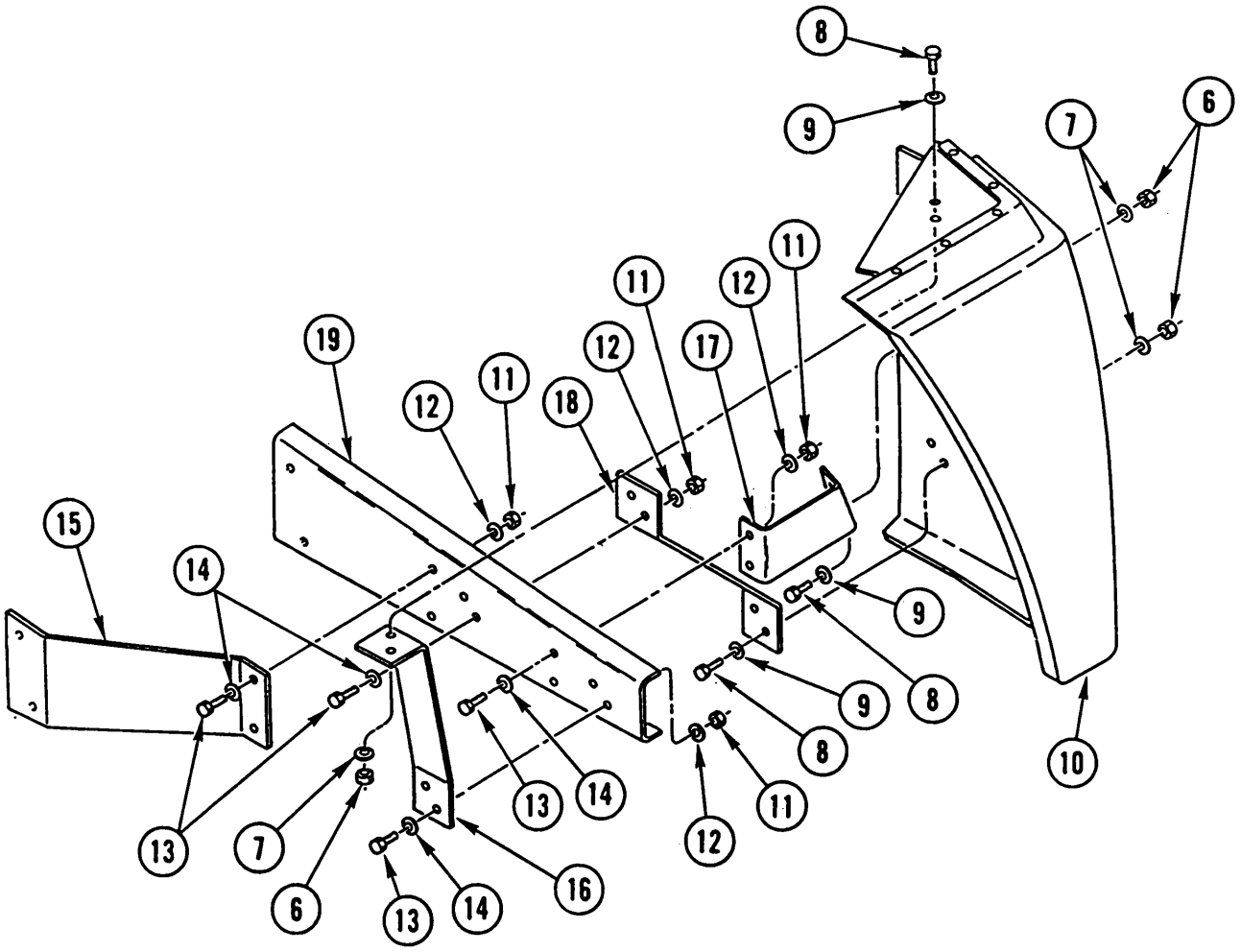
Materials/Parts:

Nut, Lock (11)

REMOVAL



1. REMOVE THREE LOCK NUTS (1), THREE WASHERS (2), THREE SCREWS (3), THREE WASHERS (4), AND FENDER EXTENSION (5). DISCARD LOCK NUTS.



2. REMOVE SIX NUTS (6), SIX WASHERS (7), SIX CAPSCREWS (8), SIX WASHERS (9), AND FENDER (10).

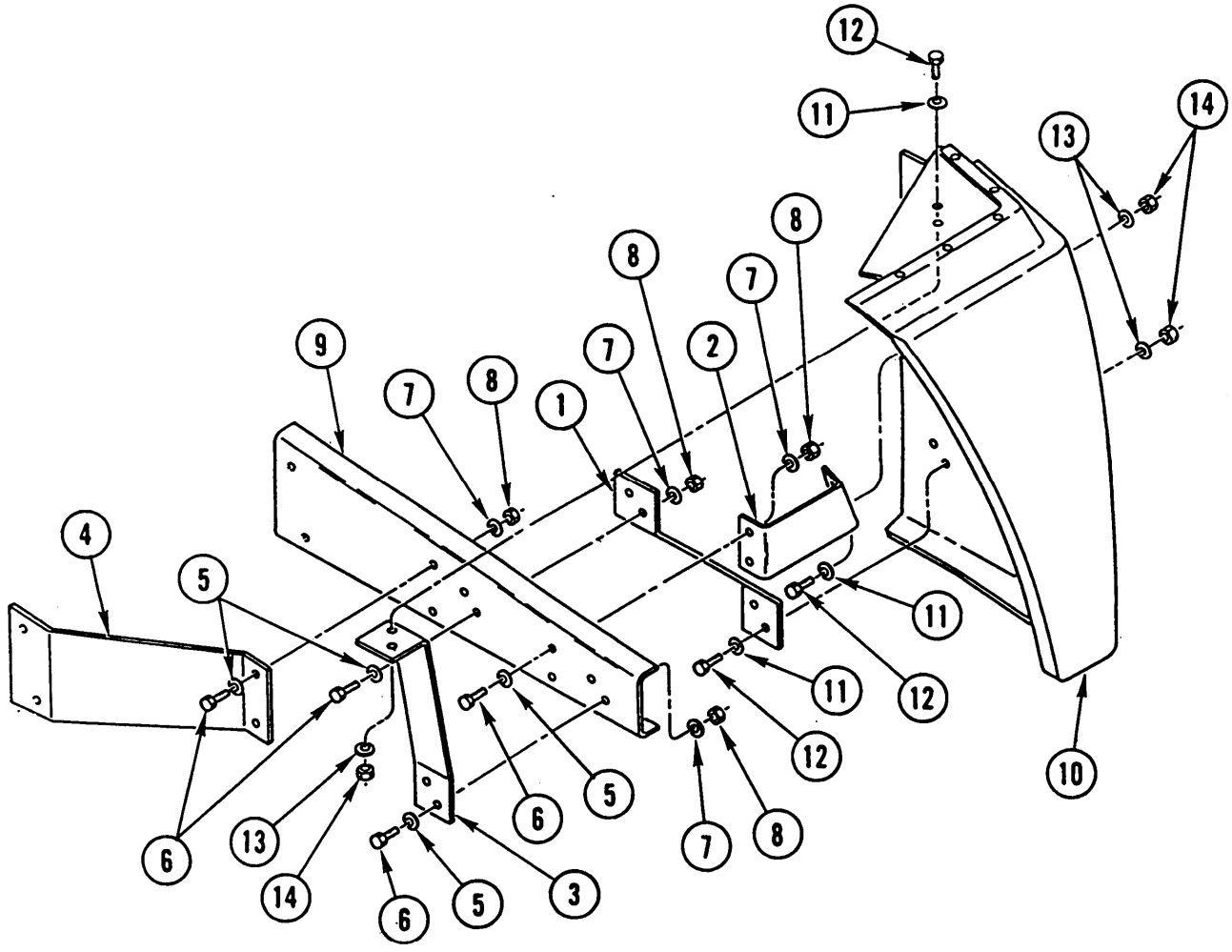
3. REMOVE EIGHT LOCK NUTS (11), EIGHT WASHERS (12), EIGHT CAPSCREWS (13), EIGHT WASHERS (14), AND FOUR BRACKETS (15, 16, 17, AND 18) FROM BRACE (19). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

FENDER EXTENSION REPLACEMENT (CONT)

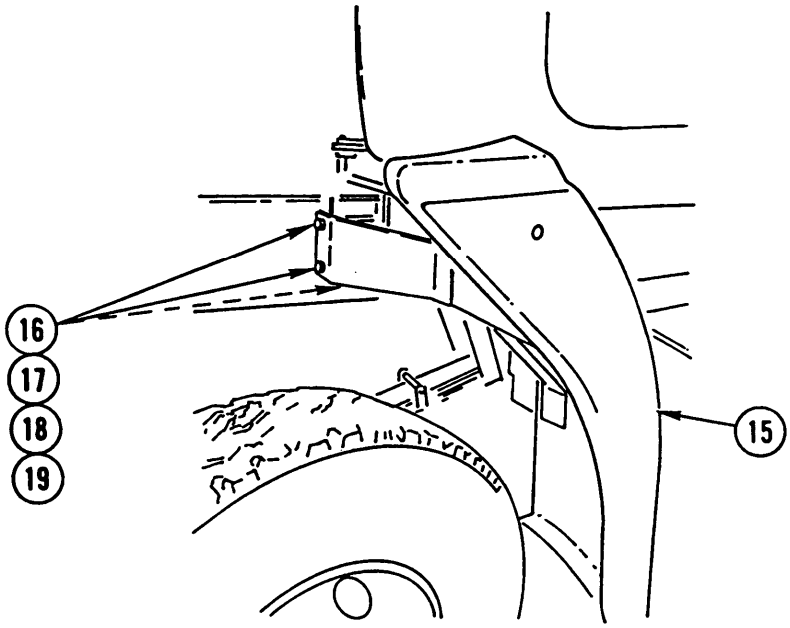
INSTALLATION



NOTE

Do not tighten hardware more than hand-tight.

1. INSTALL FOUR BRACKETS (1, 2, 3, AND 4), EIGHT WASHERS (5), EIGHT CAPSCREWS (6), EIGHT WASHERS (7), AND EIGHT NEW LOCK NUTS (8) ON BRACE (9).
2. INSTALL FENDER (10), SIX WASHERS (11), SIX CAPSCREWS (12), SIX WASHERS (13), AND SIX NUTS (14).
3. TIGHTEN ALL HARDWARE.



4. INSTALL FENDER EXTENSION (15), THREE WASHERS (16), THREE SCREWS (17), THREE WASHERS (18), AND THREE NEW LOCK NUTS (19).

NOTE

Follow-on Maintenance:
Install side marker/turn signal light (page 4-218).

REAR FENDER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. installation

INITIAL SETUP

Tools and Special Equipment:

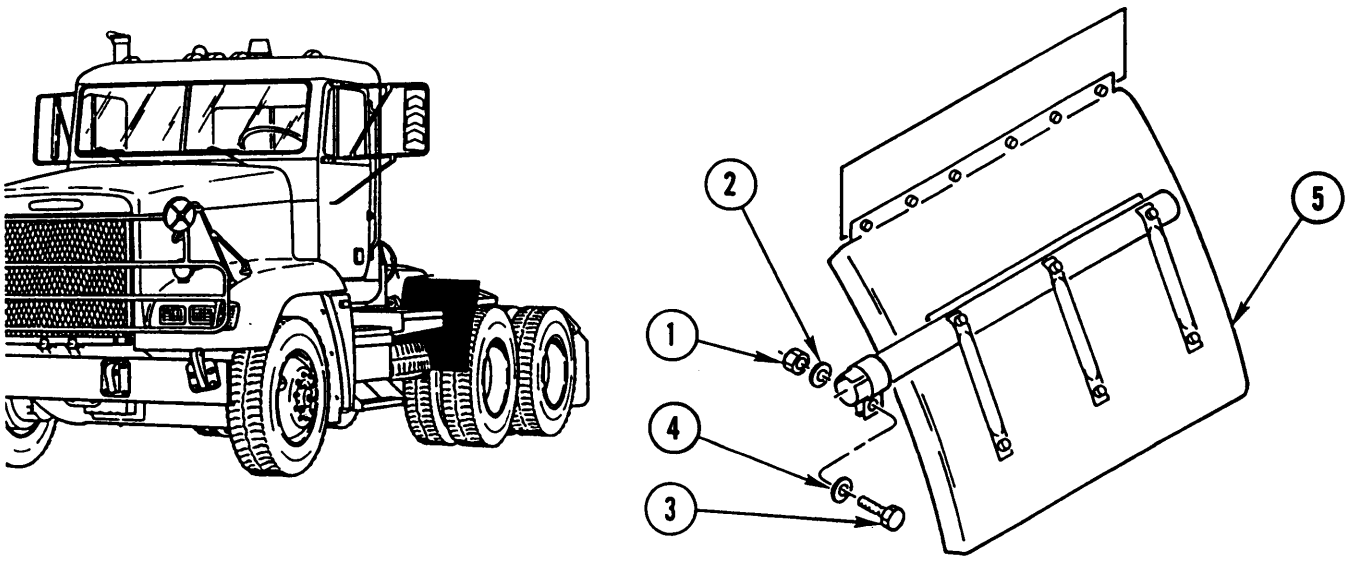
Shop Equipment, SC4910-95-CL-A72
Tool Kit, SC 5180-90 - CL- N26

REMOVAL

NOTE

Procedure is the same for both sides.

REMOVE NUT (1), WASHER (2), SCREW (3) WASHER (4), AND REAR FENDER (5).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE

Procedure is the same for both sides.

INSTALL REAR FENDER (5), WASHER (4), SCREW (3), WASHER (2), AND NUT (1). TIGHTEN NUT TO 200 LB-FT (271 N•m).

MUD FLAP ASSEMBLY REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M917A1 and M917A1 w/MCS

Materials/Parts:

Pin, Cotter

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

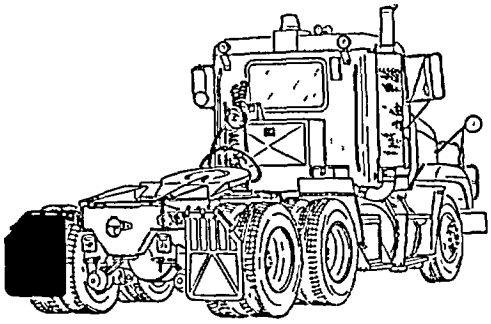
REMOVAL

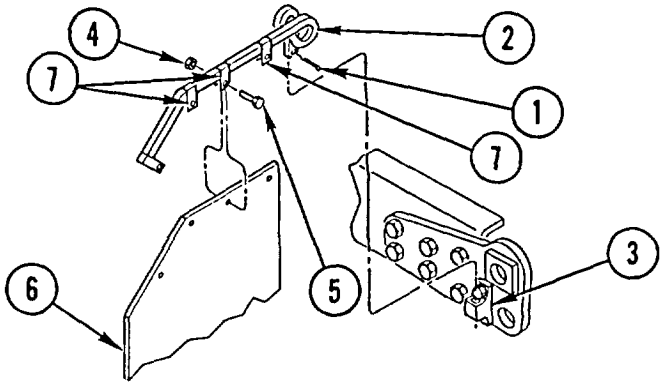
NOTE
Procedure is the same for both sides.

1. REMOVE COTTER PIN (1) AND MUD FLAP HANGER (2) FROM BRACKET (3). DISCARD COTTER PIN.
2. REMOVE FOUR NUTS (4), FOUR SCREWS (5), AND MUD FLAP (6).
3. REMOVE THREE CLAMPS (7) FROM MUD FLAP HANGER (2).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.





INSTALLATION

NOTE
Procedure is the same for both sides.

1. INSTALL THREE CLAMPS (7) ON MUD FLAP HANGER (2).
2. INSTALL MUD FLAP (6), FOUR SCREWS (5), AND FOUR NUTS (4).
3. INSTALL MUD FLAP HANGER (2) AND NEW COTTER PIN (1) IN BRACKET (3).

TIRE CHAIN STORAGE BOX REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Materials/Parts:

Seal 'N' Caulk Appendix C, Item 24

Tools and Special Equipment:

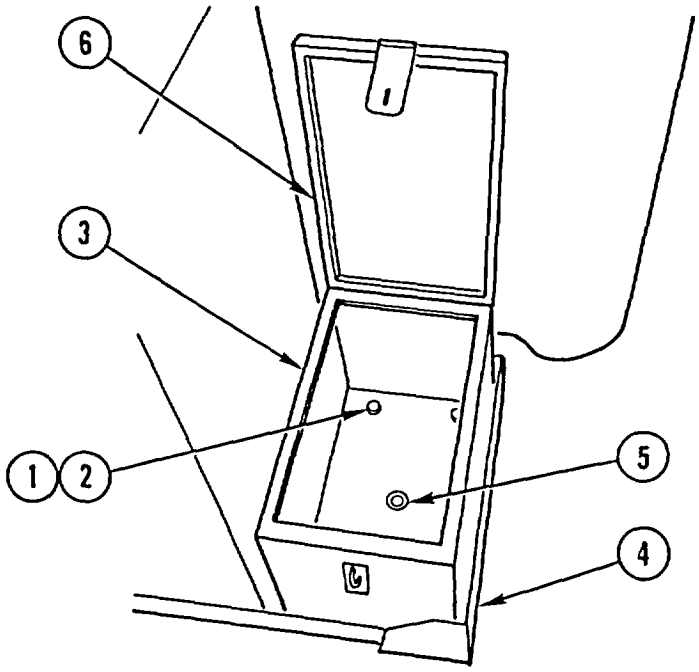
Tool Kit, SC 5180-90-CL-N26

REMOVAL

NOTE
Procedure is the same for both tire chain storage boxes.

1. REMOVE FOUR SCREWS (1), FOUR WASHERS (2), AND TIRE CHAIN STORAGE BOX (3) FROM MOUNTING BRACKET (4).

2. REMOVE DRAIN (5) AND, IF DAMAGED, SEAL (6) FROM TIRE CHAIN STORAGE BOX (3).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

CAUTION

Make sure all old sealing material is removed from cover of box. Failure to do so could cause box to leak resulting in damage to contents.

NOTE

Procedure is the same for both tire chain storage boxes.

1. IF REMOVED, INSTALL NEW SEAL (6) AND DRAIN (5) IN TIRE CHAIN STORAGE BOX (3).

2. APPLY SEAL 'N' CAULK TO BOTTOM OF FOUR WASHERS (2) AND INSTALL TIRE CHAIN STORAGE BOX (3), FOUR WASHERS (2), AND FOUR SCREWS (1) IN MOUNTING BRACKET (4).

TIRE CHAIN STORAGE BOX AND MOUNTING BRACKET (LEFT SIDE)

REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

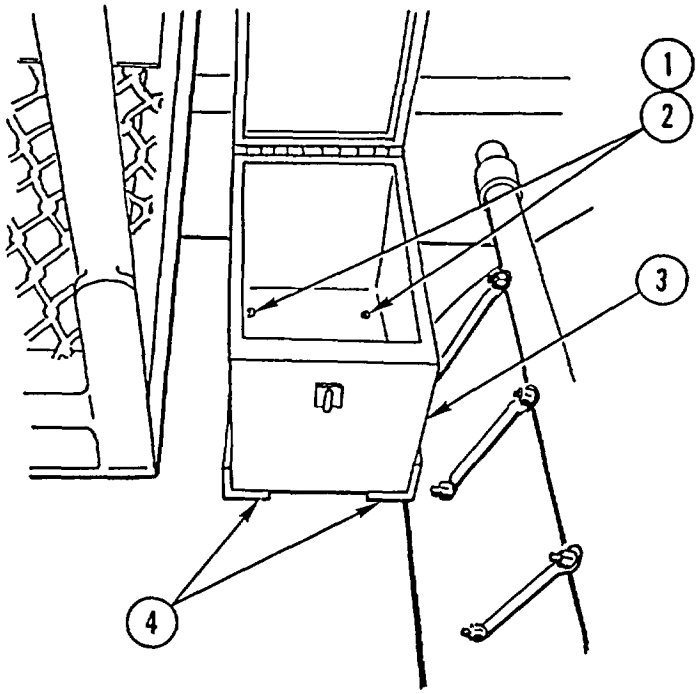
Nut, Lock (4)

Seal 'N' Caulk — Appendix C, Item 24

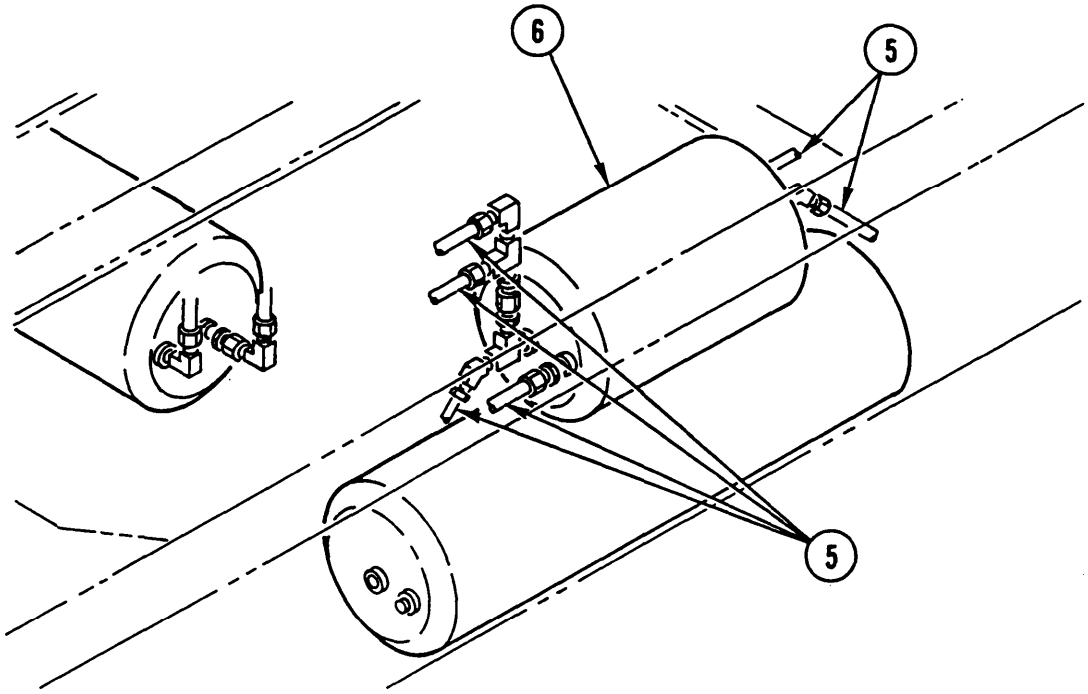
Equipment Condition:

Reference Condition	Description
Page 2-28	Air System Drained

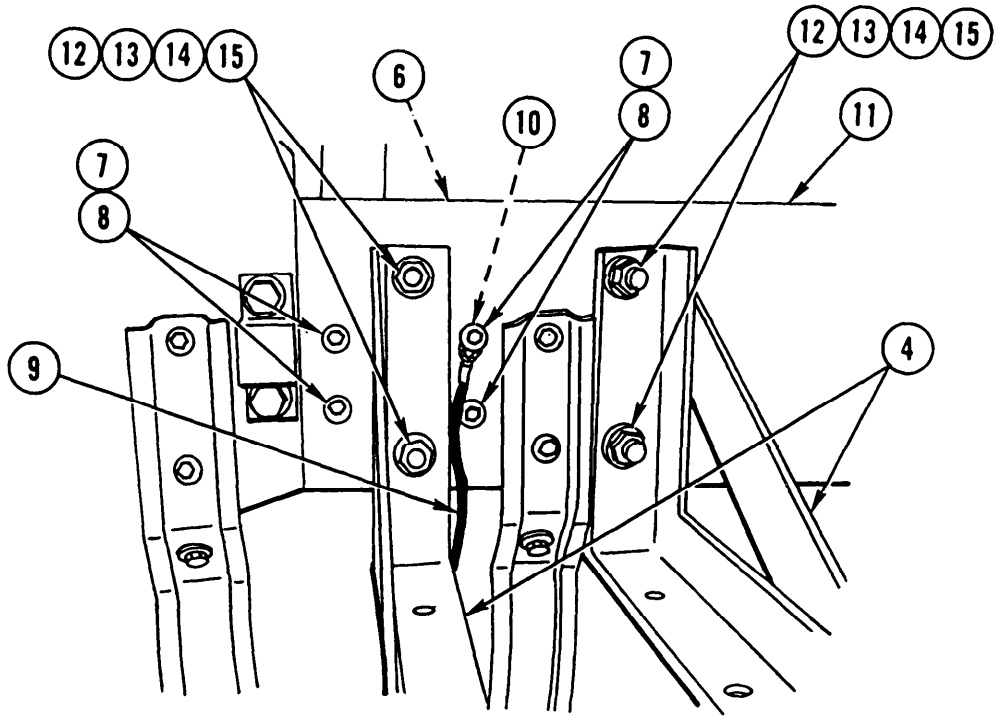
REMOVAL



1. REMOVE SIX SCREWS (1), SIX WASHERS (2), AND TIRE CHAIN STORAGE BOX (3) FROM TWO MOUNTING BRACKETS (4).



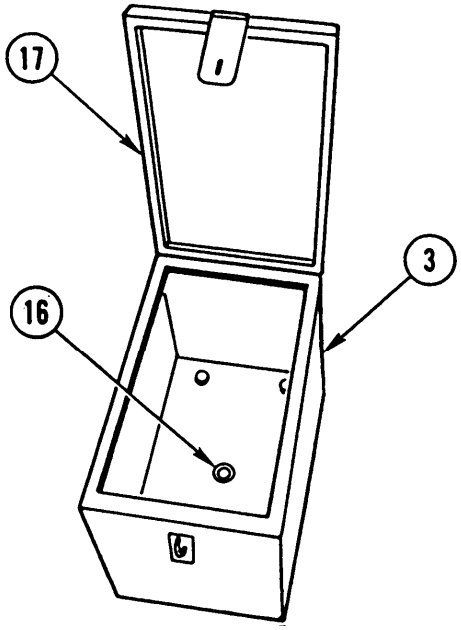
2. DISCONNECT SIX TUBES (5) FROM AIR SUPPLY TANK (6).



3. REMOVE FOUR NUTS (7), FOUR WASHERS (8), CABLE (9), WASHER (10), AND AIR SUPPLY TANK (6) FROM FRAME RAIL (11).

4. REMOVE FOUR LOCK NUTS (12), FOUR WASHERS (13), TWO MOUNTING BRACKETS (4), FOUR SCREWS (14), AND FOUR WASHERS (15) FROM FRAME RAIL (11). DISCARD LOCK NUTS.

TIRE CHAIN STORAGE BOX AND MOUNTING BRACKET (LEFT SIDE) REPLACEMENT (CONT)

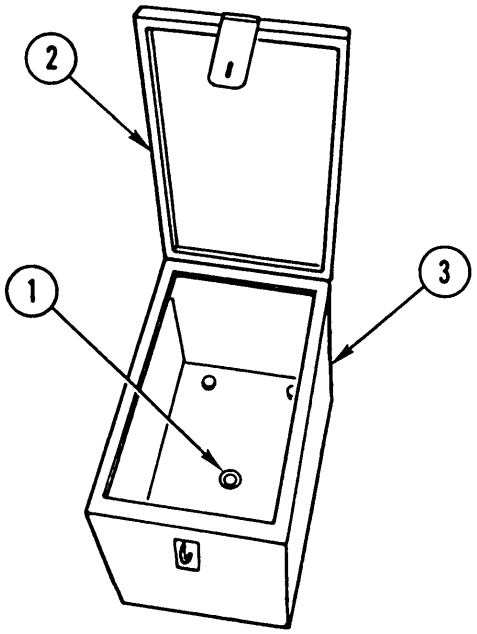


5. REMOVE DRAIN (16) AND, IF DAMAGED, SEAL (17) FROM TIRE CHAIN STORAGE BOX (3).

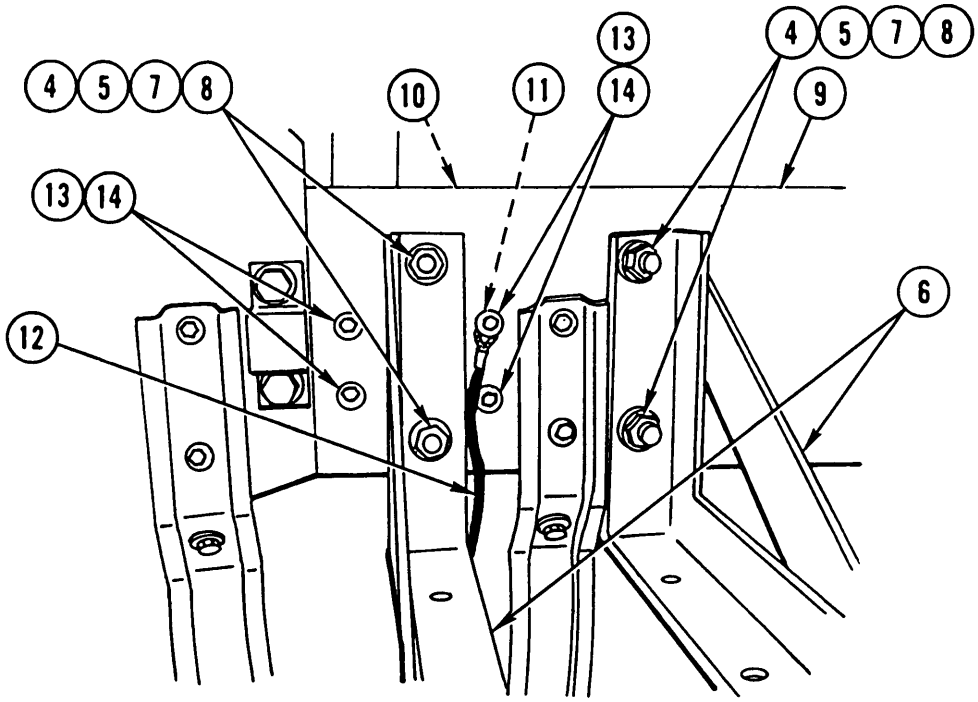
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

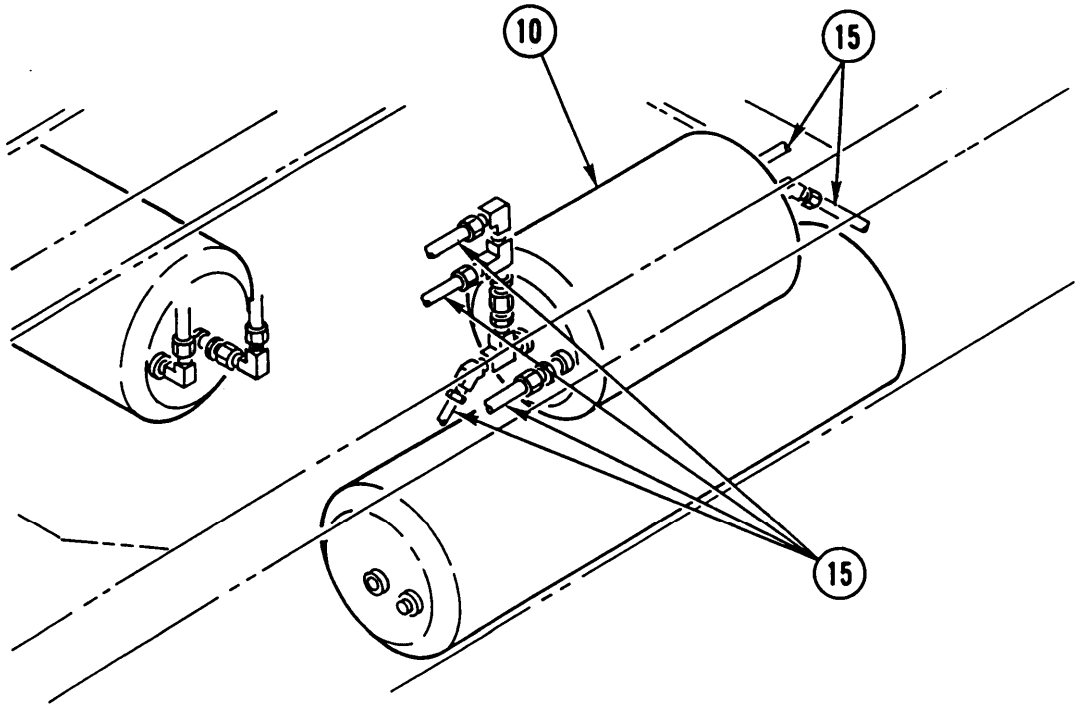


1. INSTALL DRAIN (1) AND, IF REMOVED, NEW SEAL (2) IN TIRE CHAIN STORAGE BOX (3).



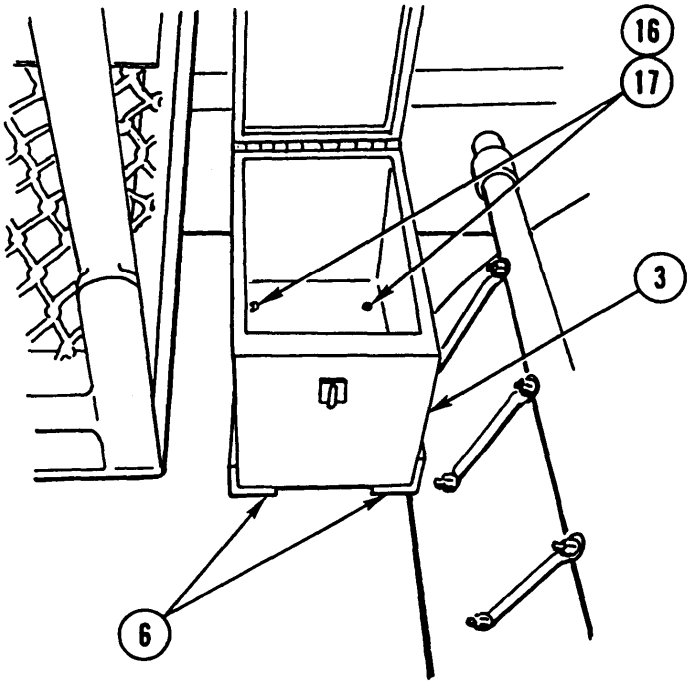
2. INSTALL FOUR WASHERS (4), FOUR SCREWS (5), TWO MOUNTING BRACKETS (6), FOUR WASHERS (7), AND FOUR NEW LOCK NUTS (8) ON FRAME RAIL (9).

3. INSTALL AIR SUPPLY TANK (10), WASHER (11), CABLE (12), FOUR WASHERS (13), AND FOUR NUTS (14) ON FRAME RAIL (9).



4. CONNECT SIX TUBES (15) TO AIR SUPPLY TANK (10).

TIRE CHAIN STORAGE BOX AND MOUNTING BRACKET (LEFT SIDE) REPLACEMENT (CONT)



5. APPLY SEAL 'N' CAULK TO BOTTOM OF SIX WASHERS (16) AND INSTALL TIRE CHAIN STORAGE BOX (3), SIX WASHERS (16), AND SIX SCREWS (17) IN TWO MOUNTING BRACKETS (6).

TIRE CHAIN STORAGE BOX AND MOUNTING BRACKET (RIGHT SIDE) REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

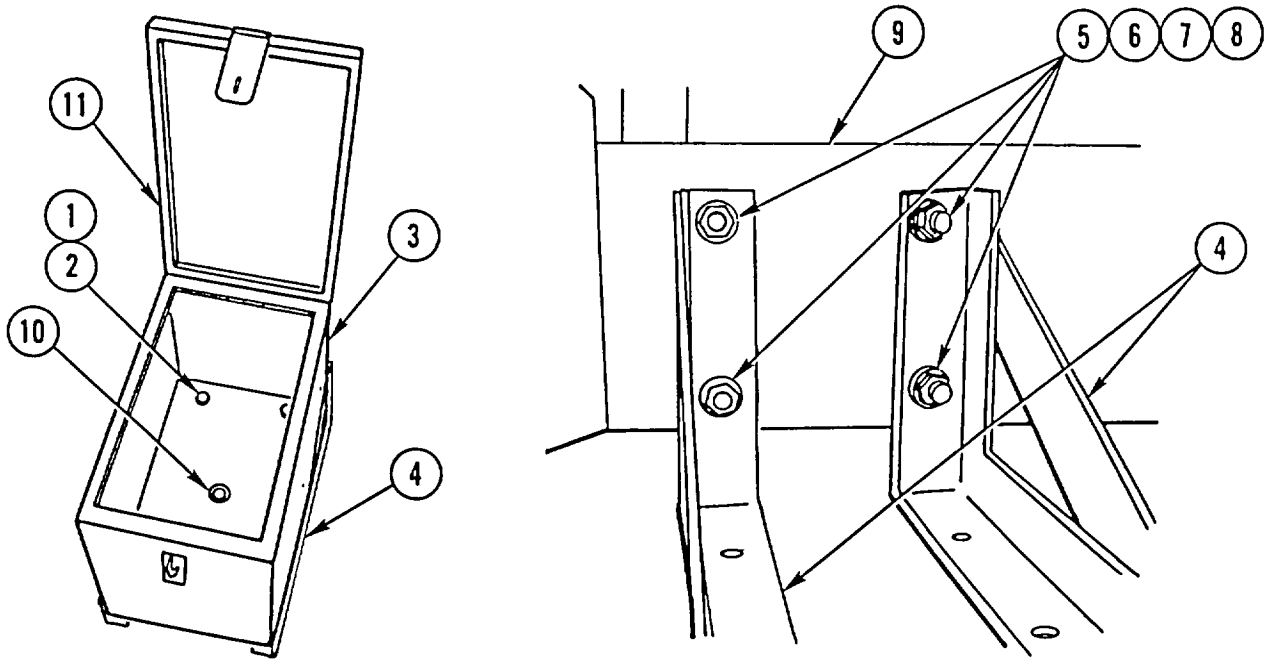
Materials/Parts:

Seal 'N' Caulk — Appendix C, Item 24

Equipment Condition:

Reference	Condition Description
Page 4-466	Primary II Air Tank Removed

REMOVAL



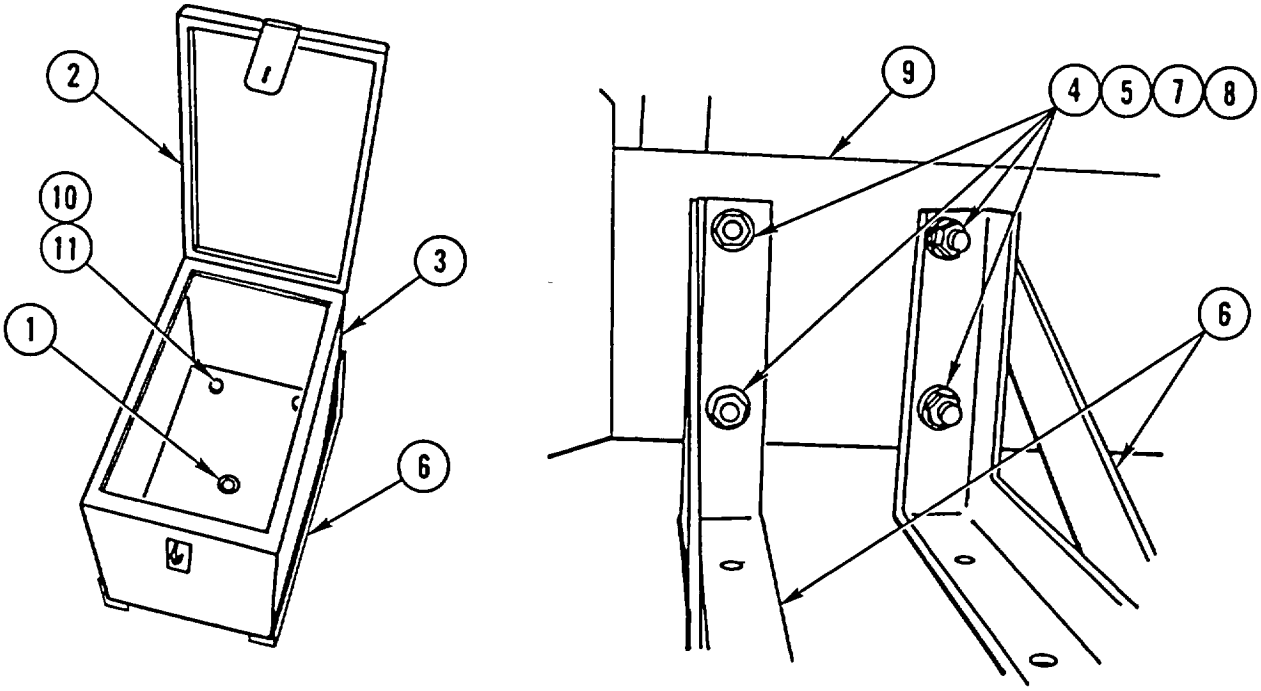
1. REMOVE SIX SCREWS (1), SIX WASHERS (2), AND TIRE CHAIN STORAGE BOX (3) FROM TWO MOUNTING BRACKETS (4).
2. REMOVE FOUR NUTS (5), FOUR WASHERS (6), TWO MOUNTING BRACKETS (4), FOUR SCREWS (7), AND FOUR WASHERS (8) FROM FRAME RAIL (9).
3. REMOVE DRAIN (10) AND, IF DAMAGED, SEAL (11) FROM TIRE CHAIN STORAGE BOX (3).

TIRE CHAIN STORAGE BOX AND MOUNTING BRACKET (RIGHT SIDE) REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL DRAIN (1) AND, IF REMOVED, NEW SEAL (2) IN TIRE CHAIN STORAGE BOX (3).
2. INSTALL FOUR WASHERS (4), FOUR SCREWS (5), TWO MOUNTING BRACKETS (6), FOUR WASHERS (7), AND FOUR NUTS (8) ON FRAME RAIL (9).
3. APPLY SEAL 'N' CAULK TO BOTTOM OF SIX WASHERS (10) AND INSTALL TIRE CHAIN STORAGE BOX (3), SIX WASHERS (10), AND SIX SCREWS (11) IN TWO MOUNTING BRACKETS (6).

NOTE
Follow-on Maintenance:

Install primary II air tank (page 4-466).

PERSONAL GEAR STORAGE BOX AND MOUNTING BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90 - CL- N26

Materials/Parts:

Nut, Lock (7)

Nut, Lock (7)

Seal 'N' Caulk Appendix C, Item 24

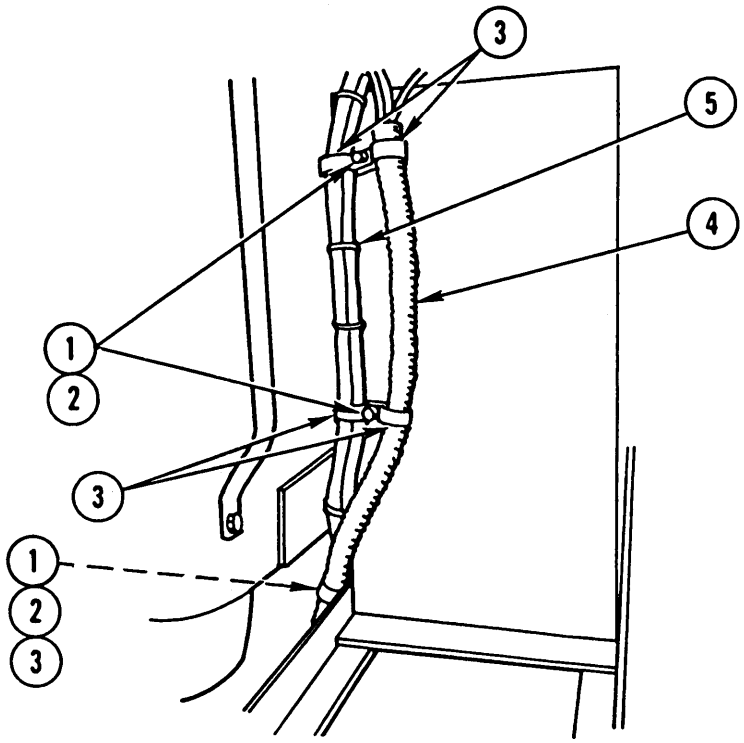
Personnel Required: (2)

Equipment Condition:

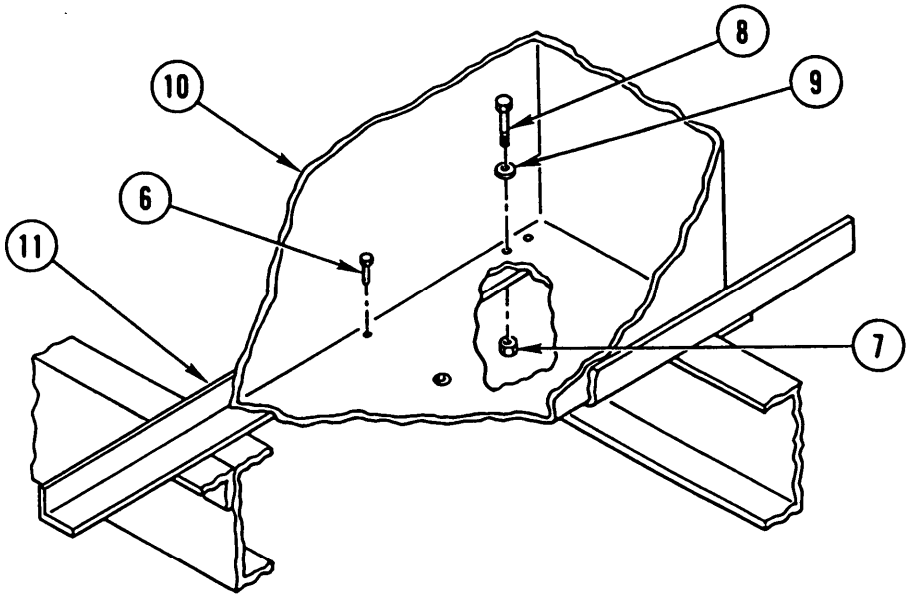
Reference	Condition Description
Page 4-710	Tire Chain Storage Boxes Removed
Page 4-726	Basic Issue Items (BII) Storage Box Removed
Page 4-630	Spare Wheel Hoist Removed
Page 4-528	Forward Tractor Protection Valve Removed
Page 4-272	Trailer Connector Covers Removed

PERSONAL GEAR STORAGE BOX AND MOUNTING BRACKET REPLACEMENT (CONT)

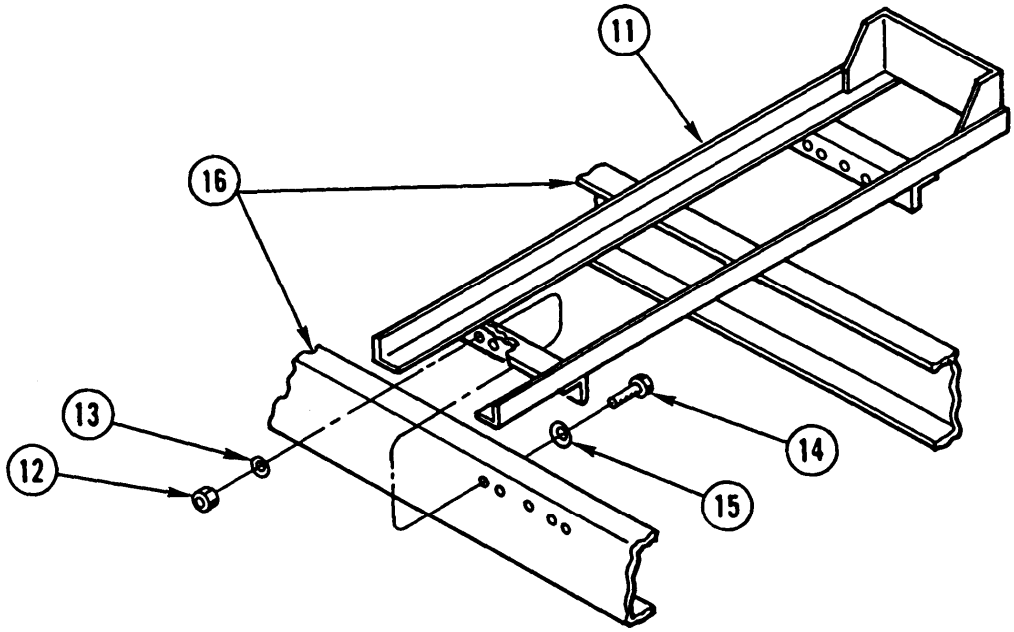
REMOVAL



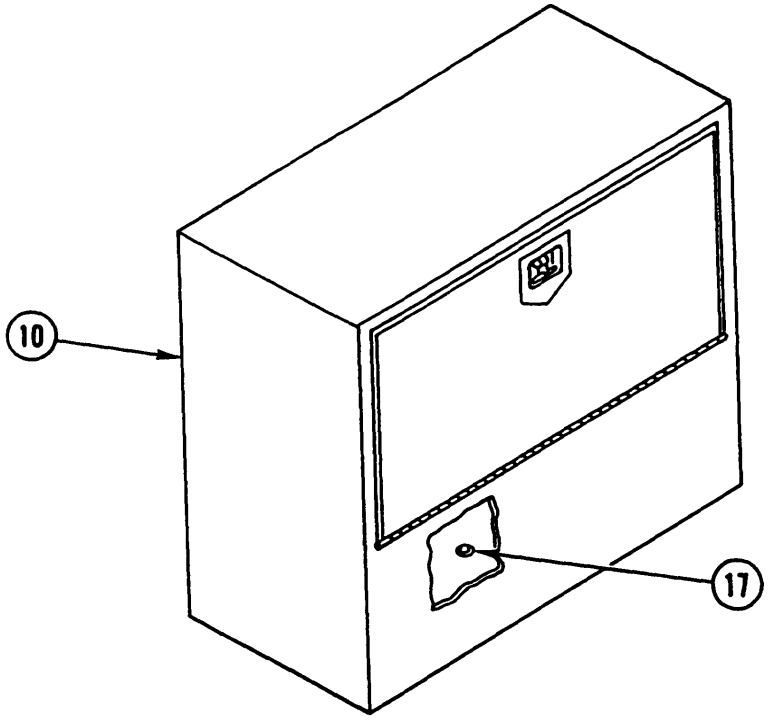
1. REMOVE THREE LOCK NUTS (1), THREE WASHERS (2), AND SIX CLAMPS (3) AND LAY FOUR AIR TUBES (4) AND TWO HARNESSES (5) ASIDE. DISCARD LOCK NUTS.



2. REMOVE TWO SCREWS (6), FOUR LOCK NUTS (7), FOUR SCREWS (8), FOUR WASHERS (9), AND PERSONAL GEAR STORAGE BOX (10) FROM MOUNTING BRACKET (11). DISCARD LOCK NUTS.



3. REMOVE SEVEN LOCK NUTS (12), SEVEN WASHERS (13), SEVEN SCREWS (14), SEVEN WASHERS (15), AND MOUNTING BRACKET (11) FROM FRAME (1 6). DISCARD LOCK NUTS.



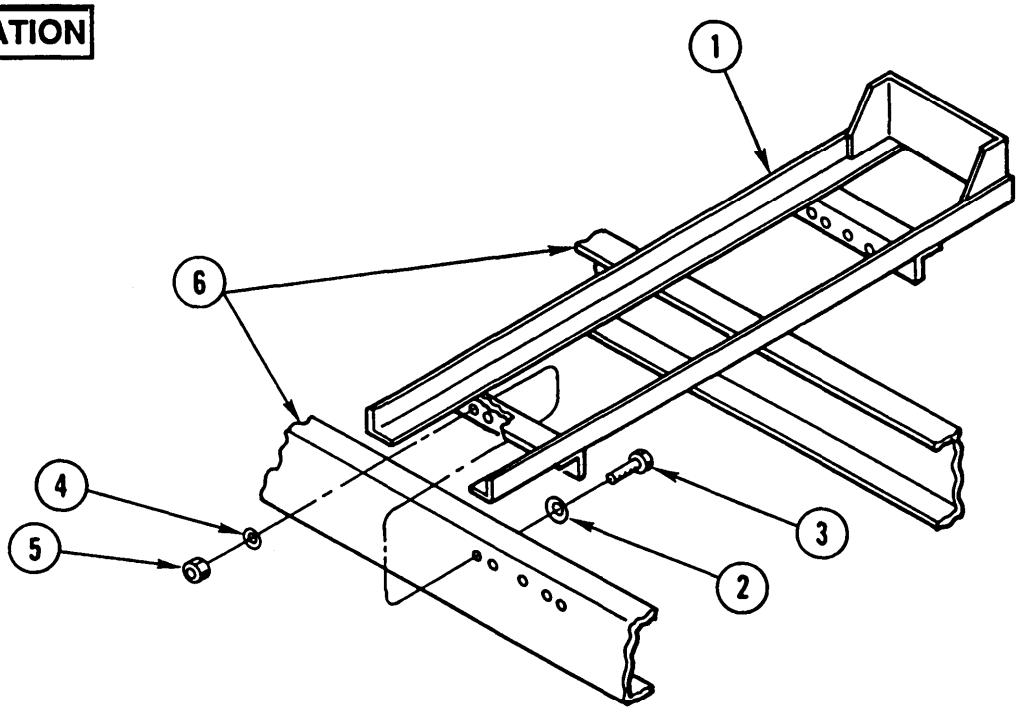
4. REMOVE DRAIN (17) FROM PERSONAL GEAR STORAGE BOX (10).

CLEANING/INSPECTION

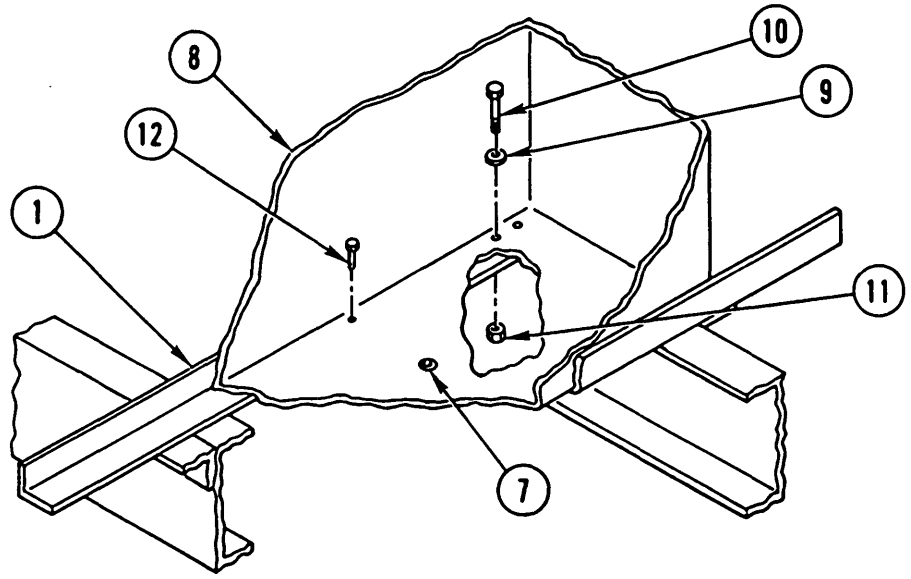
Clean and inspect all parts in accordame with Chapter 2.

PERSONAL GEAR STORAGE BOX AND MOUNTING BRACKET REPLACEMENT (CONT)

INSTALLATION

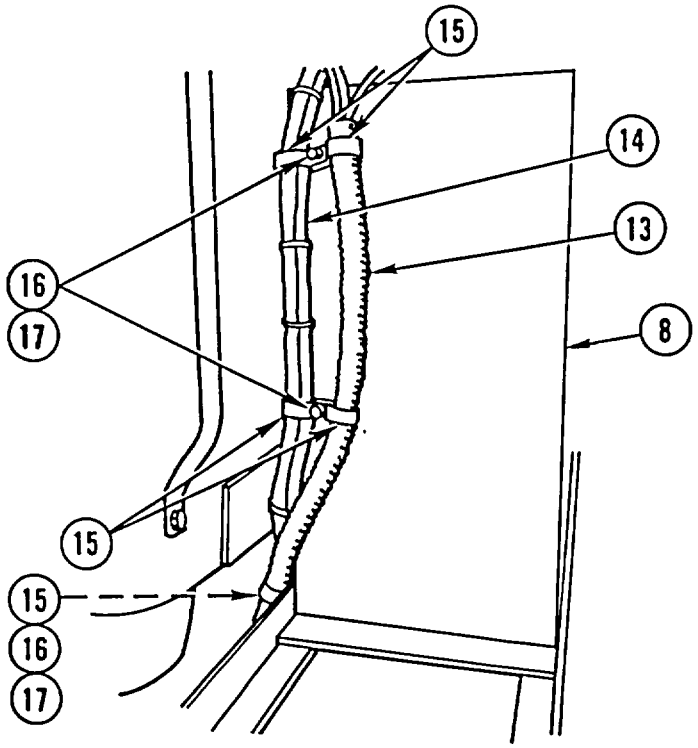


1. INSTALL MOUNTING BRACKET (1), SEVEN WASHERS (2), SEVEN SCREWS (3), SEVEN WASHERS (4), AND SEVEN NEW LOCK NUTS (5) ON FRAME (6).



2. INSTALL DRAIN (7) IN PERSONAL GEAR STORAGE BOX (8).

3. APPLY SEAL 'N' CAULK TO BOTTOM OF FOUR WASHERS (9). INSTALL PERSONAL GEAR STORAGE BOX (8), FOUR WASHERS (9), FOUR SCREWS (10), FOUR NEW LOCK NUTS (11), AND TWO SCREWS (12) IN MOUNTING BRACKET (1).



4. INSTALL FOUR AIR TUBES (13), TWO HARNESSES (14), SIX CLAMPS (15), THREE WASHERS (16), AND THREE NEW LOCK NUTS (17) ON PERSONAL GEAR STORAGE BOX (8).

NOTE
Follow-on Maintenance:

Install trailer connector covers (page 4-272).
Install forward tractor protection valve (page 4-528).
Install spare wheel hoist (page 4-630).
Install Basic Issue Items (BII) storage box (page 4-726).
Install tire chain storage boxes (page 4-710).

PERSONAL GEAR STORAGE BOX AND MOUNTING BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

Seal 'N' Caulk Appendix C, Item 24

Personnel Required: (2)

Equipment Condition:

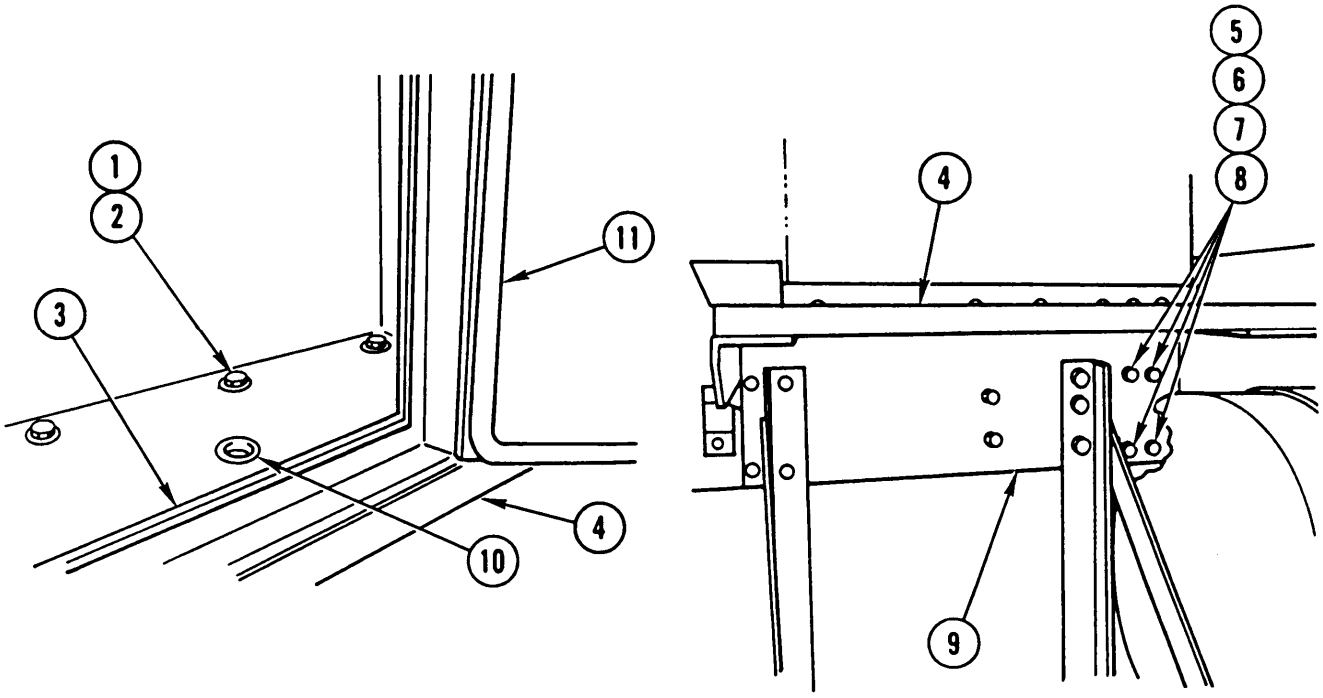
Reference	Condition Description
Page 4-728	Basic Issue Items (BII) Storage Box Removed
Page 4-556	Air Dryer Removed

REMOVAL

1. REMOVE EIGHT SCREWS (1), EIGHT WASHERS (2), AND PERSONAL GEAR STORAGE BOX (3) FROM MOUNTING BRACKET (4).
2. REMOVE FOUR LOCK NUTS (5), FOUR WASHERS (6), MOUNTING BRACKET (4), FOUR SCREWS (7), AND FOUR WASHERS (8) FROM FRAME (9). DISCARD LOCK NUTS.
3. REMOVE DRAIN (10) AND DOOR SEAL (11) FROM PERSONAL GEAR STORAGE BOX (3).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL DRAIN (10) AND NEW DOOR SEAL (11) IN PERSONAL GEAR STORAGE BOX (3).
2. INSTALL FOUR WASHERS (8), FOUR SCREWS (7), MOUNTING BRACKET (4), FOUR WASHERS (6), AND FOUR NEW LOCK NUTS (5) ON FRAME (9).
3. APPLY SEAL 'N' CAULK TO BOTTOM OF EIGHT WASHERS (2) AND INSTALL PERSONAL GEAR STORAGE BOX (3), EIGHT WASHERS (2), AND EIGHT SCREWS (1) IN MOUNTING BRACKET (4).

NOTE

Follow-on Maintenance:
Install air dryer (page 4-556).
Install Basic Issue Items (Bll) storage box (page 4-728).

BASIC ISSUE ITEMS (BII) STORAGE BOX AND MOUNTING BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL- N26

Materials/Parts:

Seal 'N' Caulk Appendix C, Item 24

Equipment Condition:

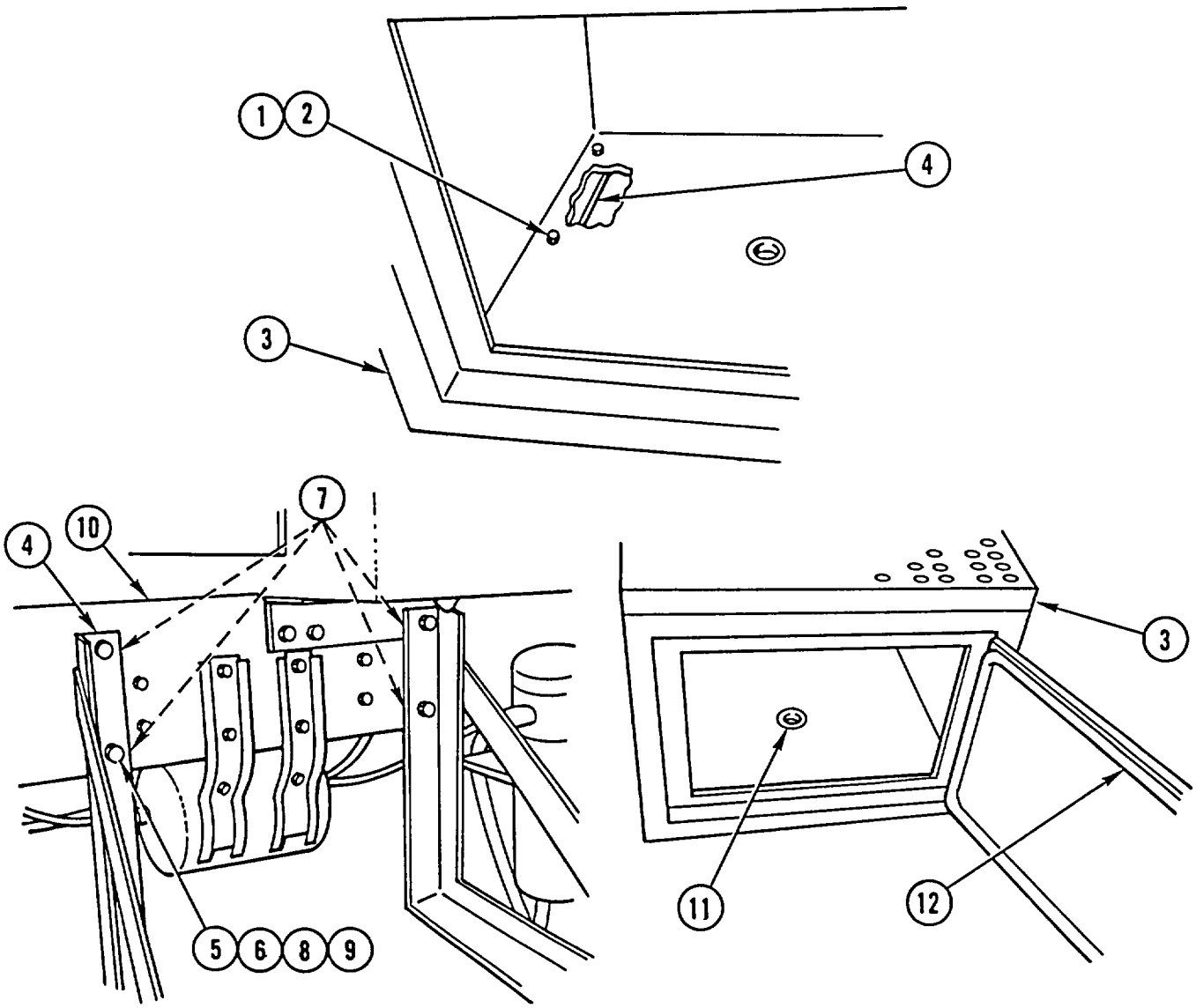
Reference	Condition Description
Page 4-454	Primary I Air Tank Removed
Page 4-626	Right Rear Step Removed
Page 4-790	Vehicle Jack Mounting Bracket Removed

REMOVAL

1. REMOVE SIX SCREWS (1), SIX WASHERS (2), AND STORAGE BOX (3) FROM TWO MOUNTING BRACKETS (4).
2. REMOVE FOUR NUTS (5), FOUR WASHERS (6), TWO MOUNTING BRACKETS (4), FOUR SPACERS (7), FOUR SCREWS (8), AND FOUR WASHERS (9) FROM FRAME RAIL (10).
3. REMOVE DRAIN (11) AND, IF DAMAGED, DOOR SEAL (12) FROM STORAGE BOX (3).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL DRAIN (11) AND, IF REMOVED, NEW DOOR SEAL (12) IN STORAGE BOX (3).

2. INSTALL FOUR WASHERS (9), FOUR SCREWS (8), FOUR SPACERS (7), TWO MOUNTING BRACKETS (4), FOUR WASHERS (6), AND FOUR NUTS (5) ON FRAME RAIL (10).

3. APPLY SEAL 'N' CAULK TO BOTTOM OF SIX WASHERS (2) AND INSTALL STORAGE BOX (3), SIX WASHERS (2), AND SIX SCREWS (1) IN TWO MOUNTING BRACKETS (4).

NOTE
Follow-on Maintenance:

Install vehicle jack mounting bracket (page 4-790).
Install right rear step (page 4-626).
Install primary I air tank (page 4-454).

BASIC ISSUE ITEMS (BII) STORAGE BOX AND MOUNTING BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

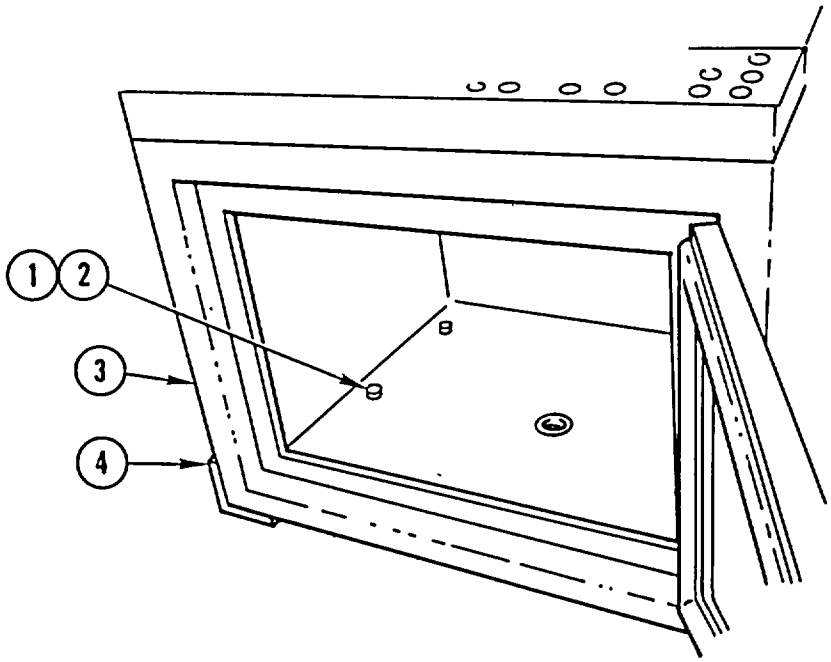
Seal 'N' Caulk Appendix C, Item 24

Personnel Required: (2)

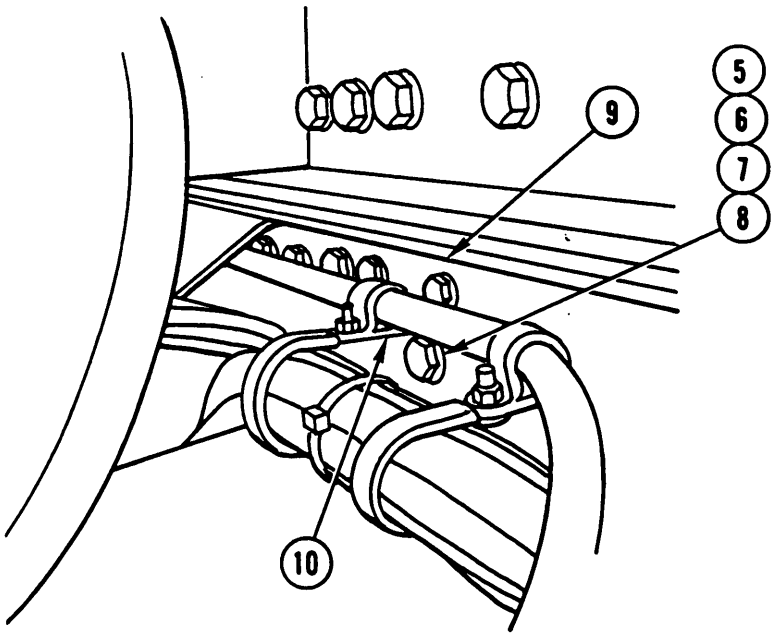
Equipment Condition:

Reference	Condition Description
Page 4-626	Right Rear Step Removed
Page 4-790	Vehicle Jack Mounting Bracket Removed
Page 4-556	Air Dryer Removed

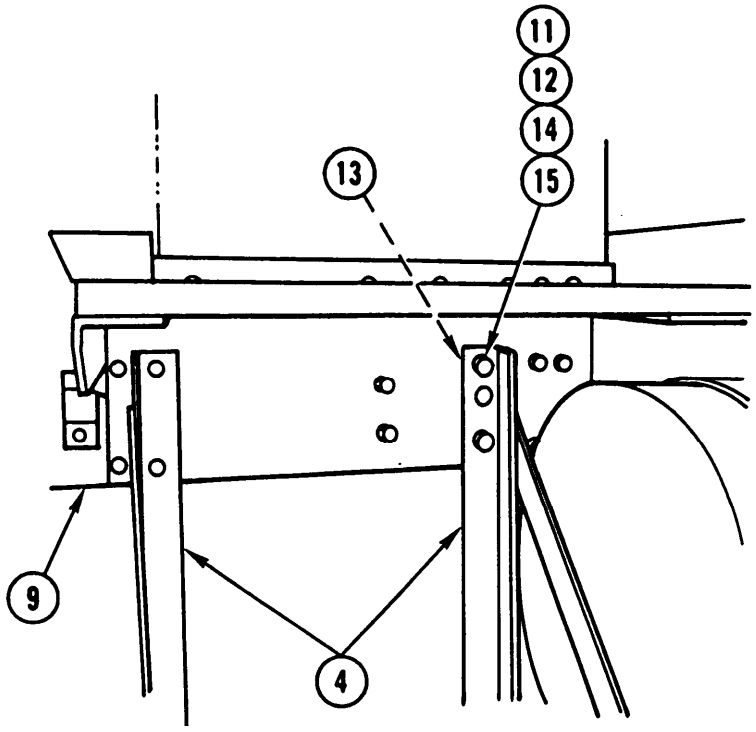
REMOVAL



1. REMOVE SIX SCREWS (1), SIX WASHERS (2), AND STORAGE BOX (3) FROM TWO MOUNTING BRACKETS (4).



2. REMOVE NUT (5), WASHER (6), SCREW (7), AND WASHER (8) FROM FRAME RAIL (9) AND STANDOFF BRACKET (10).

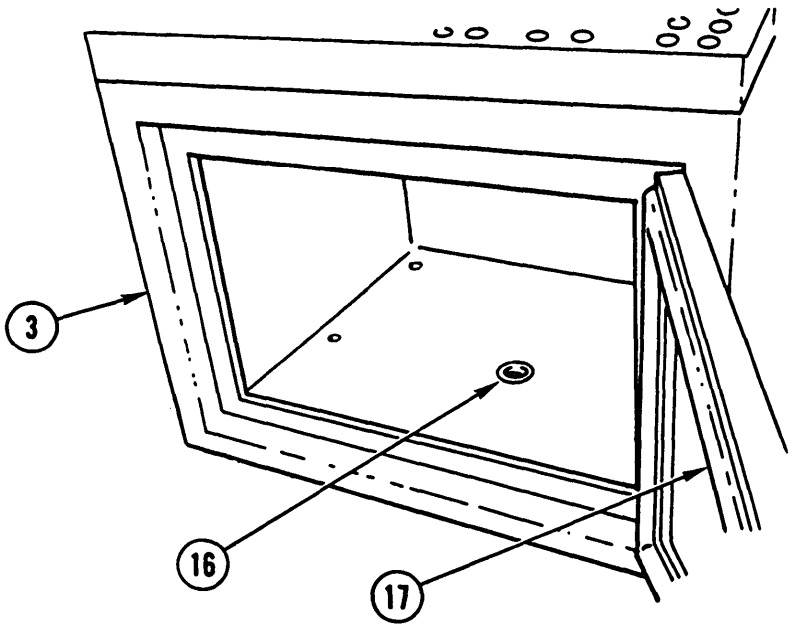


NOTE

Have assistant help with step 3.

3. REMOVE FOUR NUTS (11), FOUR WASHERS (12), TWO MOUNTING BRACKETS (4), TWO SPACERS (13), FOUR SCREWS (14), AND FOUR WASHERS (15) FROM FRAME RAIL (9).

BASIC ISSUE ITEMS (BII) STORAGE BOX AND MOUNTING BRACKET REPLACEMENT (CONT)

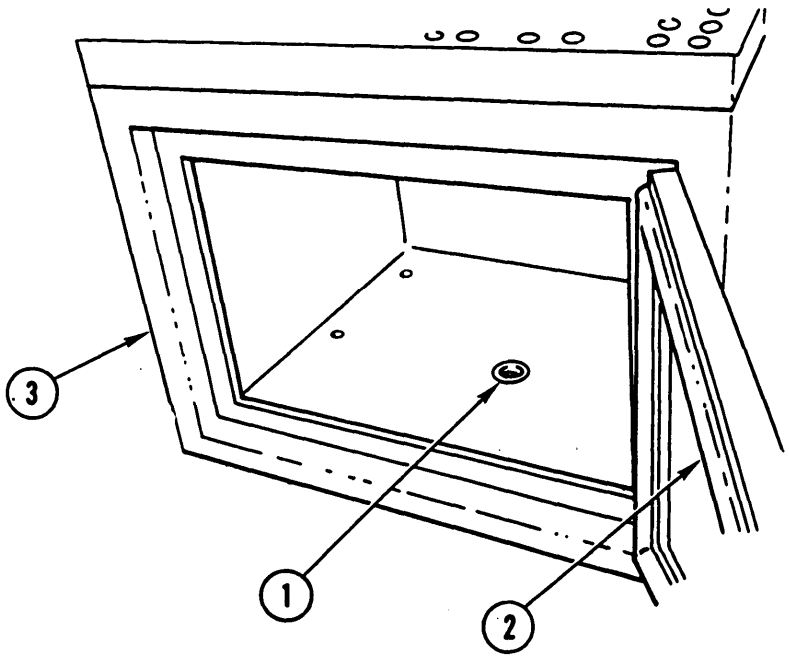


4. REMOVE DRAIN (16) AND, IF DAMAGED, DOOR SEAL (17) FROM STORAGE BOX (3).

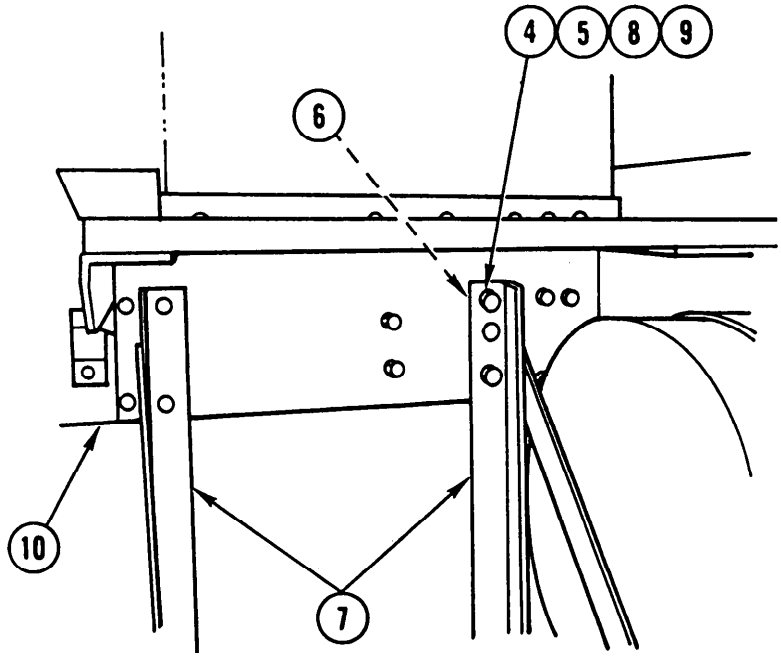
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



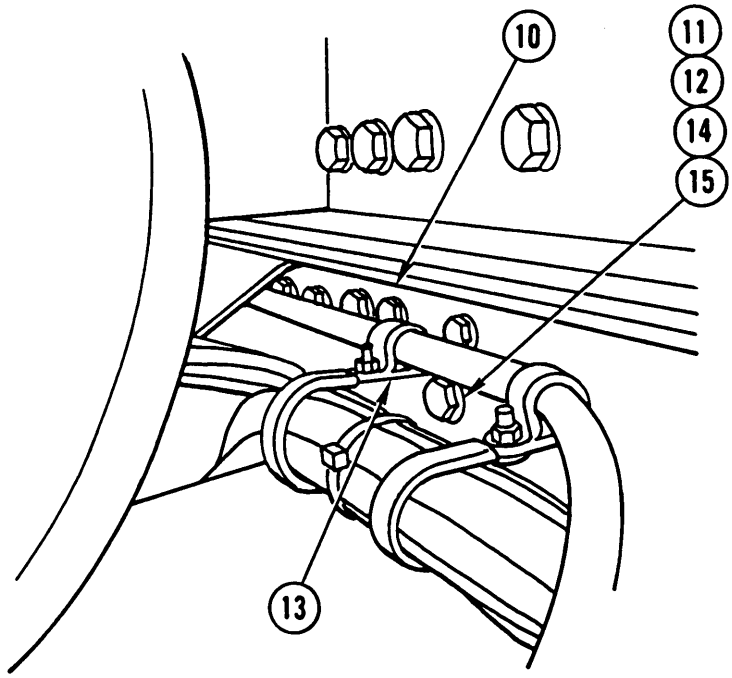
1. INSTALL DRAIN (1) AND, IF REMOVED, NEW DOOR SEAL (2) IN STORAGE BOX (3).



NOTE

Have assistant help with step 2.

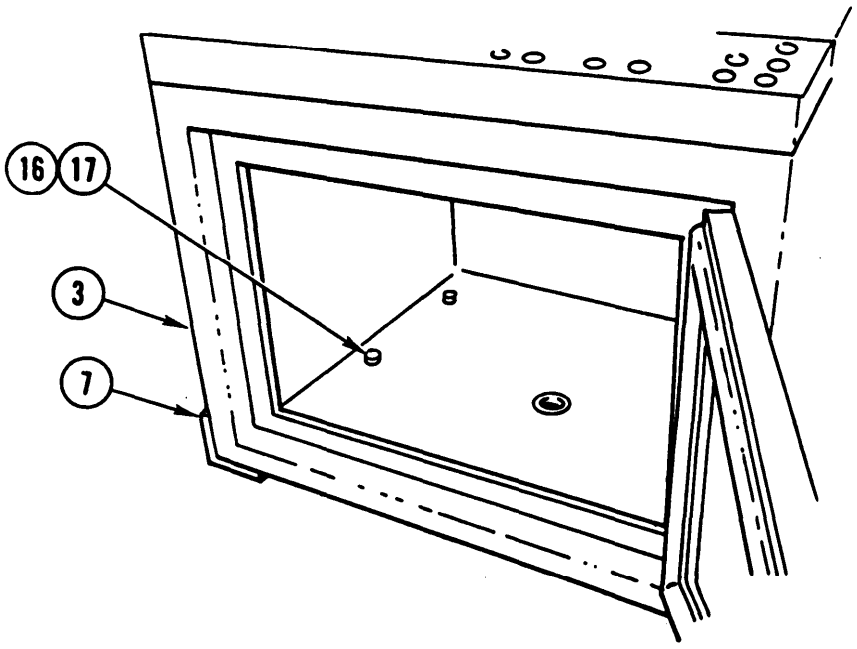
2. INSTALL FOUR WASHERS (4), FOUR SCREWS (5), TWO SPACERS (6), TWO MOUNTING BRACKETS (7), FOUR WASHERS (8), AND FOUR NUTS (9) ON FRAME RAIL (10).



3. INSTALL WASHER (11). INSTALL SCREW (12) THRU STANDOFF BRACKET (13) AND FRAME RAIL (10).

4. INSTALL WASHER (14) AND NUT (15).

BASIC ISSUE ITEMS (BII) STORAGE BOX AND MOUNTING BRACKET REPLACEMENT (CONT)



5. APPLY SEAL 'N' CAULK TO BOTTOM OF SIX WASHERS (16) AND INSTALL STORAGE BOX (3), SIX WASHERS (16), AND SIX SCREWS (17) IN TWO MOUNTING BRACKETS (7).

NOTE

Follow-on Maintenance:
Install vehicle jack mounting bracket (page 4-790).
Install right rear step (page 4-626).
Install air dryer (page 4-556)

STORAGE BOX LATCH REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

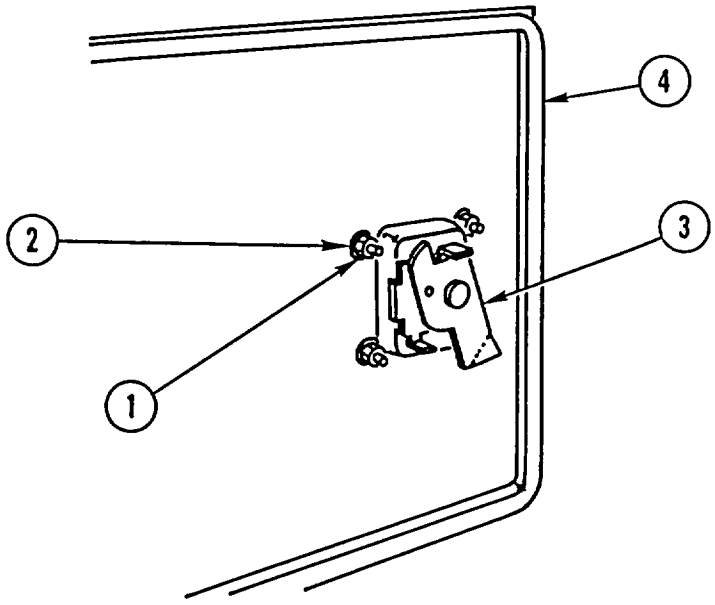
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

REMOVAL

REMOVE FOUR LOCK NUTS (1), FOUR WASHERS (2), AND LATCH (3) FROM STORAGE BOX (4). DISCARD LOCK NUTS.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

INSTALL LATCH (3), FOUR WASHERS (2), AND FOUR NEW LOCK NUTS (1) ON STORAGE BOX (4).

TOOL STORAGE BOX AND MOUNTING BRACKETS REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M917A1 and M917A1 w/MCS

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Decontamination Kit Removed

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

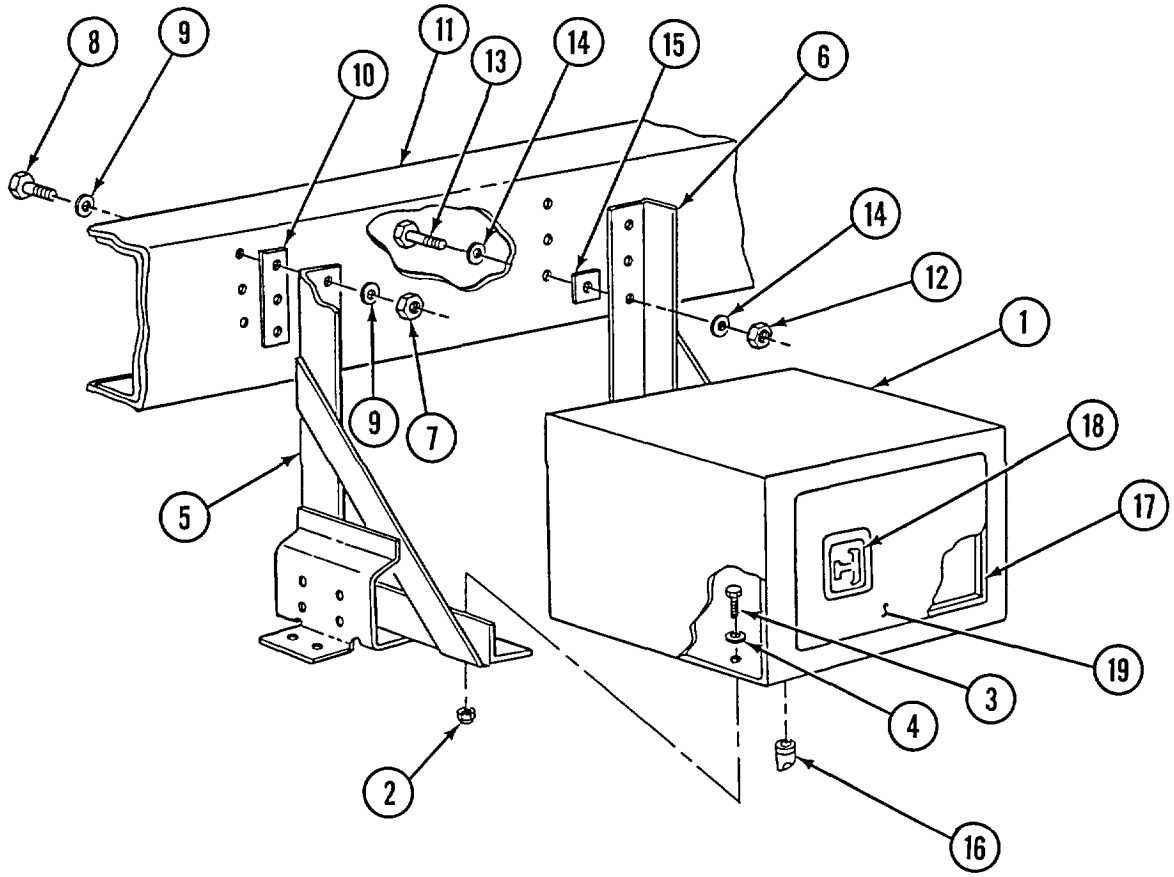
Nut, Lock (4)

Seal 'N' CaulkAppendix C, Item 24

Personnel Required: (2)

REMOVAL

1. OPEN TOOL STORAGE BOX (1). REMOVE SIX NUTS (2), SIX SCREWS (3), SIX WASHERS (4), AND TOOL STORAGE BOX FROM TWO MOUNTING BRACKETS (5 AND 6).



NOTE
Perform step 2 to remove left-hand mounting bracket.

2. REMOVE THREE NUTS (7), THREE SCREWS (8), SIX WASHERS (9), MOUNTING BRACKET (5), AND SPACER (10) FROM FRAME (11).

NOTE
- **Perform step 3 to remove right-hand mounting bracket.**
- **Note position of screws for installation.**

3. REMOVE THREE NUTS (12), THREE SCREWS (13), SIX WASHERS (14), MOUNTING BRACKET (6), AND SPACER (15) FROM FRAME (11)

4. REMOVE DRAIN (16) AND DOOR SEAL (17) FROM TOOL STORAGE BOX (1).

5. REMOVE FOUR LOCK NUTS AND LATCH (18) FROM DOOR (19). DISCARD LOCK NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL LATCH (18) TO DOOR (19) WITH FOUR NEW LOCK NUTS.

2. INSTALL DRAIN (16) AND NEW DOOR SEAL (17) IN TOOL STORAGE BOX (1).

NOTE
Perform step 3 to install right-hand mounting bracket.

3. INSTALL SPACER (15), MOUNTING BRACKET (6), SIX WASHERS (14), THREE SCREWS (13), AND THREE NUTS (12) TO FRAME (11).

NOTE
Perform step 4 to install left-hand mounting bracket.

4. INSTALL SPACER (10), MOUNTING BRACKET (5), SIX WASHERS (9), THREE SCREWS (8), AND THREE NUTS (7) TO FRAME (11).

5. APPLY SEAL 'N' CAULK TO BOTTOM OF SIX WASHERS (4) AND INSTALL TOOL STORAGE BOX (1), SIX WASHERS (4), SIX SCREWS (3), AND SIX NUTS (2) TO MOUNTING BRACKETS (6 AND 5).

6. CLOSE DOOR (19).

NOTE
Follow-on Maintenance:
Install decontamination kit (TM 9-2320-363-10).

REAR PLATFORM REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

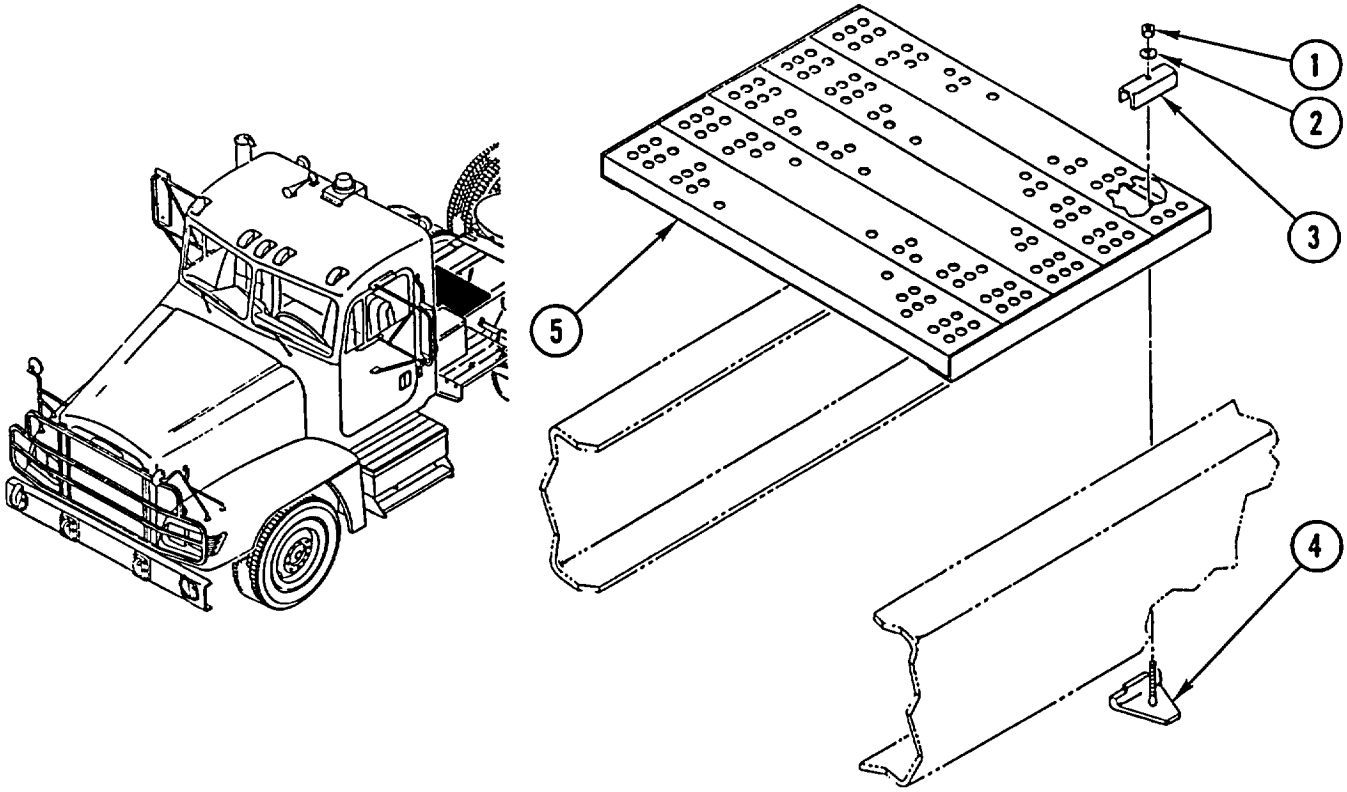
INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

REMOVAL

REMOVE FOUR NUTS (1), FOUR WASHERS (2), FOUR CLAMPS (3), FOUR CLAMPS (4), AND PLATFORM (5).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

INSTALL PLATFORM (5), FOUR CLAMPS (4), FOUR CLAMPS (3), FOUR WASHERS (2), AND FOUR NUTS (1).

FLOOR MATS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

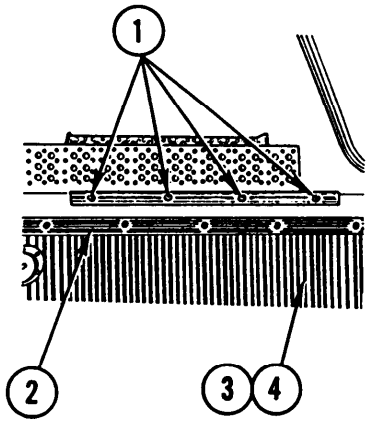
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

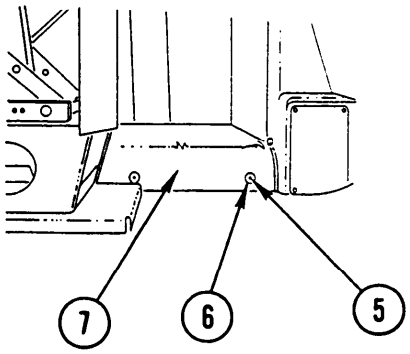
Equipment Condition:

Reference	Condition Description
Page 4-682	Seats Removed

REMOVAL

1. REMOVE 10 SCREWS (1), 2 TREADPLATES (2), 2 FLOOR MATS (3), AND 2 INSULATION PADS (4).
2. REMOVE 10 SELF-TAPPING TORX SCREWS (5), 10 WASHERS (6), AND FLOOR MAT (7).





CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL FLOOR MAT (7), 10 WASHERS (6), AND 10 SELF-TAPPING TORX SCREWS (5).
2. INSTALL 2 INSULATION PADS (4), 2 FLOOR MATS (3), 2 TREADPLATES (2), AND 10 SCREWS (1).

NOTE

Follow-on Maintenance:
Install seats (page 4-682).

CAB LINERS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITAIL SETUP

Applicable Configuration:

M915A2

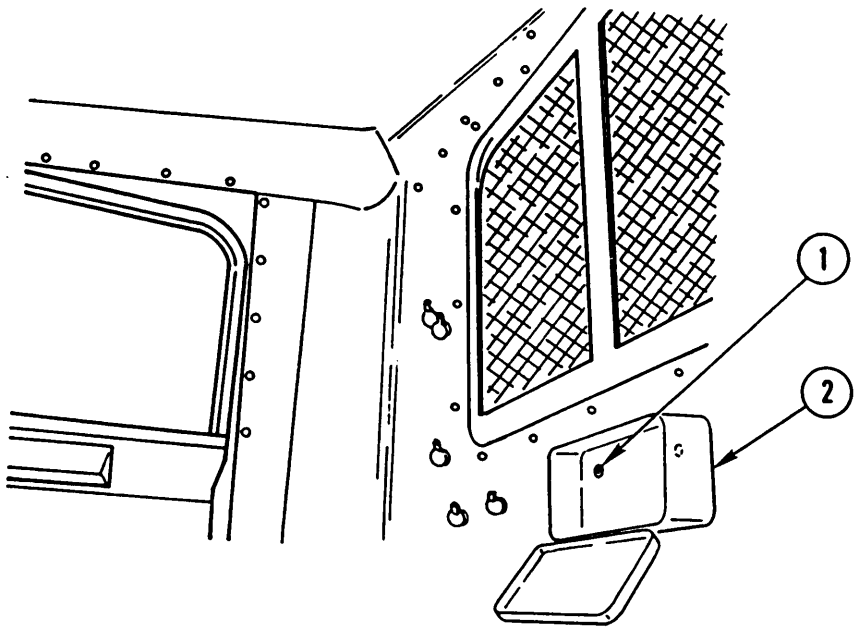
Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL- N26

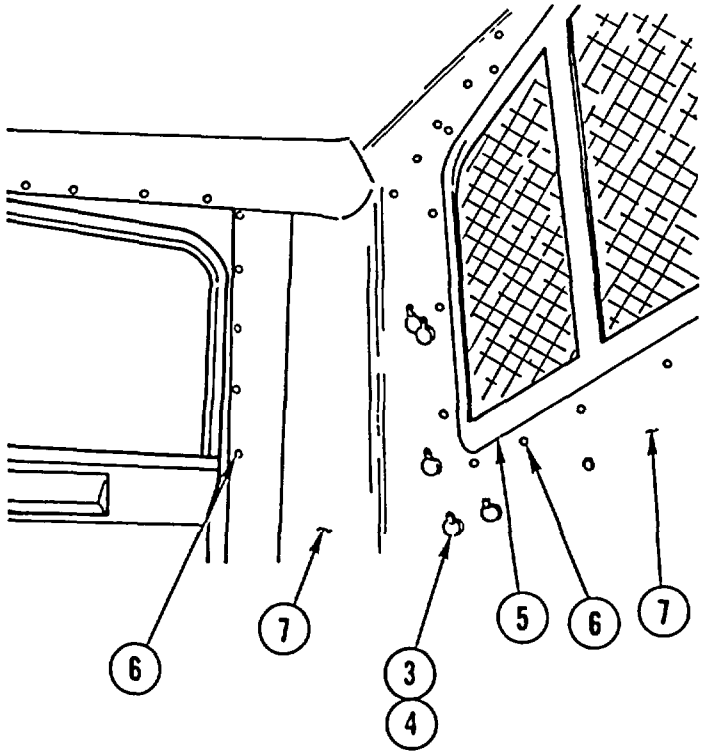
Equipment Condition:

Reference	Condition Description
Page 4-785	Windshield Washer Reservoir Removed
Page 4-696	Seat Belts Removed
Page 4-296	Anti-Lock Brake System (ABS) Electronic Control Unit Removed
Page 4-299	Anti-Lock Brake System (ABS) Fuse and Relay Panel Removed

REMOVAL



1 . REMOVE TWO SELF-TAPPING SCREWS (1) AND FIRST AID BOX (2).



2. REMOVE FIVE SELF-TAPPING SCREWS (3) AND FIVE CLAMPS (4).
3. REMOVE TRIM (5).
4. REMOVE 50 SELF-TAPPING TORX SCREWS (6) AND 2 CAB LINERS (7).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL 2 CAB LINERS (7) AND 50 SELF-TAPPING TORX SCREWS (6).
2. INSTALL TRIM (5).
3. INSTALL FIVE CLAMPS (4) AND FIVE SELF-TAPPING SCREWS (3).
4. INSTALL FIRST AID BOX (2) AND TWO SELF-TAPPING SCREWS (1).

NOTE
Follow-on Maintenance:

Install seat belts (page 4-696).
Install windshield washer reservoir (page 4-785).
Install Anti-Lock Brake System (ABS) fuse and relay panel (page 4-299).
Install Anti-Lock Brake System (ABS) electronic control unit (page 4-296).

CAB LINERS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP I

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

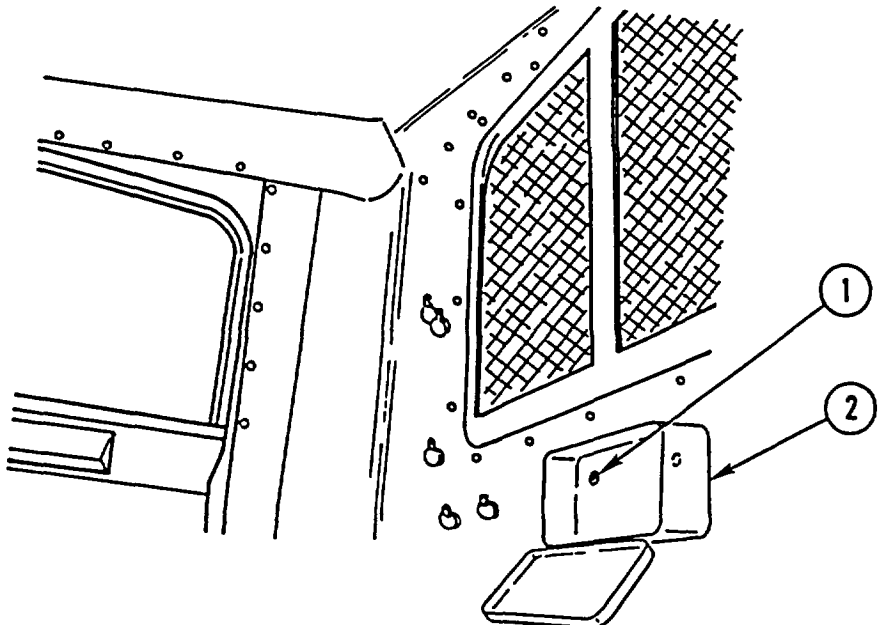
Equipment Condition:

Reference	Condition Description
Page 4-785	Windshield Washer Reservoir Removed
Page 4-696	Seat Belts Removed

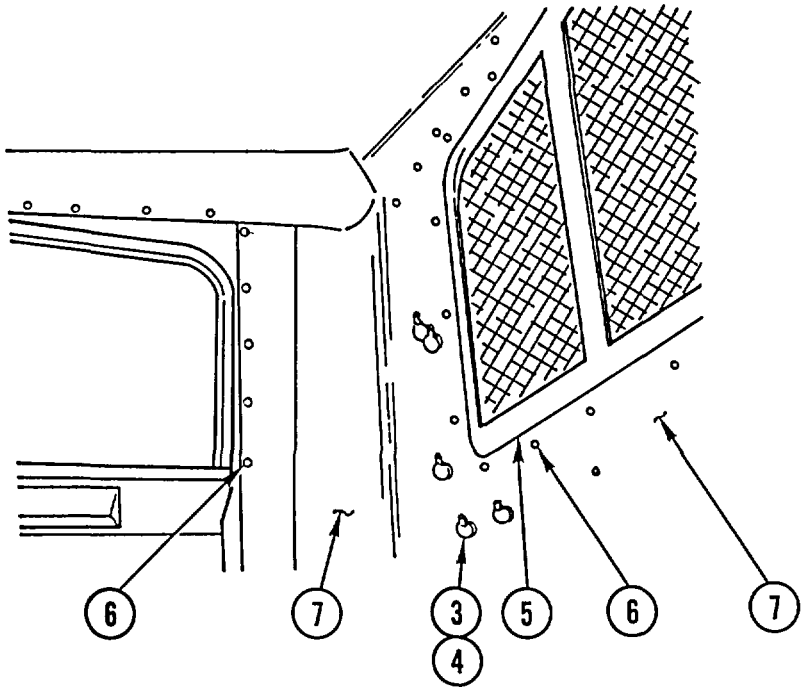
Equipment Condition (Cont):

Reference	Condition Description
Page 4-604.5	CTIS Pneumatic Control Unit Removed (M917A1 and M917A1 w/MCS)
Page 4-312.1	ABS Plate Assembly and Cover Removed (M916A2, M917A1, and M917A1 w/MCS).
Page 4-296	ABS Electronic Control Unit Removed (M916A1)
Page 4-299	ABS Fuse and Relay Panel Removed (M916A1)

REMOVAL



1. REMOVE TWO SELF-TAPPING SCREWS (1) AND FIRST AID BOX (2).



2. REMOVE FIVE SELF-TAPPING SCREWS (3) AND FIVE CLAMPS (4).
3. REMOVE TRIM (5).
4. REMOVE 50 SELF-TAPPING TORX SCREWS (6) AND 2 CAB LINERS (7).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL 2 CAB LINERS (7) AND 50 SELF-TAPPING TORX SCREWS (6).
2. INSTALL TRIM (5).
3. INSTALL FIVE CLAMPS (4) AND FIVE SELF-TAPPING SCREWS (3).
4. INSTALL FIRST AID BOX (2) AND TWO SELF-TAPPING SCREWS (1).

NOTE
Follow-on Maintenance:
Install ABS fuse and relay panel (M916A1) (page 4-299).
Install ABS electronic control unit (M916A1) (page 4-296).
Install ABS plate assembly and cover (M916A2, M917A1, and M917A1 w/MCS) (page 4-312.1).
Install CTIS pneumatic control unit (M917A1 and M917A1 w/MCS) (page 4-604.5).
Install seat belts (page 4-696).
Install windshield washer reservoir (page 4-785).

HEAD LINERS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

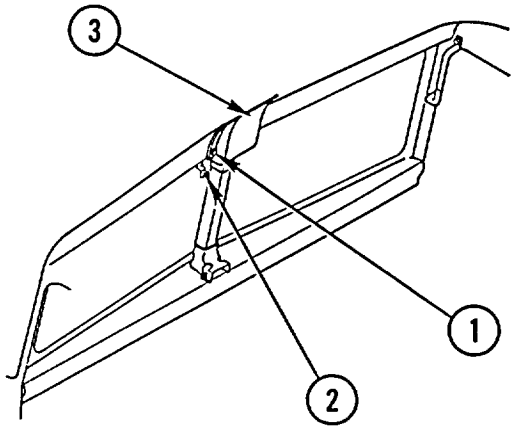
Reference	Condition Description
Page 4-227	Interior Light Removed

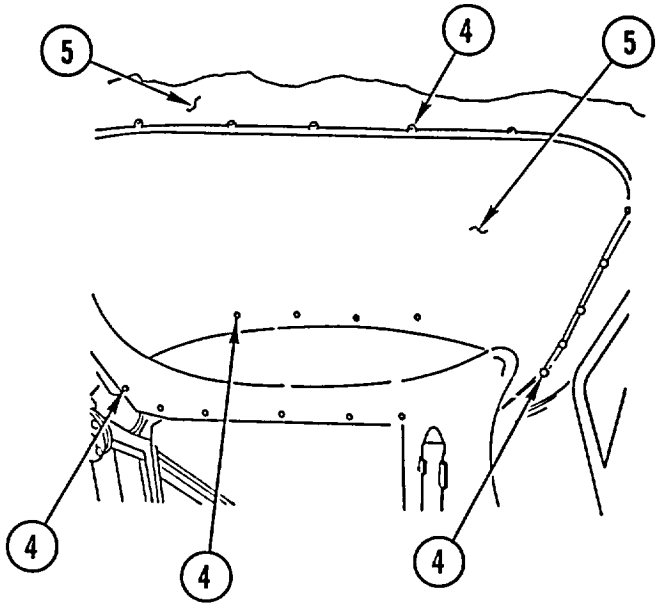
REMOVAL

1. REMOVE FOUR TORX SCREWS (1), TWO BRACKETS (2), AND COVER (3).
2. REMOVE 38 SELF-TAPPING TORX SCREWS (4) AND 2 HEAD LINERS (5).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.





INSTALLATION

1. INSTALL 2 HEAD LINERS (5) AND 38 SELF-TAPPING TORX SCREWS (4).
2. INSTALL COVER (3), TWO BRACKETS (2), AND FOUR TORX SCREWS (1).

NOTE
Follow-on Maintenance:

Install interior light (page 4-227).

STEERING COLUMN SUPPORT BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (10)

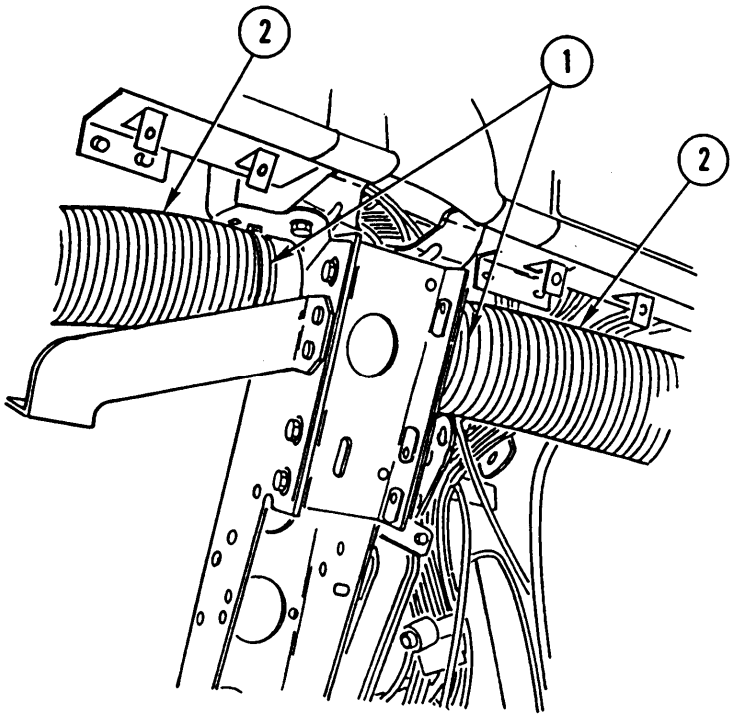
Nut, Lock (2)

Seal 'N' Caulk Appendix C, Item 24

Equipment Condition:

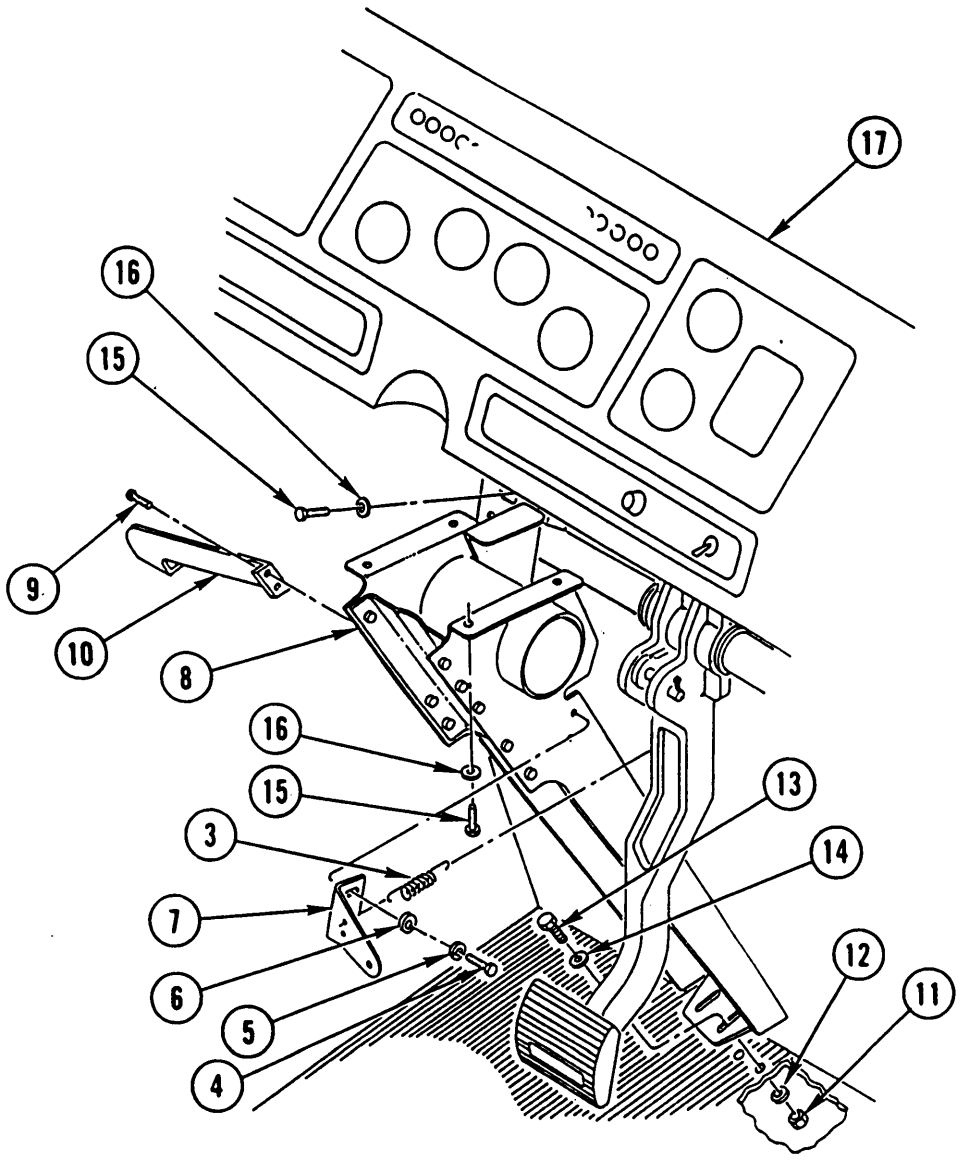
Reference	Condition Description
Page 4-606	Steering Wheel and Column Removed

REMOVAL



1. REMOVE TWO TIE WRAPS (1) AND DISCONNECT TWO FLEX HOSES (2).

STEERING COLUMN SUPPORT BRACKET REPLACEMENT (CONT)

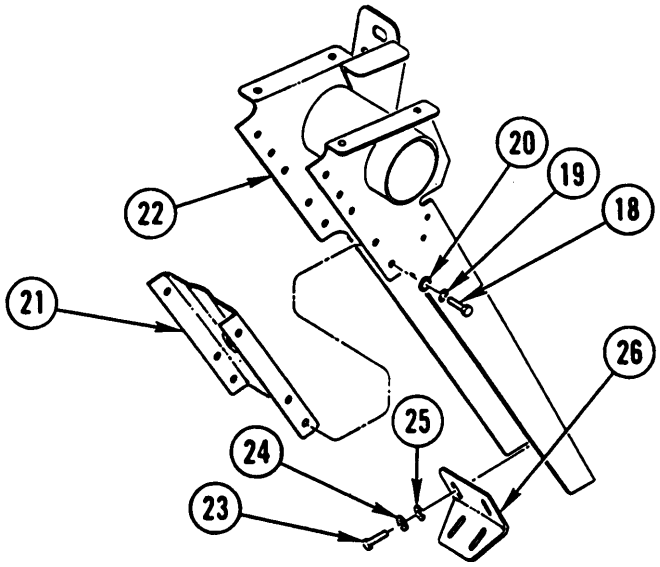


2. DISCONNECT RETURN SPRING **(3)** AND REMOVE TWO SCREWS (4), TWO LOCK WASHERS (5), TWO WASHERS (6), AND BRACKET (7) FROM STEERING SUPPORT BRACKET ASSEMBLY (8). DISCARD LOCK WASHERS.

3. REMOVE TWO SELF-TAPPING TORX SCREWS (9) AND BRACKET (10).

4. REMOVE TWO LOCK NUTS (11), TWO WASHERS (12), TWO SCREWS (13), AND TWO WASHERS (14) FROM STEERING SUPPORT BRACKET ASSEMBLY (8). DISCARD LOCK NUTS.

5. REMOVE SIX SCREWS (15), SIX WASHERS (16), AND STEERING SUPPORT BRACKET ASSEMBLY (8) FROM DASHBOARD ASSEMBLY (17).



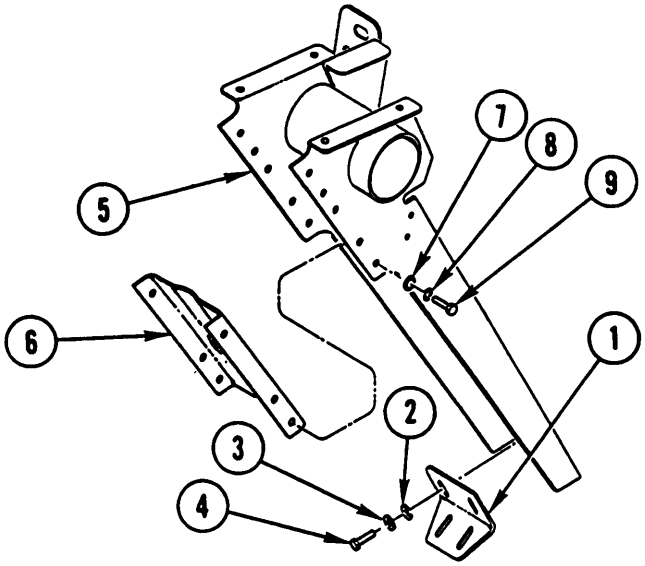
6. REMOVE SIX SCREWS (18), SIX LOCK WASHERS (19), SIX WASHERS (20), AND UPPER STEERING COLUMN BRACKET (21) FROM STEERING SUPPORT BRACKET (22). DISCARD LOCK WASHERS.

7. REMOVE TWO SCREWS (23), TWO WASHERS (24), TWO LOCK WASHERS (25), AND MOUNTING BRACKET (26) FROM STEERING SUPPORT BRACKET (22). DISCARD LOCK WASHERS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

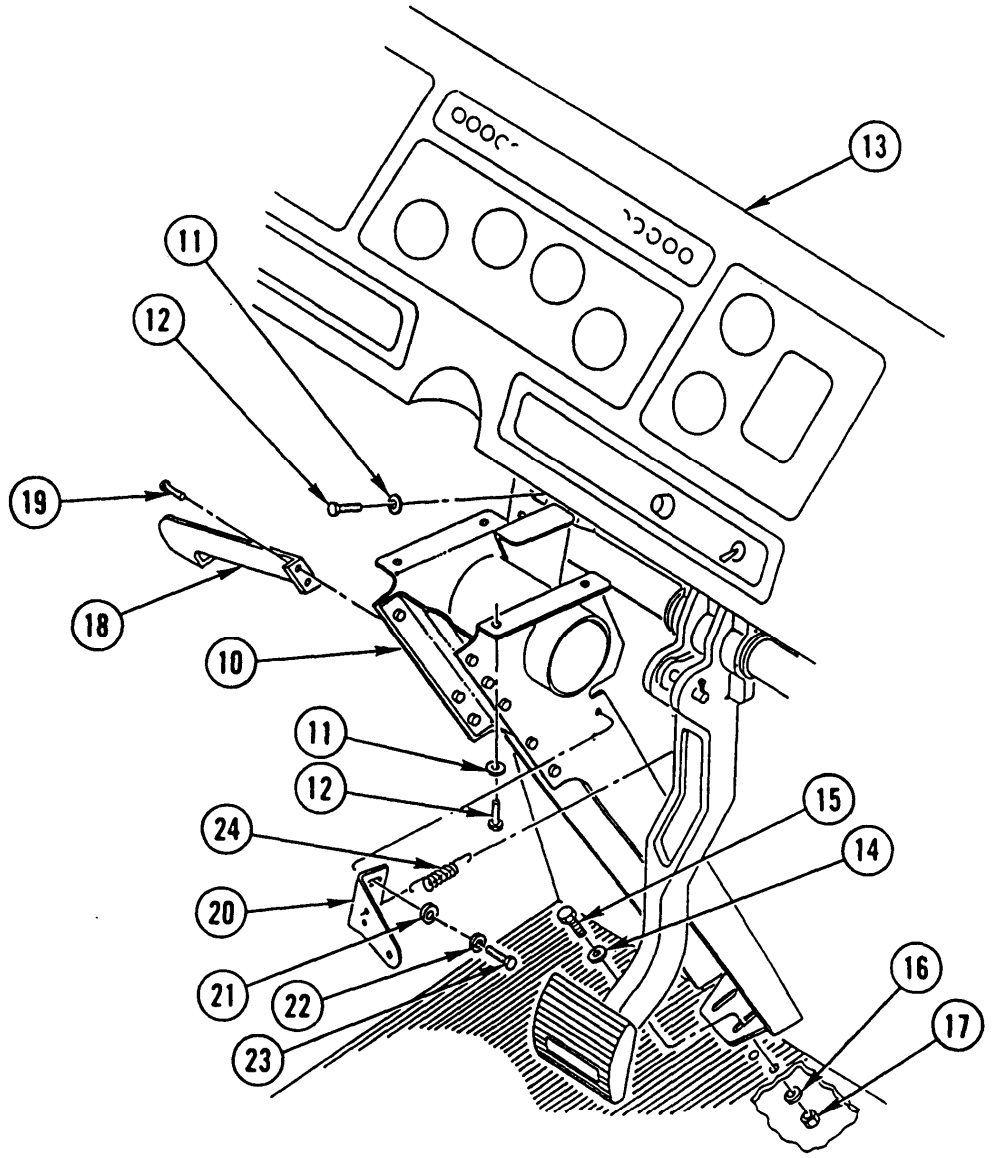
INSTALLATION



1. INSTALL MOUNTING BRACKET (1), TWO NEW LOCK WASHERS (2), TWO WASHERS (3), AND TWO SCREWS (4) ON STEERING SUPPORT BRACKET (5).

2. INSTALL UPPER STEERING COLUMN BRACKET (6), SIX WASHERS (7), SIX NEW LOCK WASHERS (8), AND SIX SCREWS (9) ON STEERING SUPPORT BRACKET (5).

STEERING COLUMN SUPPORT BRACKET REPLACEMENT (CONT)



3. INSTALL STEERING SUPPORT BRACKET ASSEMBLY (10), SIX WASHERS (11), AND SIX SCREWS (12) IN DASHBOARD ASSEMBLY (13).

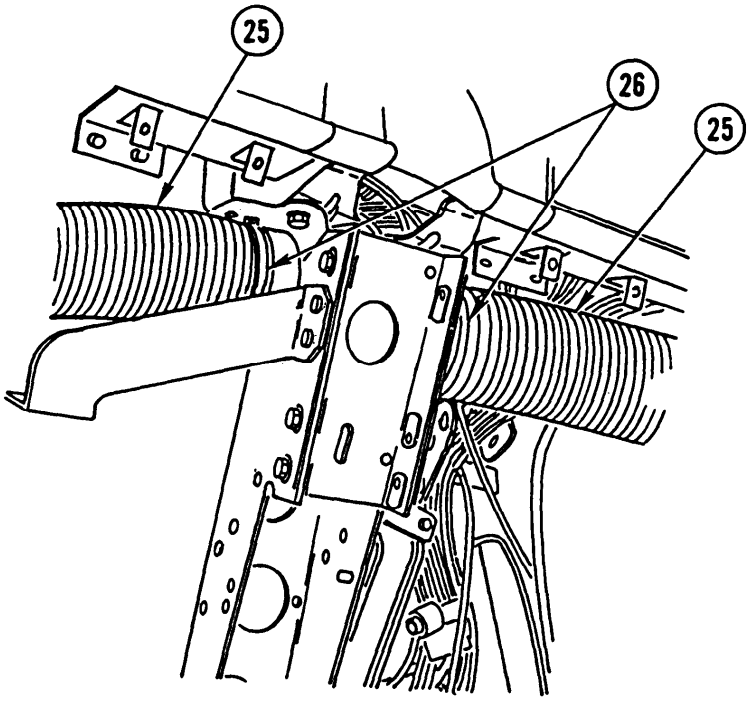
NOTE

Make sure all old sealing material has been removed before applying new Seal 'N' Caulk.

4. APPLY SEAL 'N' CAULK AND INSTALL TWO WASHERS (14), TWO SCREWS (15), TWO WASHERS (16), AND TWO NEW LOCK NUTS (17).

5. INSTALL BRACKET (18) AND IWO SELF-TAPPING TORX SCREWS **(19).**

6. INSTALL BRACKET (20), TWO WASHERS (21), TWO NEW LOCK WASHERS (22), AND TWO SCREWS (23) AND CONNECT RETURN SPRING (24).



7. CONNECT TWO FLEX HOSES (25) AND INSTALL TWO TIE WRAPS (26).

NOTE

Follow-on Maintenance:
Install steering wheel and column (page 4-606).

CAB DOOR ADJUSTMENT

This task covers: Adjustment

INITIAL SETUP

Tools and Special Equipment:

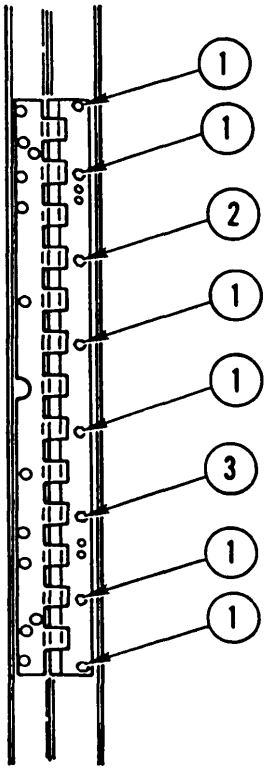
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Bolt, Lock (6) P/N 1901-0810

Personnel Required: (2)

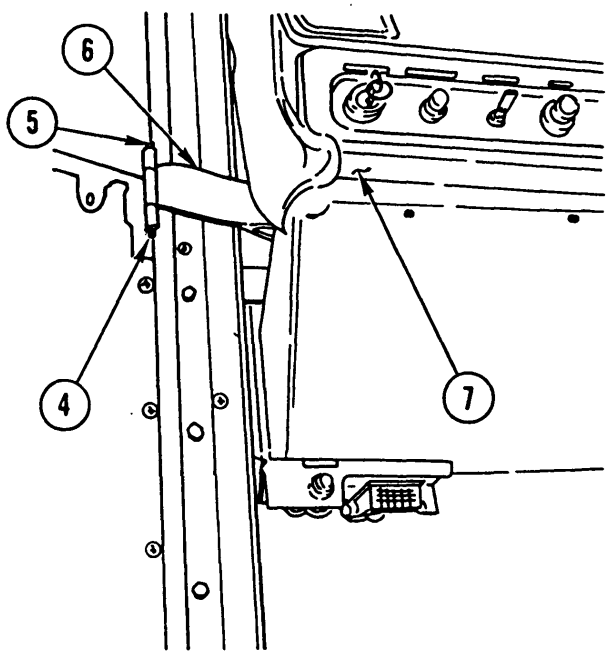
ADJUSTMENT



NOTE

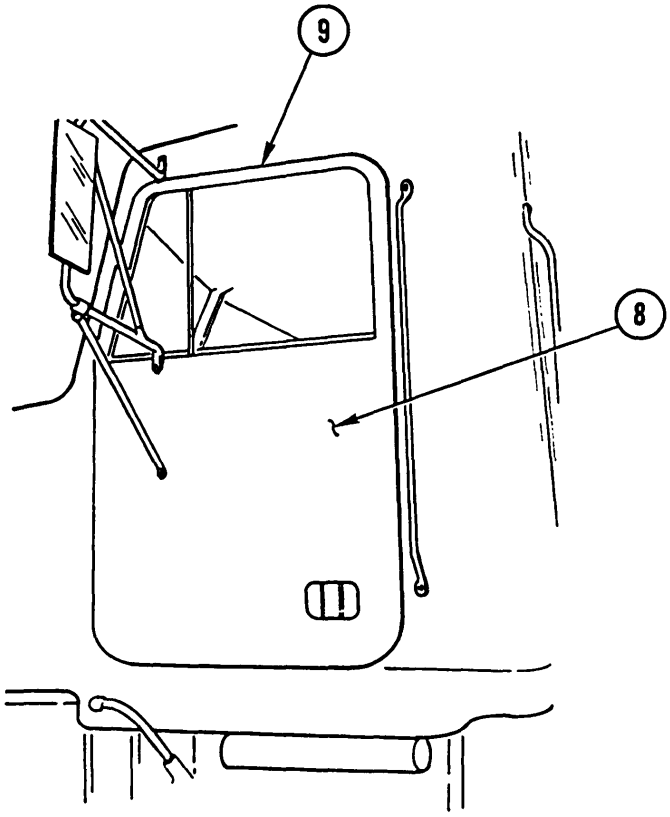
If performing cab door adjustment following repair or replacement, perform steps 3 thru 19.

1. REMOVE SIX LOCK BOLTS (1). LEAVE TWO ADJUSTING SCREWS (2 AND 3) IN PLACE. DISCARD LOCK BOLTS.



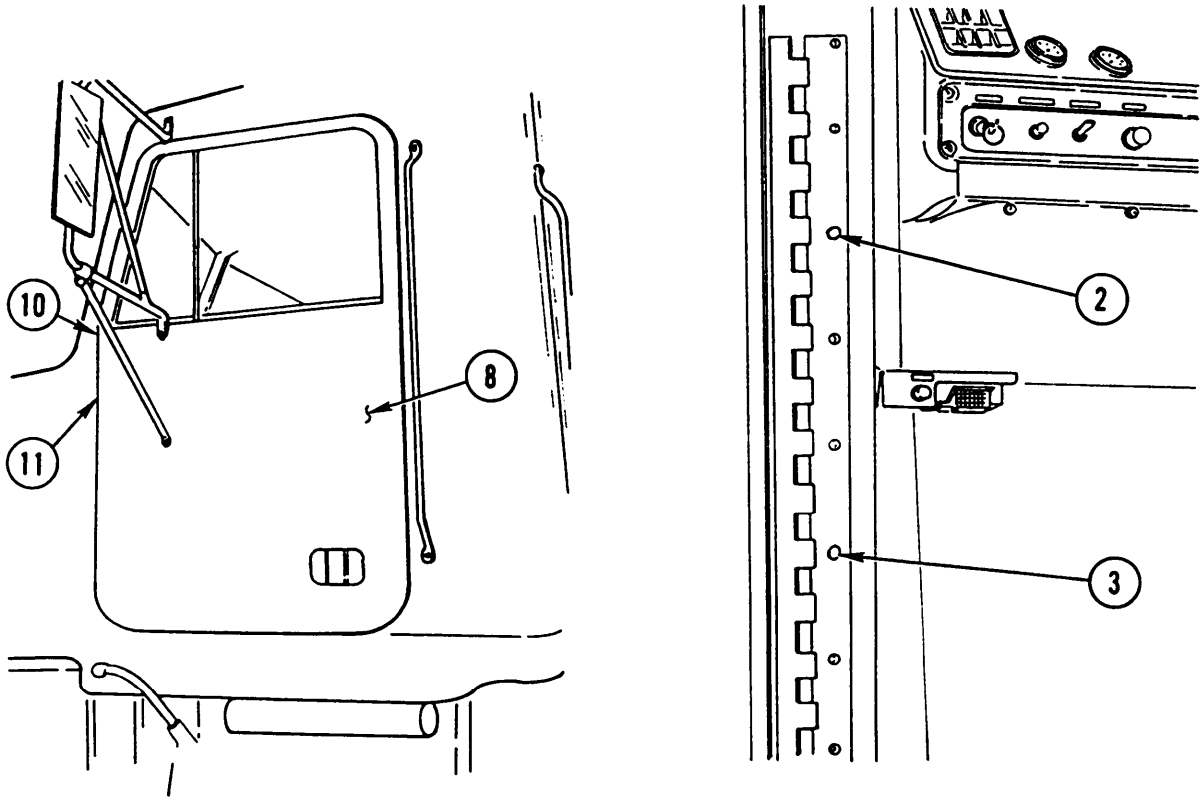
2. REMOVE CAPNUT (4) AND SOCKET HEAD SCREW (5) FROM DOOR CHECK ARM (6).

3. PUSH DOOR CHECK ARM (6) TOWARD DASHBOARD (7).



4. WITH CAB DOOR (8) CLOSED, MEASURE DISTANCE BETWEEN TOP AND BOTTOM EDGES OF CAB DOOR (8) AND DOOR FRAME (9). MEASUREMENTS MUST BE EQUAL WITHIN 3/32 IN. (2.38 mm).

CAB DOOR ADJUSTMENT (CONT)



NOTE

Perform steps 5 and 6 only if required.

5. TO ADJUST CAB DOOR (8), LOOSEN TWO ADJUSTING SCREWS (2 AND 3) JUST ENOUGH TO ALLOW MOVEMENT OF CAB DOOR (8) UP OR DOWN TO REQUIRED MEASUREMENT. TIGHTEN TWO ADJUSTING SCREWS (2 AND 3).

6. REPEAT STEPS 4 AND 5 UNTIL CAB DOOR (8) IS PROPERLY ADJUSTED.

NOTE

Cab door is fully closed when you hear two clicks of door latch, and should not have to be slammed shut. If it is necessary to slam cab door shut, door must be adjusted.

7. WITH CAB DOOR (8) FULLY CLOSED, CHECK IN-OUT POSITION OF TOP OF CAB DOOR (8) AND FLANGE (10) AT HINGE (11). CAB DOOR (8) MUST BE FLUSH ±1/16 IN. (1.58 mm).

NOTE

Perform steps 8 and 9 only if required.

8. TO ADJUST TOP OF CAB DOOR (8), LOOSEN ADJUSTING SCREW (2) AND MOVE CAB DOOR (8) IN OR OUT TO REQUIRED MEASUREMENT. TIGHTEN ADJUSTING SCREW (2).

9. REPEAT STEPS 7 AND 8 UNTIL TOP OF CAB DOOR (8) IS PROPERLY ADJUSTED.

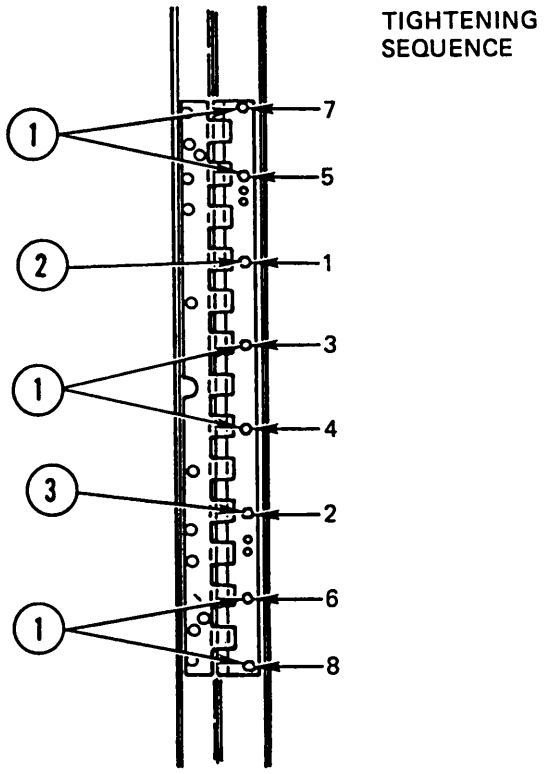
10. WITH CAB DOOR (8) FULLY CLOSED, CHECK IN-OUT POSITION OF BOTTOM OF CAB DOOR (8) AND FLANGE (10) AT HINGE (11). CAB DOOR (8) MUST BE FLUSH ±1/16 IN. (1.58 mm).

NOTE

Perform steps 11 and 12 only if required.

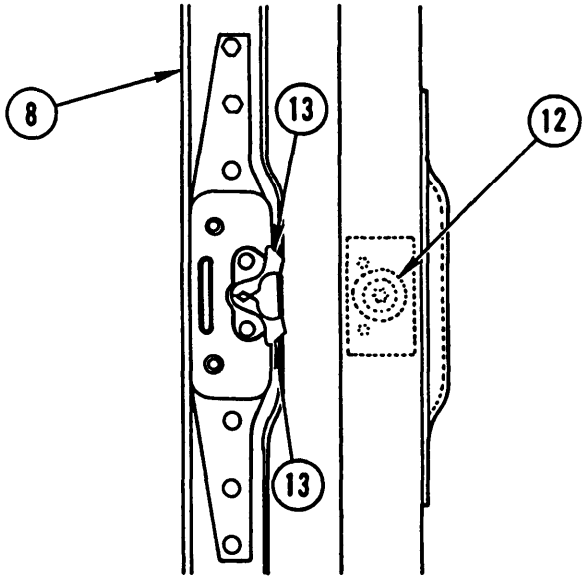
11. TO ADJUST BOTTOM OF CAB DOOR (8), LOOSEN ADJUSTING SCREW (3) AND MOVE CAB DOOR (8) IN OR OUT TO REQUIRED MEASUREMENT. TIGHTEN ADJUSTING SCREW (3).

12. REPEAT STEPS 10 AND 11 UNTIL BOTTOM OF CAB DOOR (8) IS PROPERLY ADJUSTED.

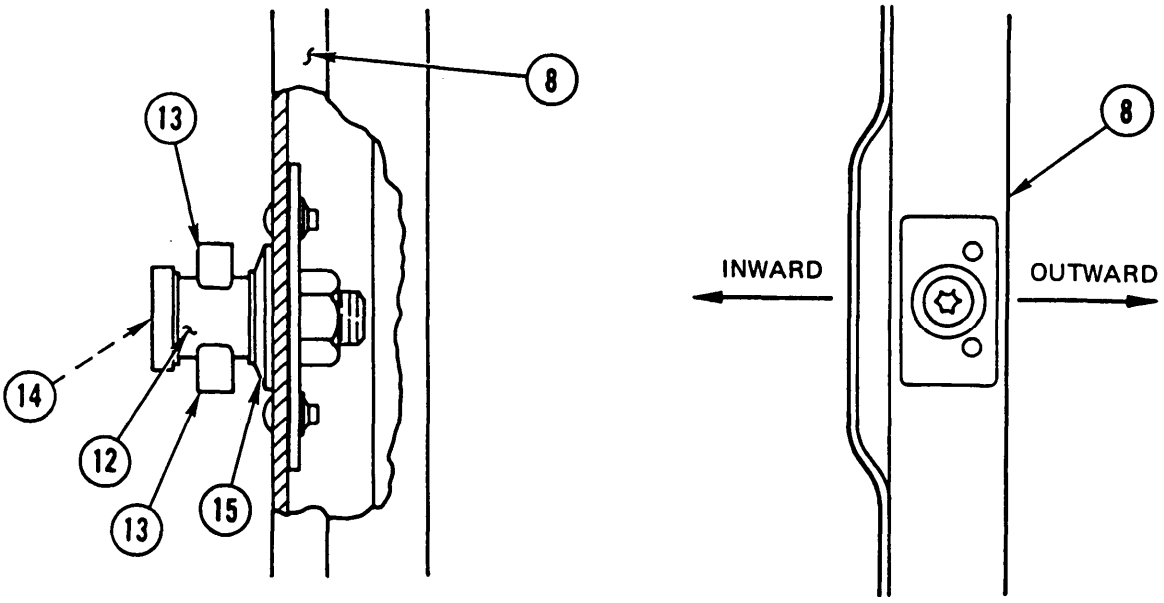


13. INSTALL SIX NEW LOCK BOLTS (1) AND TIGHTEN SIX LOCK BOLTS (1) AND TWO ADJUSTING SCREWS (2 AND 3) IN ORDER SHOWN TO 120 LB-IN. (1360 N.cm).

CAB DOOR ADJUSTMENT (CONT)



14. CLOSE CAB DOOR (8) TO WITHIN 2 IN. OF STRIKER PIN (12) AND LOOK TO SEE IF DOOR LATCH JAWS (13) WILL BE CENTERD ON STRIKER PIN (12).



15. LOOSEN TORX SCREW (14) AND ADD OR REMOVE SHIMS (15) AS NECESSARY TO CENTER STRIKER PIN (12) AND DOOR LATCH JAWS (13).

NOTE

- Steps 16 thru 19 must be performed from inside and outside of cab.
- Repeat step 16 until door closes fully without difficulty.

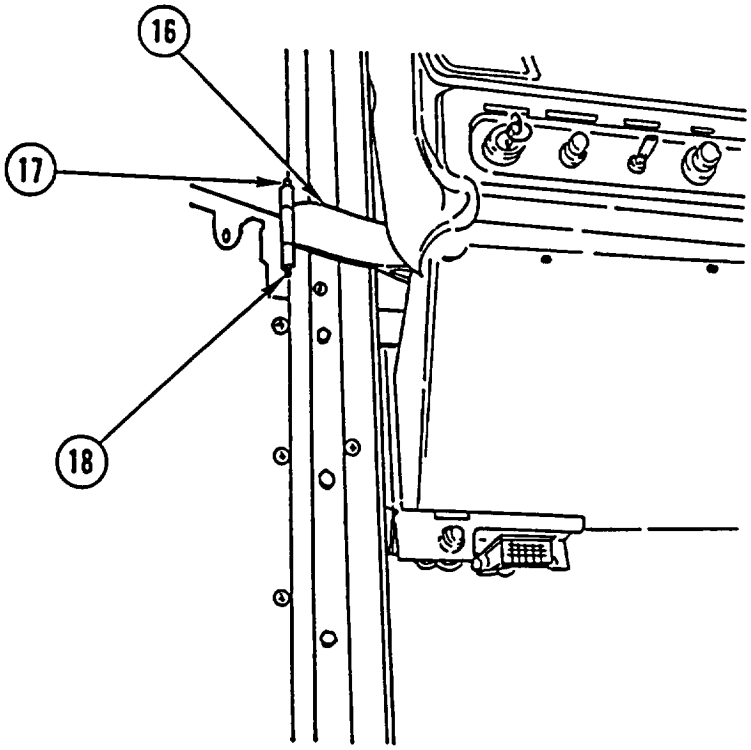
16. FULLY CLOSE CAB DOOR (8). IF CAB DOOR (8) WAS DIFFICULT TO CLOSE OR WOULD NOT CLOSE, OPEN CAB DOOR, LOOSEN TORX SCREW (14), AND MOVE STRIKER PIN (12) INWARD.

17. TIGHTEN TORX SCREW (14) TO 50 LB-FT (68 N.m).

NOTE
Repeat step 18 until door opens without difficulty.

18. OPEN CAB DOOR (8). IF CAB DOOR (8) WAS DIFFICULT TO OPEN OR WOULD NOT OPEN, LOOSEN TORX SCREW (14) AND MOVE STRIKER PIN (12) OUTWARD.

19. TIGHTEN TORX SCREW (14) TO 50 LB-FT (68 N•m).



20. MOVE DOOR CHECK ARM (16) BACK INTO POSITION.

21. INSTALL SOCKET HEAD SCREW (17) AND CAPNUT (18) TO DOOR CHECK ARM (16).

TRANSMISSION TUNNEL ACCESS COVER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP I

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (2)

Washer, Lock (12)

Washer, Lock (4)

Personnel Required: (2)

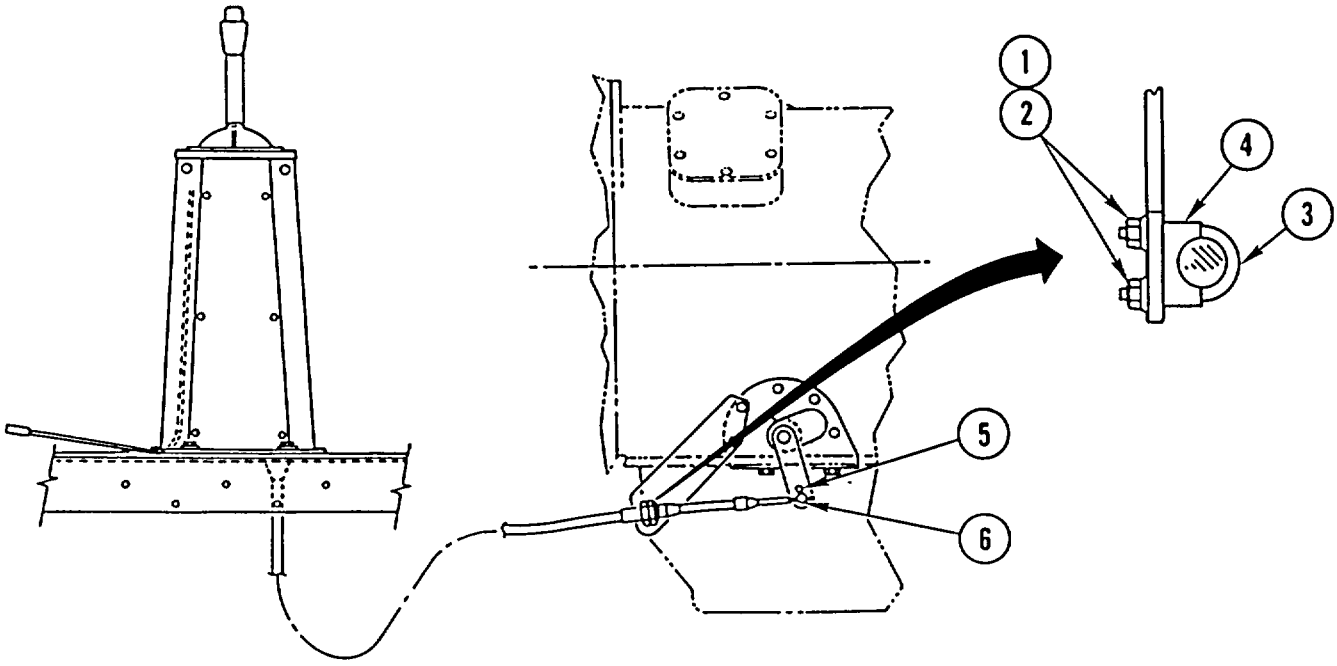
References:

TM 9-2320-363-10

Equipment Condition:

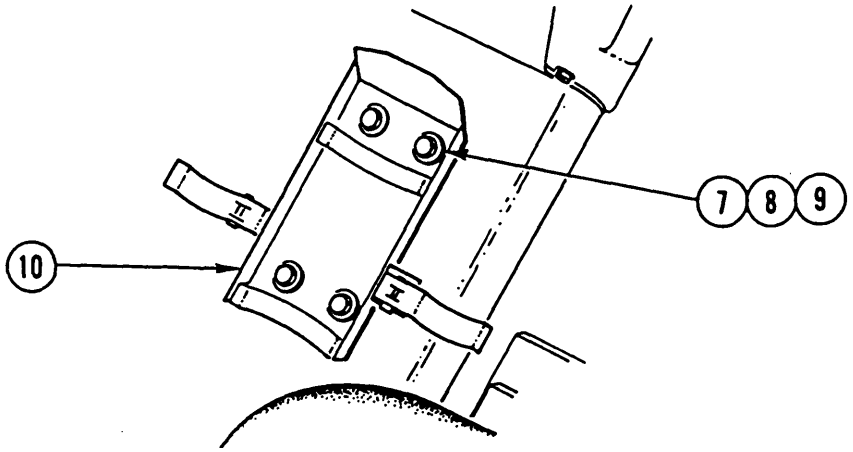
Reference	Condition Description
TM 9-2320-363-10	Transmission Shift Selector In Neutral
TM 9-2320-363-10	Fire Extinguisher Removed

REMOVAL

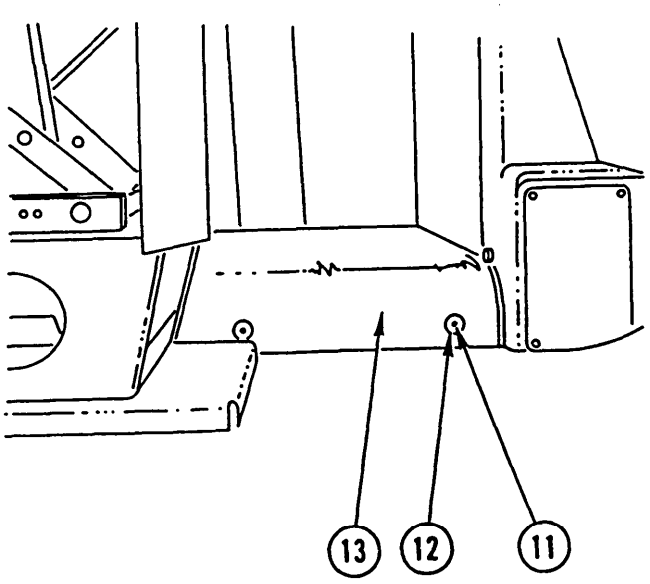


1. REMOVE TWO NUTS (1), TWO LOCK WASHERS (2), U-BOLT (3), AND SADDLE CLAMP (4). DISCARD LOCK WASHERS.

2. REMOVE COTTER PIN (5) AND BARREL NUT (6).

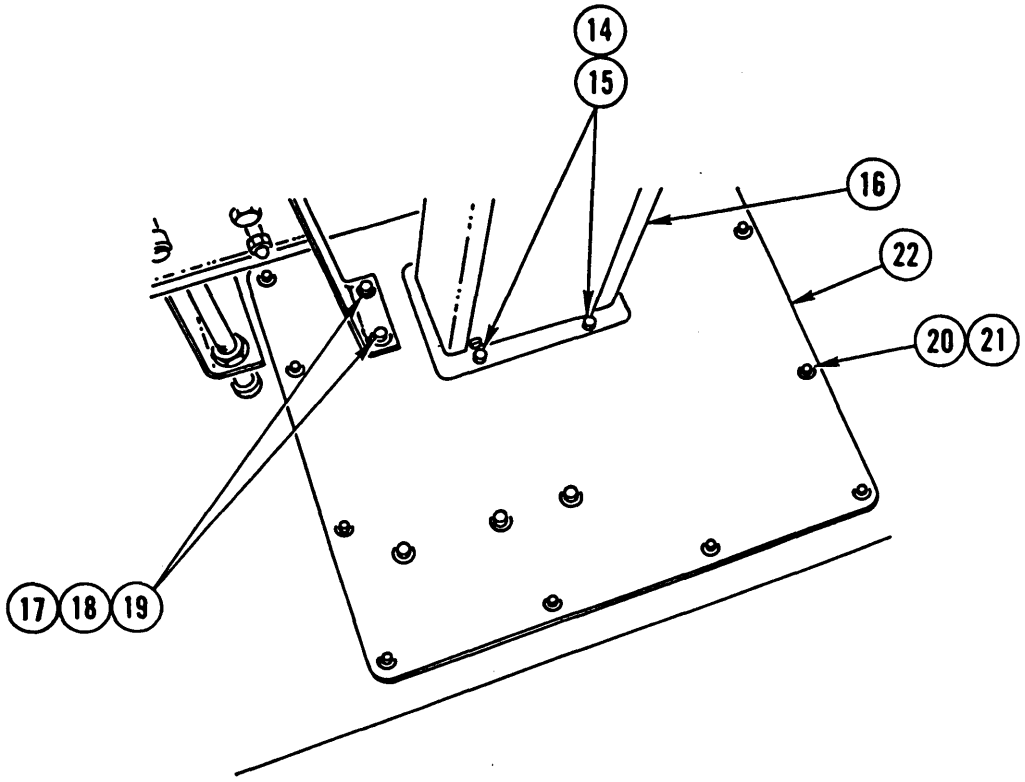


3. REMOVE FOUR NUTS (7), FOUR SCREWS (8), FOUR WASHERS (9), AND BRACKET (10).



4. REMOVE 10 SELF-TAPPING TORX SCREWS (11), 10 WASHERS (12), AND FLOOR MAT (13).

TRANSMISSION TUNNEL ACCESS COVER REPLACEMENT (CONT)



5. REMOVE FOUR SCREWS (14) AND FOUR LOCK WASHERS (15) AND SET SHIFT TOWER (16) ASIDE. DISCARD LOCK WASHERS.

NOTE

Perform step 6 for M916A1 only.

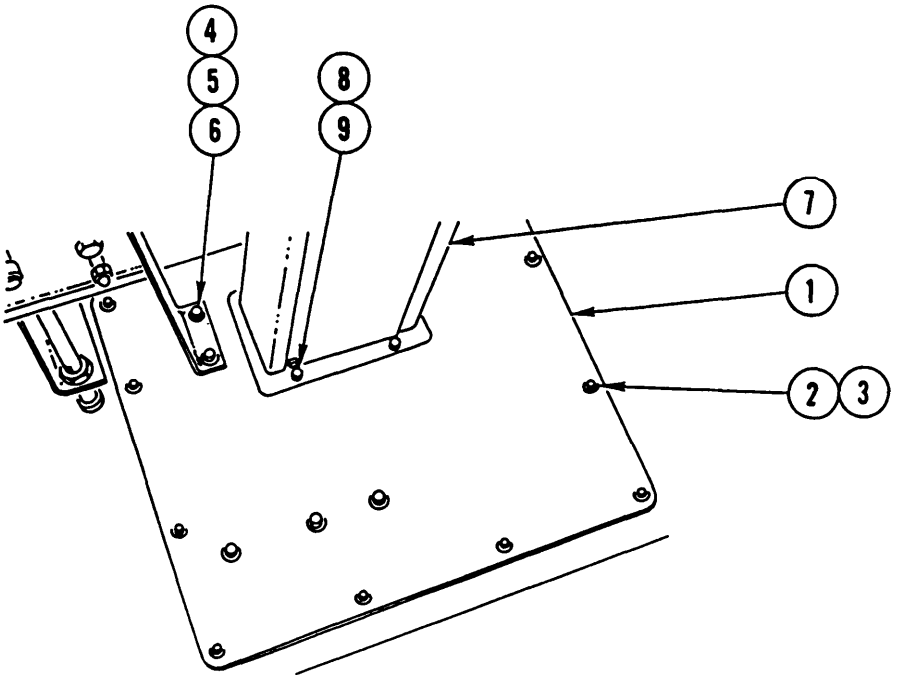
6. REMOVE TWO NUTS (17), TWO WASHERS (18), AND TWO SCREWS (19).

7. REMOVE 12 SCREWS (20) AND 12 LOCK WASHERS (21) AND SET ACCESS COVER (22) ASIDE. DISCARD LOCK WASHERS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



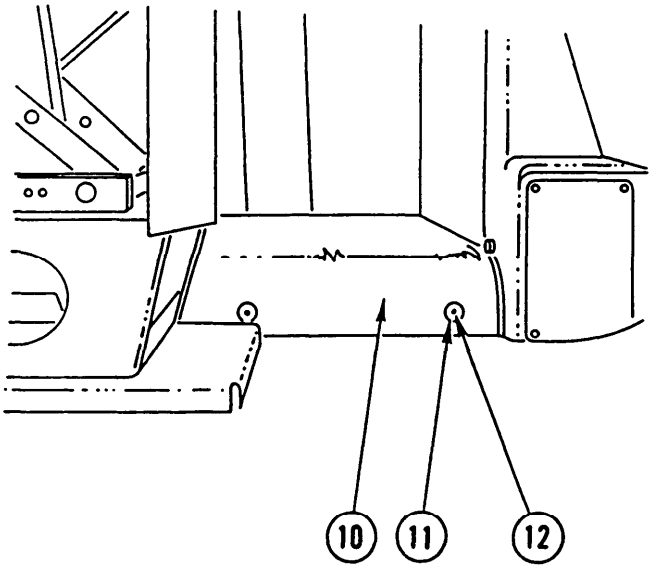
1. INSTALL ACCESS COVER (1), 12 NEW LOCK WASHERS (2), AND 12 SCREWS (3).

NOTE

Perform step 2 for M916A1 only.

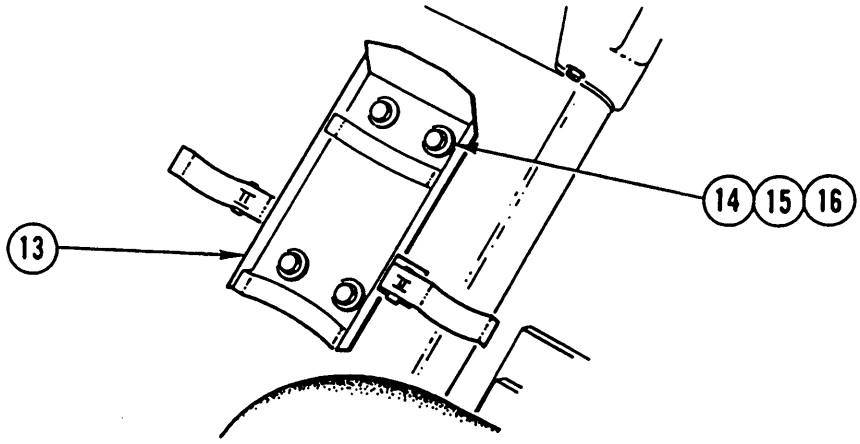
2. INSTALL TWO SCREWS (4), TWO WASHERS (5), AND TWO NUTS (6).

3. SET SHIFT TOWER (7) IN PLACE AND INSTALL FOUR NEW LOCK WASHERS (8) AND FOUR SCREWS (9).

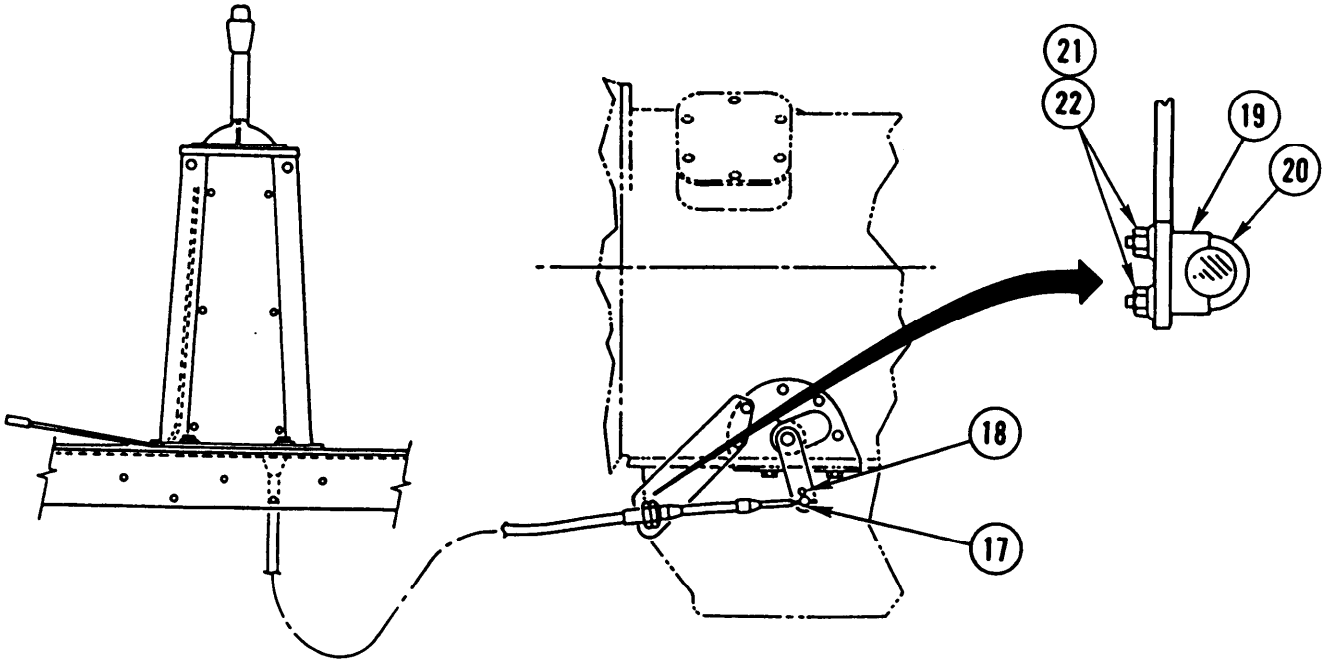


4. INSTALL FLOOR MAT (10), 10 WASHERS (11), AND 10 SELF-TAPPING TORX SCREWS (12).

TRANSMISSION TUNNEL ACCESS COVER REPLACEMENT (CONT)



5. INSTALL BRACKET (13), FOUR WASHERS (14), FOUR SCREWS (15), AND FOUR NUTS (16).



6. INSTALL BARREL NUT (17) AND COTTER PIN (18).

7. INSTALL SADDLE CLAMP (19), U-BOLT (20), TWO NEW LOCK WASHERS (21), AND TWO NUTS (22).

NOTE

Follow-on Maintenance:
Adjust transmission shift linkage (page 4-342).
Install fire extinguisher (TM 9-2320-363-10).

TRANSMISSION TUNNEL ACCESS COVER REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (12)

References:

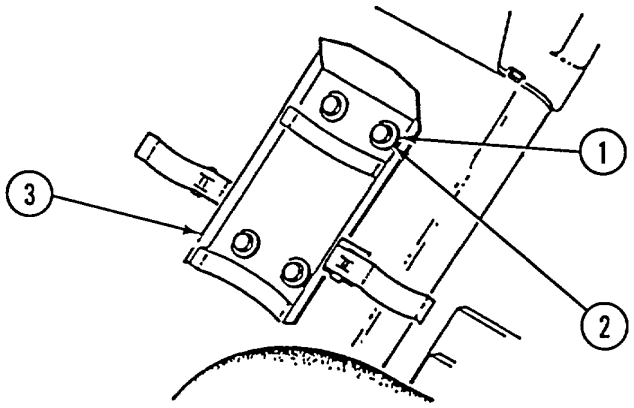
TM 9-2320-363-10

Equipment Condition:

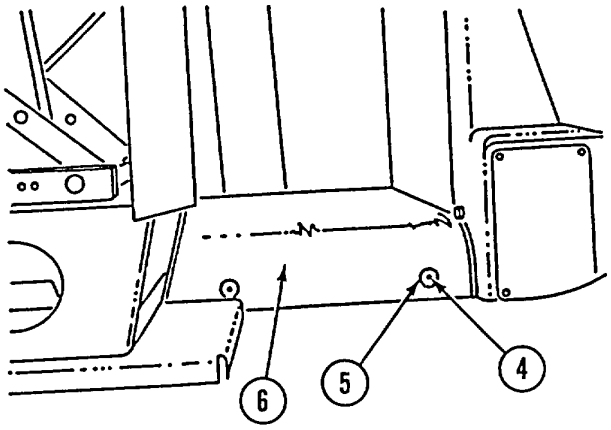
Reference	Equipment Condition
TM 9-2320-363-10	Wheels Blocked
Page 4-366.4	Shift Tower Removed

REMOVAL

1. REMOVE FOUR SCREWS (1), FOUR FLATWASHERS (2), AND FIRE EXTINGUISHER BRACKET (3).



2. REMOVE 10 SELF-TAPPING TORX SCREWS (4), 10 WASHERS (5), AND FLOOR MAT (6).

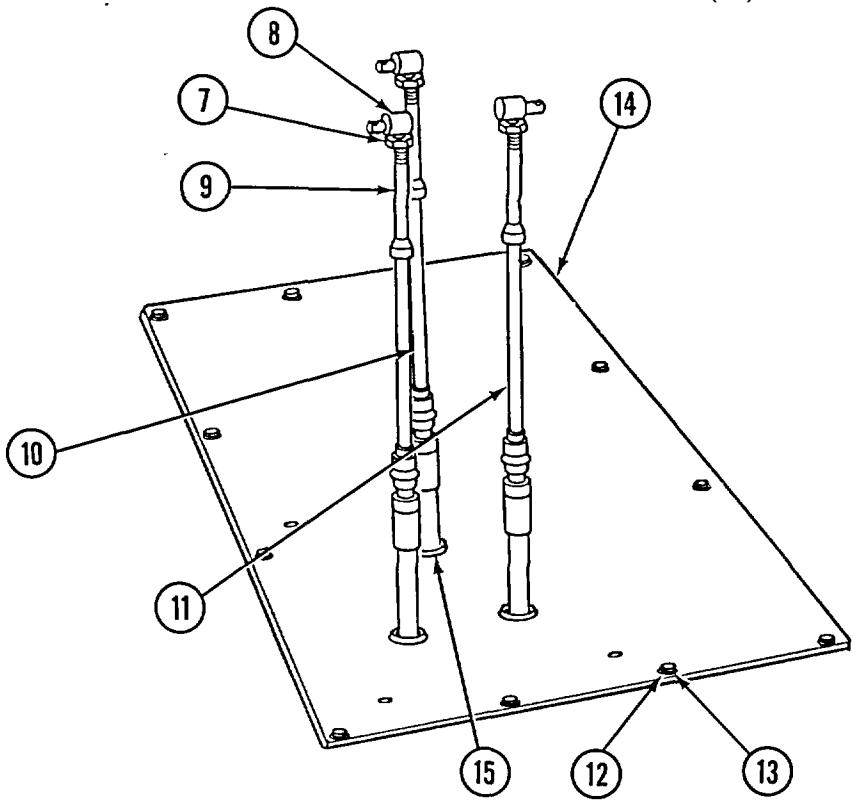


TRANSMISSION TUNNEL ACCESS COVER REPLACEMENT (CONT)

NOTE
To ease installation, note number of threads when removing pivot pins.

3. LOOSEN NUT (7) AND REMOVE PIVOT PIN (8) FROM TRANSMISSION CONTROL CABLE (9).

4. FOR M916A2. REPEAT STEP 3 FOR TRANSFER CASE CONTROL CABLE (10).



5. FOR M917A1 AND M917A1 W/MCS, REPEAT STEP 3 FOR TRANSFER CASE CONTROL CABLE (10) AND HYDRAULIC CONTROL CABLE (11).

6. REMOVE 12 SCREWS (12), AND 12 LOCK WASHERS (13) FROM ACCESS COVER (14). DISCARD LOCK WASHERS.

7. REMOVE GROMMETS (15) FROM ACCESS COVER (14).

8. LIFT ACCESS COVER (14) OVER CONTROL CABLES.

INSTALLATION

1. FOR M916A2, INSERT CONTROL CABLE ENDS THROUGH HOLES PROVIDED IN ACCESS COVER (1) WITH TRANSMISSION CONTROL CABLE (2) ON LEFT, AND TRANSFER CASE CONTROL CABLE (3) ON RIGHT.

2. FOR M917A1 AND M917A1 W/MCS, INSERT CONTROL CABLE ENDS THROUGH HOLES PROVIDED IN ACCESS COVER (1) WITH TRANSMISSION CONTROL CABLE (2) ON LEFT, TRANSFER CASE CONTROL CABLE (3) IN CENTER, AND HYDRAULIC CABLE (4) ON RIGHT.

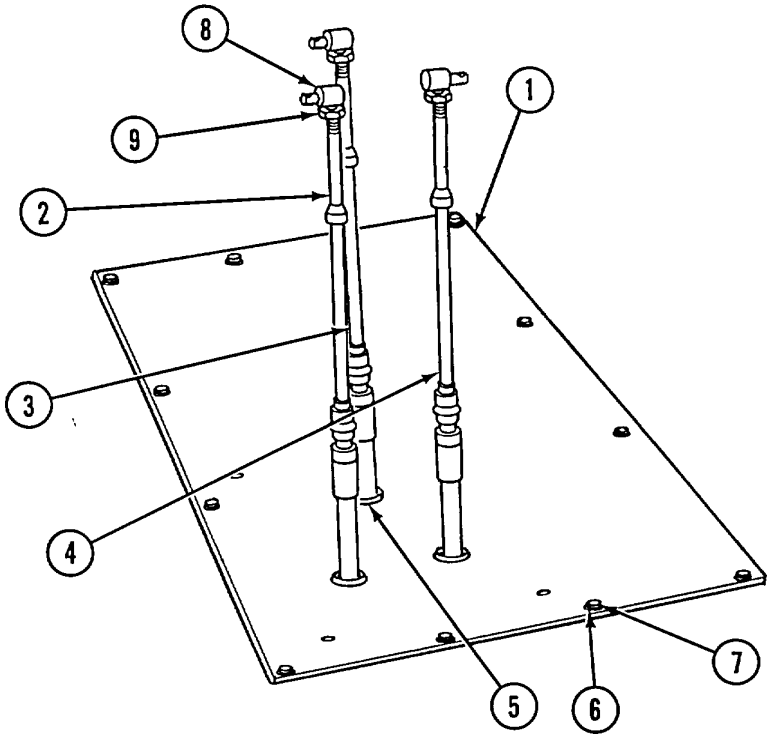
3. INSTALL GROMMETS (5) ON ACCESS COVER (1).

4. SECURE ACCESS COVER (1) WITH 12 SCREWS (6) AND 12 NEW LOCK WASHERS (7).

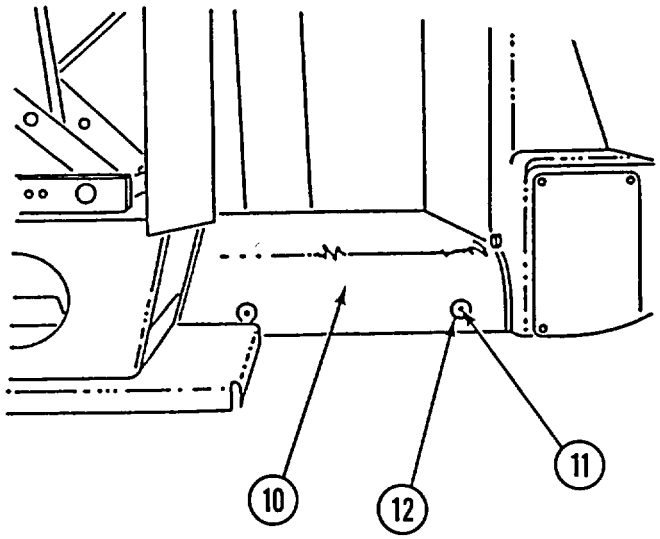
5. INSTALL PIVOT PIN (8) ON TRANSMISSION CONTROL CABLE (2) WITH THE SAME NUMBER OF THREADS AS REMOVAL AND TIGHTEN NUT (9).

6. FOR M916A2, REPEAT STEP 5 FOR TRANSFER CASE CONTROL CABLE (3).

7. FOR M917A1 AND M917A1 W/MCS, REPEAT STEP 5 FOR TRANSFER CASE CONTROL CABLE (3) AND HYDRAULIC CONTROL CABLE (4).

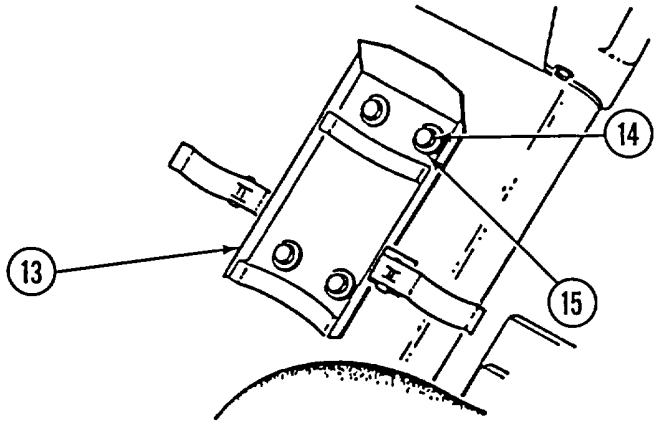


8. INSTALL FLOOR MAT (10) AND SECURE WITH 10 SELF-TAPPING TORX SCREWS (11) AND 10 WASHERS (12).



TRANSMISSION TUNNEL ACCESS COVER REPLACEMENT (CONT)

9. INSTALL FIRE EXTINGUISHER BRACKET (13), FOUR SCREWS (14), AND FOUR FLATWASHERS (15).



NOTE
Follow-on Maintenance:

Install shift tower (page 4-366.4).
Remove wheel blocks (TM 9-2320-363-10).

Section XV. WINCH AND POWER TAKE-OFF MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the winch and power take-off and related components. A list of tasks contained in this section is shown below.

Page

Winch Hydraulic Lines and Fittings Replacement (M916A1 and M916A2) 4-758
Winch Wire Rope Replacement (M916A1 and M916A2) 4-760
Winch Hydraulic Oil Tank Replacement and Repair (M916A1 and M916A2) 4-762
Winch Hydraulic Oil Filter Element Replacement (M916A1 and M916A2) 4-766
Power Take-Off (PTO) Solenoid Valve Replacement
(All Except M915A2) 4-768
Power Take-Off (PTO) Selector Switch Replacement
(All Except M915A2) 4-771

WINCH HYDRAULIC LINES AND FITTINGS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2

Tools and Special Equipment:

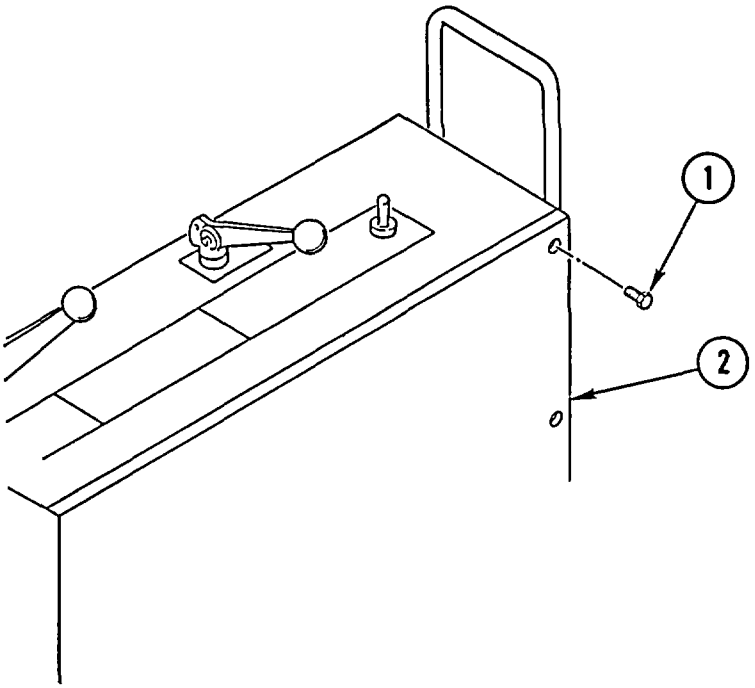
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

REMOVAL

1. REMOVE SIX CAPSCREWS (1) AND COVER (2).
2. REMOVE WINCH HYDRAULIC LINES AND FITTINGS USING ILLUSTRATION AND LEGEND AS A GUIDE.

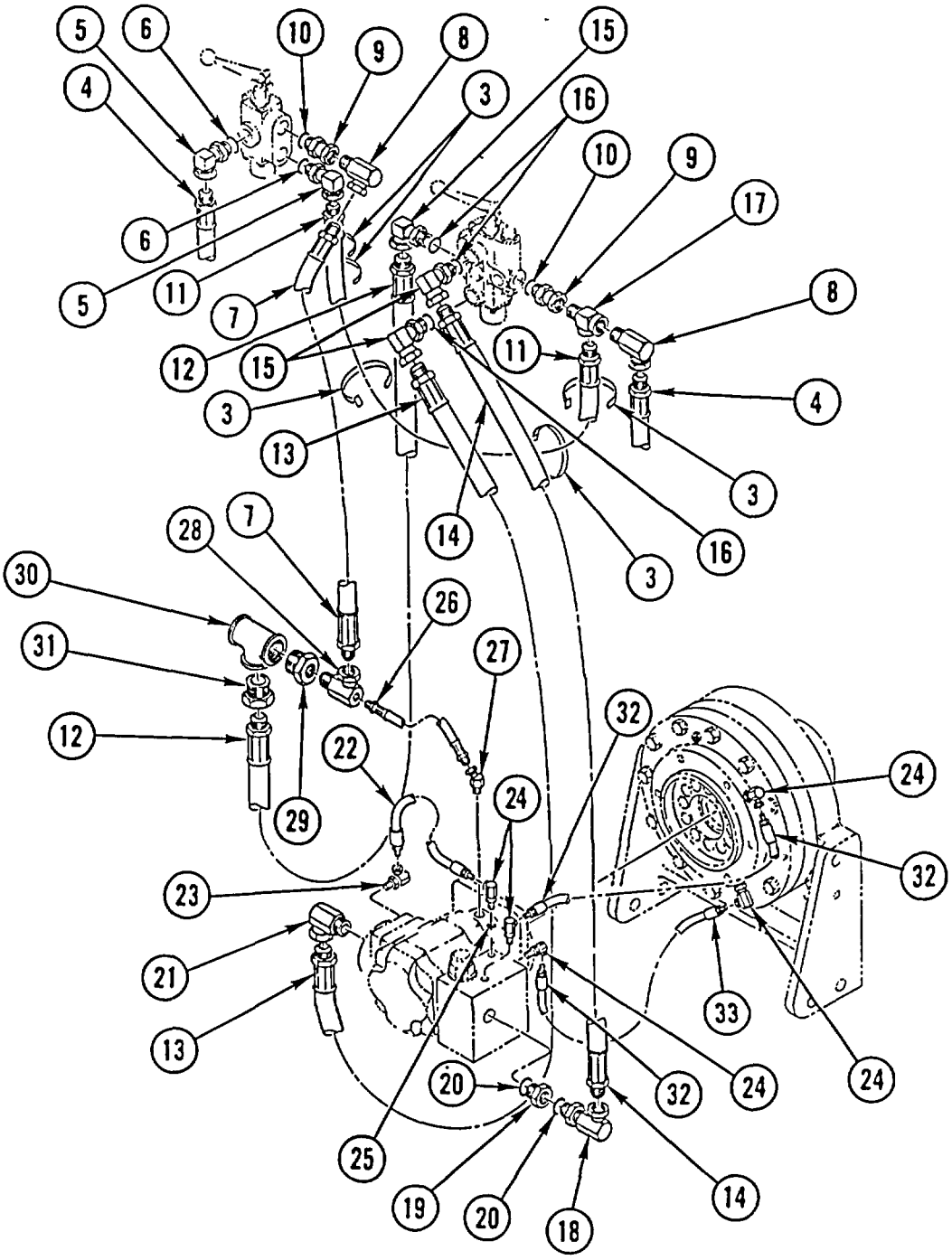
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL WINCH HYDRAULIC LINES AND FITTINGS USING ILLUSTRATION AND LEGEND AS A GUIDE.
2. INSTALL COVER (2) AND SIX CAPSCREWS (1).



LEGEND

3	TIE WRAP (5)	14	HOSE ASSEMBLY	25	PACKING
4	HOSE ASSEMBLY	15	ADAPTER (3)	26	HOSE ASSEMBLY
5	ADAPTER (2)	16	PACKING (3)	27	ADAPTER
6	PACKING (2)	17	TEE	28	TEE
7	HOSE ASSEMBLY	18	ADAPTER	29	BUSHING
8	ADAPTER (2)	19	BUSHING	30	TEE
9	ADAPTER (2)	20	PACKING (2)	31	BUSHING
10	PACKING (2)	21	ADAPTER	32	HOSE ASSEMBLY (2)
11	HOSE ASSEMBLY	22	HOSE ASSEMBLY	33	HOSE ASSEMBLY
12	HOSE ASSEMBLY	23	ADAPTER		
13	HOSE ASSEMBLY	24	ADAPTE R (5)		

WINCH WIRE ROPE REPLACEMENT

This task covers: a. Removal b. Cleaning c. Inspection d. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Personnel Required: (2)

References:

TM 9-2320-363-10
FM 5-725

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-10	Wire Rope Completely Payed Out

General Safety Instructions:

WARNING
Always wear heavy gloves when handling winch cables. Never allow cable to run through hands; frayed cables can cut.

REMOVAL

WARNING
Always wear heavy gloves when handling winch cables. Never allow cable to run through hands; frayed cables can cut.

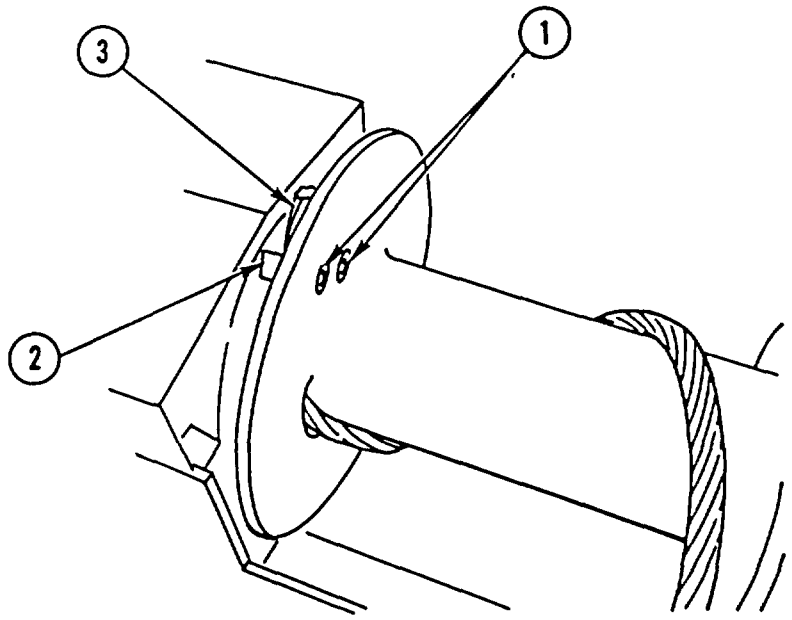
REMOVE TWO SOCKET HEAD SCREWS (1), CLAMP (2), AND CABLE (3).

CLEANING

Clean all parts in accordance with Chapter 2.

INSPECTION

Inspect wire rope assembly in accordance with FM 5-725.



INSTALLATION

WARNING

Always wear heavy gloves when handling winch cables. Never allow cable to run through hands; frayed cables can cut.

NOTE

Cable end must protrude 1.5-2.0 in. beyond clamp.

INSTALL CABLE (3), CLAMP (2), AND TWO SOCKET HEAD SCREWS (1). TIGHTEN SCREWS TO 100 LB-IN. (11.3 N.m).

NOTE

Follow-on Maintenance:

Wire rope completely payed in (TM 9-2320-363-10).

WINCH HYDRAULIC OIL TANK REPLACEMENT AND REPAIR

This task covers: a. Removal b. Disassembly c. Cleaning/Inspection d. Assembly e. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Packing (2)	P/N 9647
Nut, Lock (4)	P/N 1392
Compound, Pipe Sealing	Appendix C, Item 8

Personnel Required: (2)

References:

TM 9-2320-363-20-1

Equipment Condition:

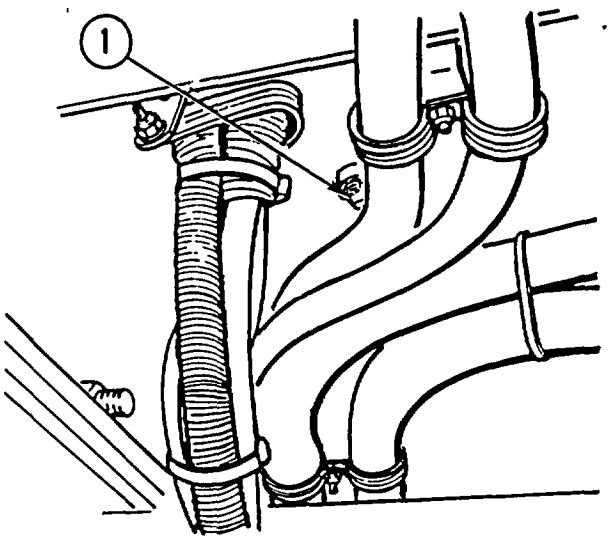
Reference	Condition Description
Page 4-766	Hydraulic Oil Filter Removed

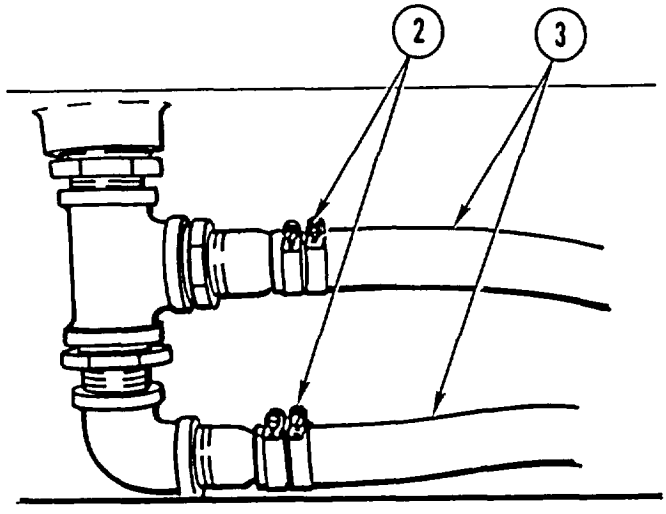
General Safety Instructions:

WARNING

- **Winch hydraulic oil tank weighs 130 lb (59 kg). Use suitable hoist to remove or install oil tank to prevent possible injury to personnel.**
- **Spilled hydraulic fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.**

REMOVAL

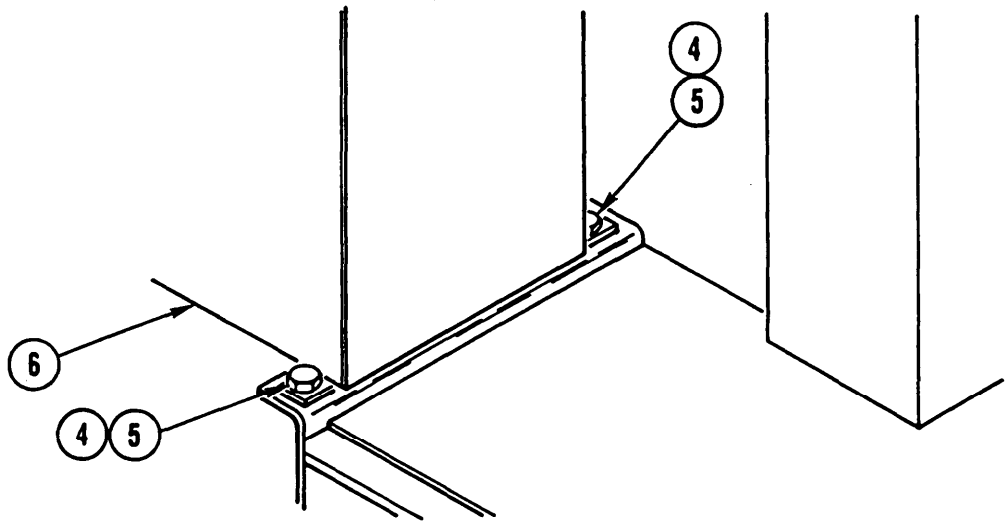




WARNING

Spilled hydraulic fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

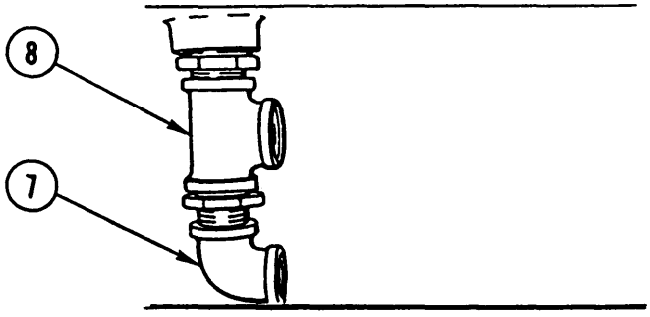
1. REMOVE PLUG (1) AND DRAIN OIL INTO SUITABLE CONTAINER, 55-GALLON CAPACITY.
2. LOOSEN FOUR CLAMPS (2) AND DISCONNECT TWO HOSES (3).



WARNING

Winch hydraulic oil tank weighs 130 lb (59 kg). Use suitable hoist to remove oil tank to prevent possible injury to personnel.

3. REMOVE FOUR LOCK NUTS (4), FOUR BOLTS (5), AND HYDRAULIC OIL TANK (6). DISCARD LOCK NUTS.



4. REMOVE ELBOW (7) AND TEE (8).

WINCH HYDRAULIC OIL TANK REPLACEMENT AND REPAIR (CONT)

DISASSEMBLY

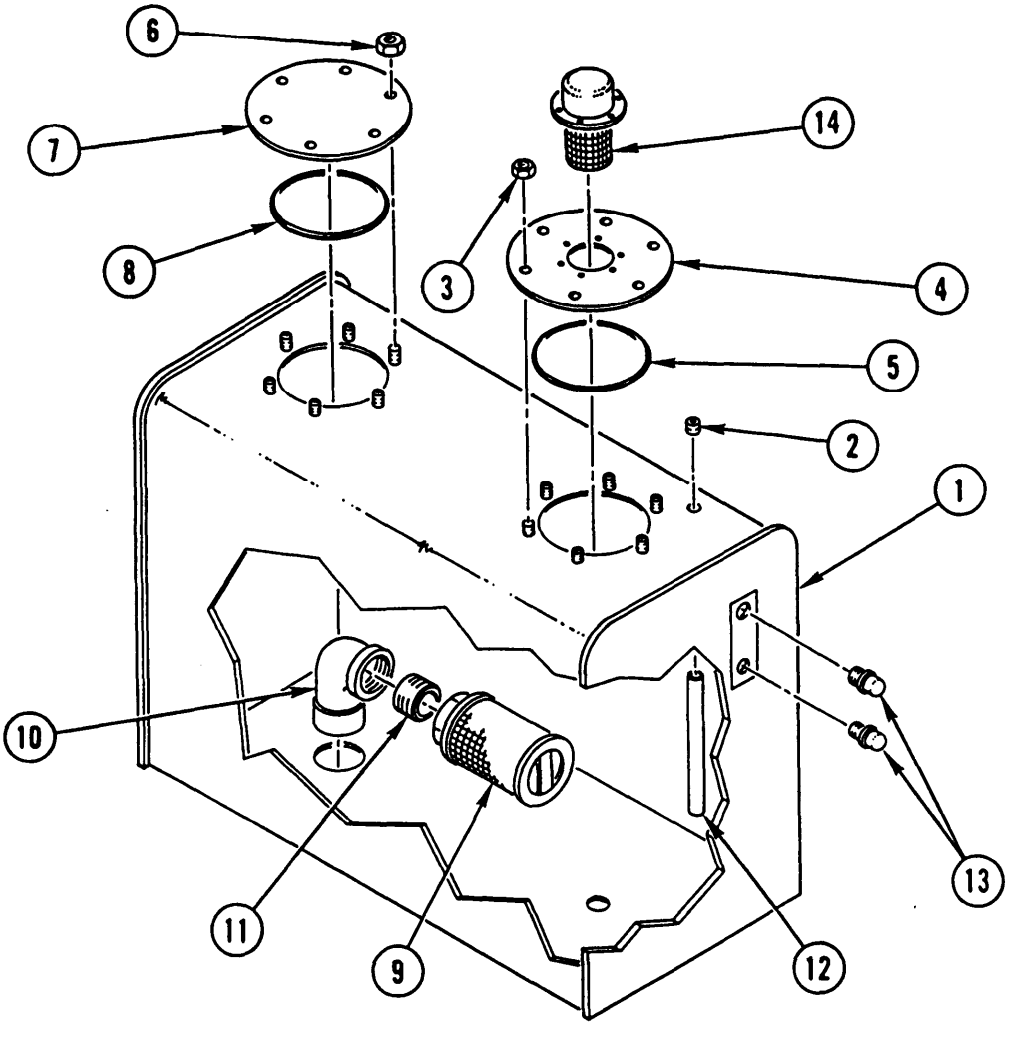
DISASSEMBLE HYDRAULIC OIL TANK (1) USING ILLUSTRATION AND LEGEND AS A GUIDE.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ASSEMBLY

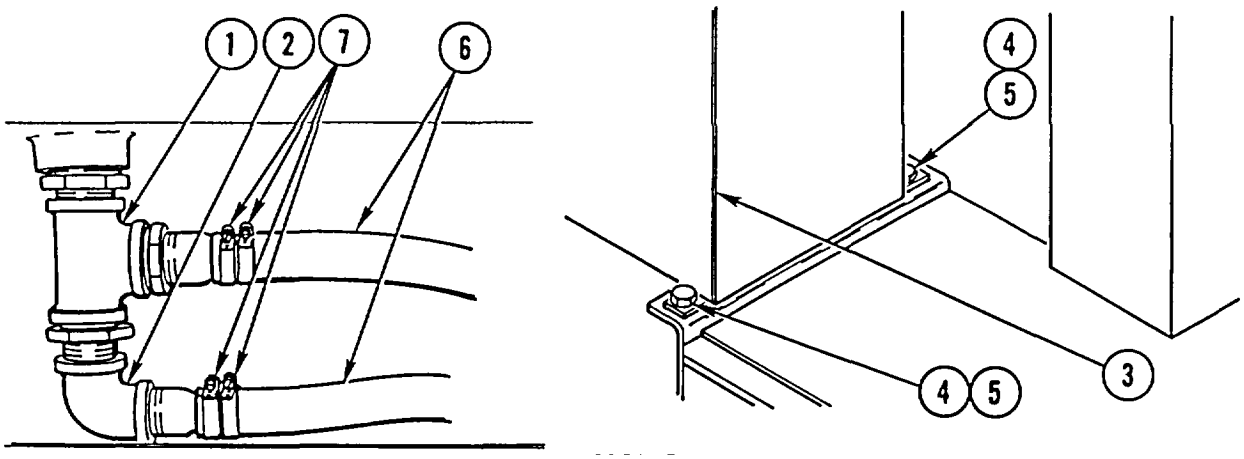
ASSEMBLE HYDRAULIC OIL TANK (1) USING ILLUSTRATION AND LEGEND AS A GUIDE.



LEGEND

1 TANK	5 PACKING	9 STRAINER	13 SIGHT GLASS (2)
2 PLUG	6 NUT (6)	10 ELBOW	14 BREATHER
3 NUT (6)	7 COVER	11 NIPPLE	
4 COVER	8 PACKING	12 TUBE	

INSTALLATION



NOTE
Coat threads of tee and elbow with sealing compound.

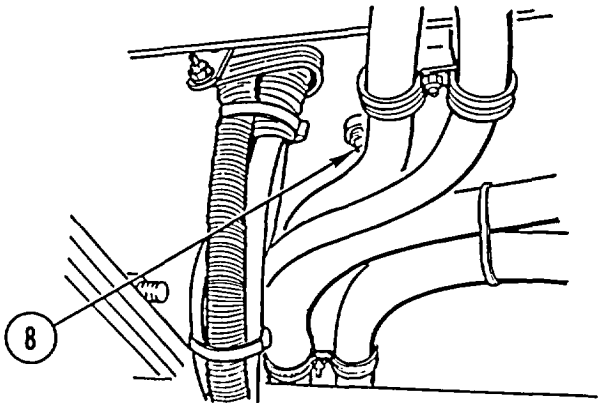
1. INSTALL TEE (1) AND ELBOW (2).

WARNING

- **Winch hydraulic oil tank weighs 130 lb (59 kg). Use suitable hoist to install oil tank to prevent possible injury to personnel.**
- **Spilled hydraulic fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.**

2. INSTALL HYDRAULIC OIL TANK (3), FOUR BOLTS (4), AND FOUR NEW LOCK NUTS (5).

3. CONNECT TWO HOSES (6) AND TIGHTEN FOUR CLAMPS (7).



4. INSTALL PLUG (8).

NOTE
Follow-on Maintenance:

Install hydraulic oil filter (page 4-766).
Fill hydraulic oil tank (Unit PMCS, TM 9-2320-363-20-1).

WINCH HYDRAULIC OIL FILTER ELEMENT REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2 TM 9-2320-363-20-1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Element, Oil Filter with Gasket	P/N 74011
Oil, Lubricating	Appendix C, Item 16

References:

General Safety Instructions:

WARNING

Spilled hydraulic fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

REMOVAL

WARNING

Spilled hydraulic fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

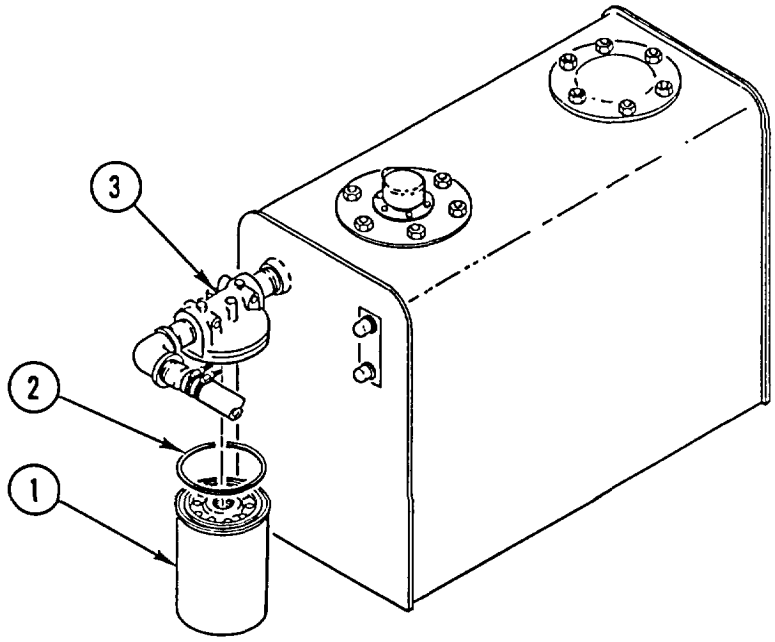
NOTE

Place suitable container under oil filter to catch oil that will drain out when filter is removed.

REMOVE AND DISCARD OIL FILTER ELEMENT (1) AND GASKET (2) FROM OIL FILTER (3).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

WARNING

Spilled hydraulic fluid is very slippery. Wipe up any spilled fluid immediately. Failure to do so could result in serious injury to personnel.

1. FILL NEW OIL FILTER ELEMENT (1) WITH 1 QT (1 L) OIL.
2. INSTALL NEW GASKET (2) ON OIL FILTER ELEMENT (1) AND APPLY THIN COAT OF OE 10 OIL TO GASKET (2).
3. INSTALL UNTIL TOP OF OIL FILTER ELEMENT (1) IS JUST TOUCHING OIL FILTER (3).

CAUTION

To prevent damage to equipment, do not use filter wrench or strap wrench to tighten oil filter element.

4. TIGHTEN OIL FILTER ELEMENT (1) 3/4 TURN.

NOTE

Follow-on Maintenance.

Check sight gage and fill hydraulic tank, if required (Unit PMCS, TM 9-2320-363-20-1).

POWER TAKE-OFF (PTO) SOLENOID VALVE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

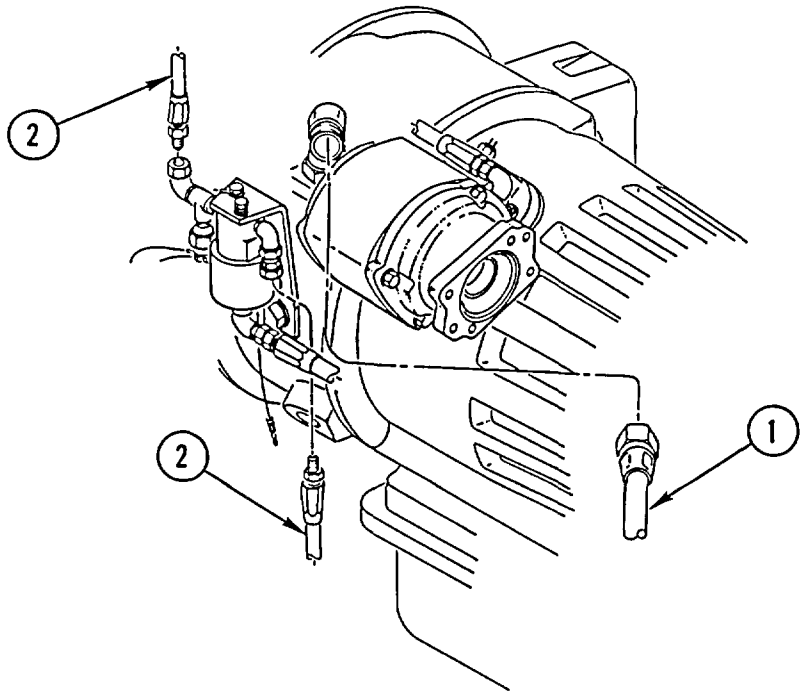
Materials/Parts:

Washer, Lock

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 2-28	Air System Drained
Page 4-752 or 4-756.1	Transmission Tunnel Access Cover Removed

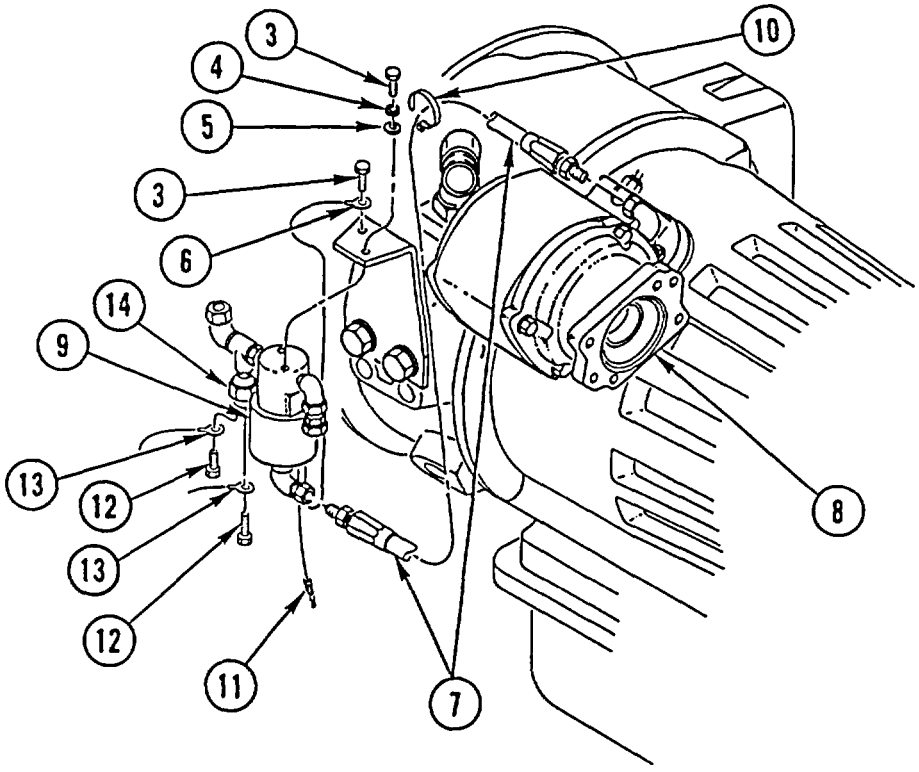
REMOVAL



1. DISCONNECT HOSE ASSEMBLY (1).

NOTE
Tag air hoses prior to removal to aid in installation.

2. DISCONNECT TWO AIR HOSES (2).



3. REMOVE TWO SCREWS (3), LOCK WASHER (4), AND WASHER (5) AND DISCONNECT GROUND WIRE (6). DISCARD LOCK WASHER.

4. DISCONNECT AIR HOSE (7) FROM PTO (8) AND PTO SOLENOID VALVE (9).

5. REMOVE TWO TIE WRAPS (10).

6. DISCONNECT ELECTRICAL CONNECTOR (11).

NOTE
Tag wires prior to removal to aid in installation.

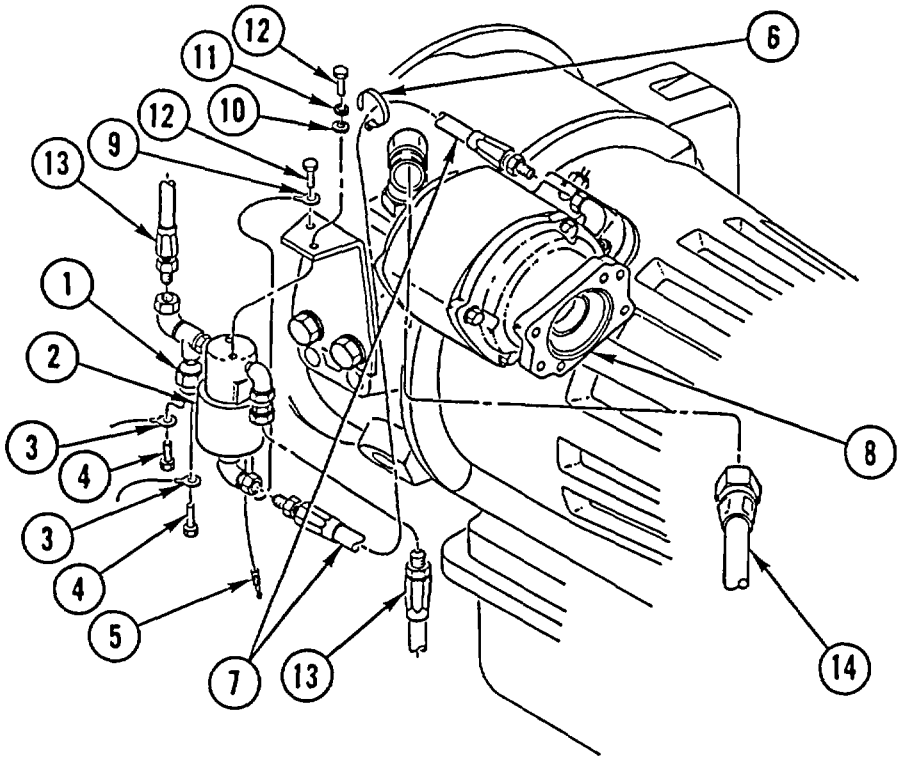
7. REMOVE TWO SCREWS (12) AND DISCONNECT TWO WIRES (13) FROM PTO SOLENOID VALVE (9).

8. REMOVE PTO PRESSURE SWITCH (14) FROM PTO SOLENOID VALVE (9).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

POWER TAKE-OFF (PTO) SOLENOID VALVE REPLACEMENT (CONT)



INSTALLATION

1. INSTALL PTO PRESSURE SWITCH (1) ON PTO SOLENOID VALVE (2).
2. CONNECT TWO WIRES (3) AND INSTALL TWO SCREWS (4) ON PTO SOLENOID VALVE (2).
3. CONNECT ELECTRICAL CONNECTOR (5).
4. INSTALL TWO TIE WRAPS (6).
5. CONNECT AIR HOSE (7) TO PTO (8) AND PTO SOLENOID VALVE (2).
6. INSTALL PTO SOLENOID VALVE (2), CONNECT GROUND WIRE (9), AND INSTALL WASHER (10), NEW LOCK WASHER (11), AND TWO SCREWS (12).
7. CONNECT TWO AIR HOSES (13).
8. CONNECT HOSE ASSEMBLY (14).

NOTE

Follow-on Maintenance:

Install transmission tunnel access cover (page 4-752 or 4-756.1)
Connect batteries (page 2-29).

POWER TAKE-OFF (PTO) SELECTOR SWITCH REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2

Tools and Special Equipment:

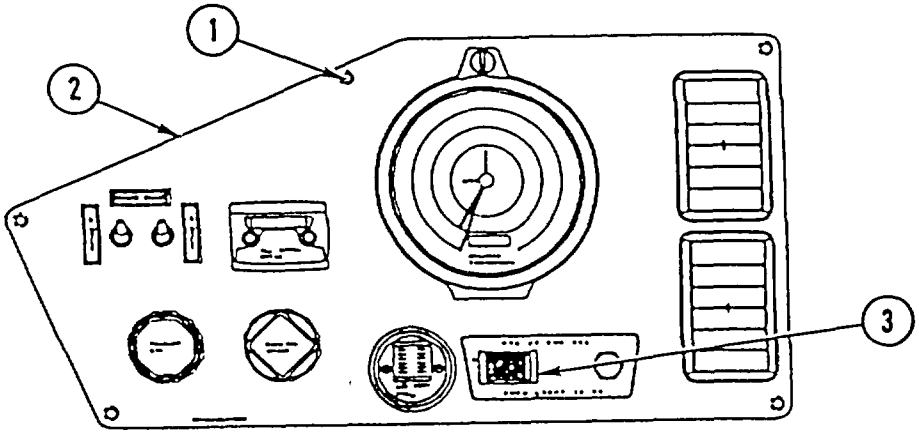
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

NOTE
M916A1 configuration is shown.

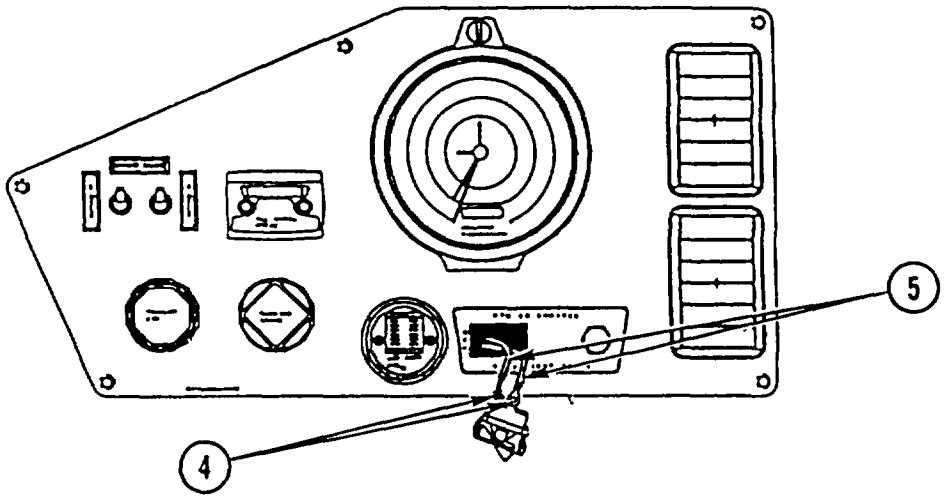
REMOVAL



1. REMOVE FIVE TORX SCREWS (1) AND PULL DASHBOARD PANEL (2) OUT ENOUGH TO GAIN ACCESS TO PTO SELECTOR SWITCH (3).

2. REMOVE PTO SELECTOR SWITCH (3) FROM DASHBOARD PANEL (2).

POWER TAKE-OFF (PTO) SOLENOID VALVE REPLACEMENT (CONT)



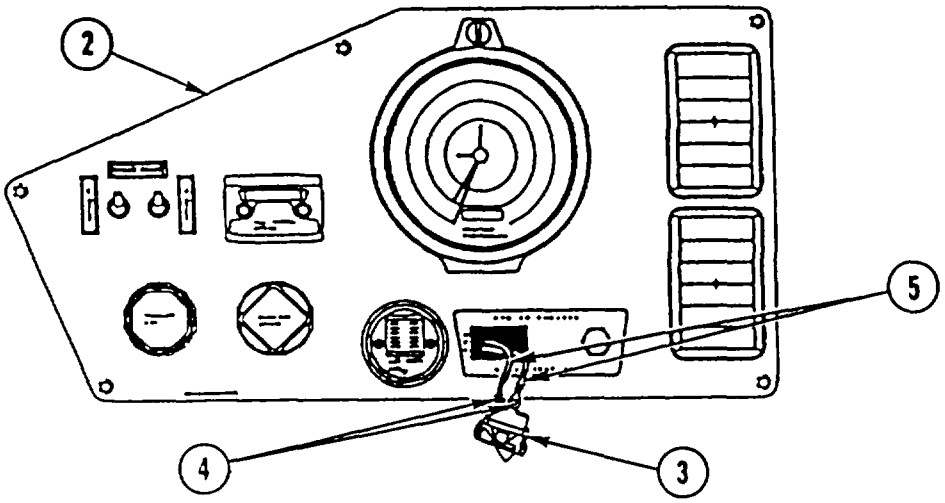
NOTE
Tag wires prior to removal to aid in installation.

3. REMOVE TWO SCREWS (4) AND DISCONNECT TWO WIRES (5).

CLEANING/INSPECTION

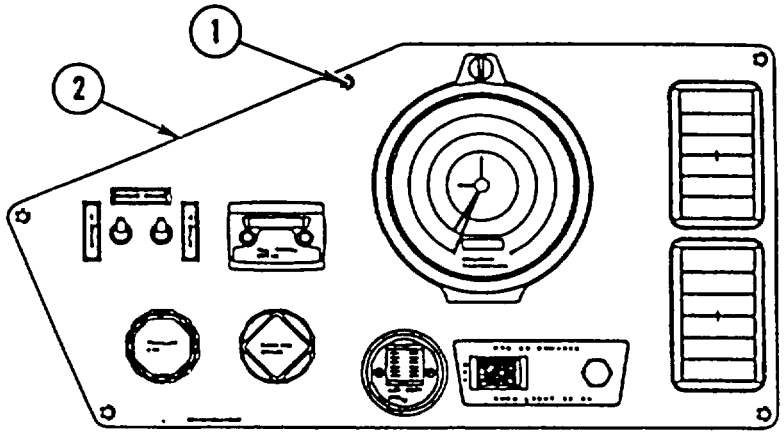
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. CONNECT TWO WIRES (5) AND INSTALL TWO SCREWS (4).

2. INSTALL PTO SELECTOR SWITCH (3) IN DASHBOARD PANEL (2).



3. INSTALL DASHBOARD PANEL (2) AND FIVE TORX SCREWS (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

Section XVI. BODY AND CHASSIS ACCESSORY ITEMS MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the body and chassis accessory items and related components. A list of tasks contained in this section is shown below.

Page

Hosetenna Replacement 4-775
Rear View Mirror Replacement 4-778
Spotter Mirror Replacement 4-780
Windshield Wiper Motor Replacement (M915A2 and M916A1) 4-781
Windshield Wiper Motor Replacement (All Except M915A2 and M916A1) 4-782.1
Windshield Wiper Linkage Replacement (M915A2 and M916A1) 4-783
Windshield Wiper Linkage Replacement (All Except M915A2 and M916A1) 4-784.1
Windshield Washer Reservoir Replacement 4-785
Windshield Washer Reservoir Repair 4-785.0
Windshield Wiper and Wiper Arm Replacement (M915A2 and M916A1) 4-786
Windshield Wiper and Wiper Arm Replacement (All Except M915A2 and M916A1) 4-787.0
Rotating Warning Light Bracket Replacement (All Except M917A1 and M917A1 w/MCS) 4-788
Vehicle Jack Mounting Bracket Replacement 4-790
Heater/Defroster Fan Replacement (M915A2 and M916A1) 4-792
Vehicle Heater Replacement (M915A2 and M916A1) 4-796
Vehicle Heater or Heater/AC Unit Controls Replacement, Repair, and Adjustment 4-805
Arctic Heater and Mounting Bracket Replacement and Repair 4-816
Arctic Heater Core Replacement 4-824
Arctic Heater Fill Tank Replacement 4-827
Arctic Heater Hoses and Clamps Replacement 4-830
Arctic Heater Controls Replacement 4-832
Swingfire Arctic Heater Jacket Assembly Replacement 4-834
Data and Instruction Plates Replacement 4-848
M16 Rifle Mounting Bracket Replacement 4-850

Air Conditioner Air Cylinder Replacement
(All Except M915A2 and M916A1) 4-851.0
Air Conditioner Blower Motor Replacement
(All Except M915A2 and M916A1) 4-851.2
Air Conditioner Heater Core Replacement
(All Except M915A2 and M916A1) 4-851.5
Air Conditioner Resistor Block Replacement
(All Except M915A2 and M916A1) 4-851.10
Air Conditioner Thermostatic Switch Replacement
(All Except M915A2 and M916A1) 4-851.12

HOSETENNA REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock

Equipment Condition:

Reference	Condition Description
Page 4-462	Primary II Air Tank Removed (M915A2)

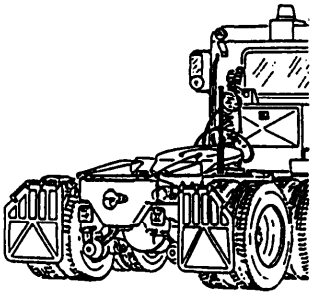
HOSETENNA REPLACEMENT (CONT)

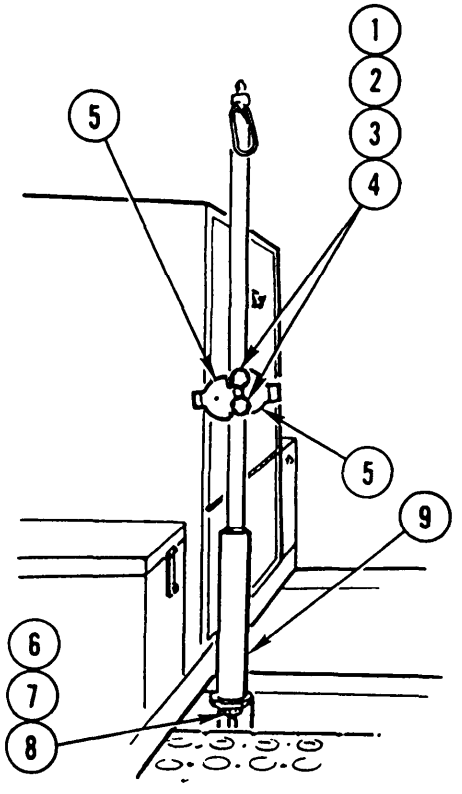
REMOVAL

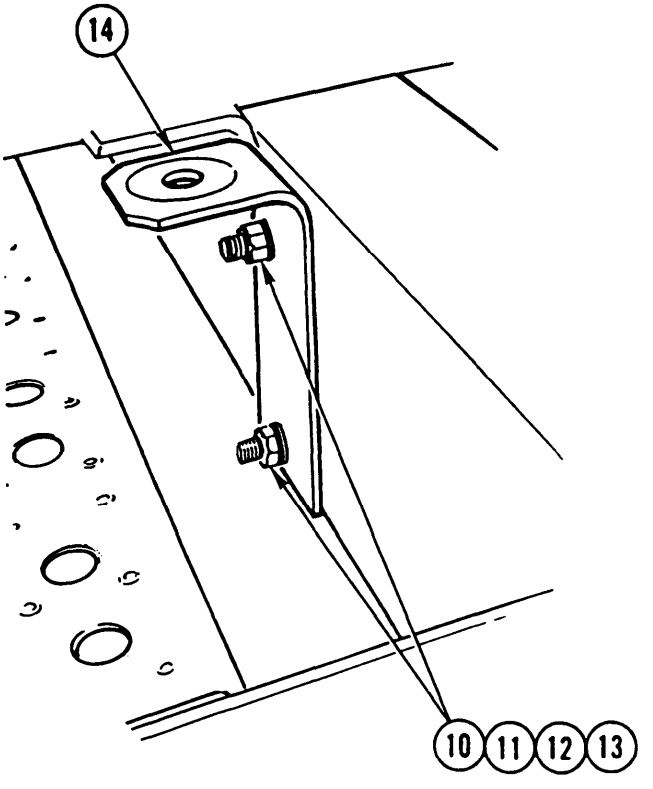
NOTE

Procedure is the same for both vehicles except as noted.

1. REMOVE TWO NUTS (1), TWO WASHERS (2), TWO CAPSCREWS (3), TWO WASHERS (4), AND TWO GLADHAND BRACKETS (5).
2. REMOVE NUT (6), LOCK WASHER (7), WASHER (8), AND HOSETENNA (9). DISCARD LOCK WASHER.
3. M915A2 ONLY: REMOVE TWO NUTS (10), TWO WASHERS (11), TWO CAPSCREWS (12), TWO WASHERS (13), AND MOUNTING BRACKET (14).







CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE

Procedure is the same for both vehicles except as noted.

1. M915A2 ONLY: INSTALL MOUNTING BRACKET (14), TWO WASHERS (13), TWO CAPSCREWS (12), TWO WASHERS (11), AND TWO NUTS (10).
2. INSTALL HOSETENNA (9), WASHER (8), NEW LOCK WASHER (7), AND NUT (6).
3. INSTALL TWO GLADHAND BRACKETS (5), TWO WASHERS (4), TWO CAPSCREWS (3), TWO WASHERS (2), AND TWO NUTS (1).

NOTE

Follow-on Maintenance:
Install primary II air tank (M915A2) (page 4-462).

REAR VIEW MIRROR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

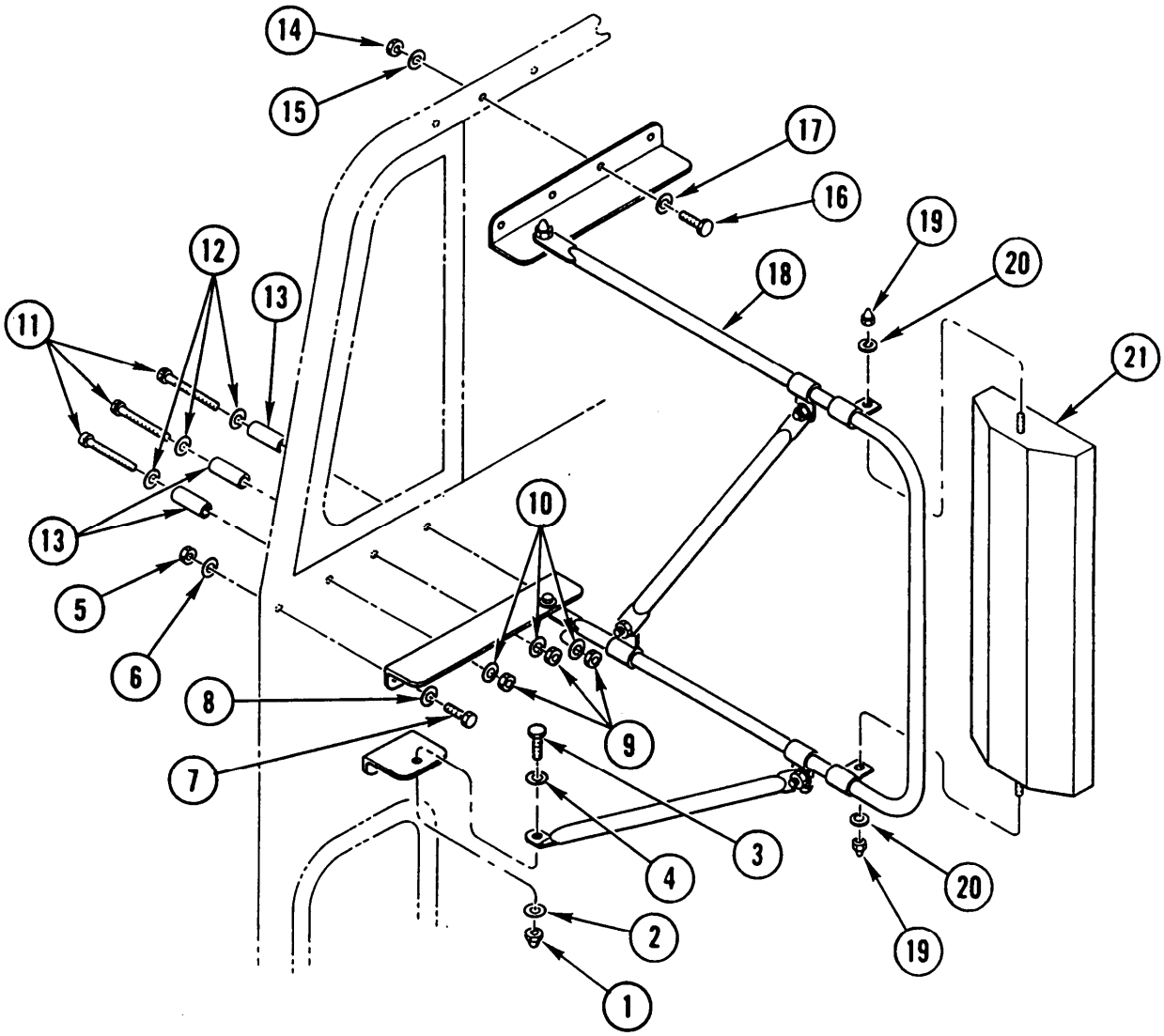
Tool Kit, SC 5180-90-CL-N26

Personnel Required: (2)

Materials/Parts:

Nut, Lock (8)

REMOVAL



1. REMOVE CAPNUT (1), WASHER (2), SCREW (3), AND WASHER (4).
2. REMOVE LOCK NUT (5), WASHER (6), SCREW (7), AND WASHER (8). DISCARD LOCK NUT.
3. REMOVE THREE LOCK NUTS (9), THREE WASHERS (10), THREE SOCKET HEAD SCREWS (11), THREE WASHERS (12), AND THREE SPACERS (13). DISCARD LOCK NUTS.
4. REMOVE FOUR LOCK NUTS (14), FOUR WASHERS (15), FOUR SCREWS (16), FOUR WASHERS (17), AND SUPPORT (18). DISCARD LOCK NUTS.
5. REMOVE TWO CAPNUTS (19), TWO WASHERS (20), AND MIRROR (21).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL MIRROR (21), TWO WASHERS (20), AND TWO CAPNUTS (19) ON SUPPORT (18).
2. INSTALL SUPPORT (18), FOUR WASHERS (17), FOUR SCREWS (16), FOUR WASHERS (15), AND FOUR NEW LOCK NUTS (14).
3. INSTALL THREE SPACERS (13), THREE WASHERS (12), THREE SOCKET HEAD SCREWS (11), THREE WASHERS (10), AND THREE NEW LOCK NUTS (9).
4. INSTALL WASHER (8), SCREW (7), WASHER (6), AND NEW LOCK NUT (5).
5. INSTALL WASHER (4), SCREW (3), WASHER (2), AND CAPNUT (1).

SPOTTER MIRROR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (3)

Washer, Lock

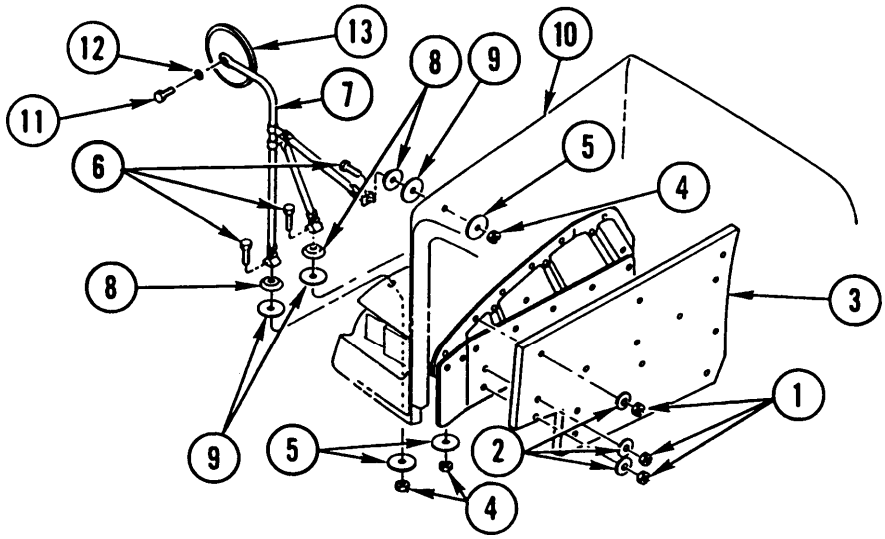
Personnel Required: (2)

REMOVAL

1. REMOVE THREE LOCK NUTS (1) AND THREE WASHERS (2) FROM HOOD LINER (3). DISCARD LOCK NUTS.
2. REMOVE THREE NUTS (4), THREE WASHERS (5), THREE SCREWS (6), MIRROR ASSEMBLY (7), THREE SPACERS (8), AND THREE WASHERS (9) FROM HOOD (10).
3. REMOVE SCREW (11), LOCK WASHER (12), AND SPOTTER MIRROR (13) FROM MIRROR ASSEMBLY (7). DISCARD LOCK WASHER.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL SPOTTER MIRROR (13), NEW LOCK WASHER (12), AND SCREW (11) ON MIRROR ASSEMBLY (7).
2. INSTALL THREE WASHERS (9), THREE SPACERS (8), MIRROR ASSEMBLY (7), THREE SCREWS (6), THREE WASHERS (5), AND THREE NUTS (4) ON HOOD (10).
3. INSTALL THREE WASHERS (2) AND THREE NEW LOCK NUTS (1) ON HOOD LINER (3).

WINDSHIELD WIPER MOTOR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

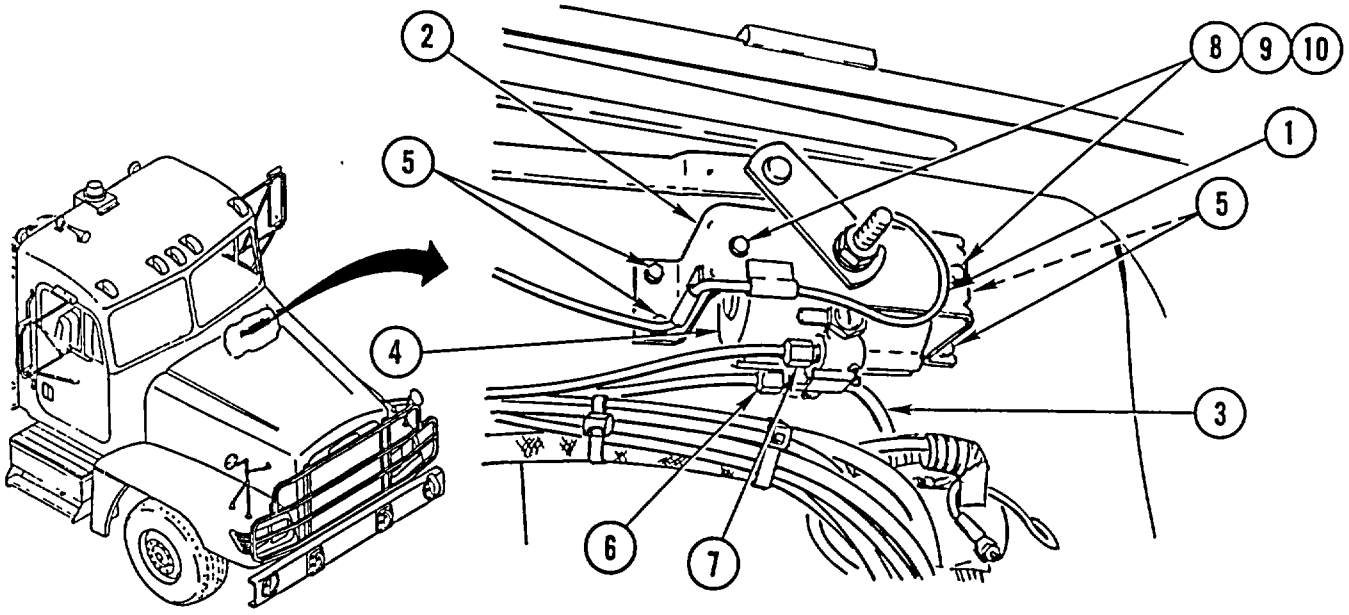
Materials/Parts:

Washer, Lock (2)

Equipment Condition:

Reference	Condition Description
Page 4-783	Windshield Wiper Linkage Removed
Page 2-28	Air System Completely Drained

REMOVAL



1. REMOVE HOSE (1) FROM MOUNTING BRACKET (2).
2. DISCONNECT HOSE (3) FROM WINDSHIELD WIPER MOTOR (4).
3. REMOVE FOUR SELF-TAPPING SCREWS (5) AND MOUNTING BRACKET (2).

NOTE
Tag air lines prior to removal to aid in installation.

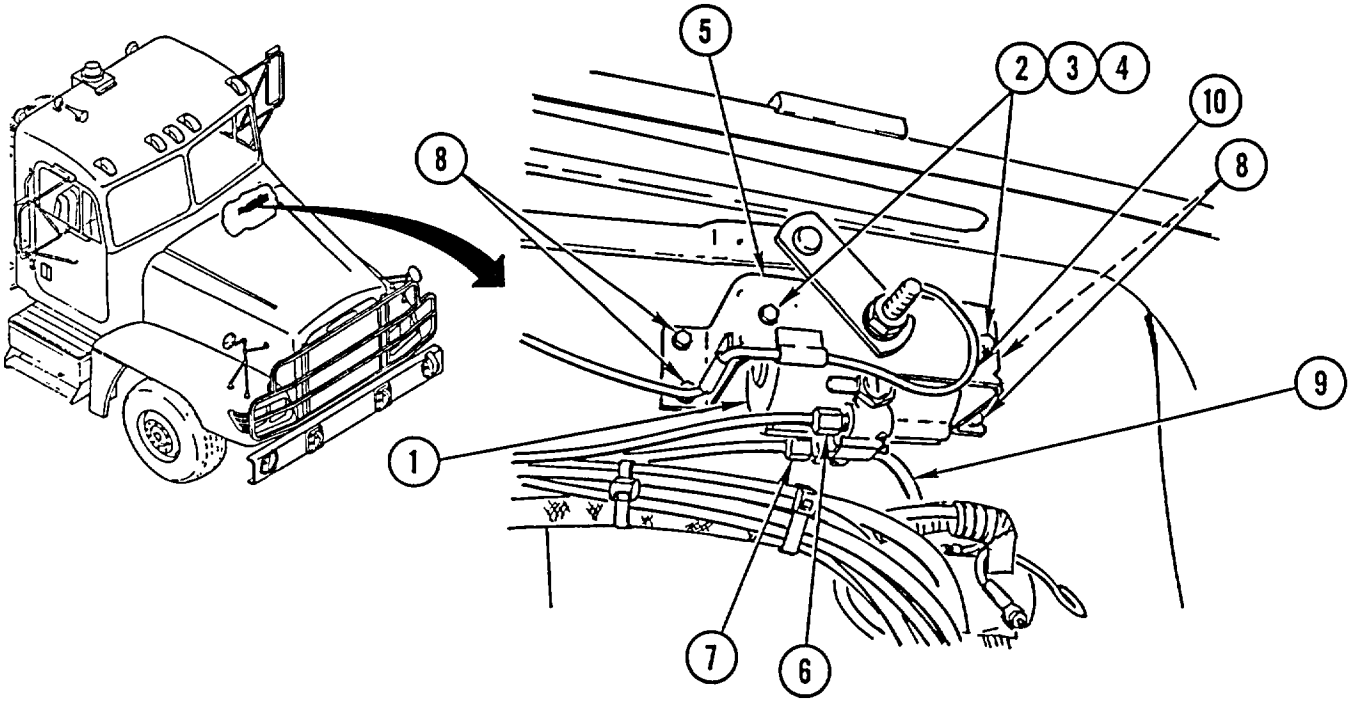
4. DISCONNECT TWO AIR LINES (6 AND 7) FROM WINDSHIELD WIPER MOTOR (4).
5. REMOVE TWO NUTS (8), TWO LOCK WASHERS (9), TWO CAPSCREWS (10), AND WINDSHIELD WIPER MOTOR (4) FROM MOUNTING BRACKET (2). DISCARD LOCK WASHERS.

WINDSHIELD WIPER MOTOR REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL WINDSHIELD WIPER MOTOR (1), TWO CAPSCREWS (2), TWO NEW LOCK WASHERS (3), AND TWO NUTS (4) ON MOUNTING BRACKET (5).
2. CONNECT TWO AIR LINES (6 AND 7) TO WINDSHIELD WIPER MOTOR (1).
3. INSTALL MOUNTING BRACKET (5) AND FOUR SELF-TAPPING SCREWS (8).
4. CONNECT HOSE (9) TO WINDSHIELD WIPER MOTOR (1).
5. INSTALL HOSE (10) ON MOUNTING BRACKET (5).

NOTE
Follow-on Maintenance:

Install windshield wiper linkage (page 4-783).

WINDSHIELD WIPER MOTOR REPLACEMENT

This task covers: a. Removal b. Cleaning/inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Retainer (2) P/N 23-09457-008

Materials/Parts (Con't):

Tags, Identification Appendix C, Item 26

Equipment Condition:

Reference	Condition Description
Page 4-784.1	Windshield Wiper Linkage Removed
Page 2-28	Air System Drained

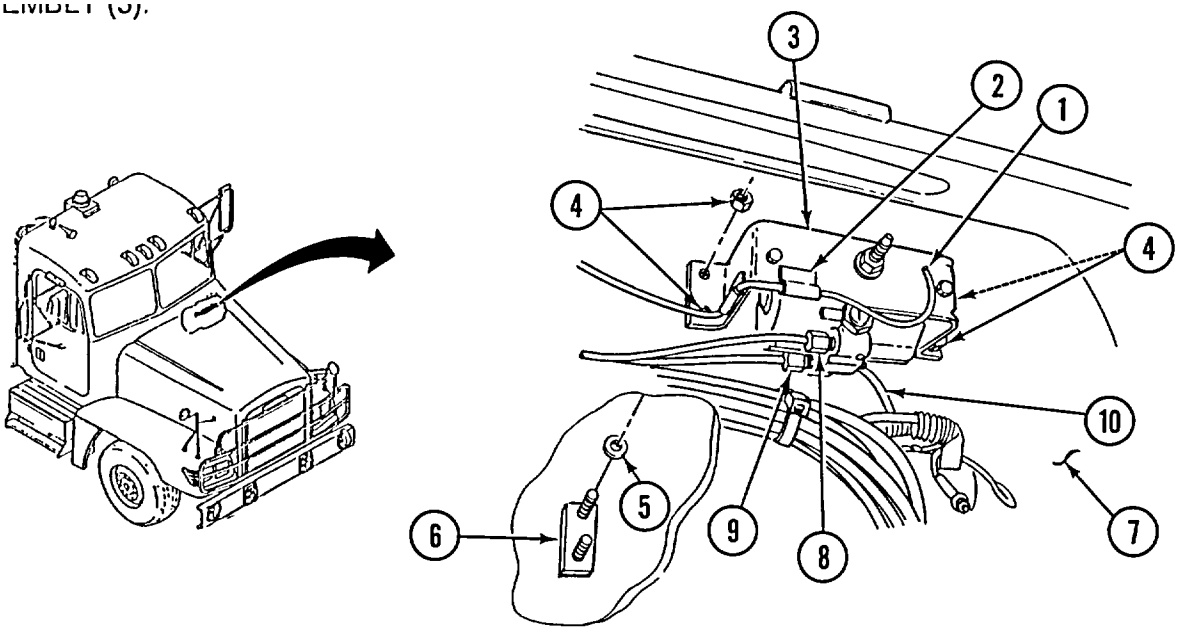
REMOVAL

1. REMOVE HOSE (1) AND TWO CLIPS (2) FROM WINDSHIELD WIPER MOTOR ASSEMBLY (3).

2. REMOVE FOUR NUTS (4), WINDSHIELD WIPER MOTOR ASSEMBLY (3), TWO RETAINERS (5), AND TWO MOUNTING PLATES (6) FROM CAB (7). DISCARD TWO RETAINERS.

NOTE
Tag air lines prior to removal to aid in installation

3. DISCONNECT TWO AIR LINES (8 AND 9) AND HOSE (10) FROM WINDSHIELD WIPER MOTOR ASSEMBLY (3).



WINDSHIELD WIPER MOTOR REPLACEMENT (CONT)

CLEANING/INSPECTION

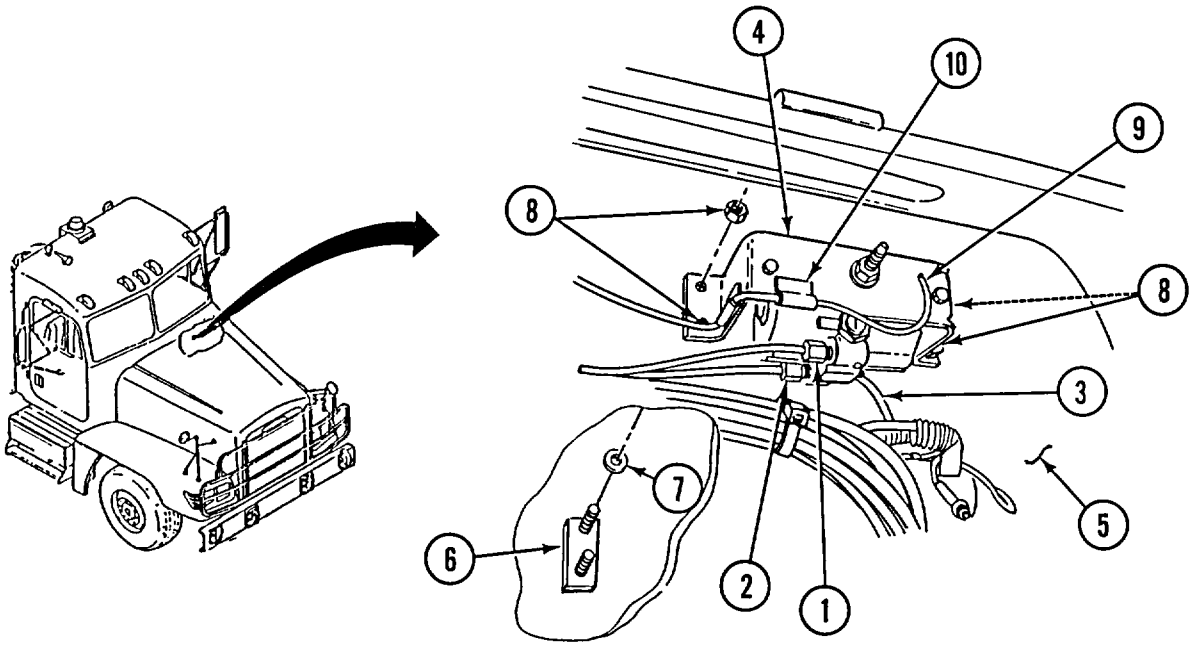
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. CONNECT TWO AIR LINES (1 AND 2) AND HOSE (3) TO WINDSHIELD WIPER MOTOR ASSEMBLY (4).

2. INSTALL WINDSHIELD WIPER MOTOR ASSEMBLY (4) TO CAB (5) WITH TWO MOUNTING PLATES (6), TWO NEW RETAINERS (7), AND FOUR NUTS (8).

3. INSTALL HOSE (9) AND TWO CLIPS (10) TO WINDSHIELD WIPER MOTOR ASSEMBLY (4).



NOTE
Follow-on Maintenance:
Install windshield wiper linkage (page 4-784.1).

WINDSHIELD WIPER LINKAGE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

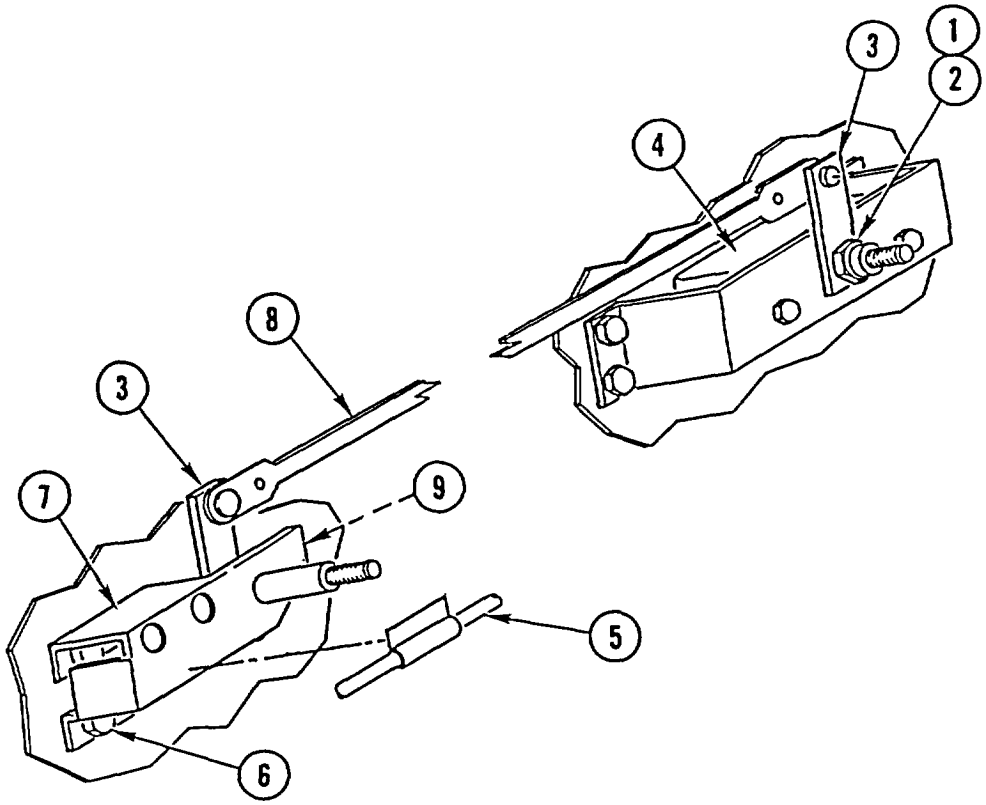
Washer, Lock

Nut, Lock

Equipment Condition:

Reference	Condition Description
Page 4-786	Windshield Wipers and Wiper Arms Removed

REMOVAL



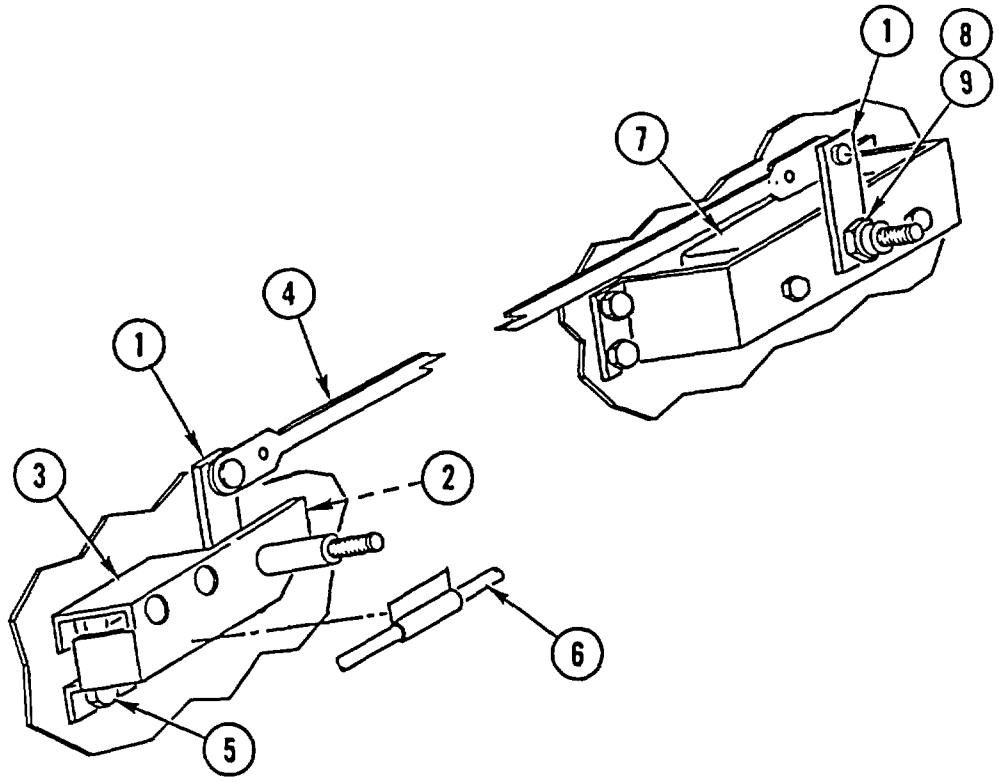
1. ON DRIVER'S SIDE, REMOVE LOCK NUT (1) AND LOCK WASHER (2) AND DISCONNECT WINDSHIELD WIPER LINKAGE (3) FROM WIPER MOTOR (4). DISCARD LOCK WASHER AND LOCK NUT.
2. ON PASSENGER SIDE, REMOVE HOSE (5) AND FOUR SELF-TAPPING SCREWS (6) FROM BRACKET (7).
3. REMOVE LINKAGE ASSEMBLY (8).
4. REMOVE TWO SCREWS (9) AND WINDSHIELD WIPER LINKAGE (3) FROM BRACKET (7).

WINDSHIELD WIPER LINKAGE REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL WINDSHIELD WIPER LINKAGE (1) AND TWO SCREWS (2) IN BRACKET (3).
2. INSTALL LINKAGE ASSEMBLY (4).
3. ON PASSENGER SIDE, INSTALL FOUR SELF-TAPPING SCREWS (5) AND HOSE (6) IN BRACKET (3).
4. ON DRIVER'S SIDE, CONNECT WINDSHIELD WIPER LINKAGE (1) TO WIPER MOTOR (7) AND INSTALL NEW LOCK WASHER (8) AND NEW LOCK NUT (9).

NOTE
Follow-on Maintenance:
Install windshield wipers and wiper arms (page 4-786).

WINDSHIELD WIPER LINKAGE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Retainer P/N 23-09457-008

Retaining Ring (2) P/N SPR/C1549-3

Materials/Parts (Cont):

Loctite Appendix C, Item 15.2

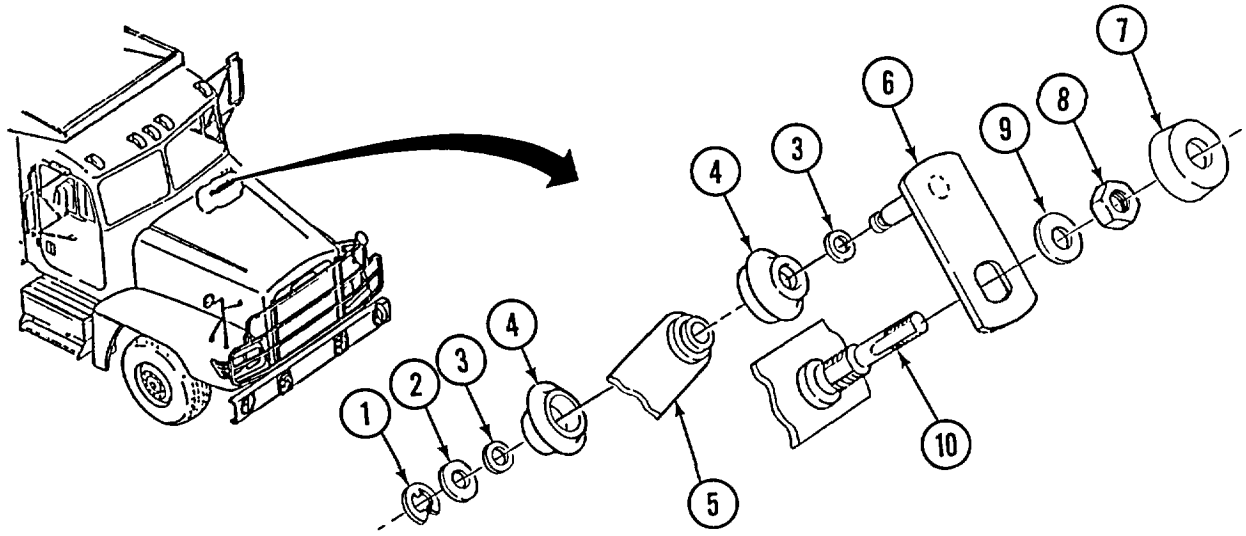
Equipment Condition:

Reference	Condition Description
Page 4-787.0	Windshield Wipers and Wiper Arms Removed

REMOVAL

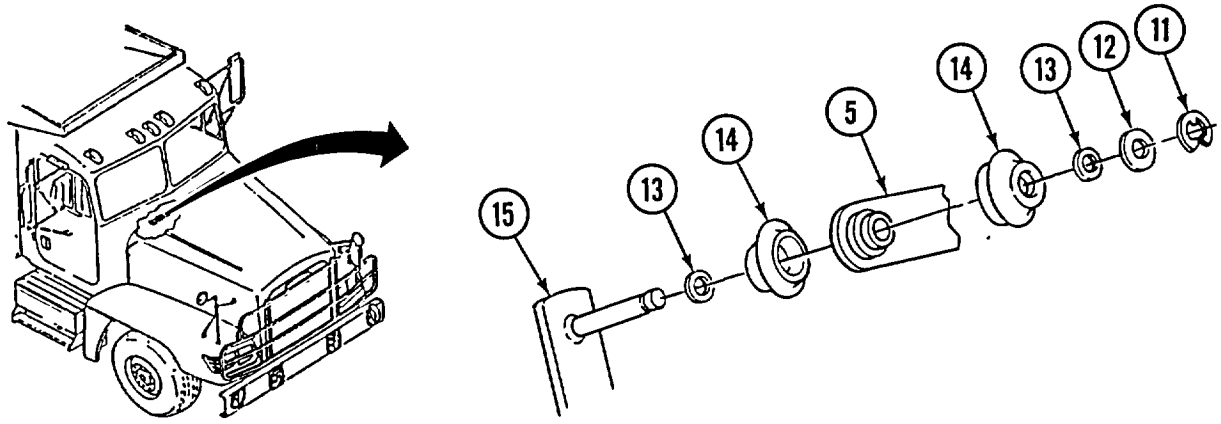
1. ON DRIVER'S SIDE, REMOVE RETAINING RING (1), WASHER (2), TWO WASHERS (3), TWO BELLOWS (4), AND CONNECTING LINK (5) FROM BAR (6). DISCARD RETAINING RING.

2. REMOVE WEATHER CAP (7), NUT (8), WASHER (9), AND BAR (6) FROM SHAFT OF WIPER MOTOR (10)



WINDSHIELD WIPER LINKAGE REPLACEMENT (CONT)

3. ON PASSENGER'S SIDE, REMOVE RETAINING RING (11), WASHER (12), TWO WASHERS (13), TWO BELLOWS (14), AND CONNECTING LINK (5) FROM PIVOT (15). DISCARD RETAINING RING.

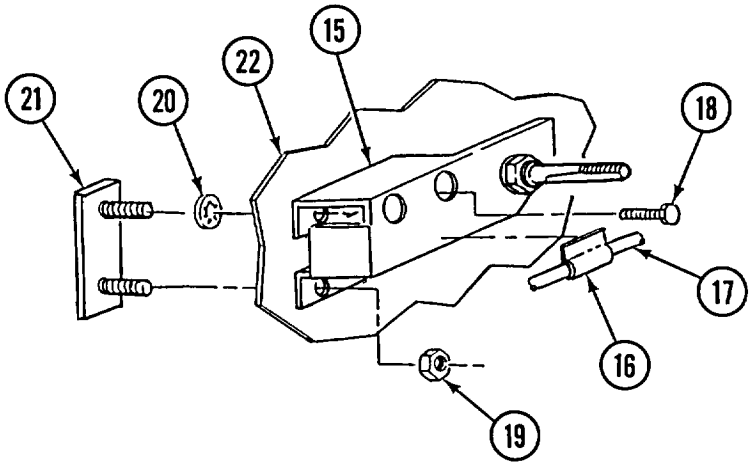


NOTE
Perform steps 4 thru 6 to remove pivot and mounting plate.

4. REMOVE TWO CLIPS (16) AND HOSE (17) FROM PIVOT (15).

5. REMOVE TWO SELF-TAPPING SCREWS (18) FROM PIVOT (15).

6. REMOVE TWO NUTS (19), PIVOT (15), RETAINER (20), AND MOUNTING PLATE (21) FROM CAB (22). DISCARD RETAINER.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

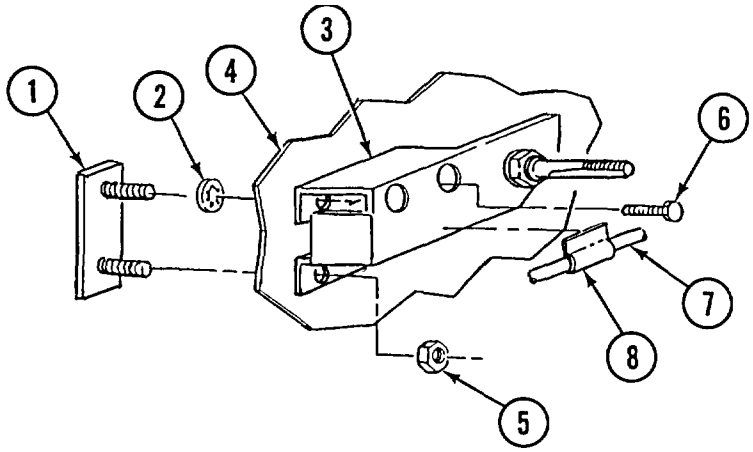
INSTALLATION

NOTE
Perform steps 1 thru 3 to install mounting plate and pivot.

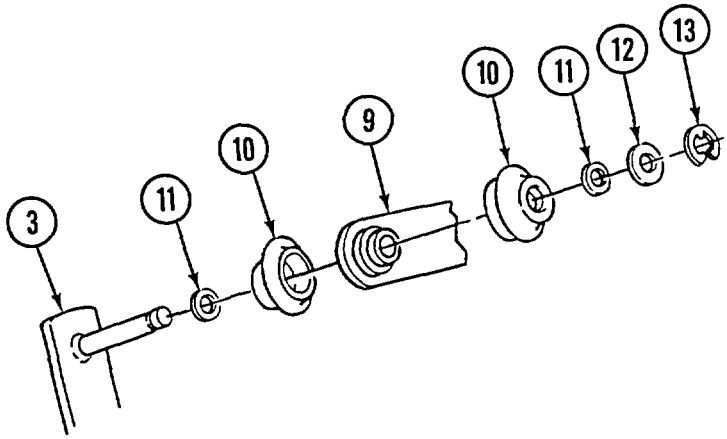
1. ON PASSENGER'S SIDE, INSTALL MOUNTING PLATE (1), NEW RETAINER (2), AND PIVOT (3) TO CAB (4) WITH TWO NUTS (5).

2 INSTALL TWO SELF-TAPPING SCREWS (6) TO PIVOT (3)

3 INSTALL HOSE (7) AND TWO CLIPS (8) TO PIVOT (3).



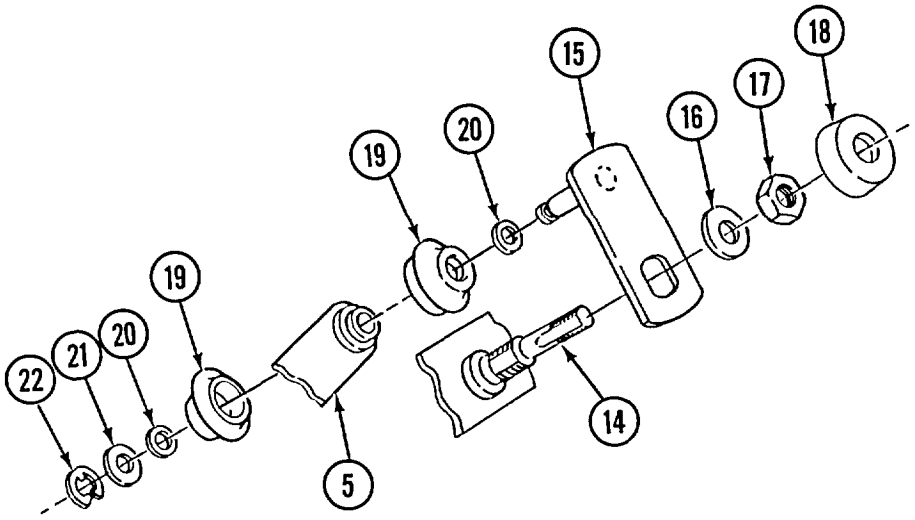
4. INSTALL CONNECTING LINK (9), TWO BELLOWS (10), TWO WASHERS (11), WASHER (12), AND NEW RETAINING RING (13) TO PIVOT (3).



WINDSHIELD WIPER LINKAGE REPLACEMENT (CONT)

5. ON DRIVER'S SIDE, COAT LARGE THREADS AT SHAFT OF WIPER MOTOR (14) WITH LOCTITE AND INSTALL BAR (15), WASHER (16) AND NUT (17). TIGHTEN NUT TO 360-420 IN.-LBS (41-47 N.m) AND INSTALL WEATHER CAP (18).

6. INSTALL CONNECTING LINK (9), TWO BELLOWS (19), TWO WASHERS (20), WASHER (21), AND NEW RETAINING RING (22) TO BAR (15).



NOTE
Follow-on Maintenance:
Install windshield wipers and wiper arms (page 4-787.0).

WINDSHIELD WASHER RESERVOIR REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

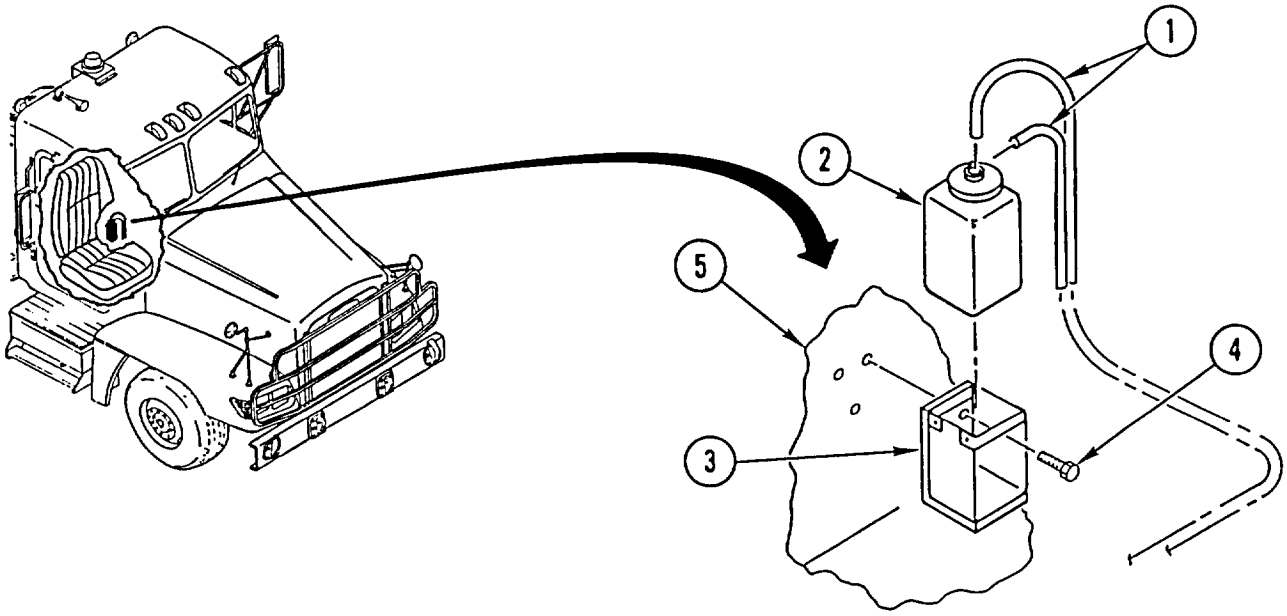
INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

REMOVAL

1. DISCONNECT TWO HOSES (1) FROM RESERVOIR (2) CAP.
2. REMOVE RESERVOIR (2) FROM MOUNTING BRACKET (3).
3. REMOVE THREE SCREWS (4) AND MOUNTING BRACKET (3) FROM CAB (5).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. ALINE MOUNTING BRACKET (3) WITH MOUNT HOLES IN CAB (5) AND SECURE WITH THREE SCREWS (4).
2. INSTALL RESERVOIR (2) IN MOUNTING BRACKET (3).
3. INSTALL TWO HOSES (1) IN RESERVOIR (2) CAP.

WINDSHIELD WASHER RESERVOIR REPAIR

This task covers: a. Disassembly b. Cleaning/Inspection c. Assembly

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 4-785	Windshield Washer Reservoir Removed

DISASSEMBLY

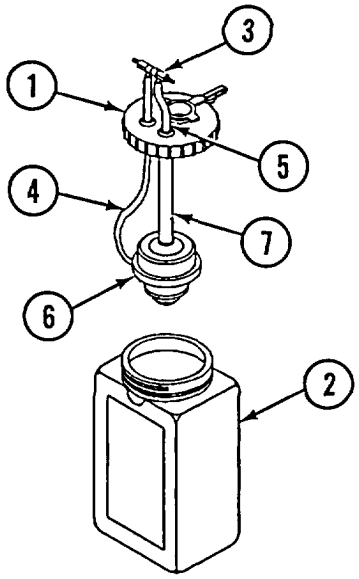
1. REMOVE COVER (1) ASSEMBLY FROM RESERVOIR (2).
2. DISCONNECT PURGE VALVE (3) FROM TUBES (4 AND 5).
3. DISCONNECT TUBE (4) FROM PUMP (6) AND REMOVE TUBE FROM COVER (1).
4. DISCONNECT TUBE (5) FROM COVER (1).
5. REMOVE PUMP (6) AND TUBE (7) FROM COVER (1).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ASSEMBLY

1. INSTALL TUBE (7) AND PUMP (6) TO COVER (1).
2. CONNECT TUBE (5) TO COVER (1).
3. INSTALL TUBE (4) TO COVER (1) AND CONNECT TUBE TO PUMP (6).
4. CONNECT PURGE VALVE (3) TO TUBES (4 AND 5).
5. INSTALL COVER (1) ASSEMBLY TO RESERVOIR (2).



NOTE

Follow-on Maintenance:

Install windshield washer reservoir (page 4-785).

WINDSHIELD WIPER AND WIPER ARM REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

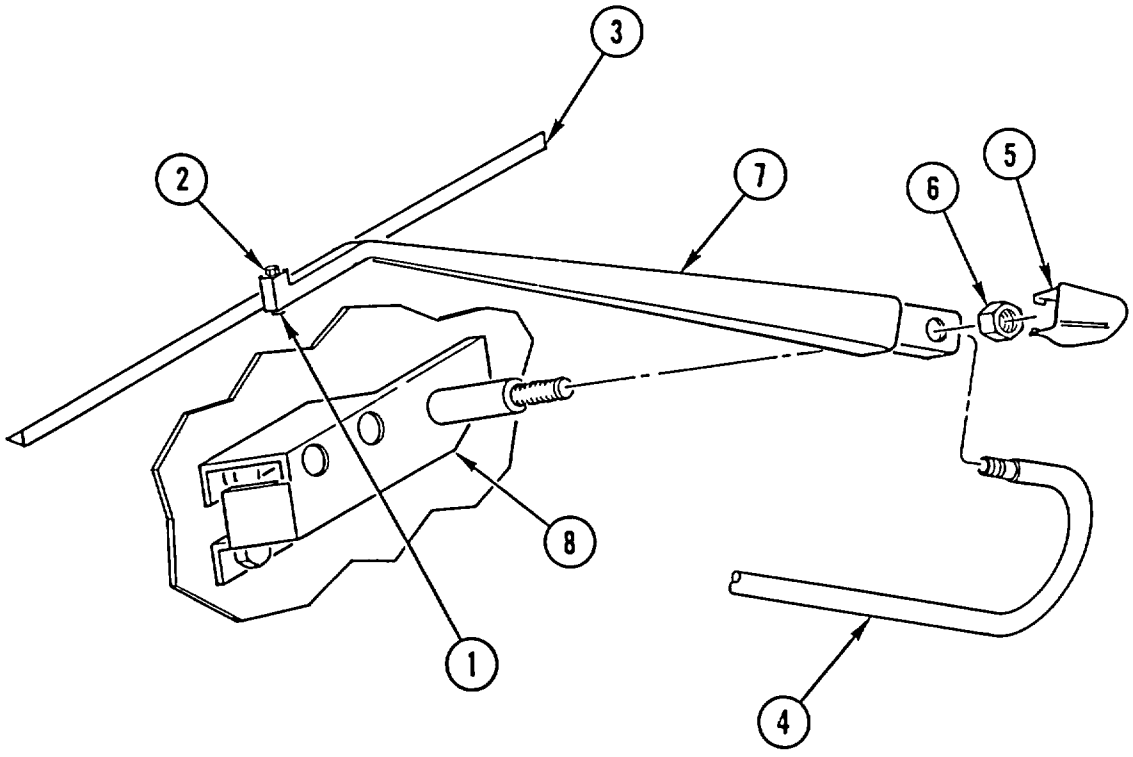
Applicable Configuration: **Tools and Special Equipment:**

M915A2 and M916A1 Tool Kit, SC 5180-90-CL-N26

REMOVAL

NOTE
Procedure is the same for both windshield wipers and wiper arms.

1. REMOVE NUT (1), SCREW (2), AND WINDSHIELD WIPER (3).
2. DISCONNECT HOSE (4).
3. REMOVE COVER (5), NUT (6), AND WIPER ARM (7) FROM BRACKET (8).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE
Procedure is the same for both windshield wipers and wiper arms.

1. INSTALL WIPER ARM (7), NUT (6), AND COVER (5) ON BRACKET (8).
2. CONNECT HOSE (4).
3. INSTALL WINDSHIELD WIPER (3), SCREW (2), AND NUT (1).

WINDSHIELD WIPER AND WIPER ARM REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock

Washer, Lock

REMOVAL

NOTE
Procedure is the same for both windshield wipers and wiper arms.

1. REMOVE LOCK NUT (1), SCREW (2), AND WINDSHIELD WIPER (3). DISCARD LOCK NUT.
2. DISCONNECT HOSE (4).
3. REMOVE NUT (5), LOCK WASHER (6), WIPER ARM (7), AND ARM DRIVER (8) FROM SHAFT OF WINDSHIELD WIPER LINKAGE (9). DISCARD LOCK WASHER.

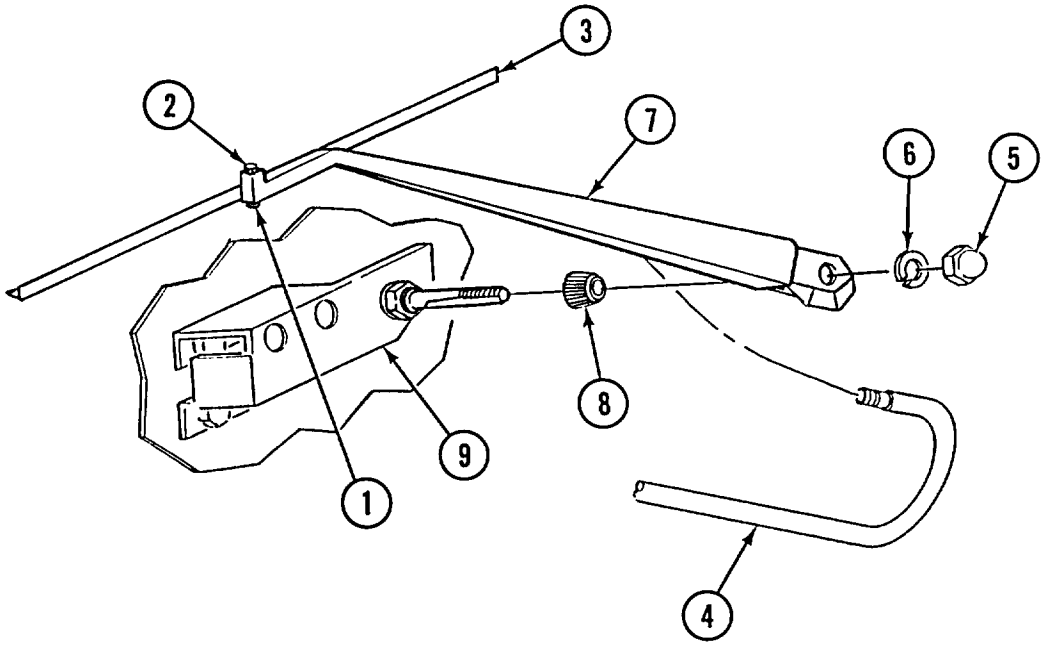
CLEANING/INSPECTION I

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION I

NOTE
Procedure is the same for both windshield wipers and wiper arms.

1. INSTALL ARM,DRIVER (8), WIPER ARM (7), NEW LOCK WASHER (6), AND NUT (5) TO SHAFT OF WINDSHIELD WIPER LINKAGE (9). TIGHTEN NUT TO 90-110 LB-IN (10.2-16.3 N.m).
2. CONNECT HOSE (4).
3. INSTALL WINDSHIELD WIPER (3), SCREW (2), AND NEW LOCK NUT (1).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4

ROTATING WARNING LIGHT BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/ Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

All except M917A1 and M917A1 w/MCS

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

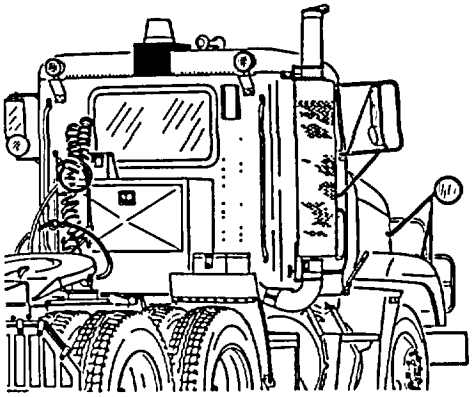
Nut, Lock (6)

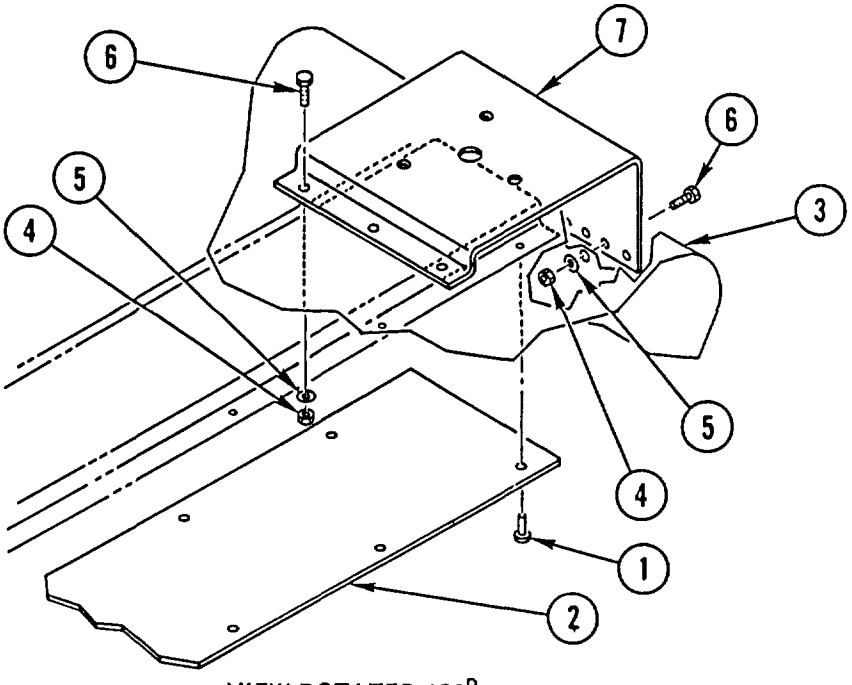
Equipment Condition:

Reference	Condition Description
Page 4-740	Head Liners Removed

REMOVAL

1. REMOVE FIVE SCREWS (1) AND PLATE (2) FROM CAB (3).
2. REMOVE SIX LOCK NUTS (4), SIX WASHERS (5), SIX SCREWS (6), AND ROTATING WARNING LIGHT MOUNTING BRACKET (7) FROM CAB (3). DISCARD LOCK NUTS





VIEW ROTATED 180°

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL ROTATING WARNING LIGHT MOUNTING BRACKET (7), SIX SCREWS (6), SIX WASHERS (5), AND SIX NEW LOCK NUTS (4) ON CAB (3).
2. INSTALL PLATE (2) AND FIVE SCREWS (1) IN CAB (3).

NOTE

Follow-on Maintenance:
Install head liners (page 4-740).

VEHICLE JACK MOUNTING BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

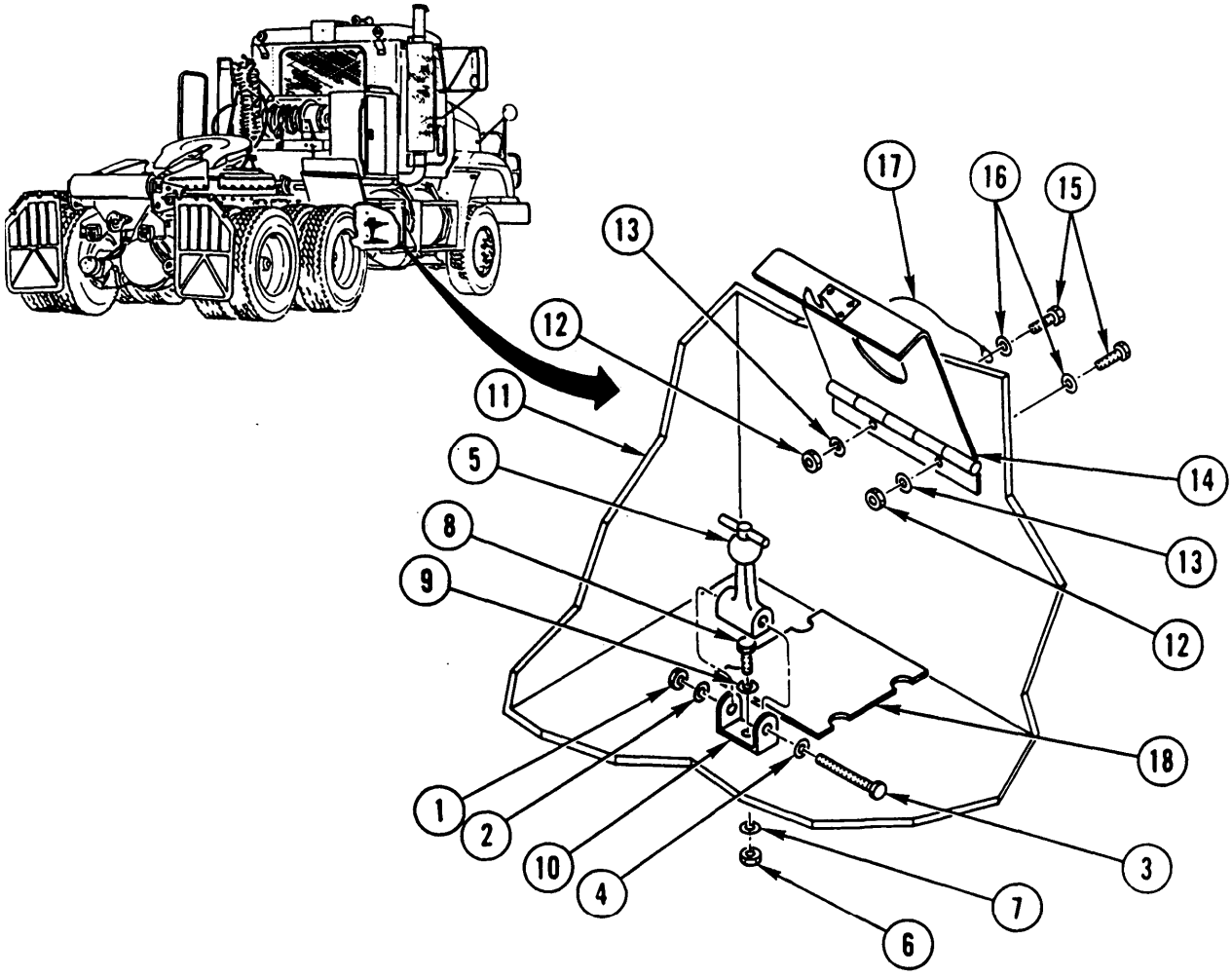
Materials/Parts:

Nut, Lock (6)

Seal 'N' Caulk — Appendix C, Item 24

Adhesive-Sealant — Appendix C, Item 2

REMOVAL



NOTE
Procedure is the same for all vehicles except as noted

1. REMOVE LOCK NUT (1), WASHER (2), SCREW (3), WASHER (4), AND LATCH (5). DISCARD LOCK NUT.

2. REMOVE LOCK NUT (6), WASHER (7), SCREW (8), WASHER (9), AND BRACKET (10) FROM STORAGE BOX (11). DISCARD LOCK NUT.

NOTE
Perform step 3 for M915A2 or step 4 for all except M915A2.

3. REMOVE TWO LOCK NUTS (12), TWO WASHERS (13), VEHICLE JACK MOUNTING BRACKET (14), TWO SCREWS (15), TWO WASHERS (16), AND CABLE (17) FROM STORAGE BOX (11). DISCARD LOCK NUTS.

4. REMOVE TWO LOCK NUTS (12), TWO WASHERS (13), VEHICLE JACK MOUNTING BRACKET (14), TWO SCREWS (15), AND TWO WASHERS (16) FROM STORAGE BOX (11). DISCARD LOCK NUTS.

5. IF DAMAGED, REMOVE PAD (18).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

NOTE
Perform step 1 for M915A2 or step 2 for all except M915A2.

1. INSTALL CABLE (17), TWO WASHERS (16), TWO SCREWS (15), VEHICLE JACK MOUNTING BRACKET (14), TWO WASHERS (13), AND TWO NEW LOCK NUTS (12) IN STORAGE BOX (11). COAT LOCK NUTS WITH SEAL 'N' CAULK.

2. INSTALL TWO WASHERS (16), TWO SCREWS (15), VEHICLE JACK MOUNTING BRACKET (14), TWO WASHERS (13), AND TWO NEW LOCK NUTS (12) IN STORAGE BOX (11). COAT LOCK NUTS WITH SEAL 'N' CAULK.

3. INSTALL BRACKET (10), WASHER (9), SCREW (8), WASHER (7), AND NEW LOCK NUT (6). COAT LOCK NUT WITH SEAL 'N' CAULK.

4. INSTALL LATCH (5), WASHER (4), SCREW (3), WASHER (2), AND NEW LOCK NUT (1) IN STORAGE BOX (11).

5. IF PAD (18) WAS REMOVED, APPLY ADHESIVE-SEALANT AND INSTALL NEW PAD.

HEATER/DEFROSTER FAN REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

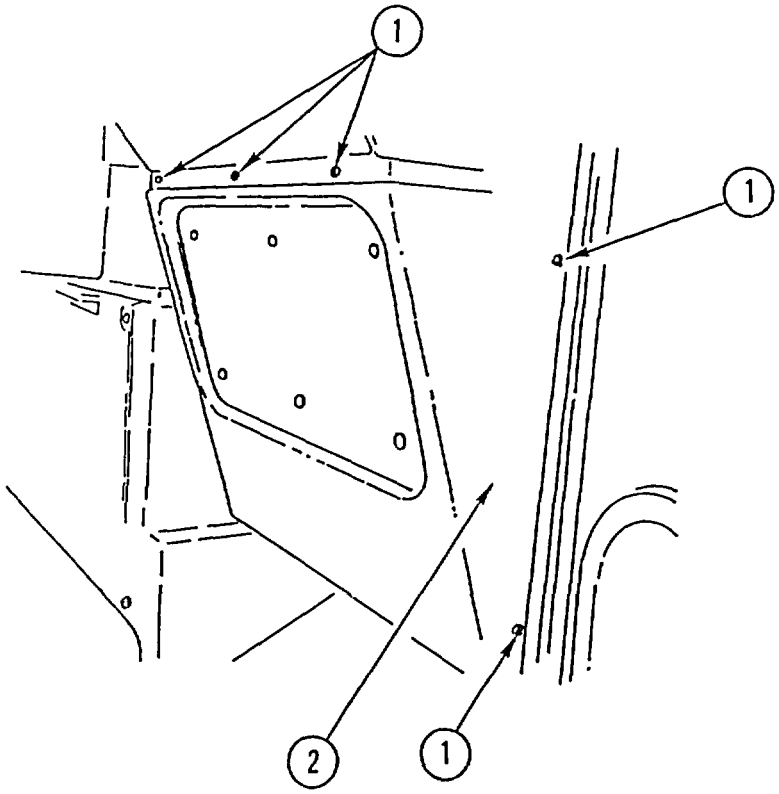
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

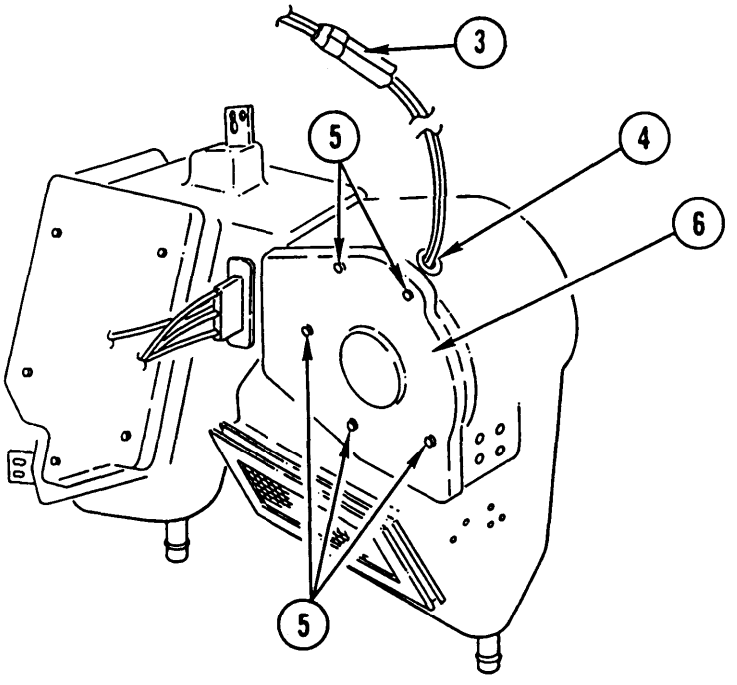
Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

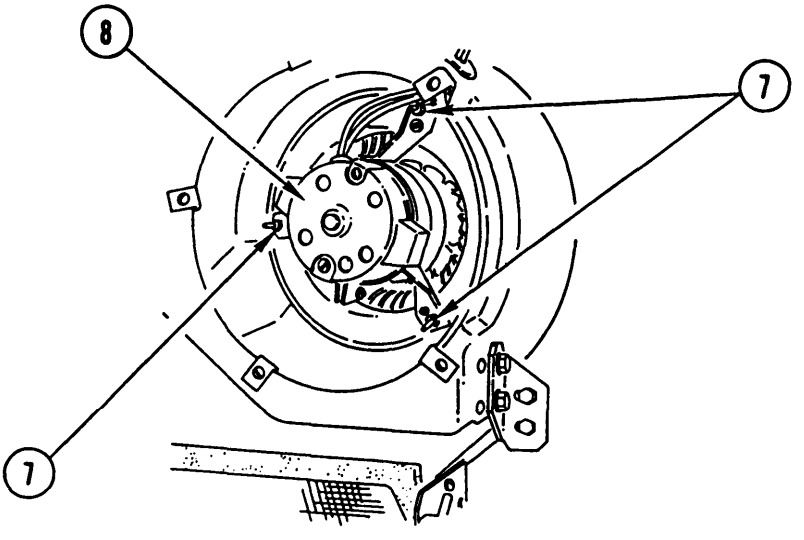
REMOVAL



1. REMOVE NINE SELF-TAPPING SCREWS (1) AND COVER (2).



2. DISCONNECT CONNECTOR (3) AND REMOVE GROMMET (4).
3. REMOVE FIVE SCREWS (5) AND COVER (6).



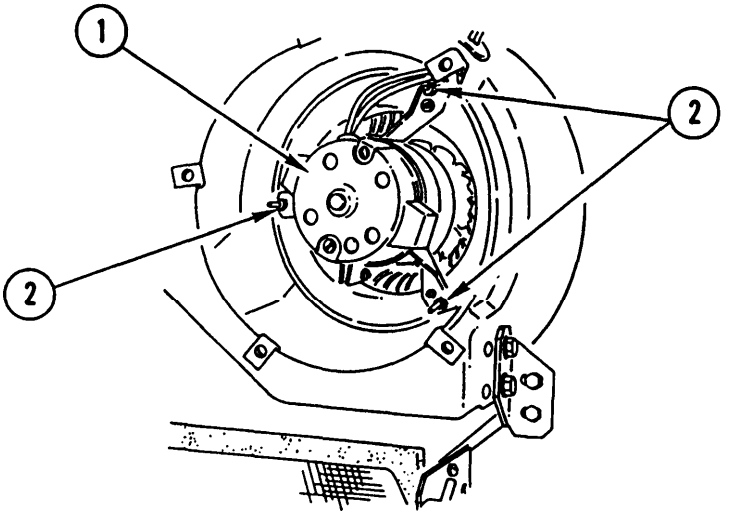
4. REMOVE THREE NUTS (7) AND FAN ASSEMBLY (8).

CLEANING/INSPECTION

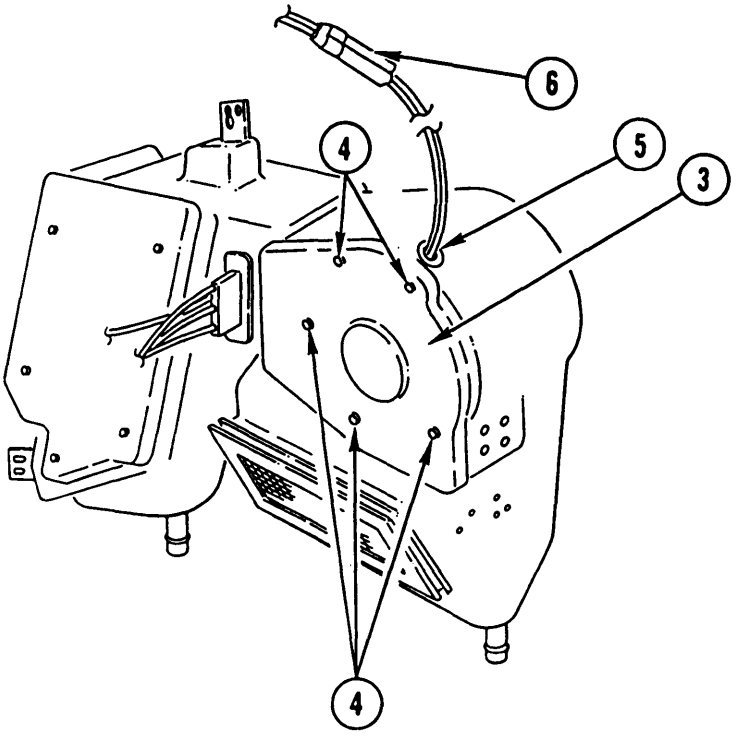
Clean and inspect all parts in accordance with Chapter 2.

HEATER/DEFROSTER FAN REPLACEMENT (CONT)

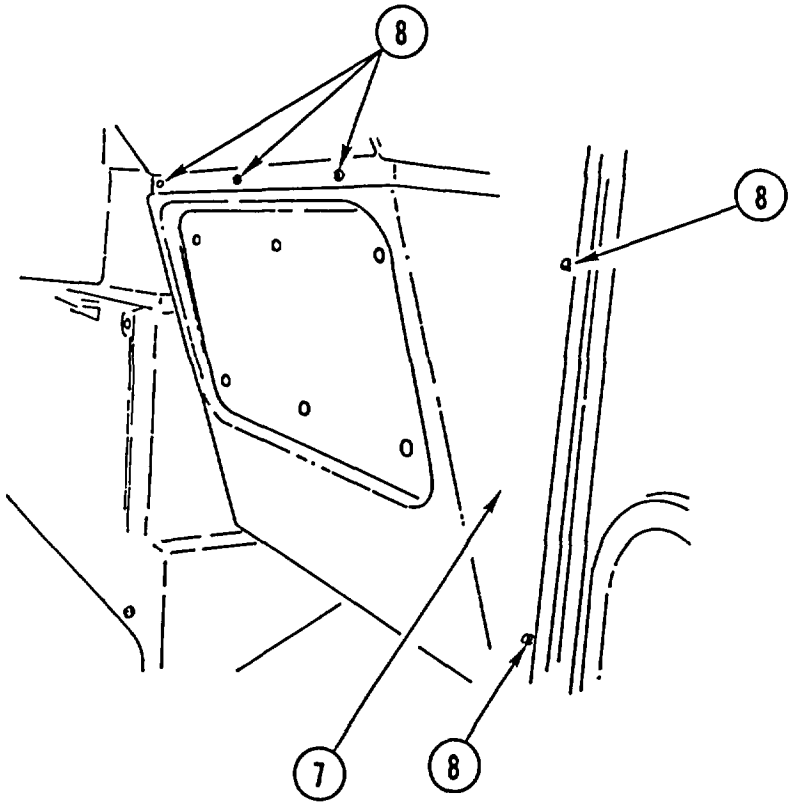
INSTALLATION



1. INSTALL FAN ASSEMBLY (1) AND THREE NUTS (2).



2. INSTALL COVER (3) AND FIVE SCREWS (4).
3. INSTALL GROMMET (5) AND CONNECT CONNECTOR (6).



4. INSTALL COVER (7) AND NINE SELF-TAPPING SCREWS (8).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

VEHICLE HEATER REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Clamp (2)	PIN 4812S
Nut, Lock (3)	
Nut, Lock	
Compound, Pipe Sealing	Appendix C, Item 8

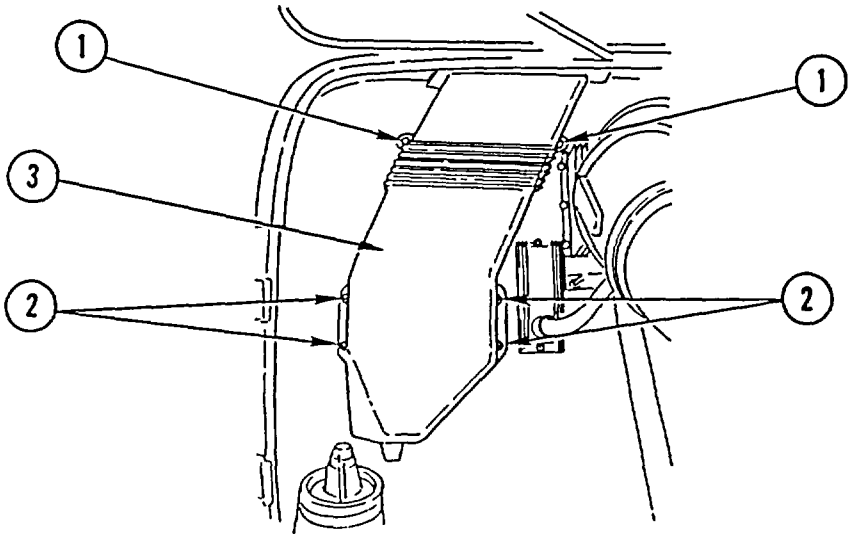
References:

TM 9-2320-363-20-1

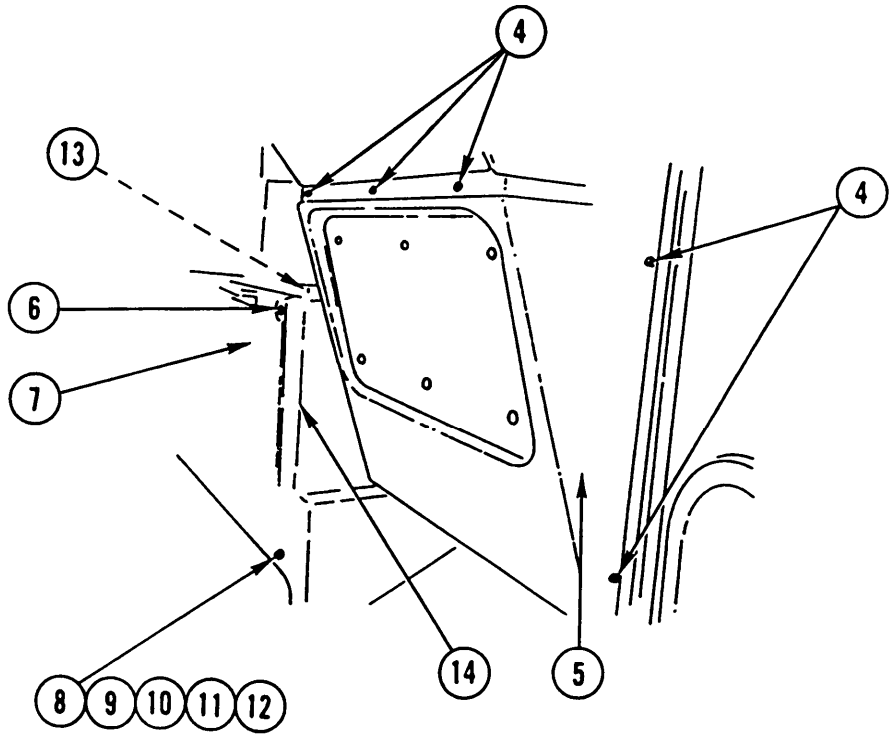
Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 4-141	Coolant Drained
Page 2-28	Air System Drained

REMOVAL



1. REMOVE TWO CAPSCREWS (1).
2. REMOVE FOUR CAPSCREWS (2) AND FRESH AIR DUCT ASSEMBLY (3)

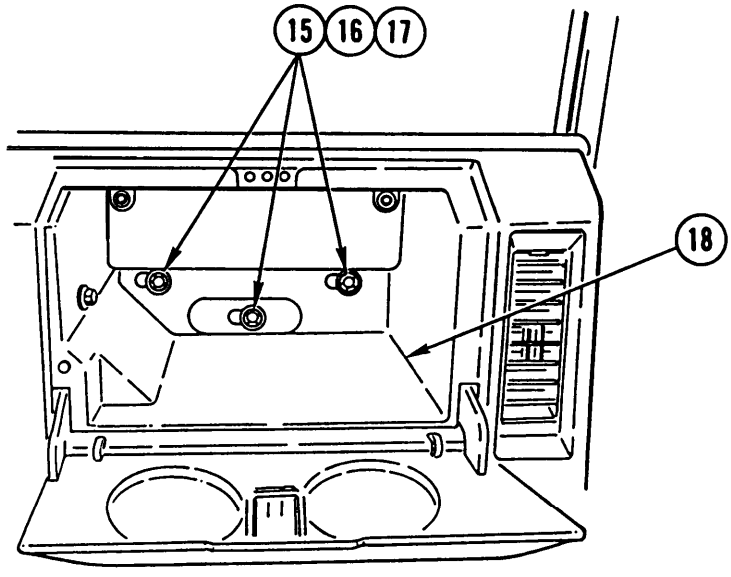


3. REMOVE NINE SELF-TAPPING SCREWS (4) AND COVER (5).

4. ROTATE THREE FASTENERS (6) TO LEFT AND REMOVE COVER (7).

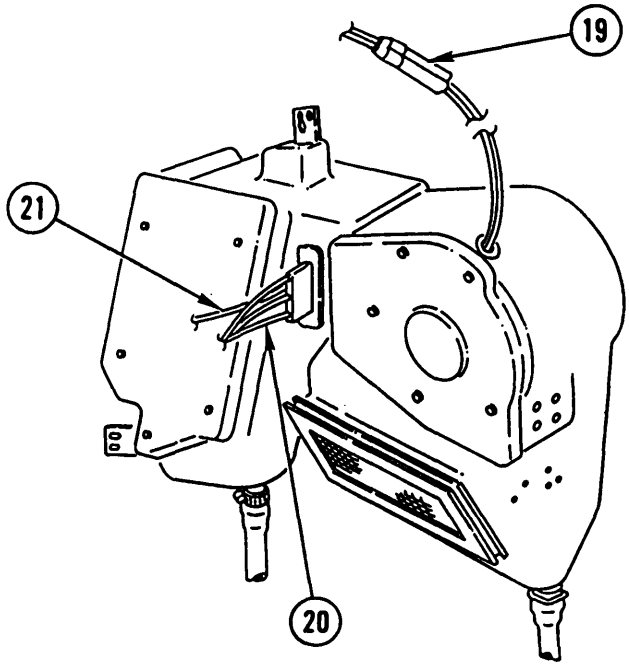
5. REMOVE LOCK NUT (8), WASHER (9), SCREW (10), WASHER (11), AND SPACER (12). DISCARD LOCK NUT.

6. REMOVE SCREW (13) AND COVER (14).



7. REMOVE THREE LOCK NUTS (15), THREE WASHERS (16), THREE INSERTS (17), AND COMPARTMENT (18). DISCARD LOCK NUTS.

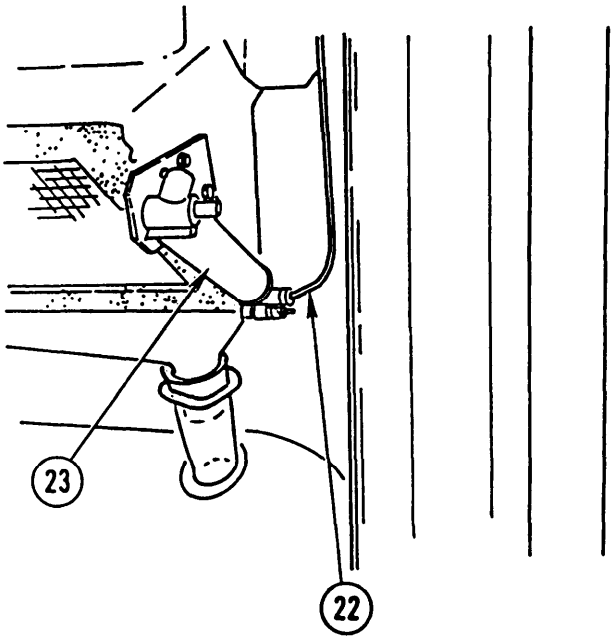
VEHICLE HEATER REPLACEMENT (CONT)



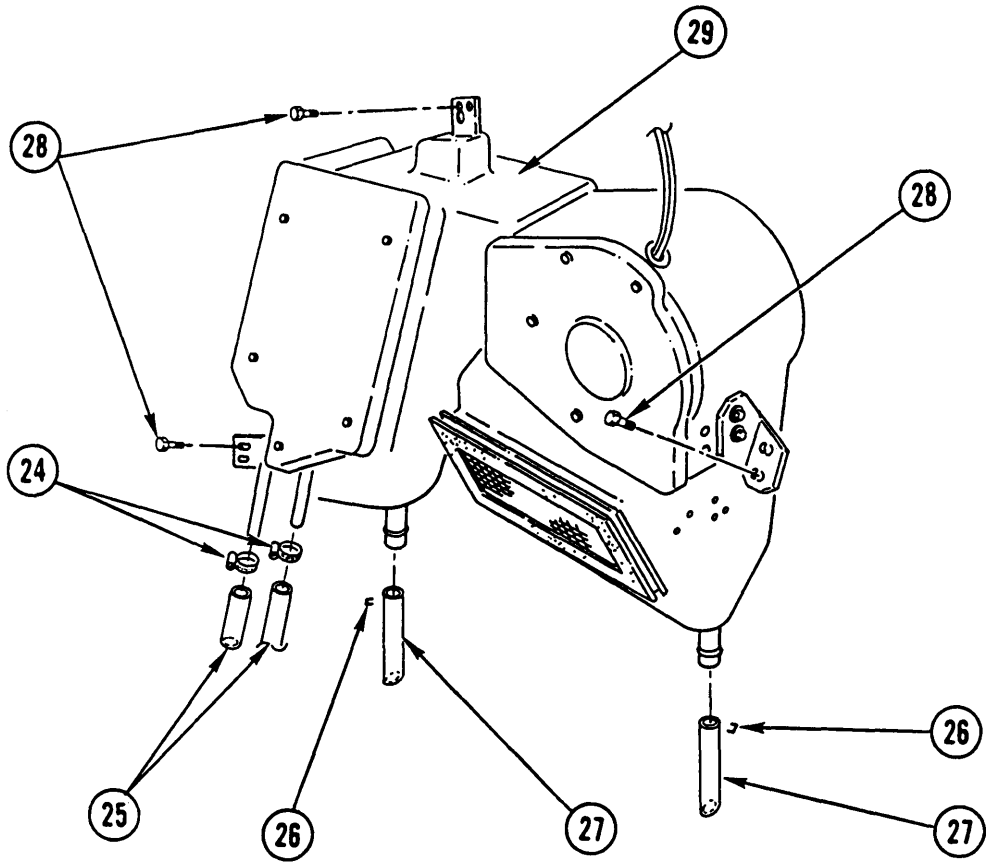
NOTE

Tag connectors prior to removal to aid in installation.

8. DISCONNECT THREE CONNECTORS (19, 20, AND 21).



9. DISCONNECT AIR LINE (22) FROM AIR VALVE (23).

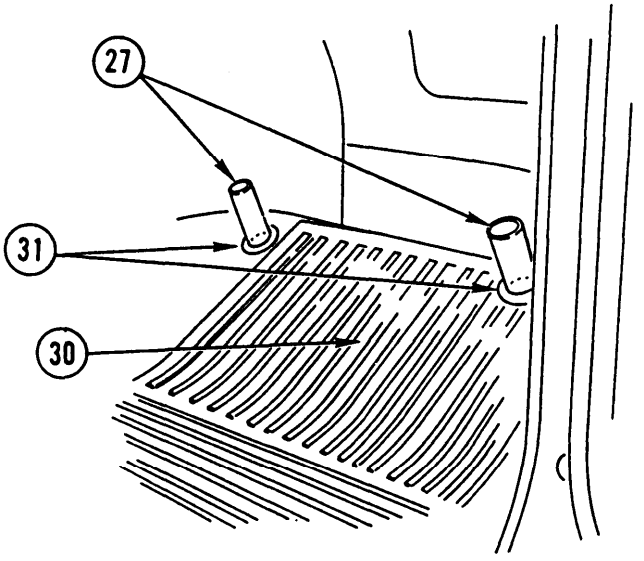


NOTE

- Have suitable container available to catch any coolant left in heater.
- Tag hoses prior to removal to aid in installation.

10. LOOSEN TWO CLAMPS (24) AND DISCONNECT TWO HOSES (25).
11. REMOVE AND DISCARD EIGHT STAPLES (26) AND DISCONNECT TWO HOSES (27).
12. REMOVE SIX CAPSCREWS (28) AND HEATER ASSEMBLY (29).

VEHICLE HEATER REPLACEMENT (CONT)

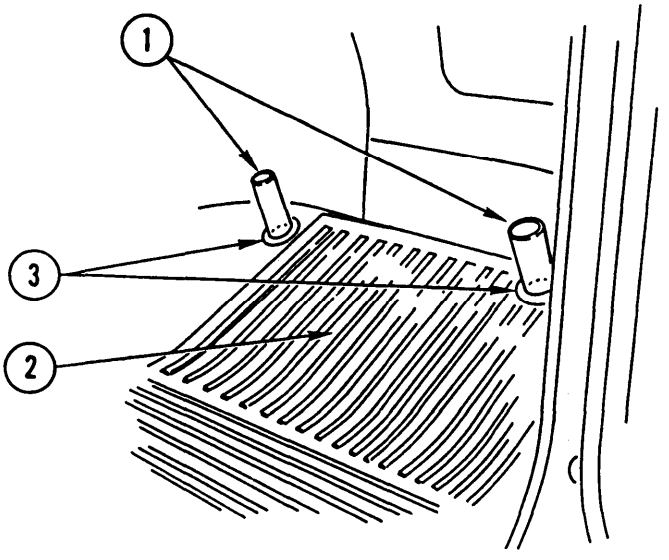


13. REMOVE TWO HOSES (27) FROM VEHICLE FLOOR (30).
14. REMOVE SEALING COMPOUND (31) FROM VEHICLE FLOOR (30).

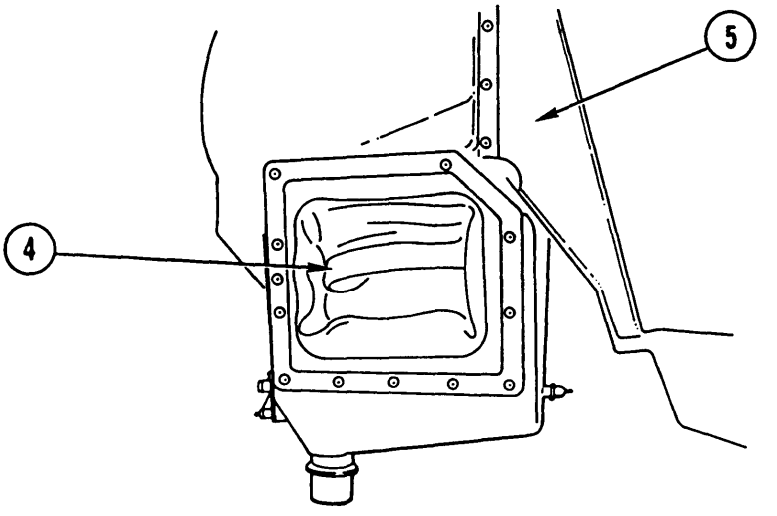
CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

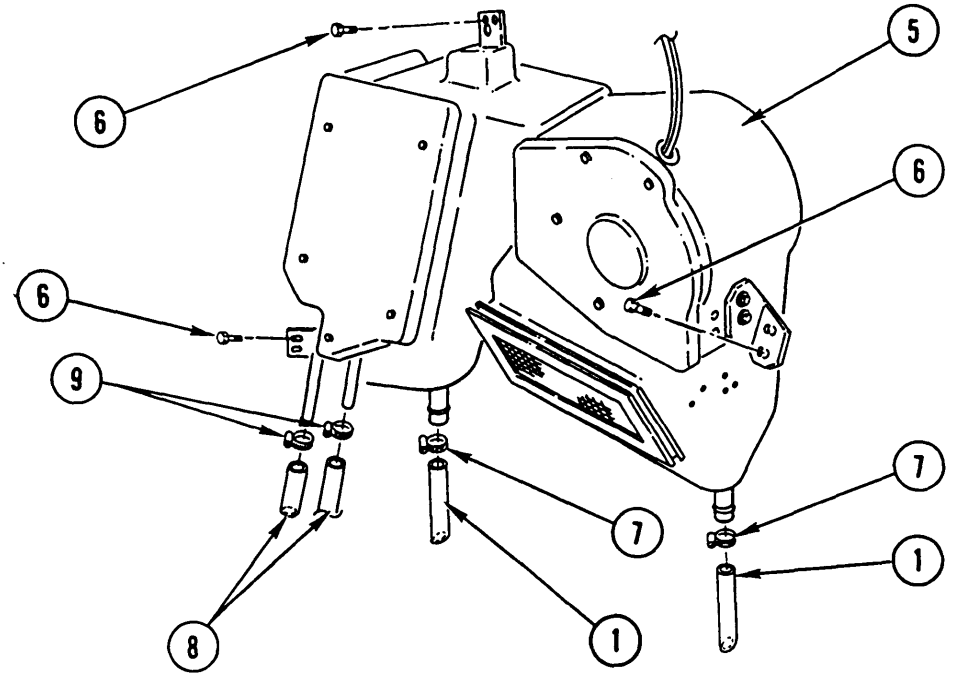
INSTALLATION



1. INSTALL TWO HOSES (1) IN VEHICLE FLOOR (2).
2. APPLY SEALING COMPOUND (3) ON VEHICLE FLOOR (2) AROUND HOSES (1).

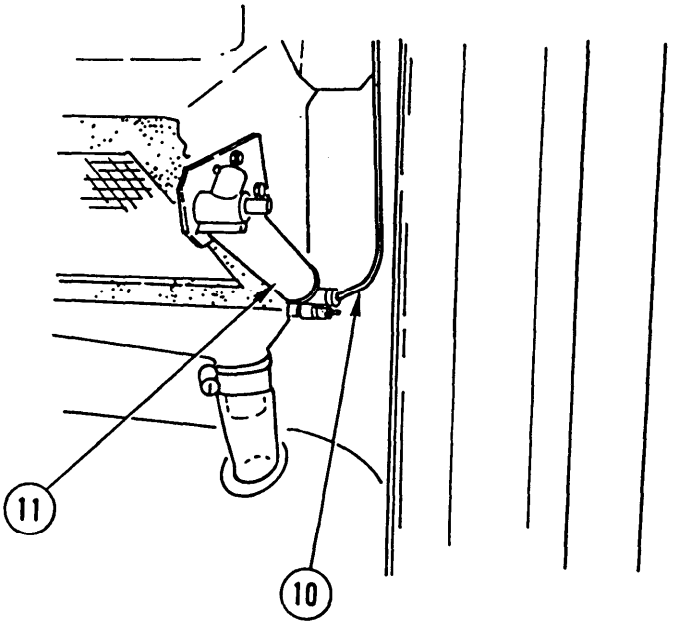


3. PUSH BOOT (4) INSIDE HEATER ASSEMBLY (5) FROM OUTSIDE OF FIREWALL.

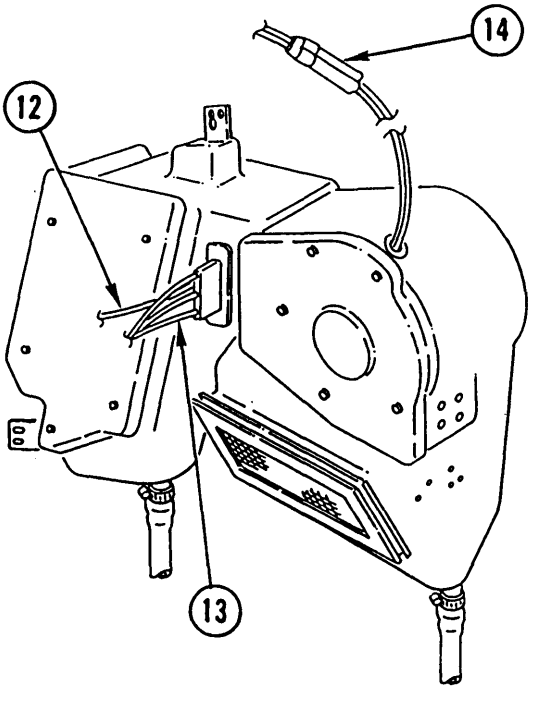


4. INSTALL HEATER ASSEMBLY (5) AND SIX CAPSCREWS (6).
5. INSTALL TWO NEW CLAMPS (7).
6. CONNECT TWO HOSES (1) AND TIGHTEN TWO CLAMPS (7).
7. CONNECT TWO HOSES (8) AND TIGHTEN TWO CLAMPS (9).

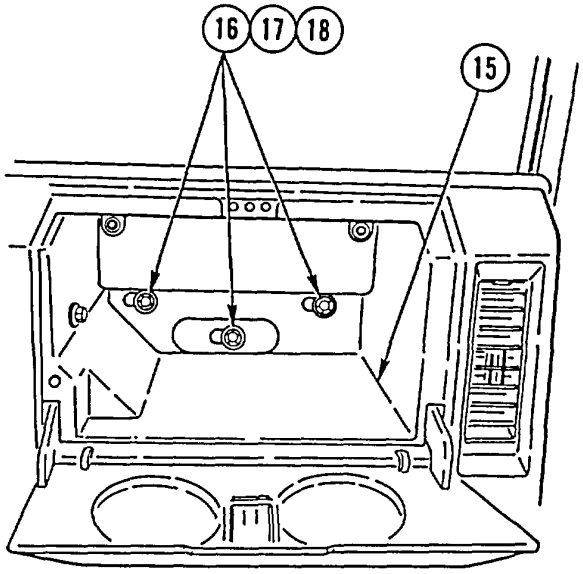
VEHICLE HEATER REPLACEMENT (CONT)



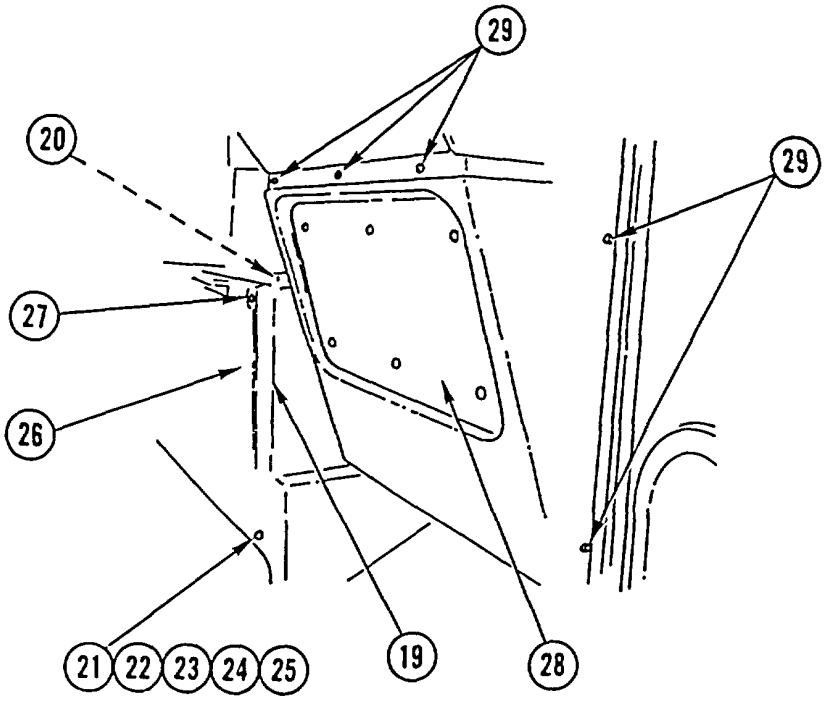
8. CONNECT AIR LINE (10) TO AIR VALVE (11).



9. CONNECT THREE CONNECTORS (12, 13, AND 14).



10. INSTALL COMPARTMENT (15), THREE INSERTS (16), THREE WASHERS (17), AND THREE NEW LOCK NUTS (18).



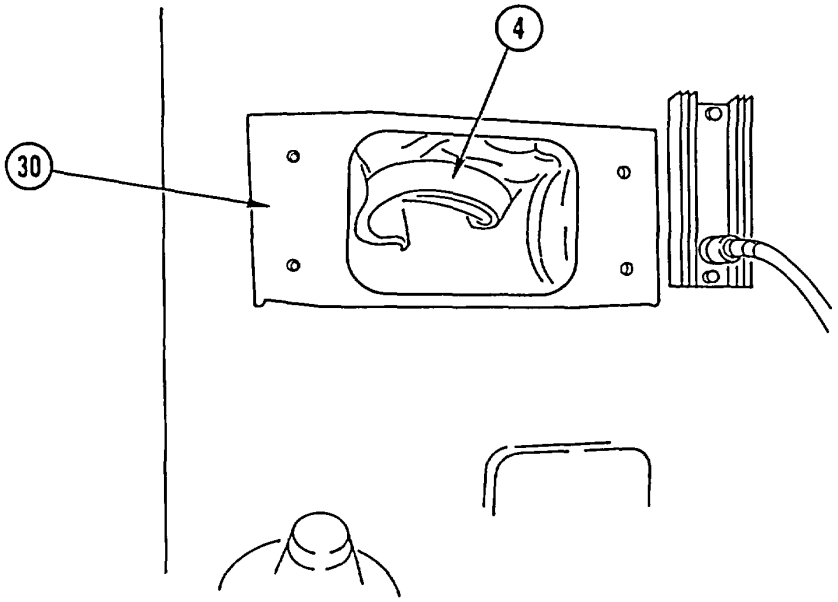
11. INSTALL COVER (19) AND SCREW (20).

12. INSTALL SPACER (21), WASHER (22), SCREW (23), WASHER (24), AND NEW LOCK NUT (25).

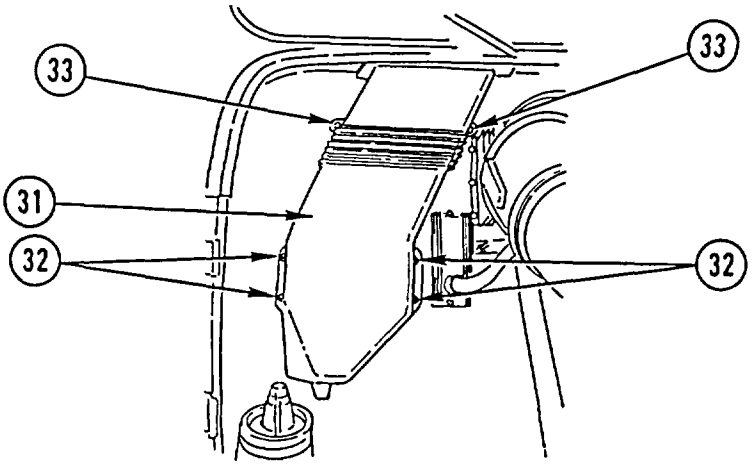
13. INSTALL COVER (26) AND ROTATE THREE FASTENERS (27) TO RIGHT.

14. INSTALL COVER (28) AND NINE SELF-TAPPING SCREWS (29).

VEHICLE HEATER REPLACEMENT (CONT)



15. PULL BOOT (4) THRU VEHICLE FIREWALL (30).



16. INSTALL FRESH AIR DUCT ASSEMBLY (31) AND FOUR CAPSCREWS (32).

17. INSTALL TWO CAPSCREWS (33).

NOTE
Follow-on Maintenance:

Fill with coolant (Unit PMCS, TM 9-2320-363-20-1).
Connect batteries (page 2-29).

VEHICLE HEATER OR HEATER/AC UNIT CONTROLS REPLACEMENT, REPAIR, AND ADJUSTMENT

This task covers: a. Removal b. Disassembly c. Cleaning/Inspection d. Repair
e. Assembly f. Installation g. Adjustment

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Tags, Identification Appendix C, Item 26

Nut, Lock

Washer, Lock

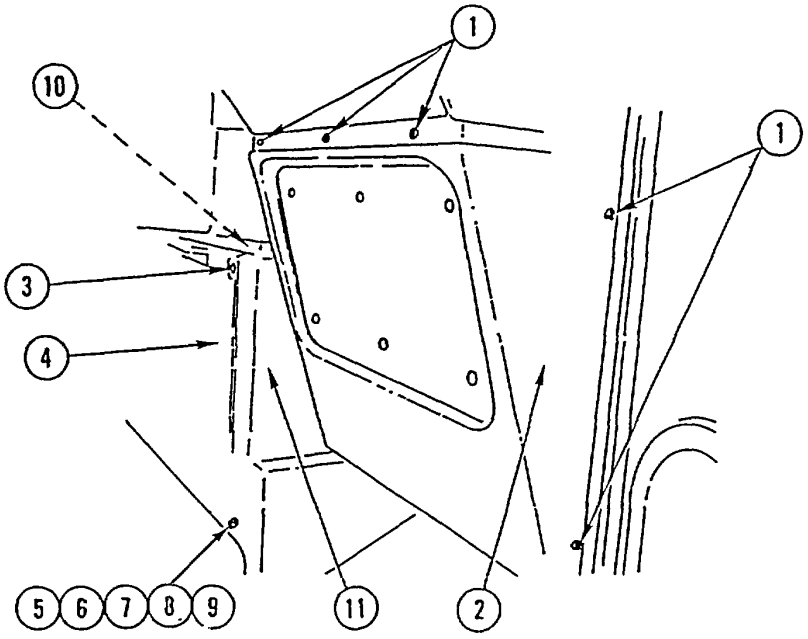
References:

TM 9-2320-363-20-1

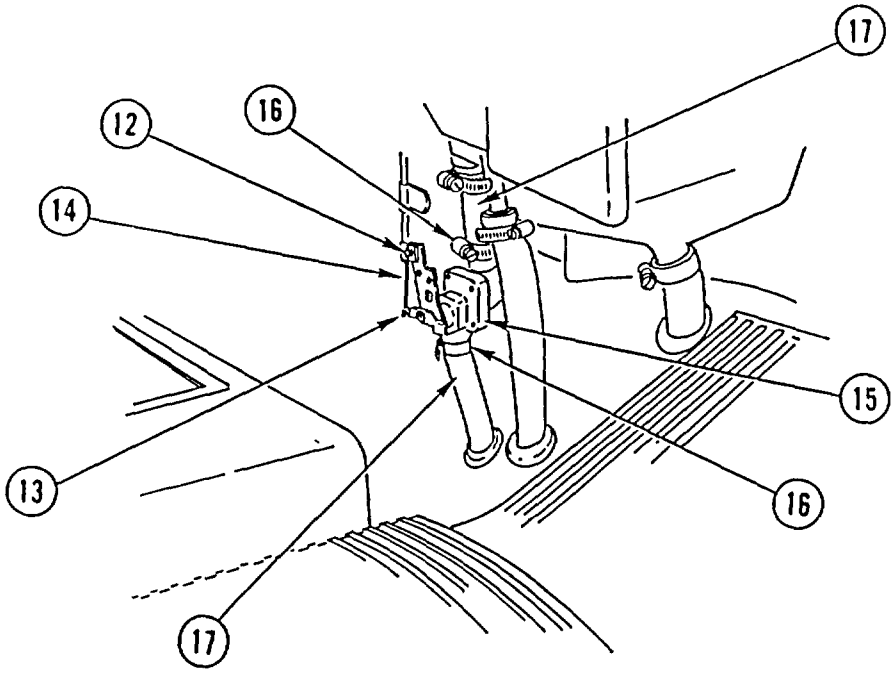
Equipment Condition:

Reference	Condition Description
Page 2-28	Air System Drained
Page 4-141	Coolant Drained
Page 2-29	Batteries Disconnected

REMOVAL

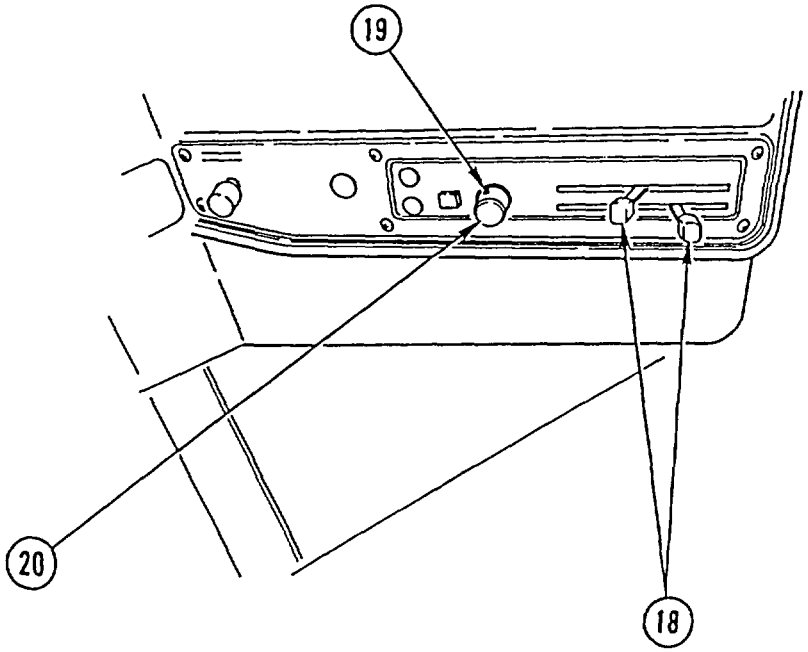


1. REMOVE NINE SELF-TAPPING SCREWS (1) AND COVER (2).
2. ROTATE THREE FASTENERS (3) TO LEFT AND REMOVE COVER (4).
3. REMOVE LOCK NUT (5), WASHER (6), SCREW (7), WASHER (8), AND SPACER (9). DISCARD LOCK NUT.
4. REMOVE SCREW (10) AND COVER (11).



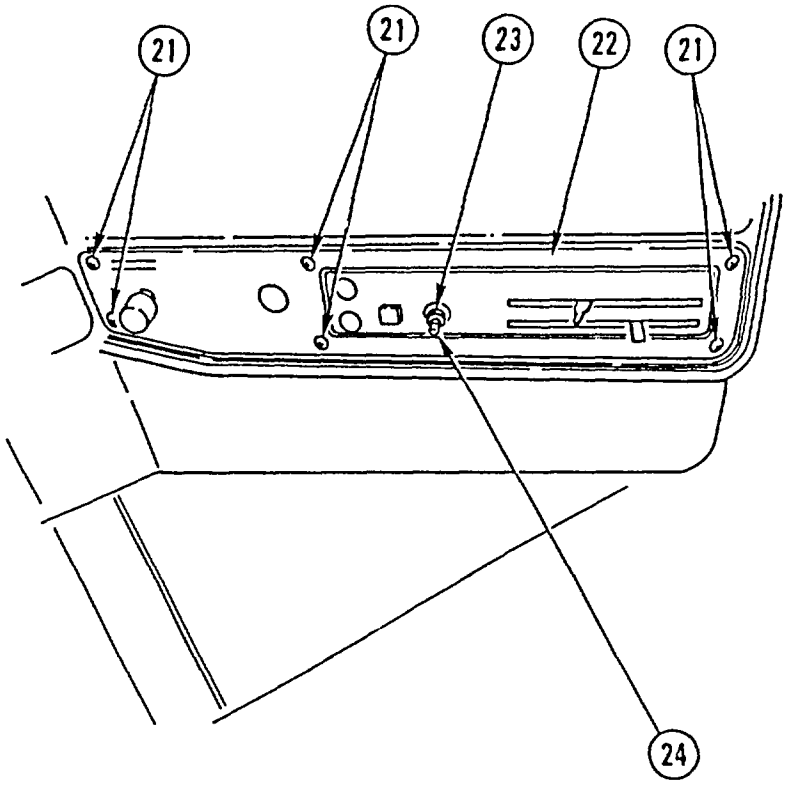
5. REMOVE SCREW (12) AND RETAINER (13). DISCONNECT CABLE (14) FROM WATER CONTROL VALVE (15).

6. TWO CLAMPS (16), DISCONNECT TWO HOSES (17), AND REMOVE WATER CONTROL VALVE (15).



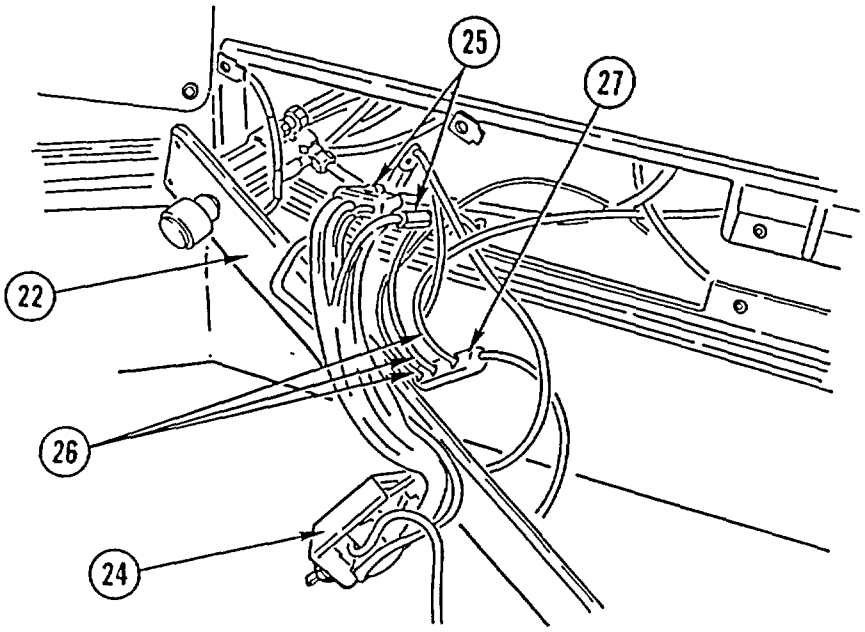
7. REMOVE TWO KNOBS (18).

8. LOOSEN SOCKET HEAD SCREW (19) AND REMOVE FAN-SPEED SWITCH KNOB (20).



9. REMOVE SIX TORX SCREWS (21) AND CONTROL PANEL (22).

10. REMOVE NUT (23) AND FAN-SPEED SWITCH (24) FROM CONTROL PANEL (22).



NOTE
Tag connectors prior to removal to aid in installation.

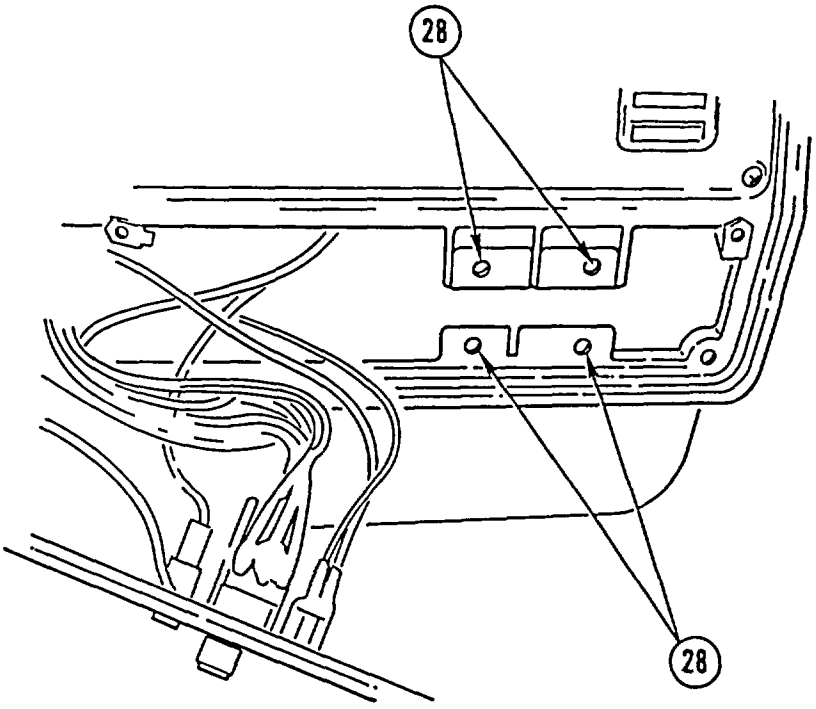
11. DISCONNECT TWO CONNECTORS (25) FROM FAN-SPEED SWITCH (24).

NOTE

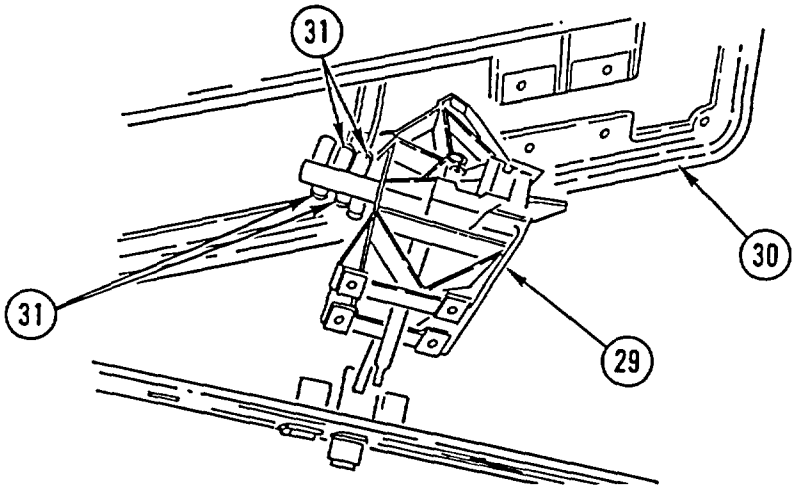
- **Tag red hose connect points prior to removal to aid in installation.**
- **Air lines and connect points are color-coded to aid in installation.**

12. DISCONNECT THREE AIR LINES (26).

13. CAREFULLY PUSH FROM BACK SIDE OF CONTROL PANEL (22) TO REMOVE RECIRCULATION SWITCH (27).



14. REMOVE FOUR TORX SCREWS (28).



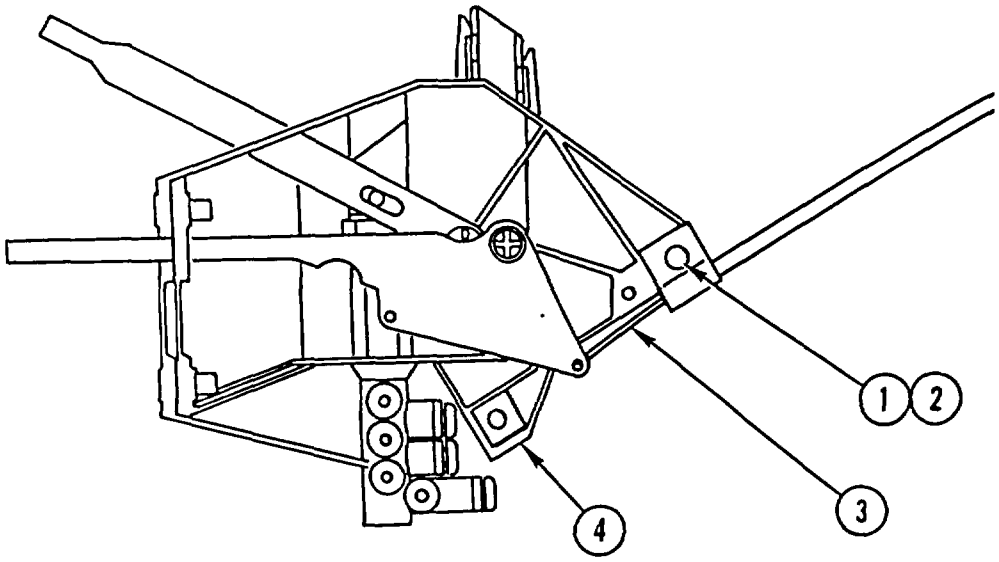
15. REMOVE HEATER CONTROL ASSEMBLY (29) FROM DASHBOARD (30).

16. DISCONNECT FOUR AIR LINES (31) FROM HEATER CONTROL ASSEMBLY (29).

VEHICLE HEATER OR HEATER/AC UNIT CONTROLS REPLACEMENT, REPAIR, AND ADJUSTMENT (CONT)

DISASSEMBLY

REMOVE SCREW (1), LOCK WASHER (2), AND CABLE (3) FROM HEATER CONTROL (4). DISCARD LOCK WASHER.



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

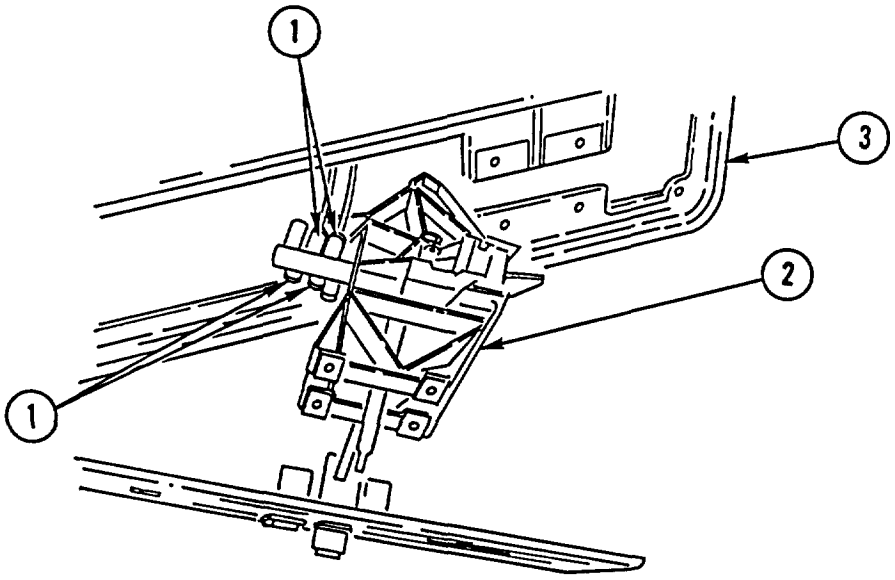
REPAIR

Repair vehicle heater controls in accordance with general repair methods in Chapter 2.

ASSEMBLY

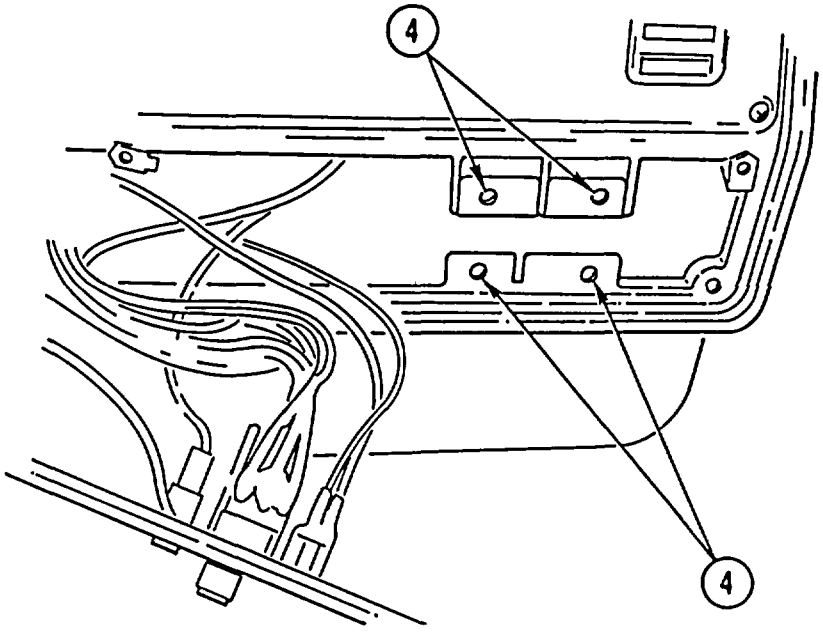
INSTALL CABLE (3), NEW LOCK WASHER (2), AND SCREW (1) ON HEATER CONTROL (4).

INSTALLATION

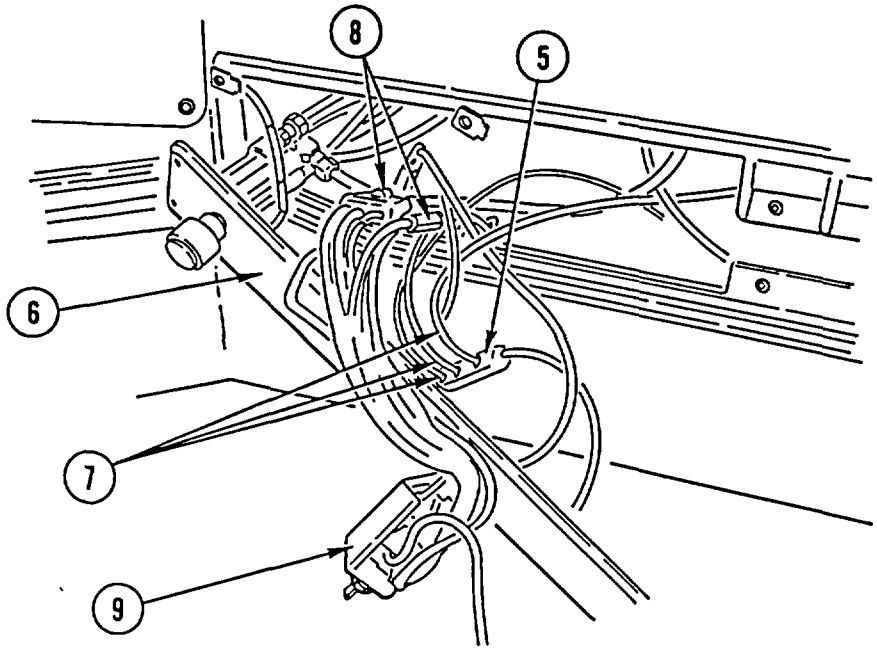


NOTE
Air lines and connect points are color-coded to aid in installation.

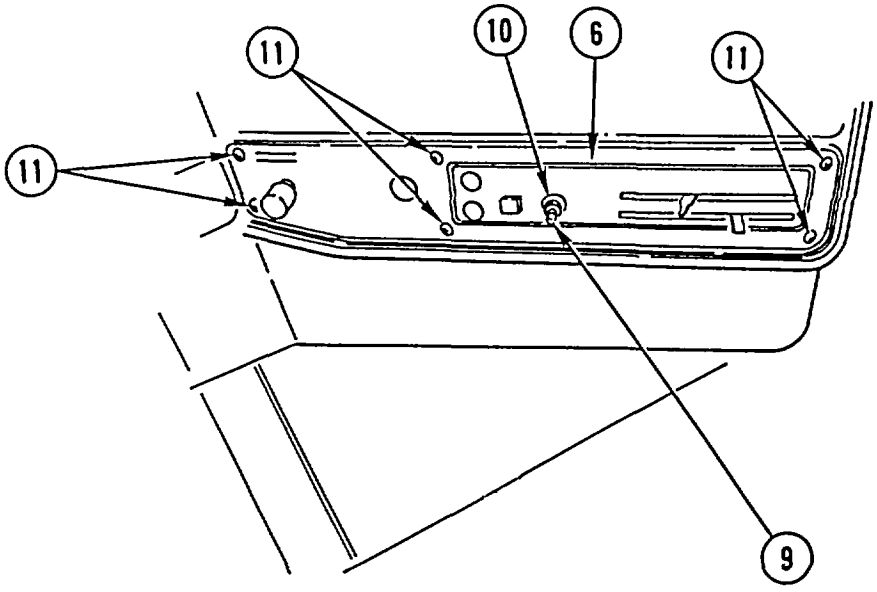
1. CONNECT FOUR AIR LINES (1) TO HEATER CONTROL ASSEMBLY (2).
2. INSTALL HEATER CONTROL ASSEMBLY (2) IN DASHBOARD (3).



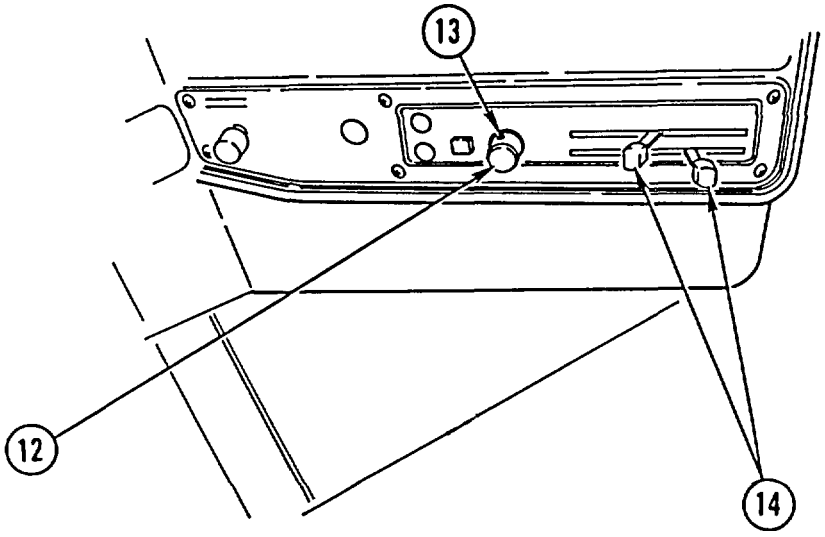
3. INSTALL FOUR TORX SCREWS (4).



4. INSTALL RECIRCULATION SWITCH (5) IN CONTROL PANEL (6).
5. CONNECT THREE AIR LINES (7).
6. CONNECT TWO CONNECTORS (8) TO FAN-SPEED SWITCH (9).

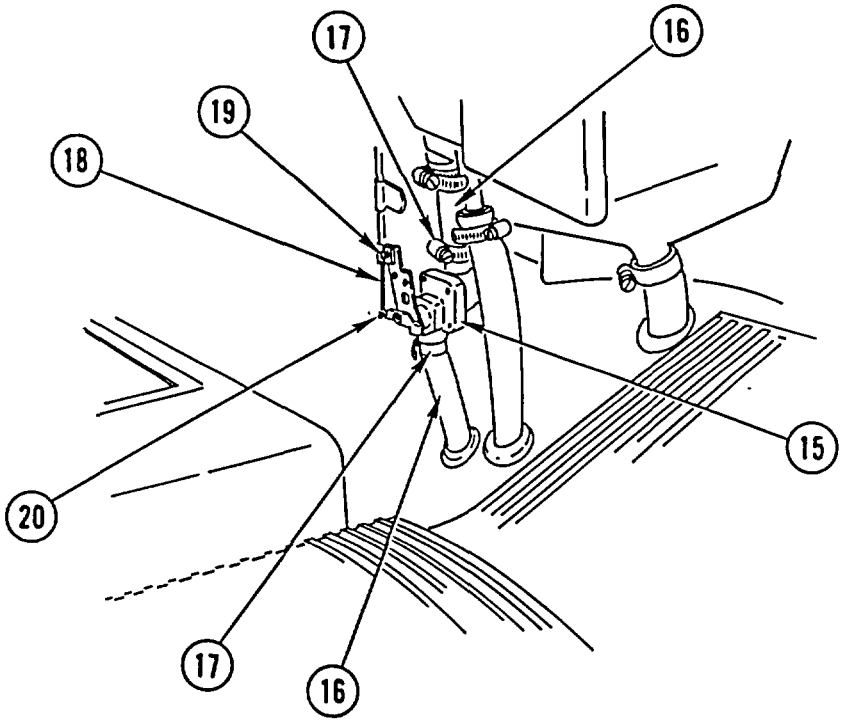


7. INSTALL FAN-SPEED SWITCH (9) AND NUT (10) IN CONTROL PANEL (6).
8. INSTALL CONTROL PANEL (6) AND SIX TORX SCREWS (11).



9. INSTALL FAN-SPEED SWITCH KNOB (12) AND TIGHTEN SOCKET HEAD SCREW (13).

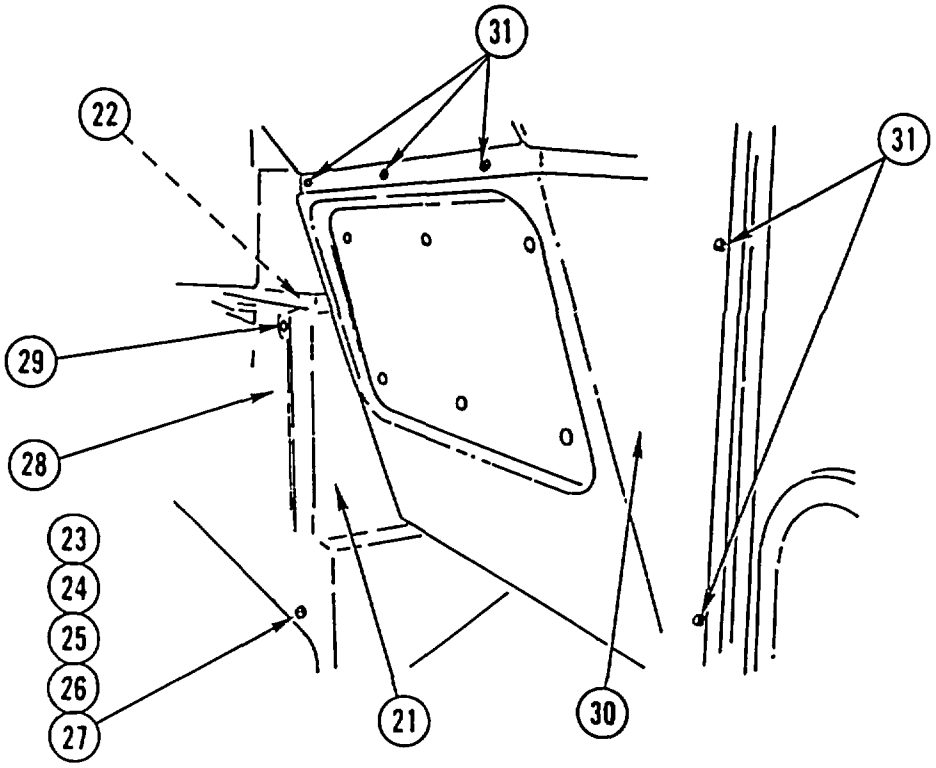
10. INSTALL TWO KNOBS (14).



11. INSTALL WATER CONTROL VALVE (15), CONNECT TWO HOSES (16), AND TIGHTEN TWO CLAMPS (17).

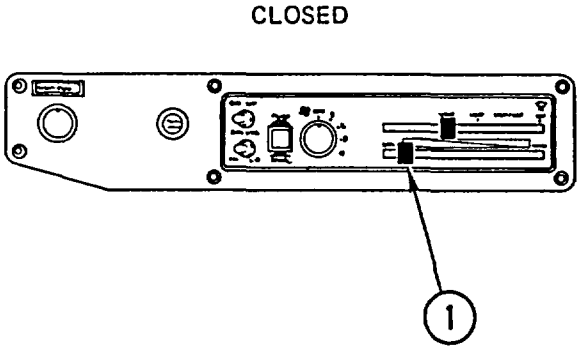
12. CONNECT CABLE (18) TO WATER CONTROL VALVE (15). INSTALL SCREW (19) AND RETAINER (20).

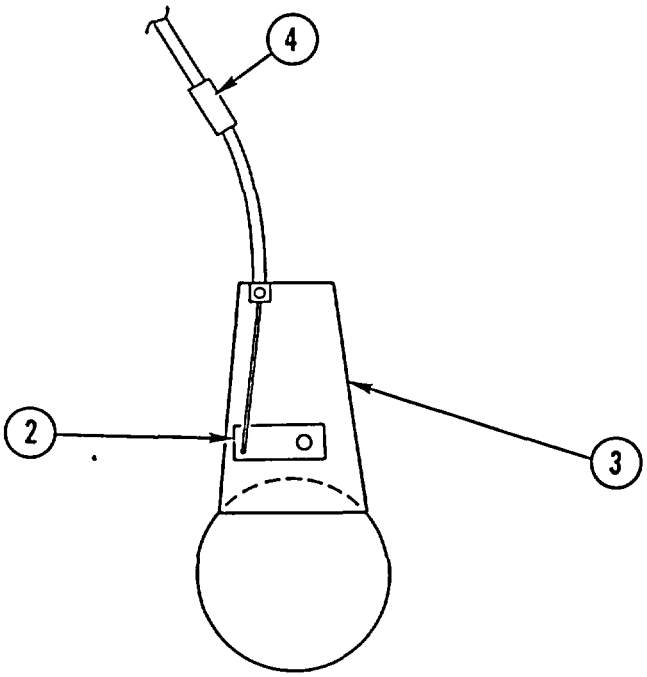
13. PERFORM STEPS 2 THRU 6 OF ADJUSTMENT.



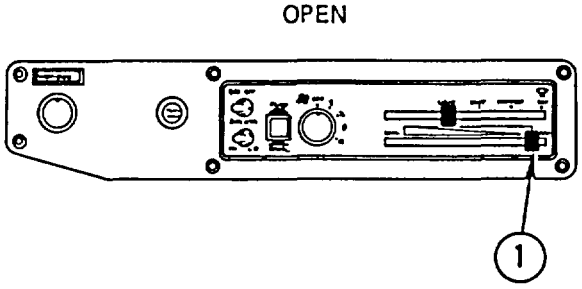
14. INSTALL COVER (21) AND SCREW (22).
15. INSTALL SPACER (23), WASHER (24), SCREW (25), WASHER (26), AND NEW LOCK NUT (27).
16. INSTALL COVER (28) AND ROTATE THREE FASTENERS (29) TO RIGHT.
17. INSTALL COVER (30) AND NINE SELF-TAPPING SCREWS (31).

ADJUSTMENT





1. PERFORM REMOVAL STEPS 1 THRU 4.
2. PLACE TEMPERATURE SLIDE LEVER (1) IN FULLY CLOSED POSITION. CHECK TO SEE IF SLIDE LEVER (2) ON WATER CONTROL VALVE (3) IS IN FULLY HORIZONTAL POSITION.
3. IF NOT, ROTATE ADJUSTING TURNBUCKLE (4) UNTIL SLIDE LEVER (2) IS IN FULLY HORIZONTAL POSITION.



4. PLACE TEMPERATURE SLIDE LEVER (1) IN FULLY OPEN POSITION. CHECK TO SEE IF SLIDE LEVER (2) ON WATER CONTROL VALVE (3) IS IN FULLY VERTICAL POSITION.
5. IF NOT, ROTATE ADJUSTING TURNBUCKLE (4) UNTIL SLIDE LEVER (2) IS IN FULLY VERTICAL POSITION.
6. REPEAT STEPS 2 THRU 5 UNTIL BOTH ADJUSTMENTS HAVE BEEN FULLY ACHIEVED.
7. PERFORM INSTALLATION STEPS 14 THRU 17.

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).
Fill with coolant (Unit PMCS, TM 9-2320-363-20-1).

ARCTIC HEATER AND MOUNTING BRACKET REPLACEMENT AND REPAIR

This task covers: a. Removal b. Disassembly c. Cleaning/Inspection d. Assembly e. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Kep (8) P/N 23-10340-125
Nut, Lock
Washer, Lock (4)
Nut, Lock (4)

General Safety Instructions:

WARNING
Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE KEP NUT (1), SCREW (2), WASHER (3), AND CLAMP (4) FROM BRACKET (5). DISCARD KEP NUT.

2. REMOVE LOCK NUT (6), SCREW (7), WASHER (8), AND BRACKET (5) FROM BATTERY BOX MOUNTING BRACKET (9). DISCARD LOCK NUT.

3. LOOSEN TWO NUTS (10) AND REMOVE EXHAUST PIPE (11) AND SADDLE CLAMP (12) FROM HEATER ASSEMBLY (13).

NOTE
Have suitable container available to catch coolant.

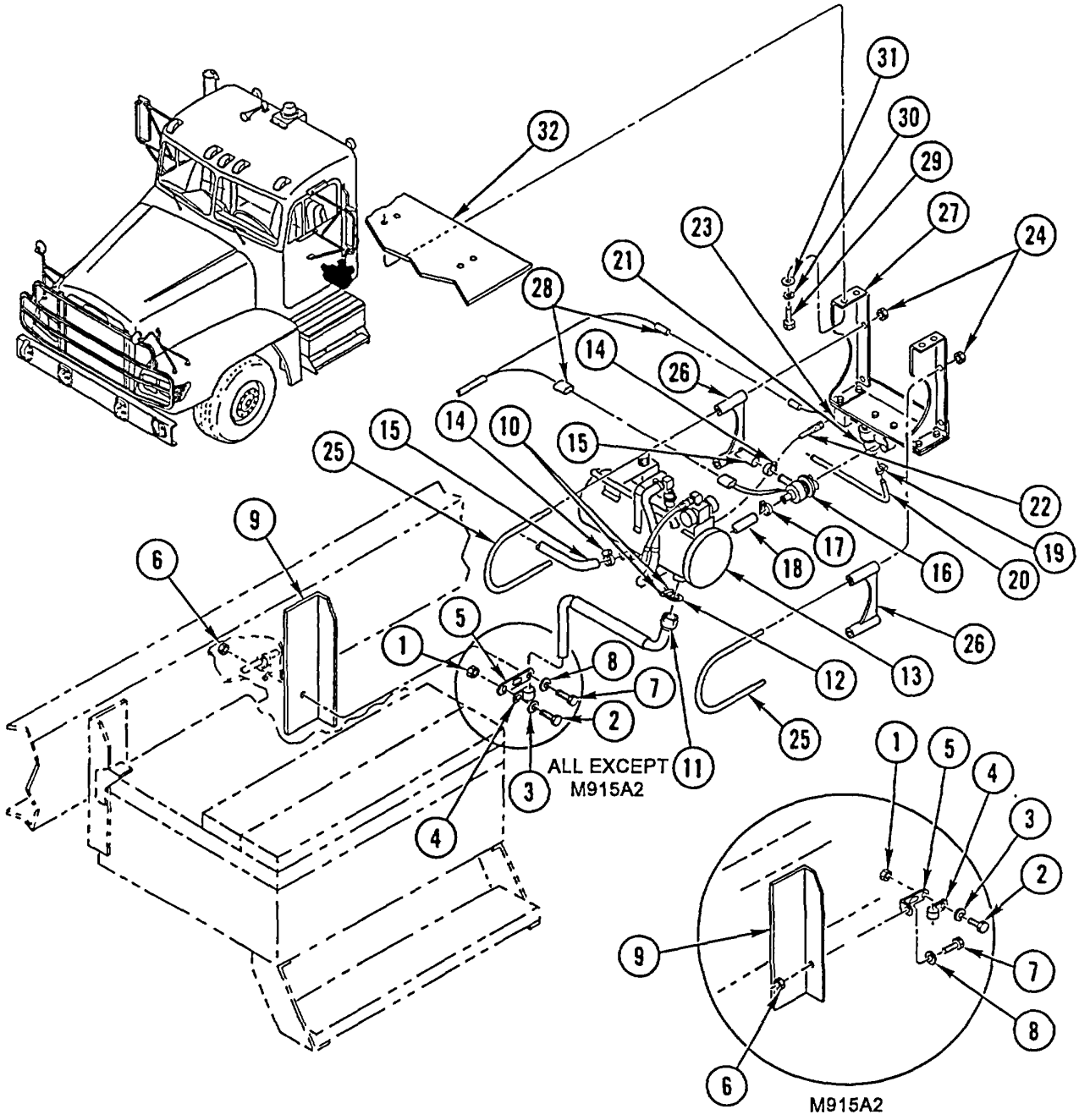
4. LOOSEN TWO CLAMPS (14) AND DISCONNECT TWO HOSES (15) FROM HEATER ASSEMBLY (13) AND WATER PUMP (16).

5. LOOSEN CLAMP (17) AND DISCONNECT HOSE (18) FROM WATER PUMP (16).

WARNING
Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

NOTE
Have suitable container available to catch fuel.

6. LOOSEN CLAMP (19) AND DISCONNECT FUEL HOSE (20) FROM FUEL FILTER (21). SECURE FUEL HOSE (20) ABOVE LEVEL OF FUEL TANK TO AVOID DRAINING FUEL.



7. DISCONNECT FUEL HOSE (22) FROM FUEL PUMP (23).

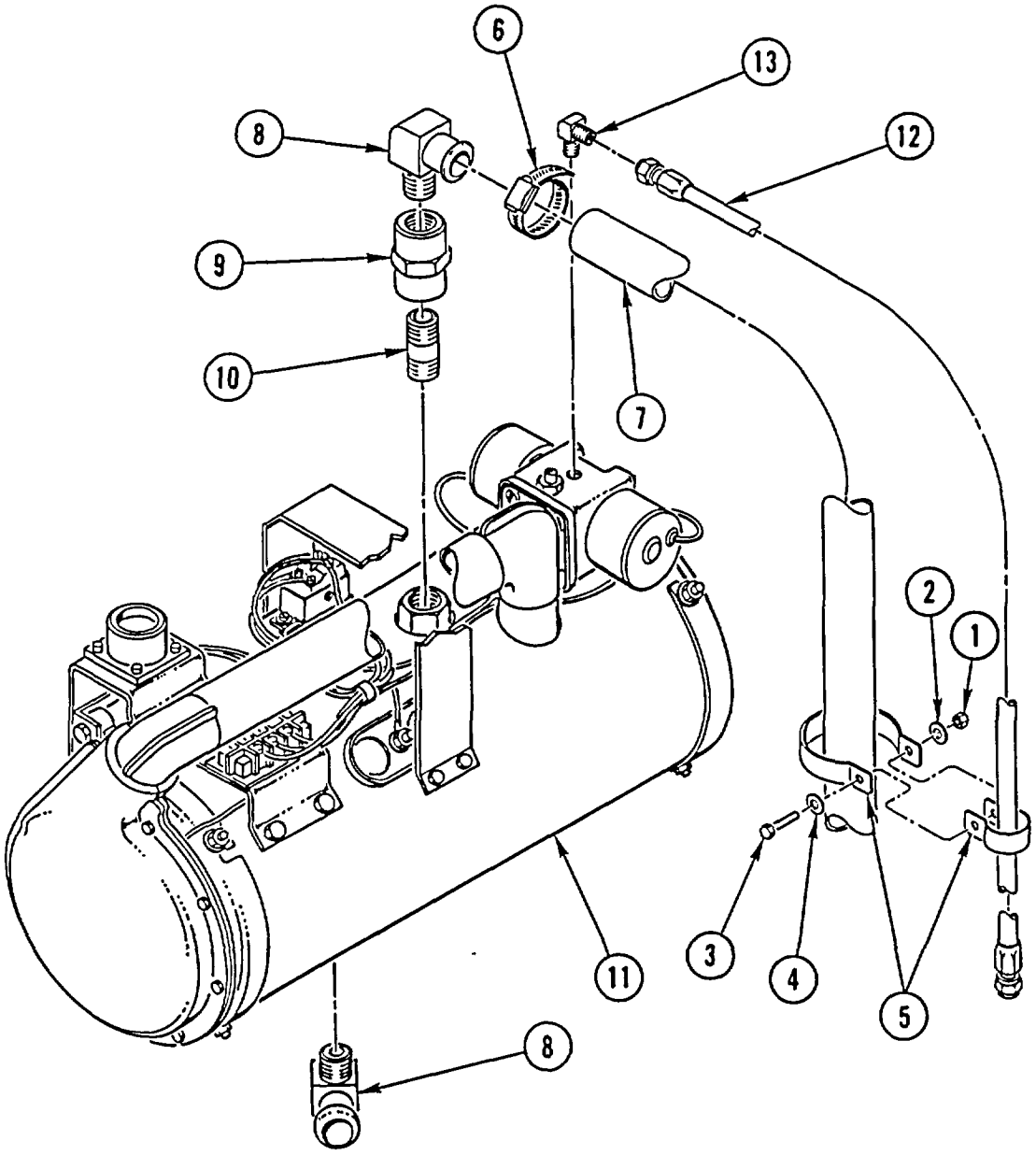
8. REMOVE FOUR LOCK NUTS (24), TWO U-BOLTS (25), HEATER ASSEMBLY (13), AND TWO SADDLES (26) FROM MOUNTING BRACKET ASSEMBLY (27). DISCARD LOCK NUTS.

9. DISCONNECT TWO CONNECTORS (28) FROM WATER PUMP (16) AND FUEL PUMP (23).

10. REMOVE FOUR SCREWS (29), FOUR LOCK WASHERS (30), FOUR WASHERS (31), AND MOUNTING BRACKET ASSEMBLY (26) FROM UNDER CAB (32). DISCARD LOCK WASHERS.

ARCTIC HEATER AND MOUNTING BRACKET REPLACEMENT AND REPAIR (CONT)

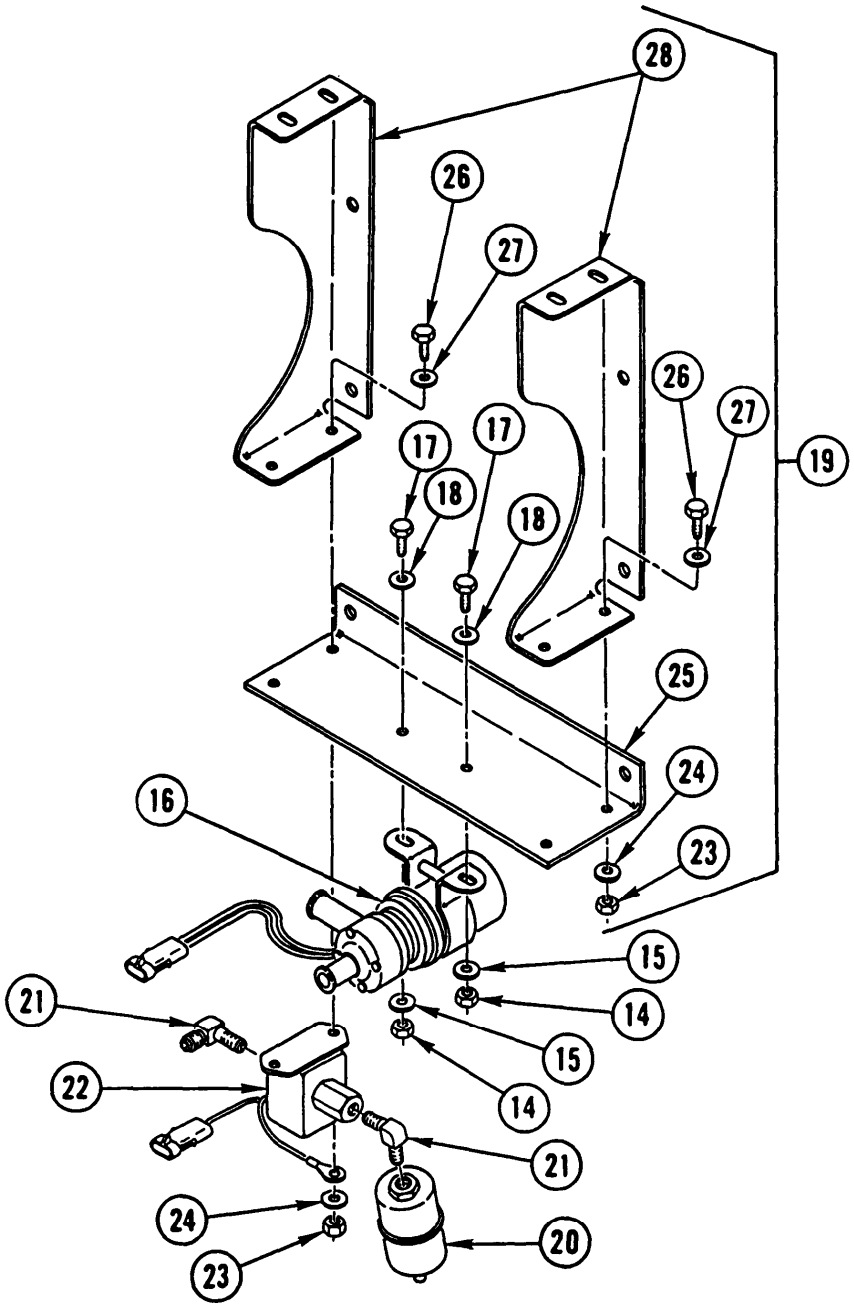
DISASSEMBLY



1. REMOVE KEP NUT (1), WASHER (2), SCREW (3), WASHER (4), AND TWO CLAMPS (5). DISCARD KEP NUT.

2. LOOSEN CLAMP (6) AND REMOVE HOSE (7), TWO ELBOWS (8), ADAPTER (9), AND NIPPLE (10) FROM HEATER ASSEMBLY (11).

3. REMOVE FUEL HOSE (12) AND ELBOW (13) FROM HEATER ASSEMBLY (11).



4. REMOVE TWO KEP NUTS (14), TWO WASHERS (15), WATER PUMP (16), TWO SCREWS (17), AND TWO WASHERS (18) FROM MOUNTING BRACKET ASSEMBLY (19). DISCARD KEP NUTS.

5. REMOVE FUEL FILTER (20) AND TWO ELBOWS (21) FROM FUEL PUMP (22).

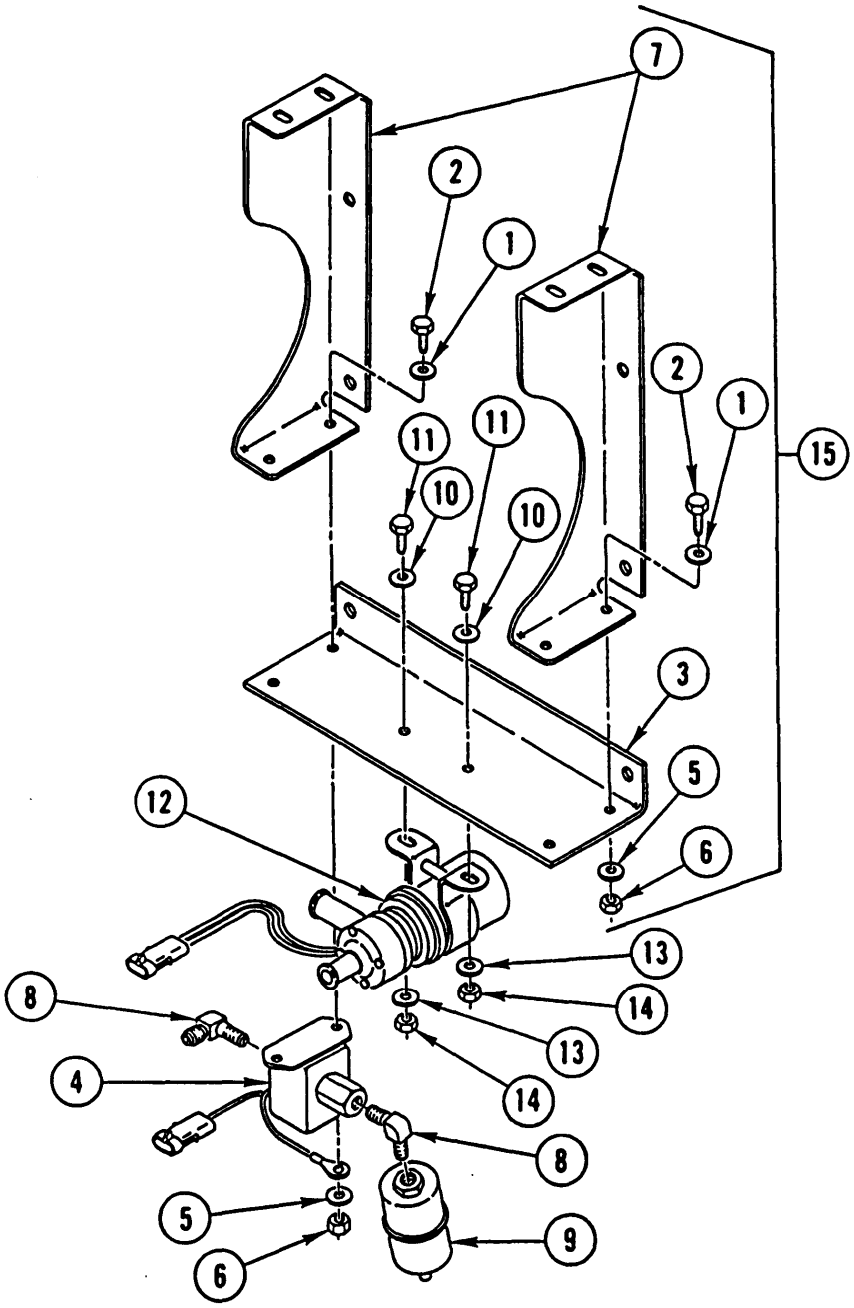
6. REMOVE FOUR KEP NUTS (23), FOUR WASHERS (24), FUEL PUMP (22), BRACKET (25), FOUR SCREWS (26), AND FOUR WASHERS (27) FROM TWO MOUNTING BRACKETS (28). DISCARD KEP NUTS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

ARCTIC HEATER AND MOUNTING BRACKET REPLACEMENT AND REPAIR (CONT)

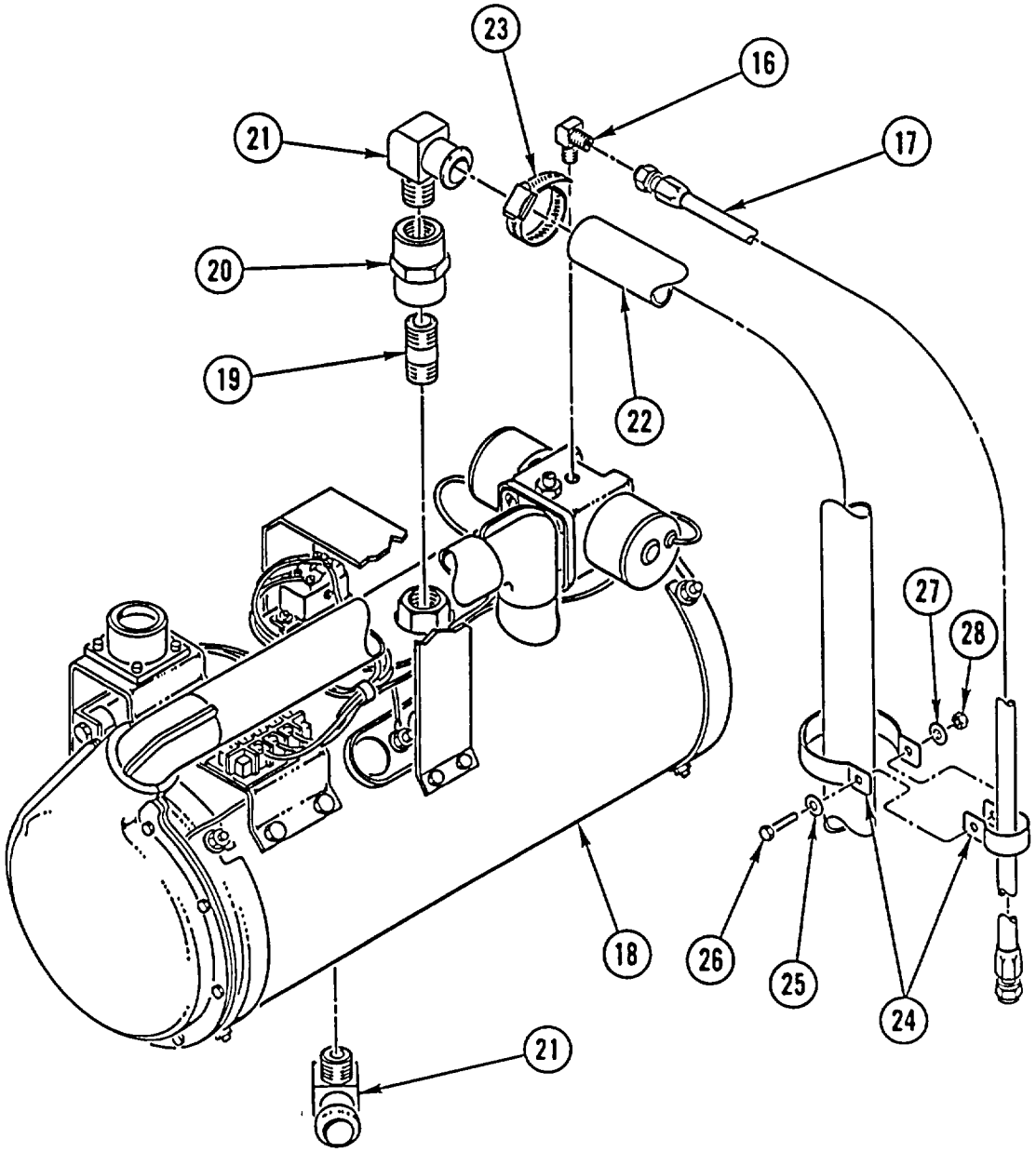
ASSEMBLY



1. INSTALL FOUR WASHERS (1), FOUR SCREWS (2), BRACKET (3), FUEL PUMP (4), FOUR WASHERS (5), AND FOUR NEW KEP NUTS (6) ON TWO MOUNTING BRACKETS (7).

2. INSTALL TWO ELBOWS (8) AND FUEL FILTER (9) ON FUEL PUMP (4).

3. INSTALL TWO WASHERS (10), TWO SCREWS (11), WATER PUMP (12), TWO WASHERS (13), AND TWO NEW KEP NUTS (14) ON MOUNTING BRACKET ASSEMBLY (15).



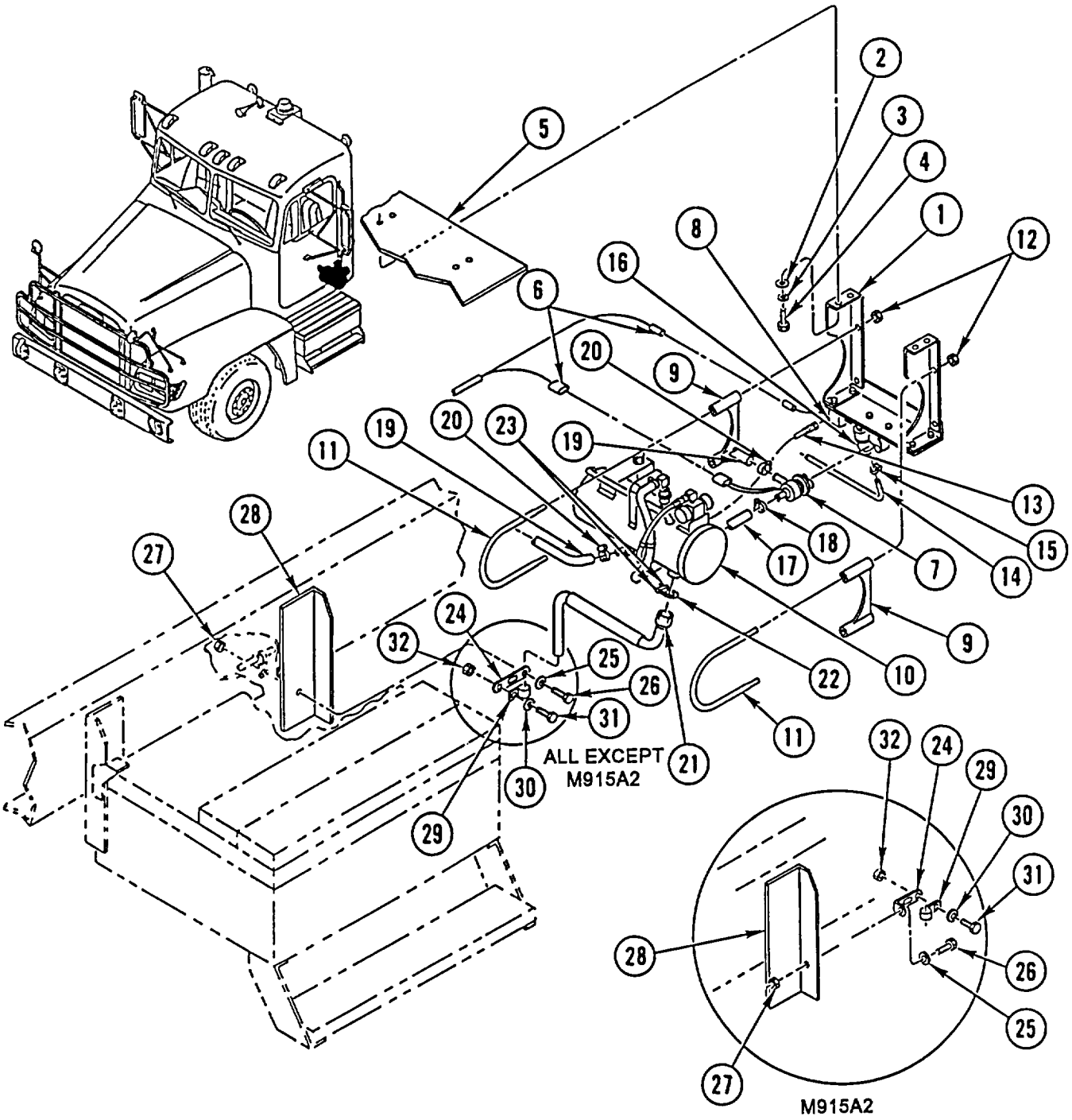
4. INSTALL ELBOW (16) AND FUEL HOSE (17) ON HEATER ASSEMBLY (18).

5. INSTALL NIPPLE (19), ADAPTER (20), TWO ELBOWS (21), AND HOSE (22) AND TIGHTEN CLAMP (23).

6. INSTALL TWO CLAMPS (24), WASHER (25), SCREW (26), WASHER (27), AND NEW KEP NUT (28).

ARCTIC HEATER AND MOUNTING BRACKET REPLACEMENT AND REPAIR (CONT)

INSTALLATION



1. INSTALL MOUNTING BRACKET ASSEMBLY (1), FOUR WASHERS (2), FOUR NEW LOCK WASHERS (3), AND FOUR SCREWS (4) UNDER CAB (5).

WARNING

Diesel fuel is flammable. Do not work on fuel system in presence of sparks or open flame. To do so could result in serious injury to personnel.

2. CONNECT TWO CONNECTORS (6) TO WATER PUMP (7) AND FUEL PUMP (8).
3. INSTALL TWO SADDLES (9), HEATER ASSEMBLY (10)), TWO U-BOLTS (11), AND FOUR NEW LOCK NUTS (12) ON MOUNTING BRACKET ASSEMBLY (1).
4. CONNECT FUEL HOSE (13) FROM HEATER ASSEMBLY (10) TO FUEL PUMP (8).
5. CONNECT FUEL HOSE (14) AND TIGHTEN CLAMP (15) ON FUEL FILTER (16).
6. CONNECT HOSE (17) FROM HEATER ASSEMBLY (10) TO WATER PUMP (7) AND TIGHTEN CLAMP (18).
7. CONNECT TWO HOSES (19) AND TIGHTEN TWO CLAMPS (20) ON HEATER ASSEMBLY (10) AND WATER PUMP (7).
0. INSTALL EXHAUST PIPE (21) AND SADDLE CLAMP (22) AND TIGHTEN TWO NUTS (23) HAND-TIGHT.
9. INSTALL BRACKET (24), WASHER (25), SCREW (26), AND NEW KEP NUT (27) ON BATTERY BOX MOUNTING BRACKET (28).
10. INSTALL CLAMP (29), WASHER (30), SCREW (31), AND NEW KEP NUT (32).
11. TIGHTEN TWO NUTS (23) ON SADDLE CLAMP (22).
12. REMOVE CAP (33) AND FILL TANK (34) WITH COOLANT TO WITHIN 1/2 IN. FROM NECK. INSTALL CAP (33).

NOTE

Follow-on Maintenance:
Connect batteries (page 2-29).

ARCTIC HEATER CORE REPLACEMENT

This task covers: a. Removal b. Disassembly c. Cleaning/Inspection d. Assembly e. Installation

INITIAL SETUP

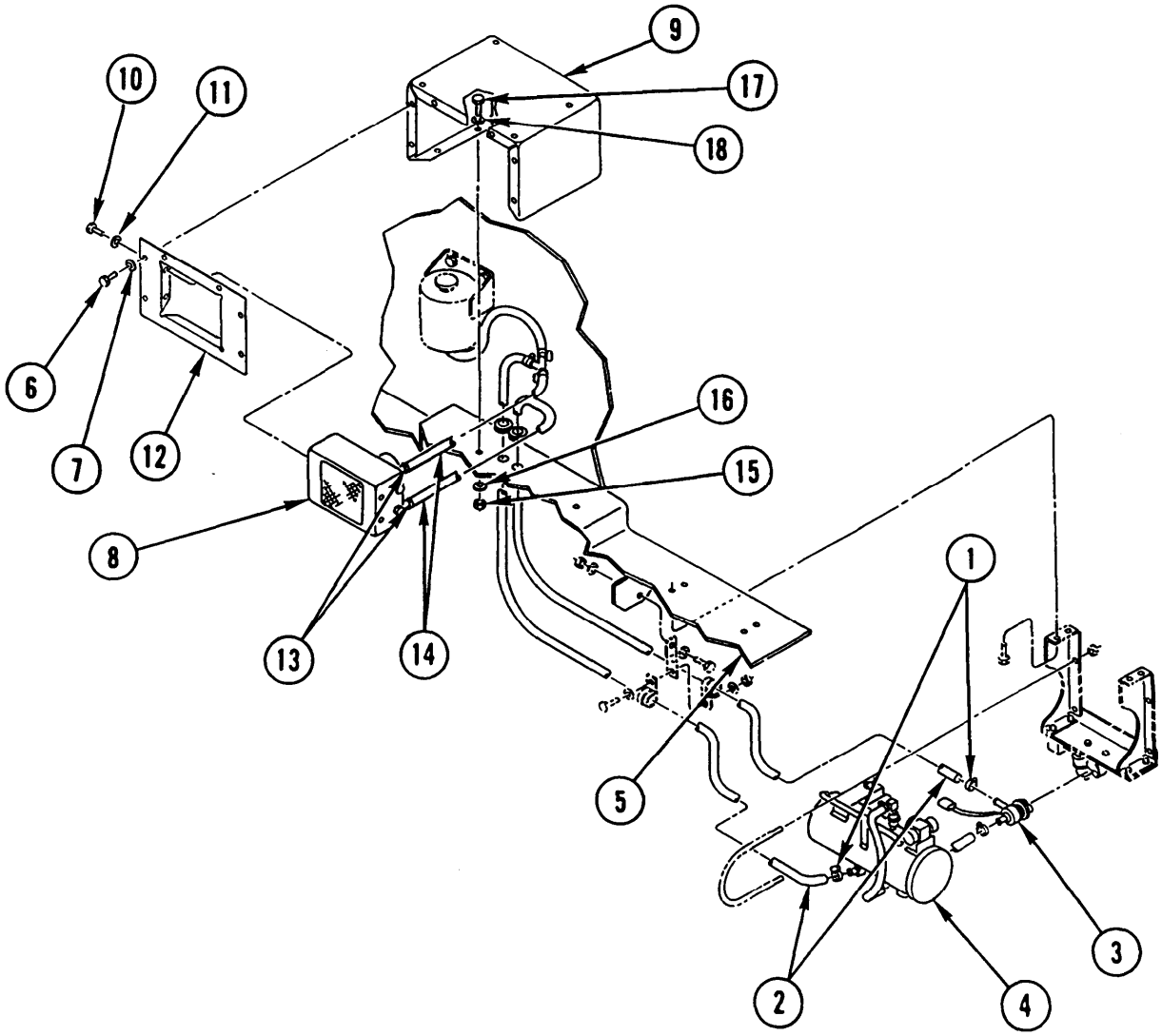
Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

REMOVAL



NOTE

Have suitable container available to catch coolant.

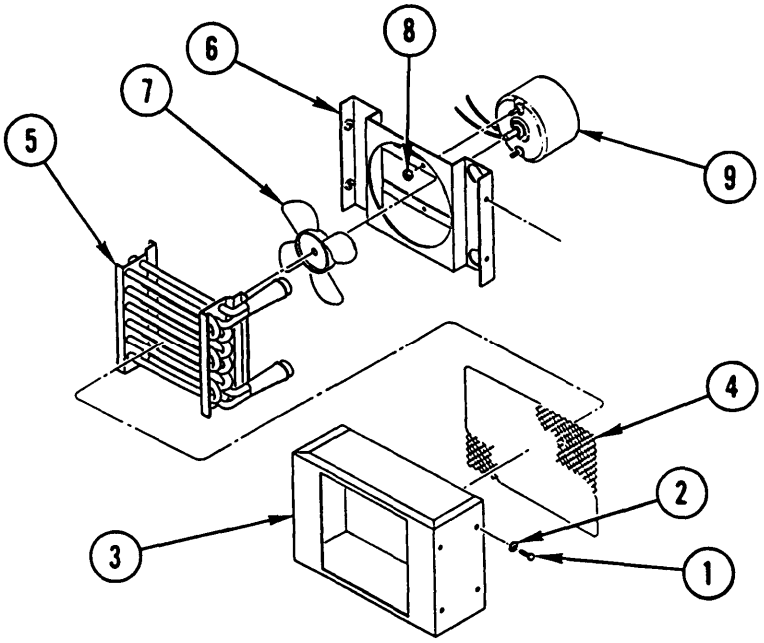
1. LOOSEN TWO CLAMPS (1) AND DISCONNECT TWO HOSES (2) FROM WATER PUMP (3) AND HEATER ASSEMBLY (4) UNDER CAB FLOOR (5).
2. REMOVE SIX SCREWS (6) AND SIX WASHERS (7) AND PULL HEATER CORE ASSEMBLY (8) OUT OF MOUNTING BOX (9).
3. REMOVE FOUR SCREWS (10), FOUR WASHERS (11), AND SUPPORT PANEL (12) FROM HEATER CORE ASSEMBLY (8).
4. LOOSEN TWO CLAMPS (13), DISCONNECT TWO HOSES (14), AND REMOVE HEATER CORE ASSEMBLY (8).
5. REMOVE FOUR LOCK NUTS (15), FOUR WASHERS (16), FOUR SCREWS (17), FOUR WASHERS (18), AND MOUNTING BOX (9) FROM CAB FLOOR (5). DISCARD LOCK NUTS.

DISASSEMBLY

1. REMOVE FOUR SCREWS (1), FOUR WASHERS (2), HOUSING (3), SCREEN (4), AND CORE (5) FROM MOTOR MOUNT (6).
2. REMOVE FAN (7), TWO NUTS (8), AND MOTOR (9) FROM MOTOR MOUNT (6).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

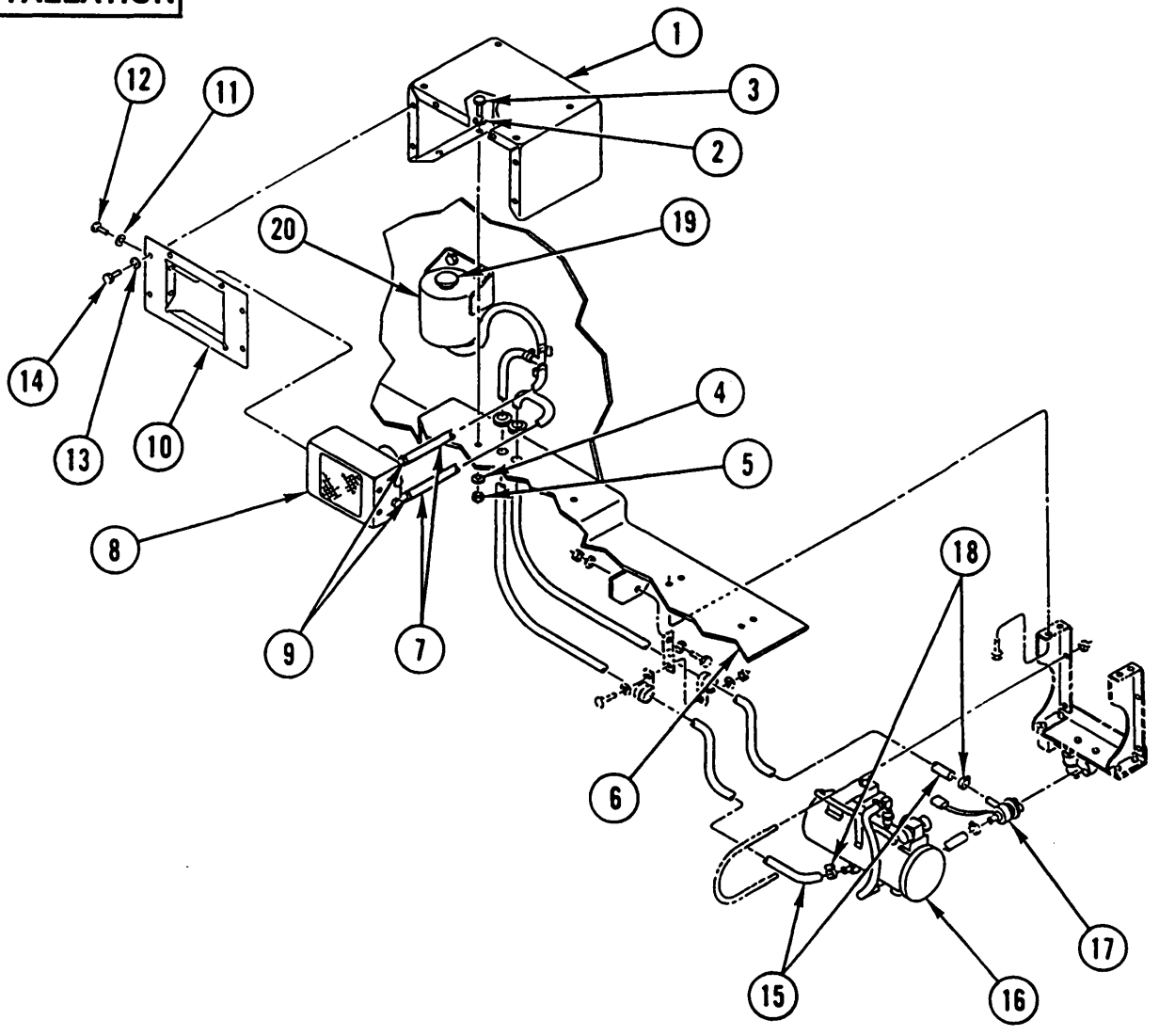


ASSEMBLY

1. INSTALL MOTOR (9), TWO NUTS (8), AND FAN (7) ON MOTOR MOUNT (6).
2. INSTALL CORE (5), SCREEN (4), HOUSING (3), FOUR WASHERS (2), AND FOUR SCREWS (1) IN MOTOR MOUNT (6).

ARCTIC HEATER CORE REPLACEMENT (CONT)

INSTALLATION



1. INSTALL MOUNTING BOX (1), FOUR WASHERS (2), FOUR SCREWS (3), FOUR WASHERS (4), AND FOUR NEW LOCK NUTS (5) ON CAB FLOOR (6).
2. CONNECT TWO HOSES (7) TO HEATER CORE ASSEMBLY (8) AND TIGHTEN TWO CLAMPS (9).
3. INSTALL SUPPORT PANEL (10), FOUR WASHERS (11), AND FOUR SCREWS (12) IN HEATER CORE ASSEMBLY (8).
4. INSTALL HEATER CORE ASSEMBLY (8), SIX WASHERS (13), AND SIX SCREWS (14) IN MOUNTING BOX (1).
5. CONNECT TWO HOSES (15) TO HEATER ASSEMBLY (16) AND WATER PUMP (17) AND TIGHTEN TWO CLAMPS (18) UNDER CAB FLOOR (6).
6. REMOVE CAP (19) AND FILL TANK (20) WITH COOLANT TO WITHIN 1/2 IN. FROM NECK. INSTALL CAP (19).

ARCTIC HEATER FILL TANK REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Washer, Lock (4)

Gasket P/N 05-12270-000

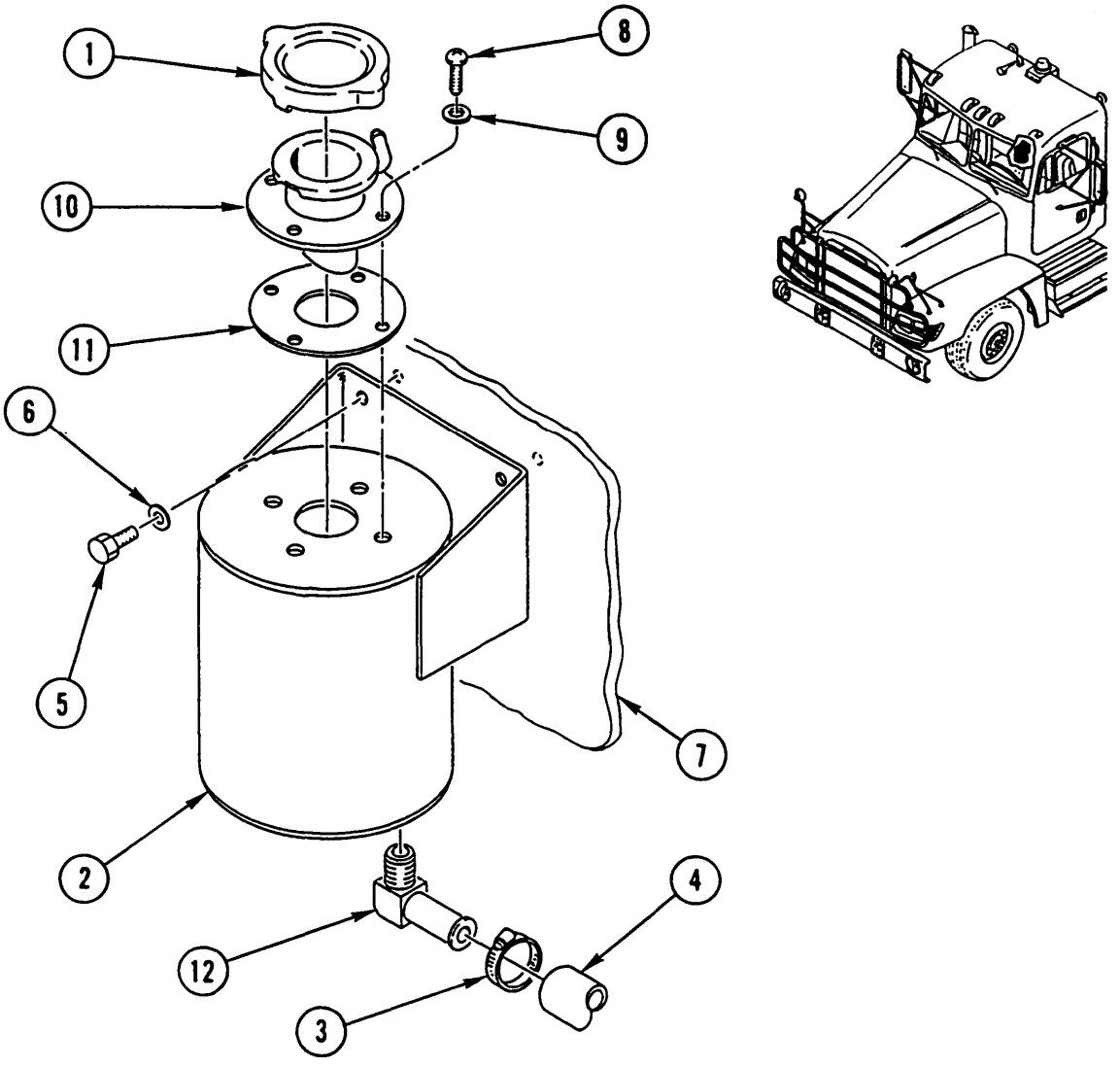
ARCTIC HEATER FILL TANK REPLACEMENT (CONT)

REMOVAL

NOTE

Have suitable container available to catch coolant.

1. REMOVE CAP (1) FROM TANK (2).
2. LOOSEN CLAMP (3) AND DISCONNECT HOSE (4) FROM TANK (2).
3. REMOVE TWO SCREWS (5), TWO WASHERS (6), AND TANK (2) FROM CAB (7).
4. REMOVE FOUR SCREWS (8), FOUR LOCK WASHERS (9), FILLER NECK (10), AND GASKET (11) FROM TANK (2). DISCARD LOCK WASHERS AND GASKET.
5. REMOVE ELBOW (12) FROM TANK (2).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL ELBOW (12) IN TANK (2).
2. INSTALL NEW GASKET (11), FILLER NECK (10), FOUR NEW LOCK WASHERS (9), AND FOUR SCREWS (8) IN TANK (2).
3. INSTALL TANK (2), TWO WASHERS (6), AND TWO SCREWS (5) IN CAB (7).
4. CONNECT HOSE (4) TO TANK (2) AND TIGHTEN CLAMP (3).
5. FILL TANK (2) WITH COOLANT TO WITHIN 1/2 IN. FROM NECK. INSTALL CAP (1).

ARCTIC HEATER HOSES AND CLAMPS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (2)

REMOVAL

NOTE

- Only remove hardware securing hoses to be removed.
- Have suitable container available to catch coolant.

REMOVE HOSES AND CLAMPS USING ILLUSTRATION AND TABLE AS A GUIDE.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL HOSES AND CLAMPS USING ILLUSTRATION AND TABLE AS A GUIDE.
2. REMOVE CAP (13) AND FILL TANK (14) WITH COOLANT TO WITHIN 1/2 IN. FROM NECK. INSTALL CAP (13).

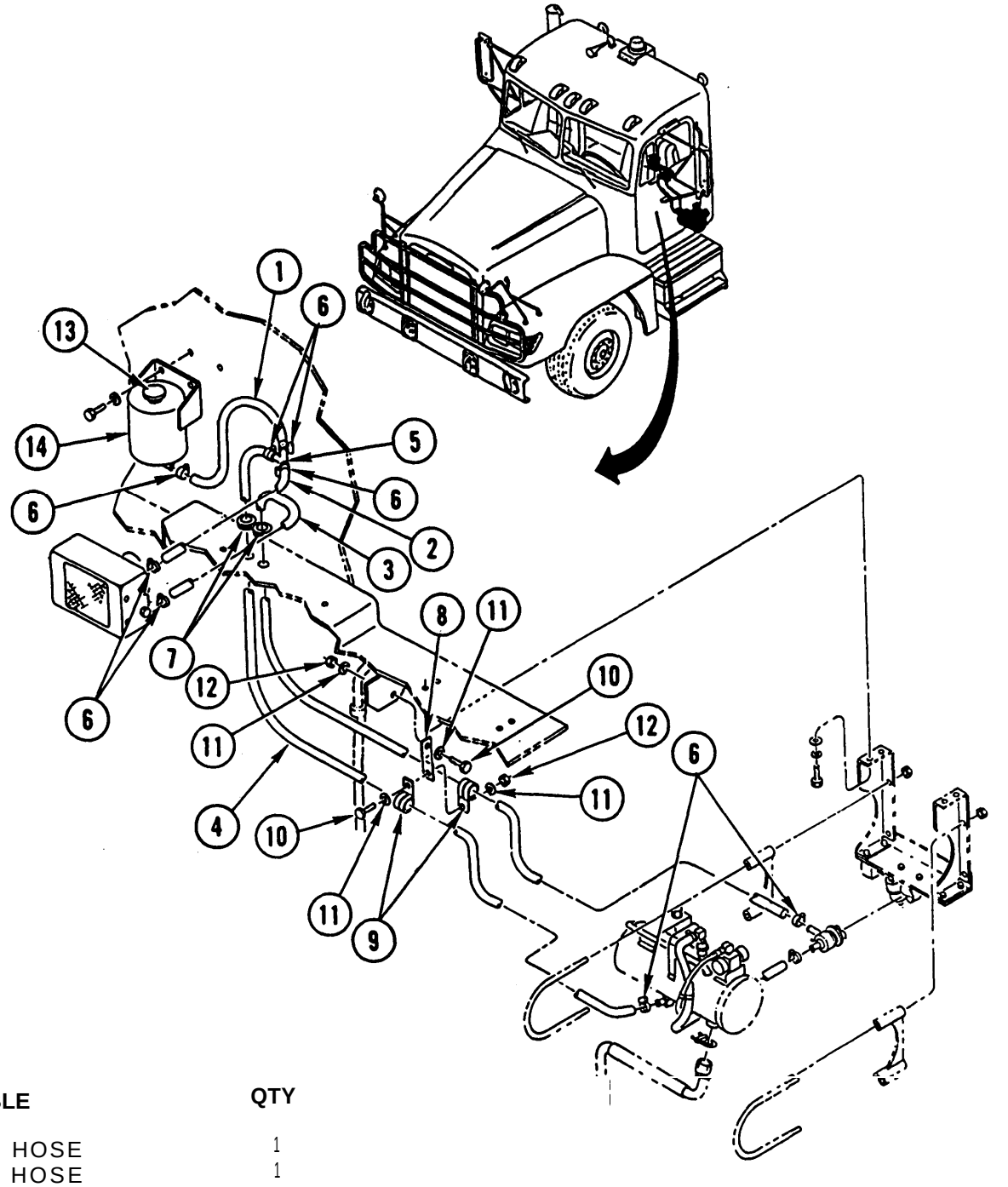


TABLE	QTY
1 HOSE	1
2 HOSE	1
3 HOSE	1
4 HOSE	1
5 TEE	1
6 CLAMP	8
7 GROMMET	2
8 BRACKET	1
9 CLAMP	2
10 SCREW	2
11 WASHER	4
12 LOCK NUT	2

ARCTIC HEATER CONTROLS REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

REMOVAL

1. REMOVE SIX TORX SCREWS (1) AND PULL PANEL (2) OUT OF DASHBOARD.

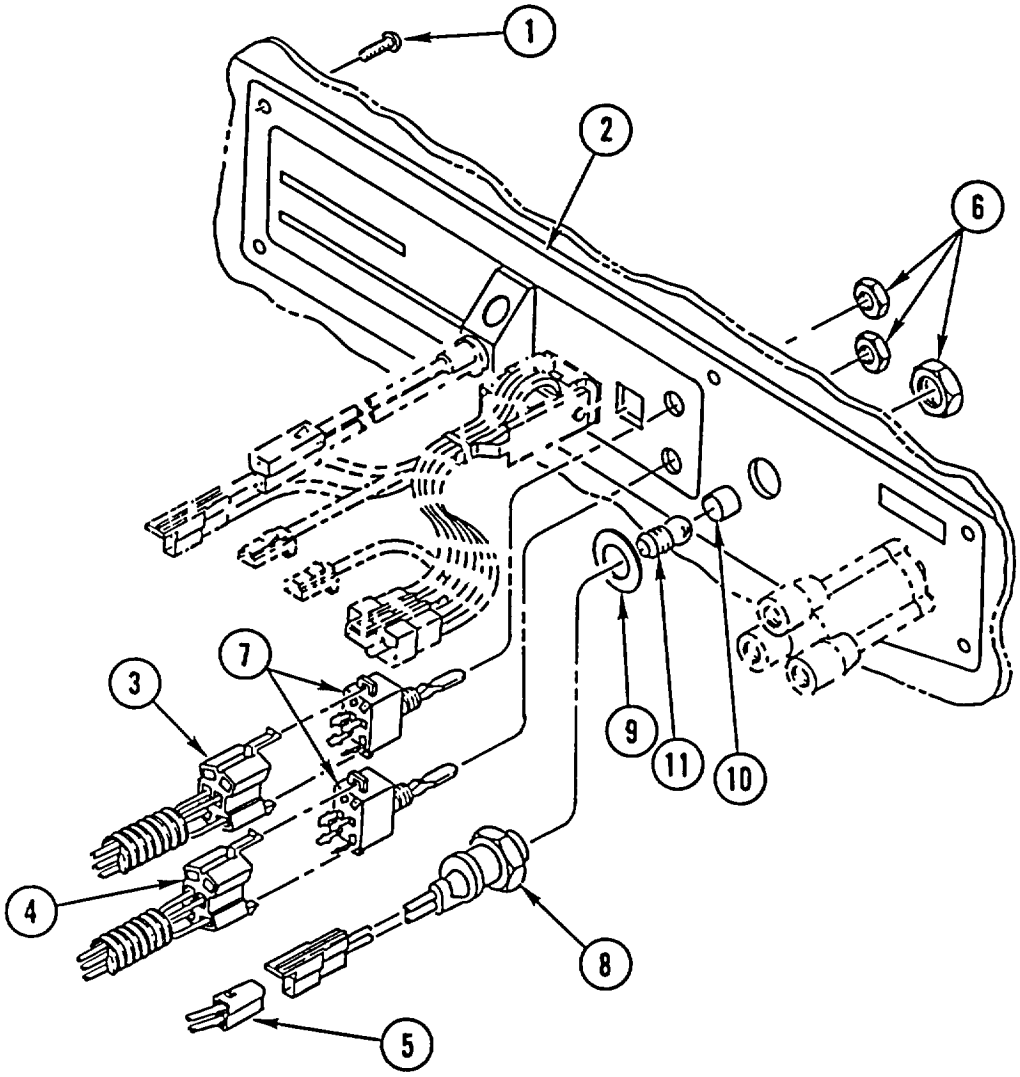
NOTE

Tag all connectors prior to removal to aid in installation.

2. DISCONNECT THREE CONNECTORS (3, 4, AND 5).
3. REMOVE THREE NUTS (6), TWO SWITCHES (7), LAMP HOLDER (8), AND WASHER (9).
4. REMOVE LENS COVER (10) AND LAMP (11).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

1. INSTALL LAMP (11) AND LENS COVER (10).
2. INSTALL WASHER.(9), LAMP HOLDER (8), TWO SWITCHES (7), AND THREE NUTS (6).
3. CONNECT THREE CONNECTORS (5, 4, AND 3).
4. INSTALL PANEL (2) AND SIX TORX SCREWS (1).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).

SWINGFIRE ARCTIC HEATER JACKET ASSEMBLY REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A74
Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

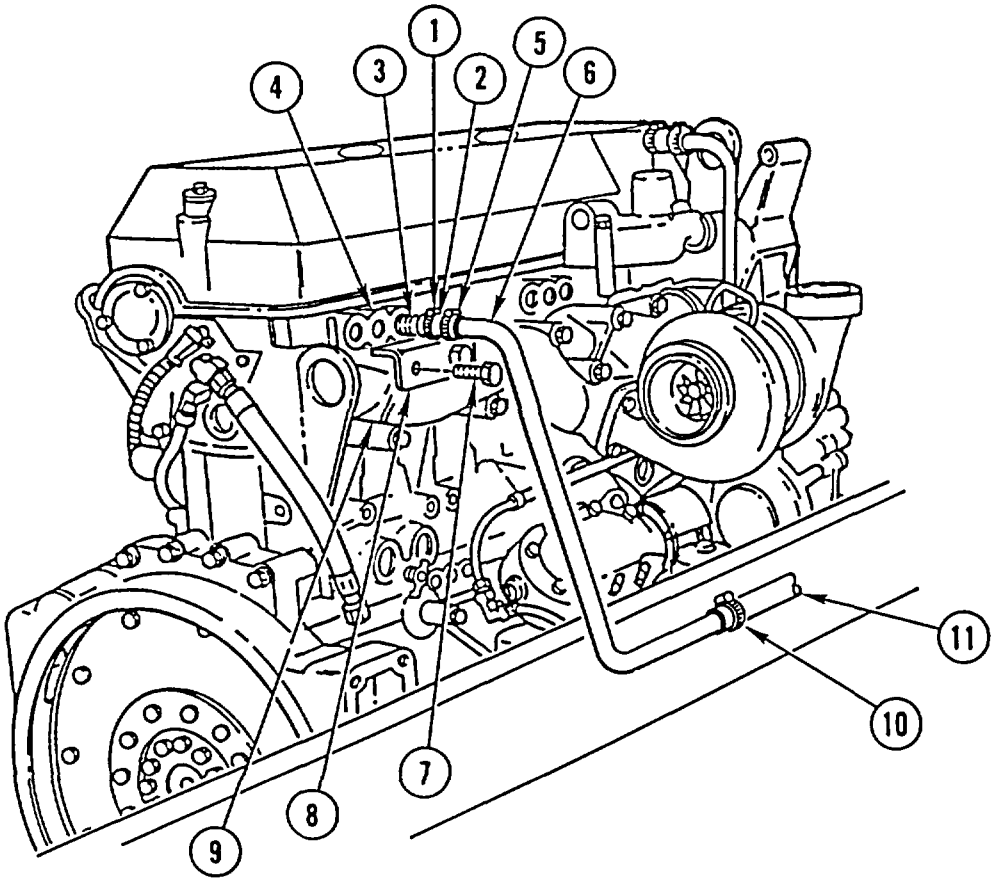
References:

TM 9-2320-363-20-1

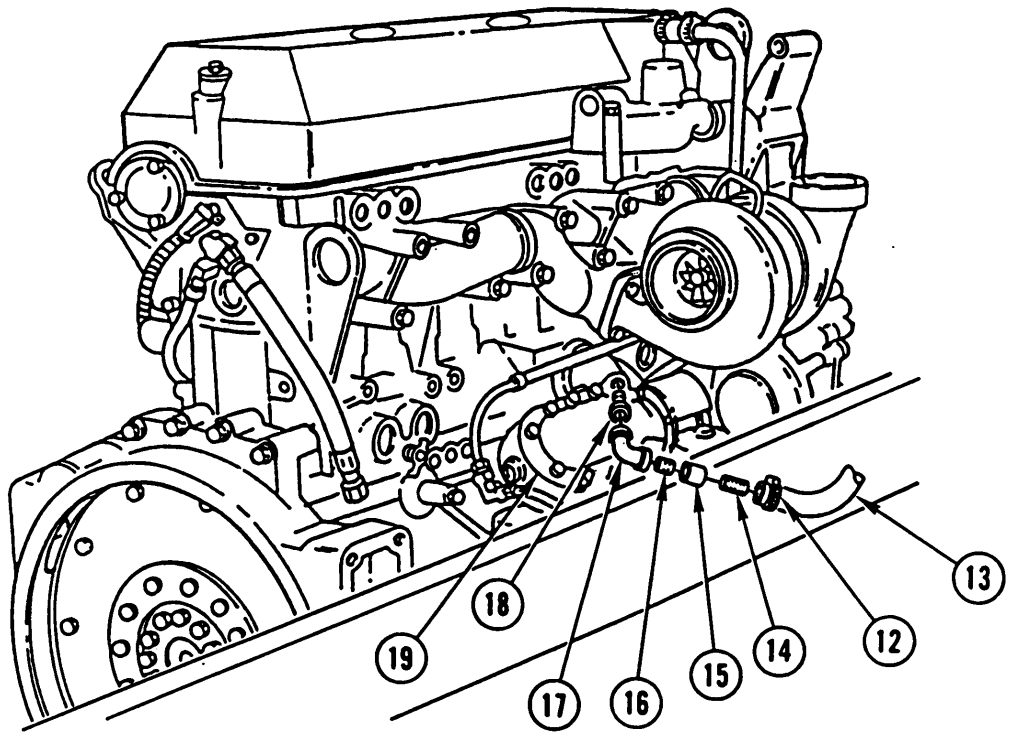
Equipment Condition:

Materials/Parts:		Reference	Condition Description
Washer, Lock (2)		Page 4-141	Cooling System Drained
Nut, Lock (7)	P/N 23-10340-125	Page 2-29	Batteries Disconnected
Compound, Pipe Sealing	Appendix C, Item 8	Page 2-28	Air System Drained

REMOVAL

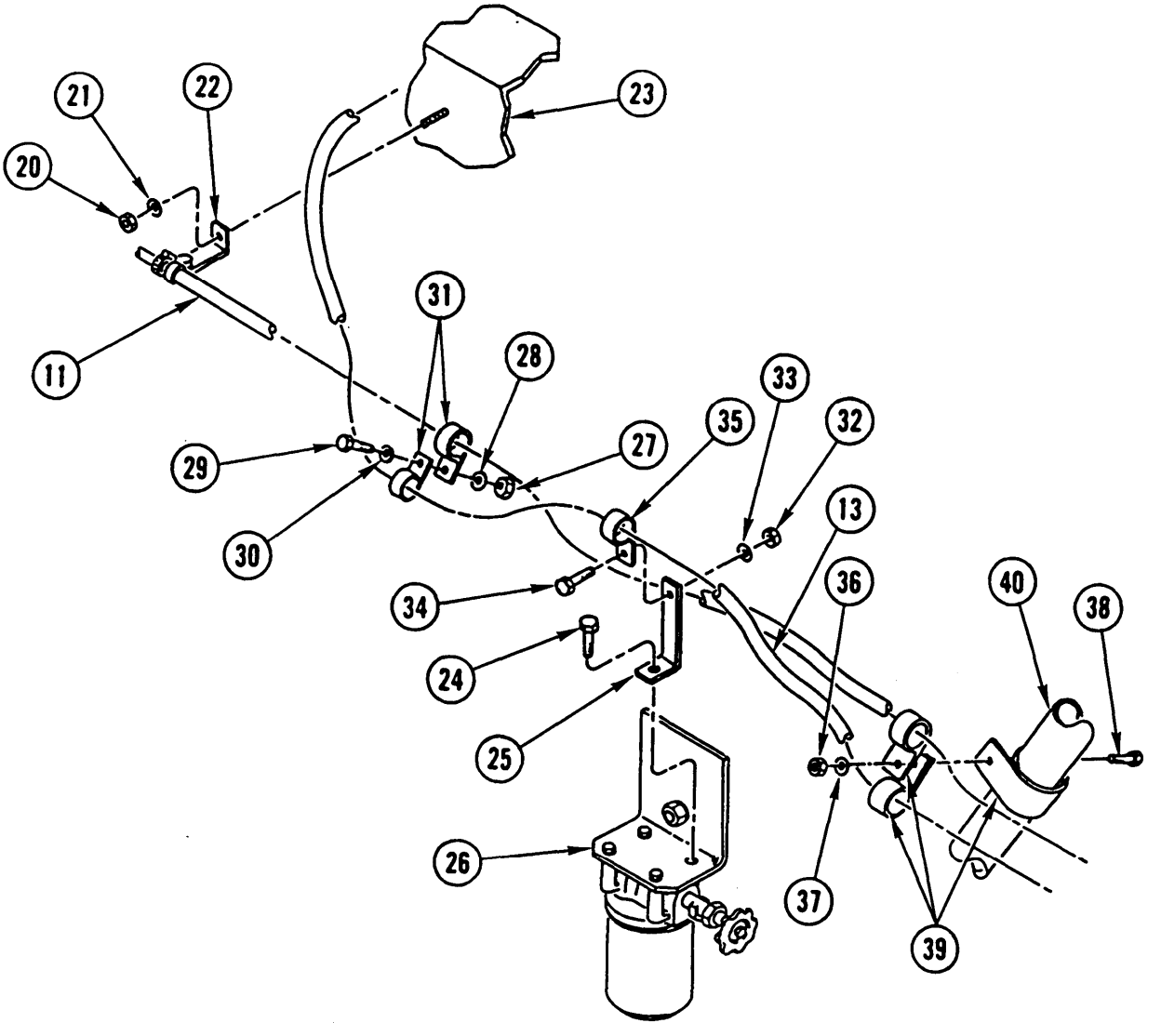


1. LOOSEN CLAMP (1) AND DISCONNECT HOSE (2) FROM HOSE BARB (3).
2. REMOVE HOSE BARB (3) FROM ENGINE (4).
3. LOOSEN CLAMP (5) AND REMOVE HOSE (2) FROM TUBE (6).
4. REMOVE TWO BOLTS (7) AND HEAT SHIELD (8) FROM EXHAUST MANIFOLD (9).
5. LOOSEN CLAMP (10) AND REMOVE TUBE (6) FROM HOSE (1 1).



6. LOOSEN CLAMP (12) AND DISCONNECT HOSE (13) FROM HOSE BARB (14).
7. REMOVE HOSE BARB (14) FROM PIPE COUPLING (15).
8. REMOVE PIPE COUPLING (15) FROM PIPE NIPPLE (16).
9. REMOVE PIPE NIPPLE (16) FROM ELBOW (17).
10. REMOVE ELBOW (17) FROM BUSHING (18).
11. REMOVE BUSHING (18) FROM OIL COOLER (19).

SWINGFIRE ARCTIC HEATER JACKET ASSEMBLY REPLACEMENT (CONT)



12. REMOVE LOCK NUT (20), WASHER (21), AND BRACKET (22) FROM FRAME RAIL (23). DISCARD LOCK NUT.

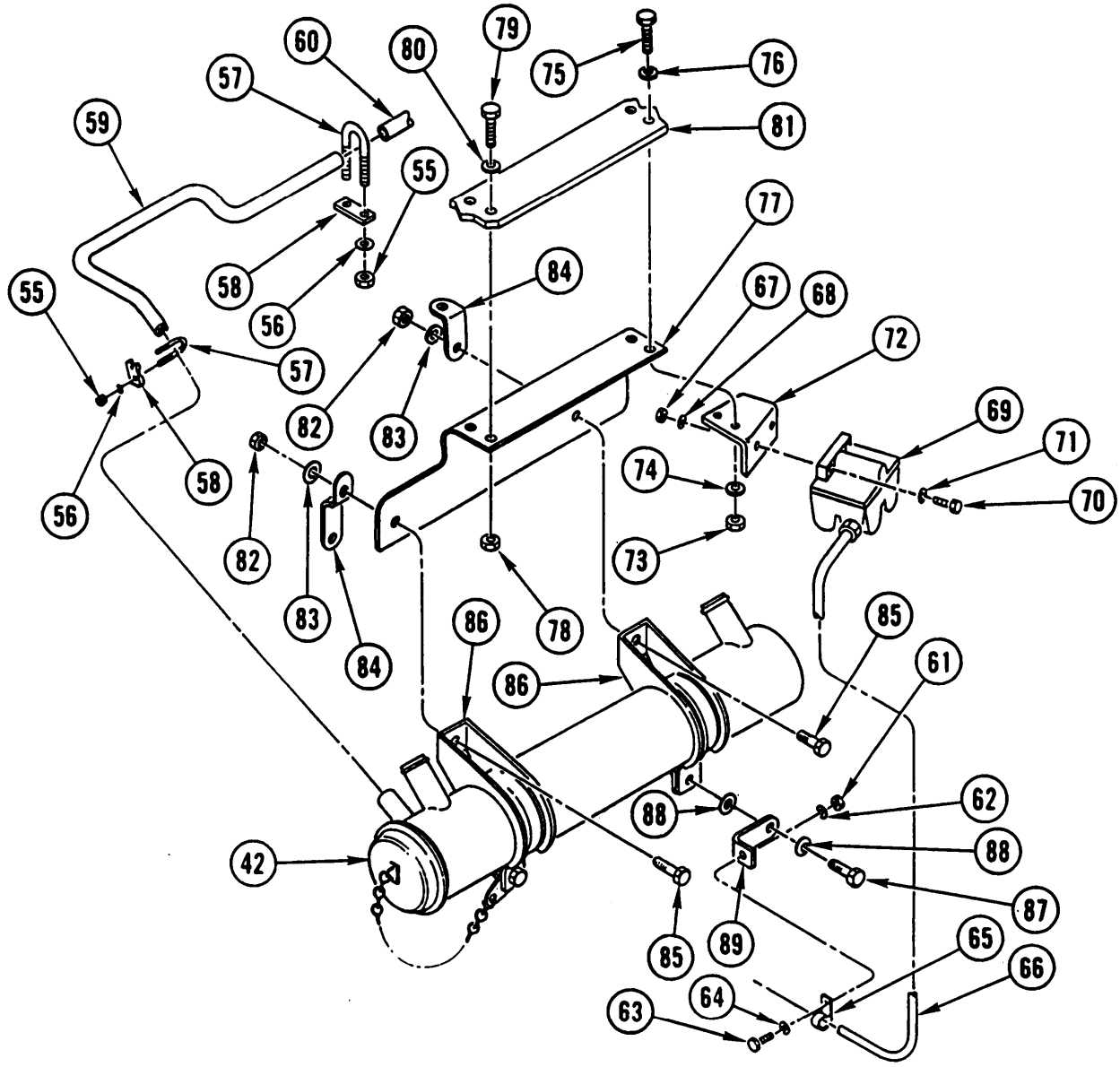
13. REMOVE SCREW (24) AND BRACKET (25) FROM WATER FILTER (26).

14. REMOVE NUT (27), WASHER (28), CAPSCREW (29), WASHER (30), AND TWO CLAMPS (31) FROM TWO HOSES (11 AND 13).

15. REMOVE NUT (32), WASHER (33), SCREW (34), AND CLAMP (35) FROM BRACKET (25) AND HOSE (13).

16. REMOVE NUT (36), WASHER (37), CAPSCREW (38), AND THREE CLAMPS (39) FROM TWO HOSES (11 AND 13) AND TRANSMISSION OIL COOLER PIPE (40).

SWINGFIRE ARCTIC HEATER JACKET ASSEMBLY REPLACEMENT (CONT)



23. REMOVE FOUR NUTS (55), FOUR WASHERS (56), TWO U-BOLTS (57), AND TWO U-BOLT SADDLES (58).

24. DISCONNECT EXHAUST PIPE (59) FROM SWINGFIRE ARCTIC HEATER JACKET (42) AND EXHAUST PIPE (60).

25. REMOVE NUT (61), WASHER (62), CAPSCREW (63), WASHER (64), AND CLAMP (65) FROM BRAKE LINE (66).

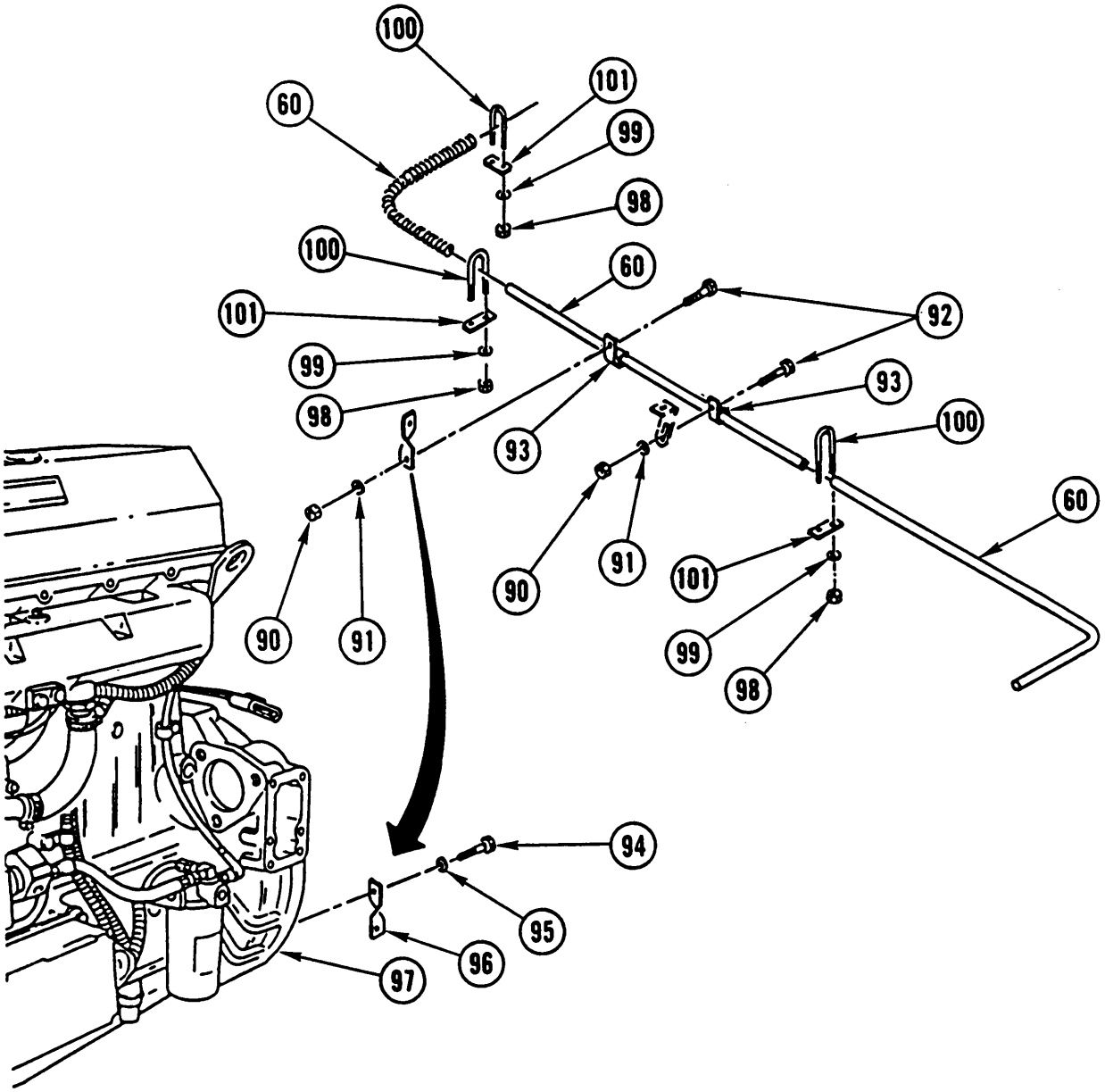
26. REMOVE TWO NUTS (67), TWO WASHERS (68), BRAKE VALVE (69), TWO CAPSCREWS (70), AND TWO WASHERS (71) FROM BRACKET (72).

27. REMOVE TWO NUTS (73), TWO WASHERS (74), BRACKET (72), TWO CAPSCREWS (75), AND TWO WASHERS (76) FROM BRACKET (77).

28. REMOVE TWO NUTS (78), BRACKET (77), TWO CAPSCREWS (79), AND TWO WASHERS (80) FROM CROSSMEMBER (81).

29. REMOVE IWO NUTS (82), TWO WASHERS (83), TWO BRACKETS (84), TWO CAPSCREWS (85), TWO BRACKETS (86), AND SWINGFIRE ARCTIC HEATER JACKET (42) FROM BRACKET (77).

30. REMOVE BOLT (87), TWO WASHERS (88), AND BRACKET (89) FROM SWINGFIRE ARCTIC HEATER JACKET (42).

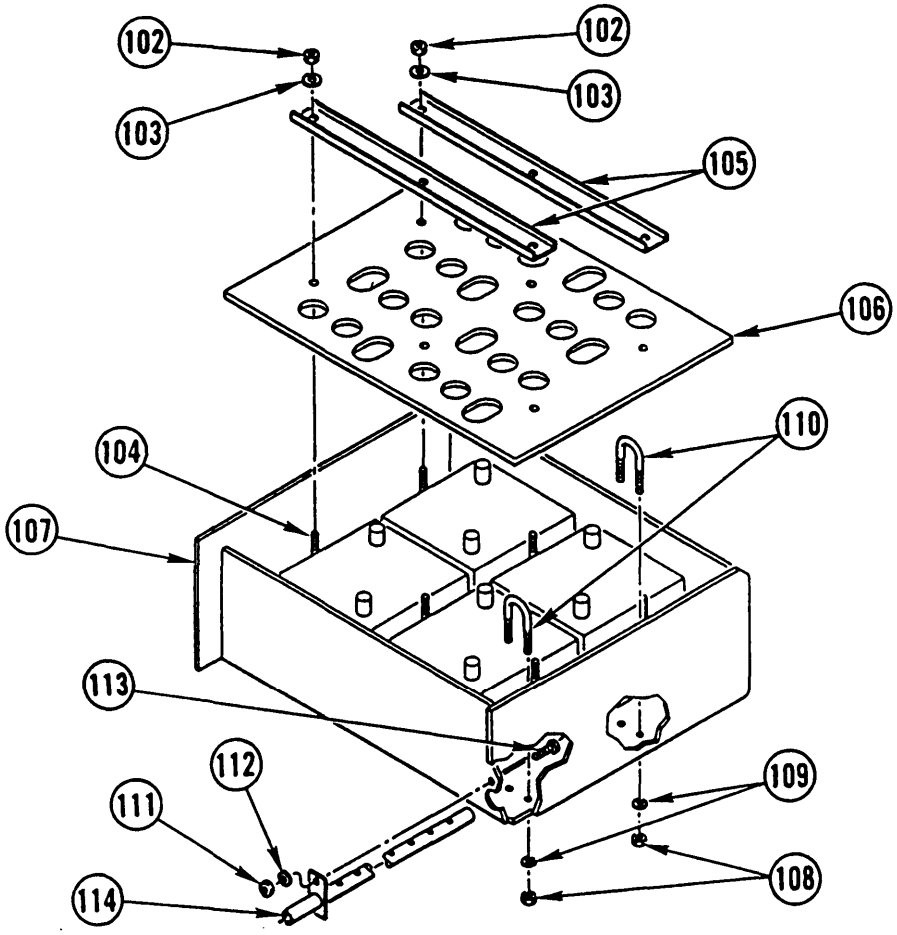


31. REMOVE TWO NUTS (90), TWO WASHERS (91), TWO CAPSCREWS (92), AND TWO CLAMPS (93).

32. REMOVE BOLT (94), WASHER (95), AND BRACKET (96) FROM BELL HOUSING (97).

33. REMOVE SIX NUTS (98), SIX WASHERS (99), THREE U-BOLTS (100), THREE U-BOLT SADDLES (101), AND THREE EXHAUST PIPES (60)

SWINGFIRE ARCTIC HEATER JACKET ASSEMBLY REPLACEMENT (CONT)



34. REMOVE SIX LOCK NUTS (102), SIX WASHERS (103), SIX STUDS (104), TWO BRACKETS (105), AND PLYWOOD INSULATOR (1 06) FROM BATTERY BOX (107). DISCARD LOCK NUTS.

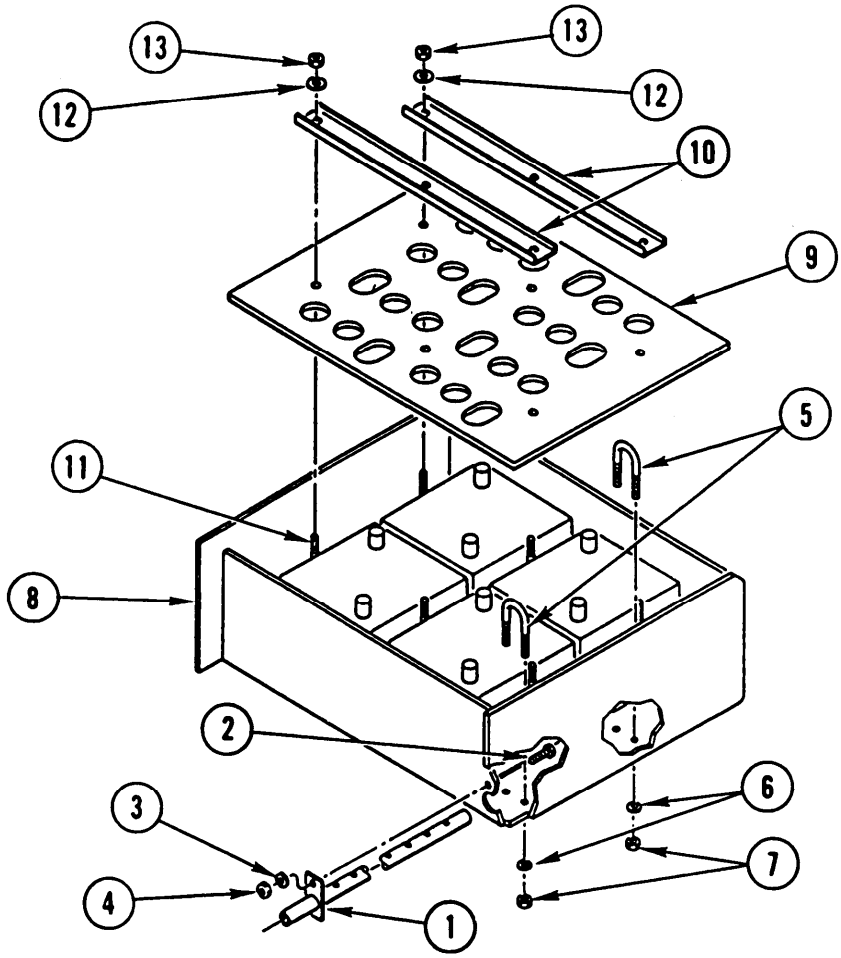
35. REMOVE FOUR NUTS (108), FOUR WASHERS (109), AND TWO U-BOLTS (1 10) FROM BATTERY BOX (1 07).

36. REMOVE NUT (111), WASHER (112), CAPSCREW (113), AND MANIFOLD (114).

CLEANING/INSPECTION

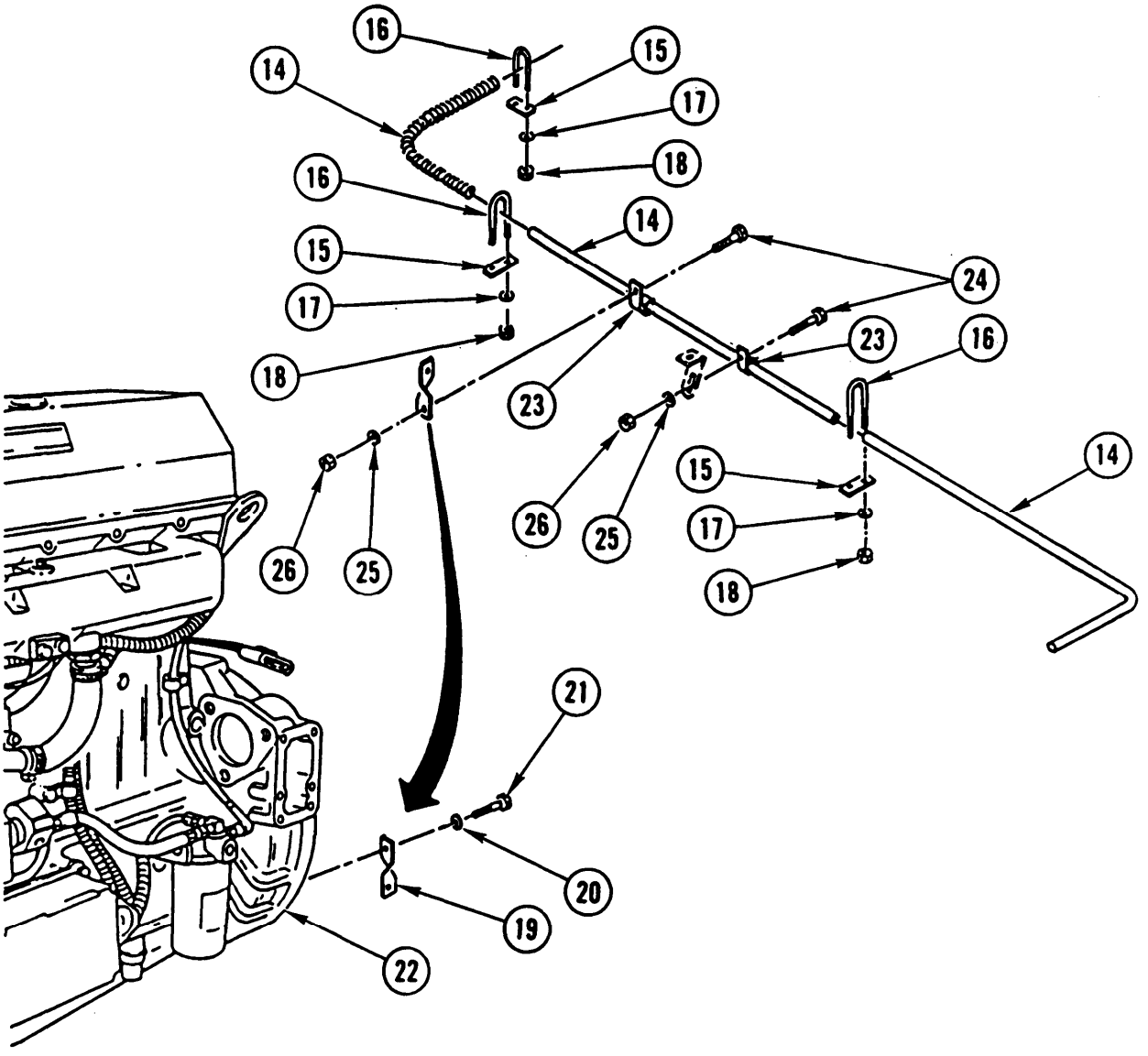
Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



1. INSTALL MANIFOLD (1), CAPSCREW (2), WASHER (3), AND NUT (4).
2. INSTALL TWO U-BOLTS (5), FOUR WASHERS (6), AND FOUR NUTS (7) IN BATTERY BOX (8).
3. INSTALL PLYWOOD INSULATOR (9), TWO BRACKETS (10), SIX STUDS (11), SIX WASHERS (12), AND SIX NEW LOCK NUTS (13) IN BATTERY BOX (8).

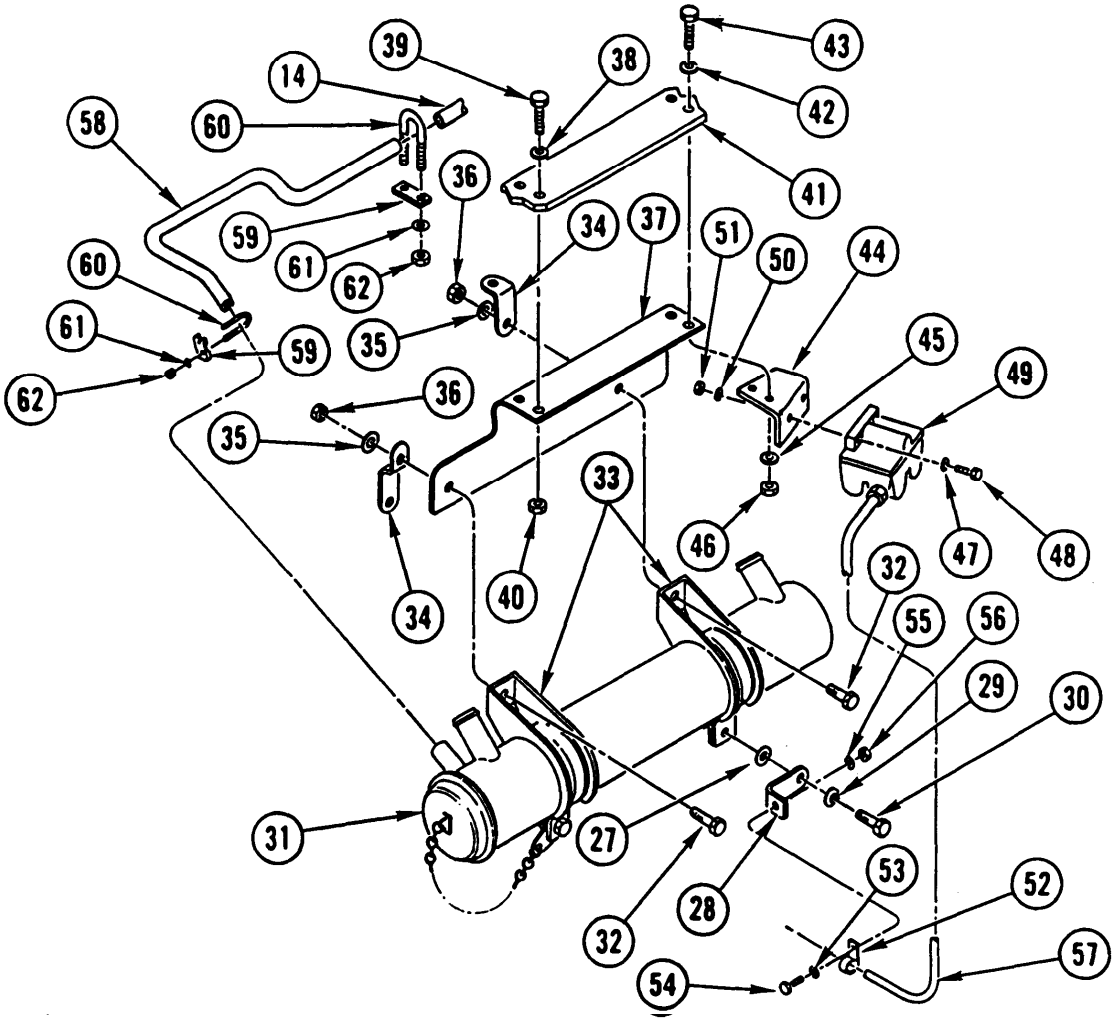
SWINGFIRE ARCTIC HEATER JACKET ASSEMBLY REPLACEMENT (CONT)



4. INSTALL THREE EXHAUST PIPES (14), THREE U-BOLT SADDLES (15), THREE U-BOLTS (16), SIX WASHERS (17), AND SIX NUTS (18).

5. INSTALL BRACKET (19), WASHER (20), AND BOLT (21) ON BELL HOUSING (22). TIGHTEN BOLT TO 40 LB-FT (54 N•m).

6. INSTALL TWO CLAMPS (23), TWO CAPSCREWS (24), TWO WASHERS (25), AND TWO NUTS (26).



7. INSTALL WASHER (27), BRACKET (28), WASHER (29), AND BOLT (30) ON SWINGFIRE ARCTIC HEATER JACKET (31).

8. INSTALL SWINGFIRE ARCTIC HEATER JACKET (31), TWO CAPSCREWS (32), TWO BRACKETS (33), TWO BRACKETS (34), TWO WASHERS (35), AND TWO NUTS (36) ON BRACKET (37).

9. INSTALL TWO WASHERS (38), TWO CAPSCREWS (39), BRACKET (37), AND TWO NUTS (40) ON CROSSMEMBER (41).

10. INSTALL TWO WASHERS (42), TWO CAPSCREWS (43), BRACKET (44), TWO WASHERS (45), AND TWO NUTS (46) ON BRACKET (37).

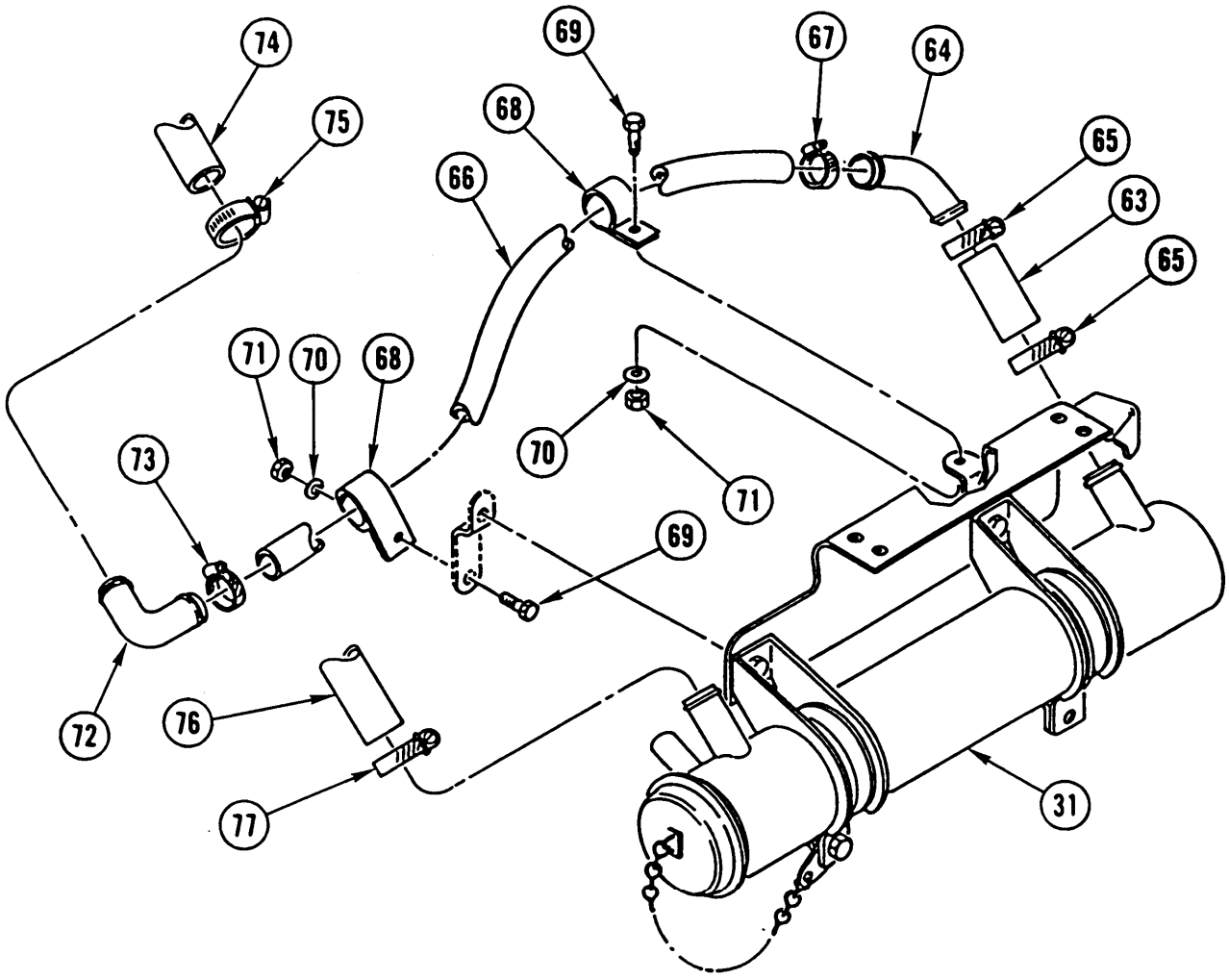
11. INSTALL TWO WASHERS (47), TWO CAPSCREWS (48), BRAKE VALVE (49), TWO WASHERS (50), AND TWO NUTS (51) ON BRACKET (44).

12. INSTALL CLAMP (52), WASHER (53), CAPSCREW (54), WASHER (55), AND NUT (56) ON BRAKE LINE (57).

13. CONNECT EXHAUST PIPE (58) TO SWINGFIRE ARCTIC HEATER JACKET (31) AND EXHAUST PIPE (14).

14. INSTALL TWO U-BOLT SADDLES (59), TWO U-BOLTS (60), FOUR WASHERS (61), AND FOUR NUTS (62).

SWINGFIRE ARCTIC HEATER JACKET ASSEMBLY REPLACEMENT (CONT)



15. INSTALL HOSE (63) AND ELBOW (64) AND TIGHTEN TWO CLAMPS (65) ON SWINGFIRE ARCTIC HEATER JACKET (31).

16. INSTALL HOSE (66) ON ELBOW (64) AND TIGHTEN CLAMP (67).

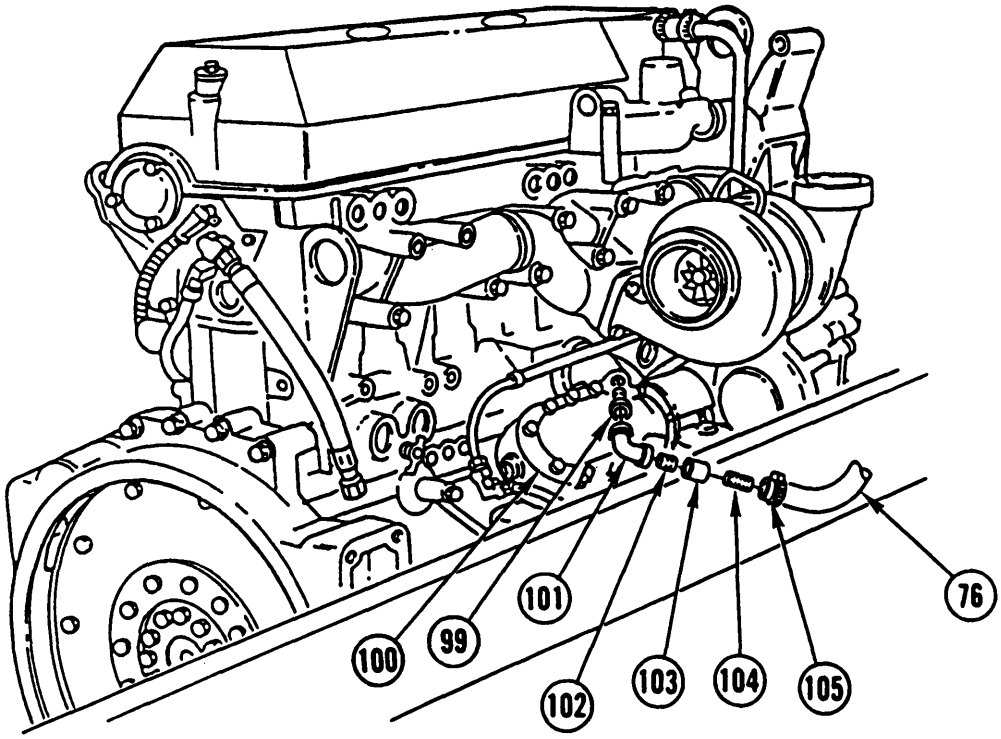
17. INSTALL IWO CLAMPS (68), TWO CAPSCREWS (69), TWO NEW LOCK WASHERS (70), AND TWO NUTS (71) ON HOSE (66).

18. INSTALL TUBE (72) IN HOSE (66) AND TIGHTEN CLAMP (73).

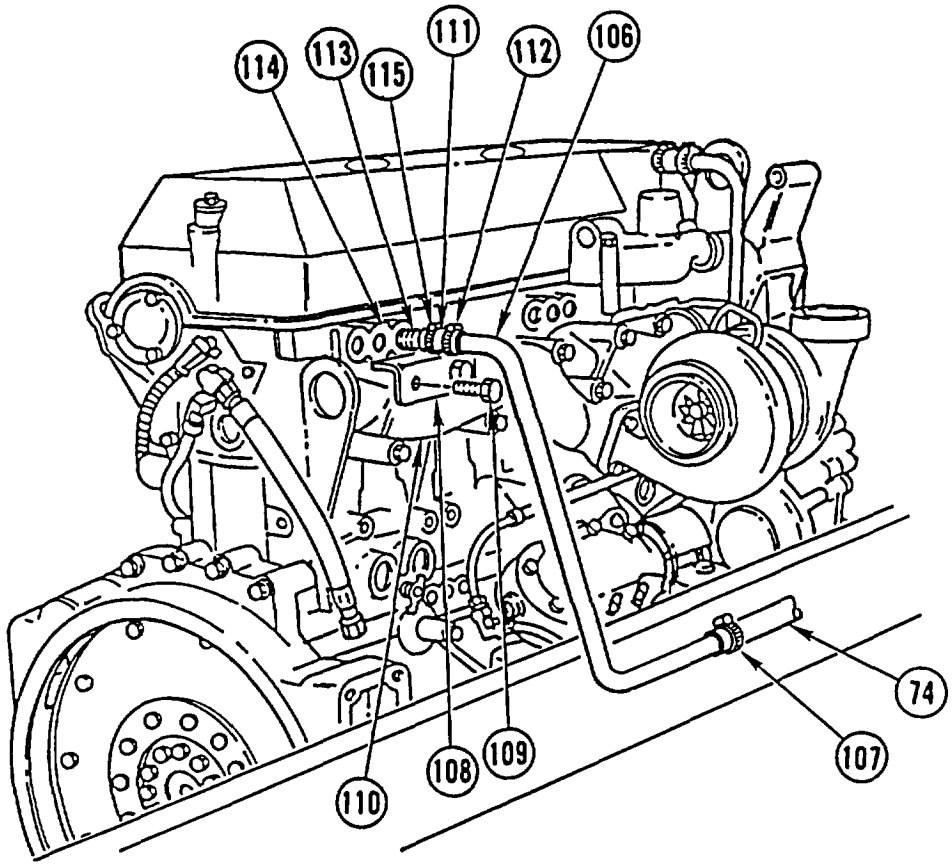
19. INSTALL HOSE (74) ON TUBE (72) AND TIGHTEN CLAMP (75),

20. INSTALL HOSE (76) ON SWINGFIRE ARCTIC HEATER JACKET (31) AND TIGHTEN CLAMP (77).

SWINGFIRE ARCTIC HEATER JACKET ASSEMBLY REPLACEMENT (CONT)



26. COAT THREADS OF BUSHING (99) AND INSTALL BUSHING (99) IN OIL COOLER (100).
27. INSTALL ELBOW (101) IN BUSHING (99).
28. INSTALL PIPE NIPPLE (102) IN ELBOW (101).
29. INSTALL PIPE COUPLING (103) ON PIPE NIPPLE (102).
30. INSTALL HOSE BARB (104) IN PIPE COUPLING (103).
31. CONNECT HOSE (76) TO HOSE BARB (104) AND TIGHTEN CLAMP (105).



32. INSTALL TUBE (106) IN HOSE (74) AND TIGHTEN CLAMP (107).

33. INSTALL HEAT SHIELD (108) AND TWO BOLTS (109) ON EXHAUST MANIFOLD (110). TIGHTEN BOLTS TO 43-54 LB-FT (58-73 N.m).

34. INSTALL HOSE (111) ON TUBE (106) AND TIGHTEN CLAMP (112).

35. INSTALL HOSE BARB (113) IN ENGINE (114).

36. CONNECT HOSE (111) TO HOSE BARB (113) AND TIGHTEN CLAMP (115).

NOTE
Follow-on Maintenance:

Connect batteries (page 2-29).
Fill with coolant (Unit PMCS, TM 9-2320-363-20-1).

DATA AND INSTRUCTION PLATES REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Rivet, Blind (4) P/N 23-09990-005

References:

FM 43-2

REMOVAL

CAUTION

- **If drilling in door panel, make sure window is rolled up. Failure to do so could result in damage to window.**
- **If drilling in dashboard panel, make sure panel is removed from dashboard. Failure to do so could result in damage to heating ducts.**

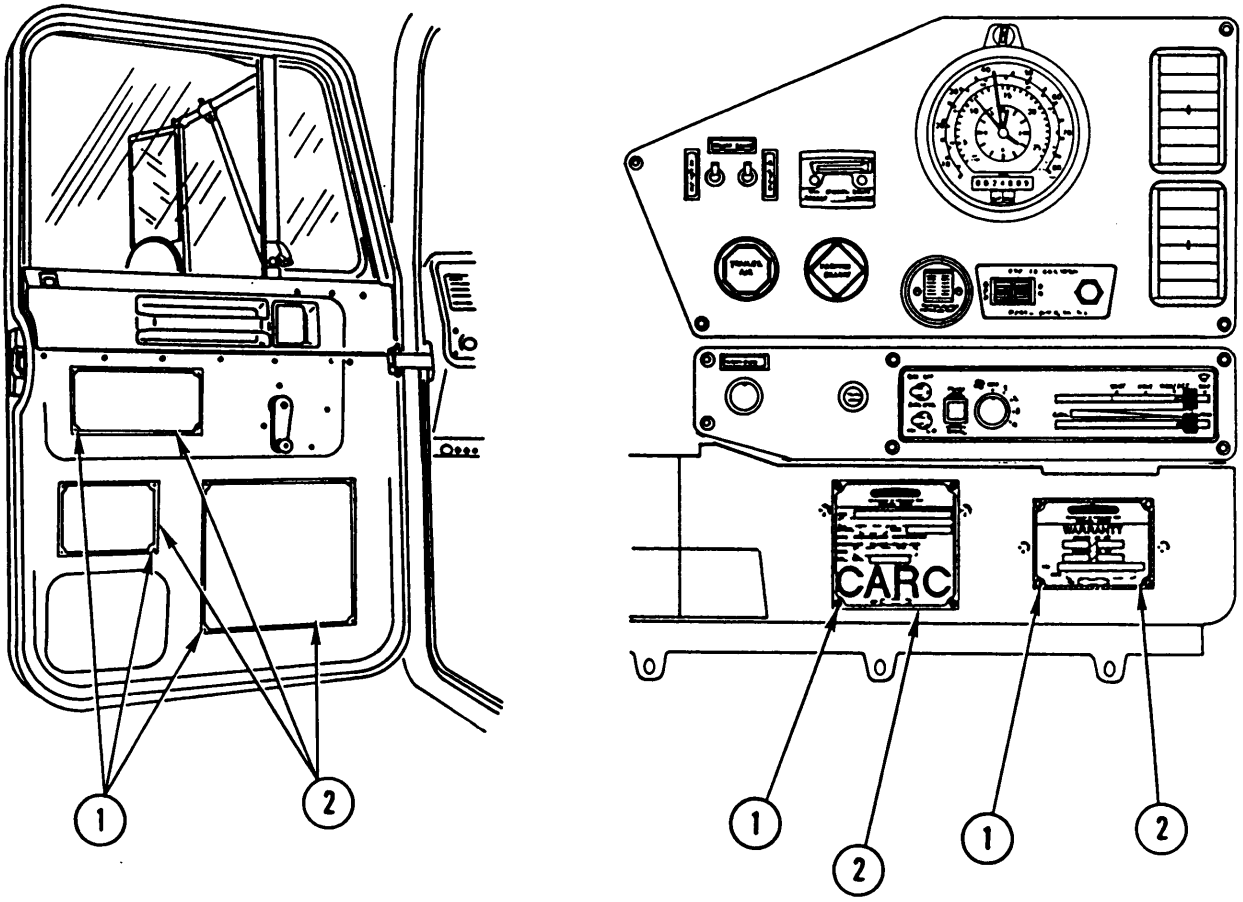
NOTE

- **Procedure is the same for all plates.**
- **Refer to FM 43-2 for plate removal guidelines.**

REMOVE FOUR RIVETS (1) AND PLATE (2). DISCARD RIVETS.

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.



INSTALLATION

CAUTION

- If drilling in door panel, make sure window is rolled up. Failure to do so could result in damage to window.
- If drilling in dashboard panel, make sure panel is removed from dashboard. Failure to do so could result in damage to heating ducts.

NOTE

- Procedure is the same for all plates.
- Refer to FM 43-2 for plate installation guidelines.
- If installing plate on new panel, use illustration for location of drill holes.

INSTALL PLATE (2) AND FOUR NEW RIVETS (1).

M16 RIFLE MOUNTING BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

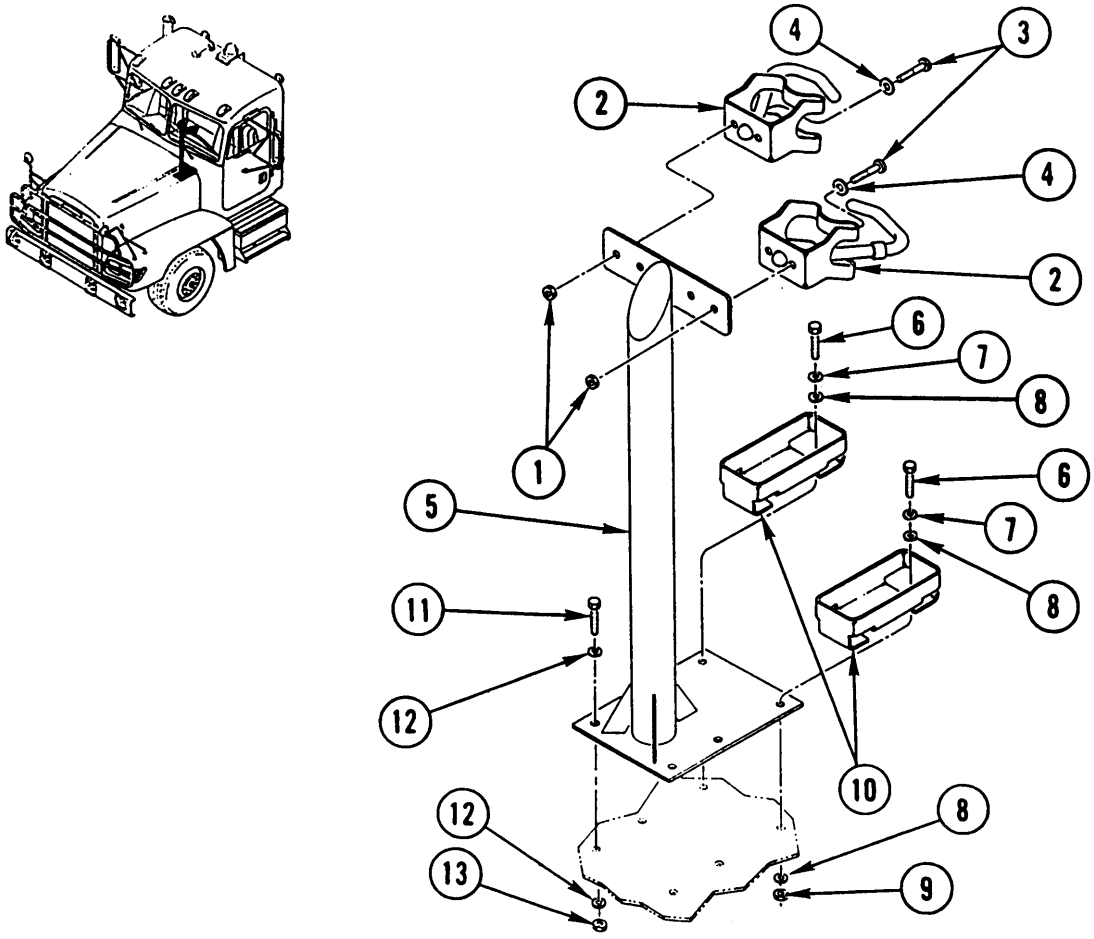
INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

REMOVAL

1. REMOVE FOUR NUTS (1), TWO CATCH BRACKET ASSEMBLIES (2), FOUR CAPSCREWS (3), AND FOUR WASHERS (4) FROM RIFLE MOUNTING BRACKET (5).
2. REMOVE FOUR CAPSCREWS (6), FOUR WASHERS (7), EIGHT WASHERS (8), FOUR NUTS (9), AND TWO RIFLE MOUNTING SUPPORTS (10) FROM RIFLE MOUNTING BRACKET (5).
3. REMOVE TWO CAPSCREWS (11), FOUR WASHERS (12), TWO NUTS (13), AND RIFLE MOUNTING BRACKET (5).



CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

1. INSTALL RIFLE MOUNTING BRACKET (5), FOUR WASHERS (12), TWO CAPSCREWS (11), AND TWO NUTS (13).

2. INSTALL TWO RIFLE MOUNTING SUPPORTS (10), EIGHT WASHERS (8), FOUR WASHERS (7), FOUR CAPSCREWS (6), AND FOUR NUTS (9) ON RIFLE MOUNTING BRACKET (5).

3. INSTALL FOUR WASHERS (4), FOUR CAPSCREWS (3), TWO CATCH BRACKET ASSEMBLIES (2), AND FOUR NUTS (1) ON RIFLE MOUNTING BRACKET (5).

AIR CONDITIONER AIR CYLINDER REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

References:

TM 9-2320-363-10

Tools and Special Equipment:

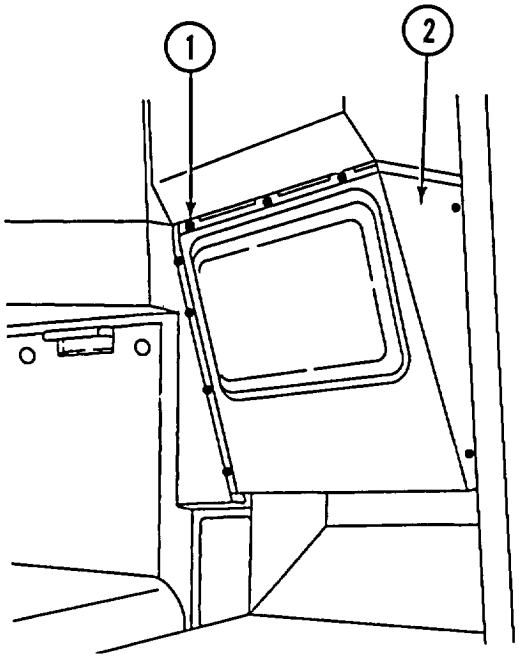
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Push	P/N 707014
Nut, Push	P/N 702011

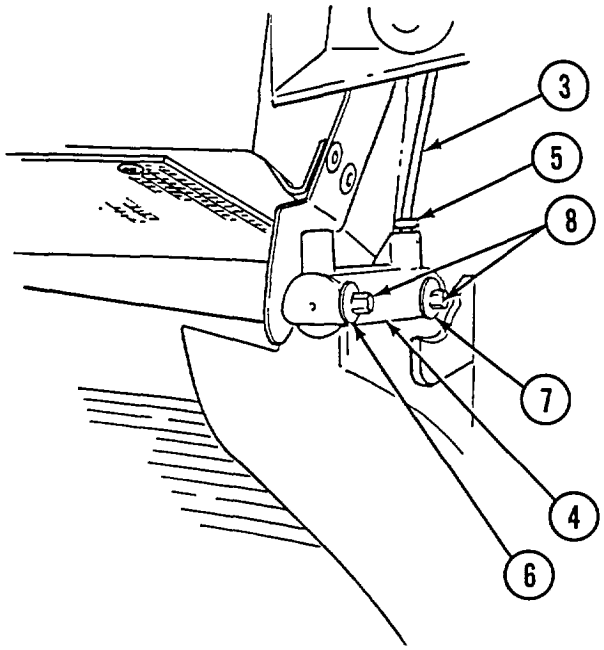
REMOVAL

1. PLACE HEATER/AIR CONDITIONER SLIDE LEVER IN "DEF" POSITION (TM 9-2320-363-10).
2. REMOVE NINE SCREWS (1) AND DASH PANEL (2).



3. DISCONNECT AIR LINE (3) FROM AIR CYLINDER (4) BY PUSHING IN ON COVER RING (5) THEN PULLING OUT ON AIR LINE.
4. REMOVE UPPER PUSH NUT (6), LOWER PUSH NUT (7), AND SLIDE AIR CYLINDER (4) OFF MOUNTING RODS (8). DISCARD PUSH NUTS.
5. INSPECT FLAP, ROD, AND BUSHING AND REPLACE AS NECESSARY.

INSTALLATION



1. SLIDE AIR CYLINDER (4) ONTO MOUNTING RODS (8) AND INSTALL NEW UPPER PUSH NUT (6) AND NEW LOWER PUSH NUT (7).

2. CONNECT AIR LINE (3) BY PUSHING AIR LINE INTO COVER RING (5) AS FAR AS IT WILL GO THEN GENTLY PULL AIR LINE BACK TO LOCK IT IN PLACE.

3. TEST AIR CYLINDER BY MOVING HEATER/AIR CONDITIONER SLIDE LEVER FROM "DEF" TO "MAX AIR" (TM 9-2320-363-10). ENSURE FLAP WORKS FREELY, HAS FULL MOVEMENT, AND SEALS COMPLETELY.

4. INSTALL DASH PANEL (2) AND NINE SCREWS (1).

AIR CONDITIONER BLOWER MOTOR REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

References:

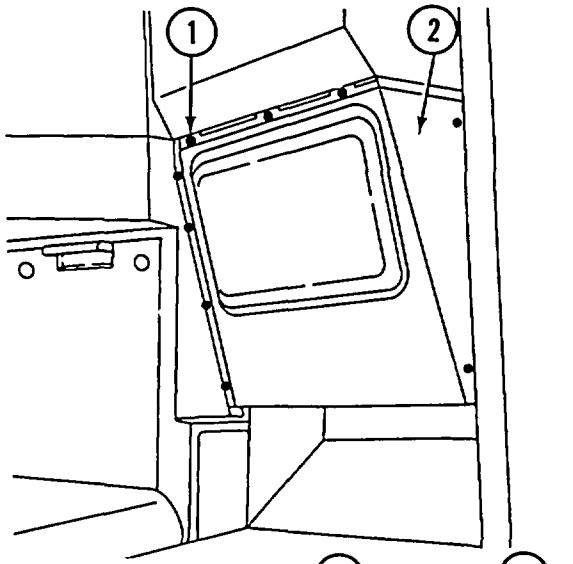
TM 9-2320-363-10

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

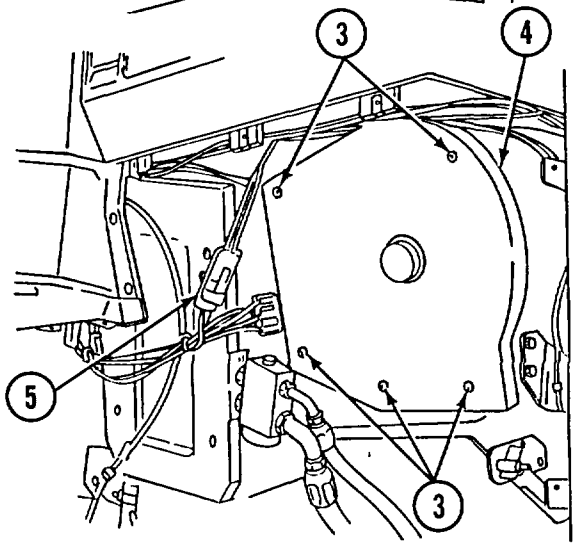
REMOVAL

1. REMOVE NINE SCREWS (1) AND DASH PANEL (2).

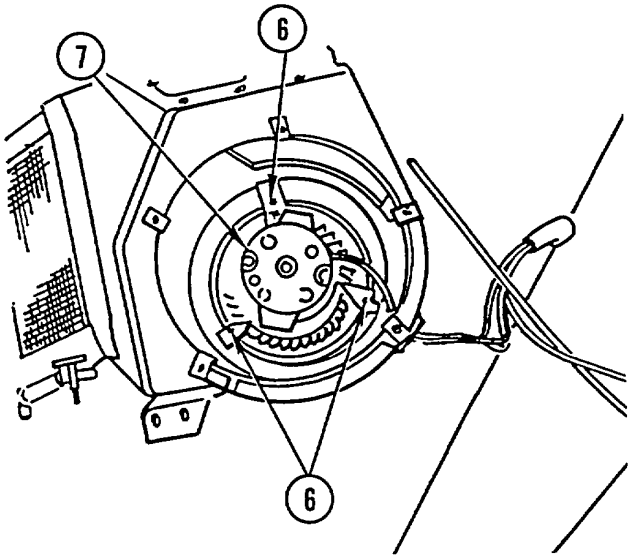


2. REMOVE FIVE SCREWS (3) AND BLOWER MOTOR COVER (4).

3. DISCONNECT BLOWER MOTOR CONNECTOR (5).

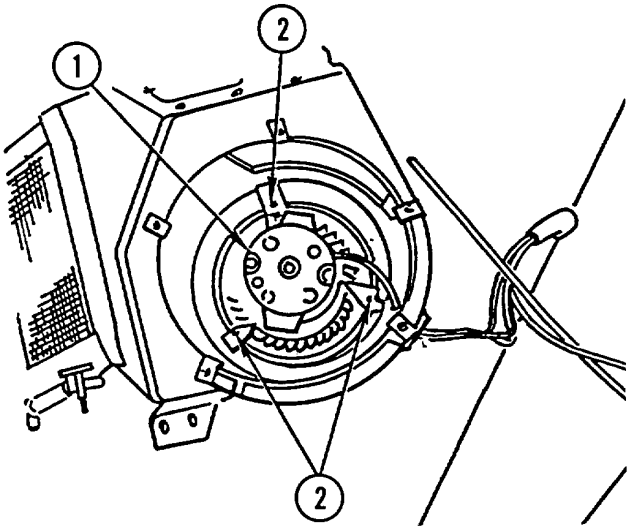


4. REMOVE THREE SCREWS (6) AND BLOWER MOTOR (7).



INSTALLATION

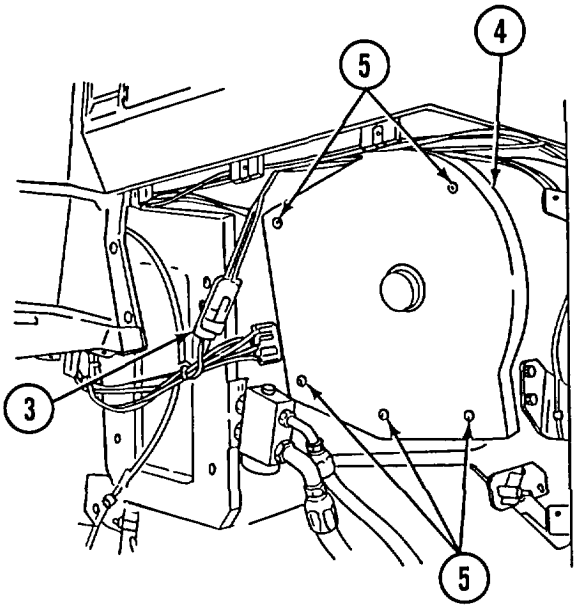
1. INSTALL BLOWER MOTOR (1) AND SECURE WITH THREE SCREWS (2).



AIR CONDITIONER BLOWER MOTOR REPLACEMENT (CONT)

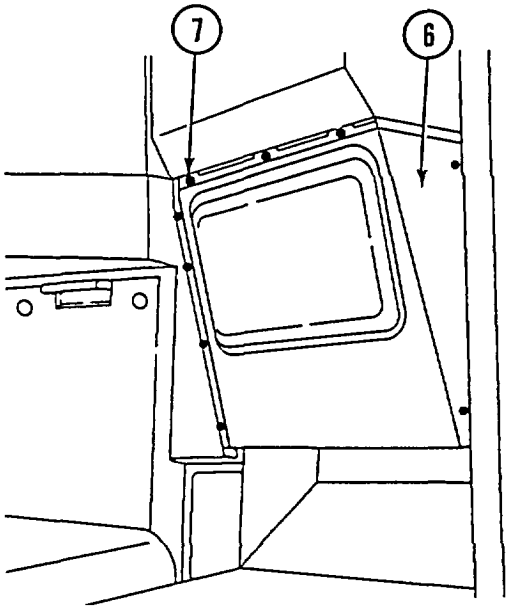
2. CONNECT BLOWER MOTOR CONNECTOR (3).

3. INSTALL BLOWER MOTOR COVER (4) AND SECURE WITH FIVE SCREWS (5).



4. CONNECT BATTERIES (page 2-29). TEST BLOWER MOTOR (TM 9-2320-363-10).

5. INSTALL DASH PANEL (6) AND SECURE WITH NINE SCREWS (7).



AIR CONDITIONER HEATER CORE REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Tags, Identification Appendix C, Item 26

References:

TM 9-2320-363-10

Equipment Condition:

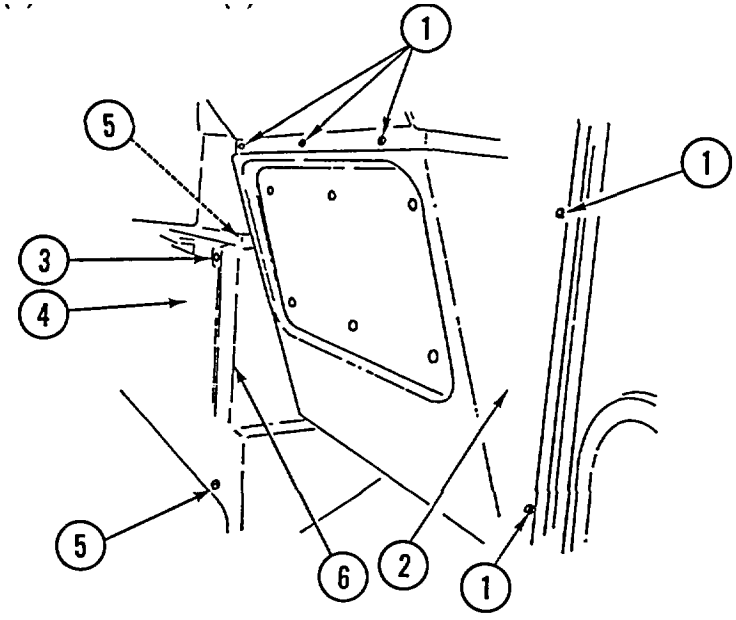
Reference	Condition Description
Page 2-29	Batteries Disconnected
Page 4-141	Cooling System Drained

General Safety Instructions:

WARNING
Failure to wear protective gloves could result in serious skin cuts from sharp edges on heater core fins.

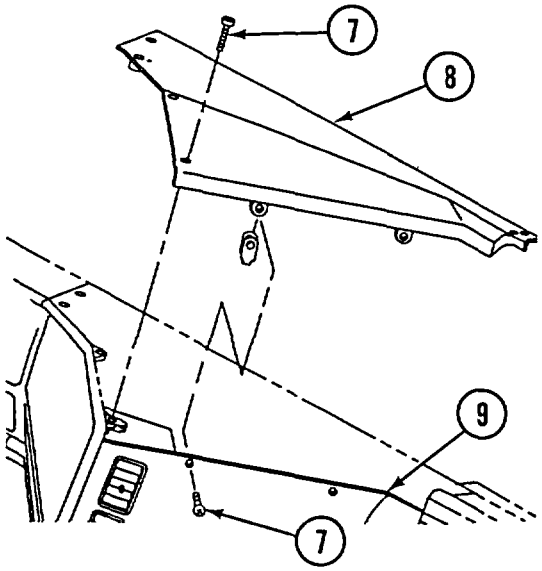
REMOVAL

1. REMOVE NINE SCREWS (1) AND COVER (2).
2. REMOVE THREE SCREWS (3) AND COVER (4).
3. REMOVE TWO SCREWS (5) AND COVER (6)



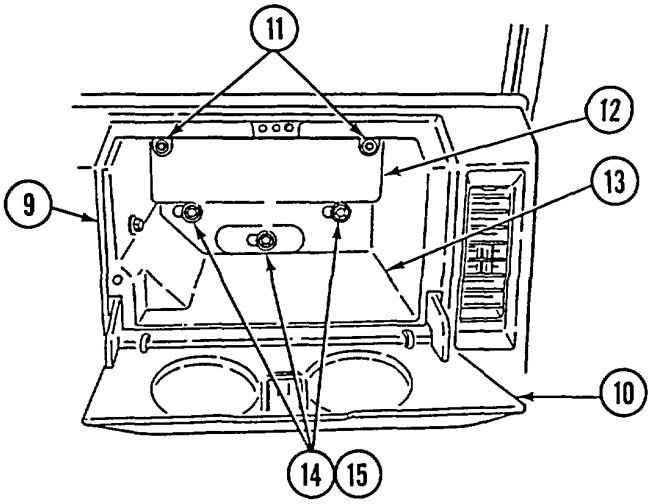
AIR CONDITIONER HEATER CORE REPLACEMENT (CONT)

4. REMOVE SEVEN SCREWS (7) AND COVER (8) FROM DASH (9).



5. OPEN GLOVE BOX DOOR (10) AND REMOVE TWO SCREWS (11) AND TOP PANEL (12) FROM COMPARTMENT (13).

6. REMOVE THREE NUTS (14), THREE SPRING WASHERS (15), AND COMPARTMENT (13) FROM DASH (9).



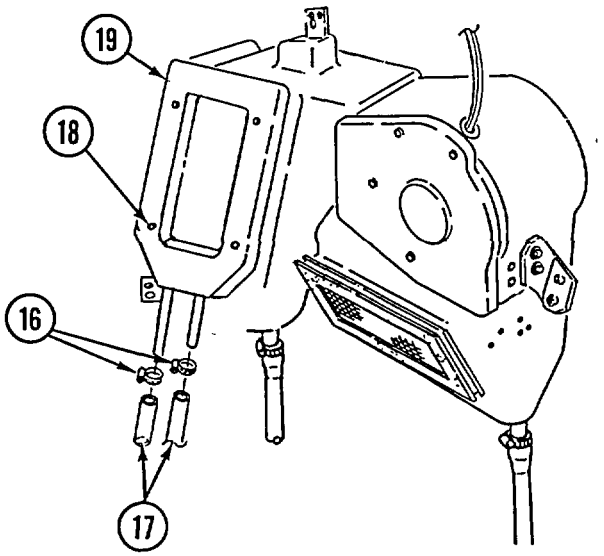
NOTE
Tag hoses prior to removal to aid in installation.

7. DISCONNECT TWO FLEX HOSES FROM DUCTS BEHIND GLOVE BOX.

8. DISCONNECT BLUE AIR LINE FROM AIR CYLINDER BEHIND GLOVE BOX.

9. PLACE RAGS ON CAB FLOOR, LOOSEN TWO HOSE CLAMPS (16), AND REMOVE HEATER CORE HOSES (17).

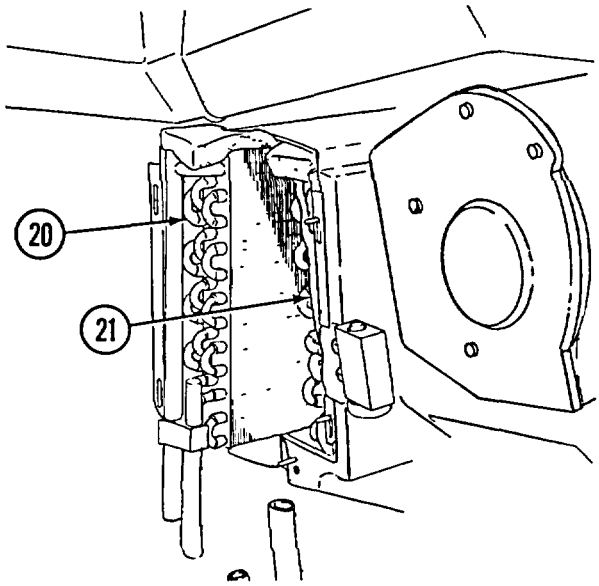
10. REMOVE FOUR SCREWS (18) AND HEATER CORE COVER (19).



WARNING

Failure to wear protective gloves could result in serious skin cuts from sharp edges and fins.

11. WEARING PROTECTIVE GLOVES, SLIDE HEATER CORE (20) WITH SEAL UP AND OUT OF HOUSING (21).



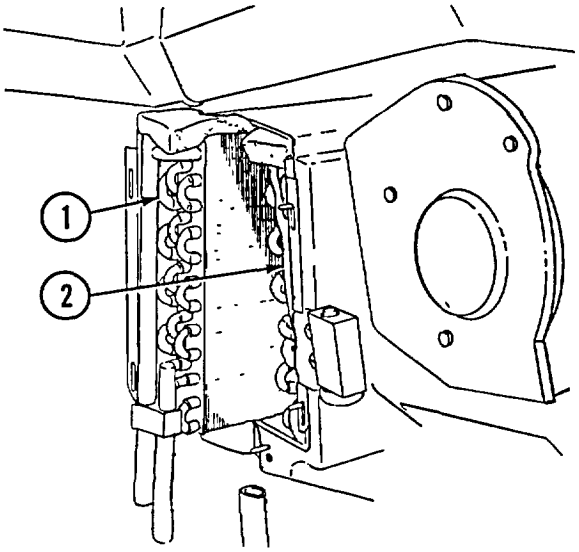
AIR CONDITIONER HEATER CORE REPLACEMENT (CONT)

INSTALLATION

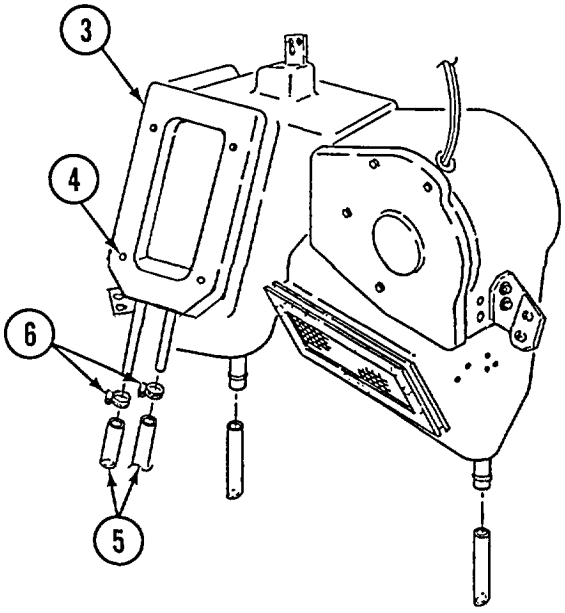
WARNING

Failure to wear protective gloves could result in serious skin cuts from sharp edges and fins.

1. WEARING PROTECTIVE GLOVES, SLIDE NEW HEATER CORE (1) WITH NEW SEAL INTO HOUSING (2).



2. INSTALL HEATER CORE COVER (3) AND SECURE WITH FOUR SCREWS (4).
3. INSTALL HEATER CORE HOSES (5) AND TIGHTEN TWO HOSE CLAMPS (6).

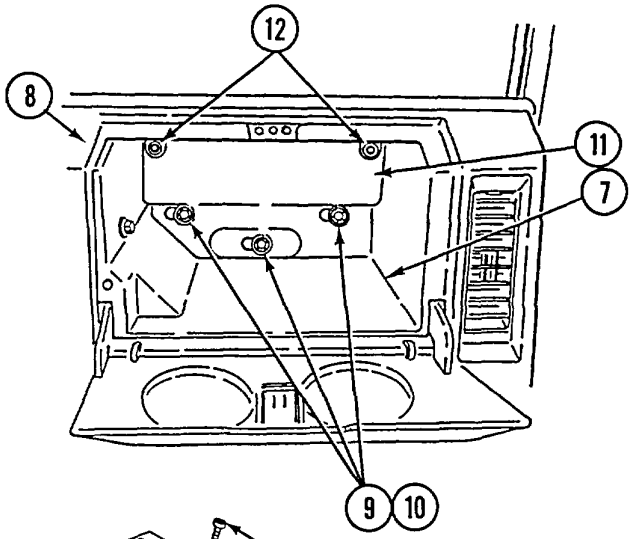


4. CONNECT BLUE AIR LINE TO CYLINDER BEHIND GLOVE BOX.

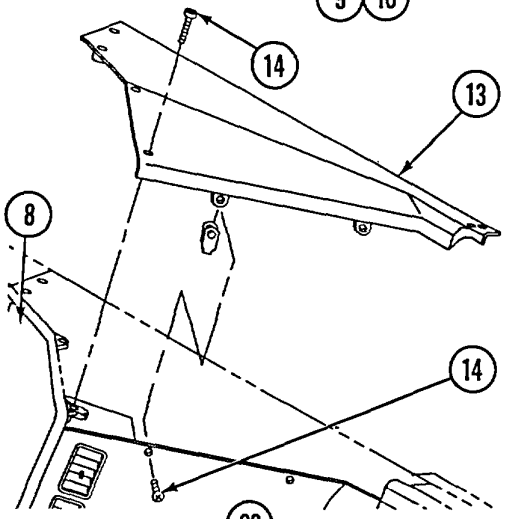
5. CONNECT TWO FLEX HOSES TO DUCTS BEHIND GLOVE BOX.

6. INSERT COMPARTMENT (7) INTO DASH (8) AND SECURE WITH THREE NUTS (9) AND THREE SPRING WASHERS (10).

7. INSERT TOP PANEL (11) TO COMPARTMENT (7) AND SECURE WITH TWO SCREWS (12).



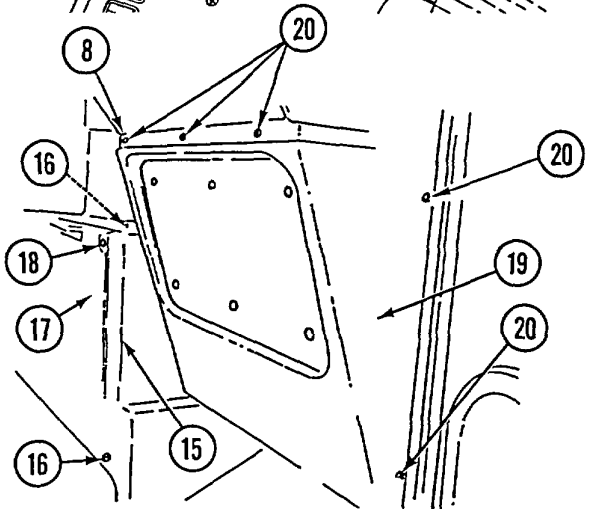
8. POSITION COVER (13) ON DASH (8) AND SECURE WITH SEVEN SCREWS (14).



9. POSITION COVER (15) ON DASH (8) AND SECURE WITH TWO SCREWS (16).

10. POSITION COVER (17) ON DASH (8) AND SECURE WITH THREE SCREWS (18).

11. POSITION COVER (19) ON DASH (8) AND SECURE WITH NINE SCREWS (20).



NOTE

Follow-on Maintenance:

Fill cooling system (page 4-141).
Connect batteries (page 2-29).
Check operation of heater/air conditioner (TM 9-2320-363-10).

AIR CONDITIONER RESISTOR BLOCK REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26
Shop Equipment, SC 4910-95-CL-A72

Materials/Parts:

Nut, Lock (2)

References:

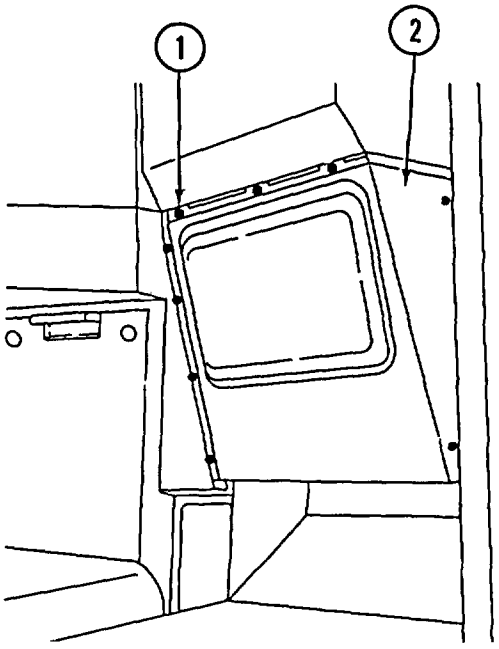
TM 9-2320-363-10

Equipment Condition:

Reference	Equipment Condition
Page 2-29	Batteries Disconnected

REMOVAL

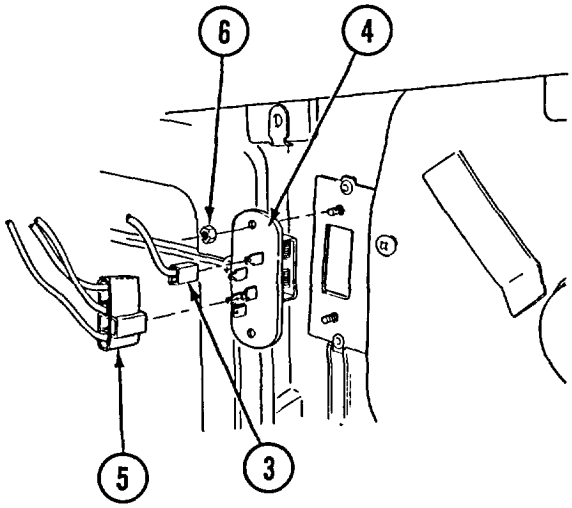
1. REMOVE NINE SCREWS (1) AND DASH PANEL (2).



2. DISCONNECT HARNESS CONNECTOR (3) FROM RESISTOR BLOCK (4).
3. DISCONNECT HARNESS CONNECTOR (5) FROM RESISTOR BLOCK (4).
4. REMOVE TWO LOCK NUTS (6) AND RESISTOR BLOCK (4). DISCARD LOCK NUTS.

INSTALLATION

1. INSTALL RESISTOR BLOCK (4) WITH NEW LOCK NUTS (6).
2. TORQUE LOCK NUTS TO 30 LB-IN (340 N.m).
3. CONNECT HARNESS CONNECTOR (3) TO RESISTOR BLOCK (4).
4. CONNECT HARNESS CONNECTOR (5) TO RESISTOR BLOCK (4).
5. CONNECT BATTERIES (page 2-29). TEST BLOWER MOTOR (TM 9-2320-36310).



6. INSTALL DASH PANEL (2) AND SECURE WITH NINE SCREWS (1).

AIR CONDITIONER THERMOSTATIC SWITCH REPLACEMENT

This task covers: a. Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

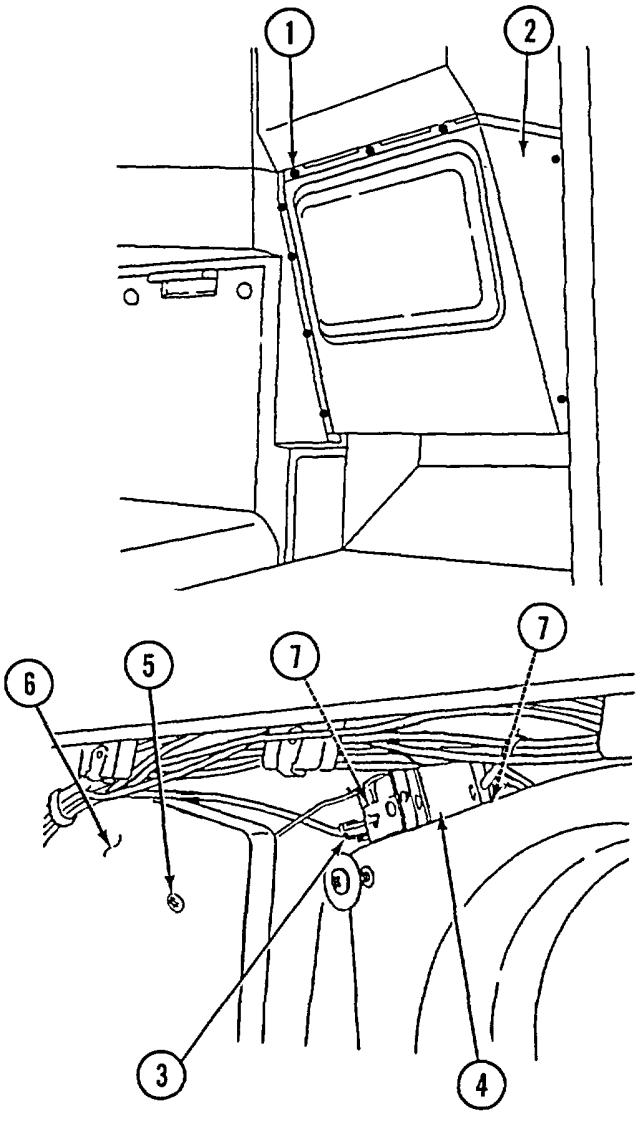
Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected
References:	TM 9-2320-363-10

REMOVAL

1. REMOVE NINE SCREWS (1) AND DASH COVER (2).



2. DISCONNECT HARNESS CONNECTOR (3) FROM THERMOSTATIC SWITCH (4).
3. REMOVE FOUR SCREWS (5) AND HEATER CORE COVER (6).
4. REMOVE TWO SCREWS (7) AND THERMOSTATIC SWITCH (4) WITH SENSOR TUBE ATTACHED.

INSTALLATION

CAUTION

Be careful when installing the thermostat sensor tube. Using too much force will bend the tube, which could damage it.

1. CAREFULLY INSERT SENSOR TUBE IN SAME HOLE FROM WHICH IT WAS REMOVED. TIP OF TUBE MUST BE IN DIRECT CONTACT WITH AN EVAPORATOR COIL FIN AND BE INSERTED AT LEAST FOUR INCHES (10 CM) INTO EVAPORATOR.

2. PLACE THERMOSTATIC SWITCH (4) INTO POSITION AND INSTALL TWO SCREWS (7).

3. INSTALL HEATER CORE COVER (6) AND FOUR SCREWS (5).

4. CONNECT HARNESS CONNECTOR (3) TO THERMOSTATIC SWITCH (4).

5. INSTALL DASH COVER (2) AND NINE SCREWS (1).

NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).
Operate air conditioner system (TM 9-2320-363-10).

Section XVII. GAGES (NON-ELECTRICAL) MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the gages (non-electrical) and related components. A list of tasks contained in this section is shown below.

Page

Speedometer Drive Shaft and Cable Replacement (M915A2) 4-853

Speedometer Drive Shaft and Cable Replacement (M916A1) 4-860

Tachometer Cable Replacement (M915A2 and M916A1) 4-866

SPEEDOMETER DRIVE SHAFT AND CABLE REPLACEMENT

This task covers: **a.** Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

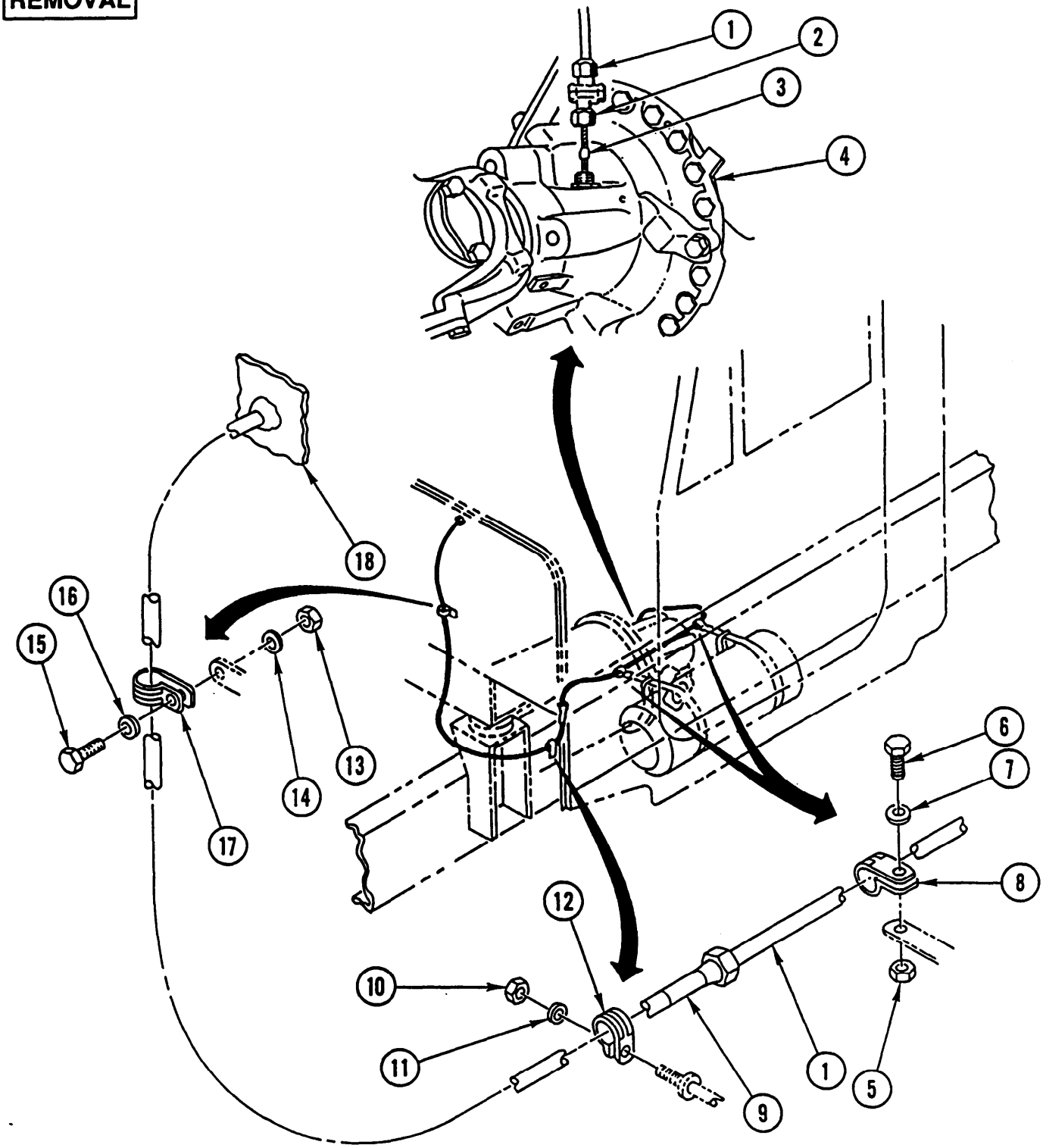
Materials/Parts:

Nut, Lock (4)

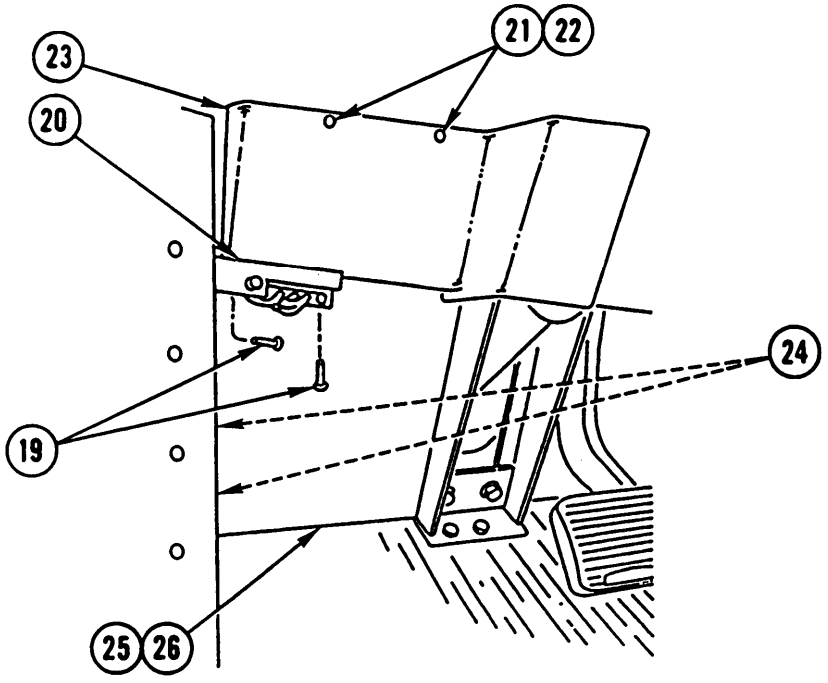
Seal 'N' Caulk — Appendix C, Hem 24

SPEEDOMETER DRIVE SHAFT AND CABLE REPLACEMENT (CONT)

REMOVAL



1. DISCONNECT REAR SPEEDOMETER CABLE (1) FROM RATIO ADAPTER (2).
2. REMOVE RATIO ADAPTER (2) AND SPEEDOMETER DRIVE SHAFT (3) FROM TRANSMISSION (4).
3. REMOVE TWO LOCK NUTS (5), TWO SCREWS (6), TWO WASHERS (7), AND TWO CLAMPS (8). DISCARD LOCK NUTS.
4. DISCONNECT AND REMOVE REAR SPEEDOMETER CABLE (1) FROM FRONT SPEEDOMETER CABLE (9).
5. REMOVE LOCK NUT (10), WASHER (11), AND CLAMP (12). DISCARD LOCK NUT.
6. REMOVE LOCK NUT (13), WASHER (14), SCREW (15), WASHER (16), AND CLAMP (17). DISCARD LOCK NUT.
7. REMOVE SEAL 'N' CAULK FROM FIREWALL (18).

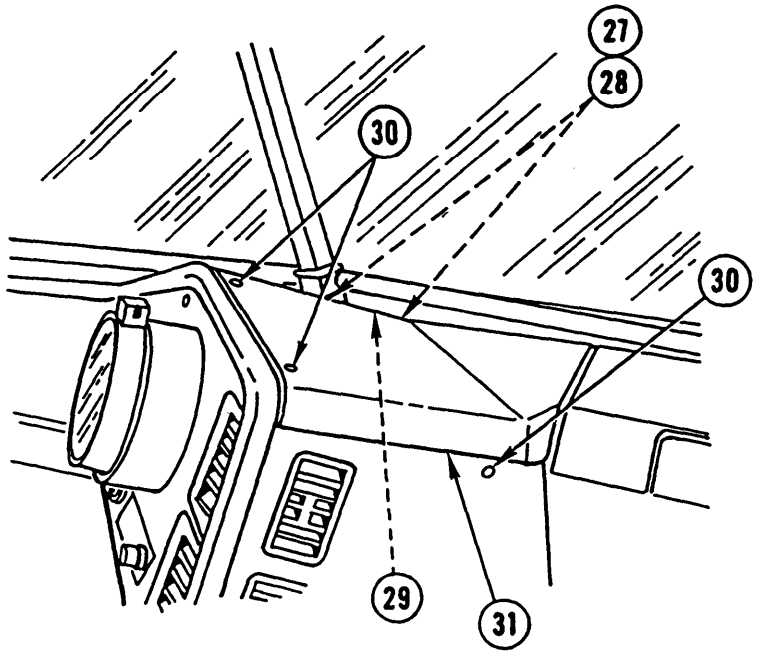


REMOVE TWO TORX SCREWS (19) AND SET ENGINE CHECK SWITCH BRACKET (20) ASIDE.

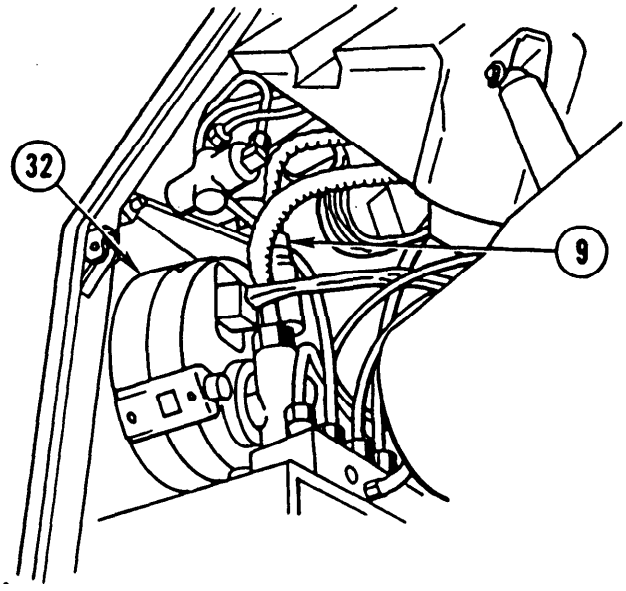
REMOVE FIVE SCREWS (21), FIVE WASHERS (22), AND COVER (23).

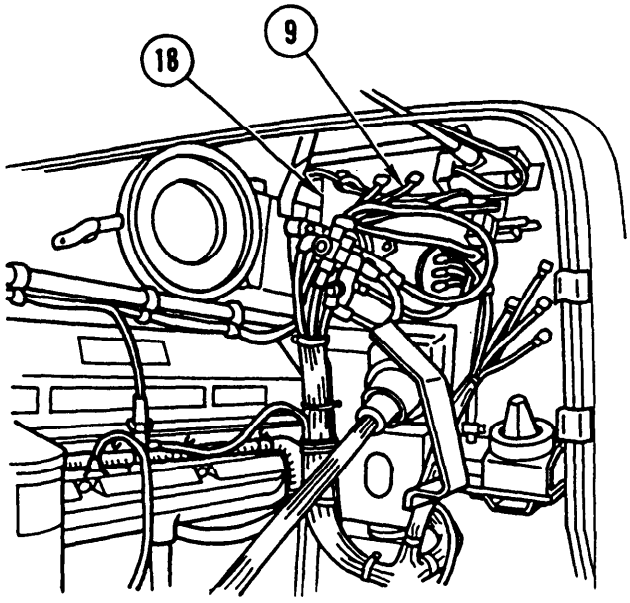
10. REMOVE TWO TORX SCREWS (24), COVER (25), AND FOAM (26).

SPEEDOMETER DRIVE SHAFT AND CABLE REPLACEMENT (CONT)



11. REMOVE TWO TORX SCREWS (27), TWO WASHERS (28), AND DEFROSTER VENT (29).
12. REMOVE FOUR TORX SCREWS (30) AND COVER (31).





13. DISCONNECT FRONT SPEEDOMETER CABLE (9) FROM TACHOGRAPFH (32).

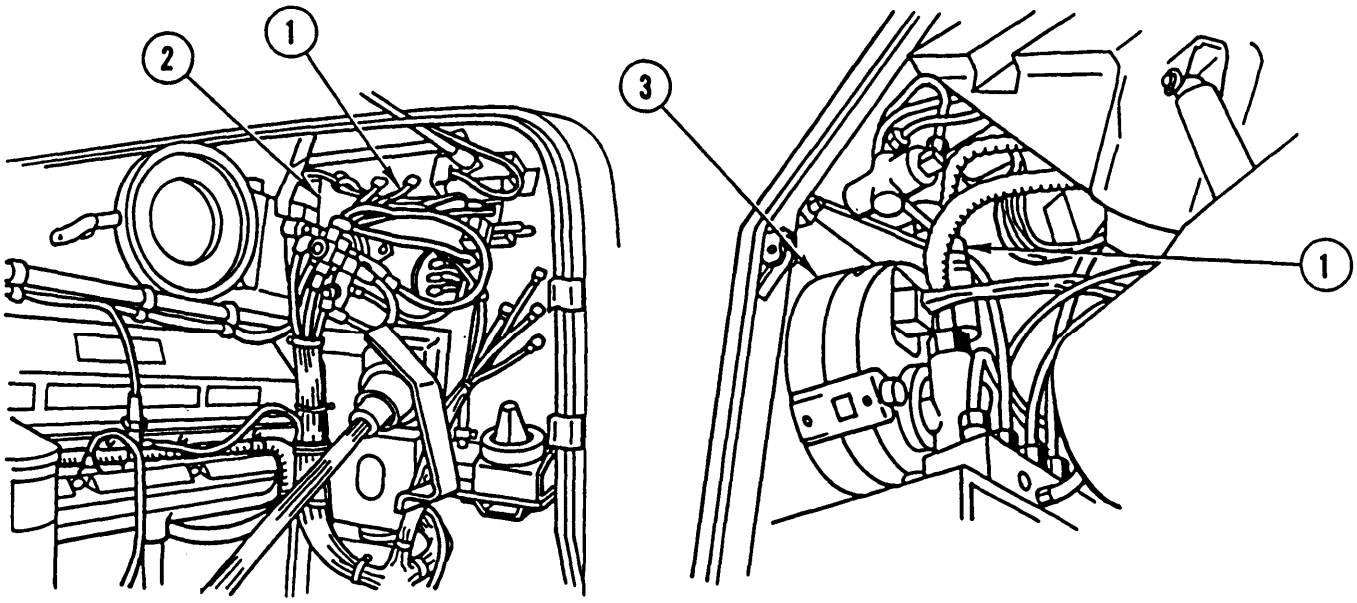
CAUTION
While pulling cable, watch carefully to prevent damage to any other components.

14. CAREFULLY REMOVE FRONT SPEEDOMETER CABLE (9) BY PUSHING OUT THRU FIREWALL (18).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



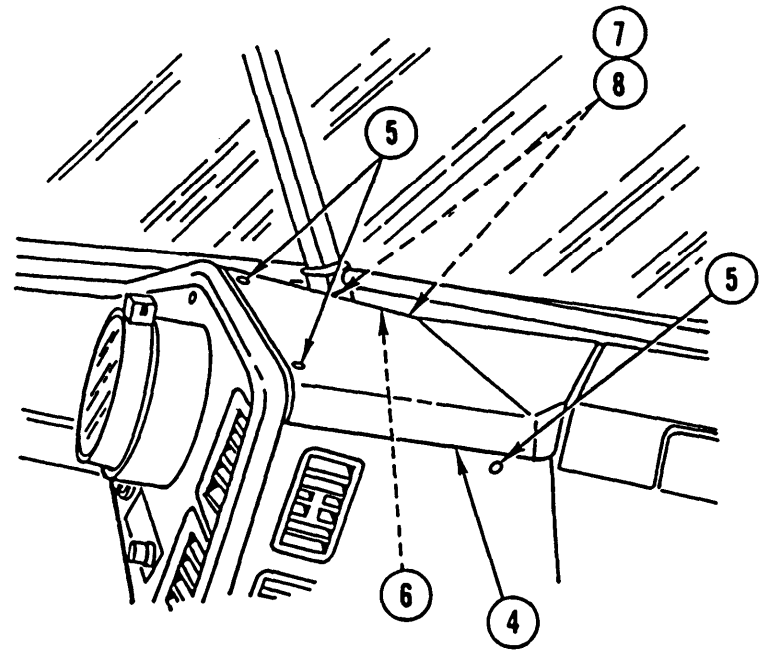
NOTE
Make sure all old sealing compound has been removed.

1. INSTALL FRONT SPEEDOMETER CABLE (1) THRU FIREWALL (2).
2. CONNECT FRONT SPEEDOMETER CABLE (1) TO TACHOGRAPH (3).

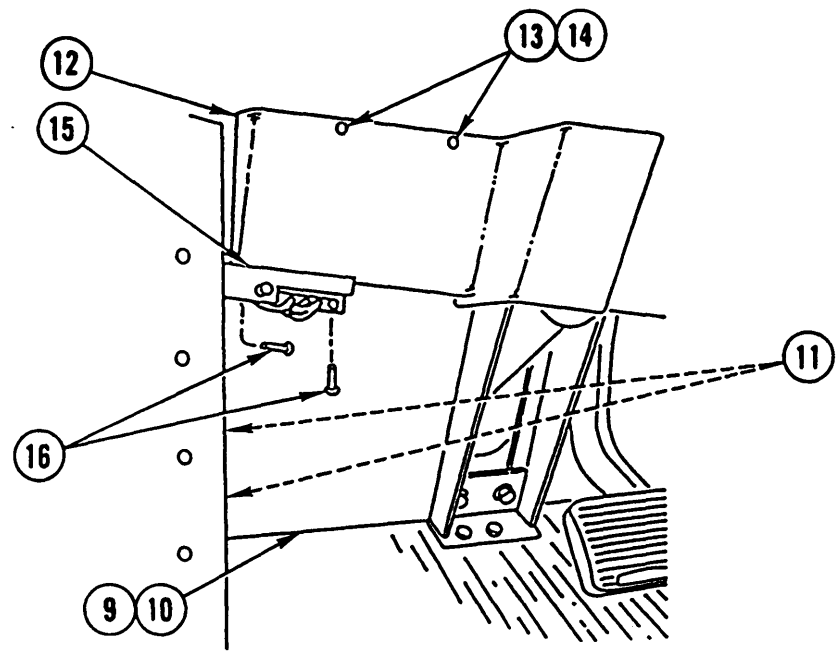
NOTE
Make sure grommet on speedometer cable is properly set in firewall.

3. APPLY SEAL 'N' CAULK AROUND FRONT SPEEDOMETER CABLE (1) AT FIREWALL (2).

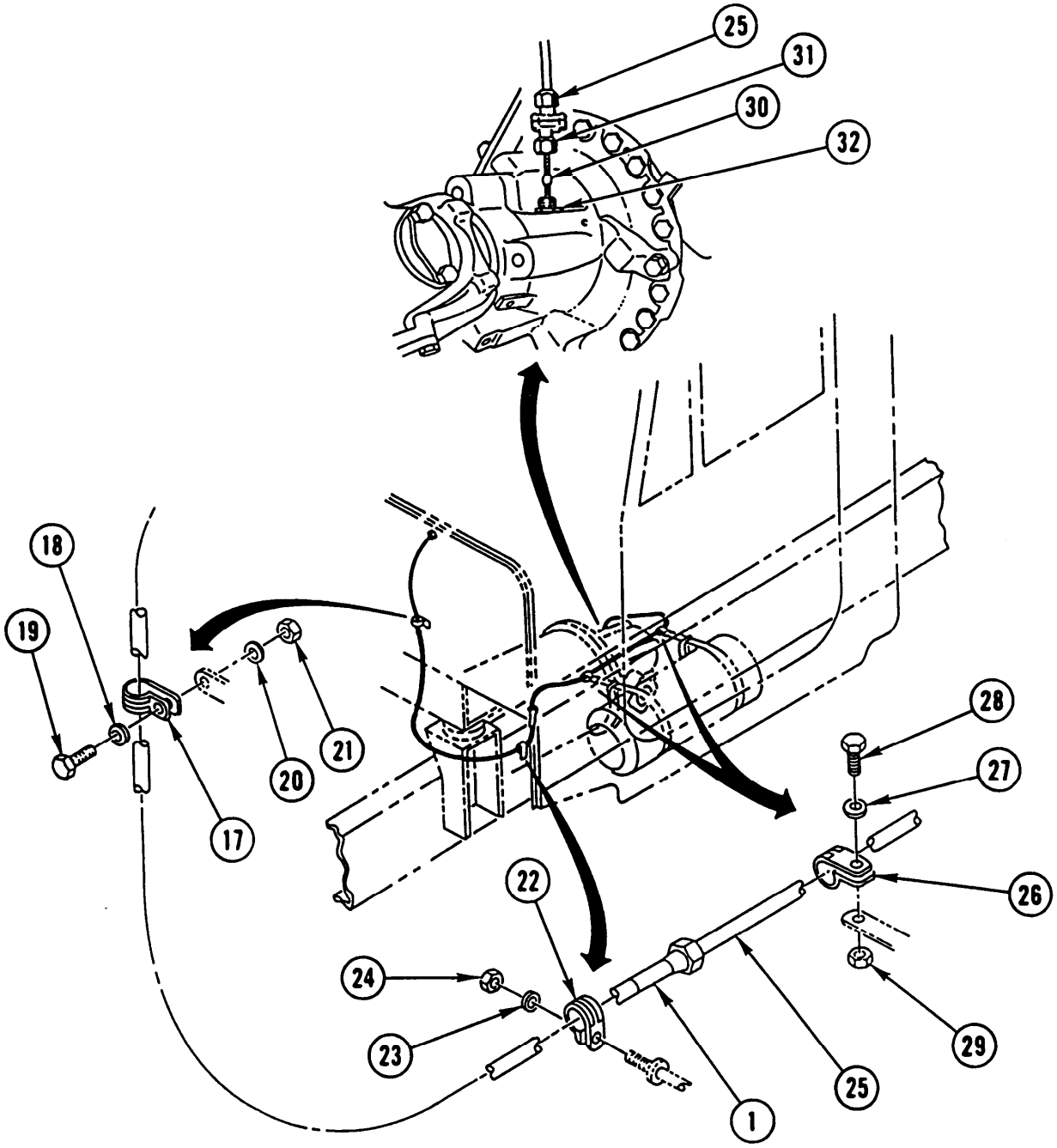
SPEEDOMETER DRIVE SHAFT AND CABLE REPLACEMENT (CONT)



4. INSTALL COVER (4) AND FOUR TORX SCREWS (5).
5. INSTALL DEFROSTER VENT (6), TWO WASHERS (7), AND TWO TORX SCREWS (8).



6. INSTALL FOAM (9), COVER (10), AND TWO TORX SCREWS (11).
7. INSTALL COVER (12), FIVE WASHERS (13), AND FIVE TORX SCREWS (14).
8. INSTALL ENGINE CHECK SWITCH BRACKET (15) AND TWO TORX SCREWS (1 6).



9. INSTALL CLAMP (17), WASHER (18), SCREW (19), WASHER (20), AND NEW LOCK NUT (21).

10. INSTALL CLAMP (22), WASHER (23), AND NEW LOCK NUT (24).

11. INSTALL AND CONNECT REAR SPEEDOMETER CABLE (25) TO FRONT SPEEDOMETER CABLE (l).

12. INSTALL TWO CLAMPS (26), TWO WASHERS (27), TWO SCREWS (28), AND TWO NEW LOCK NUTS (29).

13. INSTALL SPEEDOMETER DRIVE SHAFT (30) AND RATIO ADAPTER (31) IN THREADED BUSHING (32).

14. CONNECT REAR SPEEDOMETER CABLE (25) ON RATIO ADAPTER (31).

SPEEDOMETER DRIVE SHAFT AND CABLE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

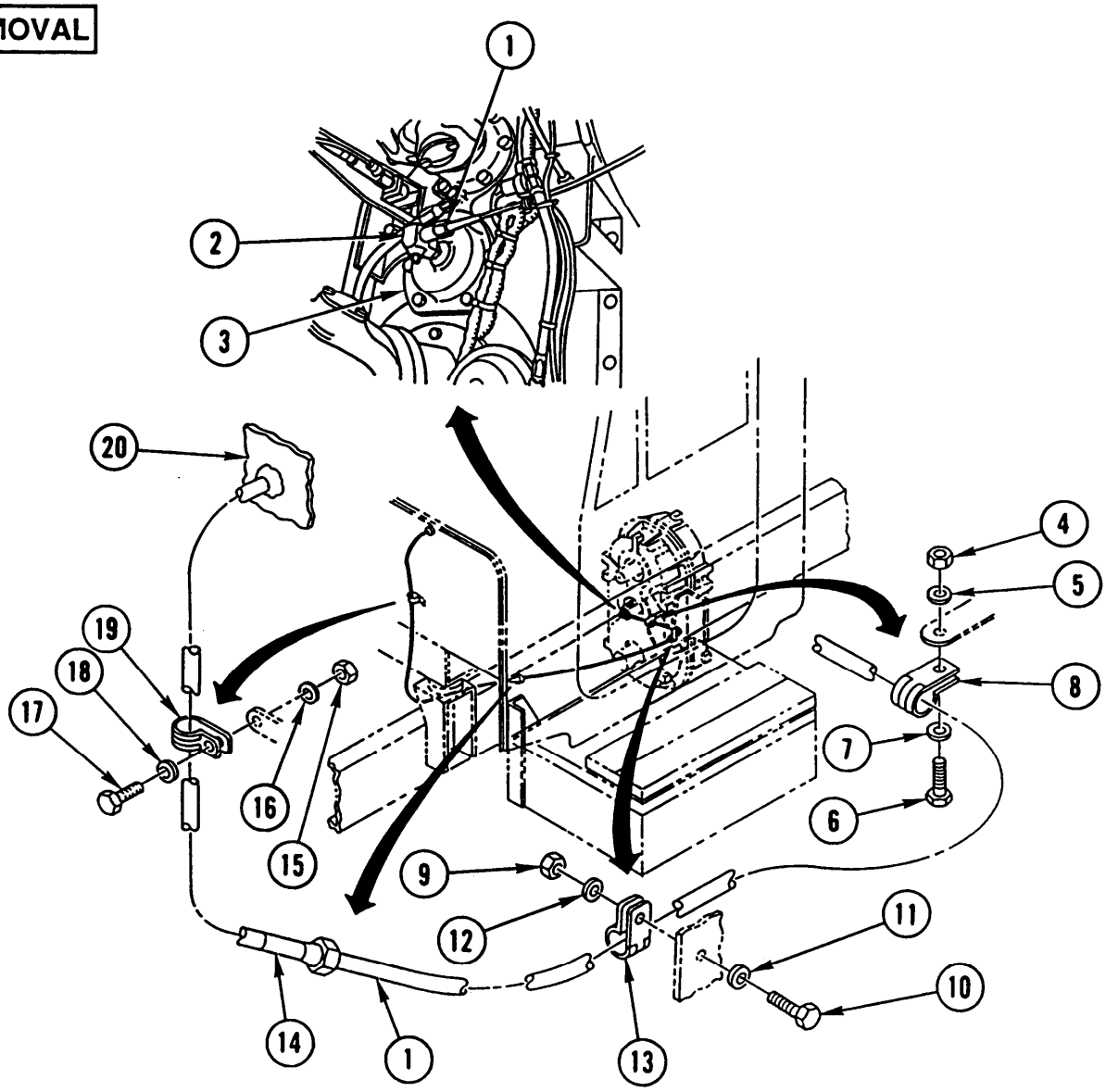
Materiais/Parts:

Nut, Lock (3)

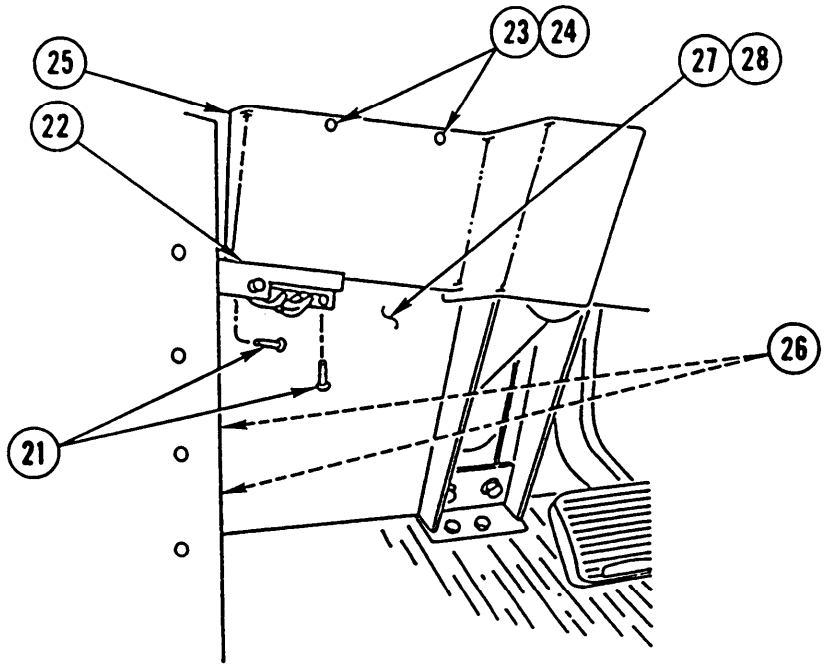
Seal 'N' Caulk Appendix C, Item 24

Personnel Required: (2)

REMOVAL

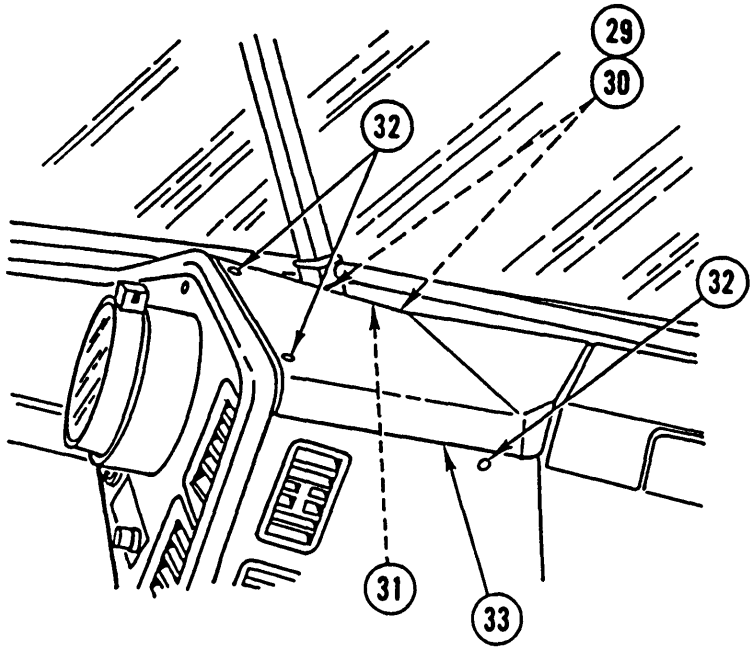


1. DISCONNECT REAR SPEEDOMETER CABLE (1) FROM RATIO ADAPTER (2).
2. REMOVE RATIO ADAPTER (2) FROM TRANSFER CASE (3).
3. REMOVE LOCK NUT **(4),** WASHER (5), SCREW (6), WASHER (7), AND CLAMP (8). DISCARD LOCK NUT.
4. REMOVE LOCK NUT (9), SCREW (10), WASHER (11), WASHER (12), AND CLAMP (13). DISCARD LOCK NUT.
5. DISCONNECT AND REMOVE REAR SPEEDOMETER CABLE (1) FROM FRONT SPEEDOMETER CABLE (14).
6. REMOVE LOCK NUT (15), WASHER (16), SCREW (17), WASHER (18), AND CLAMP (19). DISCARD LOCK NUT.
7. REMOVE SEAL 'N' CAULK FROM FIREWALL (20).

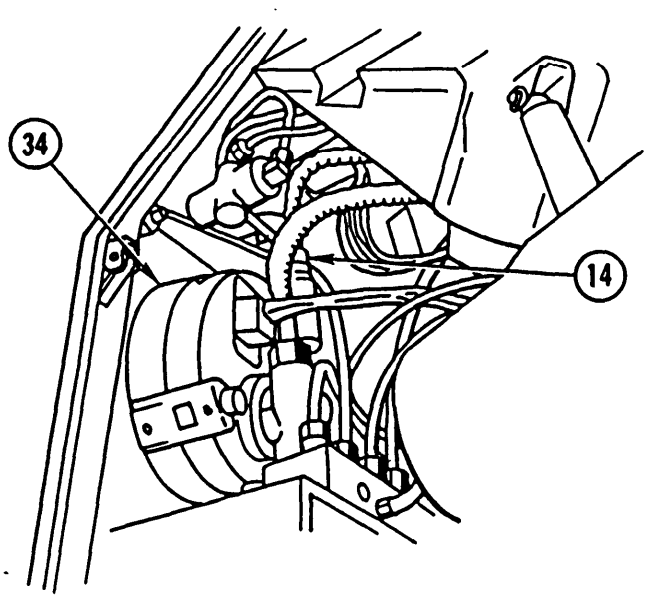


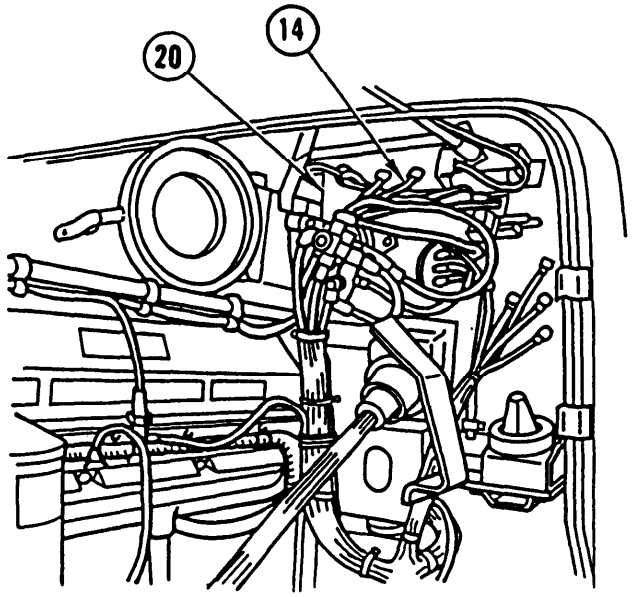
8. REMOVE TWO TORX SCREWS (21) AND SET ENGINE CHECK SWITCH BRACKET (22) ASIDE.
9. REMOVE FIVE TORX SCREWS (23), FIVE WASHERS (24), AND COVER (25).
10. REMOVE TWO TORX SCREWS (26), COVER (27), AND FOAM (28).

SPEEDOMETER DRIVE SHAFT AND CABLE REPLACEMENT (CONT)



11. REMOVE TWO TORX SCREWS (29), TWO WASHERS (30), AND DEFROSTER VENT (31).
12. REMOVE FOUR SCREWS (32) AND COVER (33).





13. DISCONNECT FRONT SPEEDOMETER CABLE (14) FROM TACHOGRAPH (34).

CAUTION

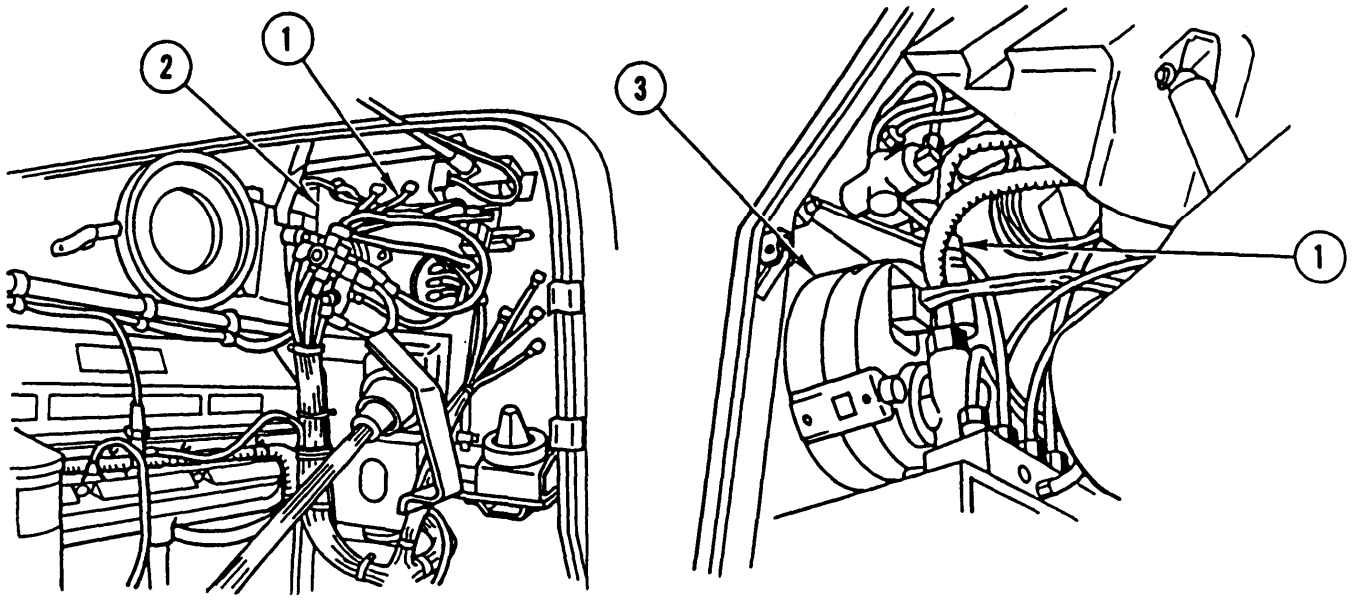
While pulling cable, watch carefully to prevent damage to any other components.

14. CAREFULLY REMOVE FRONT SPEEDOMETER CABLE (14) BY PULLING OUT THRU FIREWALL (20).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION



NOTE

Make sure all old sealing compound has been removed.

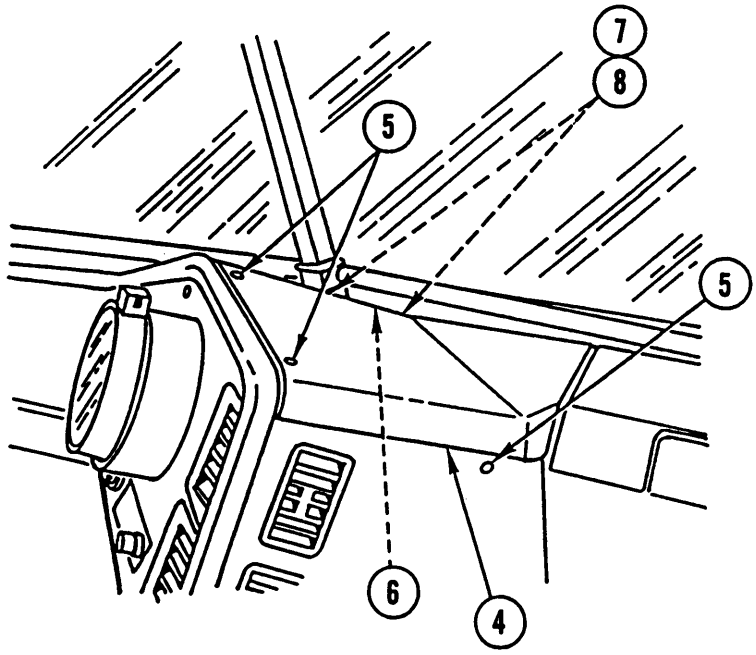
1. INSTALL FRONT SPEEDOMETER CABLE (1) THRU FIREWALL (2).
2. CONNECT FRONT SPEEDOMETER CABLE (1) TO TACHOGRAPH (3).

NOTE

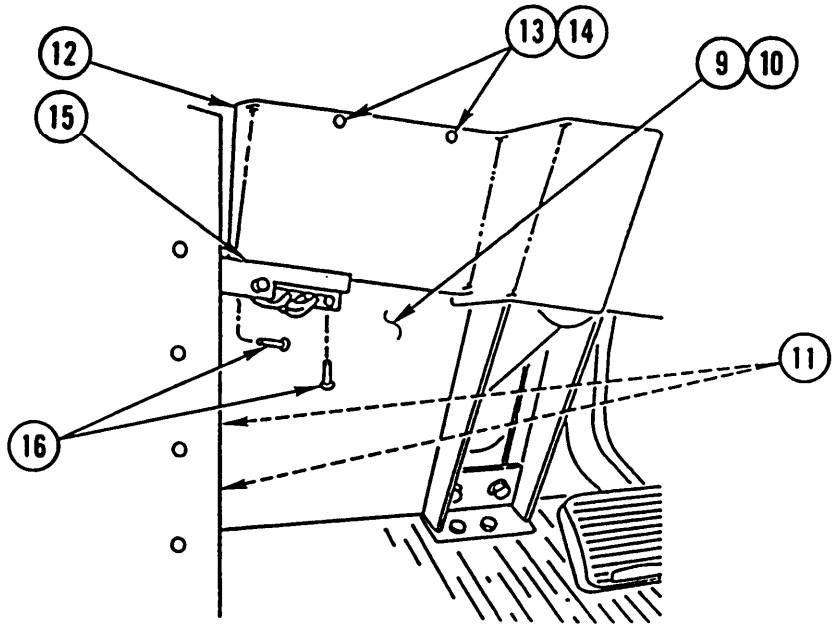
Make sure grommet on speedometer cable is properly set in firewall.

3. APPLY SEAL 'N' CAULK AROUND FRONT SPEEDOMETER CABLE (1) AT FIREWALL (2).

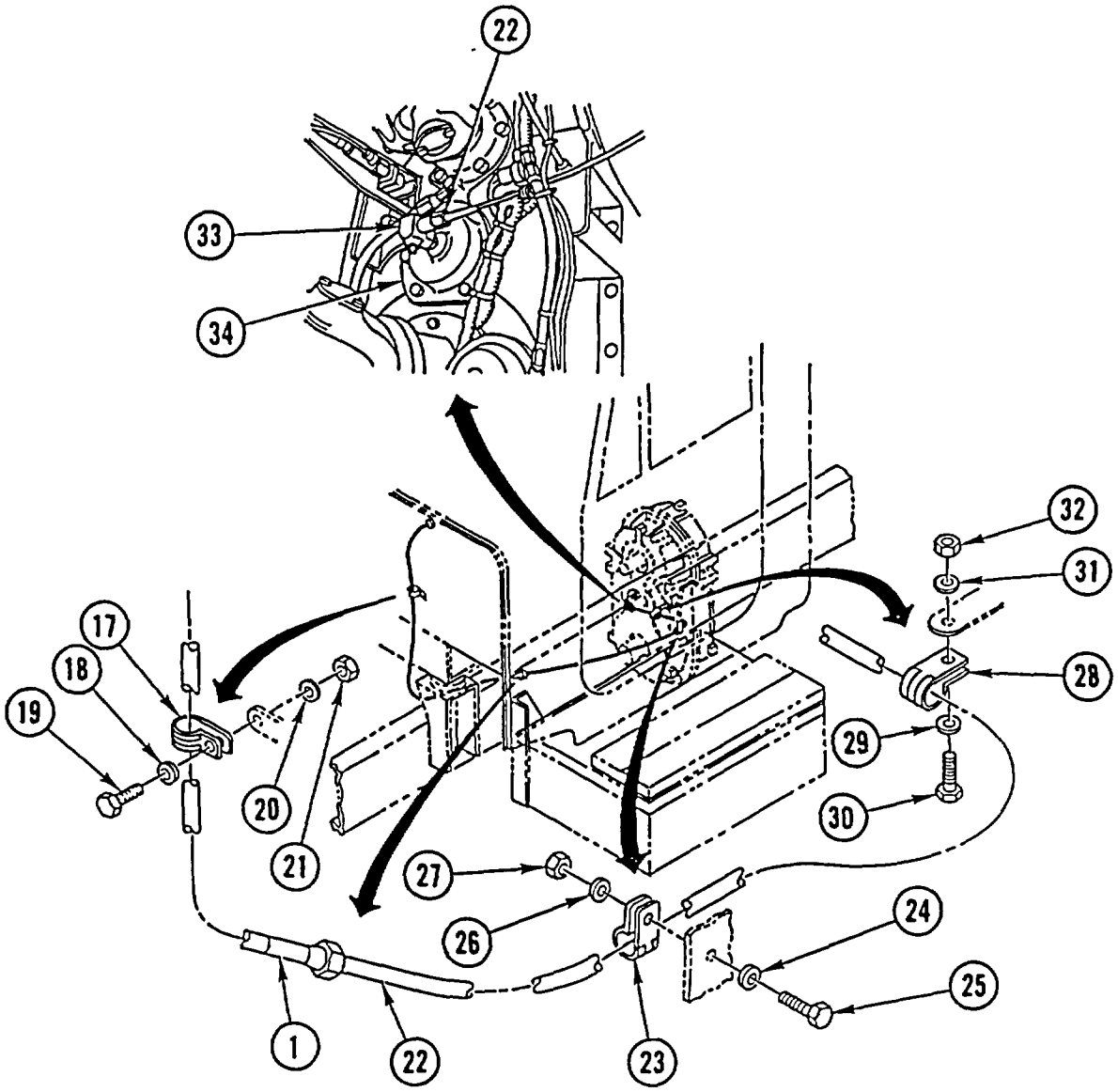
SPEEDOMETER DRIVE SHAFT AND CABLE REPLACEMENT (CONT)



4. INSTALL COVER (4) AND FOUR SCREWS (5).
5. INSTALL DEFROSTER VENT (6), TWO WASHERS (7), AND TWO TORX SCREWS



6. INSTALL FOAM (9), COVER (10), AND TWO TORX SCREWS (11).
7. INSTALL COVER (1 2), FIVE WASHERS (13), AND FIVE TORX SCREWS (14).
8. INSTALL ENGINE CHECK SWITCH BRACKET (15) AND TWO TORX SCREWS (16).



9. INSTALL CLAMP (17), WASHER (18), SCREW (19), WASHER (20), AND NEW LOCK NUT (21).
10. INSTALL AND CONNECT REAR SPEEDOMETER CABLE (22) TO FRONT SPEEDOMETER CABLE (1).
11. INSTALL CLAMP (23), WASHER (24), SCREW (25), WASHER (26), AND NEW LOCK NUT (27).
12. INSTALL CLAMP (28), WASHER (29), SCREW (30), WASHER (31), AND NEW LOCK NUT (32).
13. INSTALL RATIO ADAPTER (33) IN TRANSFER CASE (34).
14. CONNECT REAR SPEEDOMETER CABLE (22) TO RATIO ADAPTER (33).

NOTE

Follow-on Maintenance:
Lubricate speedometer angle drive (Unit PMCS, TM 9-2320-363-20-1).

TACHOMETER CABLE REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2 and M916A1

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A72
Tool Kit, SC 5180-90-CL-N26

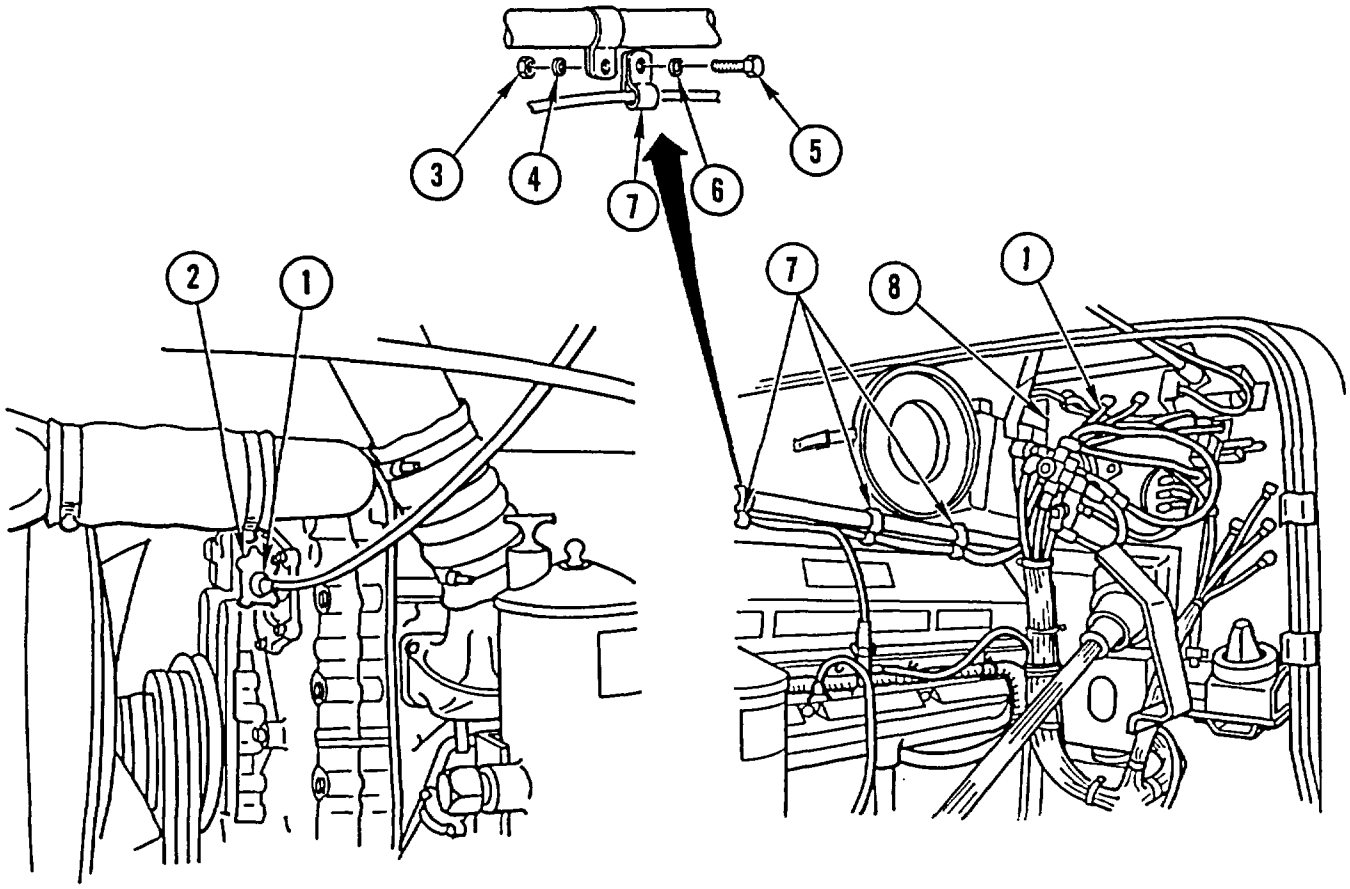
Materials/Parts:

Nut, Lock (3)

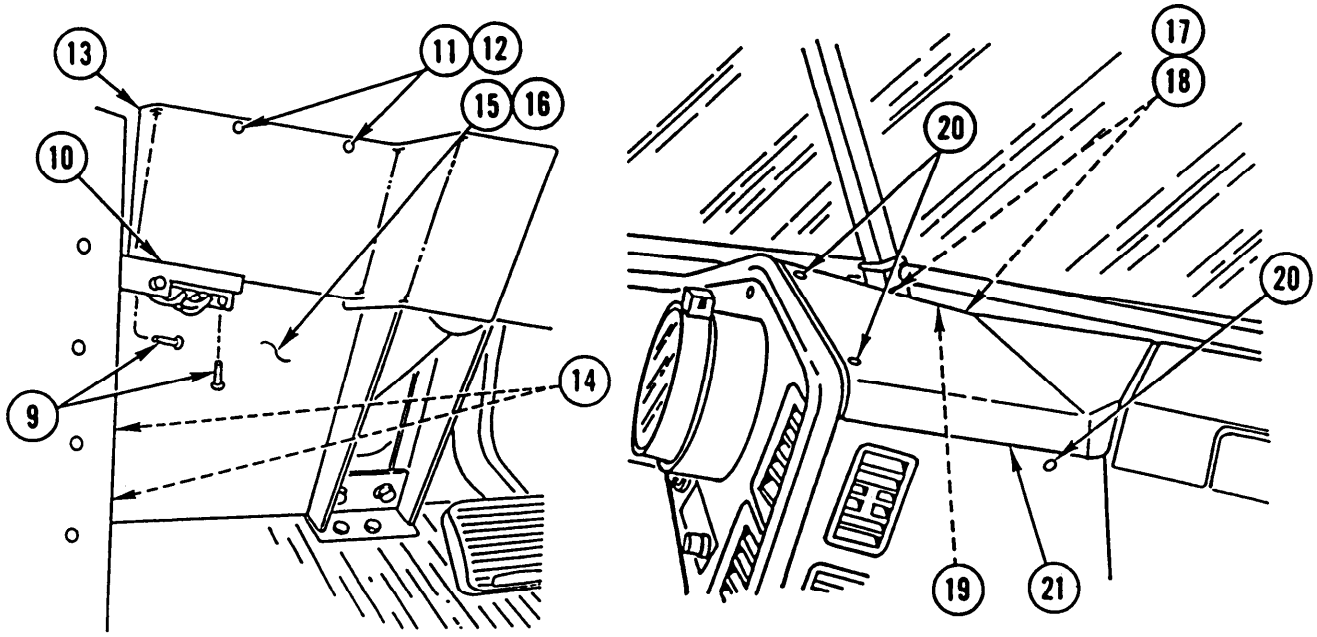
Seal 'N' Caulk Appendix C, Item 24

Personnel Required: (2)

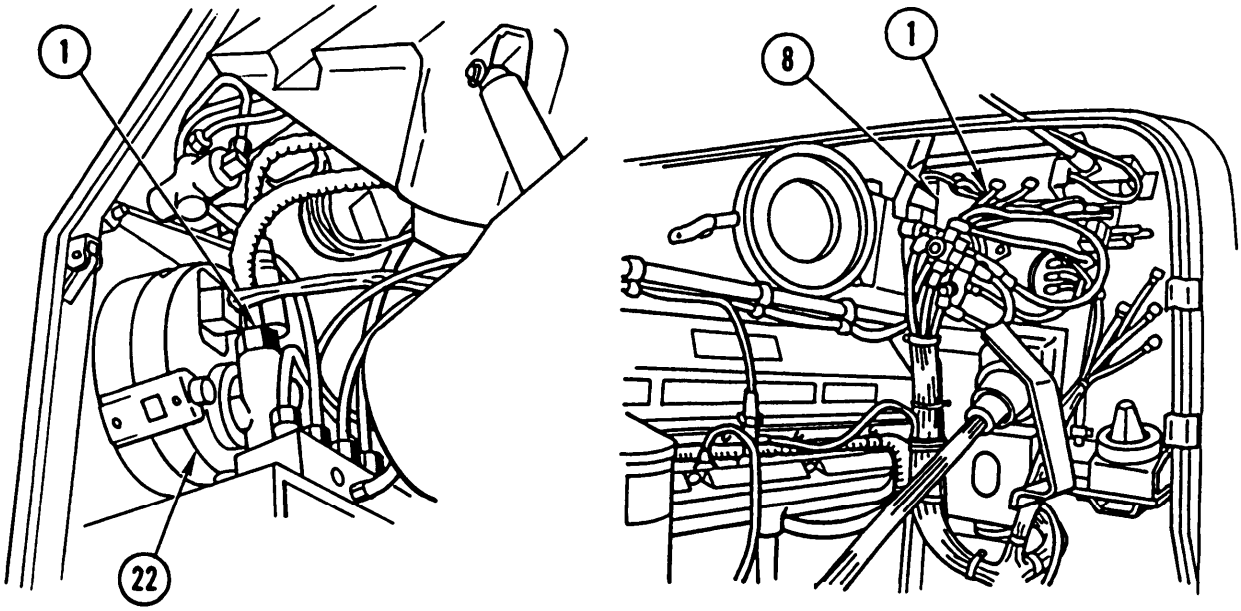
REMOVAL



1. DISCONNECT TACHOMETER CABLE (1) FROM RPM PULSE SENDER (2).
2. REMOVE THREE LOCK NUTS (3), THREE WASHERS (4), THREE SCREWS (5), THREE WASHERS (6), AND THREE CABLE CLAMPS (7). DISCARD LOCK NUTS.
3. REMOVE SEAL 'N' CAULK FROM FIREWALL (8).



4. REMOVE TWO TORX SCREWS (9) AND SET ENGINE CHECK SWITCH BRACKET (10) ASIDE.
5. REMOVE FIVE TORX SCREWS (11), FIVE WASHERS (12), AND COVER (13).
6. REMOVE TWO TORX SCREWS (14), COVER (15), AND FOAM (16).
7. REMOVE TWO TORX SCREWS (17), TWO WASHERS (18), AND DEFROSTER
8. REMOVE FOUR TORX SCREWS (20) AND COVER (21).



9. DISCONNECT TACHOMETER CABLE (1) FROM TACHOGRAPH (22).

NOTE

When pulling on cable, use care not to damage other components.

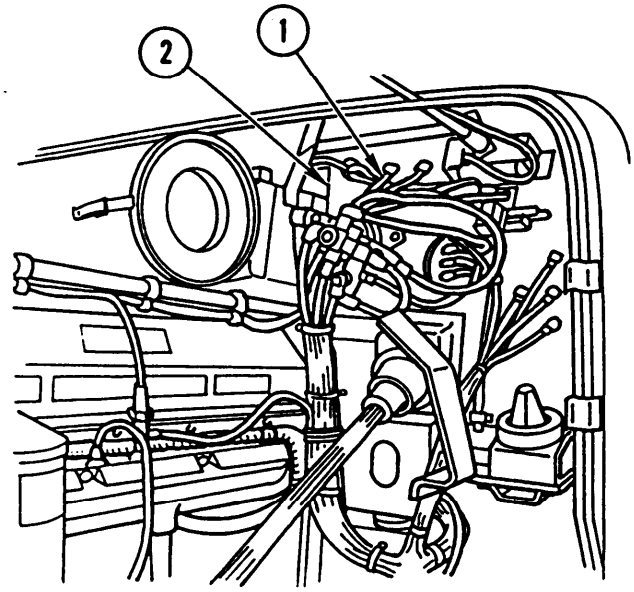
10. CAREFULLY REMOVE TACHOMETER CABLE (1) BY PULLING OUT THRU FIREWALL (8).

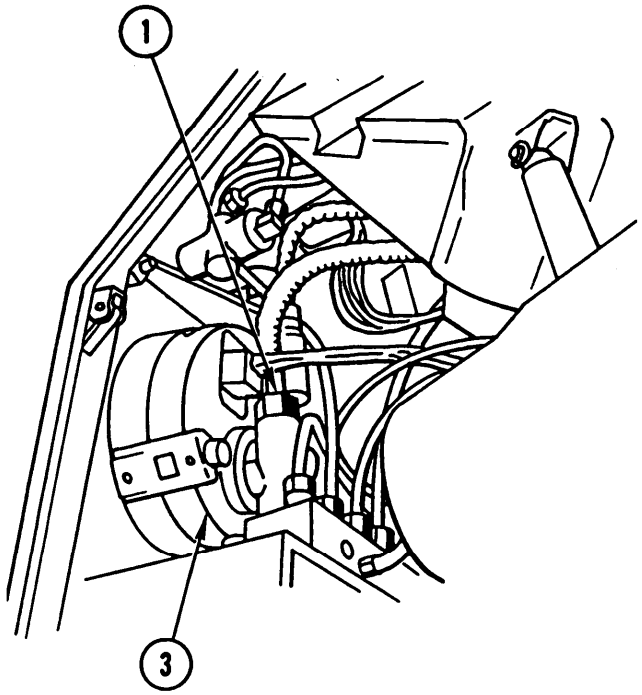
TACHOMETER CABLE REPLACEMENT (CONT)

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

INSTALLATION

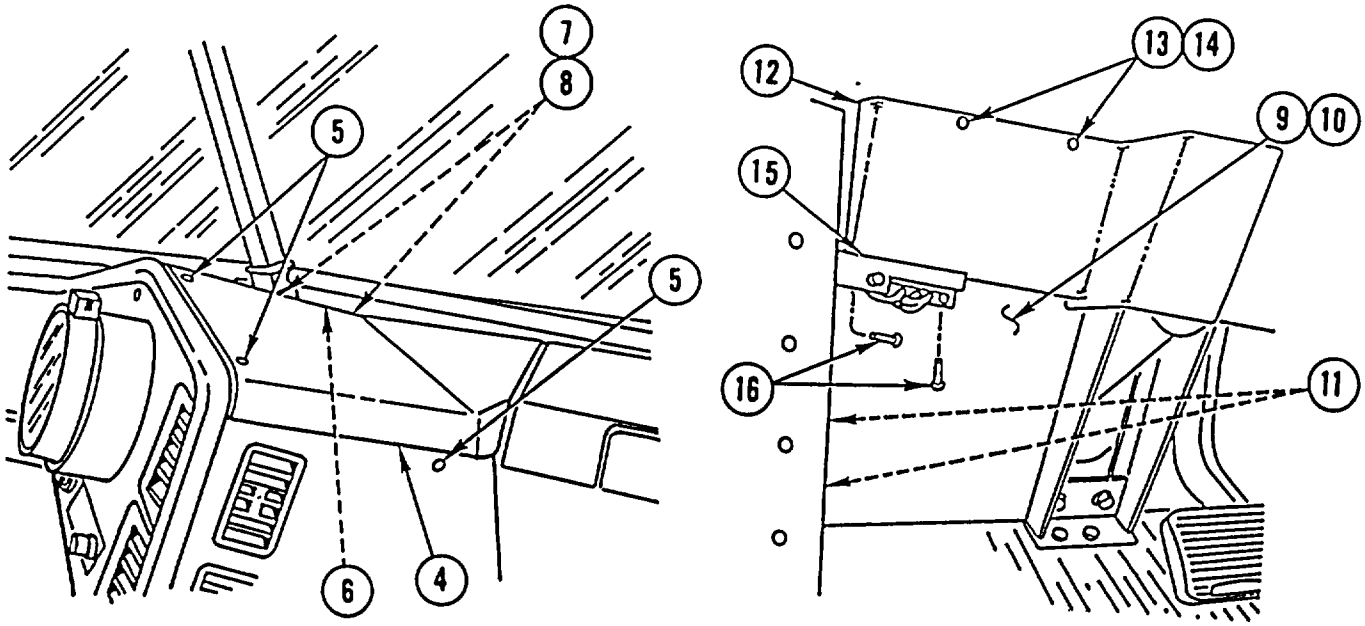




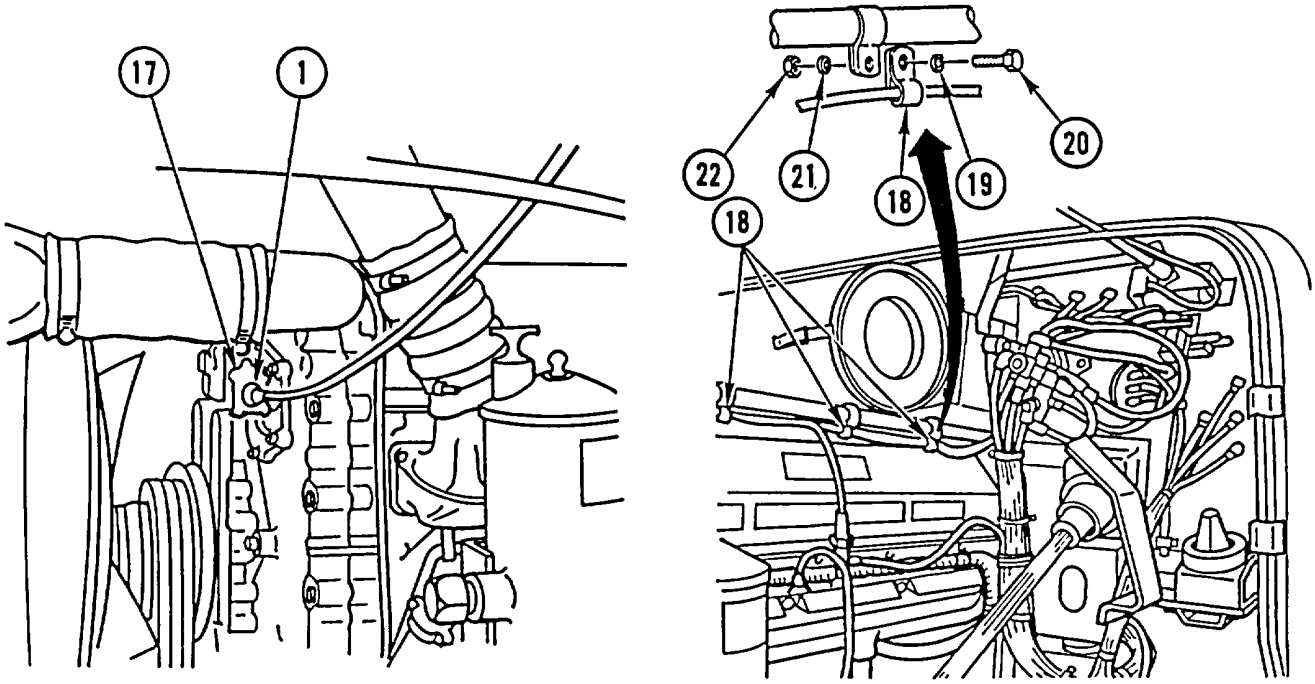
NOTE

- Make sure all old sealing compound has been completely removed.
- Make sure grommet is properly set in firewall.

1. INSTALL TACHOMETER CABLE (1) THRU FIREWALL (2).
2. CONNECT TACHOMETER CABLE (1) TO TACHOGRAPH (3).
3. APPLY SEAL 'N' CAULK AROUND TACHOMETER CABLE (1) AT FIREWALL (2).



4. INSTALL COVER (4) AND FOUR TORX SCREWS (5).
5. INSTALL DEFROSTER VENT (6), TWO WASHERS (7), AND TWO TORX SCREWS (8).
6. INSTALL COVER (9), FOAM (10) AND TWO TORX SCREWS (11).
7. INSTALL COVER (12), FIVE WASHERS (13), AND FIVE TORX SCREWS (14).
8. INSTALL ENGINE CHECK SWITCH BRACKET (15) AND TWO TORX SCREWS (16).



9. CONNECT TACHOMETER CABLE (1) TO RPM PULSE SENDER (17).
10. INSTALL THREE CABLE CLAMPS (18), THREE WASHERS (19), THREE SCREWS (20), THREE WASHERS (21), AND THREE NEW LOCK NUTS (22).

Section XVIII. CHEMICAL, BIOLOGICAL, AND RADIOLOGICAL (CBR) EQUIPMENT MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the chemical, biological, and radiological (CBR) equipment and related components. A list of tasks contained in this section is shown below.

Page

M13 Decontamination Kit Mounting Bracket Replacement (M915A2) 4-871

M13 Decontamination Kit Mounting Bracket Replacement (M916A1 and M916A2) 4-873

M13 DECONTAMINATION KIT MOUNTING BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M915A2

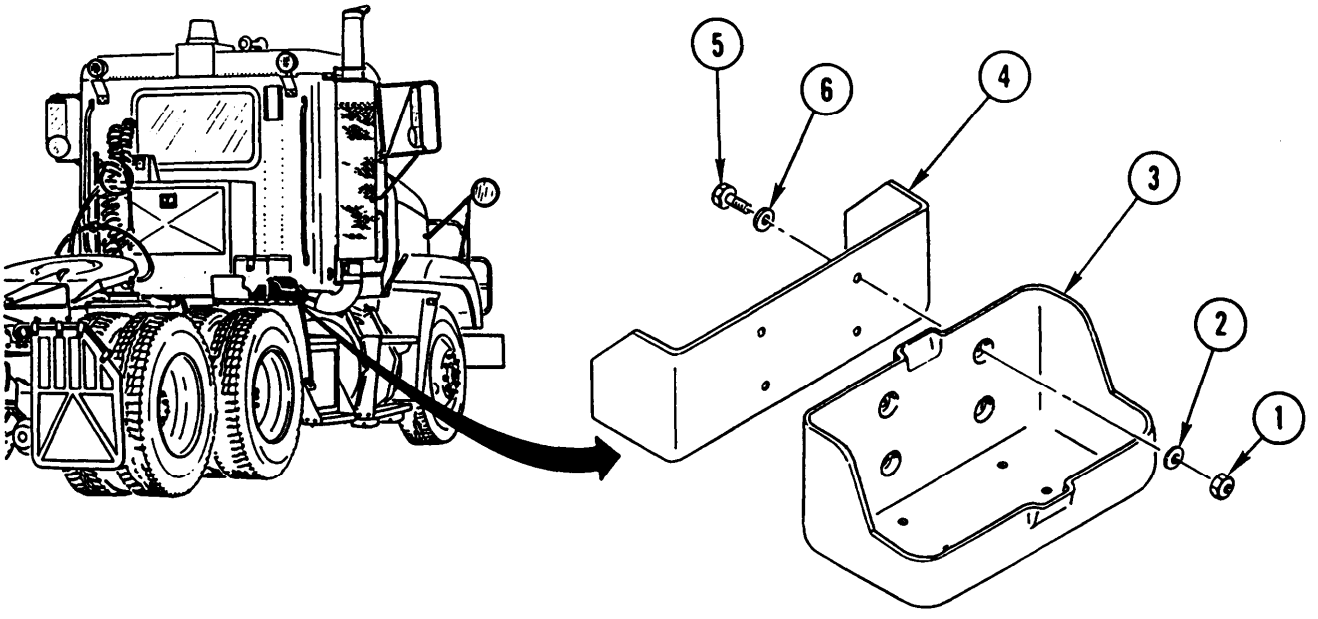
Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Equipment Condition:

Reference	Condition Description
Page 4-710	Tire Chain Storage Box Removed

REMOVAL



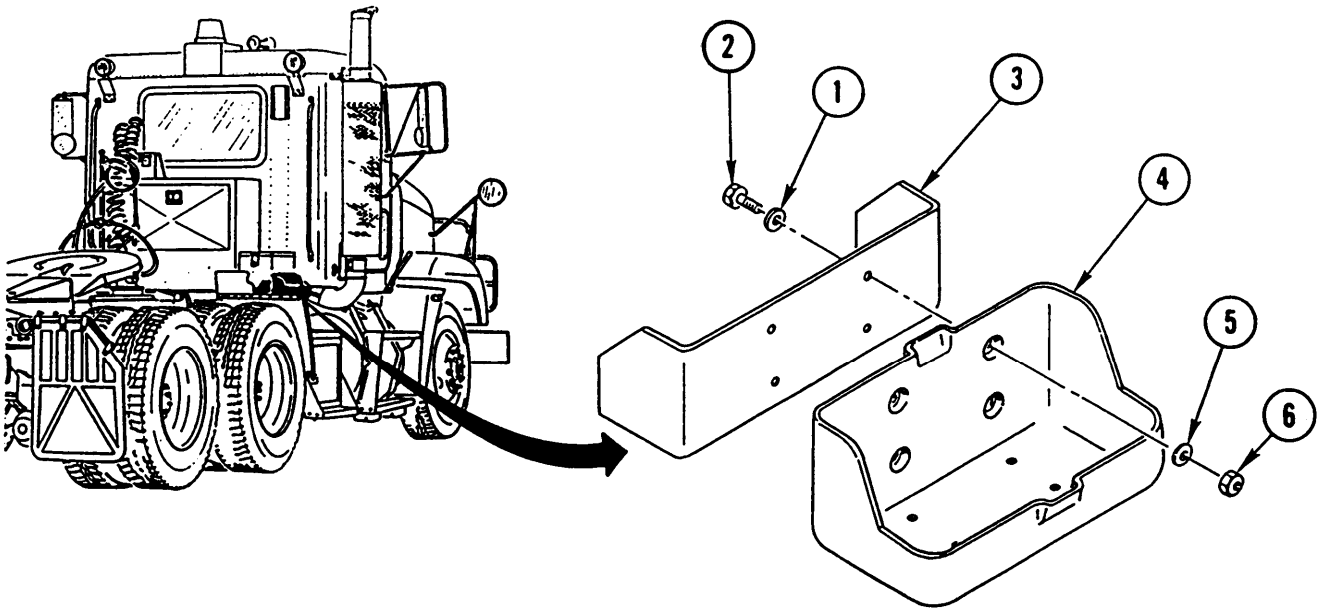
1. REMOVE FOUR NUTS (l), FOUR WASHERS (2), AND Ml 3 DECONTAMINATiON KIT MOUNTING BRACKET (3) FROM TIRE CHAIN STORAGE BOX MOUNTING PLATFORM (4).
2. REMOVE FOUR CAPSCREWS (5) AND FOUR WASHERS (6) FROM TIRE CHAIN STORAGE BOX MOUNTING PLATFORM (4).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

M13 DECONTAMINATION KIT MOUNTING BRACKET REPLACEMENT (CONT)

INSTALLATION



1. INSTALL FOUR WASHERS (1) AND FOUR CAPSCREWS (2) IN TIRE CHAIN STORAGE BOX MOUNTING PLATFORM (3).
2. INSTALL M13 DECONTAMINATION KIT MOUNTING BRACKET (4), FOUR WASHERS (5), AND FOUR NUTS (6) ON TIRE CHAIN STORAGE BOX MOUNTING PLATFORM (3).

NOTE

Follow-on Maintenance:
Install tire chain storage box (page 4-710).

M13 DECONTAMINATION KIT MOUNTING BRACKET REPLACEMENT

This task covers: a. Removal b. Cleaning/Inspection c. Installation

INITIAL SETUP

Applicable Configuration:

M916A1 and M916A2

Tools and Special Equipment:

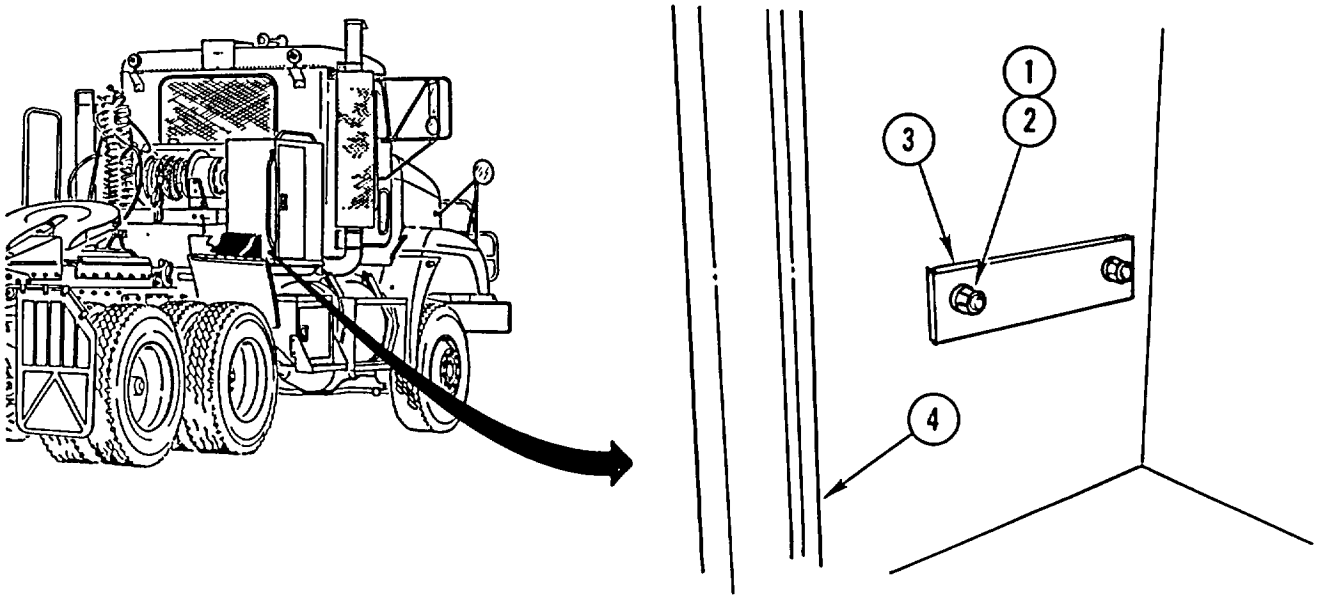
Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Nut, Lock (4)

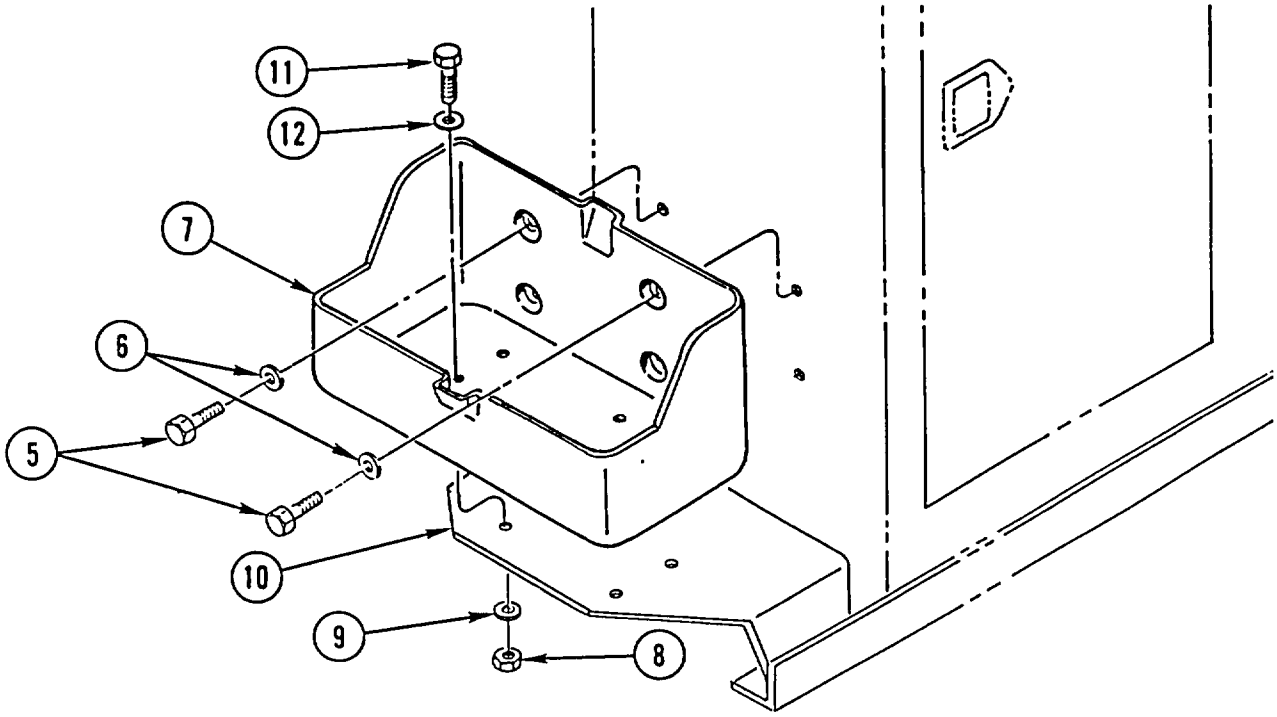
Nut, Lock (2)

REMOVAL



1. REMOVE TWO LOCK NUTS (1), TWO WASHERS (2), AND PLATE (3) FROM INSIDE PERSONAL GEAR STORAGE BOX (4). DISCARD LOCK NUTS.

M13 DECONTAMINATION KIT MOUNTING BRACKET REPLACEMENT (CONT)



2. REMOVE TWO CAPSCREWS (5) AND TWO WASHERS (6) FROM M13 DECONTAMINATION KIT MOUNTING BRACKET (7).

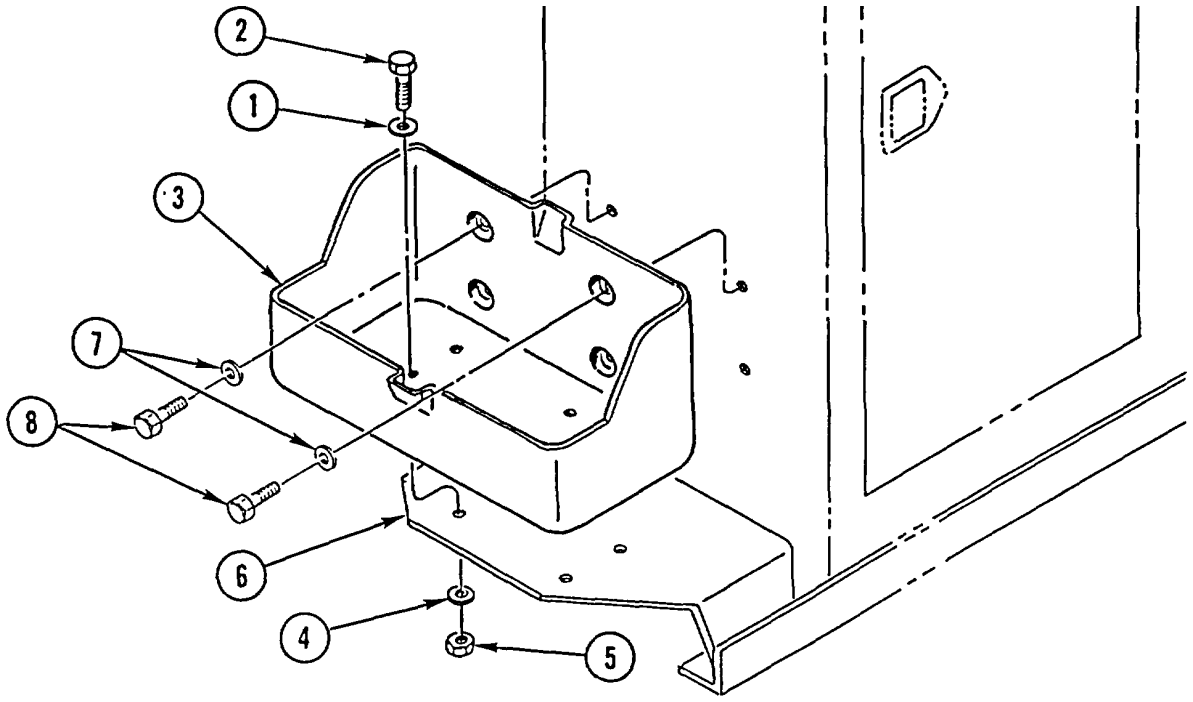
3. REMOVE FOUR LOCK NUTS (8), FOUR WASHERS (9), AND M13 DECONTAMINATION KIT MOUNTING BRACKET (7) FROM PERSONAL GEAR STORAGE BOX MOUNTING PLATFORM (10). DISCARD LOCK NUTS.

4. REMOVE FOUR CAPSCREWS (11) AND FOUR WASHERS (12) FROM M13 DECONTAMINATION KIT MOUNTING BRACKET (7).

CLEANING/INSPECTION

Clean and inspect all parts in accordance with Chapter 2.

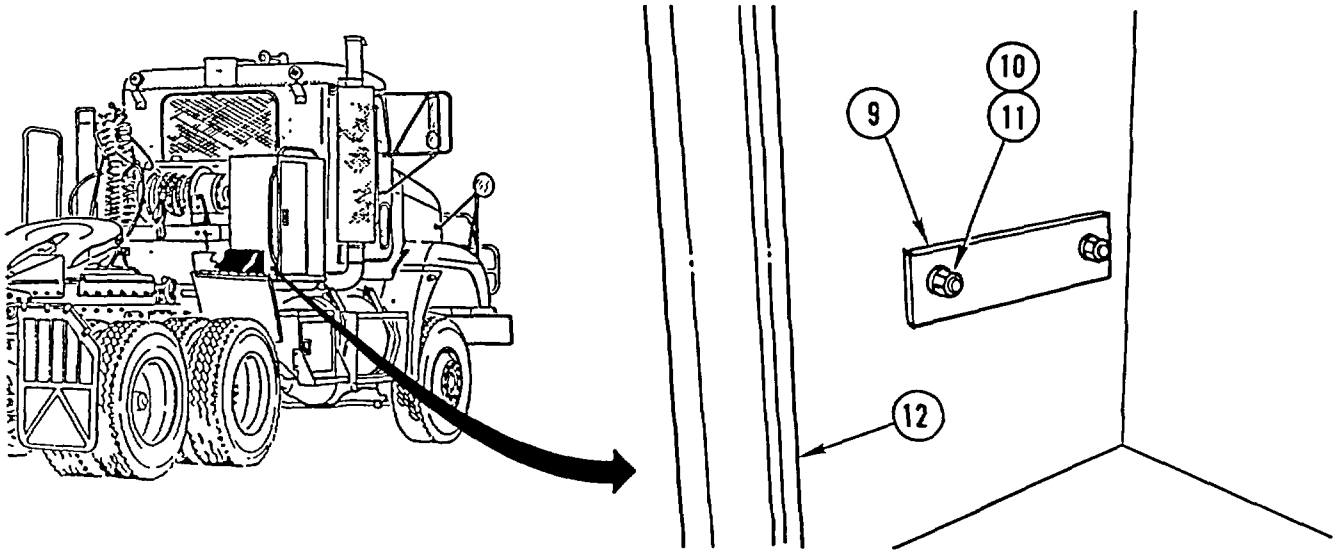
INSTALLATION



1. INSTALL FOUR WASHERS (1) AND FOUR CAPSCREWS (2) IN M13 DECONTAMINATION KIT MOUNTING BRACKET (3).

2. INSTALL M13 DECONTAMINATION KIT MOUNTING BRACKET (3), FOUR WASHERS (4), AND FOUR NEW LOCK NUTS (5) ON PERSONAL GEAR STORAGE BOX MOUNTING PLATFORM (6).

3. INSTALL TWO WASHERS (7) AND TWO CAPSCREWS (8) IN M13 DECONTAMINATION KIT MOUNTING BRACKET (3).



4. INSTALL PLATE (9), TWO WASHERS (10), AND TWO NEW LOCK NUTS (11) INSIDE PERSONAL GEAR STORAGE BOX (12).

Section XIX. AIR CONDITIONING SYSTEM MAINTENANCE

OVERVIEW

This section illustrates and describes procedures for maintenance of the air conditioning system. A list of tasks contained in this section is shown below.

Page

Air Conditioner Binary Switch Replacement (All Except M915A2 and M916A1).....4-877

Air Conditioner Leak Test (All Except M915A2 and M916A1) 4-878

AIR CONDITIONER BINARY SWITCH REPLACEMENT

This task covers: a Removal b. Installation

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N26

Materials/Parts:

Packing, Preformed	P/N 2-011C944-70
Loctite	Appendix B, Item 33
Oil, Refrigerant	Appendix B, Item 67

Equipment Condition:

Reference	Condition Description
Page 2-29	Batteries Disconnected

References: TM 9-2320-363-10

General Safety Instructions:

WARNING

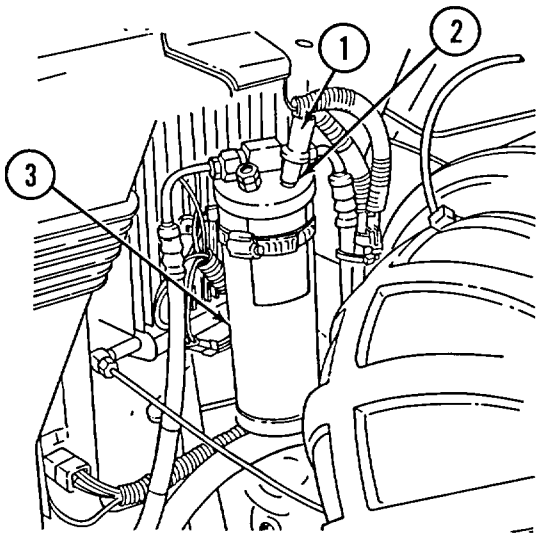
- **Use care to prevent refrigerant from touching your skin or eyes, because liquid refrigerant, when exposed to air, quickly evaporates and will freeze skin or eye tissue. Serious injury or blindness could result if you come in contact with liquid refrigerant.**
- **Refrigerant R-134a air conditioning system should not be pressure tested or leak tested with compressed air. Combustible mixtures of air and R-134a may form, resulting in a fire or explosion, which could cause personal injury**

REMOVAL

1. DISCONNECT HARNESS CONNECTOR (1) FROM BINARY SWITCH (2)
2. REMOVE THE BINARY SWITCH (2) FROM RECEIVER-DRIER (3).

INSTALLATION

1. LUBRICATE NEW O-RING WITH REFRIGERANT OIL, THEN INSTALL OVER MALE THREADS OF RECEIVER-DRIER COUPLING.
2. INSTALL BINARY SWITCH (2) AND TIGHTEN TO 20 TO 25 LB-FT (27 TO 34 N.m).
3. CONNECT HARNESS CONNECTOR (1).



NOTE

Follow-on Maintenance:

Connect batteries (page 2-29).
Operate air conditioner system (TM 9-2320-363-10).

AIR CONDITIONER LEAK TEST

This task covers: Leak Test

INITIAL SETUP

Applicable Configuration:

All except M915A2 and M916A1

Tools and Special Equipment:

Leak Detector, 16500

References:

TM 9-2320-363-10

General Safety Instructions:

WARNING

- **Use care to prevent refrigerant from touching your skin or eyes, because liquid refrigerant, when exposed to air, quickly evaporates and will freeze skin or eye tissue. Serious injury or blindness could result if you come in contact with liquid refrigerant.**
- **Refrigerant R-134a air conditioning systems should not be pressure tested or leak tested withcompressed air. Combustible mixtures of air and R-134a may form, resulting in fire or explosion, which could cause personal injury.**

LEAK TEST

WARNING

- **Use care to prevent refrigerant from touching your skin or eyes, because liquid refrigerant, when exposed to air, quickly evaporates and will freeze skin or eye tissue Serious injury or blindness could result if you come in contact with liquid refrigerant.**

- **Refrigerant R-134a air conditioning systems should not be pressure tested or leak tested with compressed air. Combustible mixtures of air and R-134a may form, resulting in fire or explosion, which could cause personal injury.**

NOTE

- **Refrigerant is odorless. As a result, all of it may leak away and not be noticed until the system stops cooling. All vehicle refrigerant systems lose some refrigerant, depending on the condition of the system. Higher loss rates signal a need to locate and repair the leaks.**

- **Leaks are most often found at the compressor hose connections and at the various fittings and joints in the system. If unapproved replacement hoses are Installed, refrigerant can be lost through hose permeation.**

1. WHEN CHECKING FOR LEAKS, ALWAYS FOCUS YOUR ATTENTION ON THE LOWEST PORTION OF THE FITTING OR PARTS BEING TESTED. REFRIGERANT IS HEAVIER THAN AIR AND WILL COLLECT AT LOW POINTS. OIL WILL ALSO FLOW THROUGH LOW POINTS.

2. LISTED IN SEQUENCE FROM LEAST PRECISE TO MOST PRECISE, THE METHODS FOR LOCATING LEAKS ARE:

SOAPSUDS SOLUTION. A SOLUTION OF SOAP AND WATER CAN BE SQUIRTED ONTO A SUSPECTED FITTING OR PART. IF THE LEAK IS LARGE ENOUGH, IT WILL CAUSE BUBBLES TO FORM IN THE SOAPY SOLUTION AT THE POINT OF THE LEAK.

NOTE

DO NOT use leak detector immediately after connecting or disconnecting refrigerant hoses. Traces of refrigerant at fittings can falsely signal a leak.

ELECTRONIC LEAK DETECTOR. A FAIRLY RECENT DEVELOPMENT, ELECTRONIC LEAK DETECTORS ARE BATTERY OR 115-VOLT POWERED AND RELY ON A VERY SENSITIVE SIGNAL WHEN A LEAK IS FOUND. IN ADDITION TO BEING VERY PRECISE, ELECTRONIC LEAK DETECTORS CAN BE USED IN TIGHT PLACES. FOLLOW LEAK DETECTOR MANUFACTURER'S INSTRUCTIONS TO TEST FOR LEAKS.

NOTE

Follow-on Maintenance:

Check operation of heater/air conditioner (TM 9-2320-363-10).

APPENDIX A
REFERENCES

PUBLICATION INDEXES

The following index should be consulted frequently for latest changes or revisions and for new publications relating to material covered in this technical manual:

Consolidated Index of Army Publications and Blank Forms.....DA Pam 25-30

FORMS

The following forms pertain to this material. (Refer to DA Pam 25-30 for index of blank forms).

Optional Form 46, U.S. Government Motor Vehicle Operator's Identification Card

Standard Form 91, Operator Report of Motor Vehicle Accidents

DA Form 2028, Recommended Changes to Publications and Blank Forms

Form SF 368, Product Quality Deficiency Report

DD Form 1397, Processing Record for Shipment, Storage, and Issue of Vehicles and Spare Engines.

Refer to DA Pam 738-750, The Army Maintenance Management Systems (TAMMS), for instructions on the use of maintenance forms pertaining to this material

OTHER PUBLICATIONS

The following publications contain information pertinent to the major item material and associate equipment:

Operating Vehicle

Operator's Manual for M915 Family of Vehicles .....TM 9-2320-363-10

Driver Selection and Training (Wheeled Vehicles) .....FM 21-300

Army Motor Transport Units and Operation .....FM 55-30

Manual for the Wheeled Vehicle Driver .....FM 21-305

Fuels and Lubricants Standardization Policy
for Equipment Design, Operation, and Logistic Support .....AR 70-12

Prevention of Motor Vehicle Accidents .....AR 385-55

Accident Reporting and Records .....AR 385-40

Rigging .....FM 5-725

Maintenance and Repair

Operator's, Unit, Direct Support, and General Support Maintenance Manual for M917A1 and M917A1 w/MCS Dump Truck, Body ..... TM 5-3805-264-14&P

Unit Maintenance for M915 Family of Vehicles ..... TM 9-2320-363-20

Unit, Direct Support, and General Support Maintenance Repair Parts and Special Tools List for M915 Family of Vehicles ..... TM 9-2320-363-20-2

Operator's and Organizational Maintenance Manual Including Repair Parts and Special Tools List for Decontaminating Apparatus, Portable ..... TM 3-4230-214-12&P

Operator's, Organizational, Direct Support, and General Support Maintenance Manual for Lead-Acid Storage Batteries ..... TM 9-6140-200-14

Operator's, Unit, Direct Support and General Maintenance Manual for Care, Maintenance, Repair and Inspection of Pneumatic Tires and Inner Tubes ..... TM 9-2610-200-14

Description, Use, Bonding Techniques, and Properties of Adhesives ..... TB ORD 1032

Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Material and Related Materials, Including Chemicals ..... TM 9-247

Metal Body Repair and Related Operations ..... FM 43-2

Painting Instructions for Field Use ..... TM 43-0139

Inspection, Care, and Maintenance of Anti-Friction Bearings ..... TM 9-214

Use of Antifreeze Solutions and Cleaning Compounds in Engine Cooling Systems ..... TB 750-651

Rust Proofing Procedures for Truck, Utility ..... TB 43-0213

Cooling Systems: Tactical Vehicles ..... TM 750-254

Functional Grouping Codes ..... TB 750-93-1

Solder and Soldering ..... TB SIG 222

Operator's Manual for Welding Theory and Application ..... TM 9-237

Cold Weather Operation and Maintenance

Basic Cold Weather Manual	FM 31-70
Northern Operations	FM 31-71
Personnel Heater and Winterization Kit Policy for Tank-Automotive Construction and Material Handling Equipment	SB 9-16
Operation and Maintenance of Ordnance Material in Extreme Cold Weather (0°F to -65°F)	FM 9-207

Decontamination

Chemical, Biological, and Radiological (CBR) Decontamination	TM 3-220
Chemical, Biological, Radiological, and Nuclear Defense	FM 21-40
NBC Decontamination	TM 3-5

General

Principles of Automotive Vehicles	TM 9-8000
Camouflage	FM 5-20
Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use.	TM 750-244-6
Administrative Storage of Equipment	TM 740-90-1
Color and Marking of Army Material	TB 43-0209
Preservation, Packaging, and Packing of Military Supplies and Equipment.	TM 38-230-1 &TM 38-230-2
Storage Serviceability Standard, Tracked Vehicles, Wheeled Vehicles, and Component Parts	SB 740-98-1
Vehicle, Wheeled, Preparation for Shipment and Limited Storage of	MIL-V-62038D
Warranty	TB 9-2320-363-15

APPENDIX B
MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

GENERAL

This Maintenance Allocation Chart (MAC) designates responsibility for performance of maintenance repair functions at specified maintenance levels.

Section I is a general explanation and definition of terms.

Section II shows the maintenance level responsible and estimated work measurement time for specific functions.

Section III lists common tool sets and the special tools, test, and support equipment required for each maintenance function shown in Section II.

Section IV lists the remarks referenced in Section II.

EXPLANATION OF COLUMNS IN SECTION II

Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

Column 2, Component/Assembly. Column 2 contains the noun 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.

Column 4, Maintenance Level. Column 4 specifies, by the listing of a "work time" figure in the appropriate subcolumn(s), the level of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or level of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work time figures will be shown for each level. The number of man-hours specified by 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, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. This figure does not include any time for performance of preliminary tasks listed elsewhere in the MAC; e.g., removal of engine under repair of fuel pump,

when the engine is listed separately in the MAC. The symbol designations for the various maintenance categories remain as follows:

C - Operator/Crew
O - Unit Maintenance
F - Direct Support Maintenance
H - General Support Maintenance
D - Depot Maintenance

Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated functions.

Column 6, Remarks. Column 6 references any amplifying remarks.

MAINTENANCE FUNCTIONS DEFINED

Inspect. To closely and critically examine (e.g., sight, sound, or feel) an item to detect errors, flaws, wear, etc., and to determine its condition and serviceability by comparing its physical mechanical/electrical characteristics within established standards.

Test. To verify serviceability and detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

Service. Operations required periodically to keep an item in proper operating condition; i.e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.

Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipment used in precision measurement. Consists of comparison of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

Replace. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

Repair. The application of maintenance services (inspect, test, service, adjust, aline, calibrate, or replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to 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.

Overhaul. That maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i.e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
01	ENGINE								
0100	Engine Assembly	Inspect	0.3						
		Test		0.5	0.5			83,145	
		Service		2.0					
		Replace			17.0			70,97,103,107,123,	
		Repair			18.0			97,103,107	E
		Overhaul					30.0		E
	Engine Mounts	Replace			0.8			97,103	
0101	Cylinder Head Assembly	Replace			4.0			47,51,60,97,103	
		Repair				10.4		2,3,32,33,34,37,38, 39,45,46,48,52,72, 73,90,97,98,103, 107	E
	Cylinder Block	Inspect				1.0			
		Test			1.0			31,40,72,87,97,1031	E
		Replace				6.0		29,40,52,73,90,97,	
		Repair				12.0		103,40,52,72,73,90, 97,103	E
0102	Vibration Damper	Replace			1.0			97,103	
	Crankshaft Assembly	Inspect				0.5			E
		Replace				17.3		49,62,97,103	
		Repair				1.0		97,103	
	Main Seals	Replace			1.0			53,54,64,97,103	
0103	Flywheel Housing	Replace				1.0		53,54,97,103	E
0104	Rod, Piston and Pin	Inspect				0.5			
		Replace				18.0		1,42,43,58,61,71, 84,86,97,103	E
0105	Rocker Arm Assemblies	Inspect			0.4				
		Replace			2.8			47 or 143, 66,67,77, 78,97,103	
	Rocker Cover	Replace			0.5			97,103	
	Camshaft Assembly	Inspect			0.4				
		Replace			3.0			51,60,67,97,103,	
128									
	Camshaft Drive Gear	Inspect			0.2				
		Replace			1.0			97,103	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
0106	Oil Pan	Replace Repair			0.8 1.0			97.103 97.103	
	Oil Filter	Replace		0.8				99	
	Oil Filter Adapter	Replace		1.5				99, 105	
	Oil Cooler Core	Replace		3.0				105	
	Oil Pump Assembly	Replace Repair			1.0	 3.0		97, 103 97, 103	
	Regulator Valve Assembly	Replace			0.5			97, 103	
0108	Exhaust Manifold	Replace			1.4			97, 103	
	Intake Manifold	Replace			1.0			97, 103	
0109	Air Compressor Drive Assembly	Replace Repair			1.5 3.0			97, 103 76, 97, 103	
	Bull/Idler Gears	Replace				1.5		57.65,75,97,103	
0112	Engine Retarder Assembly	Test Adjust Replace Repair			0.8 0.5 0.5 4.3			83 97,103 97,103 97,103	
0125	Gear Case and Front Cover	Replace			1.8			69,97,103	
03	FUEL SYSTEM								
0301	Fuel Injector Assembly	Replace Repair			2.0 1.8			97.103 97.103	
0302	Fuel Pump	Replace		1.0				105	
	Hose Assembly	Inspect Replace		0.1 0.5				 105	
0304	Air Cleaner Assembly	Replace		0.3				105	
	Air Intake Assembly	Replace		0.2				105	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
0305	Turbocharger	Replace			0.8			21,97,103,114	
		Repair				3.0		88,97,103	
0306	Fuel Tank	Inspect		0.1					
		Replace		2.0				99,105	
		Repair			2.0			97,103	
0309	Fuel Filter Elements	Service	0.1						
		Replace		0.3				99,105	
0311	Ether Starting Aid	Replace		1.0				105	
		Repair		0.5				105	
0312	Throttle Treadle	Replace		0.3				105	
04	EXHAUST SYSTEM								
0401	Muffler	Inspect		0.1					
		Replace		0.5				99,105	
	Exhaust Pipe	Inspect		0.1					
		Replace		1.3				99.105	
05	COOLING SYSTEM								
0501	Radiator Assembly	Inspect		0.3					
		Replace		0.7				105, 140	
		Repair		0.5				97,103	B
0502	Fan Shroud	Replace		1.0				105	
0503	Thermostat	Replace		1.0				90,94,99,105	
0504	Water Pump	Replace		3.0				55,91,99,105	
		Repair			1.5			55,63,97.103	
0505	Fan Drive Support	Replace			0.6			97,103,128	
	Fan Clutch and Drive	Replace		2.0				105	
		Repair			1.5			97,103,142	
	Fan Belt	Adjust		0.5				105	
		Replace		0.5				105	
	Spindle and Housing	Replace		1.5				105	
		Repair			3.0			76,97,103	
0508	Water Filter	Replace		0.3				99	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
06	ELECTRICAL SYSTEM								
0601	Alternator	Inspect	0.1						
		Test			0.5				
		Replace		0.3				105	
		Repair			2.0			97,103	
	Drive Belt	Adjust		0.5				105,139	
		Replace		0.5				105	
	Accessory Drive Assembly	Replace			0.3			97,103	
		Repair				1.0		68,85,97,103	
0602	Regulator	Adjust		0.5					
		Replace		0.5				105	
0603	Starter	Replace		1.5				105	
		Repair			2.0			97,103	
0605	Electronic Control Module, DDEC II	Test		0.2				83	
		Replace		0.3				105	I
	DDEC III Module	Test			0.3			130,132	
		Replace		0.5				105	I
		Repair				1.0			I
	Engine Wiring Harness	Test		0.2				56,99,105	
		Replace			1.0			97,103	
		Repair			0.3			44,59,97,103	
	DDEC II Engine Harness	Test		0.2				56,83,99.105	
		Replace			0.7			97,103	
		Repair			0.3			44,59,97,103	
	Harness, DDEC III	Replace			0.5			105	
		Repair		0.5				101,105	
	Injector Wiring Harness	Test		0.2	1.0			56,99,105	
		Replace			0.3			97,103	
		Repair						44,59.97,103	
	Data Logger	Replace		0.3				105	I
	Harness, Data Logger	Replace			0.3			105	
		Repair		0.5				101,105	
0607	Instrument Panel Switches	Replace		0.3				99,105	
0608	Fuse, Relay and Circuit Breaker	Replace		0.1				105	
0609	Headlight	Replace		0.3				105	
		Repair		0.2				105	
	Taillight	Service		0.1					
		Replace		0.2				105	
		Repair		0.2				105	
0611	Horn, Siren								
	Backup Alarm	Replace		0.3				105	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL C	O	F	H	D	(5) TOOLS AND EQUIPMENT	(6) REMARKS
0610	Timing Reference Sensor	Test Replace		0.2 0.5				99,105	
	Synchronous Reference Sensor	Test Replace		0.2 0.5				83 99,105	
	Turbo Boost Sensor	Test Replace		0.2 0.5				99,105	
	Oil Pressure Sensor	Test Replace		0.2 0.5				83 105	
	Oil Temperature Sensor	Test Replace		0.2 0.5				83 105	
0611	Electric Horn	Replace		0.2				105	
0612	Ballcrics	Test Replace Repair		0.2 0.5	1.0			99,105 105	C
0613	Overhead Cab Harness	Test Replace Repair		0.2	0.2 0.5			56,99,105 97,103 44,59,97,103	
	Chassis Harness	Test Replace Repair		0.2	2.0 0.5			56,99,105 97,103 44,59,97,103	
	STE/ICE Harness	Test Replace Repair		0.2	2.0 0.3			56,99,105 97,103 44,59,97,103	
	Electronic Control Unit Harness	Test Replace Repair		0.2 0.5 0.3				56,99,105 105 44,59,99,105	
	Cab Harness	Test Replace Repair		0.2	2.0 0.3			56,99,105 97,103 44,59,97,103	
07	TRANSMISSION								
0705	Shift Control	Replace Repair		1.0 1.5				99,105 99,105	
	Transmission Modulator	Replace		0.3				99,105	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL C	O	F	H	D	(5) TOOLS AND EQUIPMENT	(6) REMARKS
0710	Fill/Check Assembly	Replace		0.5				105	
	Transmission Yoke	Replace			0.4			8,9,36,97,103	
	Transmission	Service Test Replace Repair		1.8	 0.3 12.0	 11.5		 97,103 97,103,107 18,23,97,103,121	 G
	Flywheel l and Turbine Assembly	Replace Repair			1.0	 0.8		19,97,103 97,103	G
	Stator Assembly	Replace Repair				0.3 0.5		103 15,103	G
	Convertor Housing Assembly	Replace Repair				0.5 0.5		97,103,121 97,103	G
	Front Support Assembly	Replace Repair				1.0 1 .0		97,103,121 5,16,92,97,103	
	Oil Pan	Replace		0.5				99,105	
	Output Shaft Assembly	Replace Repair				0.2 0.1		4,7,27,28,97,103 97,103	G
	Governor Assembly	Replace			0.1			97,103	G
	Rear Cover Assembly	Replace				1.2		10,11,13,36,95,97,103	
0713	Forward Clutch Assembly	Replace Repair				0. l 1.1		6,17,97103 6,11,14,17,26,97,103	G
	Fourth Clutch Assembly	Replace Repair				0.2 0.6		97,103 11,97,103	G
	Second Clutch	Replace				0,2		97,103	G
	Third Clutch	Replace				1.1		97,103	G
	Support Housing Assembly	Replace Repair				1.0 2.0		12,29,35,97,103 97,103	G
- 0714	Control Valve Assembly	Replace Repair				1.8 3.3		97,103 97,103	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
0721	Transmission Filter Assembly	Replace		0.3				99,105	
		Repair		0.3				99.105	
	Oil Cooler	Replace		0.6				99.105	
	Torque Converter Pump Assembly	Replace				0.3		25,97,103	
		Repair				0.7		9,20,97,103	
08	TRANSFER CASE								
0801	Transfer Case Assembly	Service		0.4					
		Test		0.1	0.3				
		Replace			4.1			97,103	
		Repair				4.2		97,103	
	Shuttle Valve	Replace		0.5				105	
0803	Shift Control Assembly	Adjust		0.3					
		Replace		0.8				99,105	
		Repair		0.4				99.105	
	Shift Cable	Adjust		0.3				105	
		Replace		0.5				105	
	Air Shift Chamber	Replace			0.5			103	
		Repair			2.8			97.103	
0804	Lubrication Pump Assembly	Replace			0.5			97,103	
		Repair			0.5			103	
09	DRIVELINES								
0900	Driveline Assembly	Inspect		0.2					
		Service		0.2					
		Replace		1.9				99,105	
		Repair		1.0				99,105	
10	FRONT AXLE								
1000	Axle Assembly (M915A2)	Inspect	0.3						
		Service		0.1					
		Aline		1.0				99,105	
		Replace			4.5			97,103	
		Repair			6.0			97,103	
	Axle Assembly (All Except M915A2)	Inspect	0.3						
		Service		0.1					
		Aline		1.0				99, 105	
		Replace			4.5			97, 103	
		Repair			10.5			36, 97, 103, 113	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
1002	Differential (All Except M915A2)	Replace			9.8			97,103	
		Repair				10.5		36,97,103,113	
1004	Tie Rod Knuckle (M915A2)	Replace			0.8			97,103	
		Repair			1.0			97,103	
11	REAR AXLE								
1100	Forward-Rear Axle	Inspect	0.1						
		Service		0.2					
		Replace			4.5			97,103	
		Repair			8.0			36,97,103	
	Rear-Rear Axle	Inspect	0.1						
		Service		0.2					
		Replace			3.0			97,103	
		Repair			8.0			36,97,103	
1102	Differential	Replace			1.0			97,103	
		Repair				10.5		36,97,103	
	Output Shaft Assembly	Replace			0.1			97,103	
12	BRAKES								
1202	Hanging Brake Assembly	Replace		1.0				99,105	
		Repair		0.3				99,105	
	Front Brakes	Inspect		0.7					
		Service		0.1					
		Adjust		2.0				99,105	
		Replace		2.0				105	
	Rear Brakes	Inspect		0.7					
		Service		0.8					
		Adjust		1.0				99,105	
		Replace		0.5				99,105	
1208	Front Chamber Assembly	Inspect		0.2					
		Replace		1.3				105	
	Rear Chamber Assembly	Inspect		0.2					
		Replace		1.3				105	
	Air Dryer	Service		0.5					
		Replace		0.5				105	
		Repair		0.8				103	
	Foot Valve	Replace		0.2				99,105	
		Repair		0.8				97,105	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
	Solenoid Valve	Replace		0.8				105	
1209	Air Compressor	Replace		1.0				99,105	
		Repair			4.0			22.97,103	
13	WHEELS								
1311	Front Hub Assemblies	Replace		0.5				99,105	
	(M915A2)	Repair		0.1				99,105	J
	Front Hub and Drum	Replace		0.5				99,105,124	J
	(All Except M915A2)	Repair			1.0			99,105	
	Wheel Assembly	Inspect	0.1	0.5					
		Replace		0.4				99,127	
	Rear Hub and Drum	Replace		0.5				99,105	
		Repair			1.0			99,105	J
	Wheel Valve (CTIS)	Replace		0.5				101,105	
		Repair		0.3				99,105	
	CTIS Control Panel	Inspect	0.1						
		Replace		0.3				105	
		Repair		0.3				105	
	CTIS Pneumatic	Replace		0.3				105	
	Control Unit	Repair		1.0				99,105	
	CTIS Lines, Hoses, Valves	Replace		0.2				105	
	CTIS Switches/Sensors	Replace		0.2				105	
	CTIS Harness	Replace			0.5				
		Repair		0.5				101,105	
1313	Tires	Replace		0.1				99.105	
		Repair			0.5			97,103	
14	STEERING								
1401	Steering	Inspect	0.8	1.0					
		Test		1.0					
		Service		0.3	0.3				
	Steering Universal	Replace		3.0				99,105	
	Shaft	Repair		1.0				99,105	
1407	Steering Gear	Replace				0.5		97,103	
		Repair				2.5		79,80,81.82,92,97, 103,112	
1410	Steering Pump	Test			0.3			24,30	
		Replace			0.7			97,103	
		Repair			1.5			105	
1411	Hose Assembly	Inspect		0.1					
		Replace		1.0				99,105	
	Steering Return Hose Assembly	Replace		0.1				99,105	
1413	Reservoir Assembly	Replace		1.0				99,105	
	and Bracket	Repair		1.0				99,105	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
15	FRAME ASSEMBLY								
1501	Frame Components	Inspect	0.5	0.5					
		Replace			2.1			97.103	
	Tail Roller Assembly	Inspect	0.2						
		Service		0.8					
		Replace		0.2				99,105	
	Ramp Assembly	Inspect	0.1						
		Replace			0.3			103	
1503	Pintle Hook	Inspect	0.1	0.2					
		Service		0.1					
		Replace		0.5				105	
		Repair		0.5				105	
1504	Spare Tire Carrier	Replace		1.0				105	
		Repair		0.5				105,141	
1506	Fifth Wheel Assembly (M915A2)	Inspect	0.3						
		Service		0.3					
		Adjust		1.0				105,108,109	
		Replace			2.0			103	
	Wheel Plate	Replace			1.0			103	
		Repair			0.8			103,108	
	Slider Bracket	Replace			0.5			103	
		Repair			1.3			103	
	Fifth Wheel Assembly (M916A1) And (M916A2)	Inspect	0.3						
		Service		0.3					
		Adjust		1.0				105.111	
		Replace			2.0			103,110	
	Wheel Plate	Replace			1.0			103	
		Repair			0.8			103,108	
	Slider Bracket	Replace			0.6			103	
		Repair			0.8			103.110	
16	SUSPENSION								
1601	Shackle/Bracket Assembly	Replace			1.5			97,103	
	Front Spring Assembly	Replace			4.0			97,103	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
	Rear Suspension	Inspect		0.1					
		Service		0.1					
		Replace			6.0			97,103	
		Repair			12.0			97,103	
	Equalizing Beam Assembly	Service		0.1					
		Replace			2.0			97,103	
		Repair			1.0			97,103.115,116.117, 118,119, 120.122,125,126	
	Spring/Saddle	Replace			0.5			97,103	
	Shackle Bracket	Inspect		0.1					
		Replace			0.5			97,103	
	Stop Cushion	Replace			1.0			97,103	
1605	Torque Rods	Replace			1.0			97,103	
	Equalizer Beam	Aline				1.0			H
		Replace			2.0			97,105	
		Repair			1.0			97,105,137	
18	CAB								
1801	Cab Assembly	Inspect	0.1						
		Replace				4.0		89,103	A
		Repair				3.0		89,97.103,104	
	Doors	Replace			0.4			103	
		Repair			0.7			103	
	Hood	Adjust		0.3				99,105	
		Replace		0.5				105	
		Repair			2.0			103	
1802	Windshield and Windows	Replace			1.5			102.105	
	Quarter Fender Assembly	Replace		0.4				105	
1805	Floor Covers	Replace		1.0				105	
1806	Seat Belt Assembly	Inspect	0.2						
		Replace		0.5				105	
	Seat Assembly	Inspect	0.1	0.2					
		Replace		0.5				105	
		Repair		0.3				97,103	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
1808	Personnel and Tire Chain Boxes	Replace		0.5				105	
		Repair		0.5				105	
	Tractor Equipment Box	Replace		1.0				105	
		Repair		0.5				105	
20	WINCH								
2001	Winch Assembly	Inspect	0.1						
		Service		2.0					
		Replace			1.4			103	
		Repair			8.0			97.103	
	Hydraulic Filter	Replace			0.3			103	
	Hydraulic Pump	Replace			2.0			97,103	
		Repair			1.0			103	
	Hydraulic Tank	Service		0.8					
		Replace		1.5				99,105	
		Repair		2.3				99,105	
	Counterbalance Valve	Test			0.5				
		Adjust		0.5				105	
		Replace			0.5			97.103	
		Repair			0.3			97,103	
	Hydraulic Motor	Replace			1.0			97,103	
		Repair				1.0		103	
	Hydraulic Speed Control Valve	Adjust		0.5				105	
		Replace			0.3			97,103	
		Repair			0.5			103	
	Hydraulic Direction Control Valve	Adjust		0.5				105	
		Replace			0.5			97,103	
		Repair			0.5			103	
	Wire Rope	Inspect	0.1	0.5					F
		Service	1.0						
		Replace		2.0				99,105	
2004	PTO Controls (All Except M915A2)	Replace		0.3				105	
	Power Take-Off (All Except M915A2)	Test		0.5					
		Replace			1.0			103	
		Repair			3.0			103	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
22	ACCESSORY ITEMS								
2202	Heater Hoses	Replace		1.5				105	
	Mirrors	Inspect	0.1						
		Replace		0.3				105	
	Windshield Washer and Motor	Replace		1.2				105	
	Vehicle Heater	Replace		1.0				99,105	
	Assembly	Repair			2.0			97,103	
	Heater Controls	Adjust		0.2					
		Replace		0.5				99,105	
		Repair		0.5				99,105	
	Heater Air	Test		1.0	1.0			134,136	
	Conditioning Unit	Replace			1.5			97,105,136.138	
		Repair		1.0	1.0			105,136,138	
2210	Data Plates and Oil Sampler Tags	Replace		0.2				99,105	
33	SPECIAL PURPOSE KITS								
3303	Swing fire Heater Kit	Install		2.0				99,105	
		Replace		1.0				99,105	
		Repair		0.5				99,105	
		Remove		2.0				99,105	
	Arctic Personnel	Install		2.0				99,105	
	Heater Kit	Replace		1.0				99,105	
		Remove		2.0				99,105	
	Auxiliary Heater	Install		4.0				99,105	
	Assembly	Replace		4.0				99.105	
34	ARMAMENT MATERIAL								
3401	Rifle Mounting Kit	Replace		0.5				105	
42	ELECTRICAL EQUIPMENT								
4209	Beacon Warning Light	Install		0.1				105	
	Kit	Replace		0.2				105	

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
47	GAGES (NON-ELECTRICAL)								
4701	Tachometer Drive Assembly	Service Replace	0.1	 0.5				 99,105	
	Tachometer	Replace		0.3				105	
4702	Air Pressure Gages	Replace		0.5				105	
52	REFRIGERATION. AIR CONDITIONER/ HEATER. AND AIR CONDITIONING COMPONENTS								
5200	Air Conditioning System	Inspect Service	0.1	0.3	 1.5			136 105,134,136,138	
	Compressor	Replace Repair			1.0 0.8			105,136,138 105,135	
5201	Compressor Clutch	Replace			0.8			105,135	
	Belt	Adjust Replace		0.2 1.0				101,105 101,105	
5217	Valves and Lines	Replace		0.5				105,136,138	
5230	Condenser	Replace		1.0				105,136,138	
	Receiver/Driver	Replace		1.0				105,136,138	
91	CHEMICAL, BIOLOGICAL, AND RADIOLOGICAL (CBR) EQUIPMENT								
9120	M13 Decontamination Mounting Kit	Replace		0.5				105	

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOL OR TEST EQUIPMENT REFERENCE CODE	MAINTENANCE LEVEL	NOMENCLATURE STOCK NUMBER	NATIONAL/NATO NUMBER	TOOL
1	H	Piston Ring Pliers	5120-01-142-2459	J22405-02
2	H	Valve Seat Collet		J23479-29
3	H	Valve Seat Remover	5120-01-322-8883	J23479-460
4	H	Lifting Bracket	5120-01-115-1157	J24196
5	H	Bearing Installer	5120-01-115-1160	J24197
6	H	Installer and Stake	5120-01-048-3124	J24200
7	H	Bushing Installer	4910-01-158-3986	J24201-A
8	F,H	Output Shaft Seal Installer		J24202-1A
9	F,H	Driver Handle	5120-01-054-4048	J24202-4
10	H	Bushing Installer	5120-01-115-9174	J24203
11	H	Spring Compressor	5120-01-048-3129	J24204
12	H	Snap Ring Assembly		J24208-D
13	H	Inner Seal Protector	5120-01-048-2156	J24210
14	H	Inner Seal Protector	5120-01-048-2157	J24216-01
15	H	Roller Spring Installer	5120-01-115-1158	J24218-2
16	H	Bearing Installer		J24219
17	H	Fourth Clutch Aligning Tool	5120-01-115-1156	J24221
18	H	Holding Fixture	5120-01-115-1165	J24310
19	F,H	Flywheel Lifting Bracket	5120-01-116-6049	J24365
20	H	Bearing Installer	5120-01-054-4054	J24447
21	F	Turbocharger Inlet Shield	4910-01-127-7959	J26554-A
22	F	Remover/Installer Tool	5120-01-338-7182	J25447-B
23	H	Lever Seal Installer	5120-01-115-1161	J26282
24	F,H	Flowmeter		J26487-B
25	H	Snap Ring Remover/Installer	4910-01-158-3996	J26598A
26	H	PTO Gear Removal Fixture	4910-01-158-3969	J26899
27	H	Bushing Swager	4910-01-158-3970	J26997-A
28	H	Sun Gear Reamer Set	5120-01-150-9755	J28489
29	H	Center Support	4910-01-168-9543	J28525-1
30	F,H	Adapter Kit		J28593
31	H	Cylinder Leak Tester		J29006-5
32	H	Valve Seat Installer	5120-01-322-1133	J33190

TOOL OR TEST EQUIPMENT REFERENCE CODE	MAINTENANCE LEVEL	NOMENCLATURE STOCK NUMBER	NATIONAL/NATO NUMBER	TOOL
33	H	Valve Guide Installer	5120-01-322-3501	J33191-A
34	H	Injector Tube Reconditioning Set	5120-01-322-3507	J33880
35	H	Retaining Ring Gage	5220-01-170-1250	J34127
36	F,H	Yoke Holder Bar	5120-01-166-0573	J3453
37	H	Valve Guide Remover	5120-01-322-3506	J34696-B
38	H	Valve Seat Installer	5120-01-322-2955	J34983
39	H	Spring Compressor	5306-01-319-1987	J35580
40	H	Eye Bolt		J35595
41	F,H	Cam/Idler Lash Adjuster	5120-01-322-8885	J35596
42	H	Cylinder Liner Installer	3449-01-319-5599	J35597
43	H	Piston Ring Compressor		J35598
44	O	Wire Stripper		J35615
45	F,H	Adapter Plate		J35635-A
46	F,H	Adapter Plate	2510-01-320-8905	J35636
47	P	Injector Timing Height Gauge (DDEC II)		J35637-A
48	F,H	Lifter	3940-01-324-4713	J35641
49	H	Crankshaft Gear Remover/Installer	5120-01-322-2360	J35642
50	H	Alinement Plug	3460-01-319-5533	J35651
51	F	Cam Gear Retaining Tool	3040-01-319-0848	J35652
52	H	Plug Installer Sct	5120-01-322-2359	J35653
53	P	Oil Seal Expander	5120-01-322-2357	J35685-A
54	F	Oil Seal Installer	5120-01-322-1159	J35686
55	O,F	Slip/Lash Tester	5120-01-322-2358	J35687
56	O	Jumper Wire Kit		J35751
57	H	Guide Stud	5120-01-322-3503	J35785
58	H	Cylinder Liner Remover	5120-01-322-1128	J35791
59	O	DDEC Repair Kit		J35888-60
60	F,H	Camshaft Gear Pilot	5120-01-322-3508	J35906
61	H	Connecting Rod Guides		J35945
62	H	Hydraulic Ram aud Pump	4320-01-320-4618	J35951-175
63	F	Water Pump Service Set		J35988-B
64	F	Oil Seal Remover	5120-01-322-1131	J35993
65	H	Crankshaft Protector	2815-01-321-9248	J35994
66	F	Rocker Arm Lifter	5120-01-322-6116	J35996

TOOL OR TEST EQUIPMENT REFERENCE CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
67	F	Rocker Stud Socket	S120-01-322-1123	J36003
68	H	Service Set	5120-01-322-3499	J36024-B
69	F	Guide Stud	5120-01-322-3505	J36107
70	F,H	Load Rotor		J36130-812
71	H	Holding Fixture	5120-01-322-3497	J36211
72	H	Pressure Test Kit		J36223-C
73	H	Dowel Installer Set	5120-01-322-3500	J36224
74	F	Guide Stud Set	5315-01-333-2771	J36235
75	F,H	Barring Tool	5120-01-322-3498	J36237
76	F	Air Compressor Service Set	5120-01-322-6222	J36310-A
77	F	Plug Cup Installer	5120-01-333-4744	J36326
78	F	Valve Button Expander	5120-01-322-6888	J36347
79	F	Spanner Wrench		J37070
80	F	Trunnion Installer		J37071
81	F	Input Seat Installer		J37073
82	F	Spanner Wrench		J37464
83	O,F	DDEC Diagnostic Reader		J38500-A
84	H	Groove Top Ring Gauge		J38609
85 ,	F,H	***Gear*** Lash Checker		J38662
86	H	Groove Gage		J38689
87	H	Cylinder Leak Adapter		J38768
88	H	Turbocharger Fixture Set		J39508
89	F,H	Cab Sling		J39520
90	O,H	Handle	5120-00-977-5578	J7079-2
91	O,H	Dial Indicator	5120-00-977-5578	J7872
92	H	Drive Handle	5120-01-677-2259	J8092
93	F	Spring Scale	4910-00-779-6832	J8129
94	o	Seal Installer	5120-00-977-5579	J8550
95	F,H	Sockct	5120-01-170-6709	L883
96	F	Bushing Driver		PT-4365-1
97	F,H	Automotive Maintenance Shop Equipment	4910-00-754-0705	SC4910-95-CL-A31
98	F,H	Automotive Maintenance Shop Equipment	4910-00-754-0707	SC4910-95-CL-A63

TOOL OR TEST EQUIPMENT REFERENCE CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
99	O,F,H		4910-00-754-0650	SC4910-95-CL-A72
100	O,F,H		4910-00-754-0653	SC4910-95-CL-A73
101	O,F,H		4910-00-754-0654	SC4910-95-CL-A74
102	H		4904-00-357-7737	SC4940-95-CL-A18
103	F,H		5180-00-699-5273	SCS180-90-CL-N05
104	H		5180-00-596-151”0	SC5180-90-CL-N19
105	O,F,H		5180-00-177-7033	SC5180-90-CL-N26
106	O,F,H		5180-00-754-0655	SC5180-95-CL-B08
107	F,H		4910-00-754-0706	SC5180-95-CL-A62
108	O,F			TF-0237
109	O,F		4910-01-157-3571	TF-TLN-1000
110	F			TF-TLN-2500
111	o		4910-01-061-5594	TLN-1500
112	F			XE-16
113	H			1M723
114	F,H		5120-00-215-8200	11663358-2
115	F			204266
116	F			206457
117	F			206459
118	F			302026
119	F			302027
120	F			302030
21	H			3062
122	F			38095
123	F,H			38841
124	o			409GX
125	F			42052
126	F			51100
127	O,F			6991
128	F,H			805774
129	H			8929129

TOOL OR TEST EQUIPMENT REFERENCE CODE	MAINTENANCE LEVEL	NOMENCLATURE STOCK NUMBER	NATIONAL/NATO NUMBER	TOOL
130	O	Contact Test Set	6625-01-352-3060	A3185552
131	F	Hose Assembly, Outfit	4940-01-080-4213	DFP254
132	O	Cartridge, DDEC 111	4940-01-367-4657	J38500-750
133	O	Cartridge, DDEC 11		J38500-700
134	F	Gage, Thermistor w/Holder		J38509
135	F	Tool Kit, Compressor Repair	4130-01-111-6894	22-1272
136	O,F	Leak Detector, Refrigerant	4940-01-387-0948	16500
137	F	Set, Pin Adapter		1747
138	F	R134A Recovery	4250-01-396-8928	34400
139	O	Tensiometer, Belt	6635-01-093-3710	BT-33-73F
140	O	Pliers, Slip Joint	5120-00-357-3375	HCP48A
141	O	Swager, Hand		P-HS-005
142	F	Tool, Fan Service		4038-42192-01
143	F	Gage, Injector Height (DDEC 111)		J39697
144	O	Cartridge, ABS		J38500-403A
145	O,F	Box, Breakout		J35634

Section IV. REMARKS

REFERENCE CODE	REMARKS
A	All repair and replacement of parts performed by unit maintenance limited to authorized items listed in TM 9-2320-363-24P
B	Refer to TM 750-254 (cooling systems) for additional information
C	Refer to TM 9-6140-200-14 (batteries) for additional information
D	Refer to TM 9-2610-200-14 (tires) for additional information
E	Requires removal of engine.
F	Inspect for frayed or broken strands
G	Requires removal of transmission
H	Requires contractor logistic support for laser alignment
I	Requires contractor logistic support for programming
J	Requires contractor logistic support for hub and drum repair.

APPENDIX C
EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

SCOPE

This appendix lists expendable consumable maintenance supplies you will need to operate and maintain the M915 Family of Vehicles. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items) or CTA 8-100, Army Medical Department Expendable/Durable Items.

EXPLANATION OF COLUMNS

Column (1) - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use lubricating oil, Item 19, Appendix C").

Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew
O - Unit Maintenance
F - Direct Support Maintenance
H - General Support Maintenance

Column (3) - National Stock Number. This is the National Stock Number assigned to the item; use it to request or requisition the item.

Column (4) - Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Contractor and Government Entity (CAGE) Code in parentheses followed by the part number.

Column (5) - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea., in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	O		Adhesive (64678) 48-00094-951	
1.1	O		Adhesive (71984) RTV732-30ZTUBE	
		8040-00-877-9872	3 Oz Tube	OZ
2	O		Adhesive-Sealant, Silicone (81349) MIL-A-46106	
3	O		Alumiiastic DOLLCHEM (71961) DPH/6075	EA
4	C		Antifreeze, Permanent, Glycol, Inhibited (81348) MIL-A-46153	
		6850-00-181-7929	1 Gal Can	GAL
		6850-00-181-7933	5 Gal Can	GAL
		6850-00-181-7929	55 Gal Can	GAL
4.1	C		Antifreeze, Permanent Type: Arctic Grade MIL-A-1 1755	
		6850-00-174-1806	55 Gal Drum	GAL
5	O	8030-00-597-5367	Compound, Antiseize, High Temperature (81349) MIL-A-907A	EA
6	C		Compound, Cleaning, Windshield (81348) O-C-1901	
		6850-00-926-2275	1 Pt	PT
6.1	C		Detergent, General Purpose, Liquid (83421) 7930-00-282-0699	
		7930-00-282-0699	1 Gal Can	GAL
7	O		Compound, Retaining (81349) MIL-R-46082	
8	O		Compound, Sealing, Pipe Thread (05972) 702350-X	

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
9	O		Eliminator, Gasket (33287) PT 7276	EA
10	O		Fluid, Transmission, OEA (24617) DEXRON II	
11	O		Fluid, Transmission, OE/HDO (23034) C-3	
12	C		Fuel, Diesel, Regular (81348) W-F-800	
		9140-00-286-5294	Bulk	GAL
		9140-00-286-5295	5 Gal Can	GAL
		9140-00-286-5296	55 Gal Drum, 16 GAGE	GAL
		9140-00-286-5297	55 Gal Drum, 18 GAGE	GAL
13	C		Fuel, Diesel, Winter (81348) W-F-800	
		9140-00-286-5286	Bulk	GAL
		9140-00-286-5287	5 Gal Can	GAL
		9140-00-286-5288	55 Gal Drum, 16 GAGE	GAL
		9140-00-286-5289	55 Gal Drum, 18 GAGE	GAL
14	C		Grease, Automotive and Artillery (GAA) (81349) MIL-G-10924	
		9150-01-197-7788	2.5 Oz Tube	OZ
		9150-01-197-7693	14 Oz Cartridge	OZ
		9150-01-197-7690	1.75 Lb Can	LB
		9150-01-197-7692	35 Lb Can	LB
		9150-01-197-7691	120 Lb Drum	LB
15	O		Grease, Mobil HP Heat Resistant (34728) MBUHP	EA
15.1	O		Loctite (05972) 242	
		8040-01-250-3969	2 Oz Bottle	OZ

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
15 2	O		Grease, Silicone (53711) 5205453	
		9150-01-066-1823	5.3 Oz Tube	OZ
16	C		Oil, Lubricating, OE/HDO 10	
		9150-00-189-6727	(81349) MIL-L-2104	
			1 Qt Can	QT
		9150-00-186-6668	2 Gal Drum	GAL
		9150-00-191-2772	55 Gal Drum, 18 GAGE	GAL
17	C		Oil, Lubricating, OE/HDO 40	
			(81349) MIL-L-2104	
		9150-00-189-6730	1 Qt Can	QT
		9150-00-188-9860	5 Gal Can	GAL
		9150-00-188-9862	55 Gal Drum	GAL
18	C		Oil, Lubricating, OE/HDO 15/40	J
			(81349) MIL-L-2104	
		9150-01-152-4117	1 Qt Can	QT
		9150-01-152-4118	5 Gal Can	GAL
		9150-01-152-4119	55 Gal Drum	GAL
18.1	C		Oil, Lubricating, OE/HDO 30	
			(81349) MIL-L-2104	
		9150-00-186-6681	1 Qt Can	QT
		9150-00-188-9858	5 Gal Can	GAL
		9150-00-189-6729	55 Gal Drum	GAL
19	C		Oil, Lubricating, GO 85/140	
			(81349) MIL-L-2105	
		9150-01-048-4581	1 Qt Can	QT
		9150-01-035-5345	5 Gal Drum	GAL
		9150-01-035-5396	55 Gal Drum	GAL

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
20	C		Oil, Lubricating, GO 80/90 (81349) MIL-L-2105	
		9150-01-035-5392	1 Qt Can	QT
		9150-01-035-5393	5 Gal Can	GAL
		9150-01-035-5394	55 Gal Drum	GAL
21	C		Oil, Lubricating, GO 75 (81349) MIL-L-2105	
		9150-00-035-5390	1 Qt Can	QT
		9150-00-035-5391	5 Gal Can	GAL
22	C		Oil, Lubricating, OEA, ICE, Subzero (81349) MIL-L46167	EA
		9150-00-402-4478	1 Qt Can	QT
		9150-00-402-2372	5 Gal Drum	GAL
		9150-00-402-7197	55 Gal Drum, 16 GAGE	GAL
23	O		Paint, Spray, White KRYLON (87187) A04 78/1501	EA
24	O	8030-01-241-9727	Seal 'N' Caulk (21106) MORTITE B-2	EA
25	C		Solvent, Dry-cleaning (SD), Type II (81348) P-D-680	
		6850-00-664-5685	1 Qt Can	QT
		6850-00-281-1985	1 Gal Can	GAL
26	O	9905-00-537-8954	Tag, Identification, Bundle of 50 (81349) MIL-T-12755	EA
27	O		Tape, Aluminum (64678) 48-02176-003	EA
28	O	8030-00-398-4130	Tape, Antiseize, Tetrafluoroethylene (81349) MIL-T-27730	EA
29	O		Tape, Double-Sided (7X678) 4970	EA

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
30	O	5970-00-989-1485	Tape, Electrical, Black 240-In. Roll (75037) 33	EA
31	O		Tape, Masking (81348) A-A-883	EA
32	O	9320-00-171-4369	Tape, Neoprene (55899) 632	EA
33	O		Tape, Teflon (81349) MIL-T-277308	EA
34	O		Towel, Shop (58536) A-A-531	EA
35	O		Toweling, Paper	EA
36	O		Wrap, Tie	EA

APPENDIX D
ILLUSTRATED LIST OF MANUFACTURED ITEMS

INTRODUCTION

This appendix includes complete instructions for making items authorized to be manufactured at unit maintenance.

A Part No. Index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the table which covers fabrication criteria.

All bulk materials needed for manufacture of an item are listed by part number or specification number.

PART NO.	NAME	TABLE NO.
FITC-02	CABLE, SPECIAL PURPOSE	D-1
NT10010-BKX13	TUBE, NYLON	D-1
NT10010-BKX16	TUBE, NYLON	D-1
NT10010-BKX40	TUBE, NYLON	D-1
NT10010-BKX175	TUBE, NYLON	D-1
PFT-4A	TUBING, NONME.	D-1
PFT-4A-BLK-100X13	TUBE, NYLON	D-1
PFT-4A-BLK-100X46	TUBE, NYLON	D-1
PFT-4A-BLK-100X48	TUBE, NYLON	D-1
PFT-4A-BLK-100X54	TUBE, NYLON	D-1
PFT-4A-BLK-100X70	TUBE, NYLON	D-1
PFT-4A-BLK-100X78	TUBE, NYLON	D-1
PFT-4A-BLK-100X85	TUBE, NYLON	D-1
PFT-4A-BLK-100X93	TUBE, NYLON	D-1
PFT-4A-BLK-1 00X1 59	TUBE, NYLON	D-1
PFT-4A-BLK-1 00X225	TUBE, NYLON	D-1
PFT-6B-BLK-100X6	TUBE, NYLON	D-1
PFT-6B-BLK-100X15	TUBE, NYLON	D-1
PFT-6B-BLK-100X18	TUBE, NYLON	D-1
PFT-6B-BLK-100X25	TUBE, NYLON	D-1
PFT-6B-BLK-100X34	TUBE, NYLON	D-1
PFT-6B-BLK-100X36	TUBE, NYLON	D-1
PFT-6B-BLK-100X40	TUBE, NYLON	D-1
PFT-6B-BLK-100X42	TUBE, NYLON	D-1
PFT-6B-BLK-100X52	TUBE, NYLON	D-1
PFT-6B-BLK-100X53	TUBE, NYLON	D-1
PFT-6B-BLK-100X70	TUBE, NYLON	D-1
PFT-6B-BLK-100X75	TUBE, NYLON	D-1
PFT-6B-BLK-1 00X79	TUBE, NYLON	D-1
PFT-6B-BLK-100X100	TUBE, NYLON	D-1
PFT-6B-BLK-100X113	TUBE, NYLON	D-1
PFT-6B-BLK-100X115	TUBE, NYLON	D-1
PFT-6B-BLK-100X119	TUBE, NYLON	D-1
PFT-6B-BLK-100X120	TUBE, NYLON	D-1
PFT-6B-BLK-100X130	TUBE, NYLON	D-1

PART NO.	NAME	TABLE NO.
PFT-6B-BLK-100 X149	TUBE, NYLON	D-1
PFT-6B-BLK-1 00X150	TUBE, NYLON	D-1
PFT-6B-BLK-100X159	TUBE, NYLON	D-1
PFT-8B-BLK-100X1	TUBE, NYLON	D-1
PFT-8B-BLK-100X7	TUBE, NYLON	D-1
PFT-8B-BLK-100X36	TUBE, NYLON	D-1
PFT-8B-BLK-100X50	TUBE, NYLON	D-1
PFT-8B-BLK-100X60	TUBE, NYLON	D-1
PFT-8B-BLK-100X78	TUBE, NYLON	D-1
PFT-8B-BLK-100X17800	TUBE, NYLON	D-1
PFT-8B-BLK-100X10015	TUBE, NYLON	D-1
PFT-8B-BLK-100X121	TUBE, NYLON	D-1
PFT-8B-BLK-100X130	TUBE, NYLON	D-1
PFT-8B-BLK-100X140	TUBE, NYLON	D-1
P52-6738	COUPLING, ASSY	D-1
04-9323-013	PIPE, FLEX	D-1
05-09562-005	HOSE, NEOPRENE	D-1
05-09562-006	HOSE, STRAIGHT	D-1
05-09564-008	HOSE, NEOPRENE	D-1
05-12538-036	HOSE	D-1
05-12539-043	HOSE, STRAIGHT	D-1
05-15224-004	HOSE, RUBBER	D-1
06-18131-000	LINER, PLYWOOD	D-1
12-13366-040	TUBE, NYLON	D-1
12-13367-045	TUBE, NYLON	D-1
12-13367-060	TUBE, NYLON	D-1
12-13367-1 05	TUBE, NYLON	D-1
12-13367-142	TUBE, NYLON	D-1
12-13367-200	TUBE, NYLON	D-1
12-13370-037	TUBE, NYLON	D-1
12-13371-037	TUBE, NYLON	D-1
12-13374-006	TUBE, NYLON	D-1
12-13472-019	TUBE, NYLON	D-1
12-13473-040	TUBE, NYLON	D-1
18-11197-001X10	TRIM, EDGING	D-1
22-21952-004	HOSE	D-1
22-21952-018	HOSE	D-1
22-21952-020	HOSE	D-1
22-21952-048	HOSE	D-1
22-21952-052	HOSE	D-1
22-21952-063	HOSE, HEATER	D-1
22-28607-018	HOSE, HEATER	D-1
22-28607-061	HOSE, RUBBER	D-1
22-30167-030	HOSE, HEATER	D-1
22-30168-003	HOSE, HEATER	D-1
22-30168-034	HOSE, HEATER	D-1
22-35191-010	SEAL	D-1
22-35281-016	HOSE, RUBBER	D-1
22-35281-030	HOSE, RUBBER	D-1
22-35282-025	HOSE, RUBBER	D-1

PART NO.	NAME	TABLE NO.
22-35282-090	HOSE, RUBBER	D-1
22-35282-135	HOSE, RUBBER	D-1
23323FX-48	HOSE, NONME.	D-1
350359X0.3	HOSE, COOLANT	D-1
350359X1.8	HOSE, COOLANT	D-1
350359X3.5	HOSE, COOLANT	D-1
350359X3.8	HOSE, COOLANT	D-1
4246-0410X5	TUBING, NYLON	D-1
47336AX	HOSE, NONME.	D-1
47338AX	HOSE, NONME.	D-1
48-00050-206X6	TAPE, FOAM	D-1
48-00081-038X24	HOSE	D-1
48-00099-150X3	HOSE	D-1
48-00100-010X5	TUBING, NYLON	D-1
48-00100-01 0X10	TUBING, NYLON	D-1
48-00100-01 0X15	TUBING, NYLON	D-1
48-00100-812X15	TUBING, NYLON	D-1
48-00100-812X18	TUBING, NYLON	D-1
48-00100-814X16	TUBING, NYLON	D-1
48-00100-815X15	TUBING, NYLON	D-1
48-00100-816X6	TUBING, NYLON	D-1
48-00100-816X18	TUBING, NYLON	D-1
48-00100-816X48	TUBING, NYLON	D-1
48-00100-829X12	TUBING, NYLON	D-1
48-00100-829X36	TUBING, NYLON	D-1
48-00100-829X56	TUBING, NYLON	D-1
48-00101-010X7	TUBE, NYLON	D-1
48-00101-010X48	HOSE	D-1
48-00101-010X72	HOSE	D-1
48-00101-010X96	HOSE	D-1
48-00101-010X144	HOSE	D-1
48-00101-010X180	HOSE	D-1
48-00101-010X264	HOSE	D-1
48-00101-020X24	HOSE, NONME.	D-1
48-00101-020X48	HOSE, NONME.	D-1
48-00101-020X96	HOSE, NONME.	D-1
48-00101-020X120	HOSE, NONME.	D-1
48-00101-022X1	TUBE, NYLON	D-1
48-00101-030X10	TUBE, NYLON	D-1
48-00101-030X108	HOSE, NONME.	D-1
48-00121-016X30	HOSE	D-1
48-00121-016X53	HOSE	D-1
48-02014-008X48	HOSE	D-1
48-02015-012X24	HOSE, RUBBER	D-1
48-02217-025X5	CONDUIT, NONME.	D-1
48-02217-025X36	TUBING, NONME.	D-1
48-02217-050X3	CONDUIT	D-1
48-02217-050X8	CONDUIT	D-1
48-02217-062X3	CONDUIT	D-1
48-02217-062X1 05	CONDUIT	D-1

PART NO.	NAME	TABLE NO.
48-02217-075X57.08	CONDUIT	D-1
48-02218-050X105	CONDUIT	D-1
48-02218-075X12	CONDUIT	D-1
48-02454-106X27	TAPE, FOAM	D-1
48-02454-206X12	TAPE, URETH FOAM	D-1
48-02471-001X8	SEAL, DOOR	D-1
48-02471-001X55	SEAL	D-1
5156170	HOSE	D-1
68240R-276	CONDUIT	D-1
77620-7.5	HOSE	D-1

Table D-1. Manufactured Items

Part Number	Name	MFG From	DESCRIPTION
FITC-02	CABLE, SPECIAL PURPOSE	M83420/1-005	144 IN. LONG
NT10010-BKX13	TUBE, NYLON	3250-1010	40 IN. LONG
NT1001 0-BKX16	TUBE, NYLON	3250-1010	13 IN. LONG
NT10010-BKX40	TUBE, NYLON	3250-1010	40 IN. LONG
NT10010-BKX175	TUBE, NYLON	3250-1010	175 IN. LONG
PFT-4A	TUBING, NONME.	PFT-4A BLACKX1300	CUT TO FIT
PFT-4A-BLK-100X13	TUBE, NYLON	PFT-4A BLACKX1300	13 IN. LONG
PFT-4A-BLK-100X46	TUBE, NYLON	PFT-4A BLACKX1300	46 IN. LONG
PFT-4A-BLK-100X48	TUBE, NYLON	PFT-4A BLACKX1300	48 IN. LONG
PFT-4A-BLK-100X54	TUBE, NYLON	PFT-4A BLACKX1300	54 IN. LONG
PFT-4A-BLK-100X70	TUBE, NYLON	PFT-4A BLACKX1300	70 IN. LONG
PFT-4A-BLK-100X78	TUBE, NYLON	PFT-4A BLACKX1300	78 IN. LONG
PFT-4A-BLK-100X85	TUBE, NYLON	PFT-4A BLACKX1300	85 IN. LONG
PFT-4A-BLK-100X93	TUBE, NYLON	PFT-4A BLACKX1300	93 IN. LONG
PFT-4A-BLK-100X159	TUBE, NYLON	PFT-4A BLACKX1300	159 IN. LONG
PFT-4A-BLK-100X225	TUBE, NYLON	PFT-4A BLACKX1300	225 IN. LONG
PFT-6B-BLK-100X6	TUBE, NYLON	3250-061	6 IN. LONG
PVT-6B-BLK-100X15	TUBE, NYLON	3250-061	15 IN. LONG
PFT-6B-BLK-100X18	TUBE, NYLON	3250-061	18 IN. LONG
PFT-6B-BLK-100X25	TUBE, NYLON	3250-061	25 IN. LONG
PFT-6B-BLK-100X34	TUBE, NYLON	3250-061	34 IN. LONG
PFT-6B-BLK-100X36	TUBE, NYLON	3250-061	36 IN. LONG
PFT-6B-BLK-100X40	TUBE, NYLON	3250-061	40 IN. LONG
PFT-6B-BLK-100X42	TUBE, NYLON	3250-061	42 IN. LONG
PFT-6B-BLK-100X52	TUBE, NYLON	3250-061	52 IN. LONG
PFT-6B-BLK-100X53	TUBE, NYLON	3250-061	53 IN. LONG
PFT-6B-BLK-100X70	TUBE, NYLON	3250-061	70 IN. LONG
PFT-6B-BLK-100X75	TUBE, NYLON	3250-061	75 IN. LONG

Table D-1. Manufactured Items (Con't)

Part Number	Name	MFG From	DESCRIPTION
PFT-6B-BLK-100X79	TUBE, NYLON	3250-061	79 IN. LONG
PFT-6B-BLK-100X100	TUBE, NYLON	3250-061	100 IN. LONG
PFT-6B-BLK-100X113	TUBE, NYLON	3250-061	113 IN. LONG
PFT-6B-BLK-100X115	TUBE, NYLON	3250-061	115 IN. LONG
PFT-6B-BLK-100X119	TUBE, NYLON	3250-061	119 IN. LONG
PFT-6B-BLK-100X120	TUBE, NYLON	3250-061	120 IN. LONG
PFT-6B-BLK-100X130	TUBE, NYLON	3250-061	130 IN. LONG
PFT-6B-BLK-100X149	TUBE, NYLON	3250-061	149 IN. LONG
PFT-6B-BLK-100X150	TUBE, NYLON	3250-061	150 IN. LONG
PFT-6B-BLK-100X159	TUBE, NYLON	3250-061	159 IN. LONG
PFT-8B-BLK-100X1	TUBE, NYLON	C608-100BLK	15 IN. LONG
PFT-8B-BLK-100X7	TUBE, NYLON	C608-100BLK	7 IN. LONG
PFT-8B-BLK-100X36	HOSE, NONME.	C608-100BLK	36 IN. LONG
PFT-8B-BLK-100X50	TUBE, NYLON	C608-100BLK	50 IN. LONG
PFT-8B-BLK-100X60	TUBE, NYLON	C608-100BLK	60 IN. LONG
PFT-8B-BLK-100X78	TUBE, NYLON	C608-100BLK	78 IN. LONG
PFT-8B-BLK-100X100	TUBE, NYLON	C608-100BLK	100 IN. LONG
PFT-8B-BLK-100X115	TUBE, NYLON	C608-100BLK	115 IN. LONG
PFT-8B-BLK-100X121	TUBE, NYLON	C608-100BLK	121 IN. LONG
PFT-8B-BLK-100X130	TUBE, NYLON	C608-100BLK	130 IN. LONG
PFT-8B-BLK-100X140	TUBE, NYLON	C608-100BLK	140 IN. LONG
P52-6738	COUPLING ASSY	24032	CUT TO FIT
04-9323-013	PIPE, FLEX	R342S5 25	13 IN. LONG
05-09562-005	HOSE, NEOPRENE	24244	5 IN. LONG
05-09562-006	HOSE, STRAIGHT	24240	6 IN. LONG
05-09564-008	HOSE, NEOPRENE	24248	8 IN. LONG
05-12538-036	HOSE, STRAIGHT	4230-0174	36 IN. LONG
05-12539-043	HOSE, RUBBER	28430	43 IN. LONG

Table D-1. Manufactured Items (Con't)

Part Number	Name	MFG From	DESCRIPTION
05-15224-004	LINER, PLYWOOD	24228	4 IN. LONG
06-18131-000	TUBE, NYLON	CS122-56 GRADE CD INTERIOR TYPE	7X7.5 IN.
12-13366-040	TUBE, NYLON	PFT-4A BLACKX1300	40 IN. LONG
12-13367-045	TUBE, NYLON	3250-061	45 IN. LONG
12-13367-060	TUBE, NYLON	PFT-4A BLACKX1300	60 IN. LONG
12-13367-105	TUBE, NYLON	3250-061	105 IN. LONG
12-13367-142	TUBE, NYLON	PFT-4A BLACKX1300	142 IN. LONG
12-13367-200	TUBE, NYLON	PFT-4A BLACKX1300	200 IN. LONG
12-13370-037	TUBE, NYLON	PFT-4A BLACKX1300	37 IN. LONG
12-13371-037	TUBE, NYLON	PFT-4A BLACKX1300	37 IN. LONG
12-13374-006	TUBE, NYLON	3250-061	6 IN. LONG
12-13472-019	TUBE, NYLON	PFT-4A BLACKX1300	19 IN. LONG
12-13473-040	TUBE, NYLON	PFT-4A BLACKX1300	40 IN. LONG
18-11197-001X10	TRIM, EDGING	48-02188-001	10 FT. LONG
22-21952-004	HOSE	4230-0002	4 IN. LONG
22-21952-018	HOSE	4230-0002	18 IN. LONG
22-21952-020	HOSE	4230-0002	20 IN. LONG
22-21952-048	HOSE	4230-0002	48 IN. LONG
22-21952-052	HOSE	4230-0002	52 IN. LONG
22-21952-063	HOSE, HEATER	4230-0002	63 IN. LONG
22-28607-018	HOSE, HEATER	350357	18 IN. LONG
22-28607-061	HOSE, RUBBER	MS521301A203R	6 IN. LONG
22-30167-030	HOSE, HEATER	4230NX-5/8	30 IN. LONG
22-30168-003	HOSE, HEATER	4230NX-3/4	3 FT. LONG
22-30168-034	HOSE, HEATER	4230NX-3/4	34 IN. LONG
22-35191-010	SEAL	48-02412-525	CUT TO FIT
22-35281-016	HOSE, RUBBER	35055	16 IN. LONG

Table D-1. Manufactured Items (Con't)

Part Number	Name	MFG From	DESCRIPTION
22-35281-030	HOSE, RUBBER	35055	30 IN. LONG
22-35282-025	HOSE, RUBBER	35056	25 IN. LONG
22-35282-090	HOSE, RUBBER	35056	90 IN. LONG
22-35282-135	HOSE, RUBBER	35056	135 IN. LONG
23323FX-48	HOSE, NONME.	3250-061	48 IN. LONG
350359X0.3	HOSE, COOLANT	4230-0174	0.3 FT. LONG
350359X1.8	HOSE, COOLANT	4230-0174	1.8 FT. LONG
350359X3.5	HOSE, COOLANT	4230-0174	3.5 FT. LONG
350359X3.8	HOSE, COOLANT	4230-0174	3.8 FT. LONG
4246-0410X5	TUBING, NYLON	PFT-4A BLACKX1300	5 FT. LONG
47336AX	HOSE, NONME.	FC350-06	12 IN. LONG
47338AX	HOSE, NONME.	FC350-10	19 IN. LONG
48-00050-206X6	TAPE, FOAM	V532X 3/4 INX200FT	6 FT. LONG
48-00081-038X24	HOSE	28430	24 IN. LONG
48-00099-150X3	HOSE	24224	3 IN. LONG
48-00100-010X5	TUBING, NYLON	PFT-4A BLACKX1300	5 FT. LONG
48-00100-010X10	TUBING, NYLON	PFT-4A BLACKX1300	10 FT. LONG
48-00100-010X15	TUBING, NYLON	PFT-4A BLACKX1300	15 FT. LONG
48-00100-812X15	TUBING, NYLON	C602	15 IN. LONG
48-00100-812X18	TUBING, NYLON	C602	18 IN. LONG
48-00100-814X16	TUBING, NYLON	C602	16 IN. LONG
48-00100-815X15	TUBING, NYLON	C602	15 IN. LONG
48-00100-816X6	TUBING, NYLON	C602	6 IN. LONG
48-00100-816X18	TUBING, NYLON	C602	18 IN. LONG
48-00100-816X48	TUBING, NYLON	C602	48 IN. LONG
48-00100-829X12	TUBING, NYLON	C602	12 IN. LONG
48-00100-829X36	TUBING, NONME.	4246-02277	36 IN. LONG
48-00100-829X56	TUBING, NYLON	C602	56 IN. LONG

Table D-1. Manufactured Items (Con't)

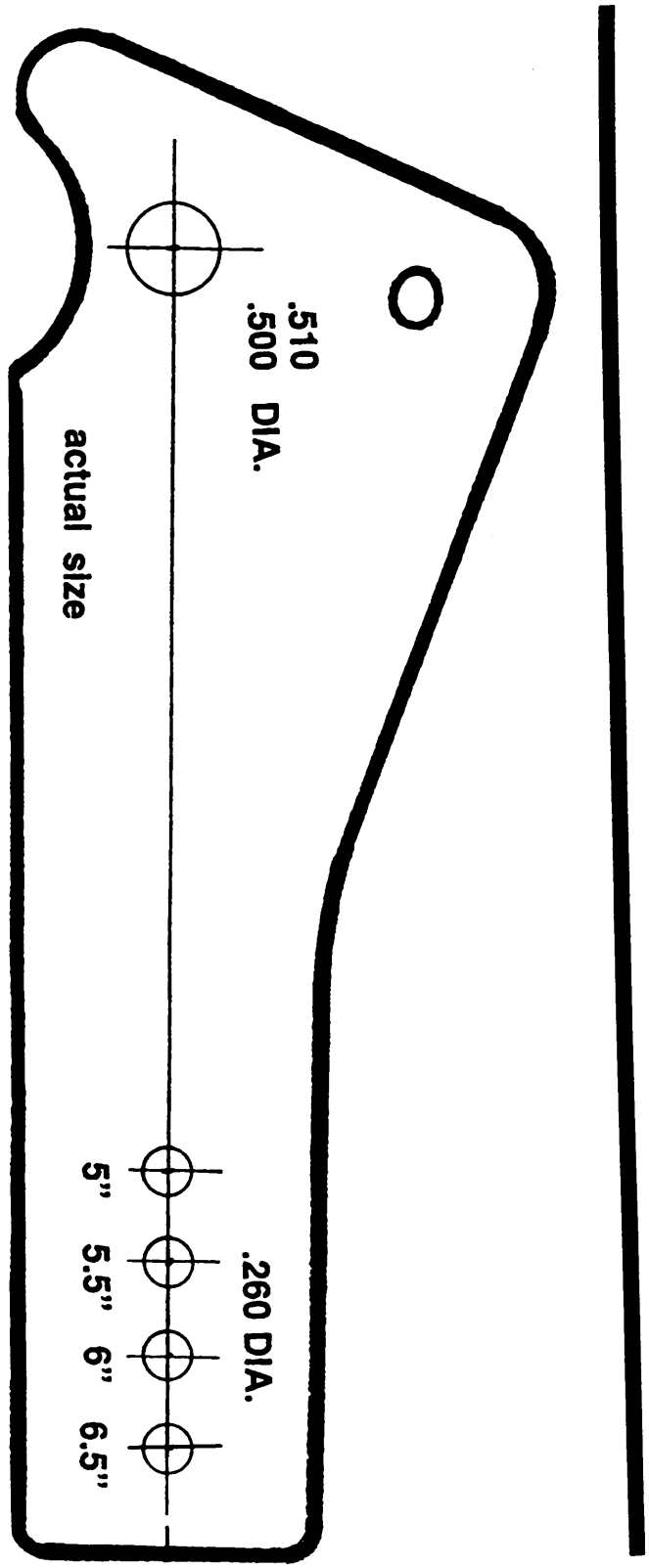
Part Number	Name	MFG From	DESCRIPTION
48-00101-010X7	TUBE, NYLON	3250-061	7 FT. LONG
48-00101-010X48	HOSE	PFT-6B-BLK-100	48 IN. LONG
48-00101-010X72	HOSE	PFT-6B-BLK-100	72 IN. LONG
48-00101-010X96	HOSE	PFT-6B-BLK-100	96 IN. LONG
48-00101 -010X144	HOSE	PFT-6B-BLK-100	144 IN. LONG
48-00101-010X180	HOSE	PFT-6B-BLK-100	180 IN. LONG
48-00101-010X264	HOSE	PFT-6B-BLK-100	264 IN. LONG
48-00101-020X24	HOSE, NONME.	C608-100BLK	24 IN. LONG
48-00101-020X48	HOSE, NONME.	C608-100BLK	48 IN. LONG
48-00101-020X96	NOSE, NONME.	C608-100BLK	96 IN. LONG
48-00101-020X120	HOSE, NONME.	C608-100BLK	120 IN. LONG
48-00101-022X1	TUBE, NYLON	48-00101-022	1 FT. LONG
48-00101-030X10	TUBE, NYLON	3250-1010	10 FT. LONG
48-00101-030X108	HOSE, NONME.	3250-1010	108 IN. LONG
48-00121-016X30	HOSE	48-00121-016	30 IN. LONG
48-00121-016X53	HOSE	48-00121-016	53. IN LONG
48-02014-008X48	HOSE	4251-0125	48 FT. LONG
48-02015-012X24	HOSE, RUBBER	881-12	24 IN. LONG
48-02217-025X5	CONDUIT, NONME.	64498R	5 FT. LONG
48-02217-025X36	TUBING, NONME.	64498R	36 IN. LONG
48-02217-050X3	CONDUIT	68237R	3 FT. LONG
48-02217-050X8	CONDUIT	68237R	8 IN. LONG
48-02217-062X3	CONDUIT	68237R	3 FT. LONG
48-02217-062X105	CONDUIT	48-02218-050	105 IN. LONG
48-02217-075X57.08	CONDUIT	68240R	57.08 IN. LONG
48-02218-050X105	CONDUIT	48-02218-050	105 IN. LONG
48-02218-075X12	CONDUIT	48-02218-075	12 IN. LONG
48-02454-106X27	TAPE, FOAM	4516 5/81N.	27 IN. LONG

Table D-1. Manufactured Items (Con't)

Part Number	Name	MFG From	DESCRIPTION
48-02454-206X1 2	TAPE, URETH FOAM	V4062	12 FT. LONG
48-02471-001X8	SEAL, DOOR	48-02471-001	8 FT. LONG
48-02471-001X55	SEAL	48-02471-001	5.5 FT. LONG
5156170	HOSE	MS521301A206R	2.5 IN. LONG
68240R-276	CONDUIT	68240R	276 IN. LONG
77620-7.5	HOSE	77551	7.5 IN. LONG

Table D-1. Manufactured Items (Cont)

Automatic Slack Adjuster Installation Template for M915A2 Vehicles with Drum Brakes



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APPENDIX E
TORQUE LIMITS

Use the torque values listed in the maintenance procedures, if they are given. When no torque values are given in the maintenance procedures, use the following guides.

Table E-1. Torque Value Guide (Pound-Feet)

Screw Diameter	Torque Lb-Ft No Dashes (SAE Grade 2)	Torque Lb-Ft 3 Dashes (SAE Grade 5)	Torque Lb-Ft **6** Dashes (SAE Grade 8)	Socket Size
1/4-20 UNC	3-5	6-8	10-12	7/16
1/4-28 UNF	4-6	8-10	9-14	7/16
4/16-18 UNC	7-11	13-17	19-24	1/2
5/16-24 UNF	7-11	14-19	23-28	1/2
3/8-16 UNC	14-18	26-31	39-44	9/1 6
3/8-24 UNF	15-19	30-35	46-51	9/1 6
7/16-14 UNC	23-28	44-49	65-70	5/8
7/1 6-20 UNF	23-28	44-54	69-79	5/8
1/2-13 UNC	32-37	65-75	95-105	3/4
1/2-20 UNF	34-41	73-83	113-123	3/4
9/16-12 UNC	46-56	100-110	145-155	13/16
9/16-18 . UNF	47-57	107-117	165-175	13/1 6
5/8-1 1 UNC	62-72	140-150	200-210	15/1 6
5/8-18 UNF	. 67-77	153-163	235-245	15/1 6
3/4-1 O UNC	106-116	200-270	365-375	1-1/4
3/4-1 6 UNF	115-125	268-278	417-427	1-1/4
7/8-9 UNC	165-175	385-395	595-605	1-5/16
7/8-14 UNF	178-188	424-434	663-673	1-5/16
1-8 UNC	251-261	580-590	900-910	1-1/2
1-14 UNF	255-265	585-634	943-993	1-1/2
1-1/4-7 UNC	441-461	1070-1120	1767-1817	1 -7/8
1-1/4-12 UNF	488-498	1211-1261	1963-2013	1 -7/8
1-1/2-6 UNC	727-737	1899-1949	3111-3161	2-1/4
1-1/2-12 UNF	816-826	2144-2194	3506-3556	2-1/4

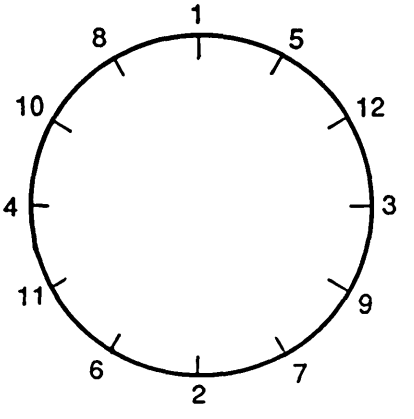
Table E-2. Torque Value Guide (Newton-Meters)

Screw Diameter	Torque N.m No Dashes (SAE Grade 2)	Torque N.m 3 Dashes (SAE Grade 5)	Torque N.m 6 Dashes (SAE Grade 8)	Socket Size
1/4-20 UNC	4-7	8-11	14-16	7/1 6
1/4-28 UNF	5-8	11-14	12-19	7/16
5/16-18 UNC	9-15	18-23	26-33	1/2
5/16-24 UNF	9-15	19-26	31-38	1/2
3/8-16 UNC	19-24	35-42	53-60	9/1 6
3/8-24 UNF	20-26	41-47	62-69	9/1 6
7/16-14 UNC	31-38	60-66	88-95	5/8
7/1 6-20 UNF	31-38	60-73	94-107	**5/8**
1/2-13 UNC	43-50	88-102	129-142	3/4
1/2-20 UNF	46-56	99-113	153-167	3/4
9/16-12 UNC	62-76	136-149	197-210	13/16
9/16-18 UNF	64-77	145-159	224-237	13/1 6
5/8-1 1 UNC	84-98	190-203	271-285	15/16
5/8-18 UNF	91-104	207-221	319-332	15/16
3/4-1 O UNC	144-157	353-366	495-508	1-1/4
3/4-16 UNF	156-169	363-377	565-579	1-1/4
718-9 UNC	224-237	522-536	807-820	1-5/16
7/8-14 UNF	241-255	575-588	899-912	1-5/16
1-8 UNC	340-354	786-800	1220-1234	1-1/2
1-14 UNF	346-359	793-860	1279-1346	1-1/2
1-1/4-7 UNC	611-625	1451-1518	2396-2463	1-7/8
1-1/4-12 UNF	662-675	1642-1710	2661-2729	1-7/8
1-1/2-6 UNC	986-999	2575-2642	4218-4286	2-1/4
1-1/2-12 UNF	1106-1120	2907-2975	4753-4821	2-1/4

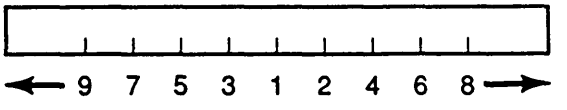
TORQUE SEQUENCE

If the maintenance procedures in Chapter 4 do not specify a tightening order, use the following guides:

- Unless otherwise specified, lubricate threads of fasteners with oil (OE/HDO-10 or OEA).
- When tightening fasteners above 30 Ib-ft (41 N.m), use the torque pattern but only tighten to 70 percent of final value (multiply final value by 0.7); then repeat the pattern until final value is reached.
- Tighten circular patterns using the circular torque pattern, and straight patterns using the straight torque pattern.



CIRCULAR TORQUE PATTERN



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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE
1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1,000 Millimeters = 39.37 Inches
1 Kilometer = 1,000 Meters = 0.621 Miles

WEIGHTS
1 Gram = 0.001 Kilograms = 1,000 Milligrams = 0.035 Ounces
1 Kilogram = 1,000 Grams = 2.2 Lb
1 Metric Ton = 1,000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE
1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1,000 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 = 1,000 Cu Millimeters = 0.06 Cu Inches
1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

TEMPERATURE
5/9 (°F -32) = °C
212° Fahrenheit is equivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Cesius
32° Fahrenheit is equivalent to 0° Celsius
9/5 C° +32 = F°

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
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 Per Square Inch	Kilopascals	6.895
Miles Per Gallon	Kilometers Per Liter	0.425
Miles Per Hour	Kilometers Per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds Per Square Inch	0.145
Kilometers Per Liter	Miles Per Gallon	2.354
Kilometers Per Hour	Miles Per Hour	0.621