ARMY TM 9-2320-365-20-5
AIR FORCE T.O. 36A12-1B-1095-2-5

TECHNICAL MANUAL
MAINTENANCE INSTRUCTIONS
UNIT MAINTENANCE
M1078 SERIES, 2 1/2-TON, 4 X 4,
LIGHT MEDIUM TACTICAL VEHICLES (LMTV)
VOLUME NO. 5 OF 5

MODEL	NSN	EIC
TRK, CAR., LMTV, M1078		
W/WN	2320-01-360-1898	BHH
W/O WN	2320-01-354-3385	BHD
TRK, VAN, LMTV, M1079		
W/WN	2320-01-360-1891	BHG
W/O WN	2320-01-354-3384	BHE
TRK, CHAS, LMTV, M1080	2320-01-353-9098	BHC
TRK, CAR., LMTV, AIR DROP, M1081		
W/WN	2320-01-360-1899	BHJ
W/O WN	2320-01-355-3064	BHF

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DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENTS OF THE ARMY AND THE AIR FORCE

JUNE 1998

WARNING SUMMARY

WARNING

EXHAUST GASES CAN KILL

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

   Headache

   Dizziness

   Sleepiness

   Loss of Muscular Control

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

   Remove person from area.

   Expose to open air.

   Keep person warm.

   Do not permit person to move.

   Administer cardiopulmonary resuscitation, if necessary.*

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

WARNING

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

WARNING

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

WARNING SUMMARY (CONT)

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 a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

WARNING

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

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING SUMMARY (CONT)

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

Never let moving wire rope slide through hands, even when wearing gloves. A broken wire could cut through gloves and cut hands.

WARNING SUMMARY (CONT)

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

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

WARNING

Sling spreader weighs approximately 200 lbs (91 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Remove all loose equipment from van body. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Van body weighs approximately 3,360 lbs (1525 kgs) empty. Attach a suitable lifting device prior to removal. Failure to comply may result in serious injury or death to personnel.

WARNING

Guide ropes must be attached at opposite corners of van body to aid in controlling van body during removal. Failure to comply may result in serious injury or death to personnel.

WARNING

Center of gravity will change depending on equipment installed in van body. Attach and adjust lifting device so that van body lifts level. Failure to comply may result in serious injury or death to personnel or damage to equipment.

WARNING

Pod frame weighs approximately 80 lbs (36 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Do not install pod frame on van body for 72 hours after installing blind rivet nuts and spacers. Failure to comply may result in injury to personnel and/or damage to equipment.

WARNING

Goggles and gloves must be worn when working with glass. Failure to comply may result in injury to personnel.

WARNING SUMMARY (CONT)

WARNING

RH door assembly weighs approximately 85 lbs (39 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

LH door assembly weighs approximately 85 lbs (39 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

WARNING

Wear appropriate eye protection when handling fluorescent lamps. Failure to comply may result in injury to personnel.

WARNING

- **Heavy objects/loads, such as tool boxes and heavy parts, must always be carried on the floor with the weight distributed as equally as possible between left and right sides of M1079 van. Failure to comply decreases the stability of the M1079 van and will increase the likelihood of a rollover.**
- **Heavy cabinets must always be mounted as low as possible with the weight distributed as equally as possible between left and right sides of M1079 van. Remember to consider the weight of the items that will be stored in the cabinets. Failure to comply decreases the stability of the M1079 van and will increase the likelihood of a rollover.**
- **Always keep in mind, when placing items inside the M1079 van, that heavier items must always be positioned as low as possible and the weight distributed as equally as possible between left and right sides of M1079 van. Failure to comply decreases the stability of the M1079 van and will increase the likelihood of a rollover.**

WARNING

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

WARNING

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

WARNING

- **Do not open coolant fill cap if temperature reads above 110°F (43°C). Steam or hot coolant is under pressure. Failure to comply may result in injury to personnel.**
- **Pressure in reservoir tank must be released before removing cap. Failure to comply may result in injury to personnel.**

WARNING

Heater weighs approximately 120 lbs (54 kgs). Use the aid of an assistant when lifting. Failure to comply may result in injury to personnel.

WARNING

200 amp alternator weighs approximately 70 lbs (32 kgs). The aid of an assistant is required to install 200 amp alternator. Failure to comply may result in injury to personnel.

WARNING

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

WARNING

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

WARNING SUMMARY (CONT)

WARNING

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

WARNING

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

WARNING

Use care when removing/installing springs. Springs are under tension and can act as projectiles when released. Failure to comply may result in injury to personnel.

WARNING

Air conditioner weighs approximately 300 lbs (136 kg). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel.

WARNING

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

WARNING

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

CHANGE NO. 1

**HEADQUARTERS
DEPARTMENTS OF THE ARMY
AND THE AIR FORCE**

Washington, D.C., 1 July 2003

TECHNICAL MANUAL
MAINTENANCE INSTRUCTIONS
UNIT MAINTENANCE
M1078 SERIES, 2 1/2-TON, 4x4,
LIGHT MEDIUM TACTICAL VEHICLE
(LMTV)

VOLUME NO. 5 OF 5

TM 9-2320-365-20-5, 17 June 1998, is changed as follows:

1. Remove old pages and insert new pages as indicated below.
2. New or changed material is indicated by a vertical bar in the out margin of the page.
3. Added or revised illustrations are indicated by a vertical bar adjacent to the illustration.

Remove Pages	Insert Pages
i and j	i and j
none	A and B
i thru iv	i thru iv
none	v/(vi Blank)
20-1 and 20-2	20-1 and 20-2
none	20-2.1/(20-2.2 Blank)
20-3 and 20-4	20-3/(20-4 Blank)
20-5 thru 20-184	none
20-281 and 20-282	20-281/(20-282 Blank)
20-283 thru 20-312	none
20-313 and 20-314	(20-313 Blank)/20-314
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none	K-1 thru K-K-4
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INDEX-7/(INDEX-8 Blank)	none
FO-1 FP-1/(FP-2 Blank)	FO-1 FP-1/(FP-2 Blank)
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FO-1 FP-27/(FP-28 Blank)	FO-1 FP 27/(FP-28 Blank)
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and FP-67/(FP-68 Blank)	and FP-67/(FP-68 Blank)
DA FORM 2028-2 Sample	DA FORM 2028-2 Sample
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DA FORM 2028-2	DA FORM 2028-2
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Metric Conversion Chart	Metric Conversion Chart
Cover	Cover

Place this change sheet in the front of the publication for reference purposes.

By Order of the Secretary of the Army:

JOHN M. KEANE
General, United States Army
Acting Chief of Staff

Official:



JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
0110106

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LIST OF EFFECTIVE PAGES

Insert latest changed pages. Destroy superseded pages.

NOTE: New or changed material is indicated by a vertical bar in the outer margin of the page.

Dates of issue for original and changed pages are:

Original ..... 0 ..... 17 June 1998
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THE TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 564, CONSISTING OF THE FOLLOWING:

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K-1 thru K-4 Added	1
INDEX-1 thru INDEX-6	1
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* Zero in this column indicates an original page.

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* Zero in this column indicates an original page.

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NO. 9-2320-365-20-5

TECHNICAL ORDER
NO. 36A12-1B-1095-2-5

HEADQUARTERS
DEPARTMENTS OF THE ARMY
AND THE AIR FORCE

Washington, D.C., 17 June 1998

Unit Maintenance Manual

M1078 SERIES, 2 1/2-TON, 4 x 4, LIGHT MEDIUM TACTICAL VEHICLES (LMTV)

VOLUME NO. 5 OF 5

MODEL	NSN	EIC
TRK, CAR., LMTV, M1078		
W/WN	**2320-01-360-1898**	**BHH**
W/O WN	**2320-01-354-3385**	**BHD**
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W/O WN	**2320-01-355-3064**	**BHF**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit your DA Form 2028 (Recommended Changes to Equipment Technical Publications), through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is http://aeps.ria.army.mil. If you need a password, scroll down and click on "ACCESS REQUEST FORM". The DA Form 2028 is located in the ONLINE FORMS PROCESSING section of the AEPS. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax or Email your letter or DA Form 2028 direct to: AMSTA-LC-CI/TECH PUBS, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The email address is TACOM-TECH-PUBS@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

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HOW TO USE THIS MANUAL

OVERVIEW

This technical manual (TM) is provided to help you maintain the LMTV at the Unit Maintenance level. Because of its size, it is divided into five volumes. Volume 5 contains the following major sections in order of appearance:

- **WARNING SUMMARY.** Provides a summary of the most important warnings that apply throughout the manual.
- **CHAPTER 20, SPECIAL PURPOSE KITS MAINTENANCE**
- **CHAPTER 21, ARMAMENT/SIGHTING AND FIRE CONTROL MATERIEL MAINTENANCE**
- **CHAPTER 22, ELECTRICAL ILLUMINATING EQUIPMENT MAINTENANCE**
- **CHAPTER 23, AIR SYSTEM MAINTENANCE**
- **CHAPTER 24, GAGES (NON-ELECTRICAL) MAINTENANCE**
- **APPENDIX A, REFERENCES.** Lists publications used with the LMTV.

OVERVIEW (CONT)

- **APPENDIX B, MAINTENANCE ALLOCATION CHART.** The maintenance allocation chart denotes the level of maintenance which performs specific maintenance tasks and the time required. It also lists tools and special tools required for each task.
- **APPENDIX C, TOOLS IDENTIFICATION LIST.** Lists equipment used in the performance of maintenance and references publications which contain information regarding the equipment.
- **APPENDIX D, EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST.** Lists expendable and durable items used in the performance of maintenance.
- **APPENDIX E, ILLUSTRATED LIST OF MANUFACTURED ITEMS.** Illustrates and describes items that must be fabricated from bulk materials for repair of the LMTV.
- **APPENDIX F, TORQUE LIMITS.** Lists the standard torque values for specific attaching hardware.
- **APPENDIX G, MANDATORY REPLACEMENT PARTS.**
- **APPENDIX H, LUBRICATION ORDER.**
- **APPENDIX J, ADDITIONAL AUTHORIZATION LIST (AAL).**
- **APPENDIX K, TRANSMISSION/TRANSMISSION CONTROLS ADAPTABILITY CHART**.
- **SUBJECT INDEX.** Lists important subjects contained in volume 5 in alphabetical order and gives the associated paragraph number.

FINDING INFORMATION

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

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

TROUBLESHOOTING

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

- **SCHEDULED MAINTENANCE.** Your scheduled maintenance is located in Volume 1, table 2-1, PMCS. These checks and services are mandatory at the intervals listed. Always follow the WARNINGS and CAUTIONS.

- **UNSCHEDULED MAINTENANCE.** Unscheduled maintenance is located in chapters 3 through 24. The PMCS and troubleshooting tables often reference you to these procedures. When you perform maintenance, look over the entire procedure before starting. Make sure you have the necessary tools and materials at hand. Always follow the WARNINGS and CAUTIONS.

FOLLOW THESE GUIDELINES WHEN USING THIS MANUAL:

- Become familiar with the entire maintenance procedure before beginning a maintenance task.

- Read all **WARNINGS** and **CAUTIONS** before performing any procedures.

CHAPTER 20
SPECIAL PURPOSE KITS MAINTENANCE

RESTRICTED MAINTENANCE NOTICE

Units not authorized SC 4910-95-CL-A72 (SHOP EQUIPMENT, COMMON NO. 2) in their T.O.E. may be unable to perform some of the maintenance tasks described in this chapter. If the required tools are not authorized, the equipment must be submitted to DS Maintenance for repair.

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Section I. INTRODUCTION

20-1. INTRODUCTION

This chapter contains maintenance instructions for replacing, repairing, and installing special purpose kit components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.

Section II. MAINTENANCE PROCEDURES

20-2. DELETED

20-41. M1079 HEATER KIT INSTALLATION/REMOVAL

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
Spare tire lowered (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).
AC power disconnected (TM 9-2320-365-10).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

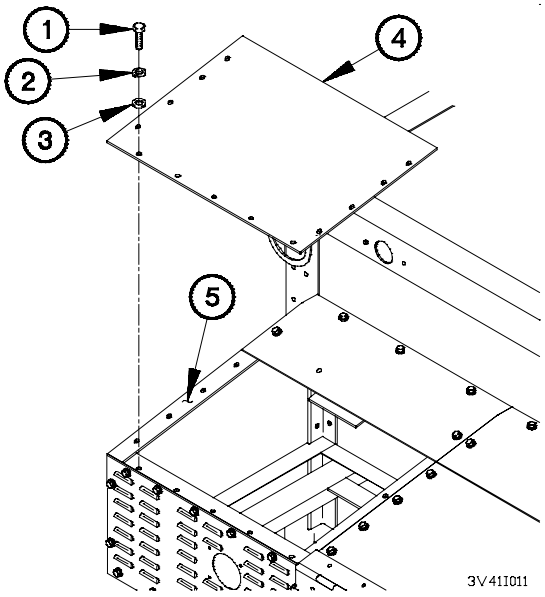
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

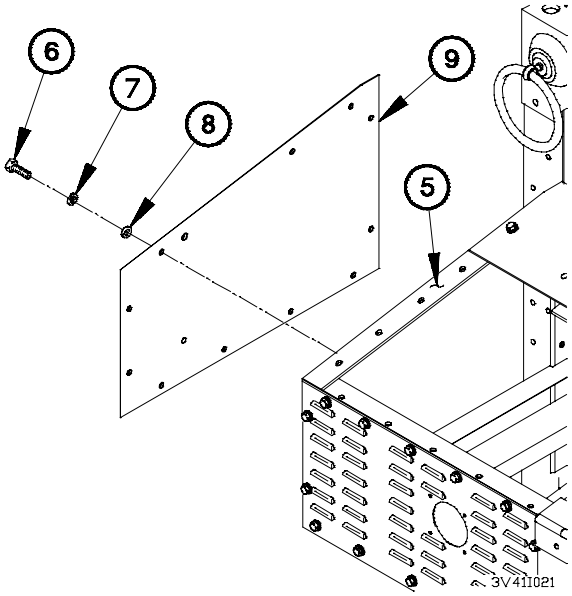
Materials/Parts
Lockwasher (44) (Item 82, Appendix G)
Lockwasher (18) (Item 84, Appendix G)
Lockwasher (12) (Item 76, Appendix G)
Sealant, Pipe, Teflon (Item 58, Appendix D)

Personnel Required
(2)

a. Installation.

(1) Remove 13 screws (1), lockwashers (2), washers (3), and curbside top front panel (4) from pod frame (5). Discard lockwashers.





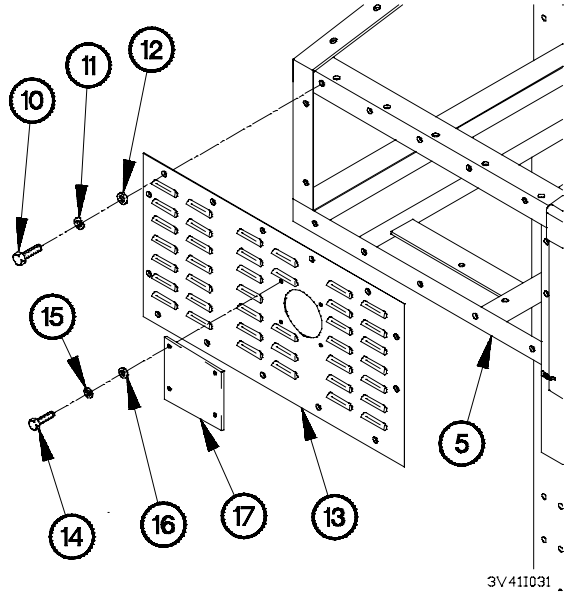
(2) Remove 13 screws (6), lockwashers (7), washers (8), and curbside panel (9) from pod frame (5). Discard lockwashers.

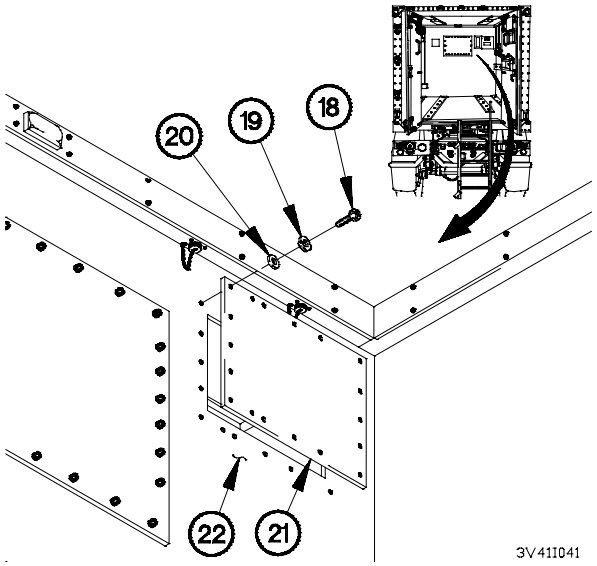
20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

(3) Remove 14 screws (10), lockwashers (11), washers (12), and curbside front panel (13) from pod frame (5). Discard lockwashers.

(4) Remove four screws (14), lockwashers (15), washers (16), and cover plate (17) from curbside front panel (13). Discard lockwashers.

(5) Retain cover plate (17) for future use.



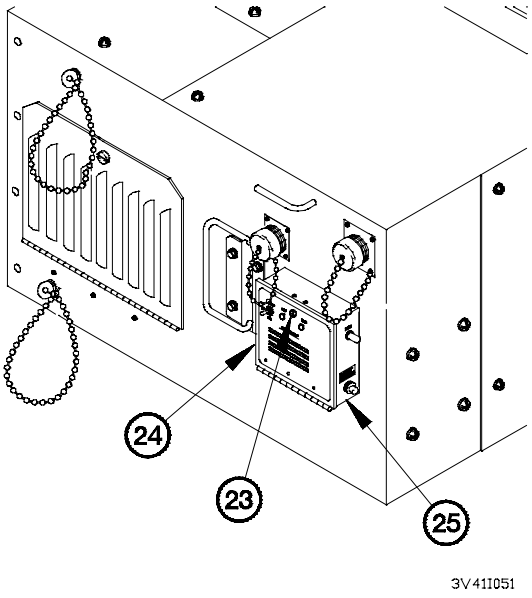


(6) Remove 18 screws (18), lockwashers (19), washers (20), and cover (21) from inside front van body wall (22). Discard lockwashers.

(7) Retain cover (21) for future use.

(8) Unlatch screw (23) on door (24).

(9) Open door (24) on heater control unit (25).



(10) Unlatch two screws (26) on heater control unit (25).

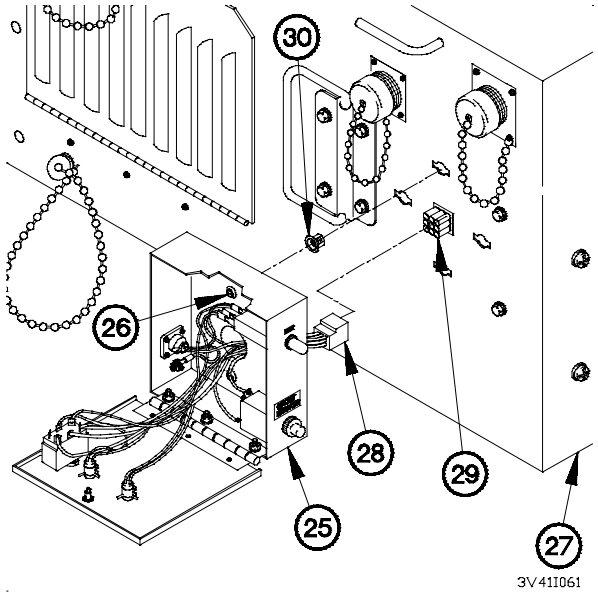
(11) Remove heater control unit (25) from heater (27).

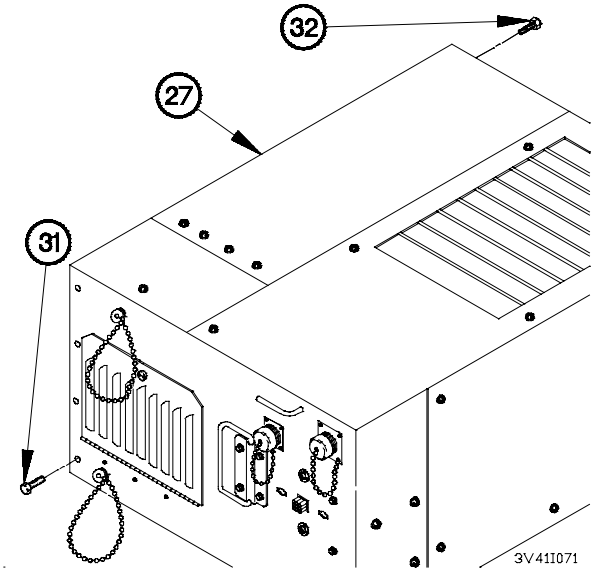
NOTE

Tag connectors and connection points prior to removal.

(12) Disconnect connector P4 (28) from connector J4 (29).

(13) Remove two twist locks (30) from heater (27).





(14) Remove eight screws (31) from heater (27).

(15) Remove eight screws (32) from heater (27).

(16) Retain screws (31 and 32) for future use.

WARNING

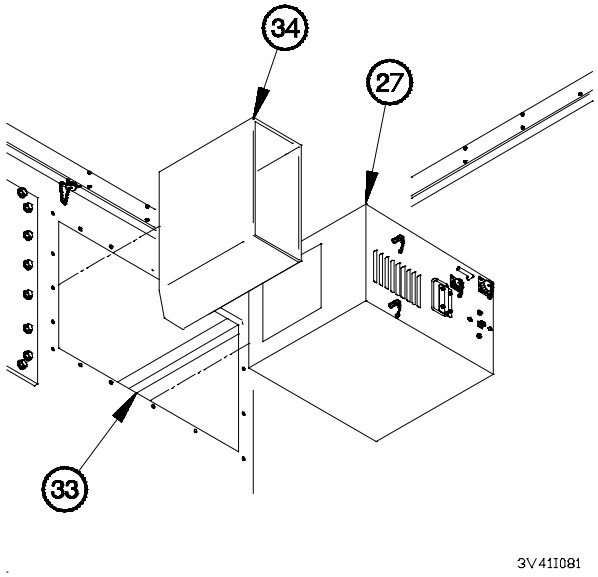
Heater weighs approximately 120 lbs (54 kgs). Use the aid of an assistant when lifting. Failure to comply may result in injury to personnel.

NOTE

Steps (17) through (22) requires the aid of an assistant.

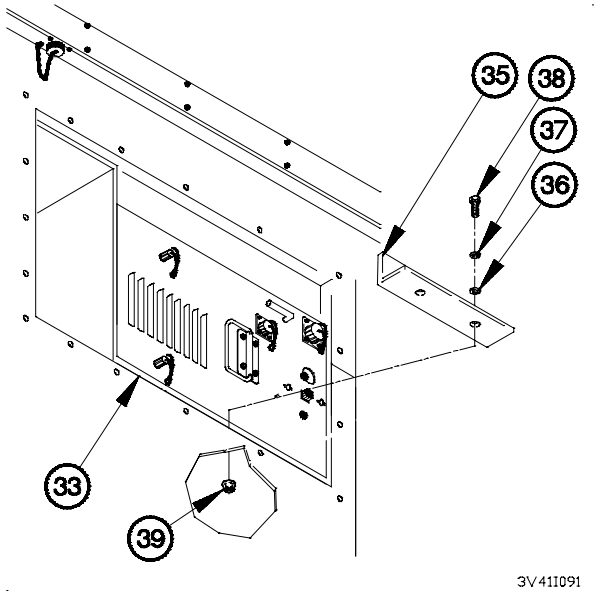
(17) Position heater (27) on pod panel (33).

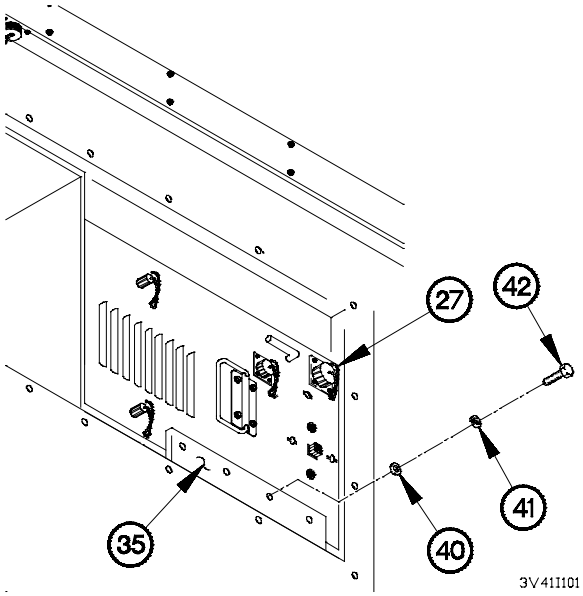
(18) Position heater duct (34) on pod panel (33).



20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

(19) Position bracket (35) on pod panel (33) with two washers (36), lockwashers (37), screws (38), and self-locking nuts (39).

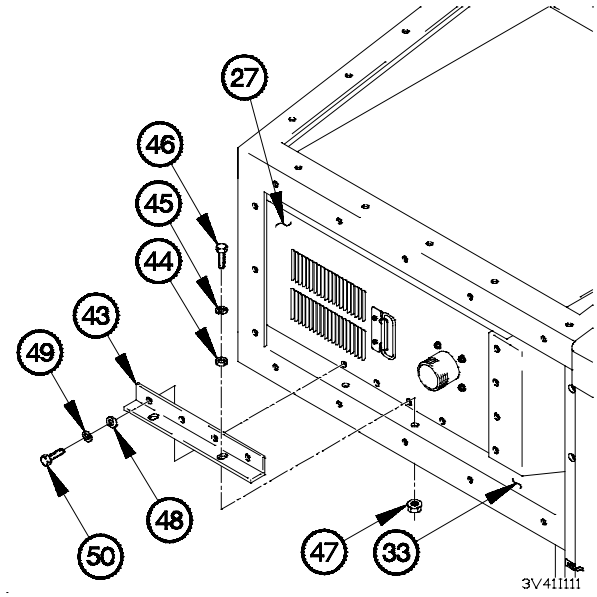




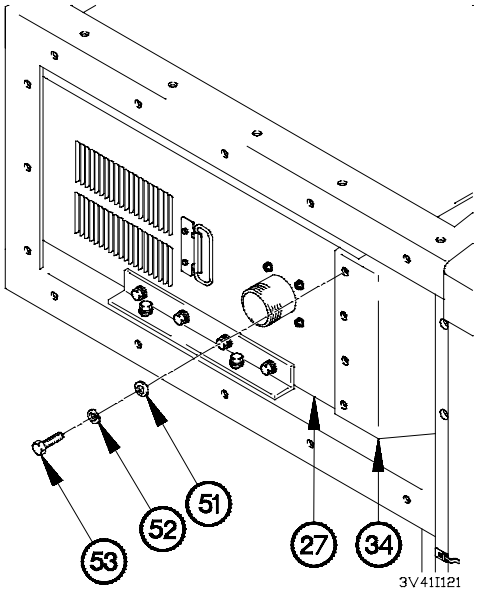
(20) Install bracket (35) on heater (27) with three washers (40), lockwashers (41) and screws (42).

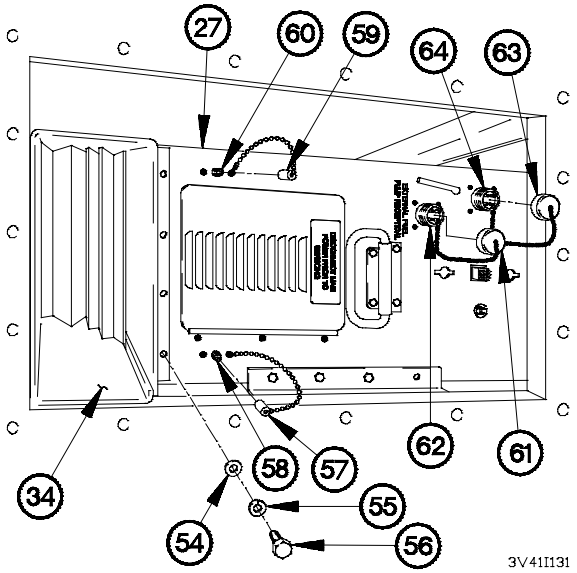
(21) Position bracket (43) on pod panel (33) with two washers (44), lockwashers (45), screws (46), and self-locking nuts (47).

(22) Install bracket (43) on heater (27) with four washers (48), lockwashers (49) and screws (50).



(23) Install heater duct (34) on heater (27) with four washers (51), lockwasher (52), and screws (53).





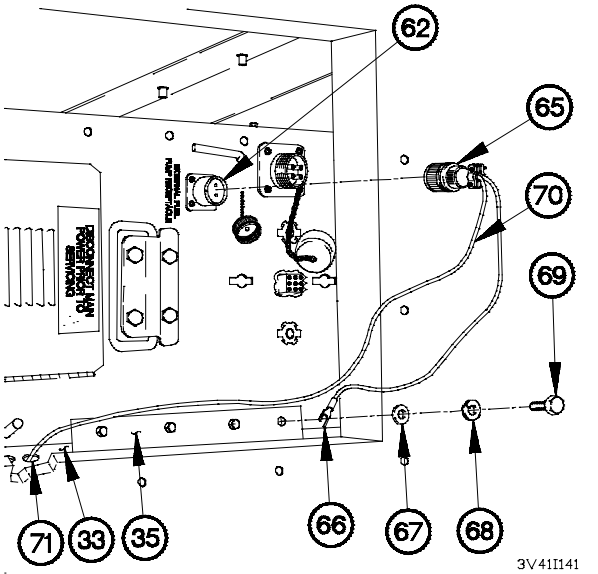
(24) Install heater duct (34) on heater (27) with four washers (54), lockwashers (55), and screws (56).

(25) Remove dust cap (57) from fuel overflow port (58).

(26) Remove dust cap (59) from fuel inlet port (60).

(27) Remove dust cap (61) from heater fuel pump power cable connector (62).

(28) Remove dust cap (63) from heater power connector (64).

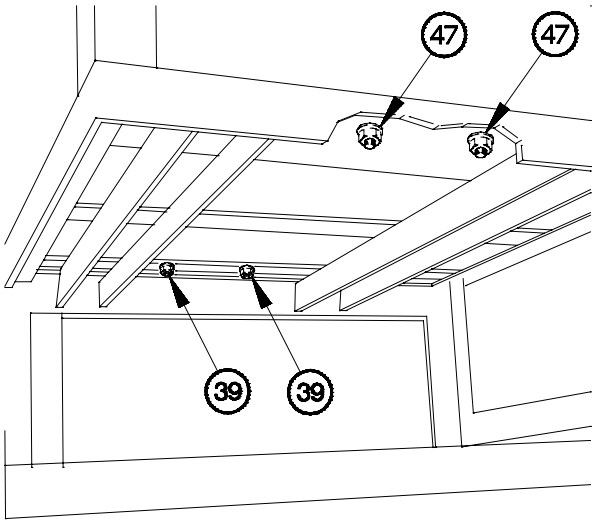


(29) Connect connector J314 (65) to heater fuel pump power cable connector (62).

(30) Install terminal lug TL91 (66) on bracket (35) with washer (67), lockwasher (68), and screw (69).

(31) Route heater fuel pump power cable (70) through hole (71) in pod panel (33).

20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)



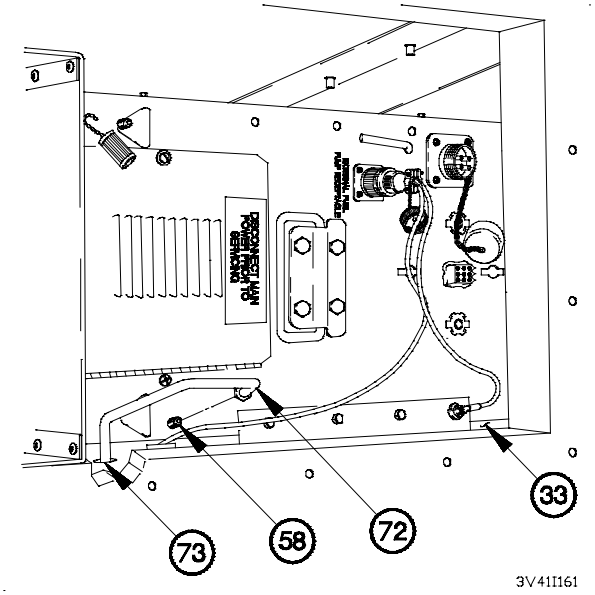
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NOTE

Steps (32) and (33) require the aid of an assistant.

(32) Tighten two self-locking nuts (39).

(33) Tighten two self-locking nuts (47).



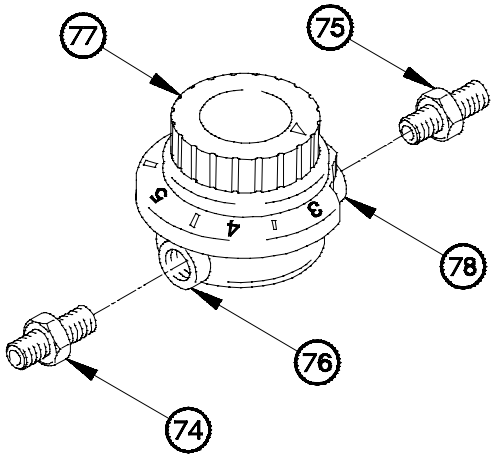
3V41I161

(34) Route fuel tube (72) through hole (73) in pod panel (33).

(35) Install fuel tube (72) on fuel overflow port (58).

WARNING

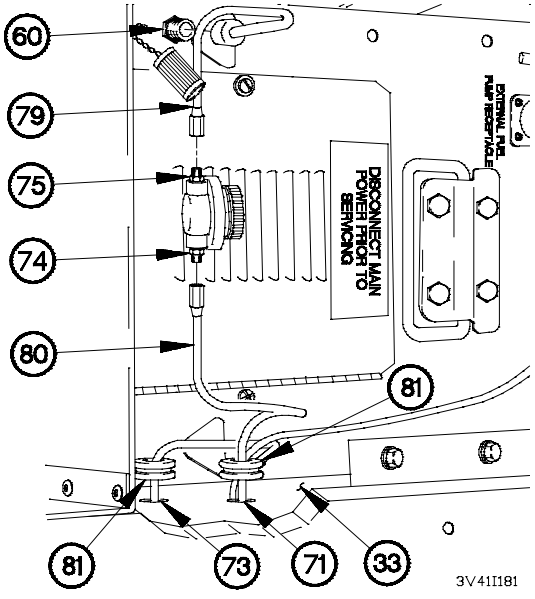
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure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



(36) Apply sealing compound to threads of fittings (74 and 75).

(37) Install fitting (74) in inlet port (76) of fuel regulator (77).

(38) Install fitting (75) in outlet port (78) of fuel regulator (77).



(39) Install fuel tube (79) on fuel inlet port (60).

(40) Route fuel tube (80) through hole (71) in pod panel (33).

(41) Install fuel tubes (79 and 80) on fittings (74 and 75).

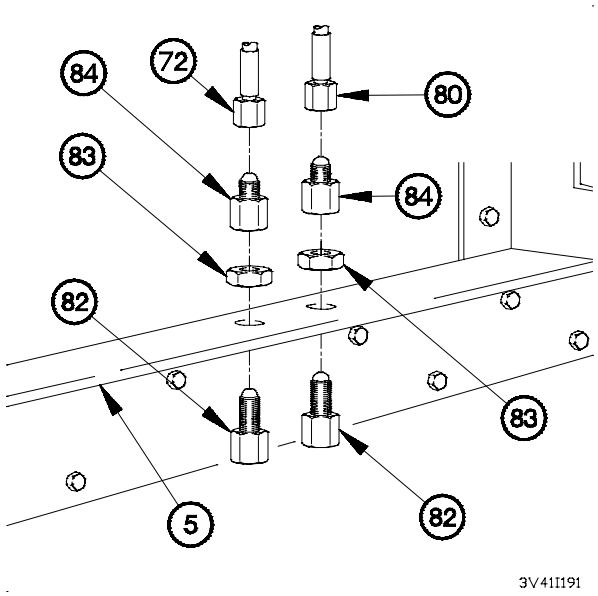
(42) Install two grommets (81) in holes (71 and 73) on pod panel (33).

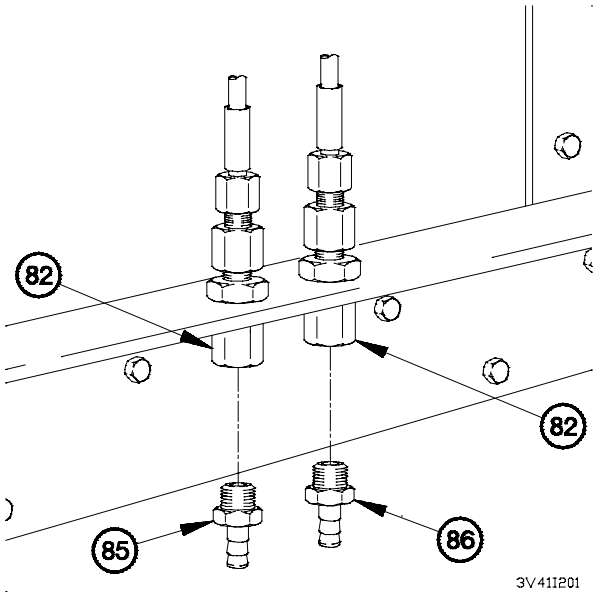
20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

(43) Install two fittings (82) on pod frame (5) with two nuts (83).

(44) Install two adapters (84) on fittings (82).

(45) Install fuel tubes (72 and 80) on two adapters (84).





WARNING

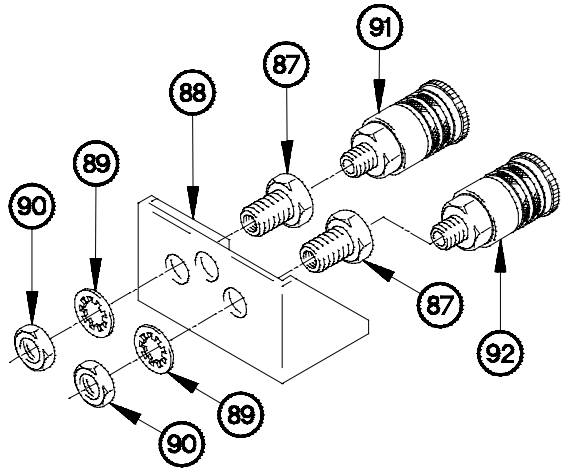
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure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

(46) Apply sealing compound to threads of fittings (85 and 86).

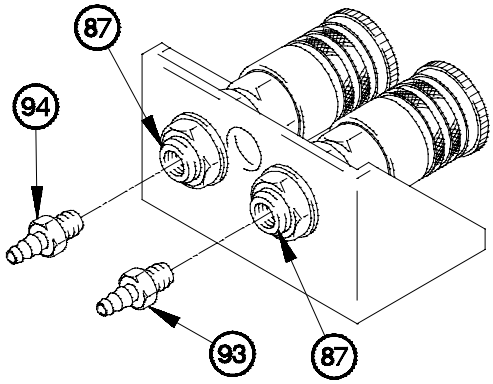
(47) Install fittings (85 and 86) on two fittings (82).

(48) Install two bushings (87) on bracket (88) with two lockwashers (89) and nuts (90).

(49) Install quick connect fittings (91 and 92) on two bushings (87).



3V41I211



3V41I221

WARNING

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(50) Apply sealing compound to threads of fittings (93 and 94).

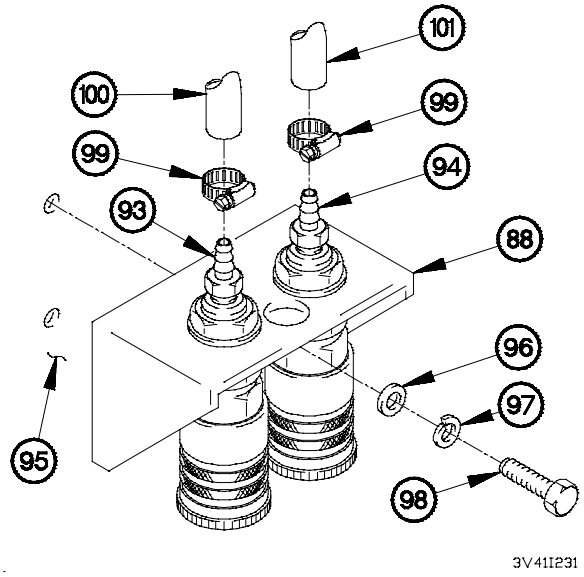
(51) Install fitting (93 and 94) in two bushings (87).

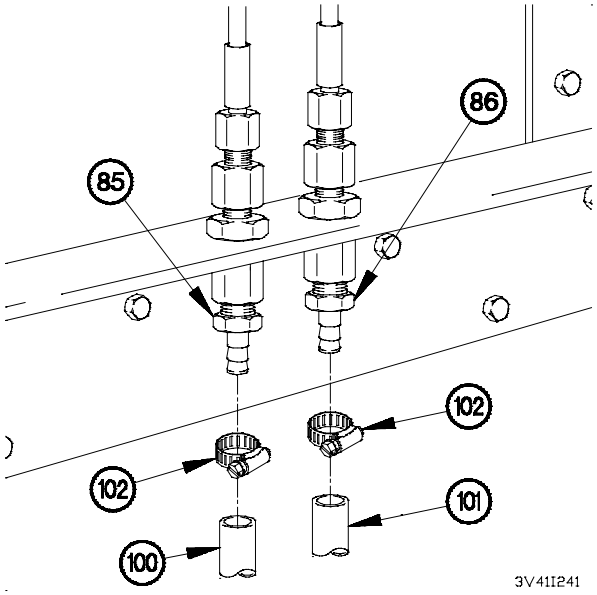
20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

(52) Install bracket (88) on outside front van body wall (95) with two washers (96), lockwashers (97), and screws (98).

(53) Position two clamps (99) on hoses (100 and 101).

(54) Install hoses (100 and 101) on fitting (93 and 94) with two clamps (99).



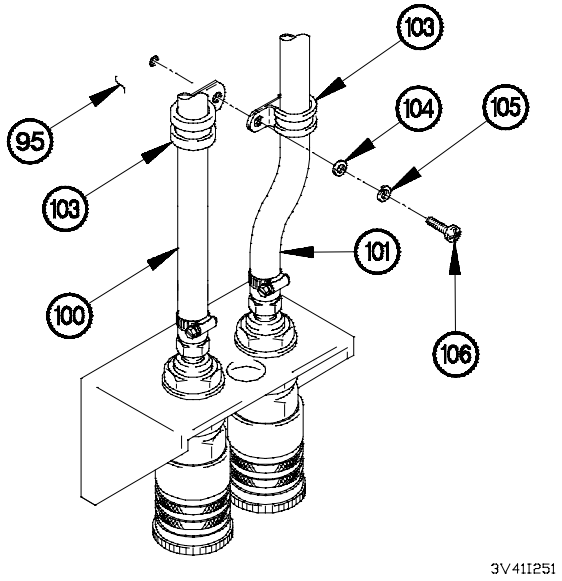


(55) Position two clamps (102) on hoses (100 and 101).

(56) Install two hoses (100 and 101) on fittings (85 and 86) with two clamps (102).

(57) Position six clamps (103) on hoses (100 and 101).

(58) Install six clamps (103) on outside front van body wall (95) with three washers (104), lockwashers (105), and screws (106).



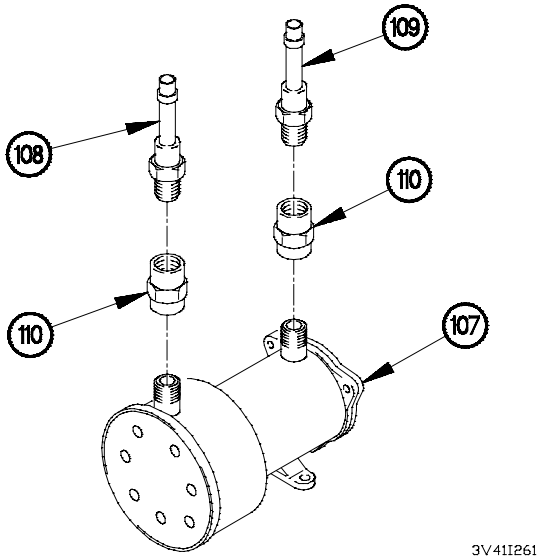
WARNING

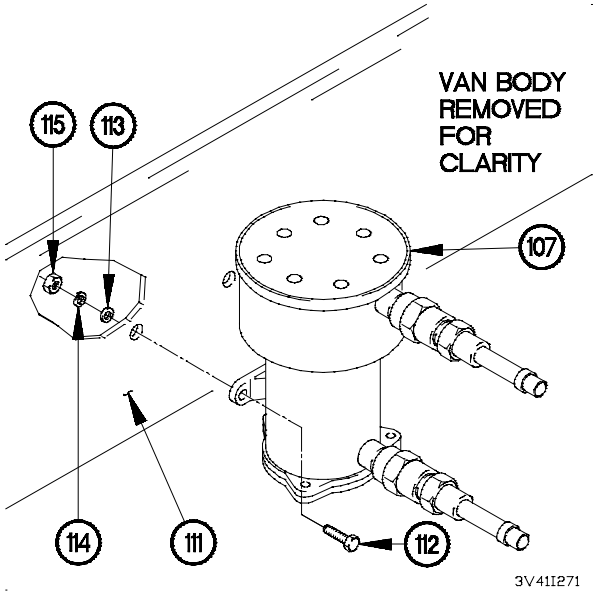
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure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

(59) Apply sealing compound to threads of heater fuel pump (107) and fittings (108 and 109).

(60) Install two couplers (110) on heater fuel pump (107).

(61) Install fittings (108 and 109) on couplers (110).





NOTE

Step (62) requires the aid of an assistant.

(62) Install heater fuel pump (107) on sub-frame (111) with two screws (112), washers (113), lockwashers (114), and nuts (115).

20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

WARNING

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

(63) Remove plug (116) from auxiliary supply port (117).

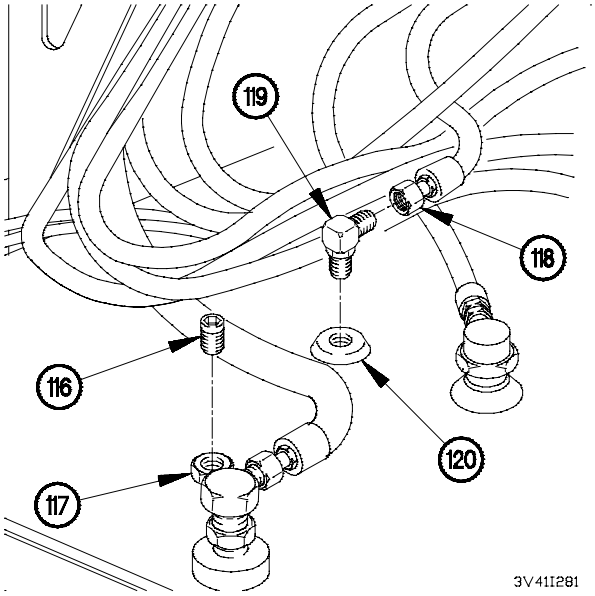
(64) Retain plug (116) for future use.

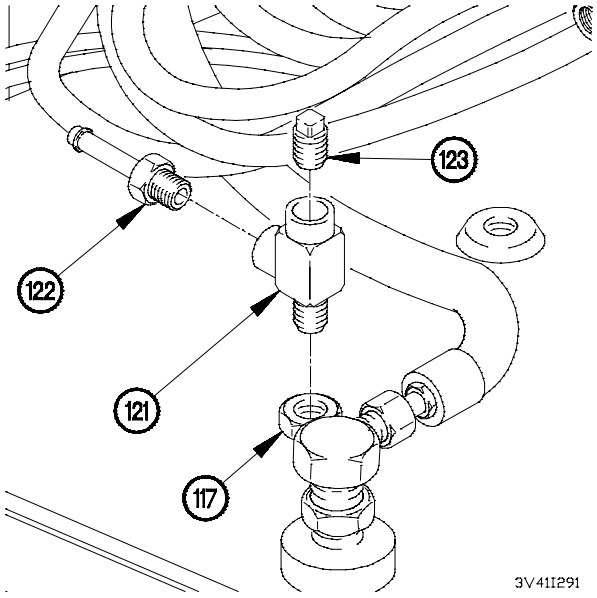
NOTE

Remove plastic cable ties as required.

(65) Disconnect fuel hose (118) from 90-degree return fitting (119).

(66) Remove 90-degree return fitting (119) from fuel tank (120).





WARNING

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

(67) Apply sealing compound to threads of run tee fitting (121), fitting (122), and plug (123).

(68) Install run tee fitting (121) in auxiliary supply port (117).

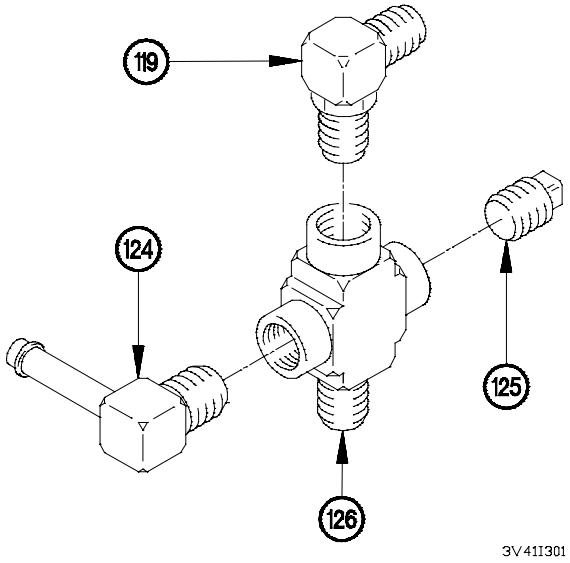
(69) Install fitting (122) and plug (123) on run tee fitting (121).

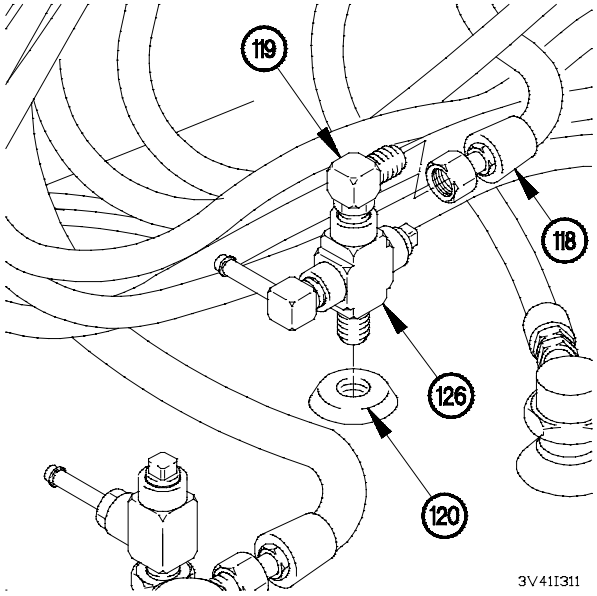
WARNING

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(70) Apply sealing compound to threads of 90-degree return fitting (119), 90-degree fitting (124), plug (125), and four-way fitting (126).

(71) Install 90-degree return fitting (119), 90-degree fitting (124), and plug (125) on four-way fitting (126).





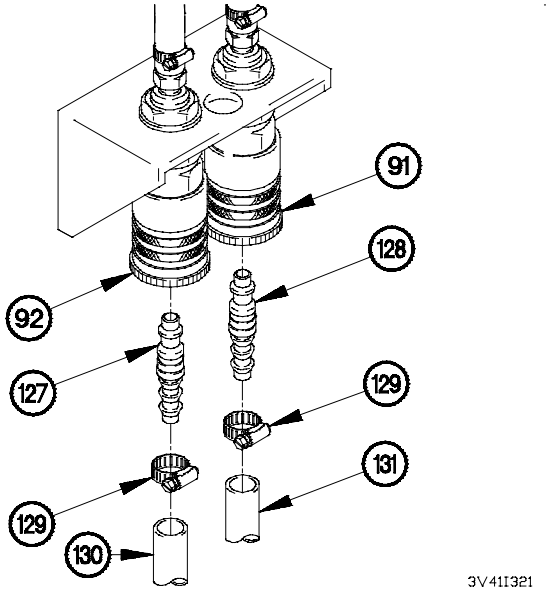
(72) Install four-way fitting (126) on fuel tank (120).

NOTE

Install plastic cable ties as required.

(73) Connect fuel hose (118) to 90-degree return fitting (119).

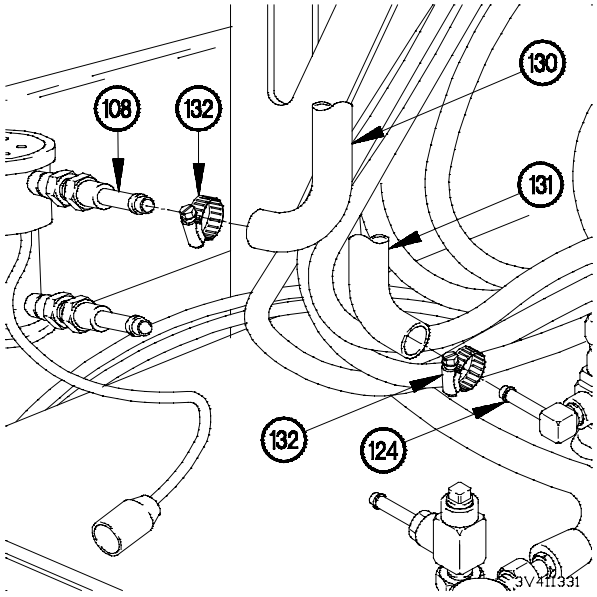
20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)



(74) Connect fitting (127 and 128) to quick connect fittings (91 and 92).

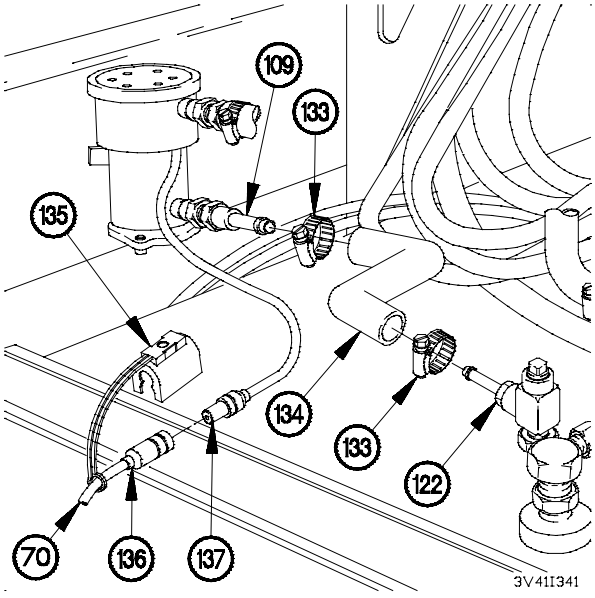
(75) Position two clamps (129) on hoses (130 and 131).

(76) Install hoses (130 and 131) on fittings (127 and 128) with two clamps (129).



(77) Position two clamps (132) on hoses (130 and 131).

(78) Install hoses (130 and 131) on fittings (108 and 124) with two clamps (132).



(79) Position two clamps (133) on hose (134).

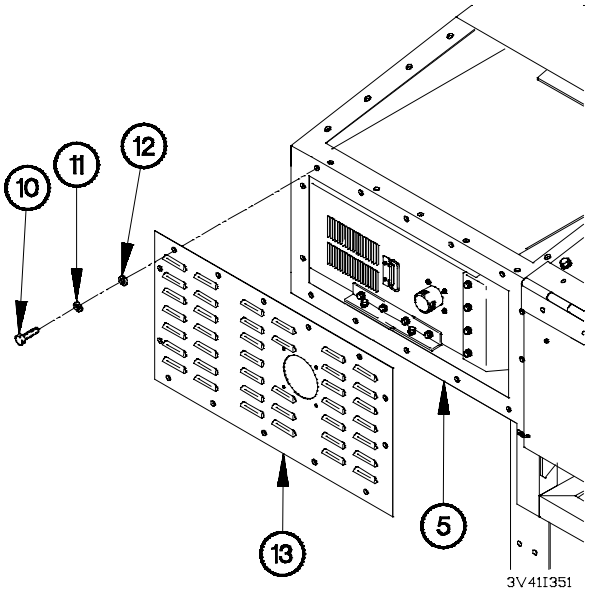
(80) Install hose (134) on fittings (109 and 122) with two clamps (133).

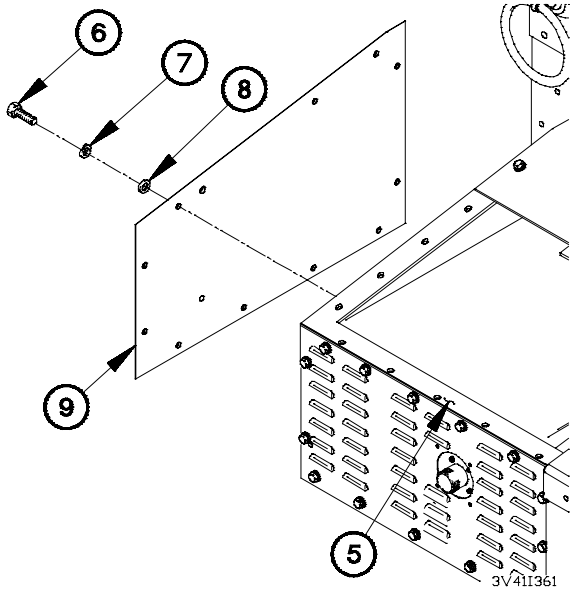
(81) Install connector clamp (135) on heater fuel pump power cable (70).

(82) Connect connector P310 (136) to heater fuel pump connector (137).

(83) Connect connector clamp (135) on heater fuel pump connector (137).

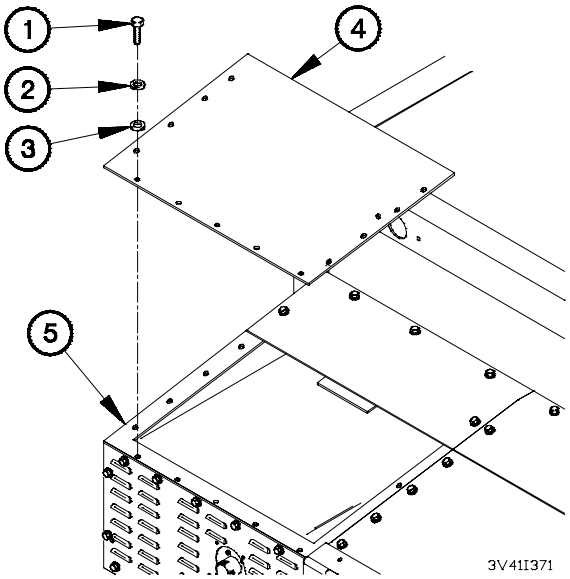
(84) Install curbside front panel (13) on pod frame (5) with 14 washers (12), lockwashers (11), and screws (10).





(85) Install curbside panel (9) on pod frame (5) with 13 washers (8), lockwashers (7), and screws (6).

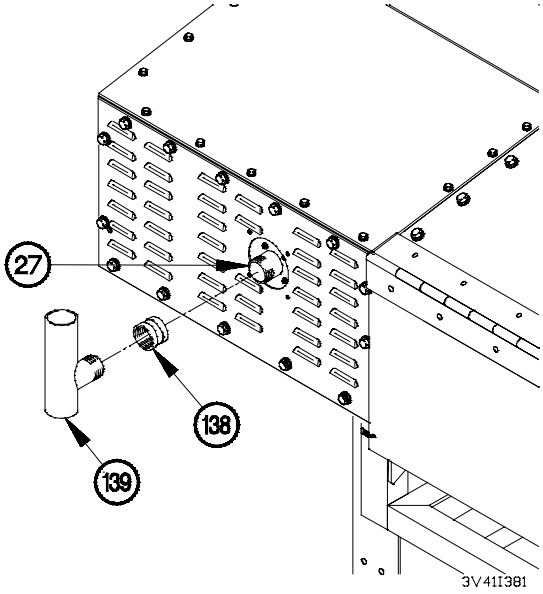
(86) Install curbside top front panel (4) on pod frame (5) with 13 washers (3), lockwashers (2), and screws (1).

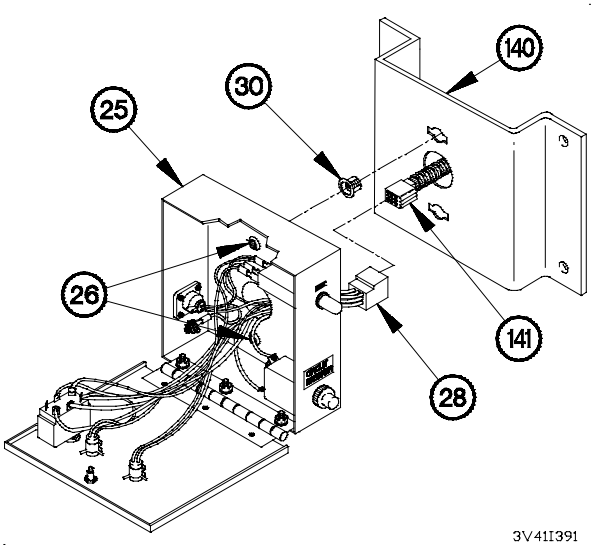


20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

(87) Install coupler (138) on heater (27).

(88) Install exhaust pipe (139) on coupler (138).





(89) Install two twist locks (30) on bracket (140).

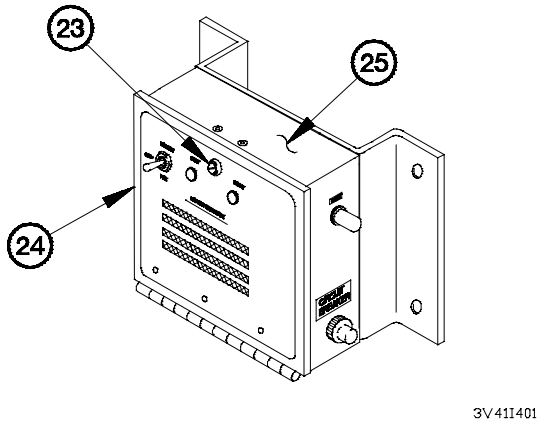
(90) Position heater control unit (25) on bracket (140).

(91) Latch two screws (26) on heater control unit (25).

(92) Connect connector J4A (141) to connector P4 (28).

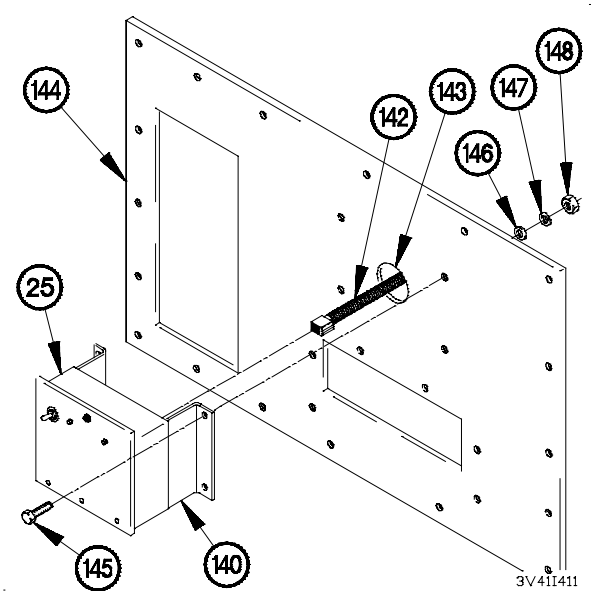
(93) Close door (24) on heater control unit (25).

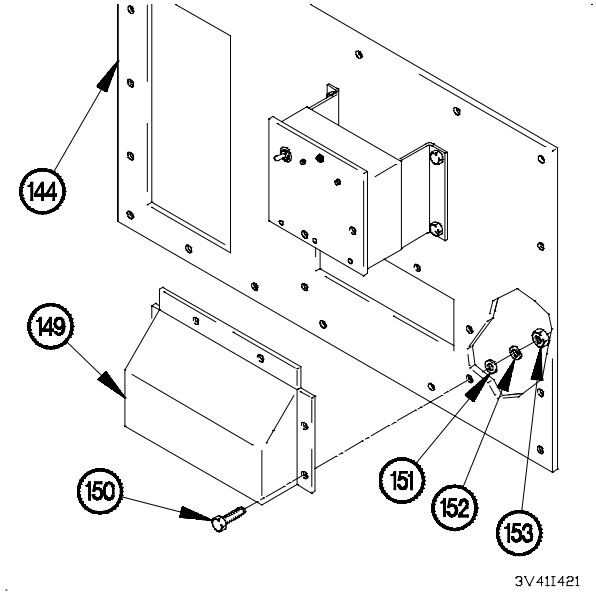
(94) Latch screw (23) on door (24).



(95) Route heater control cable (142) through hole (143) in heater cover (144).

(96) Install bracket (140) on heater cover (144) with four screws (145), washers (146), lockwashers (147), and nuts (148).





(97) Install hood (149) on heater cover (144) with six screws (150), washers (151), lockwashers (152), and nuts (153).

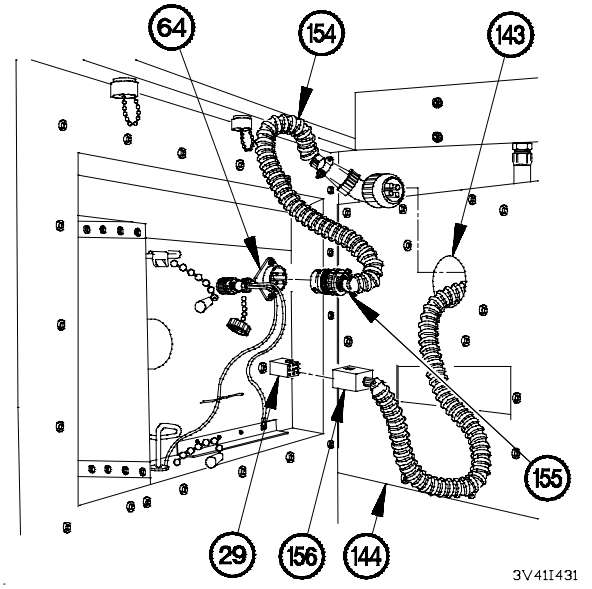
(98) Route heater power cable (154) through hole (143) in heater cover (144).

NOTE

Steps (99) and (100) require the aid of an assistant.

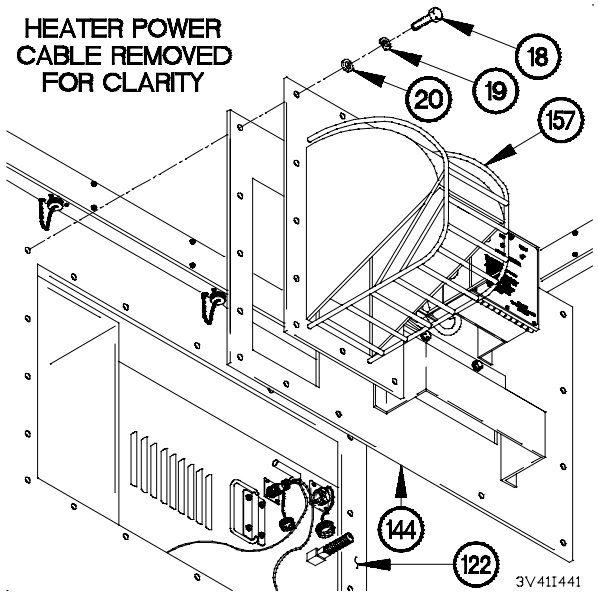
(99) Connect connector J244A (155) to heater power connector (64).

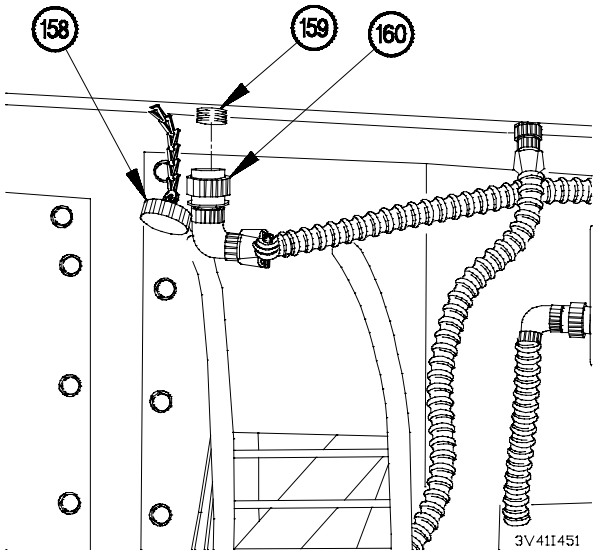
(100) Connect connector P4A (156) to connector J4 (29).



20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

(101) Install heater cover (144) on inside front van body wall (22) with heater deflector (157), 18 washers (20), lockwashers (19), and screws (18).





(102) Remove dust cap (158) from heater connector (159).

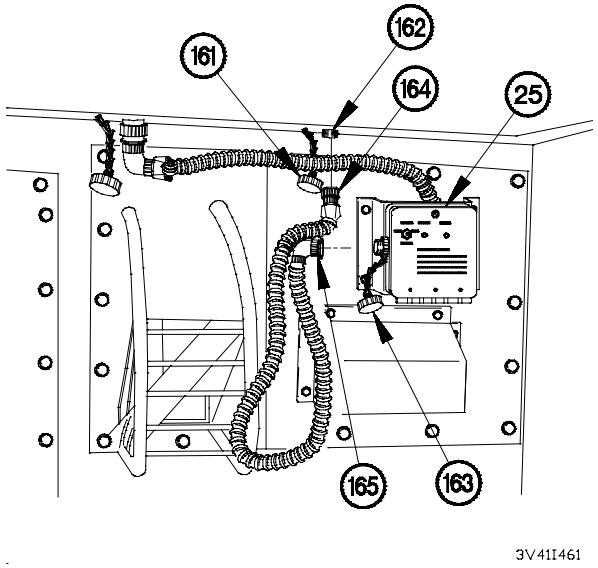
(103) Connect connector P244 (160) to heater connector (159).

(104) Remove dust cap (161) from thermostat connector (162).

(105) Remove dust cap (163) from heater control unit (25).

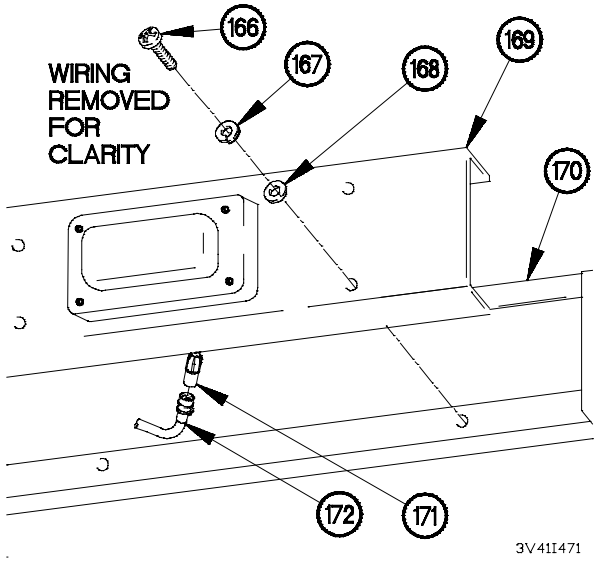
(106) Connect connector J245 (164) to thermostat connector (162).

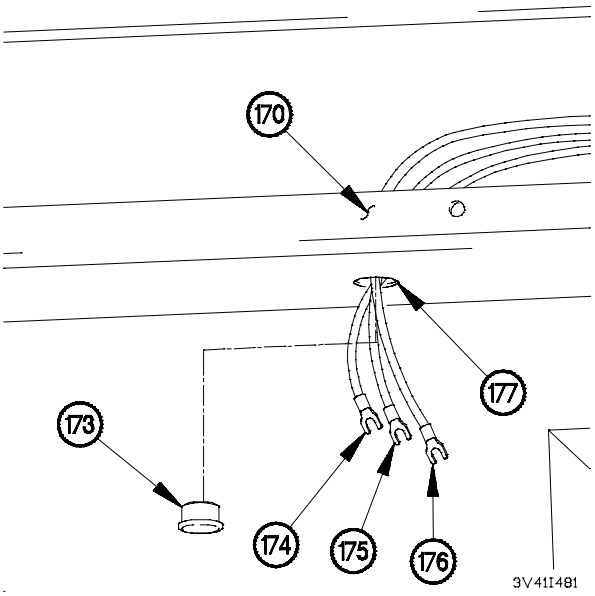
(107) Connect connector P245A (165) to heater control unit (25).



(108) Remove 12 screws (166), lockwashers (167), washers (168), and cover (169) from raceway (170). Discard lockwashers.

(109) Disconnect connector J165 (171) from connector P165 (172).



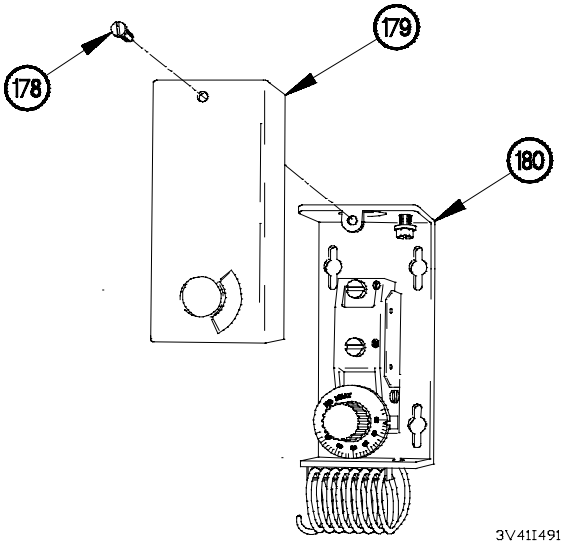


(110) Remove plug (173) from raceway (170).

(111) Retain plug (173) for future use.

(112) Route wire 1499R (174), wire 3086C (175), and wire 401 (176) through hole (177) in raceway (170).

(113) Remove screw (178) and cover (179) from thermostat (180).



20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

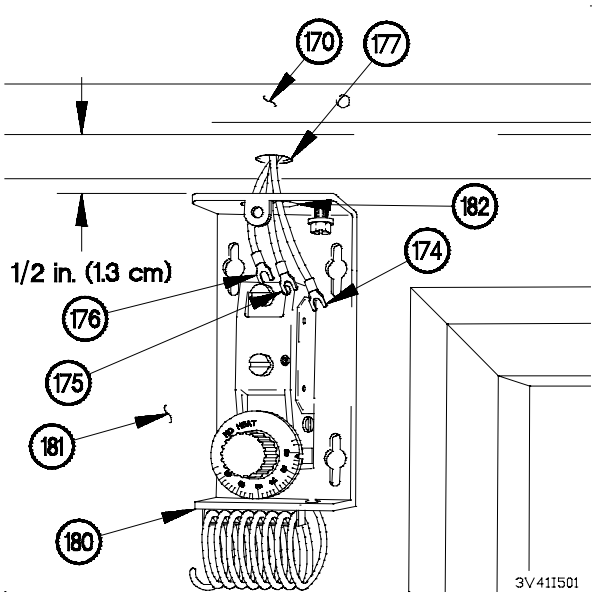
NOTE

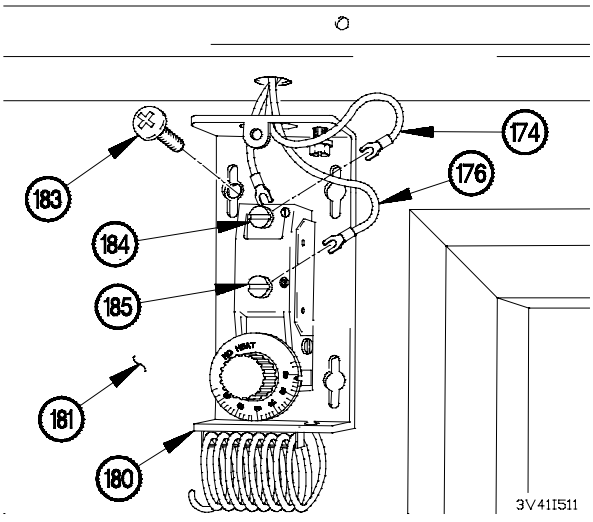
Steps (114) and (115) apply to initial installation.

(114) Position thermostat (180) centered and 1/2 in. (1.3 cm) below hole (177) in raceway (170).

(115) Match drill two holes in inside left van body wall (181).

(116) Route wire 1499R (174), wire 3086C (175), and wire 401 (176) through hole (182) in thermostat (180).





(117) Install thermostat (180) on inside left van body wall (181) with two screws (183).

(118) Loosen screws (184 and 185) on thermostat (180).

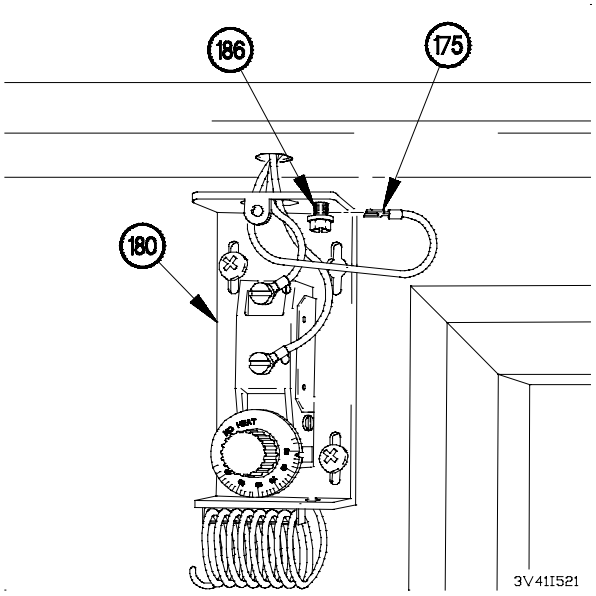
(119) Position wire 1499R (174) and wire 401 (176) on thermostat (180).

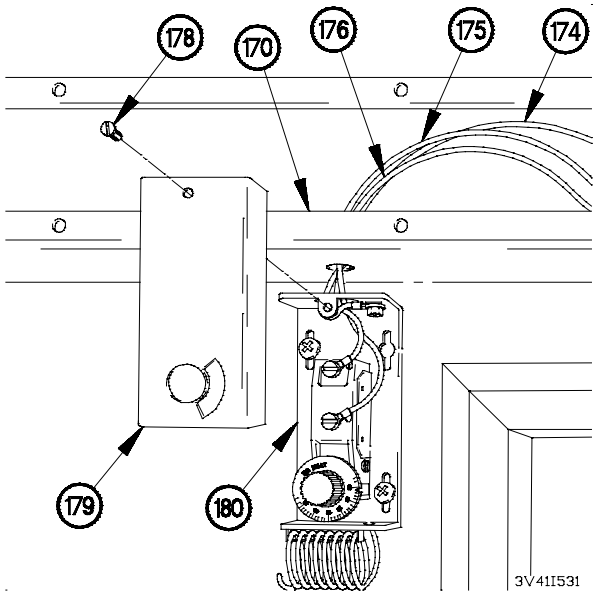
(120) Tighten screws (184 and 185) on thermostat (180).

(121) Loosen screw (186) on thermostat (180).

(122) Position wire 3086C (175) on thermostat (180).

(123) Tighten screw (186) on thermostat (180).





NOTE

Install plastic cable ties as required.

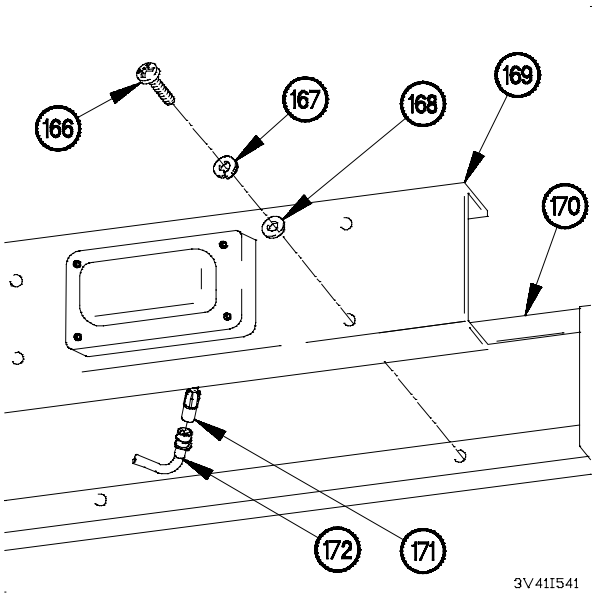
(124) Pull slack from wire 1499R (174), wire 3086C (175) and wire 401 (176) into raceway (170) and secure in place.

(125) Install cover (179) on thermostat (180) with screw (178).

(126) Connect connector J165 (171) to connector P165 (172).

(127) Install cover (169) on raceway (170) with 12 washers (168), lockwashers (167), and screws (166).

(128) Operate heater and check for proper operation (TM 9-2320-365-10).



20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

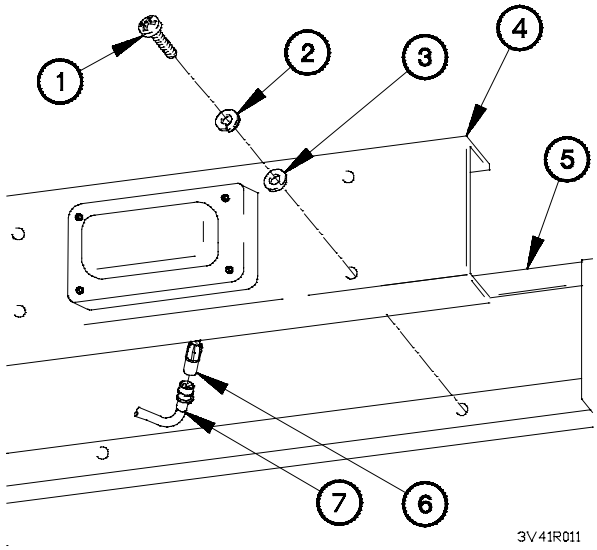
b. Removal.

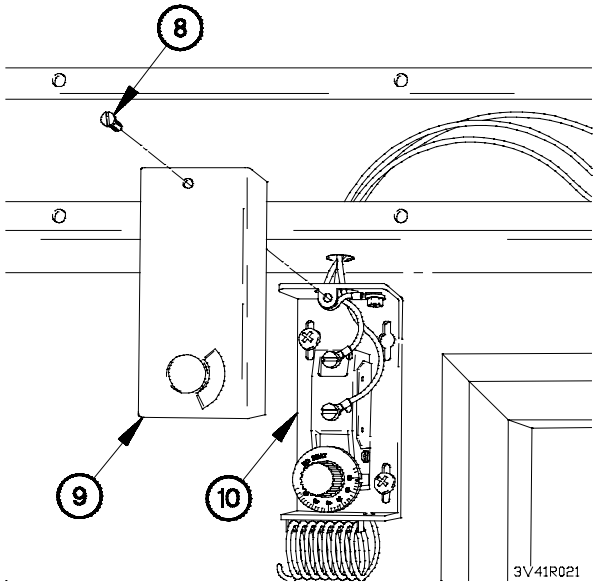
NOTE

Store all removed parts in kit package.

(1) Remove 12 screws (1), lockwashers (2), washers (3), and cover (4) from raceway (5). Discard lockwashers.

(2) Disconnect connector J165 (6) from connector P165 (7).

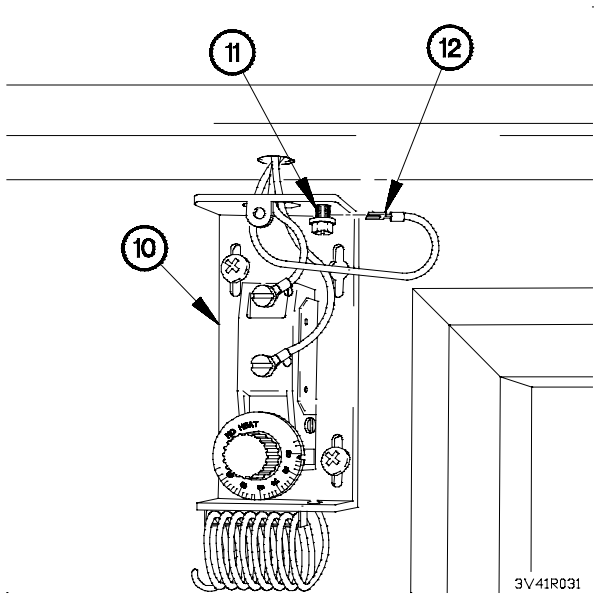




(3) Remove screw (8) and cover (9) from thermostat (10).

(4) Loosen screw (11) on thermostat (10).

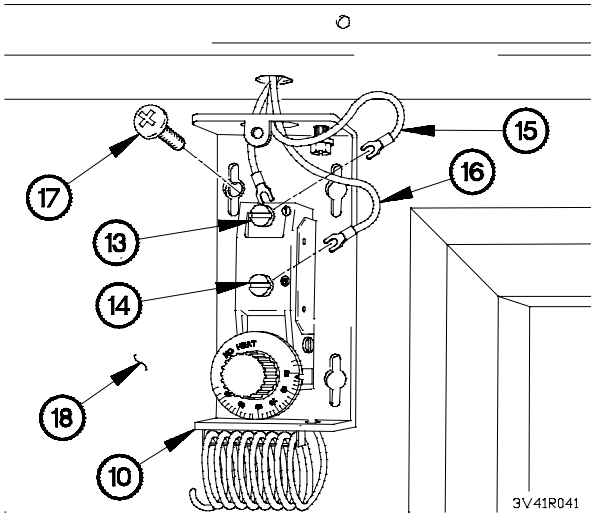
(5) Remove wire 3086C (12) from thermostat (10).

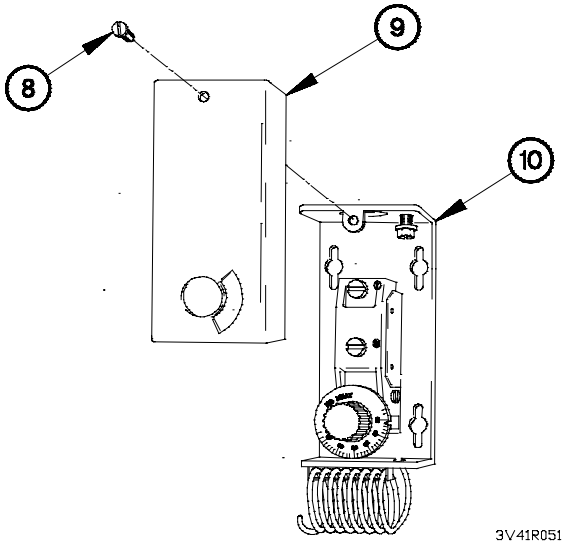


(6) Loosen screws (13 and 14) on thermostat (10).

(7) Remove wire 1499R (15) and wire 401 (16) from thermostat (10).

(8) Remove two screws (17) and thermostat (10) from inside left van body wall (18).





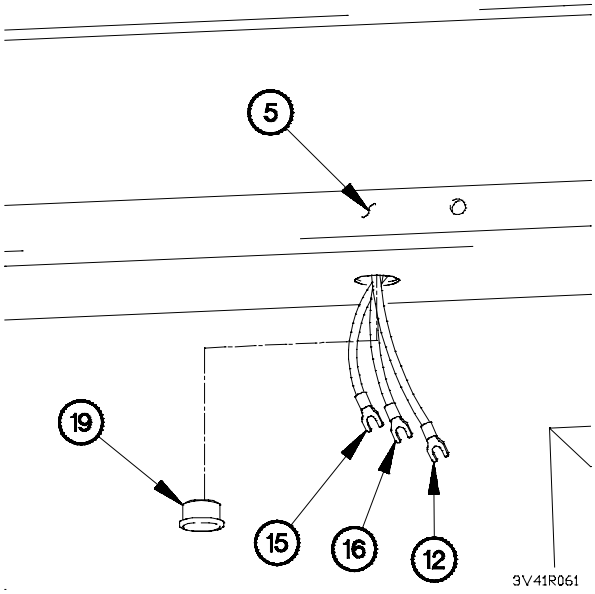
(9) Install cover (9) on thermostat (10) with screw (8).

NOTE

Remove plastic cable ties as required.

(10) Pull wire 1499R (15), wire 3086C (12), and wire 401 (16) into raceway (5).

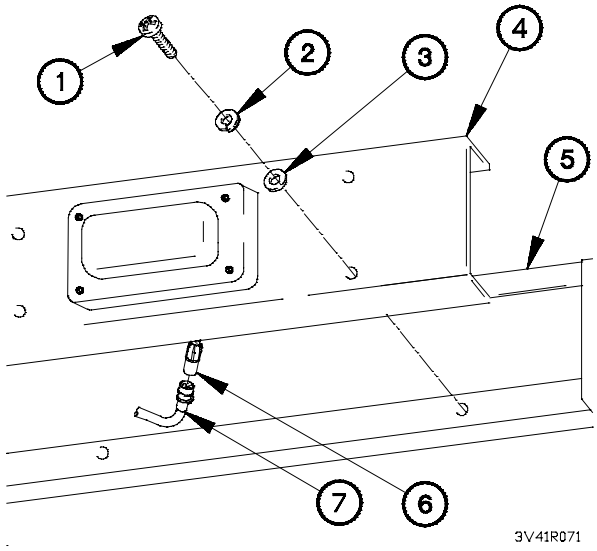
(11) Install plug (19) on raceway (5).

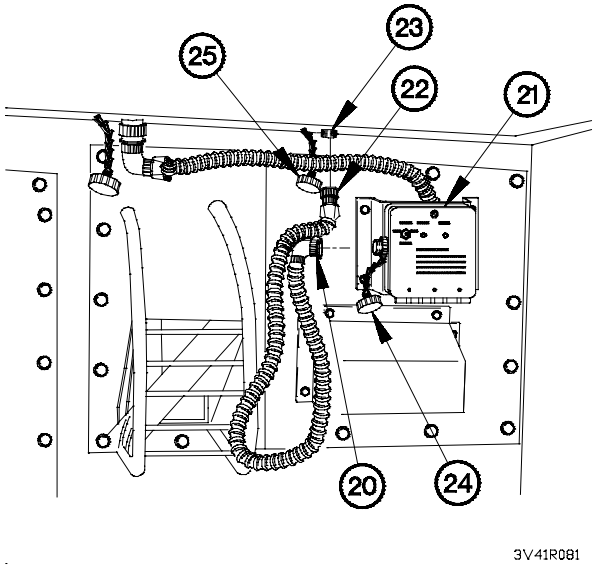


20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

(12) Connect connector J165 (6) to connector P165 (7).

(13) Install cover (4) on raceway (5) with 12 washers (3), lockwashers (2), and screws (1).





(14) Disconnect connector P245A (20) from heater control unit (21).

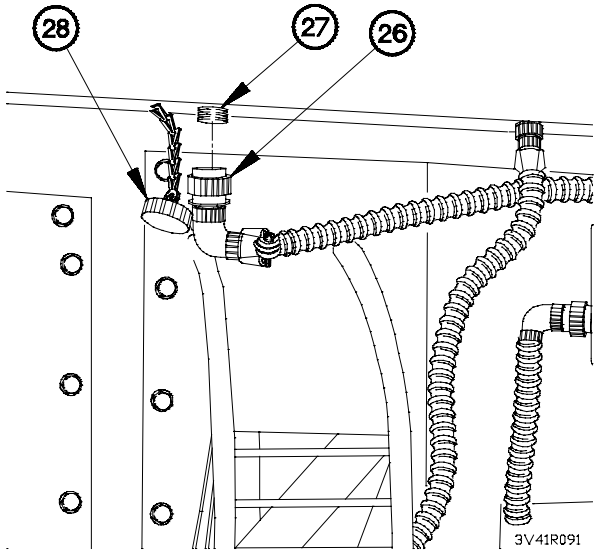
(15) Disconnect connector J245 (22) from thermostat connector (23).

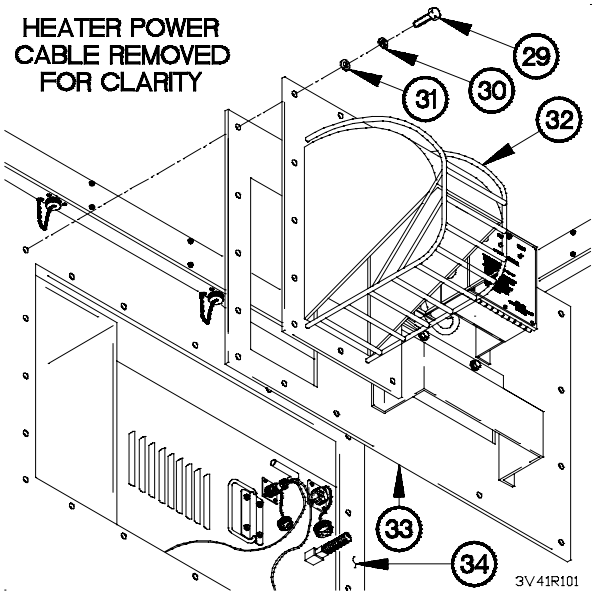
(16) Install dust cap (24) on heater control unit (21).

(17) Install dust cap (25) on thermostat connector (23).

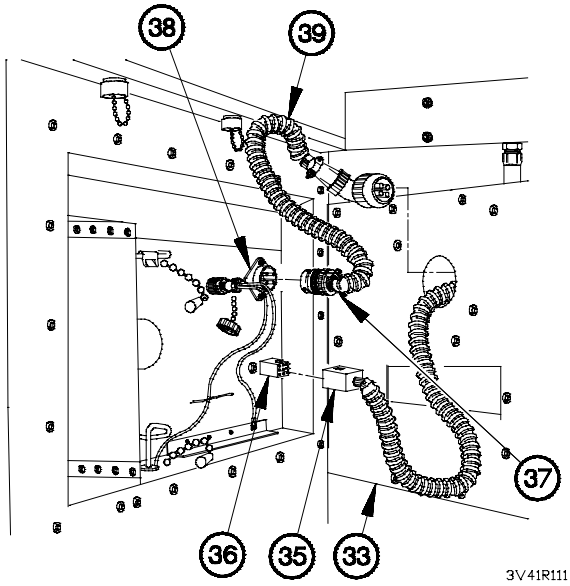
(18) Disconnect connect P244 (26) from heater connector (27).

(19) Install dust cap (28) on heater connector (27).





(20) Remove 18 screws (29), lockwashers (30), washers (31), heater deflector (32), and heater cover (33) from inside front van body wall (34). Discard lockwashers.



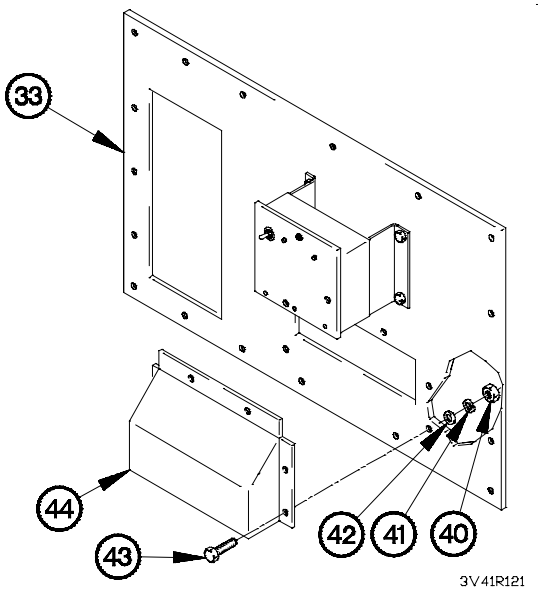
NOTE

Tag connectors and connection points prior to removal.

(21) Disconnect connect P4A (35) from connector J4 (36).

(22) Disconnect connector J244A (37) from heater power cable connector (38).

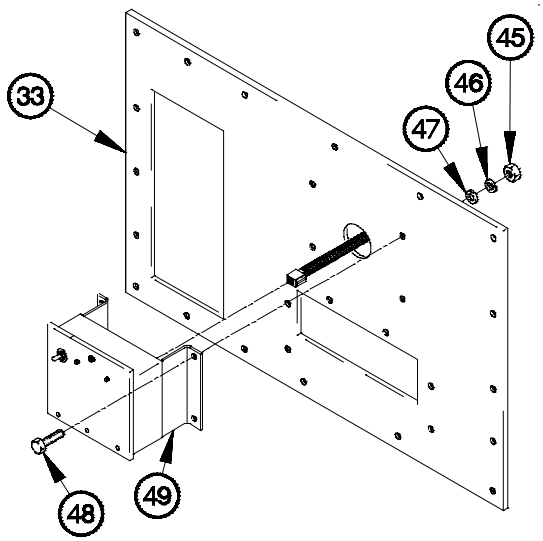
(23) Remove heater power cable (39) from heater cover (33).



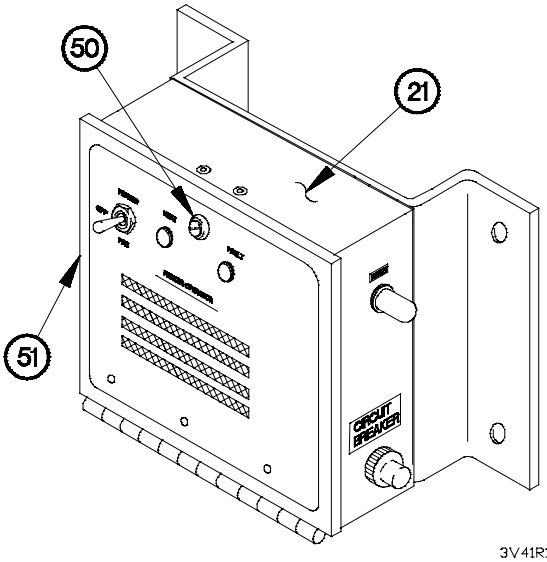
(24) Remove six nuts (40), lockwashers (41), washers (42), screws (43), and hood (44) from heater cover (33).

20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

(25) Remove four nuts (45), lockwashers (46), washers (47), screws (48), and bracket (49) from heater cover (33).



3V41R131



3V41R141

(26) Unlatch screw (50) on door (51).

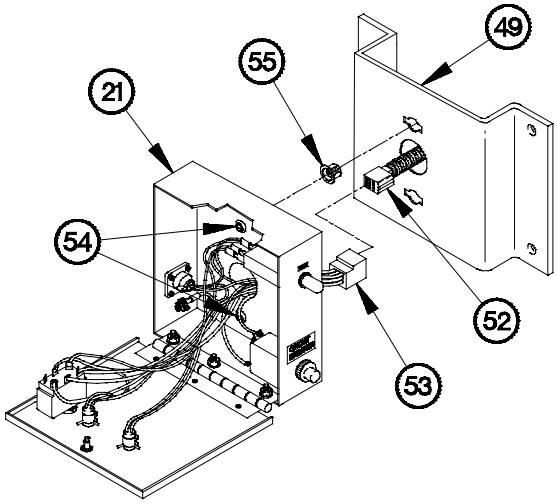
(27) Open door (51) on heater control unit (21).

(28) Disconnect connector J4A (52) from connector P4 (53).

(29) Unlatch two screws (54) on heater control unit (21).

(30) Remove heater control unit (21) from bracket (49).

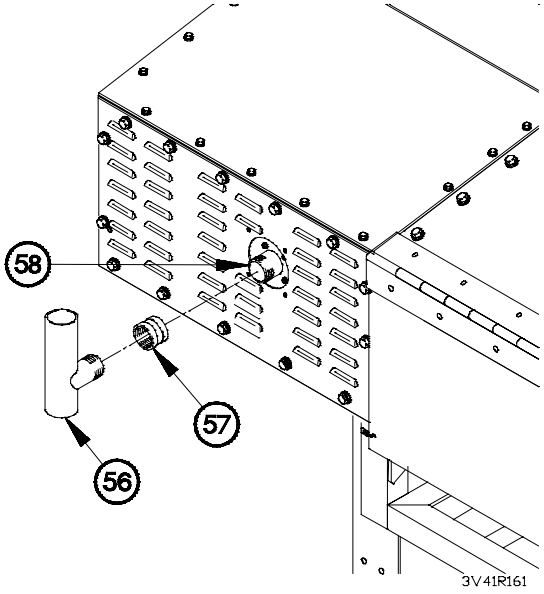
(31) Remove two twist locks (55) from bracket (49).

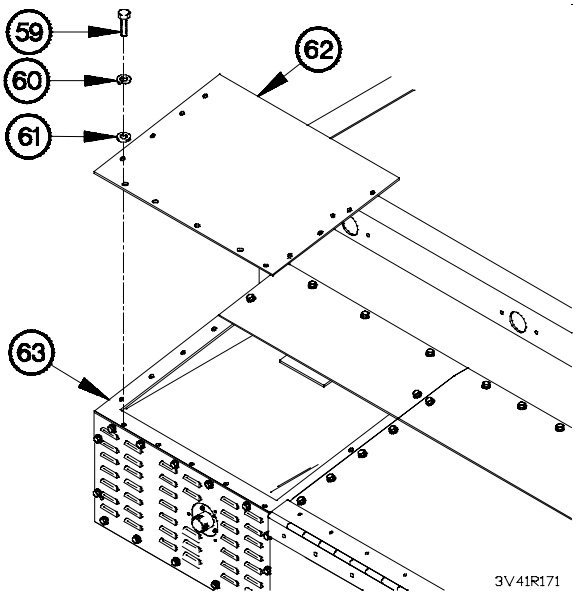


3V41R151

(32) Remove exhaust pipe (56) from coupler (57).

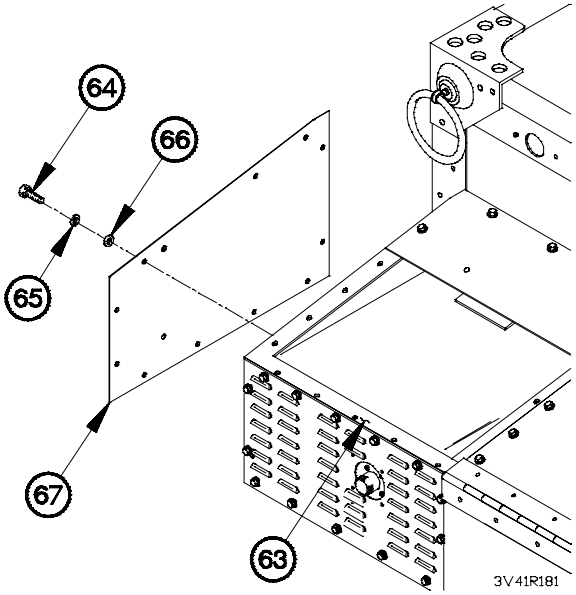
(33) Remove coupler (57) from heater (58).





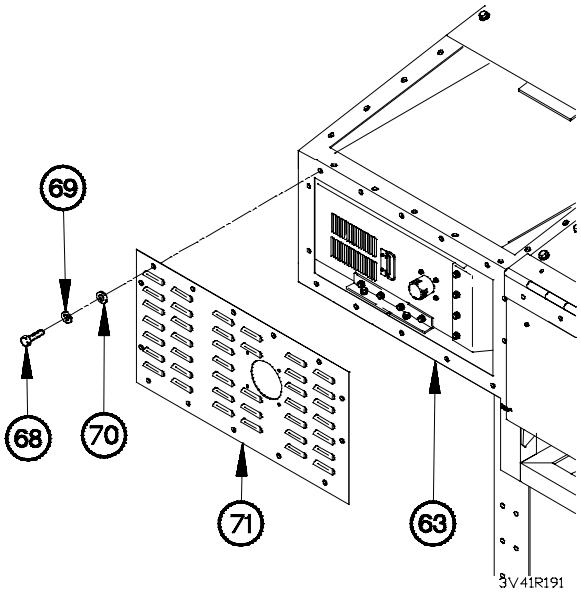
(34) Remove 13 screws (59), lockwashers (60), washers (61), and curbside top front panel (62) from pod frame (63). Discard lockwashers.

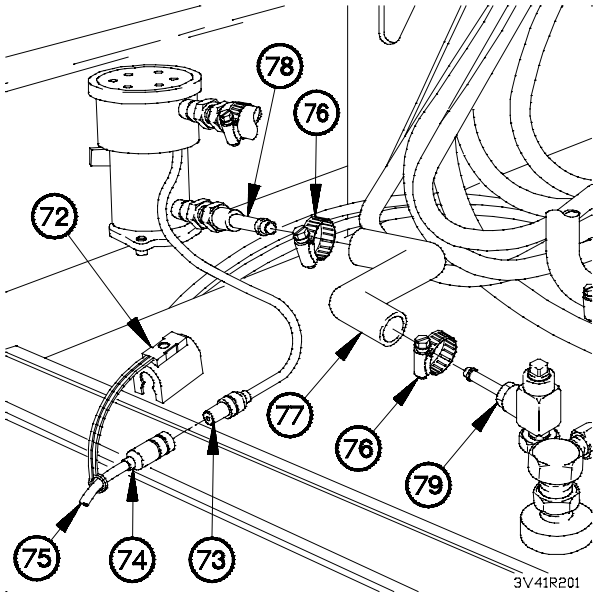
(35) Remove 13 screws (64), lockwashers (65), washers (66), and curbside panel (67) from pod frame (63). Discard lockwashers.



20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

(36) Remove 14 screws (68), lockwashers (69), washers (70) and curbside front panel (71) from pod frame (63). Discard lockwashers.





(37) Disconnect connector clamp (72) from heater fuel pump connector (73).

(38) Disconnect heater fuel pump connector (73) from connector P310 (74).

(39) Remove connector clamp (72) from heater fuel pump power cable (75).

WARNING

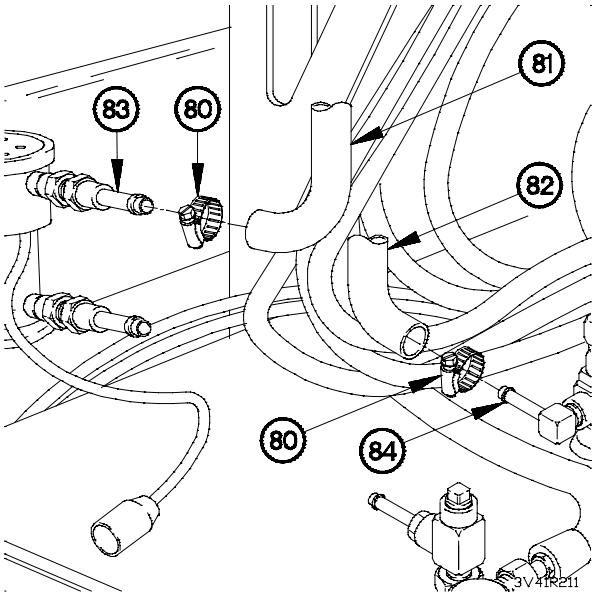
Diesel fuel is flammable. If fuel is spilled, clean it up immediately. Failure to comply may result in serious injury or death to personnel.

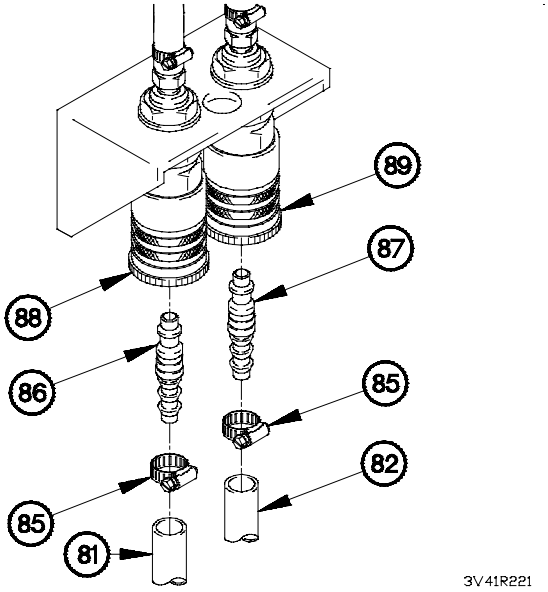
(40) Loosen two clamps (76) on hose (77).

(41) Remove hose (77) and two clamps (76) from fittings (78 and 79).

(42) Loosen two clamps (80) on hoses (81 and 82).

(43) Remove hoses (81 and 82) and two clamps (80) from fitting (83 and 84).





(44) Loosen two clamps (85) on hoses (81 and 82).

(45) Remove hoses (81 and 82) and two clamps (85) from fittings (86 and 87).

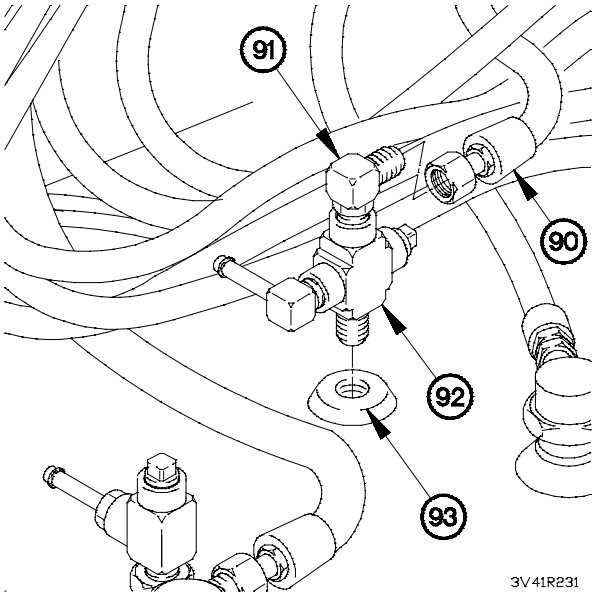
(46) Disconnect fittings (86 and 87) from quick connect fittings (88 and 89).

NOTE

Remove plastic cable ties as required.

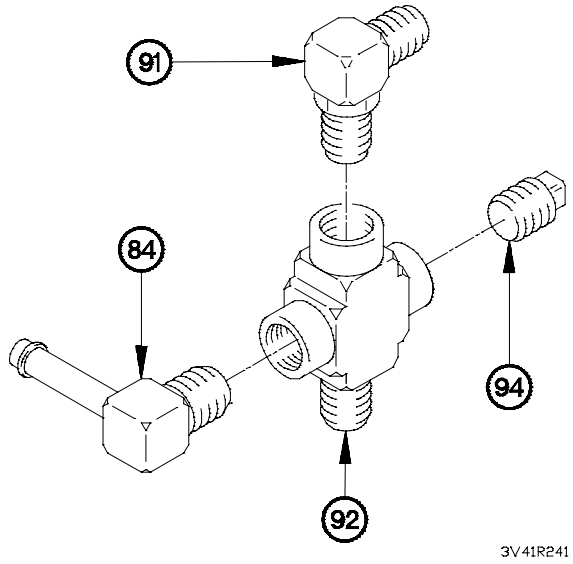
(47) Disconnect fuel hose (90) from 90-degree return fitting (91).

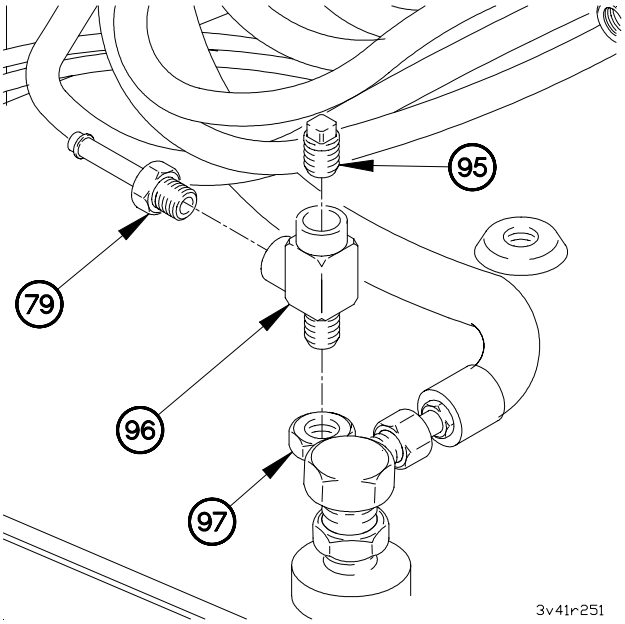
(48) Remove four-way fitting (92) from fuel tank (93).



20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

(49) Remove 90-degree return fitting (91), 90-degree fitting (84), and plug (94) from four-way fitting (92).





(50) Remove fitting (79) and plug (95) from run tee fitting (96).

(51) Remove run tee fitting (96) from auxiliary supply port (97).

WARNING

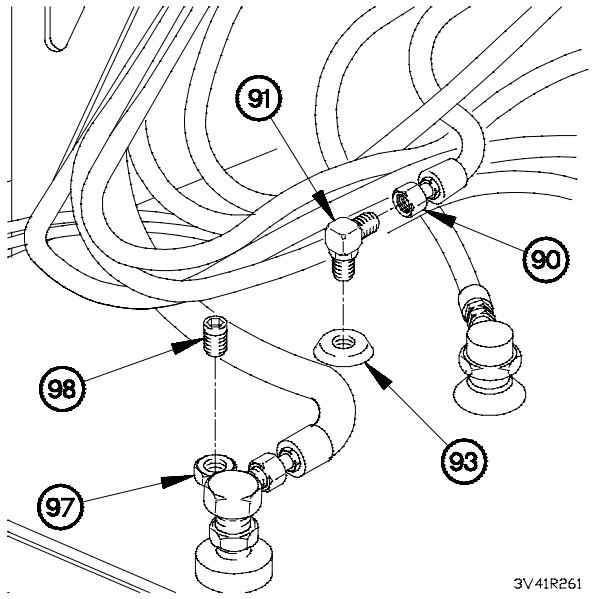
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure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

(52) Apply sealing compound to threads of 90-degree return fitting (91) and plug (98).

(53) Install 90-degree return fitting (91) on fuel tank (93).

(54) Connect fuel hose (90) to 90-degree return fitting (91).

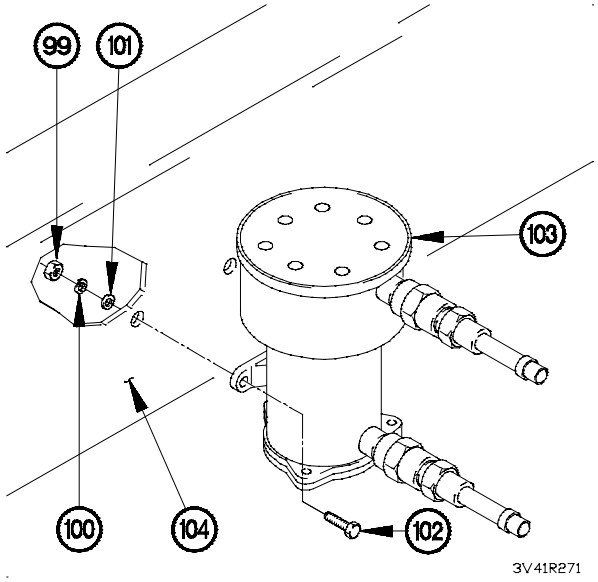
(55) Install plug (98) in auxiliary supply port (97).

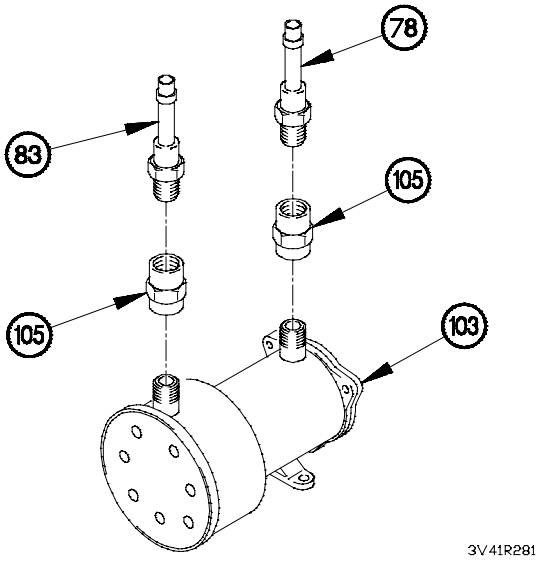


NOTE

Step (56) requires the aid of an assistant.

(56) Remove two nuts (99), lockwashers (100), washers (101), screws (102), and heater fuel pump (103) from sub-frame (104). Discard lockwashers.



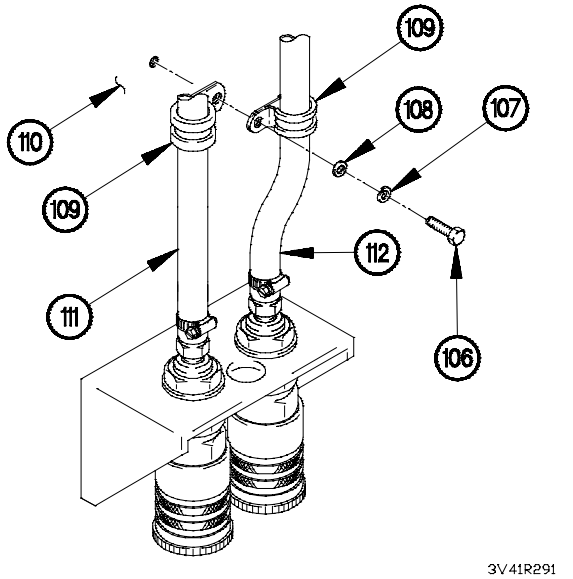


(57) Remove fitting (78 and 83) from two couplers (105).

(58) Remove two couplers (105) from heater fuel pump (103).

(59) Remove three screws (106), lockwashers (107), washers (108), and six clamps (109) from outside front van body wall (110). Discard lockwashers.

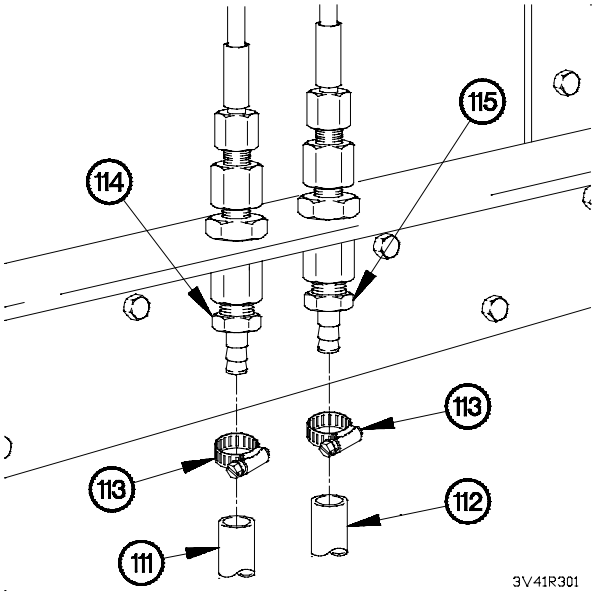
(60) Remove six clamps (109) from hoses (111 and 112).

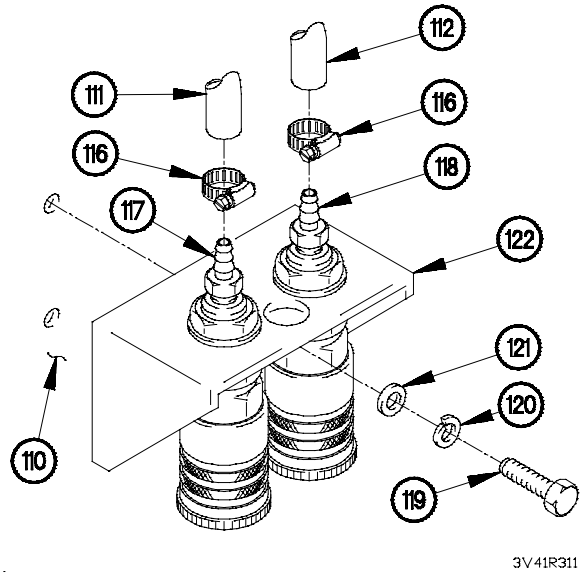


20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

(61) Loosen two clamps (113) on hoses (111 and 112).

(62) Remove hoses (111 and 112) and clamps (113) from fittings (114 and 115).



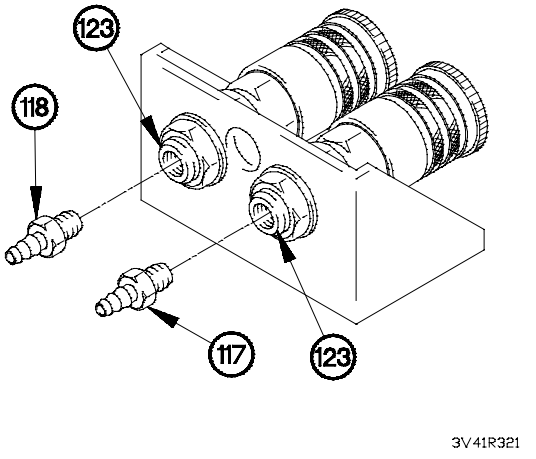


(63) Loosen two clamps (116) on hoses (111 and 112).

(64) Remove hoses (111 and 112) and clamps (116) from fittings (117 and 118).

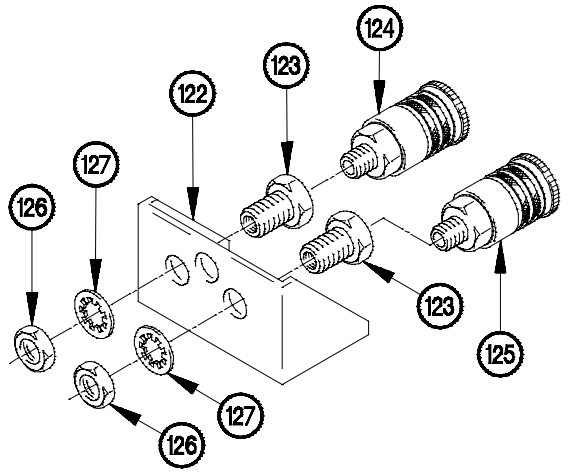
(65) Remove two screws (119), lockwashers (120), washers (121), and bracket (122) from outside front van body wall (110).

(66) Remove fittings (117 and 118) from two bushings (123).

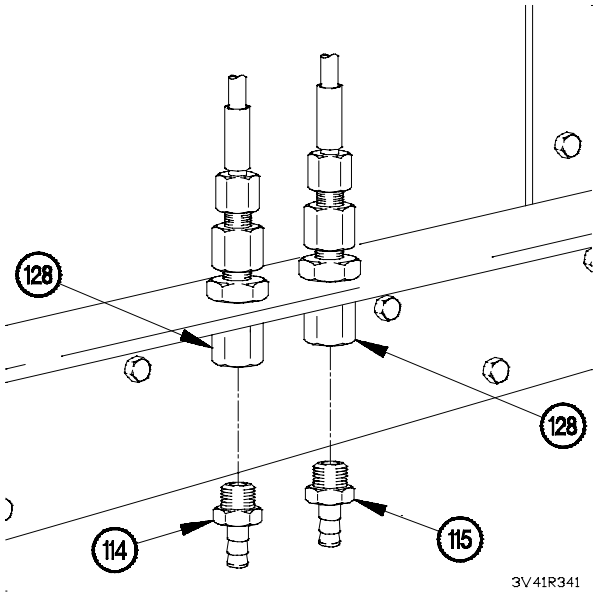


(67) Remove quick connect fittings (124 and 125) from two bushings (123).

(68) Remove two nuts (126), lockwashers (127), and bushings (123) from bracket (122). Discard lockwashers.



3V41R331



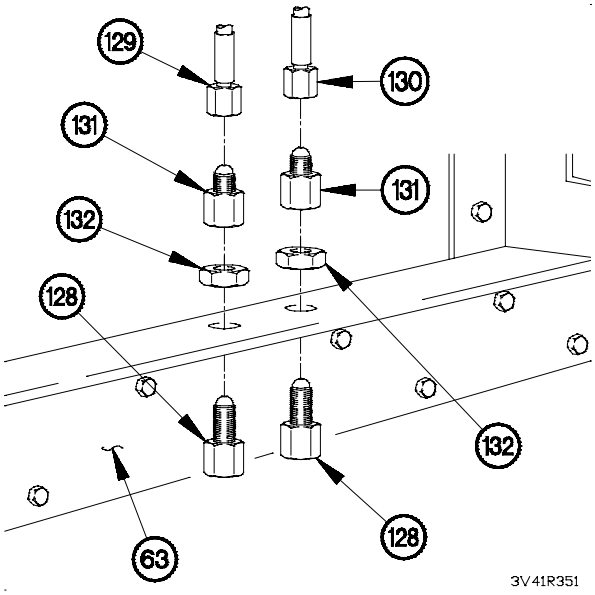
3V41R341

(69) Remove fitting (114 and 115) from two fittings (128).

(70) Remove fuel tubes (129 and 130) from two adapters (131).

(71) Remove two adapters (131) from fittings (128).

(72) Remove two nuts (132) and fittings (128) from pod frame (63).



3V41R351

20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

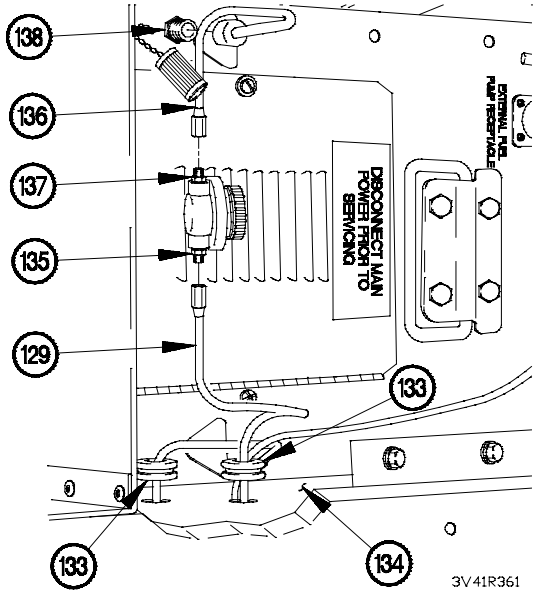
(73) Remove two grommets (133) from pod panel (134).

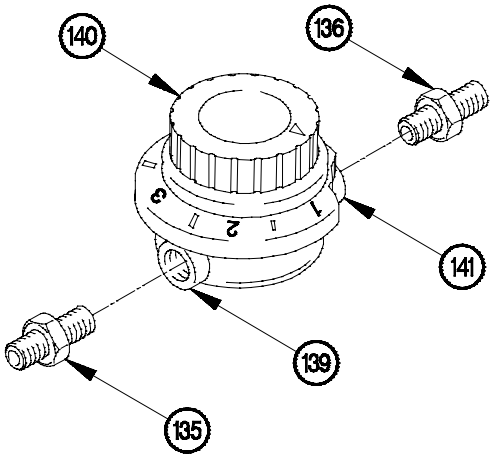
(74) Remove fuel tube (129) from fitting (135).

(75) Remove fuel tube (136) from fitting (137).

(76) Remove fuel tube (129) from pod panel (134).

(77) Remove fuel tube (136) from fuel inlet port (138).



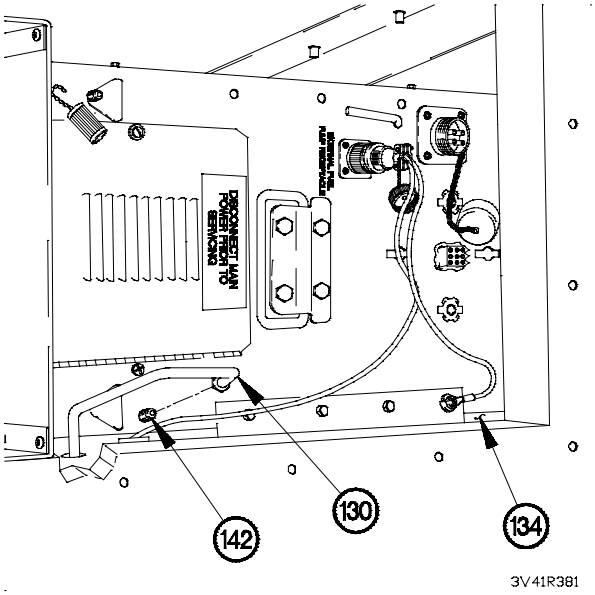


(78) Remove fitting (135) from outlet port (139) of fuel regulator (140).

(79) Remove fitting (136) from inlet port (141) of fuel regulator (140).

(80) Remove fuel tube (130) from fuel overflow port (142).

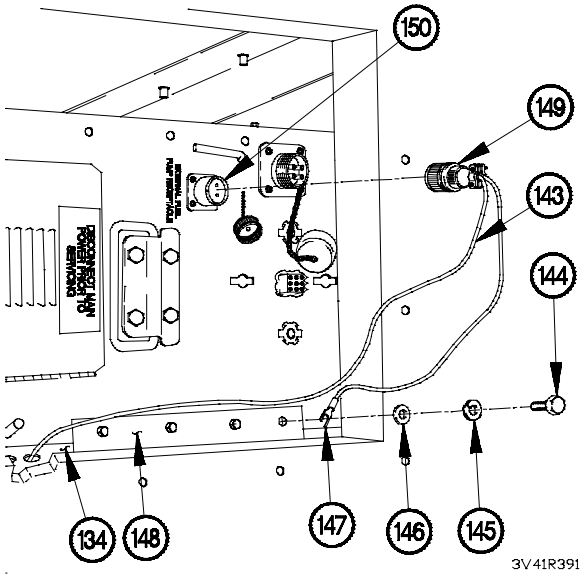
(81) Remove fuel tube (130) from pod panel (134).

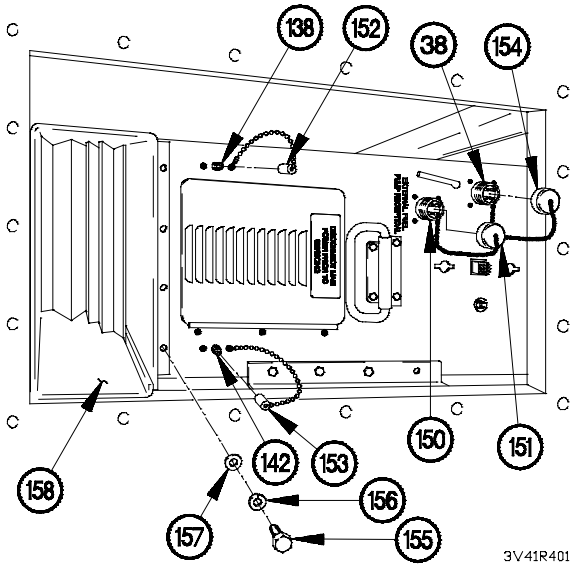


(82) Route heater fuel pump power cable (143) through hole in pod panel (134).

(83) Remove screw (144), lockwasher (145), washer (146), and terminal lug TL191 (147) from bracket (148).

(84) Disconnect connector J314 (149) from heater fuel pump power cable connector (150).





(85) Install dust cap (151) on heater fuel pump power cable connector (150).

(86) Install dust cap (152) on fuel inlet port (138).

(87) Install dust cap (153) on fuel overflow port (142).

(88) Install dust cap (154) on heater power cable connector (38).

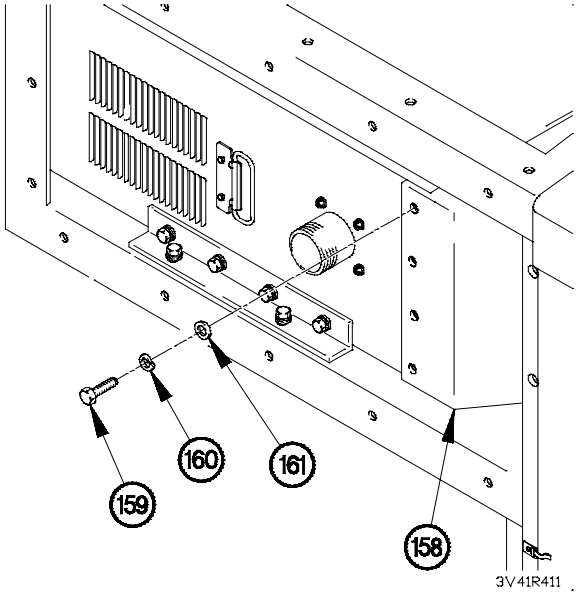
(89) Remove four screws (155), lockwashers (156), and washers (157) from heater duct (158). Discard lockwashers.

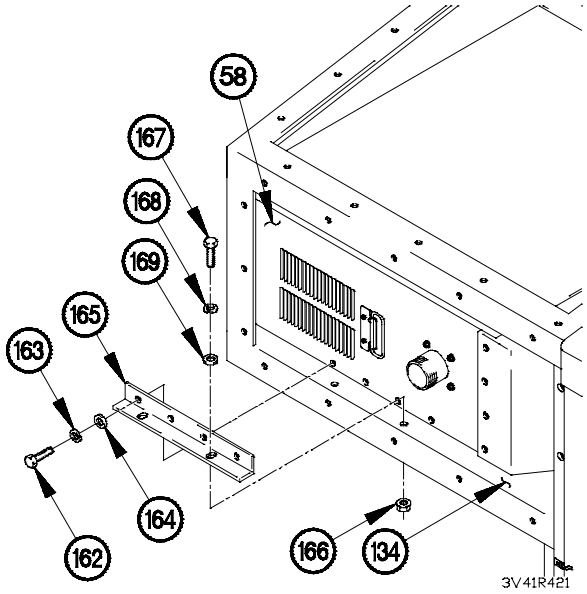
20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

NOTE

Steps (90) through (96) require the aid of an assistant.

(90) Remove four screws (159), lockwashers (160), and washers (161) from heater duct (158). Discard lockwashers.

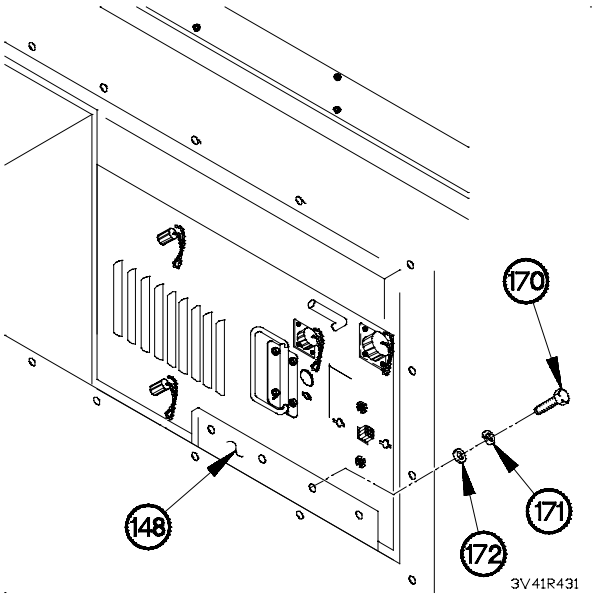




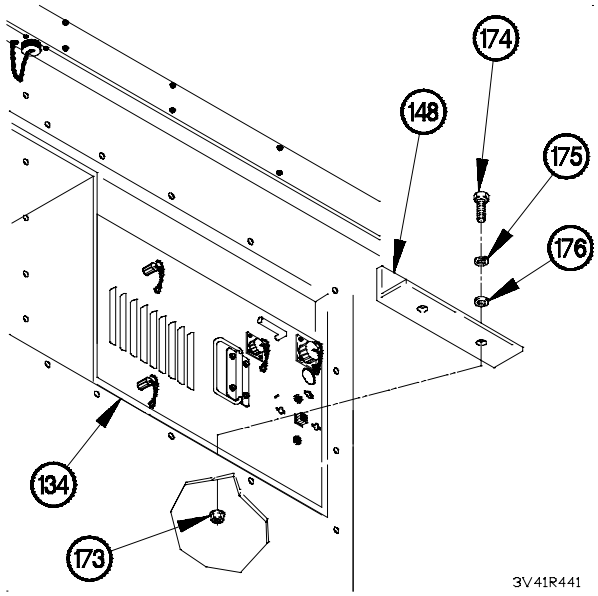
(91) Remove four screws (162), lockwashers (163), and washers (164) from bracket (165).

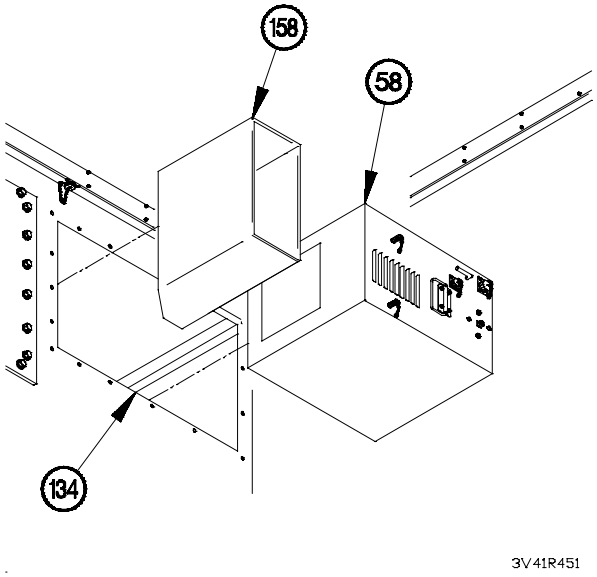
(92) Remove two self-locking nuts (166), screws (167), lockwashers (168), washers (169), and bracket (165) from pod panel (134).

(93) Remove three screws (170), lockwashers (171), and washers (172) from bracket (148).



(94) Remove two self-locking nuts (173), screws (174), lockwashers (175), washers (176), and bracket (148) from pod panel (134).



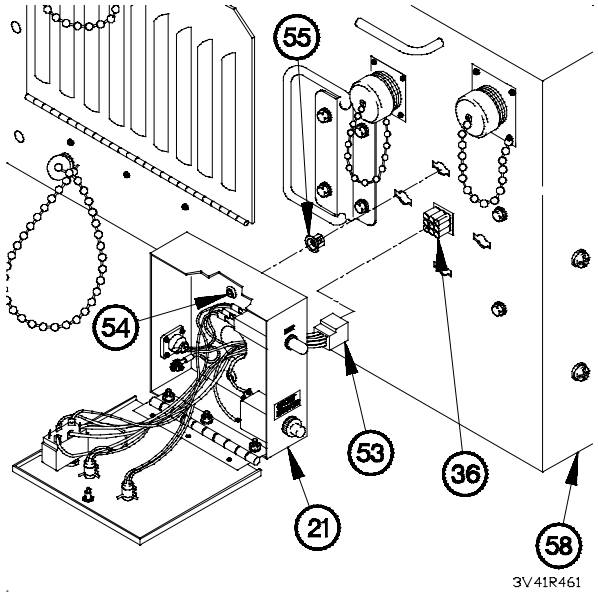


(95) Remove heater duct (158) from pod panel (134).

WARNING

Heater weighs approximately 120 lbs (54 kgs). Use the aid of an assistant when lifting. Failure to comply may result in injury to personnel.

(96) Remove heater (58) from pod panel (134).



(97) Install two twist locks (55) on heater (58).

(98) Position heater control unit (21) on heater (58).

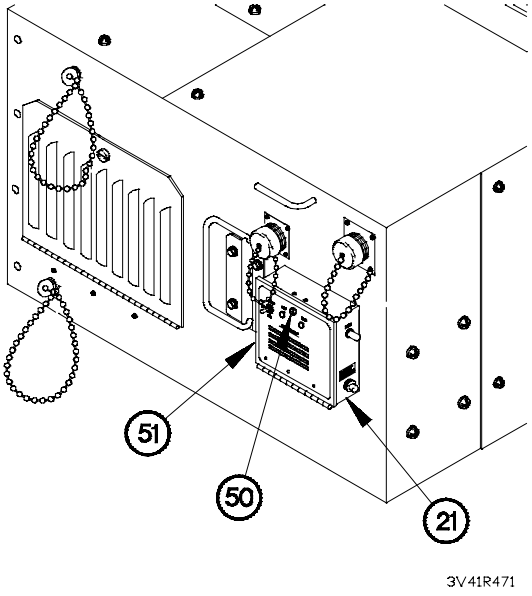
(99) Latch two screws (54) on heater control unit (21).

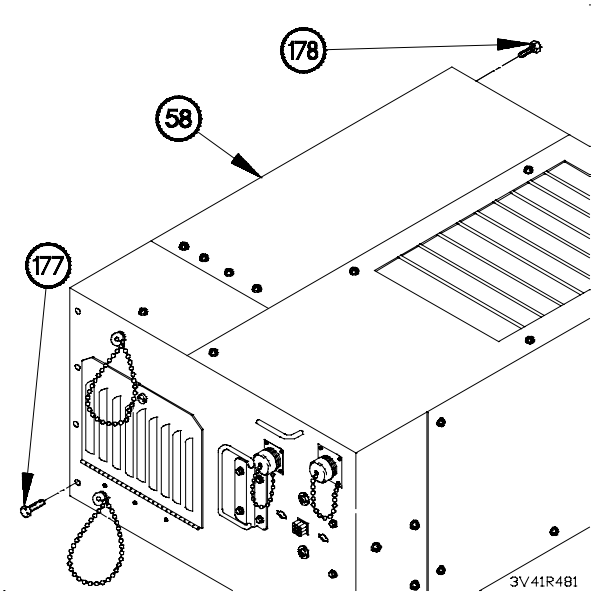
(100) Connect connector P4 (53) to connector J4 (36).

20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

(101) Close door (51) on heater control unit (21).

(102) Latch screw (50) on door (51).

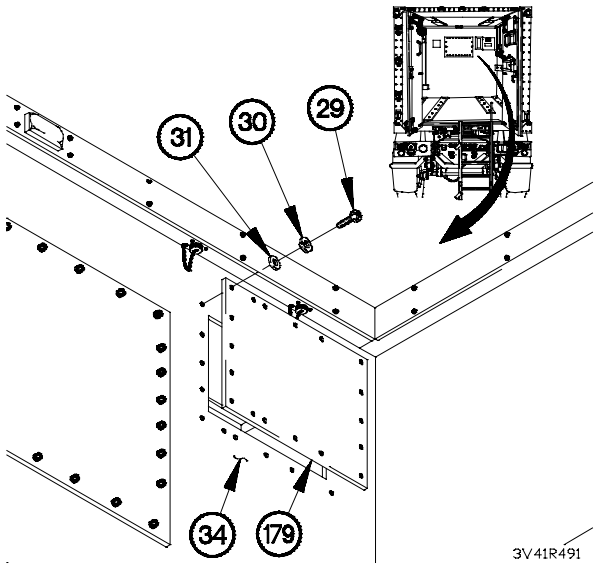




(103) Install eight screws (177) in heater (58).

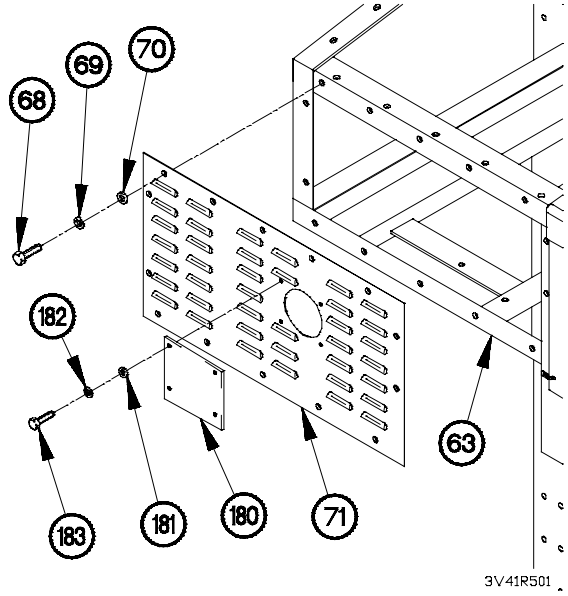
(104) Install eight screws (178) in heater (58).

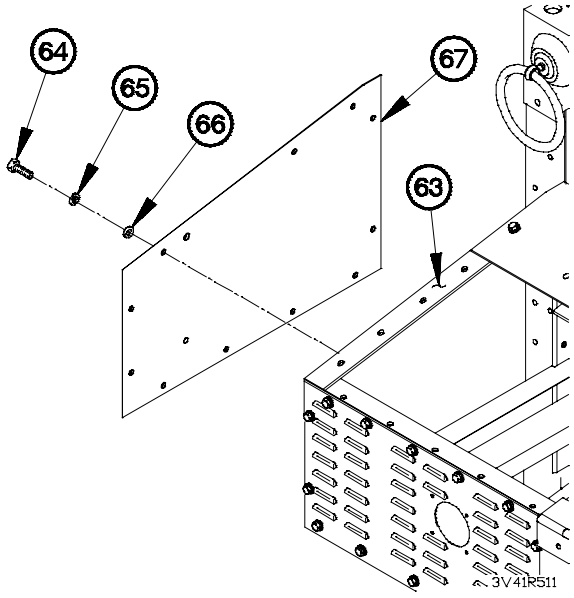
(105) Install cover (179) on inside front van body wall (34) with 18 washers (31), lockwashers (30), and screws (29).



(106) Install cover plate (180) on curbside front panel (71) with four washers (181), lockwasher (182), and screws (183).

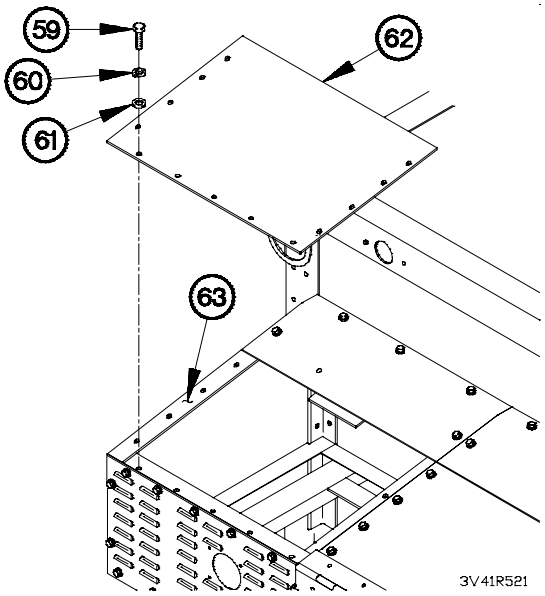
(107) Install curbside front panel (71) on pod frame (63) with 14 washers (70), lockwasher (69), and screws (68).





(108) Install curbside panel (67) on pod frame (63) with 13 washers (66), lockwashers (65), and screws (64).

(109) Install curbside top front panel (62) on pod frame (63) with 13 washers (61), lockwashers (60), and screws (59).



20-41. M1079 HEATER KIT INSTALLATION/REMOVAL (CONT)

c. Follow-on Maintenance.

(1) Raise spare tire (TM 9-2320-365-10).

(2) Lower cab (TM 9-2320-365-10).

(3) Connect AC power (TM 9-2320-365-10).

(4) Close LH and RH doors (TM 9-2320-365-10).

End of Task.

20-42. M1079 HEATER POWER CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
AC power disconnected (TM 9-2320-365-10).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Lockwasher (18) (Item 84, Appendix G)

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

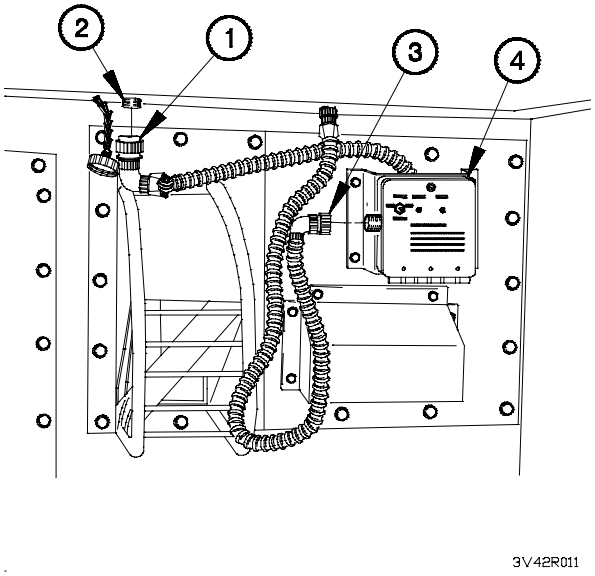
a. Removal.

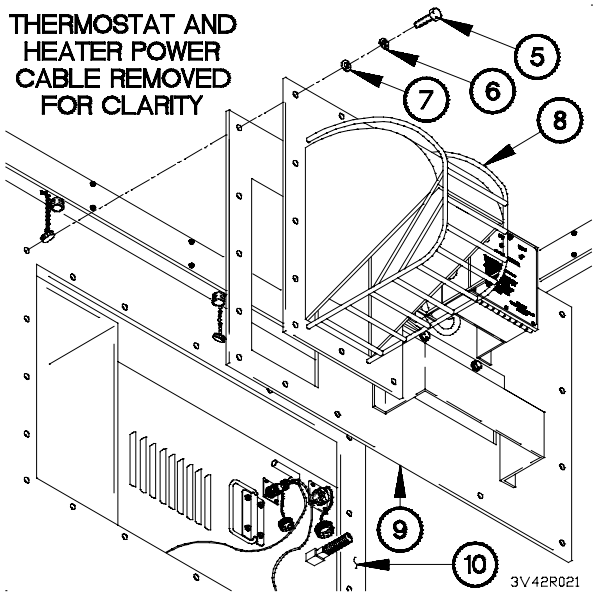
NOTE

Tag connectors and connection points prior to removal.

(1) Disconnect connector P244 (1) from heater connector (2).

(2) Disconnect connector P245A (3) from heater control unit (4).



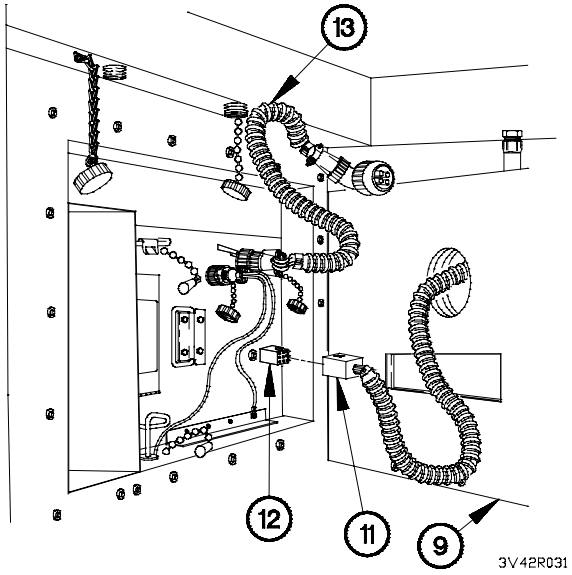


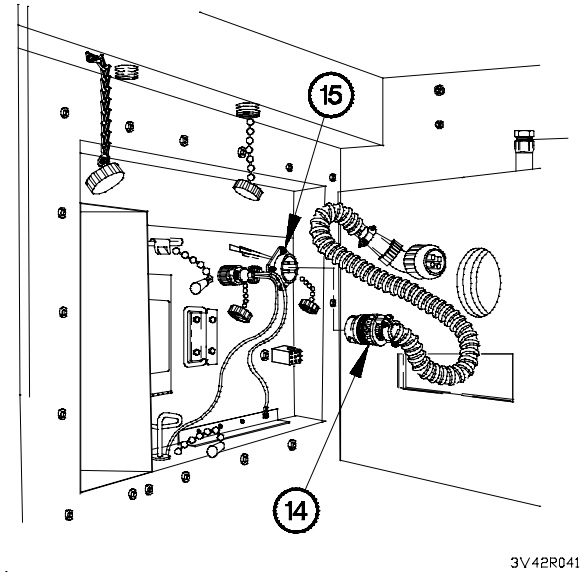
(3) Remove 18 screws (5), lockwashers (6), washers (7), heater deflector (8), and heater cover (9) from van body wall (10). Discard lockwashers.

20-42. M1079 HEATER POWER CABLE REPLACEMENT (CONT)

(4) Disconnect connector P4A (11) from connector J4 (12).

(5) Remove heater power cable (13) from heater cover (9).

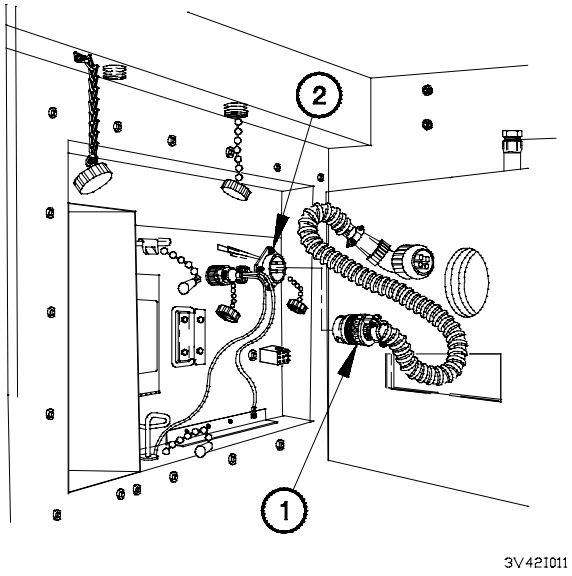




(6) Disconnect connector J244A (14) from heater power connector (15).

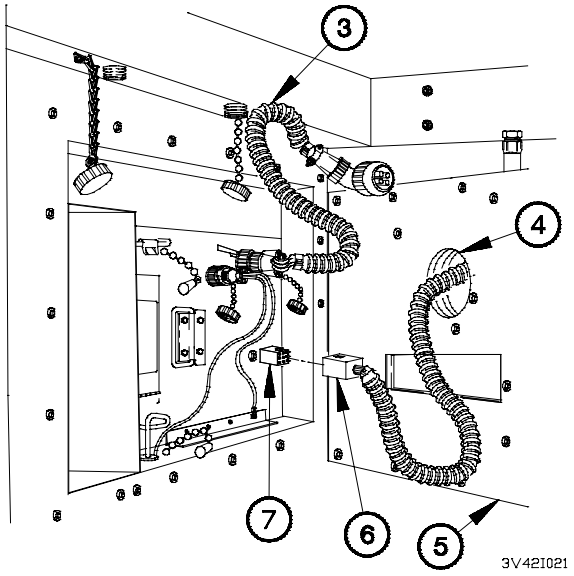
b. Installation.

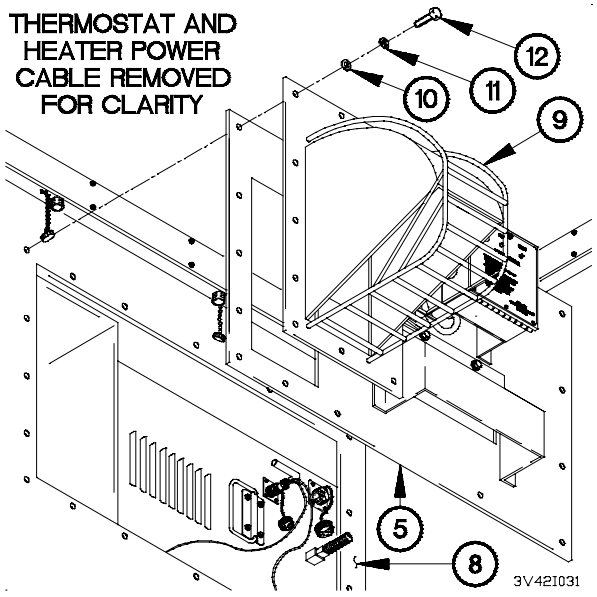
(1) Connect connector J244A (1) to heater power connector (2).



(2) Route heater power cable (3) through hole (4) in heater cover (5).

(3) Connect connector P4A (6) to connector J4 (7).

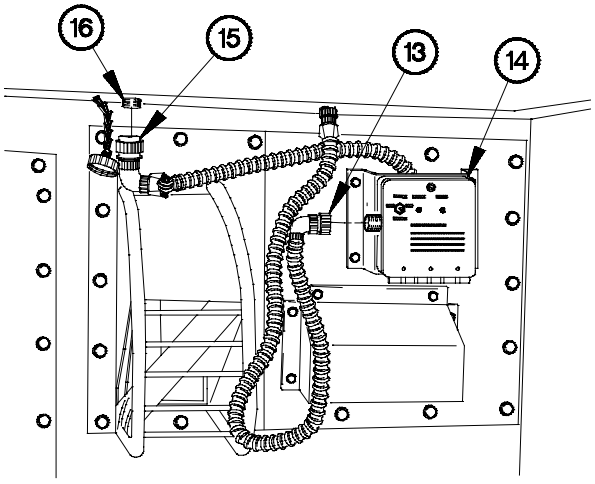




(4) Install heater cover (5) on van body wall (8) with heater deflector (9), 18 washers (10), lockwashers (11), and screws (12).

(5) Connect connector P245A (13) to heater control unit (14).

(6) Connect connector P244 (15) to heater connector (16).



20-42. M1079 HEATER POWER CABLE REPLACEMENT (CONT)

c. Follow-on Maintenance.

(1) Connect AC power (TM 9-2320-365-10).

(2) Check heater for proper operation (TM 9-2320-365-10).

(3) Close LH and RH doors (TM 9-2320-365-10).

End of Task.

20-43. M1079 HEATER CONTROL CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
AC power disconnected (TM 9-2320-365-10).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Lockwasher (18) (Item 92, Appendix G)

Personnel Required
(2)

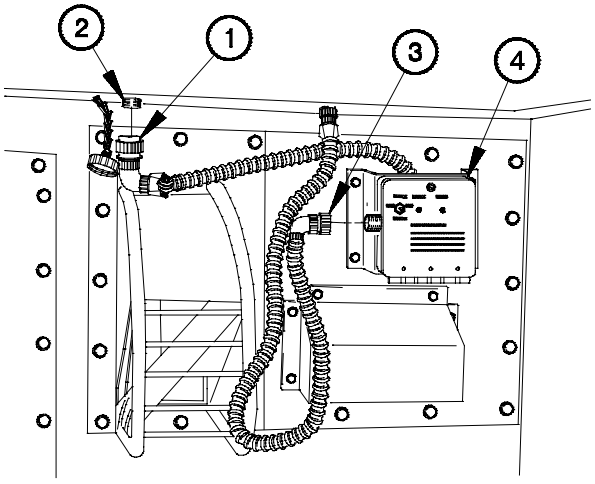
a. Removal.

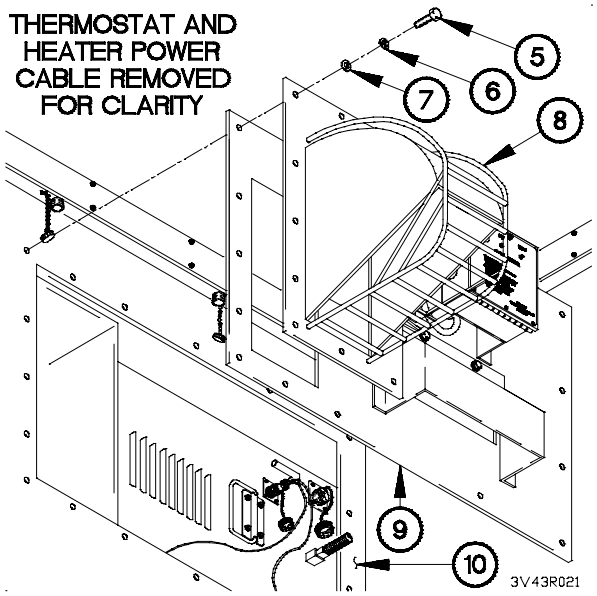
NOTE

Tag connectors and connection points prior to disconnecting.

(1) Disconnect connector P244 (1) from heater connector (2).

(2) Disconnect connector P245A (3) from heater control unit (4).



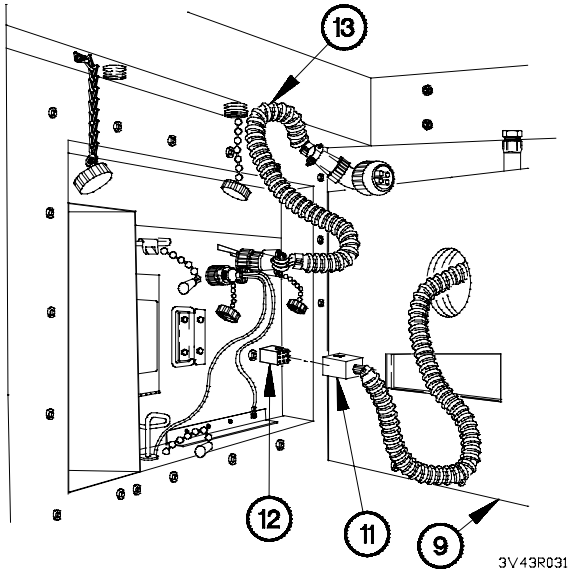


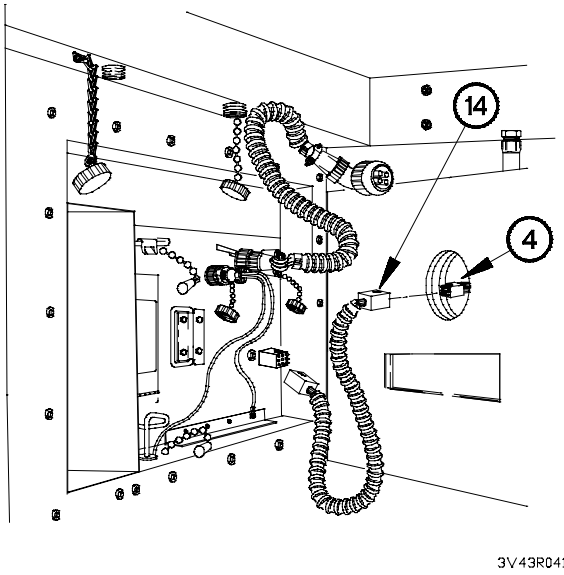
(3) Remove 18 screws (5), lockwashers (6), washers (7), heater deflector (8), and heater cover (9) from van body wall (10). Discard lockwashers.

20-43. M1079 HEATER CONTROL CABLE REPLACEMENT (CONT)

(4) Disconnect connector P4A (11) from connector J4 (12).

(5) Remove heater power cable (13) from heater cover (9).

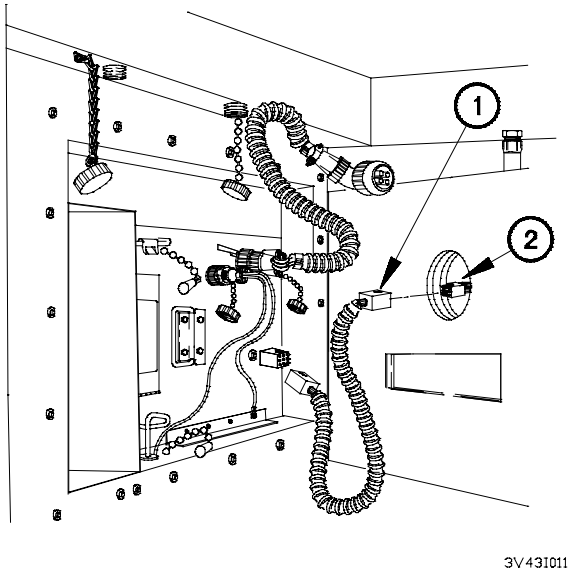




(6) Disconnect connector J4A (14) from connector P4 (4).

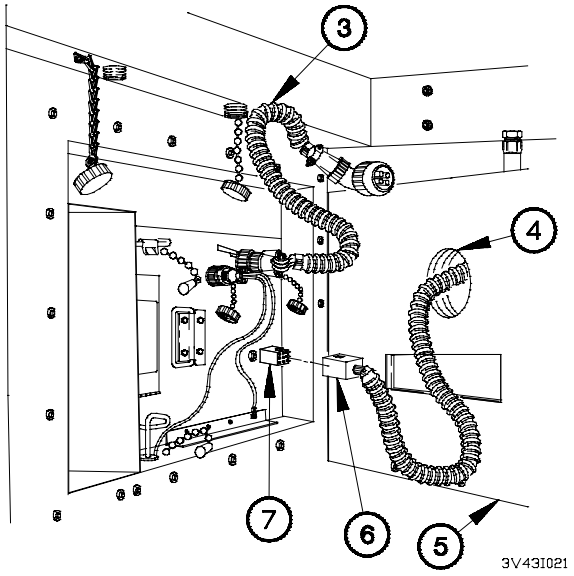
b. Installation.

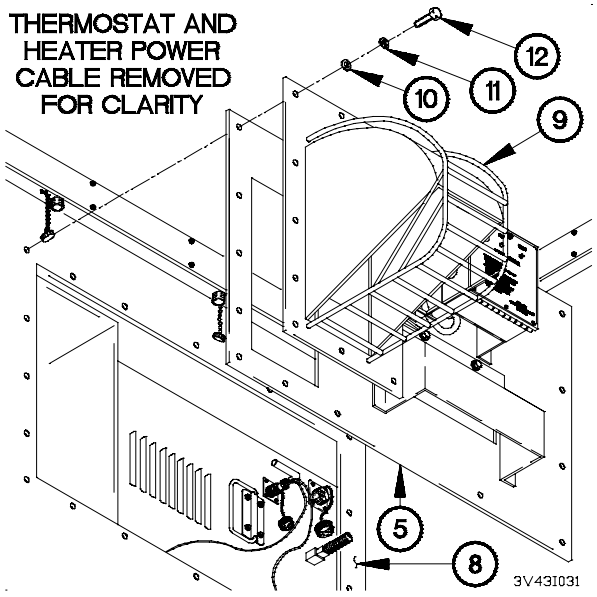
(1) Connect connector J4A (1) to connector P4 (2).



(2) Route heater power cable (3) through hole (4) in heater cover (5).

(3) Connect connector P4A (6) to connector J4 (7).

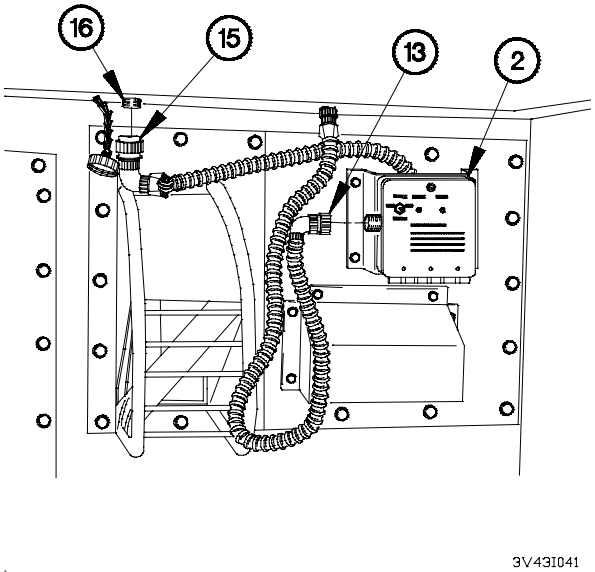




(4) Install heater cover (5) on van body wall (8) with heater deflector (9), 18 washers (10), lockwasher (11), and screws (12).

(5) Connect connector P245A (13) to heater control unit (2).

(6) Connect connector P244 (15) to heater connector (16).



20-43. M1079 HEATER CONTROL CABLE REPLACEMENT (CONT)

c. Follow-On Maintenance.

(1) Connect AC power (TM 9-2320-365-10).

(2) Check heater for proper operation (TM 9-2320-365-10).

(3) Close LH and RH van doors (TM 9-2320-365-10).

End of Task.

20-44. M1079 HEATER THERMOSTAT REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
AC power disconnected (TM 9-2320-365-10).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)

References
TM 5-4520-253-23P

a. Removal.

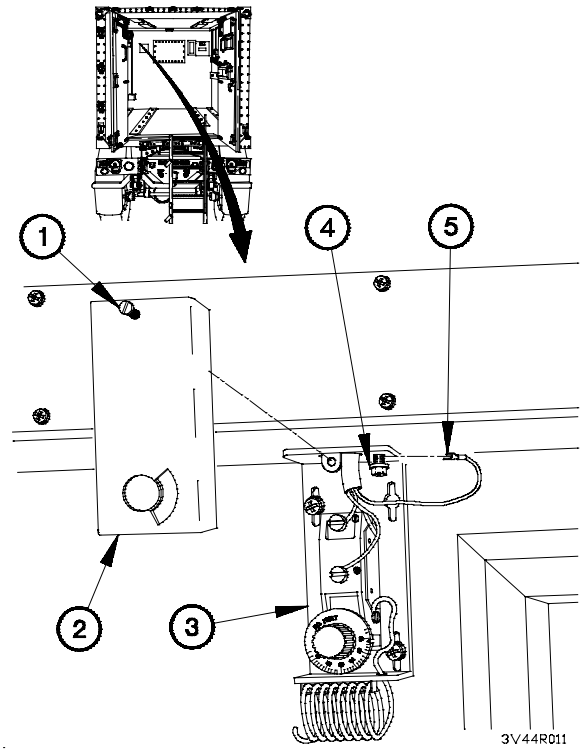
NOTE

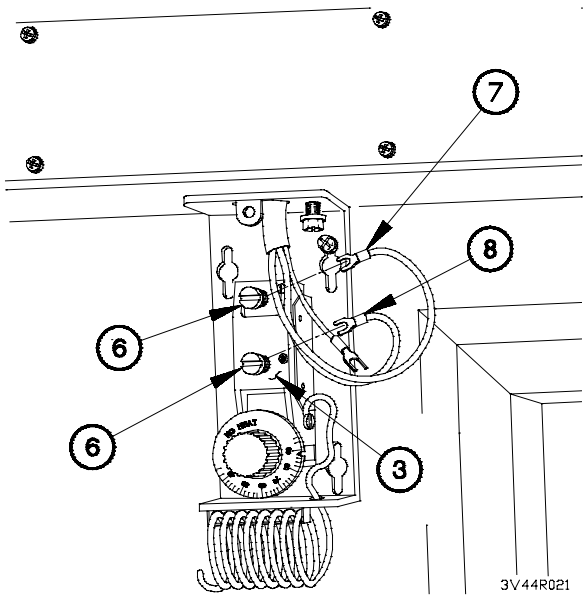
Tag wires and connection points prior to removal.

(1) Remove screw (1) and cover (2) from thermostat (3).

(2) Loosen screw (4) on thermostat (3).

(3) Remove wire 3086C (5) from thermostat (3).



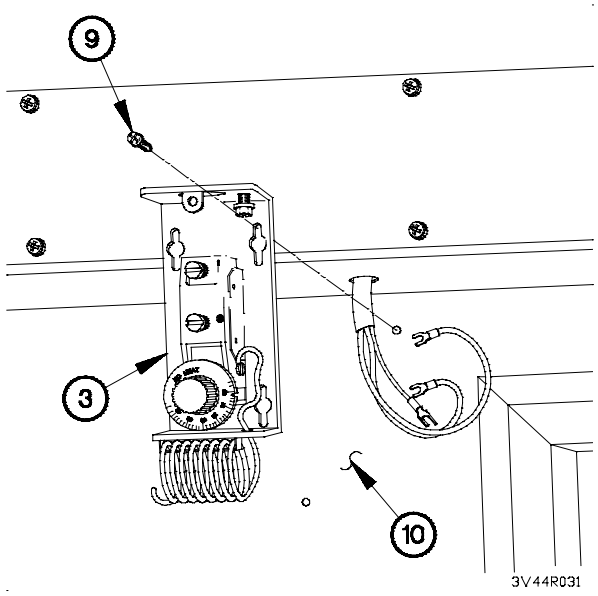


(4) Loosen two screws (6) on thermostat (3).

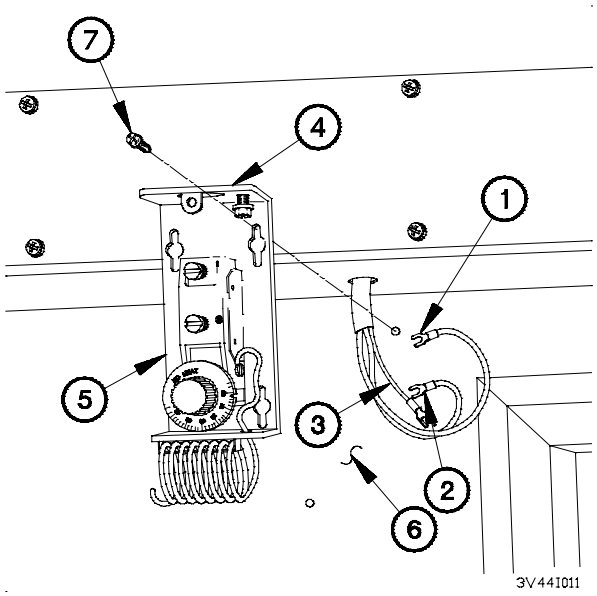
(5) Remove wire 1499R (7) and wire 401 (8) from thermostat (3).

20-44. M1079 HEATER THERMOSTAT REPLACEMENT (CONT)

(6) Remove two screws (9) and thermostat (3) from van body wall (10).



b. Installation.



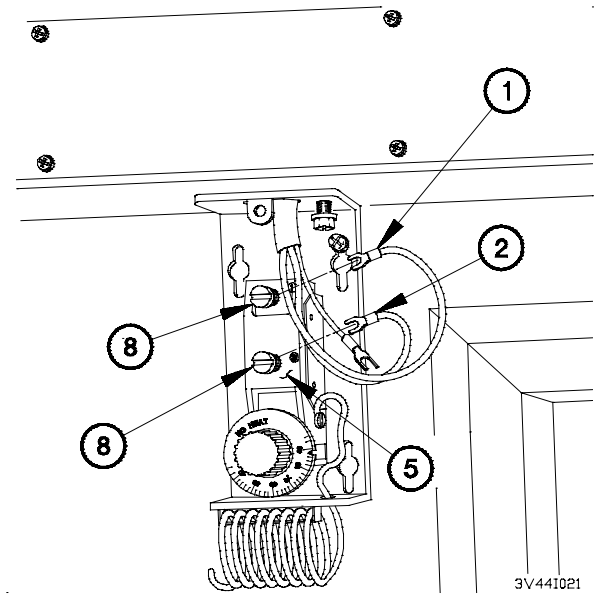
(1) Route wire 1499R (1), wire 401 (2), and wire 3086C (3) through hole (4) on thermostat (5).

(2) Install thermostat (5) on van body wall (6) with two screws (7).

(3) Loosen two screws (8) on thermostat (5).

(4) Position wire 401 (2) and wire 1499R (1) on thermostat (5).

(4) Tighten two screws (8) on thermostat (5).

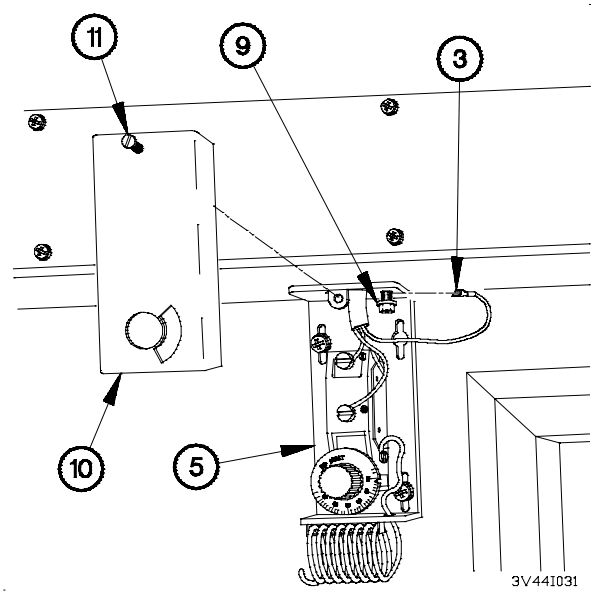


(6) Loosen screw (9) on thermostat (5).

(7) Position wire 3086C (3) on thermostat (5).

(8) Tighten screw (9) on thermostat (5).

(9) Install cover (10) on thermostat (5) with screw (11).



c. Follow-On Maintenance.

(1) Connect AC power (TM 9-2320-365-10).

(2) Check thermostat for proper operation (TM 9-2320-365-10).

(3) Close LH and RH doors (TM 9-2320-365-10).

End of Task.

20-45. M1079 HEATER THERMOSTAT CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
AC power disconnected (TM 9-2320-365-10).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)

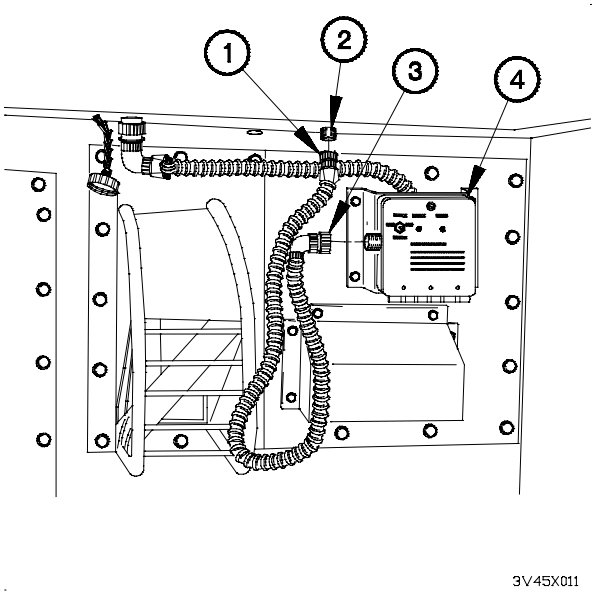
a. Removal.

NOTE

Tag connectors and connection points prior to disconnecting.

(1) Disconnect connector J245 (1) from thermostat connector (2).

(2) Disconnect connector P245A (3) from heater control unit (4).



3V45X011

b. Installation

(1) Connect connector P245A (3) to heater control unit (4).

(2) Connect connector J245 (1) to thermostat connector (2).

c. Follow-On Maintenance.

(1) Connect AC power (TM 9-2320-365-10).

(2) Check thermostat for proper operation (TM 9-2320-365-10).

(3) Close LH and RH doors (TM 9-2320-365-10).

End of Task.

20-46. M1079 HEATER FUEL TUBES/HOSES REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
AC power disconnected (TM 9-2320-365-10).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).
Spare tire lowered (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

Materials/Parts
Sealant, Pipe, Teflon (Item 58, Appendix D)
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Lockwasher (18) (Item 84, Appendix G)
Lockwasher (3) (Item 83, Appendix G)
Ties, Cable, Plastic (Item 76, Appendix D)

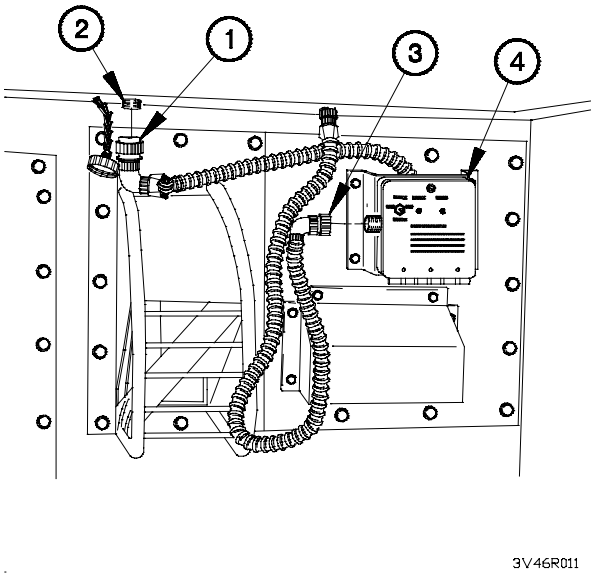
a. Removal.

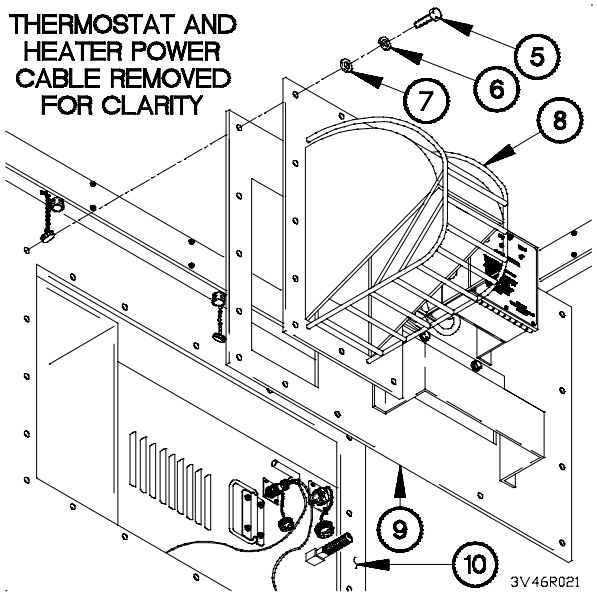
NOTE

Tag connector and connection points prior to removal.

(1) Disconnect connector P244 (1) from heater connector (2).

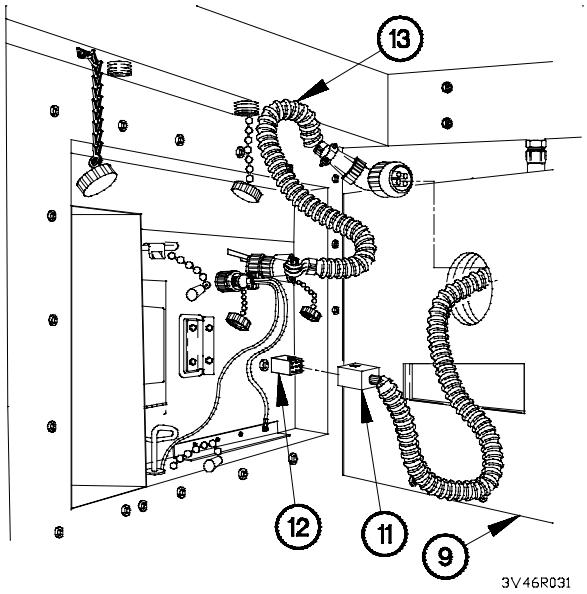
(2) Disconnect connector P245A (3) from heater control unit (4).





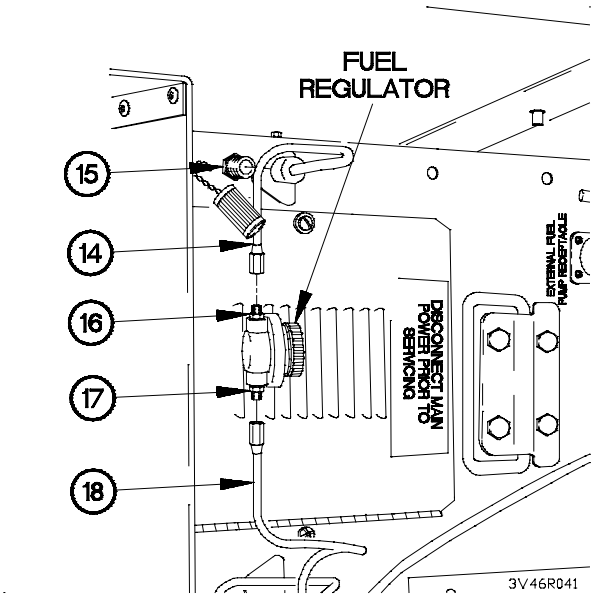
(3) Remove 18 screws (5), lockwashers (6), washers (7), heater deflector (8), and heater cover (9) from van body wall (10). Discard lockwashers.

20-46. M1079 HEATER FUEL TUBES/HOSES REPLACEMENT (CONT)



(4) Disconnect connector P4A (11) from connector J4 (12).

(5) Remove heater power cable (13) from heater cover (9).



WARNING

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

(6) Remove fuel tube (14) from fuel inlet port (15).

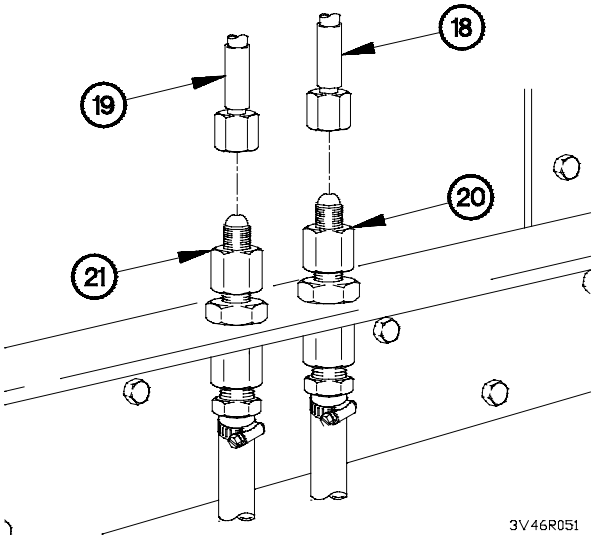
(7) Remove fuel tube (14) from fitting (16).

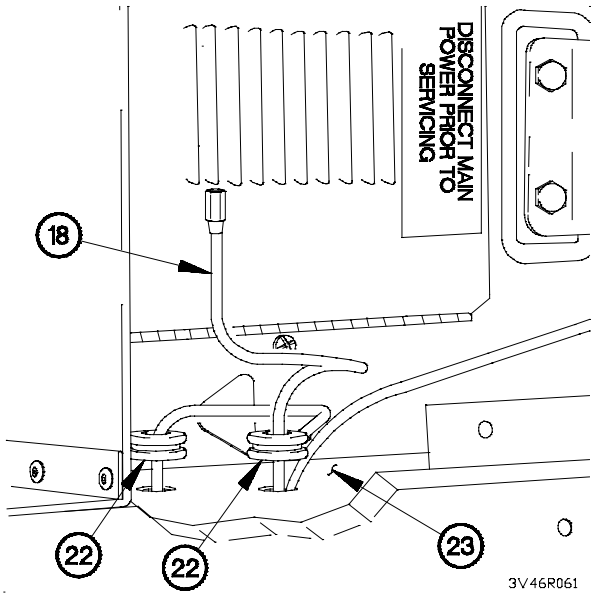
NOTE

Note position of fuel regulator prior to removal.

(8) Remove fitting (17) from fuel tube (18).

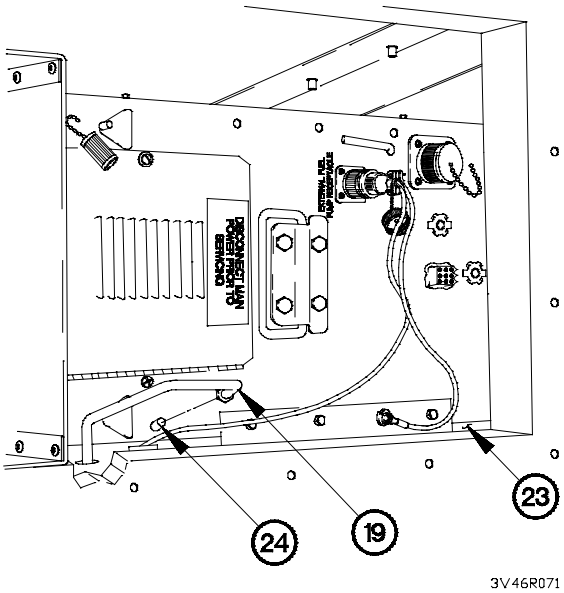
(9) Remove fuel tubes (18 and 19) from adapters (20 and 21).





(10) Remove two grommets (22) from pod panel (23).

(11) Remove fuel tube (18) from pod panel (23).



(12) Remove fuel tube (19) from fuel overflow port (24).

(13) Remove fuel tube (19) from pod panel (23).

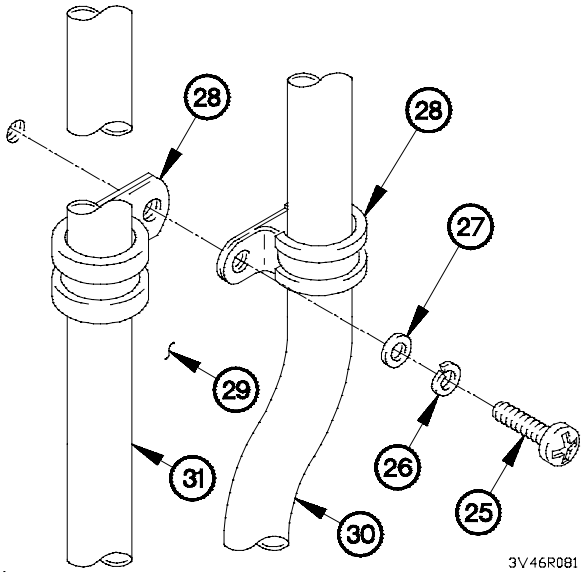
20-46. M1079 HEATER FUEL TUBES/HOSES REPLACEMENT (CONT)

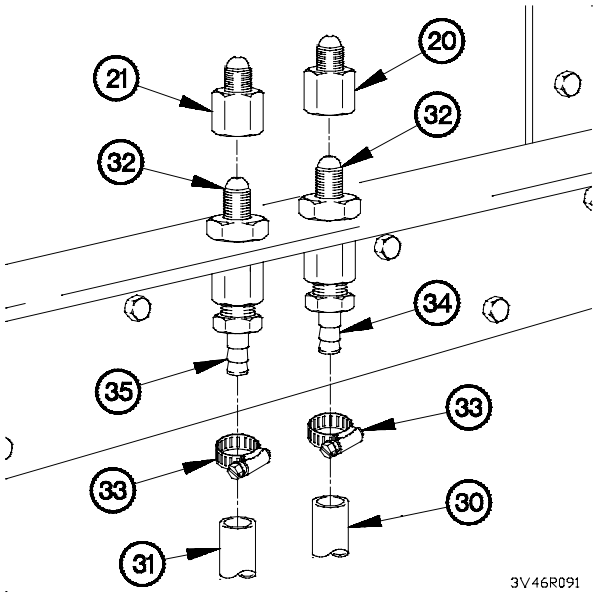
NOTE

Remove plastic cable ties as required.

(14) Remove three screws (25), lockwashers (26), washers (27), and six clamps (28) from van body wall (29). Discard lockwashers.

(15) Remove six clamps (28) from hoses (30 and 31).





(16) Remove adapters (20 and 21) from two fittings (32).

NOTE

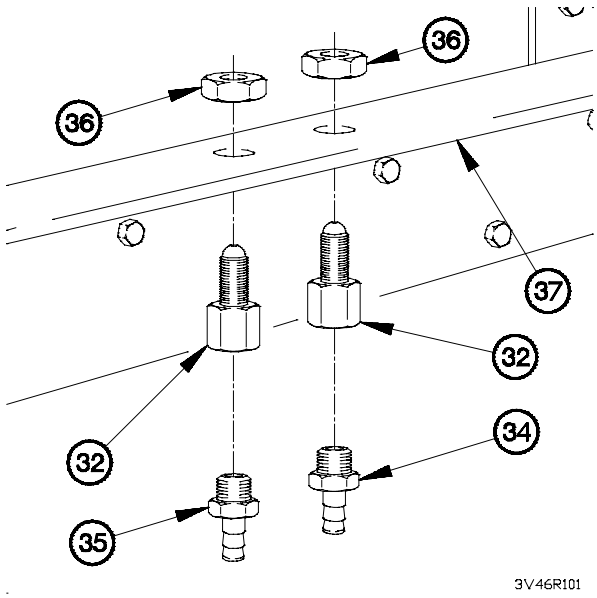
Tag hoses and connection point prior to removal.

(17) Loosen two clamps (33) on hoses (30 and 31).

(18) Remove hoses (30 and 31) and two clamps (33) from fittings (34 and 35).

(19) Remove fittings (34 and 35) from two fittings (32).

(20) Remove two nuts (36) and fittings (32) from pod frame (37).



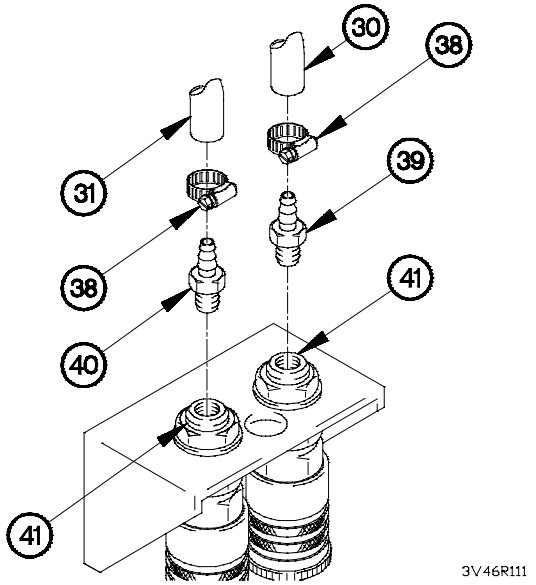
NOTE

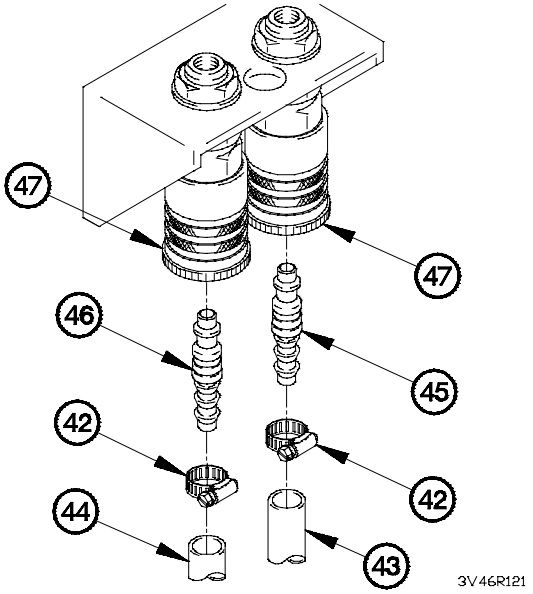
Remove plastic cable ties as required.

(21) Loosen clamps (38) on hoses (30 and 31).

(22) Remove hoses (30 and 31) and two clamps (38) from fittings (39 and 40).

(23) Remove fittings (39 and 40) from two bushings (41).





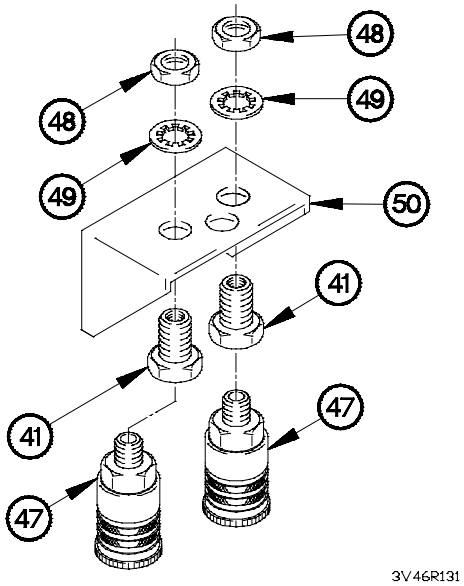
(24) Loosen two clamps (42) on hoses (43 and 44).

(25) Remove hoses (43 and 44) and two clamps (42) from fittings (45 and 46).

(26) Disconnect fitting (45 and 46) from two quick connect fittings (47).

(27) Remove two quick disconnect fittings (47) from bushings (41).

(28) Remove two nuts (48), washers (49), and bushings (41) from bracket (50).



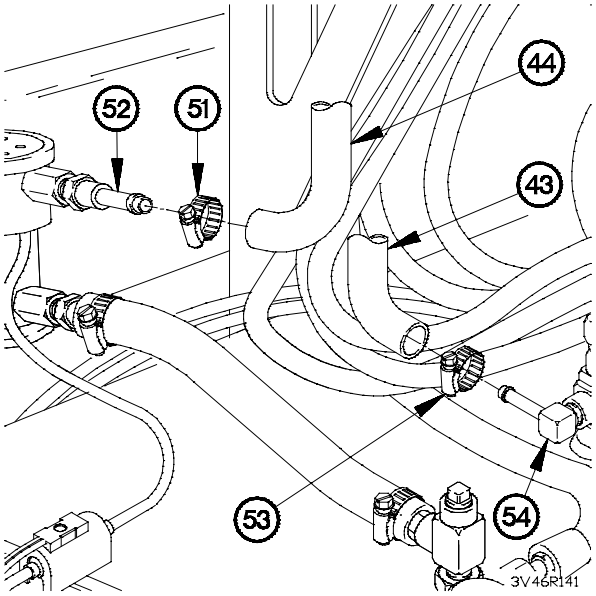
20-46. M1079 HEATER FUEL TUBES/HOSES REPLACEMENT (CONT)

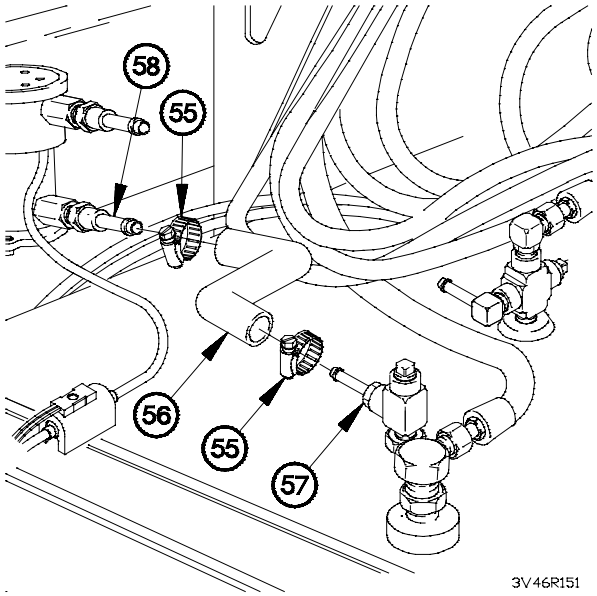
(29) Loosen clamp (51) on hose (44).

(30) Remove hose (41) and clamp (51) from fitting (52).

(31) Loosen clamp (53) on hose (43).

(32) Remove hose (43) and clamp (53) from 90-degree fitting (54).

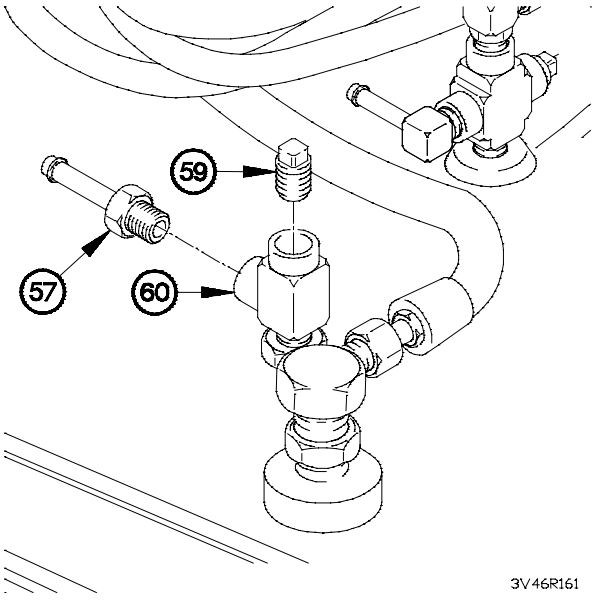




(33) Loosen two clamps (55) on hose (56).

(34) Remove hose (56) and two clamps (55) from fittings (57 and 58).

(35) Remove fitting (57) and plug (59) from run tee fitting (60).



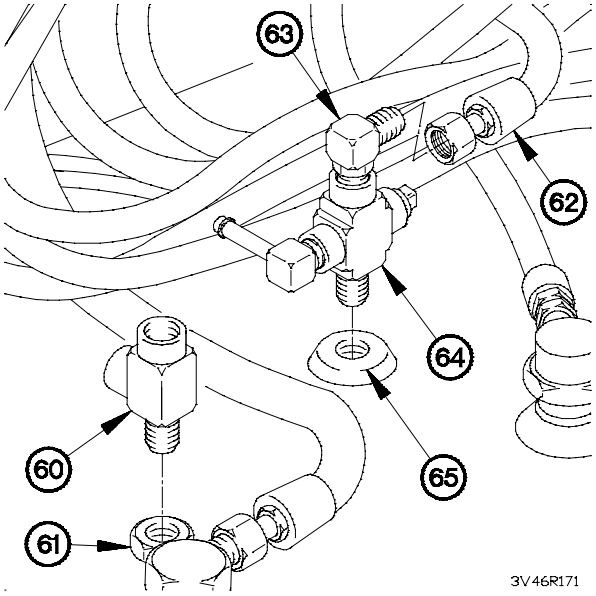
NOTE

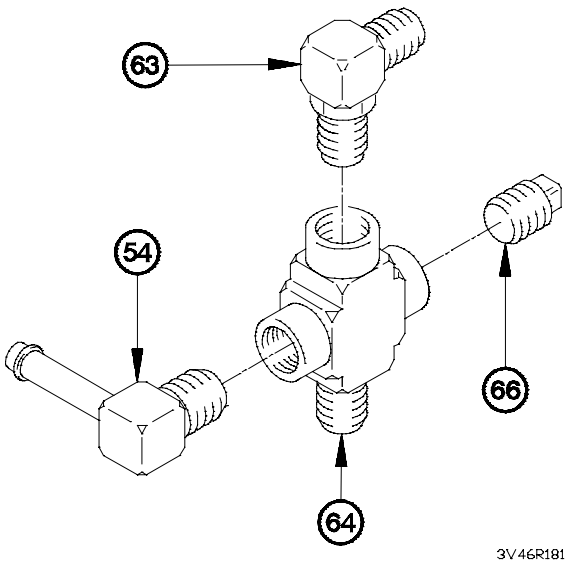
Note position of fitting prior to removal.

(36) Remove run tee fitting (60) from auxiliary supply port (61).

(37) Disconnect fuel hose (62) from 90-degree fuel return fitting (63).

(38) Remove four-way fitting (64) from fuel tank (65).





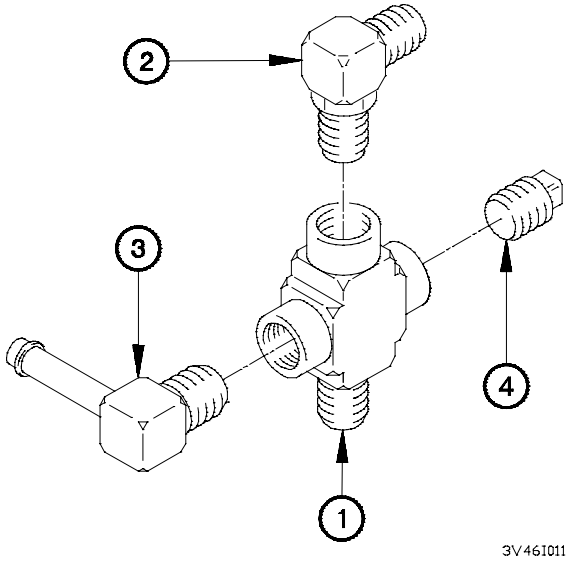
(39) Remove plug (66), 90-degree fitting (54), and 90-degree fuel return fitting (63) from four way fitting (64).

20-46. M1079 HEATER FUEL TUBES/HOSES REPLACEMENT (CONT)

b. Installation.

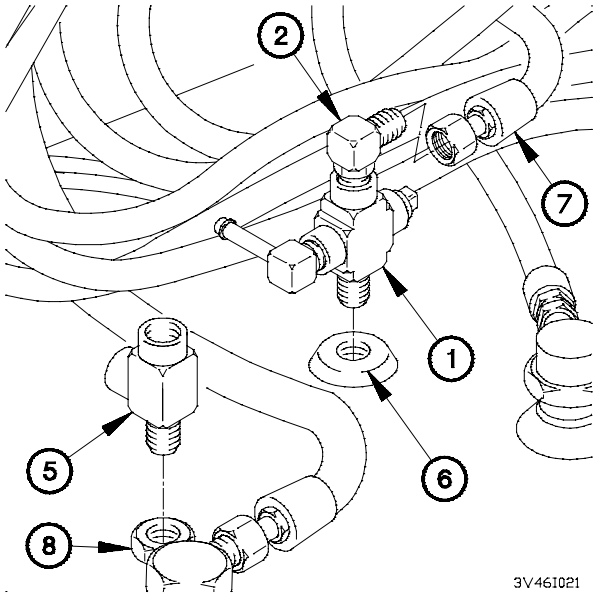
WARNING

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



(1) Apply sealing compound to four-way fitting (1), 90-degree fuel return (2), 90-degree fitting (3), and plug (4).

(2) Install 90-degree fuel return fitting (2), 90-degree fitting (3), and plug (4) on four-way fitting (1).



(3) Apply sealing compound to run tee fitting (5).

(4) Install four-way fitting (1) on fuel tank (6).

NOTE

Install plastic cable ties as required.

(5) Connect fuel hose (7) to 90-degree return fitting (2).

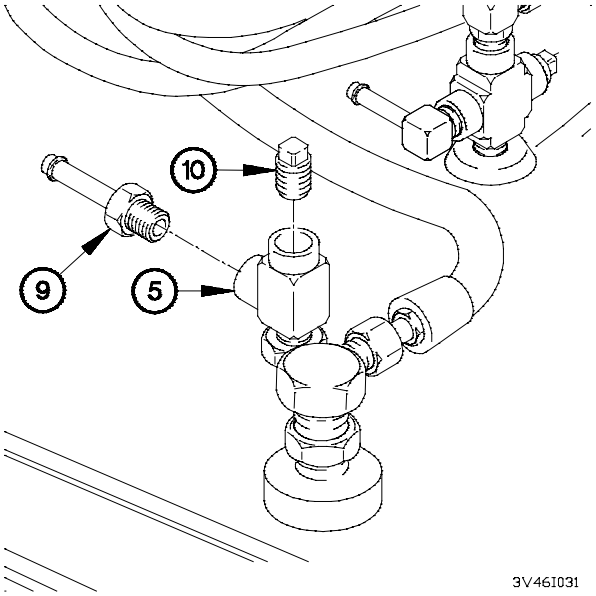
(6) Install run tee fitting (5) in auxiliary supply port (8).

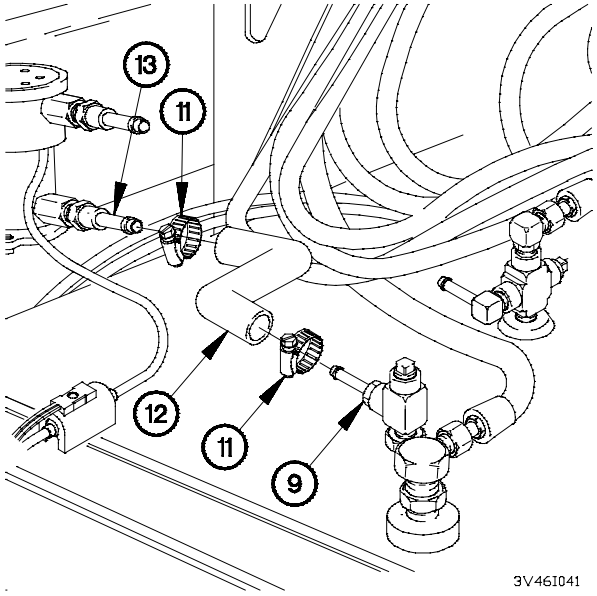
WARNING

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(7) Apply sealing compound to threads of fitting (9) and plug (10).

(8) Install fitting (9) and plug (10) on run tee fitting (5).





(9) Position two clamps (11) on hose (12).

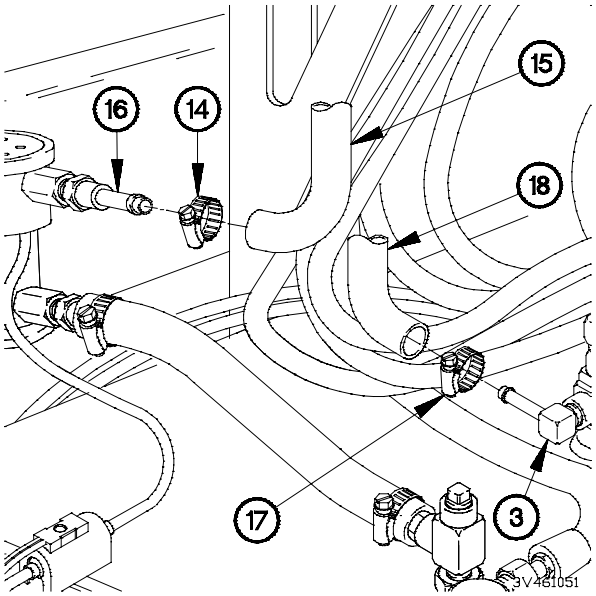
(10) Install hose (12) on fittings (9 and 13) with two clamps (11).

(11) Position clamp (14) on hose (15).

(12) Install hose (15) on fitting (16) with clamp (14).

(13) Position clamp (17) on hose (18).

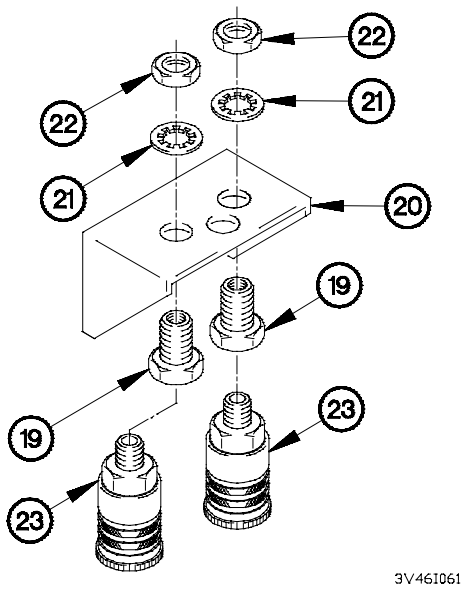
(14) Install hose (18) on 90-degree fitting (3) with clamp (17).

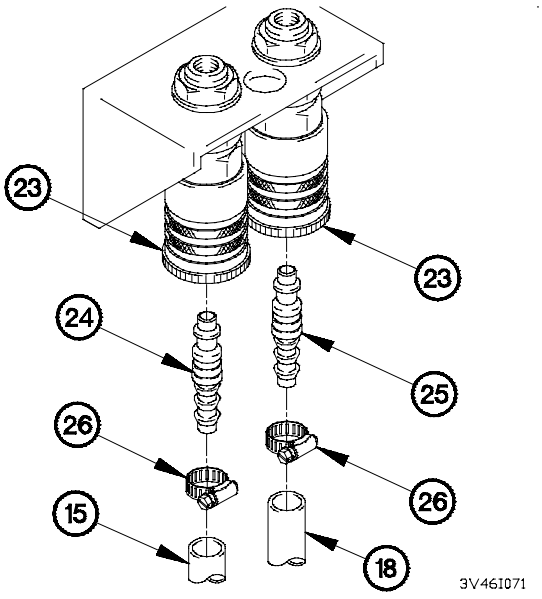


20-46. M1079 HEATER FUEL TUBES/HOSES REPLACEMENT (CONT)

(15) Install two bushings (19) on bracket (20) with two washers (21) and nuts (22).

(16) Install two quick disconnect fittings (23) on bushings (19).





(17) Connect fittings (24 and 25) to two quick connect fittings (23).

(18) Position two clamps (26) on hoses (15 and 18).

(19) Install hoses (15 and 18) on fittings (24 and 25) with two clamps (26).

WARNING

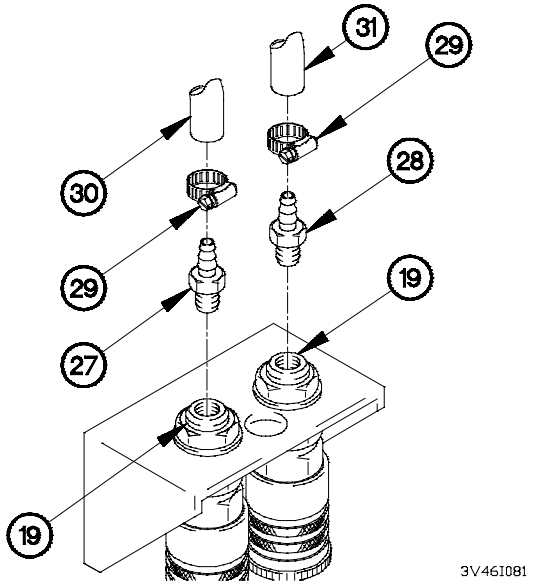
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure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

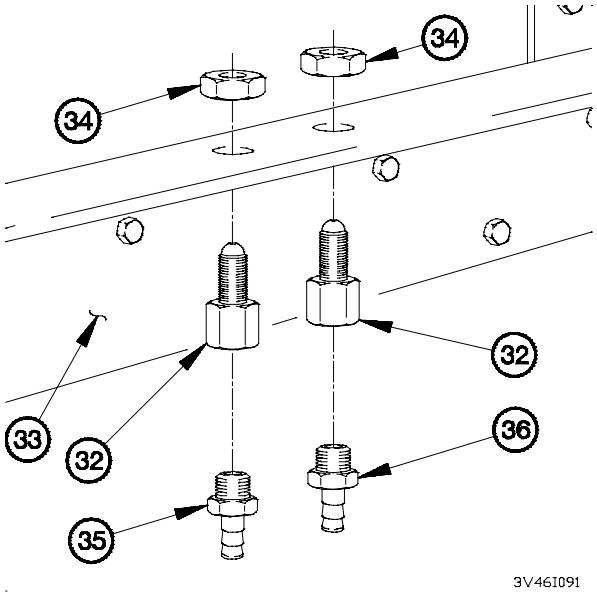
(20) Apply sealing compound to threads of fittings (27 and 28).

(21) Install fittings (27 and 28) on two bushings (19).

(22) Position two clamps (29) on hoses (30 and 31).

(23) Install hoses (30 and 31) on fitting (27 and 28) with two clamps (29).

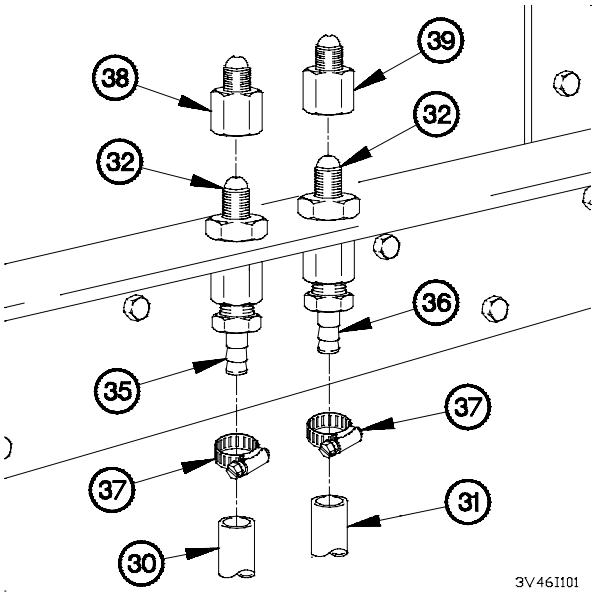




(24) Install two fittings (32) on pod frame (33) with two nuts (34).

(25) Apply sealing compounds to threads of fittings (35 and 36).

(26) Install fittings (35 and 36) on two fittings (32).



(27) Position two clamps (37) on hoses (30 and 31).

(28) Install hoses (30 and 31) on fittings (35 and 36) with two clamps (37).

(29) Install adapters (38 and 39) on two fittings (32).

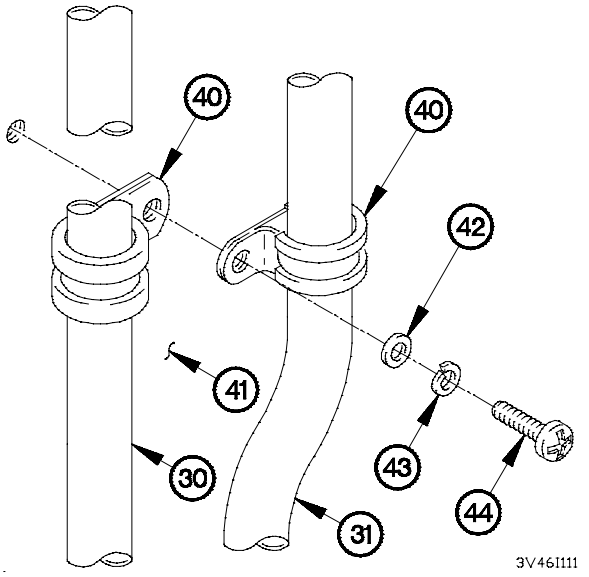
20-46. M1079 HEATER FUEL TUBES/HOSES REPLACEMENT (CONT)

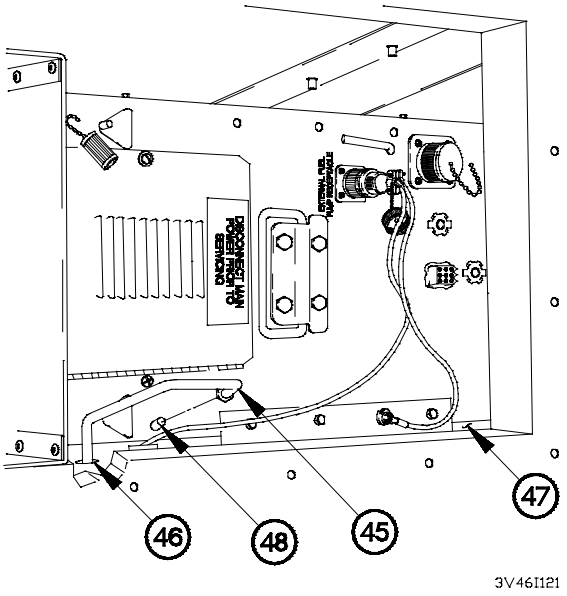
NOTE

Install plastic cable ties as required.

(30) Position six clamps (40) on hoses (30 and 31).

(31) Install six clamps (40) on van body wall (41) with three washers (42), lockwashers (43), and screws (44).



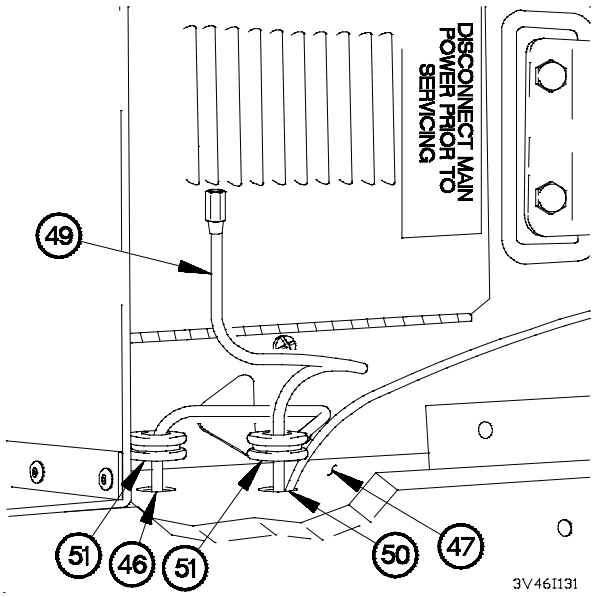


(32) Position fuel tube (45) in hole (46) on pod panel (47).

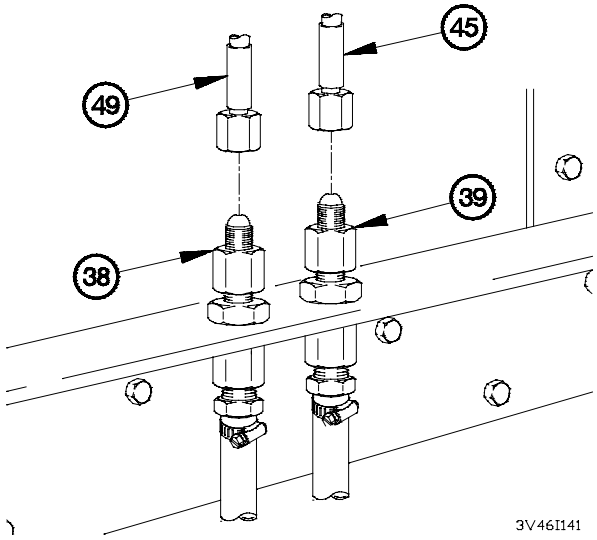
(33) Install fuel tube (45) on fuel overflow port (48).

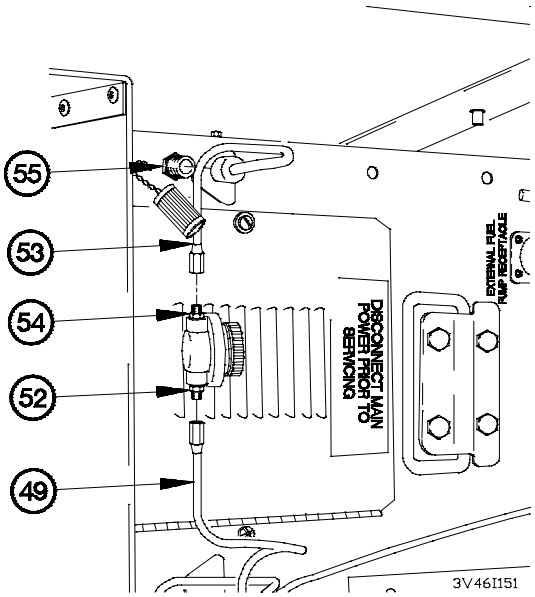
(34) Position fuel tube (49) in hole (50) on pod panel (47).

(35) Install two grommets (51) in holes (46 and 50) on pod panel (47).



(36) Install fuel tubes (45 and 49) on adapters (38 and 39).





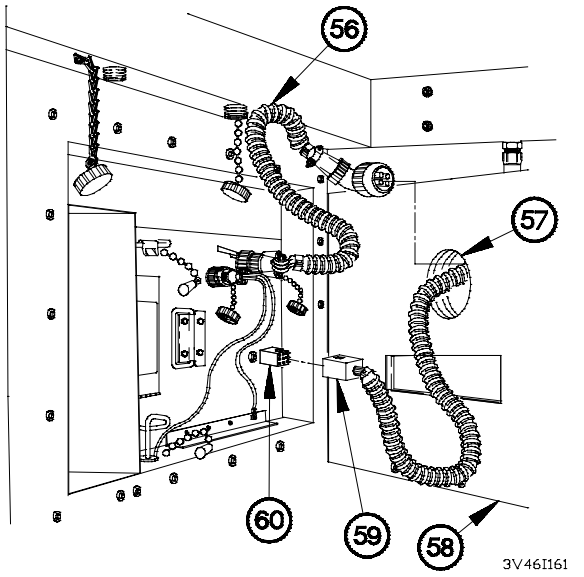
(37) Install fuel tube (49) on fitting (52).

(38) Install fuel tube (53) on fitting (54).

(39) Install fuel tube (53) on fuel inlet port (55).

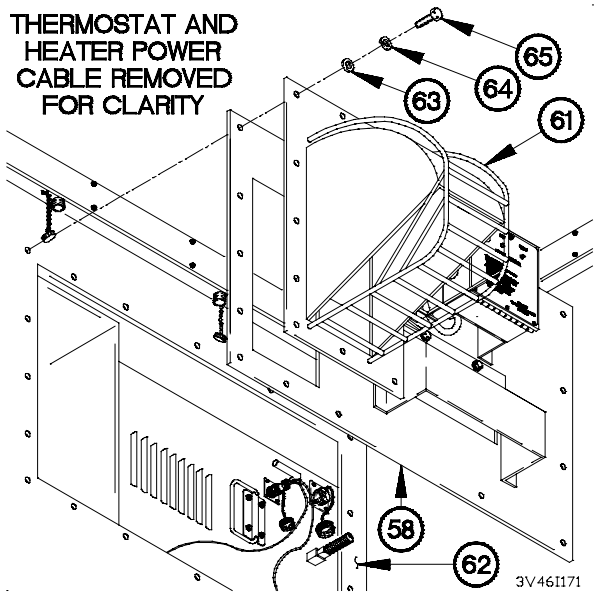
(40) Route heater power cable (56) through hole (57) in heater cover (58).

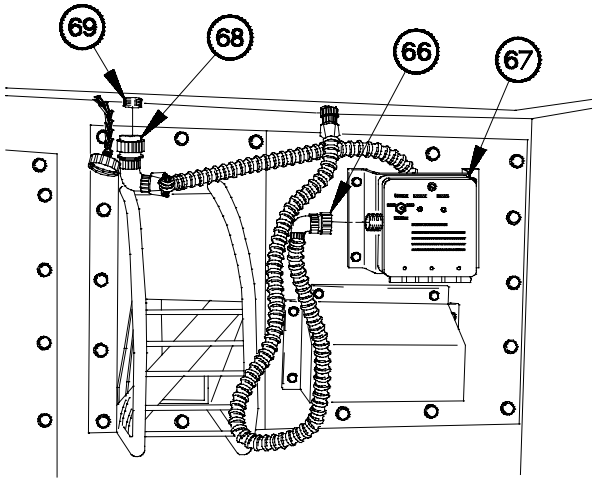
(41) Connect connector P4A (59) to connector J4 (60).



20-46. M1079 HEATER FUEL TUBES/HOSES REPLACEMENT (CONT)

(42) Install heater cover (58) and heater deflector (61) on van body wall (62) with 18 washers (63), lockwashers (64), and screws (65).





(43) Connect connector P245A (66) to heater control unit (67).

(44) Connect connector P244 (68) to heater connector (69).

c. Follow-On Maintenance.

(1) Connect AC power (TM 9-2320-365-10).

(2) Check heater for proper operation (TM 9-2320-365-10).

(3) Close LH and RH doors (TM 9-2320-365-10).

(4) Raise spare tire (TM 9-2320-365-10).

End of Task.

20-47. M1079 HEATER FUEL REGULATOR REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
AC power disconnected (TM 9-2320-365-10).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Materials/Parts
Sealant, Pipe, Teflon (Item 58, Appendix D)
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Lockwasher (18) (Item 84, Appendix G)

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

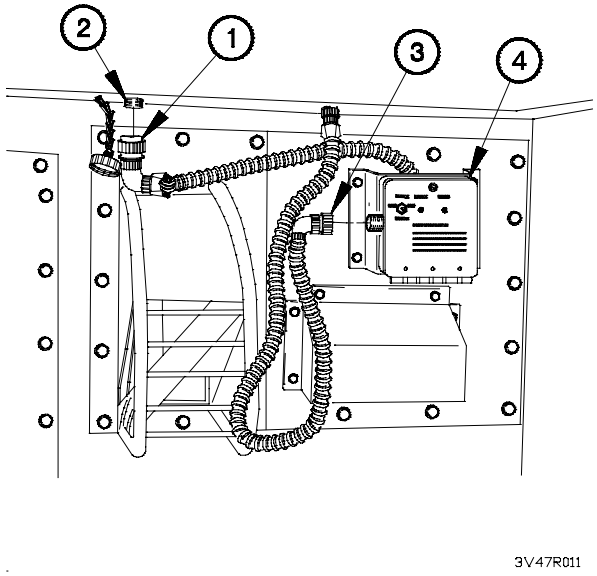
a. Removal.

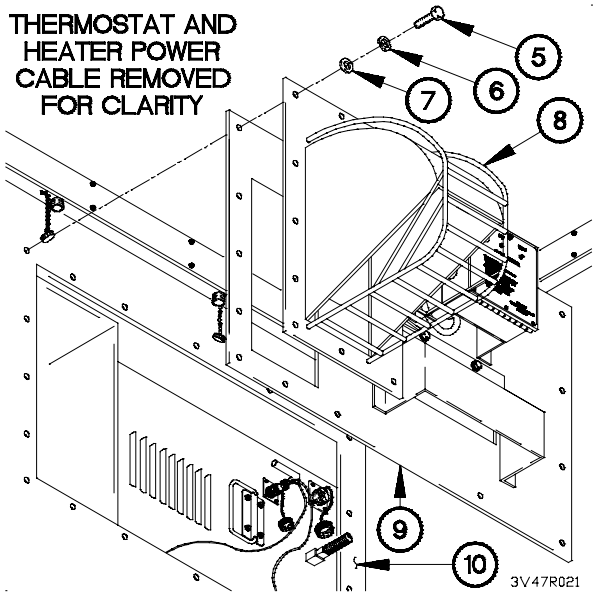
NOTE

Tag connectors and connection points prior to disconnecting.

(1) Disconnect connector P244 (1) from heater connector (2).

(2) Disconnect connector P245A (3) from heater control unit (4).



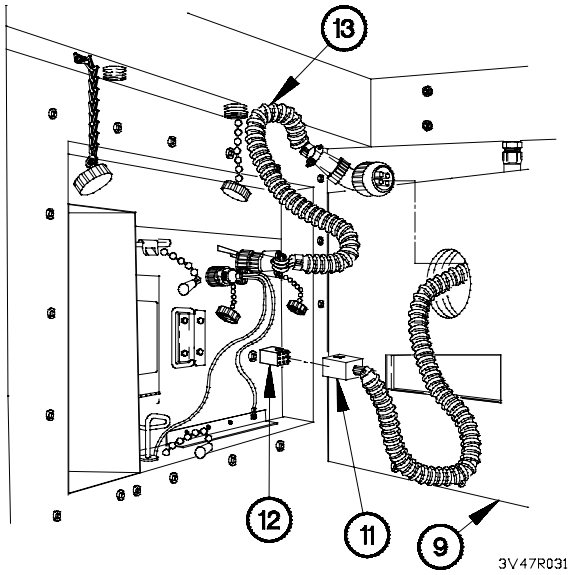


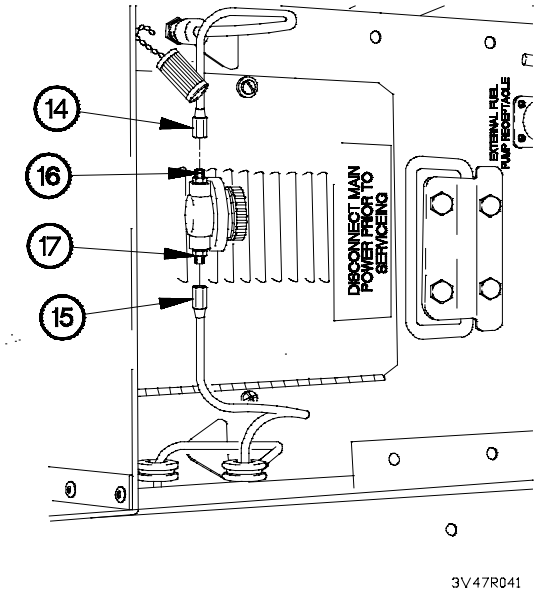
(3) Remove 18 screws (5), lockwashers (6), washers (7), heater deflector (8) and heater cover (9) from van body wall (10). Discard lockwashers.

20-47. M1079 HEATER FUEL REGULATOR REPLACEMENT (CONT)

(4) Disconnect connector P4A (11) from connector J4 (12).

(5) Remove heater power cable (13) from heater cover (9).





WARNING

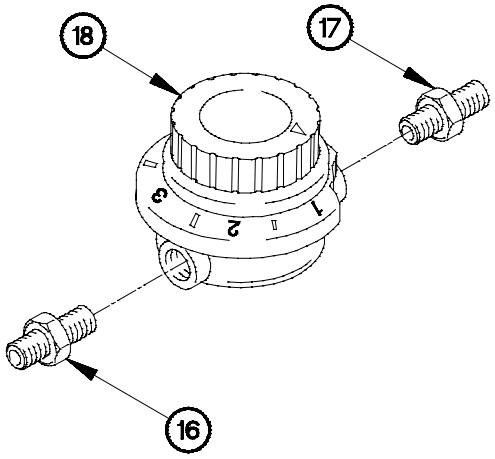
Diesel fuel is flammable. If fuel is spilled, clean it up immediately. Failure to comply may result in serious injury or death to personnel.

NOTE

- Tag tubes and connection points prior to disconnecting.
- Note position of fittings and fuel regulator prior to removal.

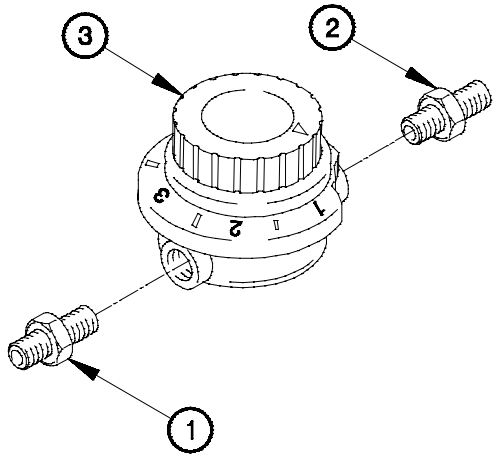
(6) Disconnect fuel tubes (14 and 15) from fittings (16 and 17).

(7) Remove fittings (16 and 17) from fuel regulator (18).



3V47R051

b. Installation.



3V47I011

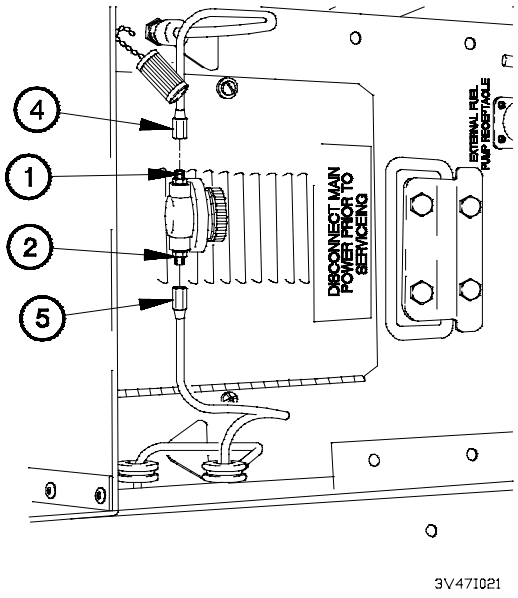
WARNING

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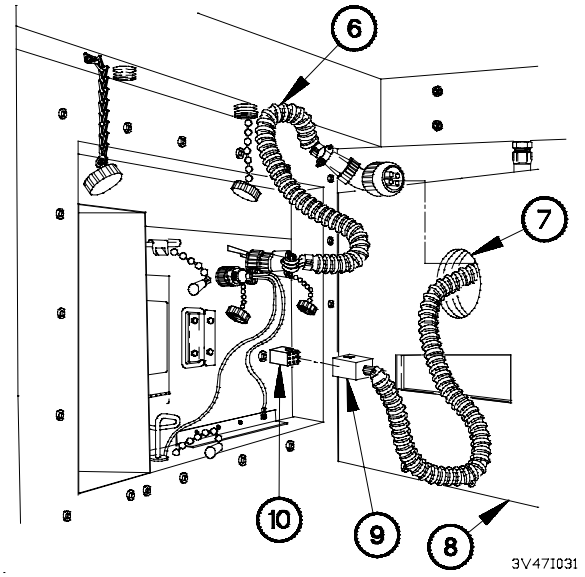
(1) Apply sealing compound to threads of fittings (1 and 2).

(2) Install fittings (1 and 2) on fuel regulator (3).

20-47. M1079 HEATER FUEL REGULATOR REPLACEMENT (CONT)

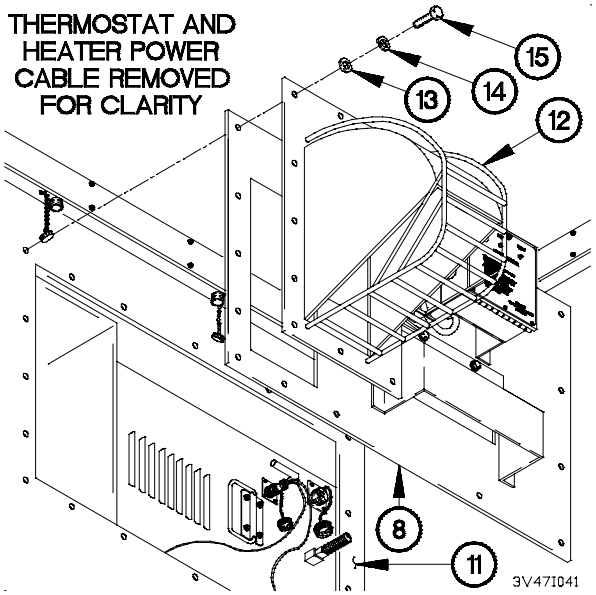


(3) Connect fuel tubes (4 and 5) to fittings (1 and 2).

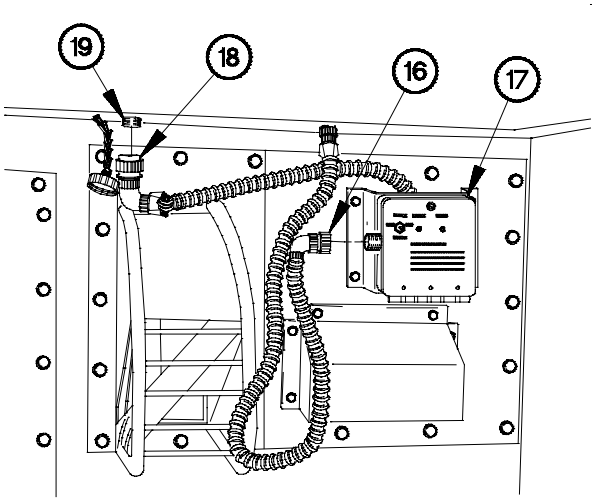


(4) Route heater power cable (6) through hole (7) in heater cover (8).

(5) Connect connector P4A (9) to connector J4 (10).



(6) Install heater cover (8) on van body wall (11) with heater deflector (12), washers (13), lockwashers (14), and screws (15).



3V471051

(7) Connect connector P245A (16) to heater control unit (17).

(8) Connect connector P244 (18) to heater connector (19).

c. Follow-On Maintenance.

(1) Connect AC power (TM 9-2320-365-10).

(2) Check heater for proper operation (TM 9-2320-365-10).

(3) Close LH and RH doors (TM 9-2320-365-10).

End of Task.

20-48. M1079 HEATER FUEL PUMP REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

Materials/Parts
Sealant, Pipe, Teflon (Item 58, Appendix D)
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Lockwasher (2) (Item 83, Appendix G)

Personnel Required
(2)

a. Removal.

NOTE

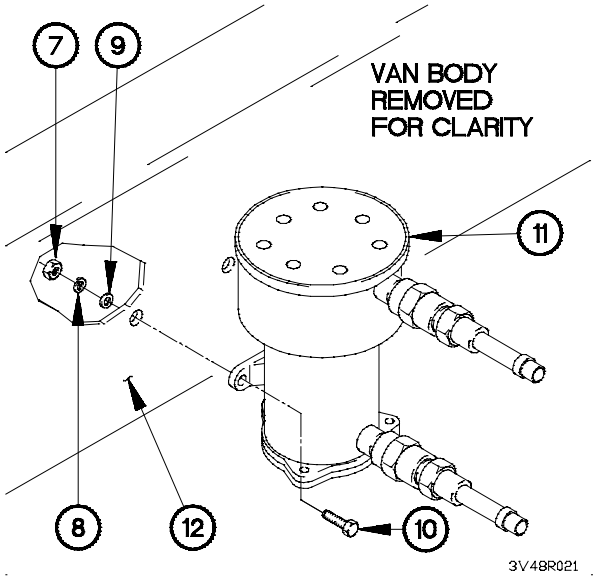
Tag hoses and connection points prior to removal.

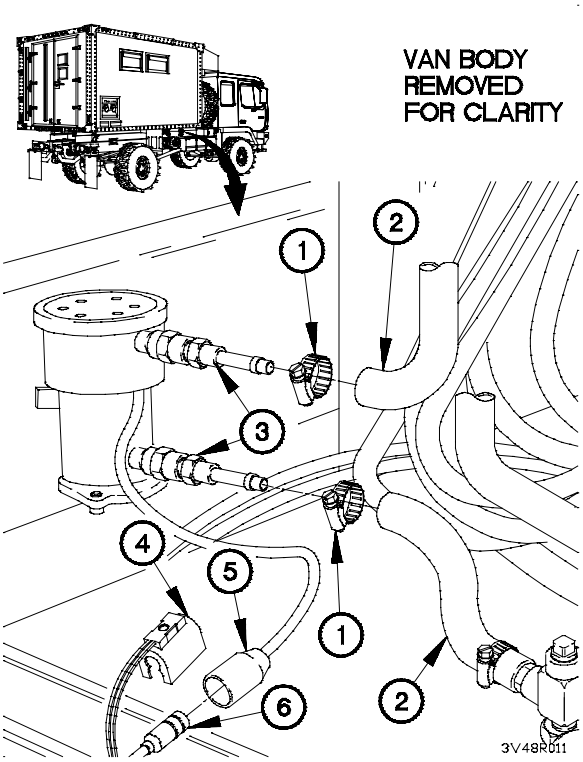
(1) Loosen two clamps (1) on hoses (2).

(2) Remove two hoses (2) and clamps (1) from fittings (3).

(3) Disconnect connector clamp (4) from heater fuel pump connector (5).

(4) Disconnect heater fuel pump connector (5) from connector P310 (6).





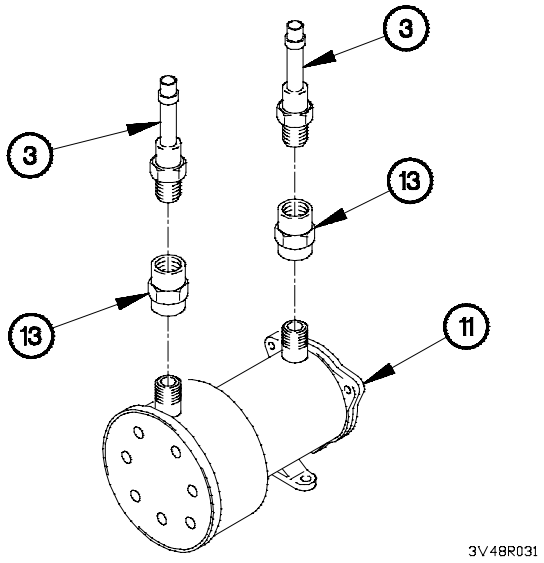
NOTE

Step (5) requires the aid of an assistant.

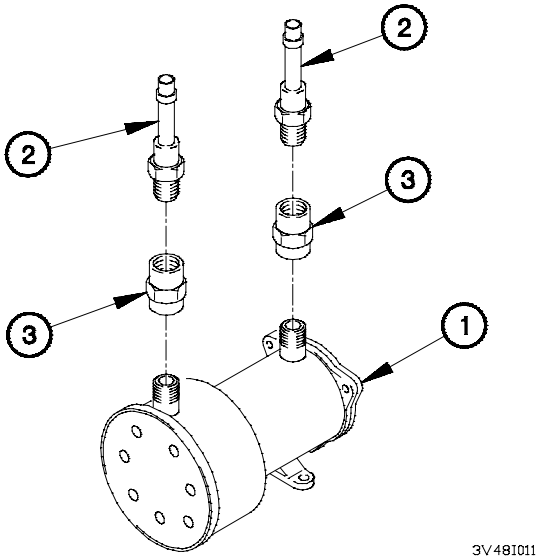
(5) Remove two nuts (7), lockwashers (8), washers (9), screws (10), and heater fuel pump (11) from sub-frame (12). Discard lockwashers.

(6) Remove two fittings (3) from couplers (13).

(7) Remove two couplers (13) from heater fuel pump (11).



b. Installation.



WARNING

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

(1) Apply sealing compound to threads of heater fuel pump (1) and two fittings (2).

(2) Install two couplers (3) on heater fuel pump (1).

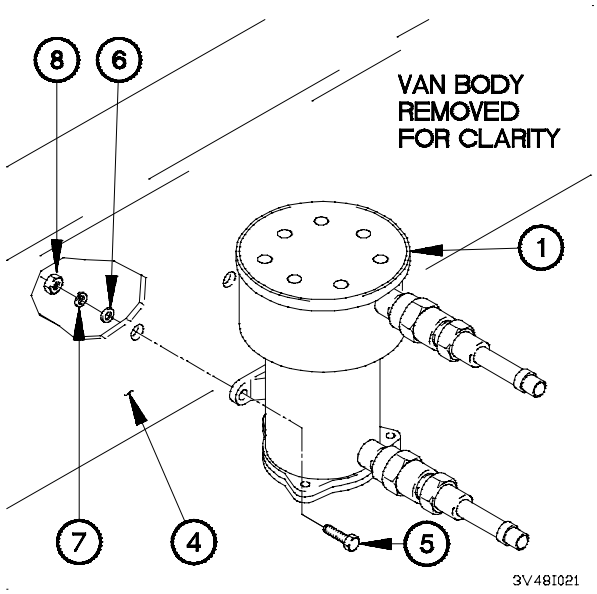
(3) Install fittings (2) on couplers (3).

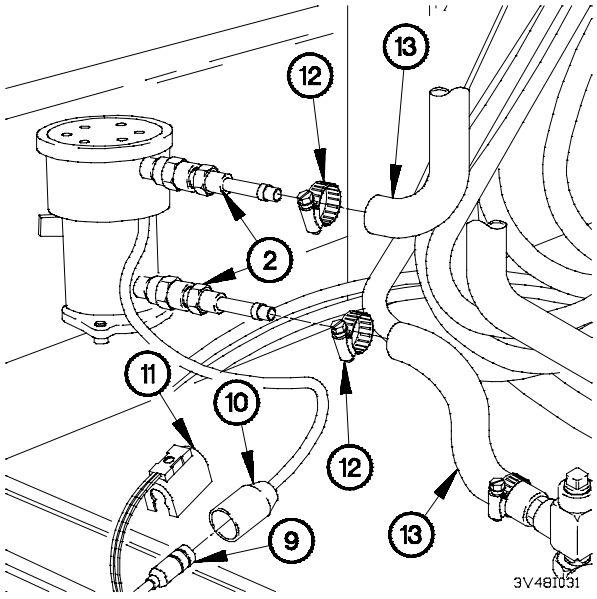
20-48. M1079 HEATER FUEL PUMP REPLACEMENT (CONT)

NOTE

Step (4) requires the aid of an assistant.

(4) Install heater fuel pump (1) on sub-frame (4) with two screws (5), washers (6), lockwashers (7), and nuts (8).





(5) Connect connector P310 (9) to heater fuel pump connector (10).

(6) Connect connector clamp (11) on heater fuel pump connector (10).

(7) Position two clamps (12) on hoses (13).

(8) Install two hoses (13) on fittings (2) with clamps (12).

End of Task.

20-49. M1079 HEATER FUEL PUMP POWER CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
AC power disconnected (TM 9-2320-365-10).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Lockwasher (18) (Item 84, Appendix G)
Lockwasher (Item 83, Appendix G)

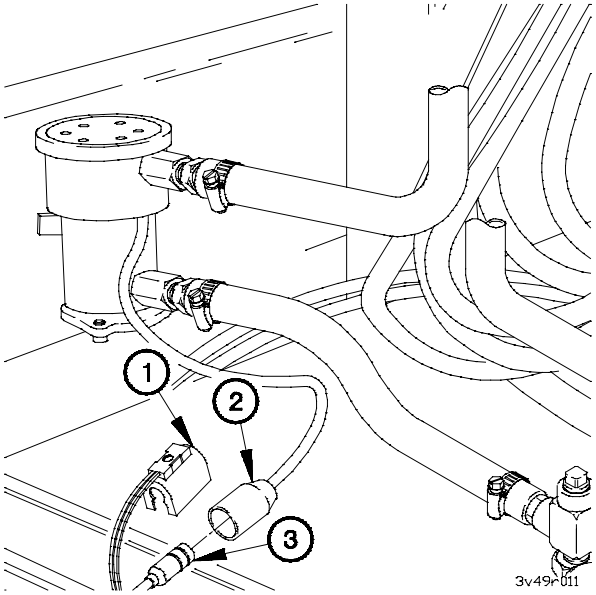
a. Removal.

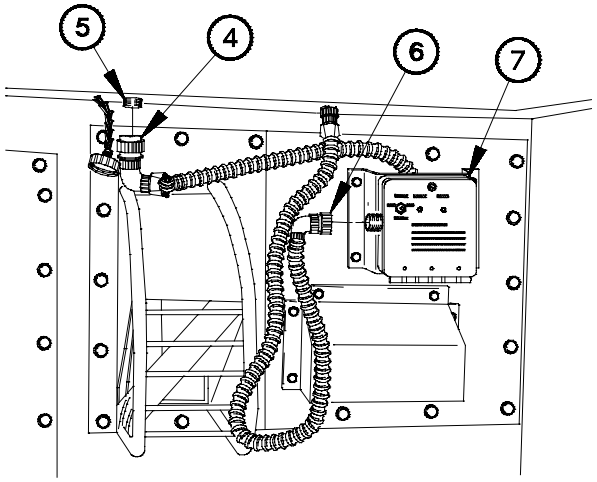
NOTE

Tag connectors and connection points prior to disconnecting.

(1) Disconnect connector clamp (1) from heater fuel pump connector (2).

(2) Disconnect heater fuel pump connector (2) from connector P310 (3).



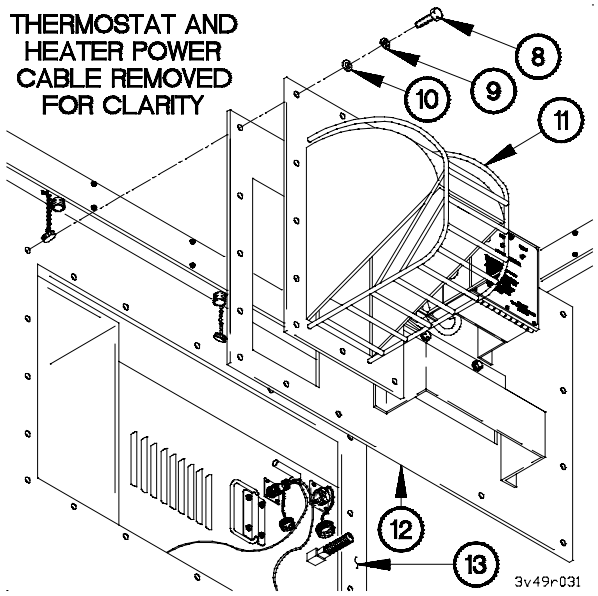


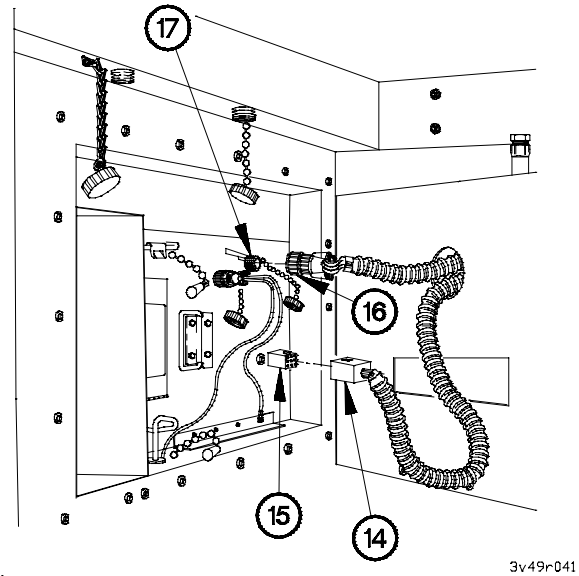
(3) Disconnect connector P244 (4) from heater connector (5).

(4) Disconnect connector P245A (6) from heater control unit (7).

20-49. M1079 HEATER FUEL PUMP POWER CABLE REPLACEMENT (CONT)

(5) Remove 18 screws (8), lockwashers (9), washers (10), heater deflector (11), and heater cover (12) from van body wall (13). Discard lockwashers.



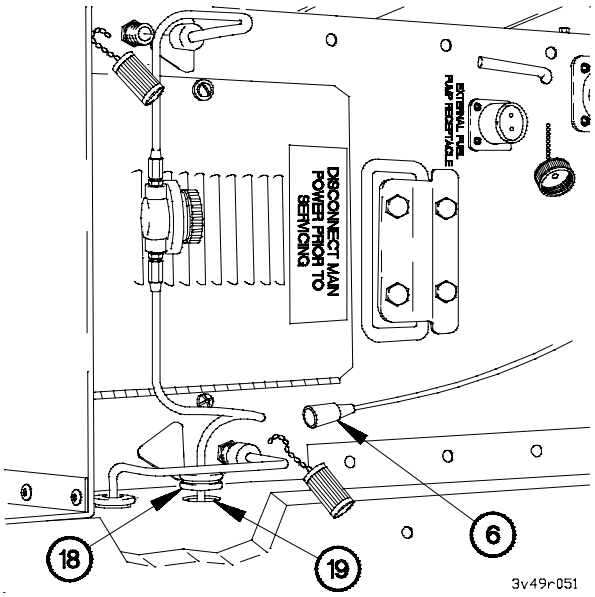


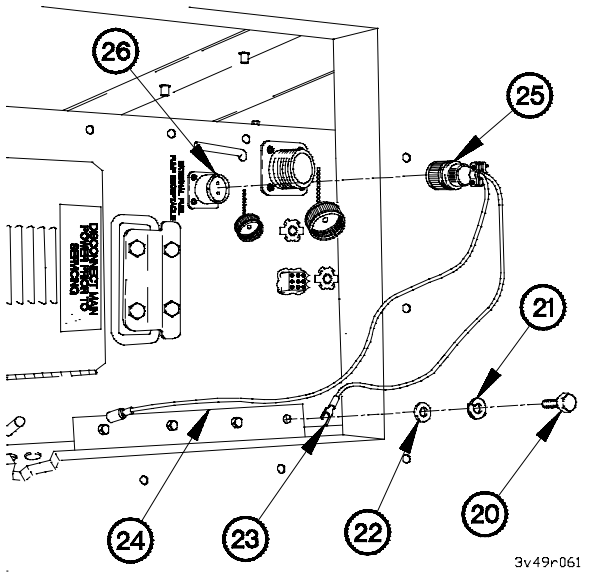
(6) Disconnect connector P4A (14) from connector J4 (15).

(7) Disconnect connector J244A (16) from heater power connector (17).

(8) Remove grommet (18) from pod panel (19).

(9) Remove heater fuel pump power cable (6) through hole in pod panel (19).

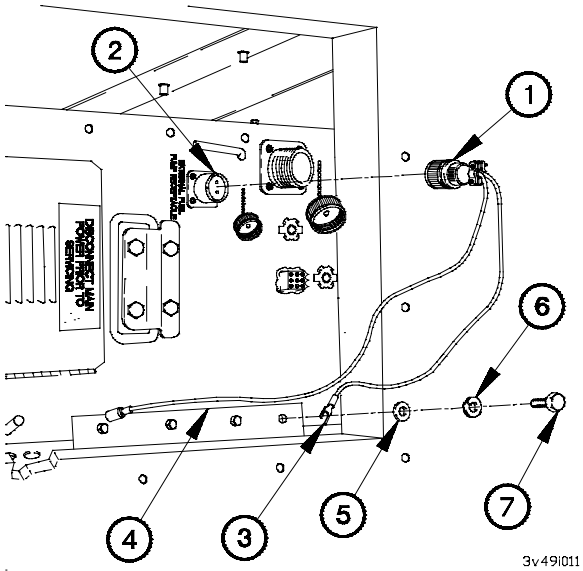




(10) Remove screw (20), lockwasher (21), washer (22), and terminal lug TL191 (23) from bracket (24). Discard lockwasher.

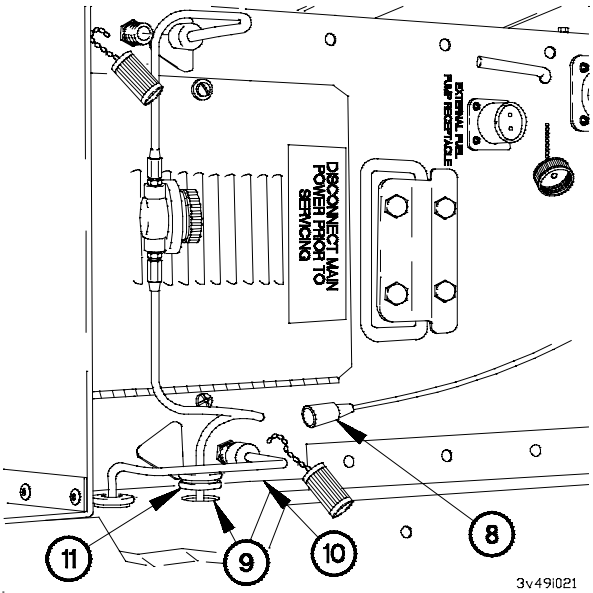
(11) Disconnect connector J314 (25) from heater fuel pump power cable connector (26).

b. Installation.



(1) Connect connector J314 (1) to heater fuel pump power cable connector (2).

(2) Install terminal lug TL191 (3) on bracket (4) with washer (5), lockwasher (6), and screw (7).



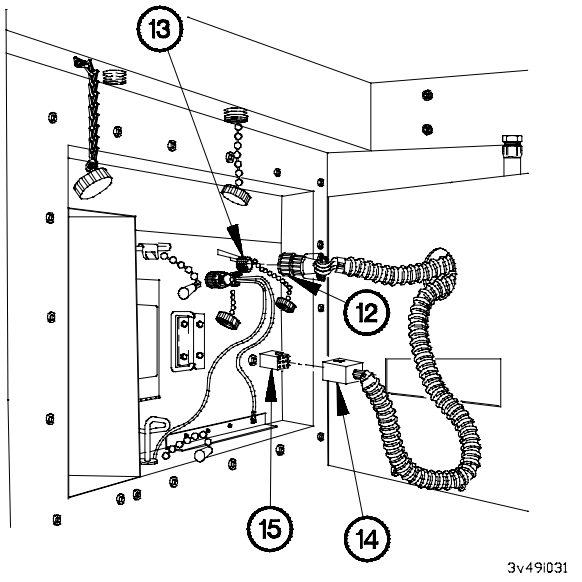
(3) Route heater fuel pump cable (8) through hole (9) in pod panel (10).

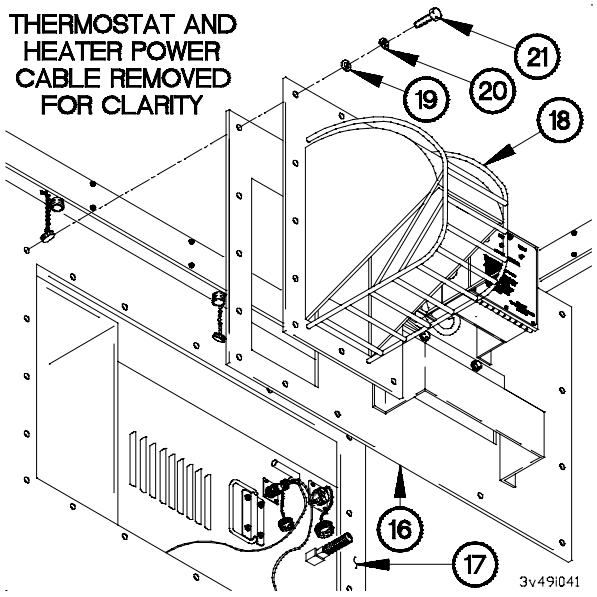
(4) Install grommet (11) in hole (9) on pod panel (10).

20-49. M1079 HEATER FUEL PUMP POWER CABLE REPLACEMENT (CONT)

(5) Connect connector J244A (12) to heater power connector (13).

(6) Connect connector P4A (14) to connector J4 (15).

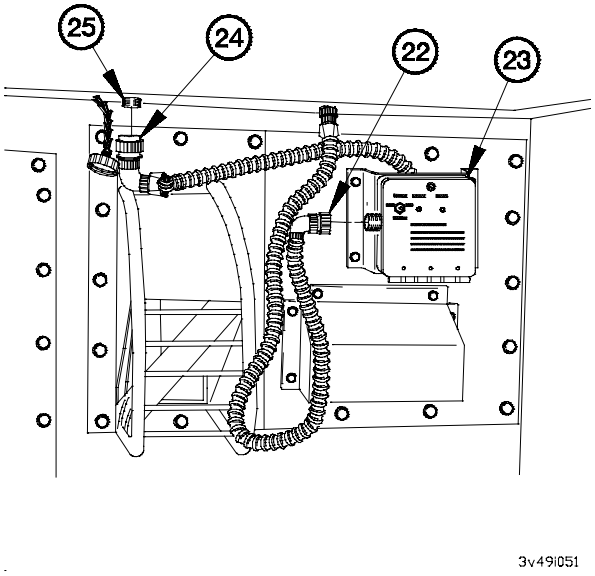




(7) Install heater cover (16) on van body wall (17) with heater deflector (18), 18 washers (19), lockwashers (20), and screws (21).

(8) Connect connector P245A (22) to heater control unit (23).

(9) Connect connector P244 (24) to heater connector (25).

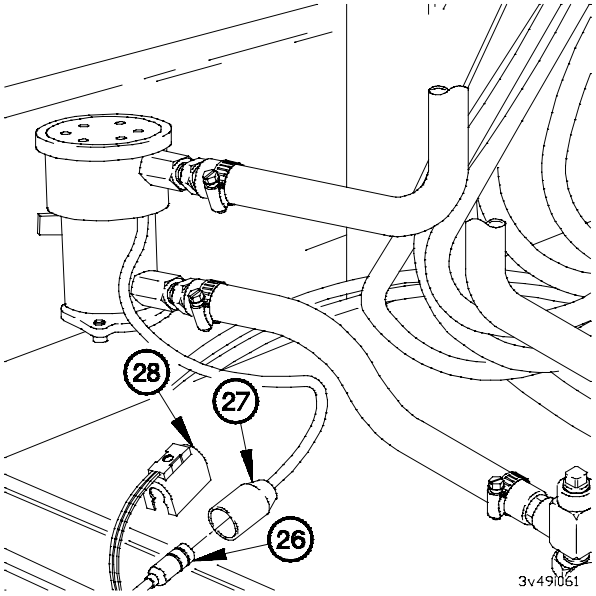


NOTE

Install plastic cable ties as required.

(10) Connect connector P310 (26) to heater fuel pump connector (27).

(11) Connect connector clamp (28) on heater fuel pump connector (27).



c. Follow-On Maintenance.

(1) Connect AC power (TM 9-2320-365-10).

(2) Check heater for proper operation (TM 9-2320-365-10).

(3) Close LH and RH doors (TM 9-2320-365-10).

End of Task.

20-50. M1079 HEATER DEFLECTOR/DUCT REPLACEMENT

This task covers:

a. Heater Deflector Removal
b. Heater Deflector Installation
c. Heater Duct Removal
d. Heater Duct Installation
e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
AC power disconnected (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).
LH and RH doors opened (115-degrees) (TM 9-2320-365-10).
M1079 heater fuel pump power cable removed (for heater duct) (para 20-49).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

Materials/Parts
Sealant, Pipe, Teflon (Item 58, Appendix D)
Lockwasher (9) (for heater deflector) (Item 84, Appendix G)
Lockwasher (40) (Item 82, Appendix G)
Lockwasher (19) (Item 83, Appendix G)
Nut, Self-Locking (4) (Item 126, Appendix G)

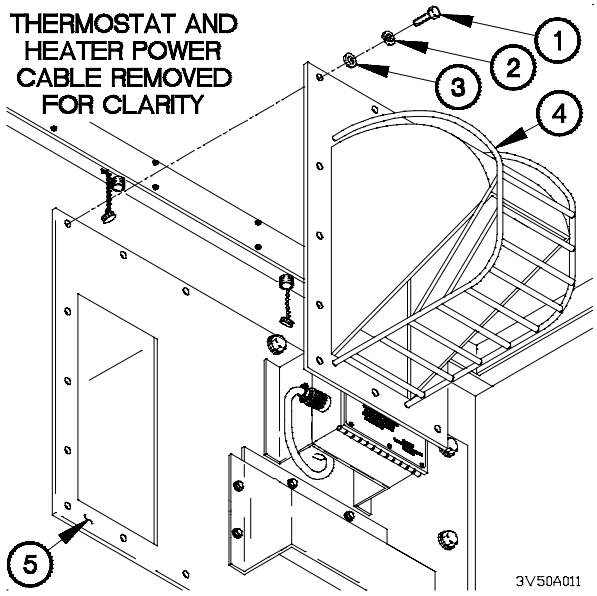
Personnel Required
(2)

a. Heater Deflector Removal.

Remove nine screws (1), lockwashers (2), washers (3), and heater deflector (4) from heater cover (5). Discard lockwashers.

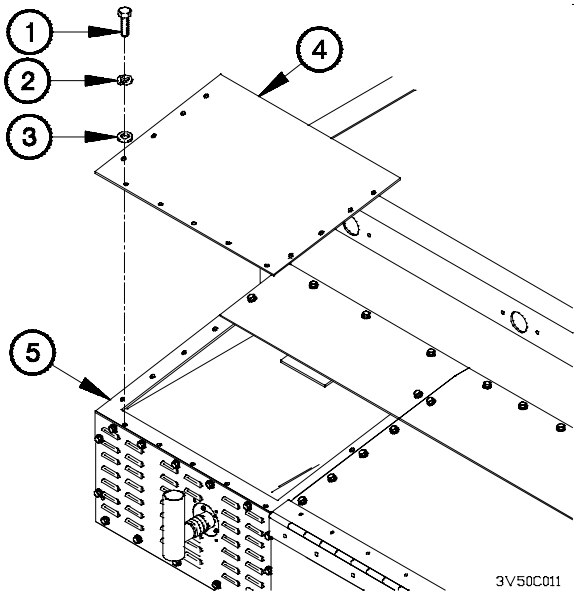
b. Heater Deflector Installation.

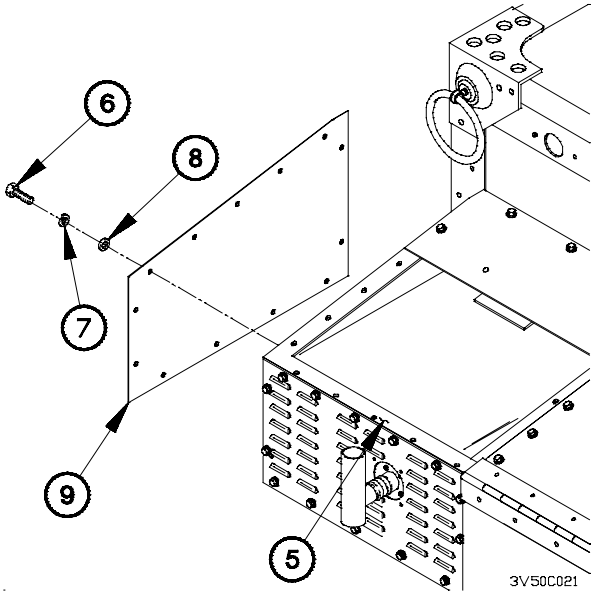
Install heater deflector (4) on heater cover (5) with nine washers (3), lockwashers (2), and screws(1).



c. Heater Duct Removal.

(1) Remove 13 screws (1), lockwashers (2), washers (3), and curbside top front panel (4) from pod frame (5). Discard lockwashers.



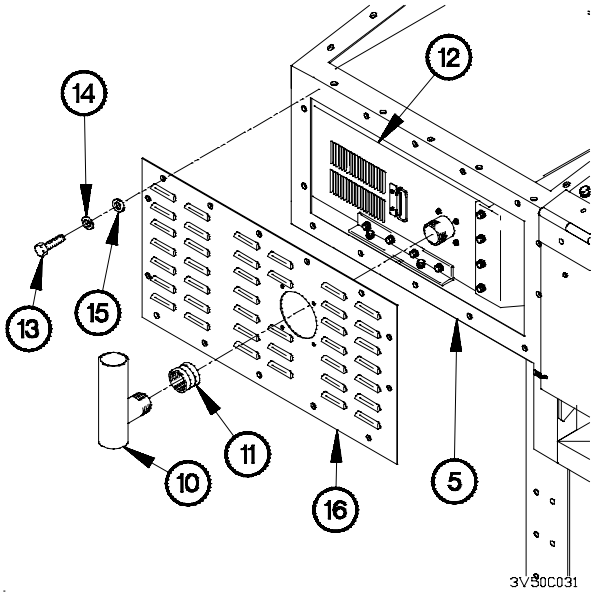


(2) Remove 13 screws (6), lockwashers (7), washers (8), and curbside panel (9) from pod frame (5). Discard lockwashers.

(3) Remove exhaust pipe (10) from coupling (11).

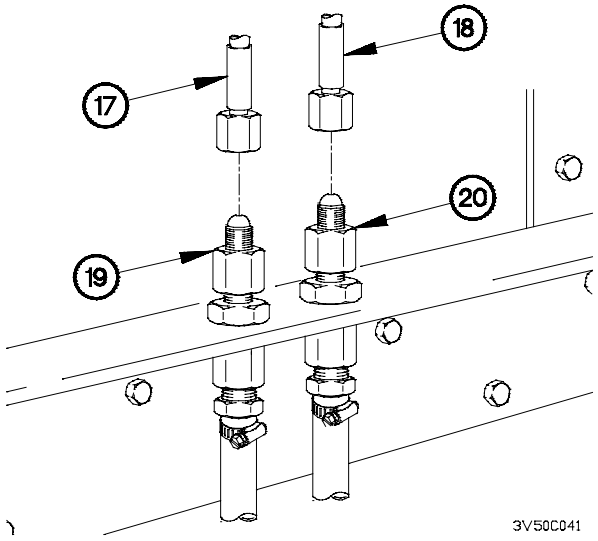
(4) Remove coupling (11) from heater (12).

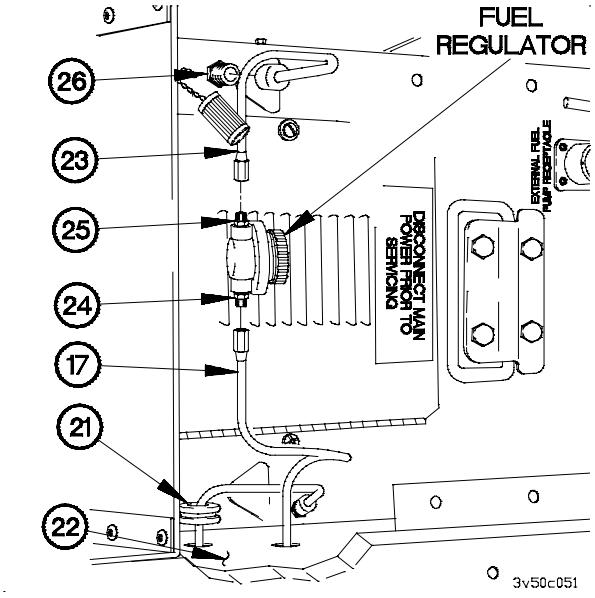
(5) Remove 14 screws (13), lockwashers (14), washers (15), and curbside front panel (16) from pod frame (5). Discard lockwashers.



20-50. M1079 HEATER DEFLECTOR/DUCT REPLACEMENT (CONT)

(6) Remove fuel tubes (17 and 18) from adapters (19 and 20).





(7) Remove grommet (21) from pod panel (22).

NOTE

Note position of fuel regulator prior to removal.

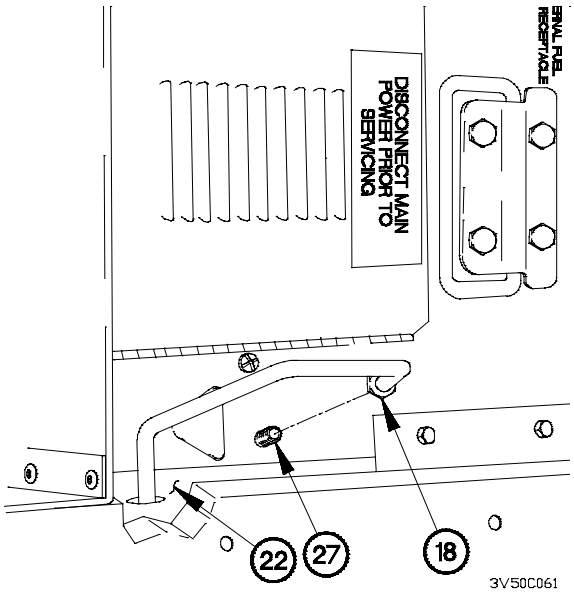
(8) Remove fuel tubes (17 and 23) from fittings (24 and 25).

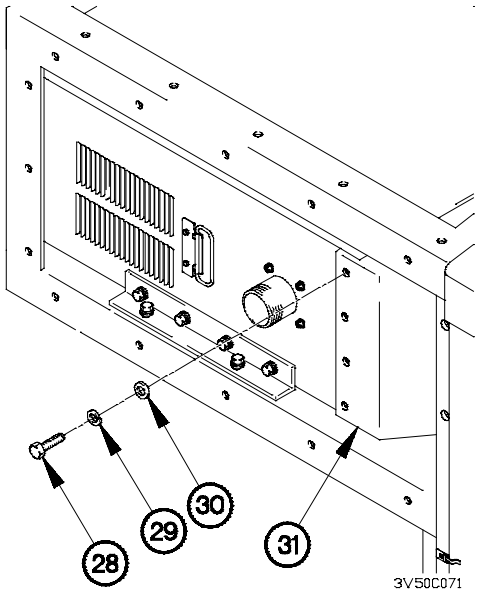
(9) Remove fuel tube (23) from fuel inlet port (26).

(10) Remove fuel tube (17) from pod panel (22).

(11) Remove fuel tube (18) from overflow port (27).

(12) Remove fuel tube (18) from pod panel (22).





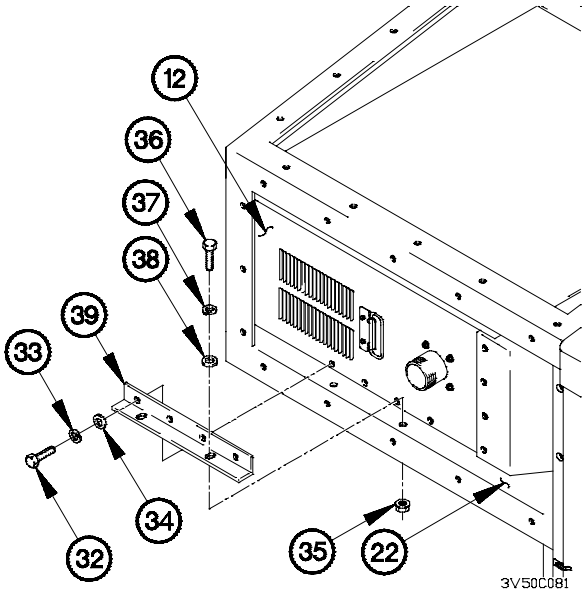
(13) Remove four screws (28), lockwashers (29), and washers (30) from heater duct (31). Discard lockwashers.

NOTE

Steps (14) and (15) require the aid of an assistant.

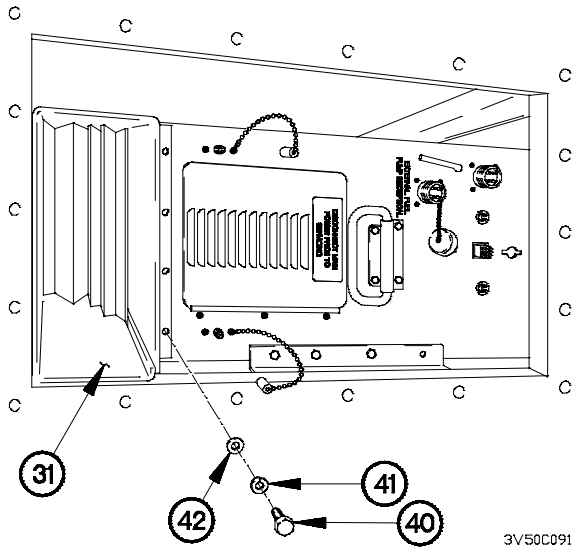
(14) Remove four screws (32), lockwashers (33), and washers (34) from heater (12). Discard lockwashers.

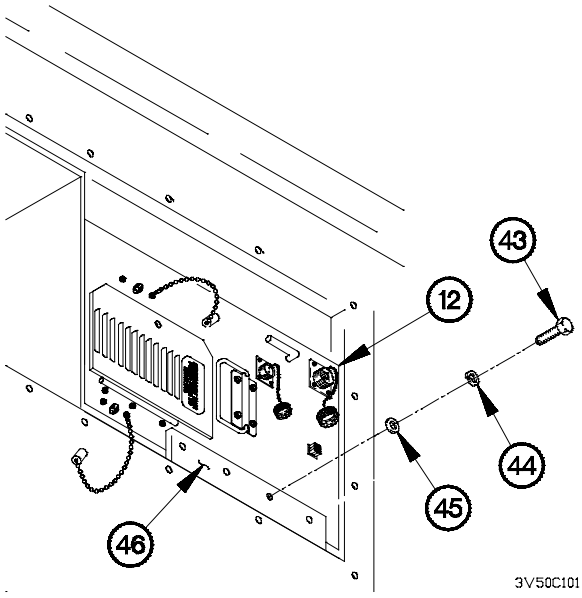
(15) Remove two self-locking nuts (35), screws (36), lockwashers (37), washers (38), and bracket (39) from pod panel (22). Discard lockwashers and self-locking nuts.



20-50. M1079 HEATER DEFLECTOR/DUCT REPLACEMENT (CONT)

(16) Remove four screws (40), lockwashers (41), and washers (42) from heater duct (31). Discard lockwashers.



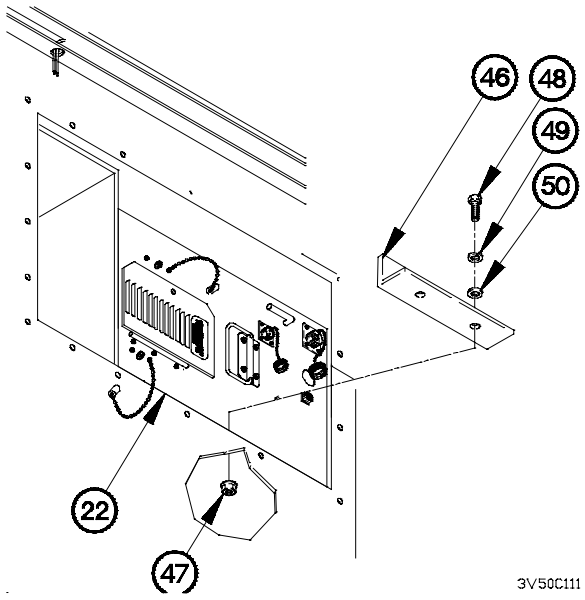


NOTE

Steps (17) and (18) require the aid of an assistant.

(17) Remove three screws (43), lockwashers (44), washers (45), and bracket (46) from heater (12). Discard lockwashers.

(18) Remove two self-locking nuts (47), screws (48), lockwashers (49), washers (50), and bracket (46) from pod panel (22). Discard lockwashers and self-locking nuts.

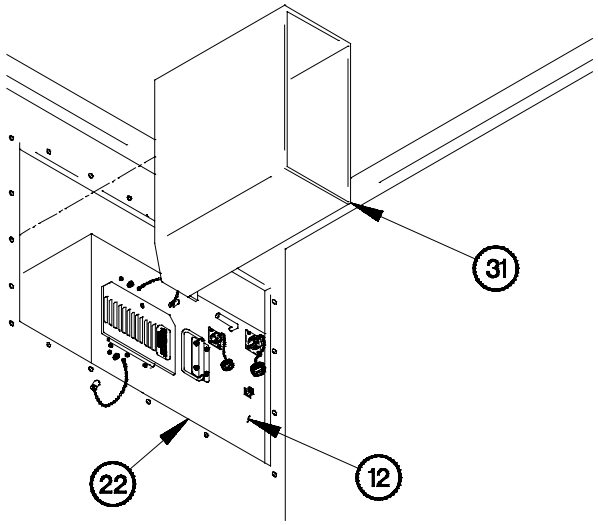


NOTE

Step (19) requires the aid of an assistant.

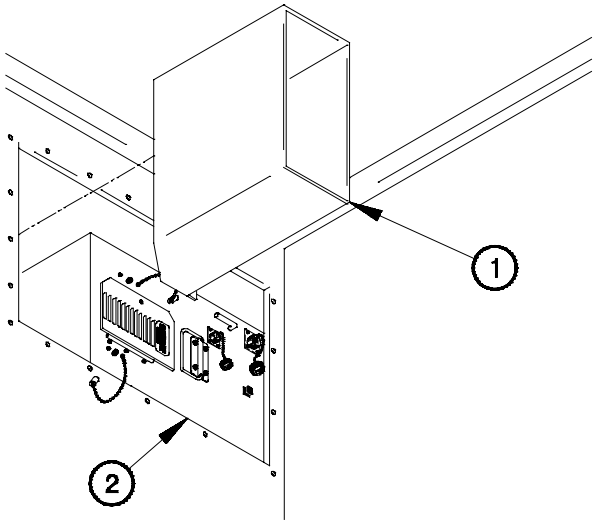
(19) Position heater (12) to access heater duct (31).

(20) Remove heater duct (31) from pod panel (22).



3V50C121

d. Heater Duct Installation.



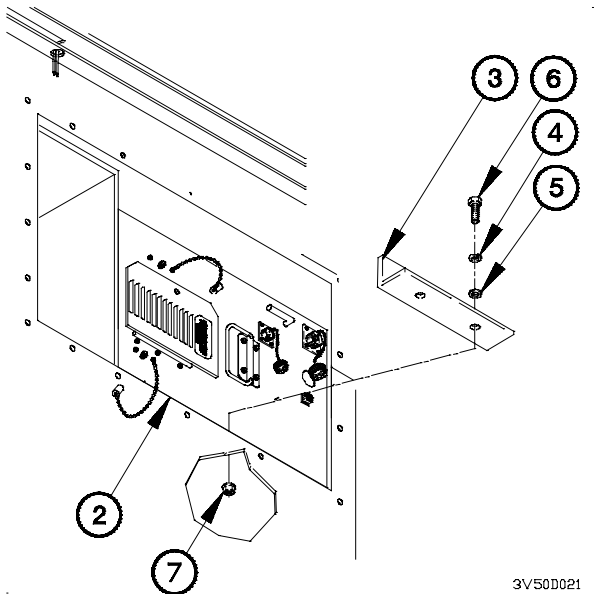
3V50D011

(1) Position heater duct (1) on pod panel (2).

NOTE

Steps (2) and (3) require the aid of an assistant.

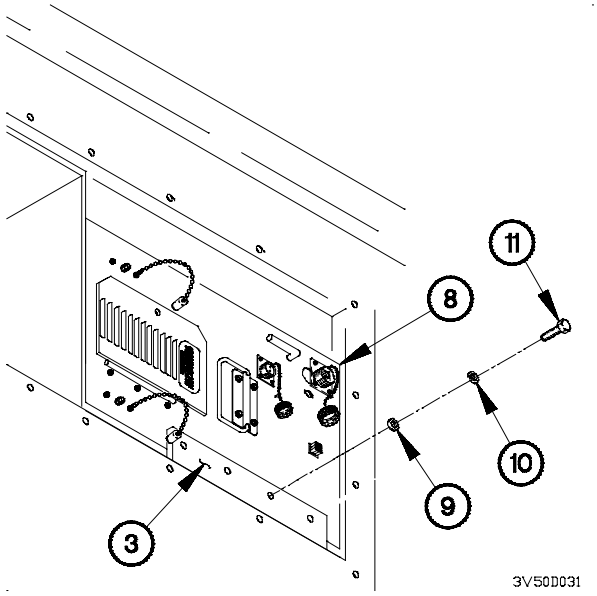
(2) Position bracket (3) on pod panel (2) with two washers (4), lockwashers (5), screws (6), and self-locking nuts (7).

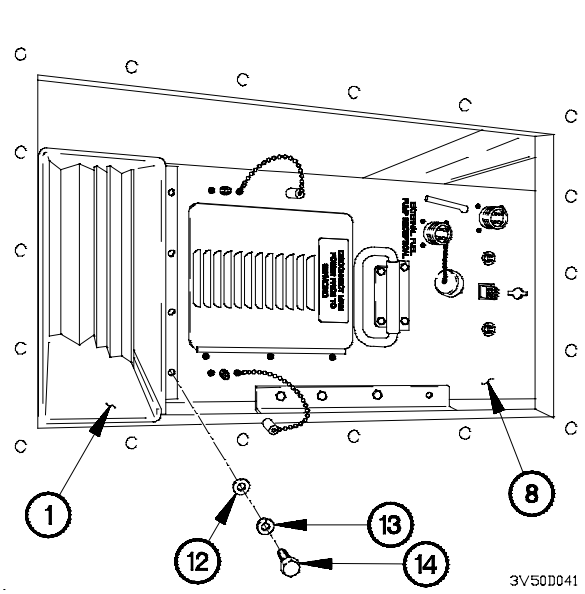


3V50D021

20-50. M1079 HEATER DEFLECTOR/DUCT REPLACEMENT (CONT)

(3) Install bracket (3) on heater (8) with three washers (9), lockwashers (10), and screws (11).





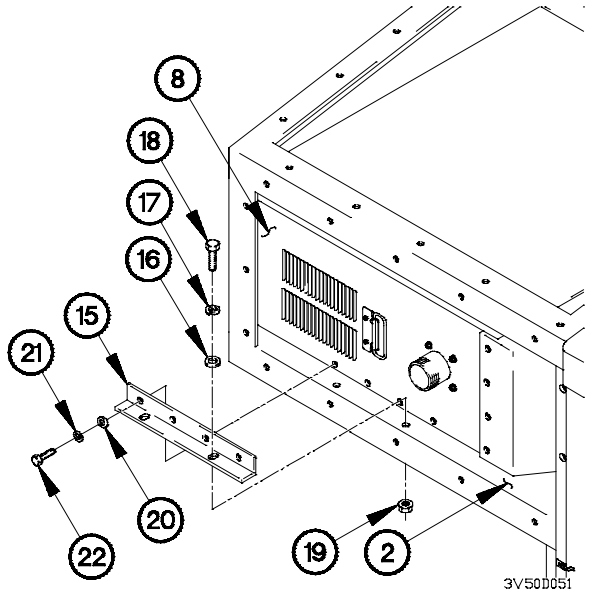
(4) Install heater duct (1) on heater (8) with four washers (12), lockwashers (13), and screws (14).

NOTE

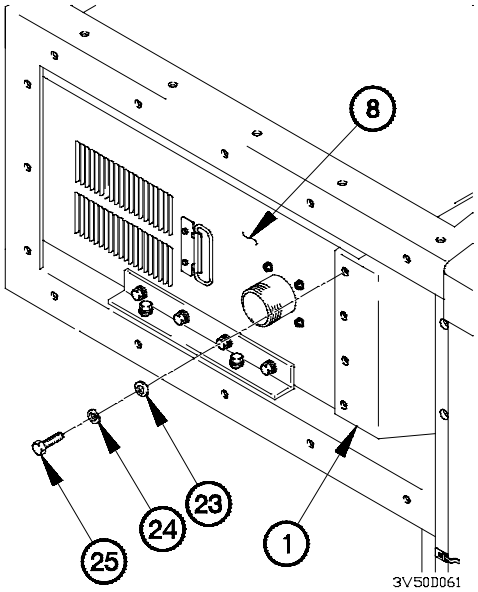
Steps (5) and (6) require the aid of an assistant.

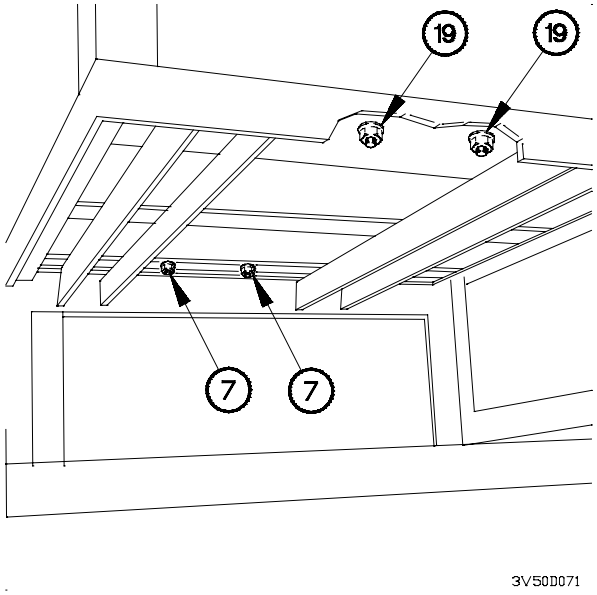
(5) Position bracket (15) on pod panel (2) with two washers (16), lockwashers (17), screws (18), and self-locking nuts (19).

(6) Install bracket (15) on heater (8) with four washers (20), lockwashers (21), and screws (22).



(7) Install heater duct (1) on heater (8) with four washers (23), lockwashers (24), and screws (25).

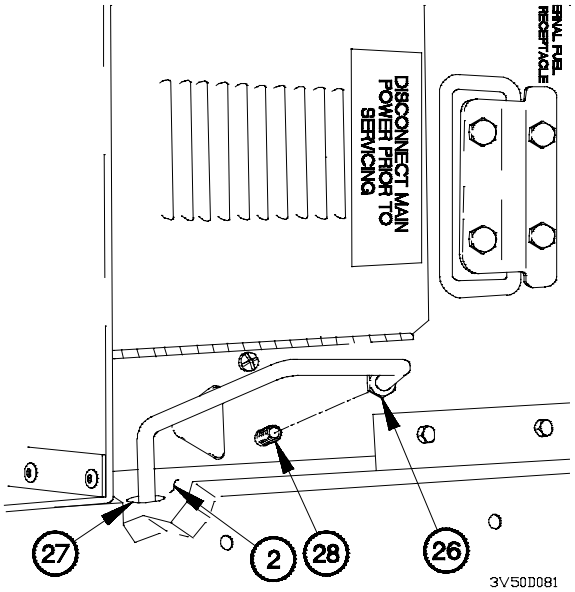




(8) Tighten two self-locking nuts (7 and 19).

(9) Route fuel tube (26) through hole (27) in pod panel (2).

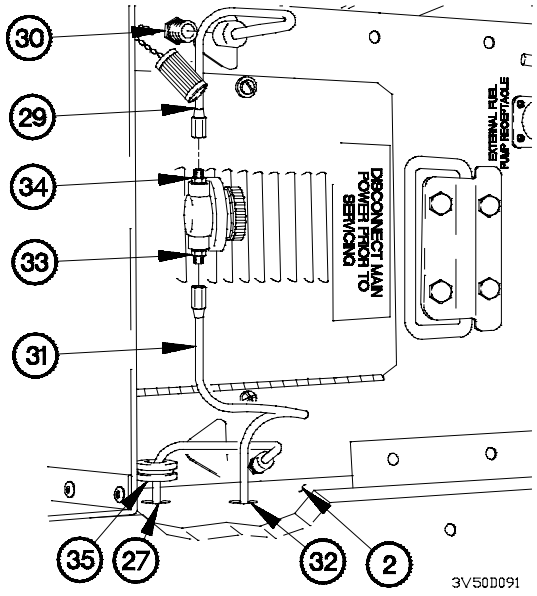
(10) Install fuel tube (26) on fuel overflow port (28).



20-50. M1079 HEATER DEFLECTOR/DUCT REPLACEMENT (CONT)

(11) Install fuel tube (29) on fuel inlet port (30).

(12) Route fuel tube (31) through hole (32) on pod panel(2).



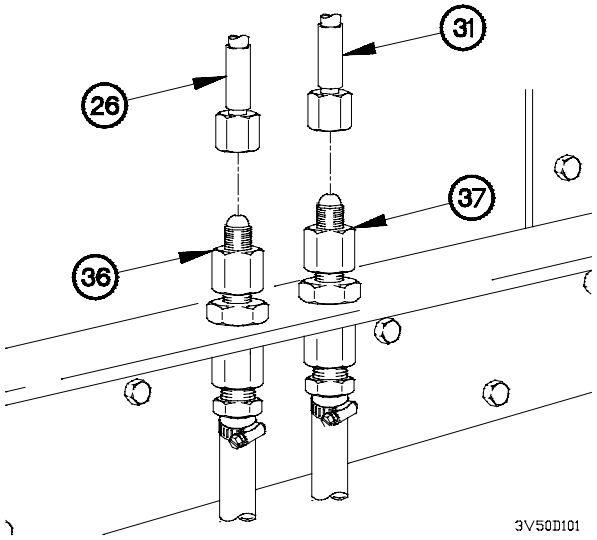
WARNING

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

(13) Apply sealing compound to threads of fittings (33 and 34).

(14) Install fuel tubes (31 and 29) on fittings (33 and 34).

(15) Install grommet (35) in hole (27) on pod panel (2).

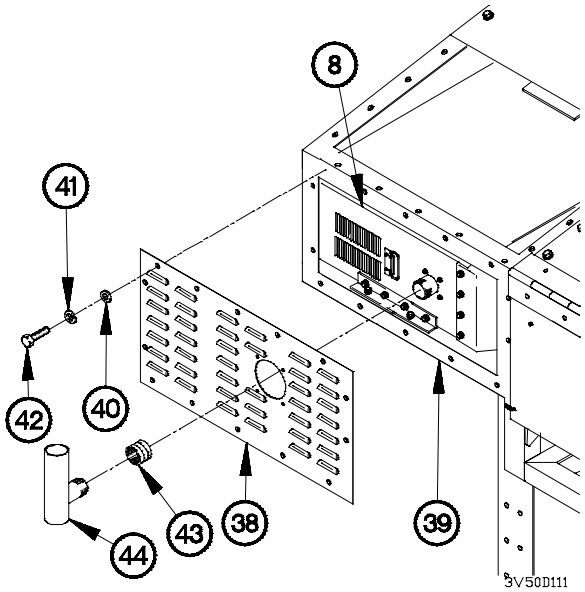


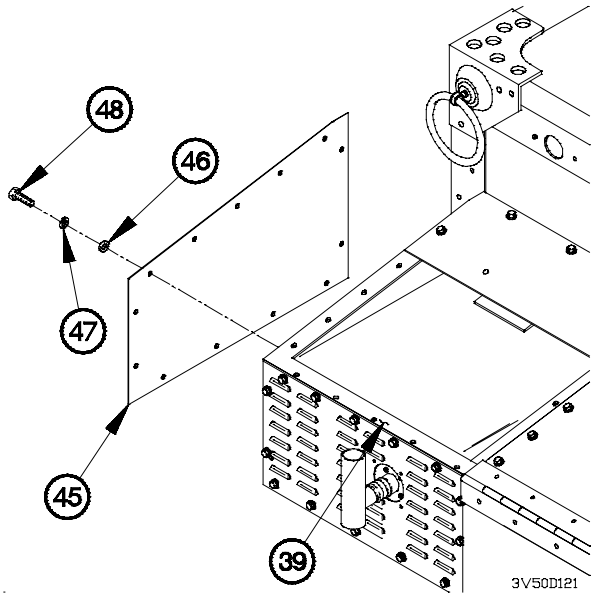
(16) Install fuel tubes (26 and 31) on adapters (36 and 37).

(17) Install curbside front panel (38) on pod frame (39) with 14 washers (40), lockwashers (41), and screws (42).

(18) Install coupling (43) on heater (8).

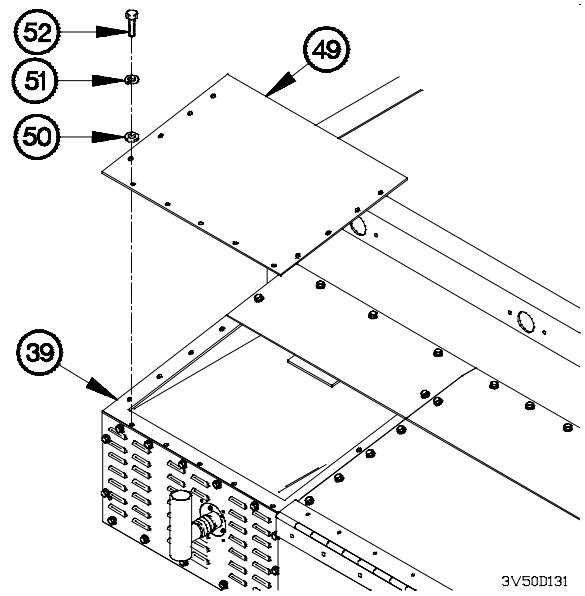
(19) Install exhaust pipe (44) on coupling (43).





(20) Install curbside panel (45) on pod frame (39) with 13 washers (46), lockwashers (47), and screws (48).

(21) Install curbside top front panel (49) on pod frame (39) with 13 washers (50), lockwashers (51), and screws (52).



20-50. M1079 HEATER DEFLECTOR/DUCT REPLACEMENT (CONT)

e. Follow-On Maintenance.

(1) Lower cab (TM 9-2320-365-10).

(2) Install M1079 heater fuel pump power cable (para 20-49).

(3) Connect AC power (TM 9-2320-365-10).

(4) Check heater for proper operation (TM 9-2320-365-10).

(5) Close LH and RH doors (TM 9-2320-365-10).

End of Task.

20-51. M1079 HEATER REPLACEMENT

This task covers:

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

INITIAL SETUP

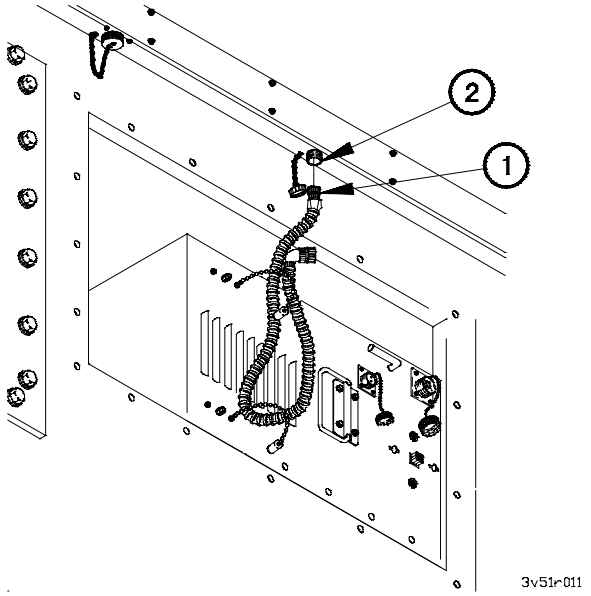
Equipment Conditions
M1079 heater duct removed (para 20-50).

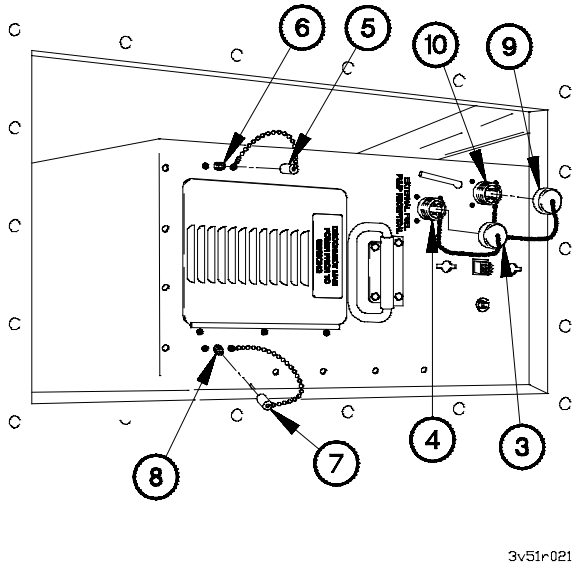
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

Personnel Required
(2)

a. Removal.

(1) Disconnect connector J245 (1) from thermostat connector (2).





(2) Install dust cap (3) on heater fuel pump power connector (4).

(3) Install dust cap (5) on fuel inlet port (6).

(4) Install dust cap (7) on fuel overflow port (8).

(5) Install dust cap (9) on heater power connector (10).

20-51. M1079 HEATER REPLACEMENT (CONT)

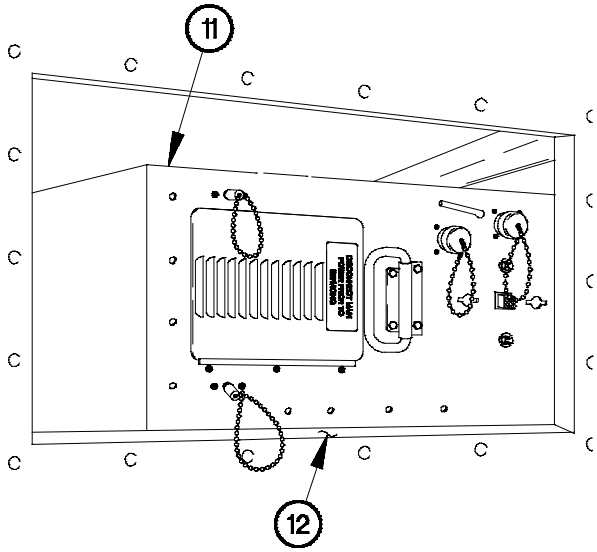
WARNING

Heater weighs approximately 120 lbs (54 kgs). Use the aid of an assistant when lifting. Failure to comply may result in injury to personnel.

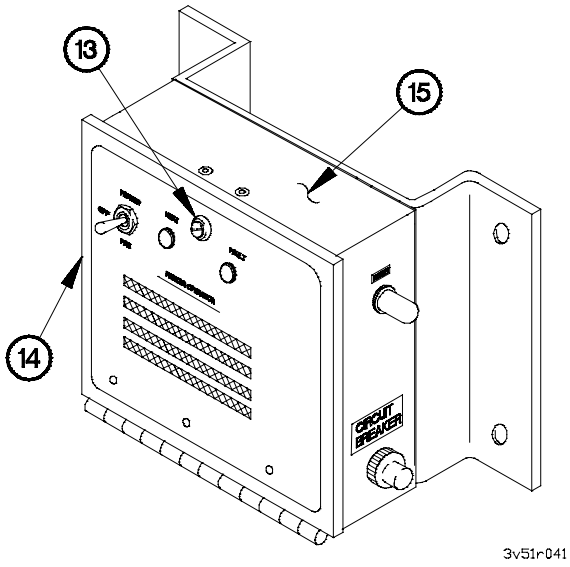
NOTE

Step (6) requires the aid of an assistant.

(6) Remove heater (11) from pod panel (12).



3v51r031



3v51r041

(7) Unlatch screw (13) on door (14).

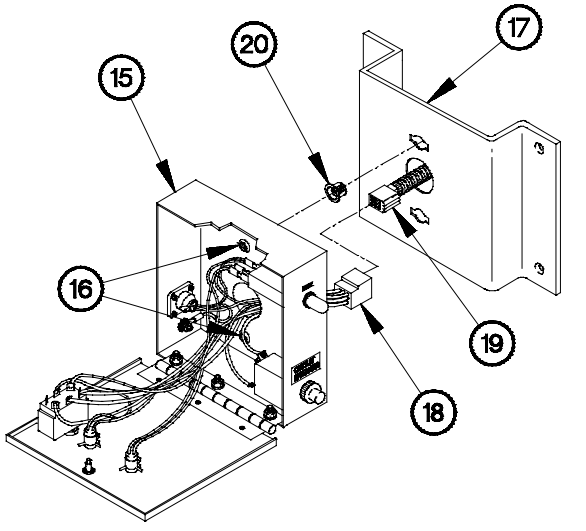
(8) Open door (14) on heater control unit (15).

(9) Unlatch two screws (16) on heater control unit (15).

(10) Remove heater control unit (15) from bracket (17).

(11) Disconnect connector P4 (18) from connector J4A (19).

(12) Remove two twist locks (20) from bracket (17).



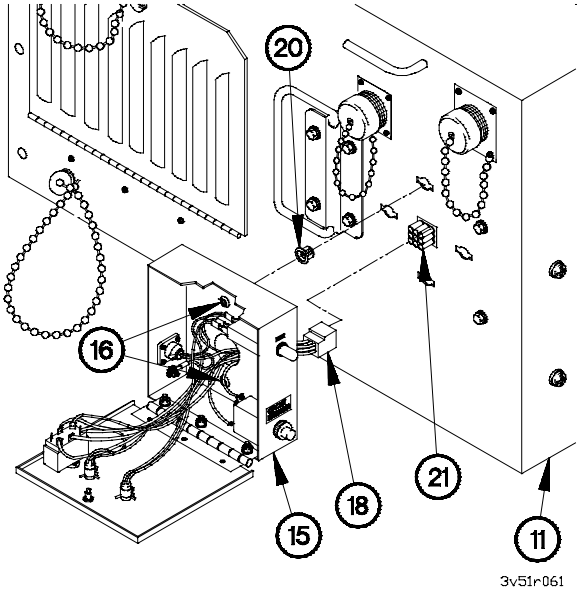
3v51r051

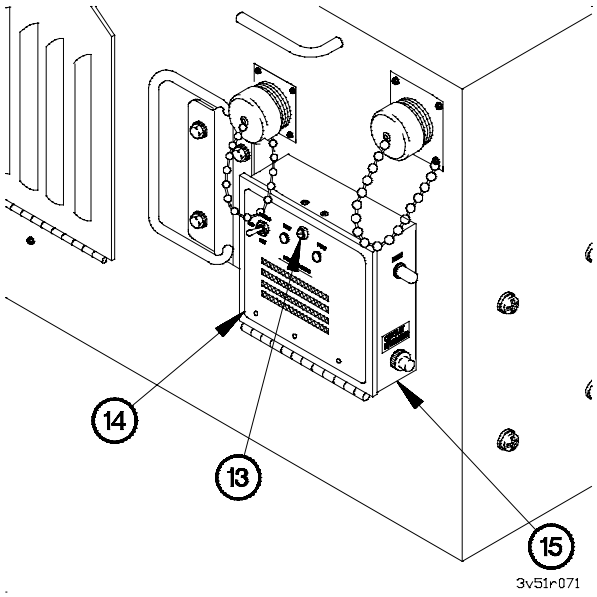
(13) Install two twist locks (20) on heater (11).

(14) Connect connector P4 (18) to connector J4 (21).

(15) Position heater control unit (15) on heater (11).

(16) Latch two screws (16) on heater control unit (15).



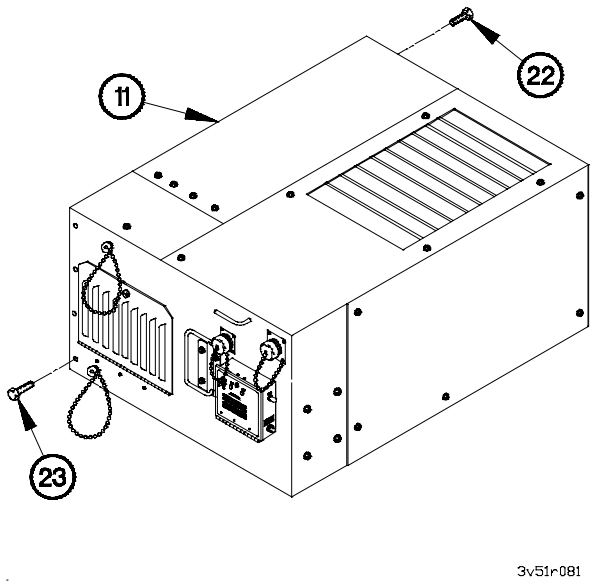


(17) Close door (14) on heater control unit (15).

(18) Latch screw (13) on door (14).

(19) Install eight screws (22) in heater (11).

(20) Install eight screws (23) in heater (11).



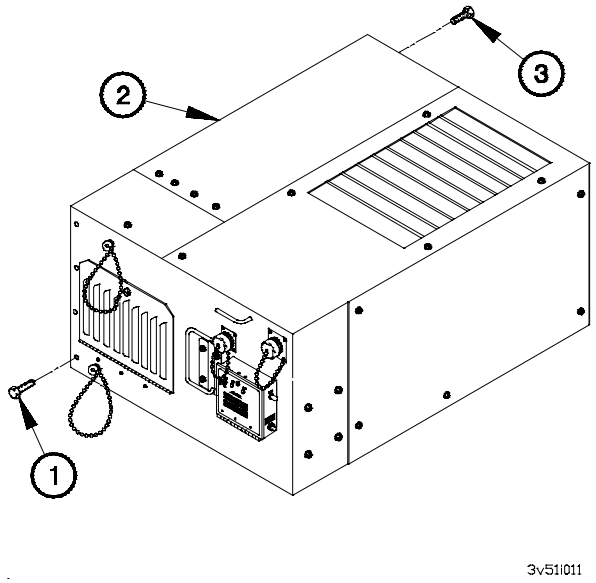
20-51. M1079 HEATER REPLACEMENT (CONT)

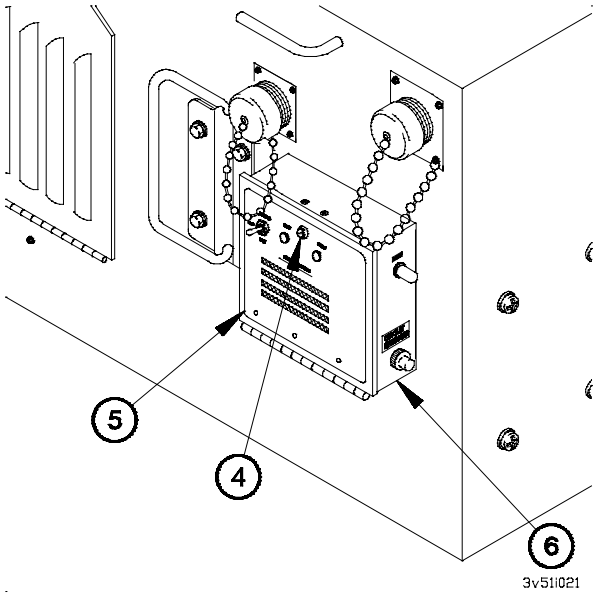
b. Installation.

(1) Remove eight screws (1) from heater (2).

(2) Remove eight screws (3) from heater (2).

(3) Retain eight screws (1 and 3) for future use.





(4) Unlatch screw (4) on door (5).

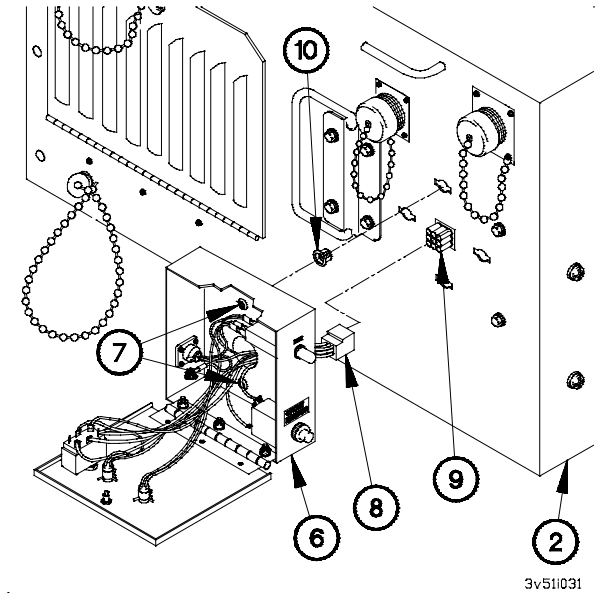
(5) Open door (5) on heater control unit (6).

(6) Unlatch two screws (7) on heater control unit (6).

(7) Remove heater control unit (6) from heater (2).

(8) Disconnect connector P4 (8) from connector J4 (9).

(9) Remove two twist locks (10) from heater (2).

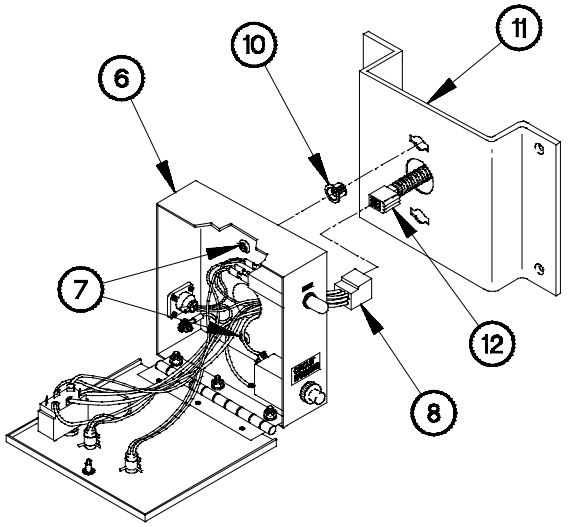


(10) Install two twist locks (10) on bracket (11).

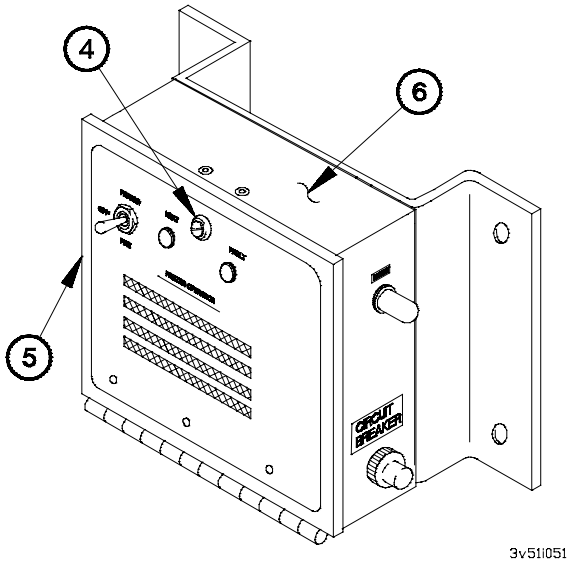
(11) Connect connector P4 (8) to connector J4A (12).

(12) Position heater control unit (6) on bracket (11).

(13) Latch two screws (7) on heater control unit (6).



3v51l041



3v51l051

(14) Close door (5) on heater control unit (6).

(15) Latch screw (4) on door (5).

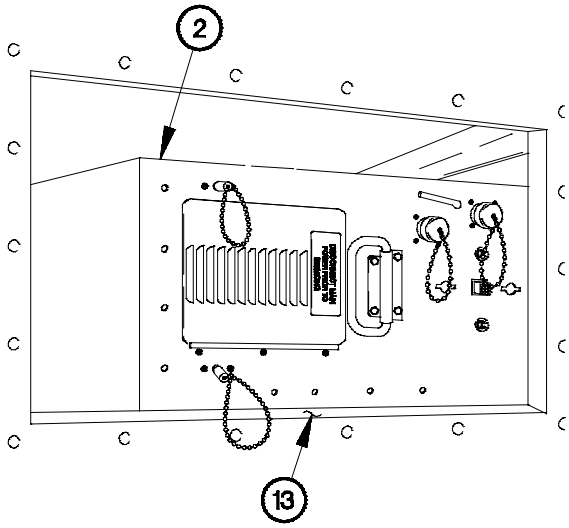
WARNING

Heater weighs approximately 120 lbs (54 kgs). Use the aid of an assistant when lifting. Failure to comply may result in injury to personnel.

NOTE

Step (16) requires the aid of an assistant.

(16) Install heater (2) on pod panel (13).



3v51l061

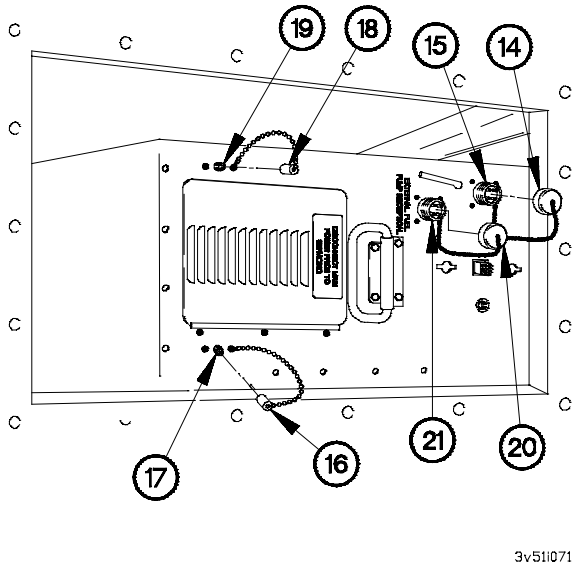
20-51. M1079 HEATER REPLACEMENT (CONT)

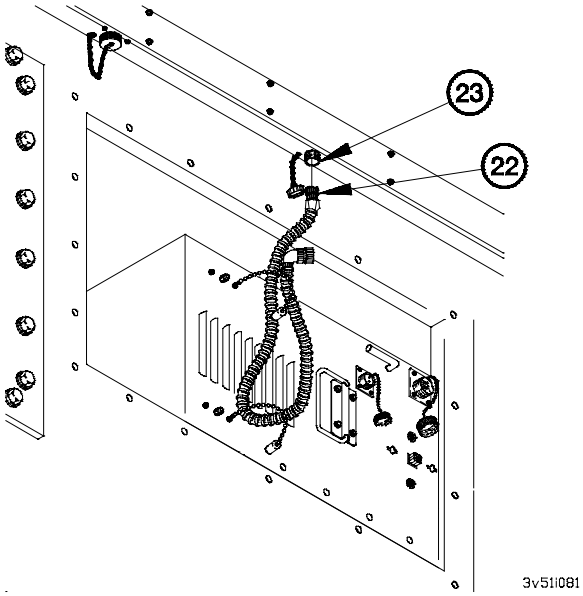
(17) Remove dust cap (14) from heater power connector (15).

(18) Remove dust cap (16) from fuel overflow port (17).

(19) Remove dust cap (18) from fuel inlet port (19).

(20) Remove dust cap (20) from heater fuel pump power connector (21).





(21) Connect connector J245 (22) to thermostat connector (23).

c. Follow-On Maintenance.

Install M1079 heater duct (para 20-50).

End of Task.

20-52. DELETED

20-54. 200 AMP ALTERNATOR KIT INSTALLATION

This task covers:

a. Installation

b. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
100 amp alternator removed (para 7-2).
100 amp reverse polarity relay removed (para 7-27).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 35, Appendix C)
Caps, Vise Jaw (Item 4, Appendix C)
Vise, Machinist (Item 46, Appendix C)

Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Nut, Self-Locking (3) (Item 149, Appendix G)
Nut, Self-Locking (Item 137, Appendix G)
Nut, Self-Locking (M1081 only) (2) (Item 140, Appendix G)
Washer, Spring (M1081 only) (2) (Item 280, Appendix G)
Lockwasher (2) (Item 92, Appendix G)

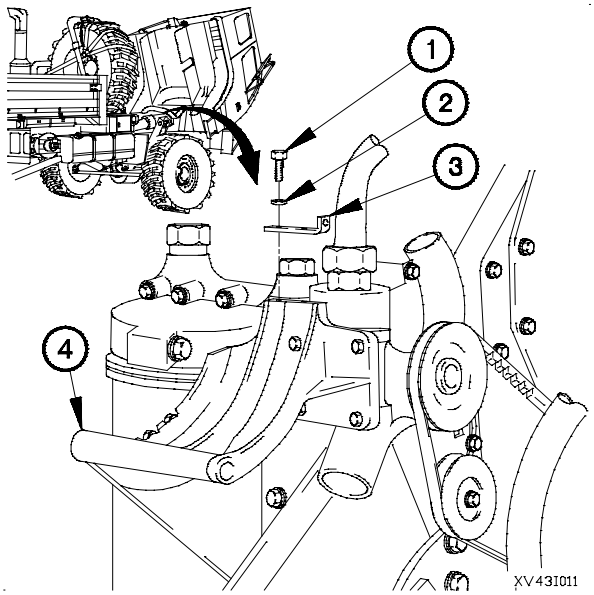
Personnel Required
(2)

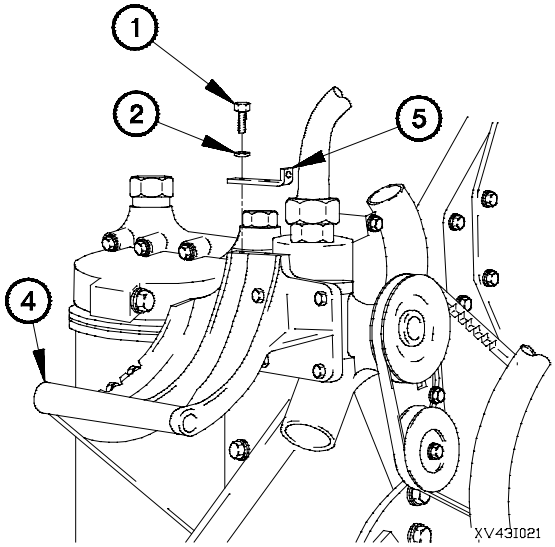
a. Installation.

NOTE

Retain belt adjusting arm for future installation.

(1) Remove two screws (1), lockwashers (2), and belt adjusting arm (3) from alternator bracket (4). Discard lockwashers.

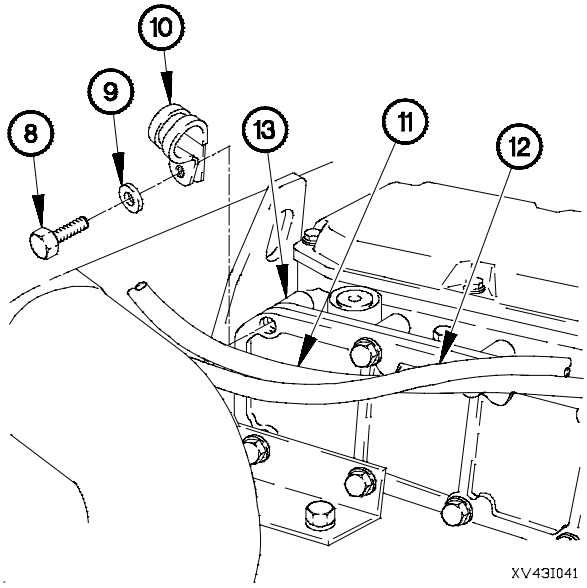


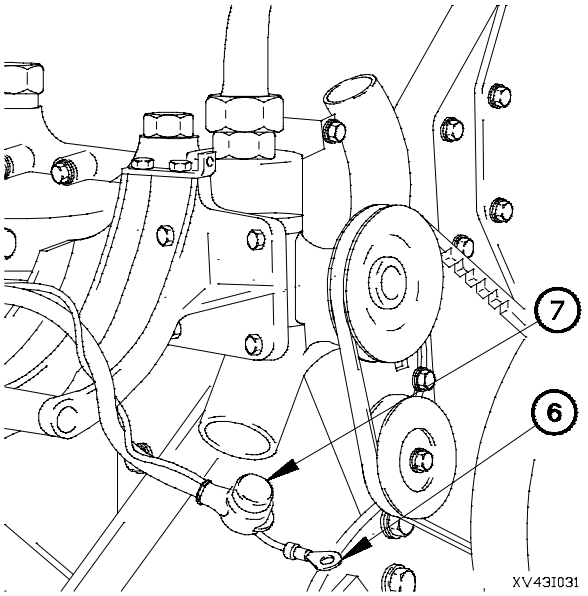


(2) Position belt adjusting arm (5) on alternator bracket (4) with two lockwashers (2) and screws (1).

(3) Tighten two screws (1) to 25-32 lb-ft (35-43 N·m).

(4) Remove terminal lug TL6 (6) from dust boot (7).





NOTE

Retain 24vdc and 12vdc cable assemblies for future installation.

(5) Remove three screws (8), washers (9), clamps (10), 24vdc cable (11), and 12vdc cable (12) from air inlet manifold (13).

(6) Remove three clamps (10) from 24 vdc cable (11) and 12 vdc cable (12).

(7) Remove self-locking nut (14) and washer (15) from alternator (16).

CAUTION

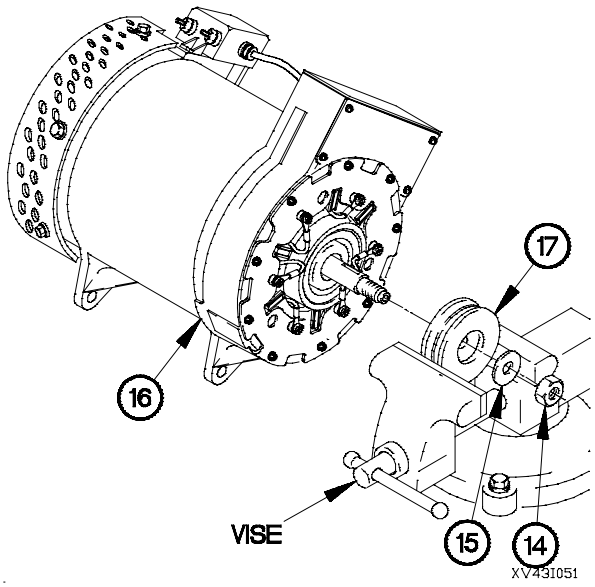
Ensure pulley does not contact wires, terminal lugs, or terminal screws on front of alternator. Failure to comply may result in damage to equipment.

(8) Position pulley (17) on alternator (16) with washer (15) and self-locking nut (14).

(9) Position pulley (17) in vise.

(10) Tighten self-locking nut (14) to 106-130 lb-ft (144-176 N·m).

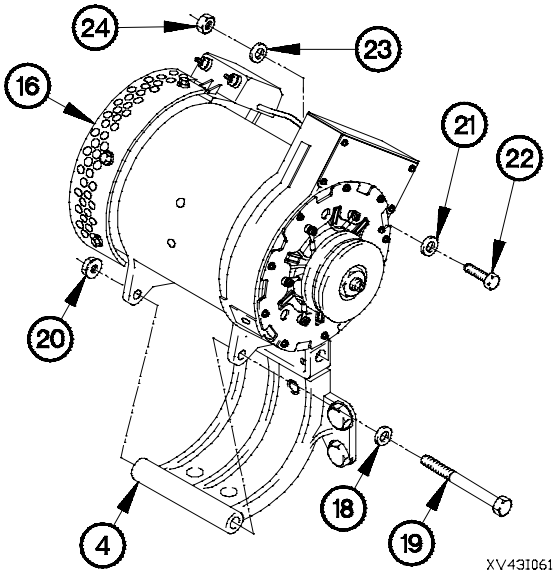
(11) Remove pulley (17) from vise.



20-54. 200 AMP ALTERNATOR KIT INSTALLATION (CONT)

WARNING

200 amp alternator weighs approximately 70 lbs (32 kgs). The aid of an assistant is required to install 200 amp alternator. Failure to comply may result in injury to personnel.



NOTE

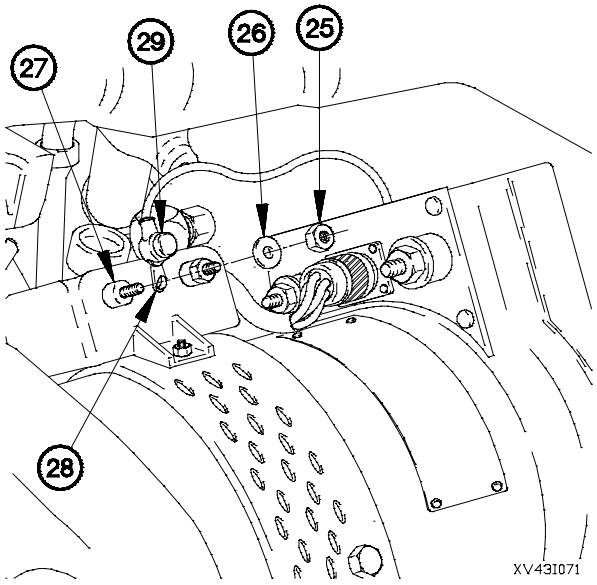
Step (12) requires the aid of an assistant.

(12) Position alternator (16) on alternator bracket (4) with washer (18), screw (19), and self-locking nut (20).

(13) Position washer (21), screw (22), washer (23), and self-locking nut (24) on alternator (16).

(14) Tighten self-locking nut (20) to 45-55 lb-ft (61-75 N·m).

(14.1) Tighten self-locking nut (24) to 25-32 lb-ft (35-43 N·m).



(15) Remove self-locking nut (25) and washer (26) from voltage regulator terminal (27).

(16) Position terminal lug TL110 (28) on voltage regulator terminal (27) with washer (26) and self-locking nut (25).

(17) Tighten self-locking nut (25) to 24 lb-in. (3 N·m).

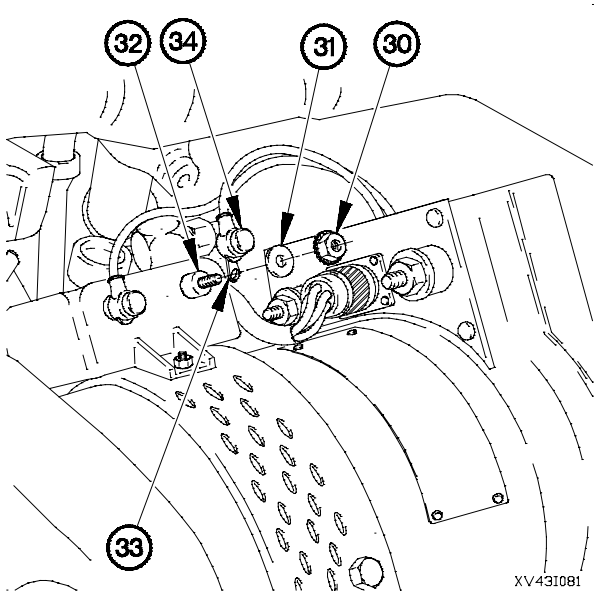
(18) Position dust boot (29) on terminal lug TL110 (28).

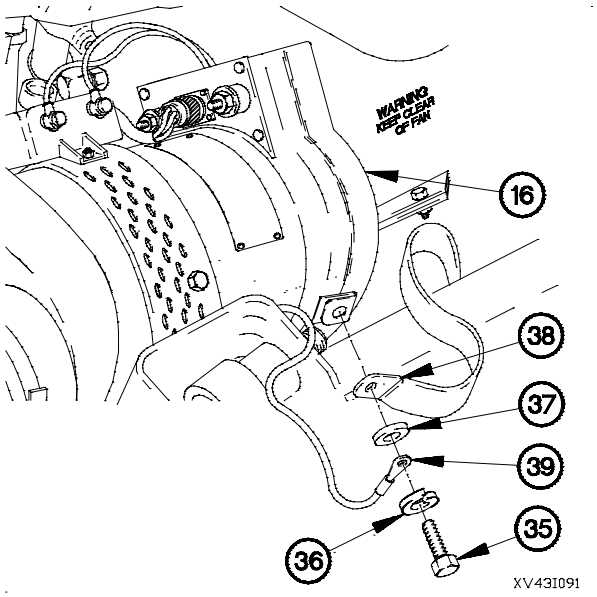
(19) Remove self-locking nut (30), and washer (31) from voltage regulator terminal (32).

(20) Position terminal lug TL35 (33) on voltage regulator terminal (32) with washer (31), and self-locking nut (30).

(21) Tighten self-locking nut (30) to 24 lb-in. (3 N·m).

(22) Position dust boot (34) on terminal lug TL35 (33).





(23) Remove screw (35), lockwasher (36), and washer (37) from alternator (16).

(24) Position ground strap (38), washer (37), and terminal lug TL5 (39) on alternator (16) with lockwasher (36) and screw (35).

(25) Tighten screw (35) to 60-84 lb-in. (7-9 N·m).

(26) Position 12vdc cable (40) and 24vdc cable (41) in engine compartment with terminal lugs TL2 (42) and TL60 (43) located next to alternator (16).

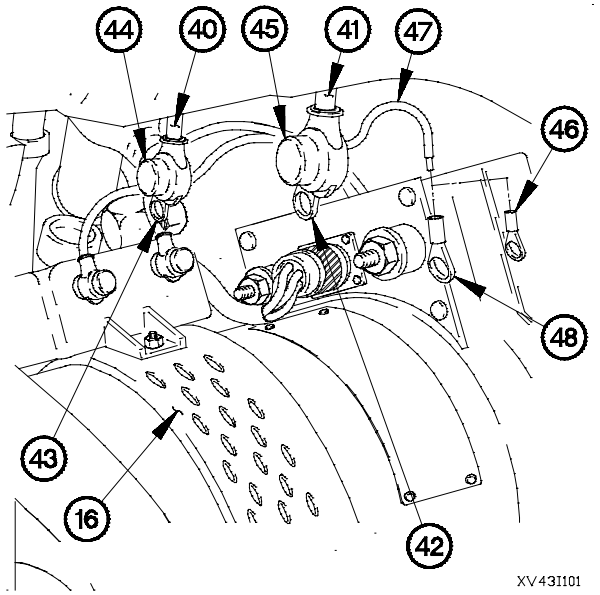
(27) Install dust boot (44) on 12vdc cable (40).

(28) Install dust boot (45) on 24vdc cable (41).

(29) Remove terminal lug TL6 (46) from wire (47). Discard terminal lug.

(30) Position wire (47) in dust boot (45) with terminal lug TL2 (42).

(31) Install terminal lug TL6 (48) on wire (47).



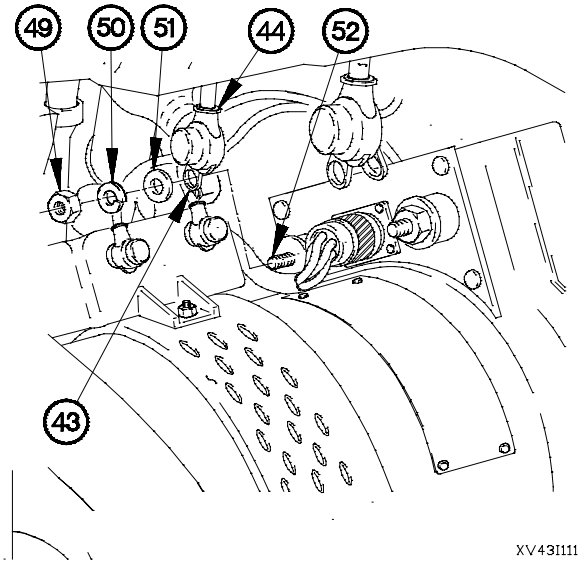
20-54. 200 AMP ALTERNATOR KIT INSTALLATION (CONT)

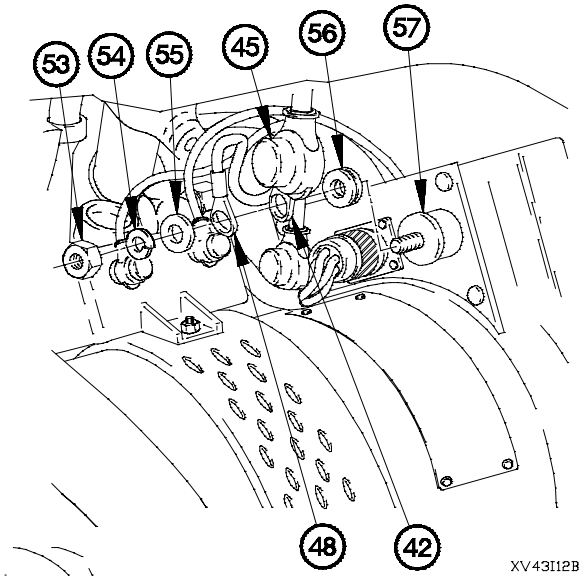
(32) Remove nut (49), lockwasher (50), and washer (51) from alternator terminal (52).

(33) Position terminal lug TL60 (43) on alternator terminal (52) with washer (51), lockwasher (50), and nut (49).

(34) Tighten nut (49) to 156-180 lb-in. (17-21 N·m).

(35) Position dust boot (44) on terminal lug TL60 (43).





(36) Remove nut (53), lockwasher (54), insulation washer (55), and fuse link (56) from alternator terminal (57).

(37) Position fuse link (56), terminal lug TL2 (42) and TL6 (48), insulation washer (55), lockwasher (54), and nut (53) on alternator terminal (57).

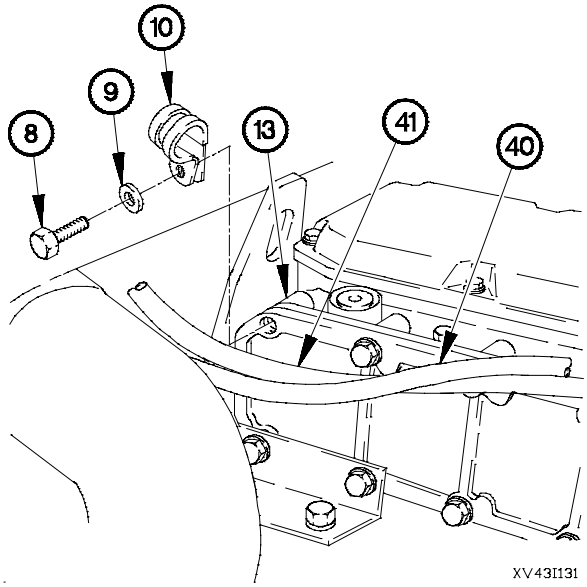
(38) Tighten nut (53) to 156-180 lb-in. (17-21 N·m).

(39) Position dust boot (45) on terminal lugs TL2 (42) and TL6 (48).

(40) Position three clamps (10) on 12vdc cable (40) and 24vdc cable (41).

(41) Position three clamps (10) on air inlet manifold (13) three with washers (9) and screws (8).

(42) Tighten three screws (8) to 22-27 lb-ft (31-37 N·m).

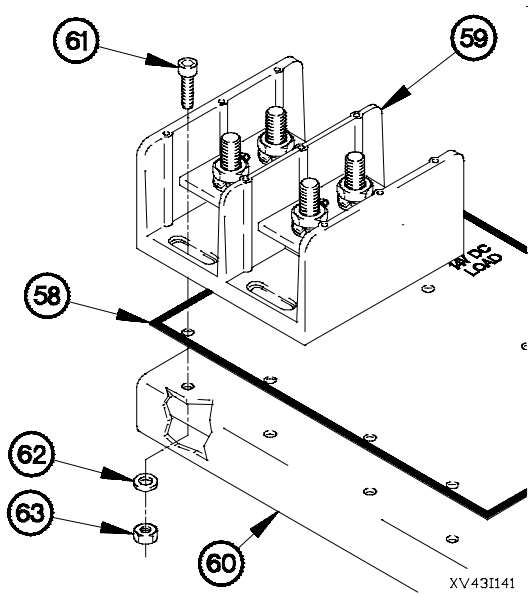


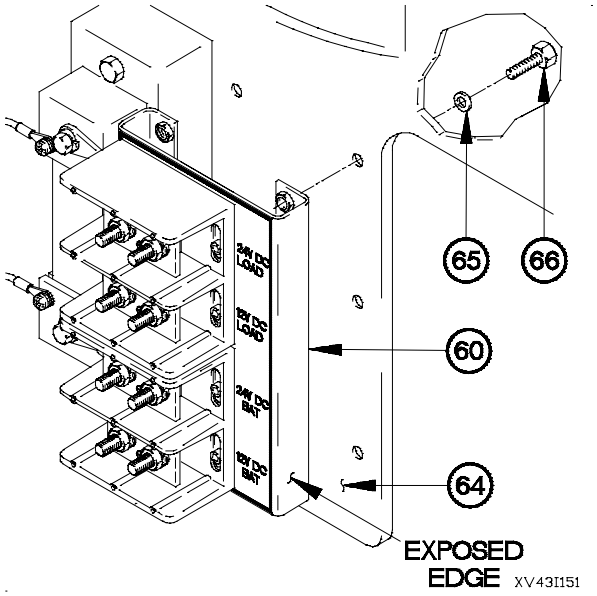
CAUTION

Position both terminal blocks loosely on mounting bracket and align correctly before tightening nuts. Failure to comply may result in damage to equipment.

(43) Position identification plate (58) and two terminal blocks (59) on bracket (60) with eight screws (61), washers (62), and self-locking nuts (63).

(44) Tighten eight self-locking nuts (63) to 48 lb-in. (5 N·m).





NOTE

- Terminal blocks are not centered on bracket. Position bracket on spare tire retainer with exposed edge of ident-ification plate toward cab.
- Step (45) requires the aid of an assistant.

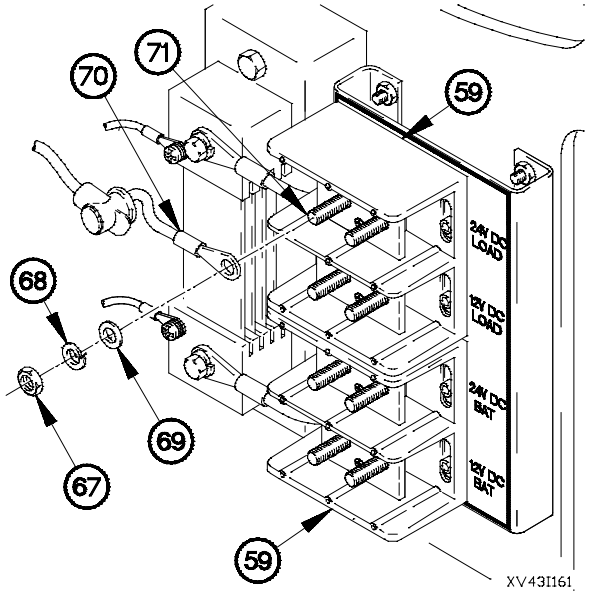
(45) Position bracket (60) on spare tire retainer (64) with four washers (65) and screws (66).

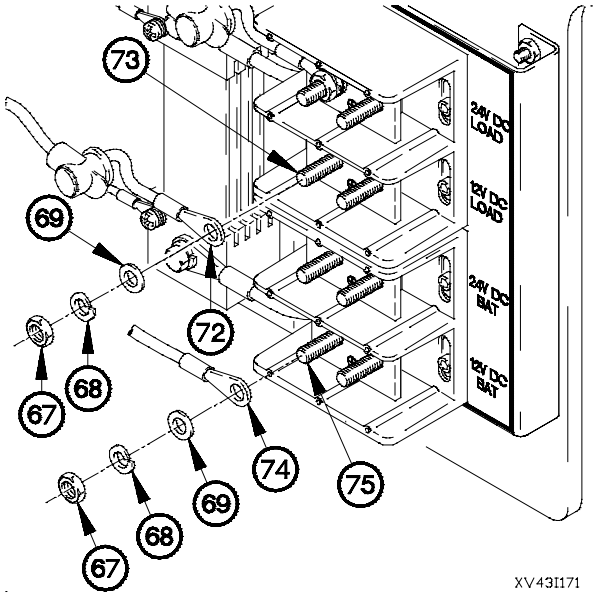
(46) Tighten four screws (66) to 48 lb-in. (5 N·m).

20-54. 200 AMP ALTERNATOR KIT INSTALLATION (CONT)

(47) Remove eight nuts (67), lockwashers (68), and washers (69) from two terminal blocks (59).

(48) Position terminal lug TL44 (70) on terminal block terminal (71) with washer (69), lockwasher (68), and nut (67).

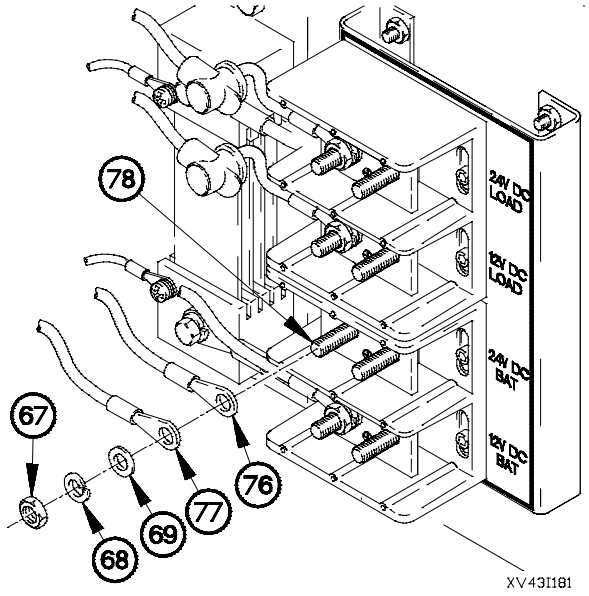




(49) Position terminal lug TL80 (72) on terminal block terminal (73) with washer (69), lockwasher (68), and nut (67).

(50) Position terminal lug TL47 (74) on terminal block terminal (75) with washer (69), lockwasher (68), and nut (67).

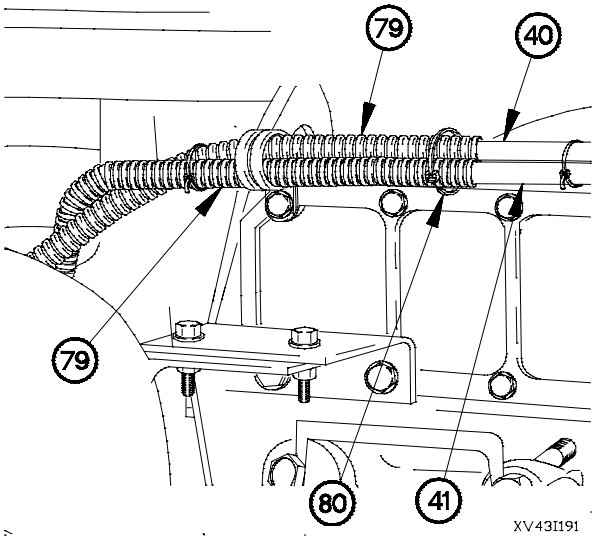
(51) Position terminal lugs TL36 (76) and TL37 (77) on terminal block terminal (78) with washer (69), lockwasher (68), and nut (67).

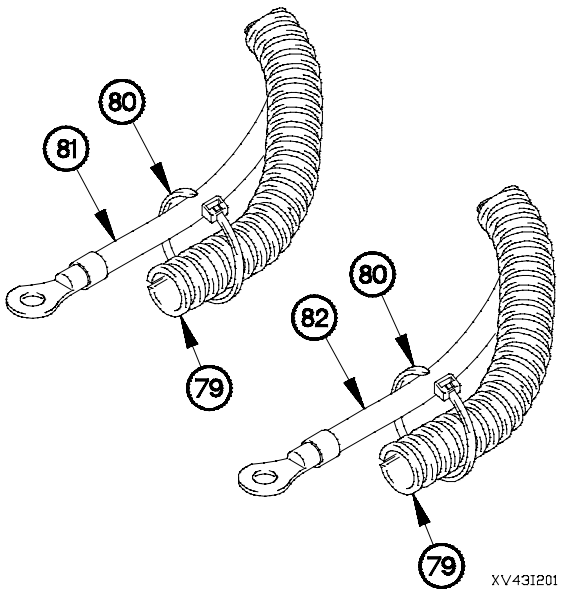


(52) Install 17.7 in. (45.0 cm) of convoluted tubing (79) on 12vdc cable (40).

(53) Install 19.6 in. (50.0 cm) of convoluted tubing (79) on 24vdc cable (41).

(54) Install three plastic cable ties (80) on convoluted tubing (79).





NOTE

24 vdc load cable terminates with terminal lugs TL167 and TL169. 24 vdc battery cable terminates with terminal lugs TL166 and TL168.

(55) Install 21.6 in. (55.5 cm) of convoluted tubing (79) on 24vdc load cable (81).

(56) Install 21.5 in. (55.0 cm) of convoluted tubing (79) on 24vdc battery cable (82).

(57) Install plastic cable ties (80) on convoluted tubing (79).

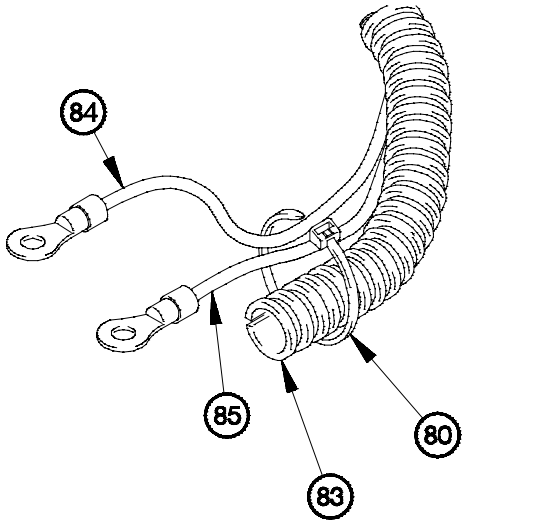
20-54. 200 AMP ALTERNATOR KIT INSTALLATION (CONT)

NOTE

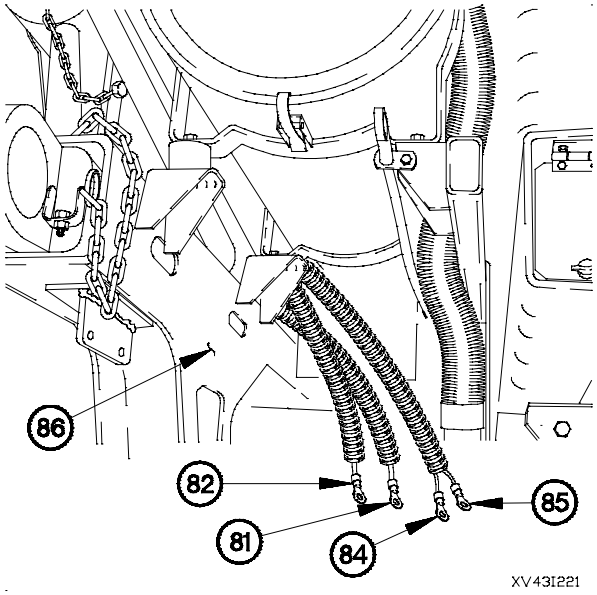
- 12 vdc load cable terminates with terminal lugs TL172 and TL174. 12 vdc battery cable terminates with terminal lugs TL171 and TL173.
- Position terminal lugs TL171 and TL172 at the same end.

(58) Install 21.6 in. (55.0 cm) of convoluted tubing (83) on 12vdc load cable (84) and 12vdc battery cable (85).

(59) Install plastic cable ties (80) on convoluted tubing (83).



XV43I211



XV43I221

NOTE

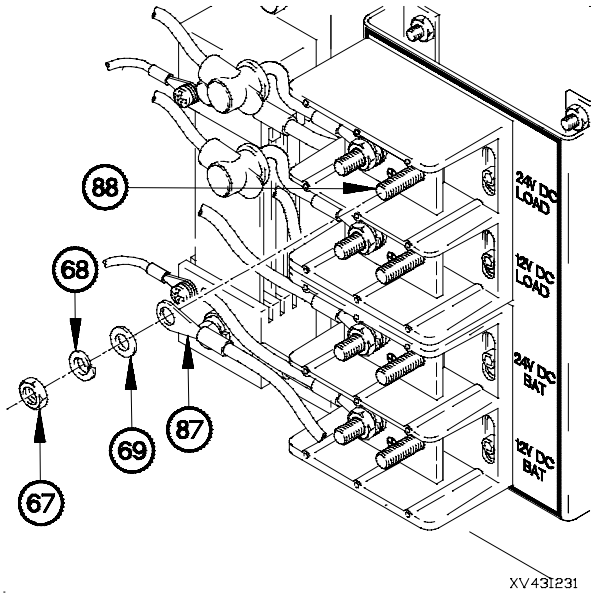
Position 24vdc load cable, 24vdc battery cable, 12vdc load cable, and 12vdc battery cable with terminal lugs TL167, TL172, TL166, and TL171 at terminal block.

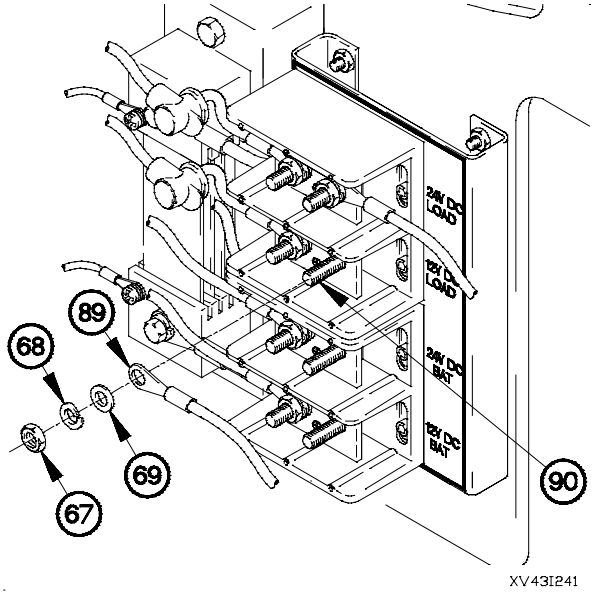
(60) Position 24vdc load cable (81) on rear side of front lifting beam (86).

(61) Position 24vdc battery cable (82) on rear side of front lifting beam (86).

(62) Position 12vdc load cable (84) and 12vdc battery cable (85) on rear side of front lifting beam (86).

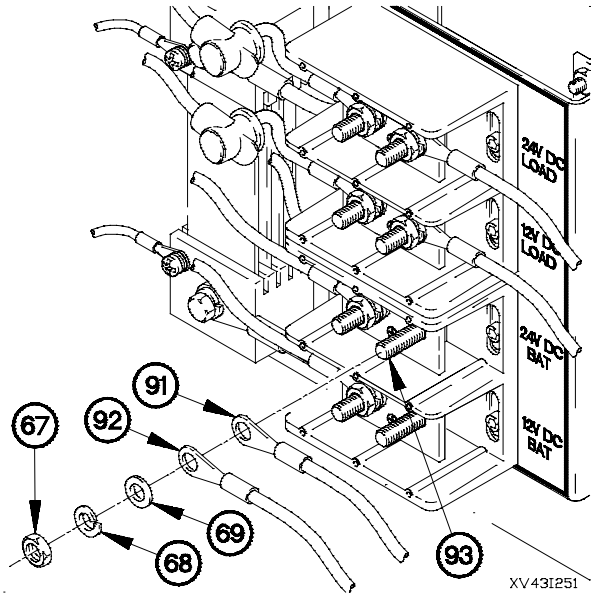
(63) Position terminal lug TL167 (87) on terminal block terminal (88) with washer (69), lockwasher (68), and nut (67).





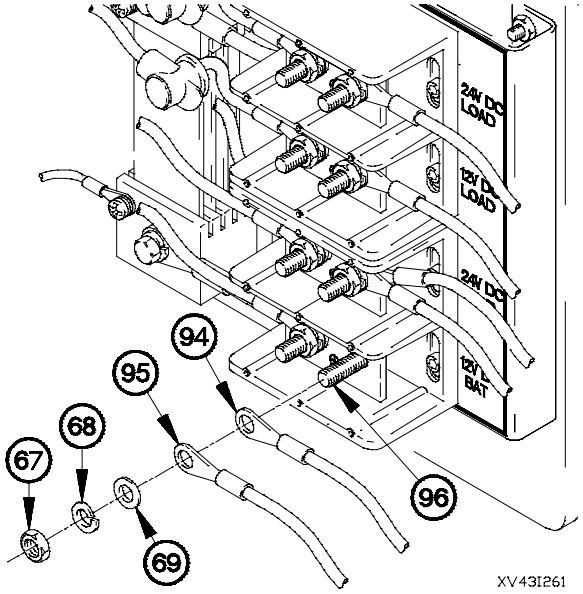
(64) Position terminal lug TL172 (89) on terminal block terminal (90) with washer (69), lockwasher (68), and nut (67).

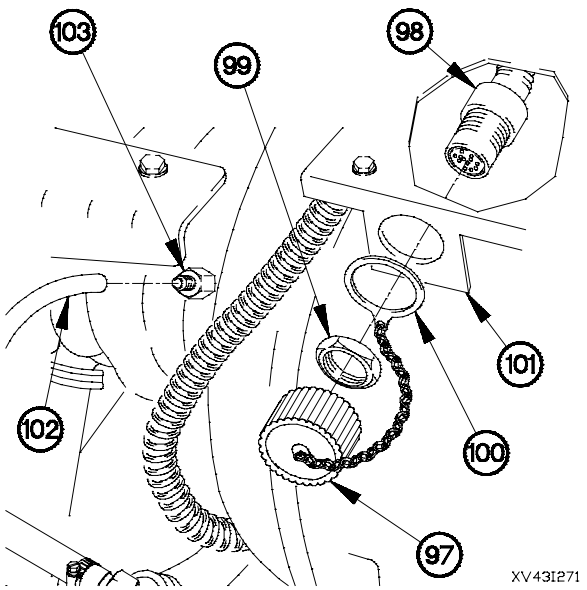
(65) Position terminal lugs TL1 (91) and TL166 (92) on terminal block terminal (93) with washer (69), lockwasher (68), and nut (67).



20-54. 200 AMP ALTERNATOR KIT INSTALLATION (CONT)

(66) Position terminal lugs TL61 (94) and TL171 (95) on terminal block terminal (96) with washer (69), lockwasher (68), and nut (67).





(67) Remove dust cap (97) from connector J106 (98).

(68) Remove nut (99), dust cap lanyard (100), and connector J106 (98) from chemical detection unit mounting bracket (101).

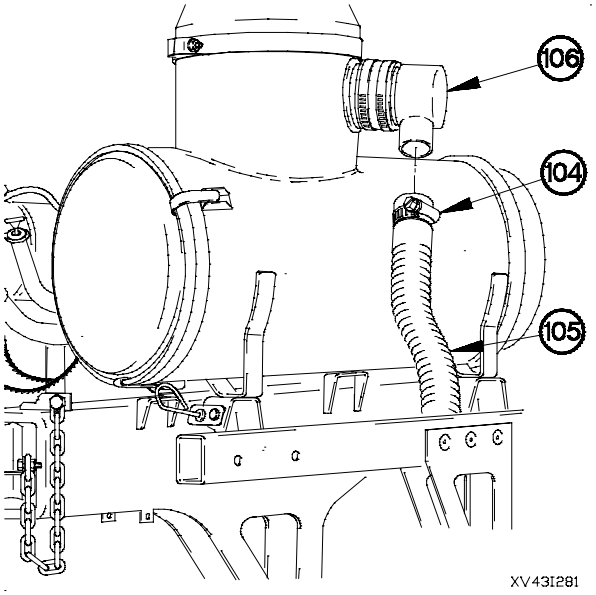
(69) Disconnect air filter restriction gauge hose (102) from air flow sensor (103).

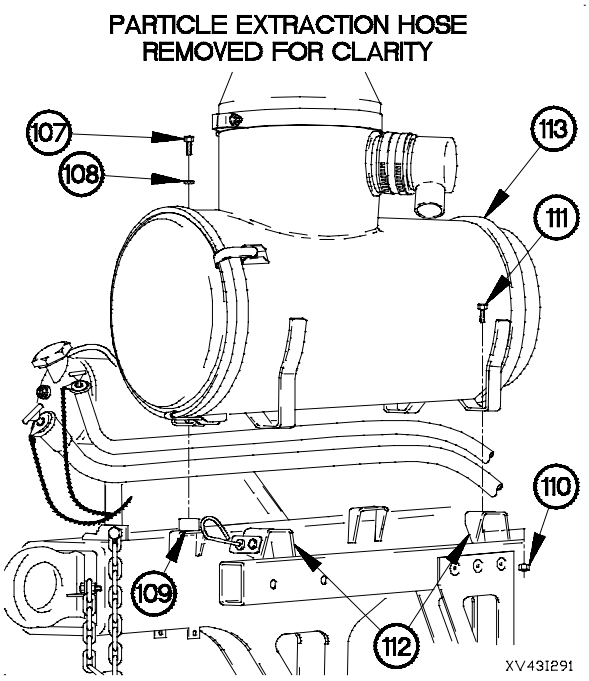
NOTE

Perform steps (70) through (104) on all models except M1081.

(70) Loosen clamp (104) on particle extraction hose (105).

(71) Remove particle extraction hose (105) from adapter (106).

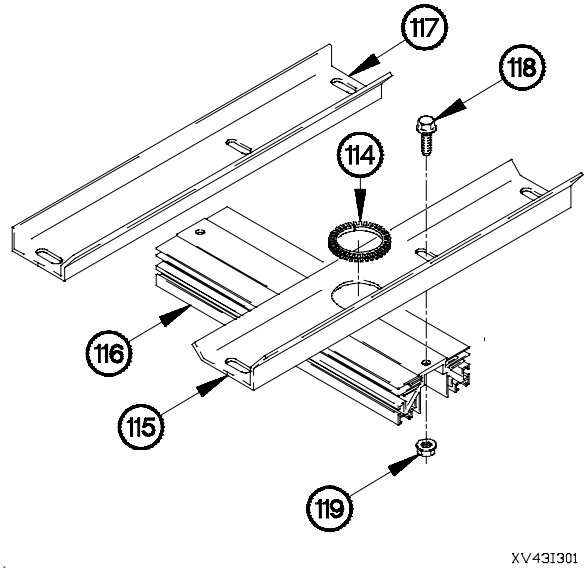




(72) Remove screw (107) and washer (108) from resilient mount (109).

(73) Remove three self-locking nuts (110) and screws (111) from mounting brackets (112). Discard self-locking nuts.

(74) Remove intake air cleaner housing (113) from mounting brackets (112) and resilient mount (109).



(75) Cut grommet (114) to 8 1/4 in. (210 mm).

(76) Install grommet (114) in bracket (115).

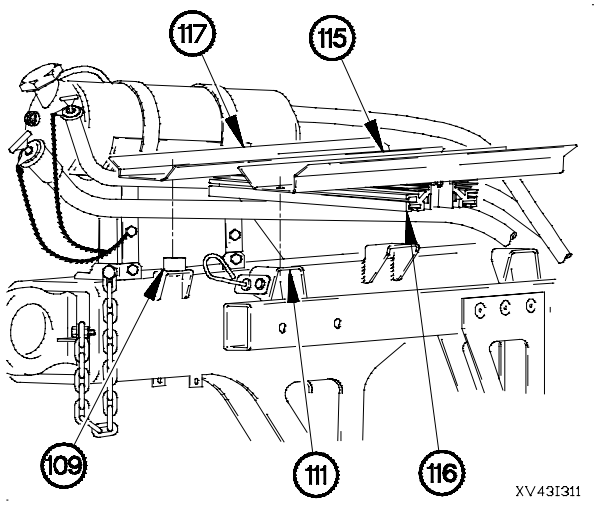
NOTE

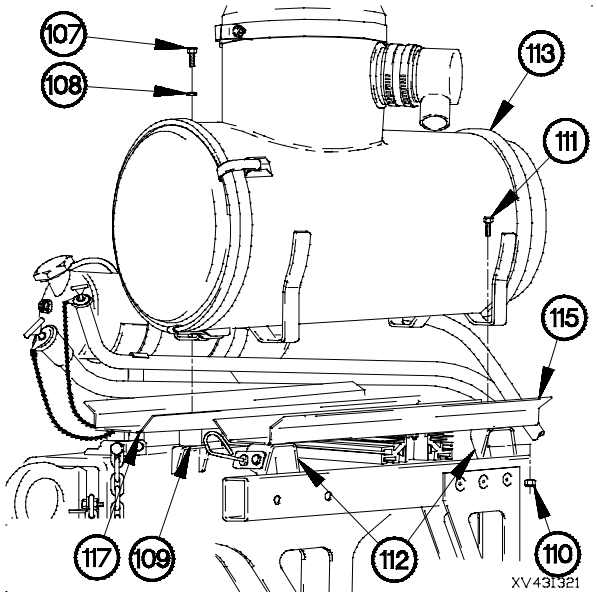
Position reverse polarity relay 24V terminals toward front of vehicle.

(77) Position reverse polarity relay (116) on brackets (115 and 117) with two screws (118) and self-locking nuts (119).

20-54. 200 AMP ALTERNATOR KIT INSTALLATION (CONT)

(78) Position reverse polarity relay (116) and brackets (115 and 117) on mounting brackets (112) and resilient mount (109) with bracket (115) toward rear of vehicle.





(79) Position intake air cleaner housing (113) on brackets (115 and 117).

(80) Position washer (108) and screw (107) in resilient mount (109).

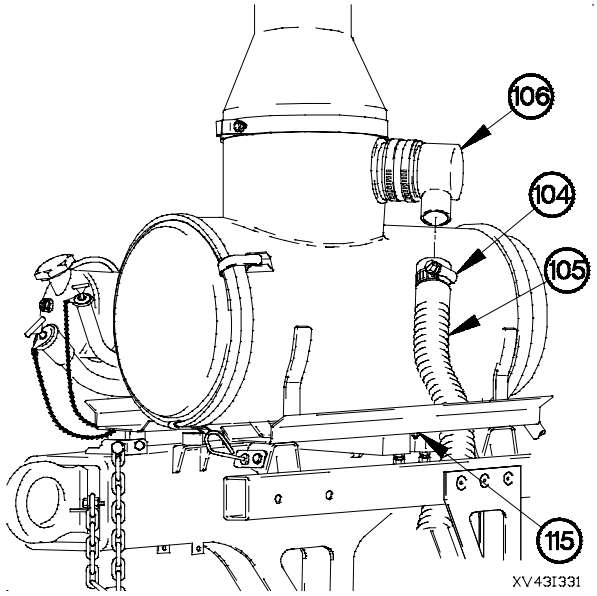
(81) Position three screws (111) and self-locking nuts (110) in mounting brackets (112).

(82) Tighten screw (107) to 26-31 lb-ft (35-42 N·m).

(83) Tighten three self-locking nuts (110) to 35-51 lb-ft (47-69 N·m).

(84) Position particle extraction hose (105) through bracket (115).

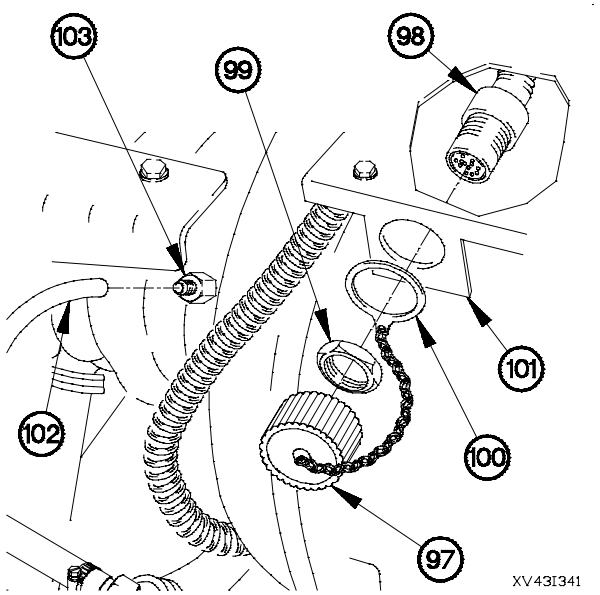
(85) Install particle extraction hose (105) on adapter (106) with clamp (104).

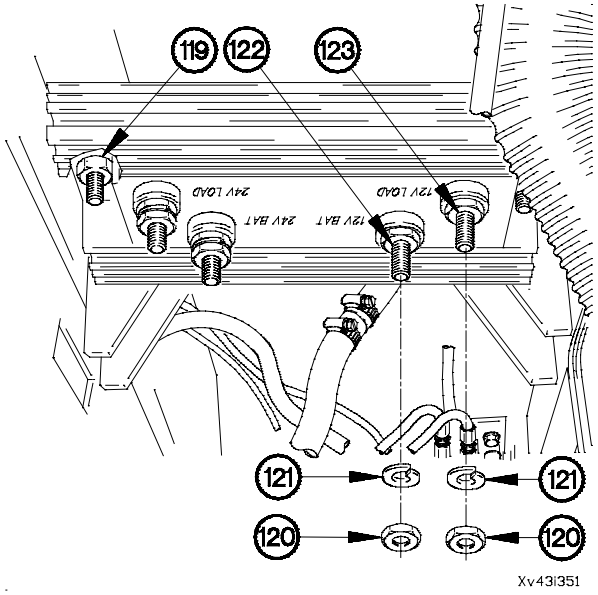


(86) Connect air filter restriction gauge hose (102) to air flow sensor (103).

(87) Install connector J106 (98) and dust cap lanyard (100) on chemical detection unit mounting bracket (101) with nut (99).

(88) Install dust cap (97) on connector J106 (98).



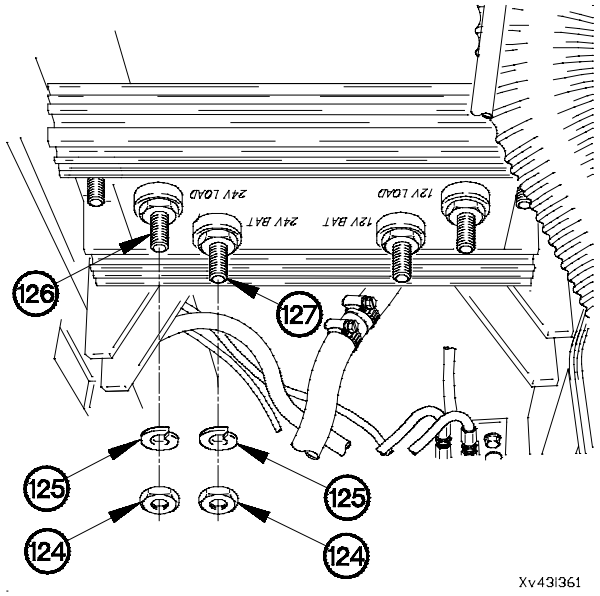


NOTE

Step (89) requires the aid of an assistant.

(89) Tighten two self-locking nuts (119) to 25-31 lb-ft (35-43 N·m).

(90) Remove two nuts (120) and lockwashers (121) from reverse polarity relay 12V BAT terminal (122) and 12V LOAD terminal (123).



(91) Remove two nuts (124) and lockwashers (125) from reverse polarity relay 24V LOAD terminal (126) and 24V BAT terminal (127).

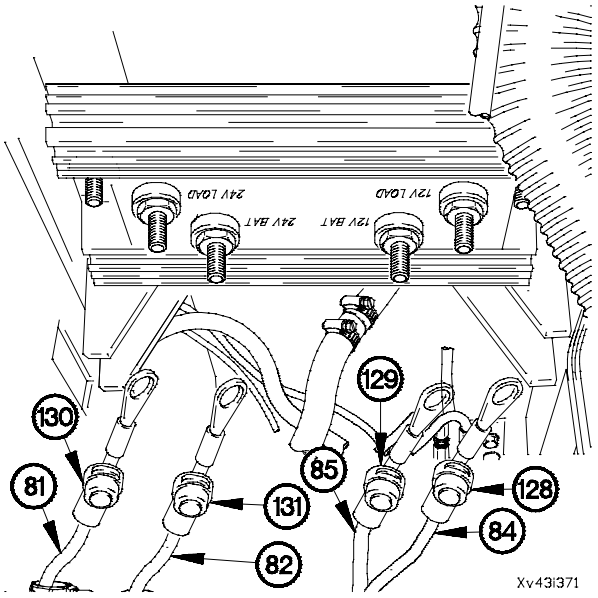
20-54. 200 AMP ALTERNATOR KIT INSTALLATION (CONT)

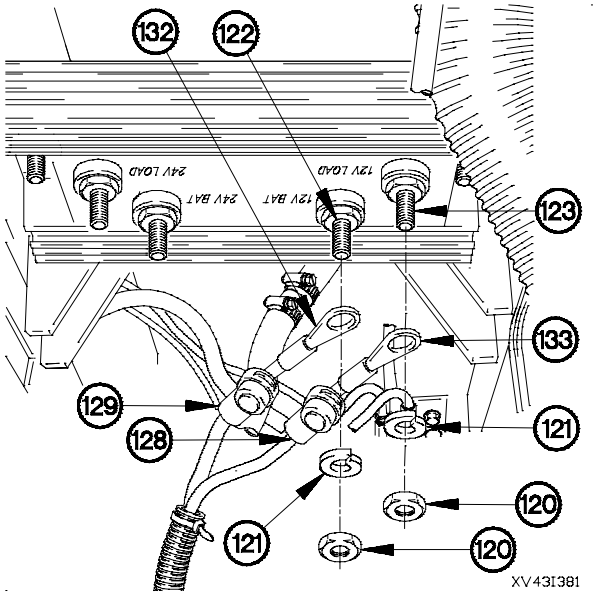
(92) Install dust boot (128) on 12vdc load cable (84).

(93) Install dust boot (129) on 12vdc battery cable (85).

(94) Install dust boot (130) on 24vdc load cable (81).

(95) Install dust boot (131) on 24vdc battery cable (82).





NOTE

Steps (96) through (101) require the aid of an assistant.

(96) Position terminal lug TL173 (132) on reverse polarity relay 12V BAT terminal (122) with lockwasher (121) and nut (120).

(97) Position terminal lug TL174 (133) on reverse polarity relay 12V LOAD terminal (123) with lockwasher (121) and nut (120).

(98) Tighten two nuts (120) to 108-132 lb-in. (13-15 N·m).

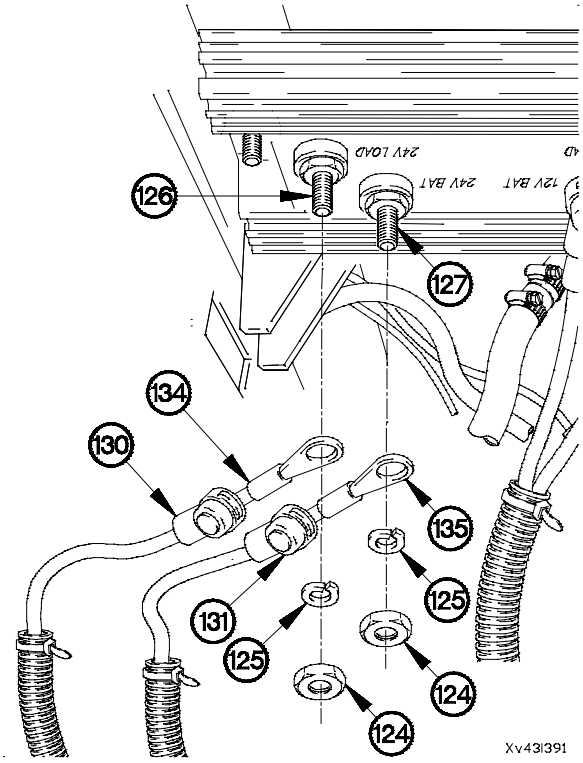
(99) Position dust boots (128 and 129) on terminal lugs TL173 (132) and TL174 (133).

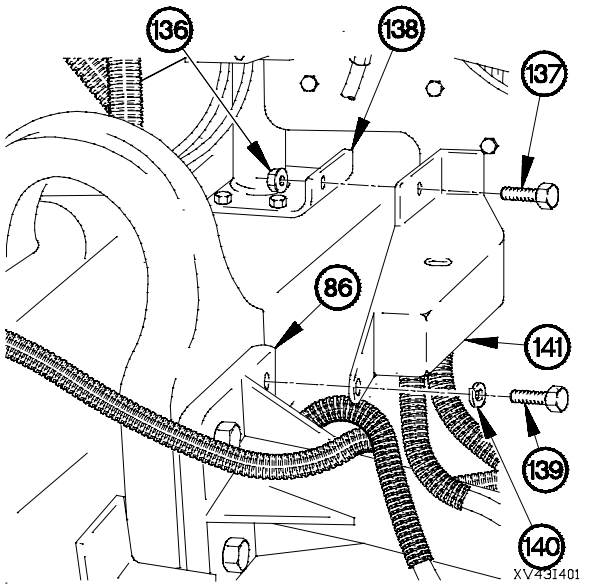
(100) Position terminal lug TL169 (134) on reverse polarity relay 24V LOAD terminal (126) with lockwasher (125) and nut (124).

(101) Position terminal lug TL168 (135) on reverse polarity relay 24V BAT terminal (127) with lockwasher (125) and nut (124).

(102) Tighten two nuts (124) to 27-33 lb-ft (37-47 N·m).

(103) Install dust boots (130 and 131) on terminal lugs TL169 (134) and TL168 (135).





NOTE

Perform steps (104) through (131) on M1081 only.

(104) Remove self-locking nut (136) and screw (137) from spare tire retainer (138). Discard self-locking nut.

(105) Remove screw (139) and spring washer (140) from front lifting beam (86). Discard spring washer.

(106) Position bracket (141) on spare tire retainer (138) with screw (137) and self-locking nut (136).

(107) Position bracket (141) on front lifting beam (86) with spring washer (140) and screw (139).

(108) Tighten self-locking nut (136) to 43-51 lb-ft (58-69 N·m).

(109) Tighten screw (139) to 43-51 lb-ft (58-69 N·m).

20-54. 200 AMP ALTERNATOR KIT INSTALLATION (CONT)

(110) Remove self-locking nut (142) and screw (143) from spare tire retainer (138). Discard self-locking nut.

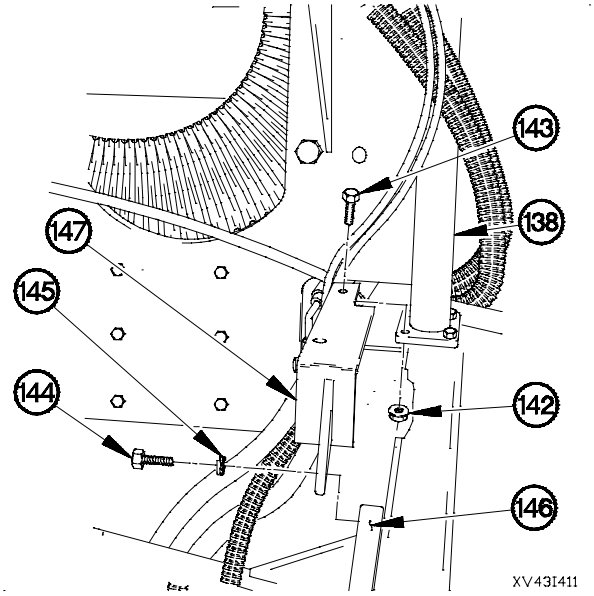
(111) Remove screw (144) and spring washer (145) from rear support brace (146). Discard spring washer.

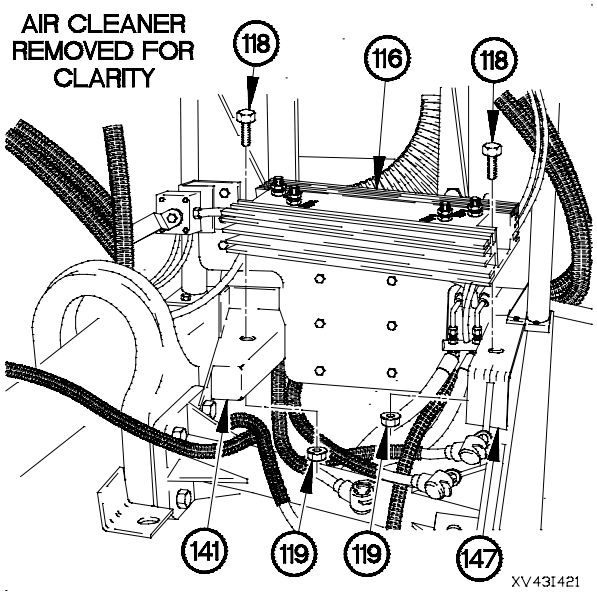
(112) Position bracket (147) on spare tire retainer (138) with screw (143) and self-locking nut (142).

(113) Position bracket (147) on rear support brace (146) with spring washer (145) and screw (144).

(114) Tighten self-locking nut (142) to 43-51 lb-ft (58-69 N·m).

(115) Tighten screw (144) to 43-51 lb-ft (58-69 N·m).





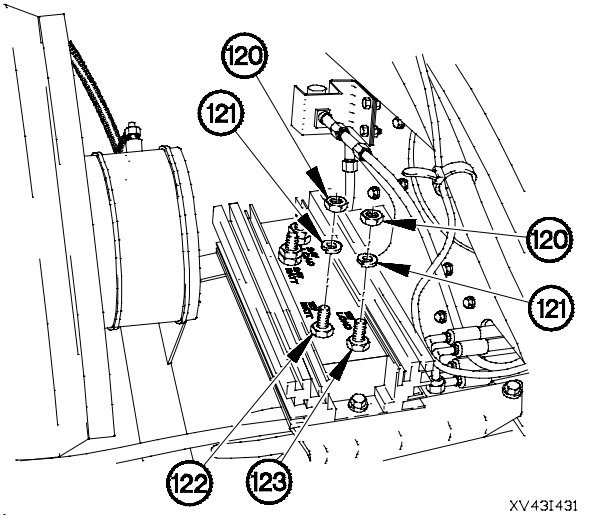
NOTE

Position reverse polarity relay 24V terminals toward front of vehicle.

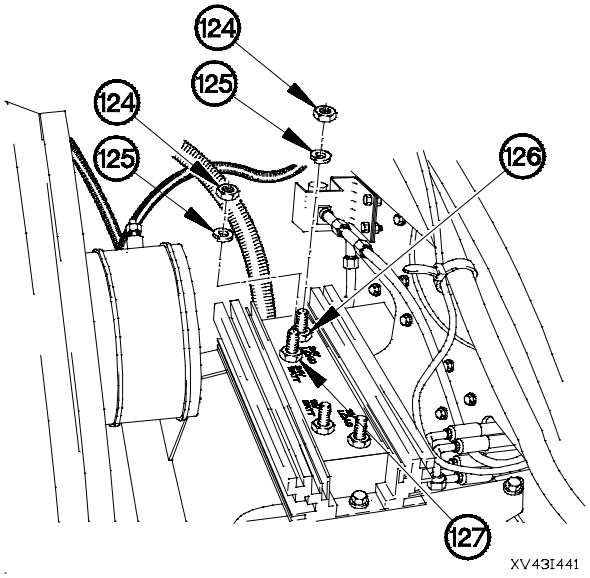
(116) Position reverse polarity relay (116) on brackets (141 and 147) with two screws (118) and self-locking nuts (119).

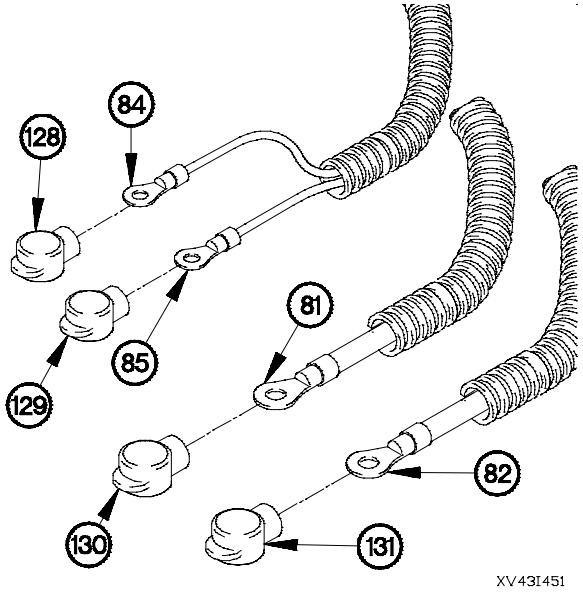
(117) Tighten two self-locking nuts (119) to 25-31 lb-ft (35-43 N·m).

(118) Remove two nuts (120) and lockwashers (121) from reverse polarity relay 12V BAT terminal (122) and 12V LOAD terminal (123).



(119) Remove two nuts (124) and lockwashers (125) from reverse polarity relay 24V LOAD terminal (126) and 24V BAT terminal (127).





(120) Install dust boot (128) on 12vdc load cable (84).

(121) Install dust boot (129) on 12vdc battery cable (85).

(122) Install dust boot (130) on 24vdc load cable (81).

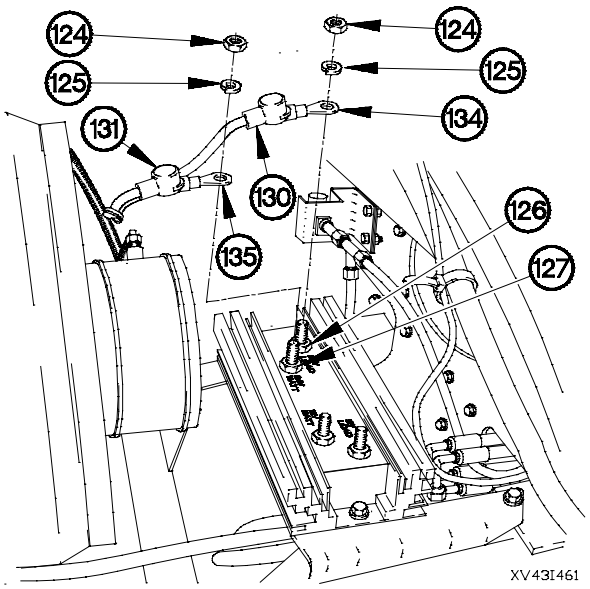
(123) Install dust boot (131) on 24vdc battery cable (82).

(124) Position terminal lug TL169 (134) on reverse polarity relay 24V LOAD terminal (126) with lockwasher (125) and nut (124).

(125) Position terminal lug TL168 (135) on reverse polarity relay 24V BAT terminal (127) with lockwasher (125) and nut (124).

(126) Tighten two nuts (124) to 30 lb-ft (41 N·m).

(127) Position dust boots (130 and 131) on terminal lugs TL169 (134) and TL168 (135).



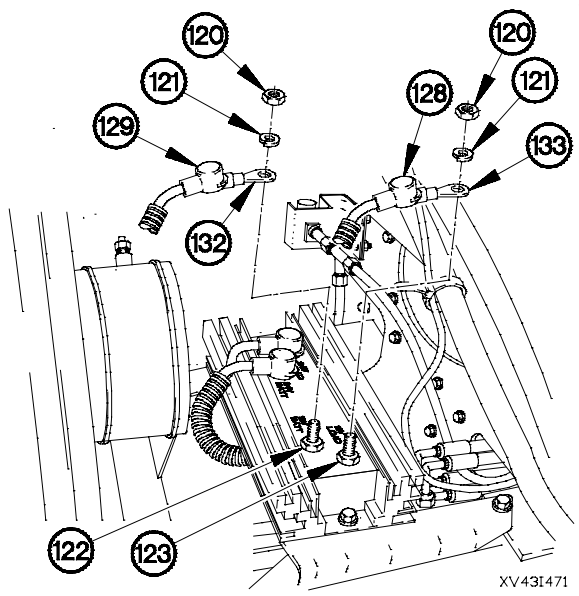
20-54. 200 AMP ALTERNATOR KIT INSTALLATION (CONT)

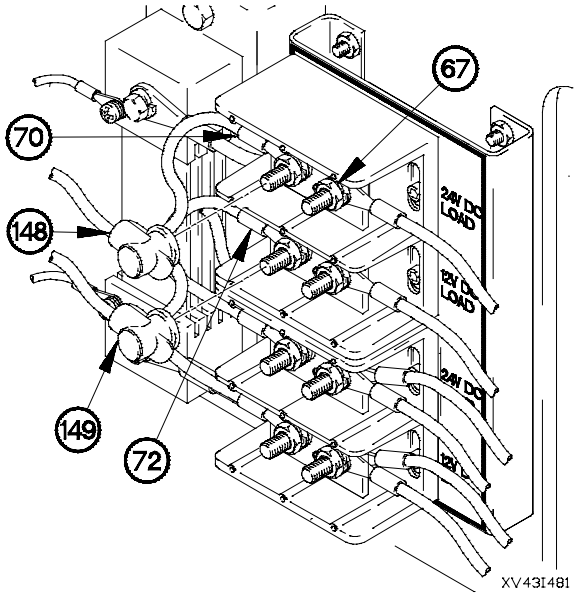
(128) Position terminal lug TL173 (132) on reverse polarity relay 12V BAT terminal (122) with lockwasher (121) and nut (120).

(129) Position terminal lug TL174 (133) on reverse polarity relay 12V LOAD terminal (123) with lockwasher (121) and nut (120).

(130) Tighten two nuts (120) to 108-132 lb-in. (13-15 N·m).

(131) Position dust boots (128 and 129) on terminal lugs TL173 (132) and TL174 (133).





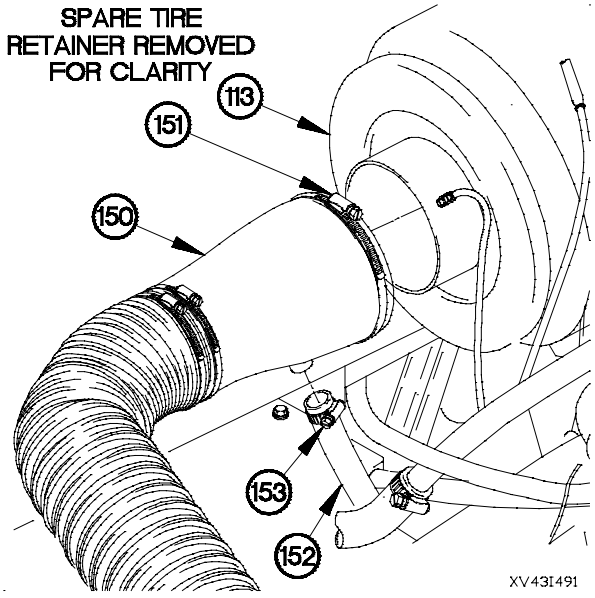
(132) Tighten eight nuts (67) to 15-19 lb-ft (21-25 N·m).

(133) Position dust boots (148 and 149) on terminal lugs TL44 (70) and TL80 (72).

(134) Position intake air cleaner boot (150) on intake air cleaner housing (113) with clamp (151).

(135) Position air compressor intake hose (152) on intake air cleaner boot (150) with clamp (153).

(136) Tighten clamps (151 and 153) to 36-48 lb-in. (4-5 N·m).



b. Follow-On Maintenance.

(1) Install alternator belts (para 7-3).

(2) Raise spare tire (TM 9-2320-365-10).

(3) Connect batteries (para 7-48).

(4) Start engine (TM 9-2320-365-10).

(5) Check alternator operation (TM 9-2320-365-10).

(6) Shut down engine (TM 9-2320-365-10).

End of Task.

20-55. 200 AMP ALTERNATOR KIT REMOVAL

This task covers:

a. Removal

b. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Batteries disconnected (para 7-48).
Spare tire lowered (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Vise, Machinist (Item 46, Appendix C)
Caps, Vise Jaw (Item 4, Appendix C)

Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Lockwasher (2) (Item 66, Appendix G)
Lockwasher (2) (Item 65, Appendix G)
Nut, Self-Locking (2) (Item 139, Appendix G)
Nut, Self-Locking (M1081) (2) (Item 140, Appendix G)

Materials/Parts
Washer, Spring (M1081) (2) (Item 280, Appendix G)
Nut, Self-Locking (all models except M1081) (3) (Item 140, Appendix G)
Lockwasher (8) (Item 92, Appendix G)
Nut, Self-Locking (8) (Item 146, Appendix G)
Lockwasher (2) (Item 101, Appendix G)
Terminal, Lug (Item 265, Appendix G)
Terminal, Lug (Item 264, Appendix G)
Lockwasher (Item 98, Appendix G)
Nut, Self-Locking (Item 130, Appendix G)
Nut, Self-Locking (Item 131, Appendix G)
Nut, Self-Locking (Item 129, Appendix G)
Lockwasher (2) (Item 92, Appendix G)

Personnel Required
(2)

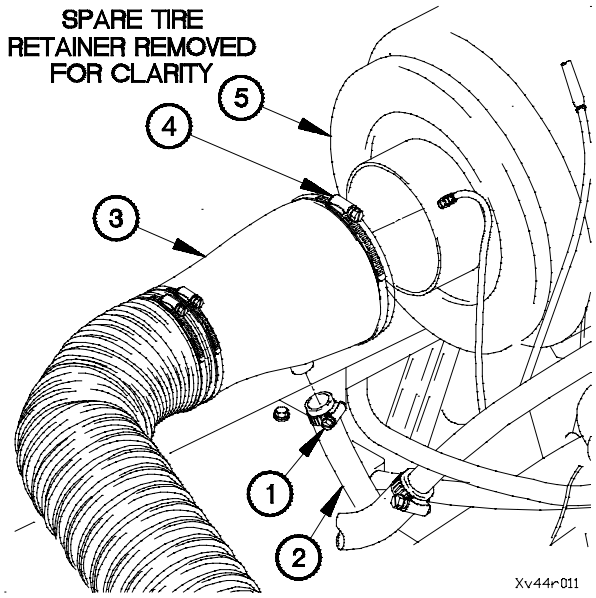
a. Removal.

(1) Loosen clamp (1) on air compressor intake hose (2).

(2) Remove air compressor intake hose (2) from intake air cleaner boot (3).

(3) Loosen clamp (4) on intake air cleaner boot (3).

(4) Remove intake air cleaner boot (3) from intake air cleaner housing (5).



NOTE

- Perform steps (5) through (27) on M1081.
- Remove plastic cable ties as required.

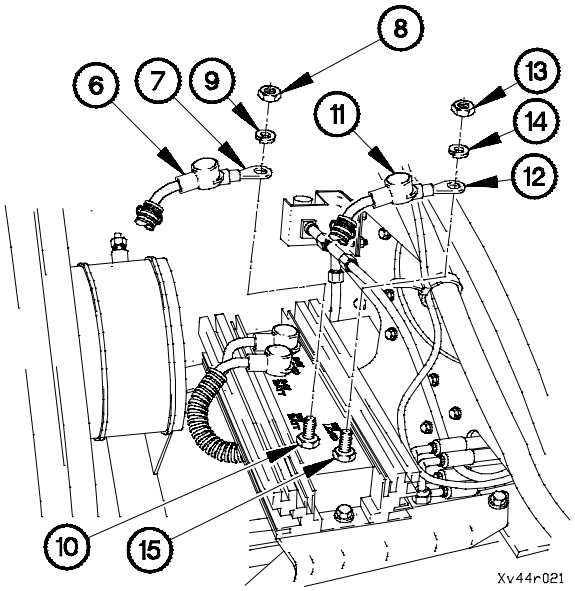
(5) Lift dust boot (6) on terminal lug TL173 (7).

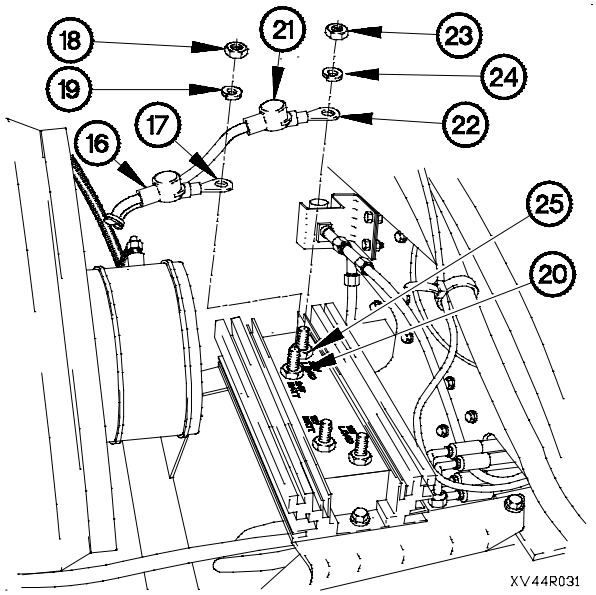
(6) Remove nut (8), lockwasher (9), and terminal lug TL173 (7) from reverse polarity relay 12V BAT terminal (10). Discard lockwasher.

(7) Lift dust boot (11) on terminal lug TL174 (12).

(8) Remove nut (13), lockwasher (14), and terminal lug TL174 (12) from reverse polarity relay 12V LOAD terminal (15). Discard lockwasher.

(9) Position lockwashers (9 and 14) and nuts (8 and 13) on reverse polarity relay 12V BAT terminal (10) and 12V LOAD terminal (15).





(10) Lift dust boot (16) on terminal lug TL168 (17).

(11) Remove nut (18), lockwasher (19), and terminal lug TL168 (17) from reverse polarity relay 24V BAT terminal (20). Discard lockwasher.

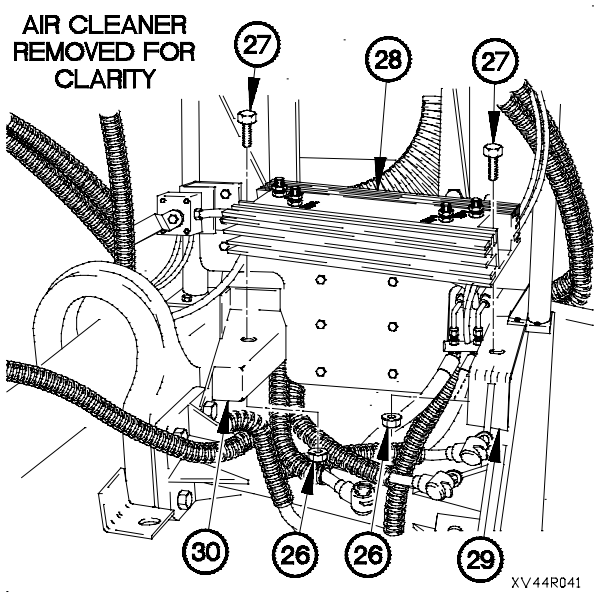
(12) Lift dust boot (21) on terminal lug TL169 (22).

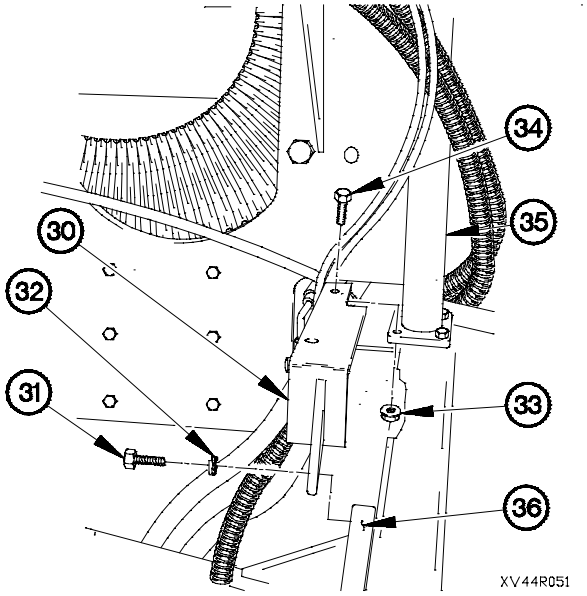
(13) Remove nut (23), lockwasher (24), and terminal lug TL169 (22) from reverse polarity relay 24V LOAD terminal (25). Discard lockwasher.

(14) Position lockwashers (19 and 24) and nuts (18 and 23) on reverse polarity relay 24V BAT terminal (20) and 24V LOAD terminal (25).

20-55. 200 AMP ALTERNATOR KIT REMOVAL (CONT)

(15) Remove two self-locking nuts (26), screws (27), and reverse polarity relay (28) from brackets (29 and 30). Discard self-locking nuts.





(16) Remove screw (31) and lockwasher (32) from bracket (30). Discard lockwasher.

(17) Remove self-locking nut (33), screw (34), and bracket (30) from spare tire retainer (35). Discard self-locking nut.

(18) Position screw (34) and self-locking nut (33) in spare tire retainer (35).

(19) Tighten self-locking nut (33) to 43-51 lb-ft (58-69 N·m).

(20) Position lockwasher (32) and screw (31) in rear support brace (36).

(21) Tighten screw (31) to 43-51 lb-ft (58-69 N·m).

(22) Remove screw (37) and lockwasher (38) from bracket (29). Discard lockwasher.

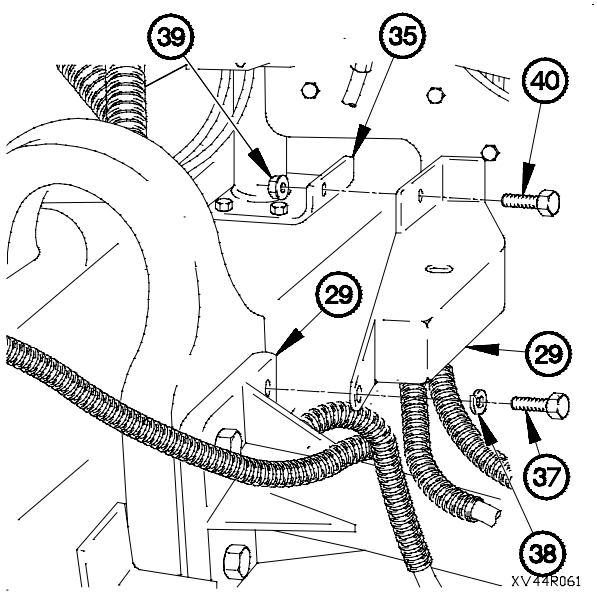
(23) Remove self-locking nut (39), screw (40), and bracket (29) from spare tire retainer (35). Discard self-locking nut.

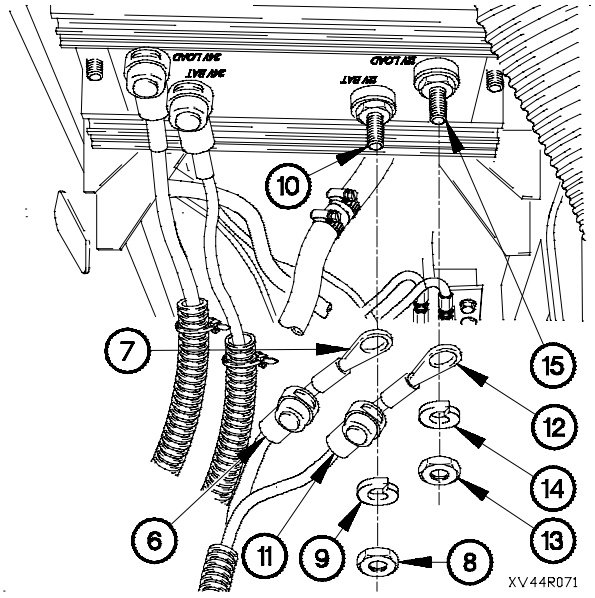
(24) Position screw (40) and self-locking nut (39) in spare tire retainer (35).

(25) Tighten self-locking nut (39) to 43-51 lb-ft (58-69 N·m).

(26) Position lockwasher (38) and screw (37) in front lifting beam (41).

(27) Tighten screw (37) to 43-51 lb-ft (58-69 N·m).





NOTE

- Perform steps (28) through (56) on all models except M1081.
- Remove plastic cable ties as required.

(28) Lift dust boot (6) on terminal lug TL173 (7).

(29) Remove nut (8), lockwasher (9), and terminal lug TL173 (7) from reverse polarity relay 12V BAT terminal (10). Discard lockwasher.

(30) Lift dust boot (11) on terminal lug TL174 (12).

(31) Remove nut (13), lockwasher (14), and terminal lug TL174 (12) from reverse polarity relay 12V LOAD terminal (15). Discard lockwasher.

(32) Position lockwashers (9 and 14) and nuts (8 and 13) on reverse polarity relay 12V BAT terminal (10) and 12V LOAD terminal (15).

20-55. 200 AMP ALTERNATOR KIT REMOVAL (CONT)

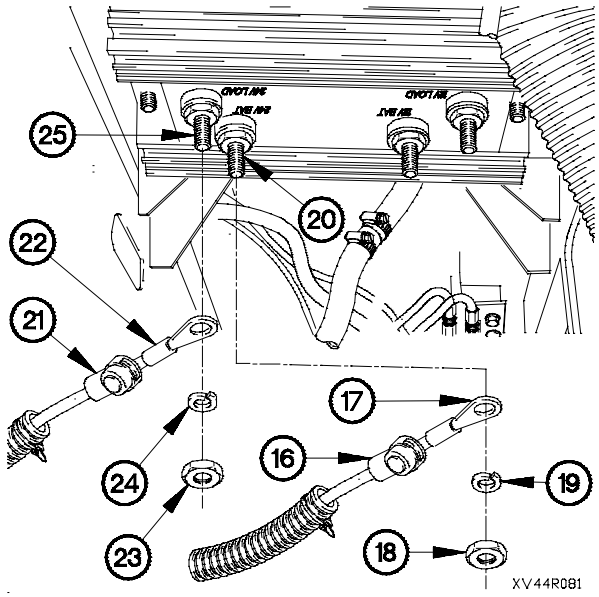
(33) Lift dust boot (16) on terminal lug TL168 (17).

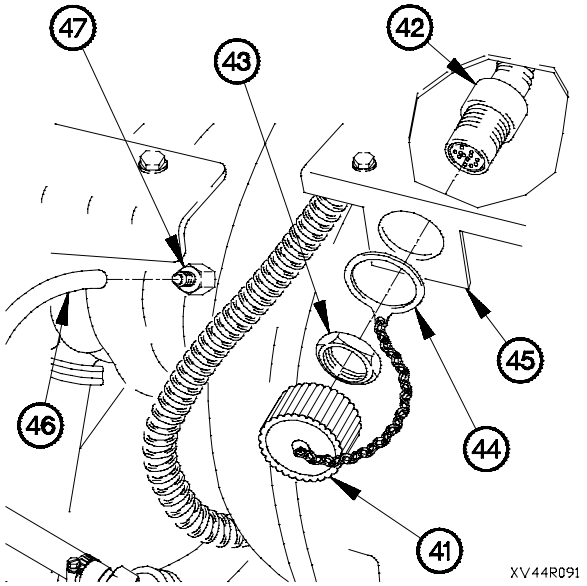
(34) Remove nut (18), lockwasher (19), and terminal lug TL168 (17) from reverse polarity relay 24V BAT terminal (20). Discard lockwasher.

(35) Lift dust boot (21) on terminal lug TL169 (22).

(36) Remove nut (23), lockwasher (24), and terminal lug TL169 (22) from reverse polarity relay 24V LOAD terminal (25). Discard lockwasher.

(37) Position lockwashers (19 and 24) and nuts (18 and 23) on reverse polarity relay 24V BAT terminal (20) and 24V LOAD terminal (25).

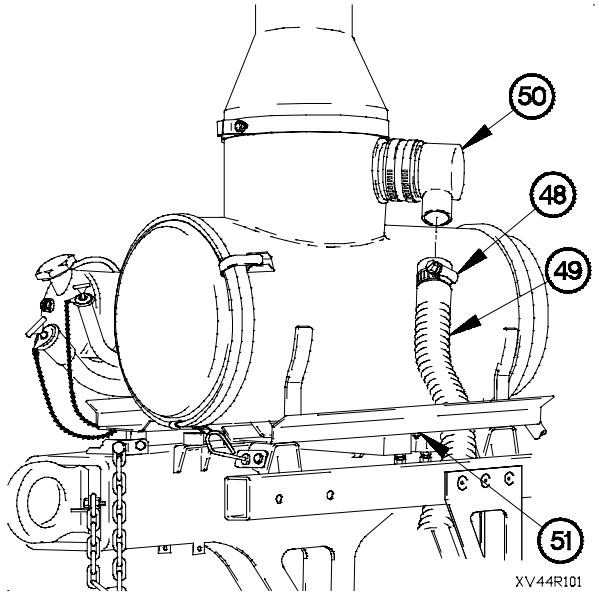




(38) Remove dust cap (41) from connector J106 (42).

(39) Remove nut (43), dust cap lanyard (44), and connector J106 (42) from chemical detection unit mounting bracket (45).

(40) Disconnect air filter restriction gauge hose (46) from air flow sensor (47).



(41) Loosen clamp (48) on particle extraction hose (49).

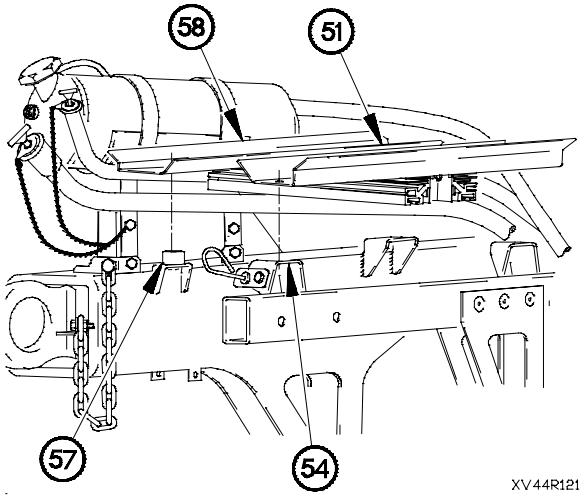
(42) Disconnect particle extraction hose (49) from adapter (50).

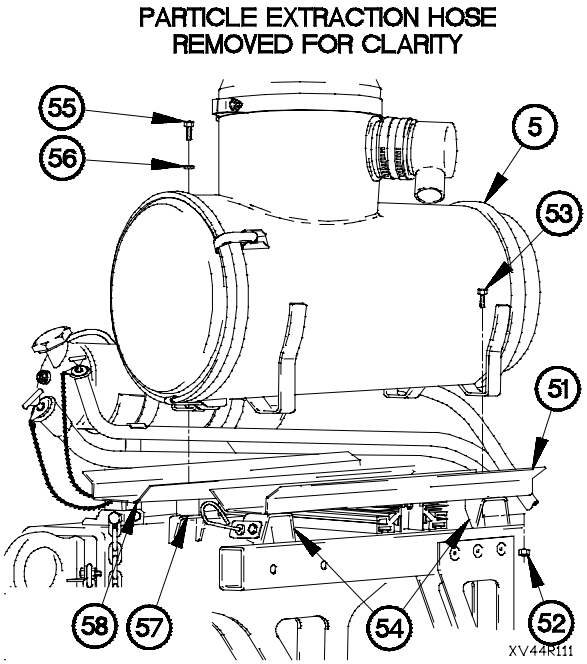
(43) Remove particle extraction hose (49) from bracket (51).

(44) Remove three self-locking nuts (52) and screws (53) from mounting brackets (54). Discard self-locking nuts.

(45) Remove screw (55) and washer (56) from resilient mount (57).

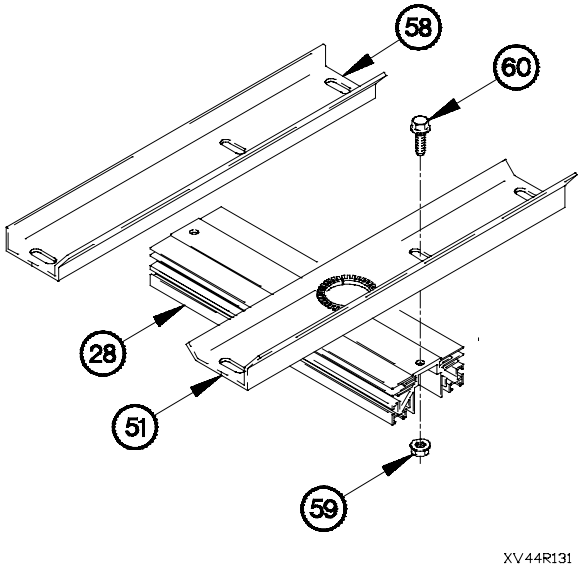
(46) Remove intake air cleaner housing (5) from brackets (51 and 58).





(47) Remove brackets (51 and 58) from three mounting brackets (54) and resilient mount (57).

(48) Remove two self-locking nuts (59), screws (60), and reverse polarity relay (28) from brackets (51 and 58). Discard self-locking nuts.



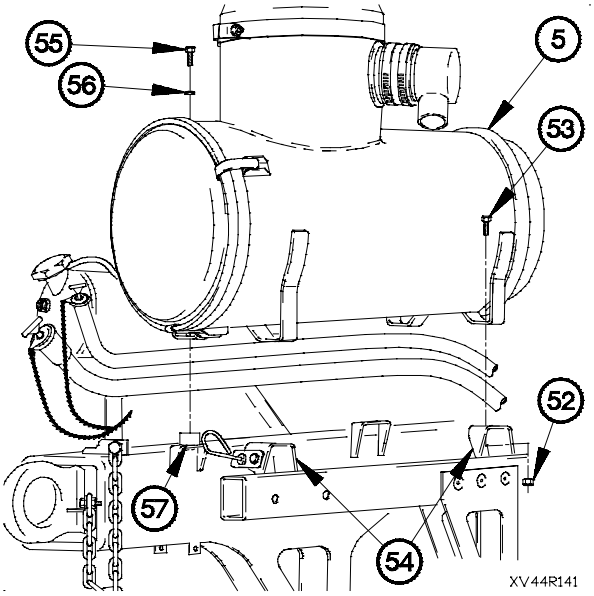
20-55. 200 AMP ALTERNATOR KIT REMOVAL (CONT)

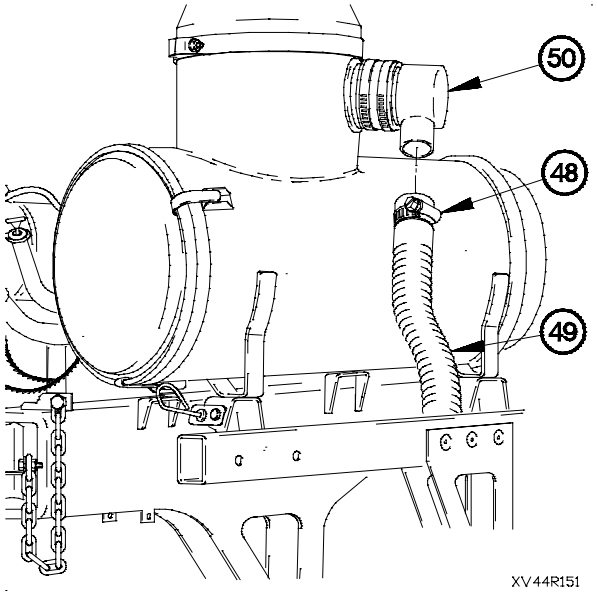
(49) Position intake air cleaner housing (5) on three mounting brackets (54) with three screws (53) and self-locking nuts (52).

(50) Position washer (56) and screw (55) in resilient mount (57).

(51) Tighten screw (55) to 26-31 lb-ft (35-42 N·m).

(52) Tighten three self-locking nuts (52) to 35-51 lb-ft (47-69 N·m).



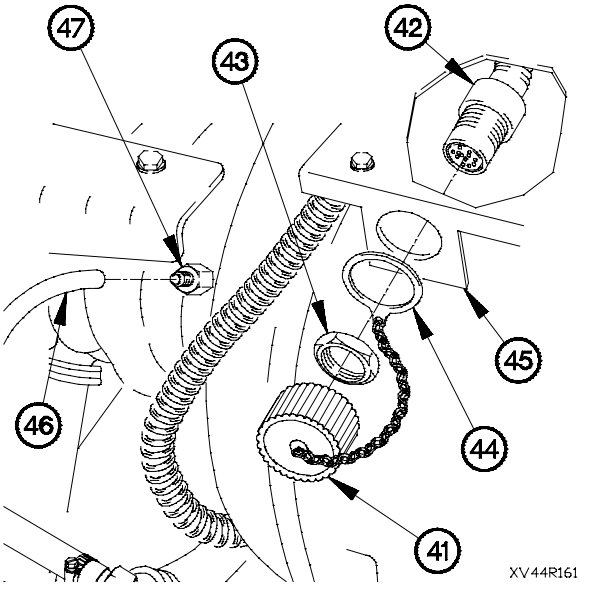


(53) Install particle extraction hose (49) on adapter (50) with clamp (48).

(54) Connect air filter restriction gauge hose (46) to air flow sensor (47).

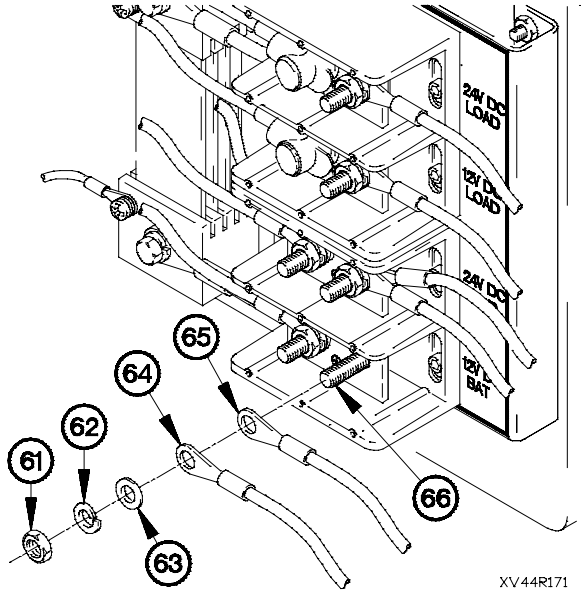
(55) Install connector J106 (42) and dust cap lanyard (44) on chemical detection unit mounting bracket (45) with nut (43).

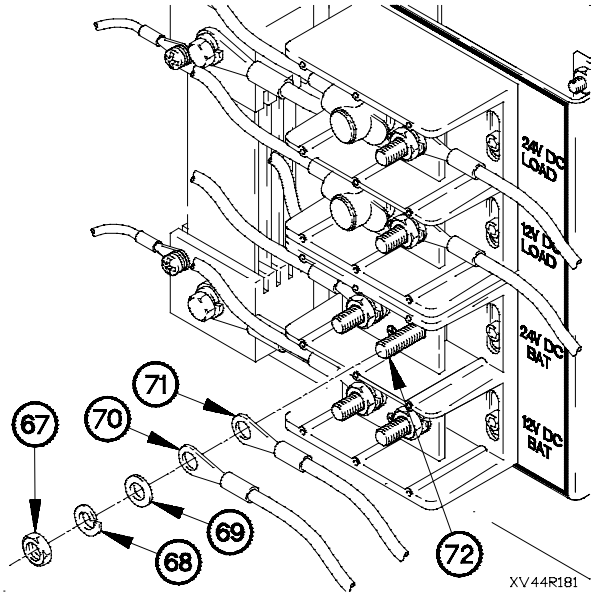
(56) Install dust cap (41) on connector J106 (42).



(57) Remove nut (61), lockwasher (62), washer (63), and terminal lugs TL171 (64) and TL61 (65) from terminal block terminal (66). Discard lockwasher.

(58) Position washer (63), lockwasher (62), and nut (61) on terminal block terminal (66).



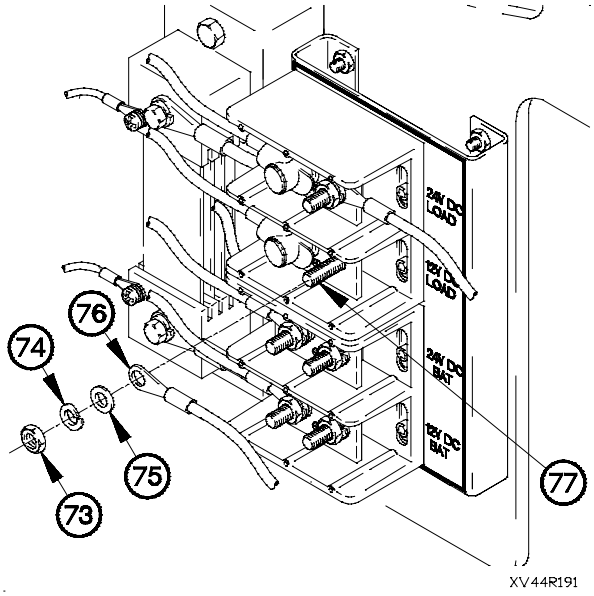


(59) Remove nut (67), lockwasher (68), washer (69), and terminal lugs TL1 (70) and TL166 (71) from terminal block terminal (72). Discard lockwasher.

(60) Position washer (69), lockwasher (68), and nut (67) on terminal block terminal (72).

(61) Remove nut (73), lockwasher (74), washer (75), and terminal lug TL172 (76) from terminal block terminal (77). Discard lockwasher.

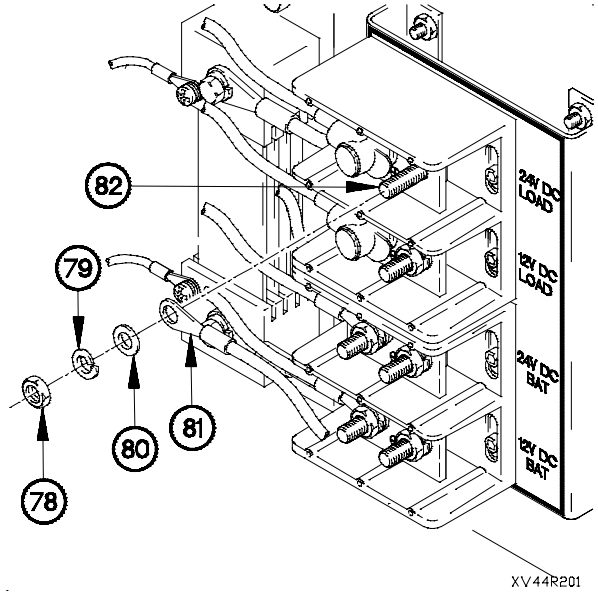
(62) Position washer (75), lockwasher (74), and nut (73) on terminal block terminal (77).

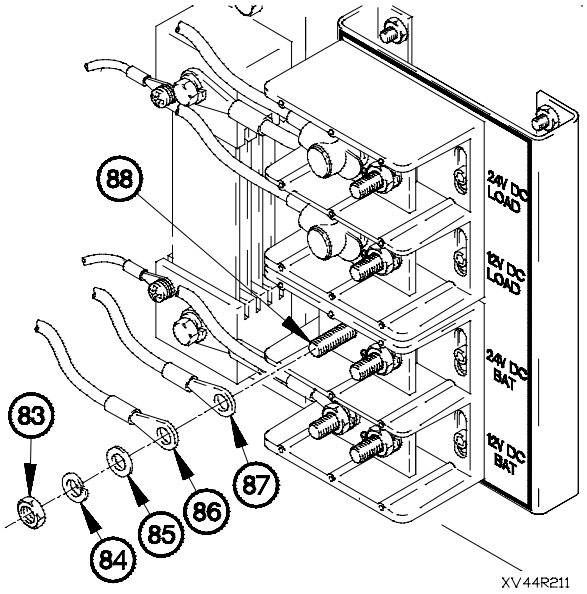


20-55. 200 AMP ALTERNATOR KIT REMOVAL (CONT)

(63) Remove nut (78), lockwasher (79), washer (80), and terminal lug TL167 (81) from terminal block terminal (82). Discard lockwasher.

(64) Position washer (80), lockwasher (79), and nut (78) on terminal block terminal (82).



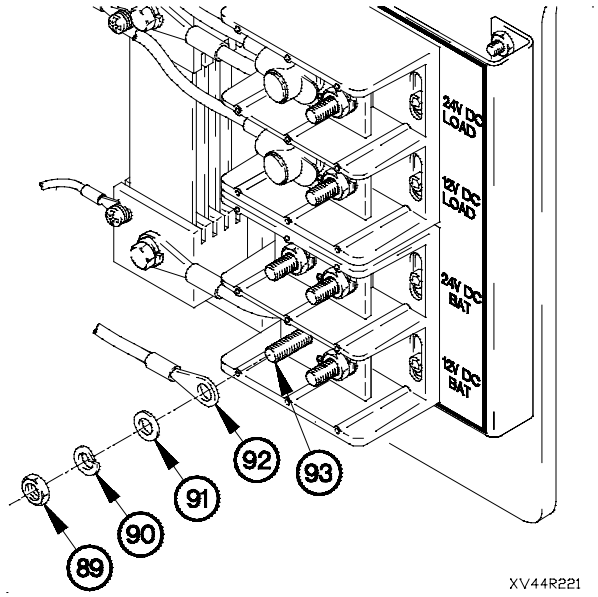


(65) Remove nut (83), lockwasher (84), washer (85), and terminal lugs TL37 (86) and TL36 (87) from terminal block terminal (88). Discard lockwasher.

(66) Position washer (85), lockwasher (84), and nut (83) on terminal block terminal (88).

(67) Remove nut (89), lockwasher (90), washer (91), and terminal lug TL47 (92) from terminal block terminal (93). Discard lockwasher.

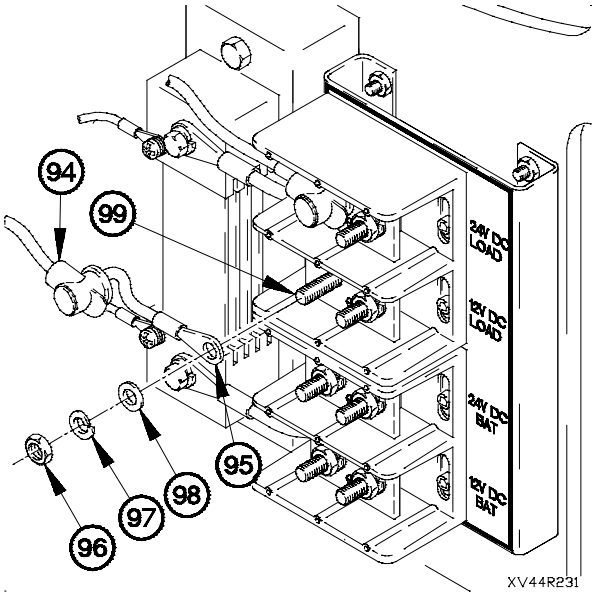
(68) Position washer (91), lockwasher (90), and nut (89) on terminal block terminal (93).

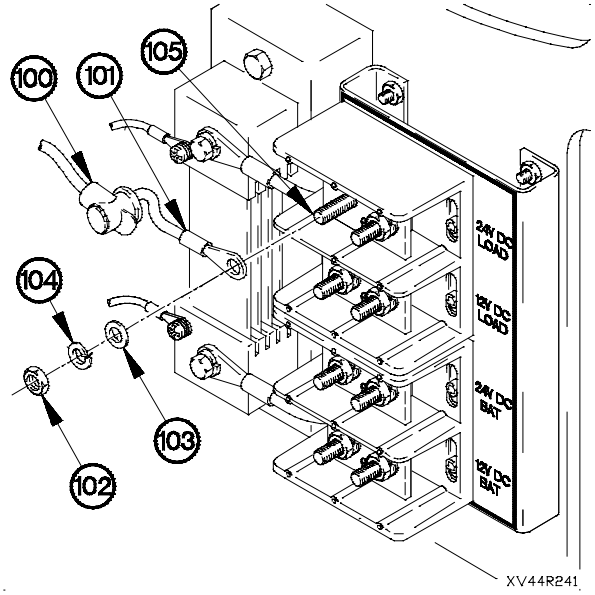


(69) Lift dust boot (94) on terminal lug TL80 (95).

(70) Remove nut (96), lockwasher (97), washer (98), and terminal lug TL80 (95) from terminal block terminal (99). Discard lockwasher.

(71) Position washer (98), lockwasher (97), and nut (96) on terminal block terminal (99).



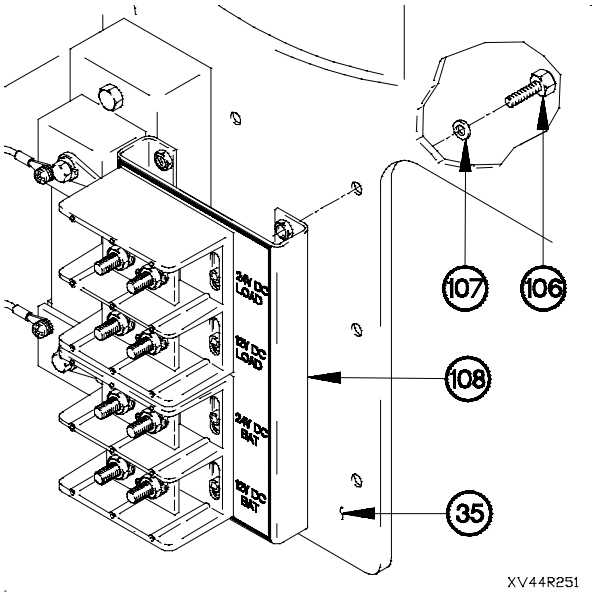


(72) Lift dust boot (100) on terminal lug TL44 (101).

(73) Remove nut (102), lockwasher (103), washer (104), and terminal lug TL44 (101) from terminal block terminal (105). Discard lockwasher.

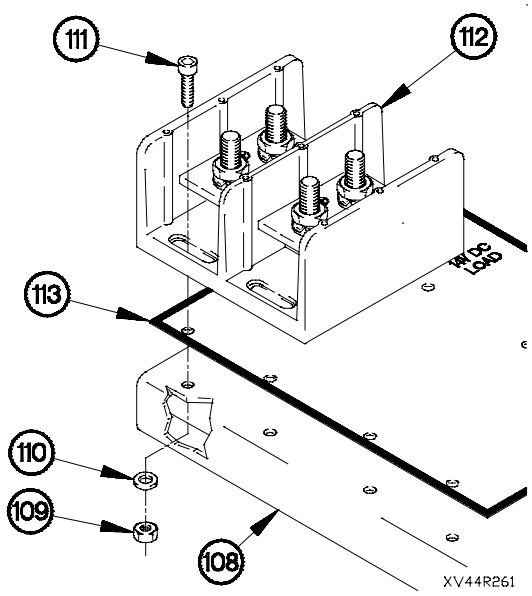
(74) Position washer (104), lockwasher (103), and nut (102) on terminal block terminal (105).

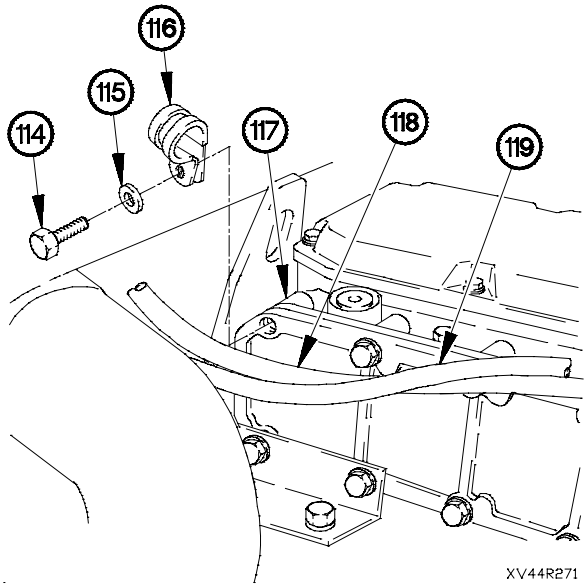
(75) Remove four screws (106), washers (107), and bracket (108) from spare tire retainer (35).



20-55. 200 AMP ALTERNATOR KIT REMOVAL (CONT)

(76) Remove eight self-locking nuts (109), washers (110), screws (111), two terminal blocks (112) and identification plate (113) from bracket (108). Discard self-locking nuts.





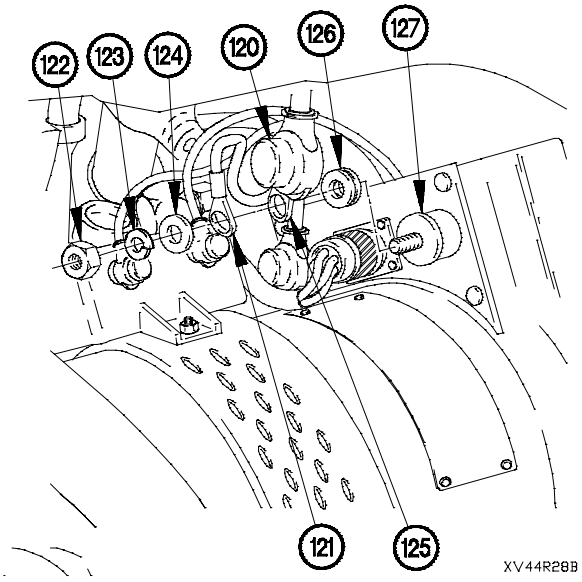
(77) Remove three screws (114), washers (115), and clamps (116) from air inlet manifold (117).

(78) Remove three clamps (116) from 12vdc cable (118) and 24vdc cable (119).

(79) Lift dust boot (120) on terminal lug TL6 (121).

(80) Remove nut (122), lockwasher (123), washer (124), and terminal lugs TL6 (121), TL2 (125) and fuse link (126) from alternator terminal (127). Discard lockwasher.

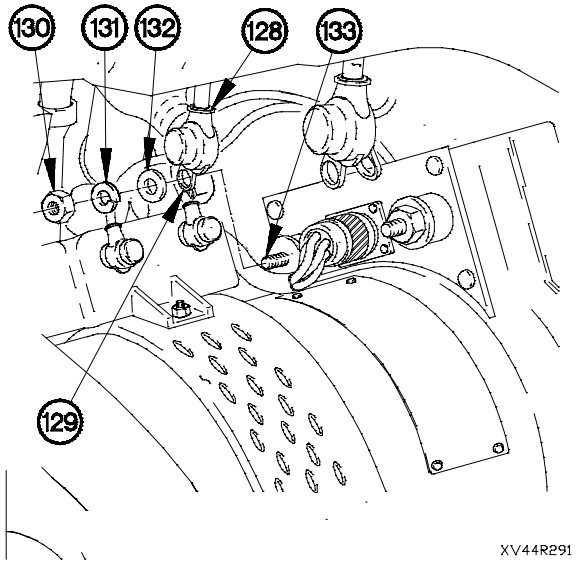
(81) Position fuse link (126), washer (124), lockwasher (123), and nut (122) on alternator terminal (127).

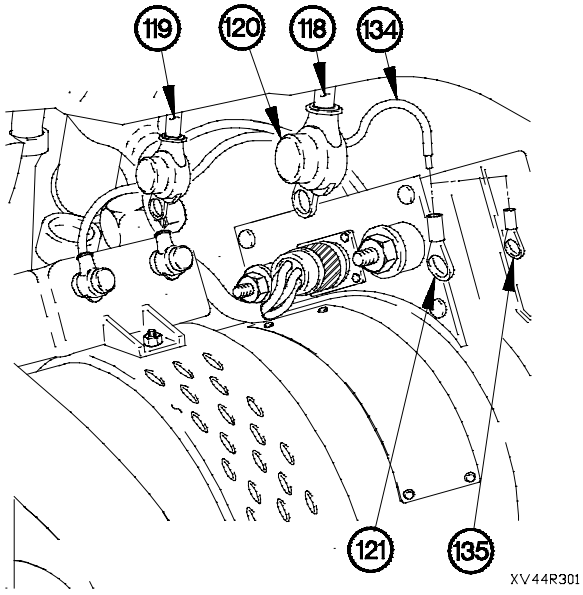


(82) Lift dust boot (128) on terminal lug TL60 (129).

(83) Remove nut (130), lockwasher (131), washer (132), and terminal lug TL60 (129) from alternator terminal (133). Discard lockwasher.

(84) Position washer (132), lockwasher (131), and nut (130) on alternator terminal (133).





(85) Remove terminal lug TL6 (121) from wire (134). Discard terminal lug.

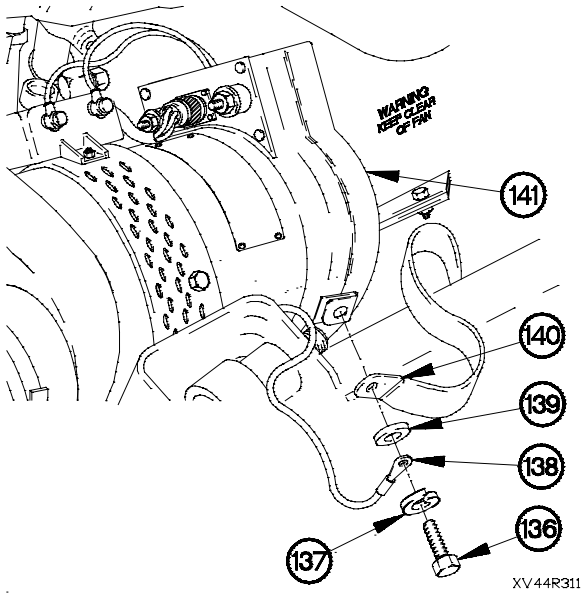
(86) Remove wire (134) from dust boot (120).

(87) Install terminal lug TL6 (135) on wire (134).

(88) Remove 12vdc cable (118) and 24vdc cable (119) from vehicle.

(89) Remove screw (136), lockwasher (137), terminal lug TL5 (138), washer (139), and ground strap (140) from alternator (141). Discard lockwasher.

(90) Position washer (139), lockwasher (137), and screw (136) in alternator (141).

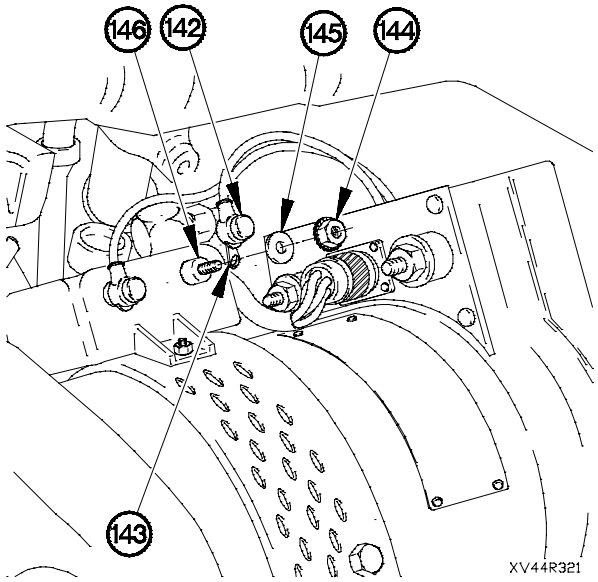


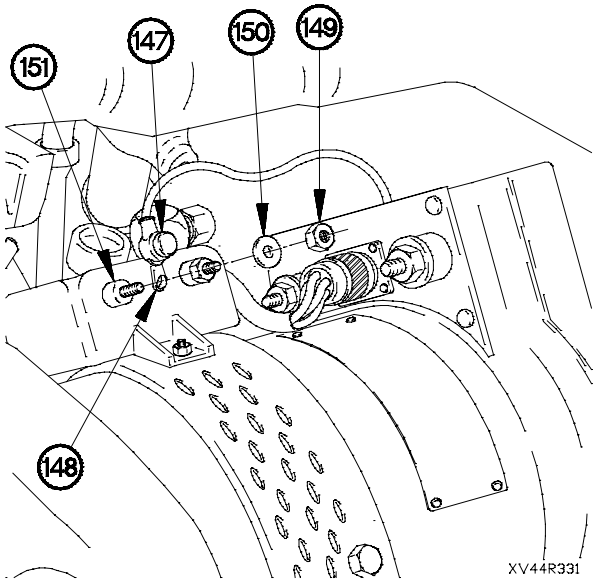
20-55. 200 AMP ALTERNATOR KIT REMOVAL (CONT)

(91) Lift dust boot (142) on terminal lug TL35 (143).

(92) Remove self-locking nut (144), washer (145), and terminal lug TL35 (143) from voltage regulator terminal (146). Discard self-locking nut.

(93) Position washer (145) and self-locking nut (144) on voltage regulator terminal (146).





(94) Lift dust boot (147) on terminal lug TL110 (148).

(95) Remove self-locking nut (149), washer (150), and terminal lug TL110 (148) from voltage regulator terminal (151). Discard self-locking nut.

(96) Position washer (150) and self-locking nut (149) on voltage regulator terminal (151).

(97) Remove nut (152), washer (153), screw (154), and washer (155) from alternator (141).

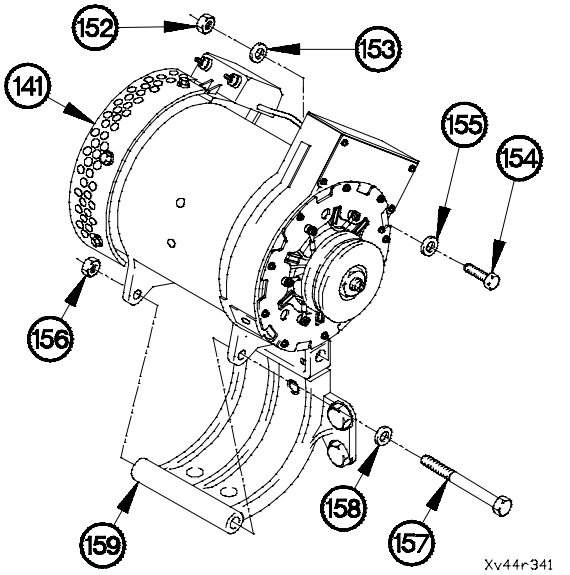
WARNING

200 amp alternator weighs approximately 70 lbs (32 kgs). The aid of an assistant is required to remove 200 amp alternator. Failure to comply may result in injury to personnel.

NOTE

Step (98) requires the aid of an assistant.

(98) Remove nut (156), screw (157), washer (158), and alternator (141) from alternator bracket (159).



CAUTION

Alternator pulley must be positioned in a vise equipped with vise jaw caps when loosening self-locking nut. Failure to comply may result in damage to equipment.

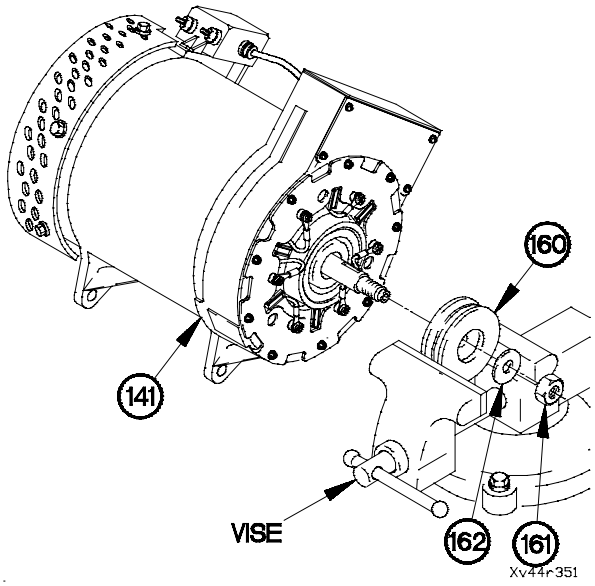
(99) Position pulley (160) in vise.

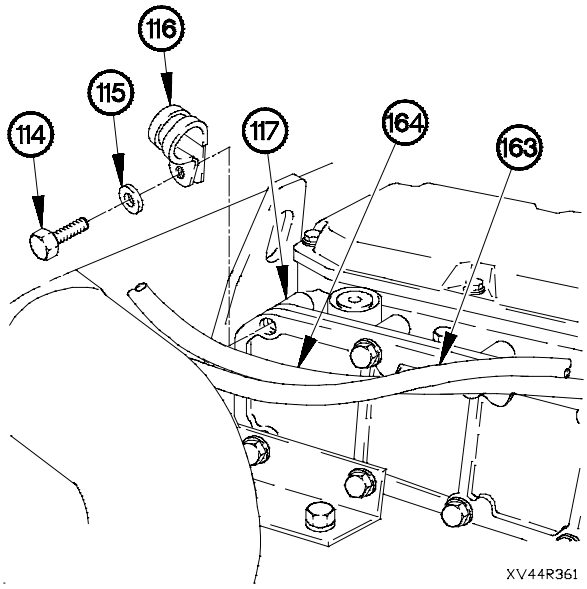
(100) Loosen self-locking nut (161).

(101) Remove pulley (160) from vise.

(102) Remove self-locking nut (161), washer (162), and pulley (160) from alternator (141). Discard self-locking nut.

(103) Position washer (162) and self-locking nut (161) on alternator (141).





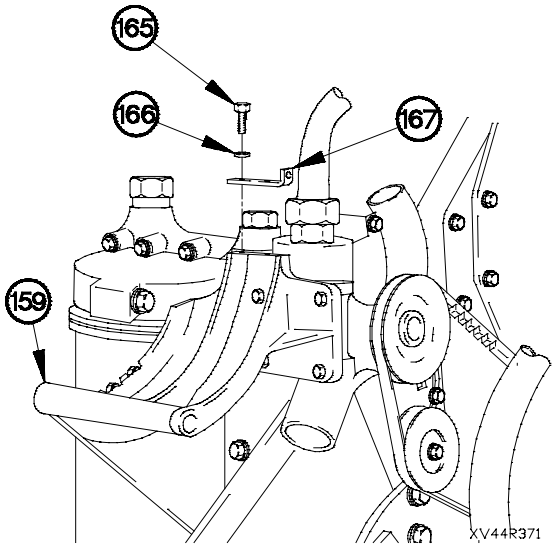
(104) Position three clamps (116) on 12vdc cable (163) and 24vdc cable (164).

(105) Position three clamps (116) on air inlet manifold (117) with three washers (115) and screws (114).

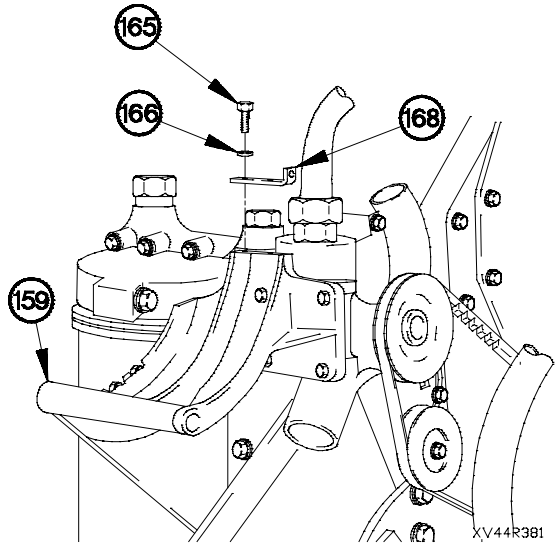
(106) Tighten three screws (114) to 22-27 lb-ft (31-37 N·m).

(107) Position 12vdc cable (163) and 24 vdc cable (164) on vehicle.

20-55. 200 AMP ALTERNATOR KIT REMOVAL (CONT)



(108) Remove two screws (165),lockwashers (166), and belt adjusting arm (167) from alternator bracket (159). Discard lockwasher.



(109) Position belt adjusting arm (168) on alternator bracket (159) with two lockwashers (166) and screws (165).

(110) Tighten two screws (165) to 25-32 lb-ft (35-43 N·m).

b. Follow-On Maintenance.

(1) Install 100 amp reverse polarity relay (para 7-27).

(2) Install 100 amp alternator (para 7-2).

(3) Raise spare tire (TM 9-2320-365-10).

(4) Lower cab (TM 9-2320-365-10).

(5) Connect batteries (para 7-48).

(6) Start engine (TM 9-2320-365-10).

(7) Check alternator operation (TM 9-2320-365-10).

(8) Shut down engine (TM 9-2320-365-10).

End of Task.

20-56. 200 AMP ALTERNATOR REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Batteries disconnected (para 7-48).
Alternator belts removed (para 7-3).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Sling, Cargo (Item 31, Appendix C)
Vise, Machinist (Item 46, Appendix C)
Caps, Vise Jaw (Item 4, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Nut, Self-Locking (Item 137, Appendix G)

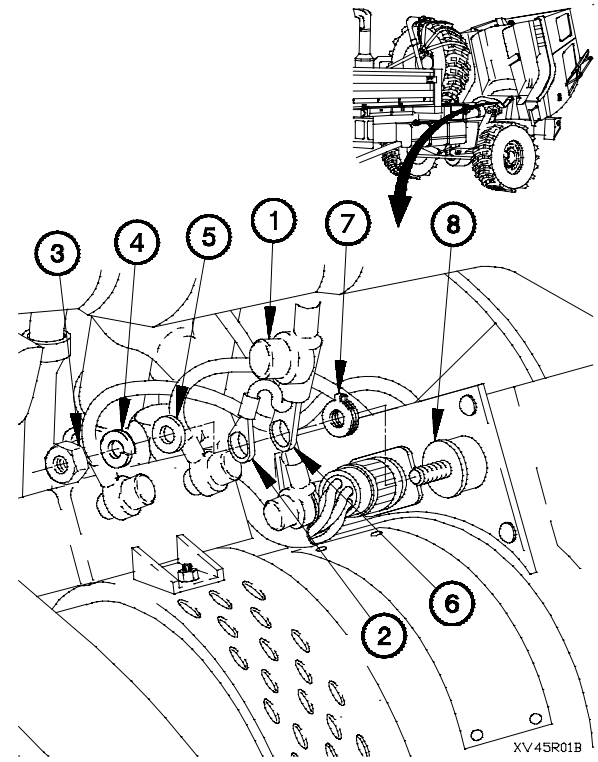
Personnel Required
(2)

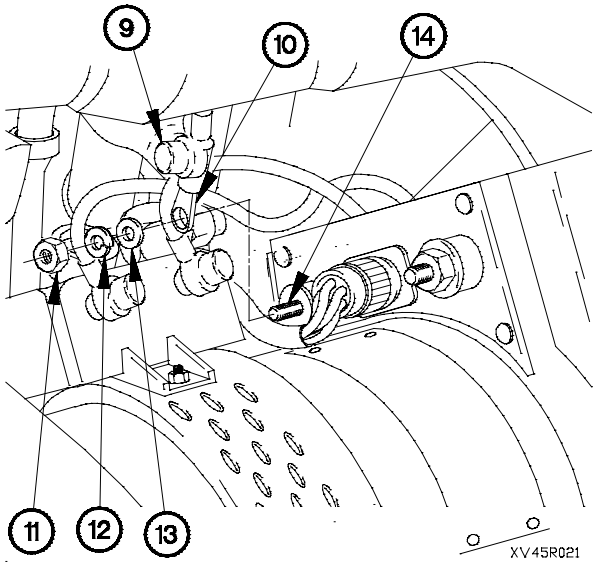
a. Removal.

(1) Lift dust boot (1) on terminal lug TL6 (2).

(2) Remove nut (3), lockwasher (4), washer (5), terminal lugs TL6 (2) and TL2 (6), and fuse link (7) from alternator terminal (8).

(3) Position fuse link (7), washer (5), lockwasher (4), and nut (3) on alternator terminal (8).





(4) Lift dust boot (9) on terminal lug TL60 (10).

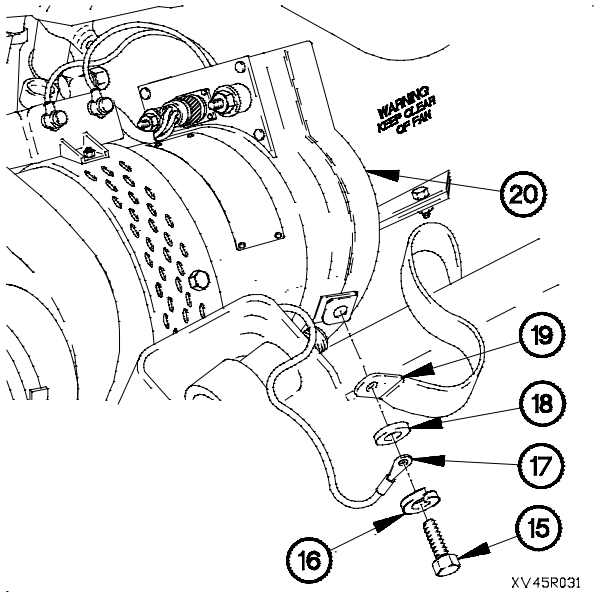
(5) Remove nut (11), lockwasher (12), washer (13), and terminal lug TL60 (10) from alternator terminal (14).

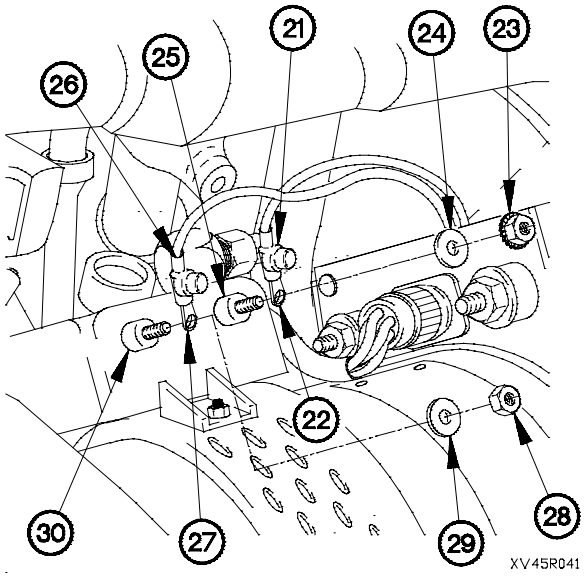
(6) Position washer (13), lockwasher (12) and nut (11) on alternator terminal (14).

20-56. 200 AMP ALTERNATOR REPLACEMENT (CONT)

(7) Remove screw (15), lockwasher (16), terminal lug TL5 (17), washer (18), and ground strap (19) from alternator (20).

(8) Position washer (18), lockwasher (16), and screw (15) on alternator (20).





(9) Lift dust boot (21) on terminal lug TL35 (22).

(10) Remove self-locking nut (23), washer (24), and terminal lug TL35 (22) from voltage regulator terminal (25).

(11) Position washer (24) and self-locking nut (23) on voltage regulator terminal (25).

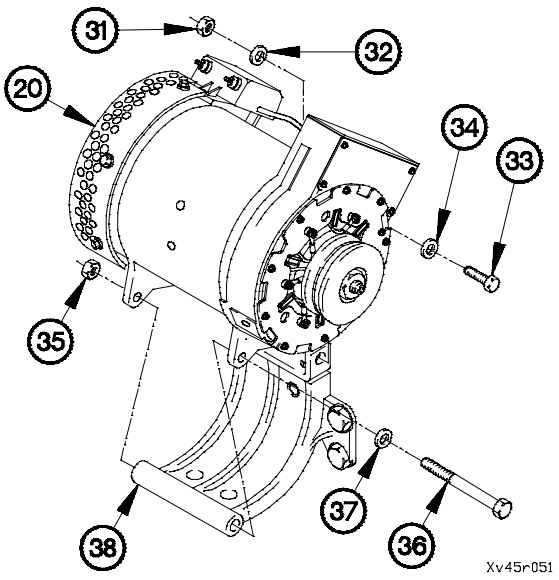
(12) Lift dust boot (26) on terminal lug TL110 (27).

(13) Remove self-locking nut (28), washer (29), and terminal lug TL110 (27) from voltage regulator terminal (30).

(14) Position washer (29) and self-locking nut (28) on voltage regulator terminal (30).

(15) Remove nut (31), washer (32), screw (33), and washer (34) from alternator (20).

(16) Remove self-locking nut (35), screw (36), and washer (37) from alternator (20)



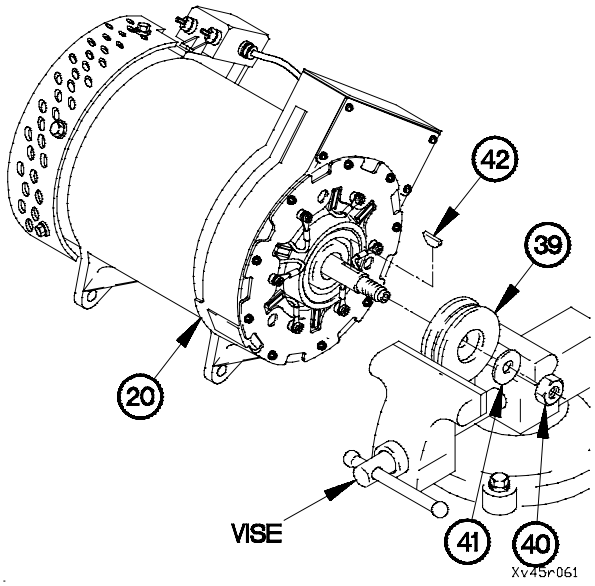
WARNING

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

NOTE

Step (17) requires the aid of an assistant.

(17) Remove alternator (20) from alternator support bracket (38).



CAUTION

Alternator pulley must be positioned in a vise equipped with vise jaw caps when loosening self-locking nut. Failure to comply may result in damage to equipment.

(18) Position pulley (39) in vise.

(19) Loosen self-locking nut (40).

(20) Remove pulley (39) from vise.

(21) Remove self-locking nut (40), washer (41), pulley (39), and key (42) from alternator (20).

(22) Position washer (41) and self-locking nut (40) on alternator (20).

20-56. 200 AMP ALTERNATOR REPLACEMENT (CONT)

b. Installation.

(1) Remove self-locking nut (1) and washer (2) from alternator (3).

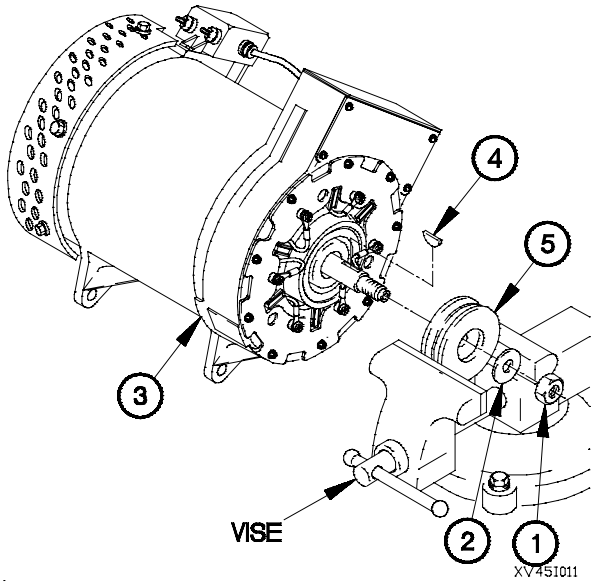
CAUTION

Ensure pulley does not contact wires, terminal lugs, or terminal screws on front of alternator. Failure to comply will result in damage to equipment.

(2) Position key (4) and pulley (5) on alternator (3) with washer (2) and self-locking nut (1).

CAUTION

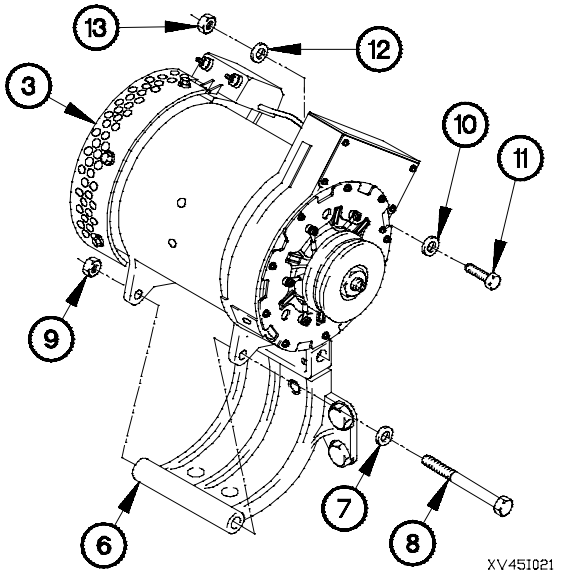
Alternator pulley must be positioned in a vise equipped with vise jaw caps when tightening self-locking nut. Failure to comply may result in damage to equipment.



(3) Position pulley (5) in vise.

(4) Tighten self-locking nut (1) to 106-130 lb-ft (144-176 N·m).

(5) Remove pulley (5) from vise.



WARNING

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

NOTE

Step (6) requires the aid of an assistant.

(6) Position alternator (3) on alternator support bracket (6) with washer (7), screw (8), and self-locking nut (9).

(7) Position washer (10), screw (11), washer (12), and nut (13) in alternator (3).

(8) Tighten nut (13) to 25-32 lb-ft (35-43 N·m).

(9) Tighten self-locking nut (9) to 45-55 lb-ft (61-75 N·m).

(10) Remove self-locking nut (14) and washer (15) from voltage regulator terminal (16).

(11) Position terminal lug TL110 (17) on voltage regulator terminal (16) with washer (15) and self-locking nut (14).

(12) Tighten self-locking nut (14) to 24 lb-in. (3 N·m).

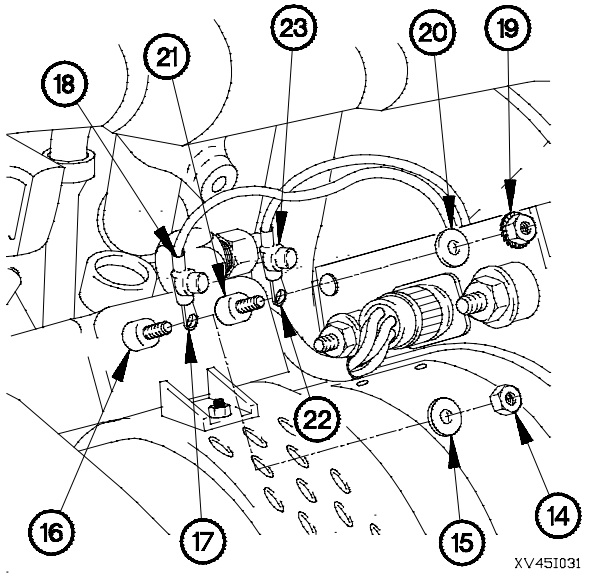
(13) Position dust boot (18) on terminal lug TL110 (17).

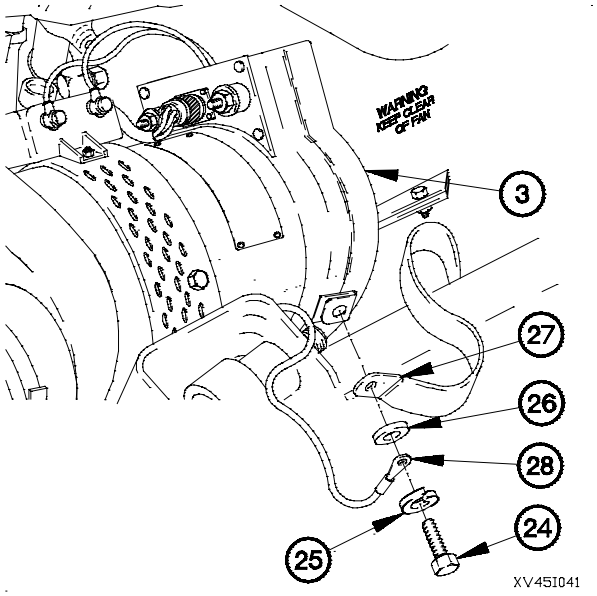
(14) Remove self-locking nut (19) and washer (20) from voltage regulator terminal (21).

(15) Position terminal lug TL35 (22) on voltage regulator terminal (21) with washer (20) and self-locking nut (19).

(16) Tighten self-locking nut (19) to 24 lb-in. (3 N·m).

(17) Position dust boot (23) on terminal lug TL35 (22).





(18) Remove screw (24), lockwasher (25), and washer (26) from alternator (3).

(19) Position ground strap (27), washer (26), and terminal lug TL5 (28) on alternator (3) with washer (26), lockwasher (25), and screw (24).

(20) Tighten screw (24) to 60-84 lb-in. (7-9 N·m).

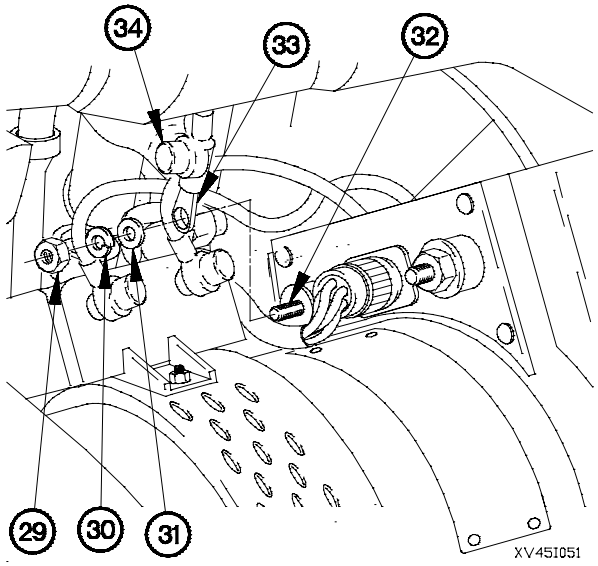
20-56. 200 AMP ALTERNATOR REPLACEMENT (CONT)

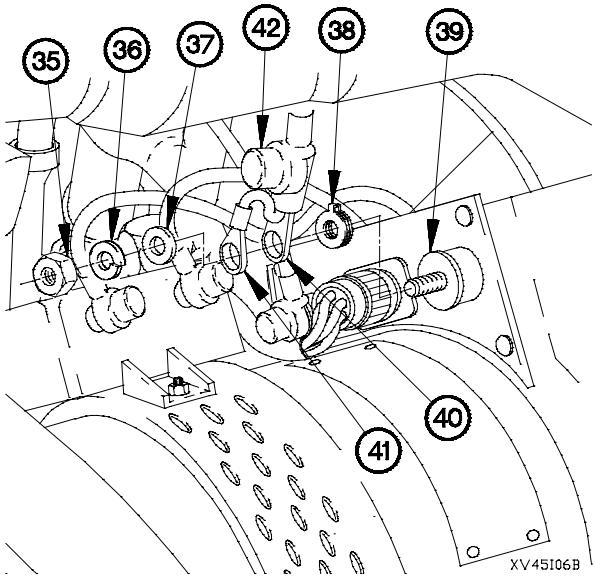
(21) Remove nut (29), lockwasher (30), and washer (31) from alternator terminal (32).

(22) Position terminal lug TL60 (33) on alternator terminal (32) with washer (31), lockwasher (30), and nut (29).

(23) Tighten nut (29) to 156-180 lb-in. (17-21 N·m).

(24) Position dust boot (34) on terminal lug TL60 (33).





(25) Remove nut (35), lockwasher (36), washer (37), and fuse link (38) from alternator terminal (39).

(26) Position fuse link (38), terminal lugs TL2 (40) and TL6 (41) on alternator terminal (39) with washer (37), lockwasher (36), and nut (35).

(27) Tighten nut (35) to 156-180 lb-in. (17-21 N·m).

(28) Position dust boot (42) on terminal lug TL6 (41).

c. Follow-On Maintenance

(1) Install alternator belts (para 7-3).

(2) Connect batteries (para 7-48).

(3) Start engine (TM 9-2320-365-10).

(4) Check alternator operation (TM 9-2320-365-10).

(5) Shut down engine (TM 9-2320-365-10).

End of Task.

20-57. 200 AMP VOLTAGE REGULATOR REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Cab raised (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 35, Appendix C)

Materials/Parts
Lockwasher (2) (Item 100, Appendix G)
Nut, Self-Locking (Item 130, Appendix G)
Nut, Self-Locking (Item 131, Appendix G)
Sealing Compound (Item 64, Appendix D)

a. Removal.

NOTE

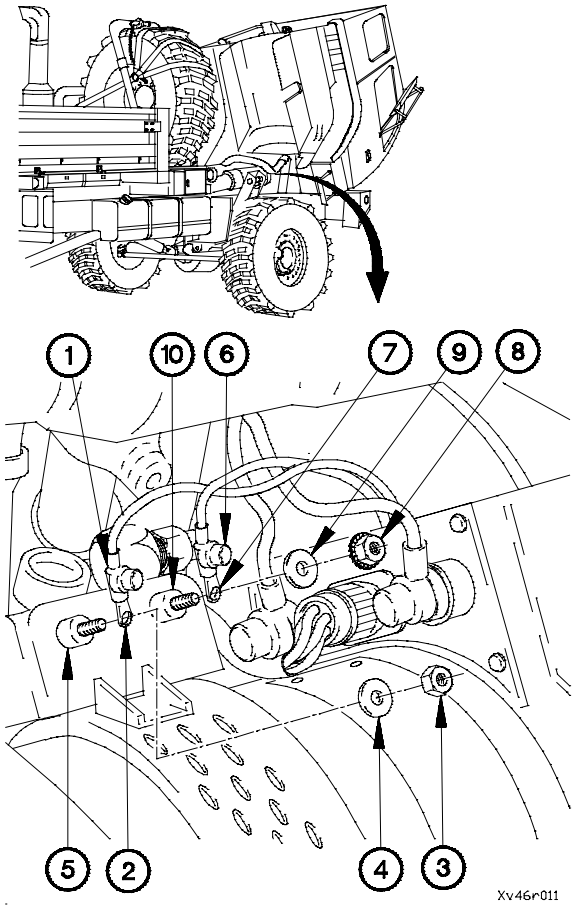
Tag terminal lugs and connection points prior to removal.

(1) Lift dust boot (1) on terminal lug TL110 (2).

(2) Remove self-locking nut (3), washer (4), and terminal lug TL110 (2) from voltage regulator terminal (5). Discard self-locking nut.

(3) Lift dust boot (6) on terminal lug TL35 (7).

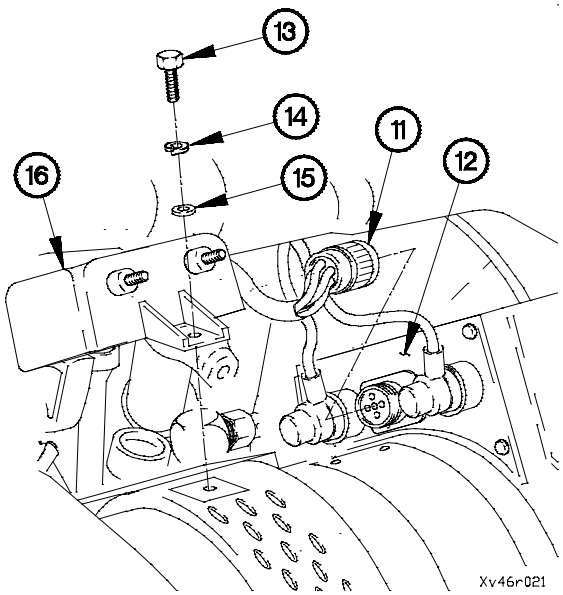
(4) Remove self-locking nut (8), washer (9), and terminal lug TL35 (7) from voltage regulator terminal (10). Discard self-locking nut.



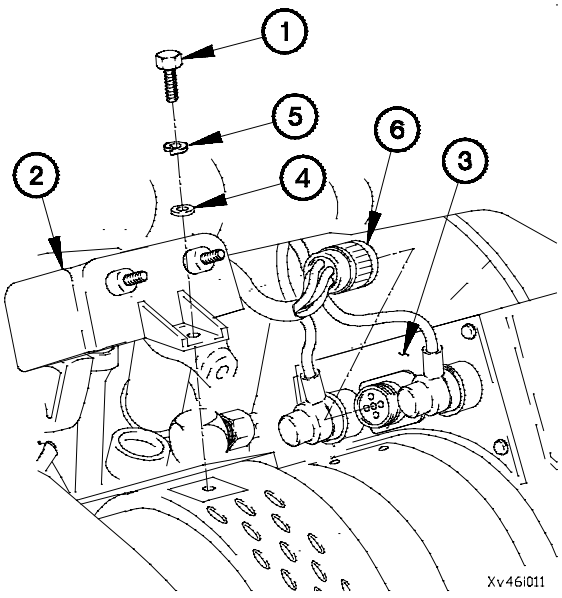
20-57. 200 AMP VOLTAGE REGULATOR REPLACEMENT (CONT)

(5) Disconnect voltage regulator connector (11) from alternator (12).

(6) Remove two screws (13), lockwashers (14), washers (15) and voltage regulator (16) from alternator (12). Discard lockwashers.



b. Installation



WARNING

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

(1) Apply sealing compound to threads of two screws (1).

(2) Position voltage regulator (2) on alternator (3) with two washers (4), lockwashers (5), and screws (1).

(3) Tighten two screws (1) to 75 lb-in. (8 N·m).

(4) Connect voltage regulator connector (6) to alternator (3).

(5) Position terminal lug TL35 (7) on voltage regulator terminal (8) with washer (9) and self-locking nut (10).

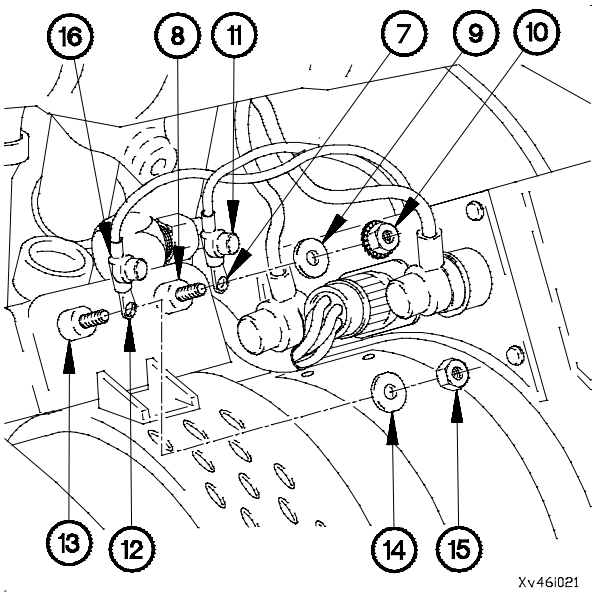
(6) Tighten self-locking nut (10) to 25 lb-in. (3 N·m).

(7) Position dust boot (11) on terminal lug TL35 (7).

(8) Position terminal lug TL110 (12) on voltage regulator terminal (13) with washer (14) and self-locking nut (15).

(9) Tighten self-locking nut (15) to 25 lb-in. (3 N·m).

(10) Position dust boot (16) on terminal lug TL110 (12).



c. Follow-On Maintenance

(1) Lower cab (TM 9-2320-365-10).

(2) Connect batteries (para 7-48).

(3) Start engine (TM 9-2320-365-10).

(4) Check VOLTS gage for charge indication (TM 9-2320-365-10).

(5) Shut down engine (TM 9-2320-365-10).

End of Task.

20-58. 200 AMP REVERSE POLARITY RELAY REPLACEMENT

This task covers:

a. Removal (All Models Except M1081)
b. Installation (All Models Except M1081)
c. Removal (M1081)
d. Installation (M1081)
e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Spare tire lowered (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 35, Appendix C)

Material/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Ties, Cable, Plastic (Item 76, Appendix D)
Lockwasher (2) (Item 65, Appendix G)
Lockwasher (2) (Item 66, Appendix G)
Nut, Self-Locking (2) (Item 135, Appendix G)

a. Removal (All Models Except M1081).

NOTE

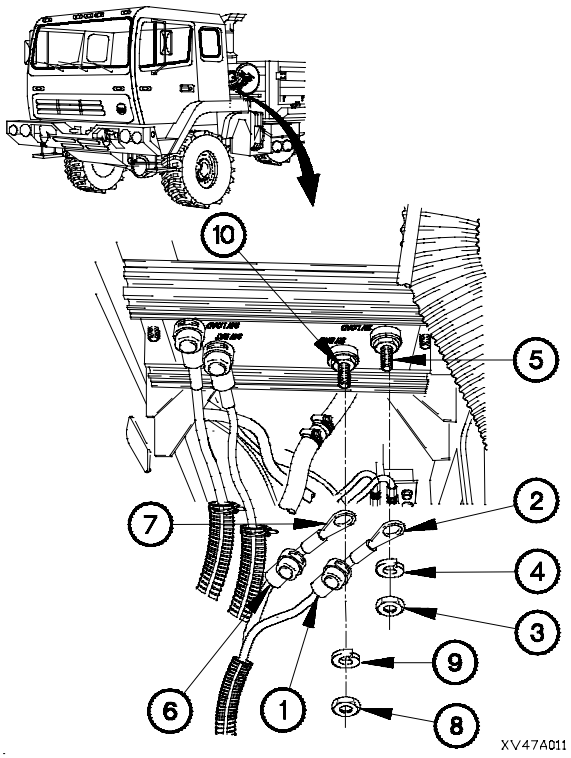
- Tag cables and connection points prior to disconnecting.
- Remove plastic cable ties as required.

(1) Lift dust boot (1) on terminal lug TL174 (2).

(2) Remove nut (3), lockwasher (4), and terminal lug TL174 (2) from reverse polarity relay 12V LOAD terminal (5). Discard lockwasher.

(3) Lift dust boot (6) on terminal lug TL173 (7).

(4) Remove nut (8), lockwasher (9), and terminal lug TL173 (7) from reverse polarity relay 12V BAT terminal (10). Discard lockwasher.

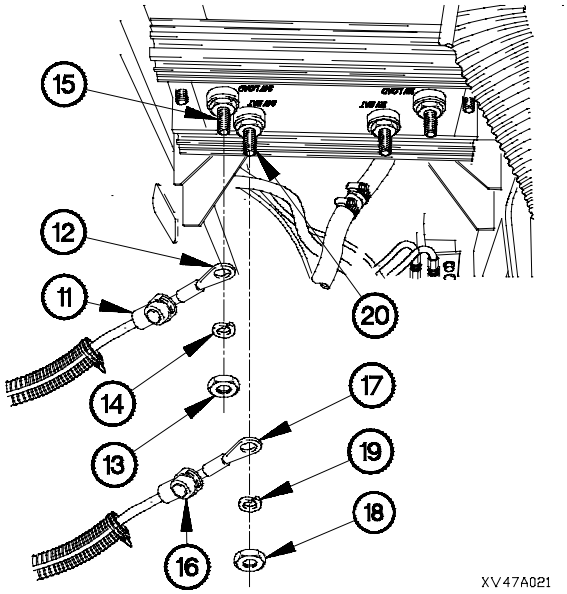


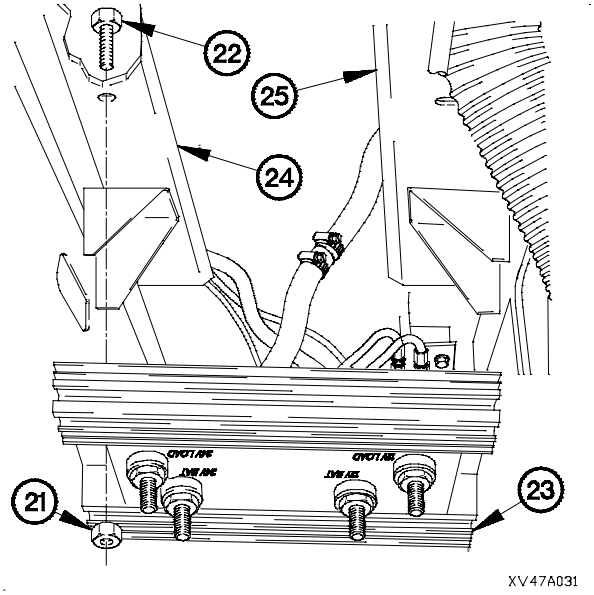
(5) Lift dust boot (11) on terminal lug TL169 (12).

(6) Remove nut (13), lockwasher (14), and terminal lug TL169 (12) from reverse polarity relay 24V LOAD terminal (15). Discard lockwasher.

(7) Lift dust boot (16) on terminal lug TL168 (17).

(8) Remove nut (18), lockwasher (19), and terminal lug TL168 (17) from reverse polarity relay 24V BAT terminal (20). Discard lockwasher.





NOTE

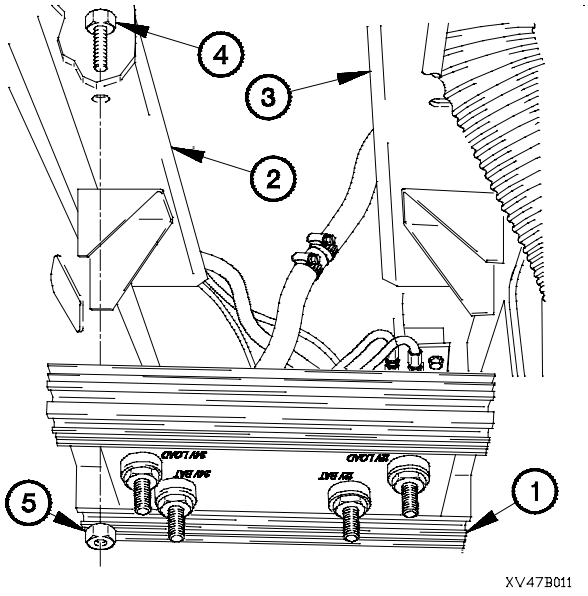
Note orientation of reverse polarity relay prior to removal.

(9) Remove two self-locking nuts (21), screws (22), and reverse polarity relay (23) from brackets (24 and 25). Discard self-locking nuts.

b. Installation (All Models Except M1081).

(1) Position reverse polarity relay (1) on brackets (2 and 3) with two screws (4) and self-locking nuts (5).

(2) Tighten two self-locking nuts (5) to 22-27 lb-ft (31-37 N·m).



20-58. 200 AMP REVERSE POLARITY RELAY REPLACEMENT (CONT)

NOTE

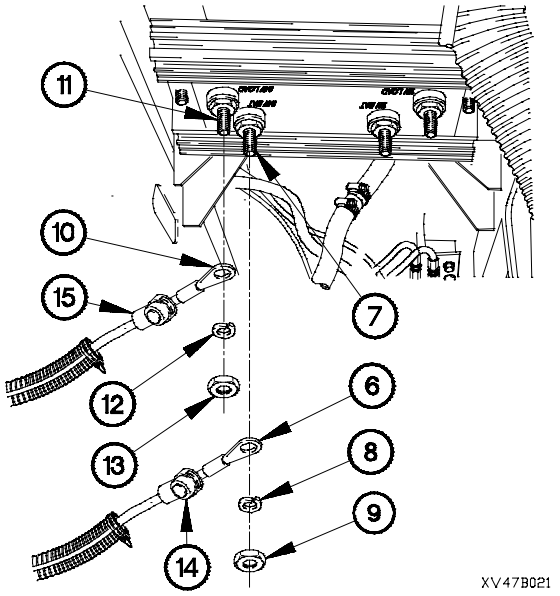
Install plastic cable ties as required.

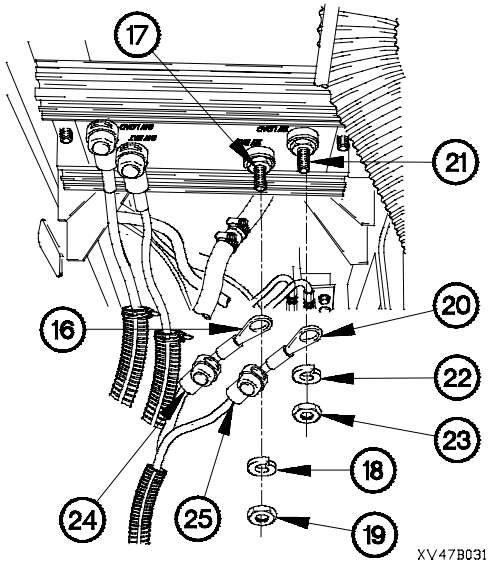
(3) Position terminal lug TL168 (6) on reverse polarity relay 24V BAT terminal (7) with lockwasher (8) and nut (9).

(4) Position terminal lug TL169 (10) on reverse polarity relay 24V LOAD terminal (11) with lockwasher (12) and nut (13).

(5) Tighten nuts (9 and 13) to 27-33 lb-ft (37-45 N·m).

(6) Position dust boots (14 and 15) on terminal lugs TL168 (6) and TL169 (10).





(7) Position terminal lug TL173 (16) on reverse polarity relay 12V BAT terminal (17) with lockwasher (18) and nut (19).

(8) Position terminal lug TL174 (20) on reverse polarity relay 12V LOAD terminal (21) with lockwasher (22) and nut (23).

(9) Tighten nuts (19 and 23) to 108-132 lb-in. (12-15 N·m).

(10) Position dust boots (24 and 25) on terminal lugs TL173 (16) and TL174 (20).

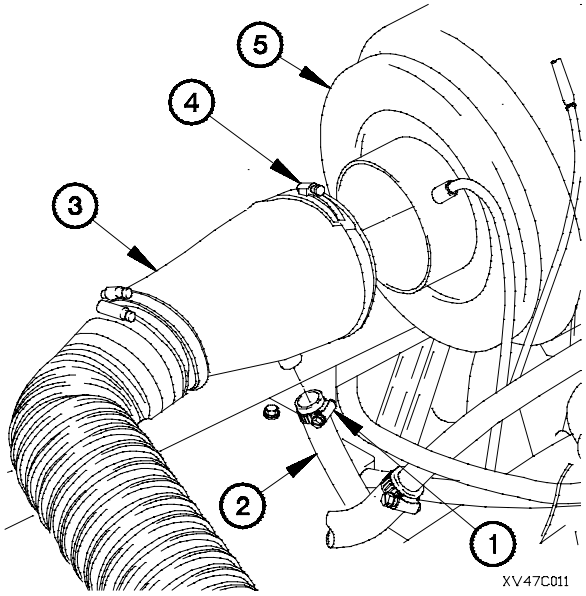
c. Removal (M1081).

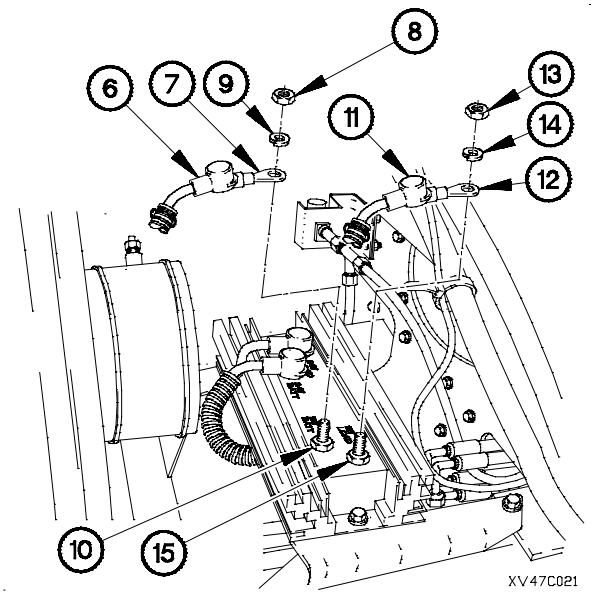
(1) Loosen clamp (1) on air compressor intake hose (2).

(2) Remove air compressor intake hose (2) from intake air cleaner boot (3).

(3) Loosen clamp (4) on intake air cleaner boot (3).

(4) Remove intake air cleaner boot (4) from intake air cleaner housing (5).





NOTE

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

(5) Lift dust boot (6) on terminal lug TL173 (7).

(6) Remove nut (8), lockwasher (9), and terminal lug TL173 (7) from reverse polarity relay 12V BAT terminal (10). Discard lockwasher.

(7) Lift dust boot (11) on terminal lug TL174 (12).

(8) Remove nut (13), lockwasher (14), and terminal lug TL174 (12) from reverse polarity relay 12V LOAD terminal (15). Discard lockwasher.

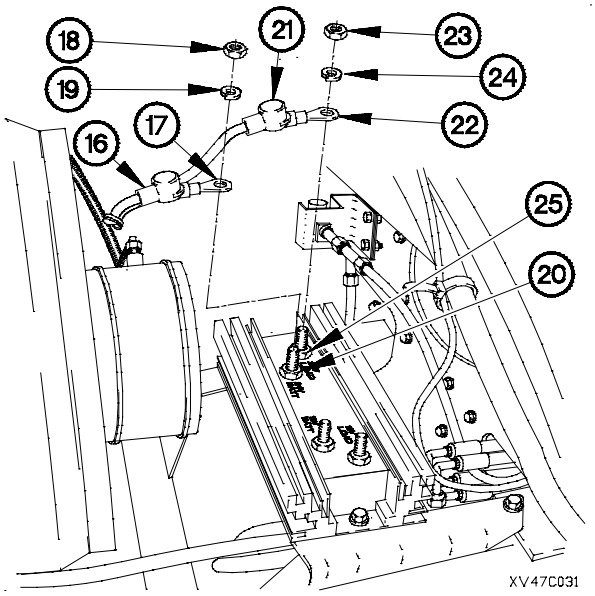
20-58. 200 AMP REVERSE POLARITY RELAY REPLACEMENT (CONT)

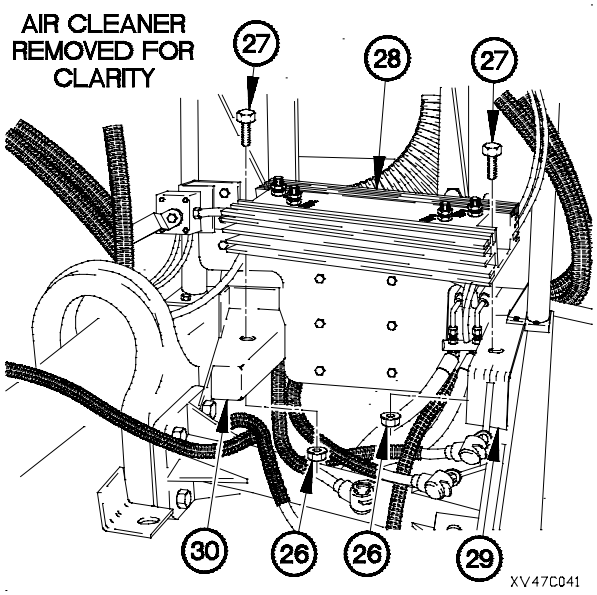
(9) Lift dust boot (16) on terminal lug TL168 (17).

(10) Remove nut (18), lockwasher (19), and terminal lug TL168 (17) from reverse polarity relay 24V BAT terminal (20). Discard lockwasher.

(11) Lift dust boot (21) on terminal lug TL169 (22).

(12) Remove nut (23), lockwasher (24), and terminal lug TL169 (22) from reverse polarity relay 24V LOAD terminal (25). Discard lockwasher.

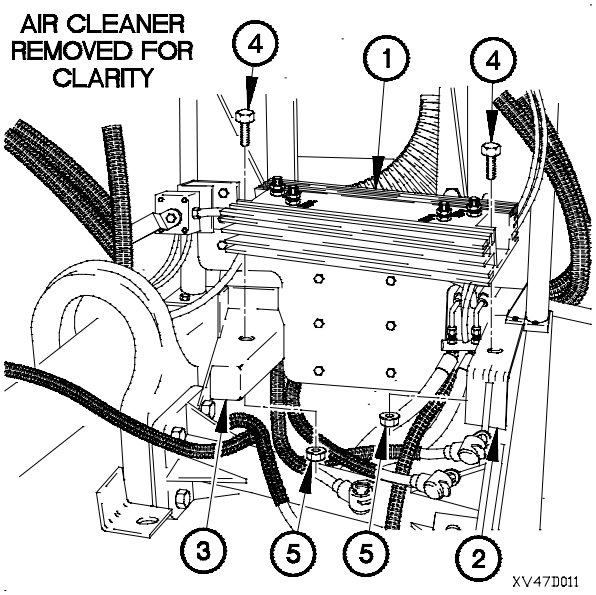




NOTE

Note orientation of reverse polarity relay prior to removal.

(13) Remove two self-locking nuts (26), screws (27), and reverse polarity relay (28) from brackets (29 and 30). Discard self-locking nuts.



d. Installation (M1081).

(1) Position reverse polarity relay (1) on brackets (2 and 3) with two screws (4) and self-locking nuts (5).

(2) Tighten two self-locking nuts (5) to 22-27 lb-ft (31-37 N·m).

NOTE

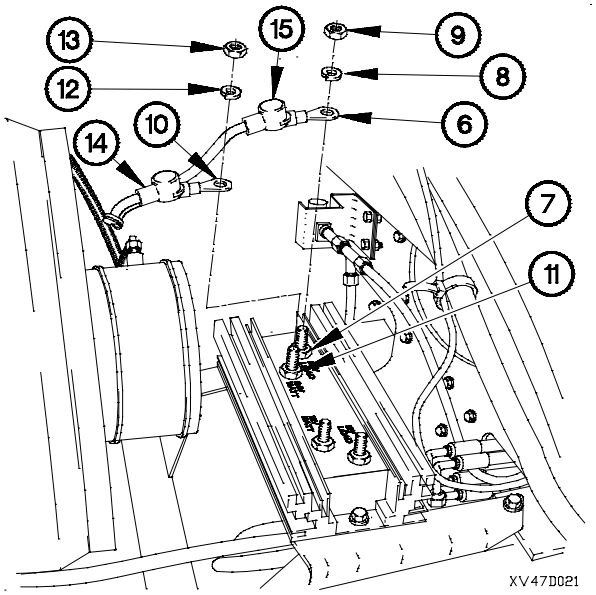
Install plastic cable ties as required.

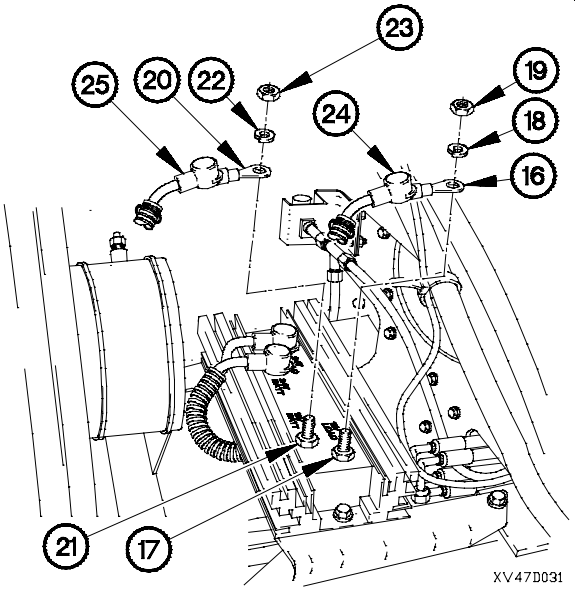
(3) Position terminal lug TL169 (6) on reverse polarity relay 24V LOAD terminal (7) with lockwasher (8) and nut (9).

(4) Position terminal lug TL168 (10) on reverse polarity relay 24V BAT terminal (11) with lockwasher (12) and nut (13).

(5) Tighten nuts (9 and 13) to 27-33 lb-ft (37-45 N·m).

(6) Position dust boots (14 and 15) on terminal lugs TL169 (6) and TL168 (10).





(7) Position terminal lug TL174 (16) on reverse polarity relay 12V LOAD terminal (17) with lockwasher (18) and nut (19).

(8) Position terminal lug TL173 (20) on reverse polarity relay 12V BAT terminal (21) with lockwasher (22) and nut (23).

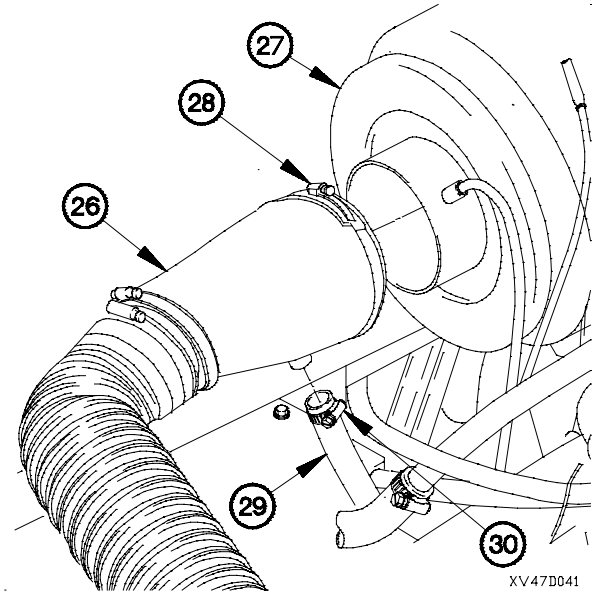
(9) Tighten nuts (19 and 23) to 108-132 lb-in. (12-15 N·m).

(10) Position dust boots (24 and 25) on terminal lugs TL174 (16) and TL173 (20).

(11) Position intake air cleaner boot (26) on intake air cleaner housing (27) with clamp (28).

(12) Position air compressor intake hose (29) on intake air cleaner boot (26) with clamp (30).

(13) Tighten clamps (28 and 30) to 36-48 lb-in. (4-5 N·m).



20-58. 200 AMP REVERSE POLARITY RELAY REPLACEMENT (CONT)

e. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Raise spare tire (TM 9-2320-365-10).

(3) Start engine (TM 9-2320-365-10).

(4) Check VOLTS gage for charge indication (TM 9-2320-365-10).

(5) Shut down engine (TM 9-2320-365-10).

End of Task.

20-59. 200 AMP ALTERNATOR TO TERMINAL BLOCK 12 VDC CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Spare tire lowered (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Lockwasher (Item 96, Appendix G)
Lockwasher (Item 89, Appendix G)

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

a. Removal.

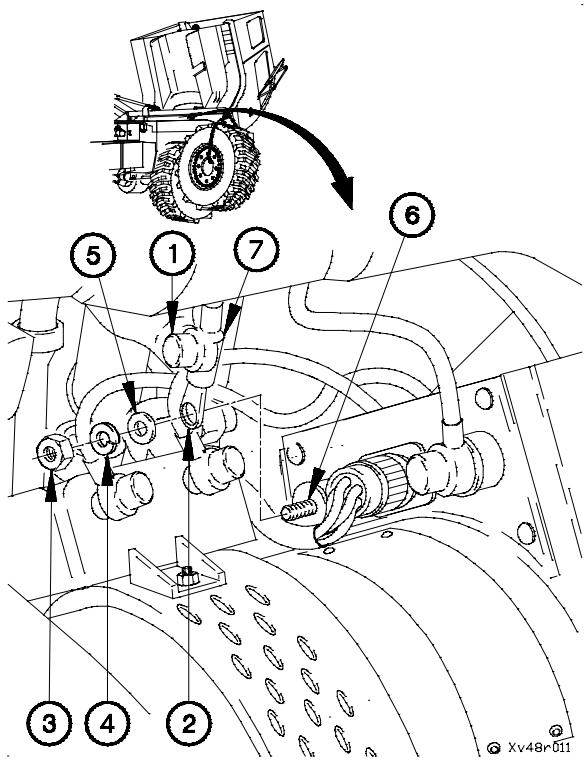
NOTE

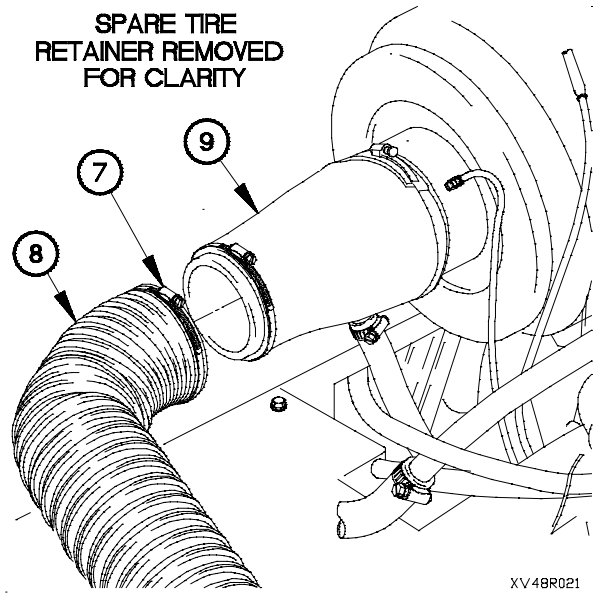
Remove plastic cable ties as required.

(1) Lift dust boot (1) on terminal lug TL60 (2).

(2) Remove nut (3), lockwasher (4), washer (5), and terminal lug TL60 (2) from alternator terminal (6). Discard lockwasher.

(3) Remove dust boot (1) from terminal lug TL60 (2).



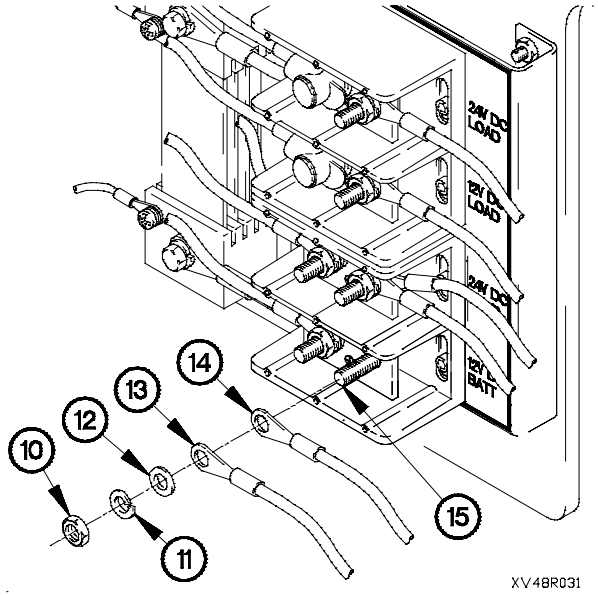


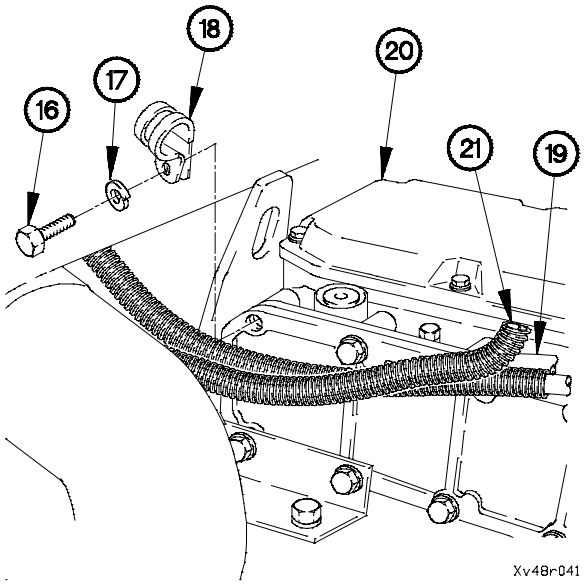
(4) Loosen clamp (7) on turbocharger intake hose (8).

(5) Remove turbocharger intake hose (8) from intake air cleaner boot (9).

20-59. 200 AMP ALTERNATOR TO TERMINAL BLOCK 12 VDC CABLE REPLACEMENT (CONT)

(6) Remove nut (10), lockwasher (11), washer (12), and terminal lugs TL61 (13) and TL171 (14) from terminal block terminal (15). Discard lockwasher.





(7) Remove three screws (16), washers (17), clamps (18), and 200 amp alternator to terminal block 12 vdc cable (19) from engine (20).

(8) Remove convoluted tubing (21) from 200 amp alternator to terminal block 12 vdc cable (19).

b. Installation.

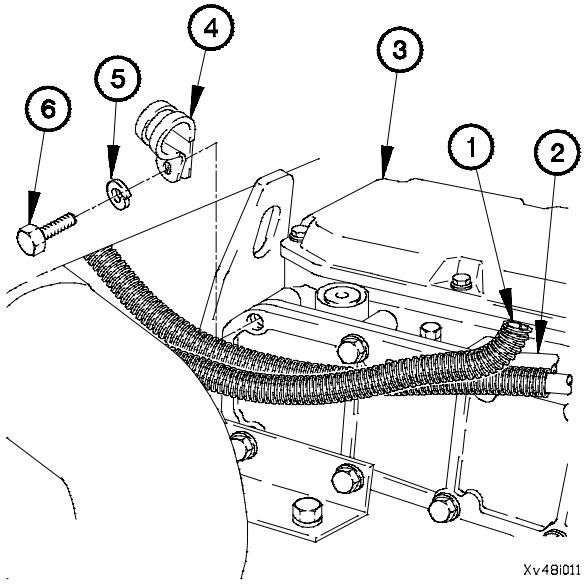
NOTE

Install plastic cable ties as required.

(1) Install convoluted tubing (1) on 200 amp alternator to terminal block 12 vdc cable (2).

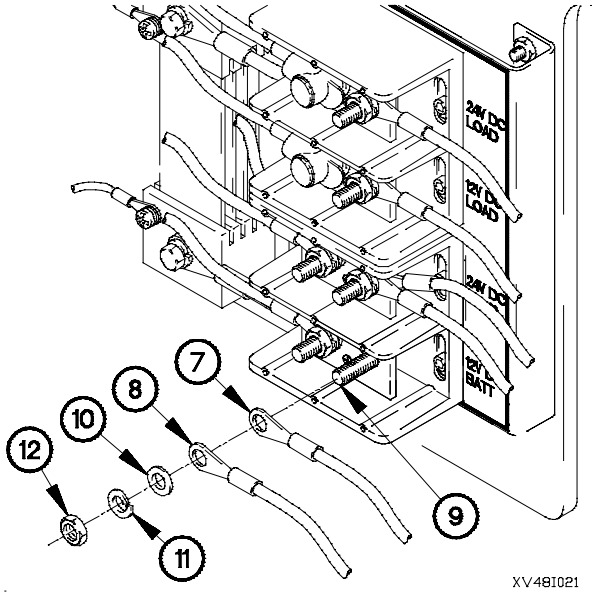
(2) Position 200 amp alternator to terminal block 12 vdc cable (2) on engine (3) with three clamps (4), washers (5), and screws (6).

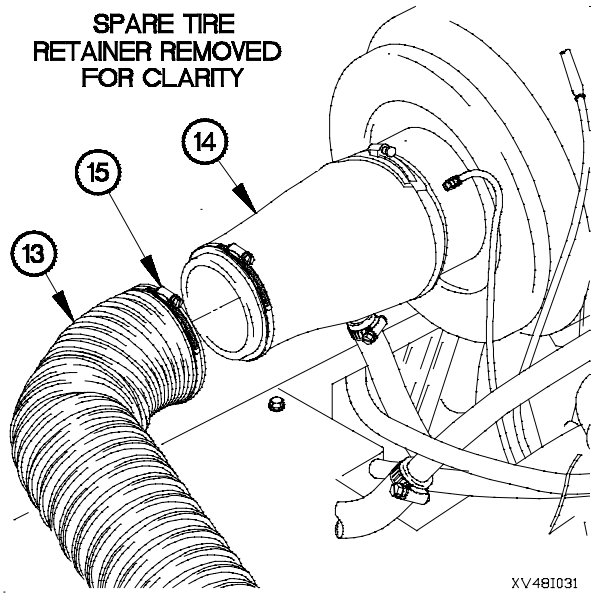
(3) Tighten three screws (6) to 22-27 lb-ft (31-37 N·m).



(4) Position terminal lugs TL171 (7) and TL61 (8) on terminal block terminal (9) with washer (10), lockwasher (11), and nut (12).

(5) Tighten nut (12) to 15-19 lb-ft (21-25 N·m).





(6) Position turbocharger intake hose (13) on intake air cleaner boot (14) with clamp (15).

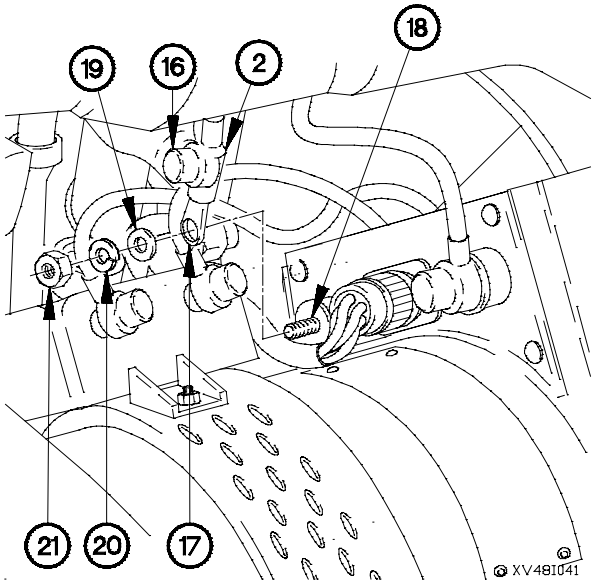
(7) Tighten clamp (15) to 36-48 lb-in. (4-5 N·m).

(8) Install dust boot (16) on terminal lug TL60 (17).

(9) Position terminal lug TL60 (17) on alternator terminal (18) with washer (19), lockwasher (20), and nut (21).

(10) Tighten nut (21) to 144-192 lb-in. (17-21 N·m).

(11) Position dust boot (16) on terminal lug TL60 (17).



20-59. 200 AMP ALTERNATOR TO TERMINAL BLOCK 12 VDC CABLE REPLACEMENT (CONT)

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Raise spare tire (TM 9-2320-365-10).

(3) Lower cab (TM 9-2320-365-10).

(4) Start engine (TM 9-2320-365-10).

(5) Check VOLTS gage for charge indication (TM 9-2320-365-10).

(6) Shut down engine (TM 9-2320-365-10).

End of Task.

20-60. 200 AMP TERMINAL BLOCK TO REVERSE POLARITY RELAY 12 VDC LOAD CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Spare tire lowered (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

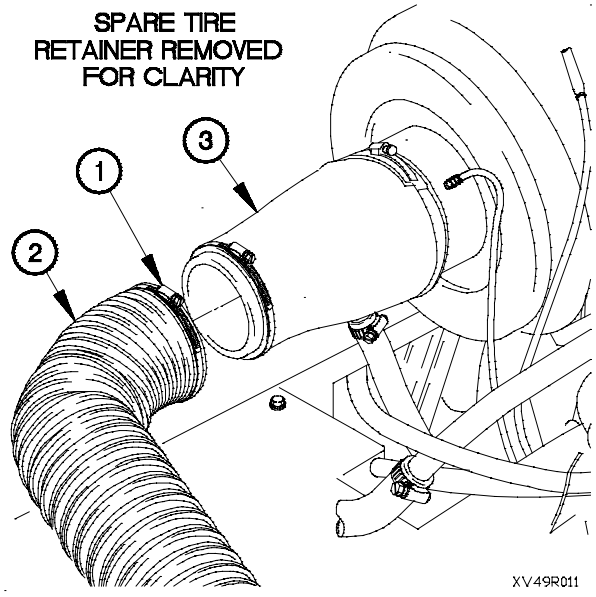
Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Lockwasher (Item 65, Appendix G)
Lockwasher (Item 89, Appendix G)

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)

a. Removal.

(1) Loosen clamp (1) on turbocharger intake hose (2).

(2) Remove turbocharger intake hose (2) from intake air cleaner boot (3).



20-60. 200 AMP TERMINAL BLOCK TO REVERSE POLARITY RELAY 12 VDC LOAD CABLE REPLACEMENT (CONT)

NOTE

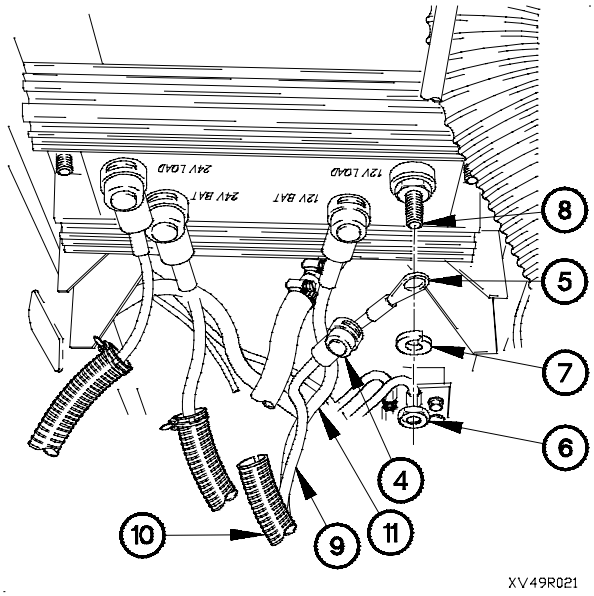
Remove plastic cable ties as required.

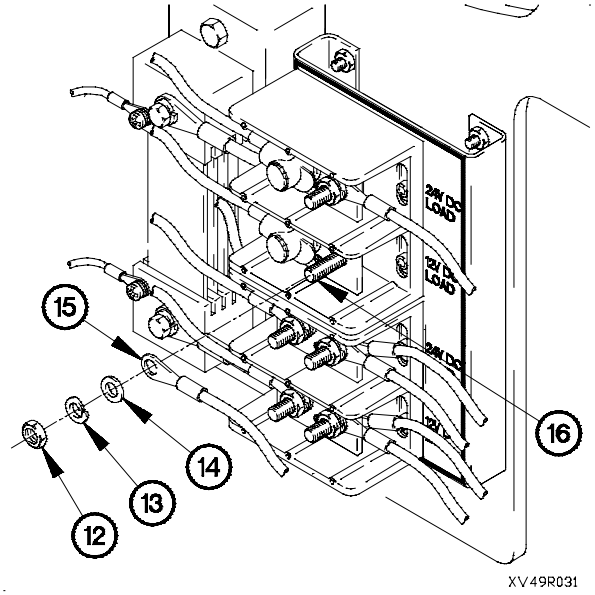
(3) Lift dust boot (4) on terminal lug TL174 (5).

(4) Remove nut (6), lockwasher (7), and terminal lug TL174 (5) from reverse polarity relay (8). Discard lockwasher.

(5) Remove dust boot (4) from 200 amp terminal block to reverse polarity relay 12 vdc load cable (9).

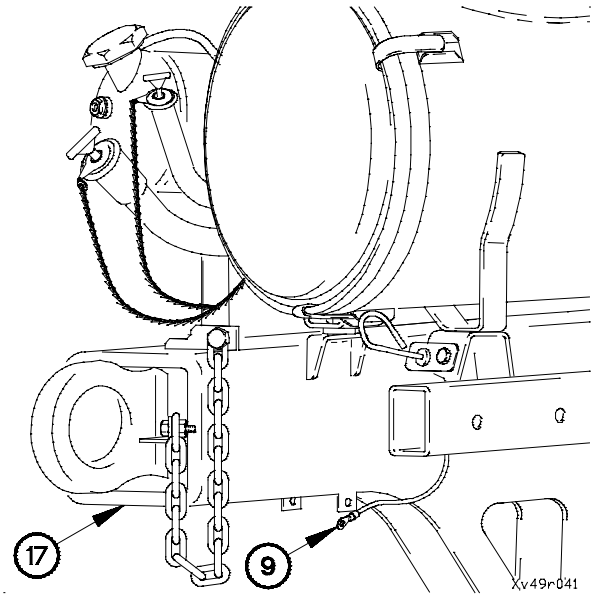
(6) Remove convoluted tubing (10) from 200 amp terminal block to reverse polarity relay 12 vdc load cable (9) and 200 amp terminal block to reverse polarity relay 12 vdc battery cable (11).





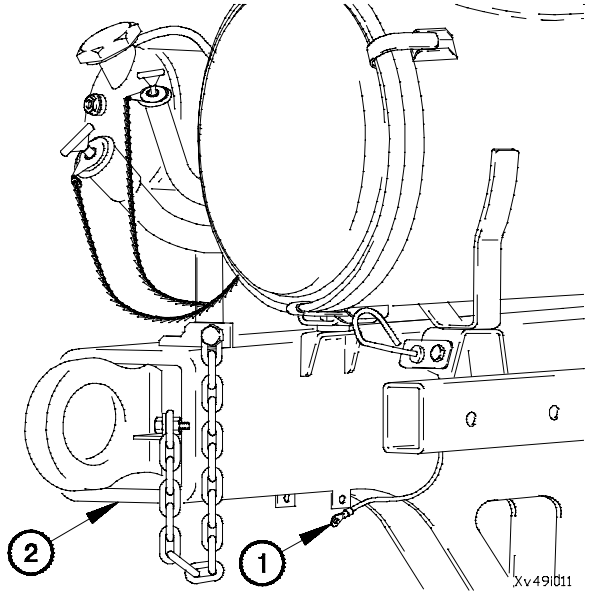
(7) Remove nut (12), lockwasher (13), washer (14), and terminal lug TL172 (15) from terminal block terminal (16). Discard lockwasher.

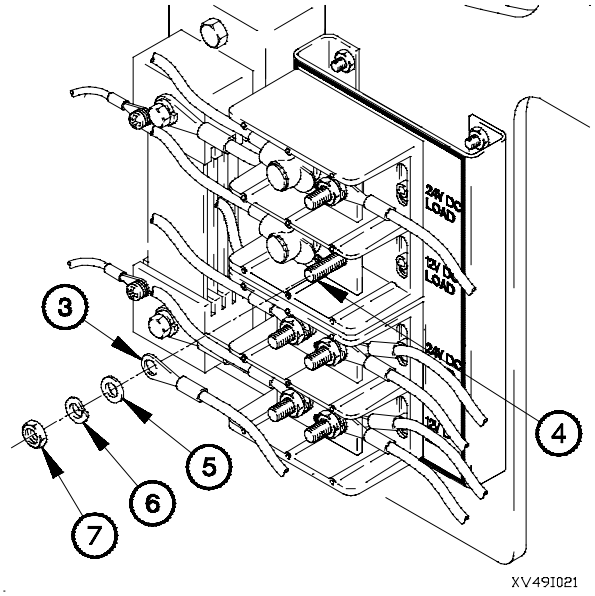
(8) Remove 200 amp terminal block to reverse polarity relay 12 vdc load cable (9) from rear side of front lifting beam (17).



b. Installation.

(1) Position 200 amp terminal block to reverse polarity relay 12 vdc load cable (1) on rear side of front lifting beam (2).





(2) Position terminal lug TL172 (3) on terminal block terminal (4) with washer (5), lockwasher (6), and nut (7).

(3) Tighten nut (7) to 15-19 lb-ft (21-25 N·m).

NOTE

Install plastic cable ties as required.

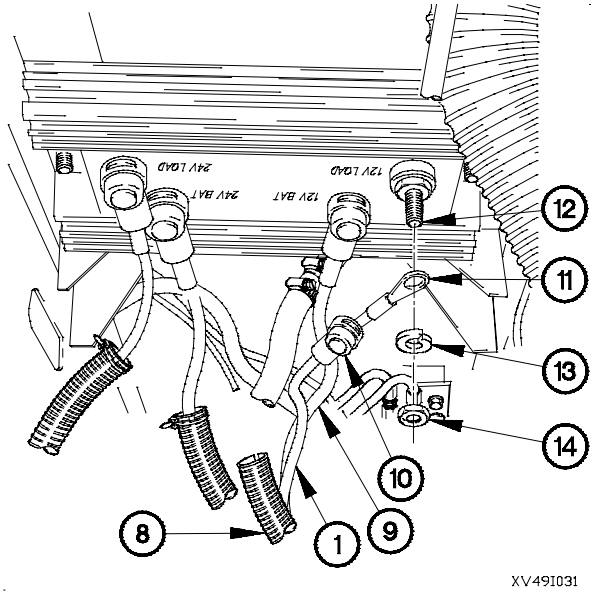
(4) Install convoluted tubing (8) on 200 amp terminal block to reverse polarity relay 12 vdc load cable (1) and 200 amp terminal block to reverse polarity relay 12 vdc battery cable (9).

(5) Install dust boot (10) on 200 amp terminal block to reverse polarity relay 12 vdc load cable (1).

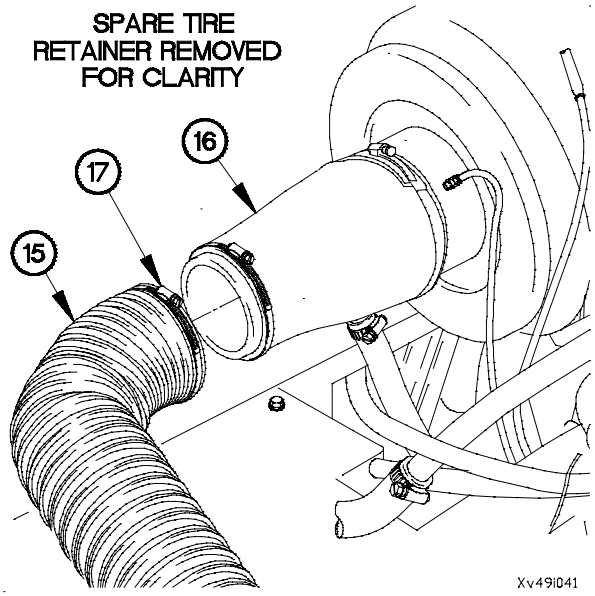
(6) Position terminal lug TL174 (11) on reverse polarity relay (12) with lockwasher (13), and nut (14).

(7) Tighten nut (14) to 108-132 lb-in. (12-15 N·m).

(8) Position dust boot (10) on terminal lug TL174 (11).



20-60. 200 AMP TERMINAL BLOCK TO REVERSE POLARITY RELAY 12 VDC LOAD CABLE REPLACEMENT (CONT)



(9) Position turbocharger intake hose (15) on intake air cleaner boot (16) with clamp (17).

(10) Tighten clamp (17) to 36-48 lb-in. (4-5 N·m).

c. Follow-On Maintenance

(1) Connect batteries (para 7-48).

(2) Raise spare tire (TM 9-2320-365-10).

(3) Lower cab (TM 9-2320-365-10).

(4) Start engine (TM 9-2320-365-10).

(5) Check VOLTS gage for charge indication (TM 9-2320-365-10).

(6) Shut down engine (TM 9-2320-365-10).

End of Task.

20-61. 200 AMP ALTERNATOR TO TERMINAL BLOCK 24 VDC CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Spare tire lowered (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Lockwasher (Item 96, Appendix G)
Lockwasher (Item 89, Appendix G)

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

a. Removal.

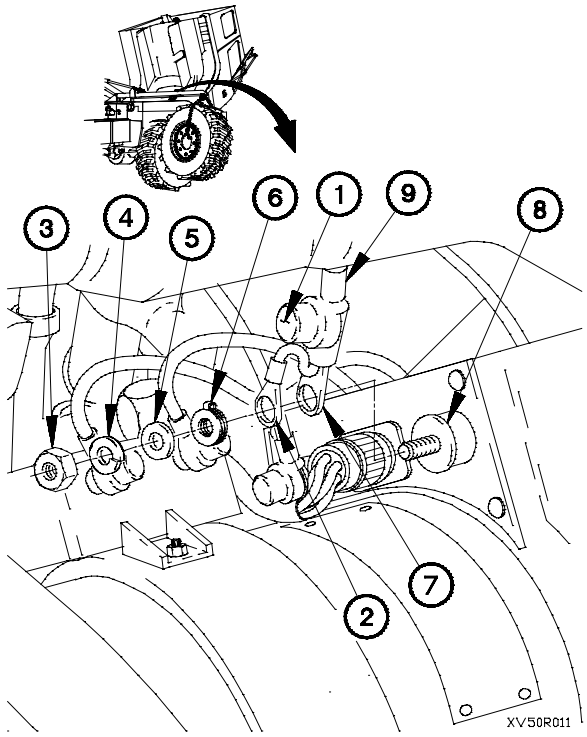
(1) Lift dust boot (1) on terminal lug TL2 (2).

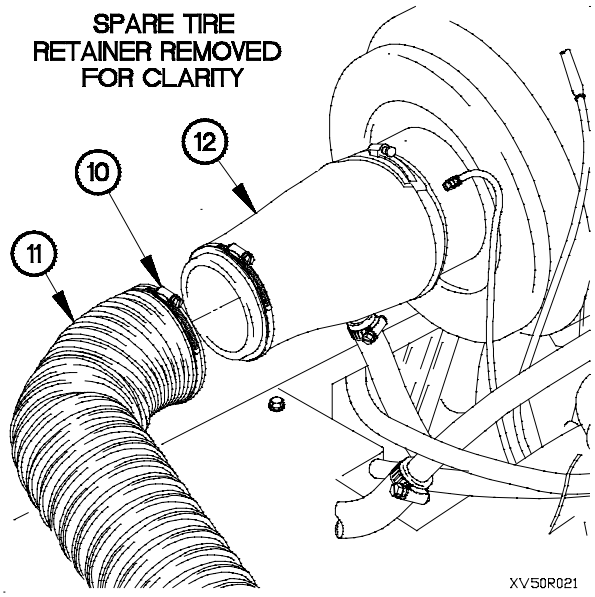
NOTE

Remove plastic cable ties as required.

(2) Remove nut (3), lockwasher (4), washer (5), fuse (6), and terminal lugs TL2 (2) and TL8 (7) from alternator terminal (8). Discard lockwasher.

(3) Remove alternator to terminal block 24 vdc cable (9) from dust boot (1).



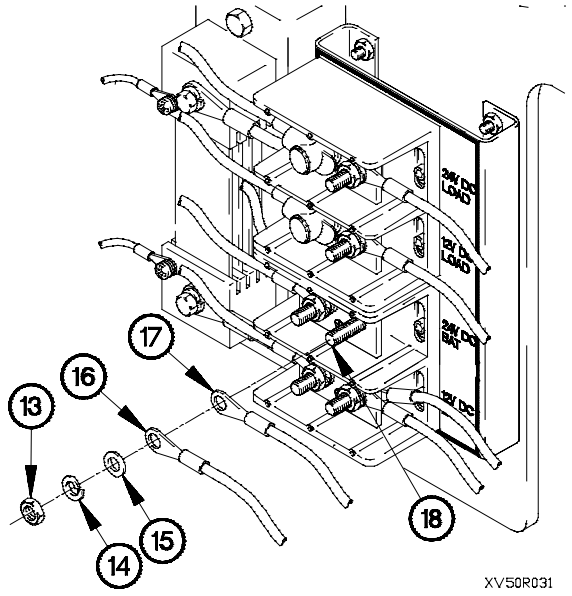


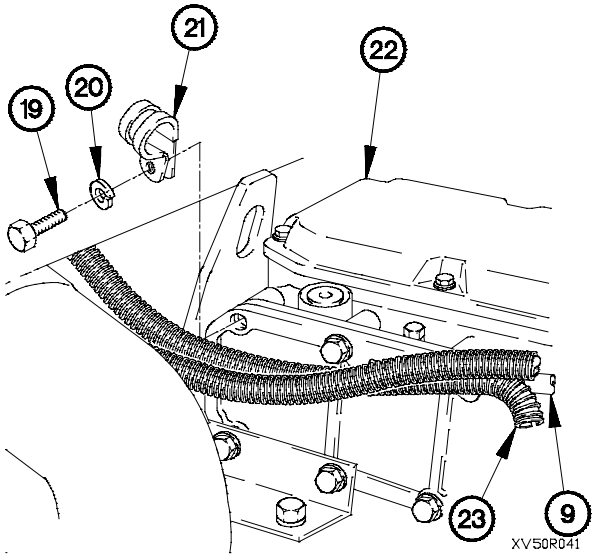
(4) Loosen clamp (10) on turbocharger intake hose (11).

(5) Remove turbocharger intake hose (11) from intake air cleaner boot (12).

20-61. 200 AMP ALTERNATOR TO TERMINAL BLOCK 24 VDC CABLE REPLACEMENT (CONT)

(6) Remove nut (13), lockwasher (14), washer (15), and terminal lugs TL1 (16) and TL166 (17) from terminal block terminal (18). Discard lockwasher.





(7) Remove three screws (19), washers (20), clamps (21), and 200 amp alternator to terminal block 24 vdc cable (9) from engine (22).

(8) Remove convoluted tubing (23) from 200 amp alternator to terminal block 24 vdc cable (9).

b. Installation.

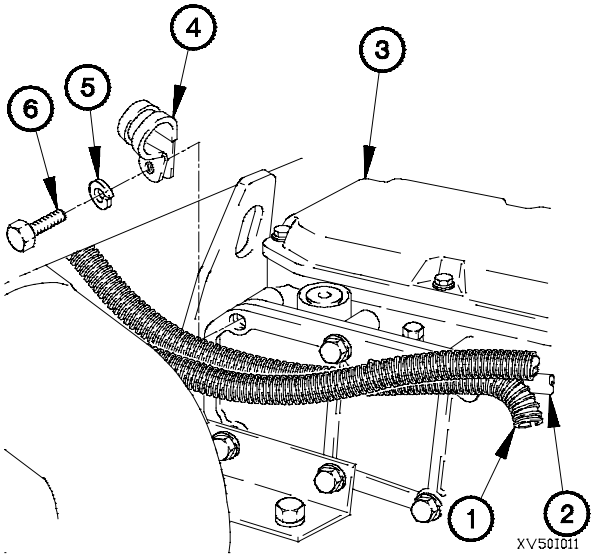
NOTE

Install plastic cable ties as required.

(1) Install convoluted tubing (1) on 200 amp alternator to terminal block 24 vdc cable (2).

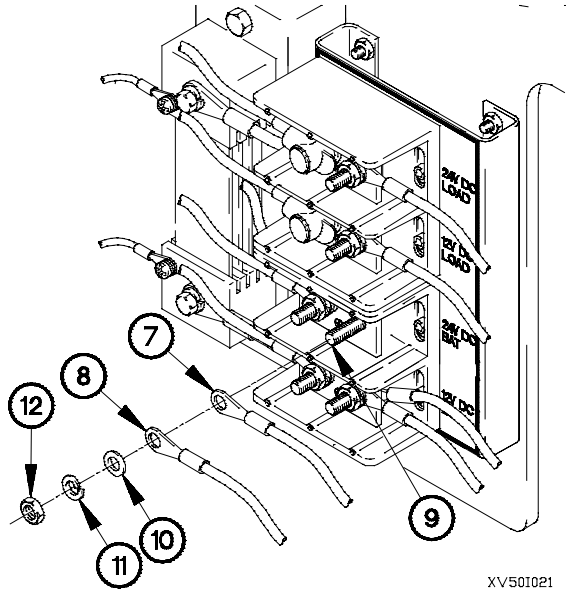
(2) Position 200 amp alternator to terminal block 24 vdc cable (2) on engine (3) with three clamps (4), washers (5), and screws (6).

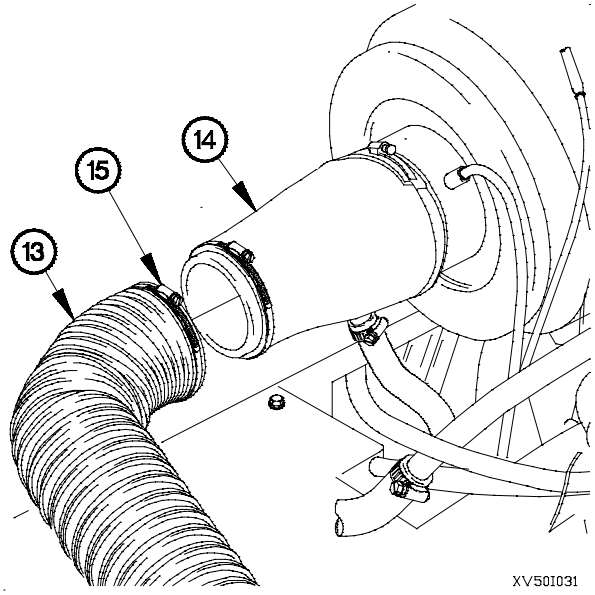
(3) Tighten three screws (6) to 22-27 lb-ft (31-37 N·m).



(4) Position terminal lugs TL166 (7) and TL1 (8) on terminal block terminal (9) with washer (10), lockwasher (11), and nut (12).

(5) Tighten nut (12) to 15-19 lb-ft (21-25 N·m).





(6) Position turbocharger intake hose (13) on intake air cleaner boot (14) with clamp (15).

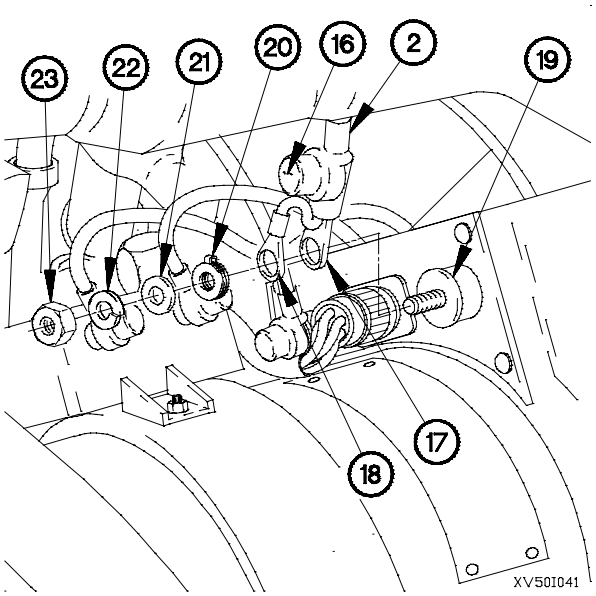
(7) Tighten clamp (15) to 36-48 lb-in. (4-5 N·m).

(8) Install 200 amp alternator to terminal block 24 vdc cable (2) in dust boot (16).

(9) Position terminal lugs TL8 (17) and TL2 (18) on alternator terminal (19) with fuse (20), washer (21), lockwasher (22), and nut (23).

(10) Tighten nut (23) to 144-192 lb-in. (17-21 N·m).

(11) Install dust boot (16) on terminal lug TL2 (18).



20-61. 200 AMP ALTERNATOR TO TERMINAL BLOCK 24 VDC CABLE REPLACEMENT (CONT)

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Raise spare tire (TM 9-2320-365-10).

(3) Start engine (TM 9-2320-365-10).

(4) Check VOLTS gage for charge indication (TM 9-2320-365-10).

(5) Shut down engine (TM 9-2320-365-10).

End of Task.

20-62. 200 AMP TERMINAL BLOCK TO REVERSE POLARITY RELAY 24 VDC LOAD CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Spare tire lowered (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

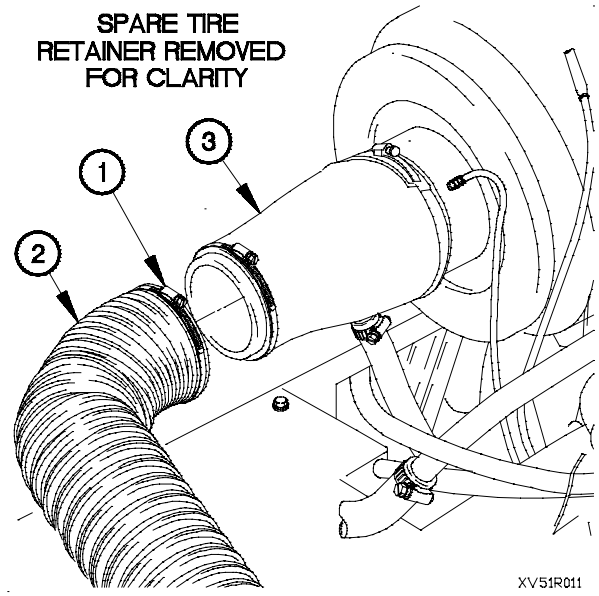
Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Lockwasher (Item 89, Appendix G)
Lockwasher (Item 66, Appendix G)

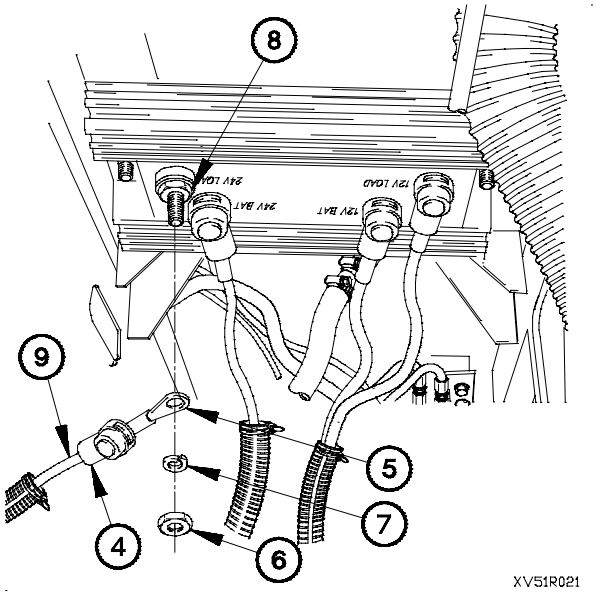
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

a. Removal.

(1) Loosen clamp (1) on turbocharger intake hose (2).

(2) Remove turbocharger intake hose (2) from intake air cleaner boot (3).





(3) Lift dust boot (4) on terminal lug TL168 (5).

NOTE

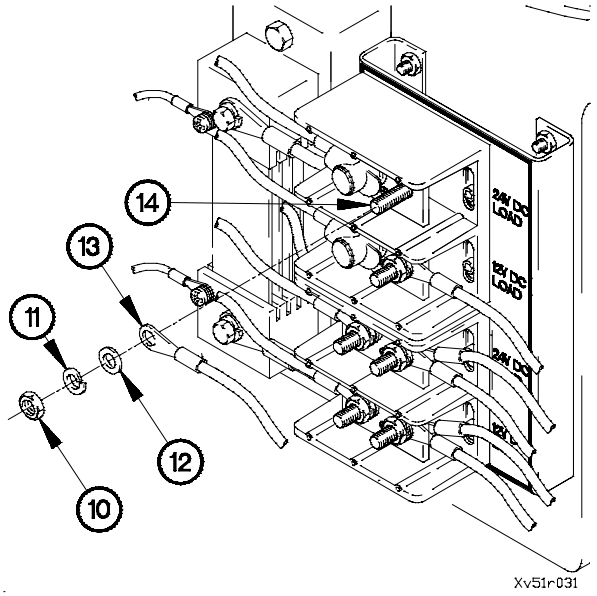
Remove plastic cable ties as required.

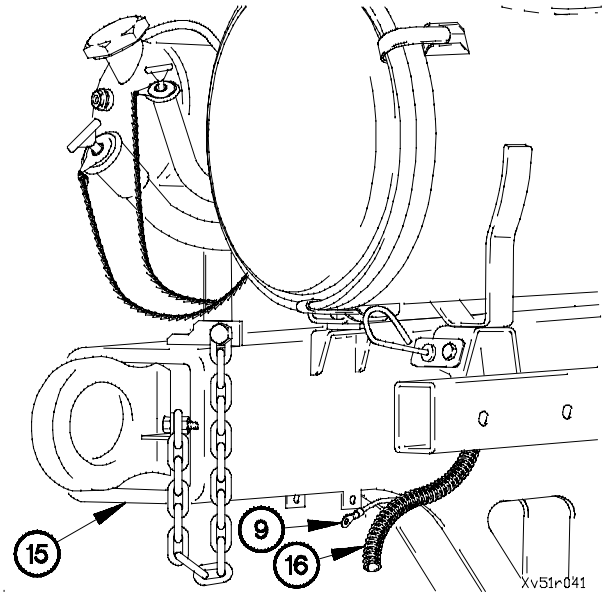
(4) Remove nut (6), lockwasher (7), and terminal lug TL168 (5) from reverse polarity relay 24 VDC LOAD terminal (8). Discard lockwasher.

(5) Remove dust boot (4) from 200 amp terminal block to reverse polarity relay 24 vdc load cable (9).

20-62. 200 AMP TERMINAL BLOCK TO REVERSE POLARITY RELAY 24 VDC LOAD CABLE REPLACEMENT (CONT)

(6) Remove nut (10), lockwasher (11), washer (12), and terminal lug TL167 (13) from terminal block terminal (14). Discard lockwasher.





(7) Remove 200 amp terminal block to reverse polarity relay 24 vdc load cable (9) from rear side of front lifting beam (15).

(8) Remove convoluted tubing (16) from 200 amp terminal block to reverse polarity relay 24 vdc load cable (9).

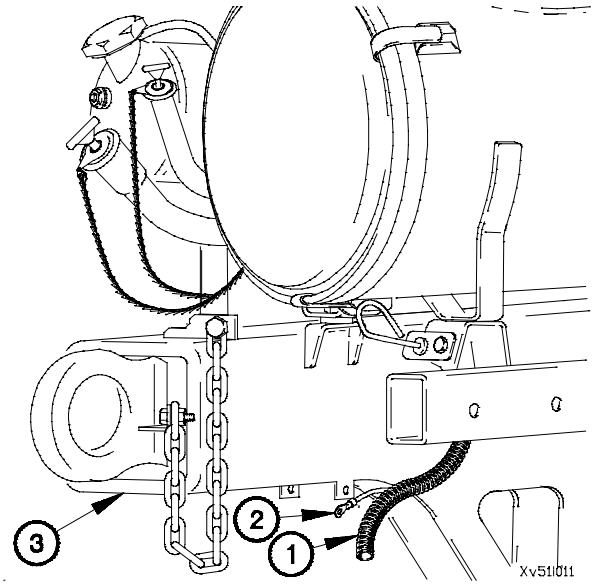
b. Installation.

NOTE

Install plastic cable ties as required.

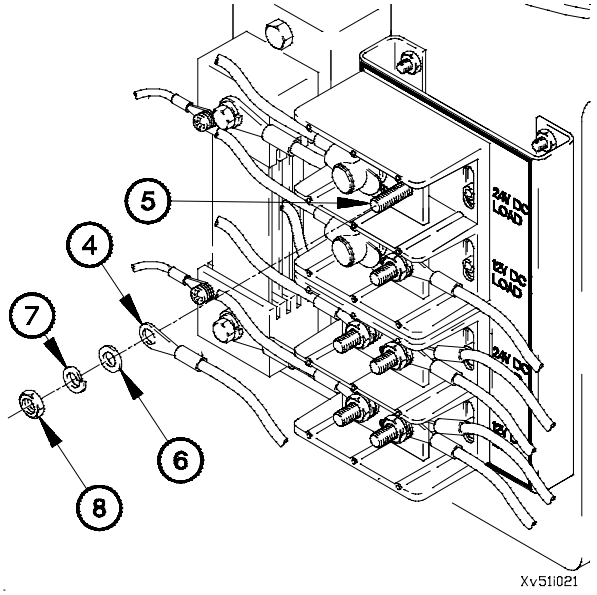
(1) Install convoluted tubing (1) on 200 amp terminal block to reverse polarity relay 24 vdc load cable (2).

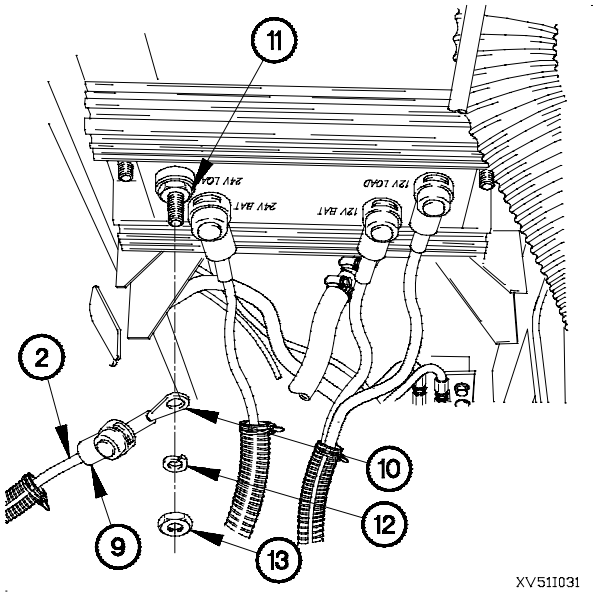
(2) Route 200 amp terminal block to reverse polarity relay 24 vdc load cable (2) on rear side of front lifting beam (3).



(3) Position terminal lug TL167 (4) on terminal block terminal (5) with washer (6) lockwasher (7) and nut (8).

(4) Tighten nut (8) to 15-19 lb-ft (21-25 N·m).





(5) Install dust boot (9) on 200 amp terminal block to reverse polarity relay 24 vdc load cable (2).

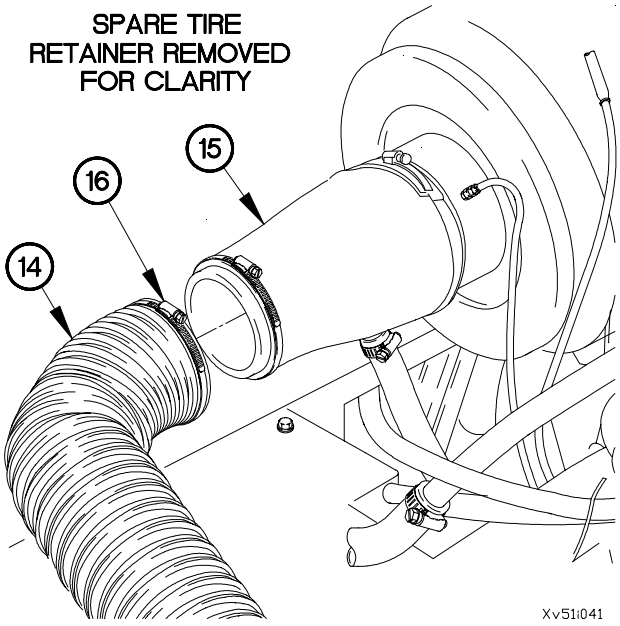
(6) Position terminal lug TL168 (10) on reverse polarity relay 24 VDC LOAD terminal (11) with lockwasher (12) and nut (13).

(7) Tighten nut (13) to 27-33 lb-ft (37-45 N·m).

(8) Position dust boot (9) on terminal lug TL168 (10).

(9) Position turbocharger intake hose (14) on intake air cleaner boot (15) with clamp (16).

(10) Tighten clamp (16) to 36-48 lb-in. (4-5 N·m).



20-62. 200 AMP TERMINAL BLOCK TO REVERSE POLARITY RELAY 24 VDC LOAD CABLE REPLACEMENT (CONT)

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Raise spare tire (TM 9-2320-365-10).

(3) Start engine (TM 9-2320-365-10).

(4) Check VOLTS gage for charge indication (TM 9-2320-365-10).

(5) Shut down engine (TM 9-2320-365-10).

End of Task.

20-63. BATTERY TO 200 AMP TERMINAL BLOCK 12 VDC CABLE ASSEMBLY REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Spare tire lowered (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

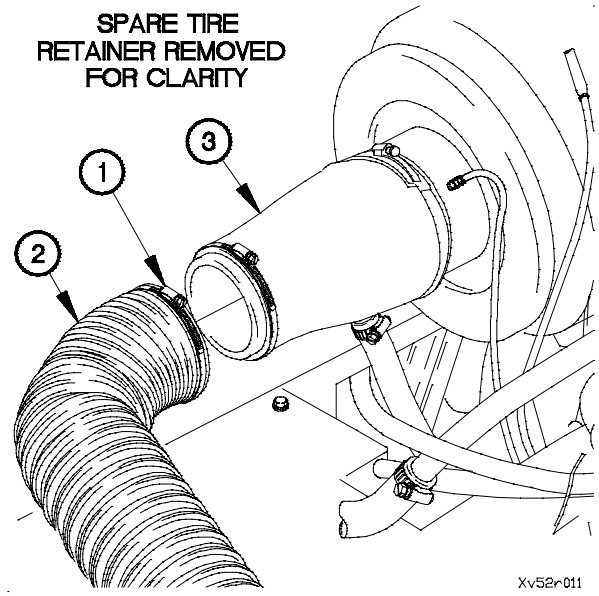
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

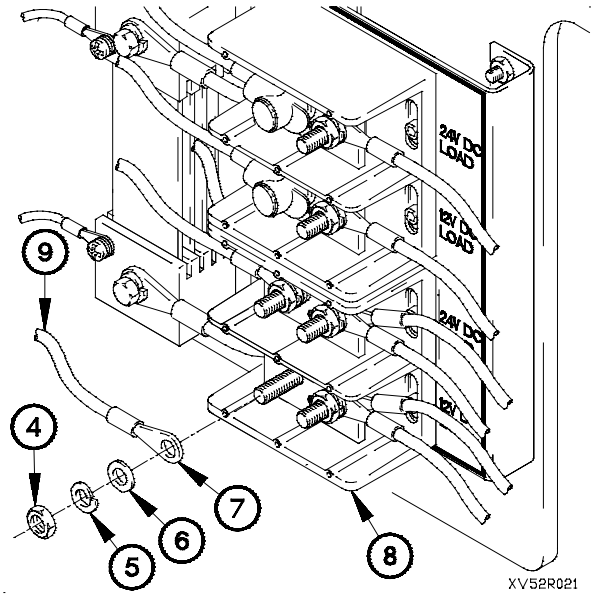
Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Lockwasher (Item 89, Appendix G)

a. Removal.

(1) Loosen clamp (1) on turbocharger intake hose (2).

(2) Remove turbocharger intake hose (2) from intake air cleaner boot (3).





(3) Remove nut (4), lockwasher (5), washer (6), and terminal lug TL47 (7) from terminal block (8). Discard lockwasher.

NOTE

- Note routing of battery to 200 amp terminal block 12 vdc cable prior to removal.
- Remove plastic cable ties as required.

(4) Remove battery to 200 amp terminal block 12 vdc cable (9) from vehicle.

20-63. BATTERY TO 200 AMP TERMINAL BLOCK 12 VDC CABLE ASSEMBLY REPLACEMENT (CONT)

b. Installation.

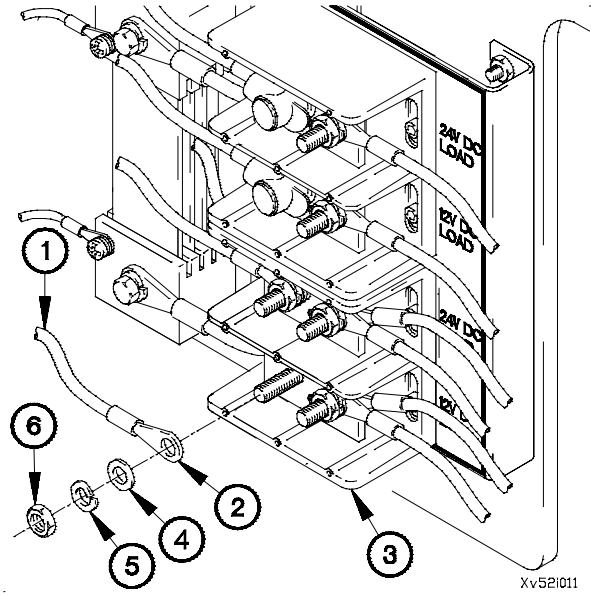
NOTE

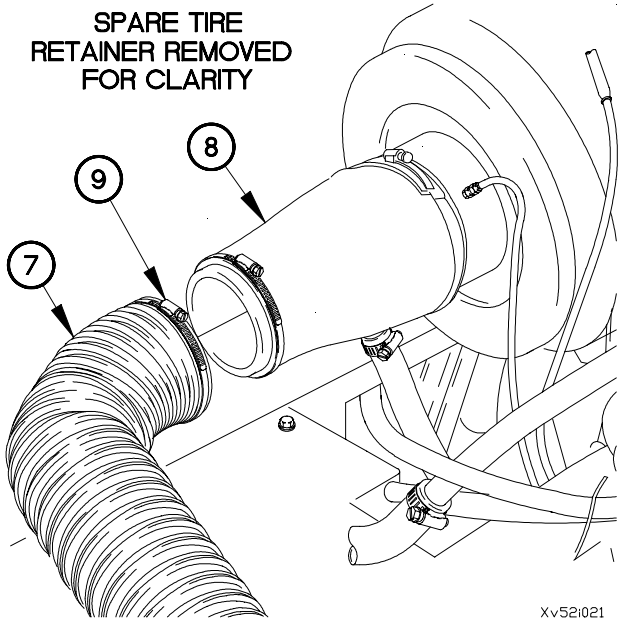
Install plastic cable ties as required.

(1) Position battery to 200 amp terminal block 12 vdc cable (1) on vehicle.

(2) Position terminal lug TL47 (2) on terminal block (3) with washer (4), lockwasher (5), and nut (6).

(3) Tighten nut (6) to 15-19 lb-ft (21-25 N·m).





(4) Position turbocharger intake hose (7) on intake air cleaner boot (8) with clamp (9).

(5) Tighten clamp (9) to 36-48 lb-in. (4-5 N·m).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Raise spare tire (TM 9-2320-365-10).

(3) Start engine (TM 9-2320-365-10).

(4) Check VOLTS gage for charge indication (TM 9-2320-365-10).

(5) Shut down engine (TM 9-2320-365-10).

End of Task.

20-64. BATTERY TO 200 AMP TERMINAL BLOCK 24 VDC CABLE ASSEMBLY REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Spare tire lowered (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

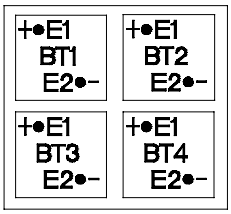
Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Lockwasher (Item 89, Appendix G)

a. Removal.

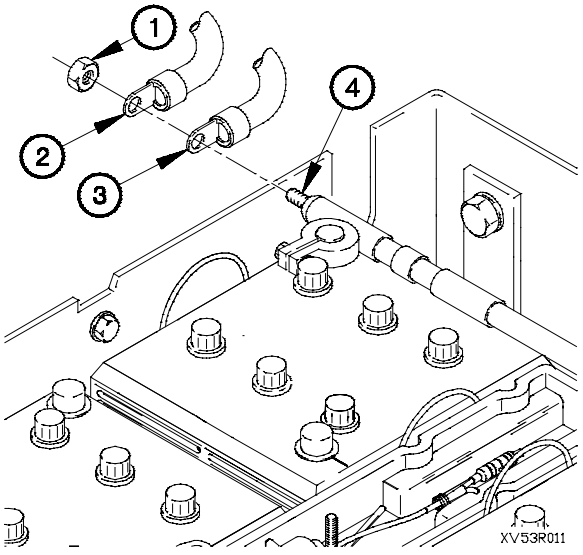
WARNING

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

(1) Remove nut (1) and terminal lugs TL10 (2) and TL39 (3) from battery cable BT1 E1 (4).



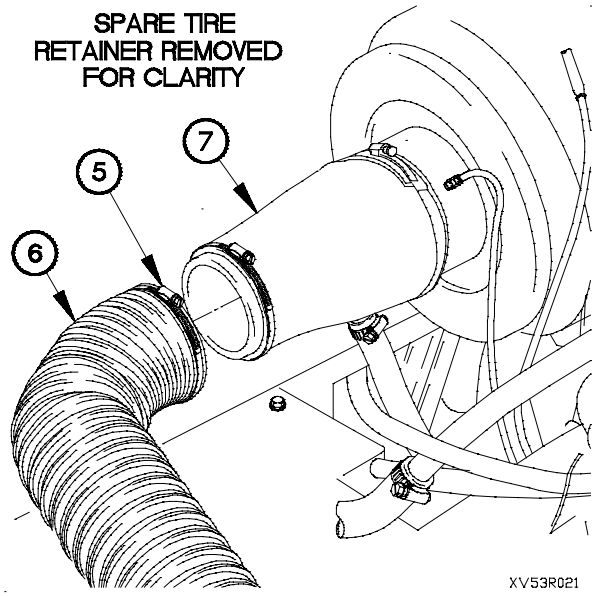
BATTERY INSTALLATION DIAGRAM

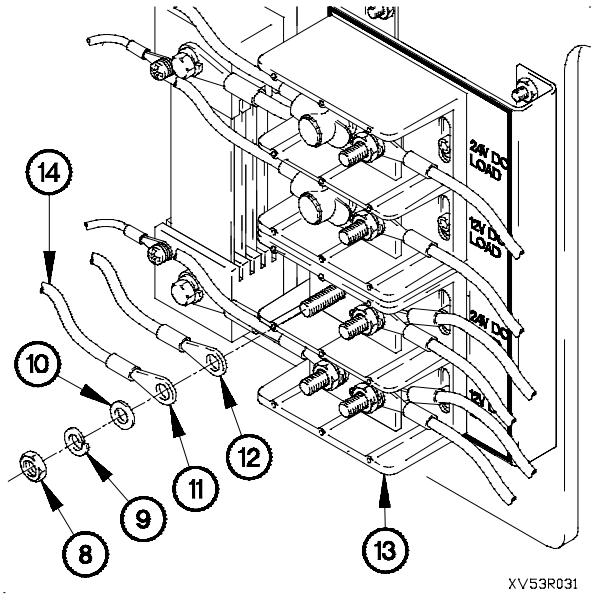


20-64. BATTERY TO 200 AMP TERMINAL BLOCK 24 VDC CABLE ASSEMBLY REPLACEMENT (CONT)

(2) Loosen clamp (5) on turbocharger intake hose (6).

(3) Remove turbocharger intake hose (6) from intake air cleaner boot (7).



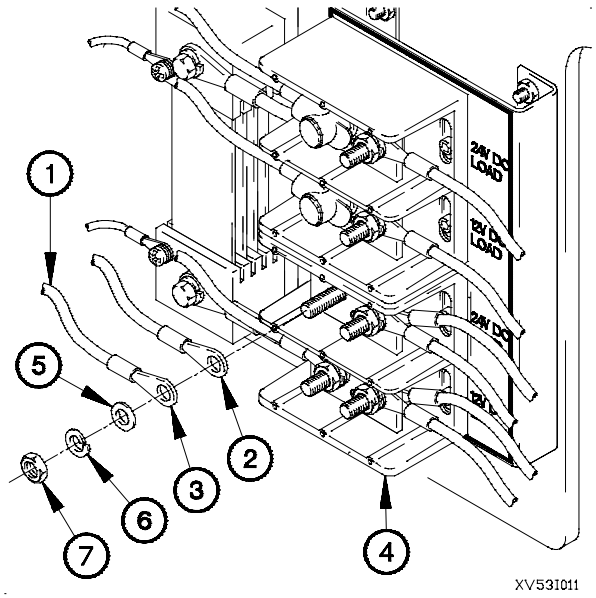


(4) Remove nut (8), lockwasher (9), washer (10), and two terminal lugs TL37 (11) and TL36 (12) from terminal block (13). Discard lockwasher.

NOTE

Remove plastic cable ties as required.

(5) Remove battery to 200 amp terminal block 24 vdc cable (14) from vehicle.



b. Installation.

NOTE

Install plastic cable ties as required.

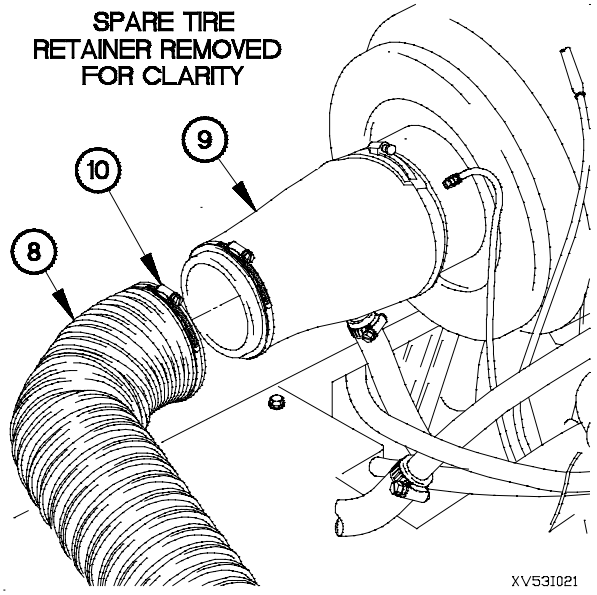
(1) Position battery to 200 amp terminal block 24 vdc cable assembly (1) on vehicle.

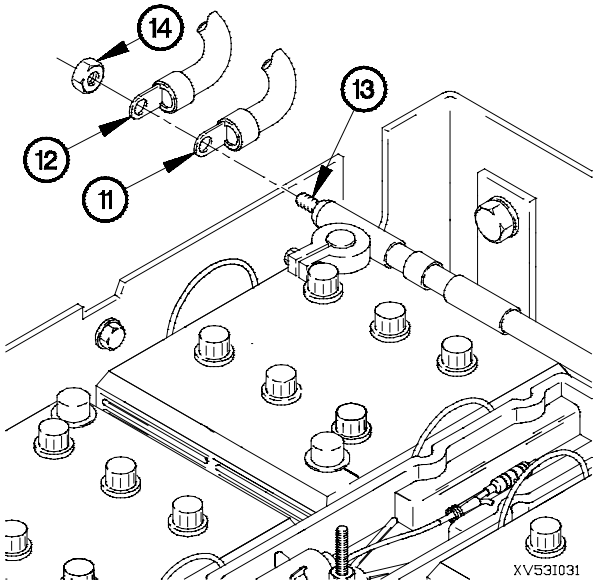
(2) Position terminal lugs TL36 (2) and TL37 (3) on terminal block (4) with washer (5), lockwasher (6), and nut (7).

(3) Tighten nut (7) to 15-19 lb-ft (21-25 N·m).

(4) Position turbocharger intake hose (8) on intake air cleaner boot (9) with clamp (10).

(5) Tighten clamp (10) to 36-48 lb-in. (4-5 N·m).





(6) Install terminal lugs TL39 (11) and TL10 (12) on battery cable BT1 E1 (13) with nut (14).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Raise spare tire (TM 9-2320-365-10).

(3) Start engine (TM 9-2320-365-10).

(4) Check VOLTS gage for 24 vdc (TM 9-2320-365-10).

(5) Shut down engine (TM 9-2320-365-10).

End of Task.

20-65. 200 AMP TERMINAL BLOCK TO POWER DISTRIBUTION PANEL (PDP) 12 VDC CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Batteries disconnected (para 7-48).
PDP cover removed (para 16-2).
Spare tire lowered (TM 9-2320-365-10).
Lower radiator fan shroud removed (para 6-4).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

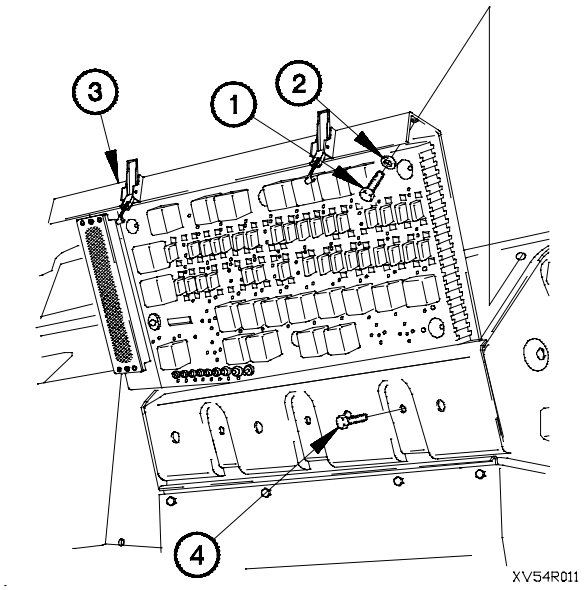
Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Nut, Self-Locking (2) (Item 137, Appendix G)
Lockwasher (Item 92, Appendix G)
Lockwasher (Item 74, Appendix G)

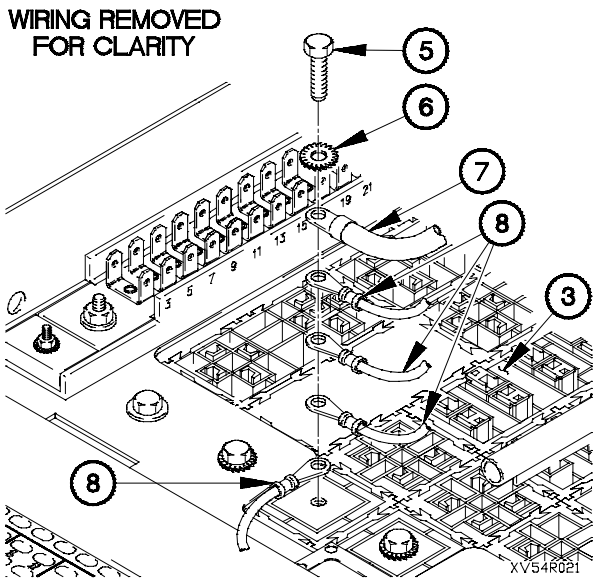
a. Removal.

(1) Remove three screws (1) and washers (2) from PDP (3).

(2) Remove three screws (4) from PDP (3).

(3) Lift PDP (3) outward to gain access.





NOTE

Remove plastic cable ties as required.

(4) Remove screw (5), lockwasher (6), terminal lug TL41 (7), and four terminal lugs (8) from PDP (3). Discard lockwasher.

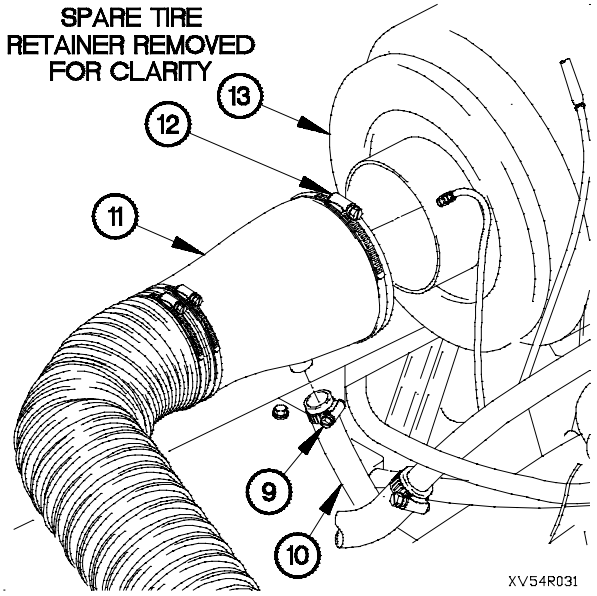
(5) Position four terminal lugs (8) on PDP (3) with screw (5).

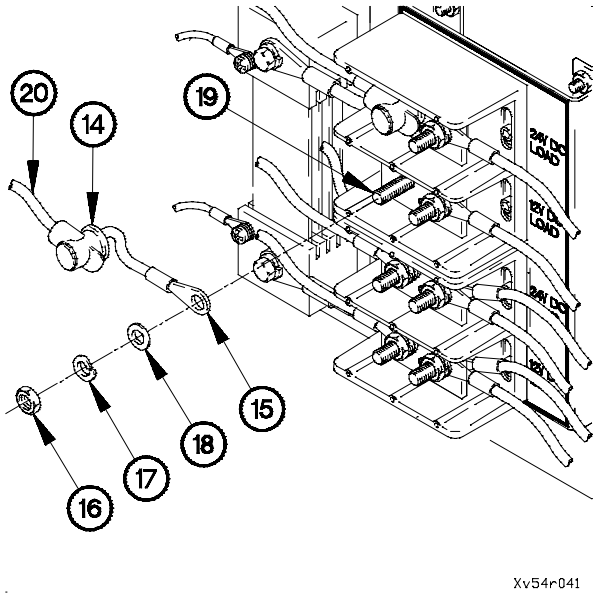
(6) Loosen clamp (9) on air compressor intake hose (10).

(7) Remove air compressor intake hose (10) from intake air cleaner boot (11).

(8) Loosen clamp (12) on intake air cleaner boot (11).

(9) Remove intake air cleaner boot (11) from intake air cleaner housing (13).



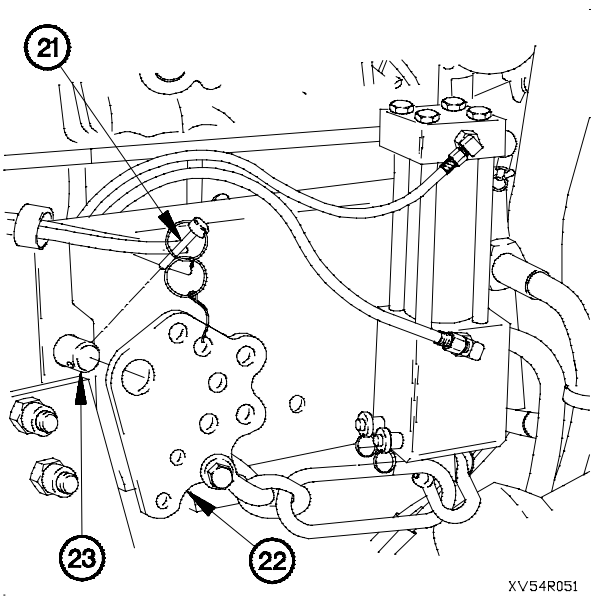


(10) Lift dust boot (14) on terminal lug TL80 (15).

(11) Remove nut (16), lockwasher (17), washer (18) and terminal lug TL80 (15) from terminal block terminal (19). Discard lockwasher.

(12) Remove dust boot (14) from 200 amp terminal block to PDP 12 vdc cable (20).

(13) Remove spring pin (21) and suspension compression plate (22) from suspension compression plate stud (23).



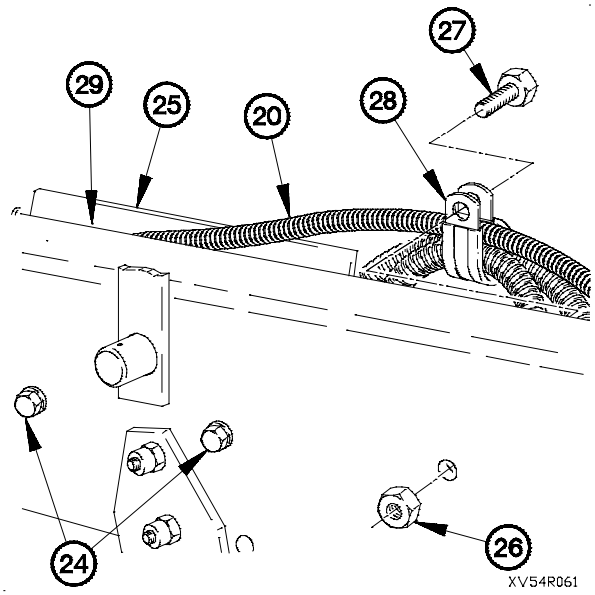
20-65. 200 AMP TERMINAL BLOCK TO POWER DISTRIBUTION PANEL (PDP) 12 VDC CABLE REPLACEMENT (CONT)

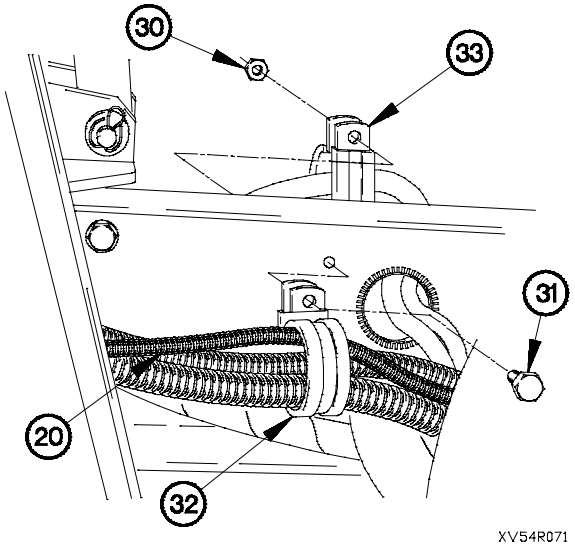
(14) Loosen two screws (24) in heat shield assembly (25).

(15) Remove 200 amp terminal block to PDP 12 vdc cable (20) from heat shield assembly (25).

(16) Remove self-locking nut (26), screw (27), clamp (28), and 200 amp terminal block to PDP 12 vdc cable (20) from frame rail (29). Discard self-locking nut.

(17) Remove 200 amp terminal block to PDP 12 vdc cable (20) from clamp (28).

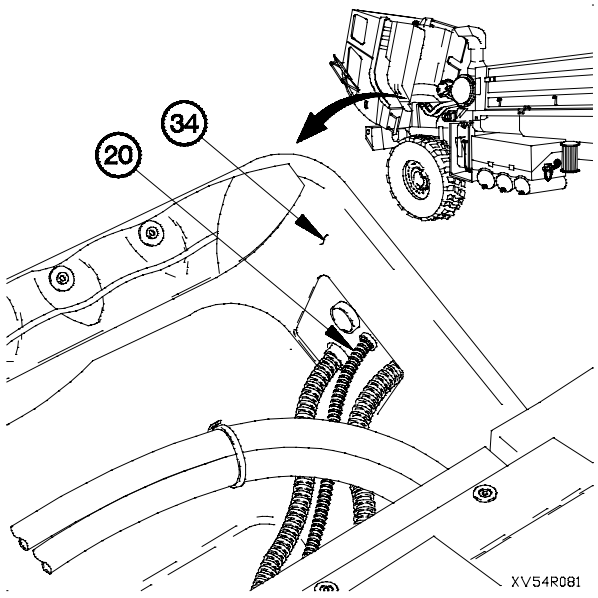




(18) Remove self-locking nut (30) and screw (31) from clamps (32 and 33). Discard self-locking nut.

(19) Remove 200 amp terminal block to PDP 12 vdc cable (20) from clamp (32).

(20) Remove 200 amp terminal block to PDP 12 vdc cable (20) from cab (34).

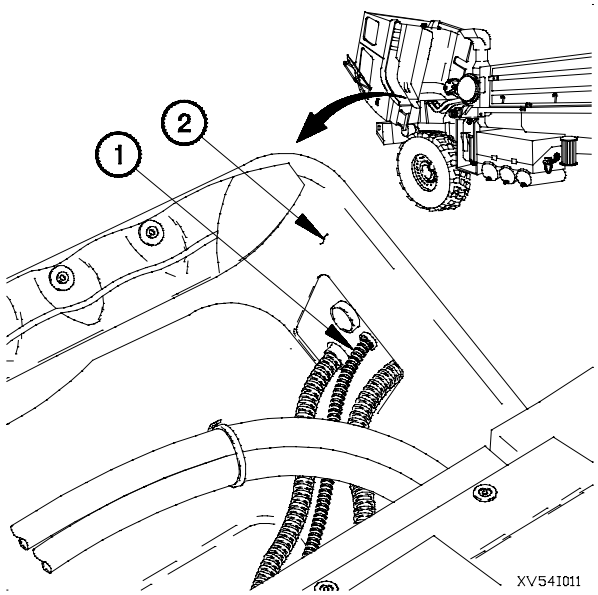


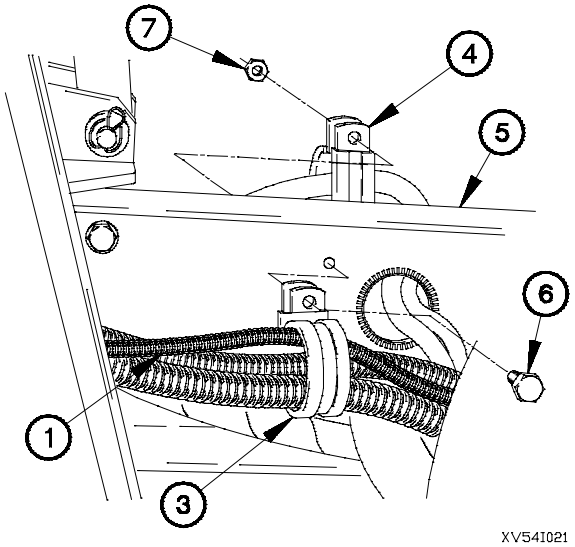
b. Installation.

NOTE

Install plastic cable ties as required.

(1) Route 200 amp terminal block to PDP 12 vdc cable (1) through bottom of cab (2).





(2) Position 200 amp terminal block to PDP 12 vdc cable (1) in clamp (3).

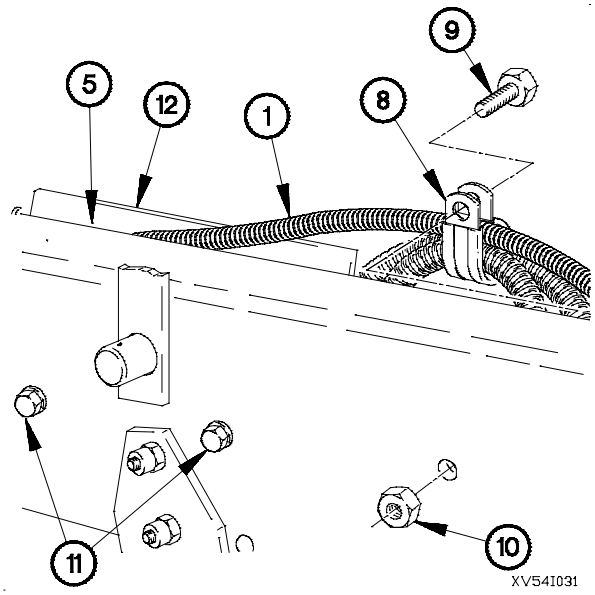
(3) Install clamps (3 and 4) on frame rail (5) with screw (6) and self-locking nut (7).

(4) Position 200 amp terminal block to PDP 12 vdc cable (1) in clamp (8).

(5) Position clamp (8) on frame rail (5) with screw (9), and self-locking nut (10).

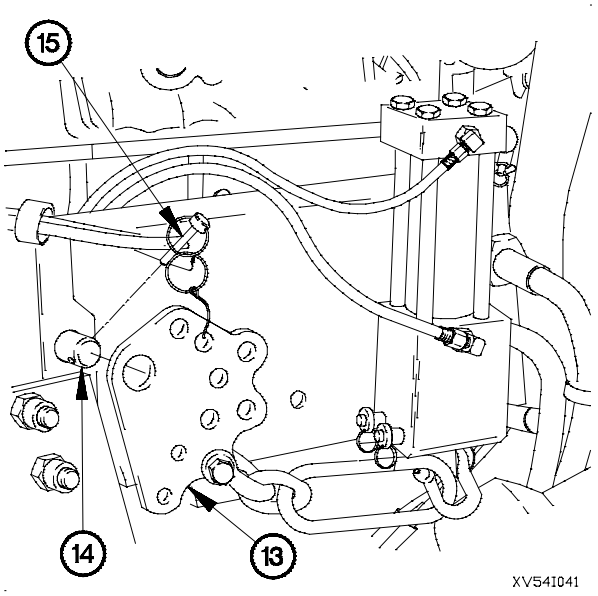
(6) Tighten self-locking nut (10) to 84-108 lb-in. (10-12 N·m).

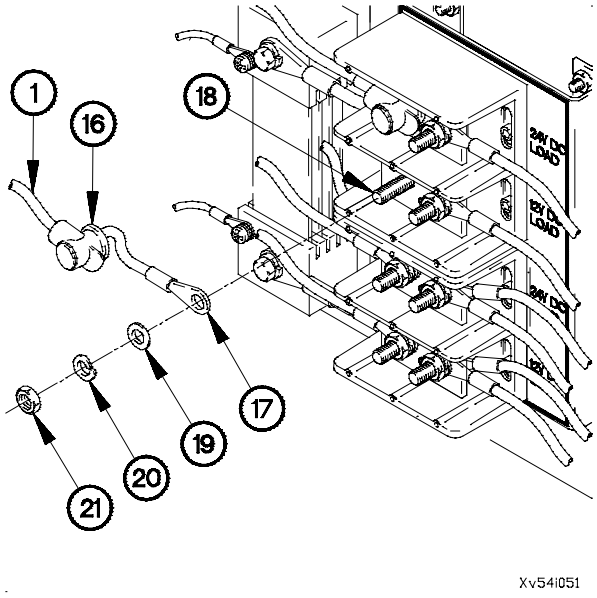
(7) Tighten two screws (11) in heat shield assembly (12).



20-65. 200 AMP TERMINAL BLOCK TO POWER DISTRIBUTION PANEL (PDP) 12 VDC CABLE REPLACEMENT (CONT)

(8) Install suspension compression plate (13) on suspension compression plate stud (14) with spring pin (15).



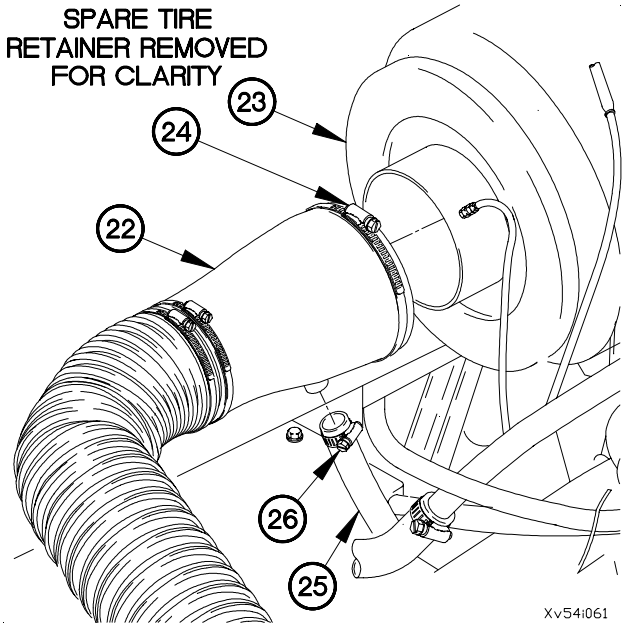


(9) Install dust boot (16) on 200 amp terminal block to PDP 12 vdc cable (1).

(10) Position terminal lug TL80 (17) on terminal block terminal (18) with washer (19), lockwasher (20), and nut (21).

(11) Tighten nut (21) to 15-19 lb-ft (21-25 N·m).

(12) Position dust boot (16) on terminal lug TL80 (17).

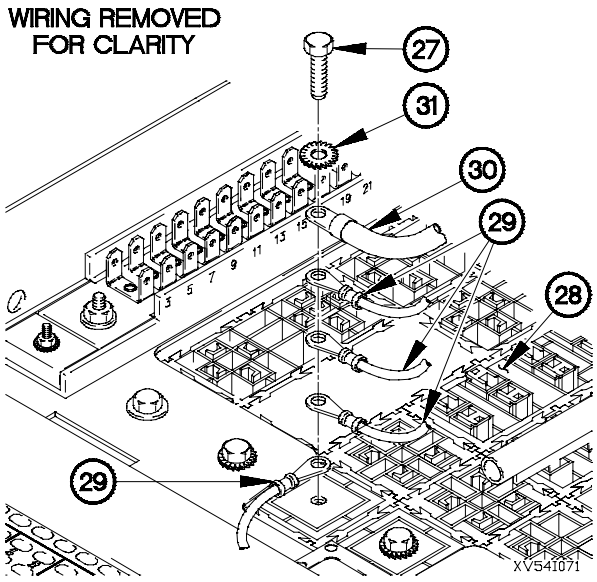


(13) Position intake air cleaner boot (22) on intake air cleaner housing (23) with clamp (24).

(14) Position air compressor intake hose (25) on intake air cleaner boot (22) with clamp (26).

(15) Tighten clamps (24 and 26) to 36-48 lb-in. (4-5 N·m).

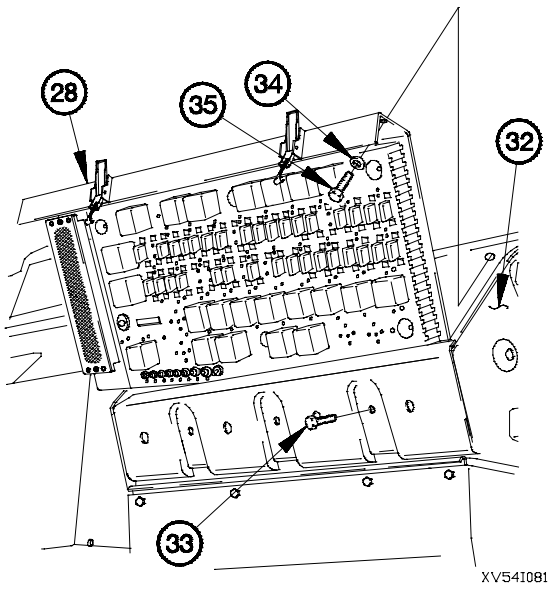
(16) Lower cab (TM 9-2320-365-10).



(17) Remove screw (27) from PDP (28).

(18) Position four terminal lugs (29) and terminal lug TL41 (30) on PDP (28) with lockwasher (31) and screw (27).

(19) Tighten screw (27) to 35-45 lb-in. (4-5 N·m).



(20) Install PDP (28) on dashboard (32) with three screws (33).

(21) Install three washers (34) and screws (35) in PDP (28).

20-65. 200 AMP TERMINAL BLOCK TO POWER DISTRIBUTION PANEL (PDP) 12 VDC CABLE REPLACEMENT (CONT)

c. Follow-On Maintenance.

(1) Install PDP cover (para 16-2).

(2) Install lower radiator fan shroud (para 6-4).

(3) Connect batteries (para 7-48).

(4) Raise spare tire (TM 9-2320-365-10).

(5) Start engine (TM 9-2320-365-10).

(6) Check VOLTS gage for charge indication (TM 9-2320-365-10).

(7) Shut down engine (TM 9-2320-365-10).

End of Task.

20-66. 200 AMP TERMINAL BLOCK TO REVERSE POLARITY RELAY 12 VDC BATTERY CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Spare tire lowered (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

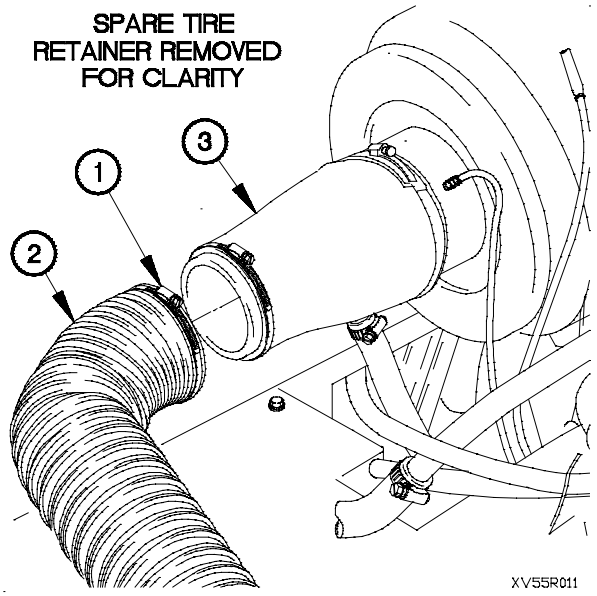
Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Lockwasher (Item 92, Appendix G)
Lockwasher (Item 65, Appendix G)

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

a. Removal

(1) Loosen clamp (1) on turbocharger intake hose (2).

(2) Remove turbocharger intake hose (2) from intake air cleaner boot (3).



20-66. 200 AMP TERMINAL BLOCK TO REVERSE POLARITY RELAY 12 VDC BATTERY CABLE REPLACEMENT (CONT)

(3) Lift dust boot (4) on terminal lug TL173 (5).

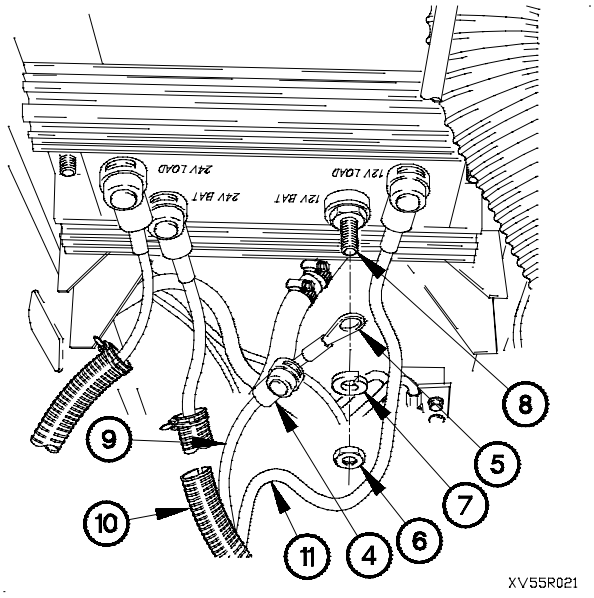
NOTE

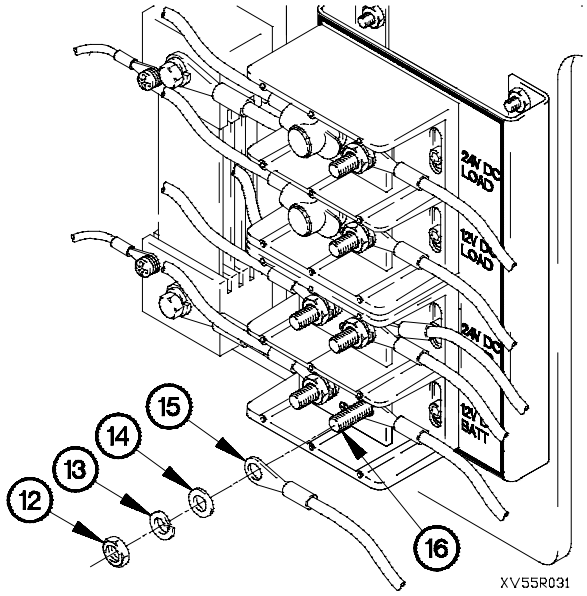
Remove plastic cable ties as required.

(4) Remove nut (6), lockwasher (7), and terminal lug TL173 (5) from reverse polarity relay 12 VDC BAT terminal (8). Discard lockwasher.

(5) Remove dust boot (4) from 200 amp terminal block to reverse polarity relay 12 vdc battery cable (9).

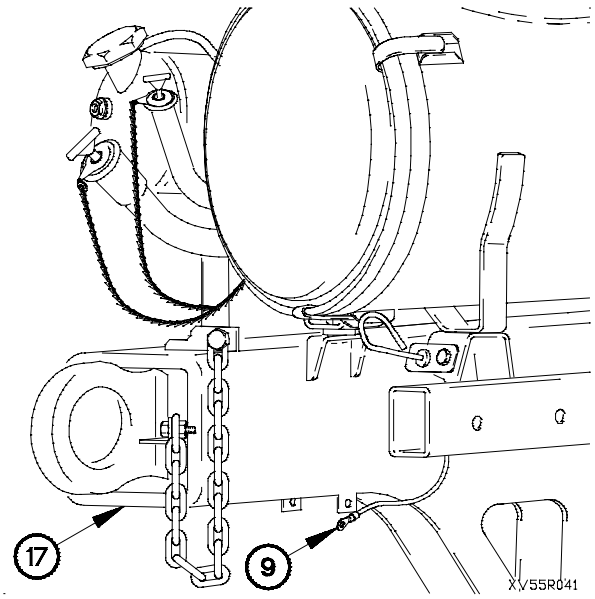
(6) Remove convoluted tubing (10) from 200 amp terminal block to reverse polarity relay 12 vdc battery cable (9) and 200 amp terminal block to reverse polarity relay 12 vdc load cable (11).





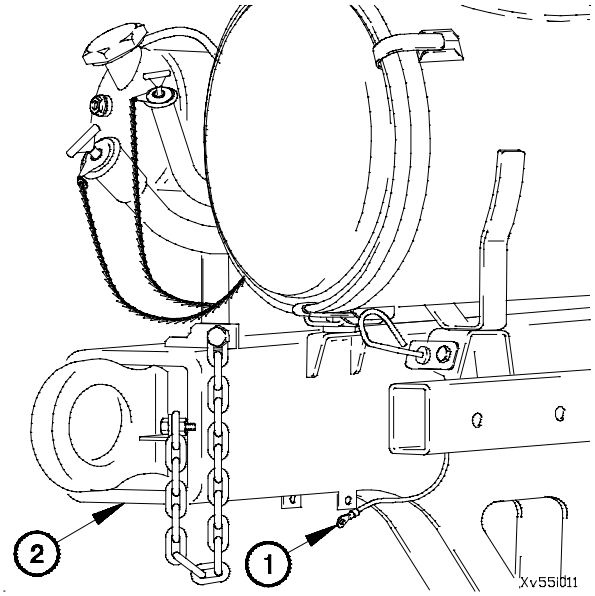
(7) Remove nut (12), lockwasher (13), washer (14), and terminal lug TL171 (15) from terminal block terminal (16). Discard lockwasher.

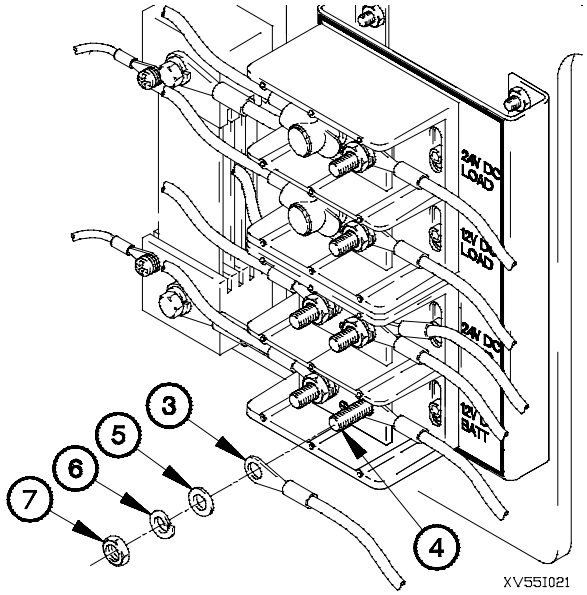
(8) Remove 200 amp terminal block to reverse polarity relay 12 vdc battery cable (9) from rear side of front lifting beam (17).



b. Installation.

(1) Route 200 amp terminal block to reverse polarity relay 12 vdc battery cable (1) to rear side of front lifting beam (2).





(2) Position terminal lug TL171 (3) on terminal block terminal (4) with washer (5), lockwasher (6), and nut (7).

(3) Tighten nut (7) to 15-19 lb-ft (21-25 N·m).

NOTE

Install plastic cable ties as required.

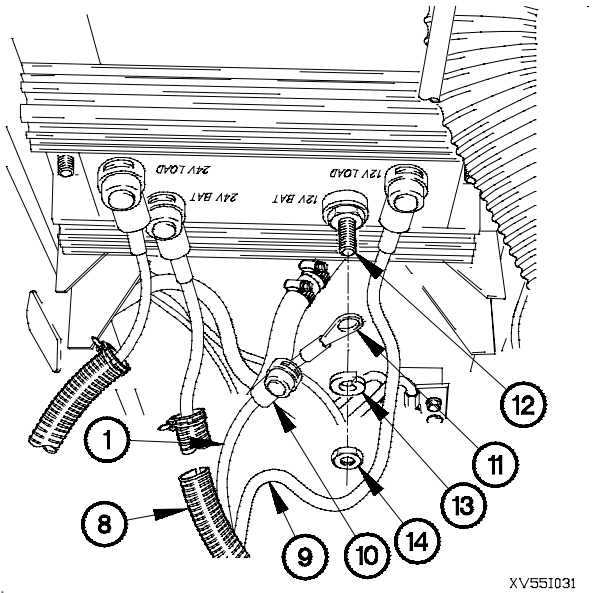
(4) Install convoluted tubing (8) on 200 amp terminal block to reverse polarity relay 12 vdc battery cable (1) and 200 amp terminal block to reverse polarity relay 12 vdc load cable (9).

(5) Install dust boot (10) on 200 amp terminal block to reverse polarity relay 12 vdc battery cable (1).

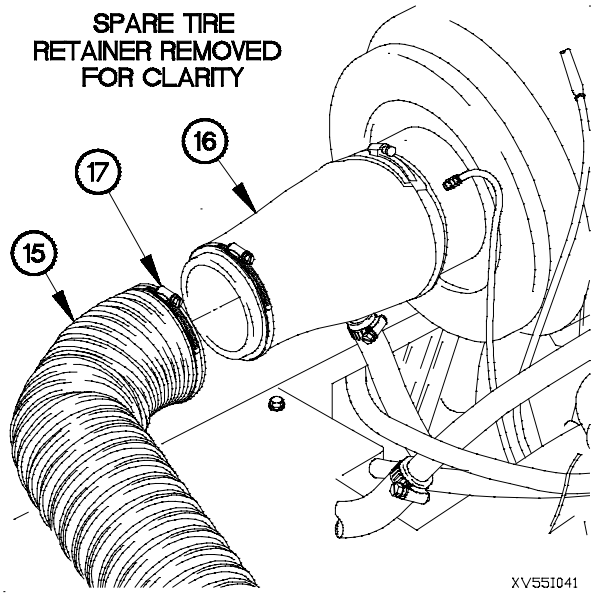
(6) Position terminal lug TL173 (11) on reverse polarity relay 12 VDC BAT terminal (12) with lockwasher (13), and nut (14).

(7) Tighten nut (14) to 120 lb-in. (14 N·m).

(8) Position dust boot (10) on terminal lug TL173 (11).



20-66. 200 AMP TERMINAL BLOCK TO REVERSE POLARITY RELAY 12 VDC BATTERY CABLE REPLACEMENT (CONT)



(9) Position turbocharger intake hose (15) on intake air cleaner boot (16) with clamp (17).

(10) Tighten clamp (17) to 36-48 lb-in. (4-5 N·m).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Raise spare tire (TM 9-2320-365-10).

(3) Start engine (TM 9-2320-365-10).

(4) Check VOLTS gage for charge indication (TM 9-2320-365-10).

(5) Shut down engine (TM 9-2320-365-10).

End of Task.

20-67. 200 AMP TERMINAL BLOCK TO REVERSE POLARITY RELAY 24 VDC BATTERY CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Spare tire lowered (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

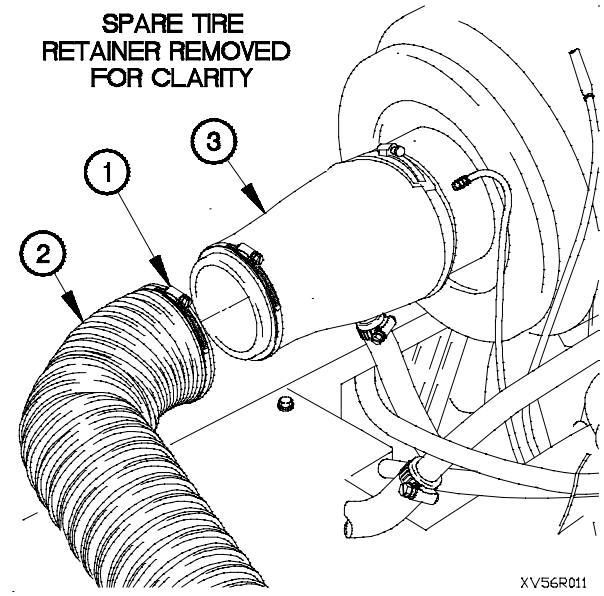
Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Lockwasher (Item 92, Appendix G)
Lockwasher (Item 66, Appendix G)

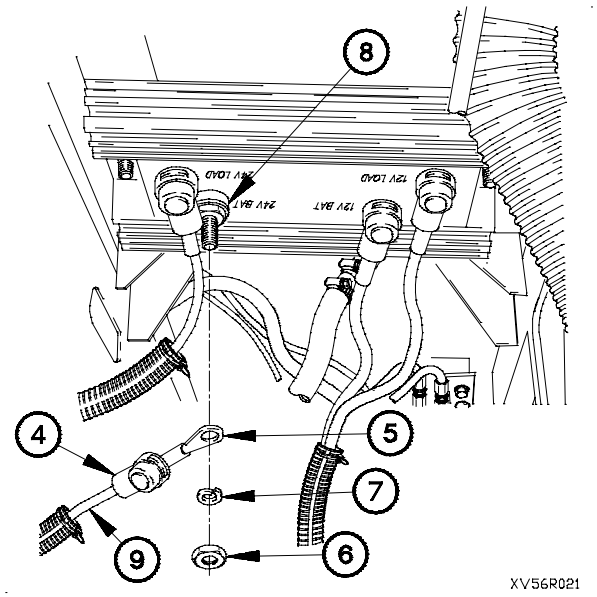
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

a. Removal.

(1) Loosen clamp (1) on turbocharger intake hose (2).

(2) Remove turbocharger intake hose (2) from intake air cleaner boot (3).





(3) Lift dust boot (4) on terminal lug TL169 (5).

NOTE

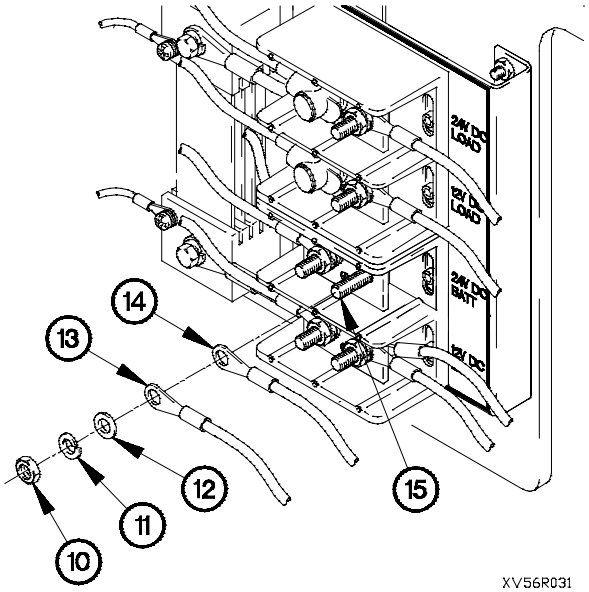
Remove plastic cable ties as required.

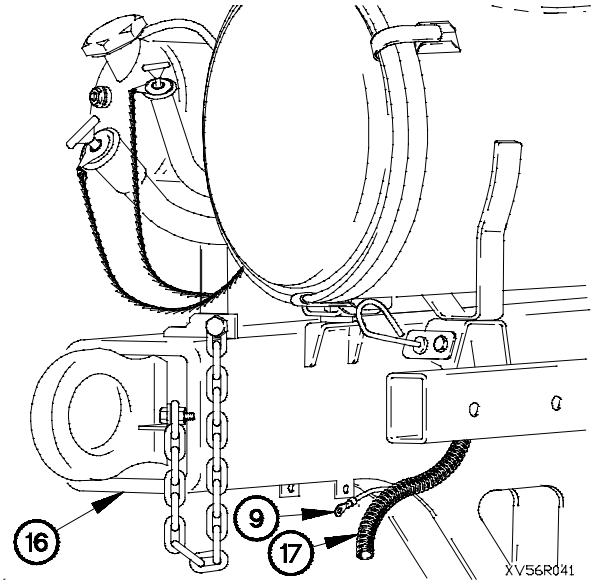
(4) Remove nut (6), lockwasher (7), and terminal lug TL169 (5) from reverse polarity relay 24 VDC BAT terminal (8). Discard lockwasher.

(5) Remove dust boot (4) from 200 amp terminal block to reverse polarity relay 24 vdc battery cable (9).

20-67. 200 AMP TERMINAL BLOCK TO REVERSE POLARITY RELAY 24 VDC BATTERY CABLE REPLACEMENT (CONT)

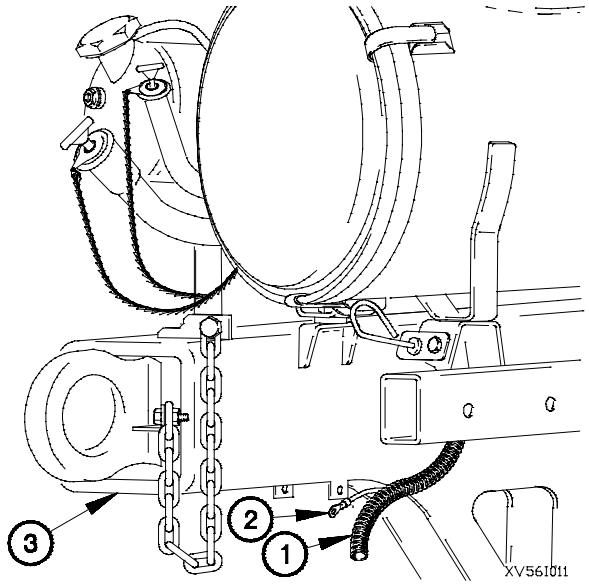
(6) Remove nut (10), lockwasher (11), washer (12), and terminal lugs TL1 (13) and TL166 (14) from terminal block terminal (15). Discard lockwasher.





(7) Remove 200 amp terminal block to reverse polarity relay 24 vdc battery cable (9) from rear side of front lifting beam (16).

(8) Remove convoluted tubing (17) from 200 amp terminal block to reverse polarity relay 24 vdc battery cable (9).



b. Installation.

NOTE

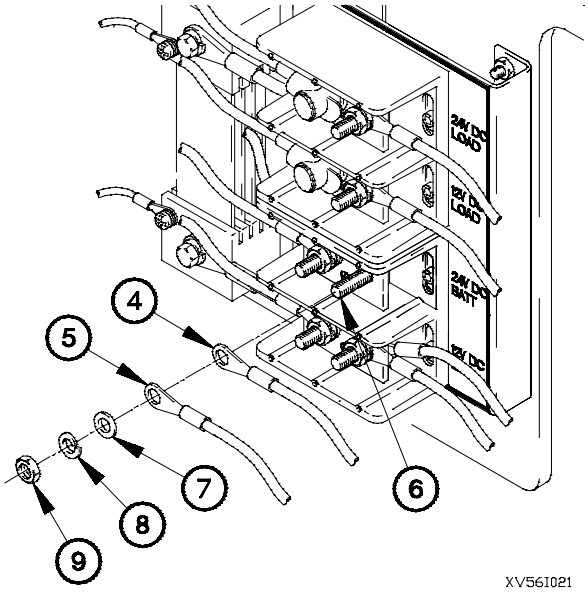
Install plastic cable ties as required.

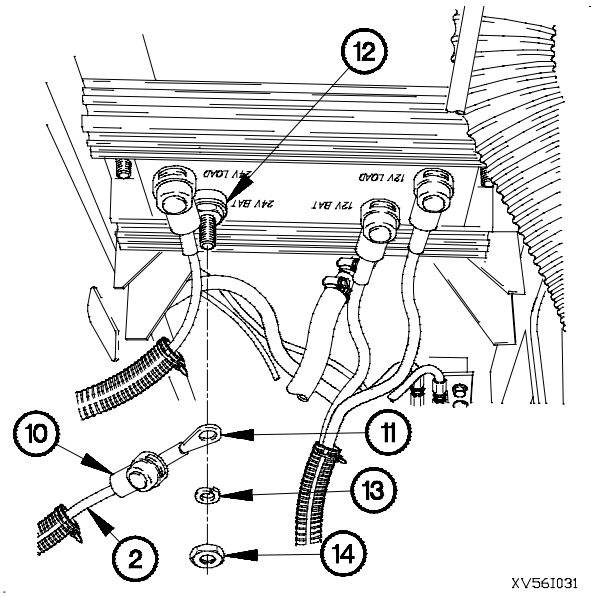
(1) Install convoluted tubing (1) on 200 amp terminal block to reverse polarity relay 24 vdc battery cable (2).

(2) Position 200 amp terminal block to reverse polarity relay 24 vdc battery cable (2) on rear side of front lifting beam (3).

(3) Position terminal lugs TL166 (4) and TL1 (5) on terminal block terminal (6) with washer (7), lockwasher (8), and nut (9).

(4) Tighten nut (9) to 15-19 lb-ft (21-25 N·m).





(5) Install dust boot (10) on 200 amp terminal block to reverse polarity relay 24 vdc battery cable (2).

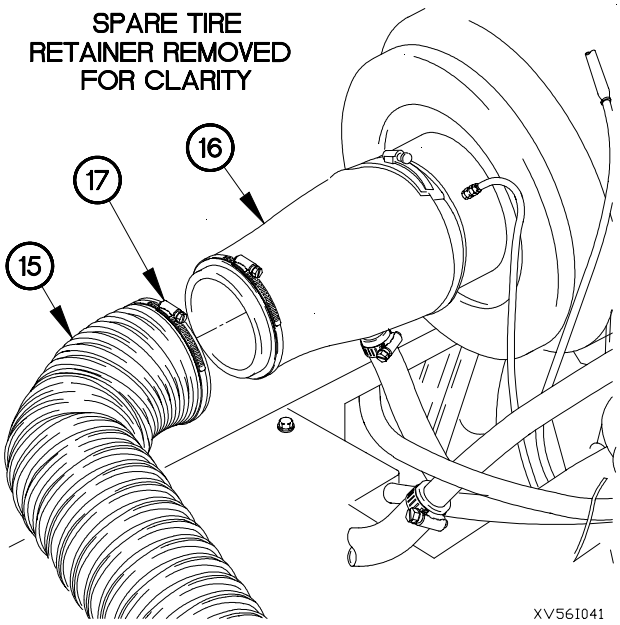
(6) Position terminal lug TL169 (11) on reverse polarity relay 24 VDC BAT terminal (12) with lockwasher (13) and nut (14).

(7) Tighten nut (14) to 30 lb-ft (41 N·m).

(8) Position dust boot (10) on terminal lug TL169 (11).

(9) Position turbocharger intake hose (15) on intake air cleaner boot (16) with clamp (17).

(10) Tighten clamp (17) to 36-48 lb-in. (4-5 N·m).



20-67. 200 AMP TERMINAL BLOCK TO REVERSE POLARITY RELAY 24 VDC BATTERY CABLE REPLACEMENT (CONT)

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Raise spare tire (TM 9-2320-365-10).

(3) Start engine (TM 9-2320-365-10).

(4) Check VOLTS gage for charge indication (TM 9-2320-365-10).

(5) Shut down engine (TM 9-2320-365-10).

End of Task.

20-68. 200 AMP TERMINAL BLOCK TO POWER DISTRIBUTION PANEL (PDP) 24 VDC CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Batteries disconnected (para 7-48).
PDP cover removed (para 16-2).
Spare tire lowered (TM 9-2320-365-10).
Bottom radiator fan shroud removed (para 6-4).
Cab lowered (TM 9-2320-365-10).

Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Nut, Self-Locking (2) (Item 133, Appendix G)
Lockwasher (Item 89, Appendix G)
Lockwasher (Item 70, Appendix G)

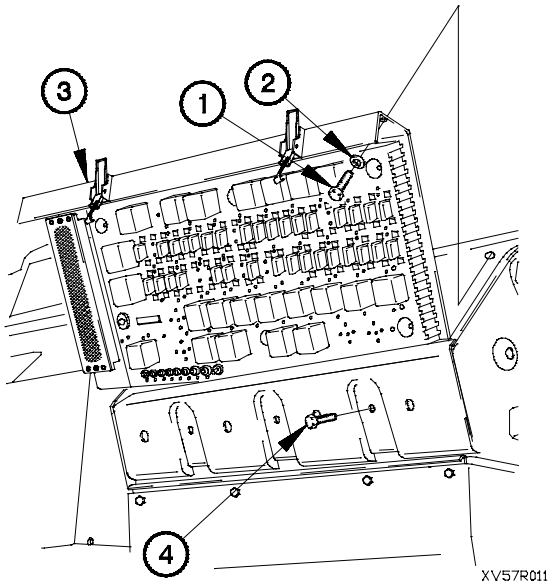
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

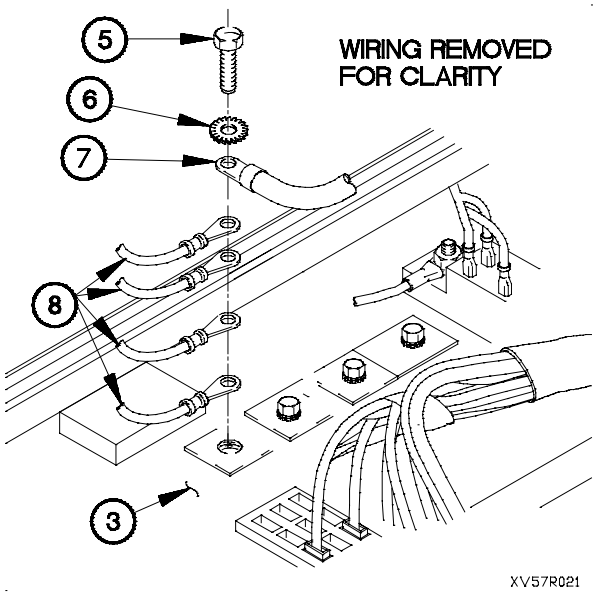
a. Removal.

(1) Remove three screws (1) and washers (2) from PDP (3).

(2) Remove three screws (4) from PDP (3).

(3) Lift PDP (3) outward to gain access.





NOTE

Remove plastic cable ties as required.

(4) Remove screw (5), lockwasher (6), terminal lug TL42 (7), and four terminal lugs (8) from PDP (3). Discard lockwasher.

(5) Position four terminal lugs (8) on PDP (3) with screw (5).

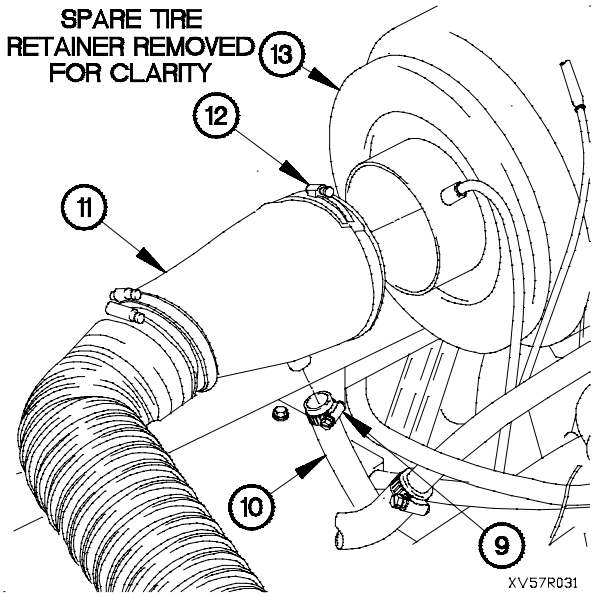
20-68. 200 AMP TERMINAL BLOCK TO POWER DISTRIBUTION PANEL (PDP) 24 VDC CABLE REPLACEMENT (CONT)

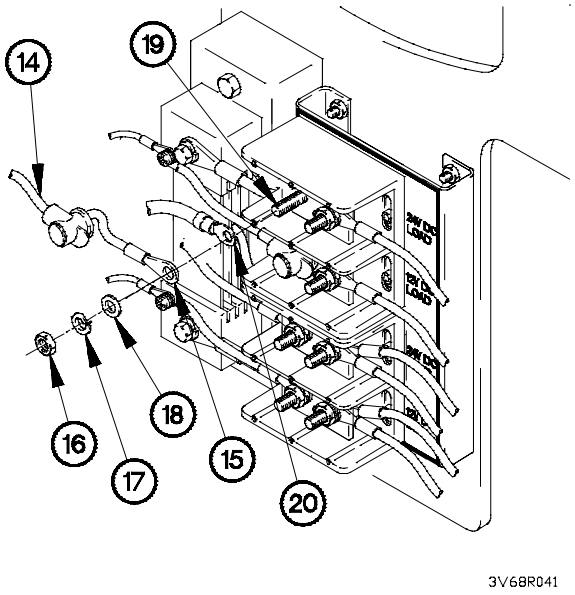
(6) Loosen clamp (9) on air compressor intake hose (10).

(7) Remove air compressor intake hose (10) from intake air cleaner boot (11).

(8) Loosen clamp (12) on intake air cleaner boot (11).

(9) Remove intake air cleaner boot (11) from intake air cleaner housing (13).





(10) Lift dust boot (14) on terminal lug TL44 (15).

(11) Remove nut (16), lockwasher (17), washer (18), and terminal lug TL44 (15) from terminal block terminal (19). Discard lockwasher.

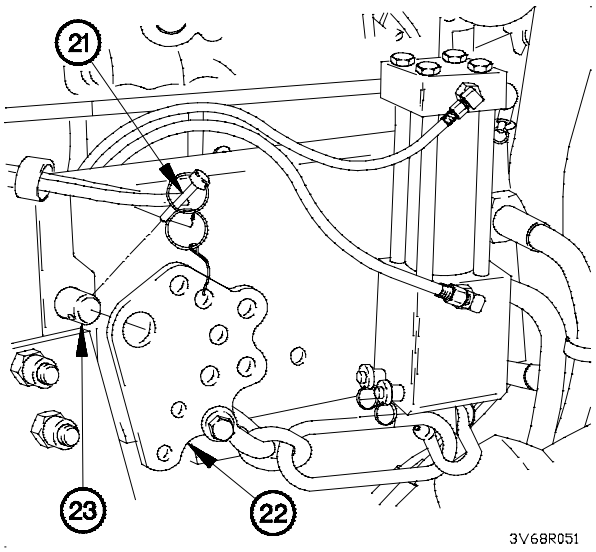
NOTE

Perform step (12) on M1079.

(12) Remove terminal lug TL100 (20) from terminal block terminal (19).

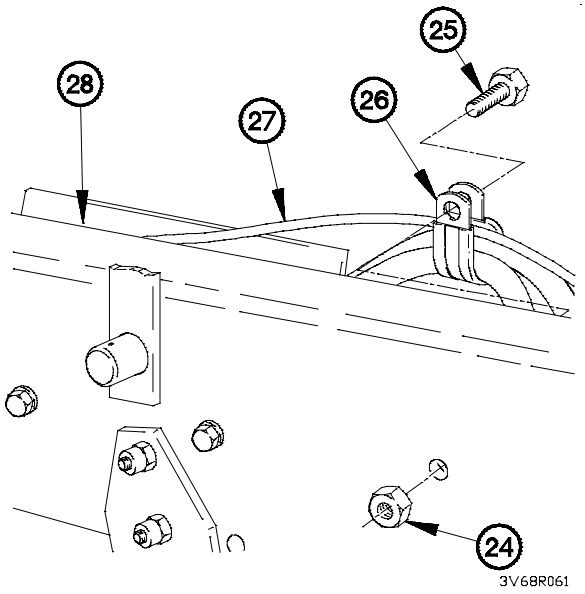
(13) Raise cab (TM 9-2320-365-10).

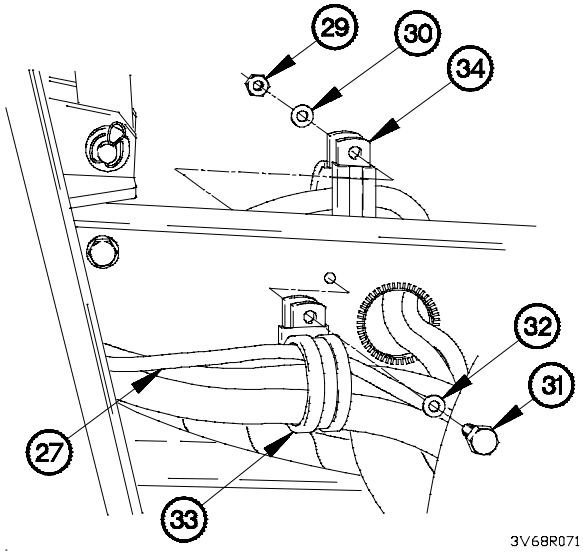
(14) Remove spring pin (21) and suspension compression plate (22) from suspension compression plate stud (23).



(15) Remove self-locking nut (24), screw (25), clamp (26), and 200 amp terminal block to PDP 24 vdc cable (27) from frame rail (28).

(16) Remove 200 amp terminal block to PDP 24 vdc cable (27) from clamp (26).

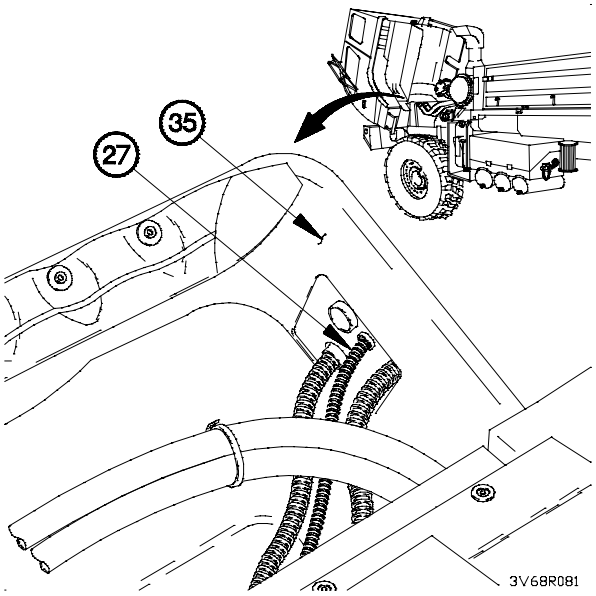




(17) Remove self-locking nut (29), washer (30), screw (31), and washer (32) from clamps (33 and 34). Discard self-locking nut.

(18) Remove 200 amp terminal block to PDP 24 vdc cable (27) from clamp (33).

(19) Remove 200 amp terminal block to PDP 24 vdc cable (27) from cab (35).



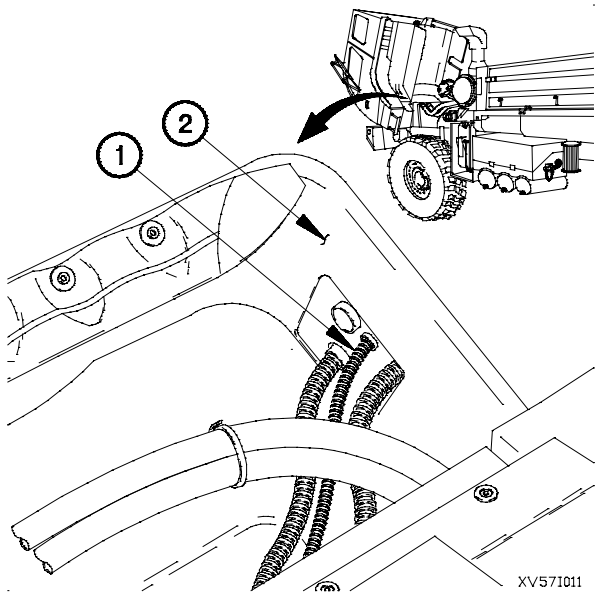
20-68. 200 AMP TERMINAL BLOCK TO POWER DISTRIBUTION PANEL (PDP) 24 VDC CABLE REPLACEMENT (CONT)

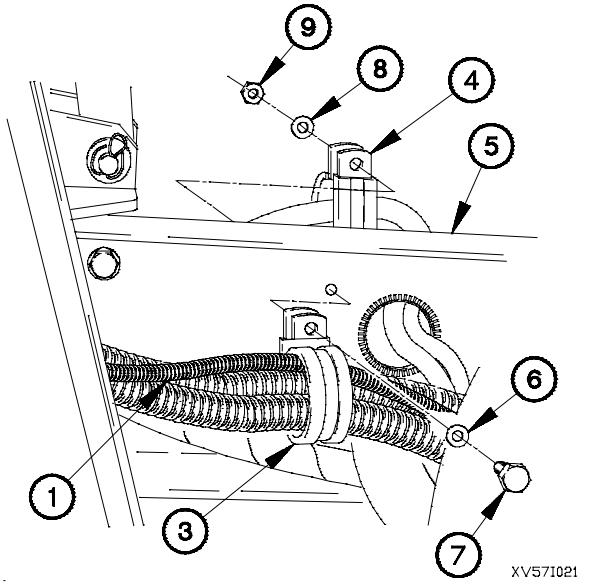
b. Installation.

NOTE

Install plastic cable ties as required.

(1) Route 200 amp terminal block to PDP 24 vdc cable (1) through bottom of cab (2).





(2) Position 200 amp terminal block to PDP 24 vdc cable (1) in clamp (3).

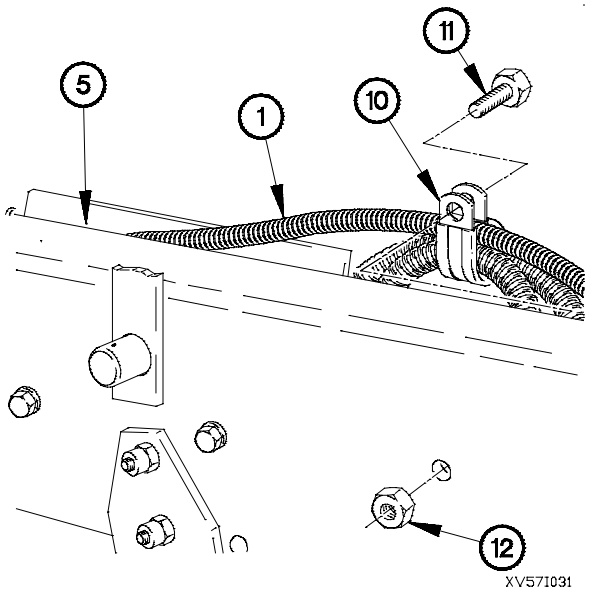
(3) Position clamps (3 and 4) on frame rail (5) with washer (6), screw (7), washer (8), and self-locking nut (9).

(4) Tighten self-locking nut (9) to 97-120 lb-in. (11-14 N·m).

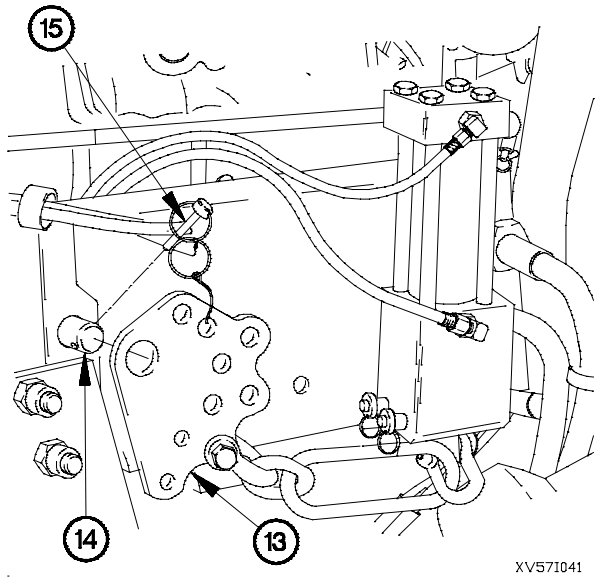
(5) Position 200 amp terminal block to PDP 24 vdc cable (1) in clamp (10).

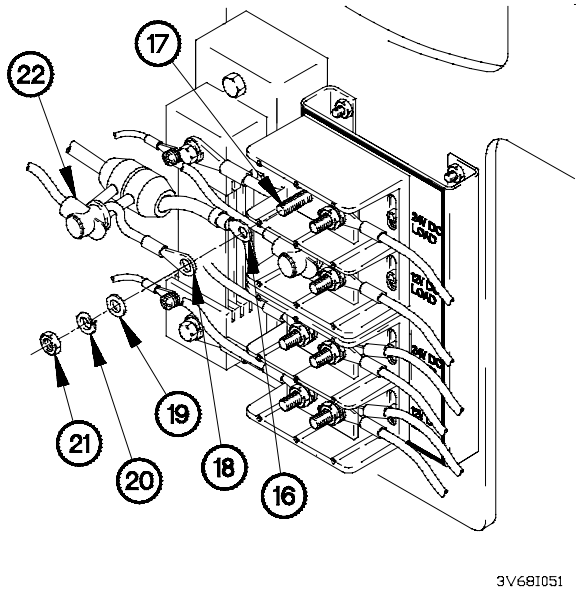
(6) Position clamp (10) on frame rail (5) with screw (11) and self-locking nut (12).

(7) Tighten self-locking nut (12) to 97-120 lb-in. (11-14 N·m).



(8) Install suspension compression plate (13) on suspension compression plate stud (14) with spring pin (15).





NOTE

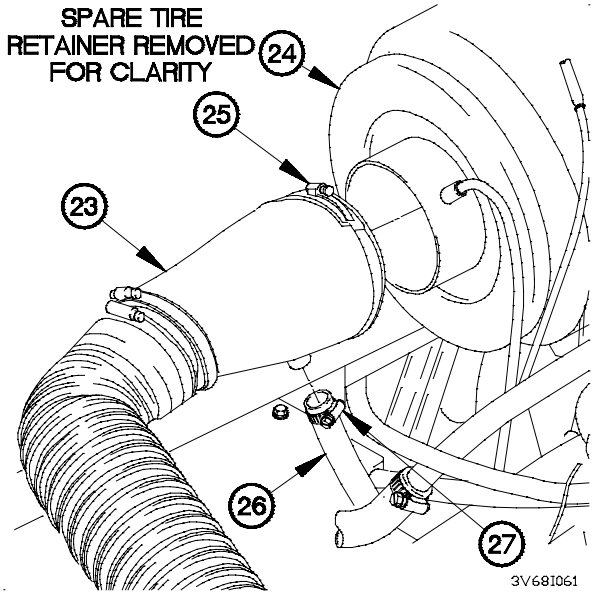
Perform step (9) on M1089.

(9) Position terminal lug TL100 (16) on terminal block terminal (17).

(10) Position terminal lug TL44 (18) on terminal block terminal (17) with washer (19), lockwasher (20) and nut (21).

(11) Tighten nut (21) to 15-19 lb-ft (21-25 N·m).

(12) Position dust boot (22) on terminal lug TL44 (18).



(13) Position intake air cleaner boot (23) on intake air cleaner housing (24) with clamp (25).

(14) Position air compressor intake hose (26) on intake air cleaner boot (23) with clamp (27).

(15) Tighten clamps (25 and 27) to 36-48 lb-in. (4-5 N·m).

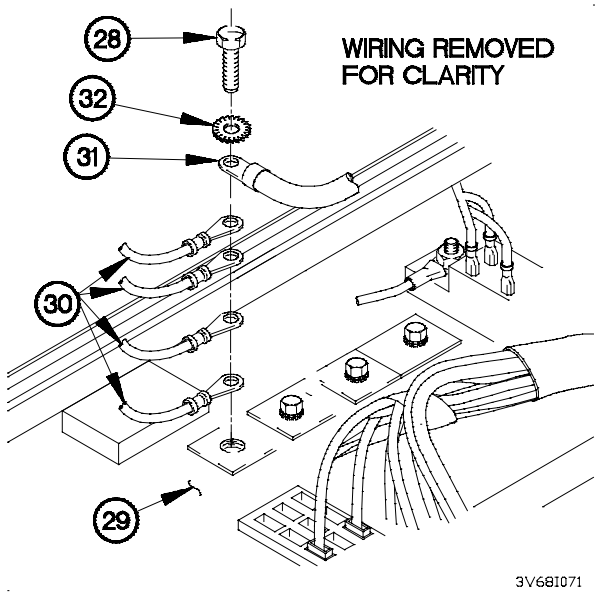
(16) Lower cab (TM 9-2320-365-10).

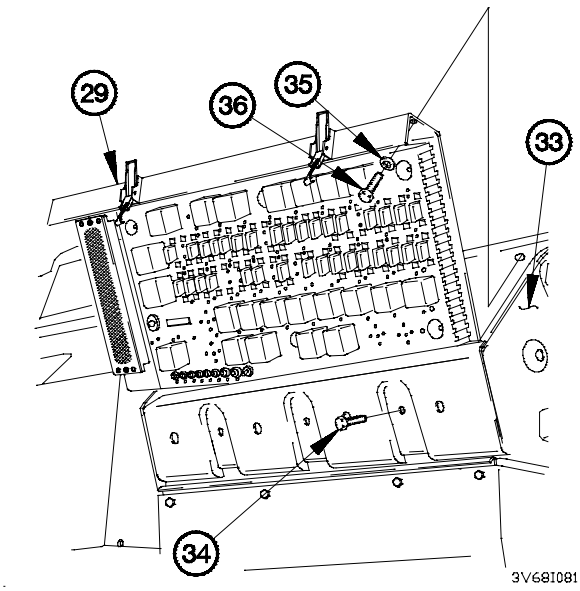
20-68. 200 AMP TERMINAL BLOCK TO POWER DISTRIBUTION PANEL (PDP) 24 VDC CABLE REPLACEMENT (CONT)

(17) Remove screw (28) from PDP (29).

(18) Position four terminal lugs (30) and terminal lug TL42 (31) on PDP (29) with lockwasher (32) and screw (28).

(19) Tighten screw (28) to 35-45 lb-in. (4-5 N·m).





(20) Install PDP (29) on dashboard (33) with three screws (34).

(21) Install three washers (35) and screws (36) in PDP (29).

c. Follow-On Maintenance.

(1) Raise cab (TM 9-2320-365-10).

(2) Install bottom radiator fan shroud (para 6-4).

(3) Raise spare tire (TM 9-2320-365-10).

(4) Install PDP cover (para 16-2).

(5) Connect batteries (para 7-48).

(6) Start engine (TM 9-2320-365-10).

(7) Check VOLTS gage for charge indication (TM 9-2320-365-10).

(8) Shut down engine (TM 9-2320-365-10).

End of Task.

20-69. 200 AMP TERMINAL BLOCK REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Spare tire lowered (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

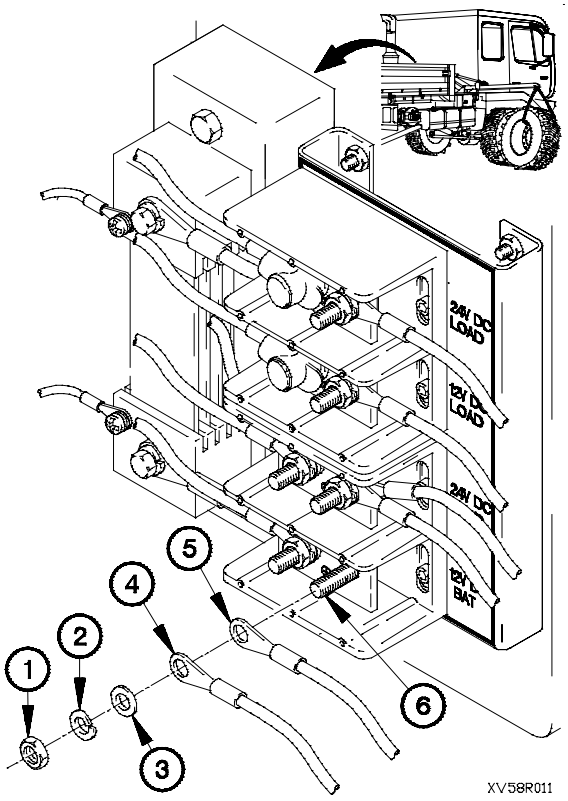
Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Lockwasher (8) (Item 89, Appendix G)
Nut, Self-Locking (8) (Item 143, Appendix G)

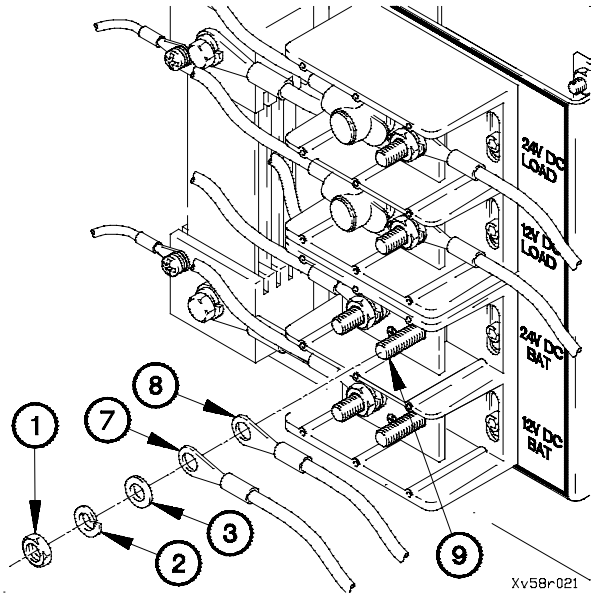
a. Removal.

NOTE

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

(1) Remove nut (1), lockwasher (2), washer (3), and terminal lugs TL171 (4) and TL61 (5) from terminal block terminal (6). Discard lockwasher.

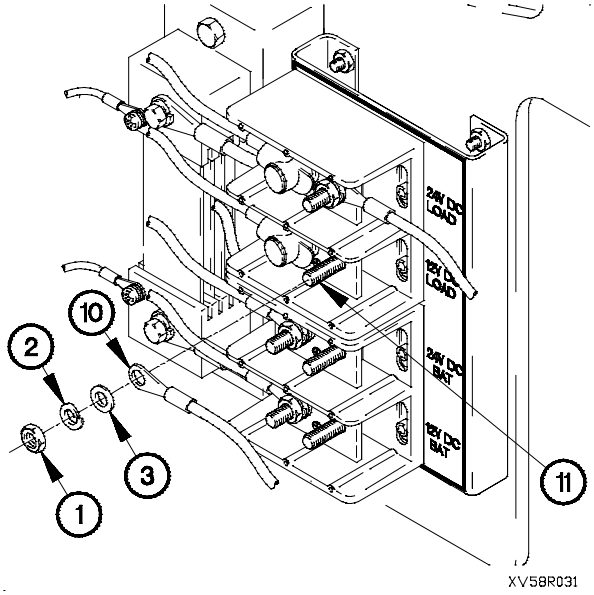


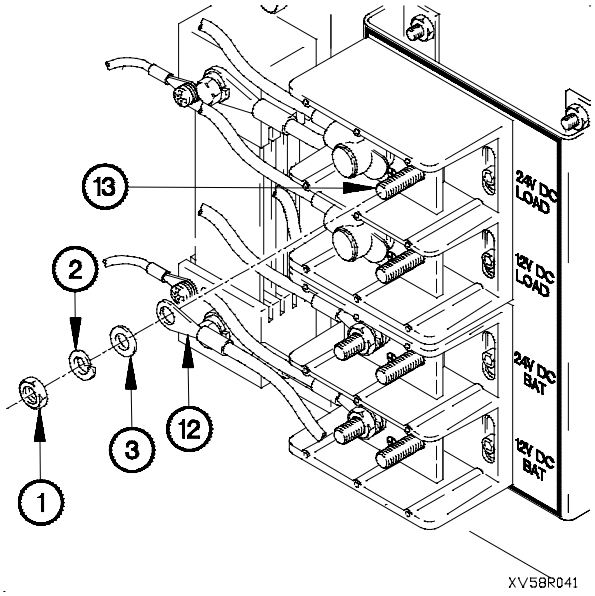


(2) Remove nut (1), lockwasher (2), washer (3), and terminal lugs TL166 (7) and TL1 (8) from terminal block terminal (9). Discard lockwasher.

20-69. 200 AMP TERMINAL BLOCK REPLACEMENT (CONT)

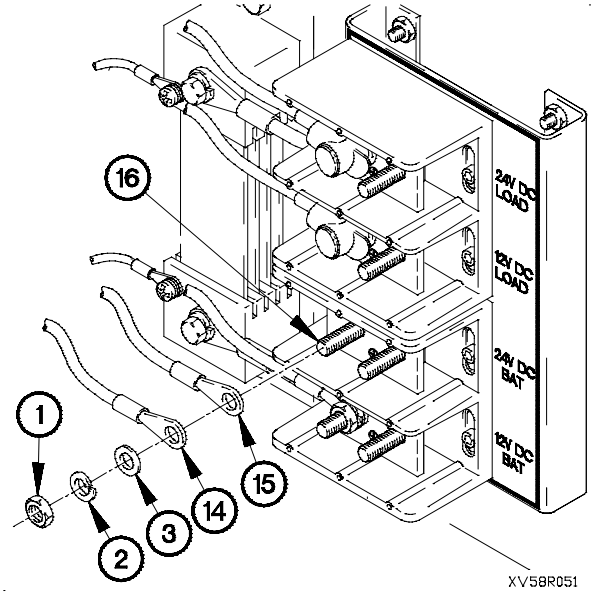
(3) Remove nut (1), lockwasher (2), washer (3), and terminal lug TL172 (10) from terminal block terminal (11). Discard lockwasher.





(4) Remove nut (1), lockwasher (2), washer (3), and terminal lug TL167 (12) from terminal block terminal (13). Discard lockwasher.

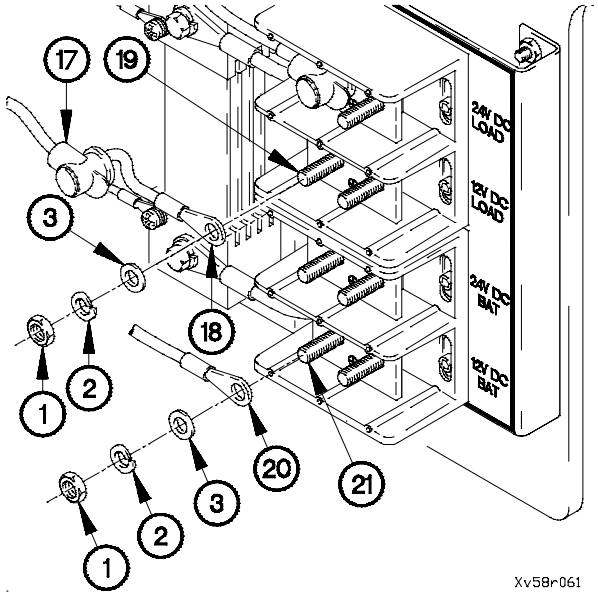
(5) Remove nut (1), lockwasher (2), washer (3), and terminal lugs TL37 (14) and TL36 (15) from terminal block terminal (16). Discard lockwasher.

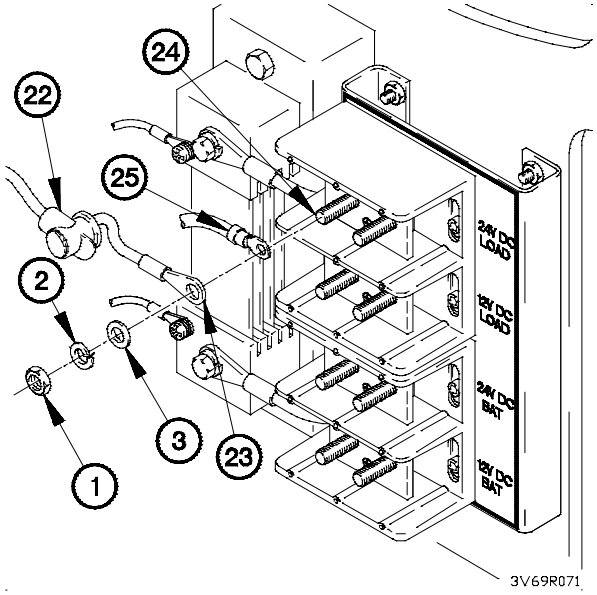


(6) Lift dust boot (17) on terminal lug TL80 (18).

(7) Remove nut (1), lockwasher (2), washer (3), and terminal lug TL80 (18) from terminal block terminal (19). Discard lockwasher.

(8) Remove nut (1), lockwasher (2), washer (3), and terminal lug TL47 (20) from terminal block terminal (21). Discard lockwasher.





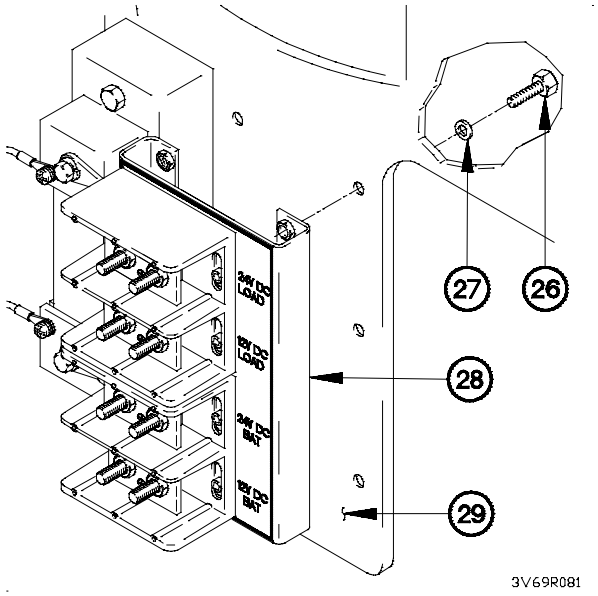
(9) Lift dust boot (22) on terminal lug TL44 (23).

(10) Remove nut (1), lockwasher (2), washer (3), and terminal lug TL44 (23) from terminal block terminal (24). Discard lockwasher.

NOTE

Perform step (11) on M1079.

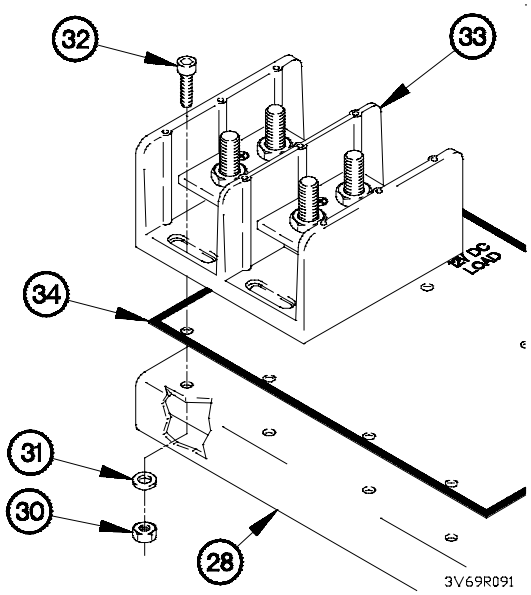
(11) Remove terminal lug TL100 (25) from terminal block terminal (24).



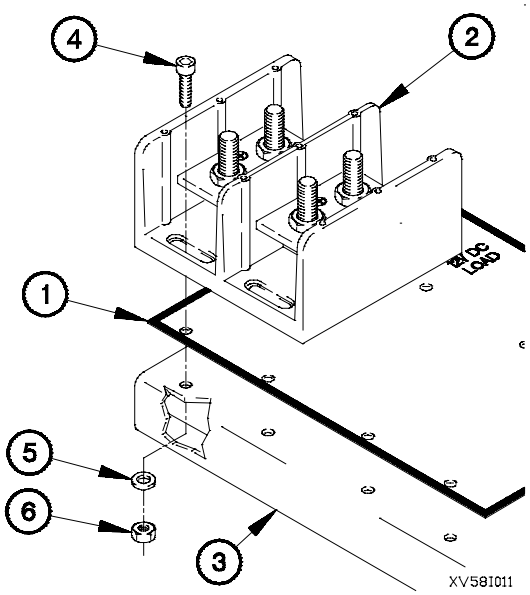
(12) Remove four screws (26), washers (27), and bracket (28) from spare tire retainer (29).

20-69. 200 AMP TERMINAL BLOCK REPLACEMENT (CONT)

(13) Remove eight self-locking nuts (30), washers (31), screws (32), two terminal blocks (33), and identification plate (34) from bracket (28). Discard self-locking nuts.



b. Installation.



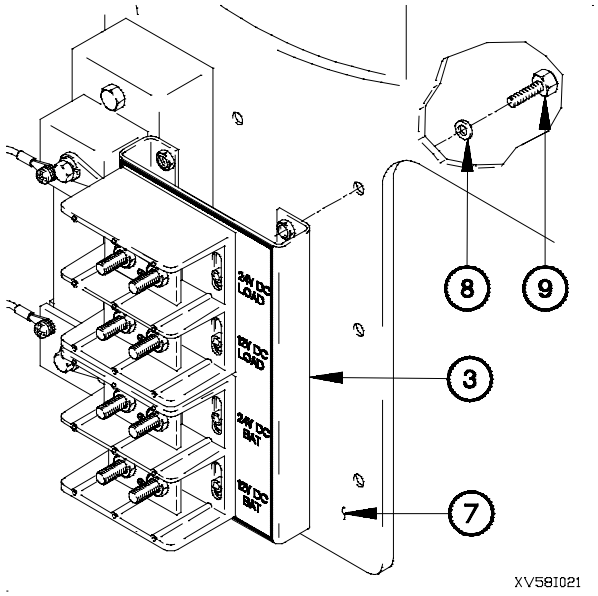
CAUTION

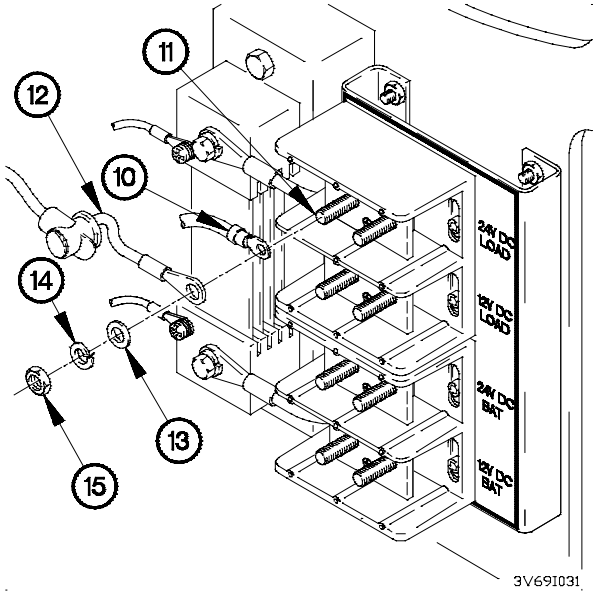
Both terminal blocks must be positioned loosely to align correctly on mounting bracket before tightening hardware. Failure to comply may result in damage to equipment.

(1) Position identification plate (1) and two terminal blocks (2) on bracket (3) with eight screws (4), washers (5), and self-locking nuts (6).

(2) Tighten eight self-locking nuts (6) to 48 lb-in. (5 N·m).

(3) Install bracket (3) on spare tire retainer (7) with four washers (8) and screws (9).



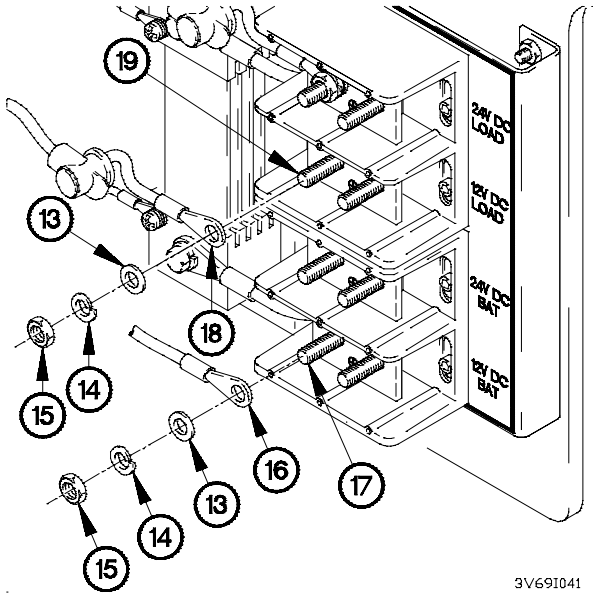


NOTE

Perform step (4) on M1079.

(4) Position terminal lug TL100 (10) on terminal block terminal (11).

(5) Position terminal lug TL44 (12) on terminal block terminal (11) with washer (13), lockwasher (14), and nut (15).

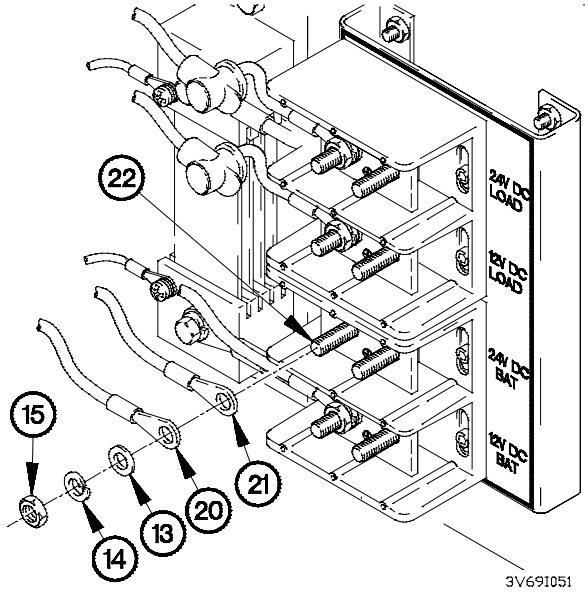


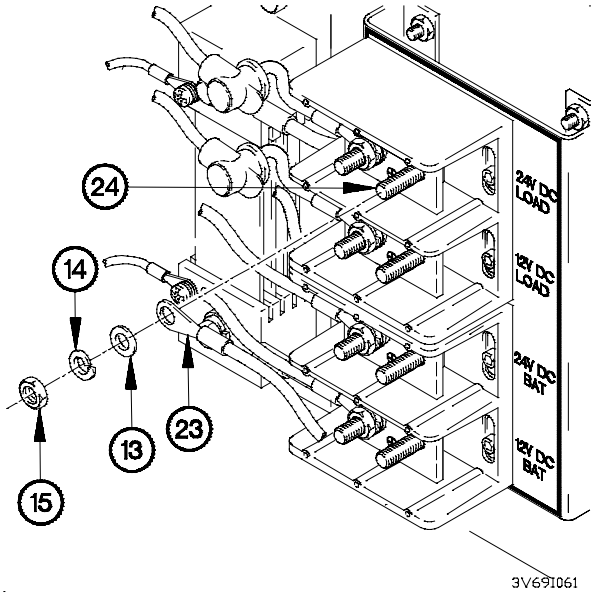
(6) Position terminal lug TL47 (16) on terminal block terminal (17) with washer (13), lockwasher (14), and nut (15).

(7) Position terminal lug TL80 (18) on terminal block terminal (19) with washer (13), lockwasher (14), and nut (15).

20-69. 200 AMP TERMINAL BLOCK REPLACEMENT (CONT)

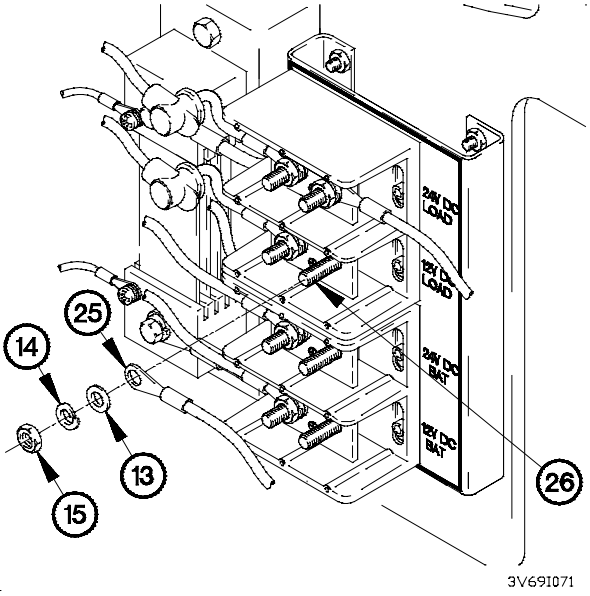
(8) Position terminal lugs TL37 (20) and TL36 (21) on terminal block terminal (22) with washer (13), lockwasher (14), and nut (15).



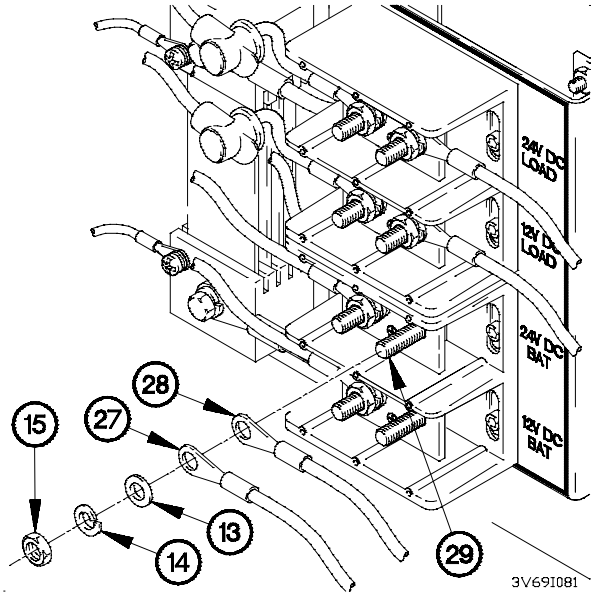


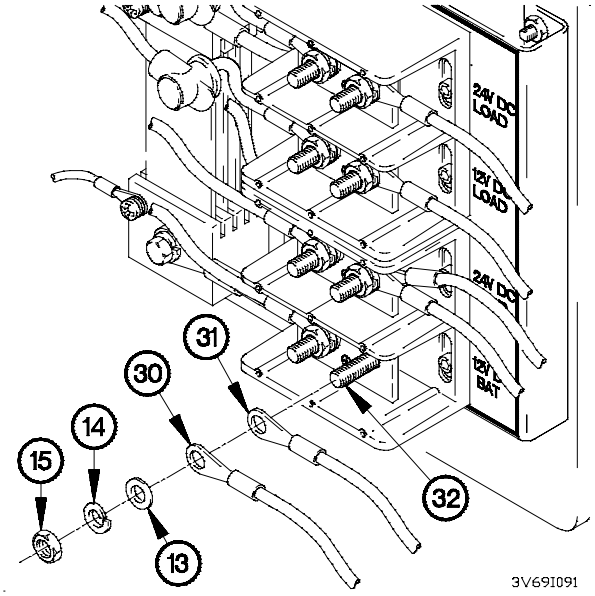
(9) Position terminal lug TL167 (23) on terminal block terminal (24) with washer (13), lockwasher (14), and nut (15).

(10) Position terminal lug TL172 (25) on terminal block terminal (26) with washer (13), lockwasher (14), and nut (15).

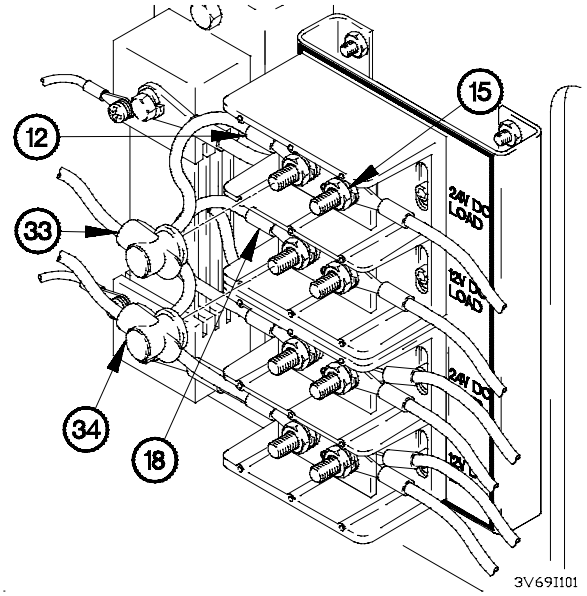


(11) Position terminal lugs TL166 (27) and TL1 (28) on terminal block terminal (29) with washer (13), lockwasher (14), and nut (15).





(12) Position terminal lugs TL171 (30) and TL61 (31) on terminal block terminal (32) with washer (13), lockwasher (14) and nut (15).



(13) Tighten eight nuts (15) to 15-19 lb-ft (21-25 N·m).

(14) Position dust boot (33) on terminal lug TL44 (12).

(15) Position dust boot (34) on terminal lug TL80 (18).

20-69. 200 AMP TERMINAL BLOCK REPLACEMENT (CONT)

c. Follow-On Maintenance.

(1) Raise spare tire (TM 9-2320-365-10).

(2) Connect batteries (7-48).

(3) Start engine (TM 9-2320-365-10).

(4) Check alternator operation (TM 9-2320-365-10).

(5) Shut down engine (TM 9-2320-365-10).

End of Task.

20-70. LIGHT MATERIAL HANDLING CRANE (LMHC) ASSEMBLY/DISASSEMBLY

This task covers:

a. Assembly

b. Disassembly

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).

Materials/Parts
Lockwasher (2) (Item 104, Appendix G)

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Sling, Cargo (Item 31, Appendix C)

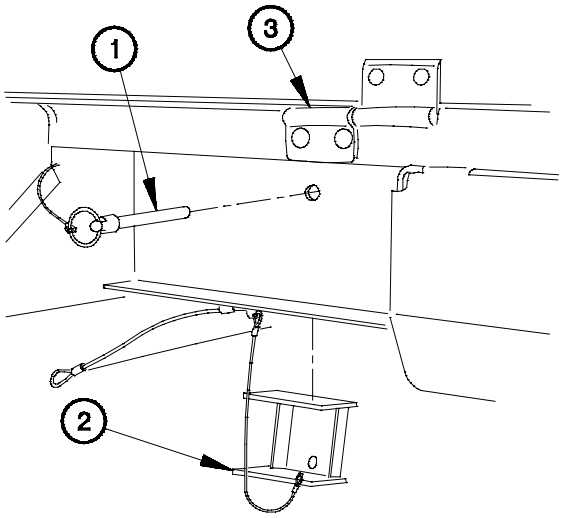
Personnel Required
(2)

a. Assembly.

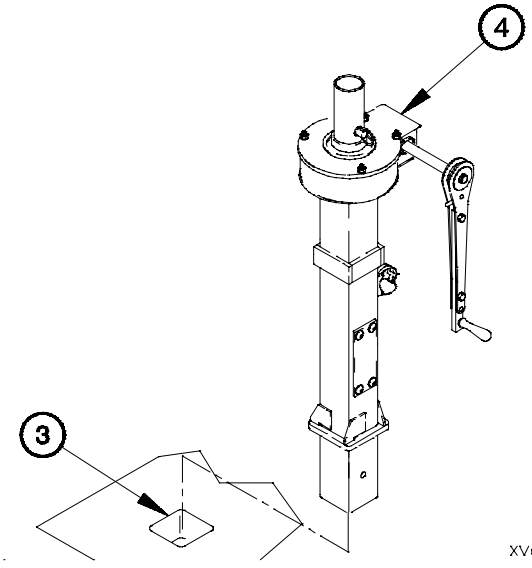
NOTE

LMHC may be installed in any of the four cargo bed pockets. Left front cargo bed pocket shown.

(1) Remove quick release pin (1) and plug (2) from cargo bed pocket (3).



XV60A011



XV60A021

WARNING

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

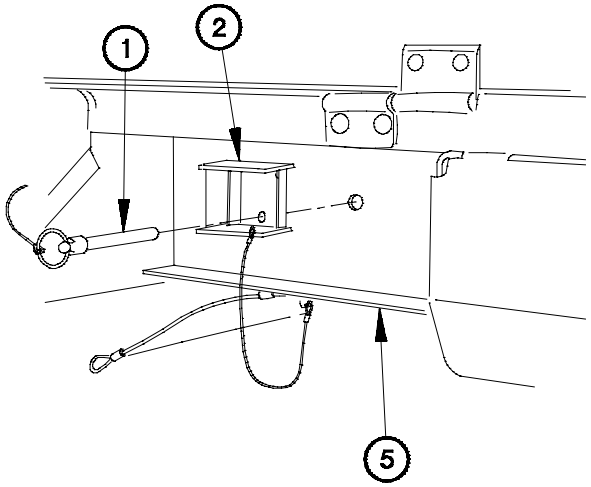
NOTE

- Step (2) requires the aid of an assistant.
- Position mast in cargo bed so handle does not extend over front or rear edge of cargo bed.

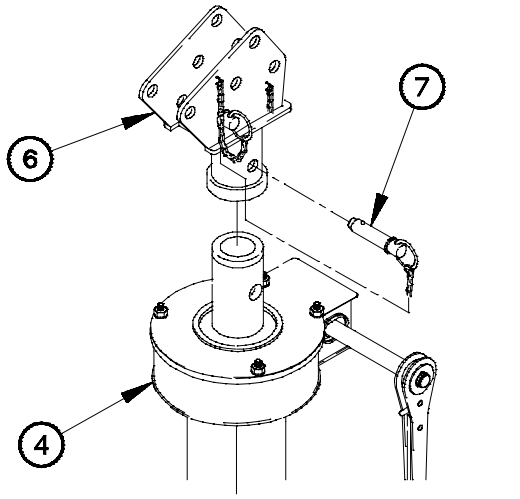
(2) Install mast (4) in cargo bed pocket (3).

20-70. LIGHT MATERIAL HANDLING CRANE (LMHC) ASSEMBLY/DISASSEMBLY (CONT)

(3) Install plug (2) on cargo bed frame (5) with quick release pin (1).



XV60A031



XV60A041

(4) Position turret (6) on mast (4).

(5) Install quick release pin (7) in turret (6).

WARNING

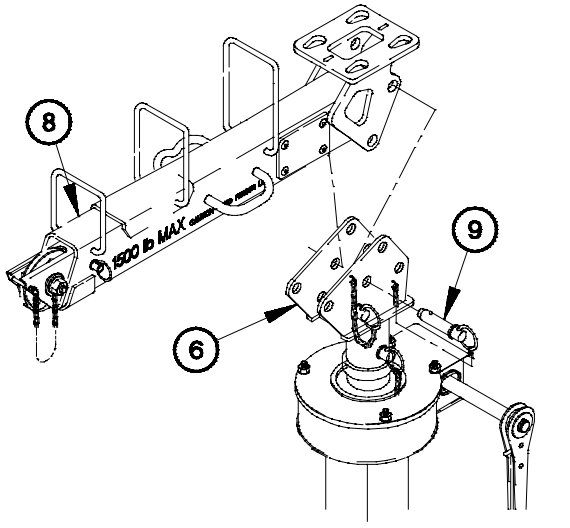
Light Material Handling Crane (LMHC) boom weighs approximately 60 lbs (27 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

NOTE

Step (6) requires the aid of an assistant.

(6) Position boom (8) in turret (6).

(7) Install two quick release pins (9) in turret (6).

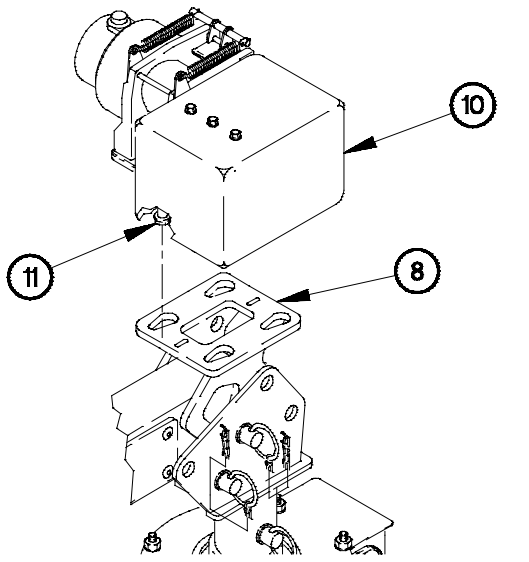


XV60A051

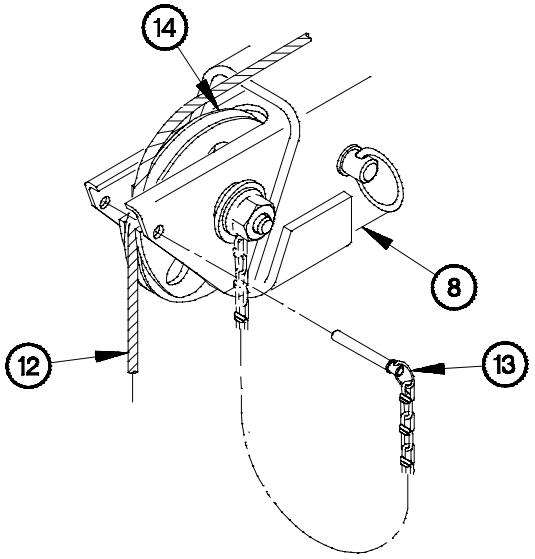
(8) Position winch (10) on boom (8).

(9) Slide winch (10) to front of boom (8).

(10) Tighten four screws (11) on winch (10).



XV60A061



XV60A071

(11) Connect power and remote control cables (TM 9-2320-365-10).

(12) Extend winch cable (12) approximately 6 feet (1.8 m).

(13) Remove quick release pin (13) from boom (8).

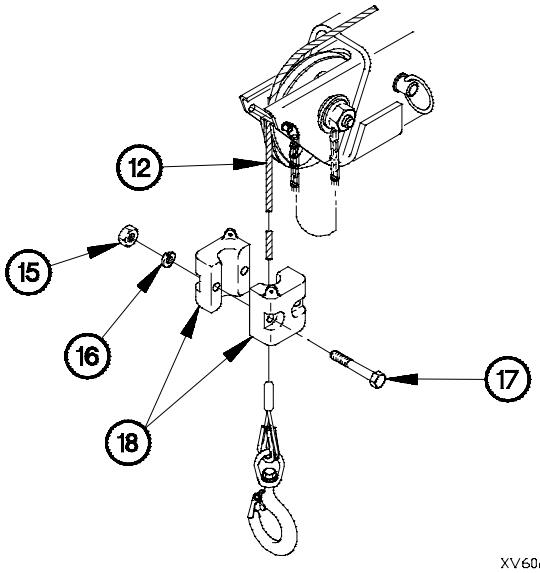
(14) Position winch cable (12) on boom sheave (14).

(15) Install quick release pin (13) in boom (8).

(16) Remove two nuts (15), lockwashers (16), and screws (17) from weight blocks (18). Discard lockwashers.

(17) Install two weight blocks (18) on winch cable (12) with two screws (17), lockwashers (16), and nuts (15).

(18) Position boom in stowed position (TM 9-2320-365-10).



XV60A081

20-70. LIGHT MATERIAL HANDLING CRANE (LMHC) ASSEMBLY/DISASSEMBLY (CONT)

b. Disassembly.

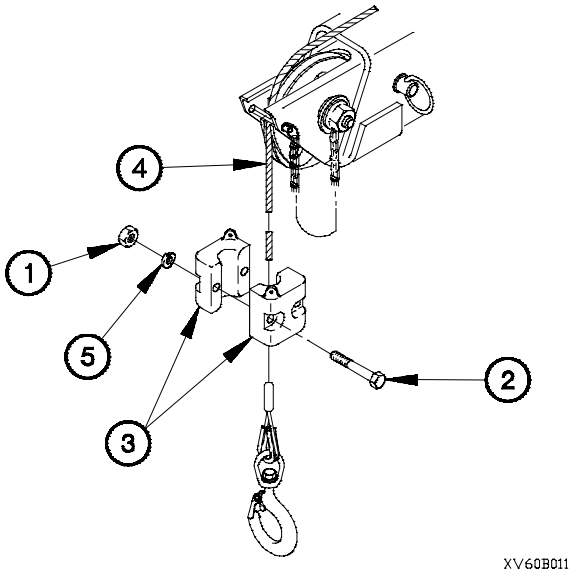
(1) Position boom in the 0-degree position (TM 9-2320-365-10).

(2) Remove two nuts (1), screws (2), lockwashers (5), and weight blocks (3) from winch cable (4). Discard lockwashers.

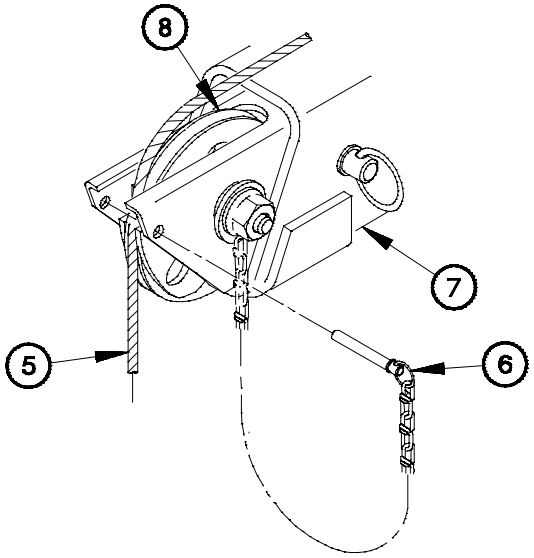
NOTE

Perform step (3) for stowage of weight block.

(3) Install two screws (2) in weight blocks (3) with lockwashers (5) and nuts (1).



XV60B011



XV60B021

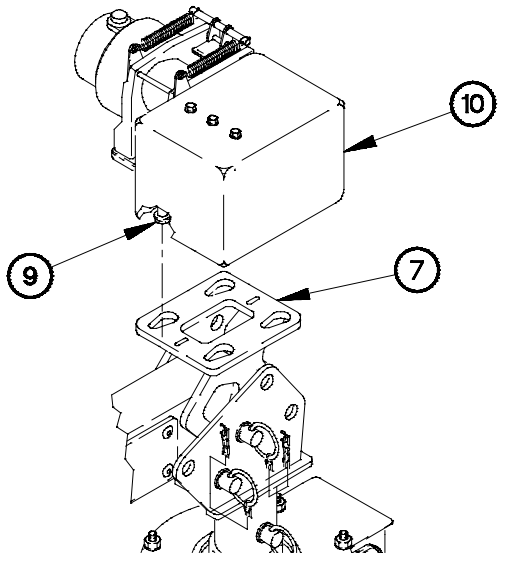
(4) Remove quick release pin (6) from boom (7).

(5) Remove winch cable (5) from boom sheave (8).

(6) Install quick release pin (6) in boom (7).

(7) Retract winch cable approximately 6 feet (1.8 m).

(8) Disconnect remote control and power cables (TM 9-2320-365-10).



XV60B031

(9) Loosen four screws (9) on winch (10).

(10) Slide winch (10) to rear of boom (7).

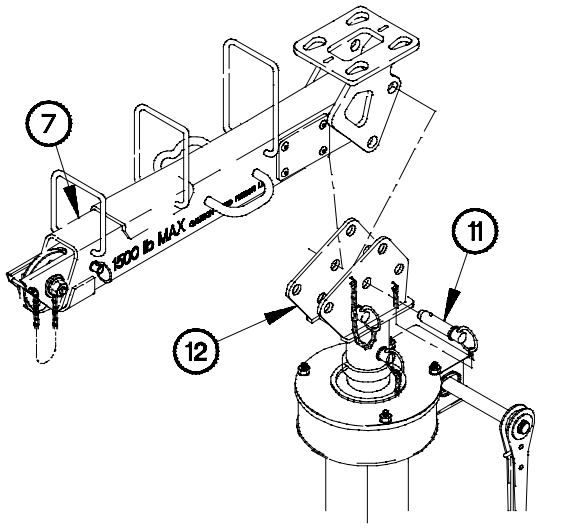
(11) Remove winch (10) from boom (7).

WARNING

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

NOTE

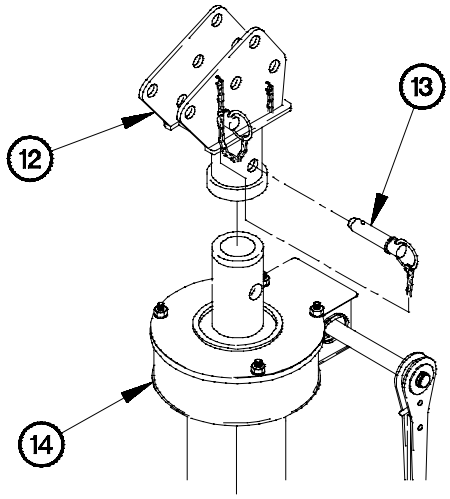
Steps (12) and (13) require the aid of an assistant.



XV60B041

(12) Remove two quick release pins (11) from turret (12).

(13) Remove boom (7) from turret (12).



XV60B051

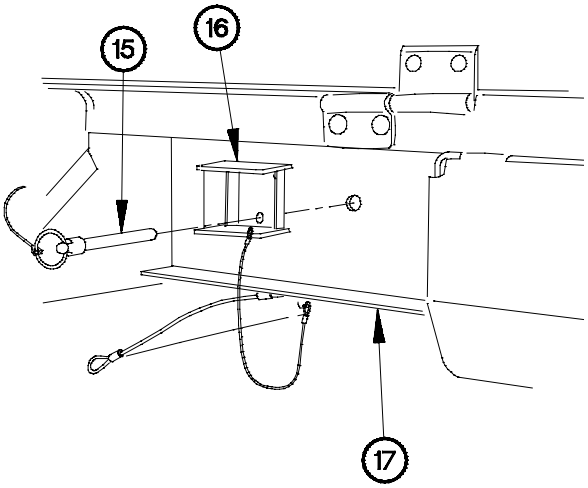
(14) Remove quick release pin (13) from turret (12).

(15) Remove turret (12) from mast (14).

NOTE

LMHC may be installed in any of the four cargo bed pockets. Left front cargo bed pocket shown.

(16) Remove quick release pin (15) and plug (16) from cargo bed frame (17).



XV60B061

20-70. LIGHT MATERIAL HANDLING CRANE (LMHC) ASSEMBLY/DISASSEMBLY (CONT)

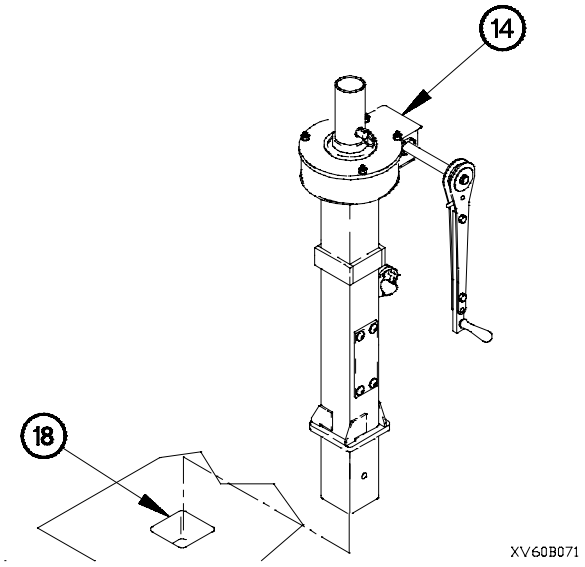
WARNING

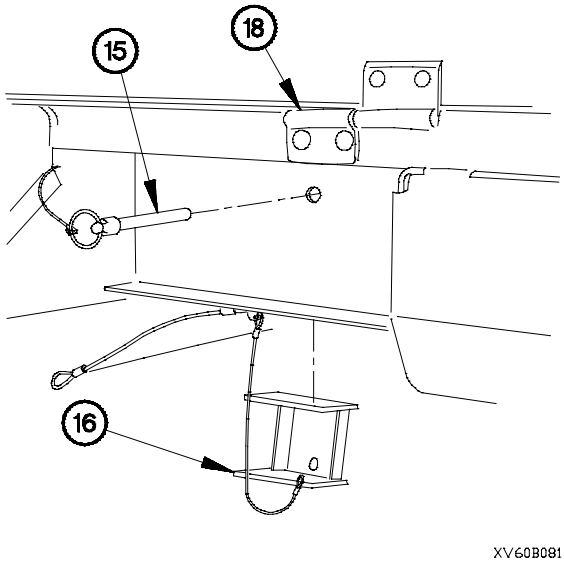
Light Material Handling Crane (LMHC) mast weighs approximately 110 lbs (50 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

NOTE

Step (17) requires the aid of an assistant.

(17) Remove mast (14) from cargo bed pocket (18).





(18) Install plug (16) in cargo bed pocket (18) with quick release pin (15).

End of Task.

20-71. LIGHT MATERIAL HANDLING CRANE (LMHC) REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
LMHC power cable removed (TM 9-2320-365-10).
LMHC remote control cable removed (TM 9-2320-365-10).

Tools and Special Tools
Sling, Cargo (2) (Item 31, Appendix C)

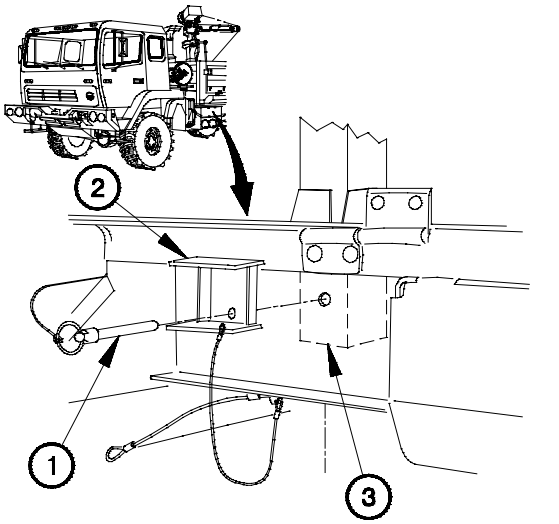
Personnel Required
(2)

a. Removal.

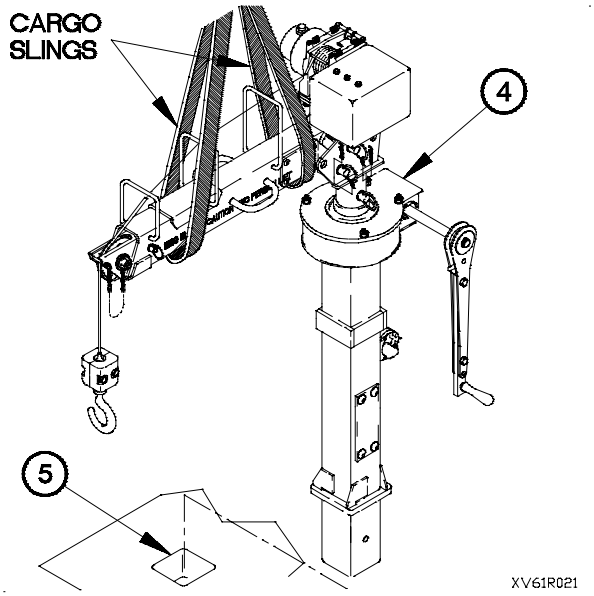
NOTE

LMHC may be installed in any of the four cargo bed pockets. Left front cargo bed pocket shown.

(1) Remove quick release pin (1) and plug (2) from cargo bed frame (3).



XV61R011



XV61R021

WARNING

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

NOTE

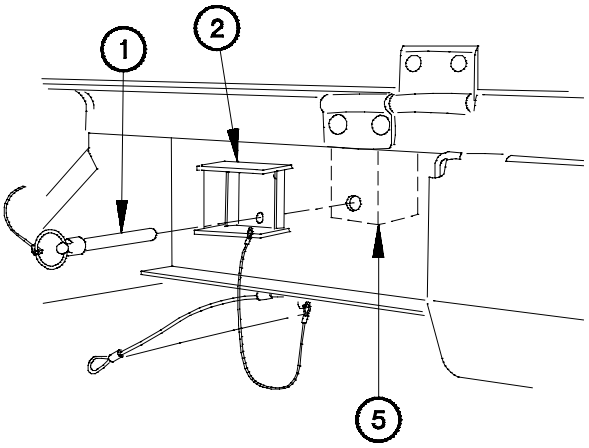
Step (2) requires the aid of an assistant.

(2) Remove LMHC (4) from cargo bed pocket (5).

20-71. LIGHT MATERIAL HANDLING CRANE (LMHC) REPLACEMENT (CONT)

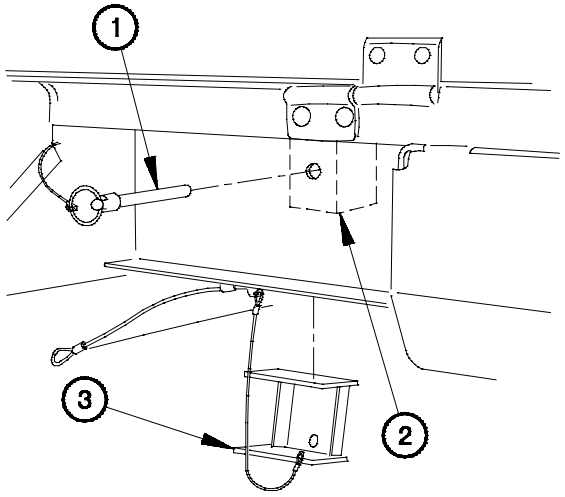
(3) Install plug (2) in cargo bed pocket (5).

(4) Install quick release pin (1) in cargo bed pocket (5).



XV61R031

b. Installation.



XV61I011

WARNING

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

NOTE

Step (3) requires the aid of an assistant.

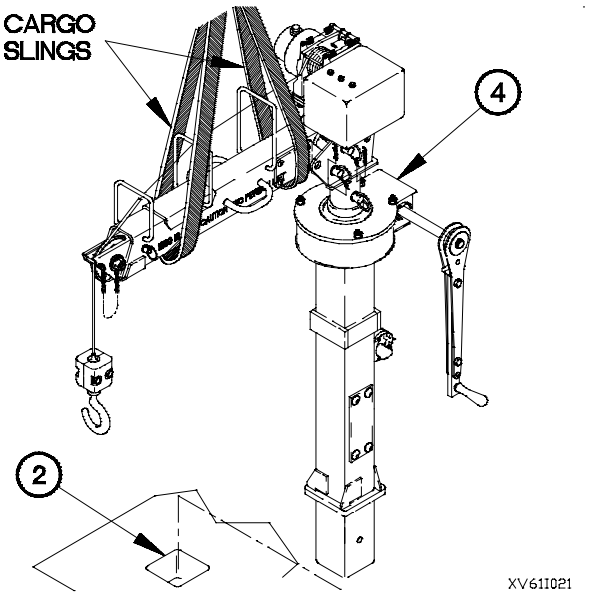
(3) Position LMHC (4) in cargo bed pocket (2).

NOTE

LMHC may be installed in any of the four cargo bed pockets. Left front cargo bed pocket shown.

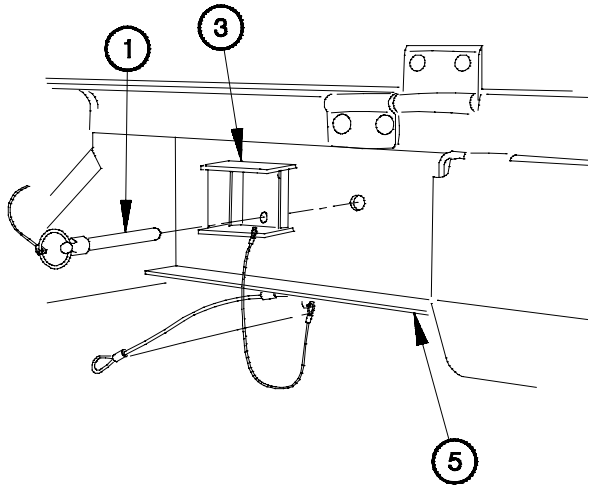
(1) Remove quick release pin (1) from cargo bed pocket (2).

(2) Remove plug (3) from cargo bed pocket (2).



XV61I021

(4) Install plug (3) on cargo bed frame (5) with quick release pin (1).



c. Follow-On Maintenance.

Operate LMHC and check for proper operation (TM 9-2320-365-10).

End of Task.

20-72. LIGHT MATERIAL HANDLING CRANE (LMHC) WEIGHT BLOCK AND WIRE ROPE REPLACEMENT/REPAIR

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
LMHC circuit breaker positioned to ON (TM 9-2320-365-10).
LMHC power cable installed (TM 9-2320-365-10).
LMHC remote control cable installed (TM 9-2320-365-10).
LMHC wire rope assembly fully extended (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Gloves, Welders (Item 14, Appendix C)

Materials/Parts
Lockwasher (2) (Item 104, Appendix G)

Personnel Required
(2)

a. Removal.

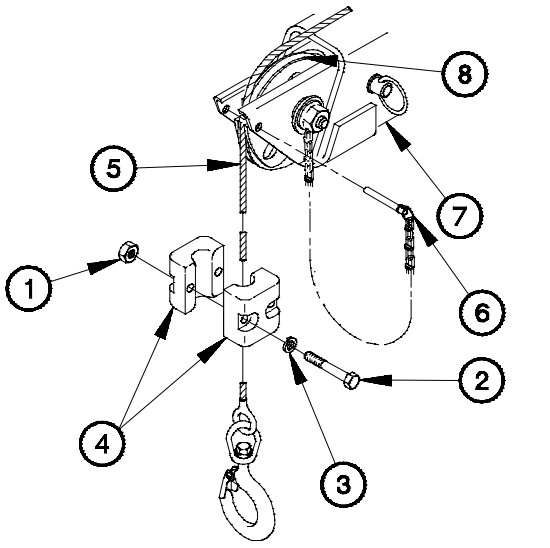
NOTE

Perform step (1) if replacing weight block.

(1) Remove two nuts (1), screws (2), lockwashers (3), and weight blocks (4) from wire rope (5). Discard lockwashers.

(2) Remove quick release pin (6) from boom (7).

(3) Remove wire rope (5) from sheave (8).



WARNING

Use care when removing springs. Springs are under tension and can act as projectiles when released. Failure to comply may result in injury to personnel.

(4) Remove two springs (9) from winch assembly (10).

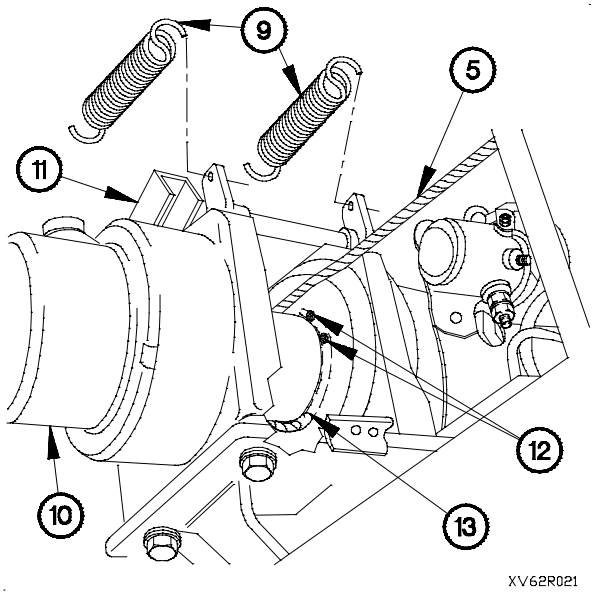
(5) Position tensioner (11) for access.

(6) Loosen two set screws (12) on drum (13).

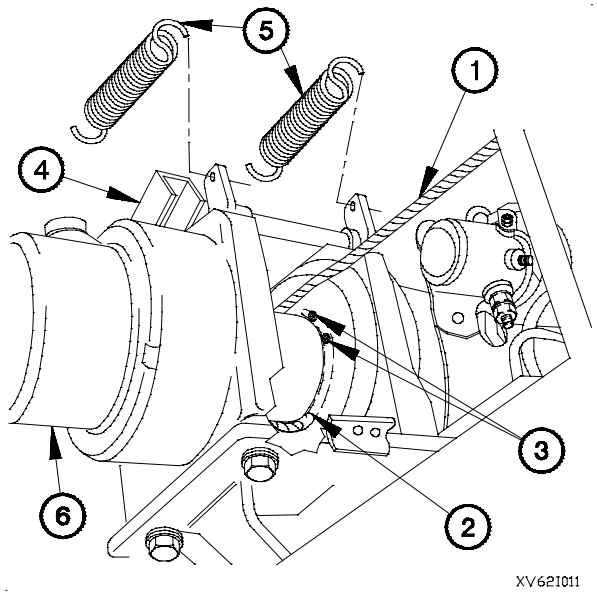
WARNING

- **Wire rope can become frayed or contain broken wires. Wear heavy leather-palmed work gloves when handling wire rope. Failure to comply may result in injury to personnel.**
- **Never let moving wire rope slide through hands, even when wearing gloves. A broken wire could pierce through glove and cut hands. Failure to comply may result in injury to personnel.**

(7) Remove wire rope (5) from drum (13).



b. Installation.



(1) Position wire rope (1) in drum (2).

(2) Tighten two set screws (3) on drum (2).

(3) Position tensioner (4) on drum (2).

WARNING

Use care when installing springs. Springs are under tension and can act as projectiles when released. Failure to comply may result in injury to personnel.

(4) Install two springs (5) on winch assembly (6).

20-72. LIGHT MATERIAL HANDLING CRANE (LMHC) WEIGHT BLOCK AND WIRE ROPE REPLACEMENT/REPAIR.

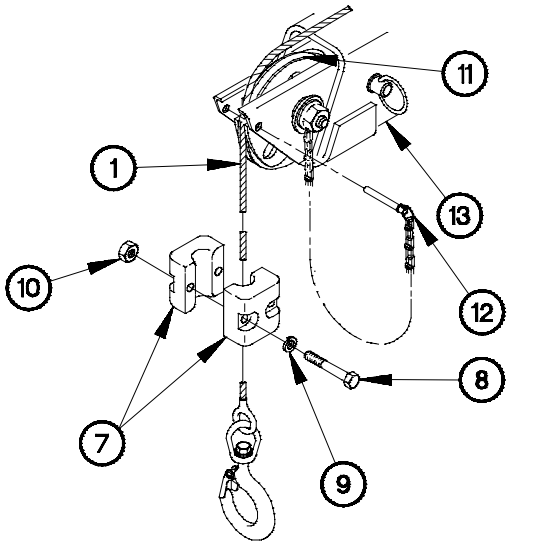
NOTE

Perform step (5) if weight block was replaced.

(5) Install two weight blocks (7) on wire rope (1) with two screws (8), lockwashers (9), and nuts (10).

(6) Position wire rope (1) in sheave (11).

(7) Install quick release pin (12) in boom (13).



XV621021

c. Follow-On Maintenance.

(1) Retract LMHC wire rope assembly (TM 9-2320-365-10).

(2) Extend and retract LMHC wire rope assembly to check for proper function (TM 9-2320-365-10).

(3) Remove LMHC remote control cable (TM 9-2320-365-10).

(4) Remove LMHC power cable (TM 9-2320-365-10).

(5) Notify DS maintenance to perform LMHC load test.

End of Task.

20-73. LIGHT MATERIAL HANDLING CRANE (LMHC) WINCH REPLACEMENT/REPAIR

This task covers:

a. Removal
b. Base Plate Disassembly
c. Winch Disassembly
d. Cleaning/Inspection
e. Winch Assembly
f. Base Plate Assembly
g. Installation
h. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
LMHC weight block and wire rope removed (para 20-72).
LMHC power cable removed (TM 9-2320-365-10).
LMHC remote control cable removed (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Goggles, Industrial (Item 15, Appendix C)
Gloves, Rubber (Item 13, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Gasket (3) (Item 30, Appendix G)
Grease, Molybdenum Disulfide (Item 25, Appendix D)
Rag, Wiping (Item 51, Appendix D)
Solvent, Dry Cleaning (Item 71, Appendix D)

Personnel Required
(2)

a. Removal.

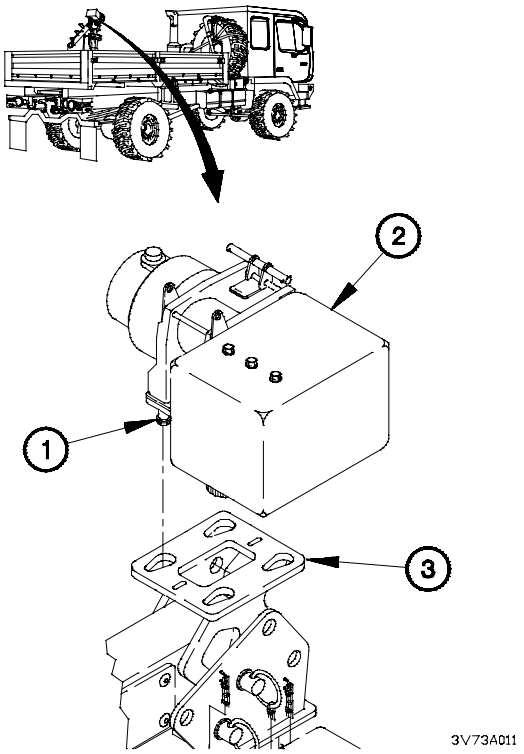
(1) Loosen four screws (1) on winch (2).

NOTE

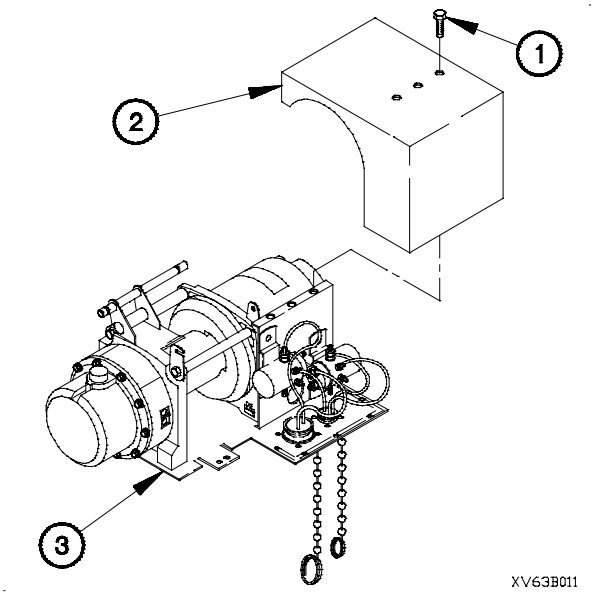
Step (2) and (3) require the aid of an assistant.

(2) Slide winch (2) to rear of boom (3).

(3) Remove winch (2) from boom (3).

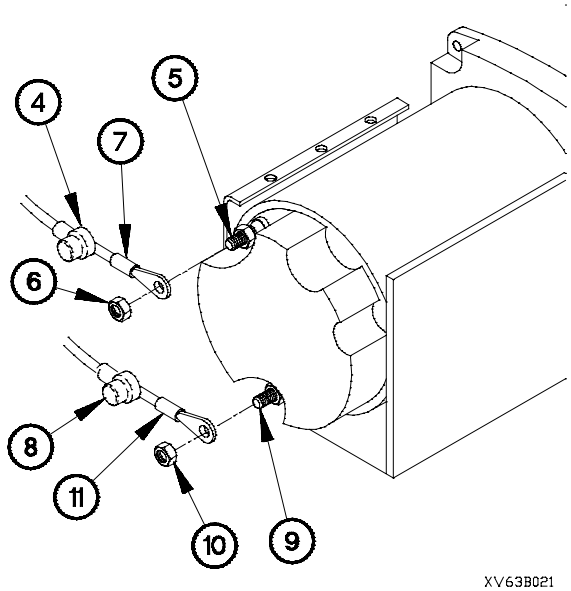


20-73. LIGHT MATERIAL HANDLING CRANE WINCH (LMHC) REPLACEMENT/REPAIR (CONT)



b. Base Plate Disassembly.

(1) Remove 18 screws (1) and cover (2) from base plate (3).



NOTE

- Tag wires and connection points prior to disconnecting.
- Note position of wires prior to removal.

(2) Remove rubber boot (4) from negative terminal (5).

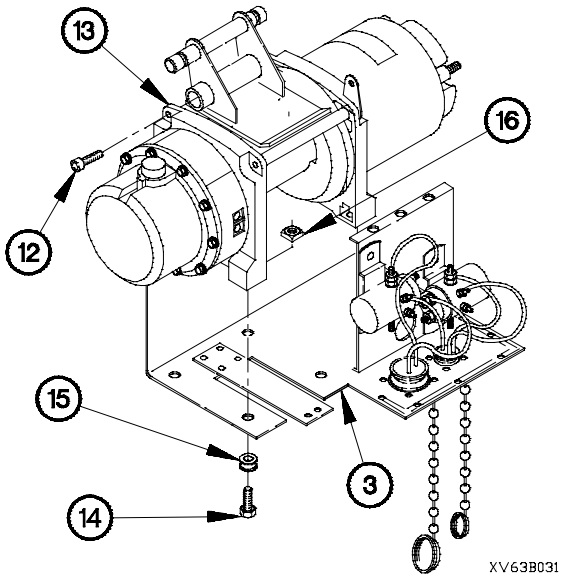
(3) Remove nut (6) and terminal lug (7) from negative terminal (5).

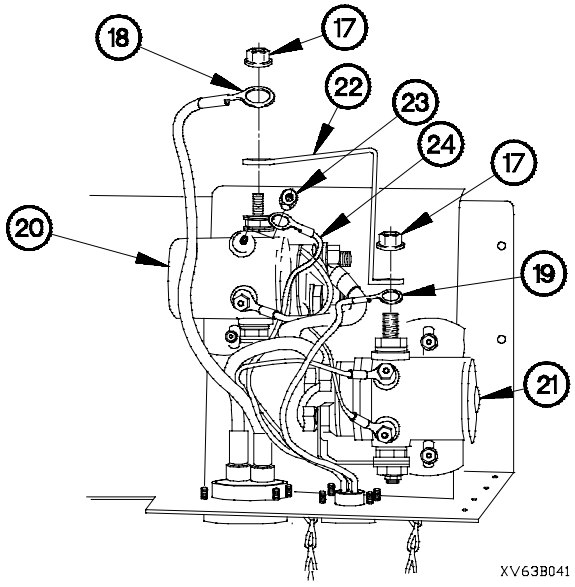
(4) Remove rubber boot (8) from positive terminal (9).

(5) Remove nut (10) and terminal lug (11) from positive terminal (9).

(6) Remove two screws (12) from winch assembly (13).

(7) Remove four screws (14), mounting feet (15), nuts (16), and winch assembly (13) from base plate (3).





(8) Remove two nuts (17) and terminal lugs (18 and 19) from solenoids (20 and 21).

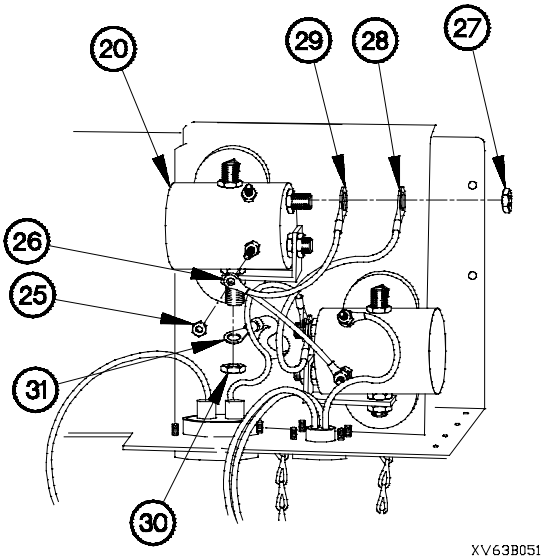
(9) Remove strap (22) from solenoids (20 and 21).

(10) Remove nut (23) and terminal lug (24) from solenoid (20).

(11) Remove nut (25) and terminal lug (26) from solenoid (20).

(12) Remove nut (27) and two terminal lugs (28 and 29) from solenoid (20).

(13) Remove nut (30) and terminal lug (31) from solenoid (20).

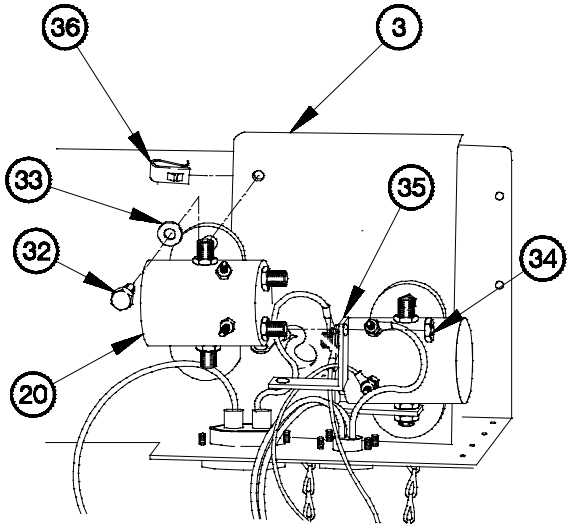


20-73. LIGHT MATERIAL HANDLING CRANE WINCH (LMHC) REPLACEMENT/REPAIR (CONT)

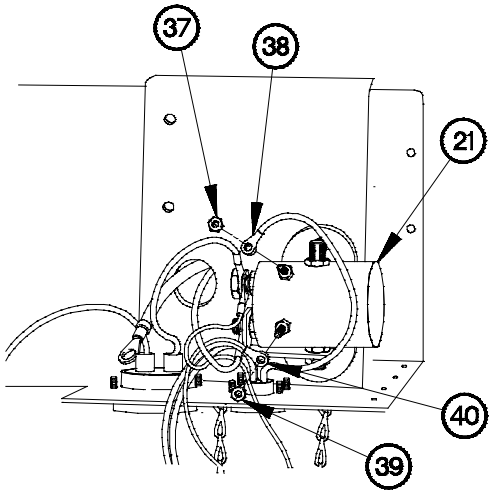
(14) Remove two screws (32), washers (33), and solenoid (20) from base plate (3).

(15) Remove nut (34) and strap (35) from solenoid (20).

(16) Remove two clip nuts (36) from base plate (3).



XV63B061



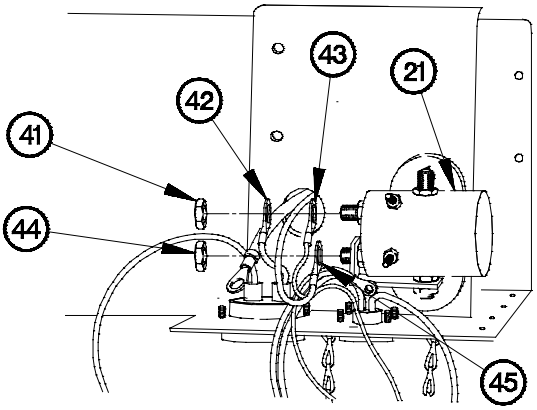
XV63B071

(17) Remove nut (37) and terminal lug (38) from solenoid (21).

(18) Remove nut (39) and terminal lug (40) from solenoid (21).

(19) Remove nut (41) and two terminal lugs (42 and 43) from solenoid (21).

(20) Remove nut (44) and terminal lug (45) from solenoid (21).

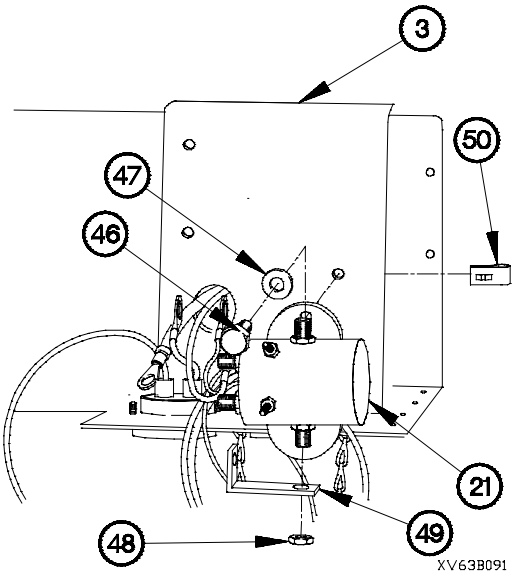


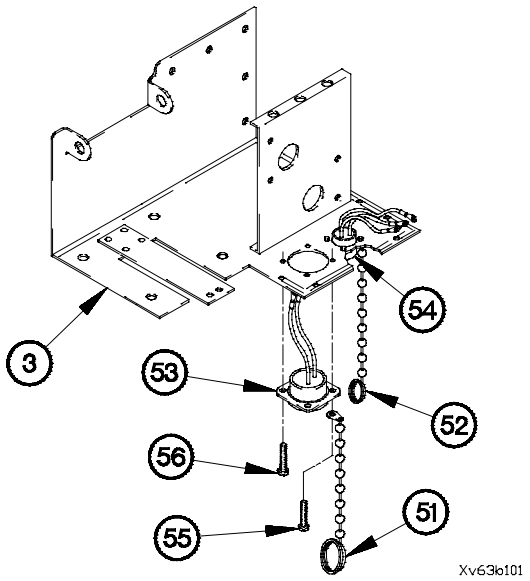
XV63B081

(21) Remove two screws (46), washers (47), and solenoid (21) from base plate (3).

(22) Remove nut (48) and strap (49) from solenoid (21).

(23) Remove two clip nuts (50) from base plate (3).





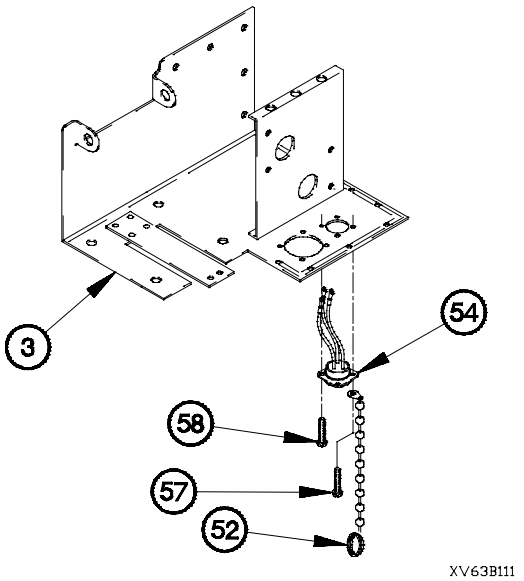
(24) Remove dust caps (51 and 52) from power connector (53) and remote control connector (54).

(25) Remove screw (55) and dust cap (51) from power connector (53).

(26) Remove three screws (56) and power connector (53) from base plate (3).

(27) Remove screw (57) and dust cap (52) from remote control connector (54).

(28) Remove three screws (58) and remote control connector (54) from base plate (3).



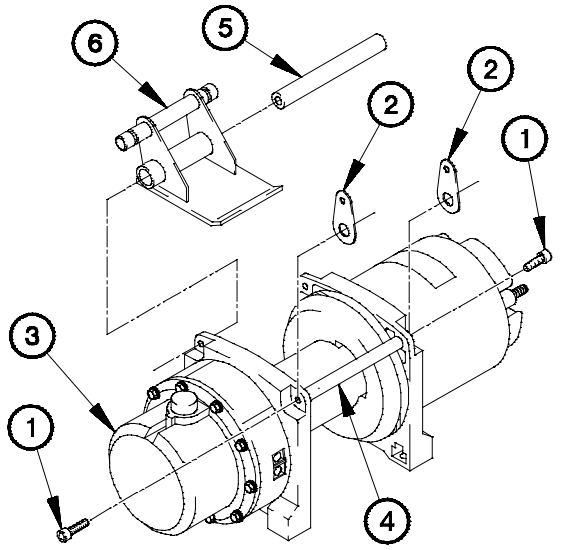
20-73. LIGHT MATERIAL HANDLING CRANE WINCH (LMHC) REPLACEMENT/REPAIR (CONT)

c. Winch Disassembly.

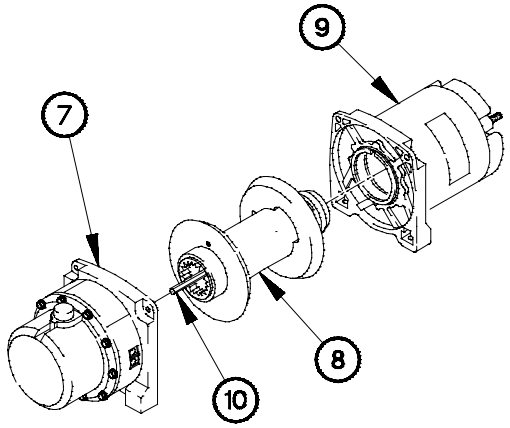
(1) Remove two screws (1) and brackets (2) from winch assembly (3).

(2) Remove tie rods (4 and 5) from winch assembly (3).

(3) Remove tensioner (6) from tie rod (5).



XV63C011



XV63C021

(4) Remove housing assembly (7) from drum assembly (8).

(5) Remove drum assembly (8) from 24 vdc motor assembly (9).

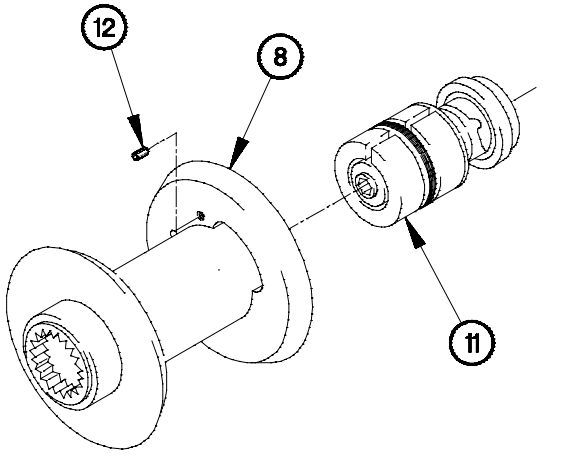
(6) Remove hex shaft (10) from drum assembly (8).

NOTE

Note position of break in drum assembly prior to removal.

(7) Remove brake (11) from drum assembly (8).

(8) Remove two screws (12) from drum assembly (8).

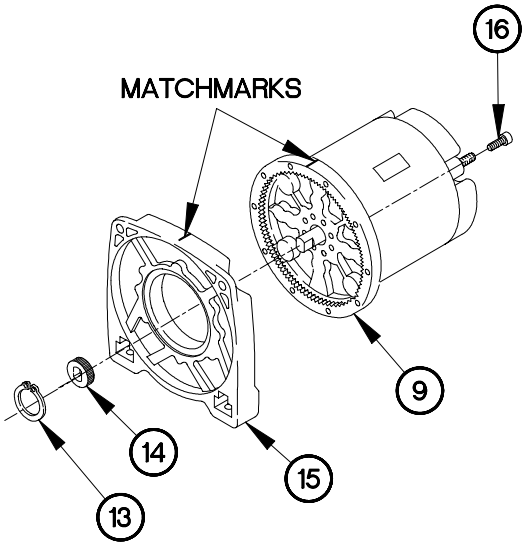


XV63C031

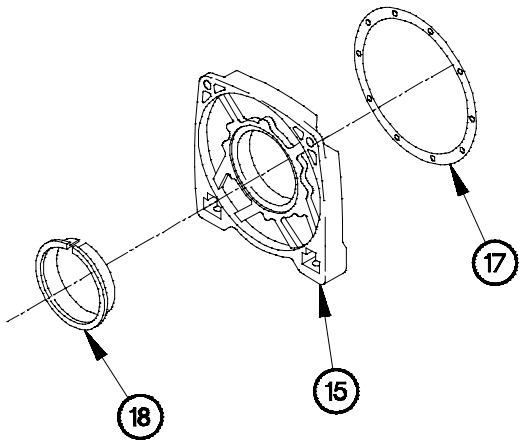
(9) Remove circlip (13) and gear (14) from 24 vdc motor assembly (9).

(10) Match mark drum support (15) and 24 vdc motor assembly (9).

(11) Remove 10 screws (16) and drum support (15) from 24 vdc motor assembly (9).



Xv63c041



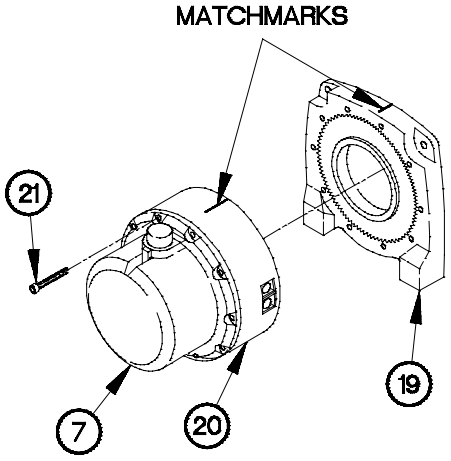
XV63C051

(12) Remove gasket (17) from drum support (15). Discard gasket.

(13) Remove sleeve bushing (18) from drum support (15).

(14) Match mark drum support (19) spur gear (20) and housing assembly (7).

(15) Remove 10 screws (21) and drum support (19) from spur gear (20).

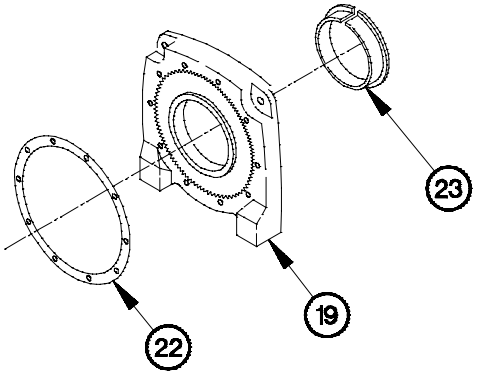


XV63C061

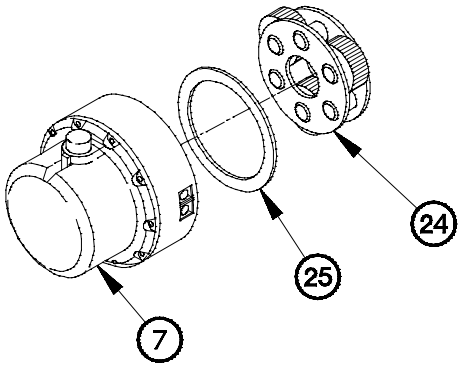
20-73. LIGHT MATERIAL HANDLING CRANE WINCH (LMHC) REPLACEMENT/REPAIR (CONT)

(16) Remove gasket (22) from drum support (19). Discard gasket.

(17) Remove sleeve bushing (23) from drum support (19).



XV63C071



XV63C081

NOTE

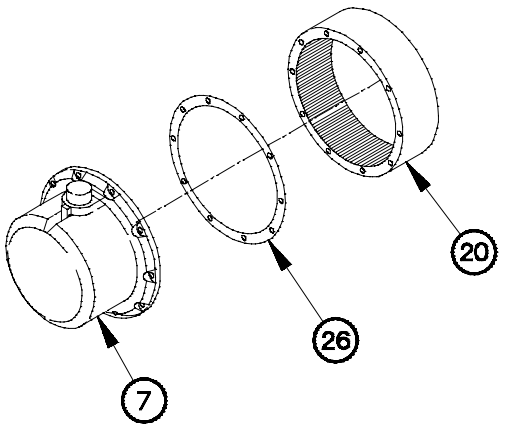
Note position of stage 3 carrier in housing assembly prior to removal.

(18) Remove stage 3 carrier (24) from housing assembly (7).

(19) Remove washer (25) from stage 3 carrier (24).

(20) Remove spur gear (20) from housing assembly (7).

(21) Remove gasket (26) from spur gear (20). Discard gasket.



XV63C091

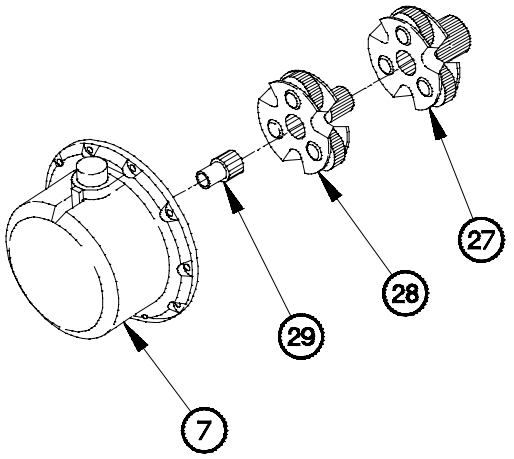
NOTE

Note position of stage 2 carrier, WI carrier, and spur gear in housing assembly prior to removal.

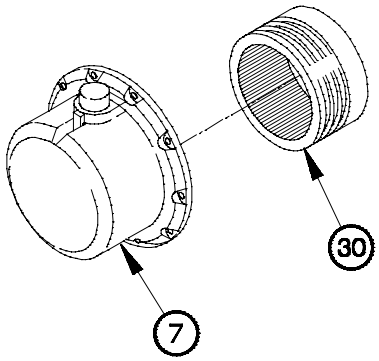
(22) Remove stage 2 carrier (27) from housing assembly (7).

(23) Remove WI carrier (28) from housing assembly (7).

(24) Remove spur gear (29) from housing assembly (7).



XV63C101



XV63C111

NOTE

Note position of internal gear in housing assembly prior to removal.

(25) Remove internal gear (30) from housing assembly (7).

20-73. LIGHT MATERIAL HANDLING CRANE WINCH (LMHC) REPLACEMENT/REPAIR (CONT)

d. Cleaning/Inspection.

WARNING

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

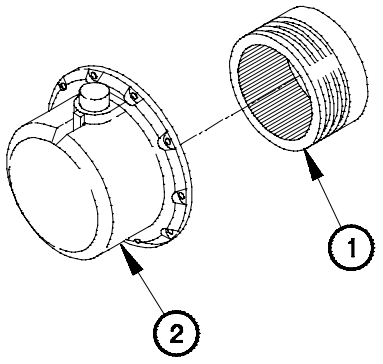
(1) Clean all metal parts thoroughly with dry cleaning solvent.

NOTE

Replace any part that fails visual inspection.

(2) Inspect all parts for visible cracks or damage.

e. Winch Assembly.



XV63E011

(1) Position internal gear (1) in housing assembly (2).

(2) Apply grease to spur gear (3).

(3) Install spur gear (3) in housing assembly (2).

(4) Apply grease to WI carrier (4).

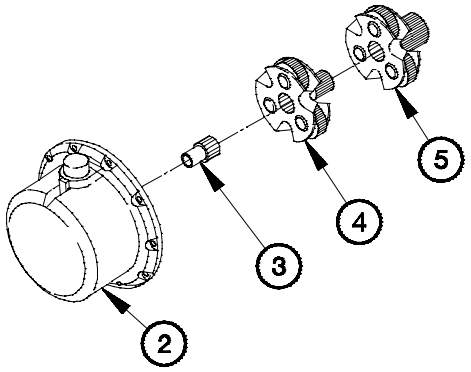
NOTE

Hex shaft may be used to align WI carrier with spur gear.

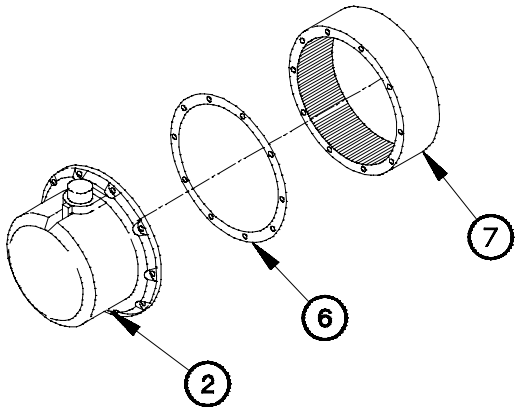
(5) Install WI carrier (4) in housing assembly (2).

(6) Apply grease to stage 2 carrier (5).

(7) Install stage 2 carrier (5) in housing assembly (2).



XV63E021

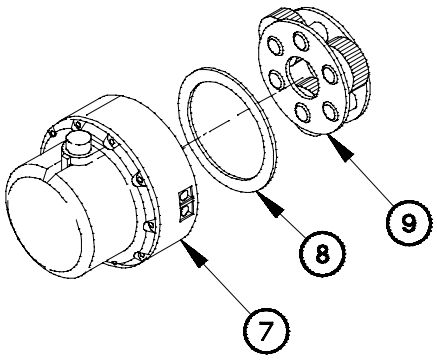


XV63E031

(8) Position gasket (6) and spur gear (7) on housing assembly (2).

(9) Apply grease to washer (8) and stage 3 carrier (9).

(10) Position washer (8) and stage 3 carrier (9) in spur gear (7).



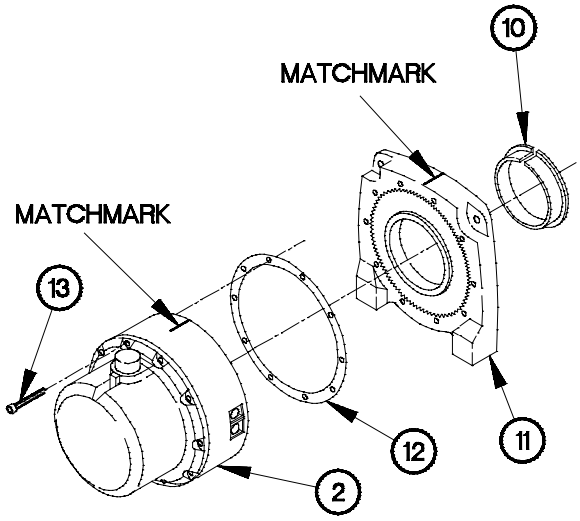
XV63E041

20-73. LIGHT MATERIAL HANDLING CRANE WINCH (LMHC) REPLACEMENT/REPAIR (CONT)

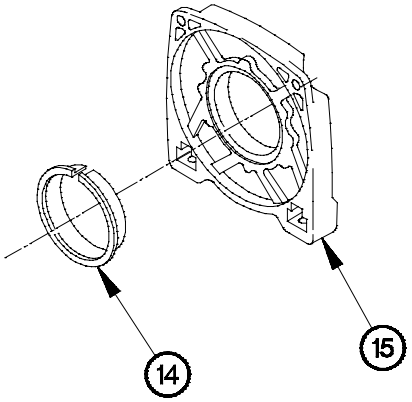
(11) Install sleeve bushing (10) in drum support (11).

(12) Install gasket (12) and drum support (11) on housing assembly (2) with matchmarks aligned.

(13) Install 10 screws (13) in housing assembly (2).



XV63E051



XV63E061

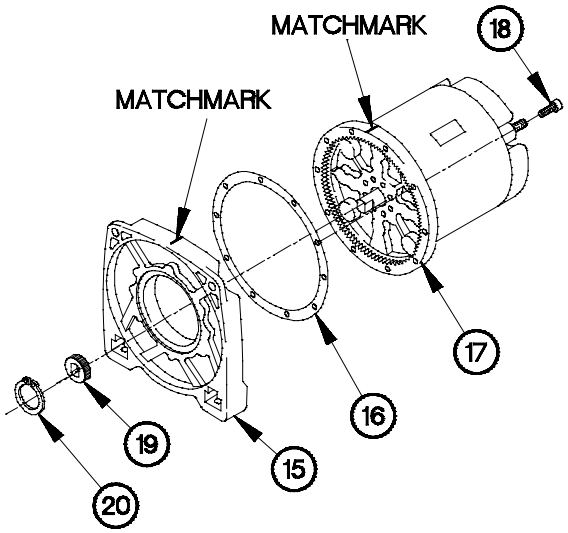
(14) Install sleeve bushing (14) in drum support (15).

(15) Install gasket (16) and drum support (15) on 24 vdc motor assembly (17) with matchmarks aligned.

(16) Install 10 screws (18) in 24 vdc motor assembly (17).

(17) Apply grease to gear (19).

(18) Install gear (19) on 24 vdc motor assembly (17) with circlip (20).

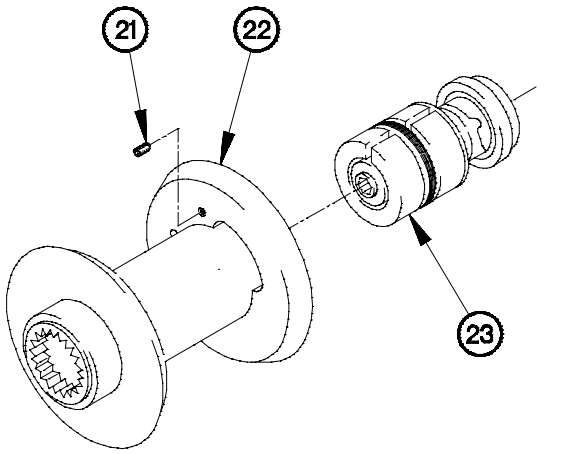


XV63E071

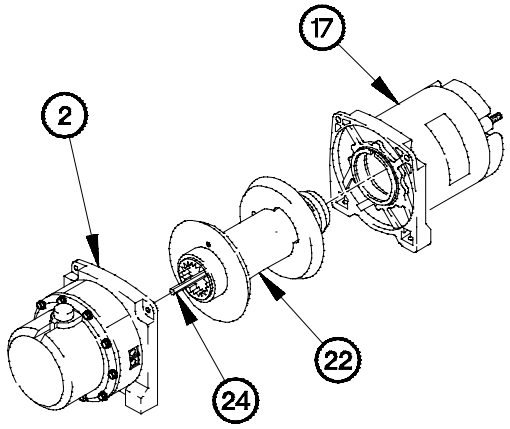
(19) Position two screws (21) in drum assembly (22).

(20) Apply grease to brake (23).

(21) Install brake (23) in drum assembly (22).



XV63E081



XV63E091

(22) Apply grease to hex shaft (24).

(23) Install hex shaft (24) in drum assembly (22).

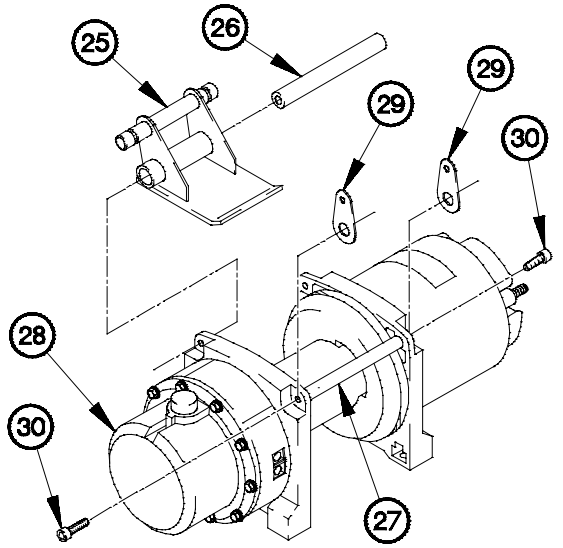
(24) Position drum assembly (22) on 24 vdc motor assembly (17).

(25) Position housing assembly (2) on drum assembly (22).

(26) Position tensioner (25) on tie rod (26).

(27) Position tie rods (26 and 27) in winch assembly (28).

(28) Install two brackets (29) on winch assembly (28) with two screws (30).



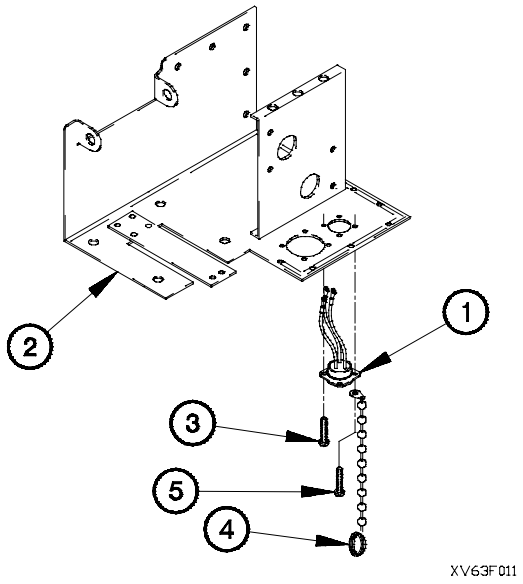
XV63E101

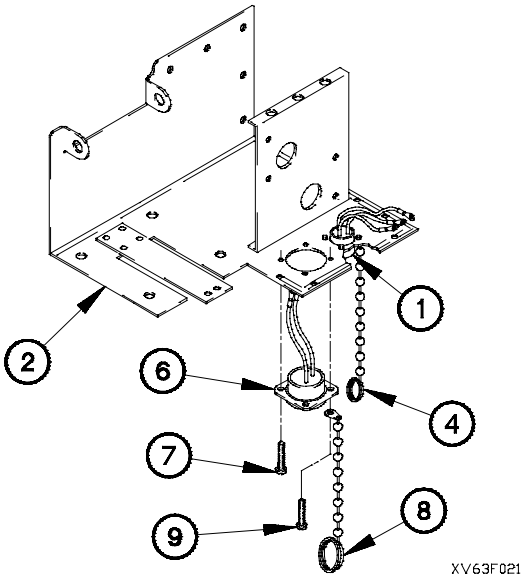
20-73. LIGHT MATERIAL HANDLING CRANE WINCH (LMHC) REPLACEMENT/REPAIR (CONT)

f. Base Plate Assembly.

(1) Install remote control connector (1) on base plate (2) with three screws (3).

(2) Install dust cap (4) on remote control connector (1) with screw (5).





(3) Install power connector (6) on base plate (2) with three screws (7).

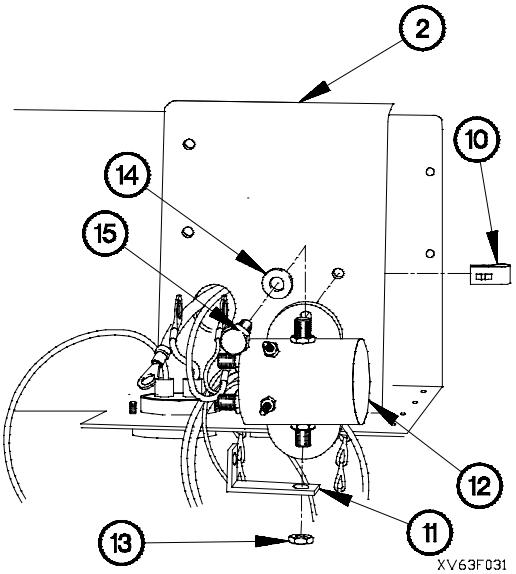
(4) Install dust cap (8) on power connector (6) with screw (9).

(5) Install dust caps (4 and 8) on remote control connector (1) and remote control connector (6).

(6) Install two clip nuts (10) on base plate (2).

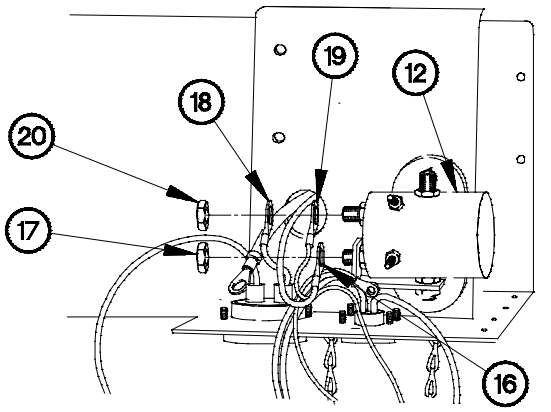
(7) Install strap (11) on solenoid (12) with nut (13).

(8) Install solenoid (12) on base plate (2) with two washers (14) and screws (15).

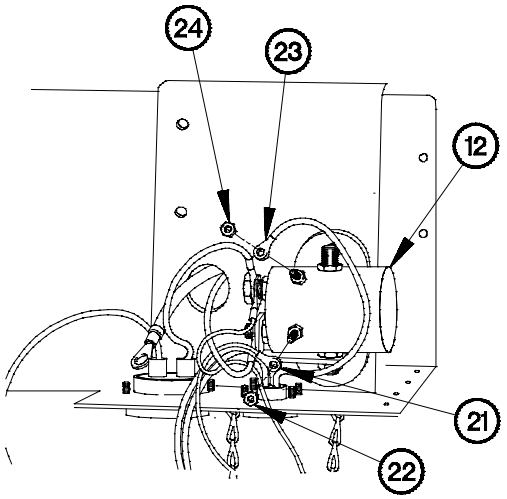


(9) Install terminal lug (16) on solenoid (12) with nut (17).

(10) Install terminal lugs (18 and 19) on solenoid (12) with nut (20).



XV63F041



XV63F051

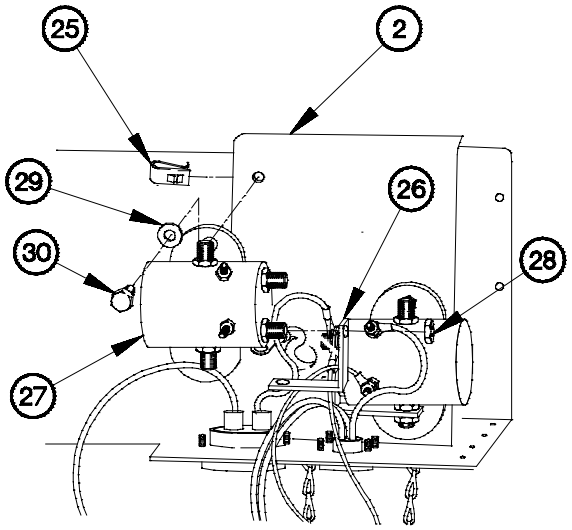
(11) Install terminal lug (21) on solenoid (12) with nut (22).

(12) Install terminal lug (23) on solenoid (12) with nut (24).

(13) Install two clip nuts (25) on base plate (2).

(14) Install strap (26) on solenoid (27) with nut (28).

(15) Install solenoid (27) on base plate (2) with two washers (29) and screws (30).



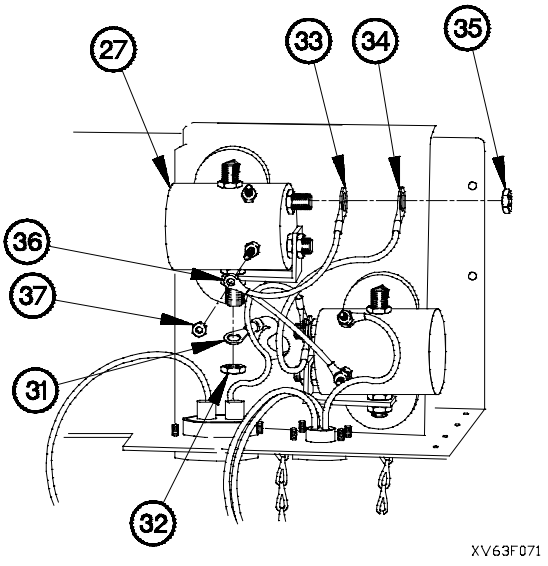
XV63F061

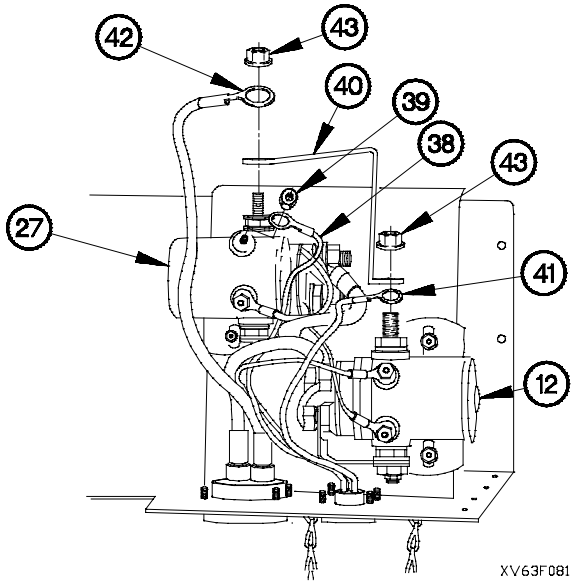
20-73. LIGHT MATERIAL HANDLING CRANE WINCH (LMHC) REPLACEMENT/REPAIR (CONT)

(16) Install terminal lug (31) on solenoid (27) with nut (32).

(17) Install terminal lugs (33 and 34) on solenoid (27) with nut (35).

(18) Install terminal lug (36) on solenoid (27) with nut (37).





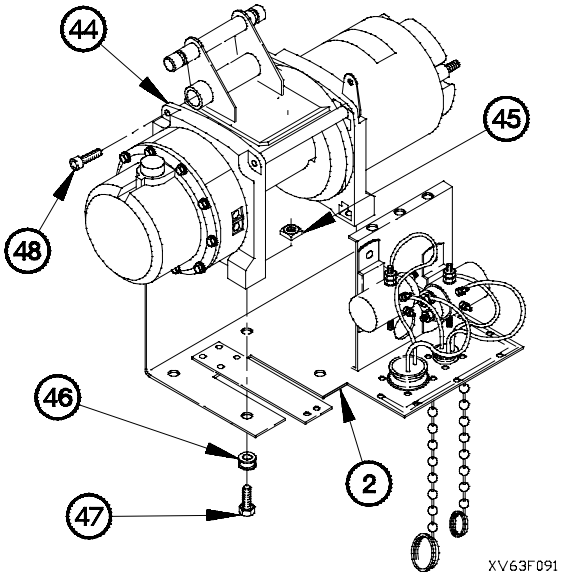
(19) Install terminal lug (38) on solenoid (27) with nut (39).

(20) Install strap (40) on solenoids (12 and 27).

(21) Install terminal lugs (41 and 42) on solenoids (12 and 27) with nuts (43).

(22) Install winch assembly (44) on base plate (2) with four nuts (45), mounting feet (46), and screws (47).

(23) Install two screws (48) in winch assembly (44).

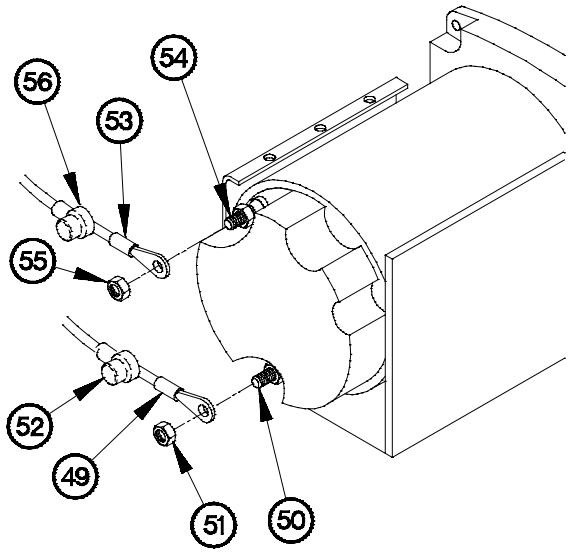


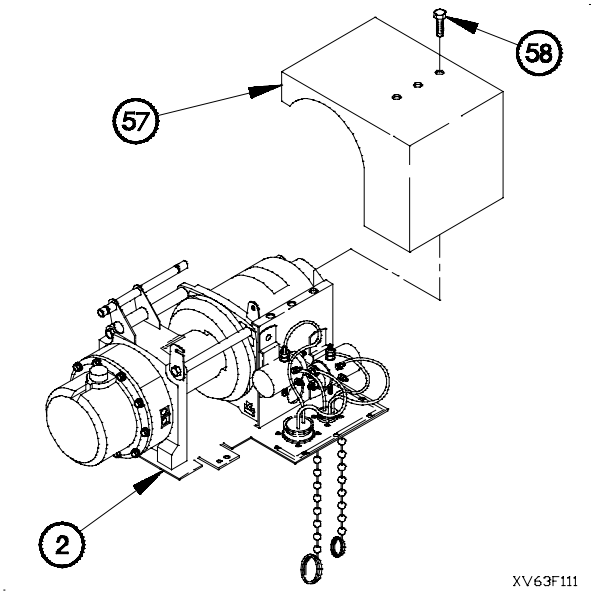
(24) Install terminal lug (49) on positive terminal (50) with nut (51).

(25) Install rubber boot (52) on positive terminal (50).

(26) Install terminal lug (53) on negative terminal (54) with nut (55).

(27) Install rubber boot (56) on negative terminal (54).





(28) Install cover (57) on base plate (2) with 18 screws (58).

g. Installation.

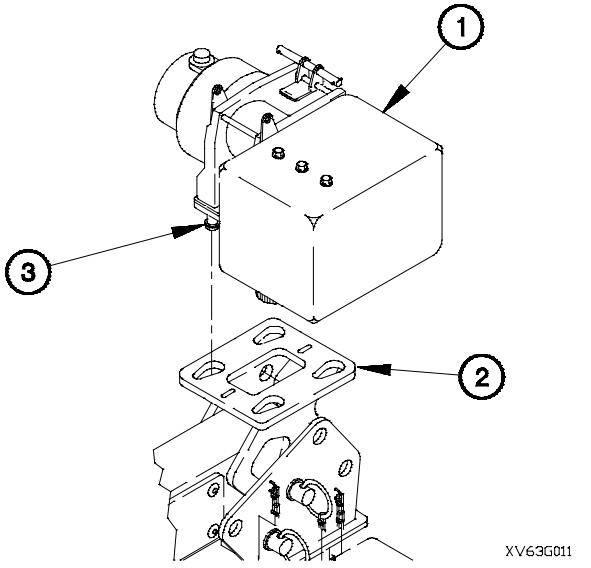
NOTE

Steps (1) and (2) require the aid of an assistant.

(1) Position winch (1) on boom (2).

(2) Slide winch (1) toward front of boom (2).

(3) Tighten four screws (3).



20-73. LIGHT MATERIAL HANDLING CRANE WINCH (LMHC) REPLACEMENT/REPAIR (CONT)

h. Follow-On Maintenance.

(1) Install LMHC remote control cable (TM 9-2320-365-10).

(2) Install LMHC power cable (TM 9-2320-365-10).

(3) Install LMHC weight block and wire rope (para 20-72).

End of Task.

20-74. LIGHT MATERIAL HANDLING CRANE (LMHC) BOOM REPLACEMENT

This task covers:

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

INITIAL SETUP

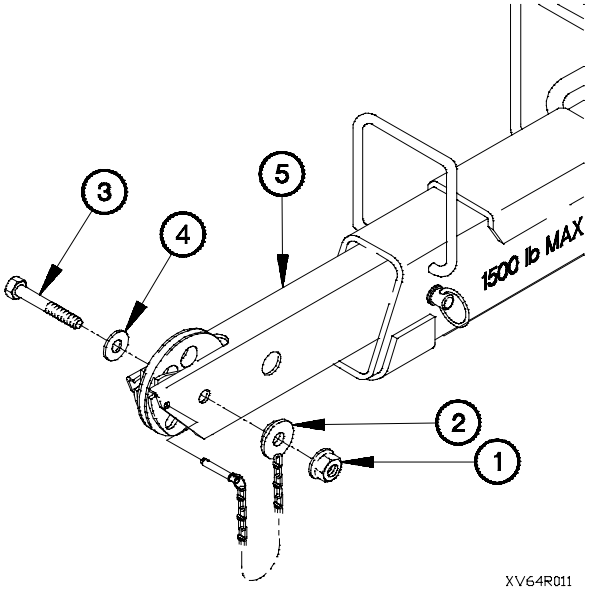
Equipment Conditions
Engine shut down (TM 9-2320-365-10).
LMHC winch removed (para 20-73).

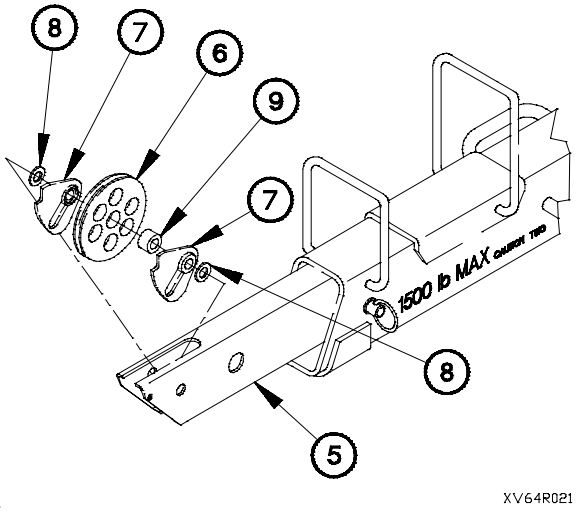
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Gloves, Welders (Item 14, Appendix C)

Materials/Parts
Nut, Self-Locking (Item 151, Appendix G)
Bushing, Sleeve (Item 5, Appendix G)

a. Removal.

(1) Remove self-locking nut (1), chain assembly (2), screw (3), and washer (4) from fly section (5). Discard self-locking nut.





(2) Remove sheave (6), two detent plates (7), and washers (8) from fly section (5).

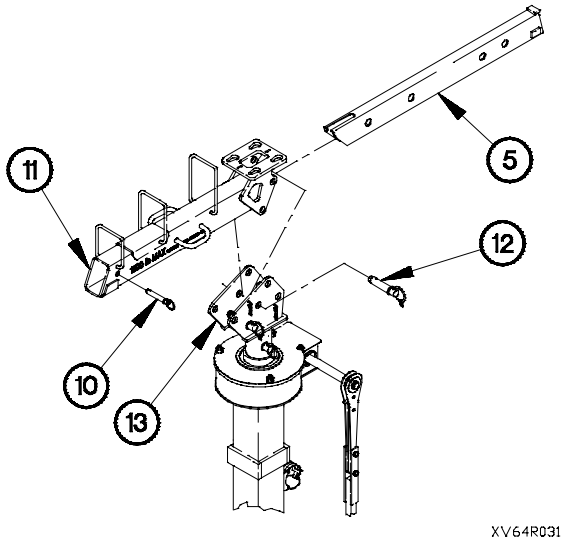
(3) Remove bushing (9) from sheave (6). Discard bushing.

20-74. LIGHT MATERIAL HANDLING CRANE (LMHC) BOOM REPLACEMENT (CONT)

(4) Remove quick release pin (10) from base weld (11) and fly section (5).

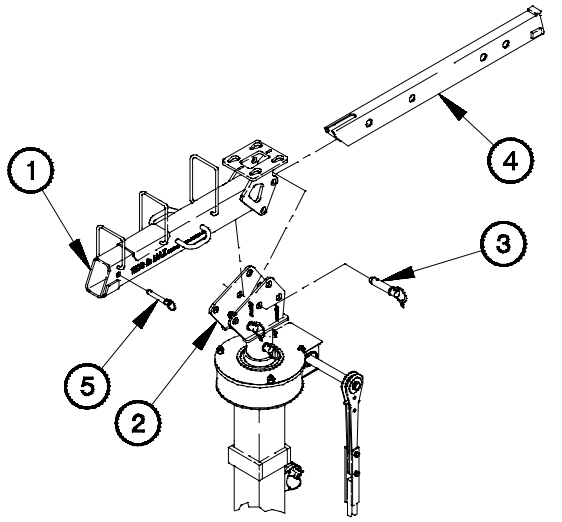
(5) Remove fly section (5) from base weld (11).

(6) Remove quick release pin (12) and base weld (11) from turret (13).



XV64R031

b. Installation.



XV64I011

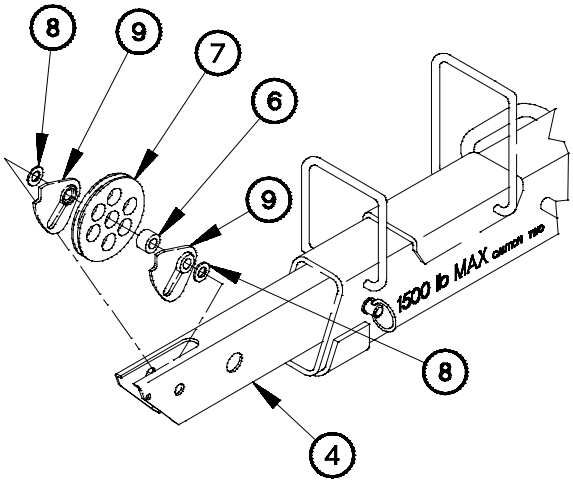
(1) Install base weld (1) in turret (2) with quick release pin (3).

(2) Position fly section (4) in base weld (1).

(3) Install quick release pin (5) through base weld (1) and fly section (4).

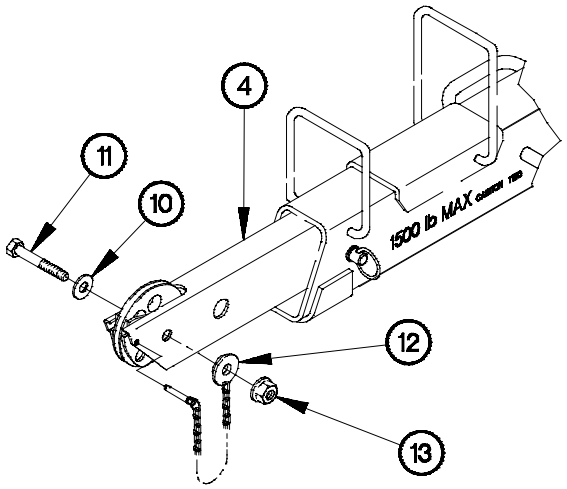
(4) Install bushing (6) in sheave (7).

(5) Position two washers (8), detent plates (9), and sheave (7) in fly section (4).



XV64I021

(6) Install washer (10), screw (11), chain assembly (12), and self-locking nut (13) in fly section (4).



XV641031

c. Follow-On Maintenance.

Install LMHC winch (para 20-73).

End of Task.

20-75. LIGHT MATERIAL HANDLING CRANE (LMHC) BOOM SHEAVE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
LMHC power cable removed (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Gloves, Welders (Item 14, Appendix C)

Materials/Parts
Nut, Self-Locking (Item 151, Appendix G)
Bushing, Sleeve (Item 5, Appendix G)

a. Removal.

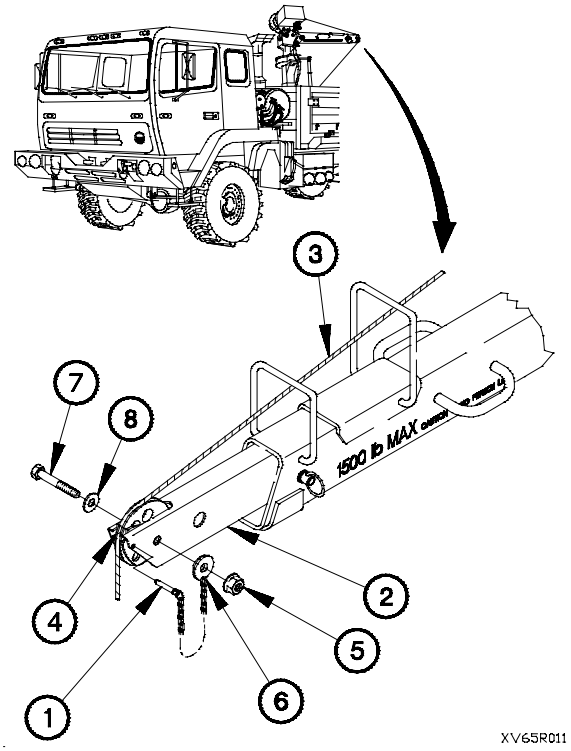
(1) Remove quick release pin (1) from fly section (2).

WARNING

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

(2) Remove wire rope (3) from sheave (4).

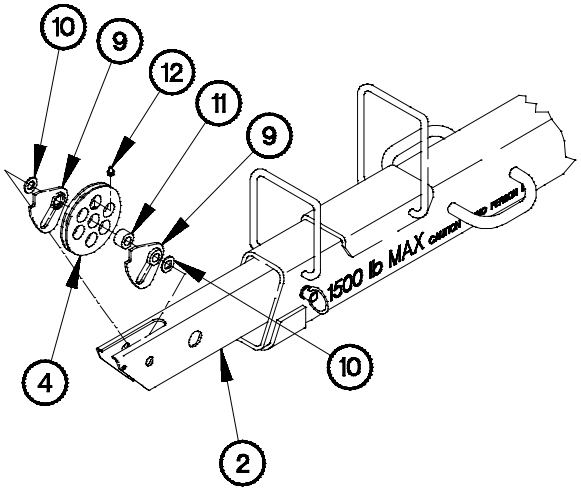
(3) Remove self-locking nut (5), chain assembly (6), screw (7), and washer (8) from fly section (2). Discard self-locking nut.



(4) Remove sheave (4), two detent plates (9), and washers (10) from fly section (2).

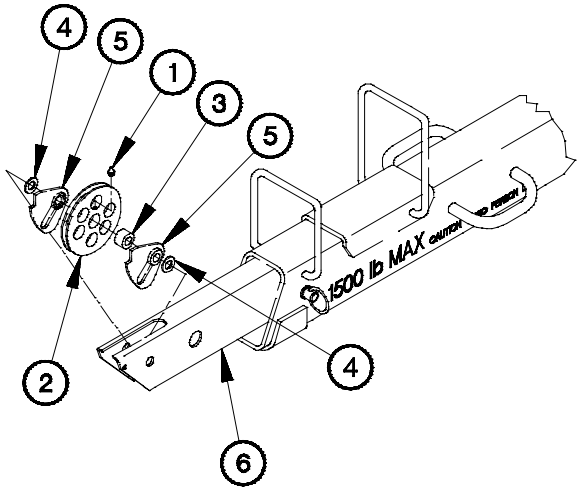
(5) Remove bushing (11) from sheave (4). Discard bushing.

(6) Remove fitting (12) from sheave (4).



XV65R021

b. Installation.



XV65I011

(1) Install fitting (1) in sheave (2).

(2) Install bushing (3) in sheave (2).

(3) Position sheave (2), two washers (4), and detent plates (5) in fly section (6).

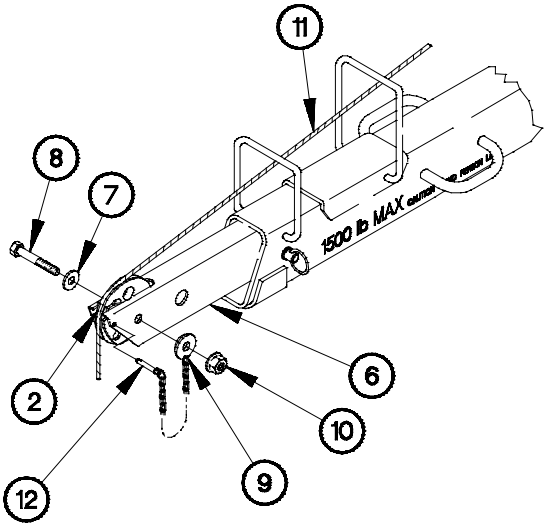
(4) Install washer (7), screw (8), chain assembly (9), and self-locking nut (10) in fly section (6).

WARNING

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

(5) Install wire rope (11) in sheave (2).

(6) Install quick release pin (12) in fly section (6).



XV65I021

20-75. LIGHT MATERIAL HANDLING CRANE (LMHC) BOOM SHEAVE REPLACEMENT (CONT)

c. Follow-On Maintenance.

(1) Install LMHC power cable (TM 9-2320-365-10).

(2) Extend and retract LMHC wire rope assembly to check for proper function (TM 9-2320-365-10).

End of Task.

20-76. LIGHT MATERIAL HANDLING CRANE (LMHC) TURRET REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
LMHC power cable removed (TM 9-2320-365-10).
LMHC remote control cable removed (TM 9-2320-365-10).

Personnel Required
(2)

a. Removal.

WARNING

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

NOTE

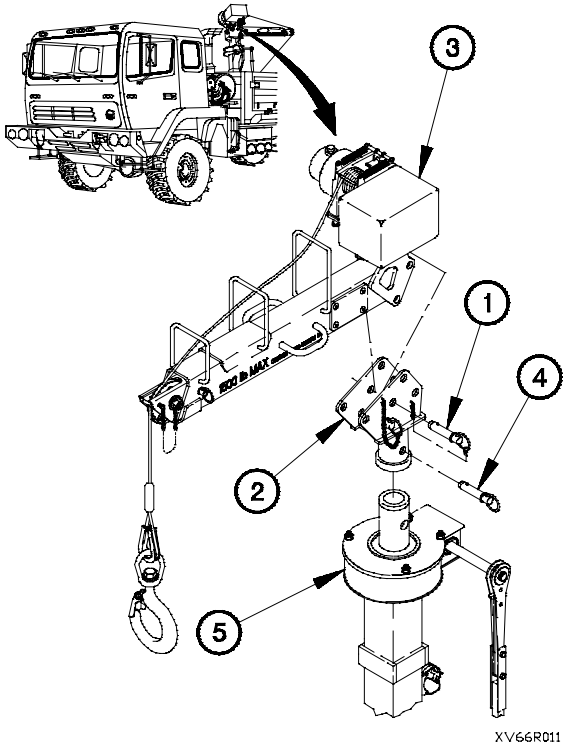
Steps (1) and (2) require the aid of an assistant.

(1) Remove quick release pin (1) from turret (2).

(2) Remove boom assembly (3) from turret (2).

(3) Remove quick release pin (4) from turret (2).

(4) Remove turret (2) from mast (5).



20-76. LIGHT MATERIAL HANDLING CRANE (LMHC) TURRET REPLACEMENT (CONT)

b. Installation.

(1) Position turret (1) on mast (2).

(2) Install quick release pin (3) in turret (1).

WARNING

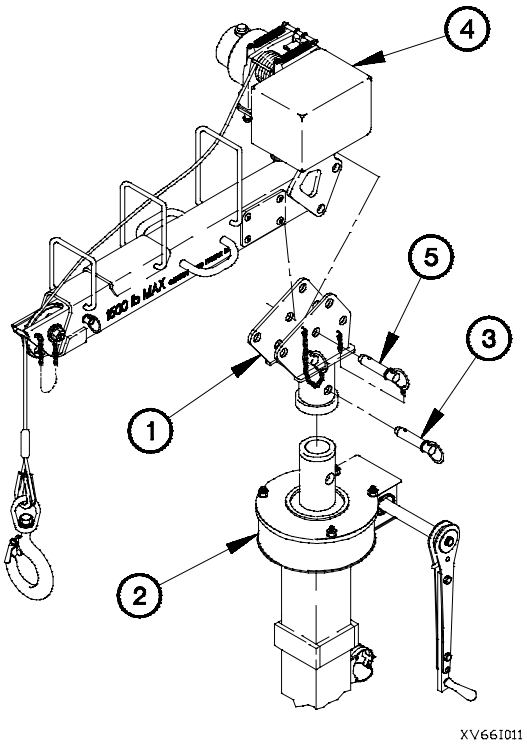
Light Material Handling Crane (LMHC) boom assembly weighs approximately 150 lbs (68 kgs). Use the aid of an assistant when installing boom assembly. Failure to comply may result in injury to personnel.

NOTE

Steps (3) and (4) require the aid of an assistant.

(3) Install boom assembly (4) on turret (1).

(4) Install quick release pin (5) in boom assembly (4).



XV661011

c. Follow-On Maintenance.

(1) Install LMHC remote control unit cable (TM 9-2320-365-10).

(2) Install LMHC power cable (TM 9-2320-365-10).

(3) Operate LMHC and check for proper operation (TM 9-2320-365-10).

End of Task.

20-77. LIGHT MATERIAL HANDLING CRANE (LMHC) CONTROL BOX REPAIR

This task covers:

a. Disassembly
b. Assembly
c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
LMHC control box power cable removed (TM 9-2320-365-10).
LMHC control box removed (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Tool Kit, Auto Fuel and Electrical Systems Repair (Item 43, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Lockwasher (2) (Item 85, Appendix G)
Lockwasher (2) (Item 96, Appendix G)
Lockwasher (4) (Item 95, Appendix G)
Gasket (Item 26, Appendix G)
Terminal, Lug (2) (Item 267, Appendix G)

a. Disassembly.

(1) Remove eight screws (1), cover (2), and retainer (3) from NATO plug (4).

NOTE

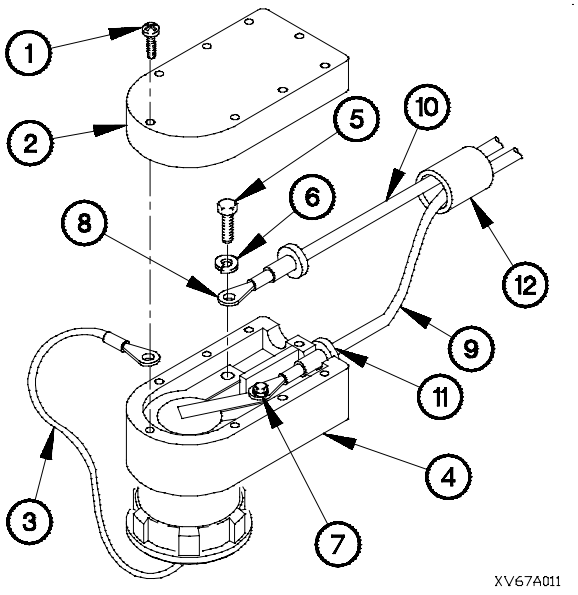
Tag wires and connection points prior to disconnecting.

(2) Remove two screws (5), lockwashers (6), and terminal lugs (7 and 8) from NATO plug (4). Discard lockwashers.

(3) Remove terminal lugs (7 and 8) from wires (9 and 10). Discard terminal lugs.

(4) Remove two grommets (11) from wires (9 and 10).

(5) Remove sleeve (12) from wires (9 and 10).



20-77. LIGHT MATERIAL HANDLING CRANE (LMHC) CONTROL BOX REPAIR (CONT)

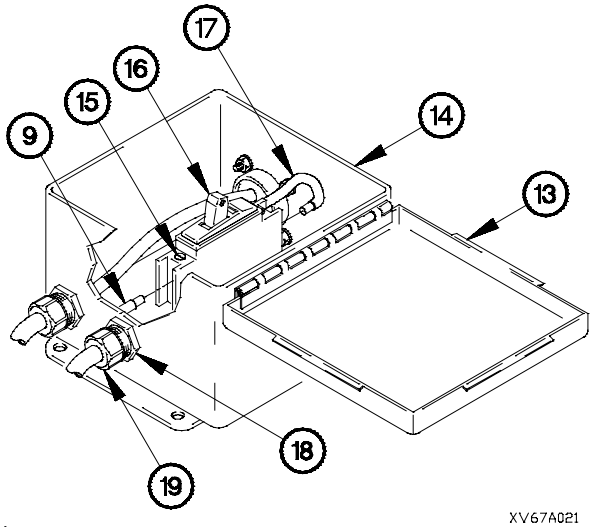
(6) Open cover (13) on control box (14).

(7) Loosen two screws (15) on circuit breaker (16).

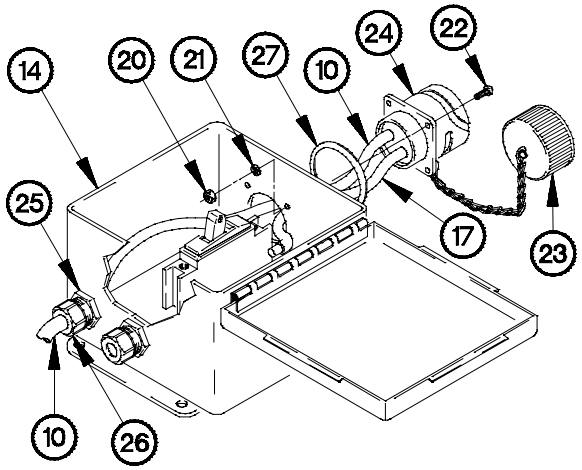
(8) Disconnect wires (17 and 9) from circuit breaker (16).

(9) Loosen nut (18) on box connector (19).

(10) Remove wire (9) from control box (14).



XV67A021

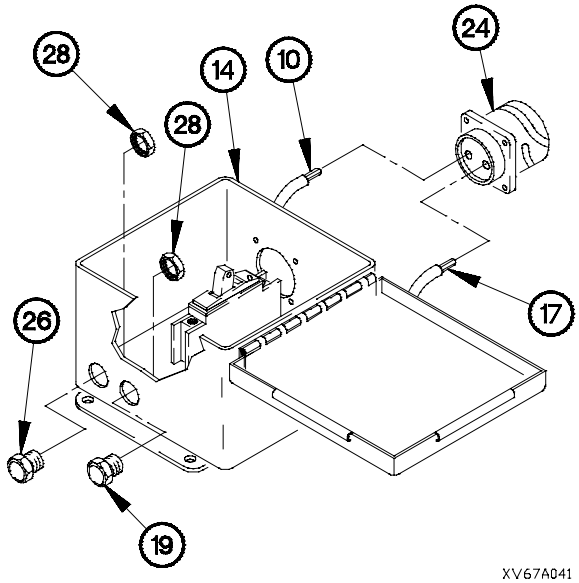


XV67A031

(11) Remove four nuts (20), lockwashers (21), screws (22), and cap (23) from receptacle (24). Discard lockwashers.

(12) Loosen nut (25) on box connector (26).

(13) Remove receptacle (24), wires (17 and 10), and gasket (27) from control box (14). Discard gasket.



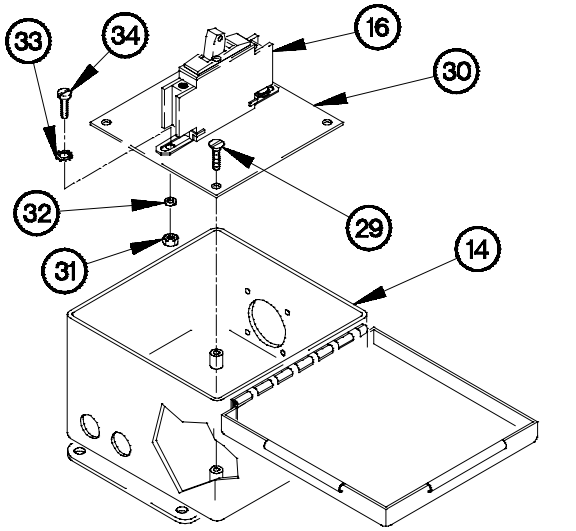
XV67A041

(14) Remove wires (17 and 10) from receptacle (24).

(15) Remove two nuts (28) and box connectors (19 and 26) from control box (14).

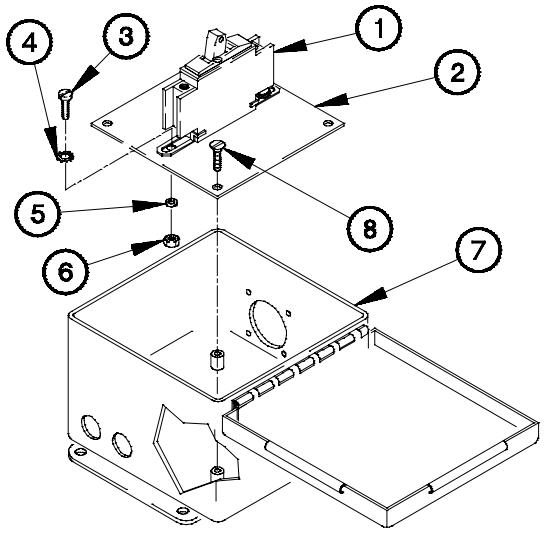
(16) Remove four screws (29) and plate (30) from control box (14).

(17) Remove two nuts (31), lockwashers (32), washers (33), screws (34), and circuit breaker (16) from plate (30). Discard lockwashers.



XV67A051

b. Assembly.



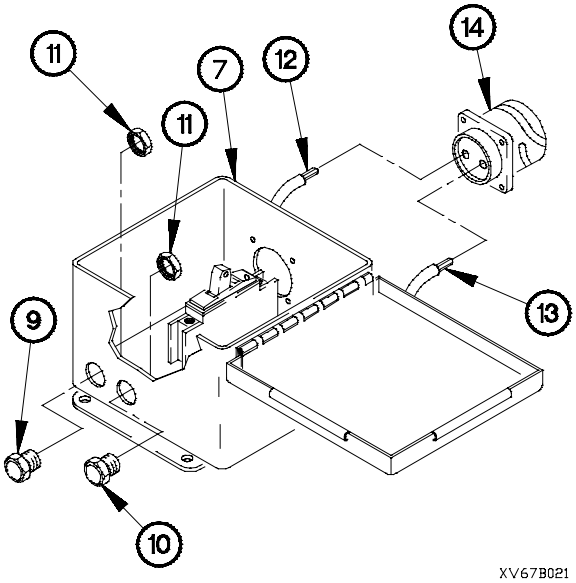
XV67B011

(1) Install circuit breaker (1) on plate (2) with two screws (3), washers (4), lockwashers (5), and nuts (6).

(2) Install plate (2) in control box (7) with four screws (8).

(3) Install box connectors (9 and 10) in control box (7) with nuts (11).

(4) Install wires (12 and 13) in receptacle (14).



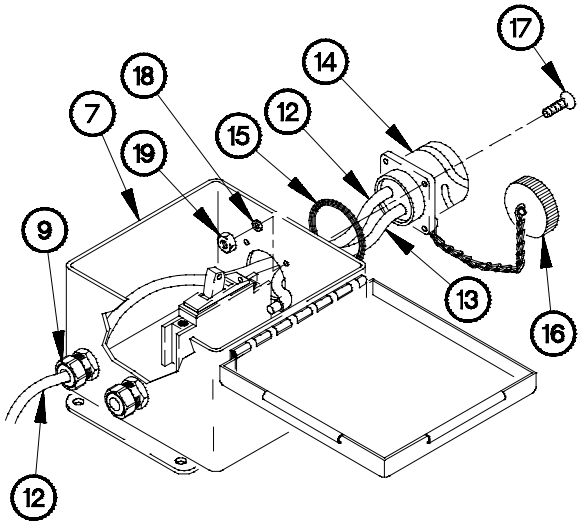
XV67B021

20-77. LIGHT MATERIAL HANDLING CRANE (LMHC) CONTROL BOX REPAIR (CONT)

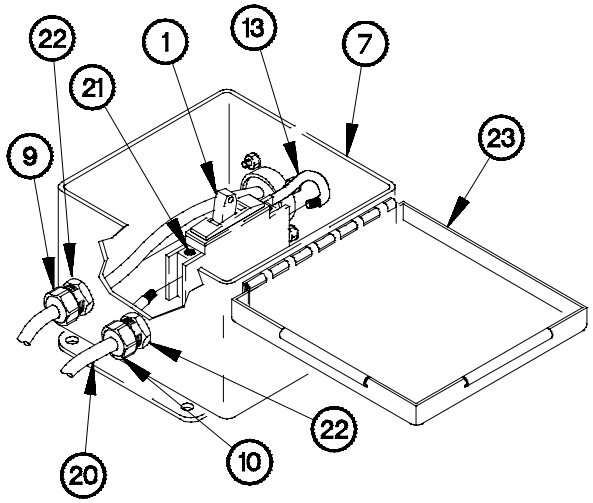
(5) Install wires (12 and 13), gasket (15), and receptacle (14) in control box (7).

(6) Position wire (12) through box connector (9).

(7) Install cap (16), four screws (17), lockwashers (18), and nuts (19) in receptacle (14).



XV67B031



XV67B041

(8) Position wire (20) through box connector (10).

(9) Install wires (13 and 20) in circuit breaker (1) with two screws (21).

(10) Tighten two nuts (22) on box connectors (9 and 10).

(11) Close cover (23) on control box (7).

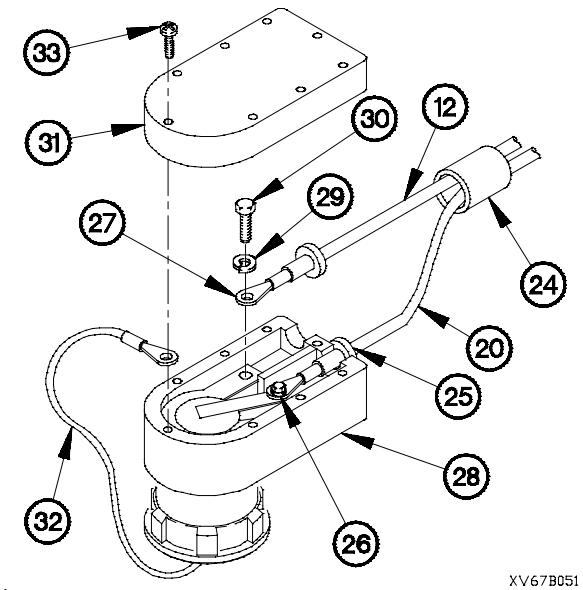
(12) Install sleeve (24) on wires (12 and 20).

(13) Install two grommets (25) on wires (12 and 20).

(14) Install terminal lugs (26 and 27) on wires (12 and 20).

(15) Install wires (12 and 20) on NATO plug (28) with two lockwashers (29) and screws (30).

(16) Install cover (31) and retainer (32) on NATO plug (28) with eight screws (33).



XV67B051

c. Follow-On Maintenance.

Operate LMHC and check for proper operation (TM 9-2320-365-10).

End of Task.

20-78. LIGHT MATERIAL HANDLING CRANE (LMHC) MAST AND SWING ASSEMBLY REPAIR

This task covers:

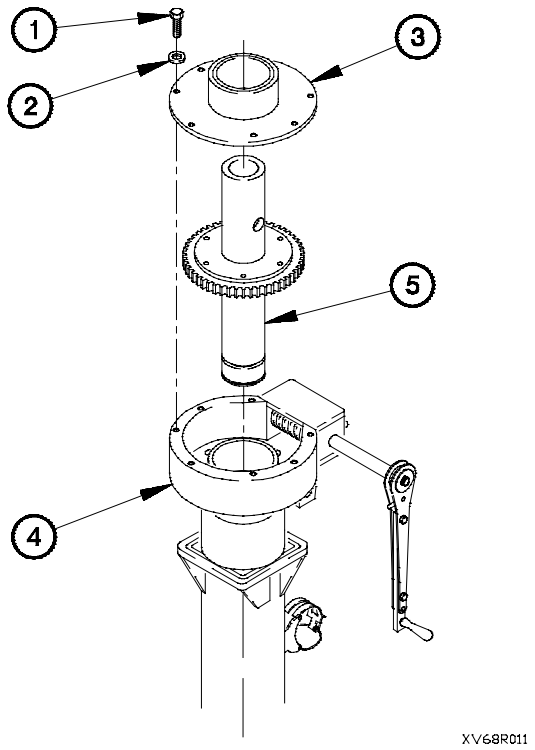
a. Disassembly
b. Cleaning
c. Assembly
d. Follow-on Maintenance

INITIAL SETUP

Equipment Condition
LMHC disassembled (para 20-70).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Goggles, Industrial (Item 15, Appendix C)
Gloves, Rubber (Item 13, Appendix C)

Materials/Parts
Solvent, Dry Cleaning (Item 71, Appendix D)
Rag, Wiping (Item 51, Appendix D)
Lockwasher (3) (Item 90, Appendix G)
Lockwasher (2) (Item 91, Appendix G)



a. Disassembly.

(1) Remove seven screws (1) and washers (2) from top plate (3).

(2) Remove top plate (3) from housing (4).

(3) Remove rotator (5) from housing (4).

WARNING

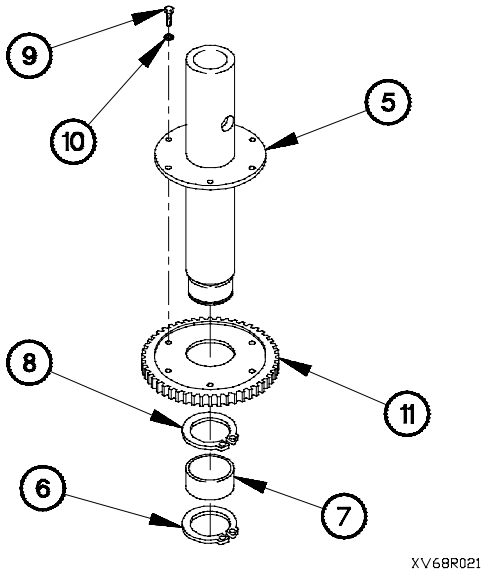
Use care when removing retaining rings. Retaining rings are under tension and can act as projectiles when released. Failure to comply may result in injury to personnel.

(4) Remove retaining ring (6) from rotator (5).

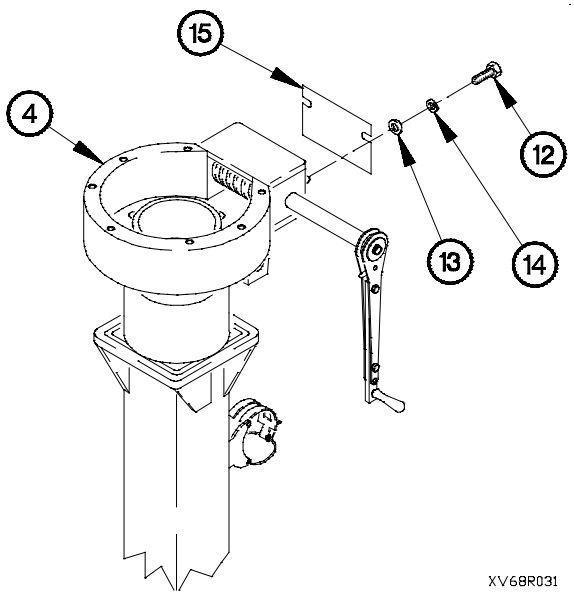
(5) Remove bearing (7) from rotator (5).

(6) Remove retaining ring (8) from rotator (5).

(7) Remove six screws (9), washers (10), and gear (11) from rotator (5).



XV68R021

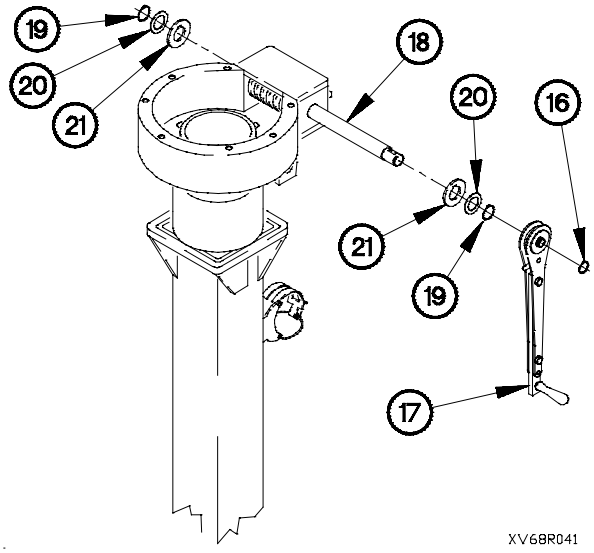


XV68R031

(8) Remove two screws (12), washers (13), lockwashers (14), and plate (15) from housing (4). Discard lockwashers.

(9) Remove retaining ring (16) and handle (17) from shaft (18).

(10) Remove two retaining rings (19), washers (20), and washers (21) from shaft (18).



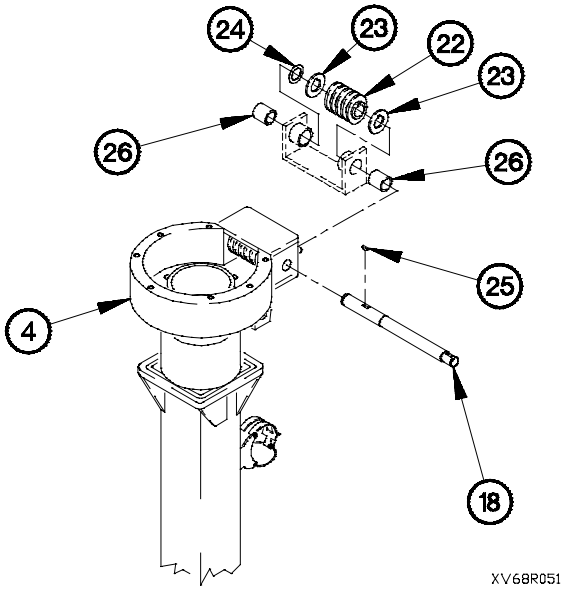
XV68R041

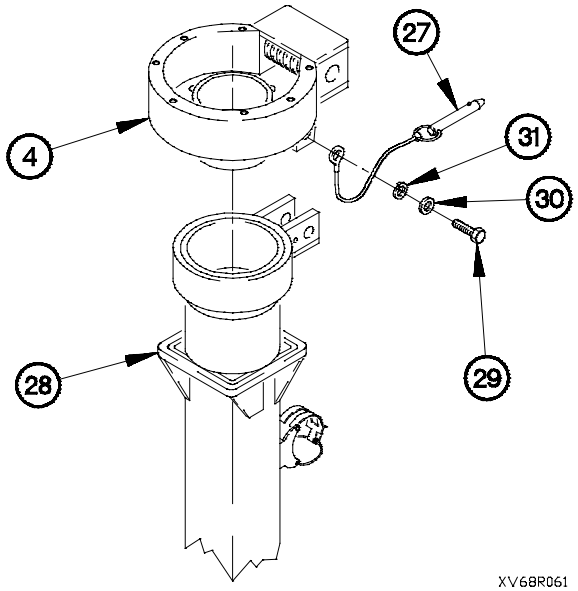
20-78. LIGHT MATERIAL HANDLING CRANE (LMHC) MAST AND SWING ASSEMBLY REPAIR (CONT)

(11) Remove shaft (18), worm gear (22), two washers (23), and washer (24) from housing (4).

(12) Remove woodruff key (25) from shaft (18).

(13) Remove two bearings (26) from housing (4).



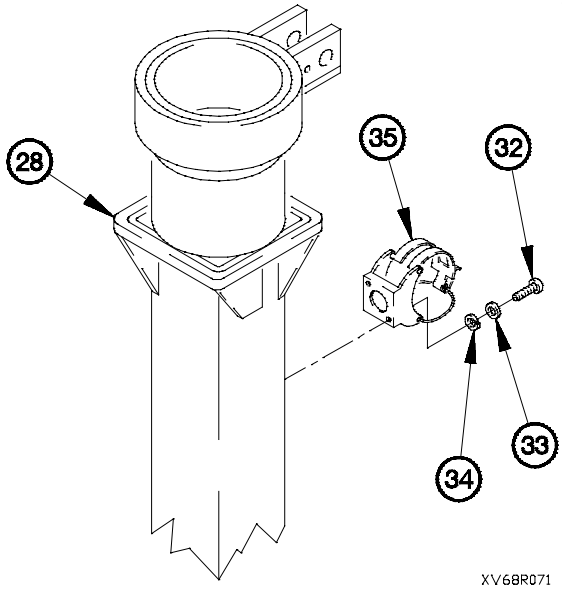


(14) Remove quick release pin (27) from housing (4).

(15) Remove housing (4) from mast (28).

(16) Remove screw (29), washer (30), lockwasher (31), and quick release pin (27) from housing (4). Discard lockwasher.

(17) Remove two screws (32), washers (33), lockwashers (34), and clamp (35) from mast (28). Discard lockwashers.



b. Cleaning.

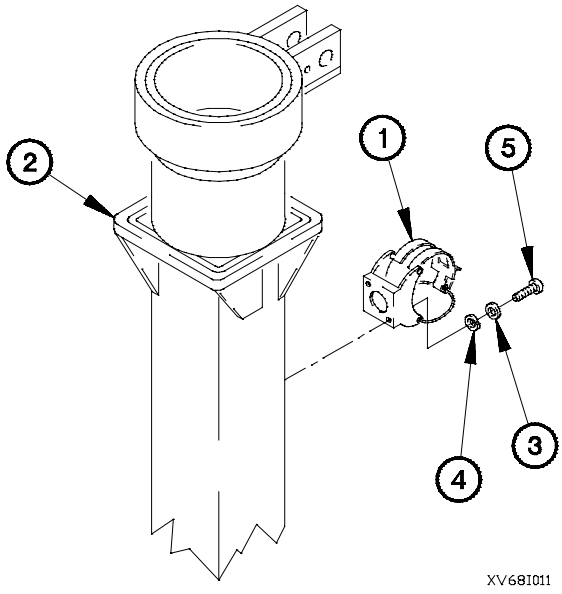
WARNING

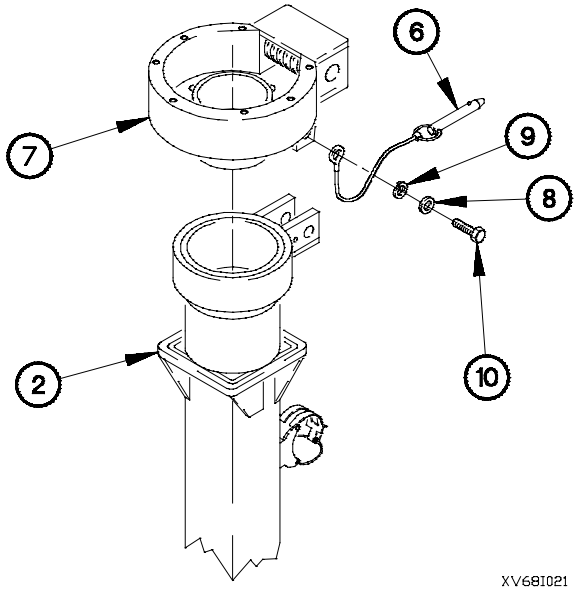
- **Dry Cleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes, and do breathe vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint or Type I Dry Cleaning Solvent is 100°F (38°C) and for Type II is 130°F (50°C). Failure to comply may result in serious injury or death to personnel.**
- **If personnel become dizzy while using Dry Cleaning Solvent, immediately get fresh air and medical help. If Dry Cleaning Solvent contacts skin or clothes, flush with cold water. If Dry Cleaning Solvent contacts eyes, immediately flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.**

Clean all metal parts with dry cleaning solvent.

c. Assembly.

(1) Install clamp (1) on mast (2) with two lockwashers (3), washers (4), and screws (5).





(2) Install quick release pin (6) on housing (7) with lockwasher (8), washer (9), and screw (10).

(3) Position housing (7) on mast (2).

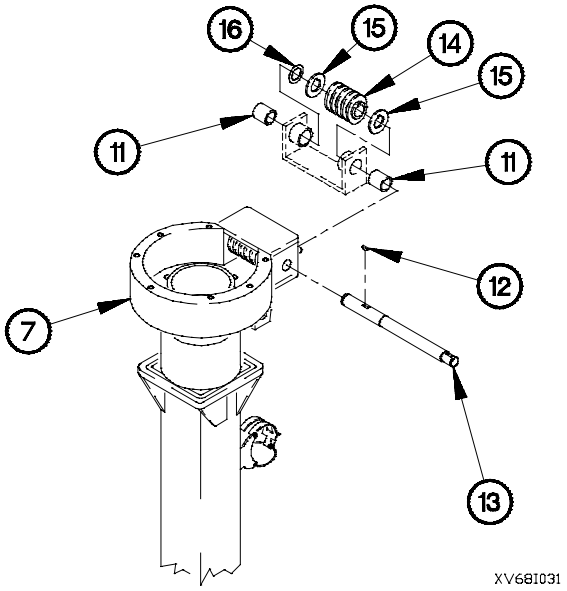
(4) Install quick release pin (6) in housing (7).

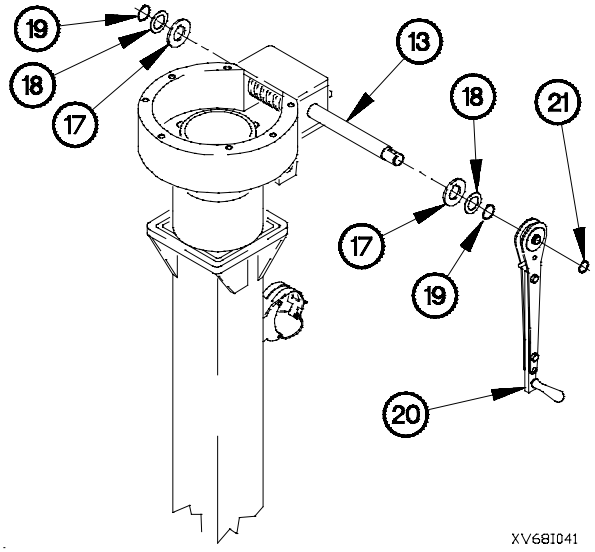
20-78. LIGHT MATERIAL HANDLING CRANE (LMHC) MAST AND SWING ASSEMBLY REPAIR (CONT)

(5) Install two bearings (11) in housing (7).

(6) Install woodruff key (12) on shaft (13).

(7) Install worm gear (14), two washers (15), washer (16), and shaft (13) in housing (7).





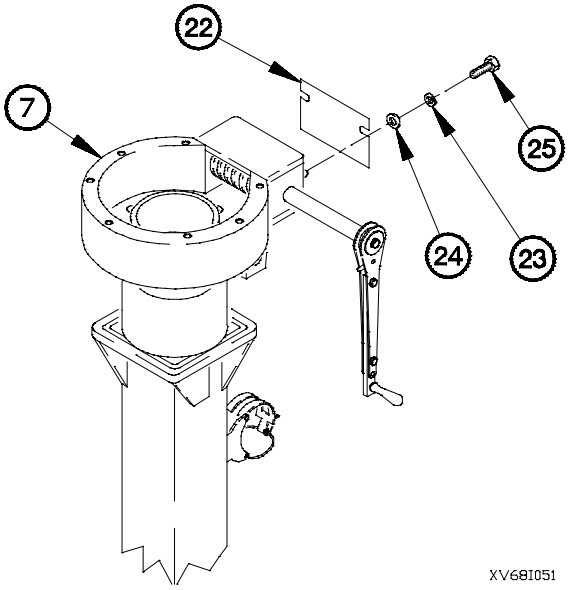
WARNING

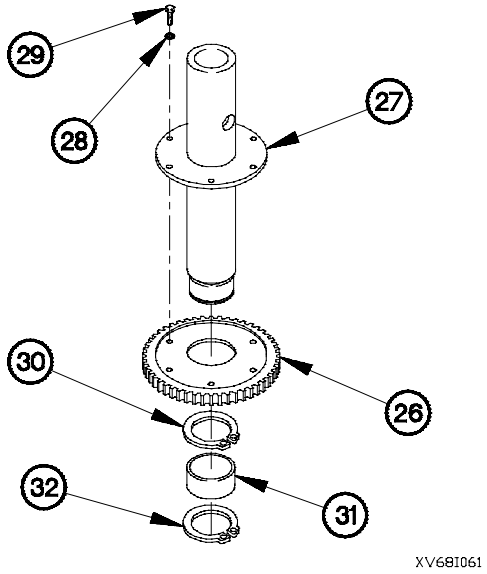
Use care when installing retaining rings. Retaining rings are under tension and can act as projectiles when released. Failure to comply may result in injury to personnel.

(8) Install two washers (17), washers (18), and retaining rings (19) on shaft (13).

(9) Install handle (20) on shaft (13) with retaining ring (21).

(10) Install plate (22) on housing (7) with two lockwashers (23), washers (24), and screws (25).





(11) Install gear (26) on rotator (27) with six washers (28) and screws (29).

WARNING

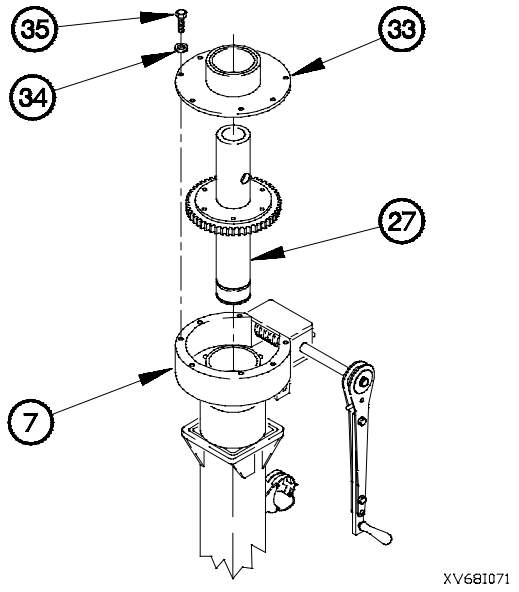
Use care when installing retaining rings. Retaining rings are under tension and can act as projectiles when released. Failure to comply may result in injury to personnel.

(12) Install retaining ring (30) on rotator (27).

(13) Install bearing (31) on rotator (27).

(14) Install retaining ring (32) on rotator (27).

20-78. LIGHT MATERIAL HANDLING CRANE (LMHC) MAST AND SWING ASSEMBLY REPAIR (CONT)



(15) Install rotator (27) in housing (7).

(16) Install top plate (33) on housing (7) with seven washers (34) and screws (35).

d. Follow-On Maintenance.

Assemble LMHC (para 20-70).

End of Task.

20-79. TROOP TRANSPORT ALARM CABLE ASSEMBLY REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)

a. Removal.

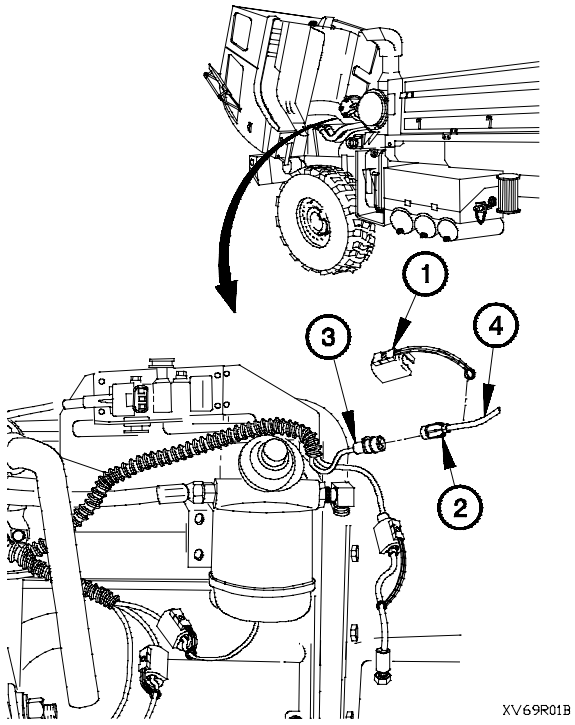
NOTE

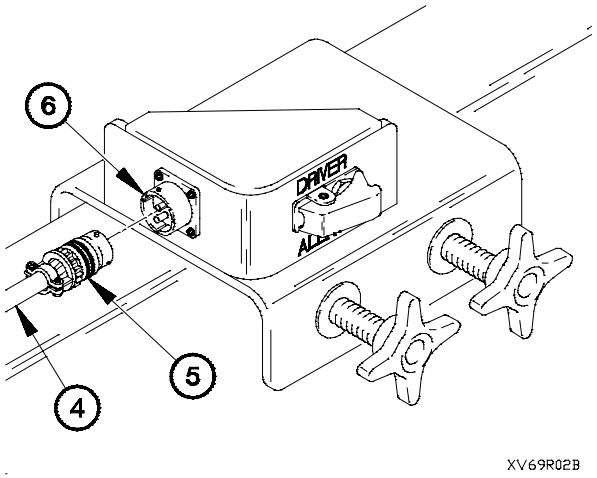
Remove plastic cable ties as required.

(1) Disconnect connector clamp (1) from connector J39 (2).

(2) Disconnect connector J39 (2) from connector P39 (3).

(3) Remove connector clamp (1) from troop transport alarm cable (4).





(4) Disconnect connector P921 (5) from connector J921 (6).

NOTE

Note routing of cable assembly prior to removal.

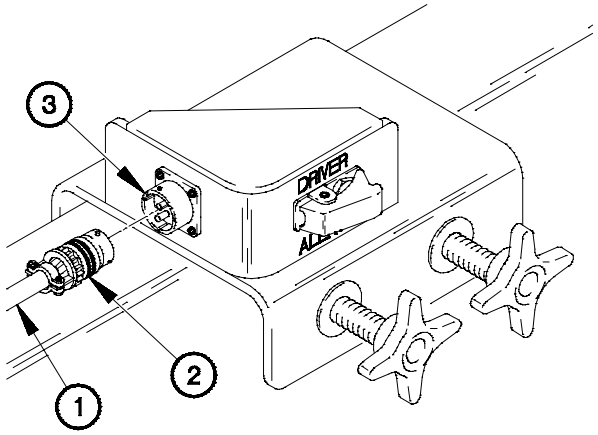
(5) Remove troop transport alarm cable (4) from vehicle.

20-79. TROOP TRANSPORT ALARM CABLE ASSEMBLY REPLACEMENT (CONT)

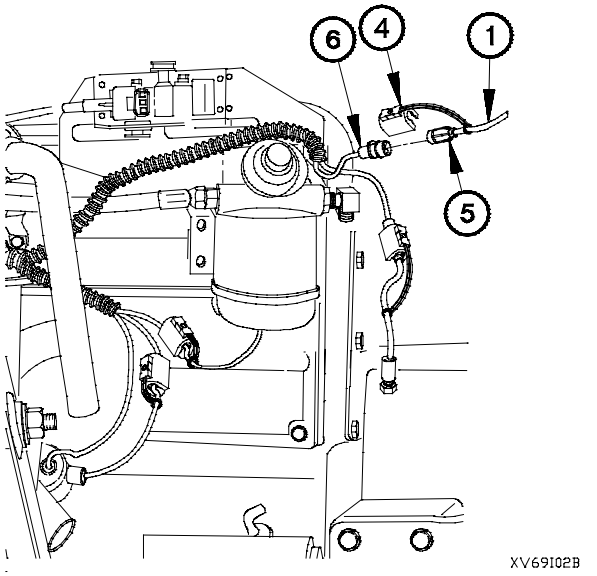
b. Installation.

(1) Position troop transport alarm cable (1) on vehicle.

(2) Connect connector P921 (2) to connector J921 (3).



XV69I01B



XV69I02B

NOTE

Install plastic cable ties as required.

(3) Install connector clamp (4) on troop transport alarm cable (1).

(4) Connect connector J39 (5) to connector P39 (6).

(5) Connect connector clamp (4) to connector J39 (5).

c. Follow-On Maintenance.

(1) Lower cab (TM 9-2320-365-10).

(2) Operate troop transport alarm and check for proper operation (TM 9-2320-365-10).

End of Task.

20-80. TROOP TRANSPORT ALARM SWITCH, CONNECTOR, AND BRACKET REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Vise, Machinist (Item 46, Appendix C)

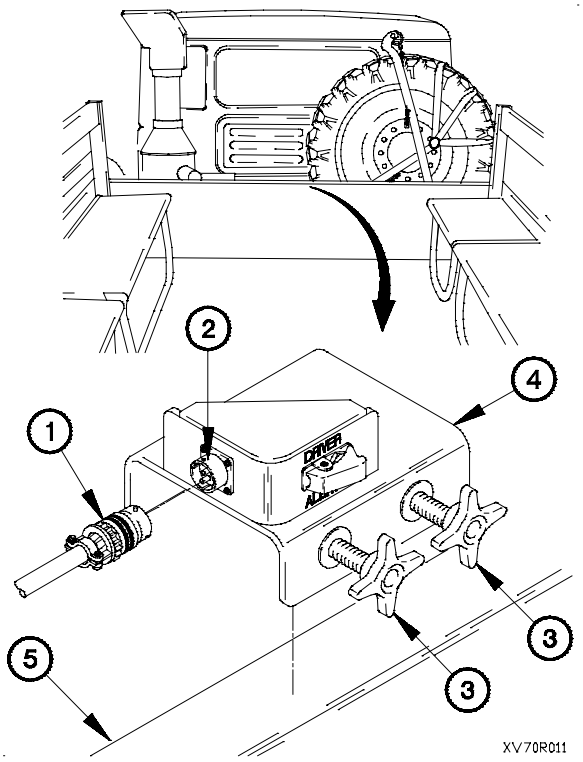
Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Adhesive (Item 8, Appendix D)
Sealing Compound (Item 64, Appendix D)
Nut, Self-Locking (4) (Item 120, Appendix G)

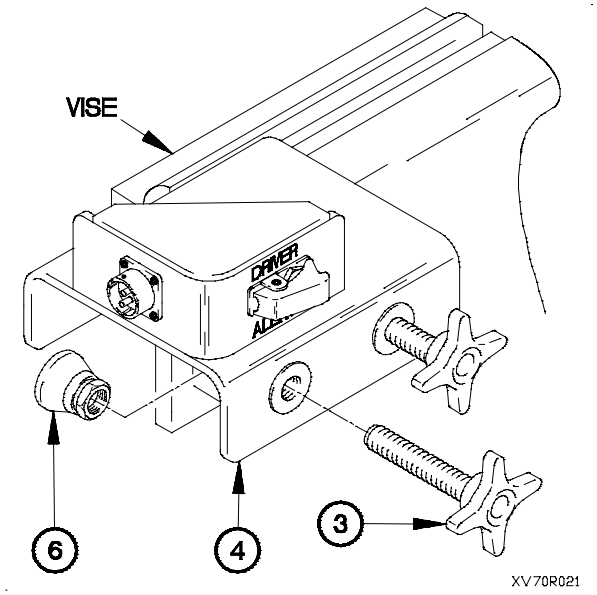
a. Removal.

(1) Disconnect connector P921 (1) from connector J921 (2).

(2) Loosen two knobs (3) on bracket (4).

(3) Remove bracket (4) from cargo bed (5).





(4) Position bracket (4) in vise.

(5) Remove two mounts (6) from knobs (3).

(6) Remove two knobs (3) from bracket (4).

20-80. TROOP TRANSPORT ALARM SWITCH, CONNECTOR, AND BRACKET REPLACEMENT (CONT)

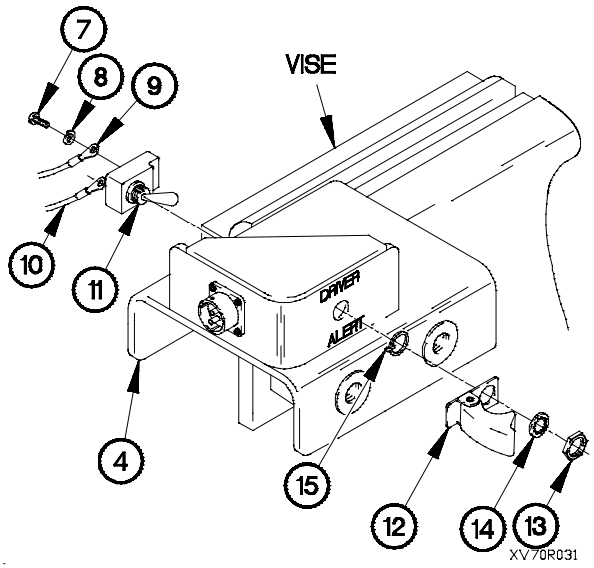
NOTE

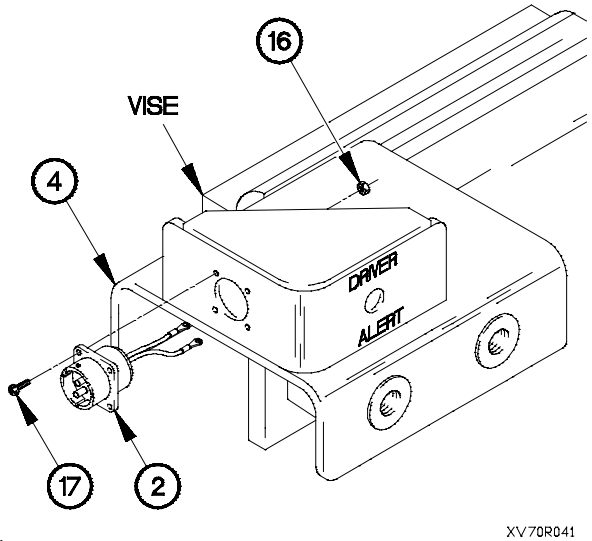
Tag wires and connection points prior to disconnecting.

(7) Remove two screws (7), lockwashers (8), and terminal lugs TL164 (9) and TL165 (10) from switch (11).

(8) Lift switch cover (12) on switch (11).

(9) Remove nut (13), lockwasher (14), switch cover (12), locking ring (15), and switch (11) from bracket (4).





(10) Remove four self-locking nuts (16), screws (17), and connector J921 (2) from bracket (4). Discard self-locking nuts.

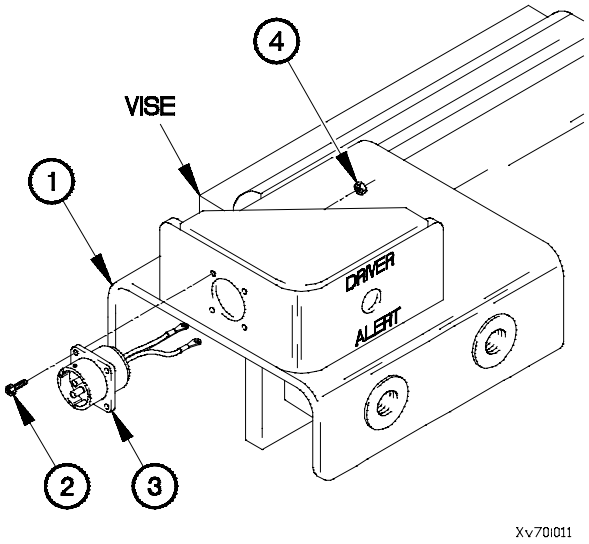
(11) Remove bracket (4) from vise.

b. Installation.

(1) Position bracket (1) in vise.

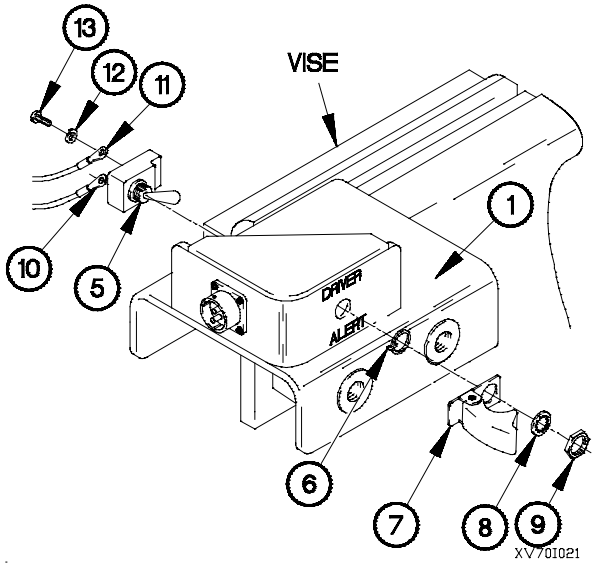
WARNING

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



(2) Apply sealing compound to threads of four screws (2).

(3) Install connector J921 (3) on bracket (1) with four screws (2) and self-locking nuts (4).



(4) Install switch (5) on bracket (1) with locking ring (6), switch cover (7), lockwasher (8) and nut (9).

(5) Close switch cover (7) on switch (5).

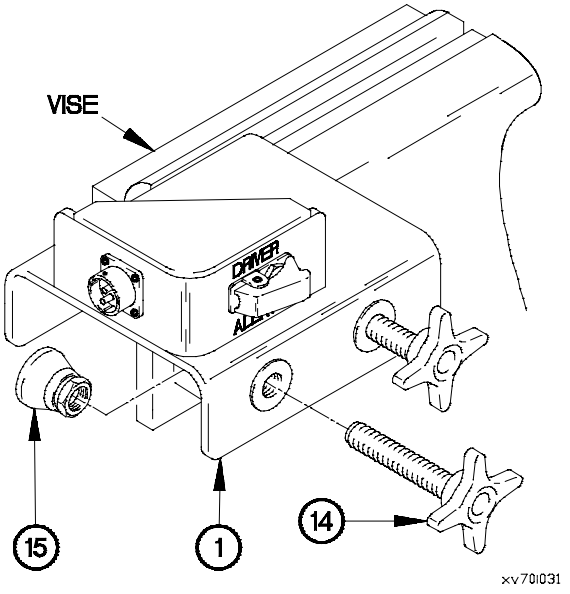
(6) Install terminal lugs TL164 (10) and TL165 (11) on switch (5) with two lockwashers (12) and screws (13).

(7) Apply adhesive to two screws (13), lockwashers (12), and terminal lugs TL164 (10) and TL165 (11).

20-80. TROOP TRANSPORT ALARM SWITCH, CONNECTOR, AND BRACKET REPLACEMENT (CONT)

WARNING

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

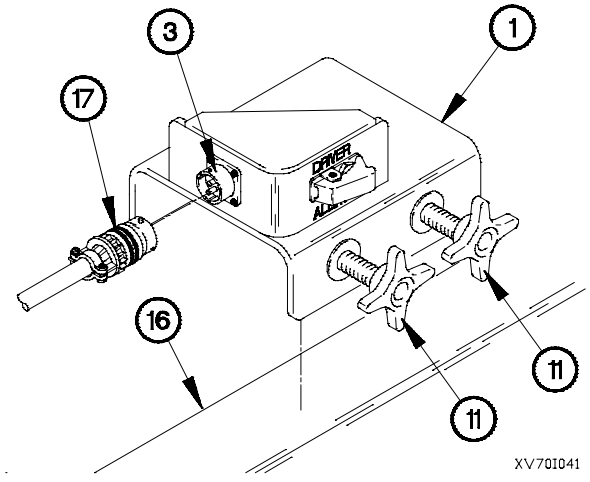


(8) Apply sealing compound to threads of two knobs (14).

(9) Install two knobs (14) on bracket (1).

(10) Install two mounts (15) on knobs (14).

(11) Remove bracket (1) from vise.



(12) Install bracket (1) on cargo bed (16) with two knobs (11).

(13) Connect connector P921 (17) to connector J921 (3).

c. Follow-On Maintenance.

Operate troop transport alarm and check for proper operation (TM 9-2320-365-10).

End of Task.

20-81. M1079 AIR CONDITIONER KIT INSTALLATION/REMOVAL

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
AC power disconnected (TM 9-2320-365-10).
Batteries disconnected (para 7-48).
Cab raised (TM 9-2320-365-10).
Spare tire lowered (TM 9-2320-365-10).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Sling, Endless (Item 32, Appendix C)

Materials/Parts
Lockwasher (30) (Item 84, Appendix G)
Lockwasher (8) (Item 82, Appendix G)
Seal, Nonmetallic (2) (Item 254, Appendix G)

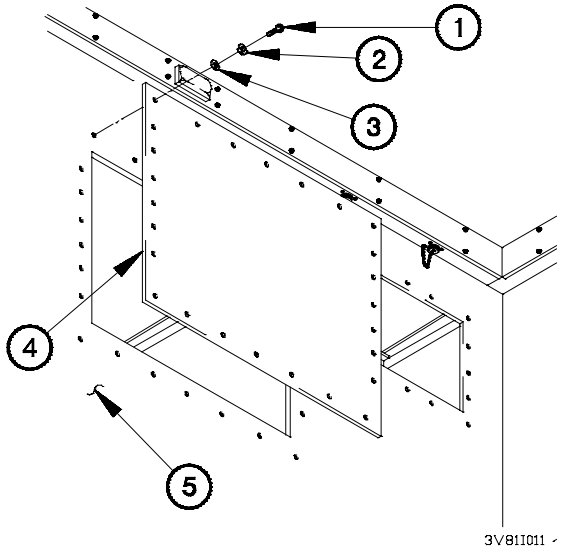
Personnel Required
(4)

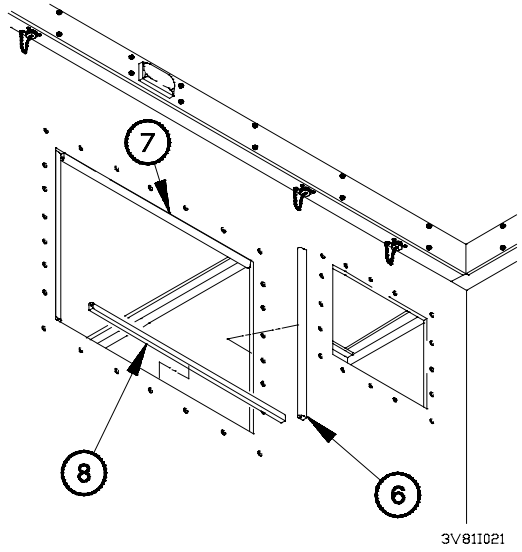
a. Installation.

NOTE

Retain cover and hardware for future use.

(1) Remove 30 screws (1), lockwashers (2), washers (3), and cover (4) from van wall (5). Discard lockwashers.

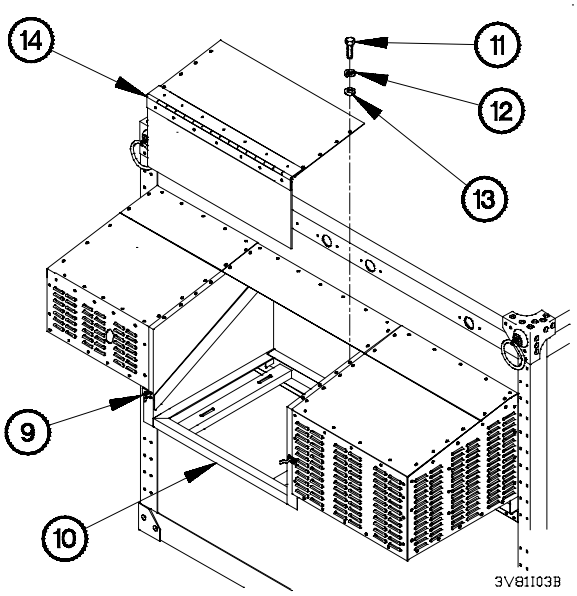




(2) Install seal (6) on left and right side of opening (7).

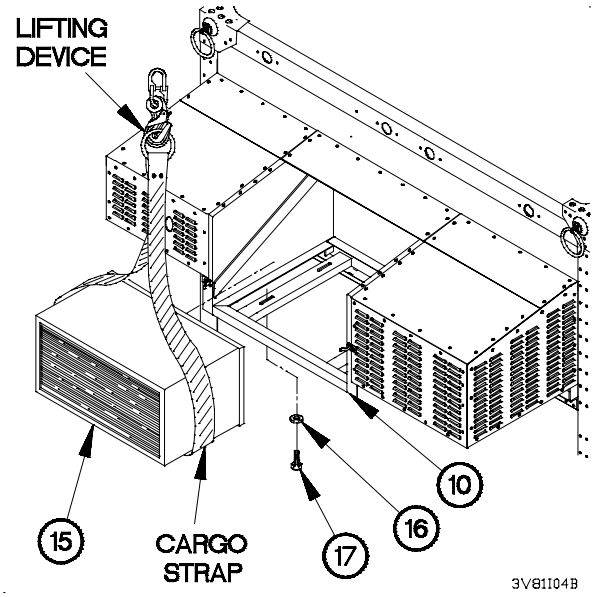
(3) Install seal (8) on top and bottom of opening (7).

20-81. M1079 AIR CONDITIONER KIT INSTALLATION/REMOVAL (CONT)



(4) Release two latches (9) on pod (10).

(5) Remove eight screws (11), lockwashers (12), washers (13), and center top front cover (14) from pod (10). Discard lockwashers.



WARNING

Air conditioner weighs approximately 300 lbs (136 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel.

CAUTION

Use care when positioning air conditioner in van pod. Failure to comply may result in damage to air conditioner, pod panel, or seals.

NOTE

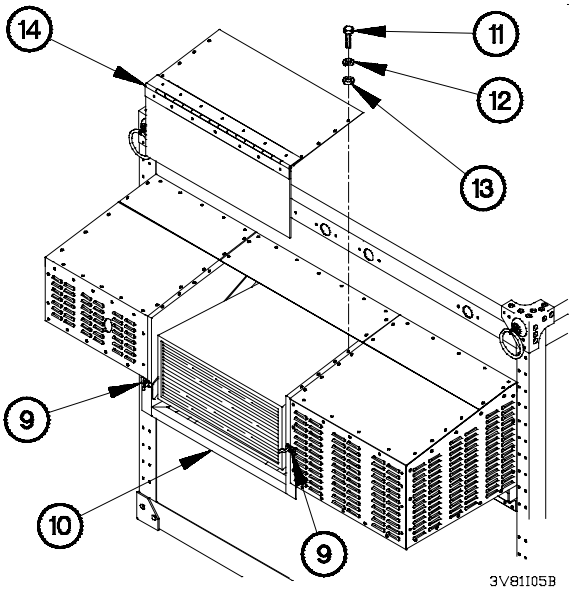
Step (6) requires the aid of three assistants.

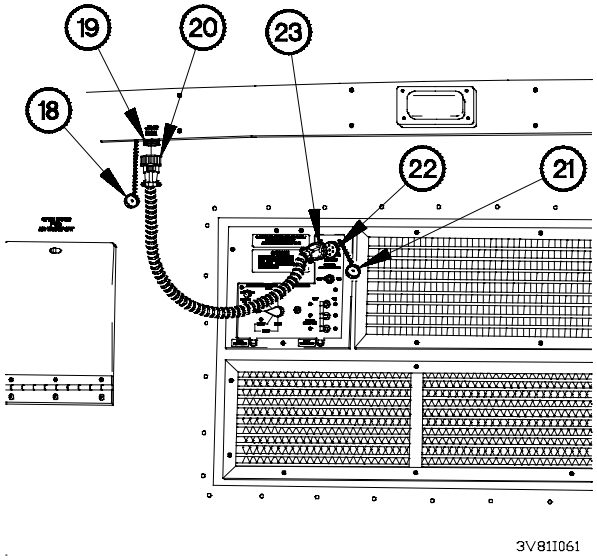
(6) Position air conditioner (15) in pod (10) with four washers (16) and screws (17).

(7) Tighten four screws (17) to 27-29 lb-ft (N·m).

(8) Install center top front cover (14) on pod (10) with eight washers (13), lockwashers (12), and screws (11).

(9) Latch two latches (9) on pod (10).





(10) Remove dust cap (18) from connector J242 (19).

(11) Connect connector P242 (20) to connector J242 (19).

(12) Remove dust cap (21) from power input connector (22).

(13) Connect connector J242A (23) to power input connector (22).

b. Removal.

(1) Disconnect connector J242A (1) from power input connector (2).

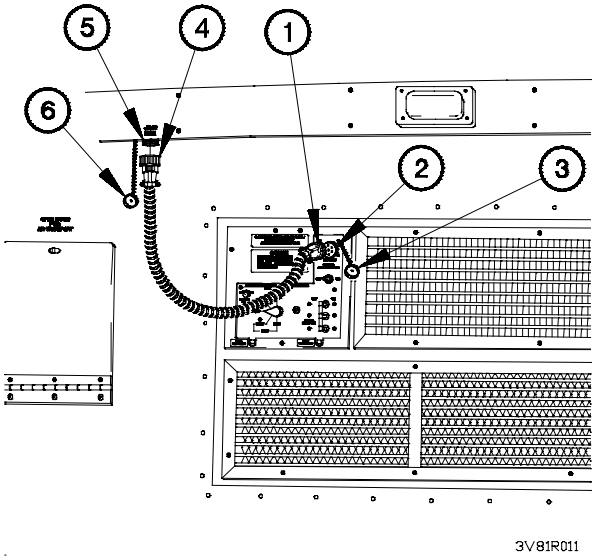
(2) Install dust cap (3) on power input connector (2).

NOTE

Retain air conditioner power cable for future use.

(3) Disconnect connector P242 (4) from connector J242 (5).

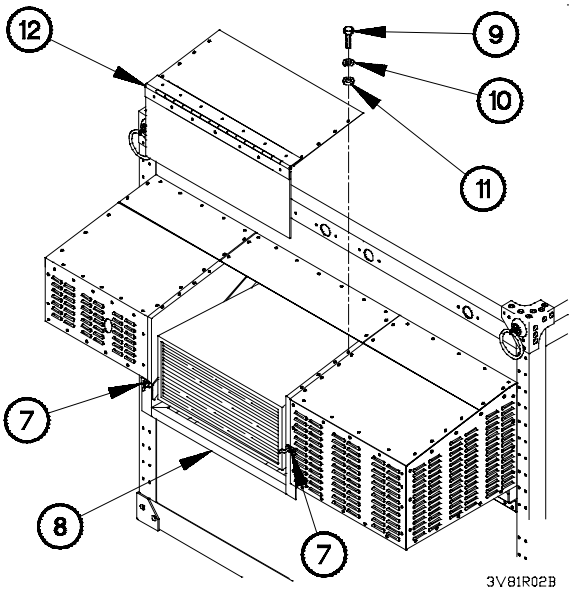
(4) Install dust cap (6) on connector J242 (5).



20-81. M1079 AIR CONDITIONER KIT INSTALLATION/REMOVAL (CONT)

(5) Release two latches (7) on pod (8).

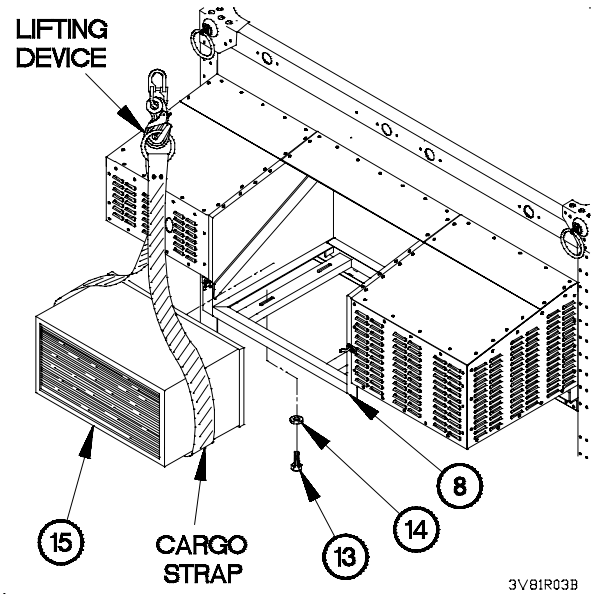
(6) Remove eight screws (9), lockwashers (10), washers (11), and center top front cover (12) from pod (8). Discard lockwashers.



(7) Remove four screws (13) and washers (14) from pod (8).

WARNING

Air conditioner weighs approximately 300 lbs (136 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel.



CAUTION

Use care when removing air conditioner from van pod. Failure to comply may result in damage to equipment.

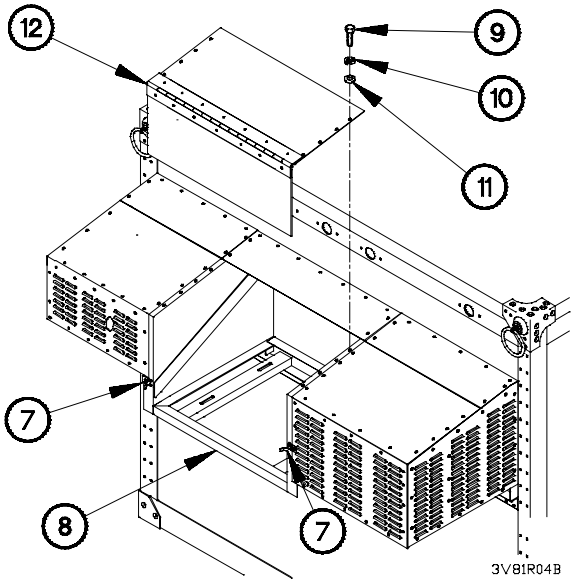
NOTE

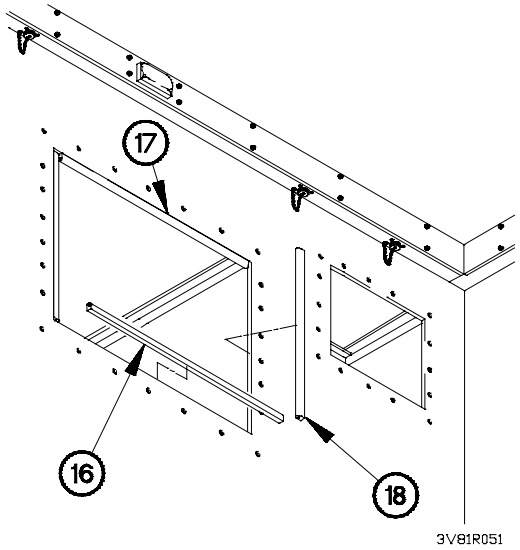
- Step (8) requires the aid of three assistants.
- Retain air conditioner and hardware for future use.

(8) Remove air conditioner (15) from pod (8).

(9) Install center top front cover (12) on pod (8) with eight washers (11), lockwashers (10), and screws (9).

(10) Latch two latches (7) on pod (8).

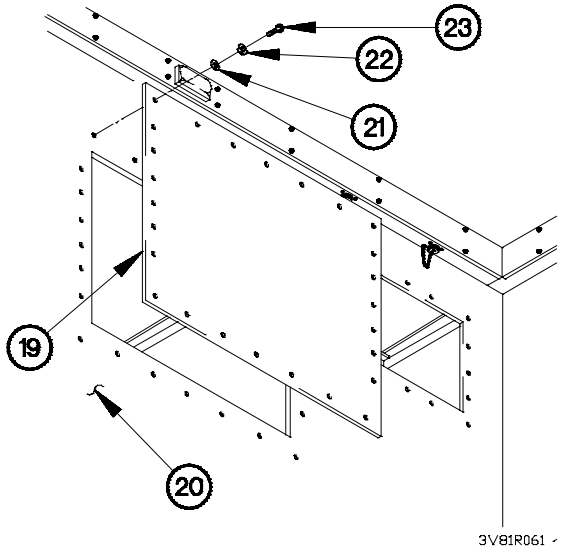




(11) Remove seals (16) from top and bottom of opening (17). Discard seals.

(12) Remove seals (18) from left and right side of opening (17). Discard seals.

(13) Install cover (19) on van wall (20) with 30 washers (21), lockwashers (22), and screws (23).



20-81. M1079 AIR CONDITIONER KIT INSTALLATION/REMOVAL (CONT)

c. Follow-On Maintenance.

(1) Raise spare tire (TM 9-2320-365-10).

(2) Lower cab (TM 9-2320-365-10).

(3) Connect batteries (para 7-48).

(4) Connect AC power (TM 9-2320-365-10).

(5) Operate air conditioner and check for proper operation (TM 9-2320-365-10).

(6) Close LH and RH doors (TM 9-2320-365-10).

End of Task.

20-82. M1079 A/C POWER CABLE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
AC power disconnected (TM 9-2320-365-10).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)

a. Removal.

(1) Disconnect connector P242 (1) from connector J242 (2).

(2) Disconnect connector J242A (3) from A/C power connector (4).

b. Installation

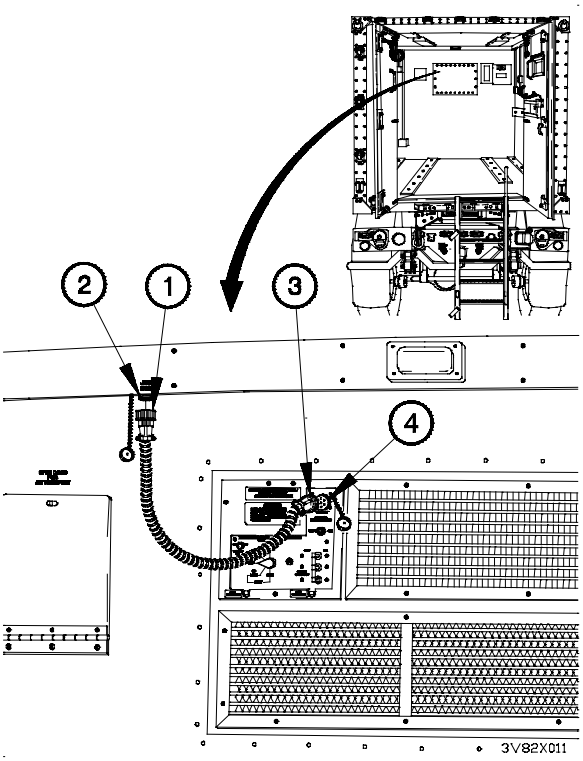
(1) Connect connector J242A (3) to A/C power connector (4).

(2) Connect connector P242 (1) to connector J242 (2).

c. Follow-On Maintenance.

(1) Connect AC power (TM 9-2320-365-10).

(2) Close LH and RH doors (TM 9-2320-365-10).



End of Task.

20-83. AMBER WARNING LIGHT ASSEMBLY REPAIR

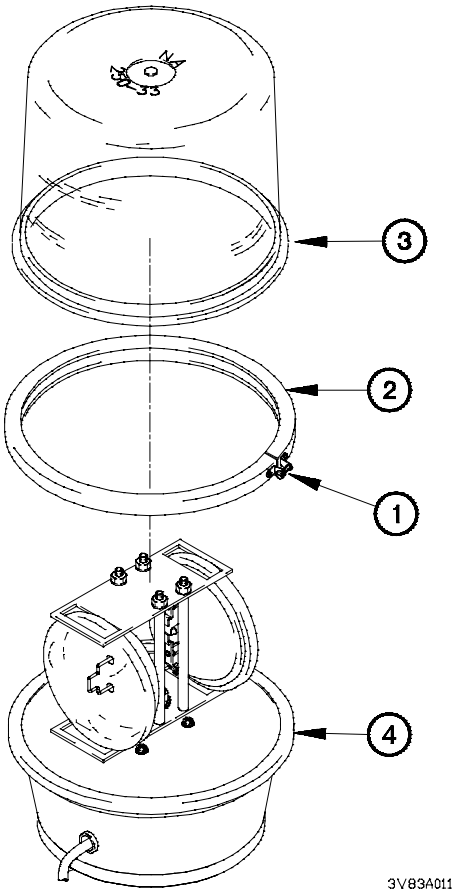
This task covers:

a. Disassembly
b. Assembly
c. Follow-On Maintenance

INITIAL SETUP

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

Materials/Parts
Lockwasher (4) (Item 68, Appendix G)



a. Disassembly.

(1) Loosen screw (1) on clamp (2).

(2) Remove lens (3) from lamp housing (4).

(3) Remove clamp (2) from lamp housing (4).

NOTE

Perform step (4) on amber warning lights equipped with nuts containing a captive lockwasher.

(4) Remove four self-locking nuts (5) and lamp mounting plate (6) from mounting studs (7). Discard self-locking nuts.

NOTE

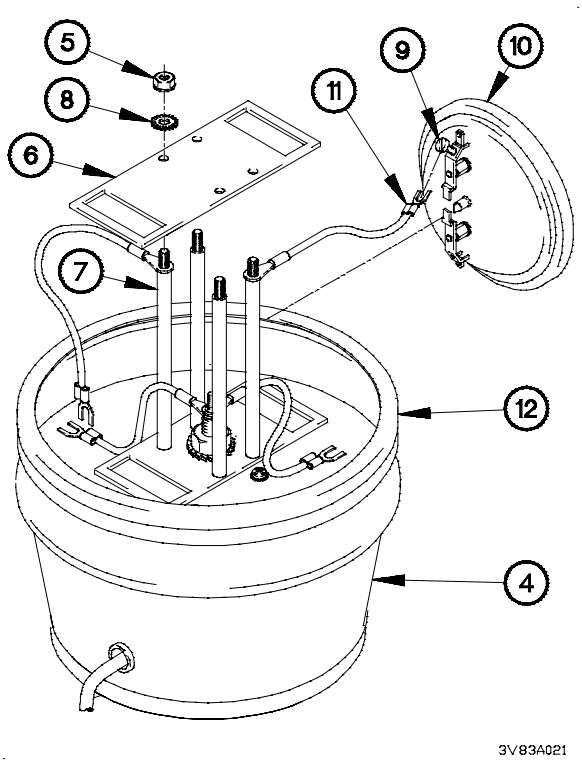
Perform step (5) on amber warning lights equipped with nuts and lockwashers.

(5) Remove four nuts (5), lockwashers (8), and lamp mounting plate (6) from mounting studs (7). Discard lockwashers.

(6) Loosen four screws (9) on two lamps (10).

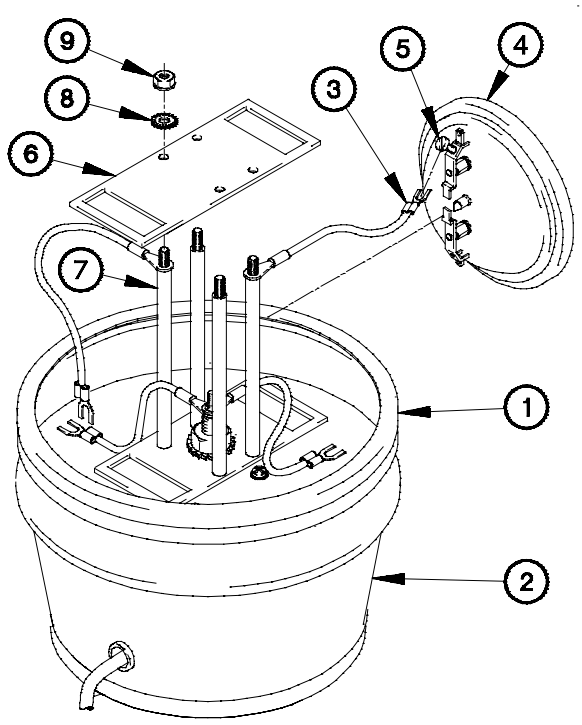
(7) Remove four terminal lugs (11) from two lamps (10).

(8) Remove seal (12) from lamp housing (4).



3V83A021

b. Assembly.



3V83B011

(1) Install seal (1) on lamp housing (2).

(2) Install four terminal lugs (3) on two lamps (4) with four screws (5).

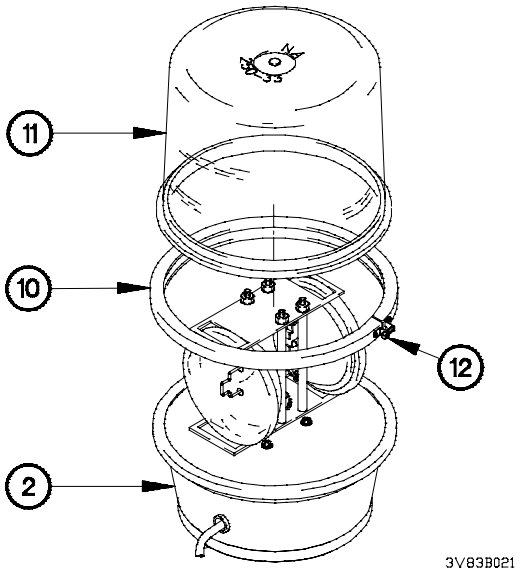
(3) Install lamp mounting plate (6) on four mounting studs (7) with lockwashers (8) and nuts (9).

20-83. AMBER WARNING LIGHT ASSEMBLY REPAIR (CONT)

(4) Position clamp (10) on lamp housing (2).

(5) Install lens (11) on lamp housing (2).

(6) Tighten screw (12) in clamp (10).



c. Follow-On Maintenance.

Operate amber warning light and check for proper operation (TM 9-2320-365-10).

End of Task.

20-84. M1078/M1081 S-280 SHELTER MODELS A, B, OR C TIEDOWN KIT INSTALLATION/REMOVAL

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
Cargo bed side panels and stakes removed (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Sling, Cargo (2) (Item 31, Appendix C)

Materials/Parts
2x4x48 in. (122 cm) wooden piece (S-280 shelter models A or B only)

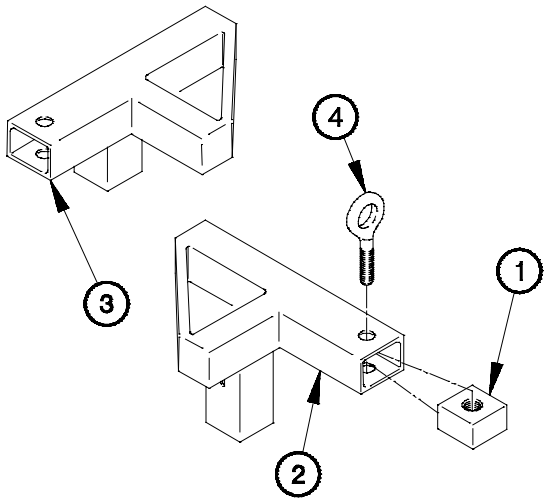
Personnel Required
(2)

NOTE

This paragraph applies to shelter models A, B, or C with an overall height of 83 1/2 to 89 in. (214 to 226 cm). If shelter height is below 83 1/2 in. (214 cm), shorten cable for proper removal of slack in turnbuckle assembly.

a. Installation.

(1) Install four threaded blocks (1) in two tiedowns (2 and 3) with four eyebolts (4).



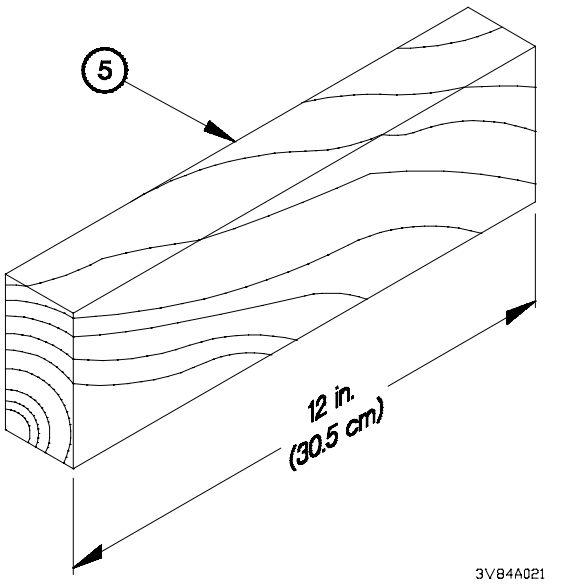
3V84A011

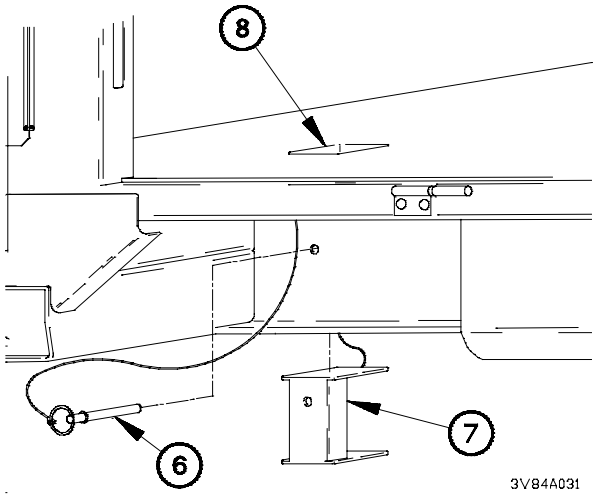
20-84. M1078/M1081 S-280 SHELTER MODELS A, B, OR C TIEDOWN KIT INSTALLATION/REMOVAL (CONT)

NOTE

Perform step (2) on S-280 shelter models A or B.

(2) Cut 2x4 (5) into four 12 in. (30.5 cm) wooden pieces.





WARNING

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

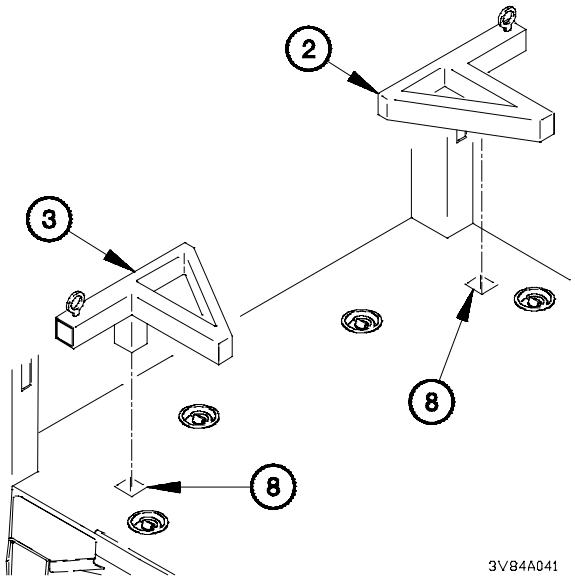
(3) Remove four quick release pins (6) and plugs (7) from crane pockets (8).

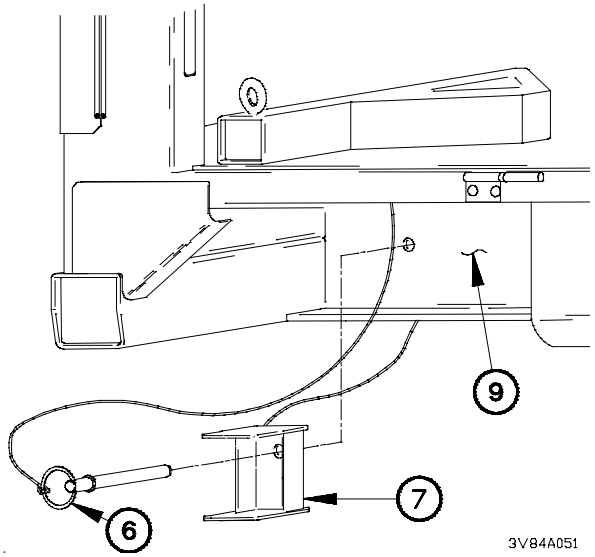
(4) Lower ladder (TM 9-2320-365-10).

NOTE

Tiedowns are positioned with eyebolts toward four corners of cargo bed.

(5) Install two tiedowns (2 and 3) in four crane pockets (8).





CAUTION

Ensure quick release pins are installed through both sides of crane pockets. Failure to comply may result in change to equipment.

(6) Install four plugs (7) in cargo bed frame (9) with four quick release pins (6).

CAUTION

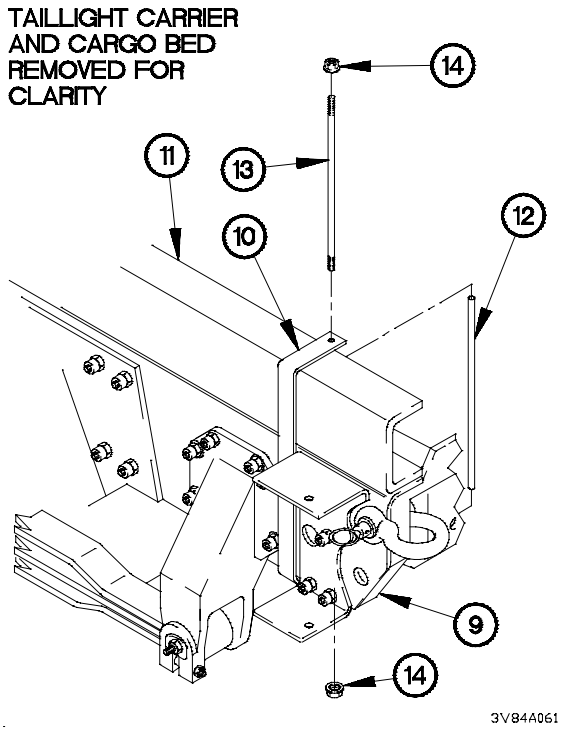
Ensure at least two whole threads are showing past nuts after installation. Failure to comply may result in damage to equipment.

NOTE

- Left and right clamps are installed the same way. Left clamp shown.
- Perform steps (7) and (8) on M1078.

(7) Install clamp (10) on frame rail (9) and subframe rail (11) with spacer (12), tie-rod (13), and two self-locking nuts (14).

(8) Perform step (7) on right clamp.

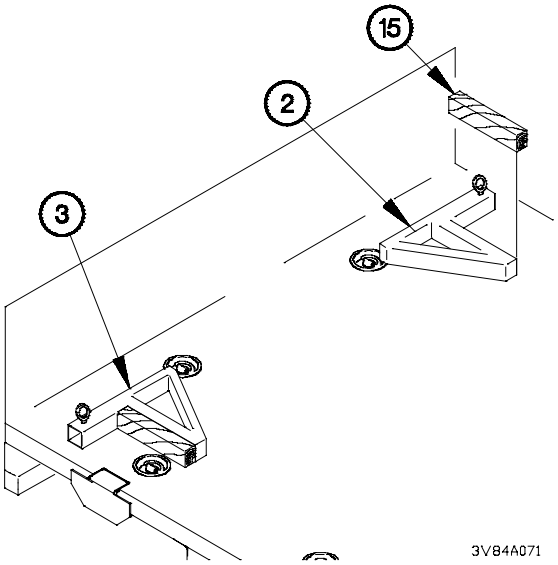


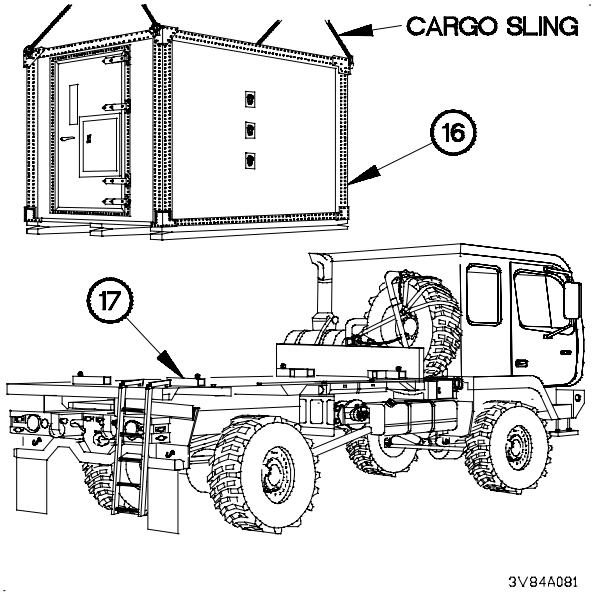
20-84. M1078/M1081 S-280 SHELTER MODELS A, B, OR C TIEDOWN KIT INSTALLATION/REMOVAL (CONT)

NOTE

Perform step (9) on S-280 shelter models A or B.

(9) Install four 12 in. wooden pieces (15) on two tiedowns (2 and 3).





WARNING

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

NOTE

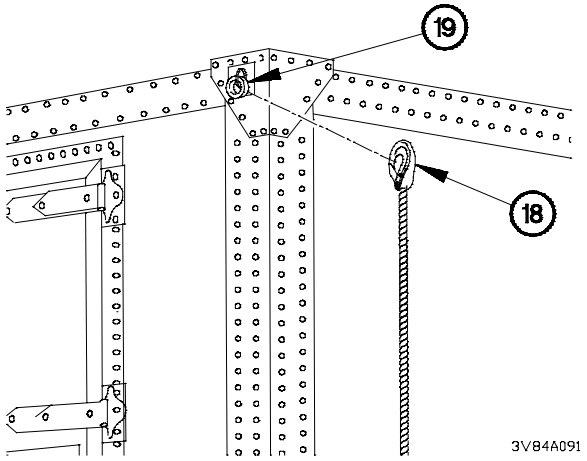
Steps (10) through (14) require the aid of an assistant.

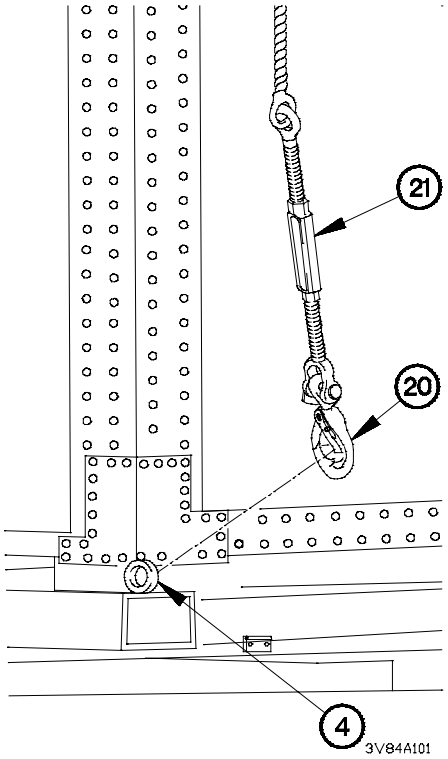
(10) Position S-280 shelter (16) on cargo bed (17).

NOTE

- Four tiedown cables are installed the same way. One tiedown cable shown.
- Large end of S-280 shelter tiedown ring points toward cargo bed.

(11) Install hook (18) on upper S-280 shelter tiedown ring (19).

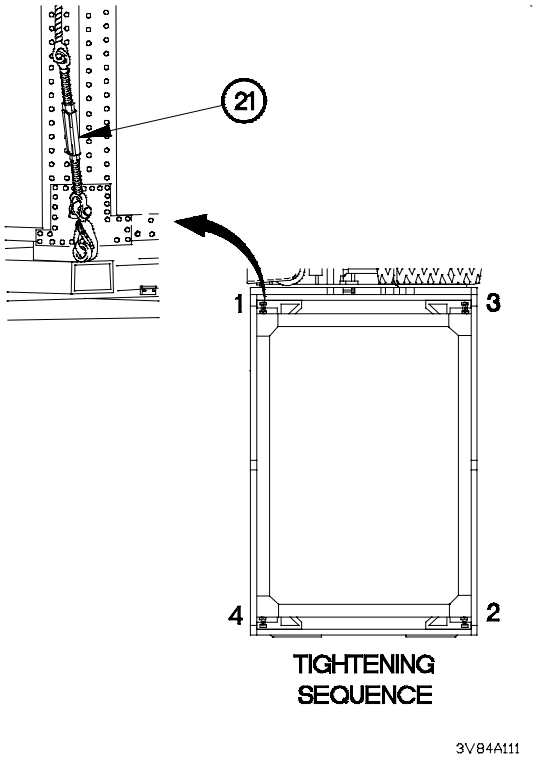




(12) Install hook (20) on eyebolt (4).

(13) Perform steps (11) and (12) on remaining tiedown cables.

(14) Remove slack from four turnbuckles (21).



(15) Tighten four turnbuckles (21) 1/2 turn in sequence shown.

(16) Perform step (15) four more times.

(17) Raise ladder (TM 9-2320-365-10).

20-84. M1078/M1081 S-280 SHELTER MODELS A, B, OR C TIEDOWN KIT INSTALLATION/REMOVAL (CONT)

b. Removal.

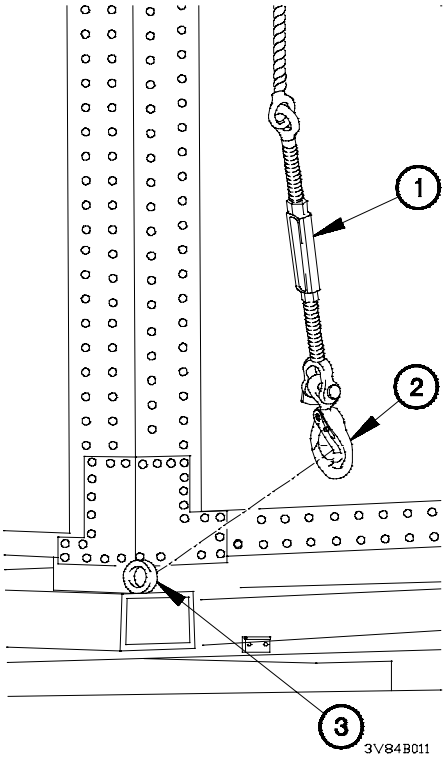
(1) Lower ladder (TM 9-2320-365-10).

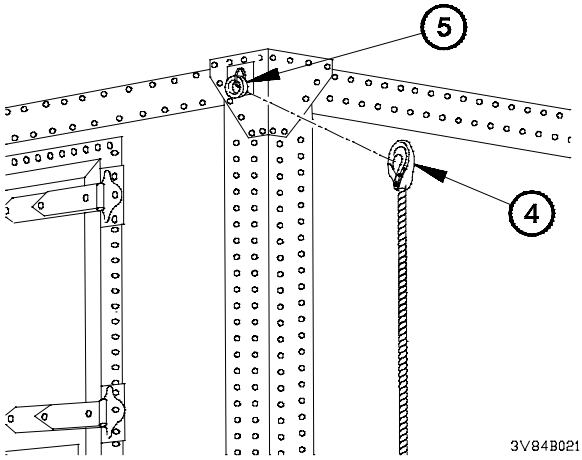
(2) Loosen four turnbuckles (1).

NOTE

Four tiedown cables are removed the same way. One tiedown cable shown.

(3) Remove hook (2) from eyebolt (3).





WARNING

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

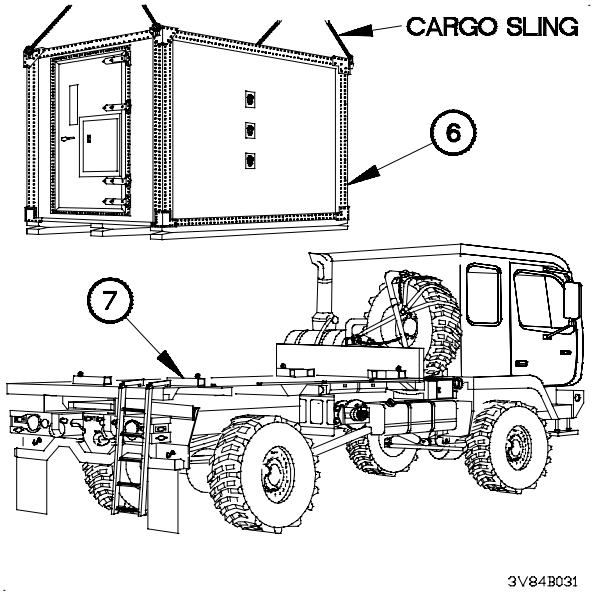
NOTE

Step (6) requires the aid of an assistant.

(6) Remove S-280 shelter (6) from cargo bed (7).

(4) Remove hook (4) from upper S-280 shelter tiedown ring (5).

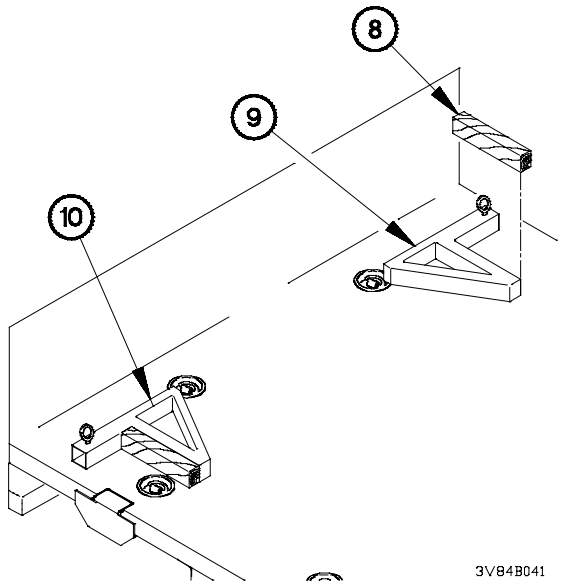
(5) Perform steps (3) and (4) on remaining tiedown cables.

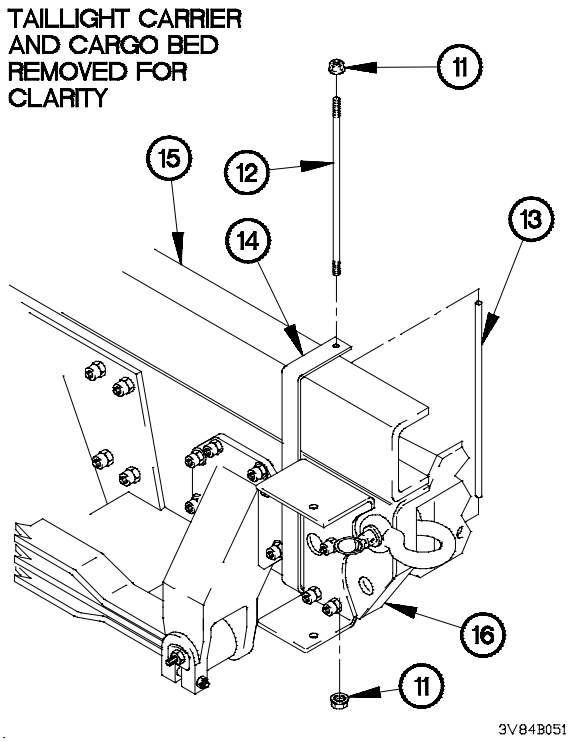


NOTE

Perform step (7) on S-280 shelter models A or B.

(7) Remove four 12 in. wooden pieces (8) from two tiedowns (9 and 10).





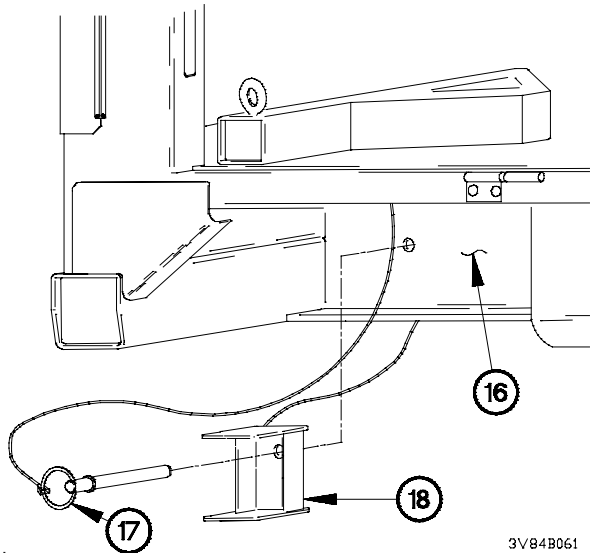
NOTE

- Left and right clamps are removed the same way. Left clamp shown.
- Perform steps (8) and (9) on M1078.

(8) Remove two self-locking nuts (11), tie-rod (12), spacer (13), and clamp (14) from subframe rail (15) and frame rail (16).

(9) Perform step (8) on right clamp.

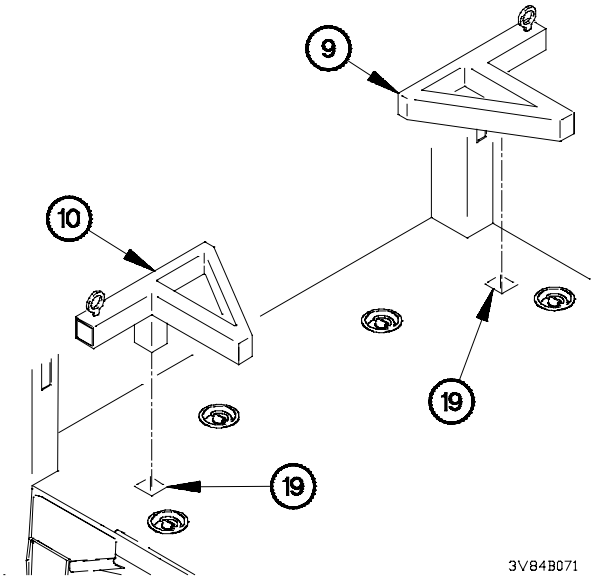
(10) Remove four quick release pins (17) and plugs (18) from cargo bed frame (16).

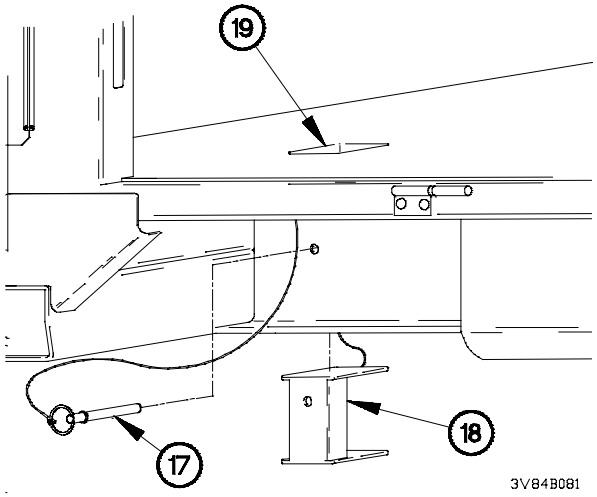


20-84. M1078/M1081 S-280 SHELTER MODELS A, B, OR C TIEDOWN KIT INSTALLATION/REMOVAL (CONT)

(11) Remove two tiedowns (9 and 10) from four crane pockets (19).

(12) Raise ladder (TM 9-2320-365-10).



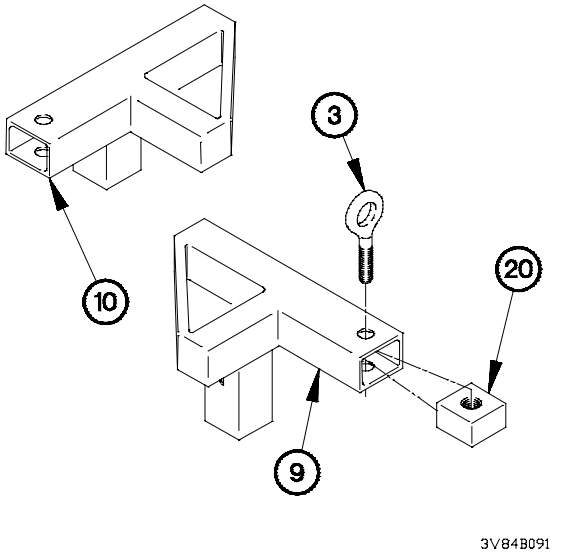


CAUTION

Ensure quick release pins are removed through both sides of crane pockets. Failure to comply may result in change to equipment.

(13) Install four plugs (18) in crane pockets (19) with quick release pins (17).

(14) Remove four eyebolts (3) and threaded blocks (20) from two tiedowns (9 and 10).



c. Follow-On Maintenance.

Install cargo bed side panels and stakes (TM 9-2320-365-10).

End of Task.

CHAPTER 21
ARMAMENT/SIGHTING AND FIRE CONTROL MATERIEL MAINTENANCE

RESTRICTED MAINTENANCE NOTICE

Units not authorized SC 4910-95-CL-A72 (SHOP EQUIPMENT, COMMON NO. 2) in their T.O.E. may be unable to perform some of the maintenance tasks described in this chapter. If the required tools are not authorized, the equipment must be submitted to DS Maintenance for repair.

Section I. INTRODUCTION 21-1
21-1. INTRODUCTION 21-1

Section II. MAINTENANCE PROCEDURES 21-2
21-2. MACHINE GUN RING REPLACEMENT 21-2
21-3. MACHINE GUN RING LOWER PLATFORM REPLACEMENT 21-5
21-4. MACHINE GUN RING TOP PLATFORM REPLACEMENT 21-7
21-5. MACHINE GUN RING CENTER SEAT REPLACEMENT 21-8
21-6. MACHINE GUN RING ROOF SUPPORT REPLACEMENT 21-10
21-7. SMALL ARMS MOUNT REPLACEMENT 21-12

Section I. INTRODUCTION

21-1. INTRODUCTION

This chapter contains maintenance instructions for replacing armament/sighting and fire control materiel components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.

Section II. MAINTENANCE PROCEDURES

21-2. MACHINE GUN RING REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)

Tools and Special Tools (Cont)
Crowfoot Attachment, Socket Wrench (Item 10, Appendix B)

Personnel Required
(2)

a. Removal.

(1) Remove 12 screws (1) and washers (2) from machine gun ring (3).

(2) Position three wooden blocks on cab roof (4).

WARNING

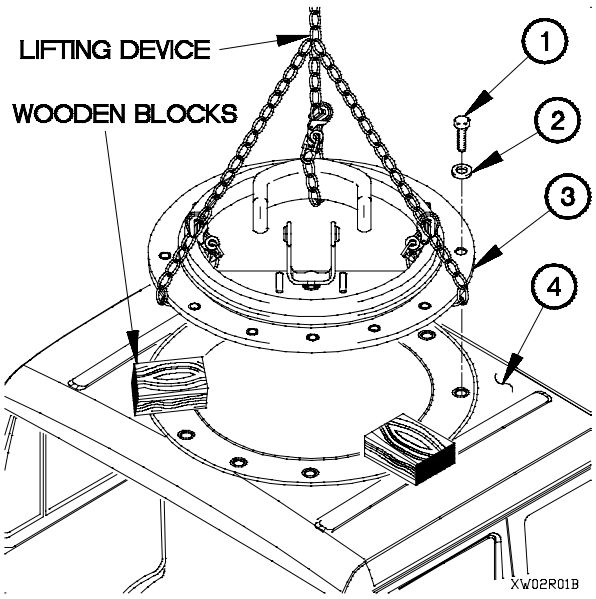
Machine gun ring assembly weighs approximately 350 lbs (159 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

NOTE

Steps (3) through (7) require the aid of an assistant.

(3) Position machine gun ring (3) on three wooden blocks.

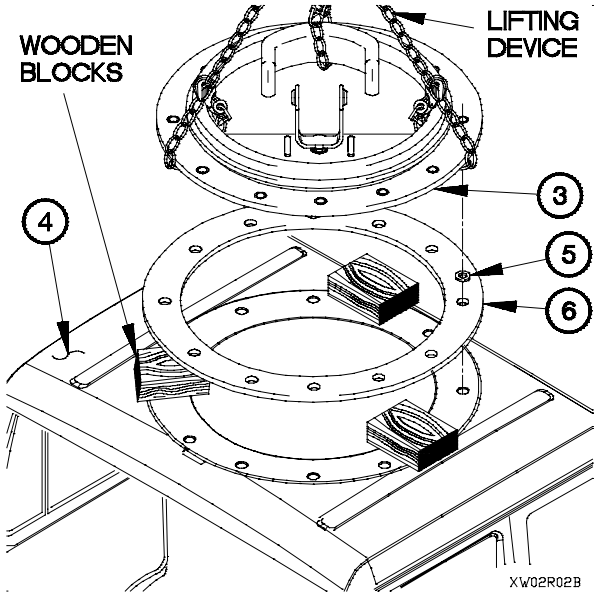
(4) Re-position lifting device on machine gun ring (3).



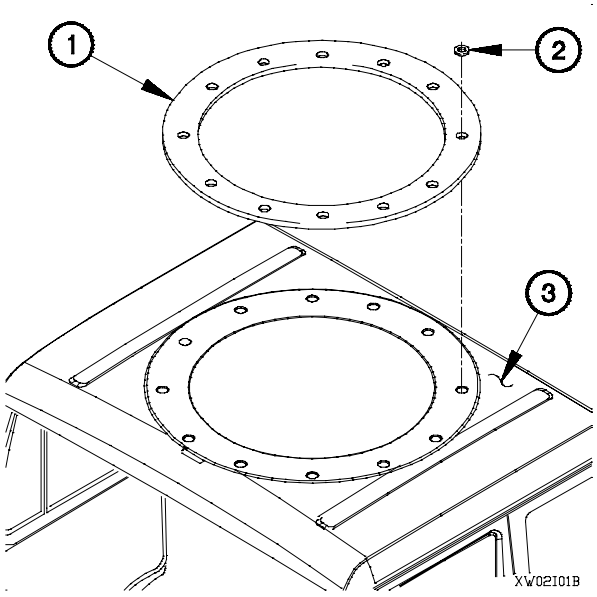
(5) Remove machine gun ring (3) from cab roof (4).

(6) Remove three wooden blocks from cab roof (4).

(7) Remove 12 washers (5) and ring spacer (6) from cab roof (4).



b. Installation.



WARNING

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

NOTE

Steps (2) through (6) require the aid of an assistant.

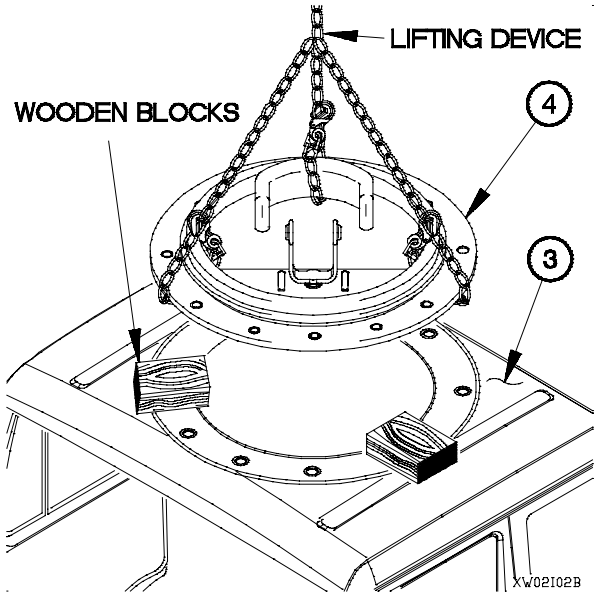
(2) Position three wooden blocks on cab roof (3).

(3) Position machine gun ring (4) on cab roof on three wooden blocks.

NOTE

- Align ring spacer and washers with threaded holes in cab roof.
- Ring spacer should have 1/4 in. (0.635 cm) clearance from inner lip of cab rood to allow free rotation of machine gun ring.

(1) Position ring spacer (1) and 12 washers (2) on cab roof (3).



21-2. MACHINE GUN RING REPLACEMENT (CONT)

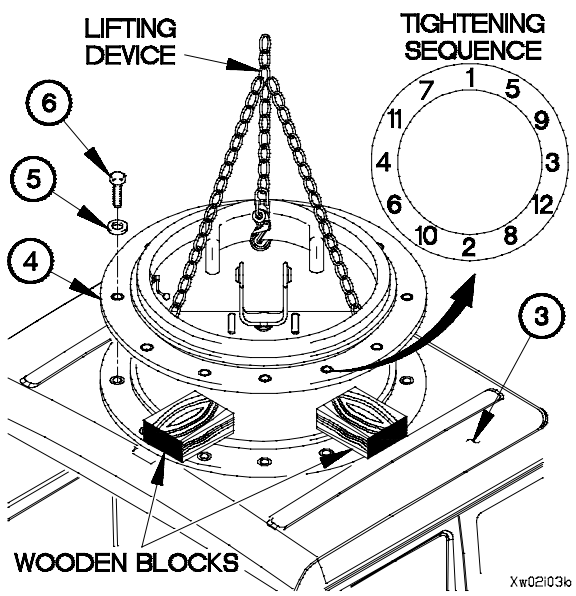
(4) Re-position lifting device on machine gun ring (4).

(5) Remove three wooden blocks from cab roof (3).

(6) Position machine gun ring (4) on cab roof (3).

(7) Position 12 mounting washers (5) and screws (6) in machine gun ring (4).

(8) Tighten mounting screws (6) to 49-61 lb-ft (66-82 N·m).



End of Task.

21-3. MACHINE GUN RING LOWER PLATFORM REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).

Materials/Parts
Pin, Cotter (2) (Item 204, Appendix G)

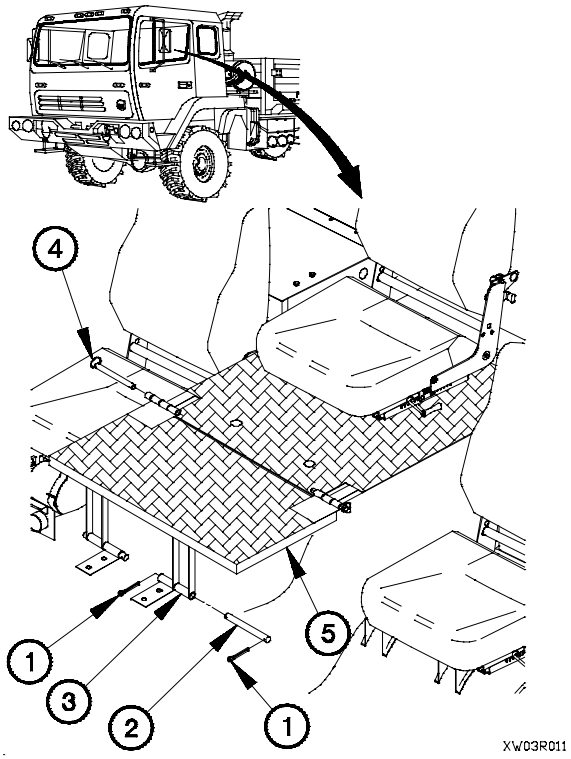
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

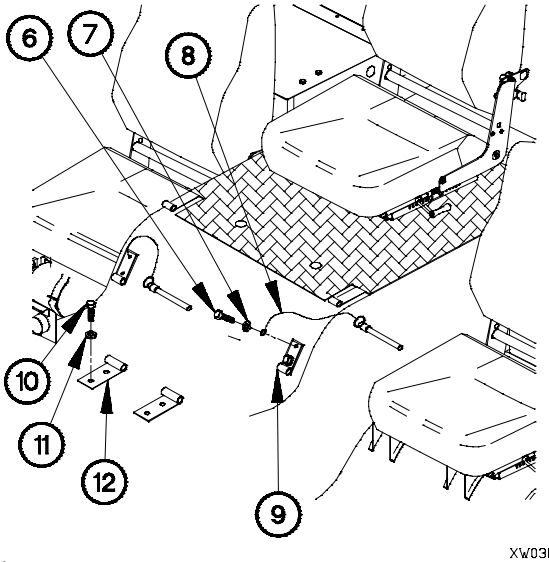
a. Removal.

(1) Remove four cotter pins (1) and straight pins (2) from two legs (3). Discard cotter pins.

(2) Remove two quick-release pins (4) from lower platform (5).

(3) Remove lower platform (5) from cab.





(4) Remove four screws (6), washers (7), and two lanyards (8) from two brackets (9).

(5) Remove two brackets (9) from cab floor.

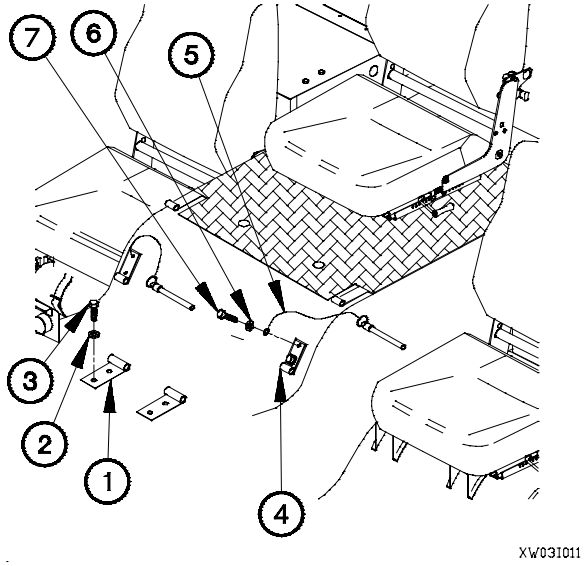
(6) Remove four screws (10), washers (11), and two brackets (12) from cab floor.

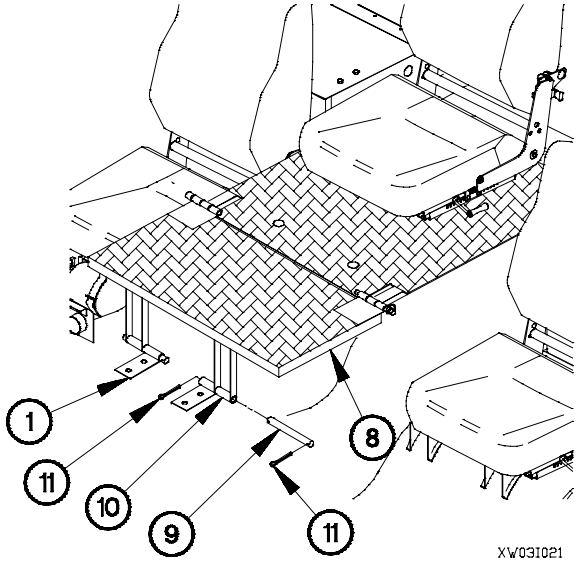
21-3. MACHINE GUN RING LOWER PLATFORM REPLACEMENT (CONT)

b. Installation.

(1) Install two brackets (1) with four washers (2) and screws (3).

(2) Install two brackets (4) and lanyards (5) with four washers (6) and screws (7).





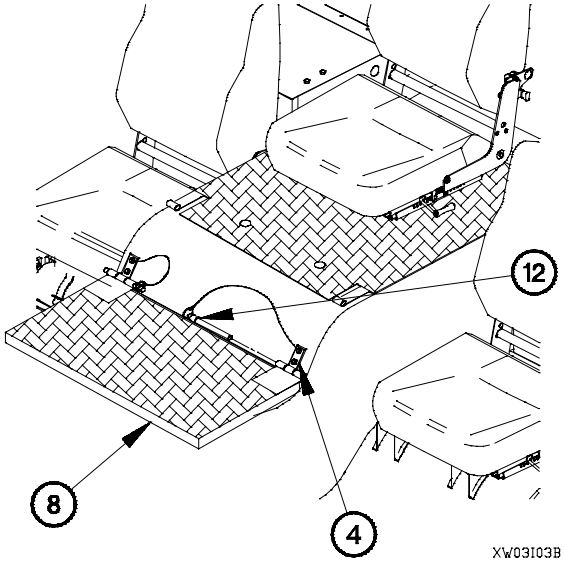
(3) Position lower platform (8) on two brackets (1).

(4) Install two straight pins (9) in legs (10).

(5) Install four cotter pins (11) in two straight pins (9).

(6) Place lower platform (8) in storage position.

(7) Install two quick-release pins (12) in lower platform (8) and two brackets (4).



End of Task.

21-4. MACHINE GUN RING TOP PLATFORM REPLACEMENT

This task covers:

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

INITIAL SETUP

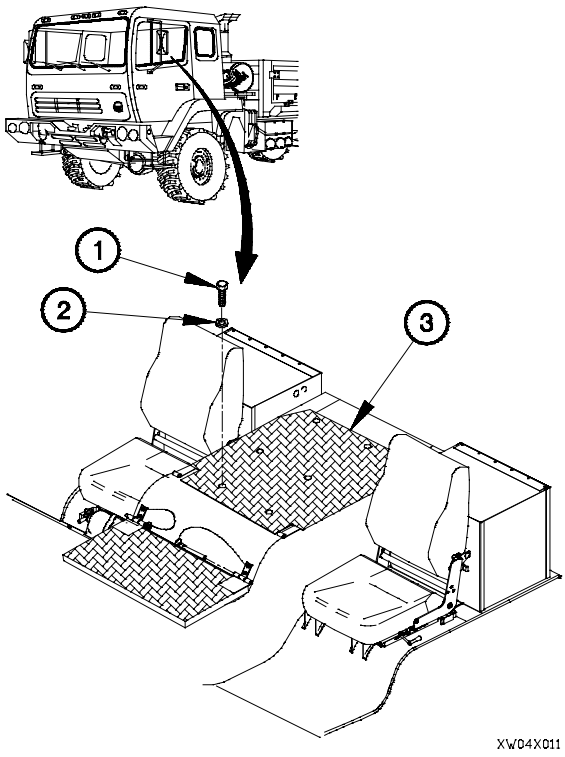
Equipment Conditions
Machine gun ring, center seat removed (para 21-5).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

a. Removal.

(1) Remove two screws (1) and washers (2), from top platform (3).

(2) Remove top platform (3) from vehicle.



b. Installation.

(1) Position top platform (3) in vehicle with two washers (2) and screws (1).

(2) Tighten two screws (1) to 71-89 lb-in. (8-10 N·m).

c. Follow-On Maintenance.

Install machine gun ring center seat (para 21-5).

End of Task.

21-5. MACHINE GUN RING CENTER SEAT REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).

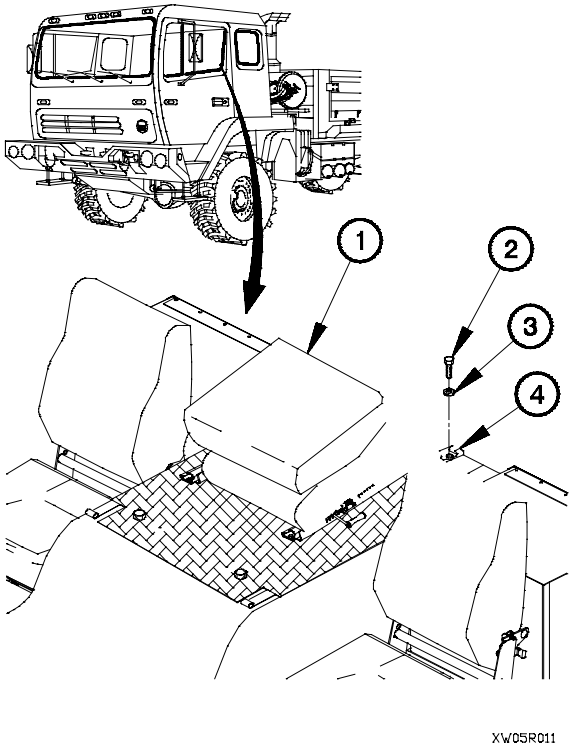
Materials/Parts
Sealing Compound (Item 65, Appendix D)

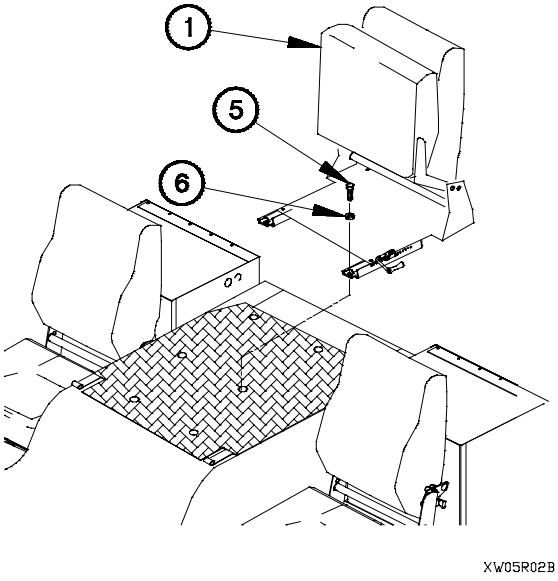
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

a. Removal.

(1) Fold back of center seat (1) down and slide fully forward.

(2) Remove two screws (2) and washers (3) from seat mount (4).





(3) Slide center seat (1) fully rearward.

(4) Remove two screws (5), washers (6), and center seat (1) from vehicle.

b. Installation.

WARNING

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

NOTE

Install center seat in folded and raised position with seat rails in the forward position.

(1) Apply sealing compound to threads of two screws (1).

(2) Position center seat (2) on platform (3).

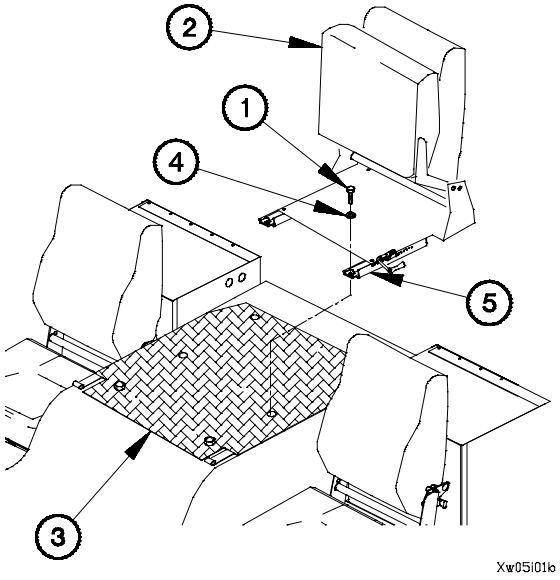
NOTE

Flat sides of screw will be in line with seat tracks.

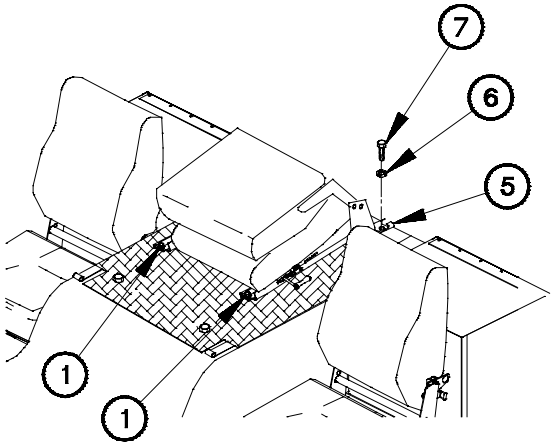
(3) Position two washers (4) and screws (1) in seat mount (5).

(4) Slide center seat (2) fully forward.

(5) Fold center seat (2) down.



Xw05i01lo



Xw05i02lo

(6) Position two washers (6) and screws (7) in seat mount (5).

NOTE

When tightening screws, flat sides of screws are to be in line with track sides.

(7) Tighten two screws (1 and 7) to 14-18 lb-ft (19-24 N·m).

End of Task.

21-6. MACHINE GUN RING ROOF SUPPORT REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP

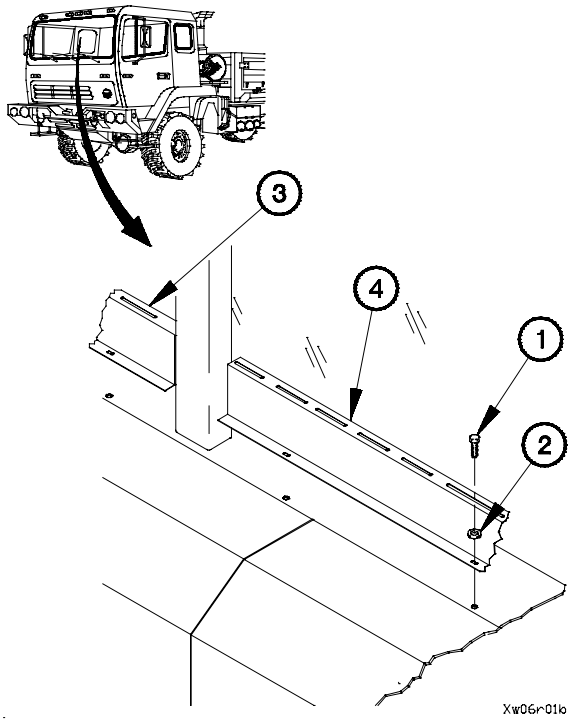
Equipment Conditions
Engine shut down (TM 9-2320-365-10).

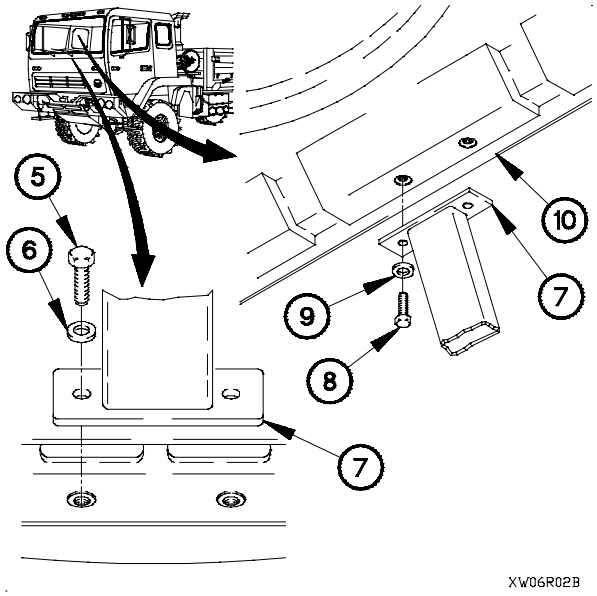
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)

Tools and Special Tools (Cont)
Wrench, Torque 0-200 lb-in. (Item 58, Appendix C)

a. Removal.

(1) Remove six screws (1), washers (2), LH defrost cover (3), and RH defrost cover (4) from vehicle.





(2) Remove two screws (5) and washers (6) from roof support (7).

(3) Remove two screws (8) and washers (9) from roof support (7).

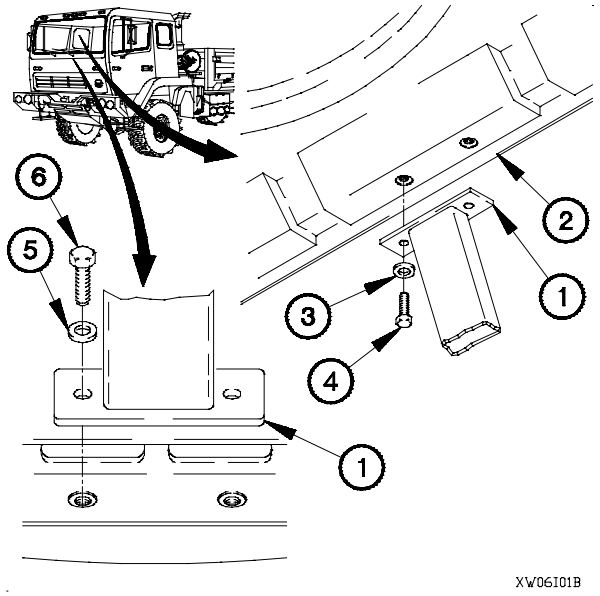
(4) Remove roof support (7) from cab roof (10).

b. Installation.

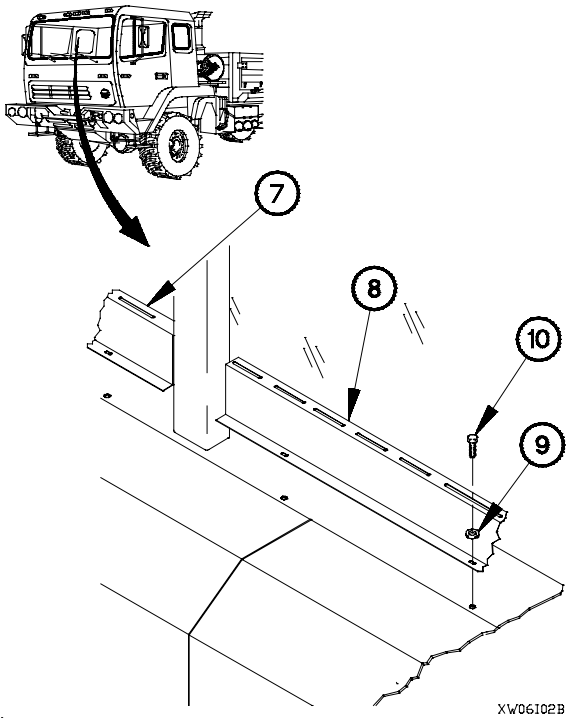
(1) Position roof support (1) on cab roof (2) with two washers (3) and screws (4).

(2) Position two washers (5) and screws (6) in roof support (1).

(3) Tighten two screws (4 and 6) to 21-27 lb-ft (29-37 N·m).



XW06I01B



XW06I02B

(4) Position LH defrost cover (7) and RH defrost cover (8) in vehicle with six washers (9) and screws (10).

(5) Tighten six screws (10) to 22-27 lb-in. (2-3 N·m).

End of Task.

21-7. SMALL ARMS MOUNT REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).

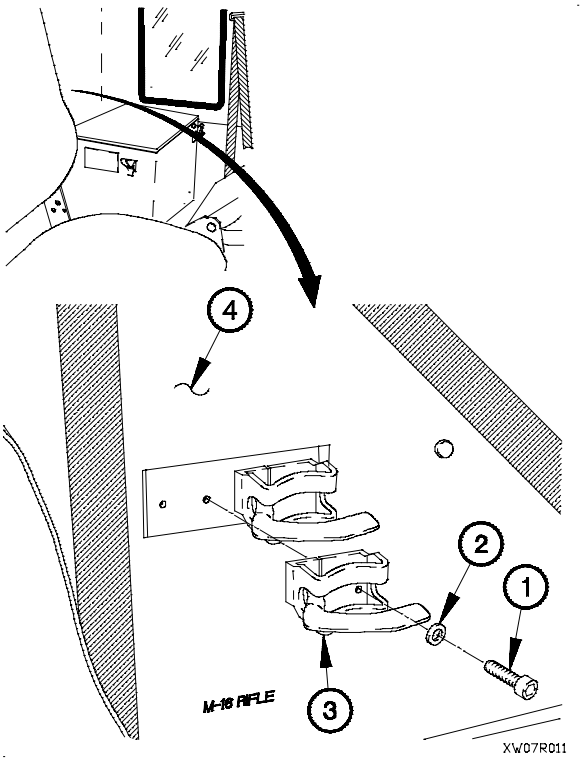
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 35, Appendix C)

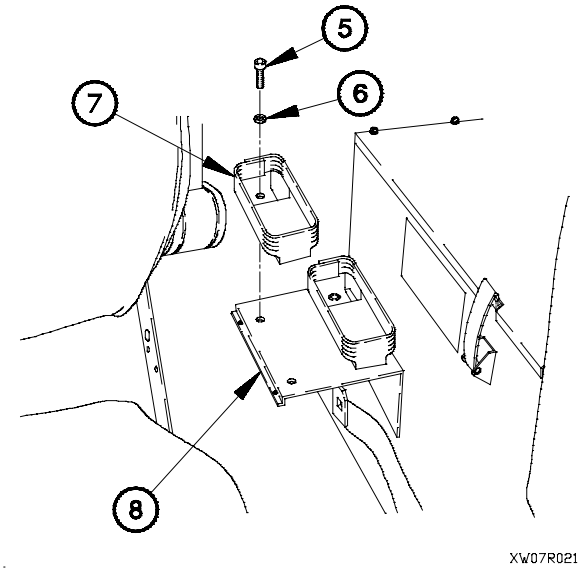
a. Removal.

NOTE

All three small arms mounts are removed the same way. Driver's side shown.

(1) Remove two screws (1), washers (2), and storage rack (3) from back wall of cab (4).





(2) Remove two screws (5), washers (6), and weapon support (7) from support (8).

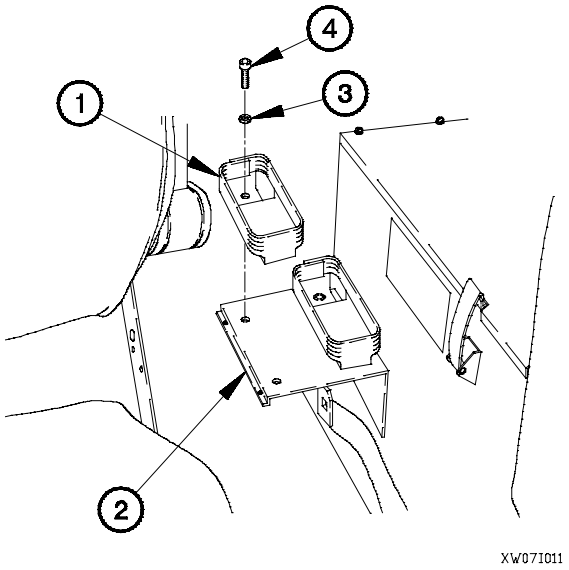
b. Installation.

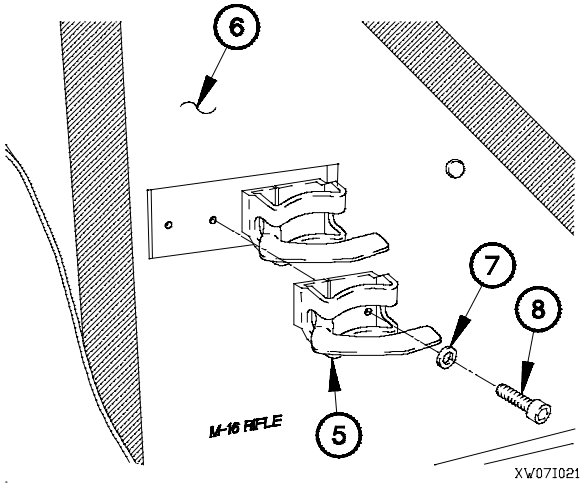
NOTE

All three small arms mounts are installed the same way. Driver's side shown.

(1) Position weapon support (1) on support (2) with two washers (3) and screws (4).

(2) Tighten two screws (4) to 36-44 lb-in. (4-5 N·m).





(3) Position storage rack (5) on back wall of cab (6) with two washers (7) and screws (8).

(4) Tighten two screws (8) to 36-44 lb-in. (4-5 N·m).

End of Task.

CHAPTER 22
ELECTRICAL ILLUMINATING EQUIPMENT MAINTENANCE

RESTRICTED MAINTENANCE NOTICE

Units not authorized SC 4910-95-CL-A72 (SHOP EQUIPMENT, COMMON NO. 2) in their T.O.E. may be unable to perform some of the maintenance tasks described in this chapter. If the required tools are not authorized, the equipment must be submitted to DS Maintenance for repair.

Section I. INTRODUCTION 22-1
22-1. INTRODUCTION 22-1

Section II. MAINTENANCE PROCEDURES 22-2
22-2. WARNING LIGHT CABLE ASSEMBLY REPLACEMENT 22-2

Section I. INTRODUCTION

22-1. INTRODUCTION

This chapter contains maintenance instructions for replacing electrical illuminating equipment authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.

Section II. MAINTENANCE PROCEDURES

22-2. WARNING LIGHT CABLE ASSEMBLY REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Batteries disconnected (para 7-48).
Rear cab liner removed (para 16-13).
Kick panel removed (para 16-3).

Material/Parts
Ties, Cable, Plastic (Item 76, Appendix D)

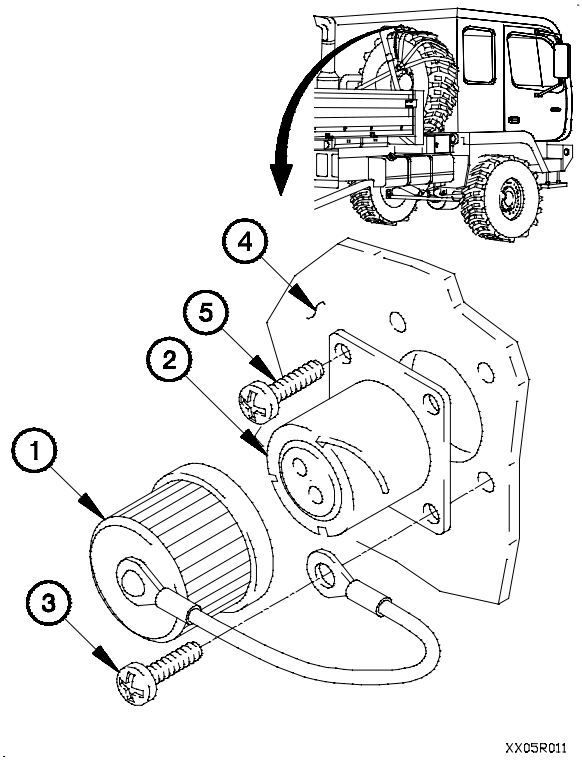
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

a. Removal.

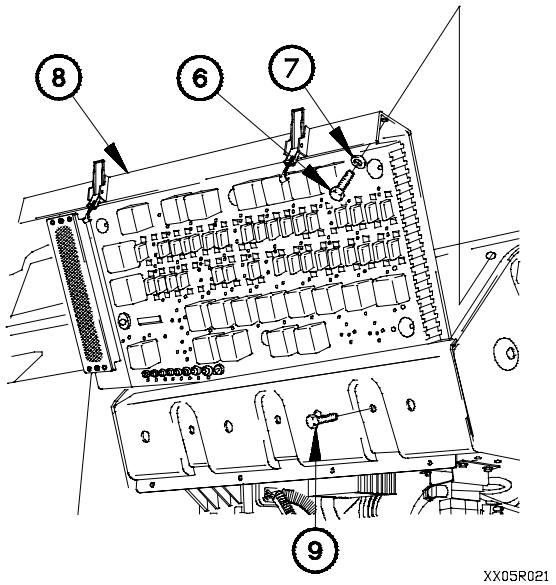
(1) Remove dustcap (1) from connector J62 (2).

(2) Remove screw (3) and dustcap (1) from cab (4).

(3) Remove three screws (5) and connector J62 (2) from cab (4).



XX05R011



XX05R021

(4) Remove three screws (6) and washers (7) from PDP (8).

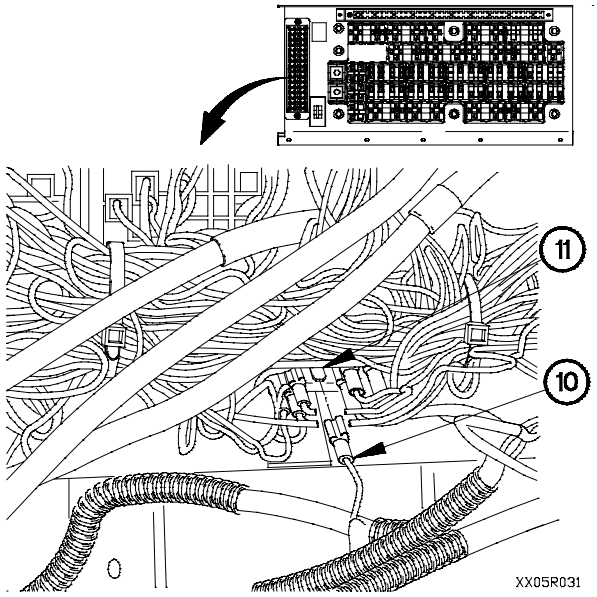
(5) Remove three screws (9) from PDP (8).

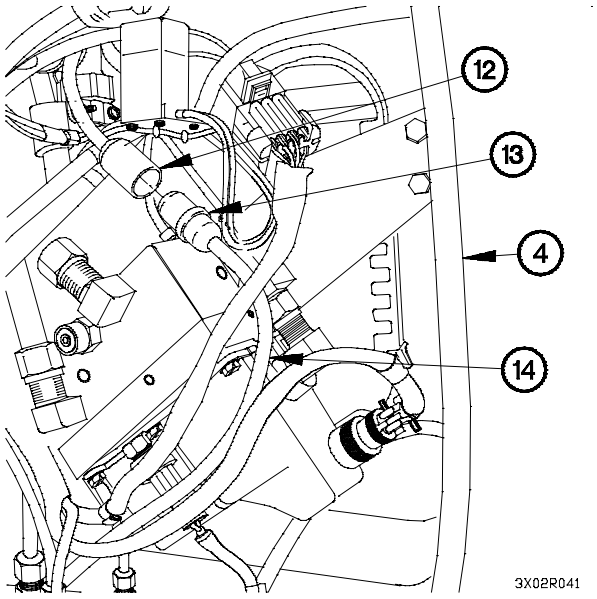
(6) Lift PDP (8) outward to gain access.

NOTE

Remove plastic cable ties as required.

(7) Disconnect terminal lug TL14 (10) from terminal board TB2 (11) position 12.



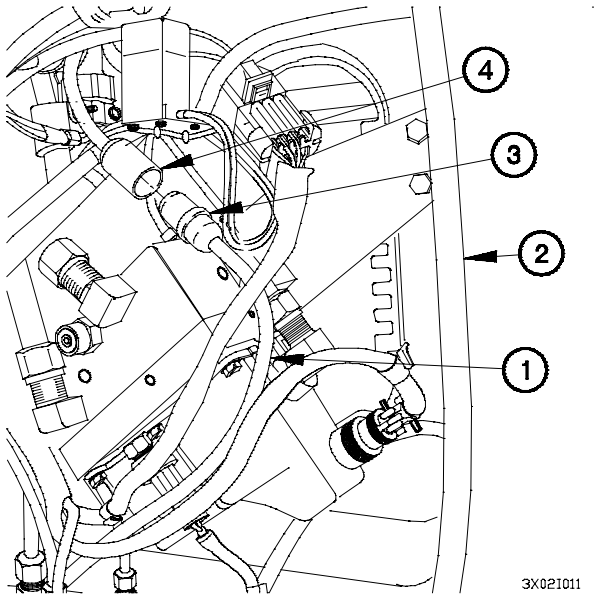


(8) Disconnect connector J65 (12) from connector P65 (13).

NOTE

Note routing of warning light cable assembly prior to removal.

(9) Remove warning light cable assembly (14) from cab (4).

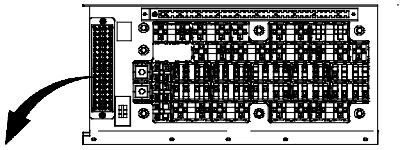


b. Installation.

(1) Position warning light cable assembly (1) in cab (2).

(2) Connect connector P65 (3) to connector J65 (4).

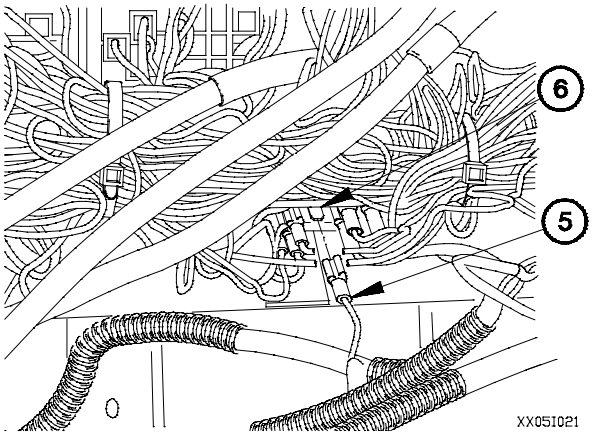
22-2. WARNING LIGHT CABLE ASSEMBLY REPLACEMENT (CONT)

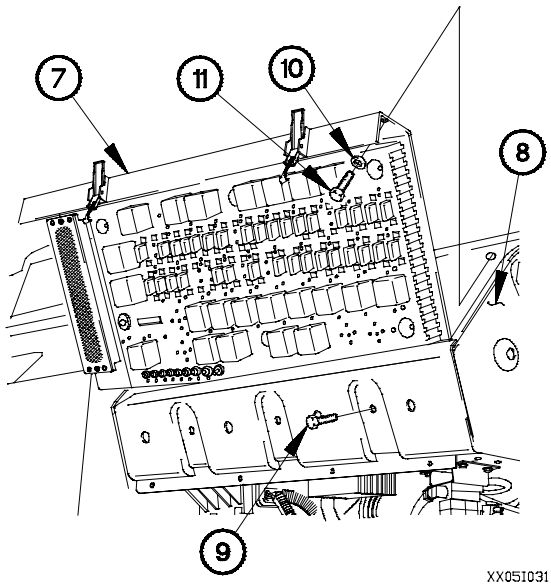


NOTE

Install plastic cable ties as required.

(3) Connect terminal lug TL14 (5) to terminal board TB2 (6) position 12.





(4) Position PDP (7) on dashboard (8).

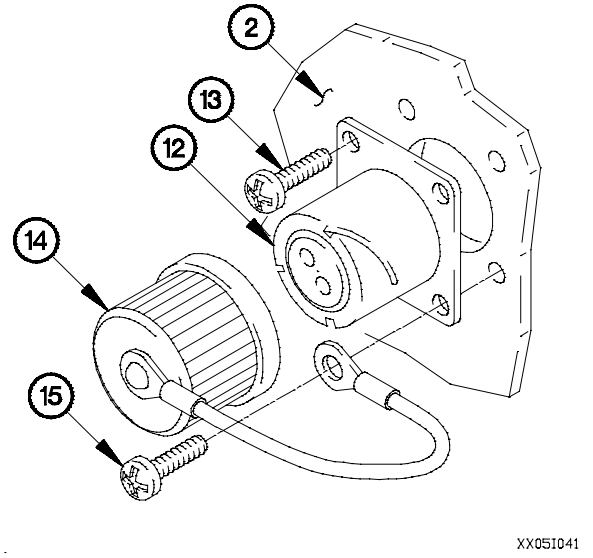
(5) Install three screws (9) in PDP (7).

(6) Install three washers (10) and screws (11) in PDP (7).

(7) Install connector J62 (12) in cab (2) with three screws (13).

(8) Install dustcap (14) on cab (2) with screw (15).

(9) Install dustcap (14) on connector J62 (12).



c. Follow-On Maintenance.

(1) Install rear cab liner (para 16-13).

(2) Install kick panel (para 16-3).

(3) Connect batteries (para 7-48).

(4) Operate warning lights and check for proper operation (TM 9-2320-365-10).

End of Task.

CHAPTER 23
AIR SYSTEM MAINTENANCE

RESTRICTED MAINTENANCE NOTICE

Units not authorized SC 4910-95-CL-A72 (SHOP EQUIPMENT, COMMON NO. 2) in their T.O.E. may be unable to perform some of the maintenance tasks described in this chapter. If the required tools are not authorized, the equipment must be submitted to DS Maintenance for repair.

Section I. INTRODUCTION 23-1
23-1. INTRODUCTION 23-1

Section II. MAINTENANCE PROCEDURES 23-2
23-2. PRIMARY AND CENTRAL TIRE INFLATION SYSTEM (CTIS) AIR HOSES REPLACEMENT 23-2
23-3. AIR TRANSPORTABILITY AIR HOSES REPLACEMENT 23-8
23-4. INVERSION VALVE REPLACEMENT 23-11
23-5. SHUTTLE VALVE REPLACEMENT 23-13
23-6. AIR DRYER REPLACEMENT/REPAIR 23-15
23-7. WET TANK REPLACEMENT 23-31
23-8. PRESSURE SWITCH REPLACEMENT 23-35

Section I. INTRODUCTION

23-1. INTRODUCTION

This chapter contains maintenance instructions for replacing, repairing, and adjusting air system components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.

Section II. MAINTENANCE PROCEDURES

23-2. PRIMARY AND CENTRAL TIRE INFLATION SYSTEM (CTIS) AIR HOSES REPLACEMENT

This task covers:

a. Hose Locations

b. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
Air tanks drained (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Cap and Plug Set (Item 15, Appendix D)
Ties, Cable, Plastic (Item 76, Appendix D)

a. Hose Locations.

WARNING

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

CAUTION

Cap or plug hose connections to prevent contamination. Failure to comply may result in damage to equipment.

NOTE

- This task shows locations of primary air supply and CTIS air hoses on the vehicle. It may not be necessary to remove all hoses at one time.
- Tag hoses and connection points prior to removal.
- Note location of plastic cable ties prior to removal.
- Remove plastic cable ties as required.
- Inspect air hoses and fittings for cracks, kinks, nicks, stripped threads, and cuts. Replace damaged parts.

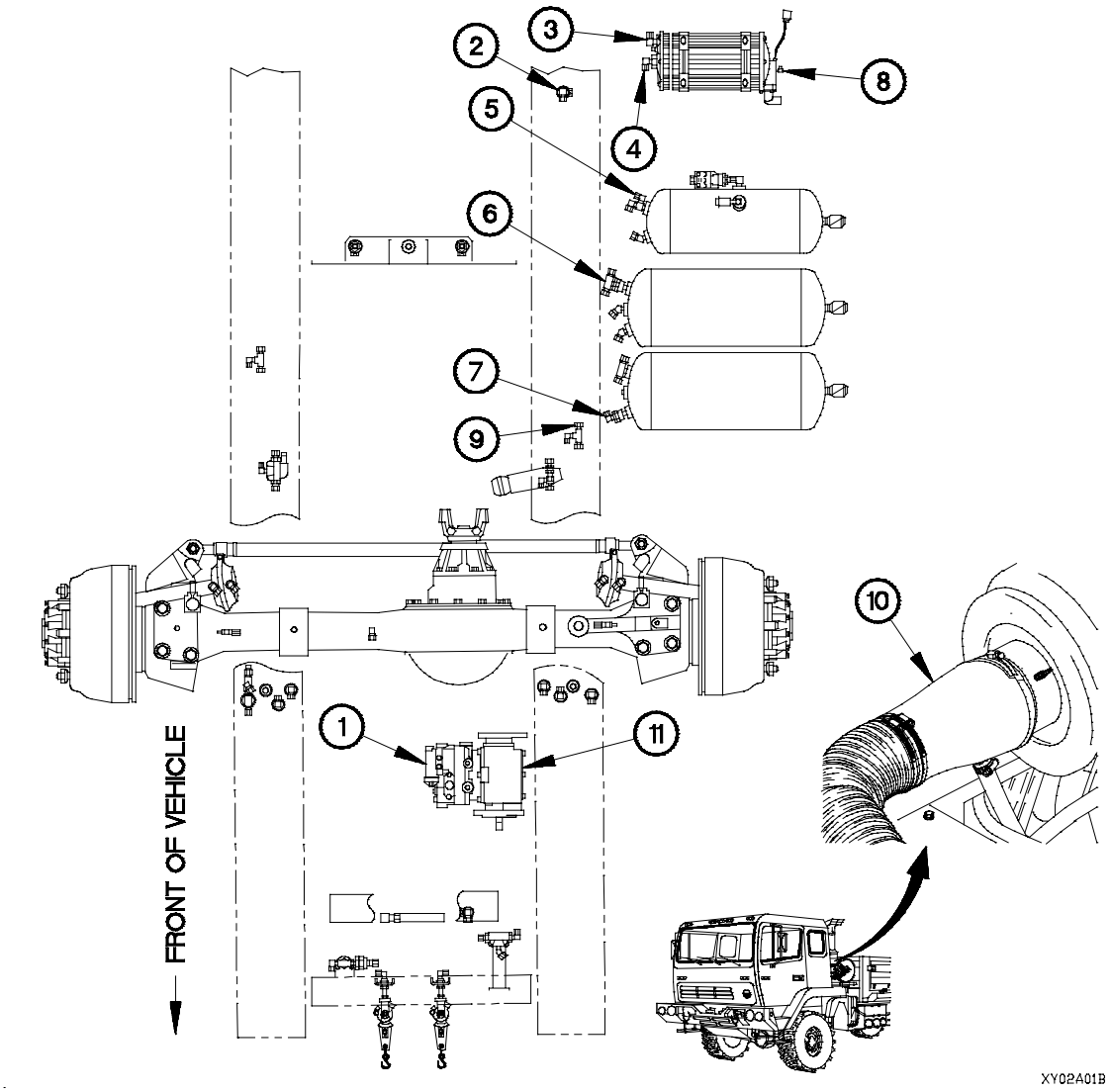


Figure 23-1. Primary Air Supply Hose Locations

Table 23-1. Primary Air Supply Hose Locations

HOSE NAME	FROM	TO
Primary supply	Air compressor output fitting (1)	Bulkhead fitting (2)
Primary supply tie	Bulkhead fitting (2)	Air dryer input fitting (3)
Wet tank supply	Air dryer output fitting (4)	Wet tank supply fitting (5)
Primary tank supply	Wet tank supply fitting (5)	Primary tank supply fitting (6)
Secondary tank supply	Primary tank supply fitting (6)	Secondary tank supply fitting (7)
Air dryer pressure	Air dryer bottom fitting (8)	Hose fitting (9)
Air compressor intake hose	Intake air cleaner (10)	Air compressor (11)

23-2. PRIMARY AND CENTRAL TIRE INFLATION SYSTEM (CTIS) AIR HOSES REPLACEMENT (CONT)

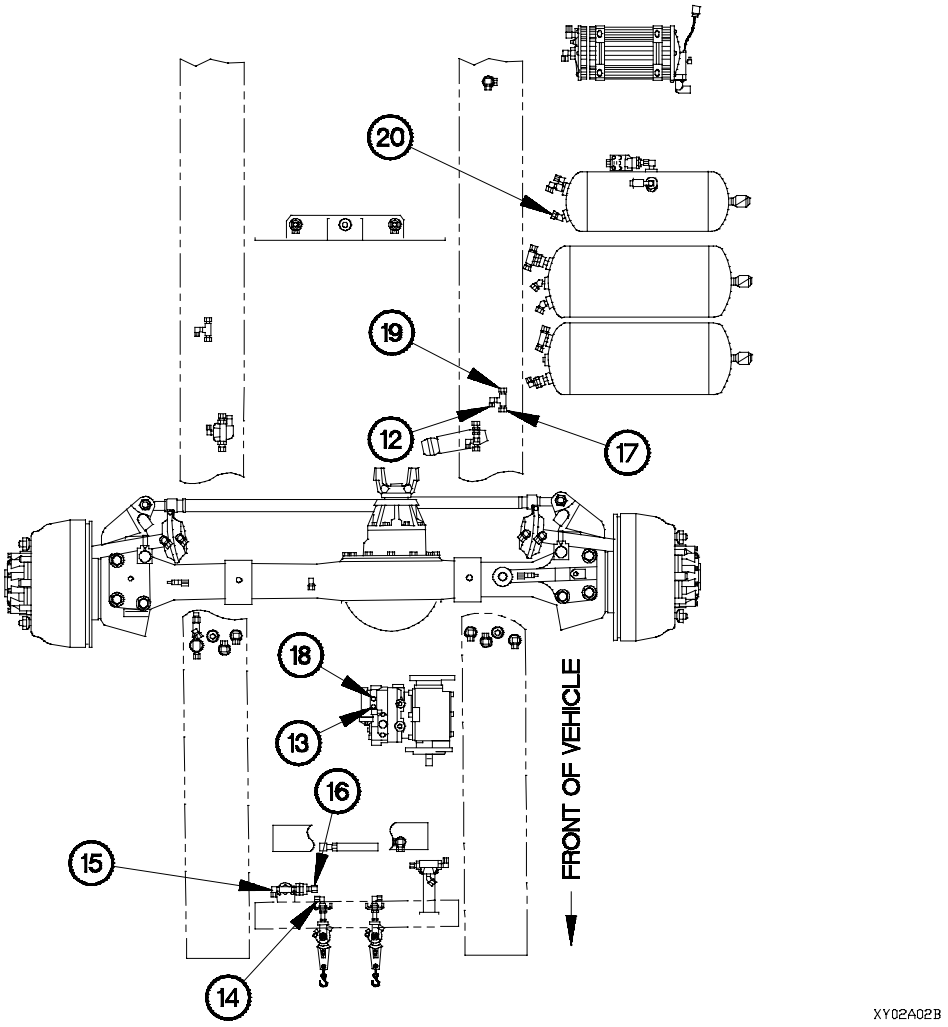


Figure 23-1. Primary Air Supply Hose Locations (Cont)

Table 23-1. Primary Air Supply Hose Locations (Cont)

HOSE NAME	FROM	TO
Governor input #1	Hose fitting (12)	Governor input #1 fitting (13)
Emergency supply	Emergency supply fitting (14)	Hose fitting (15)
Emergency supply tie #1	Gladhand check valve fitting (16)	Hose fitting (17)
Governor input #2	Hose fitting (17)	Governor input #2 fitting (18)
Emergency supply tie #2	Hose fitting (19)	Wet tank fitting (20)

Figure 23-2. Central Tire Inflation System (CTIS) Air Hose Locations

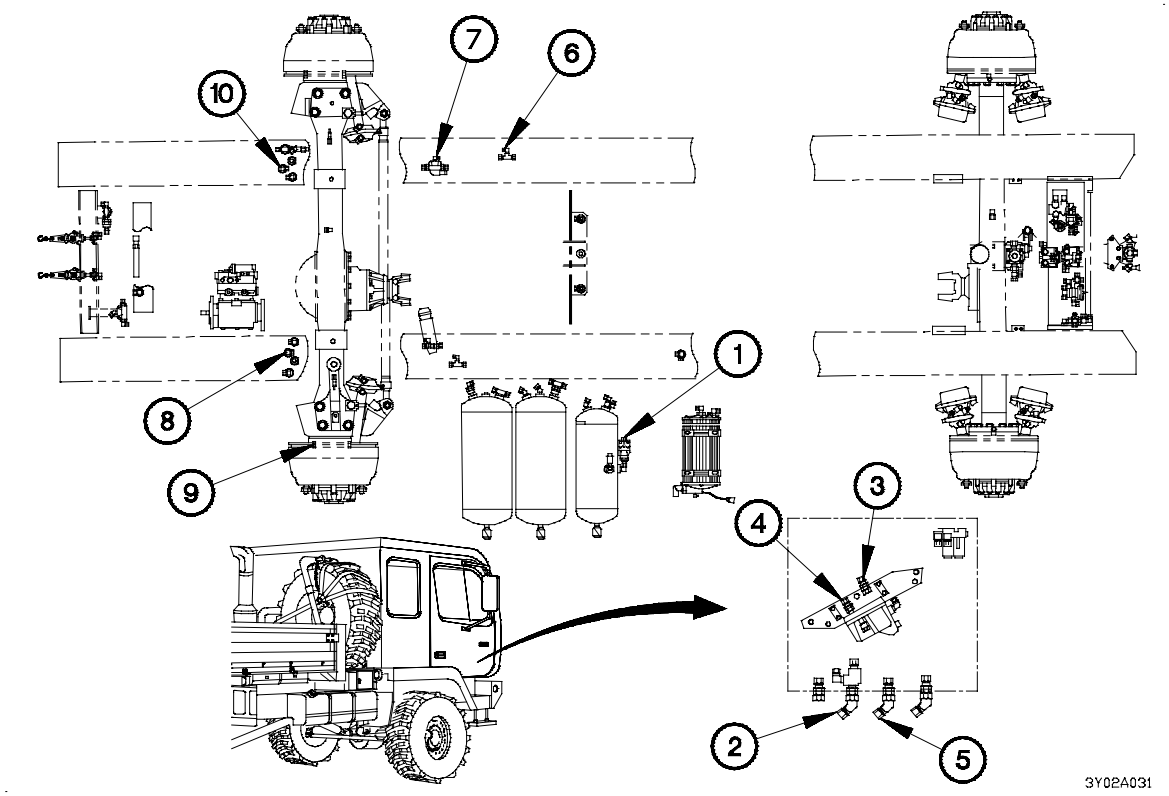


Table 23-2. Central Tire Inflation System (CTIS) Air Hose Locations

HOSE NAME	FROM	TO
Main air supply	Tank pressure valve fitting (1)	Cab bulkhead fitting (2)
CTIS manifold input	Cab bulkhead fitting (2)	CTIS manifold valve input fitting (3)
CTIS manifold output	CTIS manifold output fitting (4)	Cab bulkhead fitting (5)
CTIS air supply	Cab bulkhead fitting (5)	Two way splitter (6)
Supply tie	Two way splitter fitting (6)	Front quick release valve fitting (7)
Left front supply hose	Front quick release valve fitting (7)	Left front bulkhead fitting (8)
Left front drum supply	Left front bulkhead fitting (8)	Left front drum fitting (9)
Right front supply hose	Front quick release valve fitting (7)	Right front bulkhead fitting (10)

23-2. PRIMARY AND CENTRAL TIRE INFLATION SYSTEM (CTIS) AIR HOSES REPLACEMENT (CONT)

Figure 23-2. Central Tire Inflation System (CTIS) Air Hose Locations (Cont)

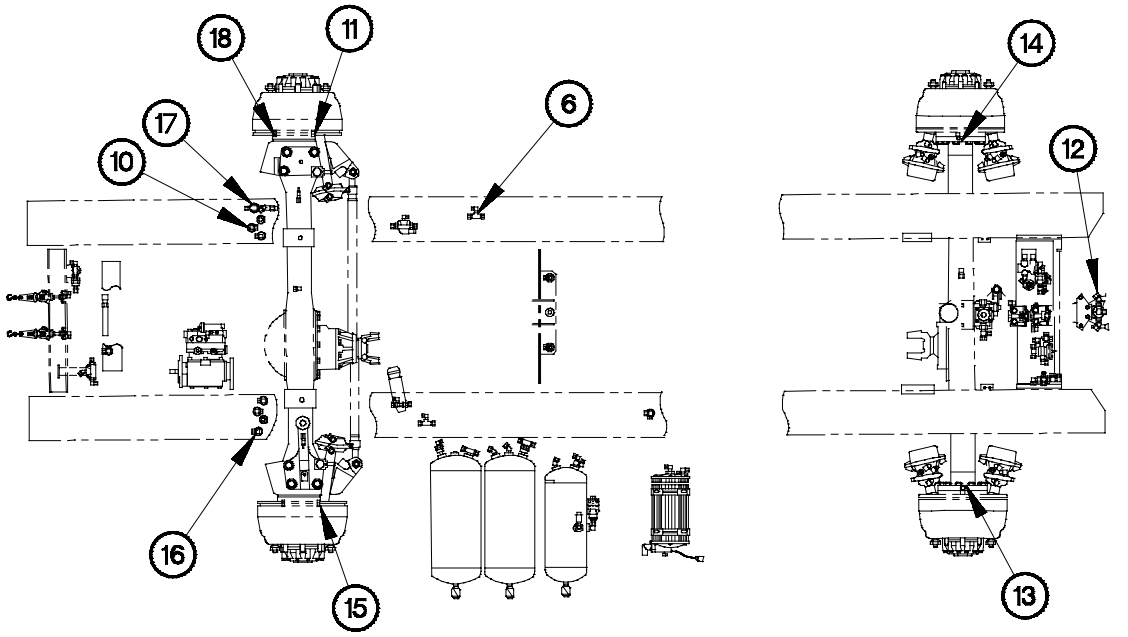


Table 23-2. Central Tire Inflation System (CTIS) Air Hose Locations (Cont)

HOSE NAME	FROM	TO
Right front drum supply	Right front bulkhead fitting (10)	Left front drum fitting (11)
Rear main supply	Two way splitter fitting (6)	Rear quick release valve (12)
Left rear drum supply	Rear quick release valve fitting (12)	Left rear drum fitting (13)
Right rear drum supply	Rear quick release valve fitting (12)	Right rear drum fitting (14)
Left front drum vent	Left front drum fitting (15)	Bulkhead fitting (16)
Vent tie	Bulkhead fitting (16)	Bulkhead fitting (17)
Right front drum vent	Bulkhead fitting (17)	Right front brake fitting (18)

Figure 23-2. Central Tire Inflation System (CTIS) Air Hose Locations (Cont)

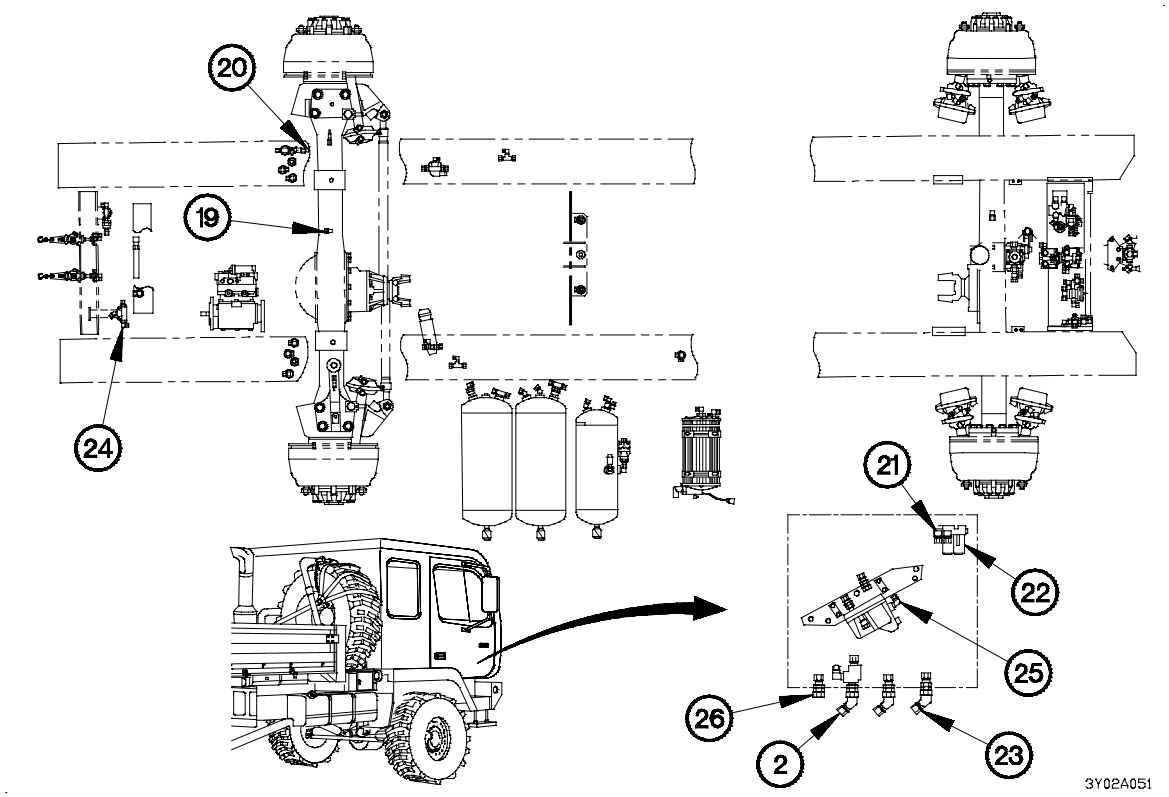


Table 23-2. Central Tire Inflation System (CTIS) Air Hose Locations (Cont)

HOSE NAME	FROM	TO
Axle vent	Axle vent fitting (19)	Vent fitting (20)
Fan supply	Bulkhead fitting (2)	Solenoid valve fitting (21)
Fan supply tie #1	Solenoid valve fitting (22)	Bulkhead fitting (23)
Fan supply tie #2	Bulkhead fitting (23)	Fan input fitting (24)
Manifold vent	Manifold fitting (25)	Bulkhead fitting (26)

b. Follow-On Maintenance.

(1) Start engine (TM 9-2320-365-10).

(2) Check around air hoses and fittings for air leaks.

(3) Shut down engine (TM 9-2320-365-10).

End of Task.

23-3. AIR TRANSPORTABILITY AIR HOSES REPLACEMENT

This task covers:

a. Hose Locations

b. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
Air tanks drained (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Cap and Plug Set (Item 15, Appendix D)
Ties, Cable, Plastic (Item 76, Appendix D)

a. Hose Locations.

WARNING

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

CAUTION

Cap or plug hose connections to prevent contamination. Failure to comply may result in damage to equipment.

NOTE

- This task shows locations of air transportability air hoses on the vehicle. It may not be necessary to remove all hoses at one time.
- Tag hoses and connection points prior to removal.
- Note location of plastic cable ties prior to removal.
- Remove plastic cable ties as required.
- Inspect air hoses and fittings for cracks, kinks, nicks, stripped threads and cuts. Replace damaged parts.

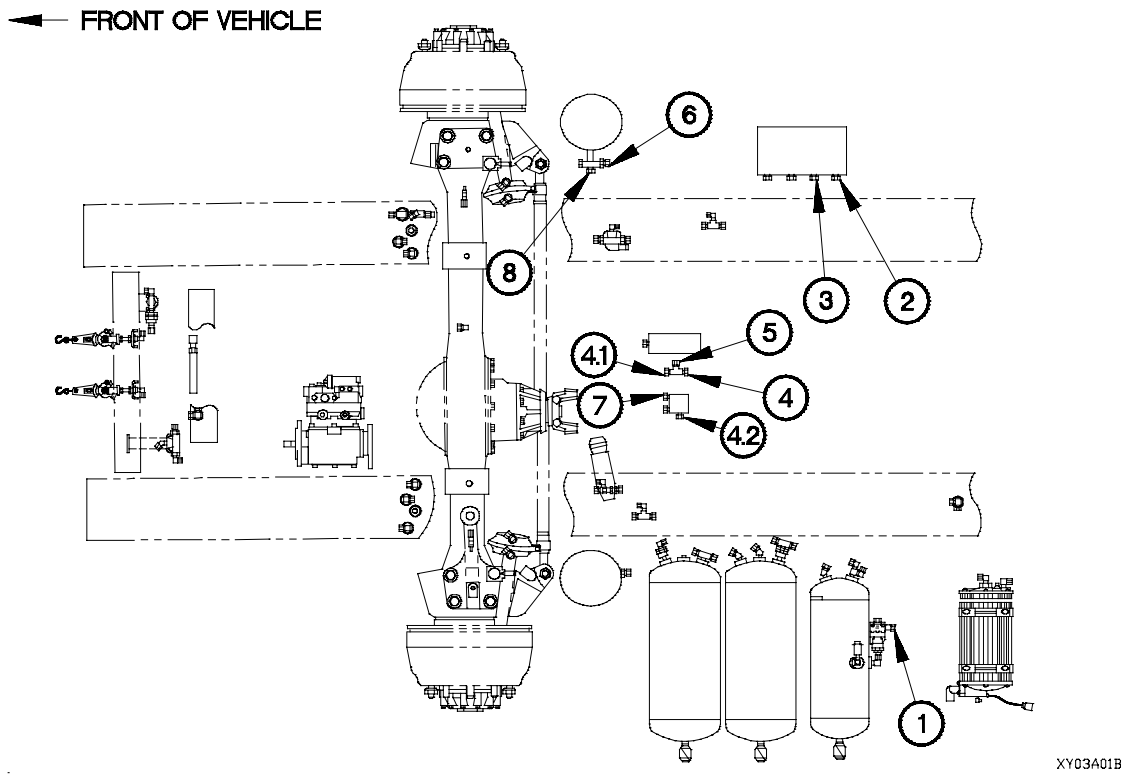


Figure 23-3. Air Transportability Air Hose Locations

Table 23-3. Air Transportability Air Hose Locations

HOSE NAME (NUMBER)	FROM	TO
Wet tank supply (501)	Wet tank pressure valve fitting (1)	Manifold input (2)
Cab leveling valve tee supply (506)	Manifold output (3)	Cab leveling valve tee fitting (4)
Cab leveling valve supply (522)	Cab leveling valve tee fitting (4.1)	Cab leveling valve input fitting (4.2)
Check valve tie (503)	Cab leveling valve tee fitting (5)	Check valve output fitting (6)
Passenger cylinder (504)	Cab leveling valve fitting (7)	Passenger cylinder fitting (8)

23-3. AIR TRANSPORTABILITY AIR HOSES REPLACEMENT (CONT)

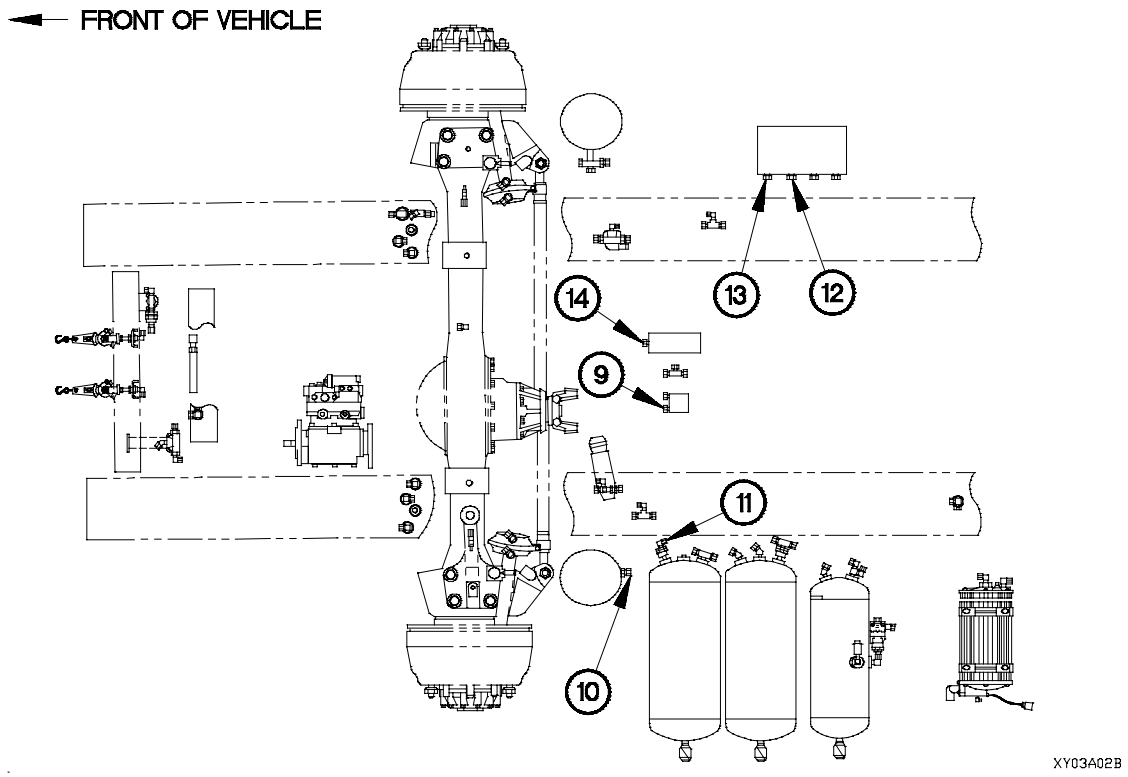


Figure 23-3. Air Transportability Air Hose Locations (Cont)

Table 23-3. Air Transportability Air Hose Locations (Cont)

HOSE NAME (NUMBER)	FROM	TO
Driver cylinder (505)	Cab leveling valve fitting (9)	Driver cylinder fitting (10)
Inversion valve supply (502)	Inversion valve fitting (11)	Manifold input (12)
Air/hydraulic supply (507)	Manifold output fitting (13)	Air/hyd power unit fitting (14)

b. Follow-On Maintenance.

(1) Start engine (TM 9-2320-365-10).

(2) Check around air hoses and fittings for air leaks.

(3) Shut down engine (TM 9-2320-365-10).

End of Task.

23-4. INVERSION VALVE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
Cab raised (TM 9-2320-365-10).
Air tanks drained (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts
Antiseize Compound (Item 63, Appendix D)

a. Removal.

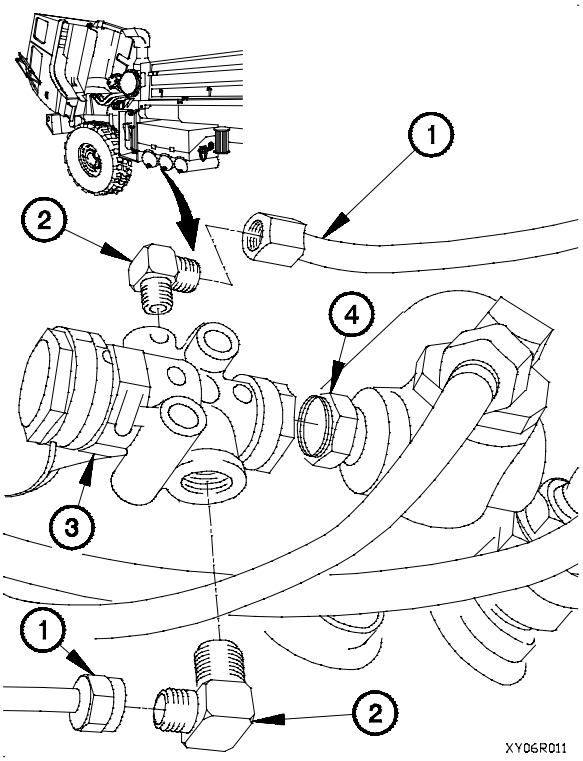
WARNING

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

(1) Disconnect two air hoses (1) from 90-degree fittings (2).

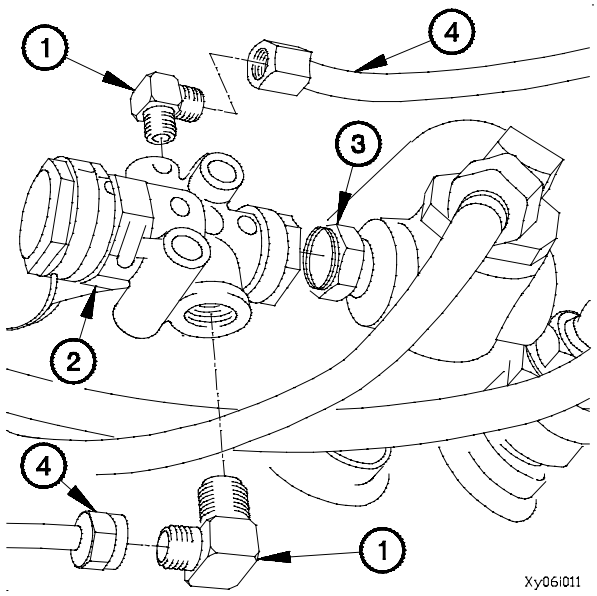
(2) Remove inversion valve (3) from fitting (4).

(3) Remove two 90-degree fittings (2) from inversion valve (3).



23-4. INVERSION VALVE REPLACEMENT (CONT)

b. Installation.



WARNING

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

(1) Apply antiseize compound to threads of two 90-degree fittings (1).

(2) Install two 90-degree fittings (1) on inversion valve (2).

(3) Install inversion valve (2) on fitting (3).

(4) Connect two air hoses (4) to 90-degree fittings (1).

c. Follow-On Maintenance.

(1) Start engine (TM 9-2320-365-10).

(2) Check for air leaks around inversion valve.

(3) Shut down engine (TM 9-2320-365-10).

End of Task.

23-5. SHUTTLE VALVE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Inversion valve removed (para 23-4).

Materials/Parts
Antiseize Compound (Item 63, Appendix D)

Tools and Special Tools
Goggles, Industrial (Item 15, Appendix C)
Tool Kit, Genl Mech (Item 44, Appendix C)

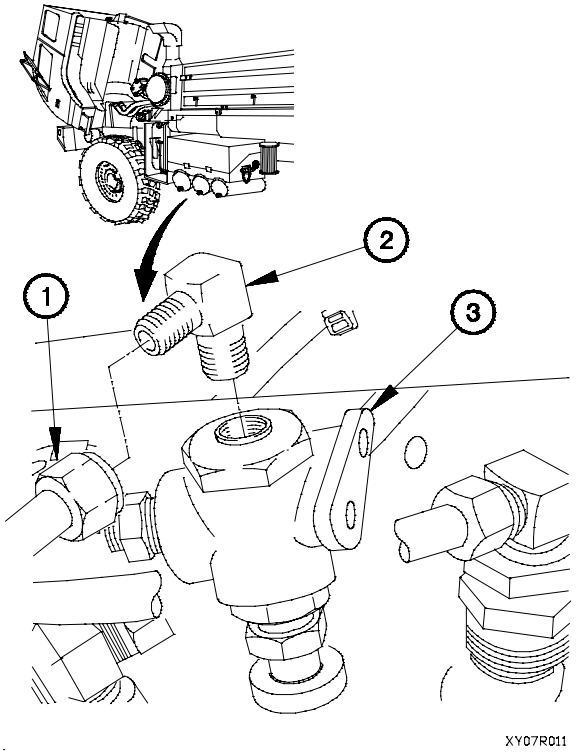
WARNING

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

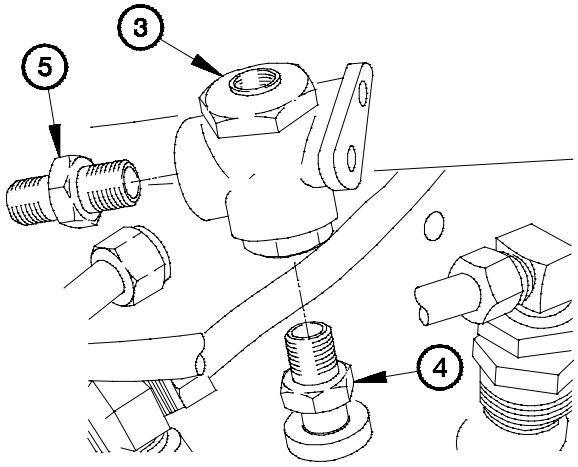
a. Removal.

(1) Disconnect air hose (1) from 90-degree fitting (2).

(2) Remove 90-degree fitting (2) from shuttle valve (3).



XY07R011



XY07R021

(3) Remove shuttle valve (3) from adapter (4).

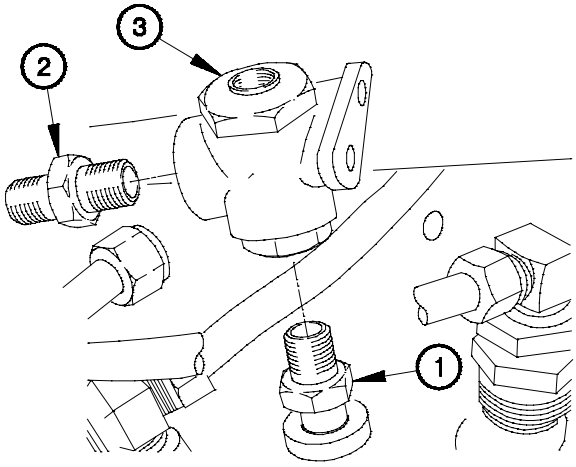
(4) Remove adapter (5) from shuttle valve (3).

23-5. SHUTTLE VALVE REPLACEMENT (CONT)

b. Installation.

WARNING

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

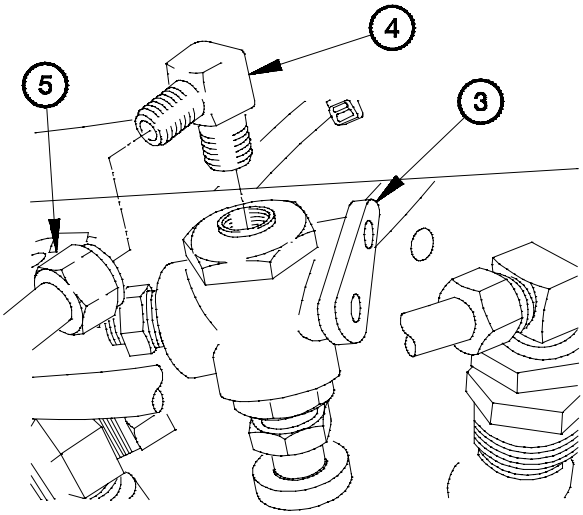


XY07I011

(1) Apply antiseize compound to threads of adapter (1) and adapter (2).

(2) Install shuttle valve (3) on adapter (1).

(3) Install adapter (2) in shuttle valve (3).



XY07I021

(4) Apply antiseize compound to threads of 90-degree fitting (4).

(5) Install 90-degree fitting (4) on shuttle valve (3).

(6) Connect air hose (5) to 90-degree fitting (4).

c. Follow-On Maintenance.

(1) Install inversion valve (para 23-4).

(2) Start engine (TM 9-2320-365-10).

(3) Check for air leaks around shuttle valve and inversion valve.

(4) Shut down engine (TM 9-2320-365-10).

End of Task.

23-6. AIR DRYER REPLACEMENT/REPAIR

This task covers:

a. Removal
b. Disassembly
c. Assembly
d. Installation
e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Air tanks drained (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

Tools and Special Tools
Goggles, Industrial (Item 15, Appendix C)
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Wrench Set, Socket (Item 48, Appendix C)
Purge Valve Tool (Item E-22, Appendix E)
Hammer, Hand (Item 18, Appendix C)

Materials/Parts
Nut, Plain, Hex (Item 36, Appendix D)
Ties, Cable, Plastic (Item 76, Appendix D)
Parts Kit, Dehydrator (Item 196, Appendix G)
Nut, Self-Locking (4) (Item 149, Appendix G)
Boot Kit, Exhaust (Item 3, Appendix G)
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)

Personnel Required
(2)

a. Removal.

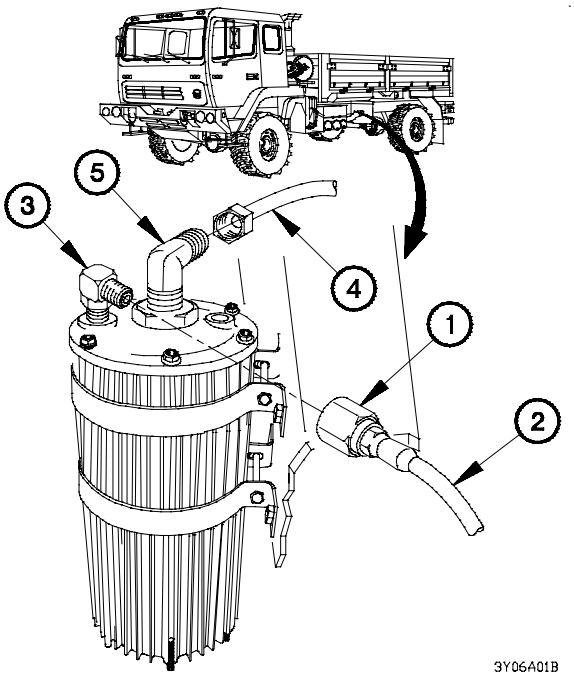
WARNING

- **Air dryer may contain air pressure. Loosen input air hose connector slowly to vent off air pressure. Failure to comply may cause injury to personnel.**
- **Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.**

(1) Loosen input air hose nut (1).

(2) Disconnect input air hose (2) from 90-degree fitting (3).

(3) Disconnect outlet air hose (4) from 90-degree fitting (5).



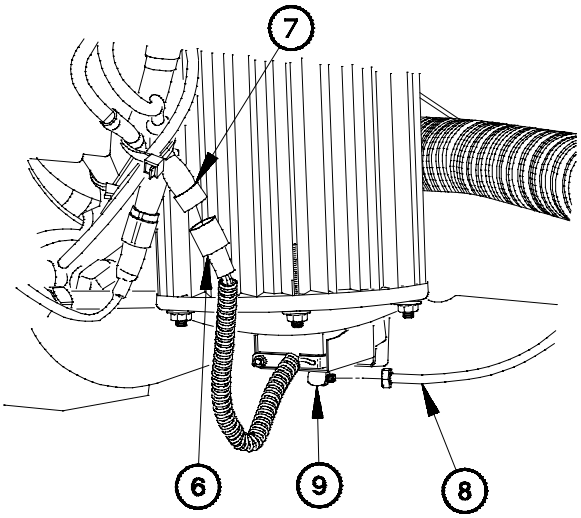
23-6. AIR DRYER REPLACEMENT/REPAIR (CONT)

NOTE

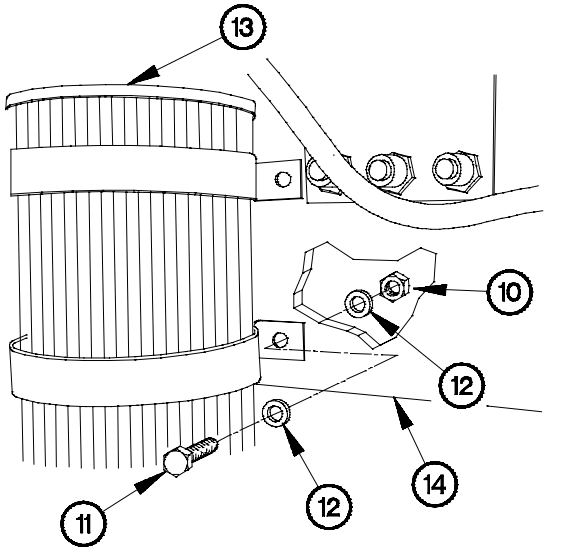
Remove plastic cable ties as required.

(4) Disconnect air dryer electrical connector (6) from connector P80 (7).

(5) Disconnect air hose (8) from 90-degree fitting (9).



XY11A02-



XY11A03-

NOTE

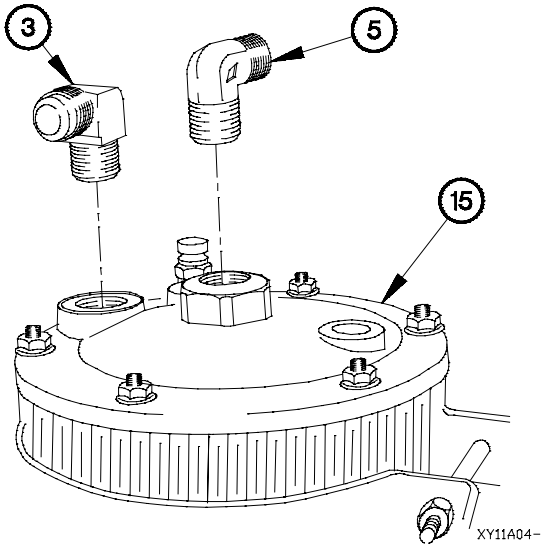
- Note the position of retaining bands on air dryer prior to removal.
- Step (6) requires the aid of an assistant.

(6) Remove four self-locking nuts (10), screws (11), eight washers (12), and air dryer (13) from frame (14). Discard self-locking nuts.

NOTE

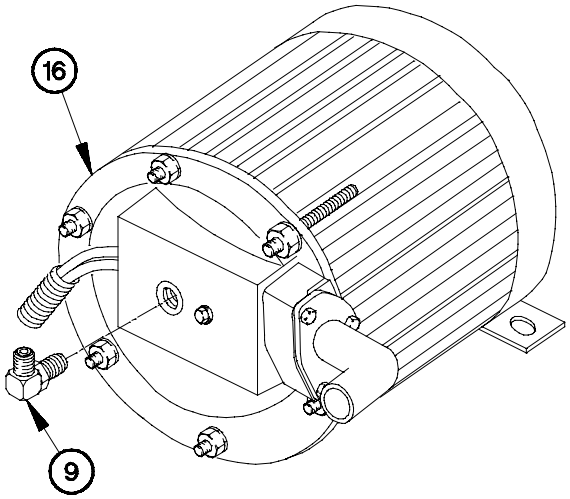
Tag fittings and connection points prior to removal.

(7) Remove 90-degree fittings (3 and 5) from top cover (15).



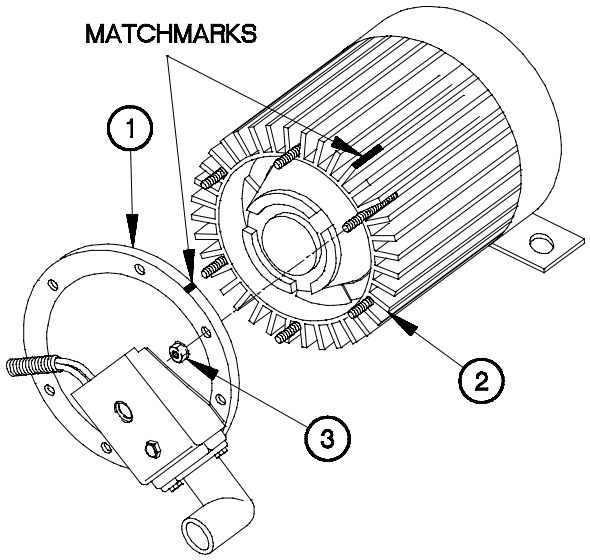
XY11A04-

(8) Remove 90-degree fitting (9) from lower cover (16).



XY11A05-

b. Disassembly.



XY11B01A

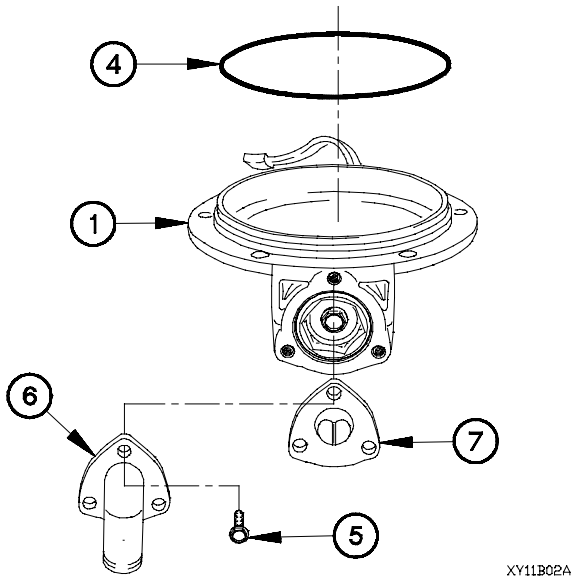
(1) Match mark lower cover (1) to air dryer housing (2).

(2) Remove six flange nuts (3) from lower cover (1).

(3) Remove lower cover (1) from air dryer housing (2).

(4) Remove preformed packing (4) from lower cover (1). Discard preformed packing.

(5) Remove three screws (5), purge exhaust fitting (6), and exhaust boot (7) from lower cover (1). Discard exhaust boot.



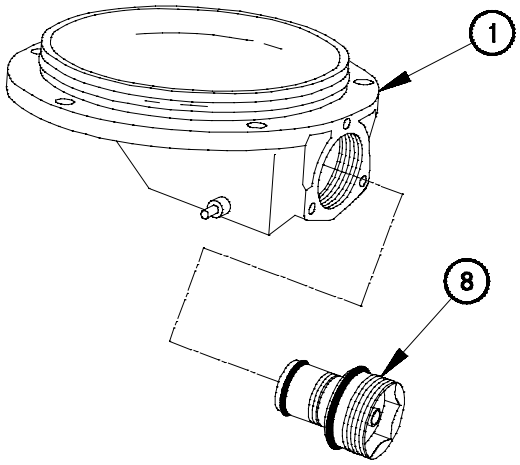
XY11B02A

23-6. AIR DRYER REPLACEMENT/REPAIR (CONT)

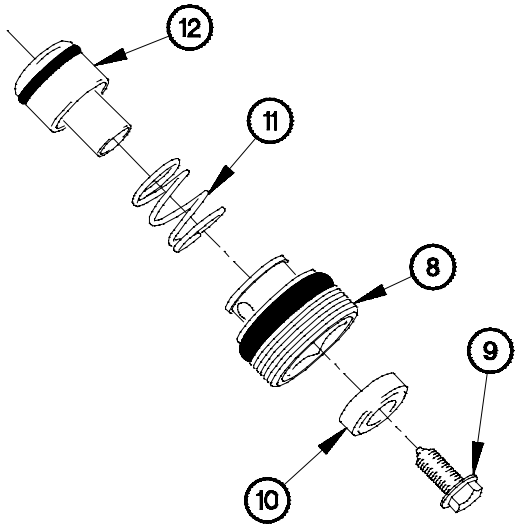
(6) Deleted.

(7) Turn purge valve (8) to the left until removed from lower cover (1).

(8) Deleted.

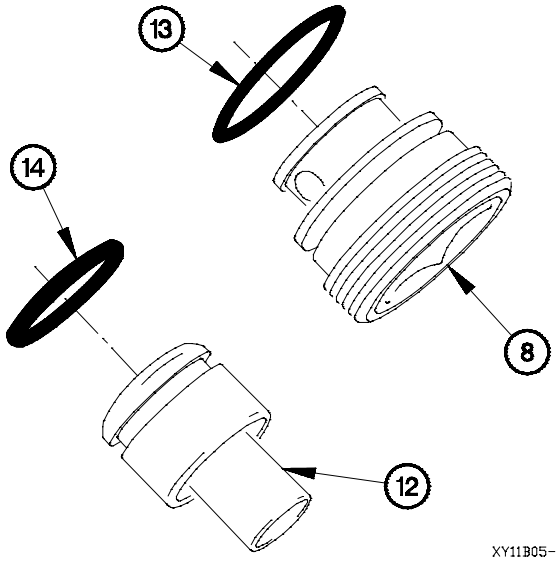


XY11B03B



XY11B04-

(9) Remove screw (9), purge valve seat (10), spring (11), and purge piston (12) from purge valve (8). Discard purge valve seat.



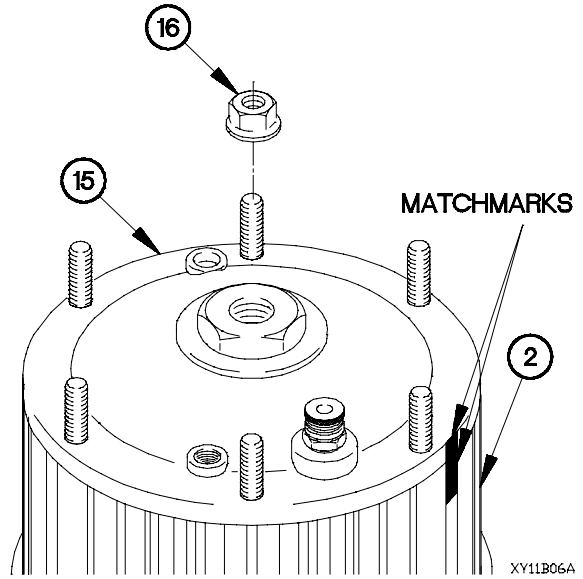
XY11B05-

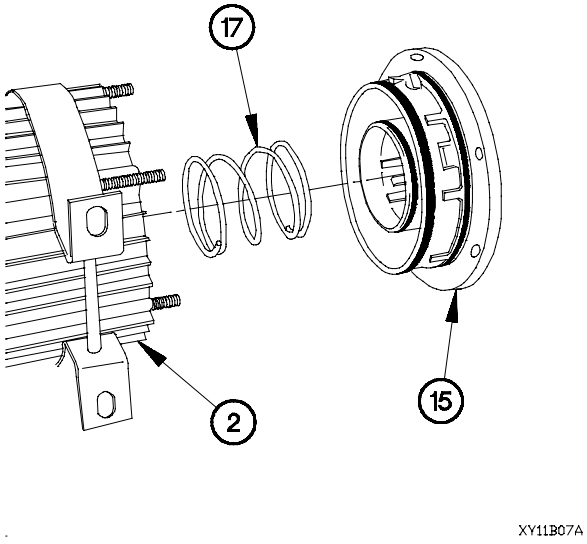
(10) Remove preformed packing (13) from purge valve (8). Discard preformed packing.

(11) Remove preformed packing (14) from purge piston (12). Discard preformed packing.

(12) Match mark top cover (15) to air dryer housing (2).

(13) Remove six flange nuts (16) from top cover (15).



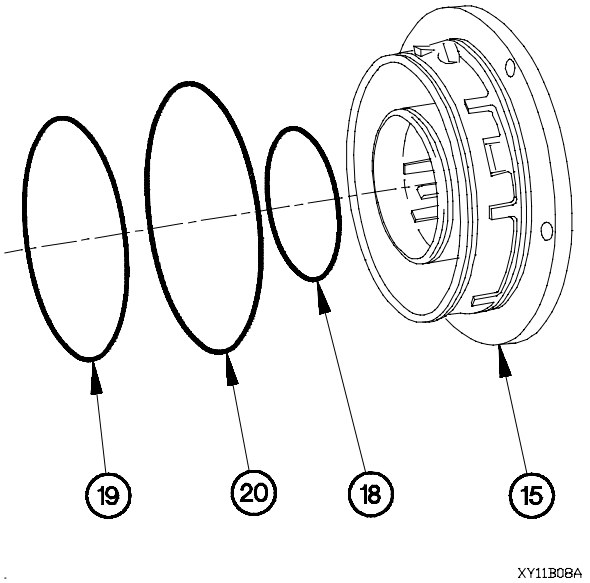


NOTE

It may be necessary to tap on top cover to loosen.

(14) Remove top cover (15) and spring (17) from air dryer housing (2).

(15) Remove preformed packings (18, 19 and 20) from top cover (15). Discard preformed packings.

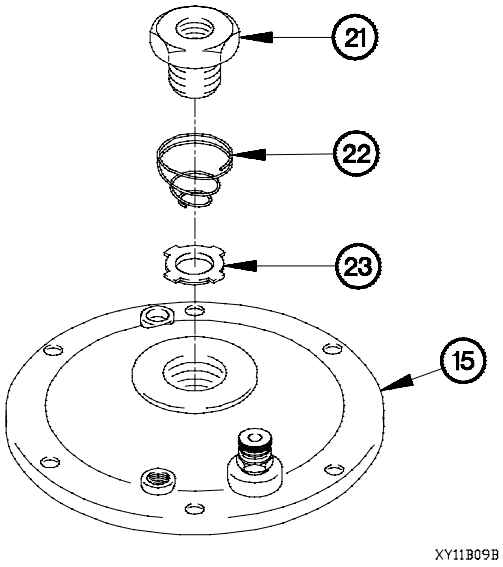


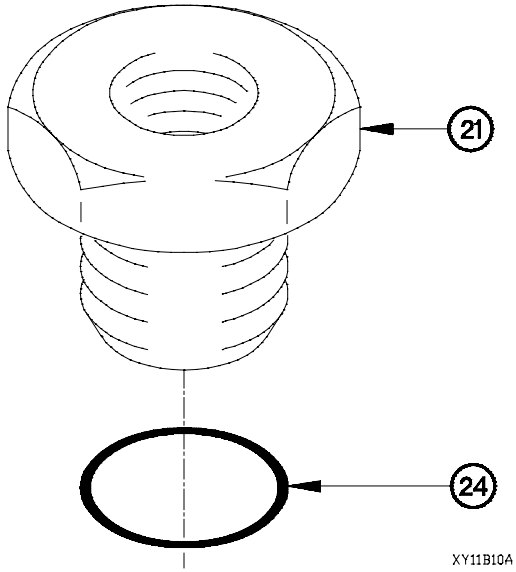
23-6. AIR DRYER REPLACEMENT/REPAIR (CONT)

NOTE

Note orientation of valve disc prior to removal.

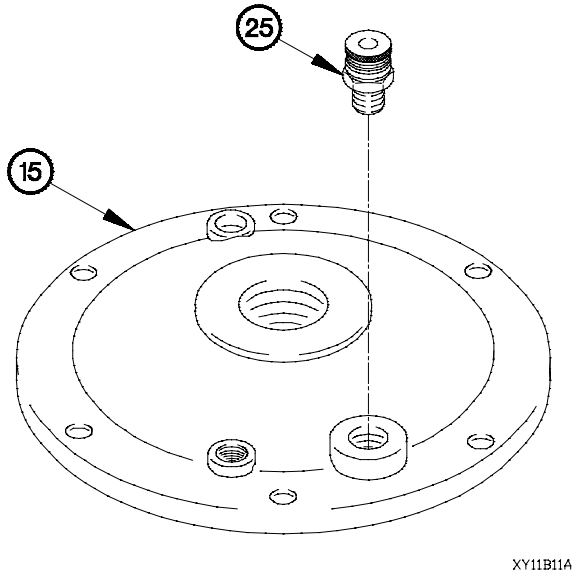
(16) Remove check valve end cap (21), spring (22), and valve disc (23) from top cover (15).





(17) Remove preformed packing (24) from check valve end cap (21). Discard preformed packing.

(18) Remove relief valve (25) from top cover (15).

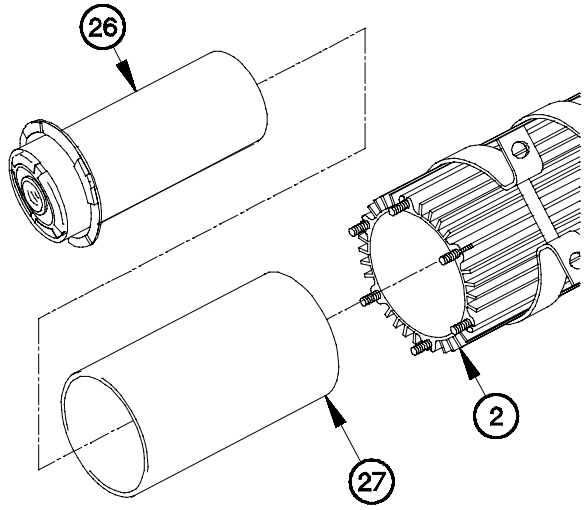


NOTE

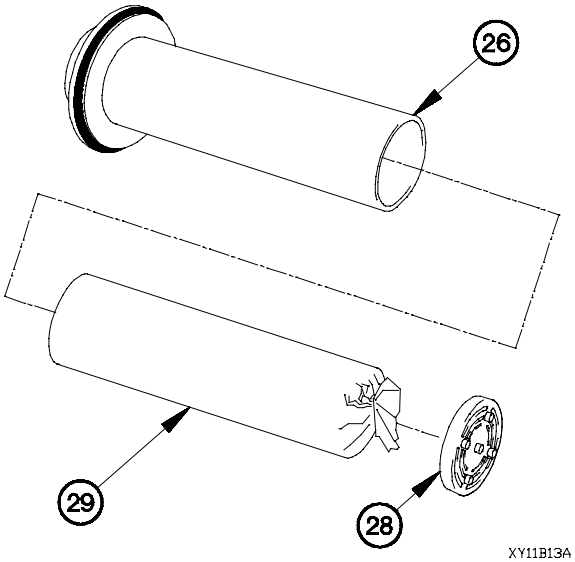
Desiccant canister and inner aluminum shell can be removed as one unit.

(19) Remove desiccant canister (26) and inner aluminum shell (27) from air dryer housing (2).

(20) Remove desiccant canister (26) from inner aluminum shell (27).



XY11B12A



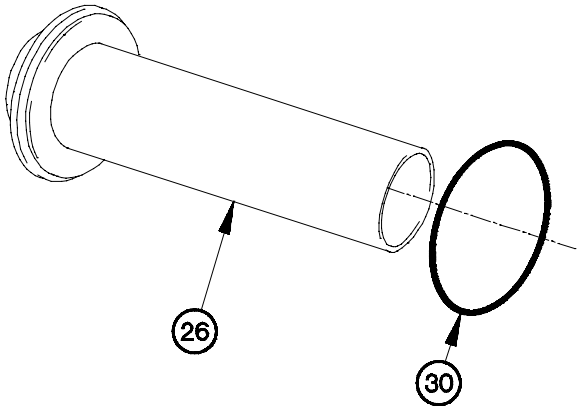
XY11B13A

NOTE

Desiccant follower will come out with desiccant. Retrieve for reuse.

(21) Remove desiccant follower (28) and desiccant cartridge (29) from desiccant canister (26). Discard desiccant cartridge.

(22) Remove preformed packing (30) from desiccant canister (26). Discard preformed packing.

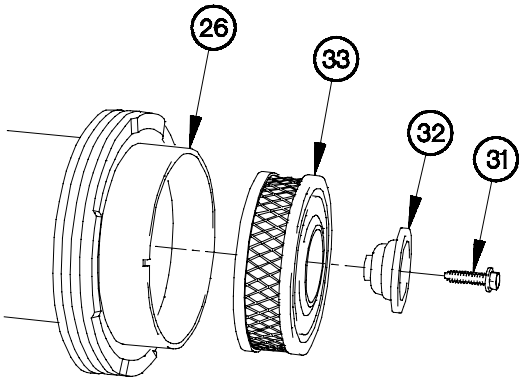


XY11B14A

23-6. AIR DRYER REPLACEMENT/REPAIR (CONT)

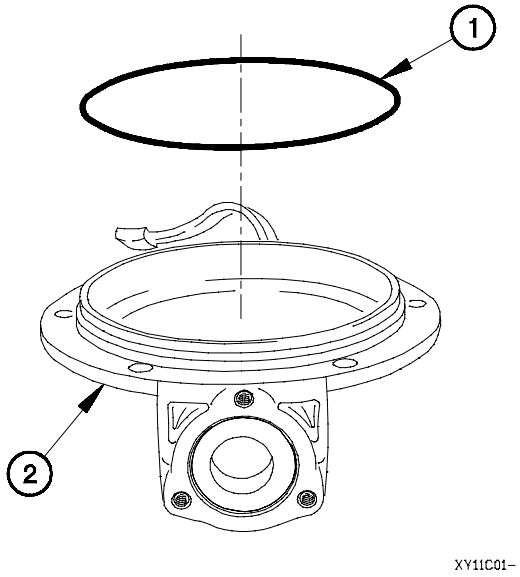
(23) Remove screw (31) and filter retainer (32) from filter element (33).

(24) Remove filter element (33) from desiccant canister (26). Discard filter element.



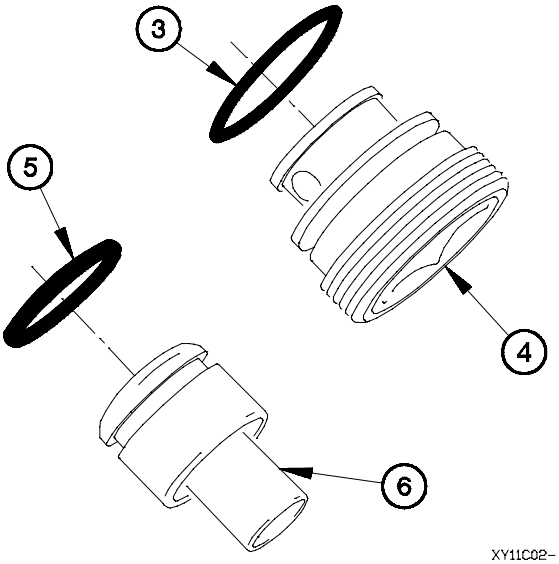
XY11B15A

c. Assembly.



XY11C01-

(1) Install preformed packing (1) on lower cover (2).



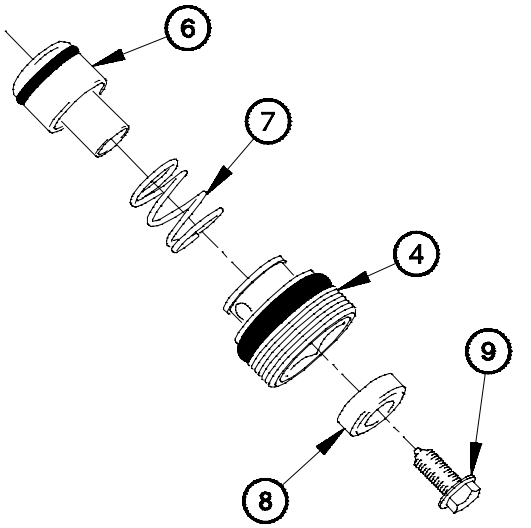
XY11C02-

(2) Install preformed packing (3) on purge valve (4).

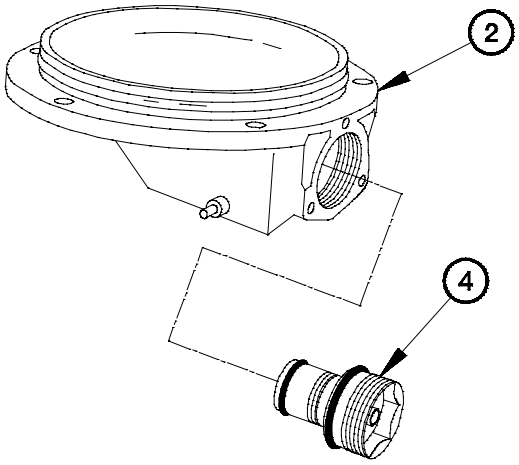
(3) Install preformed packing (5) on purge piston (6).

(4) Position spring (7), purge piston (6), purge valve seat (8), and screw (9) on purge valve (4).

(5) Tighten screw (9) to 50-80 lb-in. (6-9 N·m).



XY11C03-



XY11C04B

(6) Position purge valve (4) in lower cover (2).

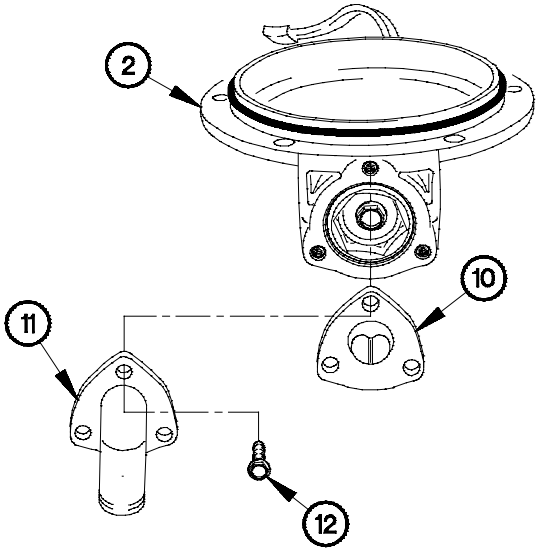
(7) Install nut in purge valve (4).

(8) Tighten purge valve (4) to 35-50 lb-in. (4-6 N·m).

(9) Remove nut from purge valve (4).

(10) Position exhaust boot (10) and purge exhaust fitting (11) on lower cover (2) with three screws (12).

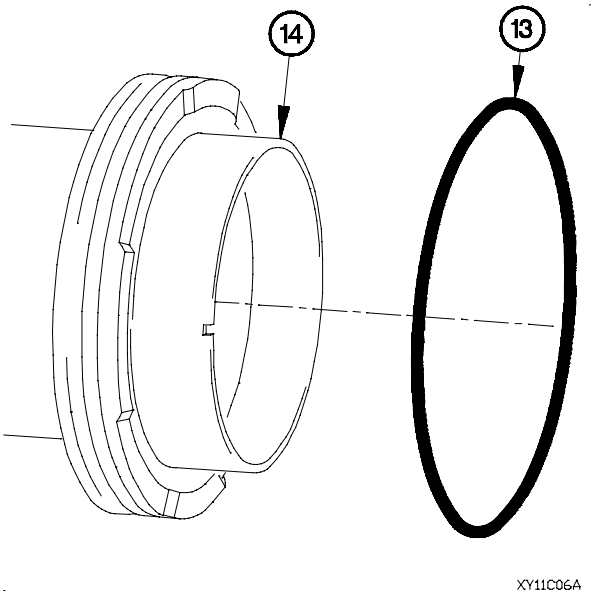
(11) Tighten three screws (12) to 50-70 lb-in. (6-8 N·m).

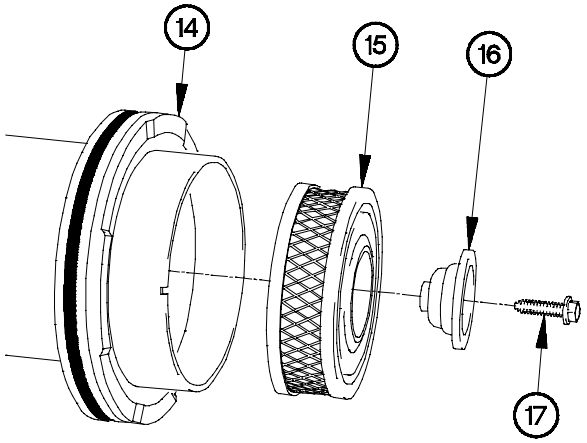


XY11C05-

23-6. AIR DRYER REPLACEMENT/REPAIR (CONT)

(12) Install preformed packing (13) on desiccant canister (14).





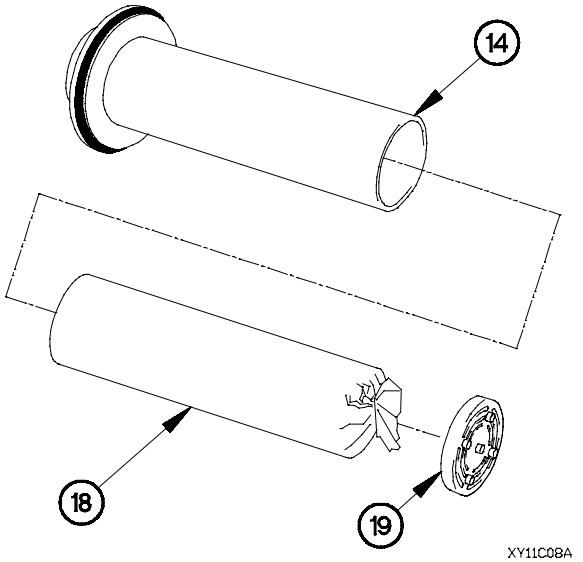
(13) Position filter element (15) on desiccant canister (14).

(14) Position filter retainer (16) and screw (17) in desiccant canister (14).

(15) Tighten screw (17) to 60-90 lb-in. (7-10 N·m).

(16) Slide desiccant cartridge (18) in desiccant canister (14).

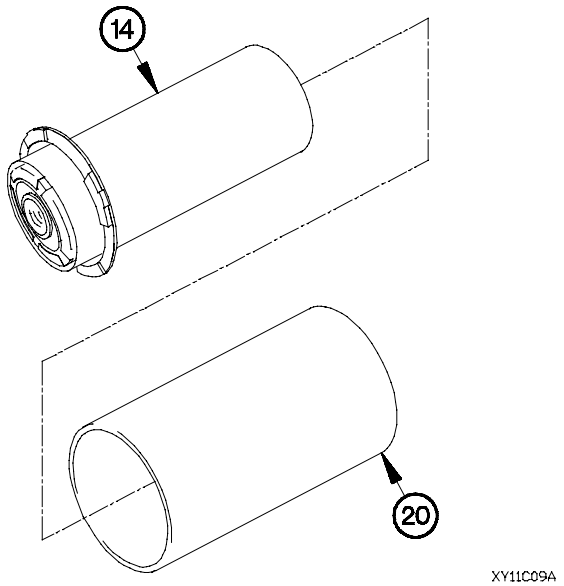
(17) Install desiccant follower (19) in desiccant canister (14).



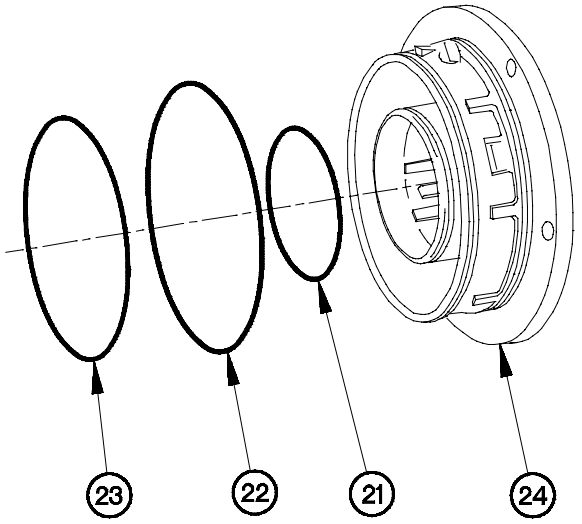
CAUTION

Use caution when installing desiccant canister in inner aluminum shell. Preformed packing can easily be damaged. Failure to comply may result in damage to equipment.

(18) Install desiccant canister (14) in inner aluminum shell (20).



XY11C09A



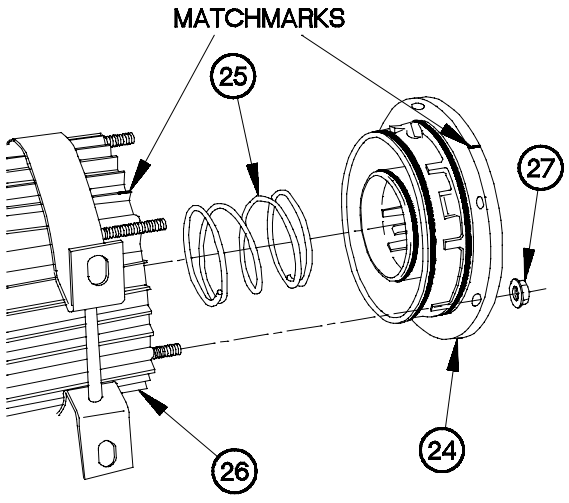
XY11C10-

(19) Install preformed packings (21, 22 and 23) on top cover (24).

(20) Position spring (25) and top cover (24) on air dryer housing (26) with matchmarks aligned.

(21) Position six flange nuts (27) on top cover (24).

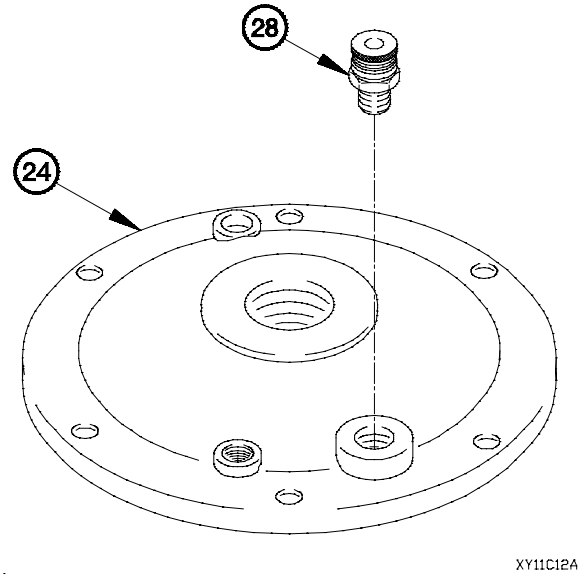
(22) Tighten six flange nuts (27) to 150-200 lb-in. (17-23 N·m).

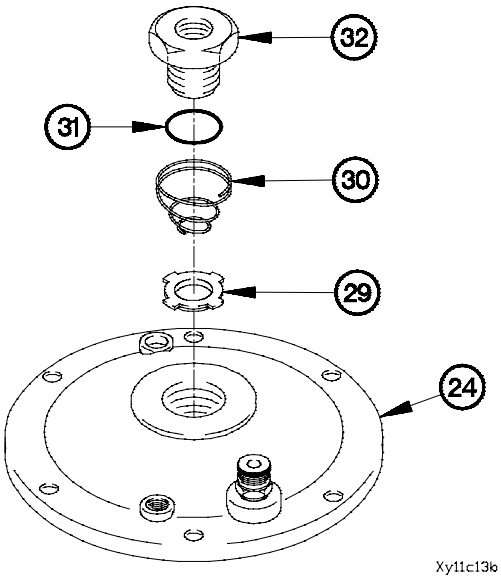


XY11C11A

23-6. AIR DRYER REPLACEMENT/REPAIR (CONT)

(23) Install relief valve (28) in top cover (24).





NOTE

Install valve disc with rubber side down.

(24) Install valve disc (29) in top cover (24).

NOTE

Install spring with small end toward valve disc.

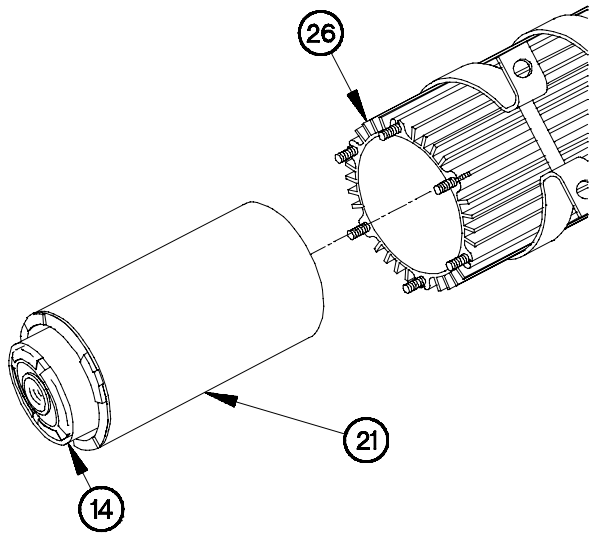
(25) Install spring (30) in top cover (24).

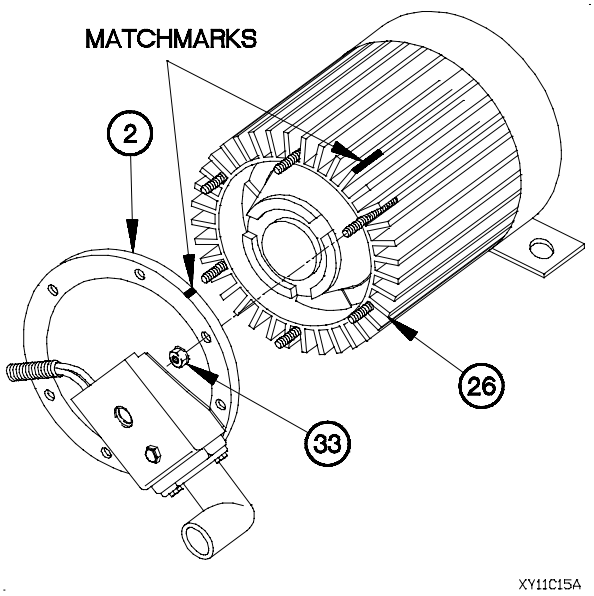
(26) Install preformed packing (31) on check valve end cap (32).

(27) Position check valve end cap (32) on top cover (24).

(28) Tighten check valve end cap (32) to 35-50 lb-ft (47-68 N·m).

(29) Install desiccant canister (14) and inner aluminum shell (21) in air dryer housing (26).





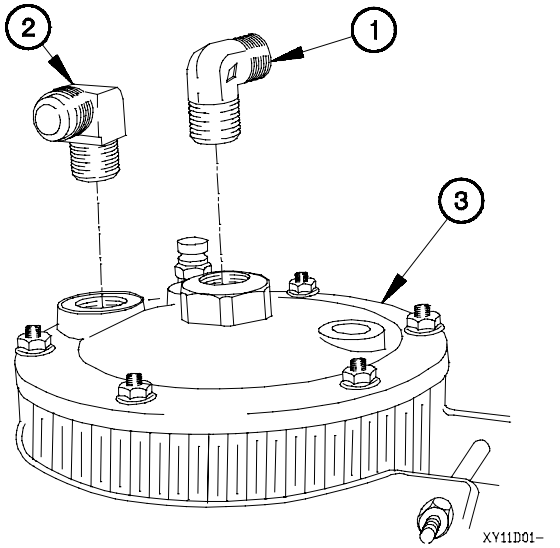
(30) Position lower cover (2) on air dryer housing (26) with matchmarks aligned.

(31) Position six flange nuts (33) on lower cover (2).

(32) Tighten six flange nuts (33) to 150-200 lb-in. (17-23 N·m).

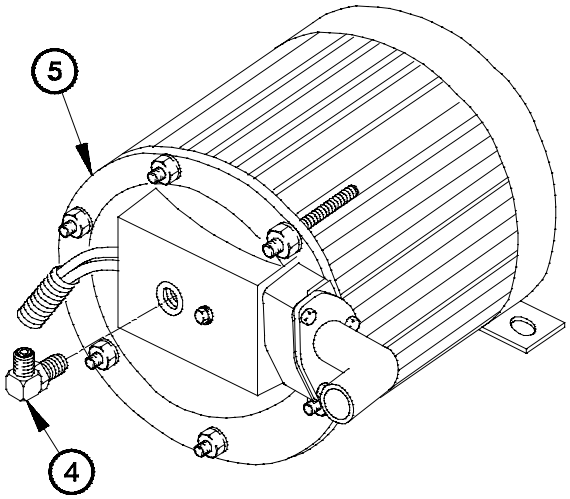
d. Installation.

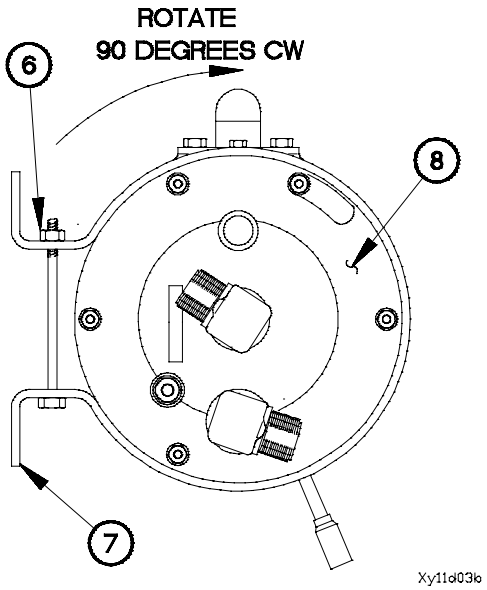
(1) Install 90-degree fittings (1 and 2) in top cover (3).



23-6. AIR DRYER REPLACEMENT/REPAIR (CONT)

(2) Install 90-degree fitting (4) in lower cover (5).





CAUTION

When installing a new air dryer, it is necessary to change the orientation of the retaining bands. Failure to comply may result in damage to equipment.

NOTE

Perform steps (3) through (5) if installing a new air dryer.

(3) Loosen two nuts (6) on retaining bands (7).

NOTE

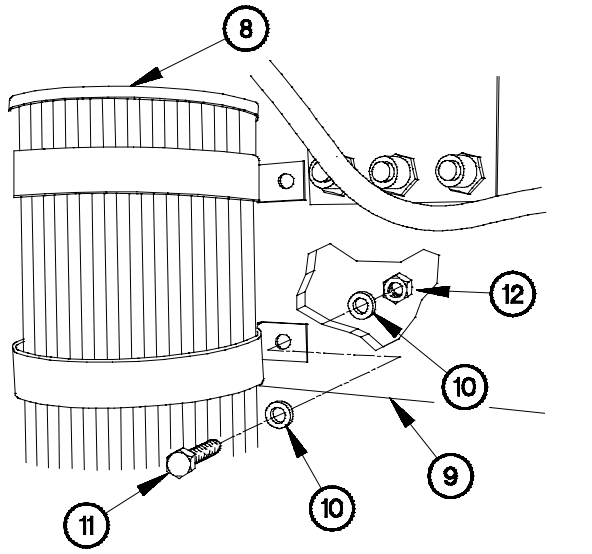
Position retaining bands on air dryer as noted in removal.

(4) Rotate two retaining bands (7) 90-degrees clockwise as viewed from top of air dryer (8).

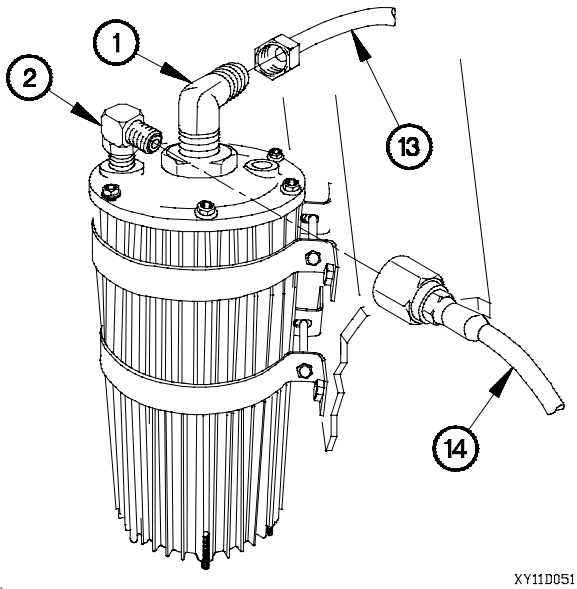
(5) Tighten two nuts (6) on retaining bands (7).

(6) Position air dryer (8) on frame (9) with eight washers (10), four screws (11), and self-locking nuts (12).

(7) Tighten four self-locking nuts (12) to 34-42 lb-ft (47-57 N·m).



XY11D041



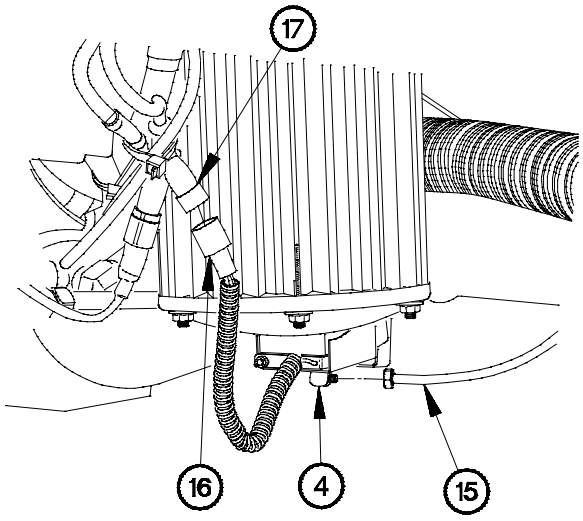
XY11D051

(8) Connect output air hose (13) to 90-degree fitting (1).

(9) Connect input air hose (14) to 90-degree fitting (2).

(10) Connect air hose (15) to 90-degree fitting (4).

(11) Connect air dryer electrical connector (16) to connector P80 (17).



XY11D061

23-6. AIR DRYER REPLACEMENT/REPAIR (CONT)

e. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Start engine (TM 9-2320-365-10) and allow air pressure to build up to normal pressure.

(3) Check air dryer and air hoses for air leaks.

(4) Shut down engine (TM 9-2320-365-10).

End of Task.

23-7. WET TANK REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Pressure protection valve removed (para 11-27).

Tools and Special Tools
Goggles, Industrial (Item 15, Appendix C)
Tool Kit, Genl Mech (Item 44, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Antiseize Compound (Item 63, Appendix D)
Nut, Self-Locking (2) (Item 122.1, Appendix G)

WARNING

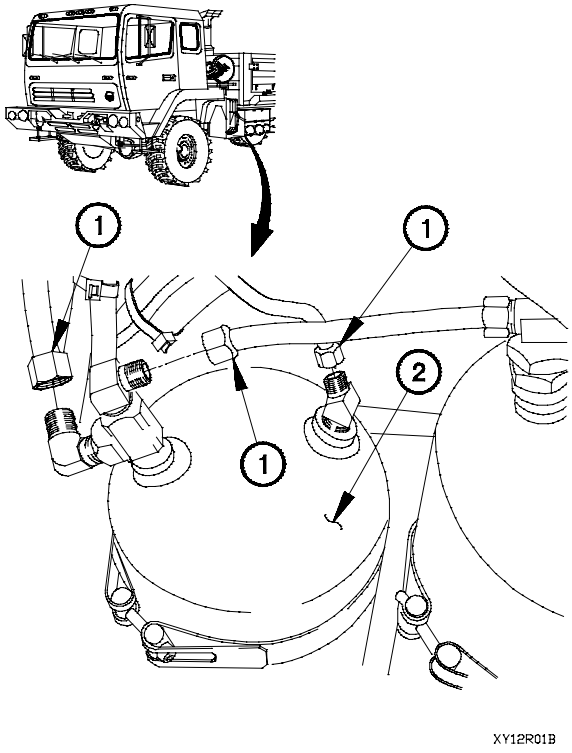
Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

a. Removal.

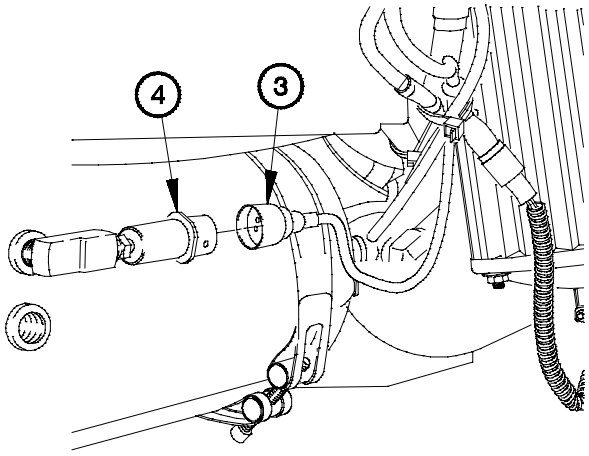
NOTE

Tag hoses and connectors prior to removal.

(1) Disconnect three air hoses (1) from wet tank (2).



XY12R01B



XY12R02B

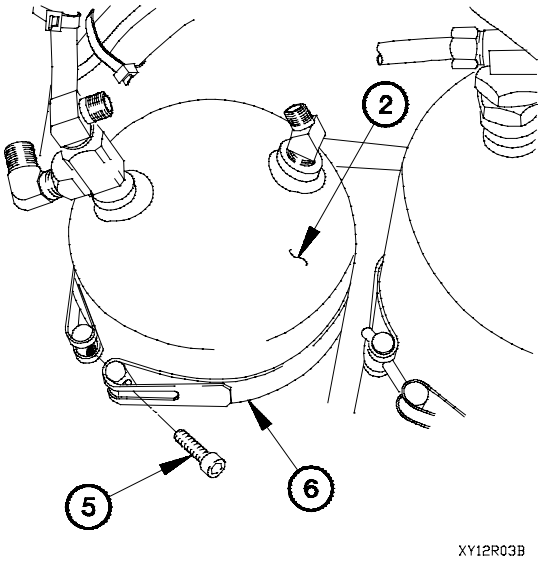
(2) Disconnect connector P84 (3) from pressure switch (4).

23-7. WET TANK REPLACEMENT (CONT)

NOTE

- Vehicles may be equipped with either corrosive enhanced clamps or non-corrosive enhanced clamps. Corrosive enhanced clamps have a self-locking nut and cork lining. When removing a non-corrosive enhanced clamp, replace it with a corrosive enhanced clamp.
- Perform steps (3) through (5) on vehicles not equipped with corrosive enhanced clamps.

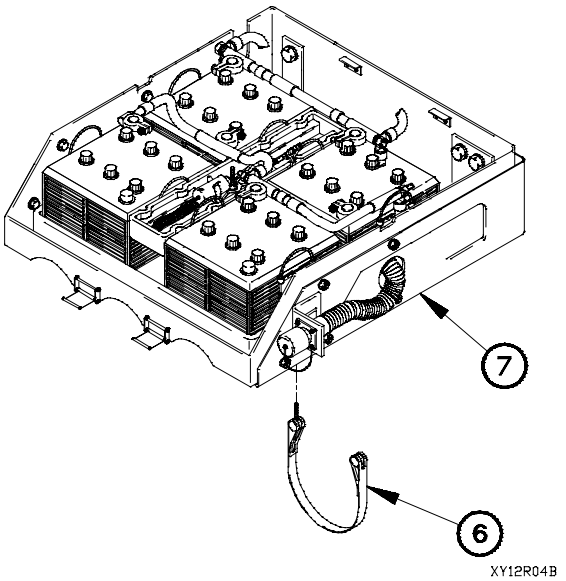
(3) Remove two screws (5) from clamps (6).



NOTE

Note the orientation of wet tank prior to removal.

(4) Remove wet tank (2) from two clamps (6).



(5) Remove two clamps (6) from battery box (7). Discard clamps.

NOTE

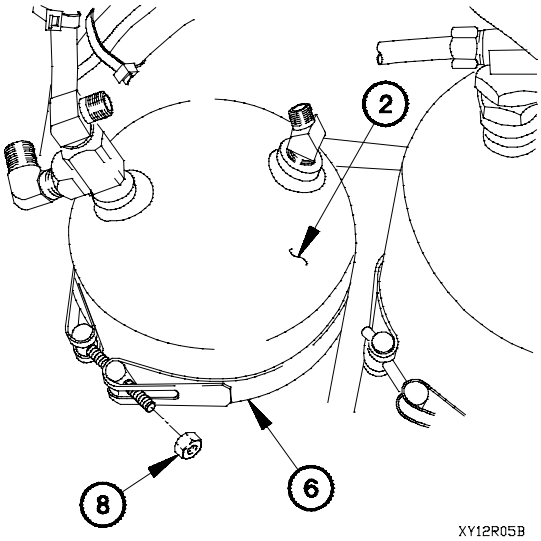
Perform steps (6) and (7) on vehicles equipped with corrosive enhanced clamps.

(6) Remove two self-locking nuts (8) from clamps (6). Discard self-locking nuts.

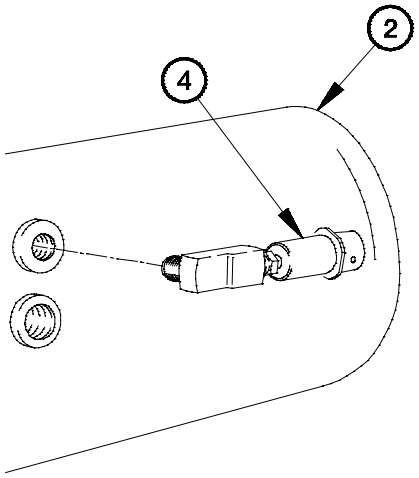
NOTE

Note the orientation of wet tank prior to removal.

(7) Remove wet tank (2) from two clamps (6).



XY12R05B



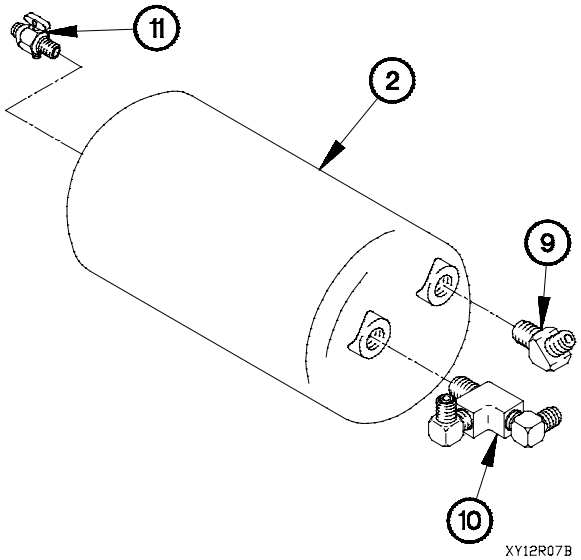
XY12R06B

(8) Remove pressure switch (4) from wet tank (2).

(9) Remove 45-degree fitting (9) from wet tank (2).

(10) Remove street tee fitting (10) from wet tank (2).

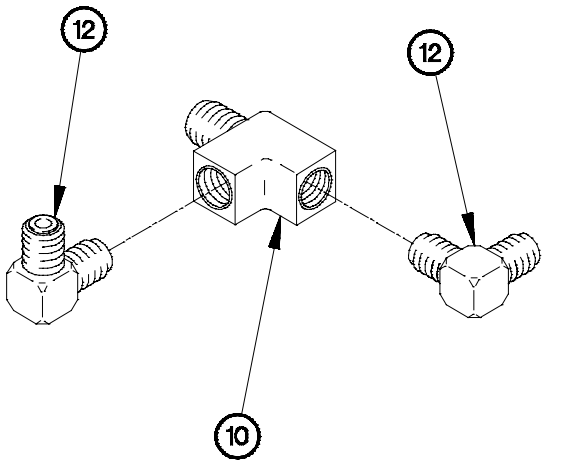
(11) Remove drain valve (11) from wet tank (2).



XY12R07B

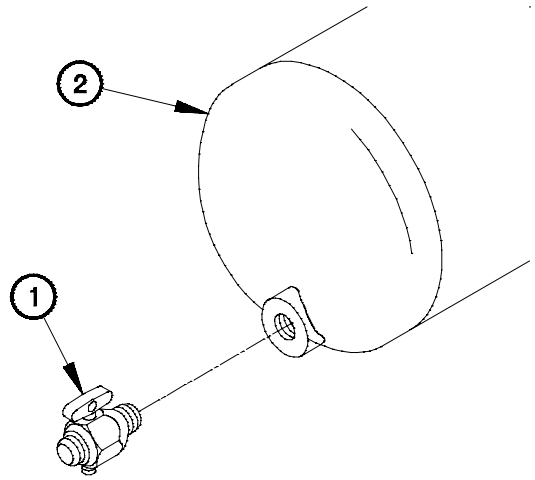
23-7. WET TANK REPLACEMENT (CONT)

(12) Remove two 90-degree fittings (12) from street tee fitting (10).



XY12R08B

b. Installation.



XY12I01-

WARNING

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

(1) Apply antiseize compound to threads of drain valve (1).

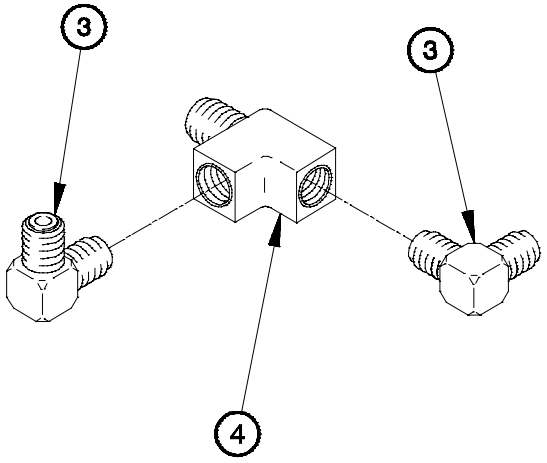
(2) Install drain valve (1) in wet tank (2).

WARNING

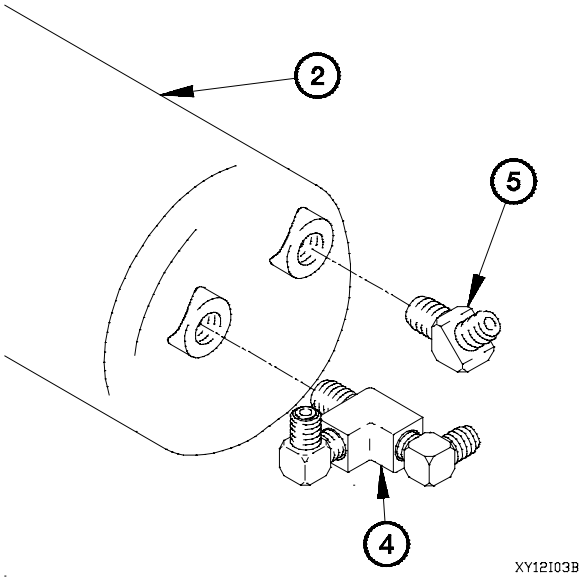
Adhesives, solvents. and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure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

(3) Apply antiseize compound to threads of two 90-degree fitting (3).

(4) Install two 90-degree fittings (3) on street tee fitting (4).



XY12I02B



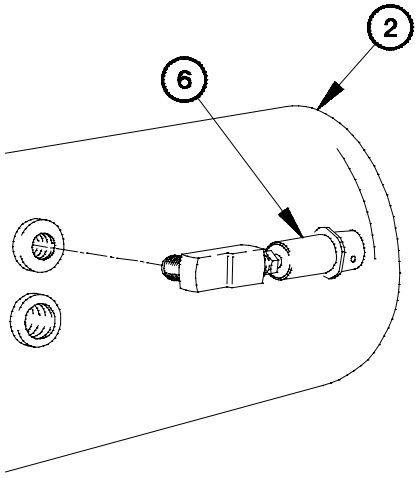
XY12I03B

(5) Apply antiseize compound to threads of street tee fitting (4).

(6) Install street tee fitting (4) in wet tank (2).

(7) Apply antiseize compound to threads of 45-degree fitting (5).

(8) Install 45-degree fitting (5) in wet tank (2).



XY12I04B

(9) Apply antiseize compound to threads of pressure switch (6).

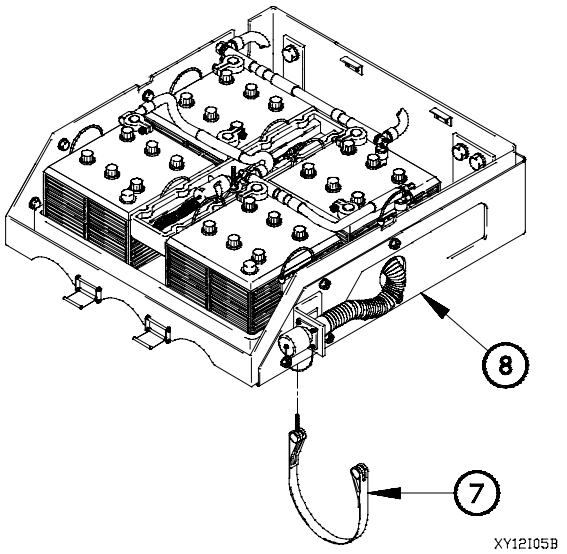
(10) Install pressure switch (6) in wet tank (2).

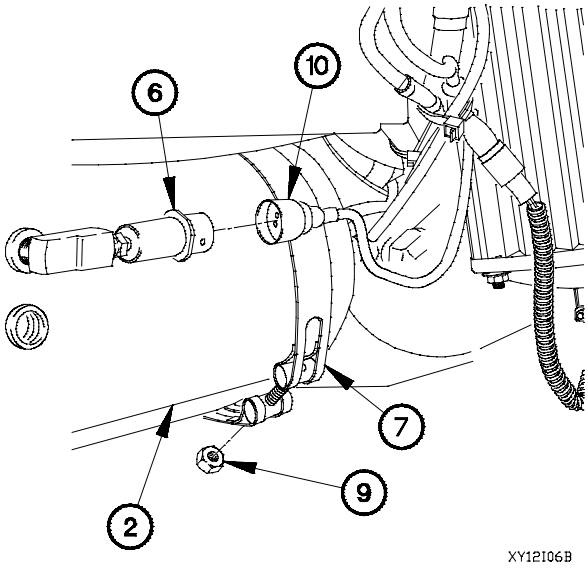
23-7. WET TANK REPLACEMENT (CONT)

NOTE

Perform step (11) on vehicles not previously equipped with corrosive enhanced clamps.

(11) Position two clamps (7) on battery box (8).

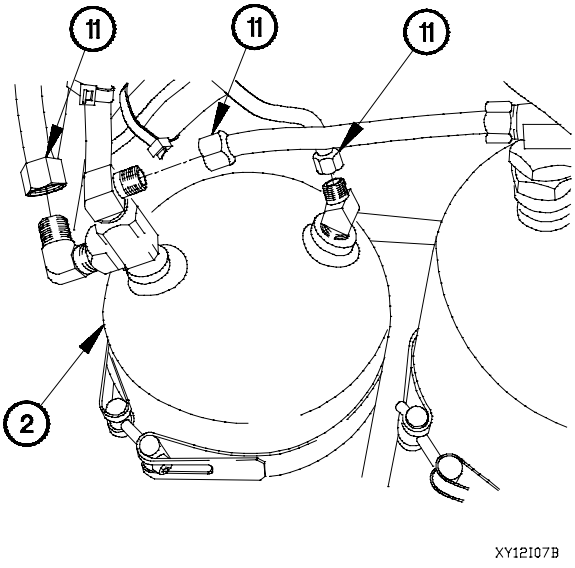




(12) Position wet tank (2) in two clamps (7) with self-locking nuts (9).

(13) Tighten two self-locking nuts (9) to 4-5 lb-ft (5-7 N·m).

(14) Connect connector P84 (10) to pressure switch (6).



(15) Connect three air hoses (11) to wet tank (2).

c. Follow-on Maintenance.

(1) Install pressure protection valve (para 11-29).

(2) Start engine (TM 9-2320-365-10).

(3) Check air hoses and wet tank fittings for air leaks.

(4) Shut down engine (TM 9-2320-365-10).

End of Task.

23-8. PRESSURE SWITCH REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
Air tanks drained (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Antiseize Compound (Item 14, Appendix D)

WARNING

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

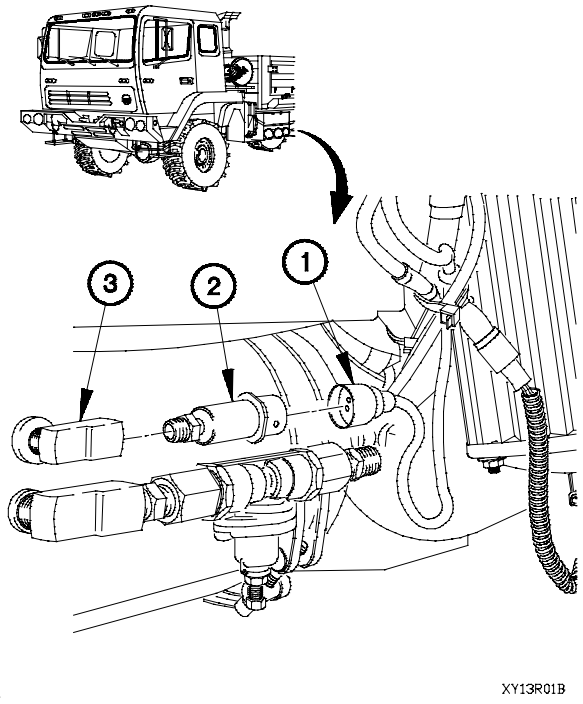
a. Removal.

NOTE

Tag connectors prior to removal.

(1) Disconnect connector P84 (1) from pressure switch (2).

(2) Remove pressure switch (2) from 90-degree fitting (3).

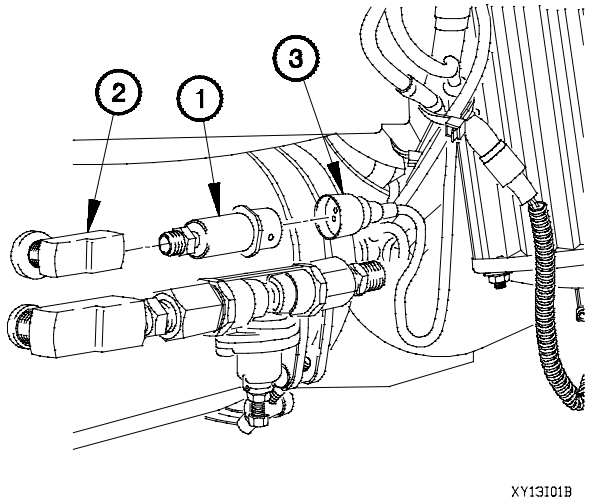


23-8. PRESSURE SWITCH REPLACEMENT (CONT)

b. Installation

WARNING

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



(1) Apply antiseize compound to threads of pressure switch (1).

(2) Install pressure switch (1) in 90-degree fitting (2).

(3) Connect connector P84 (3) to pressure switch (1).

c. Follow-On Maintenance.

(1) Start engine (TM 9-2320-365-10).

(2) Check air pressure switch fitting for air leaks.

(3) Shut down engine (TM 9-2320-365-10).

End of Task.

CHAPTER 24
GAGES (NON-ELECTRICAL) MAINTENANCE

RESTRICTED MAINTENANCE NOTICE

Units not authorized SC 4910-95-CL-A72 (SHOP EQUIPMENT, COMMON NO. 2) in their T.O.E. may be unable to perform some of the maintenance tasks described in this chapter. If the required tools are not authorized, the equipment must be submitted to DS Maintenance for repair.

Section I. INTRODUCTION 24-1
24-1. INTRODUCTION 24-1

Section II. MAINTENANCE PROCEDURES 24-2
24-2. AIR FILTER RESTRICTION GAUGE REPLACEMENT 24-2

Section I. INTRODUCTION

24-1. INTRODUCTION

This chapter contains maintenance instructions for replacing non-electrical gages authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.

Section II. MAINTENANCE PROCEDURES

24-2. AIR FILTER RESTRICTION GAUGE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Batteries disconnected (para 7-48).
Instrument panel assembly removed for access (para 7-15).

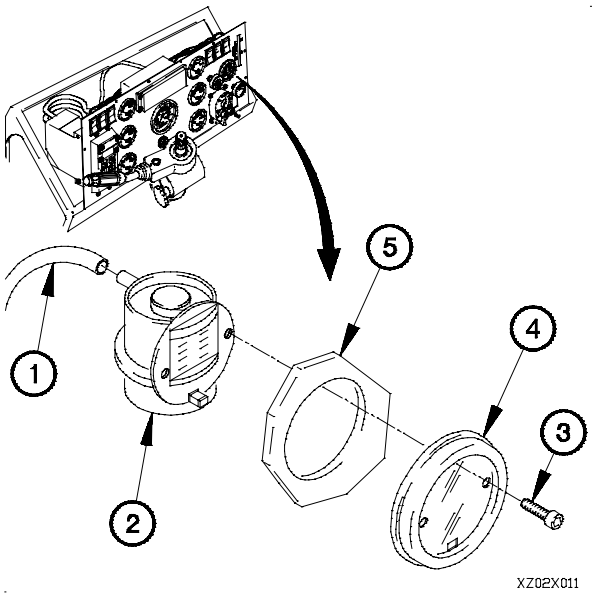
Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)

a. Removal.

(1) Disconnect vacuum hose (1) from AIR FILTER RESTRICTION GAUGE (2).

(2) Remove two screws (3) and AIR FILTER RESTRICTION GAUGE faceplate (4) from instrument panel assembly (5).

(3) Remove AIR FILTER RESTRICTION GAUGE (2) from instrument panel assembly (5).



b. Installation.

(1) Position AIR FILTER RESTRICTION GAUGE (2) in instrument panel assembly (5).

(2) Install AIR FILTER RESTRICTION GAUGE faceplate (4) on instrument panel assembly (5) with two screws (3).

(3) Connect vacuum hose (1) to AIR FILTER RESTRICTION GAUGE (2).

c. Follow-On Maintenance.

(1) Install instrument panel assembly (para 7-15).

(2) Connect batteries (para 7-48).

(3) Start engine (TM 9-2320-365-10).

(4) Check operation of AIR FILTER RESTRICTION GAUGE.

(5) Shut down engine (TM 9-2320-365-10).

End of Task.

APPENDIX A
REFERENCES

A-1. SCOPE

This appendix lists all forms, field manuals, technical manuals, and other publications referenced in this manual. Those publications that should be consulted for additional information about vehicle operations are also listed.

A-2. PUBLICATIONS INDEX

The following index should be consulted frequently for latest changes or revisions and for new publications relating to material covered in this technical manual.

Consolidated Index of Army Publications and Blank Forms . . . . . DA Pam 25-30

A-3. FORMS

The following forms pertain to this manual. See DA Pam 25-30 for index of blank forms. See DA Pam 738-750, The Army Maintenance Management System (TAMMS), for instructions on the use of maintenance forms pertaining to this material.

Equipment Control Record . . . . . DA Form 2408-9
Equipment Inspection and Maintenance Worksheet . . . . . DA Form 2404
Maintenance Request . . . . . DA Form 2407
Packaging Improvement Report . . . . . DD Form 6
Processing and Deprocessing Record of Shipping, Storage, and Issue of Vehicles and Spare Engines . . . . . DD Form 1397
Product Quality Deficiency Report . . . . . SF 368
Recommended Changes to DA Publications and Blank Forms . . . . . DA Form 2028-2
Report of Item Discrepancy (ROID) . . . . . SF 364

A-4. OTHER PUBLICATIONS

The following publications contain information pertinent to the LMTV and associated equipment.

a. Safety.

First Aid for Soldiers . . . . . FM 21-11
Security of Tactical Wheeled Vehicles . . . . . TB 9-2300-422-20
Safety Inspection and Testing of Lifting Devices . . . . . TB 43-0142

A-4. OTHER PUBLICATIONS (CONT)

b. LMTV.

Direct Support and General Support Maintenance Manual for M1078 Series, 2 1/2-Ton, 4x4, Light Medium Tactical Vehicle (LMTV) . . . . . TM 9-2320-365-34
Hand Receipt Covering Contents of Components of End Item (COEI), Basic Issue Items (BII), and Additional Authorization List (AAL), for M1078 Series, 2 1/2-Ton, 4x4, Light Medium Tactical Vehicles (LMTV) . . . . . TM 9-2320-365-10-HR
Operator's Manual for M1078 Series, 2 1/2-Ton, 4x4, Light Medium Tactical Vehicle (LMTV) . . . . . TM 9-2320-365-10
Unit, Direct Support, and General Support Repair Parts and Special Tools List for M1078 Series, 2 1/2-Ton, 4x4, Light Medium Tactical Vehicle (LMTV) . . . . . TM 9-2320-365-24P
Warranty Program for M1078 Series, 2 1/2-Ton, 4x4, Light Medium Tactical Vehicle (LMTV) . . . . . TB 9-2300-365-15

c. General Vehicle Operation.

Army Motor Transport Units and Operations . . . . . FM 55-30
Deleted
Manual for the Wheeled Vehicle Driver . . . . . FM 21-305
Safety Prevention of Motor Vehicle Accidents . . . . . AR 385-55
Vehicle Recovery Operations . . . . . FM 20-22

d. General Maintenance and Repair.

Army Oil Analysis Program . . . . . TB 43-0211
Camouflage Pattern Painting . . . . . FM 5-20
Charging System Troubleshooting . . . . . DA Pam 750-33
Color, Marking, and Camouflage Painting of Military Vehicles . . . . . TB 43-0209
Cooling Systems: Tactical Vehicles . . . . . TM 750-254
Corrosion Prevention and Control Including Rustproofing Procedures for Tactical Vehicles and Trailers . . . . . TB 43-0213
Description, Use, Bonding Techniques, and Properties of Adhesives . . . . . TB ORD 1032
Equipment Improvement Report and Maintenance Digest: TACOM Equipment . . . . . TB 43-0001-39-1
Equipment Improvement Report and Maintenance Summary . . . . . TM 43-0143
Installation Instructions for Installation Kit, Electronic Equipment, MK-2700/VRC (NSN 5895-01-421-0814) (EIC: N/A) to Permit Installation of Radio Set AN/VRC-87/88/90 Series into M1078, M1080, M1081, M1083-M1086, M1088-M1094 and M1096 Family of Medium Tactical Vehicles . . . . . TB 11-5820-890-20-101
Installation Instructions for Installation Kit, Electronic Equipment, MK-2715/VRC (NSN 5895-01-421-0812) (EIC: N/A) to Permit Installation of Radio Set AN/VRC-89/91/92 Series into M1078, M1080, M1081, M1083-M1086, M1088-M1094 and M1096 Family of Medium Tactical Vehicles . . . . . TB 11-5820-890-20-92
Metal Body Repair and Related Operations . . . . . FM 43-2
Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel and Related Materials Including Chemicals . . . . . TM 9-247
Operator's and Organizational Maintenance Manual for Radio Sets . . . . . TM 11-5820-498-12
Operator's and Organizational Maintenance Manual Including Repair Parts and Special Tools List Simplified Test Equipment for Internal Combustion Engines Reprogrammable (STE/ICE-R) (NSN 4910-01-222-6589) . . . . . TM 9-4910-571-12&P
Operator's Manual, Radio Set, AN/VRC-46 . . . . . TM 11-5820-401-10-1

Operator's Manual, Radio Set, AN/VRC-90A . . . . . TM 11-5820-890-10-1
Operator's, Unit, Direct Support, and General Support Maintenance Manual for Lead-Acid Storage Batteries . . . . . TM 9-6140-200-14
Ordnance Tracked and Wheeled Vehicle Hull and Chassis Wiring, Repair of . . . . . TB ORD 650
Organizational Care, Maintenance, and Repair of Pneumatic Tires and Inner Tubes . . . . . TM 9-2610-200-14
Painting Instructions for Field Use . . . . . TM 43-0139
Purging, Cleaning, and Coating Interior Ferrous and Terne Sheet Vehicle Fuel Tanks . . . . . TB 43-0212
Repair of Tents, Canvas, and Webbing . . . . . FM 10-16
Rigging Techniques, Procedures, and Applications . . . . . FM 5-125
Use and Care of Hand Tools and Measuring Tools . . . . . TM 9-243
Use of Antifreeze Solutions and Cleaning Compounds in Engine Cooling Systems . . . . . TB 750-651
Welding Theory and Application . . . . . TM 9-237

e. Cold Weather Operation.

Basic Cold Weather Manual . . . . . FM 31-70
Northern Operations . . . . . FM 31-71
Operation and Maintenance of Ordnance Materiel in Cold Weather (0° to -65°F) . . . . . FM 9-207

f. Decontamination.

Decontamination Operations Facilities & Equipment . . . . . TB 700-4
NBC Protection . . . . . FM 3-4
NBC Decontamination . . . . . FM 3-5

g. Maintenance of Special Purpose Kits.

Operator and Organizational Maintenance Manual for Chemical Alarm . . . . . TM 3-6665-225-12
Operator's and Unit Maintenance Manual Including Repair Parts and Special Tools List for Decontaminating Apparatus: M13 . . . . . TM 3-4230-214-12&P
Operator's, Organizational, Direct Support, and General Support Maintenance Manual Including Repair Parts and Special Tools List for Various Machine Gun Mounts . . . . . TM 9-1005-245-14
Operator's, Organizational, Direct Support, and General Support Maintenance Manual, Air Conditioner, Horizontal Compact, 18,000 BTU/HR, 208 Volt, 3 Phase, 50/60 Hertz, Model F18H-3S . . . . . TM 5-4120-384-14
Unit and Direct Support Maintenance, Repair Parts and Special Tools List for Heater, Space, Multifuel with Blower, 60,000 BTU/HR, 120V, Model UH-68G, NSN 4520-01-203-4410, and Model UH-68GI, NSN 4520-01-297-6803 . . . . . TM 5-4520-253-23P

h. General.

Operator's Manual (M998 Series) . . . . . TM 9-2320-280-10
Operator's Manual (M1008 Series) . . . . . TM 9-2320-289-10
Operator's Manual (M35 Series) . . . . . TM 9-2320-361-10
Operator's Manual (M939 Series) . . . . . TM 9-2320-272-10
Principles of Automotive Vehicles . . . . . TM 9-8000
Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use (US Army Tank-automotive and Armaments Command) . . . . . TM 750-244-6
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Soldier's Manual MOS 88M Motor Transport Operator, Skill Levels 1/2 . . . . . STP 55-88-M12-SM

A-4. OTHER PUBLICATIONS (CONT)

i. Land, Sea, and Air Shipment.

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Containerization of Military Vehicles . . . . . MTMCTEA Ref 95-55-23
Lifting and Tiedown of U.S. Military Helicopters . . . . . MTMCTEA Ref 95-55-21
Marine Lifting and Lashing Handbook . . . . . MTMCTEA Ref 95-55-22
Marine Terminal Lifting Guidance . . . . . MTMCTEA Pam 56-1
Multiservice Helicopter External Air Transport: Basic Operations and Equipment . . . . . FM 55-450-3
Multiservice Helicopter External Air Transport: Dual-Point Load Rigging Procedures . . . . . FM 55-450-5
Multiservice Helicopter External Air Transport: Single-Point Load Rigging Procedures . . . . . FM 55-450-4
Standard Characteristics (Dimensions, Weight, and Cube) for Transportability of Military Vehicles and Other Outsize/Overweight Equipment (in TOE Line Sequence) . . . . . TB 55-46-1
Tiedown Handbook for Rail Movements . . . . . MTMCTEA Pam 55-19
Tiedown Handbook for Truck Movements . . . . . MTMCTEA Ref 92-55-20

APPENDIX B
MAINTENANCE ALLOCATION CHART (MAC)

SECTION I

INTRODUCTION

B-1. The Army Maintenance System MAC.

a. This introduction (Section I) provides a general explanation of all maintenance and repair functions authorized at various maintenance levels under the standard Army Maintenance System concept.

b. The Maintenance Allocation Chart (MAC) in Section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Unit - includes two subcolumns, C (Operator/Crew) and O (Unit) maintenance.

Direct Support - includes an F subcolumn.

General Support - includes an H subcolumn.

Depot - includes a D subcolumn.

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. Maintenance Functions. Maintenance functions are limited to and defined as follows:

a. **Inspect**. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g. by sight, sound, or feel).

b. **Test**. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. **Service**. Operations required periodically to keep an item in proper operating condition; e.g. to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemicals fluids, or gases.

d. **Adjust**. To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.

e. **Align**. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. **Calibrate**. To determine and cause corrections to be made or to be adjusted on instruments or Test, Measurement, and Diagnostic Equipment (TMDE) used in precision measurement. Consists of comparison of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. **Remove/Install**. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. **Replace**. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace " is authorized by the MAC and assigned maintenance level is shown as the 3d position code of the SMR code.

i. **Repair**. The application of maintenance services[1] including fault location/troubleshooting[2], removal/installation, and disassembly/assembly[3] procedures, and maintenance actions[4] to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. **Overhaul**. That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. **Rebuild**. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

B-3. Explanation of Columns in the MAC, Section II.

a. **Column 1, Group Number.** Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly.

b. **Column 2, Component/Assembly.** Column 2 contains the item names of components , assemblies, subassemblies, and modules for which maintenance is authorized.

c. **Column 3, Maintenance Function.** Column 3 lists the functions to be performed on the items listed in Column 2. (For detailed explanation of these functions, see Paragraph B-2.)

d. **Column 4, Maintenance Level.** Column 4 specifies each level of maintenance authorized to perform each function listed in Column 3, by indicating work time required (expressed in man-hours in whole hours or decimals) in the appropriate subcolumn. This work-time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work-time figures are to be shown for each level. The work-time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions.

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[1]Services - Inspect, test, service, adjust, align calibrate, and/or replace.

[2]Fault location/troubleshooting - The process of investigating and detecting the cause of equipment malfunction; the act of isolating a fault within a system or Unit Under Test (UUT).

[3]Disassembly/assembly - The step-by-step breakdown (taking apart) of a spare/functional group coded item, to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

[4]Actions - Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows:

C . . . . . Operator or crew maintenance
O . . . . . Unit maintenance
F . . . . . Direct Support maintenance
L . . . . . Specialized Repair Activity (SRA)[5]
H . . . . . General Support maintenance
D . . . . . Depot maintenance

e. **Column 5, Tools and Test Equipment Reference Code.** Column 5 specifies, by code, those common tools sets (not individual tools), common TMDE, and special tools, special TMDE, and special support equipment required to perform the designated functions. Codes are keyed to tools and test equipment in Section III.

f. **Column 6, Remarks.** When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks contained in Section IV.

B-4. Explanation of Columns in Tool and Test Equipment Requirements, Section III.

a. **Column 1, Reference Code.** The tool and test equipment reference code correlates with a code used in the MAC, Section II column 5.

b. **Column 2, Maintenance Level.** The lowest level of maintenance authorized to use the tool or test equipment.

c. **Column 3, Nomenclature.** Name or identification of the tool or test equipment.

d. **Column 4, National Stock Number.** The National Stock Number of tool or test equipment.

e. **Column 5, Tool Number.** The manufacturer's part number, model number, or type number.

B-5. Explanation of Columns in Remarks, Section IV.

a. **Column 1, Remarks Code.** The code recorded in column 6, Section II.

b. **Column 2, Remarks.** This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

[5]This maintenance level is not included in Section II, Column (4) of the Maintenance Allocation Chart. Functions to this level of maintenance are identified by a work-time figure in the "H" column of Section II, Column (4), and an associated reference code is used in the Remarks column (6). This code is keyed to Section IV, Remarks, and the SRA complete repair application is explained there.

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot		
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Tools and Equipment Ref Code	Remarks Code
0100	ENGINE ASSEMBLY	Inspect		0.1				78	
		Test		1.5	0.3			78,79	
		Adjust			3.0			56,60,78, 80	
		Service		0.8				57,59,78	
		Replace			7.0			16,56,59, 61,78,79	
		Repair		0.4	1.6	3.3		16,31,32, 44,56,59,60, 61,78,79	
0101	CYLINDER HEAD ASSEMBLY	Inspect			0.1			78	
		Replace			2.0			44,56,59, 60,78	
		Repair				2.5		56,59,60, 61,62,78,81	
0102	CRANKSHAFT	Replace				16.0		56,57,60, 71,78	
		Repair			3.8	16.0		16,31,32, 56,59,60,61, 78	
0103	FLEXPLATE, ENGINE	Replace			6.5			56,59,78	
		Repair			1.0			56,49,78	
0104	PISTON ASSEMBLY	Replace				9.0		56,57,59, 60,62,78,79	
		Repair				0.6		78	
0105	CAMSHAFT ASSEMBLY	Replace				3.1		14,56,57, 49,60,78	
		Repair				1.2		56,78	
0105	ROCKER ARM AND PUSH RODS	Replace			2.0			44,59,60, 61,78	
		Repair			0.3			44,78	
0106	COOLER, ENGINE OIL	Replace			1.3			56,78	
		Repair			0.3			56,78	
0108	MANIFOLDS, INLET AND EXHAUST	Replace			1.5			56,60,61, 78,79	
0301	INJECTOR ASSEMBLY, FUEL	Replace			2.1			44,57,78, 80	
		Adjust			1.6			56,78,79, 80	
0304	AIR INTAKE SYSTEM	Service		0.3					
		Repair		0.3				46,57	

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot	Tools and Equipment Ref Code	Remarks Code
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D		
0304	INTAKE AIR CLEANER	Service		0.2					
		Replace		0.8				6,46,57, 78	
		Repair		0.4				57,78	
0305	TURBOCHARGER	Replace			0.8			56,61,78, 79	
0306	FUEL TANK	Inspect	0.1						
		Replace		1.5				57,59,78	
0308	GOVERNOR, ENGINE SPEED	Replace			1.0			57,60,76, 78,79	
		Repair		0.5	0.7			57,78	
0309	FILTER, FUEL/WATER SEPARATOR	Inspect	0.2						
		Service	0.2	0.3				78	
		Replace		0.5				57,78	
0311	ETHER STARTING AID	Replace		0.6				57,59,78	
0312	ACCELERATOR/HAND THROTTLE	Replace		0.5				57,78	
		Adjust		0.2				57,78	
0401	EXHAUST MUFFLER/PIPES	Inspect	0.1	0.2					
		Replace		0.9				57,59,78	
0501	RADIATOR/CHARGE AIR COOLER	Inspect	0.1						
		Replace		2.5				2,27,53, 59,78	
		Service		1.5				59,79	
		Repair		0.6	2.0			2,27,53, 59,78	
0501	RADIATOR OVERFLOW TANK	Replace		0.5				46,57,78	
		Repair		0.3				78	
0502	SHROUD, FAN	Replace		1.0				57,59,78, 86	
0503	HOSES, WATER	Replace		0.5				57,59,78, 86	
0504	PUMP, WATER	Replace		0.8				15,57,59, 78,86	
0505	CLUTCH, ENGINE FAN	Inspect		1.0				57	
		Service		0.2				59	
		Replace		1.5				2,53,57, 78	
		Repair			1.2			56,59,60, 61,78,79	

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot	Tools and Equipment Ref Code	Remarks Code
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D		
0601	ALTERNATOR, 100 AMP	Inspect		0.2					
		Test		0.5	1.5			59,63,78	
		Replace		1.0				59,78	
		Repair		0.2	0.5			38,56,57, 59,63,78,79	
0603	STARTING MOTOR, ENGINE	Inspect		0.1					
		Test		0.5	0.5			57,63	
		Replace		1.5				2,9,57, 59,78	
		Repair			2.1			52,56,59, 60,76,78	
0606	SOLENOID, FUEL SHUTOFF	Replace			1.0			60,78,80	
0607	CABLE ASSEMBLY, DASHBOARD	Test		0.5				56	
		Replace		2.9				57,59,76, 78	
		Repair		1.0	0.6			56,57,61, 78	
0607	DISPLAY, LIGHTED INDICATOR	Test		0.3					
		Replace		0.5				78,86	
		Repair		0.3				78	
0609	LIGHT ASSEMBLY, BACKUP	Inspect	0.1						
		Replace		0.8				57,78	
		Repair		0.3				78	
0609	LIGHT, BLACKOUT DRIVE	Inspect	0.1						
		Replace		0.8				57,59,78	
		Repair		0.5				78	
0609	TAILLIGHT ASSEMBLY, COMPOSITE	Inspect	0.1						
		Replace		0.8				57,59,78	
		Repair		0.5				78	
0609	LIGHT ASSEMBLY, FRONT TURN SIGNAL AND PARK	Inspect	0.1						
		Replace		0.8				57,59,78	
		Repair		0.5				78	
0609	HEADLIGHT	Inspect	0.1						
		Adjust		0.4				78	
		Replace		1.0				57,59,78	
0610	AUDIBLE ALARM	Inspect	0.1						
		Replace		0.6				78	
0611	HORN, CAB	Inspect	0.1						

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot	Tools and Equipment Ref Code	Remarks Code
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D		
		Replace		0.4				57,78	
0612	BOX ASSEMBLY, BATTERY	Inspect	0.1						
		Test		0.5				57,78	
		Service		0.3				57	A
		Replace		1.0				57,59,78	
		Repair		0.2				63	
0613	CABLE ASSEMBLY, LH/RH CAB AND DOOR MARKER LIGHTS	Inspect	0.1						
		Replace		0.8				78	
		Repair		0.7				63	
0613	CABLE ASSEMBLY, LOWER, CAB MARKER LIGHTS, M1081	Inspect	0.1						
		Replace		0.6				78,86	
		Repair		0.5				63	
0613	CABLE ASSEMBLY, UPPER, CAB CLEARANCE AND MARKER LIGHTS, M1081	Inspect	0.1						
		Replace		0.8				78,86	
		Repair		0.5				63	
0613	CABLE ASSEMBLY, STE/ICE-R	Replace		1.0				78	
		Repair		0.5	0.8			63	
0613	CABLE ASSEMBLY, CAB CLEARANCE AND MARKER LIGHTS	Inspect	0.1						
		Replace		1.2				57,78	
		Repair		0.5	0.8			63	
0613	CABLE ASSEMBLY, WARNING LIGHT	Replace		0.5				48,78,86	
		Repair		0.3	0.5			63	
0613	CABLE ASSEMBLY, WINDSHIELD WASHER PUMP/EMI	Replace		0.5				78	
		Repair		0.3				63	
0613	CABLE ASSEMBLY, ENGINE CONTROL	Inspect	0.1						
		Replace		2.3				57,78	
		Repair		0.5	0.5			63	
0613	CABLE ASSEMBLY, FRONT INTERVEHICULAR, 12 VDC	Replace		0.8				59,78	
		Repair		0.2	1.3			63	

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot	Tools and Equipment	
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Ref Code	Remarks Code
0613	CABLE ASSEMBLY, FRONT LIGHTS	Replace		2.0				57,59,78,86	
		Repair		0.5	0.5			63	
0613	CABLE ASSEMBLY, REAR LIGHTS	Replace		2.8				57,59,78	
		Repair		0.5	0.5			63	
0613	CABLE ASSEMBLY, PTO	Replace		1.6				57,59,78	
		Repair		0.5	0.8			63	
0613	CABLE ASSEMBLY, REAR INTERVEHICULAR, 24 VDC	Replace		0.6				59,78	
		Repair		0.5	0.8			63	
0613	CABLE ASSEMBLY, START AND CHARGING	Replace		2.0				57,78	
		Repair		0.5	0.8			63	
0613	CABLE ASSEMBLY, WINCH CONTROL VALVE	Replace		1.8				57,59,78	
		Repair		0.5	0.8			63	
0705	WTEC II VEHICLE INTERFACE MODULE (VIM)	Replace		0.6				78	
		Repair		0.8				78	
0708	TORQUE CONVERTER	Adjust			0.9			18,59,60,78	
		Remove/ Install			0.8			56,59,60,61, 78	
		Repair			1.3			30,56,59,60, 62,78	
0710	TRANSMISSION	Inspect		0.4				78	
		Service		1.5				57,59,78	
		Replace			7.0			56,59,60,61, 78,79,84	
		Repair		0.4	2.7	1.9		3,18,19, 24,25,27,41, 56,57,59,60, 61,78,79,84	
0710	MODULE, FRONT SUPPORT	Remove/ Install				2.0		56,57,59,60, 61,78	
		Repair				0.7		30,56,57,59, 60,61,78	
0710	MODULE, PLANETARY GEAR (P1)	Remove/ Install				2.0		59,60,71,78	

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot	Tools and Equipment	
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Ref Code	Remarks Code
		Repair				1.5		59,60,71,78	
0710	MODULE, PLANETARY (P2)	Remove/ Install				2.0		3,56,59, 60,61,78	
		Repair				1.9		3,19,56, 59,60,61,71, 78	
0710	PLANETARY CARRIER (P3)	Remove/ Install				2.0		3,56,60, 78	
		Repair				1.9		3,27,56, 60,78	
0710	MODULE, MAIN SHAFT	Remove/ Install				2.0		59,60,78	
		Repair				0.4		59,60,78	
0710	MODULE, CONVERTER HOUSING	Remove/ Install				4.3		3,56,57, 59,60,78	
		Repair				2.0		3,19,25, 56,57,59,60, 78	
0713	CLUTCH ASSEMBLY, C3/C4/C5, TRANSMISSION	Remove/ Install				2.0		56,57,59,60, 78	
		Repair				1.0		41,56,57,59, 60,78	
0713	MODULE, ROTATING CLUTCH	Remove/ Install				2.0		3,56,59, 60,78	
		Repair				2.4		3,19,24, 56,59,60,78	
0714	VALVE ASSEMBLY, CONTROL MODULE	Remove/ Install			2.0			56,59,60,61, 78,79	
		Repair		1.0	2.5			59,61,78,79	
0714	BODY ASSEMBLY, MAIN VALVE	Service		1.5				57,59,78	
		Remove/ Install			2.0			56,59,60,61, 78,79	
		Repair		1.5	2.5			56,59,60,61, 78,79	
0801	MODULE, TRANSFER CASE	Adjust				1.0			
		Remove/ Install				2.0		21,56,57,59, 60,61,71,74, 78,79	
		Repair				1.1		23,27,33,50, 56,57,60,78	

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot	Tools and Equipment	
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Ref Code	Remarks Code
0802	HOUSING ASSEMBLY, C6 AND C7 CLUTCH	Remove/ Install				2.0		56,59,60,61, 78	
		Repair				0.8		19,23,26,27, 28,29,56,59, 60,61,62,71, 78	
0802	CONTROL VALVE ASSEMBLY	Remove/ Install				2.0		56,59,61,78, 79	
		Repair				1.0		56,59,61,78, 79	
0804	PUMP ASSEMBLY, OIL	Replace				1.0		79	
		Repair				0.8		79	
0900	PROPELLER SHAFT	Inspect		0.1					
		Service		0.5				59	
		Repair		0.6				57,59,78	
		Replace		0.5				57,59,78	
1000	AXLE ASSEMBLY, FRONT	Inspect	0.1	0.3	0.7			78	
		Adjust			1.0			57,79	
		Service		0.5				59,78	
		Replace			4.5			56,57,59,60, 61,70,78	
		Repair		2.3	2.2	6.0		56,57,59,60, 61,78	
1002	CARRIER ASSEMBLY, DIFFERENTIAL	Inspect		0.1	0.1	0.1		78,79	
		Service			0.3			78	
		Replace				4.6		21,56,57,59, 60,78,79	
		Repair				2.7		56,57,59,60, 78,79	
1004	STEERING KNUCKLE, AXLE	Inspect			0.2				
		Adjust			2.5			79	
		Service			0.3			79	
		Replace			5.1			56,57,59,60, 71,78	
1100	AXLE ASSEMBLY, REAR	Inspect	0.1	0.4	0.7				
		Service		0.8				57,59,78	
		Replace			4.5			34,56,57,59, 60,78,84	

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot	Tools and Equipment	
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Ref Code	Remarks Code
		Repair			0.9	6.0		21,56,57,59, 60,78,84,85	
1102	CARRIER ASSEMBLY, DIFFERENTIAL	Inspect		0.1	0.1	1.0		78,79	
		Service			0.3			78	
		Replace				4.6		21,56,57,59, 60,78,79,85	
		Repair				2.7		21,37,56,57, 59,60,71,73, 78	
1202	BRAKE ASSEMBLY, FRONT AXLE	Inspect		0.1	1.0			59,78,79	
		Adjust		0.4				57,59,78	
		Repair		1.5	0.5			57,59,78,83	
1202	BRAKE ASSEMBLY, REAR AXLE	Inspect		0.1	1.0			59,78,79	
		Adjust		0.4				57,59,78	
		Repair		1.5	0.5			57,59,78,83	
1208	BRAKE AIR CHAMBER	Inspect		0.1					
		Replace		0.5				57,59,78	
1209	AIR COMPRESSOR	Adjust		0.6				59,78	
		Replace			1.2			56,60,61,78, 79	
1311	WHEEL ASSEMBLY, PNEUMATIC TIRE	Inspect	0.1					57	B
		Replace	1.0	1.2				57,59	
		Repair		2.0				57,59	
1313	TIRE, PNEUMATIC	Replace		2.0				57,59	
1401	STEERING SYSTEM	Inspect		0.2					
		Adjust			1.0			56,60,78	
		Repair		1.0	1.5			54,56,57,59, 60,61,78,79	
1407	STEERING GEAR ASSEMBLY	Replace			4.0			56,60,78	
1410	PUMP, POWER STEERING	Replace			1.5			47,56,59,60, 78	
1411	HOSES, POWER STEERING	Replace		0.3				57,59,78,88	
1413	HYDRAULIC RESERVOIR, POWER STEERING	Service	0.1	0.5				78	
		Replace		0.8				59,78,86	

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot	Tools and Equipment	
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Ref Code	Remarks Code
1501	FRAME ASSEMBLY	Inspect	0.1	0.3					
		Repair		0.8	14.0			56,57,59,60, 61,78,79	
1504	RETAINER, SPARE TIRE	Inspect	0.1	0.1					
		Replace		3.0				57,59,78	
		Repair		0.6				57,59,78	
1601	LEAF SPRING ASSEMBLIES	Inspect	0.1	0.2					
		Service		0.3				57	
		Replace			2.7			56,57,59,60, 78,79	
1604	SHOCK ABSORBERS	Inspect	0.1	0.3					
		Replace		0.5				57,59,78	
1605	STABILIZER BAR, REAR	Inspect		0.2					
		Replace		2.0				57,59,68,78	
		Repair		1.5				57,78	
1801	CAB BODY, STANDARD	Inspect	0.1						
		Replace			60.0			56,57,60,61, 78,79	
		Repair		0.6				57,59,78	
1801	CAB BODY, AIR DROP	Inspect	0.1						
		Replace			60.0			56,57,60,61, 78,79	
		Repair		0.6				57,59,78	
1801	CAB DOORS, STANDARD	Inspect	0.1						
		Replace			1.0			55,59,78	
		Repair		2.7				49,57,78	
1801	CAB DOORS, AIR DROP	Inspect	0.1						
		Replace			1.0			55,59,78	
		Repair		2.7				49,57,78	
1801	SUPPORT ASSEMBLY, CAB FRONT	Inspect	0.1						
		Repair		1.1				57,59,78	
		Replace			3.0			8,13,57, 59,60,78, 79	
1801	SUPPORT ASSEMBLY, CAB REAR	Inspect	0.1						
		Replace		1.0				57,59,78	
		Repair		0.8				57,78	
1802	WINDSHIELD	Replace			0.6			55,59,78	

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot	Tools and Equipment	
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Ref Code	Remarks Code
1802	FENDER, VEHICULAR, FRONT	Inspect	0.1						
		Replace		2.0				57,59,78	
		Repair		0.5				57,78	
1803	ROOF, CAB, M1081	Replace		1.0				45,50,57,59, 78	
1805	FLOOR COVERING, CAB	Replace		1.0				57,78	
1806	SEATS	Replace							
1808	TOOL BOX ASSEMBLY	Inspect	0.1						
		Replace		0.5				47,57,59,78	
		Repair		0.5				57,59,78	
1808	STOWAGE BOX, CAB	Replace		0.8				57,78	
		Repair		0.5				57,78	
1810	BODY, CARGO	Inspect	0.1						
		Replace			4.0			56,57,59,60, 78	
		Repair		0.5				57,59,78	
1812	BODY ASSEMBLY, VAN	Inspect	0.1	0.1					
		Repair		0.5				20,35,36,42, 43,47,57,59, 64,72,76,78	
		Replace		1.9				36,64,78	
1812	DOOR, ACCESS, LEFT	Inspect	0.1						
		Replace		2.3				78	
		Repair		0.1				57,59,78	
1812	DOOR, ACCESS, RIGHT	Inspect	0.1						
		Replace		1.4				78	
		Repair		0.4				57,59,78	
1812	WINDOW SASH ASSEMBLY	Inspect	0.1						
		Replace		0.2				78	
		Repair		0.4				57,59,78	
1812	BOX ASSEMBLY, RELAY	Inspect	0.1	0.1					
		Replace		0.6				78	
		Repair		0.1				78	
		Test	0.1	0.5				59,78	
1812	FAN ASSEMBLY	Inspect	0.1						
		Replace		1.8				20,76,78	
		Repair		0.5				78	
2001	WINCH, 11K SELF-RECOVERY (SRW)	Inspect	0.1	4.0					

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot		
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Tools and Equipment Ref Code	Remarks Code
		Service		0.2				59	
		Replace			1.0			59,60,78	
		Repair			0.9			59,60,78	
2004	POWER TAKEOFF ASSEMBLY (PTO)	Inspect	0.1						
		Replace			1.0			56,57,59,60, 78	
		Repair			0.8			56,57,59,60, 78	
2202	MOTOR, WIPER, WINDSHIELD	Test		0.5					
		Replace		1.0				78	
2207	HEATER ASSEMBLY, PERSONNEL	Replace		2.0				57,59,78	
		Repair		1.0				57,59,78	
2210	DECALS	Inspect	0.1						
		Replace		1.0				78	
2401	POWER UNIT, AIR/HYDRAULIC	Inspect	0.1						
		Test		0.2					
		Service		1.0					
		Replace		3.0				57,59,78	
		Repair			2.0			57,59,60,69, 78,79	
2402	MANIFOLD, HYDRAULIC	Inspect	0.1						
		Test		0.2					
		Replace		1.5				51,57,59,78	
		Repair		1.0				51,57,59,78	
2402	LATCH, HYDRAULIC, CAB	Inspect	0.1						
		Adjust		0.5				57,59,78	
		Replace		0.5				57,59,78	
2404	SUSPENSION CYLINDER	Inspect							
		Replace							
2406	FILTER, HYDRAULIC	Service		0.3				59,78	
		Replace		0.2				59,78	
2408	RESERVOIR, HYDRAULIC	Replace		1.0				57,59,78	
		Repair		0.5				57,59,78	
3303	HEATER KIT, M1079	Inspect	0.1						
		Remove/ Install		2.5				78	
3307	ALTERNATOR KIT, 200 AMP	Inspect	0.1	0.2					

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot	Tools and Equipment	
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Ref Code	Remarks Code
		Test		0.5				59	
		Remove/ Install		2.0				57,59,78	
		Replace		1.0				57,59,78	
		Repair			0.5			56,57,60,62,78	
3307	ALTERNATOR, 200 AMP	Inspect		0.2					
		Test		0.5	1.5			59,63,78	
		Replace		1.0				57,59,78	
		Repair		0.2	0.5			56,57,60,61,63,78	
3307	CRANE (LMHC), MATERIAL HANDLING, LIGHT	Inspect	0.1	0.1					
		Repair		0.5				59,76,78	
		Replace		0.5					
		Test		0.5					
3307	WEIGHT BLOCK AND WIRE ROPE, LMHC	Inspect	0.1						
		Replace		0.1				59,78	
		Repair		0.5				59,78	
		Test			0.5				
3307	WINCH, LMHC	Inspect	0.1						
		Replace			0.5			59,78	
		Repair			1.0			59,78	
		Test		0.5					
3307	MAST/SWING ASSEMBLY, LMHC	Inspect	0.1						
		Repair		1.0				59,78	
		Test		0.5					
3307	CONTROL BOX, LMHC	Inspect	0.1						
		Replace		0.1					
		Repair		0.5				76,78	
		Test	0.1	0.5					
3307	TROOPSEAT KIT	Remove/ Install	1.0						
		Inspect	0.1						
		Replace		1.0					
		Repair		0.5				78	
3307	COVER KIT, CARGO SOFT TOP	Remove/ Install	1.5						
		Inspect	0.1						
		Replace		2.0					

Section II. MAINTENANCE ALLOCATION CHART FOR THE LMTV VEHICLE (CONT)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		Direct Support	General Support	Depot		
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Tools and Equipment Ref Code	Remarks Code
		Repair		0.5					
3307	AIR CONDITIONER KIT, M1079	Inspect	0.1						
		Remove/ Install		1.5				59,78	
3307	WARNING LIGHT ASSEMBLY, AMBER	Inspect	0.1						
		Repair		0.4				78	
		Test		0.2					
3401	MACHINE GUN RING KIT	Inspect	0.1						
		Remove/ Install			4.0			56,57,60,78,79,84	
		Repair		1.1				10,57,78	
3402	MOUNT, SMALL ARMS	Inspect	0.1						
		Replace		0.3				78	
3909	CABLE ASSEMBLY, WARNING LIGHT	Inspect	0.1						
		Replace		0.5				78	
4316	AIR HOSE, CTIS	Inspect	0.1						
		Replace		0.4				59,78	
4317	VALVE, INVERSION	Replace		0.5				59,78	
4321	AIR DRYER	Inspect	0.1	0.1					
		Replace		1.0				57,59,78	
		Repair		0.6				57,59,78	
4702	GAUGE, AIR FILTER RESTRICTION	Replace		0.5				78	

Section III. TOOLS AND TEST EQUIPMENT FOR LMTV VEHICLES

Tool or Test Equipment REF Code	Maintenance Level	Nomenclature	National Stock Number	Tool Number
1	O,F	ADAPTER, RADIATOR	4910-01-170-4928	J29003-A
2	O	ADAPTER, SOCKET WRENCH	5120-00-240-8702	11655788-2
2.1	O	BASE, MAGNETIC		P5646
3	H	BUSHING DRIVER SET	5120-01-391-3541	J35922
4	O	CRIMPING TOOL, TERMINAL, HAND	5120-00-165-3912	M22520/1-01
5	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-00-078-3809	10935497
6	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-00-293-1010	5120-293-1282

Section III. TOOLS AND TEST EQUIPMENT FOR LMTV VEHICLES (CONT)

Tool or Test Equipment REF Code	Maintenance Level	Nomenclature	National Stock Number	Tool Number
7	F	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-00-181-6754	GGG-C-1507
8	F	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-074-7557	FCOM19
9	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-236-9996	FCOM15
10	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-335-1091	FCO32
11	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-335-1119	SCO34
12	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-335-1122	SCO40
12.1	O	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-335-1126	SCO48
13	F	CROWFOOT ATTACHMENT, SOCKET WRENCH	5120-01-348-9473	AN8508-19A
13.1	O	DISPENSER, SEALANT	5120-00-061-1283	45RCT
14	H	DRIVER KIT, BEARING	4910-01-032-3128	8S0602
14.1	O	FRAME, HAND HACKSAW	5110-00-289-9657	163-20
15	O	GAGE, BELT TENSION	6635-01-092-7462	0755-0101
16	O,F	GAGE, BELT TENSION	6635-01-143-2237	GA-424
17	O,F	GAGE, PRESSURE, 0-150 psi	6685-00-474-5721	111T1D05A01
18	F,H	GAGE, PROFILE	5220-01-388-1460	J-38548-1
19	H	HANDLE, DRIVE	5120-00-377-2259	J8092
20	O	HEATER, GUN TYPE, ELECTRIC	4940-00-561-1002	500A
21	F,H	HOLDING BAR, PINION	5120-01-166-0573	J3453
21.1	O	INDICATOR, DIAL		P36491
22	O	INSERTER AND REMOVER, ELECTRICAL CONTACT	5120-00-915-4588	MS3447-16
23	H	INSERTER AND REMOVER, SPRING	5120-01-388-3660	J38573
24	H	INSERTER AND REMOVER, SPRING	5120-01-388-4436	J35923
25	H	INSERTER, BEARING AND BUSHING	5120-01-388-7841	J-38565
26	H	INSERTER, BEARING AND BUSHING	5120-01-389-0658	J35921-1
27	H	INSERTER, BEARING AND BUSHING	5120-01-390-1104	J 38569
28	H	INSERTER, BEARING AND BUSHING	5120-01-390-1105	J 38568-3
29	H	INSERTER, BEARING AND BUSHING	5120-01-391-5133	J 38579
30	F,H	INSERTER, BEARING AND BUSHING	5120-01-414-7398	J38566
31	F	INSERTER, SEAL	5120-01-362-2026	1U7430
32	F	INSERTER, SEAL	5120-01-362-2027	1U7598
33	F	INSTALLER, SEAL	N/A	J38574
34	F	JACK, LEVELING SUPPORT, VEHICLE	2590-00-231-7418	10876244
35	O	KEY, SOCKET HEAD SCREW	5120-00-984-0247	58010

Section III. TOOLS AND TEST EQUIPMENT FOR LMTV VEHICLES

Tool or Test Equipment REF Code	Maintenance Level	Nomenclature	National Stock Number	Tool Number
35.1	O	KEY, SOCKET HEAD SCREW	5120-01-355-1670	AWML2.5
36	O	LINK, CHAIN, END	4010-00-932-5013	NAS1049-16
36.1	F	NOSE ASSEMBLY		99-3307
36.2	O	PLIERS, HOG RING STAPLE	5120-01-413-8837	0012
37	H	PULLER KIT, UNIVERSAL	5180-00-089-3660	A57QB
38	F	PULLER KIT, UNIVERSAL	5180-01-124-1903	1P3075
39	O	REMOVER, ELECTRICAL CONTACT	5120-00-148-9844	MS3448-001B
40	F	RIVETER, BLIND, HAND	5120-01-289-4310	HP-2
40.1	F	RIVETER, BLIND, PNEUMATIC	5130-01-232-4042	245
41	H	RIVETER, YOKE, HAND	5120-01-415-3558	J-39354
42	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-00-180-0881	5120-00-180-0881
43	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-053-4158	FAM5A
44	O,F,H	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-055-1308	ANSIB18.3.2M
45	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-079-8032	SAM8A
46	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-160-8862	S 6 HBS
47	O,F	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3462	SA10A
47.1	O,F	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3483	FA5LE
48	O,F	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3497	TMP12A
49	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3519	F23D
50	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3526	FP24
51	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3527	FP32A
52	F,H	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3536	FTX40A
53	O	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-367-3574	GFA8A
53.1	F	SCREWDRIVER ATTACHMENT, SOCKET WRENCH	5120-01-430-5715	SZ-21
54	O	SEPARATOR, BALL JOINT	5120-01-255-8238	2287
55	F	SETTING TOOL, WINDSHIELD	5120-01-316-4995	CRL216
56	O,F	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-348-7696	SC4910-95CLA02
57	O,F,H	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-754-0650	SC4910-95CLA72
58	O	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-754-0653	SC4910-95CLA73

Section III. TOOLS AND TEST EQUIPMENT FOR LMTV VEHICLES

Tool or Test Equipment REF Code	Maintenance Level	Nomenclature	National Stock Number	Tool Number
59	O,F,H	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-754-0654	SC4910-95CLA74
60	F,H	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-754-0705	SC4910-95CLA31
61	F,H	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-754-0706	SC4910-95CLA62
62	O,F,H	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE	4910-00-754-0707	SC4910-95CLA63
63	O,F	SHOP EQUIPMENT, FUEL AND ELECTRICAL	4910-00-754-0714	SC4910-95CLA01
64	O	SLING, EYE	3940-01-334-0749	EE1-202
65	F	SLING, MULTIPLE LEG	3940-00-777-5744	A170
66	H	SOCKET SET, SOCKET WRENCH	5120-01-195-0640	208FA
67	F,H	SOCKET, SOCKET WRENCH	5120-01-068-5643	5555M
68	O	SOCKET, SOCKET WRENCH	5120-01-161-5907	GLDH382
69	F	SOCKET, SOCKET WRENCH	5120-01-335-0784	TW321
70	O	SOCKET, SOCKET WRENCH	5120-01-359-9521	TV940009
71	F	SOLDERING AND BRAZING OUTFIT, RESISTANCE HEATING	3439-00-460-7198	SC4940-95-CLB20
72	O	SOLDERING IRON, ELECTRIC	3439-01-036-3308	3112-S3-40W
73	H	STAND, DIFFERENTIAL CARRIER REPAIR	4910-01-085-7729	J3409-D
74	H	STAND, MAINTENANCE, AUTOMOTIVE ENGINE	4910-00-808-3372	J29109
75	F	TOOL, DISTORTER	5120-01-119-1748	5P-7312
76	O,F	TOOL KIT, AUTO FUEL AND ELECTRICAL SYSTEM REPAIR	5180-00-754-0655	SC4910-95CLA50
77	F	TOOL KIT, BODY AND FENDER	5180-00-754-0643	SC5180-90-N34
78	O,F,H	TOOL KIT, GENERAL MECHANIC'S	5180-00-177-7033	SC5180-90-CL-N26
79	F,H	TOOL KIT, GENERAL MECHANIC'S	5180-00-699-5273	SC5180-90-CL-N05
80	F	TOOL KIT, INTERNAL COMBUSTION ENGINE	5180-01-356-8155	1U6680
81	H	TOOL KIT, SLEEVE REPAIR	5180-01-415-5896	4C4462
82	F	TOOL OUTFIT, HYDRAULIC	4940-01-036-5784	SC4940-95-CL-B07
83	O	TOOL, SPRING REMOVAL	5120-01-360-1918	TV940010
84	F	WRENCH SET, CROWFOOT, RATCHETING	5120-00-293-0013	GGG-W-646
85	F	WRENCH SET, SOCKET	5120-00-148-3706	ANSI-B107.5
86	O	WRENCH, TORQUE, 0-75 LB-IN.	5120-01-112-9532	TQSC6A

Section IV. REMARKS FOR THE LMTV VEHICLE

Remarks Code	Remarks
A	Battery service will be in accordance with TM 9-6140-200-14.
B	Repair of tires will be in accordance with TM 9-2610-200-14.

APPENDIX C
TOOLS IDENTIFICATION LIST

Section I. INTRODUCTION

C-1. INTRODUCTION

This appendix lists common tools, supplements, and special tools/fixtures that are suggested for maintenance tasks performed at the Unit Maintenance level.

C-2. EXPLANATION OF COLUMNS

a. Column (1) - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the item, e.g., "Bar, Pry (Item 1, Appendix C)."

b. Column (2) - Item Name. This column contains the nomenclature for the item.

c. Column (3) - National Stock Number. This is the national stock number assigned to the item which you can use to requisition it.

d. Column (4) - Part Number. This provides the Government, manufacturer, or vendor part number for the item.

e. Column (5) - Reference. This column contains the shop catalog (SC), technical manual, or other publication which provides an illustration and description of the item, or lists whether the item is fabricated.

APPENDIX C
Section II. TOOLS IDENTIFICATION LIST

(1) ITEM NUMBER	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) REFERENCE
1	ADAPTER, SOCKET WRENCH	5120-00-227-8088	A-A-2172	SC 4910-95-CL-A74
2	ADJUSTING TOOL, BRAKE SHOE	5120-00-154-3029	J34061	SC 4910-95-CL-A74
3	APRON, RUBBER	8145-00-082-6108	MIL-A-41829	SC 4910-95-CL-A74
4	CAPS, VISE JAW	5120-00-221-1506	GGG-C-137	SC 4910-95-CL-A74
5	DISPENSING PUMP, HAND DRIVEN	4930-00-263-9886	43D15069	SC 4910-95-CL-A74
6	DRILL SET, TWIST	5130-00-293-0983	58	SC 4910-95-CL-A74
7	DRILL, PORTABLE, ELECTRIC	5130-00-293-1849	W-D-661	SC 4910-95-CL-A74
8	DRILL, TWIST	5133-01-120-3519		SC 4910-95-CL-A74

Section II. TOOLS IDENTIFICATION LIST (CONT)

(1) ITEM NUMBER	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) REFERENCE
9	FISHING TOOL, PNEUMATIC TIRE VALVE	5120-00-516-4220	991	SC 4910-95-CL-A74
10	GAGE, DEPTH, MICROMETER	5210-00-619-4045	445BZ-6RL	CTA 50-909
11	GAGE, TIRE PRESSURE	4910-01-117-2994	955	SC 4910-95-CL-A72
12	GAGE, WHEEL ALIGNMENT	5210-00-529-1205	WA361	SC 4910-95-CL-A72
13	GLOVES, RUBBER	8415-00-641-4601	ZZ-G-381	SC 4910-95-CL-A74
14	GLOVES, WELDER'S	8415-00-268-7859	A-A-50022	SC 4910-95-CL-A72
15	GOGGLES, INDUSTRIAL	4240-00-052-3776	A-A-1110	SC 4910-95-CL-A74
16	GUN, LUBRICATING	4930-00-253-2478	1142	SC 4910-95-CL-A74
17	HAMMER, HAND	5120-00-224-4130	A-A-1292	SC 4910-95-CL-A74
18	HAMMER, HAND	5120-01-065-9037	57-533	SC 4910-95-CL-A72
19	HOSE ASSEMBLY, NONMETALLIC	4720-00-356-8557	ZZ-H-461	SC 4910-95-CL-A74
20	IRON, TIRE	5120-00-765-8536	T48A	SC 4910-95-CL-A74
21	JACK, HYDRAULIC, HAND	5120-00-224-7330	D120	SC 4910-95-CL-A74
22	MULTIMETER, DIGITAL	6625-01-139-2512	T00377	SC 4910-95-CL-A74
23	MULTIPLIER, TORQUE WRENCH	5120-00-574-9318	292	SC 4910-95-CL-A72
24	PAN, DRAIN	4910-00-387-9592	450	SC 4910-95-CL-A72
25	PAN, WASH	4940-00-617-9859	5582281	SC 4910-95-CL-A72
26	PRESSURE TESTER, RADIATOR	4910-01-170-4929	J24460-01	SC 4910-95-CL-A74
27	PULLER KIT, MECHANICAL	5120-00-313-9496	1178	SC 4910-95-CL-A74
28	PULLER, BATTERY TERMINAL	5120-00-944-4268	21	SC 4910-95-CL-A74
29	RESPIRATOR, AIR FILTER	4240-00-022-2524	GGG-M-125/6	SC 4910-95-CL-A72
30	SCALE, WEIGHING	6670-00-254-4634	AAA-5-133	SC 4910-95-CL-A72
31	SLING, CARGO	1670-00-823-5043	63J4261-13	CTA 50-970
32	SLING, ENDLESS	3940-00-675-5003	PD101-96	CTA 50-970
33	SOCKET SET, IMPACT	5120-01-117-0466	4151MMY	SC 4910-95-CL-A74
34	SOCKET SET, SOCKET WRENCH	5120-01-073-2821	217FMY	SC 4910-95-CL-A72

Section II. TOOLS IDENTIFICATION LIST (CONT)

(1) ITEM NUMBER	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) REFERENCE
35	SOCKET SET, SOCKET WRENCH	5120-01-117-3876	221FSMY	SC 4910-95-CL-A02
36	SOCKET, SOCKET WRENCH	5120-00-181-6813	5530	SC 4910-95-CL-A74
37	SOCKET, SOCKET WRENCH	5120-00-232-5681	1242	SC 4910-95-CL-A74
38	SOCKET, SOCKET WRENCH	5120-01-112-0581	SIMM190	SC 4910-95-CL-A74
39	STE/ICE-R	4910-01-222-6589	12259266	SC 4910-95-CL-A74
40	TAPE, MEASURING	5210-00-081-4719	GA508A	CTA 50-970
40.1	TEST KIT, RADIATOR	4910-00-728-8227		SC 4910-95-CL-A74
41	TESTER, ANTIFREEZE AND BATTERY	6630-00-105-1418	10425	SC 4910-95-CL-A74
42	TOOL KIT, AUTO FUEL	5780-00-754-0655		SC 5180-95-CL-A50
43	TOOL KIT, BLIND RIVET	5180-01-201-4978	D-100-MIL-1	SC 4910-95-CL-A72
44	TOOL KIT, GENERAL MECHANIC'S	5180-00-177-7033		SC 5180-90-N26
45	TRESTLE, MOTOR VEHICLE MAINTENANCE	4910-00-251-8013	306	SC 4910-95-CL-A72
46	VISE, MACHINIST	5120-00-293-1439	504M2	SC 4910-95-CL-A74
47	WRENCH SET, SOCKET	5120-00-081-2305	GGG-W-641	SC 4910-95-CL-A74
48	WRENCH SET, SOCKET	5120-00-204-1999	GGG-W-641	SC 4910-95-CL-A74
49	WRENCH SET, SOCKET	5120-00-322-6231	51200017510	SC 4910-95-CL-A74
50	WRENCH, ADJUSTABLE	5120-00-264-3793	2117080	SC 4910-95-CL-A72
51	WRENCH, ADJUSTABLE, AUTOMOTIVE	5120-00-449-8083	1B7536	SC 4910-95-CL-A74
51.1	WRENCH, BOX AND OPEN END	5120-00-228-9518	1174	SC 4910-95-CL-A74
52	WRENCH, BOX AND OPEN END	5120-00-277-8833	1244	SC 4910-95-CL-A74
53	WRENCH, BOX AND OPEN END	5120-00-277-8834	GGG-W-636	SC 4910-95-CL-A74
54	WRENCH, PIPE	5120-00-277-1461		SC 4910-95-CL-A74
55	WRENCH, PIPE	5120-00-277-1485		SC 4910-95-CL-A74
56	WRENCH, STRAP, ADJUSTABLE	5120-00-020-2947	A91C	SC 4910-95-CL-A74
57	WRENCH, TORQUE, 0-175 lb-ft	5120-00-640-6364	1753LDF	SC 4910-95-CL-A72

Section II. TOOLS IDENTIFICATION LIST (CONT)

(1) ITEM NUMBER	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) REFERENCE
58	WRENCH, TORQUE, 0-200 lb-in.	5120-00-853-4538	F2001	SC 4910-95-CL-A72
58.1	WRENCH, TORQUE, 0-300 lb-in.	5120-00-776-1841	2163993	SC 4910-95-CL-A74
59	WRENCH, TORQUE, 0-600 lb-ft	5120-00-221-7983	SW130-301	SC 4910-95-CL-A72

APPENDIX D
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. SCOPE

This appendix lists expendable and durable items that you will need to operate and maintain the LMTV vehicle. This listing is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (except medical, class V repair parts, and heraldic items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

D-2. EXPLANATION OF COLUMNS

a. Column (1) - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the item, e.g., "Oil, Lubricating (Item 25, Appendix D).

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the item.

c. Column (3) - National Stock Number. This is the national stock number assigned to the item which you can use to requisition it.

d. Column (4) - Item Name, Description, Commercial and Government Entity Code (CAGEC), and Part Number. This provides the other information you need to identify the item.

e. Column (5) - Unit of Measure. This code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1	O	4730-00-248-9340	Adapter, Pipe to Tube (81343) 4-4 010103B	ea
1.1	O	4730-01-453-9651	Adapter, Straight, Pipe to Boss (19207) 12421890-001	ea
1.2	O	4730-01-457-4025	Adapter, Straight, Pipe to Tube (96906) MS51503B4-4	ea
1.3	O	4730-00-760-3525	Adapter, Straight, Tube to Boss (81361) C116-3-71	ea
2	O	8040-00-273-8717	Adhesive (81348) MMM-A-121	pt
3	O	8040-00-152-0063	Adhesive (81348) MMM-A-1617 TY 3	bt
4	O	8040-01-250-3969	Adhesive (05972) 242	ea
5	O	8040-01-117-7872	Adhesive (04963) 08031	tu
6	O	8040-00-117-8510	Adhesive (71984) 3145 RTV Clear	tu
7	O	8040-00-776-9602	Adhesive (73168) 80055-31	kt
8	O	8040-00-118-2695	Adhesive (72799) RTV162	kt

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (CONT)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
9	O	8040-01-446-7842	Adhesive (01139) RTV123	ca
10	O	8040-01-331-7473	Adhesive (81349) (MIL-A-46106 GP3TY1)	tu
11	O	8040-01-331-7470	Adhesive (81349) (MIL-A-46106 GP1TY1)	tu
11.1	O	8040-00-728-3088	Adhesive (78500) 1199-T-3842 6 oz	kt
12	C	6850-00-174-1806	Antifreeze, Arctic Type (81349) (MIL-A-11755) 55 gl drum	dr
13	C	6850-00-181-7940	Antifreeze, Ethylene Glycol, Permanent (81349) (MIL-A-46153) 55 gl drum	dr
14	O	8030-00-597-5367	Antiseize Compound (81349) (MIL-A-907)	lb
14.1	O	5110-00-277-4588	Blade, Hand Hacksaw (54940) 31-51024	ea
14.2	O	5340-01-454-4336	Bracket, Angle (0FW39) 12421859-001	ea
15	O	5340-00-450-5718	Cap and Plug Set 10935405	ea
15.1	O	5340-01-423-0972	Clamp, Loop (18076) S630H-20	ea
16	O	6850-00-926-2275	Cleaning Compound, Windshield (81349) O-C-1901 16 oz bottle	bt
17	O	7920-00-044-9281	Cloth, Cleaning (81349) (MIL-C-85043)	bx
18	O		Corrosion Preventive Compound (81349) (MIL-C-16173)	
		8030-00-062-6950	Grade 1 - 1 qt can	qt
		8030-01-149-1731	Grade 2 - 1 qt can	qt
		8030-00-837-6557	Grade 3 - 1 pt can	pt
		8030-00-903-0931	Grade 4 - 1 pt can	pt
19	O	8030-00-033-4291	Corrosion Preventive Compound (MIL-C-82594) 8 oz can	bt
19.1	O	2540-01-460-8048	Cover, Seat, Vehicular (27797) WM1059	ea
19.2	O	2540-01-463-8394	Cover, Seat, Vehicular (0FW39) WM1058	ea
20	C	9150-00-664-0047	Damping Fluid (81348) VV-D-1078 1 lb can	lb
21	O	7520-01-209-1152	Dispenser, Pressure Sensitive Adhesive Tape (75037) STD-0-9	ea
21.1	O	4730-01-454-1233	Elbow, Pipe to Boss (19207) 12421891-001	ea
21.2	O	4730-00-863-9098	Elbow, Pipe to Tube (30780) 4VBTXB	ea
22	O	5330-01-325-6993	Gasket Forming Compound (05972) 515	ea

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (CONT)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
23	C		Grease, Automotive and Artillery (GAA) (81349) (MIL-G-10924)	
		9150-01-197-7688	2-1/4 oz tube	tu
		9150-01-197-7690	1.75 lb can	cn
		9150-01-197-7689	6.5 lb can	cn
		9150-01-197-7692	35 lb can	cn
24	O	9150-00-530-6814	Grease, Wire Rope-Exposed Gear (81349) (MIL-G-18458) 35 lb can	cn
25	O	9150-00-935-4018	Grease, Molybenum Disulfide (81349) (MIL-G-21164) 14 oz cartridge	ca
25.1	O	4720-00-988-3842	Hose Assembly, Nonmetallic (50599) R25679-1	ea
25.2	O	4720-01-384-0995	Hose Assembly, Nonmetallic (19207) 12421858-006	ea
25.3	O	4720-01-453-9530	Hose Assembly, Nonmetallic (0FW39) 12421857	ea
25.4	O	4720-01-469-9208	Hose Assembly, Nonmetallic (19207) 12418004-002	ea
26	C		Hydraulic Fluid A (MIL-H-5606)	
		9150-00-252-6383	1 qt can	cn
		9150-00-223-4134	1 gl can	cn
27	O	7510-00-145-0559	Ink, Marking Stencil (MIL-l-43553)	oz
28	O	7510-01-386-0787	Inking Pad, Rubber Stamp	ea
29	O	9150-01-360-1905	Insulating Compound, Electrical	tu
30	O	5970-00-838-5951	Insulation Sleeving, Electrical (06090) CRN3-16BLACK	ft
30.1	O	5970-01-378-3018	Insulation Sleeving, Electrical (06090) ATUM-1/4-0-4FT	lg
31	O	5970-01-422-3579	Insulation Sleeving, Electrical (06090) ATUM 1/2 4 ft length	lg
32	O	1650-00-166-4834	Lockwire (90166) 68A32	ea
33	O	9150-01-360-1905	Lubricant, Solid Film (MIL-L-46147) 16 oz can	cn
34	O	4730-00-019-0608	Nipple, Pipe	ea
35	O	4730-00-825-7304	Nipple, Tube MS51501B4	ea
36	O	5310-00-059-4265	Nut, Plain, Hex	ea

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (CONT)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
36.1	C		Oil, Commercial Burner Fuel, Grade FO-1 (ASTM D396)	
36.2	C		Oil, Commercial Burner Fuel, Grade FO-2 (ASTM D396)	
37	C		Oil, Fuel Diesel, DF-A, Arctic (VV-F-800) (81348)	
		9140-00-286-5282	5 gl can	cn
		9140-00-286-5283	Bulk	gl
		9140-00-286-5284	55 gl drum, 16 gauge	dr
		9140-00-286-5285	55 gl drum, 18 gauge	dr
38	C		Oil, Fuel, Diesel, DF-1, Winter (VV-F-800) (81348)	
		9140-00-286-5286	Bulk	gl
		9140-00-286-5287	5 gl can	cn
		9140-00-286-5288	55 gl drum, 16 gauge	dr
		9140-00-286-5289	55 gl drum, 18 gauge	dr
39	C		Oil, Fuel, Diesel, DF-2, Regular (VV-F-800) (81348)	
		9140-00-286-5294	Bulk	gl
		9140-00-286-5295	Can	cn
		9140-00-286-5296	55 gl drum, 16 gauge	dr
		9140-00-286-5297	55 gl drum, 18 gauge	dr
40	C		Oil, Lubricating, Arctic (MIL-L-46167)	
		9150-00-402-2372	5 gl can	cn
		9150-00-491-7197	55 gl drum	dr
41	C		Oil, Lubricating, Gear, GO 75W (MIL-L-2105C)	
		9150-00-035-5390	1 qt can	cn
		9150-00-035-5391	5 gl can	cn
42	C		Oil, Lubricating, Gear, 80W-90 (MIL-L-2105C)	
		9150-01-035-5392	1 qt can	qt
		9150-01-035-5393	5 gl can	cn
		9150-01-035-5394	55 gl drum, 16 gauge	dr
43	C		Oil, Lubricating, OE/HDO 10 (MIL-L-2104)	
		9150-00-183-7807	Bulk	gl
		9150-00-186-6668	5 gl can	cn
		9150-00-191-2772	55 gl drum	dr
44	C	9150-00-189-6727	Oil, Lubricating, OE/HDO 10W (MIL-L-2104) 1 qt can	cn
45	C		Oil, Lubricating, OE/HDO 15W-40 (MIL-L-2104)	
		9150-01-152-4117	1 qt can	cn
		9150-01-152-4118	5 gl can	cn
		9150-01-152-4119	55 gl drum	dr

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (CONT)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
46	C		Oil, Lubricating, OE/HDO 30 (SAE 30) (MIL-L-2104)	
		9150-00-183-7808	Bulk	gl
		9150-00-186-6681	1 qt can	cn
		9150-00-188-9858	5 gl can	cn
		9150-00-189-6729	55 gl drum, 18 gauge	dr
47	C		Oil, Lubricating, OE/HDO 40 (MIL-L-2104)	
		9150-00-405-2987	Bulk	gl
		9150-00-189-6730	1 qt can	cn
		9150-00-188-9862	5 gl can	cn
48	O	5350-00-067-7639	Paper, Abrasive (28124) 02347 pg contains 100 sheets	pg
49	O	8010-01-146-2650	Polyurethane Coating (MIL-C-46168)	kt
50	O	8030-00-181-8372	Primer, Sealing Compound (05972) 747-56	cn
51	C	7920-00-205-1711	Rag, Wiping A-A-531	be
52		DELETED		
53	O	4020-00-855-2767	Rope, Fibrous (MIL-R-17343) 75 ft	cl
54	O	7520-00-634-2442	Rubber Stamp Set, Fixed Type	ea
55	O	5330-01-337-1108	Rubber Strip (12624) V4062	ft
56	O	5330-01-181-6482	Rubber Strip (19207) 12328583-3	ft
56.1	O	5305-00-021-3740	Screw, Cap, Hex Hd (97942) 645A560H43	ea
56.2	O	5305-01-299-4602	Screw, Cap, Hex Hd (64678) 000933 006058	ea
56.3	O	5305-01-454-5938	Screw, Cap, Hex Hd (19207) 12419954-093	ea
57	O	5305-01-296-0019	Screw, Cap, Socket Head (06888) SHCM75275 50 ct box	bx
58	O	1015-01-255-4144	Sealant, Pipe, Teflon (19207) 12297953 50 ml tube	tu
59	O	8030-00-081-2327	Sealing Compound (05972) 079-21	bx
60	O	8030-00-111-2762	Sealing Compound (05972) 290-31	bt
61	O	8030-00-133-3164	Sealing Compound (05972) 571-31	bt
62	O	8030-00-148-9833	Sealing Compound (05972) 271-21	bx
63	O	8030-00-204-9149	Sealing Compound (05972) 592-41	tu
64	O	8030-00-656-1426	Sealing Compound (81349) (MIL-S-45180)	pt
65	O	8030-01-025-1692	Sealing Compound (05972) 242-41 (MIL-S-46163)	bt
66	O	8030-01-088-8140	Sealing Compound (52571) 9001512-0011	bt

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (CONT)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
67	O		Sealing Compound (81349) (MIL-S-8802TY2CLB-2)	
		8030-00-753-5006	2 oz cartridge	ca
		8030-00-753-4599	6 oz can	kt
		8030-00-723-2746	12 oz can	kt
		8030-00-685-0915	24 oz can	kt
68	O	8030-01-155-3238	Sealing Compound (11083) 6V6640	ml
68.1	O	8030-01-371-8405	Sealing Compound (83574) PR-1422 B-1/2 6 oz	ca
69	C	7930-00-634-3935	Soap, Laundry (81348) P-S-1792	lb
70	O	3439-00-006-7764	Solder, Tin Alloy (81348) SN63WRAP3	sl
71	C		Solvent, Dry Cleaning SD (P-D-680)	
		6850-00-281-1985	1 gl can	cn
		6850-00-664-5685	1 qt can	cn
71.1	O		Strap, Tiedown, Electrical Components (06383) PLP2S	ea
72	O		Tape, Adhesive (0SHR6) 70P00002	ea
72.1	O	9320-01-244-0046	Tape, Adhesive, Rubber (18876) MIS-41157-08 180 ft	ro
73	O	8030-00-889-3534	Tape, Antiseizing (81349) (MIL-T-27730)	ea
74	O	5640-00-103-2254	Tape, Duct (39428) 1791K70	ea
75	O	5970-00-644-3167	Tape, Insulation, Electrical (80063) TL83	ro
75.1	O	4730-00-138-8050	Tee, Pipe (81343) 8-8-8 140424C	ea
76	O	5975-01-379-4997	Ties, Cable, Plastic (06383) PLT 35-C-O	hd
	C		Turbine Fuel, Aviation, Kerosene Type (MIL-T-83133), Grade JP-8	
	C		Turbine Fuel, (MIL-F-16884), (NATO Code No. F75 or F-72)	
		9140-00-255-7764	5 gl can	cn
		9140-00-273-2378	55 gl drum	dr
		9140-00-273-2377	1 gl can	cn
	C		Turbine Fuel, (MIL-F-5624), Grade JP-4 (NATO Code No. F40)	
		9130-00-273-2380	Drum, 16 gage	dr
	C		Turbine Fuel, (MIL-T-5624), Grade JP-5 (NATO Code No. F-44)	
		9130-01-305-5596	Bulk	gl
		9130-01-250-6353	Drum, 16 gage	dr
77	O	6145-01-148-2263	Wire, Electrical (80009) 175-0825-00 50 ft	ft

APPENDIX E
ILLUSTRATED LIST OF MANUFACTURED ITEMS

Section I. INTRODUCTION

E-1. INTRODUCTION

This appendix includes complete instructions for manufacturing or fabricating authorized items locally. All bulk materials needed to manufacture an item are listed by part number or specification number. Figures are provided as needed. See standards and specifications DoD-Std-00100D(AR) and ANSI Y14.5M1982 for required details.

Section II. MANUFACTURED ITEMS INDEX

ITEM NAME/PART NUMBER	ITEM DESCRIPTION	PARA NO.
Brake Adjusting Tool Support		E-2
Brake Plunger Seal Driver		E-3
Cab Support Tool		E-4
Headlight Adjustment Screen		E-5
M1079 Blackout Shield Seals		E-6
M1079 Door Gaskets		E-7
M1079 Window Sash Glazing Seals		E-8
Relay Test Wire		E-9
Wheel Bearing Shim Tool Rest		E-10
12414690-001	Pneumatic Tube	E-11
12414690-002	Pneumatic Tube	E-11
12414690-004	Pneumatic Tube	E-11
12414690-005	Pneumatic Tube	E-11
12414690-010	Pneumatic Tube	E-11
12414690-101	Pneumatic Tube	E-11
12414690-102	Pneumatic Tube	E-11
12414690-103	Pneumatic Tube	E-11
12414690-104	Pneumatic Tube	E-11
12414690-105	Pneumatic Tube	E-11
12414690-106	Pneumatic Tube	E-11
12414690-107	Pneumatic Tube	E-11
12414690-108	Pneumatic Tube	E-11
12414690-109	Pneumatic Tube	E-11
12414690-112	Pneumatic Tube	E-11
12414690-113	Pneumatic Tube	E-11
12414690-115	Pneumatic Tube	E-11
12414690-117	Pneumatic Tube	E-11
12414690-118	Pneumatic Tube	E-11
12414690-119	Pneumatic Tube	E-11
12414690-120	Pneumatic Tube	E-11
12414690-121	Pneumatic Tube	E-11
12414690-122	Pneumatic Tube	E-11
12414690-123	Pneumatic Tube	E-11
12414690-124	Pneumatic Tube	E-11
12414690-125	Pneumatic Tube	E-11
12414690-126	Pneumatic Tube	E-11
12414690-127	Pneumatic Tube	E-11
12414690-201	Pneumatic Tube	E-11
12414690-202	Pneumatic Tube	E-11

Section II. MANUFACTURED ITEMS INDEX (CONT)

ITEM NAME/PART NUMBER	ITEM DESCRIPTION	PARA NO.
12414690-203	Pneumatic Tube	E-11
12414690-205	Pneumatic Tube	E-11
12414690-206	Pneumatic Tube	E-11
12414690-207	Pneumatic Tube	E-11
12414690-208	Pneumatic Tube	E-11
12414690-209	Pneumatic Tube	E-11
12414690-210	Pneumatic Tube	E-11
12414690-211	Pneumatic Tube	E-11
12414690-212	Pneumatic Tube	E-11
12414690-213	Pneumatic Tube	E-11
12414690-214	Pneumatic Tube	E-11
12414690-215	Pneumatic Tube	E-11
12414690-216	Pneumatic Tube	E-11
12414690-217	Pneumatic Tube	E-11
12414690-218	Pneumatic Tube	E-11
12414690-219	Pneumatic Tube	E-11
12414690-220	Pneumatic Tube	E-11
12414690-221	Pneumatic Tube	E-11
12414690-222	Pneumatic Tube	E-11
12414690-223	Pneumatic Tube	E-11
12414690-224	Pneumatic Tube	E-11
12414690-225	Pneumatic Tube	E-11
12414690-226	Pneumatic Tube	E-11
12414690-227	Pneumatic Tube	E-11
12414690-228	Pneumatic Tube	E-11
12414690-229	Pneumatic Tube	E-11
12414690-230	Pneumatic Tube	E-11
12414690-231	Pneumatic Tube	E-11
12414690-301	Pneumatic Tube	E-11
12414690-302	Pneumatic Tube	E-11
12414690-303	Pneumatic Tube	E-11
12416381P1	Non-Metallic Electrical Cable Conduit	E-12
12416381P10	Non-Metallic Electrical Cable Conduit	E-12
12416381P11	Non-Metallic Electrical Cable Conduit	E-12
12416381P12	Non-Metallic Electrical Cable Conduit	E-12
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12416381P14	Non-Metallic Electrical Cable Conduit	E-12
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12416381P17	Non-Metallic Electrical Cable Conduit	E-12
12416381P2	Non-Metallic Electrical Cable Conduit	E-12
12416381P20	Non-Metallic Electrical Cable Conduit	E-12
12416381P21	Non-Metallic Electrical Cable Conduit	E-12
12416381P22	Non-Metallic Electrical Cable Conduit	E-12
12416381P23	Non-Metallic Electrical Cable Conduit	E-12
12416381P26	Non-Metallic Electrical Cable Conduit	E-12
12416381P3	Non-Metallic Electrical Cable Conduit	E-12
12416381P30	Non-Metallic Electrical Cable Conduit	E-12
12416381P32	Non-Metallic Electrical Cable Conduit	E-12
12416381P34	Non-Metallic Electrical Cable Conduit	E-12
12416381P35	Non-Metallic Electrical Cable Conduit	E-12

ITEM NAME/PART NUMBER	ITEM DESCRIPTION	PARA NO.
12416381P36	Non-Metallic Electrical Cable Conduit	E-12
12416381P37	Non-Metallic Electrical Cable Conduit	E-12
12416381P38	Non-Metallic Electrical Cable Conduit	E-12
12416381P4	Non-Metallic Electrical Cable Conduit	E-12
12416381P5	Non-Metallic Electrical Cable Conduit	E-12
12416381P6	Non-Metallic Electrical Cable Conduit	E-12
12416381P7	Non-Metallic Electrical Cable Conduit	E-12
12416381P8	Non-Metallic Electrical Cable Conduit	E-12
12416381P9	Non-Metallic Electrical Cable Conduit	E-12
12418037	Steering Gear Return Hose	E-13
12418460-001	Transmission Oil Cooler Hose	E-13
12418460-002	Transmission Oil Cooler Hose	E-13
12418763	Lanyard Assembly	E-14
12420196	Lanyard Assembly	E-14
12420197-001	Non-Metallic Vent Air Hose	E-15
12420197-002	Non-Metallic Vent Air Hose	E-15
12420197-003	Non-Metallic Vent Air Hose	E-15
12420197-004	Non-Metallic Vent Air Hose	E-15
12420197-005	Non-Metallic Vent Air Hose	E-15
12420197-006	Non-Metallic Vent Air Hose	E-15
12420198-001	Non-Metallic Vent Air Hose	E-15
12420198-002	Non-Metallic Vent Air Hose	E-15
12420308-457	Personnel Heater Air Duct Hose	E-16
12420308-760	Personnel Heater Air Duct Hose	E-16
12420489	Block Seal	E-17
3256-H-1048	CTIS Seal Driver	E-18
3256-K-1051	Wheel Hub Grease Seal Driver	E-19
Dimmer Switch Test Wire		E-20
Purge Valve Tool		E-21

Section III. MANUFACTURED ITEMS

E-2. BRAKE ADJUSTING TOOL SUPPORT

Make the brake adjusting tool support from 0.134 in. (3.4 mm) flat steel stock according to the following instructions. Refer to the parts list and **Figure E-1. Brake Adjusting Tool Support** for details.

Item	Part Number	Material Description	Size	Qty
1	N/A	Steel, ASTM A569 Sheet, Hot Rolled	6.0 in. (152.4 mm) x 6.0 in. (152.4 mm) x 0.134 in. (3.4 cm)	2

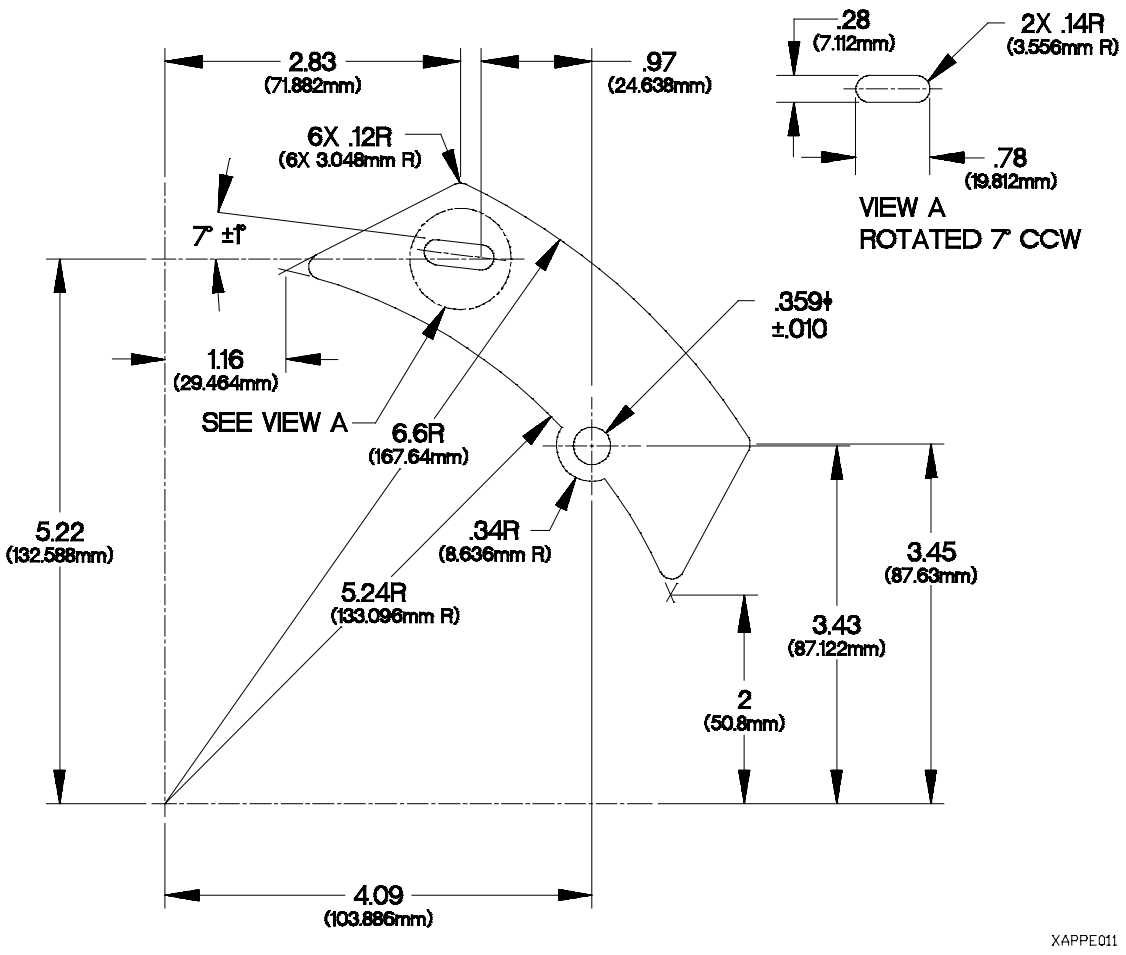


Figure E-1. Brake Adjusting Tool Support

a. All dimensions are in inches (millimeters).
b. Cut steel sheet as shown by dimensions on **Figure E-1. Brake Adjusting Tool Support**.
c. De-burr and remove sharp edges.

E-3. BRAKE PLUNGER SEAL DRIVER

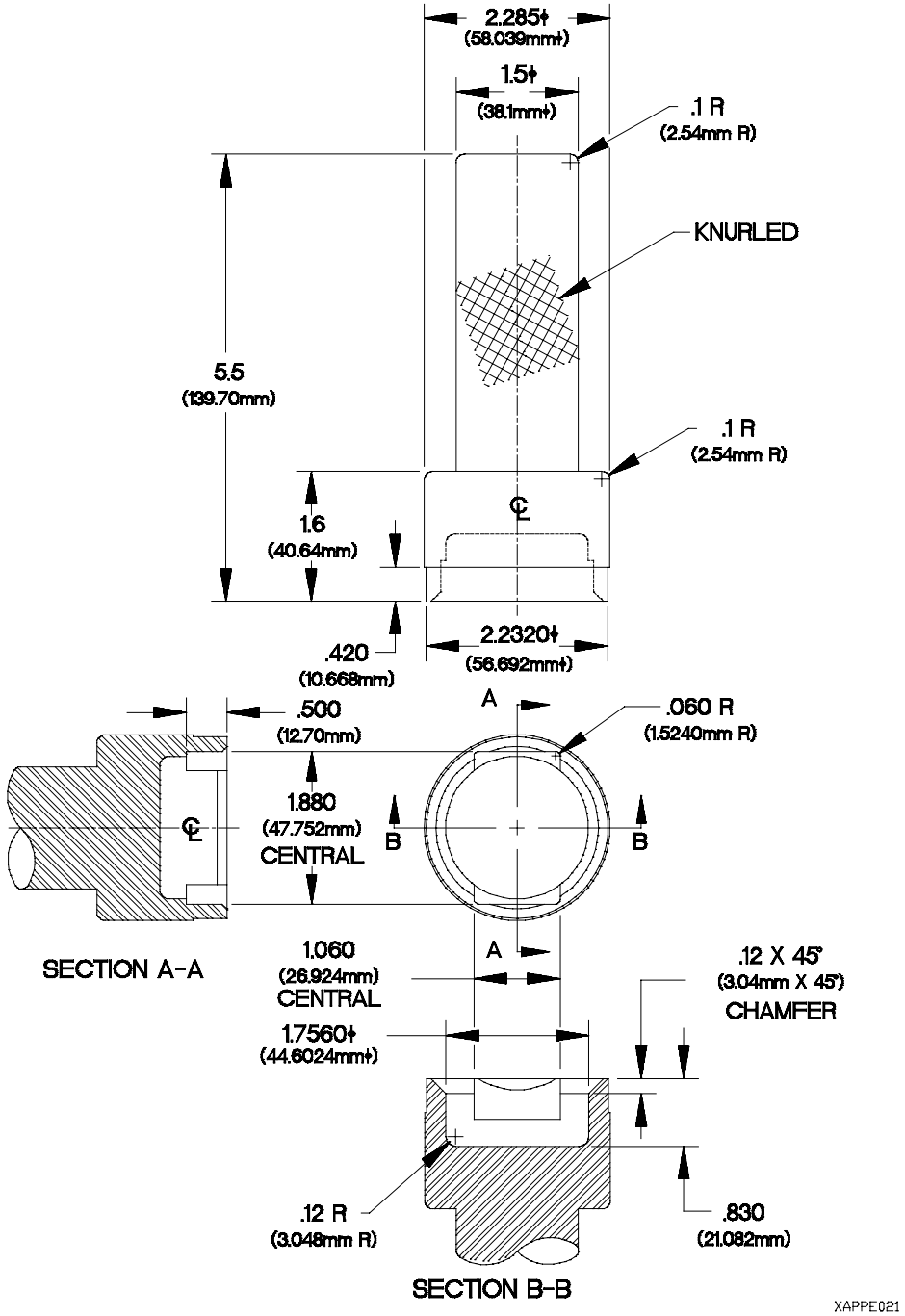


Figure E-2. Brake Plunger Seal Driver

a. All dimensions are in inches (millimeters).
b. Manufacture from round steel stock.
c. De-burr and remove sharp edges.

E-4. CAB SUPPORT TOOL

Make the cab support tool from .38 inch (.96 cm) flat steel stock and angle iron stock according to the following instructions. Refer to the parts list and **Figure E-3. Cab Support Tool Strut and Cab Rest** for details.

Item	Part Number	Material Description	Size	Qty
1	N/A	Steel, Flat Bar	4.0 in. (10.2 cm) X 33.38 in. X (84.8 cm) X 0.38 in. (0.96 cm)	1
2	N/A	Steel, Flat Bar	4.0 in. (10.2 cm) X 12.0 in. (30.5 cm) X 0.38 in. (0.96 cm)	1
3	N/A	Angle Iron	2.0 in. (5.1 cm) X 2.0 in. (5.1 cm) X 3.5 in. (8.9 cm)	2
4	H.S.105VW-1	Insulgrip, CSA 105 C		

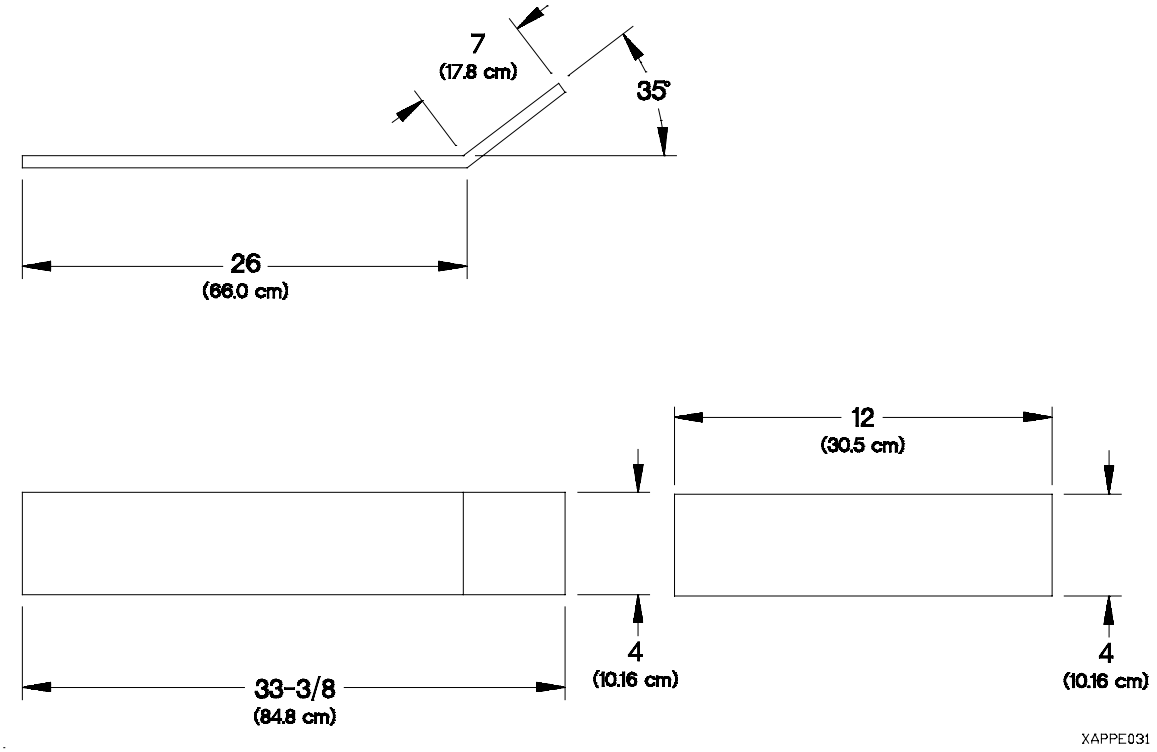


Figure E-3. Cab Support Tool Strut and Cab Rest

a. All dimensions are in inches (centimeters).
b. Cut cab support tool strut (1) from steel flat bar and bend to shape as shown in **Figure E-3. Cab Support Tool Strut and Cab Rest**.
c. Cut cab support tool cab rest (2) from steel flat bar.
d. De-burr and remove sharp edges.

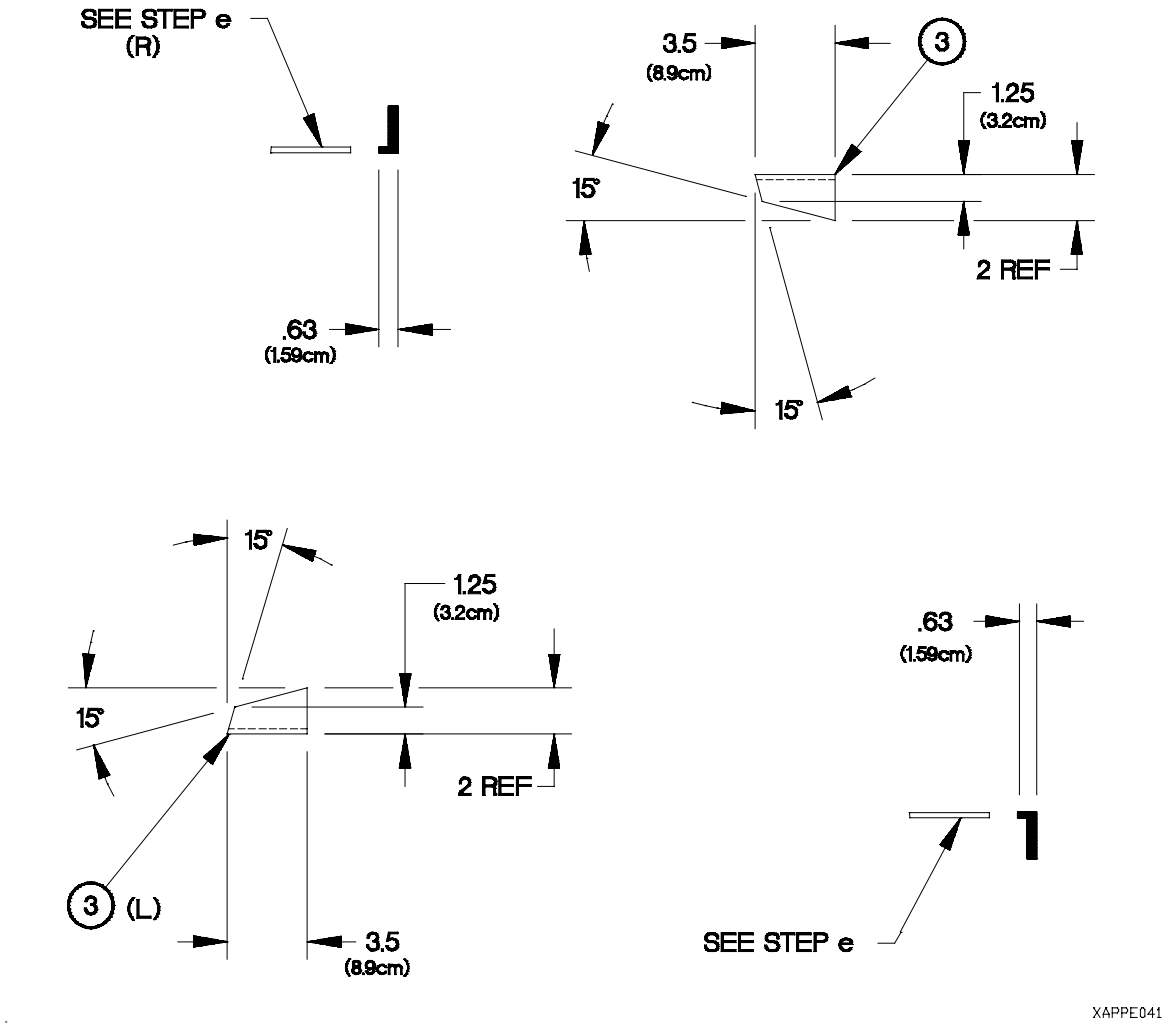


Figure E-4. Cab Support Tool Seat

e. Remove flange side of cab support tool seats (3) as shown in **Figure E-4. Cab Support Tool Seat**.
f. Cut cab support tool seats (3) L and (3) R according to dimensions and left\right orientation shown on **Figure E-4. Cab Support Tool Seat**.
g. De-burr and remove sharp edges.

E-4. CAB SUPPORT TOOL (CONT)

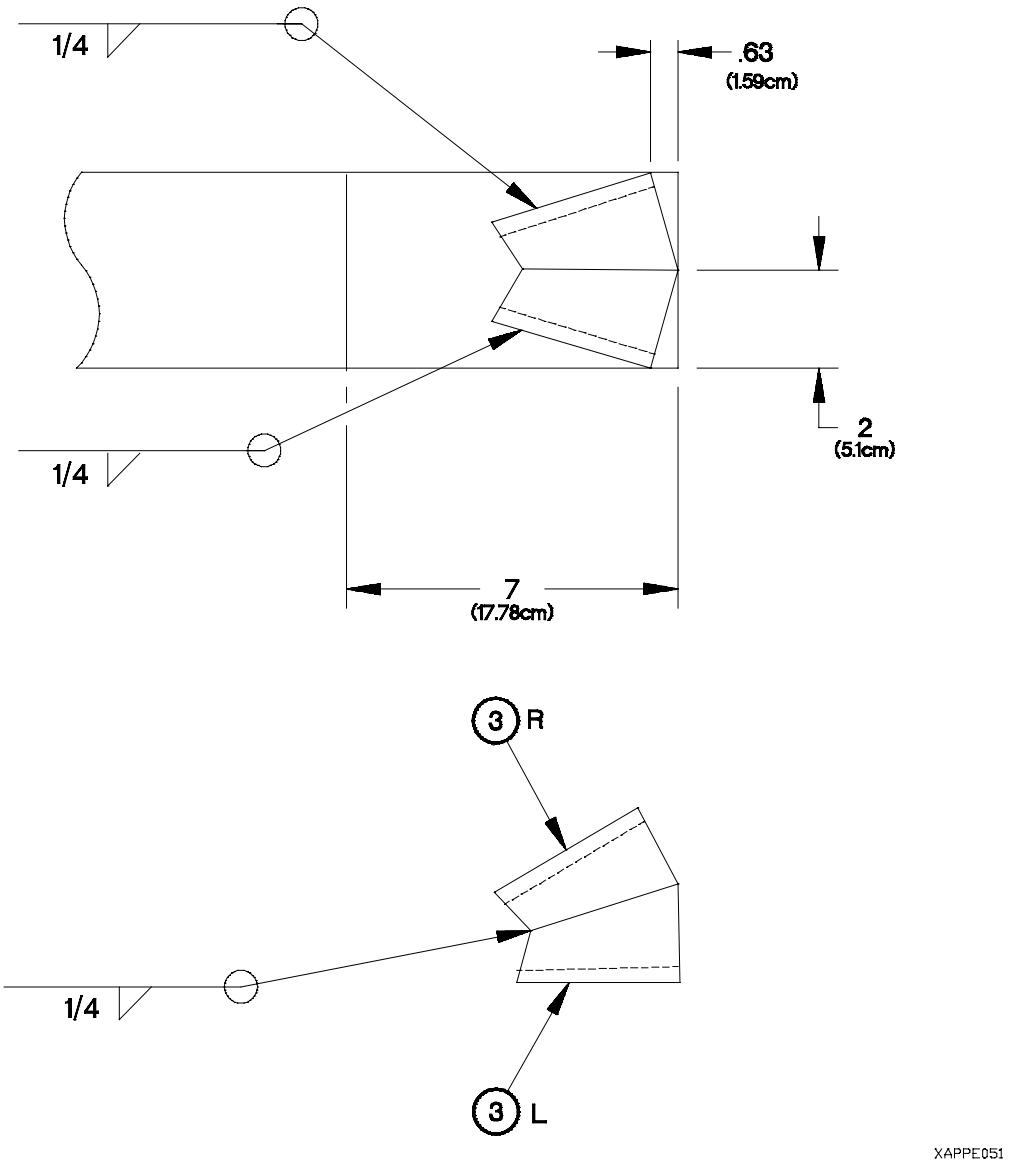


Figure E-5. Cab Support Tool Seat Layout

h. Position and clamp cab support tool seats (3) L and (3) R together as shown by dimensions on **Figure E-5. Cab Support Tool Seat Layout**.
i. Weld cab support tool seat (3) L to cab support tool seat (3) R as identified on assembly table and **Figure E-5. Cab Support Tool Seat Layout**.
j. Position and clamp cab support tool seats (3) L and (3) R to cab support tool strut (1) as shown by dimensions on **Figure E-5. Cab Support Tool Seat Layout**.
k. Weld items clamped in step (f) as shown in **Figure E-5. Cab Support Tool Seat Layout**.
l. De-burr and remove sharp edges.

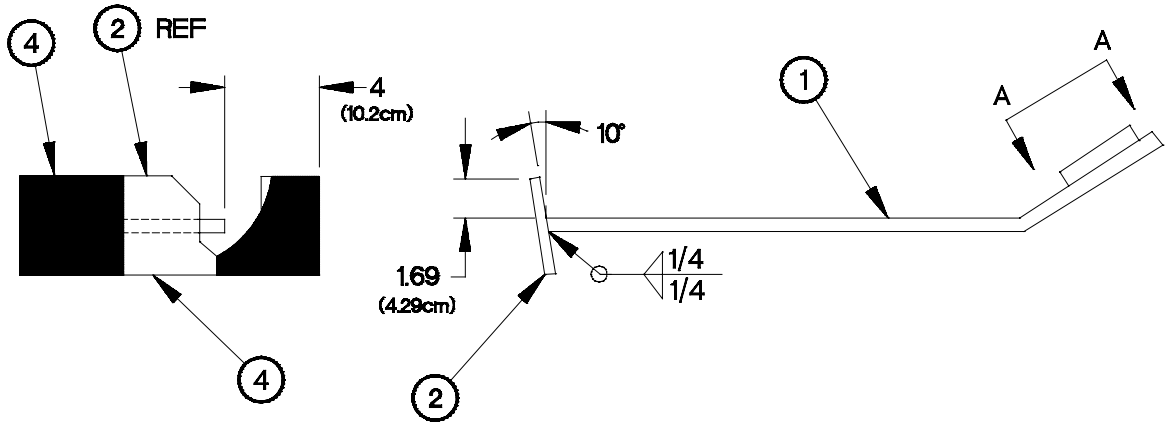


Figure E-6. Cab Support Tool Assembly

m. Position and clamp cab support tool strut (1) to cab support tool cab rest (2) as shown by dimensions on **Figure E-6. Cab Support Tool Assembly**, before insulgrip (4) is applied.
n. Weld cab support tool strut (1) to cab support tool cab rest (2).
o. Apply Insulgrip (4) to cab support tool cab rest (2) as described on material container.

E-5. HEADLIGHT ADJUSTMENT SCREEN

The headlight adjustment screen may be drawn on any vertical surface at least 50 in. (127 cm) high and 100 in. (254 cm) wide.

a. Draw two vertical lines (1) 50 in. (127 cm) high and 90.6 in. (230 cm) apart (centered on headlight adjustment screen).

b. Locate two points 40 in. (101.6 cm) from floor and 13 in. (33 cm) toward the center from each vertical line (1).

c. Draw vertical line (2) about 3-5 in. (8-13 cm) centered on each of the two points.

d. Draw horizontal line (3) about 3-5 in. (8-13 cm) centered on each of the two points.

e. Measure out 4 in. (10 cm) along each vertical line (2) and horizontal line (3) from each of the two points to make 8 in. (20 cm) squares (4).

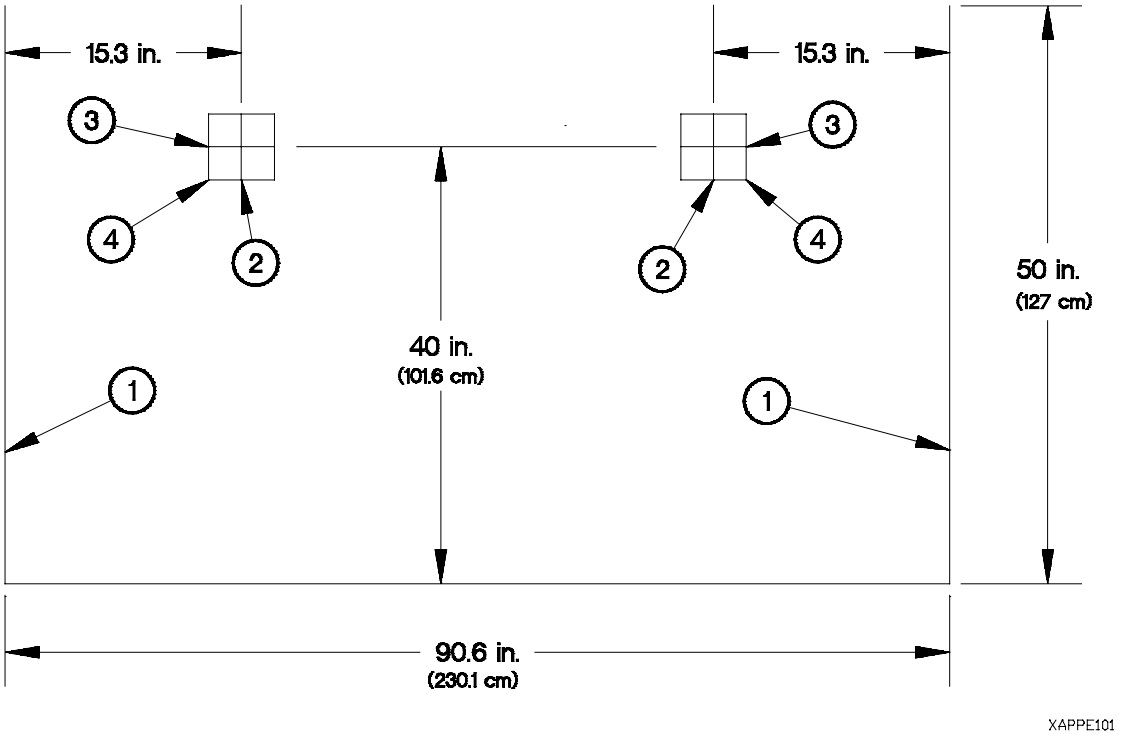


Figure E-7. Headlight Adjustment Screen

E-6. M1079 BLACKOUT SHIELD SEALS

Fabricate the M1079 blackout shield seals according to the following steps. Refer to the following parts list for materials.

Description	Material Part Number	CAGE Code	Cut Length
Blackout Shield Header Seal	942P00001	0SHR6	28-3/4 in. (730 mm)
Blackout Shield Jamb Seal (van body serial numbers 001 through 190)	942P00001	0SHR6	63-3/8 in. (1610 mm)
Blackout Shield Jamb Seal (van body serial number 191 and higher)	942P00001	0SHR6	33 in. (838 mm)

a. Dimensions are in inches (millimeters).
b. Cut seal material to the specified length using a fine-toothed hacksaw or other suitable cutting tool.

E-7. M1079 DOOR GASKETS

Fabricate the M1079 door gaskets according to the following steps. Refer to the following parts list for materials.

Description	Material Part Number	CAGE Code	Cut Length
LH Door Gasket	12416417	19207	214 in. (5435 mm)
RH Door Gasket	12416417	19207	197 in. (5004 mm)

a. Dimensions are in inches (millimeters).
b. Cut seal material to the specified length using a fine-toothed hacksaw or other suitable cutting tool.
c. Glue ends of gasket to each other using adhesive MIL-A-46106 GP1TY1 (Item 11, Appendix D).

E-8. M1079 WINDOW SASH GLAZING SEALS

Fabricate the M1079 window sash glazing seals according to the following steps. Refer to the following parts list for materials.

Description	Material Part Number	CAGE Code	Cut Length
Window Sash Top/Bottom Seal	941P00001	0SHR6	26-13/16 in. (681 mm)
Window Sash Side Seal (van body serial numbers 001 through 190)	941P00001	0SHR6	28-1/2 in. (724 mm)
Window Sash Side Seal (van body serial number 191 and higher)	941P00001	0SHR6	12-11/16 in. (322 mm)

a. Dimensions are in inches (millimeters).
b. Cut seal material to the specified length using a fine-toothed hacksaw or other suitable cutting tool.

NOTE

Cut miters so that short side of seal faces toward glass.

c. Cut 45-degree miters on ends of window sash seals.

E-9. RELAY TEST WIRE

Fabricate the relay test wire according to the following steps. Refer to the following parts list for materials.

Material Description	National Stock Number	Cut Length
Wire, Electrical (MIL-W-16878)	6145-00-330-3318	6 in. (152 mm)

a. Dimensions are in inches (millimeters).
b. Cut a length of wire six inches (152 mm) long.
c. Remove approximately 3/4 in. (19 mm) of electrical insulation from each end of wire.

E-10. WHEEL BEARING SHIM TOOL REST

Fabricate the wheel bearing shim tool rest according to the following steps. Refer to the following parts list for materials.

Part Number	National Stock Number	Description
QQ-T-570	9510-00-866-1037	Bar, Metal

a. Dimensions are in inches (millimeters).
b. Cut metal bar to 9.0 inches (228.6 mm) long.
c. De-burr and remove sharp edges from ends of metal bar.

E-11. PNEUMATIC TUBES FABRICATION

Cut pneumatic tubes from bulk tubing stock listed **Table E-1. Pneumatic Tube Lengths**. Use a fine-toothed hacksaw or suitable cutting device and cut tubing to required length.

Table E-1. Pneumatic Tube Lengths

Tube Part Number	Bulk Tubing Part Number	Cut Length	
		inches	cm
12414690-001	NT-100-4 (79470)	18.1	46.0
12414690-002	NT-100-4 (79470)	16.0	40.6
12414690-004	NT-100-4 (79470)	74.8	190.0
12414690-005	NT-100-4 (79470)	69.7	177.0
12414690-010	NT-100-4 (79470)	180.0	457.2
12414690-101	J844TYBSIZE 3/8 (81343)	18.0	45.7
12414690-102	J844TYBSIZE 3/8 (81343)	35.4	90.0
12414690-103	J844TYBSIZE 3/8 (81343)	20.9	53.0
12414690-104	J844TYBSIZE 3/8 (81343)	13.8	35.0
12414690-105	J844TYBSIZE 3/8 (81343)	11.8	30.0
12414690-106	J844TYBSIZE 3/8 (81343)	20.5	52.0
12414690-107	J844TYBSIZE 3/8 (81343)	39.0	99.0
12414690-108	J844TYBSIZE 3/8 (81343)	15.4	39.0
12414690-109	J844TYBSIZE 3/8 (81343)	23.0	58.4
12414690-112	J844TYBSIZE 3/8 (81343)	80.0	198.0
12414690-113	J844TYBSIZE 3/8 (81343)	11.4	29.0
12414690-115	J844TYBSIZE 3/8 (81343)	82.8	210.2
12414690-117	J844TYBSIZE 3/8 (81343)	156.5	397.5
12414690-118	J844TYBSIZE 3/8 (81343)	11.8	30.0
12414690-119	J844TYBSIZE 3/8 (81343)	269.5	684.5
12414690-120	J844TYBSIZE 3/8 (81343)	11.9	30.2
12414690-121	J844TYBSIZE 3/8 (81343)	43.0	109.2
12414690-122	J844TYBSIZE 3/8 (81343)	44.1	112.0
12414690-123	J844TYBSIZE 3/8 (81343)	259.4	659.0
12414690-124	J844TYBSIZE 3/8 (81343)	288.2	732.0
12414690-125	J844TYBSIZE 3/8 (81343)	10.8	27.3
12414690-126	J844TYBSIZE 3/8 (81343)	17.0	43.2
12414690-127	J844TYBSIZE 3/8 (81343)	17.0	43.2

E-11. PNEUMATIC TUBES FABRICATION (CONT)

Table E-1. Pneumatic Tube Lengths (Cont)

Tube Part Number	Bulk Tubing Part Number	Cut Length	
		inches	cm
12414690-201	C608-100BLK (13174)	14.8	37.5
12414690-202	C608-100BLK (13174)	14.0	35.7
12414690-203	C608-100BLK (13174)	6.5	16.5
12414690-205	C608-100BLK (13174)	14.5	36.8
12414690-206	C608-100BLK (13174)	14.9	37.7
12414690-207	C608-100BLK (13174)	15.5	39.5
12414690-208	C608-100BLK (13174)	6.7	17.0
12414690-209	C608-100BLK (13174)	19.5	49.5
12414690-210	C608-100BLK (13174)	15.5	39.3
12414690-211	C608-100BLK (13174)	8.0	20.3
12414690-212	C608-100BLK (13174)	16.9	43.0
12414690-213	C608-100BLK (13174)	118.5	301.0
12414690-214	C608-100BLK (13174)	124.0	315.0
12414690-215	C608-100BLK (13174)	163.0	414.0
12414690-216	C608-100BLK (13174)	160.0	406.4
12414690-217	C608-100BLK (13174)	62.6	159.0
12414690-218	C608-100BLK (13174)	119.8	304.2
12414690-219	C608-100BLK (13174)	69.0	175.3
12414690-220	C608-100BLK (13174)	45.5	115.6
12414690-221	C608-100BLK (13174)	12.6	32.0
12414690-222	C608-100BLK (13174)	5.5	14.0
12414690-223	C608-100BLK (13174)	14.6	37.1
12414690-224	C608-100BLK (13174)	170.0	431.8
12414690-225	C608-100BLK (13174)	174.0	442.0
12414690-226	C608-100BLK (13174)	103.5	263.0
12414690-227	C608-100BLK (13174)	32.8	83.2
12414690-228	C608-100BLK (13174)	3.5	8.9
12414690-229	C608-100BLK (13174)	62.2	158.1
12414690-230	C608-100BLK (13174)	14.6	37.0
12414690-231	C608-100BLK (13174)	60.5	153.7
12414690-301	PFT-10B-BLK-100 (61424)	19.0	48.3
12414690-302	PFT-10B-BLK-100 (61424)	56.0	142.2
12414690-303	PFT-10B-BLK-100 (61424)	118.1	300.0

E-12. NON-METALLIC ELECTRICAL CABLE CONDUIT FABRICATION

Make conduit to cover electrical cables described on 1241638 from bulk tube stock listed in **Table E-2. Non-Metallic Electrical Cable Conduit Lengths**. Use a fine-toothed hacksaw or suitable cutting device and cut hose/tube to required length.

Table E-2. Non-Metallic Electrical Cable Conduit Lengths

Tube Part Number	Bulk Tube Part Number	Cut Length	
		inch	cm
12416381P1	49008	8.9	22.6
12416381P10	49008	17.8	45.2
12416381P11	49008	29.9	75.9
12416381P12	49008	33.0	83.8
12416381P13	49008	13.9	35.3
12416381P14	49008	4.0	10.2
12416381P15	49008	17.4	44.2
12416381P16	49008	3.2	8.1
12416381P17	49008	4.5	11.4
12416381P2	49008	16.2	41.1
12416381P20	27413	32.8	83.3
12416381P21	27413	9.2	23.4
12416381P22	27413	8.0	20.3
12416381P23	27413	23.3	59.2
12416381P26	49008	2.5	6.4
12416381P3	27413	7.3	18.5
12416381P30	49007	17.0	43.2
12416381P32	49005	1.7	4.3
12416381P34	49005	20.7	52.6
12416381P35	49005	21.8	55.4
12416381P36	49005	5.5	14.0
12416381P37	49005	8.0	20.3
12416381P38	49008	3.7	9.4
12416381P4	49008	12.0	30.5
12416381P5	49008	26.0	66.0
12416381P6	49008	7.7	19.6
12416381P7	49008	26.7	67.8
12416381P8	49008	5.2	13.2
12416381P9	49008	16.8	42.7

E-13. STEERING GEAR RETURN HOSE AND TRANSMISSION OIL COOLER HOSES FABRICATION

Cut the following hoses from bulk hose using a fine-toothed hacksaw or suitable cutting device.

Hose Part Number	Bulk Hose Part Number	Cut Length	
		inches	cm
12418037	A110 (30327)	75.5	191.7
12418460-001	MS521302B110360 (96906)	17.5	44.4
12418460-002	MS521301A206R (96906)	16.0	40.6

E-14. LANYARD ASSEMBLIES P/N 12418763 AND 12420196 FABRICATION

Make the following lanyard assemblies from bulk cable material, sleeves, and tab material and assemble according to **Figure E-8. Lanyard Assembly**. The following parts list identifies part numbers and lengths of cut pieces.

Item	Part Number	Material Description	Size	Qty
1	MIL-W-83420 Type 1, Comp B	1/16 in. stranded wire cable	4 in. (102 mm)	1
2	MS51844-22	Sleeve		2
3	N/A	Tab, Stainless Steel ASTM A617	.06 in. (16 cm) X .37 in. (9.5 mm) X 1.25 in. (32 mm)	1

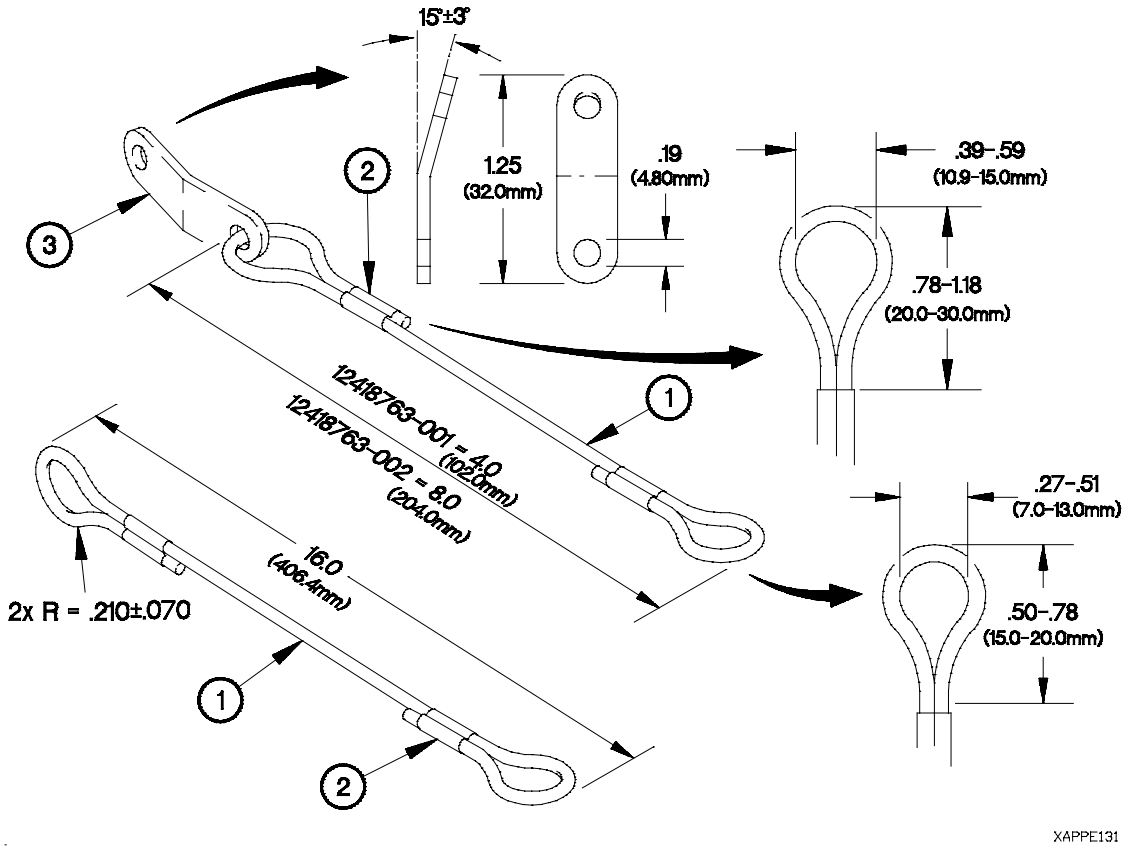


Figure E-8. Lanyard Assembly

a. All dimensions are in inches (millimeters).
b. Make from bulk cable and flat steel material as identified in parts list.
c. Drill two 0.19 in. (4.8 mm) diameter holes through tab material as shown on **Figure E-14. Lanyard Assembly**.
d. De-burr and remove sharp edges.
e. Bend tab as shown on **Figure E-14. Lanyard Assembly**.
f. Form loops on cable ends and insert sleeve material over cable on one end of cable and over cable and through sleeve at other end of cable as shown in **Figure E-14. Lanyard Assembly**.
g. Crimp two sleeves over cable ends.

E-15. NON-METALLIC VENT AIR HOSES FABRICATION

Cut the following vent air hoses from bulk hose using a fine-toothed hacksaw or suitable cutting device.

Hose Part Number	Bulk Hose Part Number	Cut Length	
		inches	cm
12420197-001	483666 (02280)	180.0	457.2
12420197-002	483666 (02280)	120.0	304.8
12420197-003	483666 (02280)	96.0	243.8
12420197-004	483666 (02280)	36.0	91.4
12420197-005	483666 (02280)	156.0	396.2
12420197-006	483666 (02280)	72.0	182.9
12420198-001	881-16 (98441)	120.0	304.8
12420198-002	11657469	36.0	91.4

E-16. PERSONNEL HEATER AIR DUCT HOSE FABRICATION

Cut the following hoses from bulk hose using a fine-toothed hacksaw or suitable cutting device.

Hose Part Number	Bulk Hose Part Number	Cut Length	
		inches	cm
12420308-457	8711054 (19207)	18.3	46.4
12420308-760	8711054 (19207)	30.4	77.2

E-17. BLOCK SEAL 12420489 FABRICATION

Make block seal from P/N (0VXY8) STN2.38X.5. Use a suitable cutting tool to cut seal to 0.52 inch (1.3 cm) long.

E-18. CTIS SEAL DRIVER 3256-H-1048

Used on Front and Rear Axle CTIS Seals.

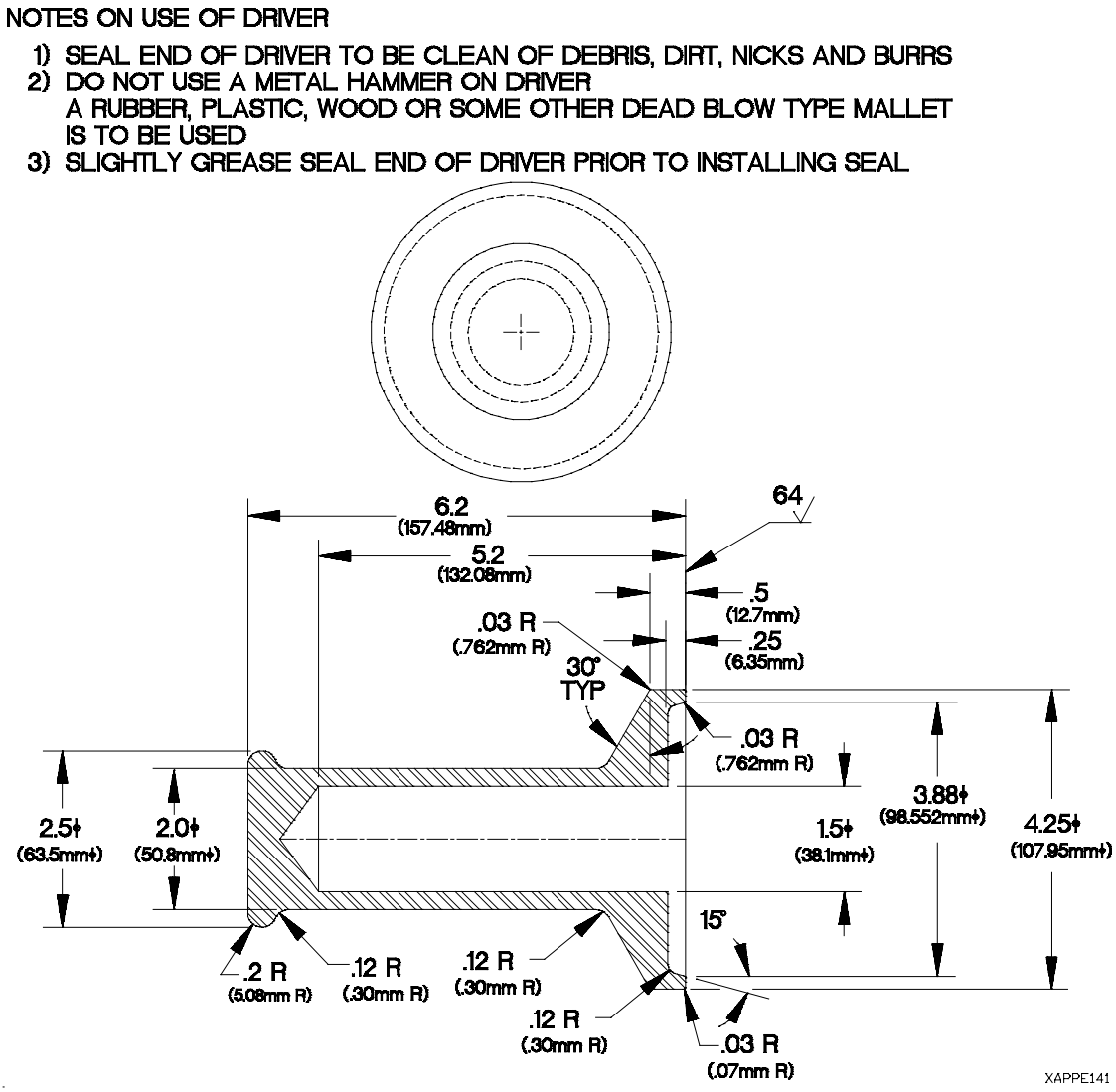


Figure E-9. CTIS Seal Driver

a. All dimensions are in inches (millimeters).
b. Manufacture from round steel stock.
c. De-burr and remove sharp edges.

E-19. WHEEL HUB GREASE SEAL DRIVER 3256-K-1051

NOTES ON USE OF DRIVER

1) SEAL END OF DRIVER TO BE CLEAN OF DEBRIS, DIRT, NICKS AND BURRS
2) DO NOT USE A METAL HAMMER ON DRIVER
   A RUBBER, PLASTIC, WOOD OR SOME OTHER DEAD BLOW TYPE MALLET
   IS TO BE USED
3) SLIGHTLY GREASE SEAL END OF DRIVER PRIOR TO INSTALLING SEAL

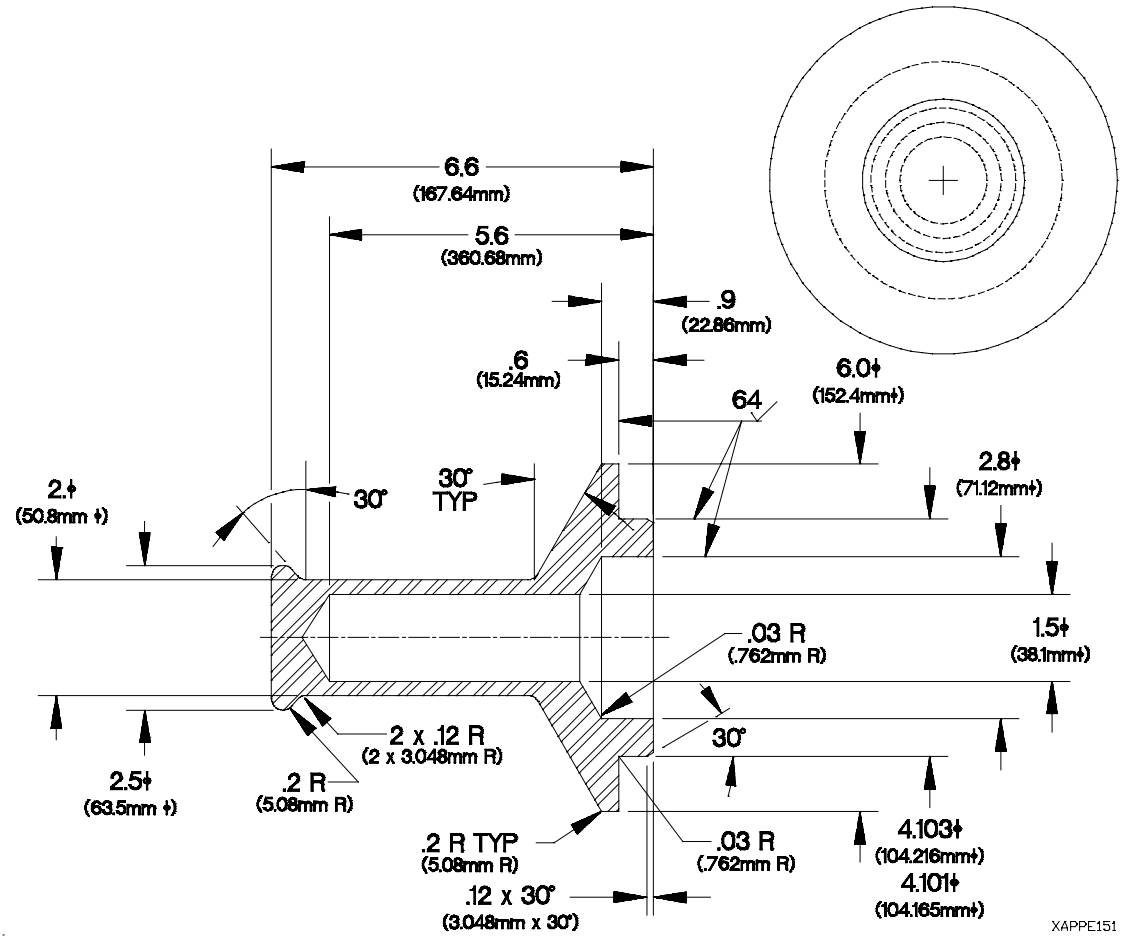


Figure E-10. Wheel Hub Grease Seal Driver

a. All dimensions are in inches (millimeters).
b. Manufacture from round steel stock.
c. De-burr and remove sharp edges.

E-20. DIMMER SWITCH TEST WIRE

Fabricate the dimmer switch test wire according to the following steps. Refer to the following parts list for materials.

Material Description	National Stock Number	Quantity	Cut Length
Wire, Electrical (M168678/14BKE9)	6145-01-229-4134	1	12 in (305 mm)
Pin, Grooved, Headless (12258939-1)	5315-01-156-6314	1	
Contact, Electrical (12258939-2)	5999-01-150-8808	1	

a. Dimensions are in inches (millimeters).
b. Cut a length of electrical wire approximately 12 in. (305 mm) long.
c. Remove approximately 1/4 in. (6 mm) of insulation from each end of electrical wire.
d. Crimp headless grooved pin on one end of electrical wire.
e. Crimp electrical contact on opposite end of electrical wire.

E-21. PURGE VALVE TOOL

Fabricate Purge Valve Tool according to the following instructions. Refer to Figure E-11. Purge Valve Tool for details.

Item	Part Number	Material Description	Size	Qty
1	N/A	Steel, ASTM A 108 or A576 Grade 1015-1025, BAR (Ref UNS G10150-G10250). Finish Black Oxide Coat, Class I, IAW MIL-C-13924.	14.0 in. (356 mm)	1

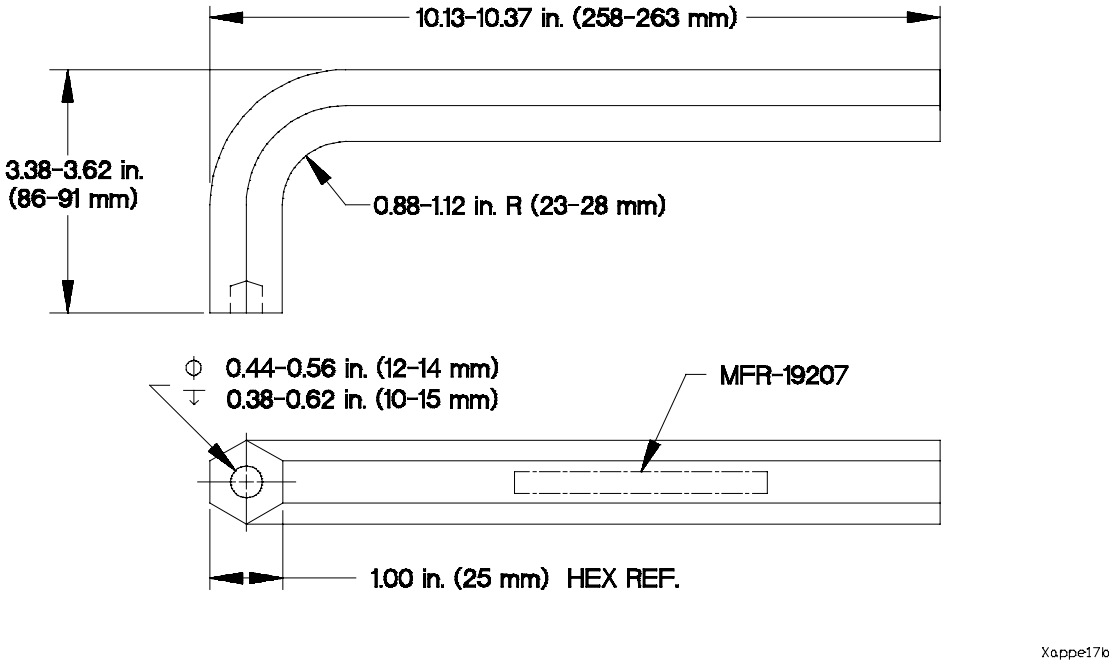


Figure E-11. Purge Valve Tool

a. All dimensions are in inches (cm).
b. Cut steel bar (1) and bend to shape as shown in Figure E-11.
c. Dimensional limits apply after coating.
d. All edges shall be broken and free from burrs.
e. Metal Stamp, electro etch, or engrave with the following marking IAW MIL-STD-130: 19207-12379968 MFR-19207.

APPENDIX F
TORQUE LIMITS

F-1. GENERAL

This appendix provides general torque limits for screws and nuts used on the vehicle. Special torque limits are shown in the maintenance procedures for applicable components. Use the general torque limit given in this appendix when specific torque limits are not given in the maintenance procedure. These general torque limits can not be applied to screws that retain rubber components. The rubber components will be damaged before the torque limit is reached. If a special torque limit is not given in the maintenance instructions for a fastener which retains a rubber component, tighten the screw or nut until it touches metal, then tighten one more turn. Whenever possible, the tightening force (torque) should be applied to the nut side of the fastener group.

F-2. TORQUE LIMITS

Refer to **Table F-1. Torque Limits for SAE and ANSI Fasteners** for torque limits on standard (SAE and ANSI) screws and free spinning nuts. Refer to **Table F-2. Torque Limits for SAE and ANSI Prevailing Torque Nuts** for torque limits on standard (SAE and ANSI) self-locking nuts. Refer to **Table F-3. Torque Limits for Metric Screws and Free Spinning Nuts** for torque limits on metric screws and free spinning nuts. Refer to **Table F-4. Torque Limits for Metric Prevailing Torque Nuts** for torque limits on metric self-locking nuts.

F-3. USE OF TORQUE TABLES

(1) Measure the diameter of the screw to be installed.

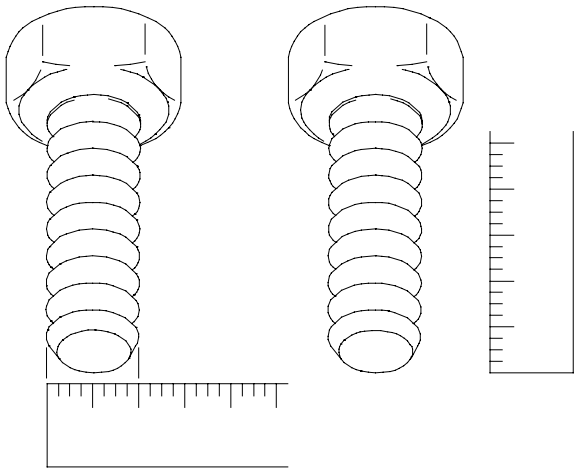
(2) Count the number of threads per inch.

(3) Under the heading DIAMETER look down the column until the diameter of the screw is found. (There are usually two lines beginning with the same diameter.)

(4) Under the heading THREADS PER INCH (SAE and ANSI) or THREAD PITCH (metric), find the number of threads per inch that matches the number counted in step (2).

(5) To find the grade of the screw, match the markings on the head to the correct picture under CAPSCREW HEAD MARKINGS on the torque table.

(6) Look down the column under the picture found in step (5) until the torque limit (lb-ft or N·m) for the diameter and threads per inch (or thread pitch, in the case of metric fasteners) of the screw are located.



XAPPF01A

APPENDIX F
TORQUE LIMITS

Table F-1. Dry Torque Limits for SAE and ANSI Screws and Free Spinning Nuts

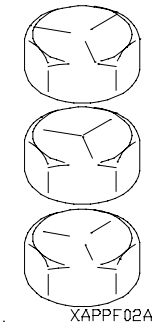
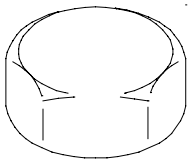
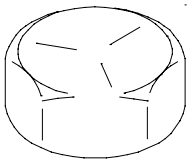
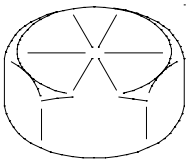
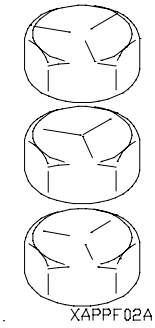
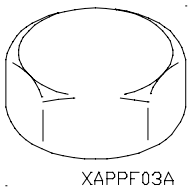
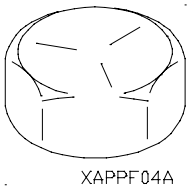
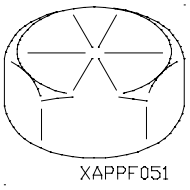
 XAPPF02A **NOTE Manufacturer's marks may vary. These are all SAE Grade 5.**		Material Grade Markings					
		 XAPPF03A **SAE Grade 2**		 XAPPF04A **SAE Grade 5**		 XAPPF051 **SAE Grade 8**	
Diameter	**Threads per inch**	**Torque**					
inch		**lb-ft**	**N·m**	**lb-ft**	**N·m**	**lb-ft**	**N·m**
1/4	20	3-5	5-7	5-7	8-10	8-10	10-14
1/4	28	4-6	5-7	6-8	9-11	8-12	12-16
1/4	32	4-6	5-7	7-9	9-11	9-13	12-16
5/16	18	7-9	9-13	11-15	15-21	15-21	21-29
5/16	24	8-10	11-15	12-16	17-23	17-23	24-32
5/16	32	9-11	12-16	14-18	18-24	19-25	27-34
3/8	16	13-17	17-23	20-26	27-35	28-38	38-50
3/8	24	15-19	20-26	22-30	31-41	32-42	43-57
3/8	32	15-21	21-27	24-32	33-43	33-45	55-61
7/16	14	20-28	28-38	32-42	43-57	44-60	61-81
7/16	20	23-31	31-41	35-47	48-64	49-67	68-90
7/16	28	25-33	33-45	37-51	51-69	54-72	73-97
1/2	13	32-42	43-57	49-65	66-88	68-92	93-123
1/2	20	35-47	48-64	55-73	74-98	77-103	105-139
1/2	28	38-50	51-67	58-78	79-105	82-110	111-149
9/16	12	55-61	62-82	70-94	95-127	98-132	134-178
9/16	18	50-68	69-91	78-104	105-141	109-147	149-199
9/16	24	53-71	72-96	82-110	111-149	115-155	158-210
5/8	11	62-84	85-113	95-129	131-175	136-182	184-246
5/8	18	70-94	96-128	108-146	148-198	154-206	209-279
5/8	24	73-99	100-134	114-154	155-207	161-217	219-293

Table F-1. Dry Torque Limits for SAE and ANSI Screws and Free Spinning Nuts (Cont)

 XAPPF02A Manufacturer's marks may vary. These are all SAE Grade 5		Material Grade Markings					
		 XAPPF03A SAE Grade 2		 XAPPF04A SAE Grade 5		 XAPPF051 SAE Grade 8	
Diameter	Threads per inch	Torque					
inch		lb-ft	N·m	lb-ft	N·m	lb-ft	N·m
11/16	24	99-133	135-181	153-207	209-279	217-291	296-394
3/4	10	110-148	150-200	171-229	232-310	240-324	328-438
3/4	16	123-165	168-224	190-256	259-345	269-361	366-488
3/4	20	127-171	174-232	197-265	268-358	278-374	379-505
13/16	20			252-340	345-459	357-481	487-649
7/8	9			275-369	374-498	387-521	528-704
7/8	14			303-407	413-551	427-575	583-777
7/8	20			319-429	435-579	450-606	614-818
15/16	20			395-531	538-718	558-750	760-1014
1	8			411-553	560-748	581-781	792-1056
1	12			450-606	614-818	636-856	867-1155
1	20			483-649	658-878	681-917	929-1239
1-1/16	18			576-776	782-1044	813-1095	1109-1479
1-1/8	7			507-683	693-923	824-1108	1123-1497
1-1/8	12			570-766	776-1034	923-1241	1258-1678
1-1/8	18			600-806	817-1089	971-1307	1324-1766
1-3/16	18			709-953	966-1288	1149-1545	1566-2088
1-1/4	7			716-964	976-1302	1161-1563	1584-2112
1-1/4	12			793-1067	1081-1441	1286-1730	1754-2338
1-1/4	18			831-1117	1132-1510	1346-1812	1835-2447
1-5/16	18			965-1299	1316-1754	1565-2105	2134-2846
1-3/8	6			939-1263	1281-1707	1523-2049	2076-2768

APPENDIX F
TORQUE LIMITS

Table F-2. Dry Torque Limits for SAE and ANSI Prevailing Torque Nuts

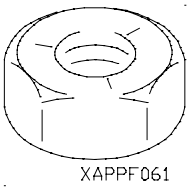
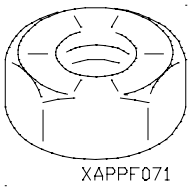
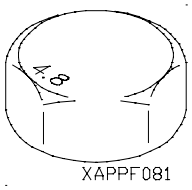
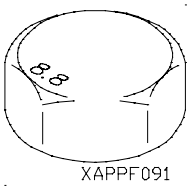
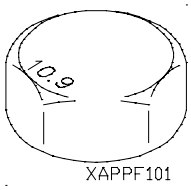
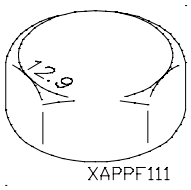
		Material Grade Markings			
		 XAPPF061		 XAPPF071	
		SAE Grade 5		SAE Grade 8	
Hole Diameter	Threads per inch	Torque			
inch		lb-ft	N·m	lb-ft	N·m
1/4	20	10-12	14-16	15-17	20-24
1/4	28	12-14	16-18	14-18	21-25
5/16	18	20-24	27-33	26-32	36-44
5/16	24	22-26	30-36	29-35	40-48
3/8	16	35-41	47-55	48-58	65-77
3/8	24	38-46	53-63	53-63	72-86
7/16	14	55-65	74-88	75-91	103-123
7/16	20	60-70	81-97	80-98	110-132
1/2	13	86-102	116-138	113-137	154-184
1/2	20	92-110	125-149	127-153	177-207
9/16	12	120-144	162-194	168-202	229-273
9/16	18	135-161	183-219	179-217	244-294
5/8	11	165-199	226-270	226-272	306-368
5/8	18	181-219	246-296	244-296	331-401
3/4	10	296-354	402-480	395-479	538-648
3/4	16	310-376	422-508	424-516	576-698
7/8	9	460-554	625-749	612-746	833-1009
7/8	14	503-607	684-822	652-800	888-1082
1	8	686-828	933-1121	941-1141	1280-1544

Table F-3. Dry Torque Limits for Metric Screws and Free Spinning Nuts

		Material Grade Markings							
		 Metric Grade 4.8		 Metric Grade 8.8		 Metric Grade 10.9		 Metric Grade 12.9	
Diameter	Thread Pitch	Torque							
mm		lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m
6	1	3	4-5	5-7	7-9	7-9	10-13	8-11	11-15
8	1.25	7-9	9-11	13-17	17-23	17-23	23-31	21-27	27-37
8	1	7-9	9-13	14-18	18-24	19-25	25-33	21-29	29-39
10	1.5	13-17	17-23	25-33	33-45	34-46	46-62	40-54	54-72
10	1.25	14-18	18-24	26-34	35-47	36-48	49-65	42-56	57-77
10	0.75	15-19	21-27	29-39	39-53	40-54	54-72	47-63	63-85
12	1.75	22-30	30-40	43-57	58-78	60-80	81-107	69-93	94-126
12	1.5	23-31	32-42	46-60	61-81	63-83	85-113	73-97	99-131
12	1.25	24-32	33-45	47-63	65-85	65-87	88-118	76-102	104-138
12	1	26-34	34-46	49-65	67-89	68-90	93-123	80-106	108-144
14	2	36-48	48-74	69-91	93-125	95-127	129-173	112-148	151-201
14	1.5	39-51	52-70	75-99	99-135	103-137	140-186	120-160	163-217
15	1	51-69	69-93	100-132	135-179	137-183	187-249	160-214	218-290
16	2	55-73	75-99	107-143	145-193	148-198	201-267	173-231	235-313
16	1.5	59-79	80-106	114-152	155-207	158-210	214-286	184-246	250-334
18	1.5			166-222	225-301	230-306	311-415	268-358	364-486
20	2.5			209-279	283-377	289-385	392-522	338-450	458-610
20	1.5			232-308	315-419	321-427	435-579	375-499	508-678
20	1			244-324	330-440	337-449	457-609	394-524	534-712
22	2.5			285-379	387-515	394-524	534-712	461-613	624-832
22	1.5			313-417	424-566	432-576	586-782	664-884	900-1200
24	3			361-481	489-653	499-665	677-903	584-778	791-1055
24	2			394-524	534-712	545-725	738-984	725-965	982-1310
25	1.5			467-621	633-843	645-859	875-1167	754-1004	1023-1363

APPENDIX F
TORQUE LIMITS

Table F-4. Dry Torque Limits for Metric Prevailing Torque Nuts

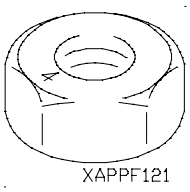
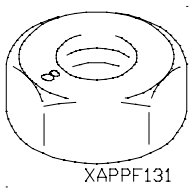
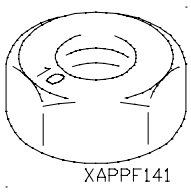
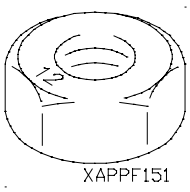
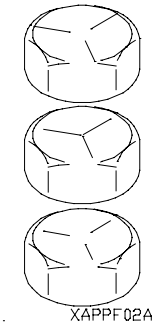
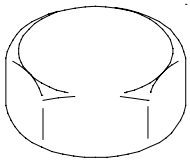
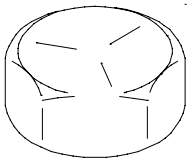
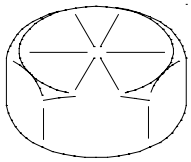
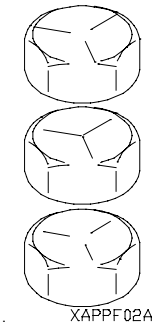
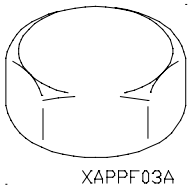
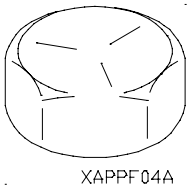
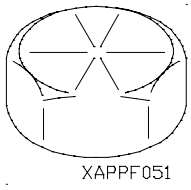
		Material Grade Markings							
		 Metric Grade 4.8		 Metric Grade 8.8		 Metric Grade 10.9		 Metric Grade 12.9	
Diameter	Thread Pitch	Torque							
mm		lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m
6	1	5-6	7-8	7-9	10-12	10-12	14-17	11-14	15-19
8	1.25	12-14	16-18	18-22	24-30	24-30	32-40	27-33	36-46
8	1	12-14	16-20	19-23	25-31	25-31	34-42	28-36	38-48
10	1.5	21-25	28-34	33-41	44-56	44-56	60-76	50-64	68-86
10	1.25	21-25	29-35	34-42	46-58	46-58	63-79	53-67	71-91
10	0.75	23-27	31-37	37-47	49-63	50-64	68-86	57-73	77-99
12	1.75	33-41	46-56	55-69	74-94	75-95	102-128	85-109	115-147
12	1.5	35-43	47-57	56-72	77-97	78-98	106-134	89-113	120-152
12	1.25	36-44	48-60	58-74	79-101	81-103	109-139	91-117	125-159
12	1	37-45	50-62	61-77	82-104	84-106	114-144	95-121	129-165
14	2	53-65	72-88	87-109	117-149	118-150	160-204	134-172	182-232
14	1.5	57-69	76-94	92-116	125-159	126-160	171-217	143-183	194-248
16	2	79-97	107-131	130-166	177-225	178-228	243-309	204-262	277-355
16	1.5	82-102	112-138	138-176	187-239	189-241	256-328	215-277	292-376
18	1.5			197-253	267-343	271-347	367-471	309-399	420-542
20	2.5			248-318	337-431	342-438	464-594	391-503	530-682
20	1.5			271-349	369-473	374-480	507-651	428-552	580-750
20	1			283-365	384-494	390-502	529-681	447-577	606-784
22	2.5			335-429	455-583	460-592	624-802	526-680	714-922
22	1.5			363-467	492-634	499-643	676-872	730-950	990-1290
24	3			420-540	569-733	577-743	783-1009	662-856	897-1161
24	2			453-583	614-792	622-804	844-1090	803-1043	1088-1416

Table F-5. Wet Torque Limits for SAE and ANSI Screws and Free Spinning Nuts

 XAPPF02A **NOTE Manufacturer's marks may vary. These are all SAE Grade 5.**		Material Grade Markings					
		 XAPPF03A **SAE Grade 2**		 XAPPF04A **SAE Grade 5**		 XAPPF051 **SAE Grade 8**	
Diameter	**Threads per inch**	**Torque**					
inch		**lb-ft**	**N·m**	**lb-ft**	**N·m**	**lb-ft**	**N·m**
1/4	20	4	6	6	8	9	12
1/4	28	5	7	7	9	10	14
5/16	18	8	11	13	18	18	24
5/16	24	9	12	14	19	20	27
3/8	16	15	20	23	31	35	47
3/8	24	17	23	25	34	35	47
7/16	14	24	33	35	47	55	75
7/16	20	25	34	40	54	60	81
1/2	13	35	47	55	75	80	108
1/2	20	40	54	65	88	90	122
9/16	12	50	68	80	108	110	149
9/16	18	55	75	90	122	130	176
5/8	11	70	95	110	149	170	231
5/8	18	80	108	130	176	180	244
3/4	10	120	163	200	271	280	380
3/4	16	140	190	220	298	320	434
7/8	9	110	149	300	407	460	624
7/8	14	120	163	320	434	500	678
1	8	160	217	440	597	680	922
1	12	170	231	480	651	740	1003
1-1/8	7	220	298	600	814	960	1302
1-1/8	12	260	353	660	895	1080	1464

APPENDIX F
TORQUE LIMITS

Table F-5. Wet Torque Limits for SAE and ANSI Screws and Free Spinning Nuts (Cont)

 XAPPF02A **Manufacturer's marks may vary. These are all SAE Grade 5**		**Material Grade Markings**					
		 XAPPF03A **SAE Grade 2**		 XAPPF04A **SAE Grade 5**		 XAPPF051 **SAE Grade 8**	
Diameter	**Threads per inch**	**Torque**					
inch		**lb-ft**	**N·m**	**lb-ft**	**N·m**	**lb-ft**	**N·m**
1-1/4	7	320	434	840	1139	1360	1844
1-1/4	12	360	488	920	1248	1500	2034
1-3/8	6	420	570	1100	1492	1780	2414
1-3/8	12	460	624	1260	1709	2040	2766

APPENDIX G
MANDATORY REPLACEMENT PARTS

Section I. INTRODUCTION

G-1. SCOPE

This appendix lists mandatory replacement parts you will need to maintain the LMTV vehicle.

G-2. EXPLANATION OF COLUMNS

a. Column (1) - Item Number. This number is assigned to each entry in the listing and is referenced in the Initial Setup of the applicable task under Materials/Parts.

b. Column (2) - Nomenclature. Name or identification of the part.

c. Column (3) - Part Number. The manufacturer's part number.

d. Column (4) - National Stock Number. The National stock number of the part.

Section II. MANDATORY REPLACEMENT PARTS LIST

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
1	BLADE, WINDSHIELD WIPER	105.384	2540-01-364-1621
2	BOLT, MACHINE	12414307-065	5306-01-382-5054
3	BOOT KIT, EXHAUST	DQ6025	4730-01-417-3197
4	BUMPER, RUBBER	12419182	5340-01-410-8397
5	BUSHING, SLEEVE	7-199-002668	3120-01-367-6894
6	CHANNEL, RUBBER	ZZR765/2-001A7	9390-01-420-4560
7	CLAMP	024S9	4730-01-447-4312
8	CLAMP	032S9	4730-01-447-4313
9	DECAL	12340917	7690-01-256-4909
10	FASTENER TAPE	MIL-F-21840	8315-00-006-9855
11	FASTENER TAPE	50-534718-19	8315-00-935-6762
12	FILTER ASSEMBLY	75223-11	2940-01-417-9333
13	FILTER ELEMENT	1048011	2940-01-385-8931
14	FILTER ELEMENT, FLUID	R22146	2910-01-360-6366
14.1	FILTER ELEMENT, FLUID	ST117073098-000	2910-01-467-4594
15	FILTER ELEMENT, FLUID	29507750	2940-01-361-2406
16	FILTER ELEMENT, FLUID	599791	4460-01-284-2344

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
17	FILTER ELEMENT, FLUID	931558	2940-01-363-4377
18	FILTER ELEMENT, INTAKE AIR CLEANER	P52-7750	2940-01-361-2407
19	FILTER, AIR	12416539	
20	FILTER, AIR	12416563	4730-01-398-5654
21	FILTER, FUEL	7E9763	2940-01-363-3089
22	FILTER, OIL	1R0739	2940-00-029-0388
23	GASKET	F337576M6	
24	GASKET	M28840/24HA	5935-01-421-9754
25	GASKET	QS-1181	5330-01-058-3788
26	GASKET	10-36675-18	5330-00-298-0190
26.1	GASKET	11446	5330-00-247-4174
27	GASKET	119-2940	5330-01-424-7905
28	GASKET	12421469	5330-01-453-2980
29	GASKET	12422254	
30	GASKET	13848	5330-01-211-0717
31	GASKET	350700	5330-01-295-3053
32	GASKET	350903	5330-00-576-4626
33	GASKET	352200	5330-01-421-6105
34	GASKET	352302	5330-01-421-6107
35	GASKET	353400	5330-01-421-6102
36	GASKET	353806	5330-01-421-6103
37	GASKET	353810	5330-01-450-6666
38	GASKET	355148	5330-01-423-0596
39	GASKET	355175	5330-01-423-0623
40	GASKET	3K3257	5330-01-305-6550
40.1	GASKET	3N4087	5330-01-061-8003
41	GASKET	4P1624	5330-01-360-5934
42	GASKET	9Y8103	5330-01-360-5931
42.1	GASKET AND PREFORMED PACKING SET	9X8318	5330-01-360-9098
43	GASKET, FUEL FILTER	7C1159	5330-01-360-5941
44	NOT USED		

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
45	GASKET, THERMOSTAT	2W7212	5330-01-347-3206
46	GROMMET, NONMETALLIC	MS35489-6	5325-00-263-6632
47	GROMMET, NONMETALLIC	12417598	5325-01-375-1299
48	GROMMET, NONMETALLIC	12421402	5325-01-440-2178
49	GROMMET, NONMETALLIC	4082-37634-01	5325-01-194-3076
50	GROMMET, NONMETALLIC	50S12-1-1AA	5325-01-145-0105
51	GROMMET, NONMETALLIC	8741442	5325-00-088-6147
52	INSULATOR, TANK	A1394J	5970-01-385-7317
53	INSULATOR, TANK	A1394K	5970-01-385-7262
54	KIT, FILTER	29503829	
55	KIT, FILTER	29526899	5330-01-453-0770
56	NOT USED		
57	LAMP, INCANDESCENT	CM7-7373	6240-00-270-6824
58	LAMP, INCANDESCENT	CM7376	6240-00-499-6278
59	LATCH, BAIL HEAD	68-20-101-10	2540-01-232-2470
60	LOCKNUT	0770-023-003	5310-01-423-3725
61	LOCKWASHER	ABCH207-LW-1/2	
62	LOCKWASHER	ABCH207-LW-3/8	
63	LOCKWASHER	B7949000161	
64	LOCKWASHER	D70336/1-20	5310-01-110-7933
65	LOCKWASHER	D70336/3-50	5310-01-439-2542
66	LOCKWASHER	D70336/3-52	5310-01-439-2543
66.1	LOCKWASHER	MS35333-78	5310-01-110-7953
67	LOCKWASHER	MS35335-30	5310-00-209-0788
68	LOCKWASHER	MS35335-31	5310-00-596-7693
69	LOCKWASHER	MS35335-33	5310-00-209-0786
70	LOCKWASHER	MS35335-36	5310-00-550-3503
71	LOCKWASHER	MS35335-38	5310-00-616-6354
72	LOCKWASHER	MS35335-58	5310-00-209-1366
73	LOCKWASHER	MS35335-61	5310-00-527-3634
74	LOCKWASHER	MS35335-62	5310-00-184-9562

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
75	LOCKWASHER	MS35337-25	5310-00-013-8502
76	LOCKWASHER	MS35338-100	5310-00-261-8278
77	LOCKWASHER	MS35338-102	5310-00-167-0671
78	LOCKWASHER	MS35338-103	5310-00-184-8971
79	LOCKWASHER	MS35338-135	5310-00-933-8118
80	LOCKWASHER	MS35338-136	5310-00-929-6395
81	LOCKWASHER	MS35338-137	5310-00-933-8119
82	LOCKWASHER	MS35338-138	5310-00-933-8120
83	LOCKWASHER	MS35338-139	5310-00-933-8121
84	LOCKWASHER	MS35338-140	5310-00-974-6623
85	LOCKWASHER	MS35338-141	5310-00-984-7042
86	LOCKWASHER	MS35338-143	5310-00-933-8778
87	LOCKWASHER	MS35338-158	5310-00-883-9417
88	LOCKWASHER	MS35338-171	5310-01-130-9066
89	LOCKWASHER	MS35338-42	5310-00-045-3299
90	LOCKWASHER	MS35338-43	5310-00-045-3296
91	LOCKWASHER	MS35338-45	5310-00-407-9566
92	LOCKWASHER	MS35338-46	5310-01-334-4710
93	LOCKWASHER	MS35338-51	5310-00-584-7888
94	LOCKWASHER	MS35340-44	5310-00-682-5930
95	LOCKWASHER	MS51414-1	5310-01-235-2057
96	LOCKWASHER	MS51414-2	5310-01-310-1098
97	LOCKWASHER	MS51848-50	5310-01-033-8615
98	LOCKWASHER	N9015	5310-01-369-6073
99	LOCKWASHER	N9018	5310-01-032-4827
100	LOCKWASHER	N9459	5310-01-348-8393
101	LOCKWASHER	N9461	5310-01-348-8392
101.1	LOCKWASHER	XP1113	5310-01-460-5991
101.2	LOCKWASHER	10241	5310-01-416-3010
102	LOCKWASHER	1229-S-513C	5310-01-062-3384
102.1	LOCKWASHER	12414570-011	5310-01-374-3292

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
102.2	LOCKWASHER	12414570-013	5310-01-374-4515
103	LOCKWASHER	12414570-015	5310-01-388-2043
104	LOCKWASHER	12414570-021	5310-01-374-4516
105	NOT USED		
106	NOT USED		
107	NOT USED		
108	LOCKWASHER	1729B262	5310-00-964-7811
109	NOT USED		
110	NUT, BLIND RIVET	MS27130-S136	5310-01-409-4435
111	NUT, BLIND RIVET	MS27130-S148	5310-01-370-5548
112	NUT, BLIND RIVET	12421403-060	
113	NUT, BLIND RIVET	12421403-065	
114	NUT, BLIND RIVET	12421634-017	
115	NUT, BLIND RIVET	12442158-5	
115.1	NUT, PLAIN, ROUND	1727N40	5310-00-123-2572
116	NUT, SELF-LOCKING	DIN-934STM6	5310-01-342-2739
117	NUT, SELF-LOCKING	MS16228-10C	5310-00-245-8826
118	NUT, SELF-LOCKING	MS16228-5C	5310-00-584-7992
119	NUT, SELF-LOCKING	MS20500-524	5310-00-208-4023
120	NUT, SELF-LOCKING	MS21042-04	5310-00-811-6419
121	NUT, SELF-LOCKING	MS21042-5	5310-00-807-1469
122	NUT, SELF-LOCKING	MS21044C08	5310-00-982-6814
122.1	NUT, SELF-LOCKING	MS21045L5	5310-00-857-5559
123	NUT, SELF-LOCKING	MS21083N08	5310-00-941-6019
124	NUT, SELF-LOCKING	MS21083N6	5310-00-926-1852
125	NUT, SELF-LOCKING	MS51922-1	5310-00-088-1251
126	NUT, SELF-LOCKING	MS51922-2	5310-00-929-1807
127	NUT, SELF-LOCKING	MS51922-33	5310-00-225-6993
128	NUT, SELF-LOCKING	MS51922-5	5310-00-959-7600
129	NUT, SELF-LOCKING	N9406	5310-01-362-6171
130	NUT, SELF-LOCKING	N9410	5310-01-348-8398

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
130.1	NUT, SELF-LOCKING	N9453	5310-01-348-8314
131	NUT, SELF-LOCKING	N9467	5310-01-350-4257
131.1	NUT, SELF-LOCKING	N9556	5310-01-423-0880
132	NUT, SELF-LOCKING	12301125	5310-01-210-0199
133	NUT, SELF-LOCKING	12412476-04	5310-01-466-0565
134	NUT, SELF-LOCKING	12414308-002	5310-01-381-2819
135	NUT, SELF-LOCKING	12414308-003	5310-01-377-1549
136	NUT, SELF-LOCKING	12414308-004	5310-01-369-5703
137	NUT, SELF-LOCKING	12414308-007	5310-01-046-0186
138	NUT, SELF-LOCKING	12414308-017	5310-01-381-9830
139	NUT, SELF-LOCKING	12414308-018	5310-01-369-3337
140	NUT, SELF-LOCKING	12414308-019	5310-01-369-9522
141	NUT, SELF-LOCKING	12414308-020	5310-01-381-9849
142	NUT, SELF-LOCKING	12414308-021	5310-01-369-3338
143	NUT, SELF-LOCKING	12414308-022	5310-01-417-1262
144	NUT, SELF-LOCKING	12414308-025	5310-01-367-6706
145	NUT, SELF-LOCKING	12414308-027	5310-01-369-3339
146	NUT, SELF-LOCKING	12414315-003	5310-01-374-1382
147	NUT, SELF-LOCKING	12414315-005	5310-01-372-3023
148	NUT, SELF-LOCKING	12414315-006	5310-01-369-3332
149	NUT, SELF-LOCKING	12414315-009	5310-01-365-7236
150	NUT, SELF-LOCKING	12414315-012	5310-01-369-3331
151	NUT, SELF-LOCKING	12414315-017	5310-01-368-8065
152	NUT, SELF-LOCKING	12414420-004	5310-01-370-0010
153	NUT, SELF-LOCKING	12419003	5310-01-376-0773
154	NUT, SELF-LOCKING	270W10000	
155	NUT, SELF-LOCKING	29514660	
156	NUT, SELF-LOCKING	7951286	5310-00-789-0398
157	PACKING, PREFORMED	A82777	5330-00-579-6495
158	PACKING, PREFORMED	F4001-16	5331-01-466-0354
158.1	PACKING, PREFORMED	J515-16-3	5331-01-465-3634

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
158.2	PACKING, PREFORMED	J515-4-1	5331-01-387-9490
159	PACKING, PREFORMED	J515-8-1	5330-00-292-8171
160	PACKING, PREFORMED	5999807	5331-01-456-9156
161	PACKING, PREFORMED	MS28775-011	5330-00-582-2133
162	PACKING, PREFORMED	MS28775-227	5330-00-576-9731
162.1	PACKING, PREFORMED	MS28775-910	5331-00-448-6753
163	PACKING, PREFORMED	MS28778-10	5330-00-285-9842
164	PACKING, PREFORMED	MS28778-12	5330-00-251-8839
165	PACKING, PREFORMED	MS28778-16	5330-00-816-3546
166	PACKING, PREFORMED	MS28778-4	5330-00-805-2966
166.1	PACKING, PREFORMED	MS28778-6	5331-00-804-5695
167	PACKING, PREFORMED	MS9955-113	5330-01-374-2325
168	PACKING, PREFORMED	M25988/1-246	5330-01-189-6351
168.1	PACKING, PREFORMED	M83461/1-442	5330-01-183-0987
169	PACKING, PREFORMED	OR42OA	5330-01-389-6028
170	PACKING, PREFORMED	11639519-1	5330-00-463-0200
171	PACKING, PREFORMED	1509	5330-00-172-1919
171.1	PACKING, PREFORMED	195045	5331-00-618-5361
171.2	PACKING, PREFORMED	19755	5331-01-415-9632
171.3	PACKING, PREFORMED	198336	5331-00-584-1840
172	PACKING, PREFORMED	2M4453	5330-00-074-3768
173	PACKING, PREFORMED	22617-16	5330-01-168-0885
174	PACKING, PREFORMED	23043446	5330-01-424-6629
174.1	PACKING, PREFORMED	250192	5331-01-417-5105
174.2	PACKING, PREFORMED	251216	5330-01-417-5107
175	PACKING, PREFORMED	29500969	5330-01-360-7852
176	PACKING, PREFORMED	29503383	5330-01-360-6017
177	PACKING, PREFORMED	3-906N522-90	5330-01-104-1093
178	PACKING, PREFORMED	3-908N522-90	5330-00-929-8171
179	PACKING, PREFORMED	3D2824	5330-00-944-8281
180	PACKING, PREFORMED	3J1907	5330-01-333-6444

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
181	PACKING, PREFORMED	3J7354	5330-00-954-8008
182	PACKING, PREFORMED	3K0360	5330-00-948-6482
183	PACKING, PREFORMED	4J5477	5330-00-855-8059
184	PACKING, PREFORMED	4L9564	5330-00-828-8639
184.1	PACKING, PREFORMED	420828	5340-01-417-3788
185	PACKING, PREFORMED	5-X-1155	5330-01-392-1637
186	PACKING, PREFORMED	5F7054	5330-00-339-6224
187	PACKING, PREFORMED	5P7813	5330-01-335-0042
188	PACKING, PREFORMED	6V8397	5330-00-579-6495
189	PACKING, PREFORMED	673268	
190	PACKING, PREFORMED	673269	5330-01-395-1252
191	PACKING, PREFORMED	7F8267	5330-01-291-7353
192	PACKING, PREFORMED	7320658	5330-00-297-7106
193	PACKING, PREFORMED	9604792-001	5330-01-429-3089
194	PAD, CUSHIONING	12416479-001	2590-01-397-7844
195	PAD, CUSHIONING	12416479-002	2590-01-412-2663
196	PARTS KIT, DEHYDRATOR	RN-60-A	4440-01-337-7324
197	PARTS KIT, SEAL REPLACEMENT	SK10-2	5330-01-350-4474
198	PARTS KIT, SEAL REPLACEMENT	SK10-3	5330-01-350-4472
199	PARTS KIT, SEAL REPLACEMENT	SK10-4	5330-01-343-2745
200	PIN, COTTER	K-2412-Z	5315-01-179-9882
201	PIN, COTTER	MS171659	5315-00-846-8337
202	PIN, COTTER	MS24665-151	5315-00-815-1405
203	PIN, COTTER	MS24665-298	5315-00-234-1861
204	PIN, COTTER	MS24665-385	5315-00-187-9382
205	PIN, COTTER	MS24665-423	5315-00-013-7228
206	PIN, COTTER	MS24665-457	5315-00-187-9393
207	PIN, COTTER	MS24665-459	5315-00-187-9394
208	PIN, COTTER	MS24665-69	5315-00-828-8190
208.1	PIN, COTTER	XB-781-1	5315-01-369-1346
209	NOT USED		

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
210	PIN, SPRING	MS16562-142	5315-00-058-6115
211	PIN, SPRING	MS16552-146	5315-00-853-3814
212	PLASTIC STRIP	352700	5330-01-296-2109
213	RECEPTACLE	50R4-1-1AA	5325-01-049-2049
213.1	REPAIR KIT, GOVERNOR	RN32W	
213.2	RETAINER, PACKING	11863-012	5330-01-417-7795
213.3	RETAINER, PACKING	202624	5330-01-417-7794
214	NOT USED		
215	RIVET, BLIND	AK42H	5320-00-874-4477
216	RIVET, BLIND	AK43H	5320-00-143-6149
217	RIVET, BLIND	MS20600AD5W12	5320-01-047-0467
217.1	RIVET, BLIND	MS20601B4W2	5320-00-616-5274
218	RIVET, BLIND	MS20604B3W2	5320-00-721-9075
219	RIVET, BLIND	M24243/1-A806	5320-00-850-3256
220	RIVET, BLIND	M24243/1-B302	5320-00-999-0397
221	RIVET, BLIND	M24243/1-D502	5320-00-850-3248
222	RIVET, BLIND	M24243/1-D608	5320-00-850-3246
223	RIVET, BLIND	M24243/1-F402	5320-00-129-9706
223.1	RIVET, BLIND	M24243/1-F608	5320-01-392-0699
223.2	RIVET, BLIND	M24243/1-F610	
224	RIVET, BLIND	M24243/6-A403H	5320-00-882-8388
225	RIVET, BLIND	M24243/6-A405H	5320-01-291-9121
226	RIVET, BLIND	M24243/6-A406H	5320-01-421-0484
227	RIVET, BLIND	M24243/6-A602H	5320-00-956-7362
228	RIVET, BLIND	M24243/6-A604H	5320-00-956-7355
229	RIVET, BLIND	M24243/6-A606H	5320-00-882-8385
230	RIVET, BLIND	M24243/6-A608H	5320-01-032-6534
231	RIVET, BLIND	M24243/7-A402H	5320-00-874-4477
232	RIVET, BLIND	M24243/7-A403H	5320-00-143-6149
233	RIVET, BLIND	M24243/7-A604H	5320-00-420-2165
234	RIVET, BLIND	M24243/7-A606H	5320-00-490-5523

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
235	RIVET, BLIND	SD64BSLF	5320-01-397-3347
236	RIVET, BLIND	206057	5320-01-411-0081
237	RIVET, COMPRESSION	12418469	5320-01-376-0699
237.1	SCREW, CAP	CSH5-24-39	5305-01-479-7857
238	SCREW, CAP	12414475-131	5303-01-363-0703
239	SCREW, CAP	6V-2315	5306-01-433-4753
240	SCREW, MACHINE	MS24693-144	
241	SCREW, MACHINE	MS51958-83	5305-00-071-2095
242	SCREW, SELF-LOCKING	MS16998-61L	5305-01-211-3097
243	SEAL	VC08G1R0B	5330-01-389-6109
244	SEAL	12421431	9320-01-398-6317
245	SEAL	125128-5	
246	SEAL	125128-6	
247	SEAL	355150	5330-01-423-0689
248	SEAL ASSEMBLY, CTIS	A1205-Q-2435	5330-01-360-7753
249	SEAL ASSEMBLY, HUB	A1205-R-2254	5330-01-360-5252
250	SEAL, DOOR	12416467	5330-01-385-3769
251	SEAL RING, METAL	29505809	5330-01-360-5329
252	SEAL, NONMETALLIC	CC3550	5330-01-431-7575
253	SEAL, NONMETALLIC	12417725	5330-01-375-2908
254	SEAL, NONMETALLIC	2418974-1	5330-01-257-1709
255	SEAL, NONMETALLIC	673999	5310-01-454-5553
255.1	SEAL, PLAIN	N72143	5330-01-453-4462
255.2	SEAL, SHAFT	SERUR25-2	5330-01-135-3376
256	SEAL, URETHANE FOAM	12420420-001	5680-01-453-8912
257	SEAL, URETHANE FOAM	12420420-002	5680-01-453-8485
258	SEAL, URETHANE FOAM	12420420-003	5680-01-453-8486
259	SEAL, WEATHER	147P00039	
260	SPACER, RING	4P2987	5365-01-433-8407
260.1	SPIDER, UNIVERSAL JOINT, VEHICULAR	R279X	
261	SPLICE, CONDUCTOR	12420927-001	5940-01-456-1319

Section II. MANDATORY REPLACEMENT PARTS LIST (CONT)

(1) ITEM NO.	(2) NOMENCLATURE	(3) PART NUMBER	(4) NATIONAL STOCK NUMBER
262	SPLICE, CONDUCTOR	12420927-002	5940-01-421-6955
263	STRAIN RELIEF	10280870-3	5975-00-376-1585
264	TERMINAL, LUG	MS20659-163	5940-00-113-3145
265	TERMINAL, LUG	MS20659-164	5940-00-113-3148
266	TERMINAL, LUG	MS25036-108	5940-00-143-4780
267	TERMINAL, LUG	MS25036-122	5940-00-113-8190
268	TERMINAL, LUG	12414275-001	
269	TERMINAL, LUG	12416409-006	
270	WASHER, FLAT	MS27183-10	5310-00-809-4058
270.1	WASHER, FLAT	12414473-010	5310-01-374-6990
271	WASHER, FLAT	12417948-004	5365-01-436-8308
271.1	WASHER, FLAT	251391	5310-01-417-1041
272	WASHER, FLAT RUBBER	900.032	5330-01-378-7541
273	WASHER, NYLON	MS51859-16	5310-00-964-7811
274	WASHER, SPRING	D63474/1-30	5310-01-413-8475
275	WASHER, SPRING	WW579S18	
276	WASHER, SPRING	110 7289	5310-01-246-1387
277	WASHER, SPRING	12414559-021	5310-01-374-4517
278	WASHER, SPRING	12414560-017	5310-01-395-0820
279	WASHER, SPRING	12414560-018	5310-01-381-3281
280	WASHER, SPRING	12414560-019	5310-01-369-6074
281	WASHER, SPRING	12417503	5310-01-406-6326
282	WASHER, SPRING	12418220	5310-01-372-3495

APPENDIX H
LUBRICATION ORDER

SECTION I. INTRODUCTION

H-1. GENERAL

The information contained in this appendix provides the lubrication requirements for the LMTV vehicle.

a. Adherence. Intervals (on-condition or hardtime) and the related man-hour times are based on normal operation. The man-hour time specified is the time needed to do all the services prescribed for a particular interval. On-condition (OC) oil sample intervals will be applied unless changed by the Army Oil Analysis Program (AOAP) laboratory. Change the hardtime interval if the lubricants are contaminated or if operating the equipment under adverse operating conditions, including longer-than-usual operating hours. The calendar interval may be extended during periods of low activity. If extended, adequate preservation precautions must be taken. Hardtime intervals will be applied in the event AOAP laboratory support is not available. Hardtime intervals must be applied during the warranty period.

Intervals shown in this lubrication order are based on mileage/calendar, and in some cases mileage alone. An example of a mileage/calendar interval is: **Q**, which means every 3,000 miles (4,827 km) or quarterly (every three months). The lubrication is to be performed at whichever interval occurs first for the vehicle. An example of a mileage alone interval is: **6K**, which stands for every 6,000 miles (9,654 km). The lubrication is to be performed at the mileage indicated regardless of the calendar interval.

WARNING

- **Dry Cleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well-ventilated area; avoid contact with skin, eyes, and clothes, and do not breath vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint for Type I Dry Cleaning Solvent is 100°F (38°C) and for Type II is 138°F (50°C). Failure to comply may result in serious injury or death to personnel.**

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

b. Cleaning fittings before lubricating. Clean parts with dry cleaning solvent (SD P-D-680) (Item 71, Appendix D) or equivalent. Dry before lubricating. Dashed arrows indicate lubrication on both sides of the equipment.

c. Lubricating after fording. If fording occurs, lubricate all fittings below fording depth and check submerged gearboxes for presence of water.

d. Lubricating after high-pressure washing. After a thorough washing, lubricate all grease fittings and oil can points outside and underneath vehicle.

e. Level of Maintenance. The lowest level of maintenance authorized to lubricate a point is Operator/Unit Maintenance (O). Operator/crew (C) may lubricate points authorized for Unit Maintenance (O) when authorized by Unit Maintenance (O).

f. Localized views. A reference to the appropriate localized view is given after most lubrication entries. Localized views begin on page H-9.

H-1. GENERAL (CONT)

g. Interval Symbols. The lubrications interval symbols will be used as applicable:

Q-quarterly/3,000 mi (4,827 km) (whichever occurs first)
S-semiannually/6,000 mi (9,654 km) (whichever occurs first)
A-annually/12,000 mi (19,308 km) (whichever occurs first)
B-biennially/24,000 mi (38,616 km) (whichever occurs first)
3K-every 3,000 mi (4,827 km) (no calendar interval)
6K-every 6,000 mi (9,654 km) (no calendar interval)
12K-every 12,000 mi (19,308 km) (no calendar interval)
24K-every 24,000 mi (38,616 km) (no calendar interval)

H-2. OIL FILTERS

Oil filters shall be serviced/changed as applicable, when:

a. They are known to be contaminated, or clogged;

b. Service is recommended by AOAP laboratory analysis; or

c. At prescribed hardtime intervals while vehicle is under warranty, or if AOAP is not available/used as required.

H-3. AOAP SAMPLING INTERVAL

WARNING

- **Engine oil is hot and under pressure. The oil sampling valve releases oil proportionally to the amount of pressure applied to valve. Activate oil sampling valve by pressing in slowly to prevent injury to personnel. Failure to comply may result in injury to personnel.**
- **Wear safety goggles when taking oil sample. Oil is under pressure and could cause injury to personnel. Failure to comply may result in injury to personnel.**

Engine/transmission oil must be sampled every 90 days as prescribed by DA Pam 738-750. Hydraulic fluids must be sampled annually as prescribed by DA Pam 738-750.

H-4. WARRANTY HARDTIME STATEMENT

"For equipment under manufacturer's warranty, hardtime oil service intervals shall be followed. Intervals shall be shortened if lubricants are known to be contaminated or if operation is under adverse conditions (such as longer than usual operating hours, extended idling periods, extreme dust)."

SECTION II. LUBRICATION CHART

H-5. LUBRICATION KEY

LUBRICANTS	
Specification	**Type**
MIL-L-2104 (OE/HDO)	Lubricating Oil, Internal Combustion Engine, Combat/Tactical Service
MIL-L-46167 (OEA)	Lubricating Oil, Internal Combustion Engine, Arctic
MIL-L-2105 (GO)	Lubricating Oil, Gear, Multipurpose
MIL-G-10924 (GAA)	Grease, Automotive and Artillery
MIL-G-18458 (GW)	Grease, Wire-Rope and Exposed Gear
MIL-H-5606 (OHA)	Hydraulic Fluid, Petroleum Base, Aircraft, Missile, and Ordnance

DESCRIPTION	CAPACITY	EXPECTED TEMPERATURES		
		Above +40°F (Above +4°C)	+40°F to -15°F (+4°C to -26°C)	-15°F to -50°F (-26°C to -46°C)
Engine crankcase	25 qt (24 L)	OE/HDO-15/40	OE/HDO-15/40	OEA
Transmission (total system)	43.3 qt (41 L)	OE/HDO-15/40	OE/HDO-10	OEA
Transmission (at oil change)	31.8 qt (30.0 L)	OE/HDO-15/40	OE/HDO-10	OEA
Transmission (after overhaul)	39.0 qt (37.0 L)	OE/HDO-15/40	OE/HDO-10	OEA
Steering system	5 qt (4.8 L)	OE/HDO-10	OE/HDO-10	OEA
Hydraulic reservoir	27 gal (102.2 L)	OE/HDO-10	OE/HDO-10	OEA
Front axle differential (maximum capacity)	9.5 qt (9.0 L)	GO-80/90	GO-80/90	SAE 75W90 OR GO-75
Rear axle differential (maximum capacity)	18.05 qt (17.1 L)	GO-80/90	GO-80/90	SAE 75W90 OR GO-75
Front axle planetary hubs	11-13 oz (0.33-0.38 L)	GO-80/90	GO-80/90	SAE 75W90 OR GO-75
11K Self-Recovery Winch (SRW)	As Required	GO-85/140	GO-80/90	GO-75
Propeller shaft universal and slip joints	As Required	GAA	GAA	GAA
Tie rod ends	As Required	GAA	GAA	GAA
Towing pintle assembly	As Required	GAA	GAA	GAA
Spring bolts and spring shackles	As Required	GAA	GAA	GAA
Front axle shaft U-joints and steering knuckles	As Required	GAA	GAA	GAA

H-5. LUBRICATION KEY (CONT)

DESCRIPTION	CAPACITY	EXPECTED TEMPERATURES		
		Above +40°F (Above +4°C)	+40°F to -15°F (+4°C to -26°C)	-15°F to -50°F (-26°C to -46°C)
Front axle inner wheel bearing	As Required	GAA	GAA	GAA
Rear axle inner wheel bearing	As Required	GAA	GAA	GAA
Front lifting beam	As Required	GAA	GAA	GAA
11K Self-Recovery Winch (SRW) cable	As Required	GW	GW	GW
Air/hydraulic power unit	3 pt (1.4 L)	OHA	OHA	OHA
Backup hydraulic pump	19 oz (562 ml)	OHA	OHA	OHA

COOLANT	
Specification	**Type**
MIL-A-46153	Antifreeze, Ethylene Glycol, Inhibited, Heavy Duty, Single Package
MIL-A-11755	Antifreeze, Arctic-Type

DESCRIPTION	CAPACITY	EXPECTED TEMPERATURES		
		Above +40°F (Above +4°C)	+40°F to -15°F (+4°C to -26°C)	-15°F to -50°F (-26°C to -46°C)
Cooling system (engine only)	14 qt (13 L)	MIL-A-46153	MIL-A-46153	N/A
Cooling system (total system)	43.8 qt (41.5 L)	MIL-A-46153	MIL-A-46153	N/A
Cooling system, Arctic (total system)	58.3 qt (55.2 L)	N/A	N/A	MIL-A-11755

CLEANING AGENT	
Specification	**Type**
P-D-680	Dry Cleaning Solvent, SD-II
O-C-1901	Cleaning Compound, Windshield

DESCRIPTION	CAPACITY	EXPECTED TEMPERATURES		
		Above +15°F (Above -9°C)	+15°F to -15°F (-9°C to -26°C)	-15°F to -50°F (-26°C to -46°C)
All metal parts as required	N/A	SD-II (all temperatures)		
Windshield washer reservoir	7.5 qt (7.1 L)	2/3 water to 1/3 O-C-1901	1/2 water to 1/2 O-C-1901	1/3 water to 2/3 O-C-1901

For arctic operation refer to FM 9-207.

H-6. LUBRICATION INTERVALS

Intervals		Total Man-Hours
Quarterly (Q)	Lubrication performed once every three months or 3,000 mi (4,827 km).*	2.0
Semi-annually (S)	Lubrication performed once every six months or 6,000 mi (9,654 km).*	2.5
Annually (A)	Lubrication performed once every year or every 12,000 mi (19,308 km).*	1.5
Biennially (B)	Lubrication performed once every two years or every 24,000 mi (38,616 km).*	3.5
3K	Lubrication performed once every 3,000 mi (4,827 km).**	1.0
6K	Lubrication performed once every 6,000 mi (9,654 km).**	1.0
12K	Lubrication performed once every 12,000 mi (19,308 km).**	4.0
24K	Lubrication performed once every 24,000 mi (38,616 km).**	0.5

* Whichever occurs first.
** No calendar interval.

H-7. LUBRICATION LOCATOR VIEWS

LUBRICANT INTERVAL **INTERVAL LUBRICANT**

Engine Crankcase Breather (O)
(See note 17 and view A)

Fuel Filter (O)
(See note 6 and view A)

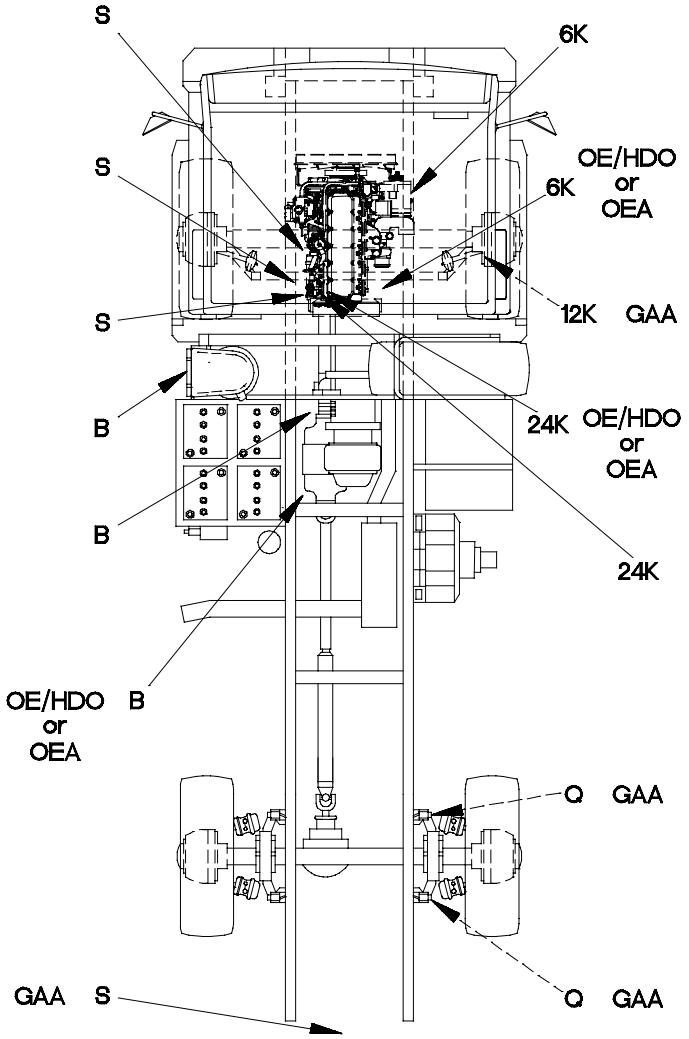
Fuel/Water Separator (O)
(See note 5 and view B)

Cooling System (O)
(See note 7)

Transmission Filter (O)
(See note 3 and view F)

Transmission Drain and Fill (O)
(See note 3 and views D, E, and F)

Towing Pintle Fill (O)
(See note 16 and views J and K)



Engine Oil Filter (O)
(See note 2 and view C)

Crankcase Drain and Fill (O)
(See note 1 and views C and D)

Front Axle Inner Wheel Bearing Repack (O)
(See note 22)

Power Steering Reservoir Drain and Fill (O)
(See note 4 and view G)

Power Steering Filter (O)
(See note 4 and view G)

Spring Bolt Fill (O)
(See note 18 and view H)

Spring Shackle Fill (O)
(See note 18 and view AE)

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NOTE: Dashed arrows indicate lubrication on both sides of vehicle.

LUBRICANT INTERVAL

Spring Bolt
Fill (O)
(See note 18 and view H)

Spring Shackle
Fill (O)
(See note 18 and view I)

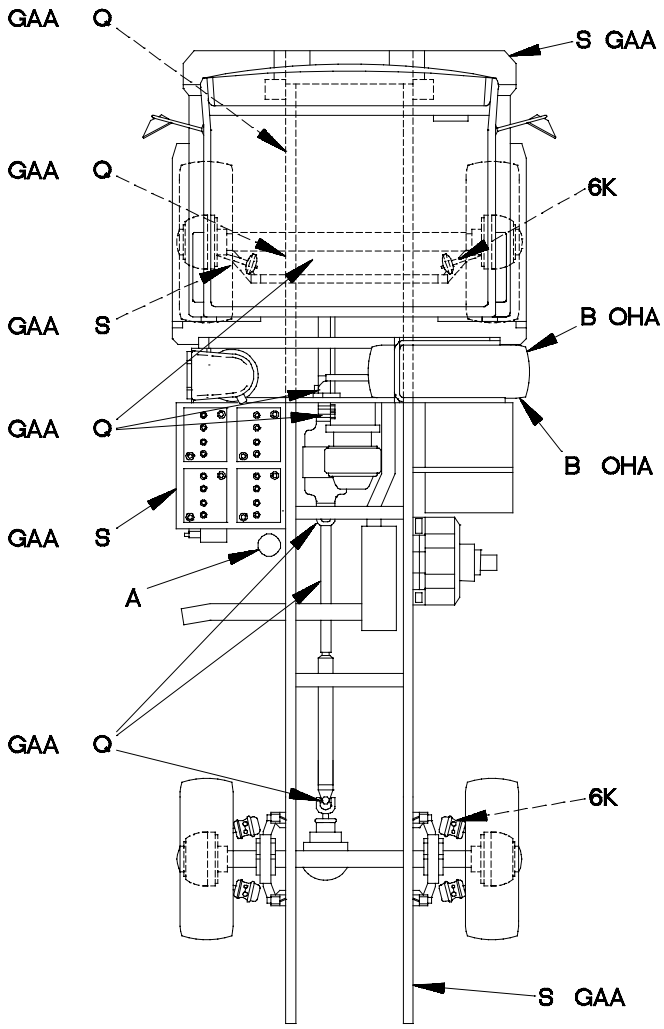
Tie Rod Ends
Fill (O)
(See note 13 and view N)

Universal and Slip Joints
Fill (O)
(See note 9 and view P)

Battery Posts (O)
(See note 19 and view Q)

Air Dryer (O)
(See note 25 and view AF)

Universal and Slip Joints
Fill (O)
(See note 9 and view P)



INTERVAL LUBRICANT

11K Self-Recovery Winch (SRW) Cable Front Roller Fairlead
Fill (O)
(See note 23 and views Z and AA)

Brake Wedge and Air Chamber (O)
(See note 21 and view L)

Backup Hydraulic Pump
Drain and Fill (O)
(See note 10 and view R)

Air/Hydraulic Power Unit
Drain and Fill (O)
(See note 10 and view S)

Brake Wedge and Air Chamber (O)
(See note 21 and view M)

11K Self-Recovery Winch (SRW) Cable Rear Roller Fairlead
Fill (O)
(See note 23 and views AB and AC)

CHASSIS

NOTE: Dashed arrows indicate lubrication on both sides of vehicle.

H-7. LUBRICATION LOCATOR VIEWS (CONT)

LUBRICANT INTERVAL **INTERVAL LUBRICANT**

Front Axle
Check and Fill (O)
(See note 11 and view T)

Axle Shaft U-Joints
Fill (O)
(See note 20 and view U)

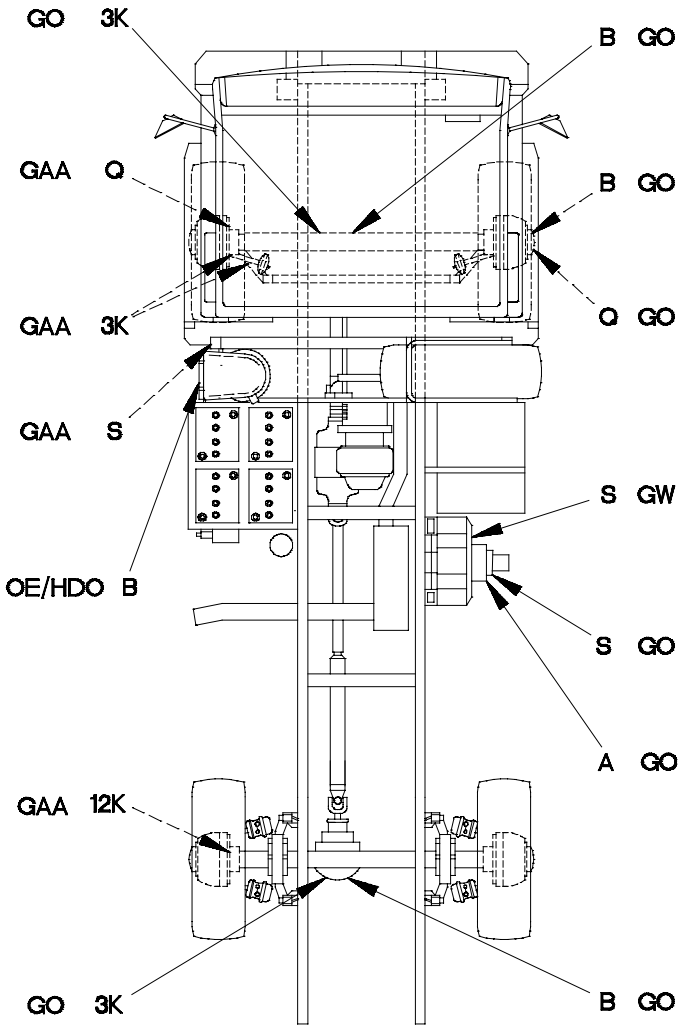
Steering Knuckles
Fill (O)
(See note 20 and view U)

Front Lifting Beam
Clean and Grease (O)
(See note 24 and view AD)

Hydraulic Reservoir and Filter
Drain and Fill (O)
(See note 8 and view X)

Rear Axle Inner Wheel Bearing Repack (O)
(See note 22)

Rear Axle
Check and Fill (O)
(See note 11 and view T)



Front Axle
Drain and Fill (O)
(See note 11 and view T)

Wheel End Planetary Hubs
Drain and Fill (O)
(See note 12 and view V)

Wheel End Planetary Hubs
Check and Fill (O)
(See note 12 and view V)

11K Self-Recovery Winch (SRW) Cable
Fill (O)
(See note 14 and view W)

11K Self-Recovery Winch (SRW)
Check and Fill (O)
(See note 15 and view Y)

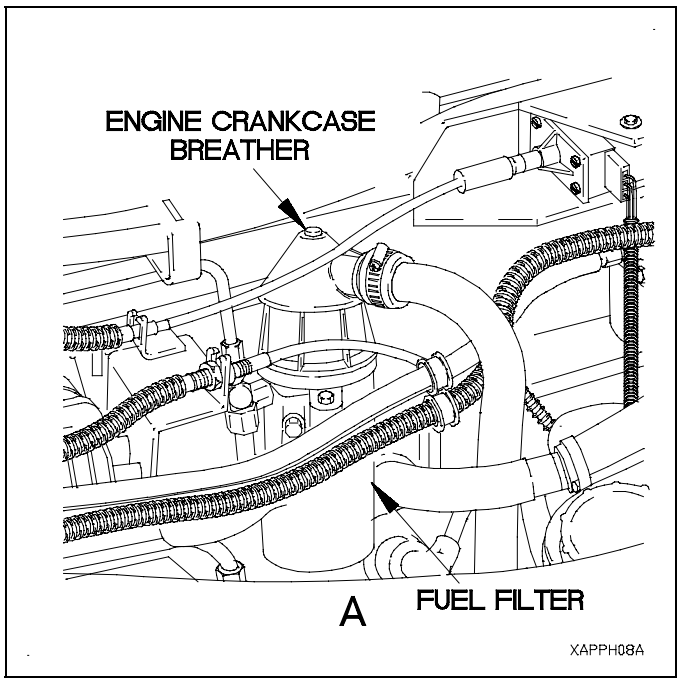
11K Self-Recovery Winch (SRW)
Drain and Fill (O)
(See note 15 and view Y)

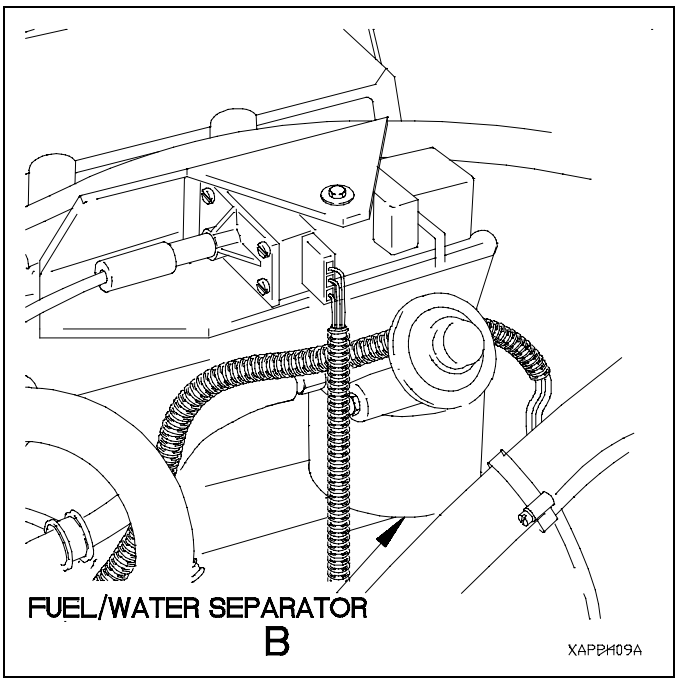
Rear Axle
Drain and Fill (O)
(See note 11 and view T)

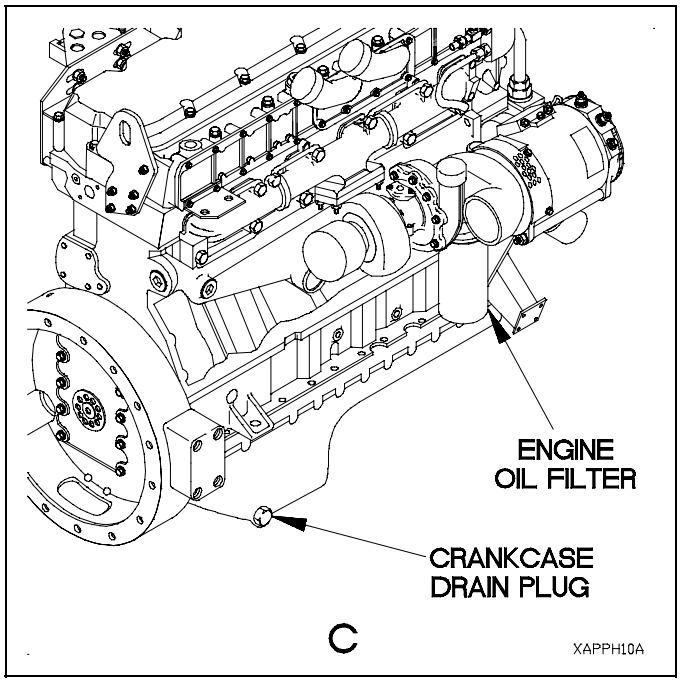
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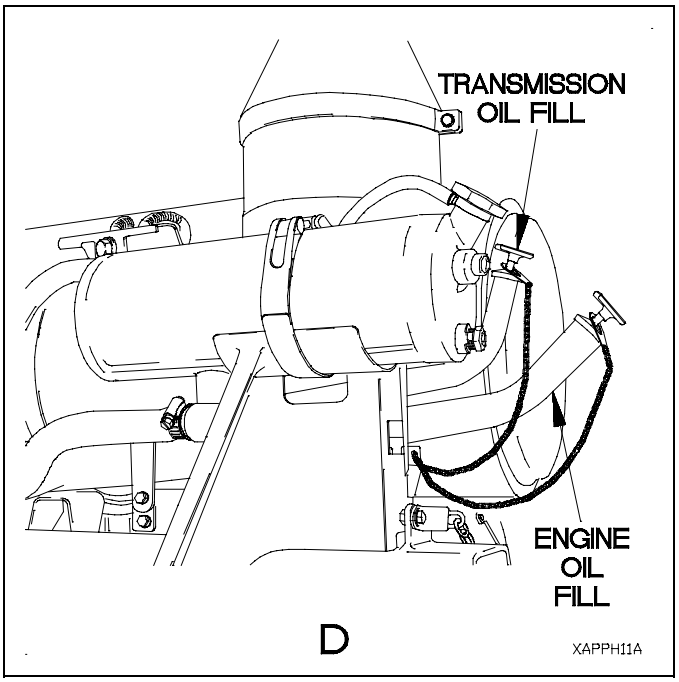
NOTE: Dashed arrows indicate lubrication on both sides of vehicle.

H-8. LUBRICATION LOCAL VIEWS

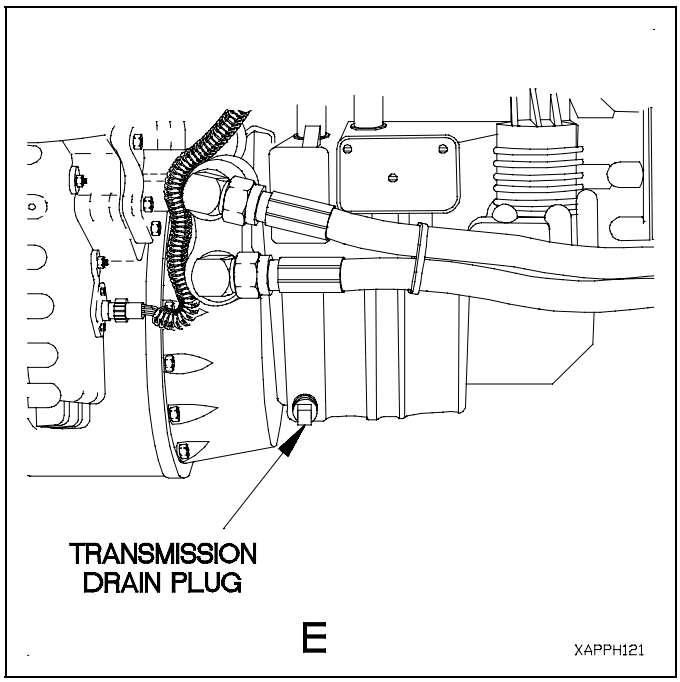


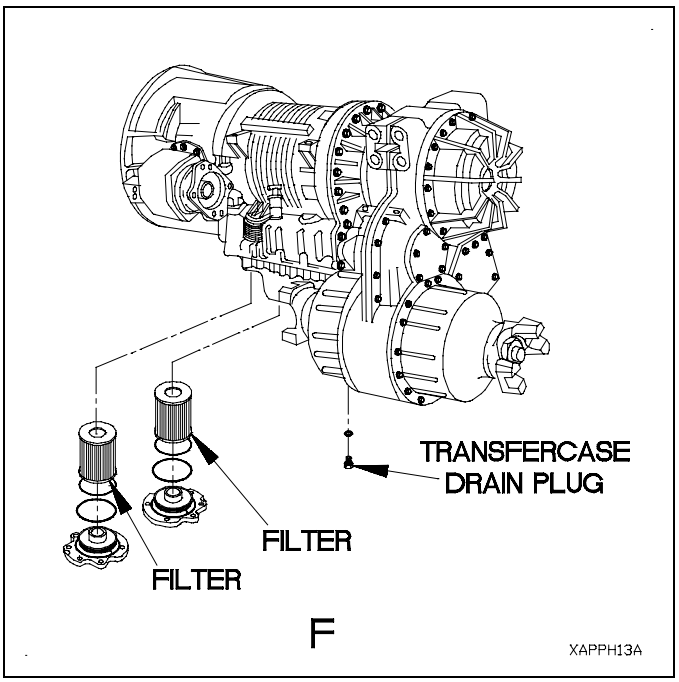


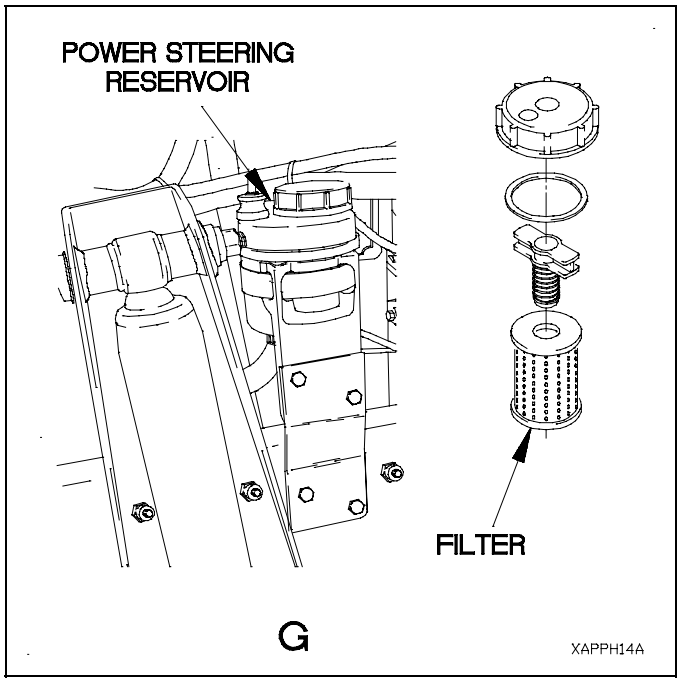


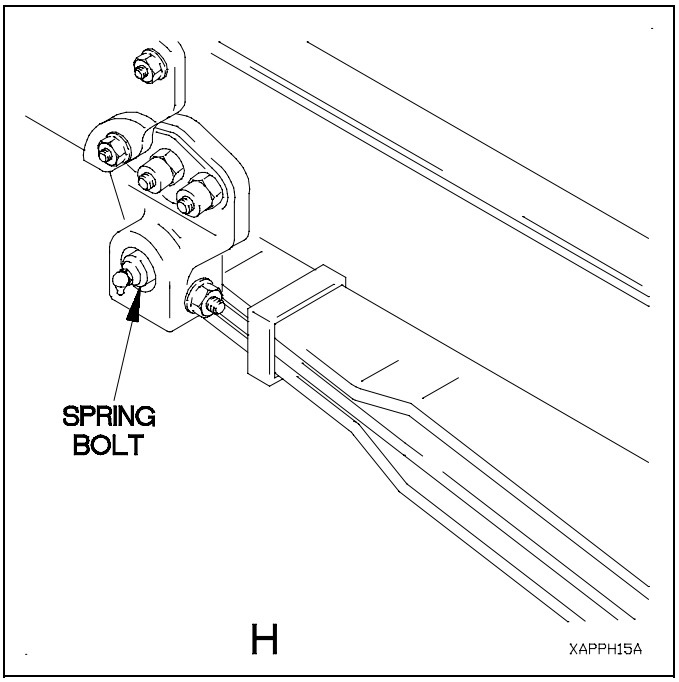


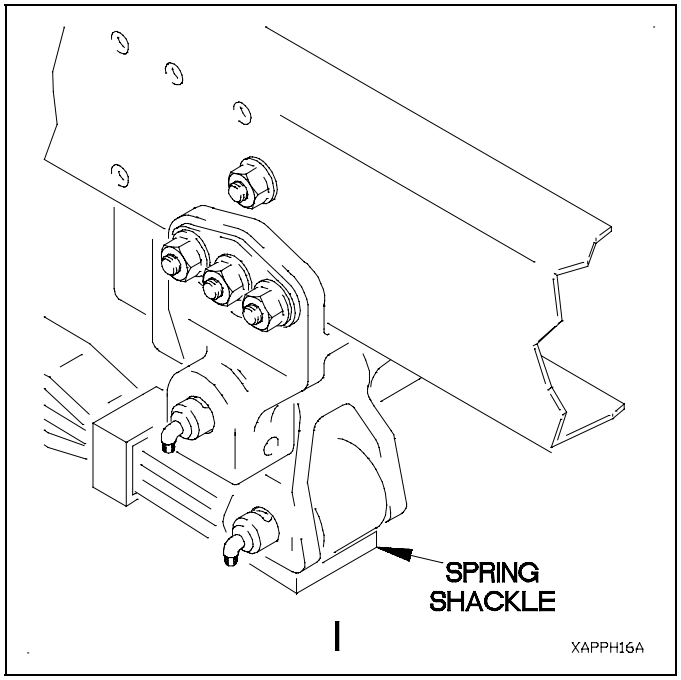
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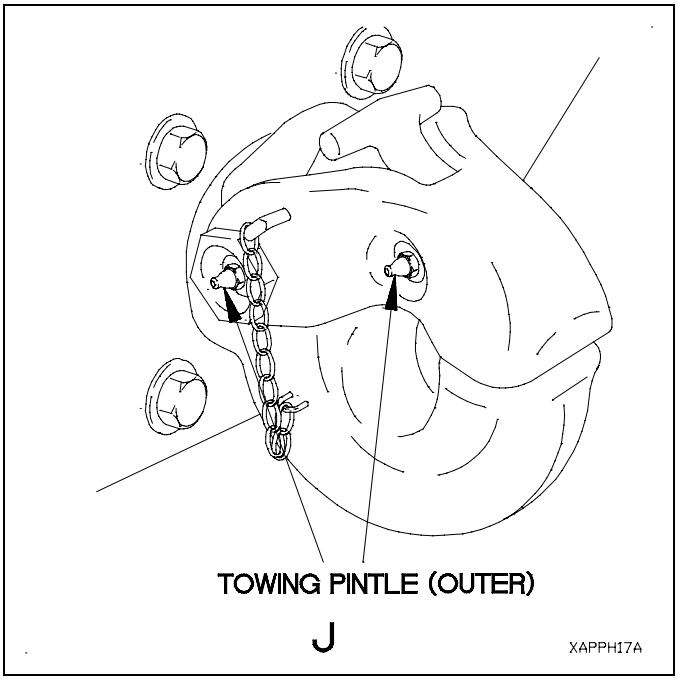




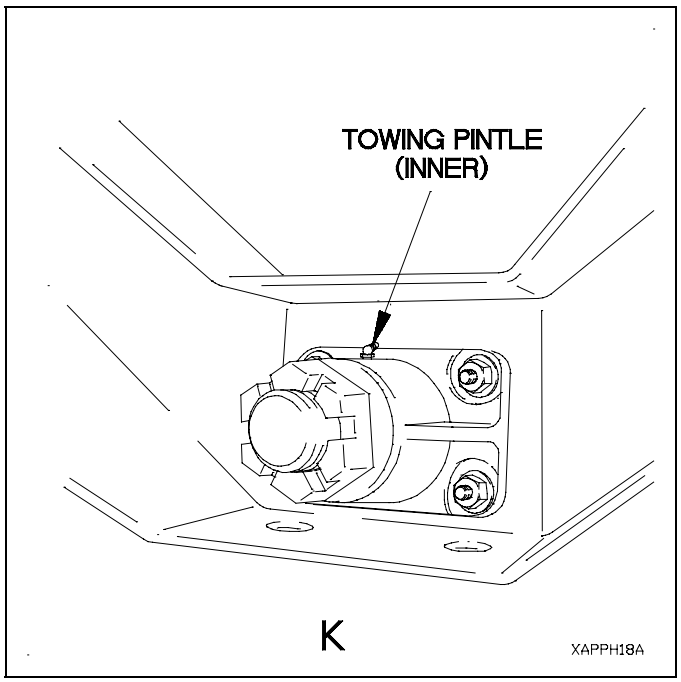



SPRING
SHACKLE
XAPPH16A

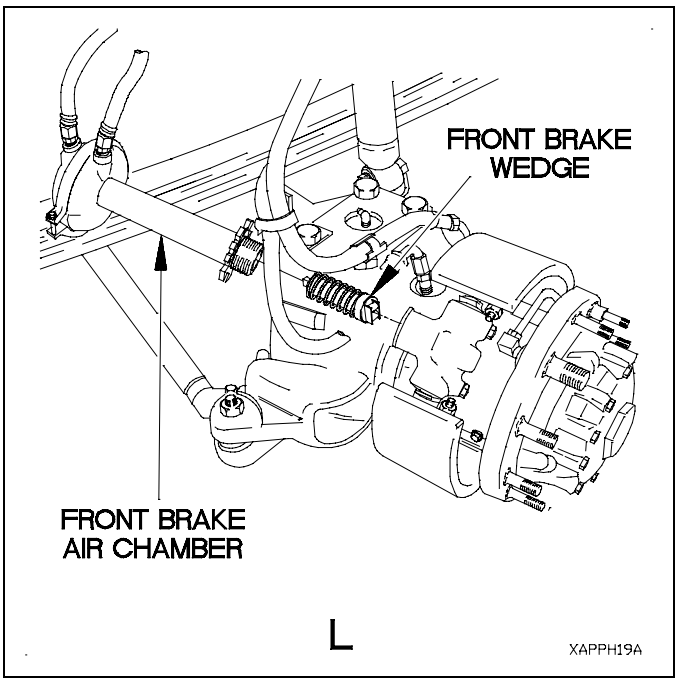
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TOWING PINTLE (OUTER)
XAPPH17A

J

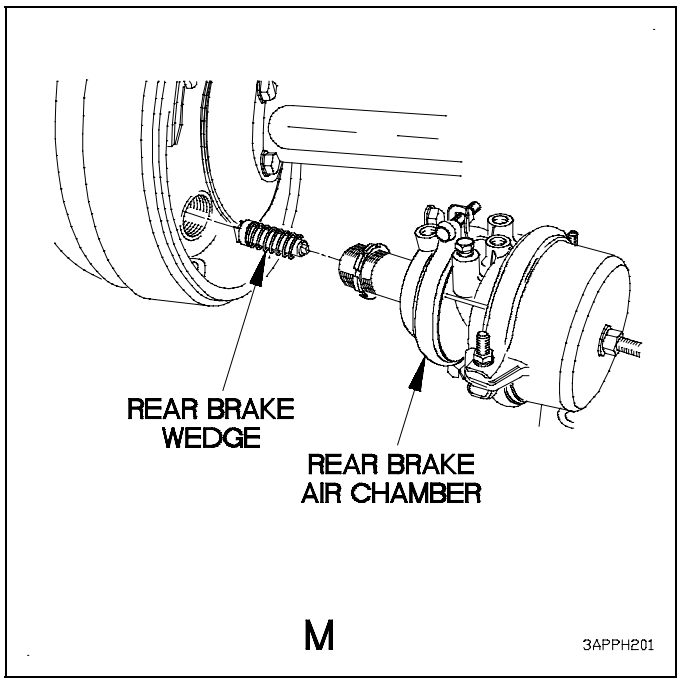

TOWING PINTLE
(INNER)
XAPPH18A

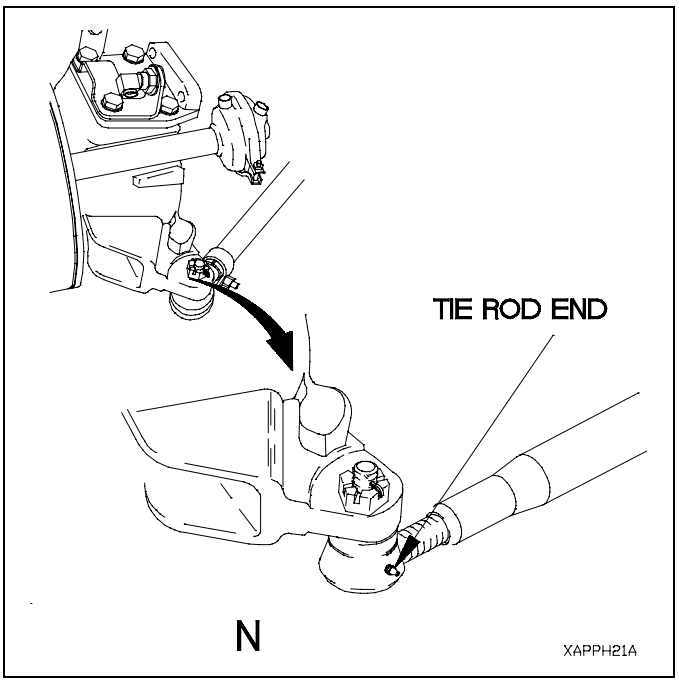
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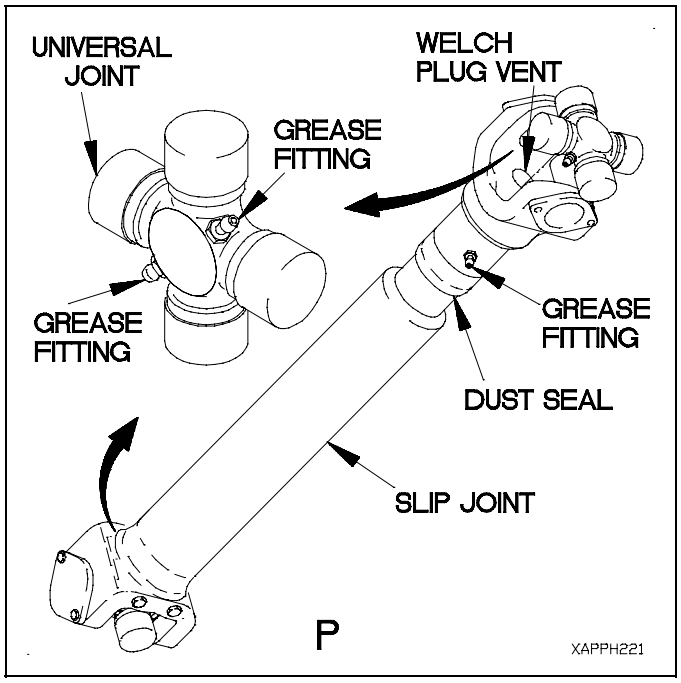

FRONT BRAKE
WEDGE
FRONT BRAKE
AIR CHAMBER
XAPPH19A

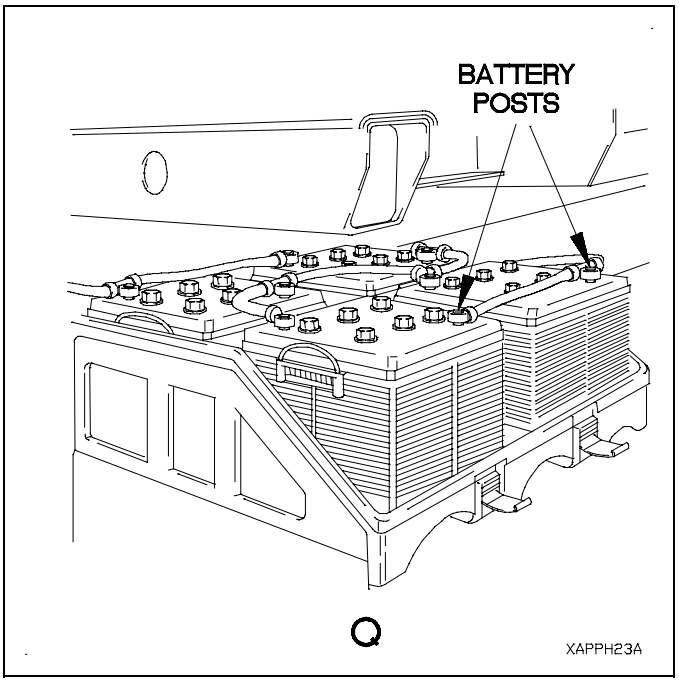
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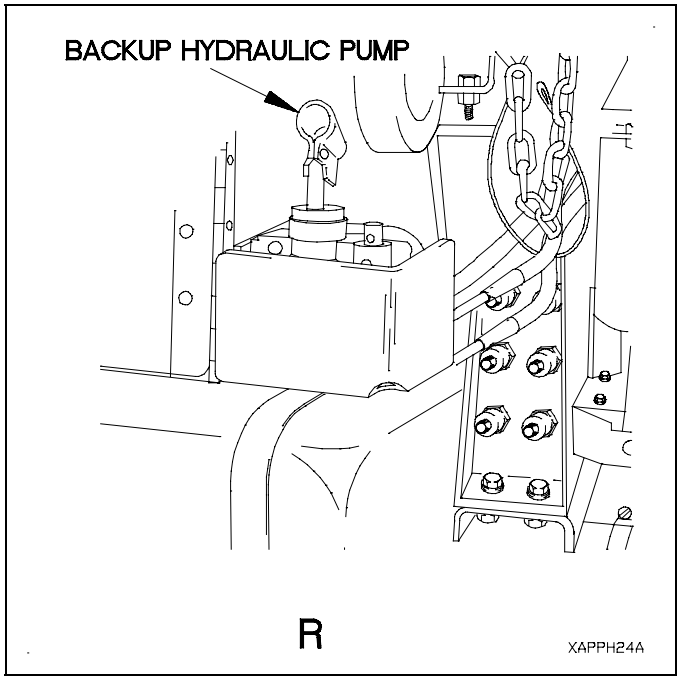
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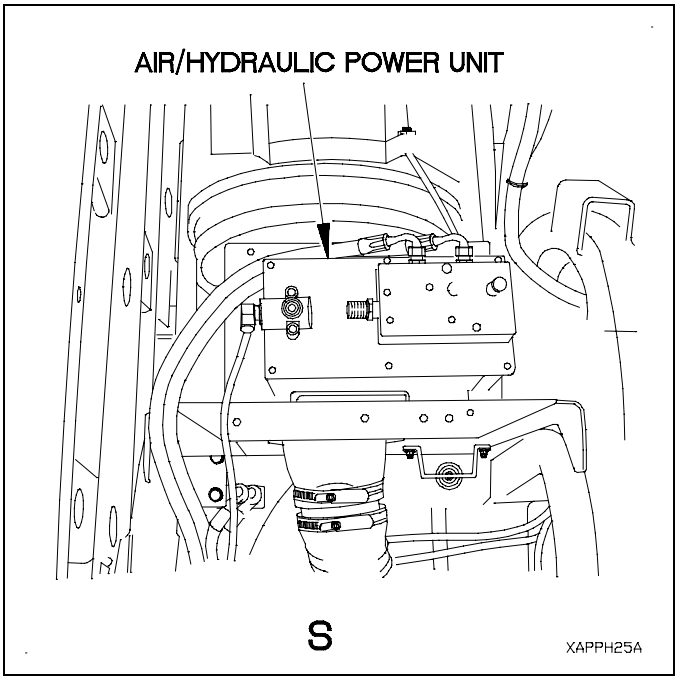


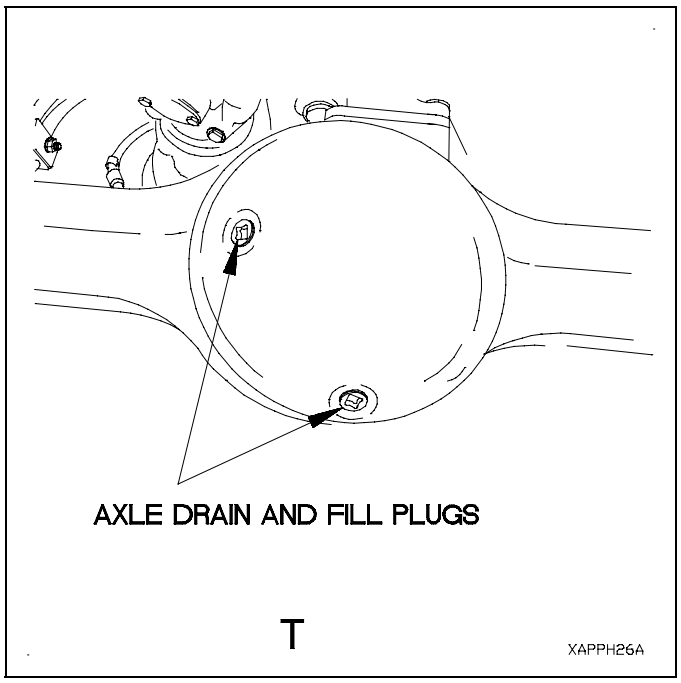


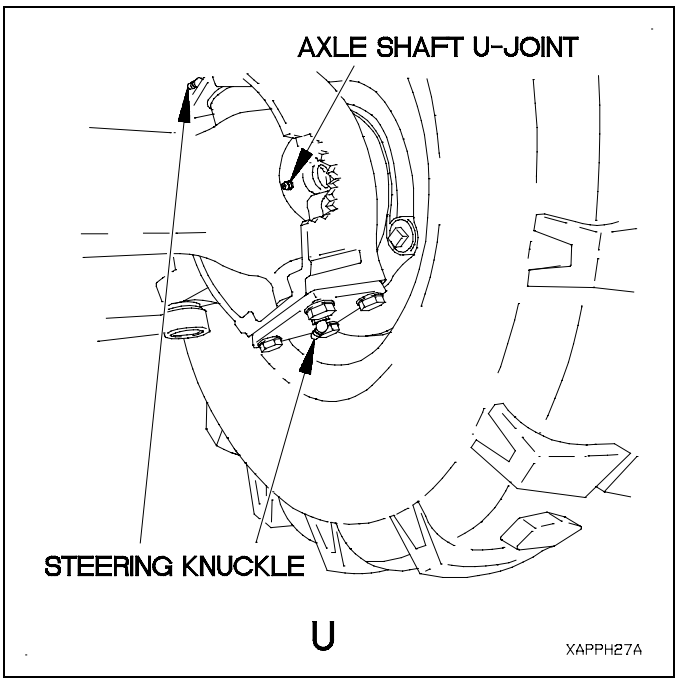




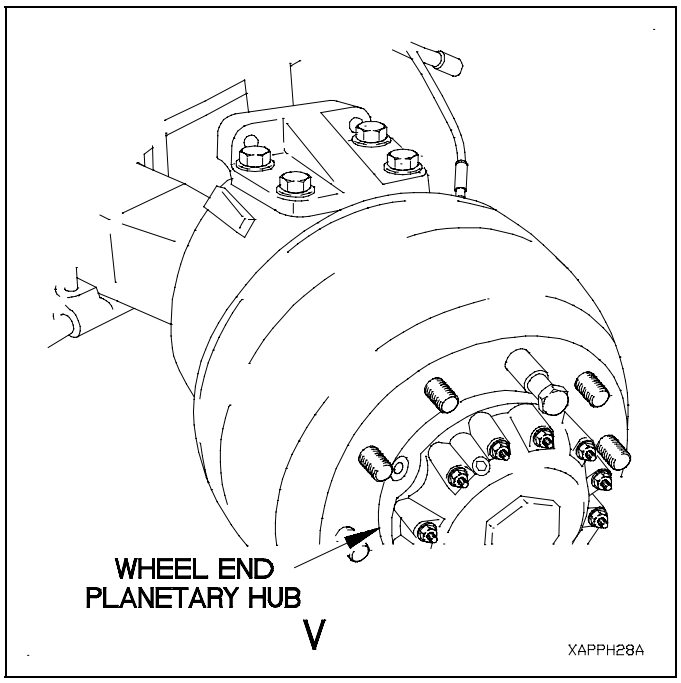

BACKUP HYDRAULIC PUMP
R
XAPPH24A

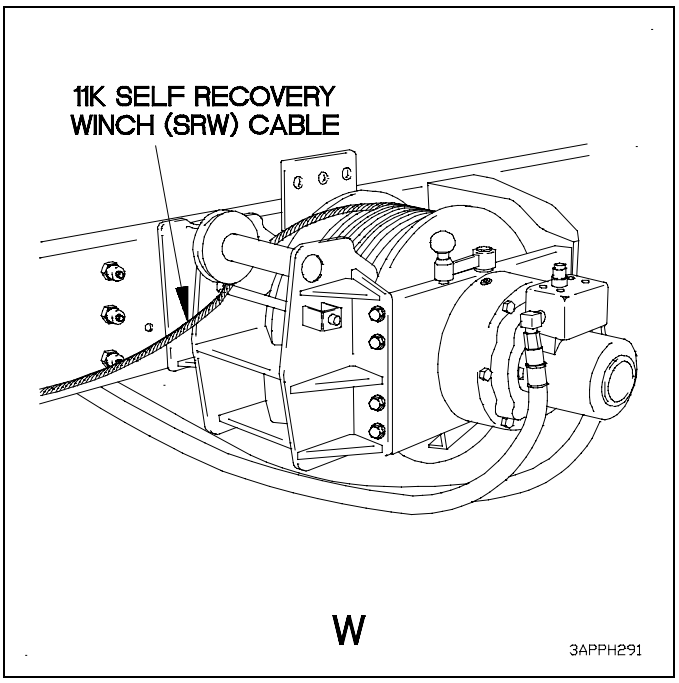

AIR/HYDRAULIC POWER UNIT
S
XAPPH25A

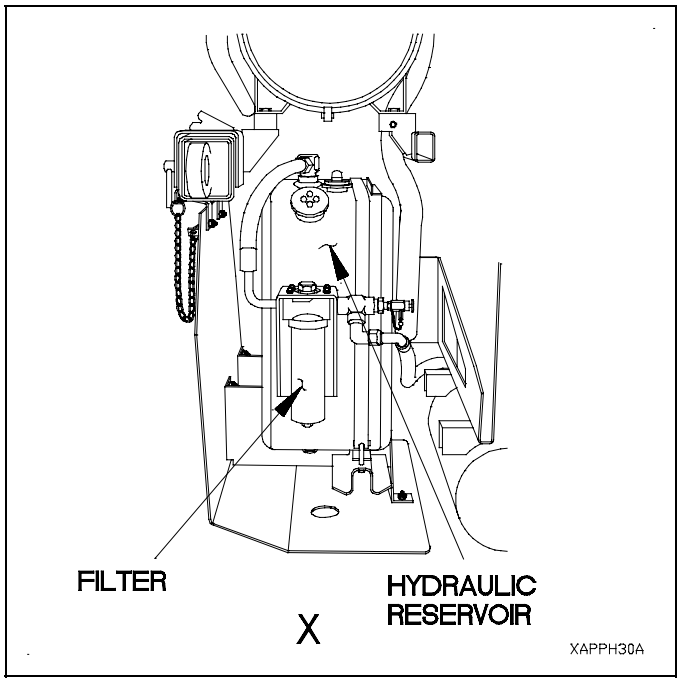

AXLE DRAIN AND FILL PLUGS
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XAPPH26A

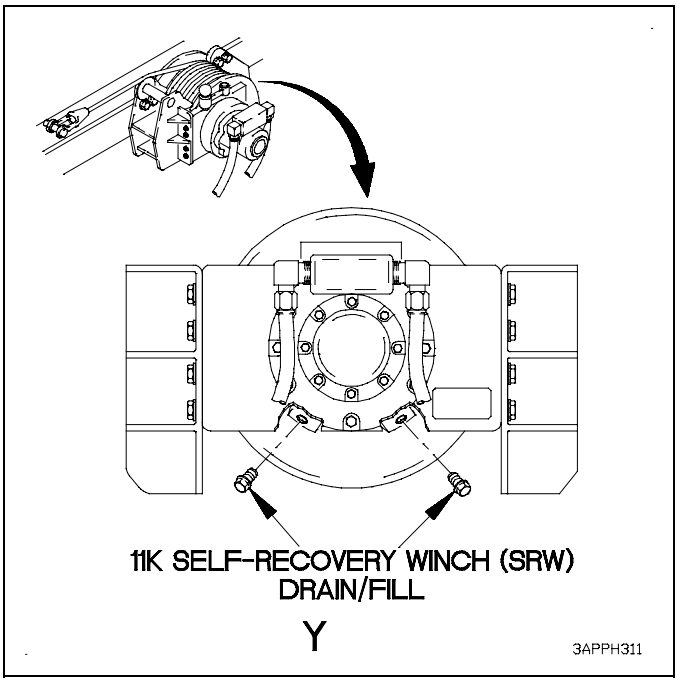

AXLE SHAFT U-JOINT
STEERING KNUCKLE
U
XAPPH27A

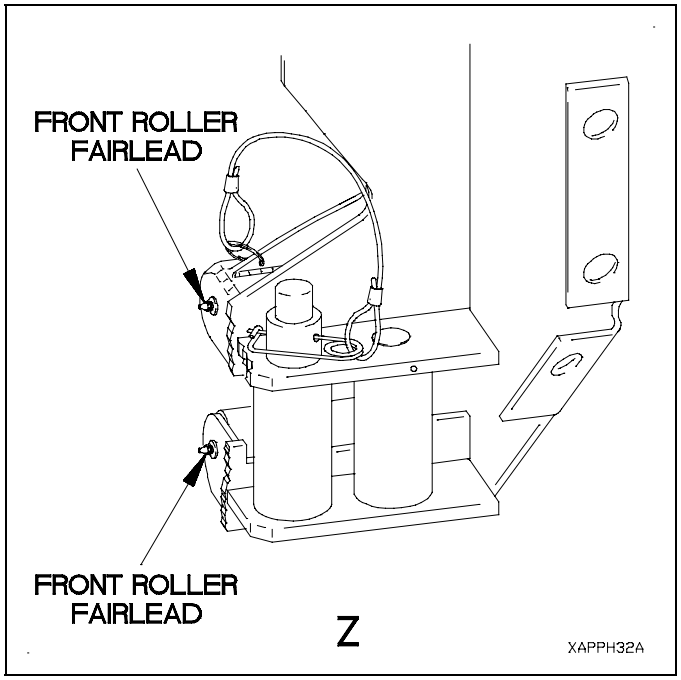
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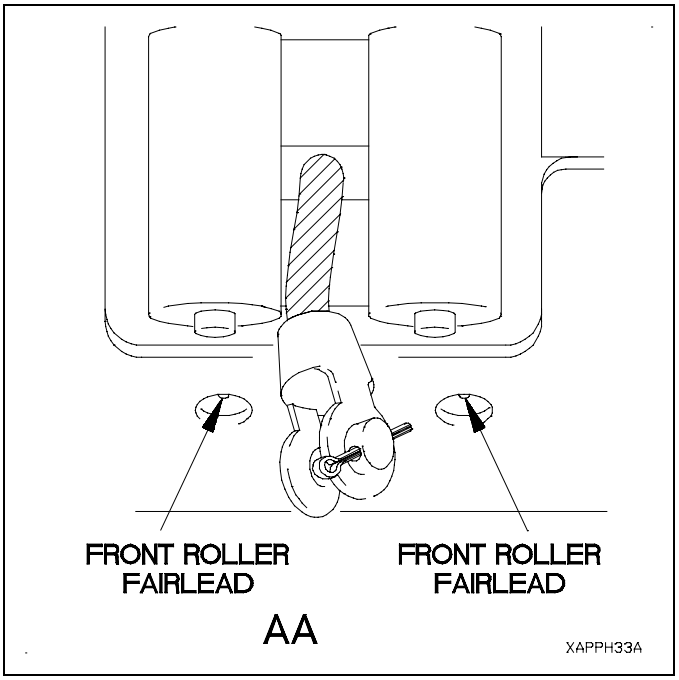


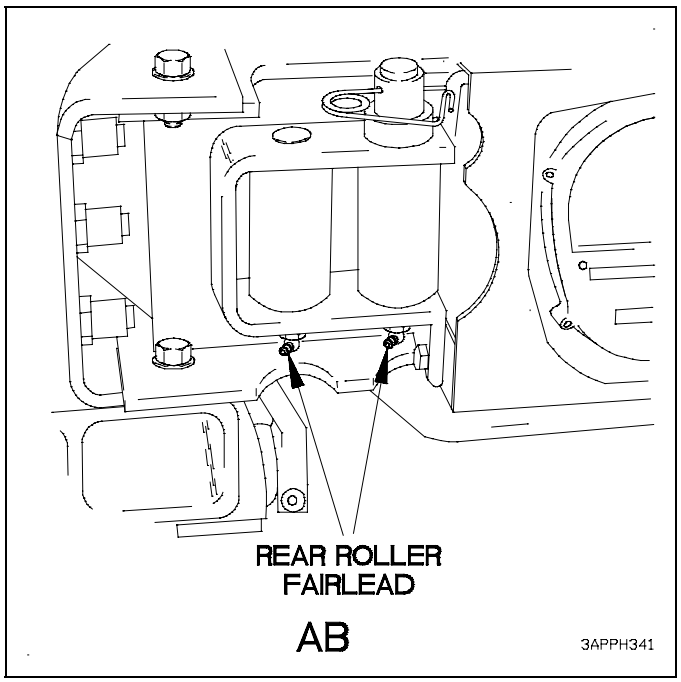


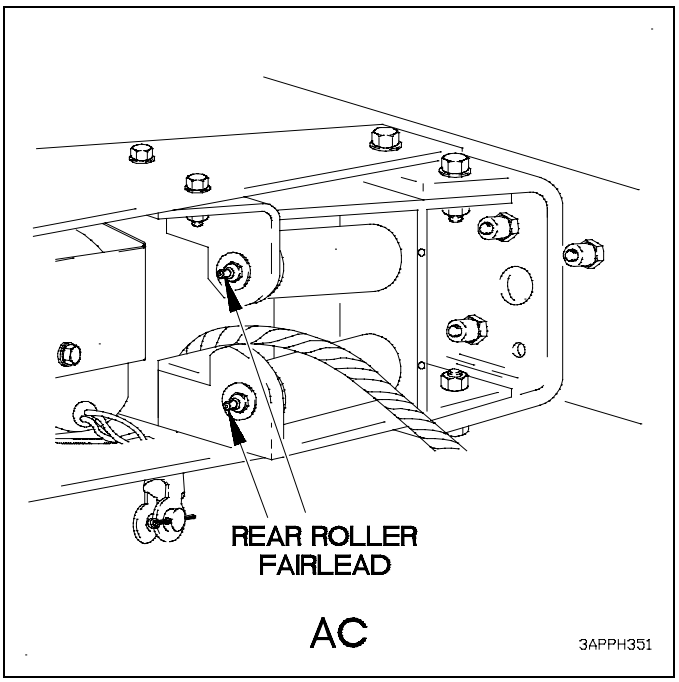




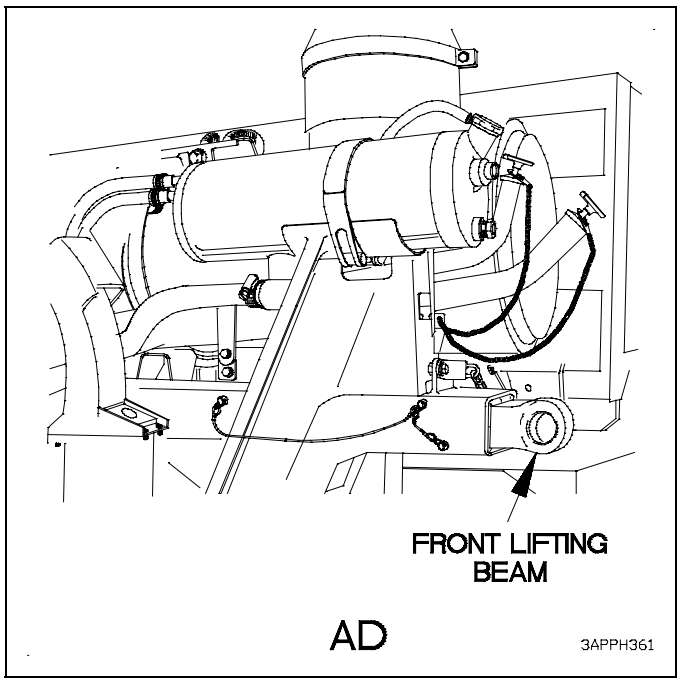

FRONT ROLLER
FAIRLEAD
FRONT ROLLER
FAIRLEAD
Z
XAPPH32A

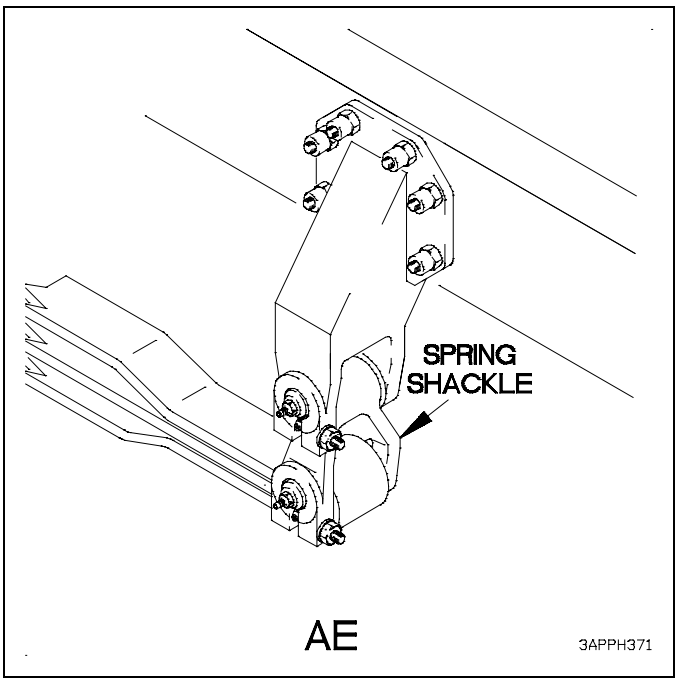

FRONT ROLLER
FAIRLEAD
FRONT ROLLER
FAIRLEAD
AA
XAPPH33A

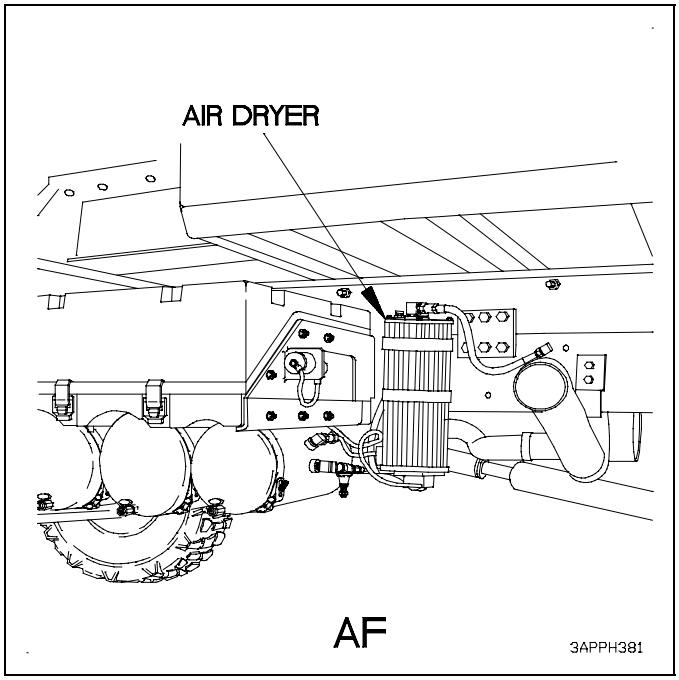

REAR ROLLER
FAIRLEAD
AB
3APPH341


REAR ROLLER
FAIRLEAD
AC
3APPH351

H-8. LUBRICATION LOCAL VIEWS (CONT)







H-9. LUBRICATION NOTES

1. ENGINE CRANKCASE. Check engine oil level daily. Change engine oil at initial 5,000 miles (8,045 km). During the remainder of the 12,000 mile (19,308 km)/18 month warranty period, Units participating in AOAP will change engine oil every 6,000 miles (9,654 km). Units not participating in AOAP, will change engine oil every 6,000 miles (9,654 km) or every six months, whichever occurs first. After expiration of engine warranty period, Units participating in AOAP will perform engine oil change as directed by AOAP. Units not participating in AOAP will change engine oil every 6,000 miles (9,654 km) or every six months, whichever occurs first, or when operating in dusty areas or under severe operating conditions, change the oil every 3,000 miles (4,827 km) or every three months, whichever occurs first. Drain engine oil when engine is warm. Refill engine crankcase with OE/HDO specified for the ambient temperature. Engine oil is full when level is within crosshatch marks on the dipstick. Do not overfill.

2. ENGINE OIL FILTER. Filter is replaced each time the crankcase is drained. If water or metal particles are detected during oil filter replacement, notify Direct Support Maintenance personnel before refilling crankcase.

3. TRANSMISSION. Check transmission oil level daily. Change transmission oil at initial 5,000 miles (8,045 km). During the remainder of the 24 month/unlimited mileage warranty, Units participating in AOAP will perform transmission oil change as directed by AOAP. Units not participating in AOAP will perform transmission oil change every 24,000 miles (38,616 km) or once every two years, whichever occurs first. Drain transmission oil when engine is warm. Refill with OE/HDO specified for ambient temperature. Add oil until the proper level is reached (TM 9-2320-365-10). Do not overfill. Replace oil filters each time transmission oil is changed.

4. POWER STEERING. Check power steering oil level weekly. Change the oil every 24,000 miles (38,616 km). Disconnect upper and lower hoses from steering gear and drain oil. Refill power steering pump reservoir with OE/HDO specified for the ambient temperature. Reservoir is full when oil is between the two marks on the dipstick. Do not overfill. Remove dipstick, wipe clean and install dipstick fully into reservoir. Remove dipstick and read oil level. Replace oil filter each time power steering oil is changed.

5. FUEL/WATER SEPARATOR. Replace filter element every 6,000 miles (9,654 km) or once every six months, whichever occurs first.

6. FUEL FILTER. The fuel particle filter is replaced when a new fuel/water separator filter element is installed. The normal replacement interval is every 6,000 miles (9,654 km) or once every six months, whichever occurs first.

7. ENGINE COOLANT. Check engine coolant level daily. Change the coolant and flush the cooling system every 24,000 miles (38,616 km) or once every two years, whichever occurs first. Fill radiator overflow tank with an Ethylene Glycol/water mixture as specified in 0-A-548D. Service the cooling system before the specified interval if:

- Coolant is heavily contaminated.
- Engine overheats.
- Oil cooler has failed allowing oil and coolant to mix.

8. HYDRAULIC RESERVOIR and FILTER. Check oil level weekly and make sure oil level gage reads **F (full)**. Units participating in AOAP will sample oil annually and change oil and filter as directed by AOAP. Units not participating in AOAP will change oil and filter every two years. Drain oil and refill hydraulic reservoir with OE/HDO specified for ambient operating temperature. Fill hydraulic reservoir until oil level gage reads **F (full).** Do not overfill. Replace oil filter each time oil is changed.

H-9. LUBRICATION NOTES (CONT)

9. DRIVE SHAFT UNIVERSAL and SLIP YOKE.
Lubricate drive shafts with GAA every 3,000 miles (4,827 km) or once every three months, whichever occurs first, using a low pressure lubrication gun. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first. Perform drive shaft hinging inspection every time drive shafts are serviced (para 9-3).

- UNIVERSAL JOINT:
  A. Apply grease to both grease fittings until new grease purges from all four bearing caps.
  B. If grease does not purge from all four bearing caps, perform the following steps:
  (1) Loosen two screws on bearing cap that does not purge, approximately 1/4 in.
  (2) Apply grease to grease fitting for bearing cap that does not purge until bearing cap purges.
  (3) Remove and discard the two screws loosened in step (1).
  (4) Position two replacement screws in bearing cap and tighten down evenly.
  (5) Tighten two screws to 26-35 lb-ft (35-47 N·m).

- SLIP JOINT:
  A. Apply grease until grease appears at the vent in the welch plug.
  B. Place your finger over the welch plug vent and add grease until grease purges from the dust seal.
  C. If grease does not purge from the dust seal, inspect drive shaft slip yoke (para 9-2).

10. AIR/HYDRAULIC POWER UNIT and BACKUP HYDRAULIC PUMP. Change OHA oil every 24,000 miles (38,616 km) or once every two years, whichever occurs first. To service air/hydraulic power unit and backup hydraulic pump refer to vehicle paragraph number 19-7. Air Transportability Hydraulic System Service.

11. ALL AXLE DIFFERENTIALS. Check oil level in differentials every 3,000 miles (4,827 km). Check oil level with vehicle parked on level surface and axle differential at ambient temperature, allowing at least one hour to cool down after vehicle operation. If oil is checked when axle differential is hot, it is normal for oil to spill out of the port due to expansion from the heat. Oil level is considered full if it is within one inch of the bottom of the fill port. If oil spills from the fill port when the axle differential is cool, it is overfull. Allow oil to drain until no more drains out. If the oil level is more than one inch below the bottom of the fill port, refill axle differential with GO specified for the ambient temperature until level with bottom of fill port. Change the oil every 24,000 miles (38,616 km) or once every two years, whichever occurs first. Drain oil when hot after operation.

12. FRONT AXLE WHEEL END PLANETARY HUBS. There are two lube intervals for the front axle wheel end planetary hubs.

a. Check and fill front axle wheel end planetary hubs every 3,000 miles (4,827 km) or once every three months, whichever occurs first, as follows:

   (1) Position vehicle on a level surface. Allow 15 minutes for vehicle to cool before checking oil levels.
   (2) Position fill port at 4 o'clock position. If oil flows from fill port when plug is loosened, let oil drain to correct level. If oil level is below fill port, fill hub with GO specified for the ambient temperature until oil is level with fill port.

b. Drain and fill front axle wheel end planetary hubs every 24,000 miles (38,616 km) or once every two years, whichever occurs first, following the repacking of the inner wheel bearings or whenever wheel end assemblies are taken apart for other maintenance as follows:

   (1) Position vehicle on a level surface.
   (2) Position fill port at the 6 o'clock (down) position.
   (3) Drain hub oil (allow a minimum of 15 minutes for oil to drain down from vent tubes).
   (4) Refill hubs with 11-13 ounces of GO specified for the ambient temperature.

13. TIE ROD ENDS. Lubricate tie rod ends with GAA every 6,000 miles (9,654 km) or once every six months, whichever occurs first, using a low pressure lubrication gun, until new grease is seen purging from the boot area. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

14. 11K SELF-RECOVERY WINCH (SRW) CABLE:

CAUTION

Do not use dry cleaning solvent to clean 11K Self-Recovery Winch (SRW) cables. Use of dry cleaning solvent will remove lubricant from inner strands of 11K SRW cables. Failure to comply may result in damage to equipment.

a. After winch operation:

Refer to FM 5-125.

b. Care of wire rope:

Refer to FM 5-125.

c. Inspection of wire rope:

Refer to FM 5-125.

d. Every six months:

(1) Unwind entire length of 11K SRW cable (TM 9-2320-365-10).
(2) Soak and clean 11K SRW cable with new OE/HDO 30.
(3) Wipe off excess OE/HDO 30.
(4) Coat 11K SRW cable with GW.
(5) Rewind 11K SRW cable (TM 9-2320-365-10).

15. 11K SRW. Check 11K SRW gear oil level every 6,000 miles (9,654 km) or once every six months, whichever occurs first. Refill 11K SRW with GO specified for ambient temperature. Change oil every 12,000 miles (19,308 km) or once every year, whichever occurs first. Use procedure (a) to check and fill oil level; use procedure (b) to change oil.

a. Check and fill oil level as follows:

(1) Shift the freespool mechanism to the disengage position so the drum can be freely rotated.
(2) Rotate the drum to where either plug is near the top of the 11K SRW. Remove the plug.
(3) Rotate the drum 90 degrees in the direction that allows the other plug to be near the top of the 11K SRW. Remove the plug.

NOTE

Oil level is full if a small amount of oil runs out of lower plug.

(4) Add oil until a small amount of oil runs out of lower plug hole.
(5) Apply adhesive (Item 2, Appendix D) to plug and position plug in top hole.
(6) Rotate drum until open hole is at top.
(7) Apply adhesive (Item 2, Appendix D) to plug and position plug in top hole.
(8) Tighten plugs to 13-15 lb-ft (18-20 N·m).

H-9. LUBRICATION NOTES (CONT)

b. Change oil as follows:

(1) Shift the freespool mechanism to the disengage position so the drum can be freely rotated.
(2) Rotate the drum to where either plug is near the top of the 11K SRW. Remove the plug.
(3) Rotate the drum 90 degrees in the direction that allows the other plug to be near the top of the 11K SRW. Remove the plug.
(4) Position drain pan (Item 17, Appendix C) under 11K SRW.
(5) Rotate the drum until either hole is straight down to the bottom of the 11K SRW. Allow the oil to drain completely.
(6) Rotate the drum until either hole is at top.

NOTE

Oil level is full if a small amount of oil runs out of lower plug.

(7) Add oil until a small amount of oil runs out of lower plug hole.
(8) Apply adhesive (Item 2, Appendix D) to plug and position plug in top hole.
(9) Rotate drum until open hole is at top.
(10) Apply adhesive (Item 2, Appendix D) to plug and position plug in top hole.
(11) Tighten plugs to 13-15 lb-ft (18-20 N·m).

16. TOWING PINTLE. Lubricate towing pintle with GAA every 6,000 miles (9,654 km) or once every six months, whichever occurs first, using a low pressure lubrication gun until new grease is seen purging.

WARNING

- **Dry Cleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well-ventilated area; avoid contact with skin, eyes, and clothes, and do not breath vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint for Type I Dry Cleaning Solvent is 100°F (38°C) and for Type II is 138°F (50°C). Failure to comply may result in serious injury or death to personnel.**

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

17. ENGINE CRANKCASE BREATHER. Remove crankcase breather and clean with Dry Cleaning Solvent (SD P-D-680) (Item 71, Appendix D) or equivalent, and replace o-ring seal every 6,000 miles (9,654 km) or once every six months, whichever occurs first.

18. FRONT and REAR AXLE SPRING BOLT and SPRING SHACKLE. Lubricate front and rear axle spring bolts and spring shackles with GAA every 3,000 miles (4,827 km) or once every three months, whichever occurs first, using a low pressure lubrication gun until grease appears between pins and bushings at both ends of spring bolt and spring shackle. If pins do not accept grease, remove pins. Clean and inspect pins and bushings, replace if necessary. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

19. BATTERY POSTS. Service batteries in accordance with TM 9-6140-200-14, every 6,000 miles (9,654 km) or once every six months, whichever occurs first.

20. FRONT AXLE SHAFT UNIVERSAL JOINTS and STEERING KNUCKLES. Lubricate universal joints every 3,000 miles (4,827 km) or once every three months, whichever occurs first. Lubricate steering knuckles with GAA every 6,000 miles (9,654 km) or once every six months, whichever occurs first, using a low pressure lubrication gun. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

21. BRAKE WEDGE and AIR CHAMBER: BRAKE SPIDER, SELF-ADJUSTER MECHANISM, AND WEDGE ASSEMBLY. Clean and lubricate (with GAA) areas of spider and hardware that contact the brake shoes. Disassemble, clean and lubricate the self-adjuster mechanism. Clean and lubricate the wedge head, rollers and ramps in the plungers. Clean and lubricate every 6,000 miles (9,654 km). If operating conditions are severe or abnormal, service at 3,000 miles (4,827 km) or once every three months, whichever occurs first, or when any of the following occur:

- Seals are replaced
- Plungers are removed
- Brakes are relined
- Grease becomes contaminated or hardened

22. FRONT and REAR AXLE INNER WHEEL BEARINGS. Repack inner wheel bearings with GAA every 12,000 miles (19,308 km), when semiannual PMCS inspection of service brakes reveals oil leak from inner hub, or whenever wheel end assemblies are taken apart for other maintenance (para 10-2).

23. 11K SRW CABLE ROLLER FAIRLEADS. Lubricate with GAA every 6,000 miles (9,654 km) or once every six months, whichever occurs first, using a low pressure lubrication gun. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

WARNING

- **Dry Cleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well-ventilated area; avoid contact with skin, eyes, and clothes, and do not breath vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint for Type I Dry Cleaning Solvent is 100°F (38°C) and for Type II is 138°F (50°C). Failure to comply may result in serious injury or death to personnel.**

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

24. FRONT LIFTING BEAM. Remove left and right lifting beams and clean with Dry Cleaning Solvent (SD P-D-680) (Item 71, Appendix D) or equivalent, every 6,000 miles (9,654 km) or once every six months, whichever occurs first. Apply a light coat of GAA to lifting beams. If operating conditions are severe or abnormal, service at 1,000 miles (1,609 km) or once every month, whichever occurs first.

25. AIR DRYER. Service air dryer (para 23-6) every 12,000 miles (19,308 km) or annually, whichever occurs first.

APPENDIX J
ADDITIONAL AUTHORIZATION LIST (AAL)

Section I. INTRODUCTION

J-1. SCOPE

This appendix lists additional items you are authorized for the support of the LMTV.

J-2. GENERAL

This list identifies items that do not have to accompany the LMTV and that do not have to be turned in with it. These items are all authorized to you by Common Tables of Allowance (CTA), Modification Table of Organization and Equipment (MTOE), Tables of Distribution and Allowances (TDA), or Joint Table of Allowance (JTA).

J-3. EXPLANATION OF LISTING

National Stock Numbers, description, and quantities are provided to help you identify and request the additional items you require to support this equipment.

Section II. ADDITIONAL AUTHORIZATION LIST

(1) National Stock Number	(2) Description (CAGE) Part Number	(3) U/M	(4) Qty Auth
6685-01-193-1733	10,000 PSI Transducer: (19207) 12258956	EA	1

APPENDIX K
TRANSMISSION/TRANSMISSION CONTROLS ADAPTABILITY CHART

Section I. INTRODUCTION

K-1. INTRODUCTION

This appendix lists the various transmission controls and configuration modifications that may be required to permit the transmission to function correctly. This appendix will guide the mechanic through the hardware selection process by identifying compatibility issues between the transmission controls (WTEC II/WTEC III) and the numerous revisions of the Allison MD3070PT transmission (PRE-ID w/ 24-pin connector, PRE-ID w/ 31-pin connector, TID 1, TID 2, and TID 3). Refer to Figure 1. After replacing any component of the transmission controls or the transmission assembly, perform calibration procedures in TM 9-2320-365-20-3 paragraph 8-2 or 8-3.

K-2. EXPLANATION OF COLUMNS

a. Column (1) - Installed Controls or Controls Being Installed. This column lists all of the variables concerning which version of transmission controls are installed in the vehicle, or may need to be installed, to communicate correctly with the transmission.

b. Column (2) - Installed Transmission or Transmission Being Installed. This column lists all of the various revisions of the Allison MD3070PT transmissions that may be installed in the vehicle.

c. Column (3) - Required Modification. This column lists the various electrical interface (hardware) modifications that may be required to allow the transmission controls to communicate with the transmission.

K-3. HOW TO USE THIS CHART

a. Determine which controls and transmission are installed in the vehicle.

b. Determine which component requires replacement.

c. Read across the row to column (3) to determine the required modification.

Section II.

TRANSMISSION/TRANSMISSION CONTROLS ADAPTABILITY CHART

(1) Installed Controls or Controls Being Installed	(2) Installed Transmission or Transmission Being Installed	(3) Required Modification (Refer to Section III)
WTEC II (with 24-pin connector)	PRE-ID w/ 24-pin connector (transmission serial number prior to 6510032369)	No modification required.
WTEC II (with 24-pin connector)	PRE-ID w/ 31-pin connector (transmission serial number 6510032369 to 6510090785)	Install 31-pin connector.
WTEC II (with 24-pin connector)	TID 1 (transmission serial number 6510090786 to 6510142171)	Install 31-pin connector.
WTEC II (with 24-pin connector)	TID 2 (transmission serial number 6510142172 to 6510262116)	Install 31-pin connector and replace transmission internal wiring harness.

TRANSMISSION/TRANSMISSION CONTROLS ADAPTABILITY CHART (CONT)

(1) Installed Controls or Controls Being Installed	(2) Installed Transmission or Transmission Being Installed	(3) Required Modification (Refer to Section III)
WTEC II (with 24-pin connector)	TID 3 (transmission serial number 6510262117 and subsequent)	Install 31-pin connector, replace transmission internal wiring harness, and reprogram WTEC II TEPSS. [1]
WTEC II (with 31-pin connector)	PRE-ID w/ 24-pin connector (transmission serial number prior to 6510032369)	Install adapter cable assembly.
WTEC II (with 31-pin connector)	PRE-ID w/ 31-pin connector (transmission serial number 6510032369 to 6510090785)	No modification required.
WTEC II (with 31-pin connector)	TID 1 (transmission serial number 6510090786 to 6510142171)	No modification required.
WTEC II (with 31-pin connector)	TID 2 (transmission serial number 6510142172 to 6510262116)	Replace transmission internal wiring harness.
WTEC II (with 31-pin connector)	TID 3 (transmission serial number 6510262117 and subsequent)	Replace transmission internal wiring harness and reprogram WTEC II TEPSS. [1]
WTEC III (with ECU manufactured prior to October 1999) [2]	PRE-ID w/ 24-pin connector (transmission serial number prior to 6510032369)	Install adapter cable assembly and ID harness.
WTEC III (with ECU manufactured prior to October 1999) [2]	PRE-ID w/ 31-pin connector (transmission serial number 6510032369 to 6510090785)	Install ID harness.
WTEC III (with ECU manufactured prior to October 1999) [2]	TID 1 (transmission serial number 6510090786 to 6510142171)	No modification required.
WTEC III (with ECU manufactured prior to October 1999) [2]	TID 2 (transmission serial number 6510142172 to 6510262116)	No modification required.
WTEC III (with ECU manufactured prior to October 1999) [2]	TID 3 (transmission serial number 6510262117 and subsequent)	Reprogram WTEC III ECU [1] or install new WTEC III ECU (P/N 12421787-002).
WTEC III (with ECU manufactured after to October 1999) [3]	PRE-ID w/ 24-pin connector (transmission serial number prior to 6510032369)	Install adapter cable assembly and ID harness.
WTEC III (with ECU manufactured after to October 1999) [3]	PRE-ID w/ 31-pin connector (transmission serial number 6510032369 to 6510090785)	Install ID harness.
WTEC III (with ECU manufactured after to October 1999) [3]	TID 1 (transmission serial number 6510090786 to 6510142171)	No modification required.

[1] Reprogramming can only be accomplished by an authorized Allison Transmission distributor. You must provide the transmission serial number of the transmission being installed to ensure correct reprogramming. If at a later time, an earlier version transmission is installed in a WTEC II equipped vehicle, WTEC II TEPSS will require reprogramming again.
[2] Vehicle serial number 012477 and lower. Refer to Figure 1.
[3] Vehicle serial number 012478 and higher. Refer to Figure 1.

(1) Installed Controls or Controls Being Installed	(2) Installed Transmission or Transmission Being Installed	(3) Required Modification (Refer to Section III)
WTEC III (with ECU manufactured after to October 1999) [3]	TID 2 (transmission serial number 6510142172 to 6510262116)	No modification required.
WTEC III (with ECU manufactured after to October 1999) [3]	TID 3 (transmission serial number 6510262117 and subsequent)	No modification required.

Section III.

MODIFICATION PARTS IDENTIFICATION

Identification	Part Number	Description
31-pin connector	29519127	Converts a transmission external wiring harness from a 24-pin ("D" type) connector to a 31-pin (round type) connector.
Transmission internal wiring harness	29529474	Converts a TID 2 transmission to a TID 1 configuration to allow WTEC II controls to communicate with the transmission.
ID harness	200100	Allows WTEC III controls to communicate with a PRE-ID transmission.
Adapter cable assembly	29519210	Adapts a PRE-ID transmission with 24-pin ("D" type) connector to a transmission external wiring harness with a 31-pin (round) connector.

MODIFICATION PARTS IDENTIFICATION (CONT)

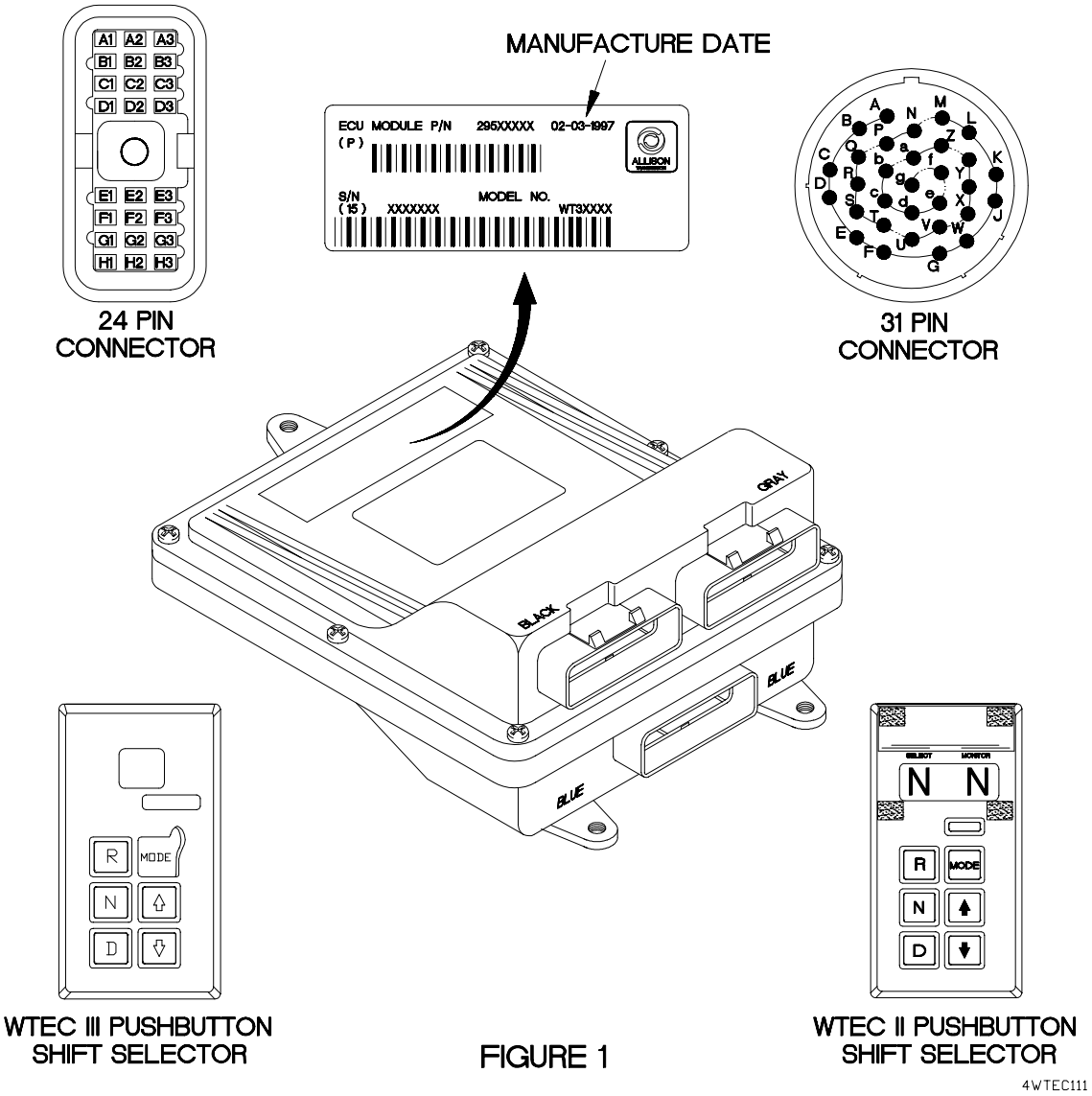


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GLOSSARY
ABBREVIATIONS

A/C	Air Conditioner
AC	Alternating Current
ANSI	American National Standards Institute
CCW	Counterclockwise
CTIS	Central Tire Inflation System
CW	Clockwise
ECU	Electronic Control Unit
EMI	Electromagnetic Interference
LED	Light Emitting Diode
LH	Left Hand
LMHC	Light Material Handling Crane
MAC	Maintenance Allocation Chart
NATO	North Atlantic Treaty Organization
NBC	Nuclear, Biological, or Chemical
NO/NC	Normally Open/Normally Closed
PDP	Power Distribution Panel
PMCS	Preventive Maintenance Checks and Services
PTO	Power Takeoff
RH	Right Hand
SAE	Society of Automotive Engineers
SRW	Self-Recovery Winch
STE/ICE-R	Simplified Test Equipment/Internal Combustion Engine-Reprogrammable
TEPSS	Transmission ECU Pushbutton Shift Selector
TM	Technical Manual
TPS	Throttle Position Sensor

TPSS . . . . . Transmission Pushbutton Shift Selector

VAC . . . . . Volts Alternating Current

VDC . . . . . Volts Direct Current

VIM . . . . . Vehicle Interface Module

WTEC II . . . . . World Transmission Electronic Controls (version 2)

WTEC III . . . . . World Transmission Electronic Controls (version 3)

By Order of the Secretary of the Army:

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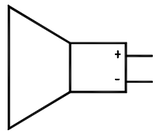
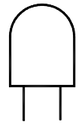
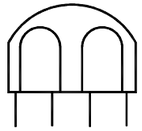
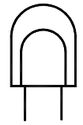
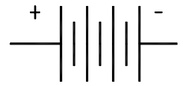
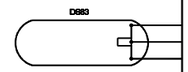
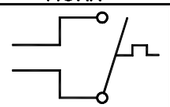
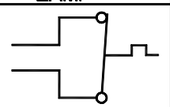
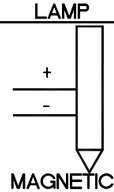
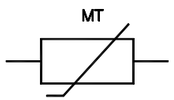
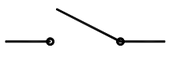
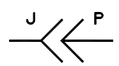
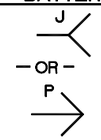
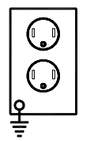
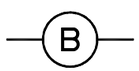
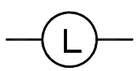
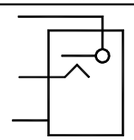
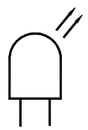
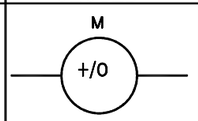
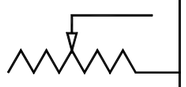
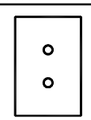
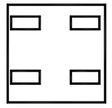
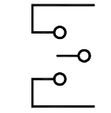
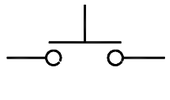
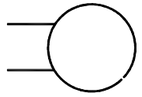
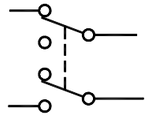
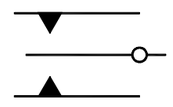
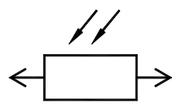
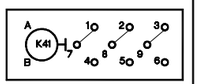
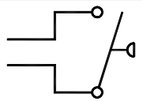
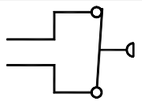
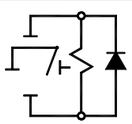
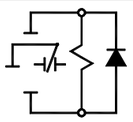
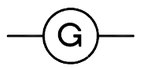
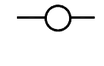
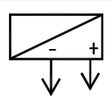
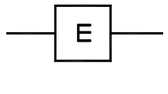
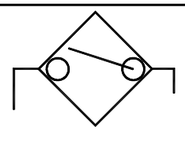
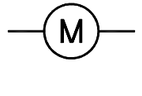
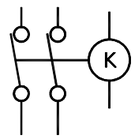
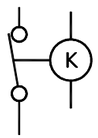
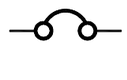
 HORN	 BLACKOUT LAMP	 LAMP	 DUALBEAM LAMP	 GROUND	 POWER LAMP	 OPEN CONTACT	 BATTERY	 FLUORESCENT LIGHT
 TEMPERATURE SWITCH OPEN	 TEMPERATURE SWITCH CLOSED	 MAGNETIC PICKUP	 SENSOR	 NORMALLY OPEN	 NORMALLY CLOSED	 CONNECTOR	 RECEPTACLE	 ELECTRICAL OUTLET
 MOTOR	 SOLENOID	 LEVEL SENSOR	 FILTER	 LED	 METER OR GAGE	 CLOSED CONTACT	 DIMMER MODULE	 TELEPHONE RECEPTACLE
 CIRCUIT BREAKER	 TWO-WAY SWITCH	 PUSHBUTTON	 CIRCULATING PUMP	 DPDT SWITCH	 DPST SWITCH	 PHOTOCELL	 FUSE	 RELAY
 PRESSURE SWITCH OPEN	 PRESSURE SWITCH CLOSED	 NORMALLY OPEN	 NORMALLY CLOSED	 ALTERNATOR	 RESISTOR	 TERMINAL LUG	 ELECTRONIC IGNITION UNIT	
 DIODE	 SPLICE	 SENSING SWITCH	 MOTOR	 GROUND RELAY	 RELAY	 CIRCUIT BREAKER	 FLASHER	

FIGURE FO-1 ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 1 OF 34

SIZE	ILL NO.	
B	5WD01L1B	FP-1/ (FP-2 BLANK)

CONNECTORS			
NUMBER	ZONE	SH	DESCRIPTION
A13	A66	8	WTEC II TRANSMISSION CONNECTOR A
A13	A70	8	WTEC II TRANSMISSION CONNECTOR B
A13	A74	9	WTEC II TRANSMISSION CONNECTOR C
J1	D285	32	VAN 110 VAC POWER ENTRY
J2	A185	21	EMI FILTER
J2	E285	32	VAN 110 VAC POWER ENTRY
J3	D205	23	AIRDROP ONLY
J5	A38	5	VEHICLE HORN
J6	A38	5	VEHICLE HORN
J7	A188	21	WTEC II TRANSMISSION DIMMER MODULE
J8	B38	5	BLACKOUT MARKER RIGHT FRONT
J9	C38	5	FRONT RIGHT TURN SIGNAL
J10	B38	5	PARKING LIGHT FRONT RIGHT
J12	D38	5	RIGHT HEADLIGHT
J13	C38	5	RIGHT HEADLIGHT
J14	C38	5	RIGHT HEADLIGHT
J17	H38	5	BLACKOUT DRIVE LIGHT
J18	D38	5	LEFT HEADLIGHT
J19	E38	5	LEFT HEADLIGHT
J19	C177	20	CAB - DASH - LEFT - UNDERDASH
J20	D38	5	LEFT HEADLIGHT
J22	G38	5	PARKING LIGHT FRONT LEFT
J23	F38	5	FRONT LEFT TURN SIGNAL
J24	H38	5	BLACKOUT MARKER LEFT FRONT
J25	G85	10	WINDSHIELD WASHER ROTARY PUMP (B3)
J27	A43	5	CHASSIS - FRONT
J31	E55	7	ENGINE
J31X	F175	20	CAB - DASH - LEFT - UNDERDASH
J39	G61	7	ENGINE
J43	G42	5	CHASSIS - FRONT
J43X	F42	5	CHASSIS - FRONT
J43X	G175	20	CAB - DASH - LEFT - UNDERDASH
J50	E85	10	CAB MARKER LIGHT FRONT UPPER LEFT
J51	D42	5	CHASSIS - FRONT
J52	E38	5	CHASSIS - FRONT BUMPER
J52	B203	23	CHASSIS - FRONT
J53	F200	23	AIRDROP ONLY
J55	C85	10	CAB MARKER LIGHT FRONT UPPER RIGHT
J57	D85	10	CAB MARKER LIGHT FRONT UPPER MIDDLE LEFT
J59	C85	10	CAB MARKER LIGHT FRONT UPPER MIDDLE RIGHT
J60	D85	10	CAB MARKER LIGHT FRONT UPPER MIDDLE MIDDLE
J62	E88	10	ROTARY WARNING LIGHT CONNECTOR
J65	E186	21	ROTARY WARNING LIGHT CONNECTOR
J78	F185	21	CAB RADIO CONNECTOR
J80	D78	9	AIR DRYER (EXCEPT DUMP)
J93	B50	6	CHASSIS - SPARE TIRE
J95	E38	5	12V INTERVEHICULAR
J95	B206	23	ENGINE
J99	E187	21	CHEMICAL ALARM CONNECTOR
J106	F50	6	CHEMICAL DETECTOR RECEPTACLE
J108	B222	25	CAB - DASH - CENTER - OPTIONS PANEL
J111	E122	14	CTIS ELECTRONIC CONTROL UNIT
J113	G186	21	CTIS PRESSURE TRANSDUCER
J114	B165	21	CAB - DASH - LEFT - WTEC II TRANSMISSION HARNESS
J114	D298	34	WTEC III TRANSMISSION HARNESS (TID1)
J114	D303	34	WTEC III TRANSMISSION HARNESS (TID2)
J115	C154	18	CAB - DASH - LEFT - WTEC II TRANSMISSION HARNESS
J116	C159	18	CAB - DASH - LEFT - WTEC II TRANSMISSION HARNESS
J117	F161	18	CAB - DASH - LEFT - WTEC II TRANSMISSION HARNESS
J117	B289	33	WTEC III DIAGNOSTIC CONNECTOR
J118	D161	18	CAB - DASH - LEFT - WTEC II TRANSMISSION HARNESS
J119	B169	19	CAB - DASH - LEFT - WTEC II TRANSMISSION HARNESS
J119	D301	34	WTEC III CAB TRANSMISSION HARNESS (TID1)
J119	D305	34	WTEC III CAB TRANSMISSION HARNESS (TID2)
J129	F85	10	CAB MARKER LIGHT FRONT LOWER LEFT
J130	F85	10	CAB MARKER LIGHT LEFT DOOR
J130	F202	23	12 PIN CONNECTOR
J131	B85	10	CAB MARKER LIGHT RIGHT DOOR
J132	B85	10	CAB MARKER LIGHT FRONT LOWER RIGHT
J150	B271	31	VAN FRONT MARKER LIGHT
J151	B271	31	VAN FRONT MARKER LIGHT
J152	B271	31	VAN FRONT MARKER LIGHT
J153	A271	31	VAN FRONT MARKER LIGHT

CONNECTORS (CONTINUED)			
NUMBER	ZONE	SH	DESCRIPTION
J154	A271	31	VAN FRONT MARKER LIGHT
J155	B287	32	VAN CURBSIDE MARKER LIGHT
J156	B287	32	VAN CURBSIDE MARKER LIGHT
J157	C287	32	VAN ROADSIDE MARKER LIGHT
J158	C287	32	VAN ROADSIDE MARKER LIGHT
J159	D287	32	VAN REAR CENTER MARKER LIGHT
J160	E287	32	VAN REAR CENTER MARKER LIGHT
J161	E287	32	VAN REAR CENTER MARKER LIGHT
J162	B273	31	VAN CURBSIDE BLACKOUT LIGHT
J163	B274	31	VAN CURBSIDE EMERGENCY LIGHT
J164	H274	31	VAN ROADSIDE BLACKOUT LIGHT
J165	H275	31	VAN ROADSIDE EMERGENCY LIGHT
J166	C271	31	VAN FRONT EMERGENCY LIGHT
J167	D287	32	VAN REAR EMERGENCY LIGHT
J173	G272	31	VAN 12/24 VDC POWER RECEPTACLE
J209A	C230	26	PTO EQUIPPED
J209B	D230	26	PTO EQUIPPED
J210	F222	25	CAB - DASH - CENTER - OPTIONS PANEL
J215	E230	26	PTO EQUIPPED
J230	A282	32	VAN CURBSIDE 110 VAC OUTLET
J231	A283	32	VAN CURBSIDE 110 VAC OUTLET
J232	A284	32	VAN CURBSIDE 110 VAC OUTLET
J233	H282	32	VAN ROADSIDE 110 VAC OUTLET
J234	H283	32	VAN ROADSIDE 110 VAC OUTLET
J235	H284	32	VAN ROADSIDE 110 VAC OUTLET
J236	H275	31	VAN ROADSIDE 24 VDC OUTLET
J237	275	31	VAN CURBSIDE 24 VDC OUTLET
J242	D271	31	VAN A/C
J244	F271	31	VAN THERMOSTAT
J245	E271	31	VAN HEATER
J912	B124	14	CAB - DASH - CENTER - HEATER / CTIS ECU
J912	D209	24	CAB - DASH - CENTER - OPTIONS PANEL
J913	B122	14	CAB - DASH - CENTER - HEATER / CTIS ECU
J921	G62	7	TROOP TRANSPORT ALARM
P2	A185	21	EMI FILTER
P3	D204	23	AIRDROP ONLY
P5	A38	5	VEHICLE HORN
P6	A38	5	VEHICLE HORN
P8	B38	5	BLACKOUT MARKER RIGHT FRONT
P9	C38	5	FRONT RIGHT TURN SIGNAL
P10	B38	5	PARKING LIGHT FRONT RIGHT
P12	D38	5	RIGHT HEADLIGHT
P13	C38	5	RIGHT HEADLIGHT
P14	C38	5	RIGHT HEADLIGHT
P17	H38	5	BLACKOUT DRIVE LIGHT
P18	D38	5	LEFT HEADLIGHT
P18	A177	20	CAB - DASH - LEFT - UNDERDASH
P19	E38	5	LEFT HEADLIGHT
P20	D38	5	LEFT HEADLIGHT
P22	G38	5	PARKING LIGHT FRONT LEFT
P23	F38	5	FRONT LEFT TURN SIGNAL
P24	H38	5	BLACKOUT MARKER LEFT FRONT
P25	G85	10	WINDSHIELD WASHER ROTARY PUMP (B3)
P27	A43	5	CHASSIS - FRONT
P31	E56	7	ENGINE
P31X	D56	7	ENGINE
P32	F59	7	ENGINE OIL PRESSURE SENSOR
P33	H59	7	FUEL/WATER SEPARATOR
P34	E59	7	OIL PRESSURE WARNING LIGHT SWITCH
P36	A57	7	WATER COOLER TEMPERATURE
P37	C57	7	WATER TEMPERATURE SWITCH
P38	F61	7	ENGINE SPEED MAGNETIC PICKUP
P39	G61	7	ENGINE
P41	B57	7	WATER TEMPERATURE SENSOR
P410	E240	27	ARCTIC KIT W/PTO EQUIPPED
P42	F57	7	ETHER SENSOR SWITCH
P43	G42	5	CHASSIS - FRONT
P43X	F42	5	CHASSIS - FRONT
P50	E85	10	CAB MARKER LIGHT FRONT UPPER LEFT
P50	F206	23	LH FRONT TOP CAB MARKER LIGHT
P51	D190	22	CAB - DASH - RIGHT - POWER DISTRIBUTION PANEL
P52F	E38	5	CHASSIS - FRONT
P52R	E196	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE

CONNECTORS (CONTINUED)			
NUMBER	ZONE	SH	DESCRIPTION
P53R	D196	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE
P54	D197	22	LEFT REAR MARKER
P55	C85	10	CAB MARKER LIGHT FRONT UPPER RIGHT
P55	D206	23	RH FRONT TOP CAB MARKER LIGHT
P56	E197	22	MIDDLE REAR MARKER
P57	D85	10	CAB MARKER LIGHT FRONT UPPER MIDDLE LEFT
P57	F206	23	LH FRONT TOP CAB CLEARANCE LIGHT
P58	E197	22	RIGHT REAR MARKER
P59	C85	10	CAB MARKER LIGHT FRONT UPPER MIDDLE RIGHT
P59	D206	23	RH FRONT TOP CAB CLEARANCE LIGHT
P60	D85	10	CAB MARKER LIGHT FRONT UPPER MIDDLE MIDDLE
P60	E206	23	MIDDLE FRONT TOP CLEARANCE LIGHT
P61	F197	22	RH COMPOSITE LIGHT
P62	F197	22	RH COMPOSITE LIGHT
P63	G197	22	RH COMPOSITE LIGHT
P64	F197	22	RH COMPOSITE LIGHT
P65	E186	21	ROTARY WARNING LIGHT CONNECTOR
P67	A74	9	PRE-BLOCK SEVEN W/PIGTAIL TRANSMISSION EXTERNAL
P67	B69	8	WIRING HARNESS TO TRANSMISSION CONNECTOR TID1, TID2, AND TID3 TRANSMISSION EXTERNAL WIRING
			HARNESS TO TRANSMISSION CONNECTOR
P69	D59	7	ENGINE
P71	E66	8	PRE-BLOCK SEVEN TRANSMISSION OUTPUT SPEED SENSOR
P71	E70	8	CONNECTOR TID1, TID2, AND TID3 TRANSMISSION OUTPUT SPEED
P71	E75	9	SENSOR CONNECTOR PRE-BLOCK SEVEN W/PIGTAIL TRANSMISSION OUTPUT
F72	F66	8	SPEED SENSOR CONNECTOR PRE-BLOCK SEVEN TRANSMISSION ENGINE SPEED
F72	F70	8	SENSOR CONNECTOR TID1, TID2, AND TID3 TRANSMISSION ENGINE SPEED
F72	E75	9	SENSOR CONNECTOR PRE-BLOCK SEVEN W/PIGTAIL TRANSMISSION ENGINE
F73	F66	8	SPEED SENSOR CONNECTOR PRE-BLOCK SEVEN TRANSMISSION THROTTLE POSITION
F73	F70	8	SENSOR CONNECTOR TID1, TID2, AND TID3 TRANSMISSION THROTTLE POSITION
F73	F75	9	SENSOR CONNECTOR PRE-BLOCK SEVEN W/PIGTAIL TRANSMISSION THROTTLE
			POSITION SENSOR CONNECTOR
P74	B197	22	LH COMPOSITE LIGHT
P76	C197	22	LH COMPOSITE LIGHT
P77	C197	22	LH COMPOSITE LIGHT
P78	B197	22	LH COMPOSITE LIGHT
P80	G51	6	CHASSIS - REAR
P81	C47	6	CHASSIS - FRONT
P81	D62	7	STARTER THERMO SWITCH
P82	B51	6	FUEL TANK LEVEL SENSOR
P83	B172	20	CAB - DASH - LEFT - UNDERDASH
P84	F51	6	CHASSIS - REAR
P85	A197	22	LH SIDE MARKER LIGHT
P86	A197	22	LH REAR MARKER LIGHT
P87	C197	22	BACKUP LIGHT
P88	H197	22	RH SIDE MARKER LIGHT
P89	G197	22	RH REAR MARKER LIGHT
P99	F186	21	CHEMICAL ALARM CONNECTOR
P10	B38	5	PARKING LIGHT FRONT RIGHT
P110	E119	14	CTIS ELECTRONIC CONTROL UNIT
P111	E122	14	CTIS ELECTRONIC CONTROL UNIT
P112	G123	14	CAB - DASH - CENTER - HEATER / CTIS ECU
P113	F123	14	CTIS ELECTRONIC CONTROL UNIT
P115	C290	33	WTEC III - CAB - DASH - RIGHT - KICK PANEL
P116	C185	21	CAB - DASH - RIGHT - UNDERDASH
P118	D161	18	CAB - DASH - LEFT - WTEC II TRANSMISSION HARNESS
P116	E291	33	WTEC III - CAB - DASH - RIGHT - KICK PANEL
P119	A64	8	PRE-BLOCK SEVEN TRANSMISSION CONNECTOR
P119	A69	8	TID1, TID2, AND TID3 TRANSMISSION CONNECTOR
P119	A73	9	PRE-BLOCK SEVEN W/PIGTAIL TRANSMISSION CONNECTOR
P119	B169	19	CAB - DASH - LEFT - WTEC II TRANSMISSION HARNESS
P125	G84	10	WINDSHIELD WASHER ROTARY PUMP (B3)
P129	F85	10	CAB MARKER LIGHT FRONT LOWER LEFT
P130	F85	10	CAB MARKER LIGHT LEFT DOOR
P131	A85	10	CAB MARKER LIGHT RIGHT DOOR

CONNECTORS (CONTINUED)			
NUMBER	ZONE	SH	DESCRIPTION
P132	B85	10	CAB MARKER LIGHT FRONT LOWER RIGHT
P150	B272	31	VAN FRONT MARKER LIGHT
P151	B272	31	VAN FRONT MARKER LIGHT
P152	B272	31	VAN FRONT MARKER LIGHT
P153	A272	31	VAN FRONT MARKER LIGHT
P154	A272	31	VAN FRONT MARKER LIGHT
P155	B287	32	VAN CURBSIDE MARKER LIGHT
P156	B287	32	VAN CURBSIDE MARKER LIGHT
P157	C287	32	VAN ROADSIDE MARKER LIGHT
P158	C287	32	VAN ROADSIDE MARKER LIGHT
P159	D287	32	VAN REAR CENTER MARKER LIGHT
P160	E287	32	VAN REAR CENTER MARKER LIGHT
P161	D287	32	VAN REAR CENTER MARKER LIGHT
P162	B273	31	VAN CURBSIDE BLACKOUT LIGHT
P163	B274	31	VAN CURBSIDE EMERGENCY LIGHT
P164	G274	31	VAN ROADSIDE BLACKOUT LIGHT
P165	G275	31	VAN ROADSIDE EMERGENCY LIGHT
P166	C272	32	VAN FRONT EMERGENCY LIGHT
P167	D287	31	VAN REAR EMERGENCY LIGHT
P172	E264	30	DUMP BODY CONNECTOR
P173	G271	31	VAN 12/24 VDC POWER
P201	G61	7	ENGINE
P210	F222	25	CAB - DASH - CENTER - OPTIONS PANEL
P210	C227	26	PTO EQUIPPED
P215	E230	26	PTO EQUIPPED
P216	E229	26	PTO EQUIPPED
P217	C229	26	PTO EQUIPPED
P217	B268	30	PTO EQUIPPED
P901	A209	24	CAB - DASH - CENTER - OPTIONS PANEL
P902A	D214	24	CAB - DASH - CENTER - OPTIONS PANEL
P903	C212	24	CAB - DASH - CENTER - OPTIONS PANEL
P903A	D212	24	CAB - DASH - CENTER - OPTIONS PANEL
P904	C211	24	CAB - DASH - CENTER - OPTIONS PANEL
P904A	D211	24	CAB - DASH - CENTER - OPTIONS PANEL
P905	A211	24	CAB - DASH - CENTER - OPTIONS PANEL
P905A	B211	24	CAB - DASH - CENTER - OPTIONS PANEL
P906	A212	24	CAB - DASH - CENTER - OPTIONS PANEL
P906A	B212	24	CAB - DASH - CENTER - OPTIONS PANEL
P908	A215	24	CAB - DASH - CENTER - OPTIONS PANEL
P908A	B215	24	CAB - DASH - CENTER - OPTIONS PANEL
P909	A220	25	CAB - DASH - CENTER - OPTIONS PANEL
P909A	B220	25	CAB - DASH - CENTER - OPTIONS PANEL
P910	C215	24	CAB - DASH - CENTER - OPTIONS PANEL
P910A	D215	24	CAB - DASH - CENTER - OPTIONS PANEL
P911	C220	25	CAB - DASH - CENTER - OPTIONS PANEL
P911A	D220	25	CAB - DASH - CENTER - OPTIONS PANEL
P912	B124	14	CAB - DASH - CENTER - HEATER / CTIS ECU
P913	B122	14	CAB - DASH - CENTER - HEATER / CTIS ECU
P913	F209	24	CAB - DASH - CENTER - OPTIONS PANEL
P914	A214	24	CAB - DASH - CENTER - OPTIONS PANEL
P914A	B214	24	CAB - DASH - CENTER - OPTIONS PANEL
P921	G62	7	TROOP TRANSPORT ALARM
PBSS	C93	11	WTEC II PUSHBUTTON SHIFT SELECTOR
PX1	A92	11	ENGINE FAN OFF SWITCH
PX10	D107	12	CAB - DASH - LEFT - INSTRUMENT PANEL
PX11	G107	12	CAB - DASH - LEFT - INSTRUMENT PANEL
PX12	C112	13	ROTATING WARNING LIGHT SWITCH
PX12A	E112	13	CAB - DASH - LEFT - INSTRUMENT PANEL
PX13	F92	11	ETHER STARTER SWITCH
PX13A	G92	11	CAB - DASH - LEFT - INSTRUMENT PANEL
PX14	F112	13	FULL HAZARD WARNING SWITCH
PX14A	H112	13	CAB - DASH - LEFT - INSTRUMENT PANEL
PX15	C115	13	MAIN LIGHT SWITCH
PX17	A112	13	IGNITION SWITCH
PX17A	C112	13	CAB - DASH - LEFT - INSTRUMENT PANEL
PX1A	B92	11	CAB - DASH - LEFT - INSTRUMENT PANEL
PX2	D92	11	LAMP TEST SWITCH
PX20	C188	21	TURN SIGNAL FLASHER
PX21	A134	15	WIPER DELAY MODULE

FIGURE FO-1 ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 2 OF 34

SIZE B | ILL. NO. 5WD01L2B | FP-3/ (FP-4 BLANK)

CONNECTORS (CONTINUED)			
NUMBER	ZONE	SH	DESCRIPTION
PX22	A184	21	EMI FILTER
PX24	G115	13	INSTRUMENT PANEL LIGHTS DIMMER MODULE
PX25	C119	14	CAB DASH CENTER HEATER / CTIS ECU
PX26	B179	20	CAB - DASH - LEFT - UNDERDASH
PX2A	E92	11	CAB - DASH - LEFT - INSTRUMENT PANEL
PX33	B182	21	CAB - DASH - RIGHT - UNDERDASH
PX33	G292	33	WTEC III TRANSMISSION PUSHBUTTON SHIFT SELECTOR
PX34	E188	21	FRONT AIR PRESSURE METER
PX4	F97	11	FAN SOLENOID
PX5	B97	11	REAR AIR PRESSURE METER
PX6	B107	12	CAB - DASH - LEFT - INSTRUMENT PANEL
PX7	A104	12	CAB - DASH - LEFT - INSTRUMENT PANEL
PX8	G102	12	CAB - DASH - LEFT - INSTRUMENT PANEL
PX9	D97	11	FUEL LEVEL METER

LIGHTS			
NUMBER	ZONE	SH	DESCRIPTION
D51	B257	29	POWER LAMP
D52	B257	29	POWER LAMP
DS1	D96	11	CAB - DASH - LEFT - INSTRUMENT PANEL
DS2	G106	12	CAB - DASH - LEFT - INSTRUMENT PANEL
DS3	F96	11	CAB - DASH - LEFT - INSTRUMENT PANEL
DS4	B96	11	CAB - DASH - LEFT - INSTRUMENT PANEL
DS5	B106	12	CAB - DASH - LEFT - INSTRUMENT PANEL
DS6	G101	12	CAB - DASH - LEFT - INSTRUMENT PANEL
DS7	D106	12	CAB - DASH - LEFT - INSTRUMENT PANEL
DS8	C91	11	CAB - DASH - LEFT - INSTRUMENT PANEL
DS9	B101	12	DUMP BODY UP
DS10	E111	13	CAB - DASH - LEFT - INSTRUMENT PANEL
DS11	G91	11	CAB - DASH - LEFT - INSTRUMENT PANEL
DS12	H111	13	CAB - DASH - LEFT - INSTRUMENT PANEL
DS13	C111	13	CAB - DASH - LEFT - INSTRUMENT PANEL
DS14	B101	12	LEFT TURN SIGNAL
DS15	B101	12	RIGHT TURN SIGNAL
DS16	E101	12	HIGH BEAM
DS17	D119	14	HEATER CONTROL PANEL ILLUMINATION
DS18	A208	24	CAB - DASH - CENTER - OPTIONS PANEL
DS19	E101	12	RADIATOR FAN OFF
DS21	C101	12	EMERGENCY BRAKE
DS22	D101	12	PARKING BRAKE
DS23	C101	12	PTO ON
DS24	D101	12	OIL PRESSURE
DS25	C101	12	WATER TEMPERATURE
DS27	C101	12	REAR BRAKE AIR
DS28	E101	12	FRONT AIR BRAKE
DS29	D101	12	ENGINE OIL LEVEL
DS30	F101	12	MASTER STOP
DS31	D213	24	CAB - DASH - CENTER - OPTIONS PANEL
DS32	B101	12	CHEMICAL DETECT
DS34	C101	12	CTIS OVERSPEED
DS35	C198	22	REAR LH COMPOSITE LIGHT
DS36	G198	22	REAR RH COMPOSITE LIGHT
DS37	B198	22	REAR LH COMPOSITE LIGHT
DS38	F198	22	REAR RH COMPOSITE LIGHT
DS39	F37	5	FRONT LEFT TURN SIGNAL
DS41	D101	12	TRANSMISSION OIL TEMPERATURE
DS42	C38	5	FRONT RIGHT TURN SIGNAL
DS43	D212	24	CAB - DASH - CENTER - OPTIONS PANEL
DS44	D37	5	RIGHT HEADLIGHT
DS45	C198	22	BACKUP LIGHT
DS46	D210	24	CAB - DASH - CENTER - OPTIONS PANEL
DS47	G37	5	PARKING LIGHT FRONT LEFT
DS48	B38	5	PARKING LIGHT FRONT RIGHT
DS49	G37	5	BLACKOUT MARKER LEFT FRONT
DS50	B38	5	BLACKOUT MARKER RIGHT FRONT
DS51	C198	22	REAR LH COMPOSITE LIGHT
DS52	F198	22	REAR RH COMPOSITE LIGHT
DS53	H37	5	BLACKOUT DRIVE LIGHT
DS54	D84	10	CAB MARKER LIGHT FRONT UPPER MIDDLE LEFT
DS54	F206	23	LH FRONT TOP CAB CLEARANCE LIGHT
DS55	D84	10	CAB MARKER LIGHT FRONT UPPER MIDDLE MIDDLE
DS55	E206	23	MIDDLE FRONT TOP CLEARANCE LIGHT

LIGHTS (CONTINUED)			
NUMBER	ZONE	SH	DESCRIPTION
DS56	C84	10	CAB MARKER LIGHT FRONT UPPER MIDDLE RIGHT
DS56	D206	23	RH FRONT TOP CAB CLEARANCE LIGHT
DS57	C84	10	CAB MARKER LIGHT FRONT UPPER RIGHT
DS57	D206	23	RH FRONT TOP CAB MARKER LIGHT
DS58	E84	10	CAB MARKER LIGHT FRONT UPPER LEFT
DS58	F206	23	LH FRONT TOP CAB MARKER LIGHT
DS59	B84	10	CAB MARKER LIGHT RIGHT DOOR
DS60	F84	10	CAB MARKER LIGHT FRONT LOWER LEFT
DS61	A84	10	CAB MARKER LIGHT RIGHT DOOR
DS62	F84	10	CAB MARKER LIGHT LEFT DOOR
DS63	B210	24	CAB - DASH - CENTER - OPTIONS PANEL
DS64	B212	24	CAB - DASH - CENTER - OPTIONS PANEL
DS65	A198	22	LH SIDE MARKER LIGHT
DS66	A198	22	LH REAR MARKER LIGHT
DS67	H198	22	RH SIDE MARKER LIGHT
DS68	G198	22	RH REAR MARKER LIGHT
DS69	D198	22	LEFT REAR MARKER
DS70	E198	22	MIDDLE REAR MARKER
DS71	E198	22	RIGHT REAR MARKER
DS72	B198	22	REAR LH COMPOSITE LIGHT
DS73	F198	22	REAR RH COMPOSITE LIGHT
DS74	D37	5	LEFT HEADLIGHT
DS75	A273	31	VAN CURBSIDE BLACKOUT LIGHT
DS76	H274	31	VAN ROADSIDE BLACKOUT LIGHT
DS78	A274	31	VAN CURBSIDE EMERGENCY LIGHT
DS79	H275	31	VAN ROADSIDE EMERGENCY LIGHT
DS80	H284	32	VAN ROADSIDE FLUORESCENT LIGHT
DS81	H286	32	VAN ROADSIDE FLUORESCENT LIGHT
DS82	A286	32	VAN CURBSIDE FLUORESCENT LIGHT
DS83	A284	32	VAN CURBSIDE FLUORESCENT LIGHT
DS84	B271	31	VAN FRONT MARKER LIGHT
DS85	B271	31	VAN FRONT MARKER LIGHT
DS86	B271	31	VAN FRONT MARKER LIGHT
DS87	A271	31	VAN FRONT MARKER LIGHT
DS88	A271	31	VAN FRONT MARKER LIGHT
DS89	B288	32	VAN CURBSIDE MARKER LIGHT
DS90	B288	32	VAN CURBSIDE MARKER LIGHT
DS91	C288	32	VAN ROADSIDE MARKER LIGHT
DS92	C288	32	VAN ROADSIDE MARKER LIGHT
DS93	D288	32	VAN REAR CENTER MARKER LIGHT
DS94	E288	32	VAN REAR CENTER MARKER LIGHT
DS95	E288	32	VAN REAR CENTER MARKER LIGHT
DS96	B215	24	CAB - DASH - CENTER - OPTIONS PANEL
DS96	C271	31	VAN FRONT EMERGENCY LIGHT
DS97	B219	25	CAB - DASH - CENTER - OPTIONS PANEL
DS97	C271	32	VAN REAR EMERGENCY LIGHT
DS100	B213	24	CAB - DASH - CENTER - OPTIONS PANEL
DS101	D119	14	HEATER CONTROL PANEL ILLUMINATION
DS108	E91	11	CAB - DASH - LEFT - INSTRUMENT PANEL

CIRCUIT BREAKERS			
NUMBER	ZONE	SH	DESCRIPTION
CB1	C285	32	VAN 110 VAC MAIN CIRCUIT BREAKER
CB2	C284	32	VAN A/C
CB3	D284	32	VAN 110 VAC POWER OUT
CB4	D284	32	VAN NOT USED
CB5	E284	32	VAN BLACKOUT OVERRIDE
CB6	E284	32	VAN LIGHTS
CB7	E284	32	VAN 110 VAC OUTLETS
CB8	E284	32	VAN THERMOSTAT/FAN
CB9	E284	32	VAN 110 VAC OUTLETS
CB10	D277	31	VAN BLACKOUT LIGHTS
CB11	D277	31	VAN EMERGENCY/BLACKOUT LIGHTS
CB20	C140	16	CAB RADIO
CB21	C149	17	WTEC II VIM STE/ICE
CB22	C149	17	FAN/ETHER
CB23	C147	17	HEATER BLOWER
CB30	C139	16	CHEMICAL ALARM
CB35	D149	17	WTEC II VIM POWER
CB36	C147	17	HORN POWER
CB37	C151	17	WINDSHIELD WIPER/WASHER
CB38	D147	17	ROTATING BEACON
CB39	C146	17	TRAILER BLACKOUT STOP

CIRCUIT BREAKERS (CONTINUED)			
NUMBER	ZONE	SH	DESCRIPTION
CB40	C150	17	CTIS COOLER
CB41	C142	16	TRAILER REAR LIGHTS POWER
CB42	C142	16	BLACKOUT MARKER LIGHTS POWER
CB43	C143	16	REAR COMPOSITE LIGHTS/WTEC III ECU
CB44	C143	16	REAR COMPOSITE LIGHTS
CB45	C139	16	FUEL PREHEAT
CB48	C140	16	ARCTIC CAB/ENGINE KILL
CB49	C151	17	PTO POWER
CB50	F256	29	MAIN POWER CIRCUIT BREAKER SWITCH
CB53	D140	16	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
CB54	D142	16	BLACKOUT HEADLIGHT
CB61	D153	17	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
CB62	D153	17	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
CB63	D151	17	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
CB64	D151	17	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
CB65	D140	16	PARKING LIGHTS
CB66	D143	16	BLACKOUT MARKER POWER
CB67	D139	16	MARKER LIGHTS
CB68	C152	17	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
CB70	D146	17	IGNITION/MAIN LIGHT SWITCH
CB71	D149	17	HAZARD/FLASHER WORKLIGHTS
CB72	D139	16	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
CB73	D150	17	BACK-UP LIGHT POWER
CB74	D150	17	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
CB76	D143	16	BLACKOUT STOP RELAY POWER
CB77	C152	17	ENGINE INSTR POWER
CB78	D147	17	HEADLIGHTS
CB79	C150	17	WTEC II VIM POWER/WTEC III REVERSE WARNING RELAY
CB80	D142	16	TAILLIGHTS

TERMINAL LUGS			
NUMBER	ZONE	SH	DESCRIPTION
TL1	B54	6	POLARITY PROTECTION
TL1	E60	7	ALTERNATOR
TL2	B53	6	POLARITY PROTECTION
TL2	D60	7	ALTERNATOR
TL2	D53	6	POLARITY PROTECTION (P/P)
TL3	C85	10	CAB MARKER LIGHT FRONT UPPER RIGHT
TL3	D206	23	RH FRONT TOP CAB MARKER LIGHT
TL4	C85	10	CAB MARKER LIGHT FRONT UPPER MIDDLE RIGHT
TL4	D206	23	RH FRONT TOP CAB CLEARANCE LIGHT
TL5	D60	7	ALTERNATOR
TL6	D60	7	ALTERNATOR
TL8	D85	10	CAB MARKER LIGHT FRONT UPPER MIDDLE MIDDLE
TL8	E206	23	MIDDLE FRONT TOP CLEARANCE LIGHT
TL9	D47	6	24V AUXILIARY STARTER SOLENOID
TL10	C52	6	CHASSIS - REAR (REF E1)
TL12	C49	6	BATTERIES
TL12	C62	7	STARTER/STARTER SOLENOID
TL14	E88	10	ROTARY WARNING LIGHT CONNECTOR
TL15	A198	22	LH SIDE MARKER LIGHT
TL16	A198	22	LH REAR MARKER LIGHT
TL17	C198	22	BACKUP LIGHT
TL18	C198	22	LONG WHEEL BASE
TL19	H198	22	RH SIDE MARKER LIGHT
TL20	G198	22	RH REAR MARKER LIGHT
TL21	G198	22	RH COMPOSITE LIGHT
TL22	D85	10	CAB MARKER LIGHTS
TL22	E206	23	LH FRONT TOP CAB CLEARANCE LIGHT
TL23	D47	6	24V AUXILIARY STARTER SOLENOID
TL24	D47	6	24V AUXILIARY STARTER SOLENOID
TL25	C47	6	CHASSIS - FRONT
TL25	C62	7	STARTER/STARTER SOLENOID
TL26	C47	6	CHASSIS - FRONT
TL26	C62	7	STARTER/STARTER SOLENOID
TL27	E85	10	CAB MARKER LIGHT FRONT UPPER RIGHT
TL27	F206	23	CAB MARKER LIGHTS FRONT UPPER RIGHT
TL28	G57	7	FUEL SOLENOID
TL29	H57	7	FUEL SOLENOID
TL30	D198	22	LEFT REAR MARKER

TERMINAL LUGS (CONTINUED)			
NUMBER	ZONE	SH	DESCRIPTION
TL31	E198	22	MIDDLE REAR MARKER
TL32	E198	22	RIGHT REAR MARKER
TL33	E47	6	24V AUXILIARY STARTER SOLENOID
TL35	D61	7	ALTERNATOR
TL36	B54	6	POLARITY PROTECTION
TL37	F54	6	POLARITY PROTECTION
TL37	C54	6	POLARITY PROTECTION
TL38	E50	6	SHUNT
TL39	C52	6	CHASSIS - REAR (REF E1)
TL41	C53	6	POLARITY PROTECTION
TL42	B54	6	POLARITY PROTECTION
TL44	B54	6	POLARITY PROTECTION
TL44	E54	6	POLARITY PROTECTION
TL45	D50	6	SHUNT
TL46	D49	6	SHUNT
TL46	D62	7	STARTER/STARTER SOLENOID
TL47	C54	6	POLARITY PROTECTION
TL48	E52	6	CHASSIS - REAR (REF E2)
TL49A	D52	6	CHASSIS - REAR (REF E1)
TL49A	F52	6	NATO SLAVE RECEPTACLE
TL50	G121	14	CHASSIS GROUND
TL50A	F52	6	NATO SLAVE RECEPTACLE
TL51	E50	6	SHUNT
TL52	E50	6	SHUNT
TL53	B47	6	CHASSIS - FRONT
TL53	B62	7	STARTER/STARTER SOLENOID
TL55	B47	6	CHASSIS - FRONT
TL55	C62	7	STARTER/STARTER SOLENOID
TL56	F136	16	X3 GROUND
TL57	F136	16	CAB GROUND
TL58	D60	7	ALTERNATOR
TL59	C61	7	ALTERNATOR
TL60	C53	6	POLARITY PROTECTION
TL60	D60	7	ALTERNATOR
TL61	C54	6	POLARITY PROTECTION
TL61	E60	7	ALTERNATOR
TL62	C47	6	CHASSIS - FRONT
TL63	C47	6	CHASSIS - FRONT
TL63	B62	7	STARTER/STARTER SOLENOID
TL66	H61	7	ENGINE (REF P201)
TL68	D224	25	CAB - DASH - CENTER - OPTIONS PANEL
TL69	E224	25	CAB - DASH - CENTER - OPTIONS PANEL
TL70	B38	5	FRONT RH COMPOSITE LIGHT
TL71	A85	10	CAB MARKER LIGHT RIGHT DOOR
TL72	H38	5	BLACKOUT DRIVE LIGHT
TL73	B86	10	CAB - MARKER LIGHTS
TL74	D86	10	CAB - MARKER LIGHTS
TL74	E204	23	AIRDROP ONLY
TL75	F87	10	CAB - MARKER LIGHTS
TL76	D229	26	PTO EQUIPPED
TL79	F38	5	FRONT LH COMPOSITE LIGHT
TL80	C54	6	POLARITY PROTECTION
TL80	F54	6	200 AMP
TL81	C39	5	CHASSIS GROUND
TL82	F38	5	CHASSIS GROUND
TL83	B52	6	FUEL TANK LEVEL SENSOR
TL84	B49	6	CHASSIS - SPARE TIRE (REF J93)
TL85	G52	6	CHASSIS - REAR
TL86	C86	10	CAB - MARKER LIGHTS
TL86	D204	23	AIRDROP ONLY
TL87	F86	10	CAB - MARKER LIGHTS
TL92	F195	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE
TL93	G194	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE
TL94	G85	10	WINDSHIELD WASHER ROTARY PUMP (B3)
TL96	H271	31	VAN BODY GROUND
TL97	B88	10	CHEMICAL ALARM CONNECTOR
TL98	B88	10	CHEMICAL ALARM CONNECTOR

TERMINAL LUGS (CONTINUED)			
NUMBER	ZONE	SH	DESCRIPTION
TL99	D52	6	CHASSIS - REAR (REF E2)
TL100	E54	6	POLARITY PROTECTION
TL110	D61	7	ALTERNATOR
TL111	D230	26	PTO EQUIPPED
TL123	E38	5	CHASSIS - FRONT (REF J19)
TL126	E126	14	CHASSIS GROUND
TL130	F85	10	CAB - MARKER LIGHTS
TL131	A85	10	CAB - MARKER LIGHTS
TL133	F85	10	CAB - MARKER LIGHTS
TL134	B85	10	CAB - MARKER LIGHTS
TL150	F177	20	SENSOR/FRONT AIR PRESSURE TRANSMITTER
TL151	G177	20	SENSOR/REAR AIR PRESSURE TRANSMITTER
TL152	C179	20	STOPLIGHT SWITCH
TL153	C179	20	STOPLIGHT SWITCH
TL154	D179	20	STOPLIGHT SWITCH
TL154	D179	20	STOPLIGHT SWITCH
TL155	D179	20	STOPLIGHT SWITCH
TL156	F177	20	SWITCH/FRONT AIR PRESSURE TRANSMITTER
TL157	G177	20	SWITCH/REAR AIR PRESSURE TRANSMITTER
TL158	E137	16	START INHIBIT PUSHBUTTON
TL159	E136	16	START INHIBIT PUSHBUTTON
TL160	H102	12	AUDIBLE ALARM
TL161	H102	12	AUDIBLE ALARM
TL162	B114	13	STARTER PUSHBUTTON
TL163	B114	13	STARTER PUSHBUTTON
TL164	G62	7	ENGINE (REF J921)
TL165	G62	7	ENGINE (REF J921)
TL166	F54	6	TERMINAL BLOCK
TL167	E54	6	TERMINAL BLOCK
TL169	D53	6	POLARITY PROTECTION (P/P)
TL171	F54	6	TERMINAL BLOCK
TL172	F54	6	TERMINAL BLOCK
TL173	E54	6	POLARITY PROTECTION (P/P)
TL174	D54	6	POLARITY PROTECTION (P/P)
TL190	D290	33	WTEC III PRESSURE SWITCH GROUND
TL201	E125	14	PARKING BRAKE SWITCH
TL202	E125	14	PARKING BRAKE SWITCH
TL320	E232	26	PTO EQUIPPED
TL320	C241	27	ARCTIC KIT W/PTO EQUIPPED

SWITCHES			
NUMBER	ZONE	SH	DESCRIPTION
S3	A177	20	COLUMN SWITCH
S3	C177	20	COLUMN SWITCH
S4	D114	13	MAIN LIGHT SWITCH
S5/1	B111	13	IGNITION SWITCH
S5/11	A91	11	ENGINE FAN OFF SWITCH
S5/14	C213	24	WINCH ON OFF
S5/15	B212	24	WINCH IN-OUT
S5/16	F91	11	ETHER STARTER SWITCH
S5/2	D91	11	LAMP TEST SWITCH
S5/2	D111	13	ROTATING WARNING LIGHT SWITCH
S5/22	G111	13	FULL HAZARD WARNING SWITCH
S5/25	A219	25	SWINGFIRE PUMP SWITCH
S5/6	B210	24	PTO ON/OFF SWITCH
S5/8	A213	24	BLACKOUT OVERRIDE SWITCH
S5/9	A214	24	FUEL PRE-HEAT SWITCH
S6	A114	13	STARTER PUSHBUTTON
S7	F137	16	START INHIBIT PUSHBUTTON
S10A	C179	20	STOPLIGHT SWITCH
S10B	D179	20	STOPLIGHT SWITCH
S11	A287	32	VAN CURBSIDE WINDOW BLACKOUT SWITCH
S12	A287	32	VAN CURBSIDE WINDOW BLACKOUT SWITCH
S13	G288	32	VAN ROADSIDE WINDOW BLACKOUT SWITCH
S14	G288	32	VAN ROADSIDE WINDOW BLACKOUT SWITCH
S15	G288	32	VAN ROADSIDE WINDOW BLACKOUT SWITCH
S17	G288	32	VAN DOOR WINDOW BLACKOUT SWITCH (S/N 191 AND HIGHER)

FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 3 OF 34

SIZE B | ILL. NO. 5WD01L3B | FP-5/ (FP-6 BLANK)

SWITCHES (CONTINUED)			
NUMBER	ZONE	SH	DESCRIPTION
S17	G288	32	VAN CURBSIDE WINDOW BLACKOUT SWITCH (S/N 001 THROUGH 190)
S18	D269	30	PTO PRESSURE SWITCH
S20	E177	20	SWITCH/FRONT AIR PRESSURE TRANSMITTER
S23	F52	6	AIR PRESSURE SWITCH FOR CTIS
S24	E125	14	PARKING BRAKE SWITCH
S26	C57	7	WATER TEMPERATURE SENSOR
S27	E59	7	OIL PRESSURE WARNING LIGHT SWITCH
S29	G177	20	SWITCH/REAR AIR PRESSURE TRANSMITTER
S31	A216	24	ARCTIC TROOP HEATER SWITCH
S32	F288	32	VAN LIGHTS ON/OFF SWITCH
S33	E277	31	VAN BLACKOUT SWITCH
S34	D278	31	VAN BLACKOUT SWITCH
S35	H273	31	VAN BLACKOUT OVERRIDE SWITCH
S40	F58	7	ETHER SENSOR SWITCH
S45	E62	7	TROOP ALARM SWITCH
S45	G62	31	VAN FAN ON/OFF SWITCH
S56	A57	7	WATER TEMPERATURE SWITCH
S57	G77	9	LMHC IN/OUT SWITCH

GAGES			
NUMBER	ZONE	SH	DESCRIPTION
M2	D106	12	VOLTMETER
M3	B106	12	ENGINE OIL PRESSURE METER
M4	F96	11	FRONT AIR PRESSURE METER
M5	B96	11	REAR AIR PRESSURE METER
M6	G107	12	WATER TEMPERATURE METER
M7	D96	11	FUEL LEVEL METER
M8	G102	12	SPEEDOMETER
M9	A210	24	TACHOMETER

RELAYS			
NUMBER	ZONE	SH	DESCRIPTION
K1	F149	17	STARTER RELAY
K2	B143	16	CONTROL PANEL RELAY
K6	F144	16	STOPLIGHT RELAY
K7	G153	17	HEADLIGHT RELAY
K8	G151	17	HEADLIGHT LO/HI-BEAM RELAY
K9	A142	16	HAZARD FLASHER BLACKOUT OVERRIDE
K10	F150	17	STOP HAZARD FLASHER RELAY
K11	F146	17	ALTERNATOR EXCITATION RELAY
K12	B139	16	WORKLIGHT RELAY
K13	B149	17	ROTATING BEACON BLACKOUT OVERRIDE RELAY
K15	B140	16	AUXILIARY COOLER RELAY
K19	B150	17	START INHIBIT RELAY
K20	H138	16	MARKER LIGHTS RELAY
K24	B151	17	CRANKING LOCKOUT RELAY
K25	B292	33	WTEC III REVERSE WARNING RELAY
K26	B290	33	WTEC III NEUTRAL START RELAY
K27	H143	16	BLACKOUT STOP RELAY
K28	H142	16	TRAILER REAR LIGHTS RELAY
K29	F142	16	BLACKOUT MARKER RELAY/WTEC III BLACKOUT DRIVE RELAY
K30	H147	17	REAR LEFT COMPOSITE LAMP RELAY
K31	H149	17	REAR RIGHT COMPOSITE LAMP RELAY
K32	B147	17	HORN RELAY
K35	E277	31	VAN 110 VAC OUTLETS
K36	F277	31	VAN FLUORESCENT LIGHTS
K37	B294	33	WTEC III PTO ENABLE OUTPUT RELAY
K52	H139	16	CTIS OVERSPEED INDICATION RELAY
K53	H140	16	RADIO POWER RELAY

RESISTORS			
NUMBER	ZONE	SH	DESCRIPTION
R2	E172	20	CAB - DASH - LEFT - UNDERDASH
R4	D175	20	CAB - DASH - LEFT - UNDERDASH
R5	C175	20	CAB - DASH - LEFT - UNDERDASH
R6	F172	20	CAB - DASH - LEFT - UNDERDASH

SOLENOIDS			
NUMBER	ZONE	SH	DESCRIPTION
KS	D47	6	24V AUXILIARY STARTER SOLENOID
L1	E189	21	FAN SOLENOID
L2	H57	7	FUEL SOLENOID
L3	D269	30	PTO SOLENOID
L4	E233	26	WINCH IN SOLENOID
L5	D233	26	SOLENOID
L15	B51	6	CHASSIS - SPARE TIRE
	E80	9	LMHC IN SOLENOID
	F80	9	LMHC OUT SOLENOID

HORNS AND ALARMS			
NUMBER	ZONE	SH	DESCRIPTION
LS1	A37	5	VEHICLE HORN
LS2	H101	12	AUDIBLE ALARM

MOTORS			
NUMBER	ZONE	SH	DESCRIPTION
B2	A183	21	WINDSHIELD WIPER MOTOR
B4	C118	14	FAN MOTOR
	F81	9	LMHC HOIST MOTOR

BATTERIES			
NUMBER	ZONE	SH	DESCRIPTION
BT1	C52	6	BATTERY
BT2	D52	6	BATTERY
BT3	D52	6	BATTERY
BT4	E52	6	BATTERY

MISCELLANEOUS			
NUMBER	ZONE	SH	DESCRIPTION
10A	C183	21	WTECII VEHICLE INTERFACE MODULE
10A	E183	21	WTECII VEHICLE INTERFACE MODULE
A2	F118	14	CTIS ELECTRONIC CONTROL UNIT
A3	G114	13	INSTRUMENT PANEL LIGHTS DIMMER MODULE
A5	A135	15	WIPER DELAY MODULE
A7	B179	20	FREQUENCY DIVIDER
A18	A103	12	LIGHTED INDICATOR DISPLAY
A20	H59	7	FUEL/WATER SEPARATOR
B1	C63	7	STARTER/STARTER SOLENOID
B3	G83	10	WINDSHIELD WASHER ROTARY PUMP
B10	E67	8	WTEC II TRANSFER CASE (SERIAL # 29513233)
B10	E70	8	WTEC II TRANSFER CASE (SERIAL # 29513233)
B10	E66	8	WTEC II TRANSMISSION (SERIAL # 29513233)
B10	E71	8	WTEC II TRANSFER CASE (SERIAL # 29517497)
B10	E70	8	WTEC II TRANSMISSION (SERIAL # 29517497)
B10	E76	9	WTEC II TRANSFER CASE (SERIAL # 29513233)
B10	E74	9	WTEC II TRANSMISSION (SERIAL # 29513233)
BJ1	A175	20	JUNCTION BOX
BL1	F257	29	FURNACE CONTROL UNIT
BL2	F256	29	FURNACE CONTROL UNIT
BL3	F256	29	FURNACE CONTROL UNIT
D1A	C138	16	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
D1B	C138	16	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
D2A	D138	16	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
D2B	D138	16	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
D3A	B138	16	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
D3B	B138	16	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
E1	C52	6	BATTERY
E1	D52	6	BATTERY
E1	D52	6	BATTERY
E1	E52	6	BATTERY
E2	C43	5	CHASSIS FRONT BUMPER (REF J27)
E2	C52	6	BATTERY
E2	D52	6	BATTERY
E2	E52	6	BATTERY
E2	E52	6	BATTERY
E3	H148	17	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
E4	H150	17	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
E5	B151	17	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
E14	E194	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE

MISCELLANEOUS (CONTINUED)			
NUMBER	ZONE	SH	DESCRIPTION
E15	E197	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE
E16	A197	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE
E17	G195	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE
E18	G194	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE
E19	F194	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE
E20	E194	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE
E21	D195	22	ALL MODELS EXCEPT WRECKER, TRACTOR, AND LONG WHEEL BASE
E22	B86	10	CAB - MARKER LIGHTS
E23	D86	10	CAB - MARKER LIGHTS
E23	D205	23	AIRDROP ONLY
E24	C85	10	CAB - MARKER LIGHTS
E24	D205	23	AIRDROP ONLY
E25	F86	10	CAB - MARKER LIGHTS
E60	B41	31	24 VDC VAN POWER
E65	B41	5	CHASSIS - FRONT
E66	C41	5	CHASSIS - FRONT
E66	D300	34	WTEC III CAB TRANSMISSION HARNESS (TID1)
E66	D305	34	WTEC III CAB TRANSMISSION HARNESS (TID2)
E67	D38	5	CHASSIS - FRONT
E68	D40	5	CHASSIS - FRONT
E70	C229	26	PTO EQUIPPED
E71	F173	20	CAB - DASH - LEFT - UNDERDASH
E88	B106	12	CAB - DASH - LEFT - INSTRUMENT PANEL
E89	C106	12	CAB - DASH - LEFT - INSTRUMENT PANEL
E90	D300	34	WTEC III CAB TRANSMISSION HARNESS (TID1)
E90	D305	34	WTEC III CAB TRANSMISSION HARNESS (TID2)
E91	C300	34	WTEC III CAB TRANSMISSION HARNESS (TID1)
E91	C305	34	WTEC III CAB TRANSMISSION HARNESS (TID2)
E501	B275	31	VAN EMERGENCY/BLACKOUT LIGHT/24 VDC OUTLET
E502	G274	31	VAN EMERGENCY/BLACKOUT LIGHT
E503	B273	31	VAN MARKER LIGHT
E504	B272	31	VAN MARKER LIGHT
E505	B287	32	VAN REAR MARKER LIGHTS
E506	C287	32	VAN REAR MARKER LIGHTS
E514	C274	31	VAN EMERGENCY LIGHT
E516	H272	31	VAN 24 VDC
F2	H271	31	VAN 24 VDC POWER
FL	E183	21	WTEC II VEHICLE INTERFACE MODULE
FL1	G85	10	EMI FILTER
FL2	A184	21	EMI FILTER
FL3	C118	14	FAN MOTOR
G1	D60	7	ALTERNATOR
MPU1	F61	7	ENGINE SPEED MAGNETIC PICKUP
MT3	F60	7	ENGINE OIL PRESSURE SENSOR
MT4	E177	20	SENSOR/FRONT AIR PRESSURE TRANSMITTER
MT5	G177	20	SENSOR/REAR AIR PRESSURE TRANSMITTER
MT6	B57	7	WATER COOLER TEMPERATURE
MT7	B52	6	FUEL TANK LEVEL SENSOR
NS	E183	21	WTEC II VEHICLE INTERFACE MODULE
P/P	B54	6	POLARITY PROTECTION
P/P	D54	6	POLARITY PROTECTION
R11	D50	6	SHUNT
R1	D79	9	AIR DRYER
TB1	C128	15	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
TB2	F130	15	CAB - DASH - RIGHT - POWER DISTRIBUTION PNL
X1	C137	16	24 VDC
X11	F52	6	NATO SLAVE RECEPTACLE
X2	D137	16	24 VDC
X3	F137	16	GROUND
X5	D137	16	24 VDC
X7	D137	16	24 VDC
PHONE 1	A285	32	VAN PHONE 1
PHONE 2	H287	32	VAN PHONE 2

MISCELLANEOUS (CONTINUED)			
NUMBER	ZONE	SH	DESCRIPTION
	E77	9	LIGHT MATERIAL HANDLING CRANE (LMHC)
	E77	9	LMHC REMOTE CONTROL BOX
	E77	9	LMHC POWER CABLE
	G78	9	LMHC REMOTE CONTROL IN/OUT
	G302	34	WTEC III TRANSMISSION PRESSURE SWITCH
	B304	34	WTEC III OUTPUT SPEED SENSOR
	C304	34	WTEC III ENGINE SPEED SENSOR
	E304	34	WTEC III SUMP TEMP SENSOR

TRANSMISSION			
NUMBER	ZONE	SH	DESCRIPTION
A10	B183	21	WTEC II VEHICLE INTERFACE MODULE
A13	B67	8	WTEC II TRANSMISSION A13 (SERIAL # 29513233)
A13	A72	8	WTEC II TRANSMISSION A13 (SERIAL # 29517497)
A13	A76	9	WTEC II TRANSMISSION A13 (SERIAL # 29513233)
B10	E67	8	PRE-BLOCK SEVEN TRANSMISSION OUTPUT SPEED SENSOR
B10	E72	8	TID1, TID2, AND TID3 TRANSMISSION OUTPUT SPEED SENSOR
B10	E76	9	PRE-BLOCK SEVEN W/PIGTAIL TRANSMISSION OUTPUT SPEED SENSOR
MT9	F67	8	PRE-BLOCK SEVEN TRANSMISSION ENGINE SPEED SENSOR
MT9	F72	8	TID1, TID2, AND TID3 TRANSMISSION ENGINE SPEED SENSOR
MT9	F76	9	PRE-BLOCK SEVEN W/PIGTAIL TRANSMISSION ENGINE SPEED SENSOR
MT11	F67	8	PRE-BLOCK SEVEN TRANSMISSION THROTTLE POSITION SENSOR
MT11	F72	8	TID1, TID2, AND TID3 TRANSMISSION THROTTLE POSITION SENSOR
MT11	F76	9	PRE-BLOCK SEVEN W/PIGTAIL TRANSMISSION THROTTLE POSITION SENSOR
REV	C183	21	WTEC II VEHICLE INTERFACE MODULE
RW	D183	21	WTEC II VEHICLE INTERFACE MODULE
S02	F183	21	WTEC II VEHICLE INTERFACE MODULE
S03	F183	21	WTEC II VEHICLE INTERFACE MODULE
SF01	D183	21	WTEC II VEHICLE INTERFACE MODULE
SF01	D183	21	WTEC II VEHICLE INTERFACE MODULE
SF02	C183	21	WTEC II VEHICLE INTERFACE MODULE
SF02	D183	21	WTEC II VEHICLE INTERFACE MODULE
SF04	C183	21	WTEC II VEHICLE INTERFACE MODULE
SF3	F183	21	WTEC II VEHICLE INTERFACE MODULE
SF4	D183	21	WTEC II VEHICLE INTERFACE MODULE

FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 4 OF 34

SIZE B | ILL. NO. 5WD01L4B | FP-7/ (FP-8 BLANK)

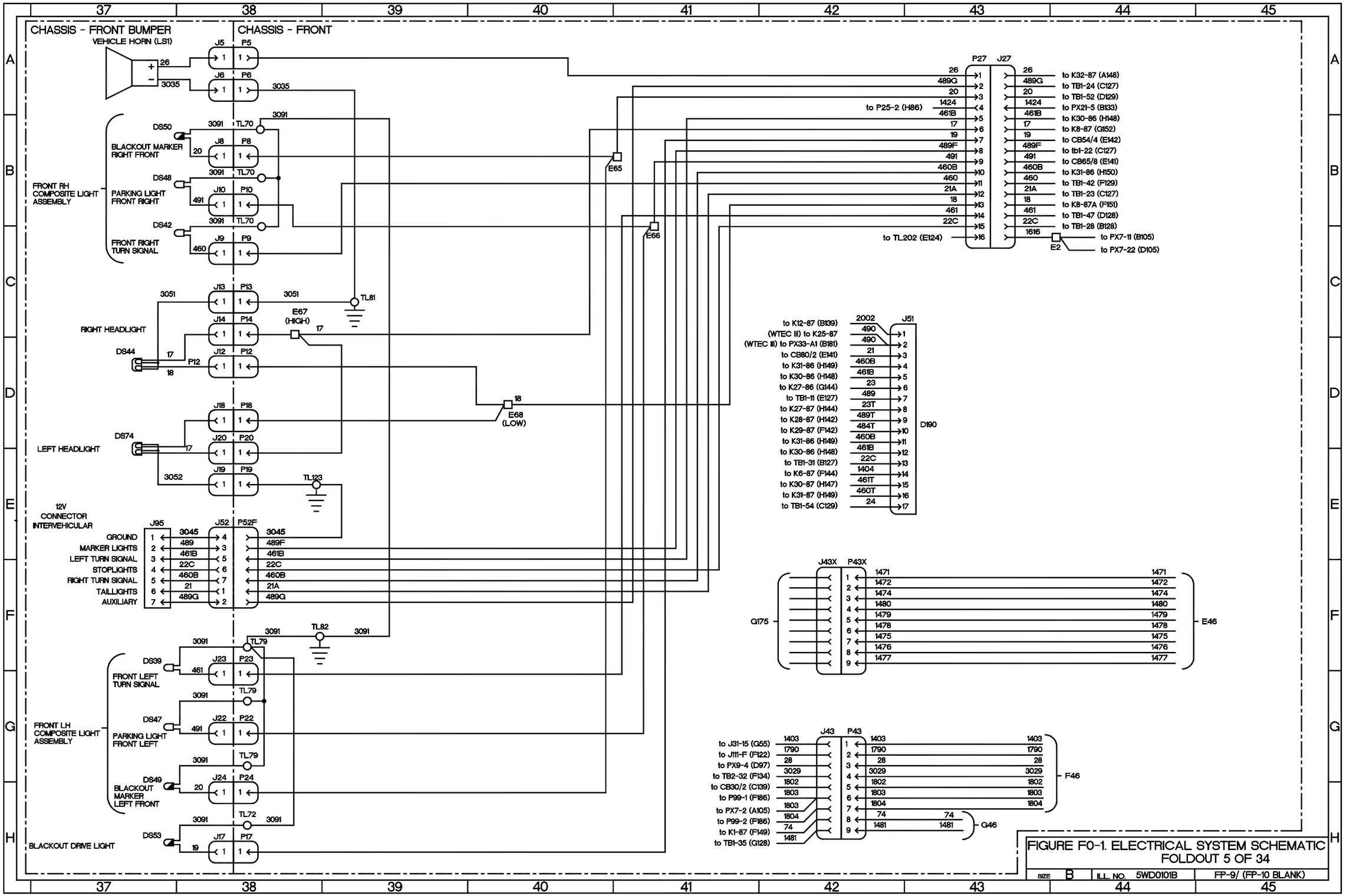


FIGURE F0-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 5 OF 34

SIZE B | ILL. NO. 5WD0101B | FP-9/ (FP-10 BLANK)

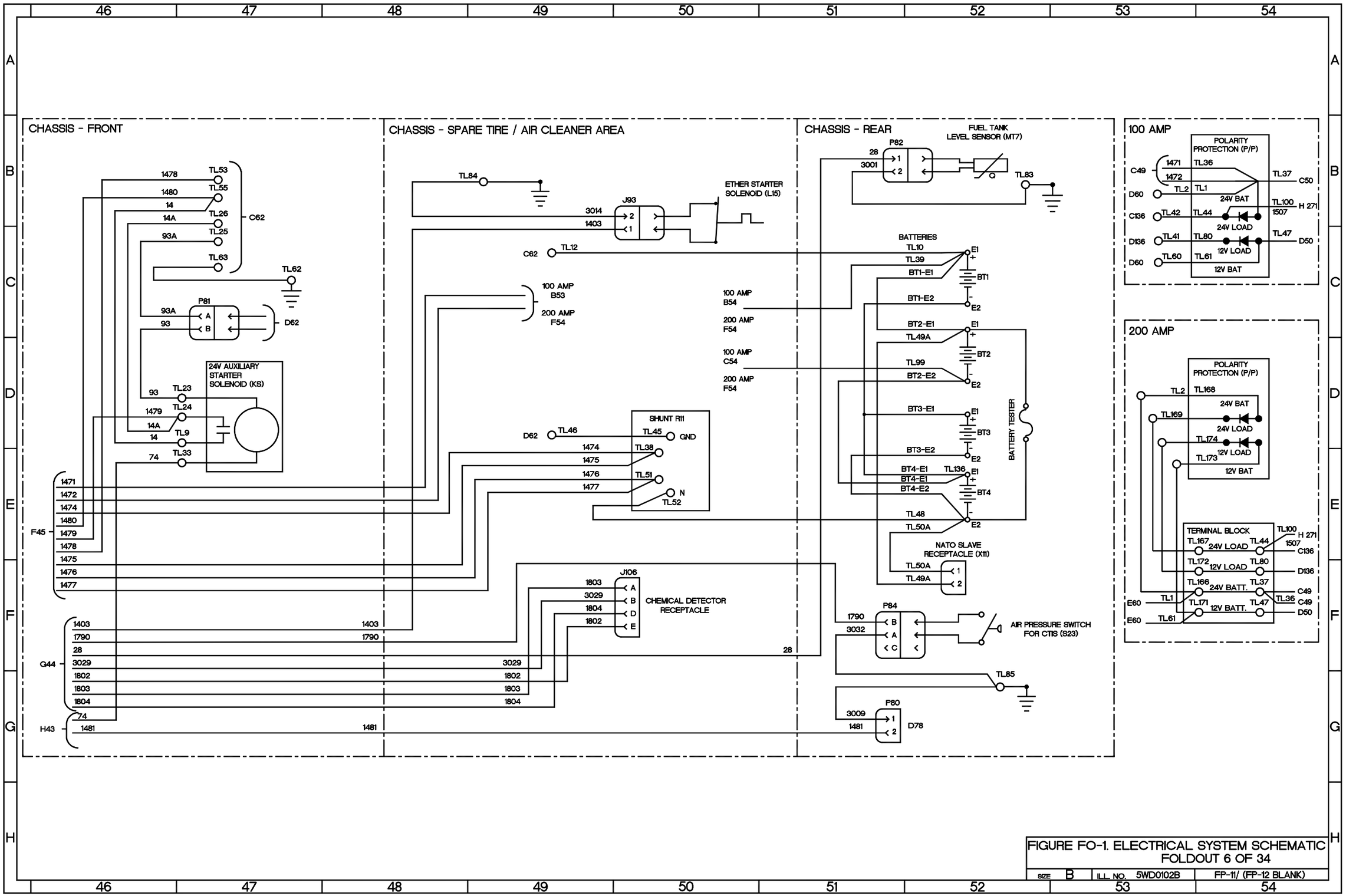


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 6 OF 34

SIZE	ILL. NO.	
B	5WD0102B	FP-11/ (FP-12 BLANK)

ENGINE

WATER COOLER TEMPERATURE (S56)
P36
1807
1805

WATER TEMPERATURE SENSOR (MT6)
P41
33
MT6

WATER TEMPERATURE SWITCH (S26)
P37
3026
35

MT11
F66 124
F70 135A
F75 156
THROTTLE POSITION SENSOR (MT11)

STARTER/STARTER SOLENOID (B1)
TL63
TL53
B47 TL55
L
B1
TL26
TL25
C49 TL12
D49 TL46

STARTER THERMO SWITCH
C47 P81 A B

P31X
F176
1 1441
2 1452
3 3A
4 1432
5 1433
6 1430
7 1435
8 1434
9 1428
10 1453

P69
1430
1435
1434
1428
Not Used

TL59
100 AMP/200 AMP ALTERNATOR (G1)
1452
TL6
TL2
TL58
3A
TL5
VOLTAGE REGULATOR
24V
GND G1
12V
TL35
TL110
TL60
1453
568A
TL61 F53 (200 AMP) C53 (100 AMP)
TL1 F53 (200 AMP) B53 (100 AMP)

P31 J31
to K11-87A (F146) 568A 1 568A
to PX13-3 (F92) 1402 2 1402
to TB1-38 (F129) 1807 3 1807
to PX1-1 (A92) 1806 4 1805
to TB2-18 (F132) 3015 5 3015
to TB2-10 (F131) 3006 7 3006
to PX26-1 (B180) 1444 8 1444
to TB2-36 (F135) 3028 9 3028
to TB2-28 (F134) 3026 10 3026
to PX6-4 (B107) 36 11 36
to CB49/3 (C152) 1460 13 1460
to K19-87B (B151) 54 14 54
to J43-1 (G42) 1403 15 1403
to PX26-4 (B180) 3083 16 3083
to TL178 (D102) 32 17 32
to K11-87 (F146) 1538 18 1538
to PX7-1 (A105) 1523 19 1523
to PX11-4 (H107) 33 20 33
to K11-85 (H146) 34 21 34
to PX7-12 (C106) 35 22 35
to PX26-5 (B180) 1432 25 1432
to PX26-2 (B180) 1433 26 1433

P42
1402
1403
ETHER SENSE SWITCH (S40)

P34
34
3006
OIL PRESSURE WARNING LIGHT SWITCH (S27)

ENGINE SPEED MAGNETIC PICKUP (MPU1)
P38
3083
1444
(-)
(+)

P32
36
P
ENGINE OIL PRESSURE SENSOR (MT3)

TROOP TRANSPORT ALARM
P39 J39
3028
32
1538
P921 J921
TL164
TL165
TROOP ALARM SWITCH (S45)

1441 TL28
54
3015 TL29
3017 TL29
L
FUEL SOLENOID (L2)

P33
1460
3017
FUEL/WATER SEPARATOR (A20)

P201
1523
3027
TL66
NOT USED

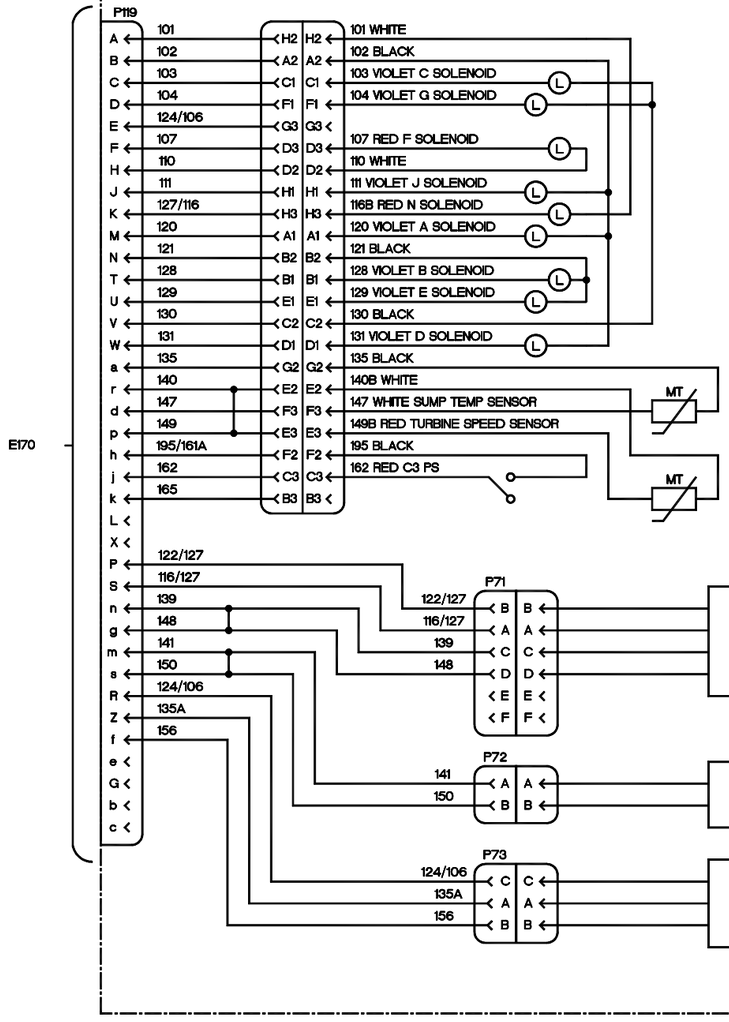
FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 7 OF 34

SIZE B | ILL. NO. 5WD0103B | FP-13/ (FP-14 BLANK)

PRIOR TO SERIAL NUMBER 6510032369

PRE-BLOCK SEVEN TRANSMISSION

EXTERNAL WIRING HARNESS TO TRANSMISSION CONNECTOR



SERIAL NUMBER 6510032369 AND HIGHER

TID1, TID2, AND TID3 TRANSMISSIONS

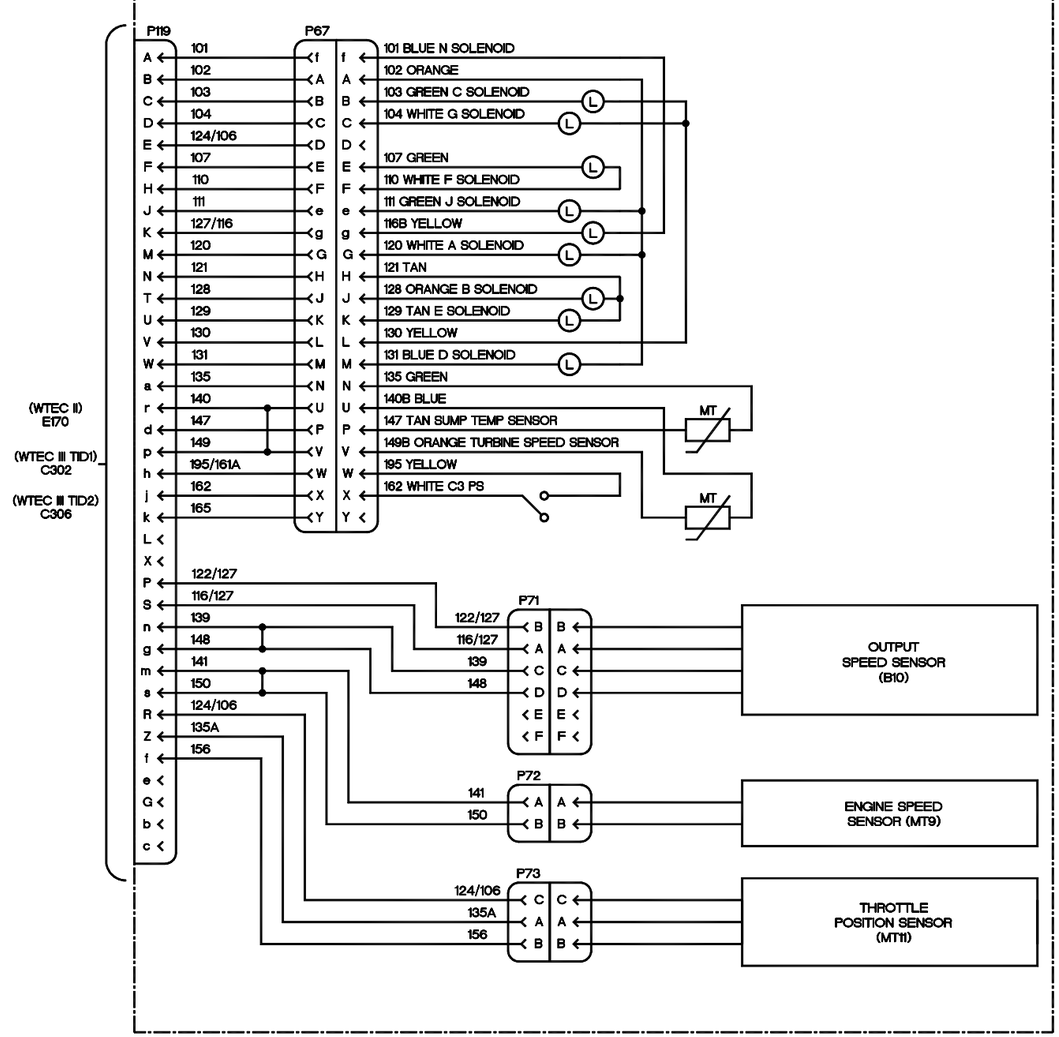
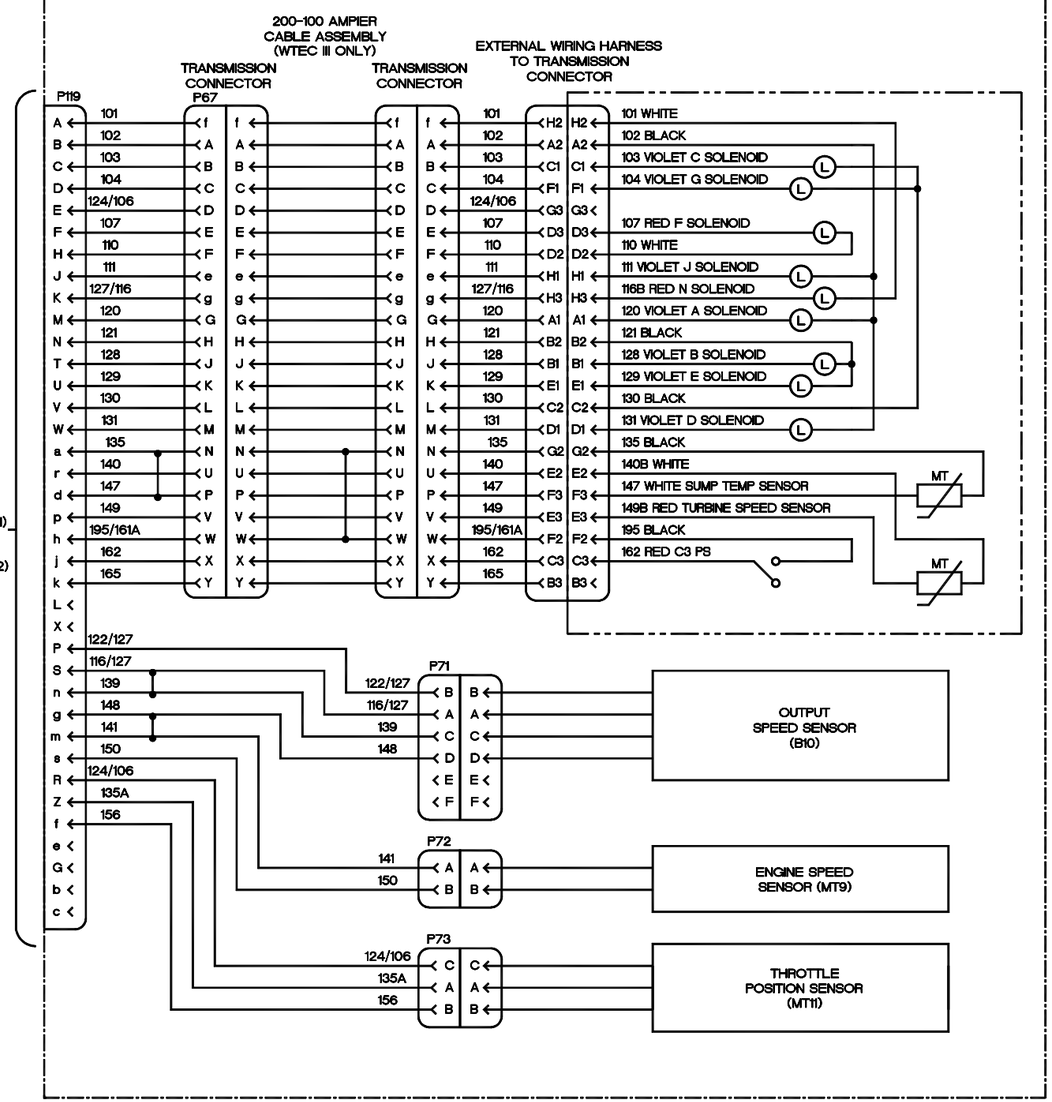


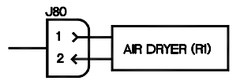
FIGURE F0-1. ELECTRICAL SYSTEM SCHEMATIC FOLDOUT 8 OF 34

SIZE	B	ILL. NO. 5WD0104B	FP-15/ (FP-16 BLANK)

PRIOR TO SERIAL NUMBER 6510032369 WITH ADAPTER CABLE ASSEMBLY

PRE-BLOCK SEVEN WITH PIGTAIL TRANSMISSION





LIGHT MATERIAL HANDLING CRANE (LMHC)

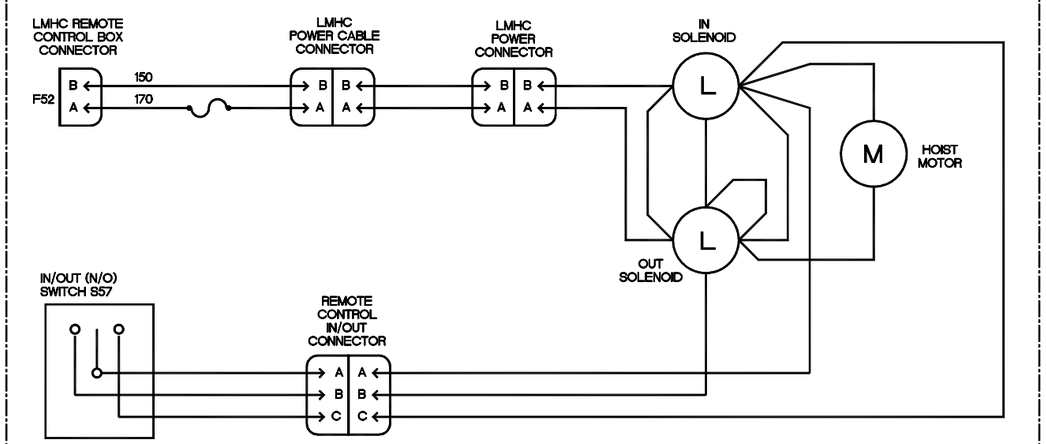


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 9 OF 34

SIZE	ILL. NO.	
B	5WD0105B	FP-17/ (FP-18 BLANK)

CAB - MARKER LIGHTS

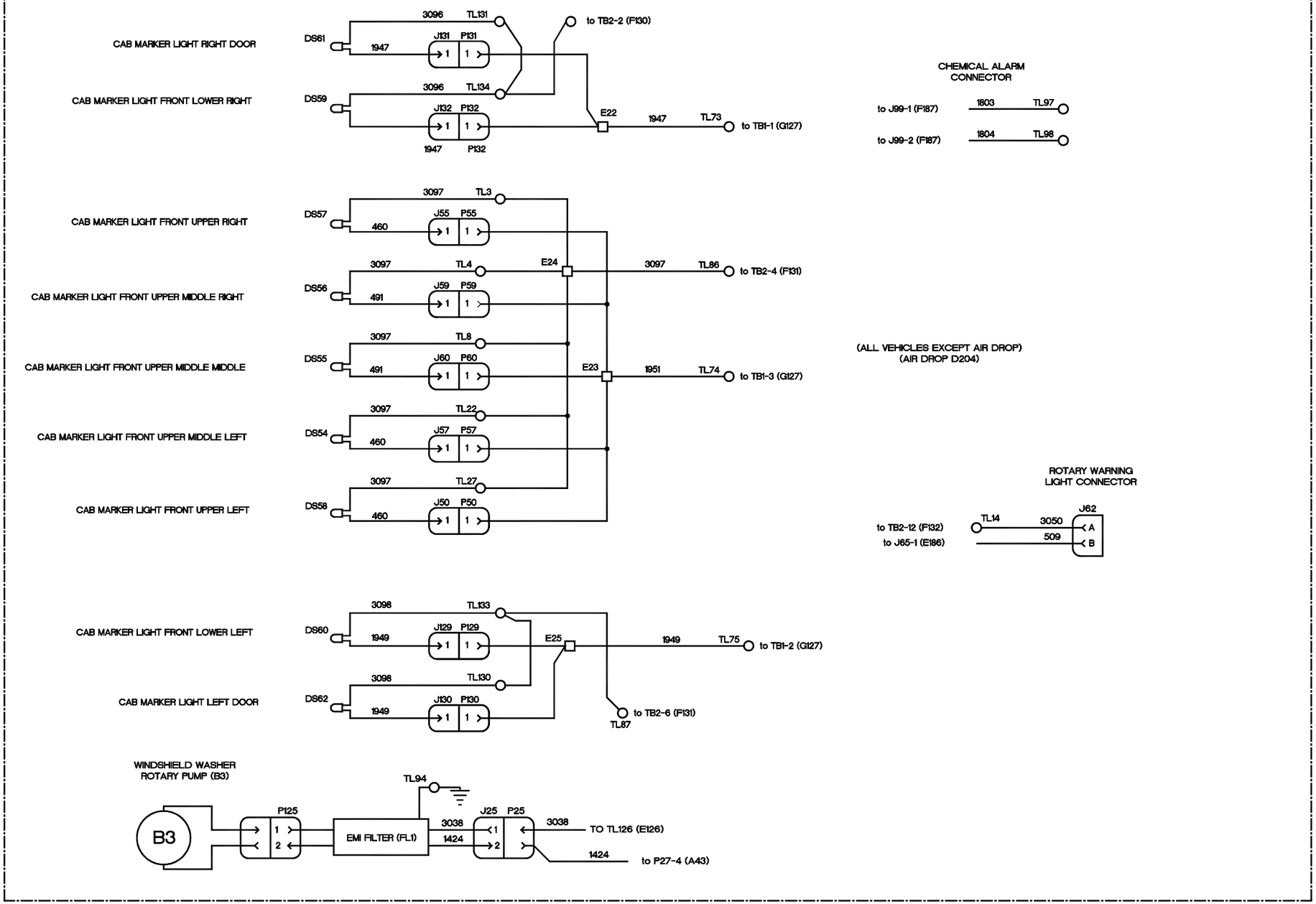


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 10 OF 34

SIZE	ILL. NO.	
B	5WD0106B	FP-19/ (FP-20 BLANK)

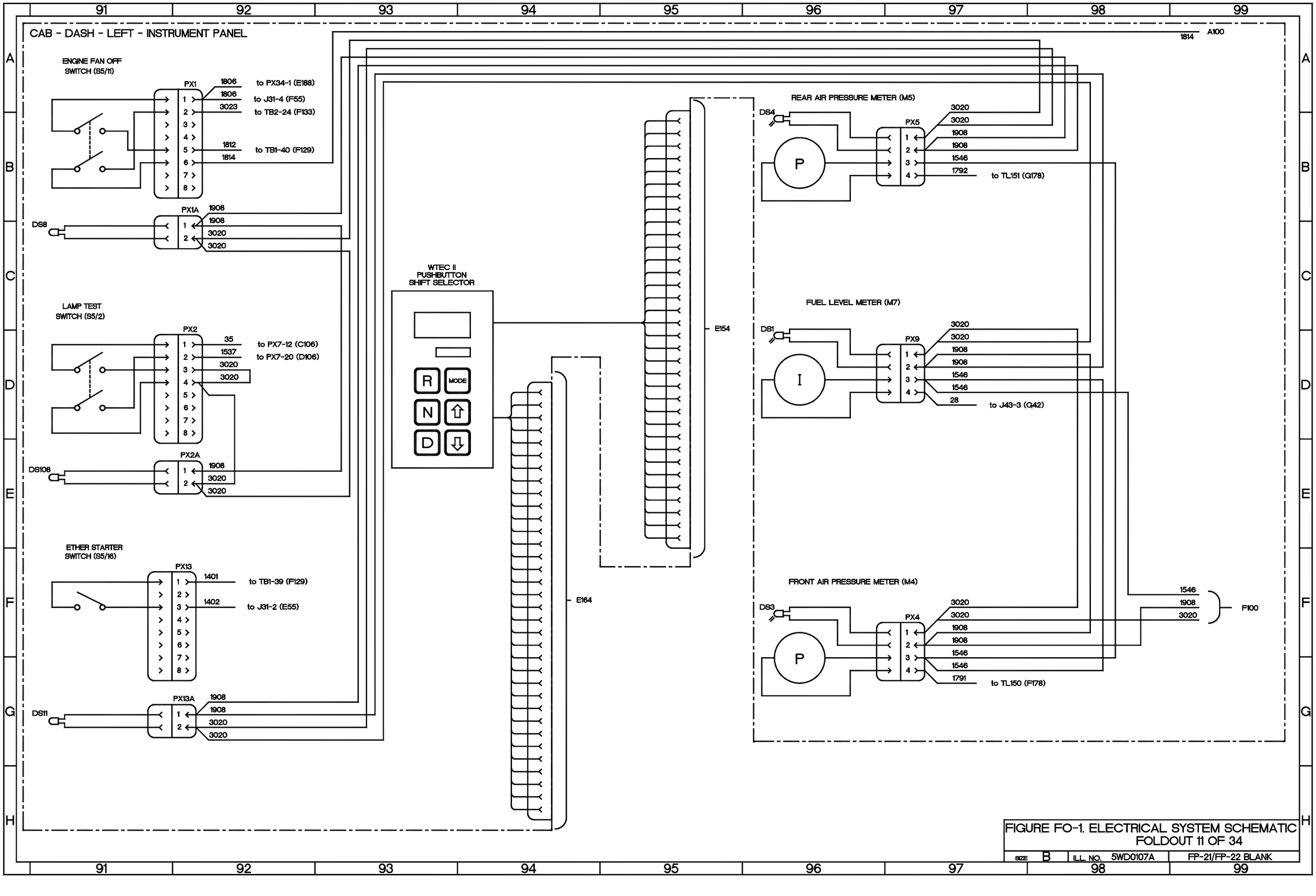


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 11 OF 34

SIZE	ILL. NO.	
B	5WD0107A	FP-21/FP-22 BLANK

CAB - DASH - LEFT - INSTRUMENT PANEL

A99 — 1814

LIGHTED INDICATOR DISPLAY (A18)

		PX7	
CHEM DETECT	DS32	1	1523 to J31-19 (G55)
RIGHT TURN SIGNAL	DS15	2	1803 to J43-6 (H42)
LEFT TURN SIGNAL	DS14	4	1580 to TB1-41 (E129)
	DS9	6	1570 to TB1-47 (E129)
CTIS OVRSPD	DS34	7	3021 to TB2-25 (G133)
PTO ON	DS23	8	2034 to P912-9 (C124)
EMER BRAKE	DS21	9	1528 to J111-D (F122)
WATER TEMPERATURE	DS25	10	2021 to J913-13 (C121)
REAR BRAKE AIR	DS27	11	1616 to J27-16 (C43)
TRANS OIL TEMP	DS41	12	35
ENGINE OIL LEVEL	DS29	13	1525 to TL157 (H178)
PARK BRAKE	DS22	16	1532
OIL PRESSURE	DS24	17	3030 to TB2-33 (G134)
HIGH BEAM	DS16	19	1536
FRONT AIR BRAKE	DS28	20	1537
RADIATOR FAN OFF	DS19	22	1616 to J27-16 (C43)
MASTER STOP	DS30	23	34A to D3B-4 (A138)
		24	1681 to K8-87 (F152)
		25	1530 to TL156 (F178)
		26	1814
		27	1658 to TB1-61 (B129)
		28	2010 to P912-7 (B124)

ENGINE OIL PRESSURE METER (M3)

DS5 — OP — PX6

1	3020	
2	3020	
3	1908	
4	1908	B109
	1546	
	1546	
	36	to J31-11 (F55)

E88: 35 to PX2-1 (D92); 35 to J31-22 (H55)

E89: 1537 to PX2-2 (D92); 1537 to J118-1 (D162); 105 to P115-19

VOLTMETER (M2)

DS7 — V — PX10

1	3020	
2	3020	D109
3	1908	
4	1908	
	1546	
	1546	to J913-9 (C121) E109
	3004	to TB2-9 (G131)

F99: 1546, 1908, 3020 — 3020, 1908 — F109

SPEEDOMETER (M8)

DS6 — KM — PX8

1	3020	
2	3020	
3	1908	
4	1908	
	1546	
	1546	
	1793	to PX33-H2 (E181) (WTEC II)
	1793	to J111-B (F122) (WTEC II)
	157	to J111-B (F122) (WTEC III)
	157	to P116-30 (F291) (WTEC III)

AUDIBLE ALARM (LS2)

32 TL178 32 — to J31-17 (G55)

1536 TL160 (−)

1532 TL161 (+)

WATER TEMPERATURE METER (M6)

DS2 — t° — PX11

1	3020	
2	3020	
3	1908	
4	1908	
	1546	
	1546	G109
	33	to J31-20 (G55)

FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 12 OF 34

SIZE	ILL. NO.	
B	5WD0108B	FP-23/ (FP-24 BLANK)

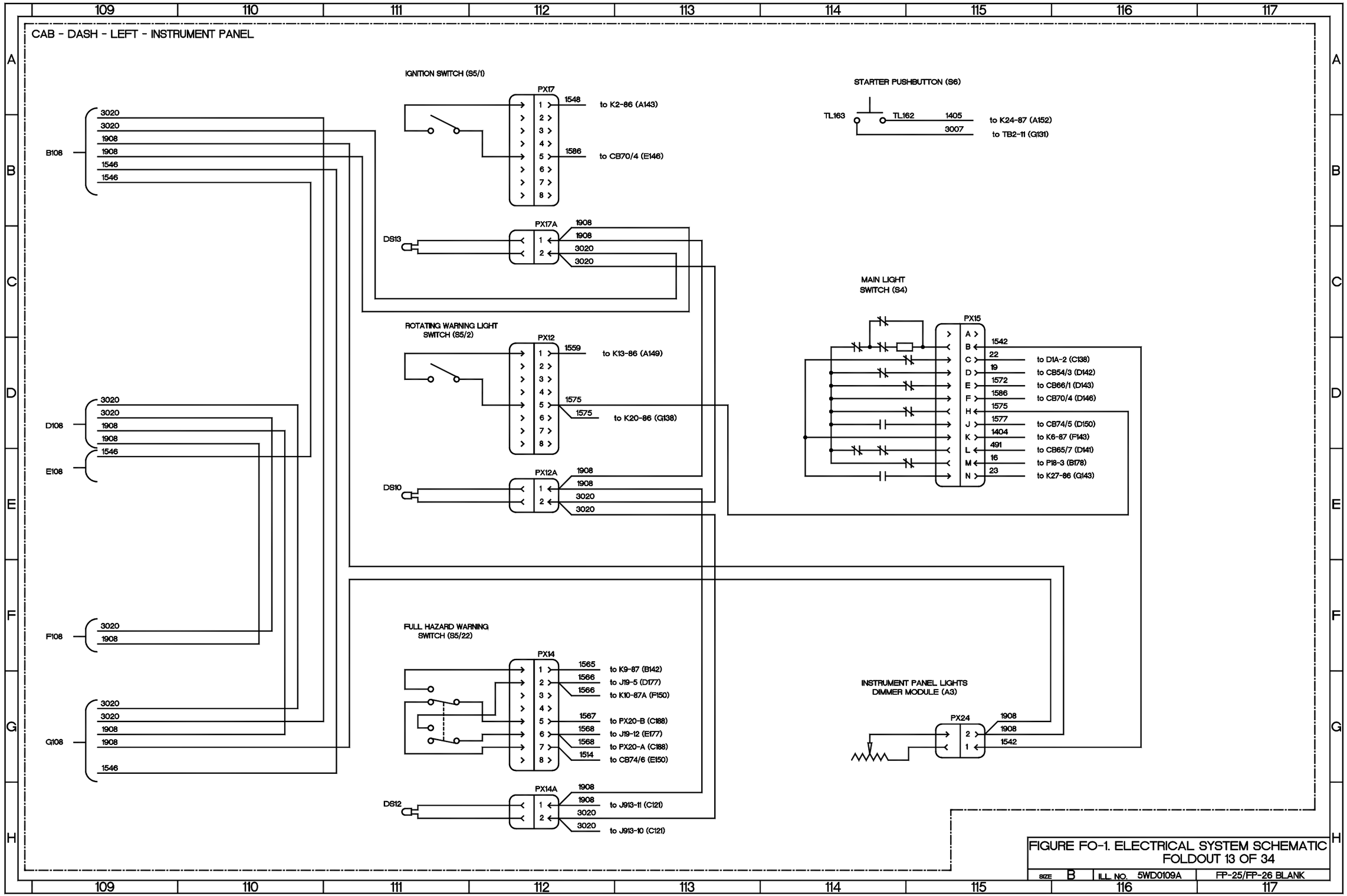


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 13 OF 34

SIZE	ILL. NO.	
B	5WD0109A	FP-25/FP-26 BLANK

CAB - DASH - CENTER - HEATER / CTIS ECU

PERSONNEL HEATER

FAN MOTOR
B4
FL3
3 HIGH
2 MED
1 LOW
OFF

PX25
1 1601 to CB23/7 (C147)
2 1908
3 3003
4 3003 to TB2-8 (F131)

HEATER CONTROL PANEL ILLUMINATION
DS17
DS101

J913 P913
to K12-86 (A139) 1673 — 1 1673
to CB72/2 (D139) 1674 — 2 1674
to D2B-3 (D138) 1672 — 3 1672
to CB45/4 (C139) 1670 — 4 1670
to CB49/3 (C152) 1925 — 5 1925
to J118-9 (E162) 1954 — 6 1954
(WTEC II) to PX33-A3 (C181) 161 — 7 161
(WTEC II) to J118-13 (E162) 161 — 8 153
(WTEC III) to P115-31 (D291) 161/1952 — 9 1546
(WTEC II) to J118-8 (D162) 153 — 10 3020
(WTEC III) to P115-12 (D291) 153 — 11 1908
to TB1-61 (B129) 1546 — 12 1550
to PX10-3 (E107) 1546 — 13 2021
to TB2-31 (G134) 3020 — 14 2019
to PX14A-2 (H112) 3020 — 15 1904
to PX14A-1 (H112) 1908
to PX26-1 (B179) 1550
to PX7-10 (B105) 2021
(WTEC II) to PX33-E2 (D181) 2019
(WTEC III) to K37-87 (B294) 2019
(WTEC II) to PX33-E3 (D181) 1904
(WTEC III) to K37-30 (B294) 1904
G208

P912 J912
to CB50/2 (C145) 2006 — 1 2006
to CB48/8 (C141) 2069 — 2 2069
3 2012
to K12-87 (B139) 2004 — 4 2004
to CB63/1 (D151) 1328 — 5 1328
6 2010
to PX7-28 (D105) 2010 — 7 2033
to CB53/6 (E140) 2033 — 8 2033
to PX7-8 (B105) 2034 — 9 2034
to TB1-20 (D127) 2040 — 10 2040
to TB1-50 (D129) 2041 — 11 2041
to X1 (C136) 1650 — 12 1650
to X1 (C136) 1653 — 13 1653
to K19-87 (B150) 2037 — 14 2037
to K15-87A (A140) 1811 — 15 1811
E208

PARKING BRAKE SWITCH
C42 — TL202 — 1616 — S24 — 3024 — TL201 — TL126
to P25-1 (G86) — 3038

CTIS ELECTRONIC CONTROL UNIT (A2)
P110
H 01
F 02
Z
M 01
U 03
S 04
E 05
T 06
P 07
b 08
c 09
j 10
R 11
B 12
C 13

P111 J111
01 E E 1911 to CB40/7 (C150)
02 A A 3031 to TB2-35 (G135)
03 B B 1793 to PX8-4 (G103) (WTEC II)
04 G G 157 to PX8-4 (G103) (WTEC III)
05 D D 1911 to K52-87A (G139)
06 F F 1528 to PX7-9 (B105)
1790 to J43-2 (G42)

P113
B
C
A

P112
D
F
E
A
B
G186

TL50
CHASSIS GROUND

FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 14 OF 34

SIZE B | ILL. NO. 5WD0110B | FP-27/ (FP-28 BLANK)

CAB - DASH - RIGHT - POWER DISTRIBUTION PANEL

PX21

to P18-9 (B178) 1599
to CB37/1 (C152) 1569
to J2-4 (B185) 1916
to TB2-37 (G135) 3034
to P18-8 (B178) 1424
to J27-4 (A43) 1424
to P18-7 (B178) 1597

WIPER DELAY MODULE (A5)

22C J51-13 (E42)
1940 K10-87 (F150)
1940 K10-86 (F150)
22 D1A-1 (C138)
22C J27-15 (C43)
1912 CB67-4 (E139)
21A J27-12 (B43)
489G J27-2 (A43)
489F J27-8 (B43)
2040 P912-10 (C124)
489 J51-7 (D42)
1426 J7-1 (A188)
1955 K28-86 (H142)
1951 TL74 (D86)
1951 TL74 (E205)
1947 TL73 (B86)
1949 TL75 (F86)

1930 K11-86 (F146)
1929 CB77/5 (C152)
1658 K11-30 (F146)
1546 J913-9 (C122)
1658 PX7-27 (D105)
1690 CB79/5 (C150)
1462 K19-30 (A150)
1460 PX33-C1 (C181) (WTEC II)
146 K25-86 (B292) (WTEC III)
1463 TL159 (E136)
146 J117-C (C289) (WTEC III)
1572 CB66/2 (E143)
1408 K29-86 (F142)
24 J51-17 (E42)
1329 K52-86 (H139)
20 J27-3 (A43)
2041 P912-11 (C124)
461 J27-14 (B43)
1570 PX7-6 (B105)
1581 J19-1 (C177)
1524 J19-4 (D178)
1580 PX7-4 (B105)
460 J27-11 (B43)
1401 PX13-1 (F92)
1812 PX1-5 (B92)
1935 CB22/3 (C149)
1807 J31-3 (F55)
1481 J43-9 (H42)
1692 CB21/1 (C149)
1692 PX26-3 (B179)
(WTEC II) 1692 PX33-E1 (D181)
(WTEC III) 1692 K34-30 (B293)
1692 PX33-F1 (D181) (WTEC II)
1692 K26-30 (B290) (WTEC III)

TB1

3101 K37-85 (B294) (WTEC III)
3054 K20-85 (H138)
3036 K32-85 (A147)
3047 K30-85 (H147)
3039 K9-85 (A142)
3099 J7-3 (B188)
3046 K10-85 (F150)
3016 K19-85 (A150)
3053 K8-85 (F151)
3002 K7-85 (F152)
3041 K2-85 (A143)
3043 TL153 (C180)
3048 K31-85 (G149)
3049 PX20-C (C189)
3012 K15-85 (A141)
3011 PX34-2 (E188)

1603 TB2-1 — F136

1603 X3

TB2

3096 TL71 (A86)
3097 TL86 (C86)
3098 TL87 (F86)
3003 PX25-3 (C120)
3006 J31-7 (F55)
3050 TL14 (E88)
3008 PX50-1 (D188)
3101 PX33-K1 (F181) (WTEC II)
143 P115-32 (D291) (WTEC III)
3015 J31-5 (F55)
3040 K29-85 (F142)
3056 K28-85 (G142)
3023 PX1-2 (B92)
3083 PX26-6 (B179)
3026 J31-10 (F55)
3067 K12-85 (A139)
3029 J43-4 (H42)
3044 K27-85 (H143)
3028 J31-9 (F55)
3045 K52-85 (H139)
3004 PX10-4 (E108)
3007 TL163 (B115)
(WTEC III) 188 TB2-13 (H292)
(WTEC III) 188 TB2-15 (H292)
(WTEC II) 3102 PX33-K2 (F181)
(WTEC III) 3102 K26-85 (B290)
3038 J78-2 (F185)
3019 J78-4 (F185)
3021 PX7-7 (B105)
(WTEC III) 143 P115-17 (D291)
(WTEC III) 143 J117-E (C289)
3020 J913-10 (C121)
3030 PX7-17 (C105)
3031 J111-A (F122)
3034 PX21-4 (A183)
3037 J2-3 (A185)

FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 15 OF 34

SIZE	ILL. NO.	
B	5WD0111B	FP-29/ (FP-30 BLANK)

CAB - DASH - RIGHT
POWER DISTRIBUTION PANEL

34 K24-85 (A151)
34A PX7-23 (D105)
74 K24-30 (A151)
D3B
D3A
1674 CB72/2
3067 TB2-30 (F134)
2004 P912-4 (B124)
WORKLIGHT RELAY
2002 J51-1 (D42)
1673 J913-1 (B121)
1808 CB68/7
1806 PX34-1 (E187)
1811 P912-15 (C134)
3039 TB2-56 (B132)
3012 TB2-77 (C135)
AUX. COOLER RELAY
1566 CB71/4
1514 CB74/6
1565 D2B-4
1565 PX14-1 (F112)
HAZARD FLASHER BO OVERIDE
1602 X1
1637
A145
1548 PX17-1 (A112)
3041 TB2-43 (C130)
CONTROL PANEL RELAY
1548 CB76/3
1904 X6
B145
3054
1566
to CB43 (C289)
to CB79 (B289)
to P912-12 (C124)
1650
to P912-13 (C124)
1653
to TL44 (E54)
to TL44 (B53)
TL42
X1
+24 VDC
X4 1602 K2-30
1602 K1-30
461B J19-2 (C178)
22 PX15-C (D115)
D1B
D1A
461B K30-86
22 TB1-27 (B127)
+24V
CHEMICAL ALARM
CB30
CB45
FUEL PREHEAT
1670 J913-4 (B121)
1802 J43-5 (H42)
CAB RADIO
CB20
CB48
ARCTIC CAB/ ENGINE KILL
1906 K53-30
2069 P912-2 (B124)
TRAILER REAR LIGHTS POWER
CB41
CB42
BO MARKER LIGHTS POWER
1957 K28-30
1958 K29-30
REAR COMPOSITE LIGHTS
CB44
CB43
REAR COMPOSITE LIGHTS WTEC III ECU
136 P115-1 (C289)(WTEC III)
136 P115-1 (D289)(WTEC III)
1922 K30-30 (WTEC II)
1956 K31-30
1956
C145
X7 1601
X5 1601
1601
D145
+12V
19 PX15-D (D115)
1914A K20-87
1572 PX15-E (D115)
1548 K2-86
BO MARKER POWER
CB66
CB76
BO STOP RELAY POWER
1572 TB1-56 (C129)
1641 K6-30
1565 K9-87
460B J19-3 (D178)
D2B
D2A
460B K31-86
1501
1672 J913-3 (B121)
1674 K12-30
1914 K20-87
CB72
CB67
MARKER LIGHTS
1674 J913-2 (B121)
1912 TB1-26 (C128)
2033 P912-8 (C124)
491 PX15-L (E116)
CB53
CB65
PARKING LIGHTS
491 J27-9 (B43)
TAIL LIGHTS
CB80
CB54
BO HEADLIGHT
21 J51-3 (D42)
19 J27-7 (B43)
to TL80 (C53)
to TL80 (F54)
TL41
X2
+12 VDC
1514
1808
1911
E145
TL159
TL158
to TB1-57 (C129)
1463
1637 K19-86
START INHIBIT PUSHBUTTON (S7)
1958 CB42/4
178 P115-28 (D291)(WTEC III)
1408 J7-2 (B188)
1408 TB1-53 (C129)
484T J51-10 (D42)
3040 TB2-20 (F133)
K29
BO MARKER RELAY WTEC III BLACKOUT DRIVE RELAY
1641 CB76-4
1404 PX15-K (D115)
1404 J51-14 (E42)
1594 TL152 (C180)
K6
STOP LIGHT RELAY
D135
1603 TB2-1
TL57
TL56
CAB GND
X3
GROUND
1602
461B D1B-3
460B
1691
74
G145
1501
1691 K1-86
3054 K13-85
1575 PX12-5 (D113)
3054 TB2-44 (B131)
1914 CB67/3
1914A CB80/1
K20
MARKER LIGHTS RELAY
1911 CB40/7
1329 TB1-51 (D129)
1911 J111-G (F123)
3045 TB2-3 (G130)
K52
CTIS OVERSPEED INDICATION RELAY
1906 CB20/6
74 K1-85
1906 J78-3 (F185)
K53
RADIO POWER RELAY
1957 CB41/2
3056 TB2-22 (F133)
1955 TB1-5 (F127)
489T J51-9 (D42)
TRAILER REAR LIGHTS RELAY
K28
3044 TB2-34 (F135)
1959 CB39/4
23 PX15-N (E115)
23 J51-6 (D42)
23T J51-8 (D42)
BO STOP RELAY
K27

FIGURE F0-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 16 OF 34

SIZE B | ILL. NO. 5WD0112B | FP-31/ (FP-32 BLANK)

CAB - DASH - RIGHT
POWER DISTRIBUTION PANEL

A144 1637
B144 1604 X6
3054
1566
C144
D144 1601
E144 1514 1808 1911
G145 1602 461B D1B-3 460B 1691 74
1959
1922
1956
2006 P912-1 (B124)
1959 K27-30
1637 TL158
1658 K11-30
74 D3B-3(B137)
74 K1-85
34 K11-85
1405 TL162 (B115)
1462 TB1-59 (B129)
3016 TB2-62 (B133)
26 CB36/5
25 P18-12 (C178)
26 J27-1 (A43)
3036 TB2-46 (B131)
509 CB38/8
3054 K20-85
509 P65-1 (E186)
1559 PX12-1 (D113)
2037 P912-14 (C124)
54 J31-14 (G55)
34 D3B-4 (B138)
K32 HORN RELAY
K13 ROTATING BEACON BO OVRD RELAY
K19 START INHIBIT RELAY
K24 CRANKING LOCKOUT RELAY
E5
1569 J2-2 (A185)
1569 P18-4 (B177)
1569 PX21-2 (A133)
1925 J913-5 (B121)
1460 J31-13 (F55)
1929 TB1-64 (B129)
1808 K15-30
SWING FIRE PUMP POWER CB50 CB39 TRAILER BO STOP LIGHTS
26 K32-30
1601 PX25-1 (C120)
HORN POWER CB36 CB23 HEATER BLOWER
1692 TB1-36 (G129)
WTEC II VIM STE/ICE CB21 CB22 FAN/ ETHER
1935 TB1-37 (F129)
1690 TB1-62 (B129)
1911 J111-E (E123)
1911 K52-30
WTEC II VIM POWER CB79 CB40 CTIS COOLER
WINDSHIELD WIPER/WASHER CB37 CB49 PTO POWER
ENGINE INSTR POWER CB77 CB68
CB61 CB62
CB63 CB64
1328 P912-5 (B124)
+24V
+12V
IGNITION/MAIN LIGHT SWITCH CB70
1586 PX15-F (D115)
1586 PX17-5 (B112)
HEAD LIGHTS CB78 CB38 ROTATING BEACON
509 K13-30
VIM POWER CB35 CB71 HAZARD/ FLASHER WORKLIGHTS
1566 K9-30
1900 PX33-J1 (E182)
1900 PX33-J2 (E182)
1577 PX15-J (D115)
CB74 CB73 BACK-UP LIGHT POWER
1514 PX14-7 (G113)
1903 PX33-B1 (C181)(WTEC II)
1903 K25-30 (B292)(WTEC III)
1514 K9-86
1416 K7-30
1416
1911
34 K24-85
1658 K24-86
1658 TB1-64 (B129)
1930 TB1-63 (B129)
568A J31-1 (E55)
1538 J31-18 (G55)
34 J31-21 (G55)
K11 ALTERNATOR EXCITATION RELAY
1691 K26-87 (B290)(WTEC III)
1602 X1
1691 PX33-G1 (E181)(WTEC II)
1691 K53-86
74 K24-30
74 K53-85
74 J43-8 (H42)
K1 STARTER RELAY
1594 J19-6 (D178)
1940 TB1-30 (B128)
3046 TB2-60 (B133)
K10 STOP/HAZARD FLASHER RELAY
1940 TB1-29 (B127)
1566 PX14-2 (GH13)
1417 K7-87
16A P18-2 (B178)
18 J27-13 (B43)
3053 TB2-70 (B134)
K8 HEADLIGHT LO/HI-BEAM RELAY
17 J27-6 (B43)
1681 PX7-24 (D105)
3002 TB2-74 (B135)
1416 CB78/6
16 P18-3 (B178)
1417 K8-30
K7 HEADLIGHT RELAY
1922 CB43/8
3047 TB2-50 (B131)
461T J51-15 (E42)
K30 REAR LEFT COMPOSITE LAMP RELAY
461B
461B J51-12 (E42)
461B J27-5 (B43)
461B J51-5 (D42)
461B D1B-3
E3
1956 CB44/6
3048 TB2-53 (C132)
460T J51-16 (E42)
K31 REAR RIGHT COMPOSITE LAMP RELAY
460B D2A-1
460B J51-4 (D42)
460B J51-11 (E42)
460B J27-10 (B43)
E4

FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 17 OF 34

SIZE B | ILL. NO. 5WD0113B | FP-33/ (FP-34 BLANK)

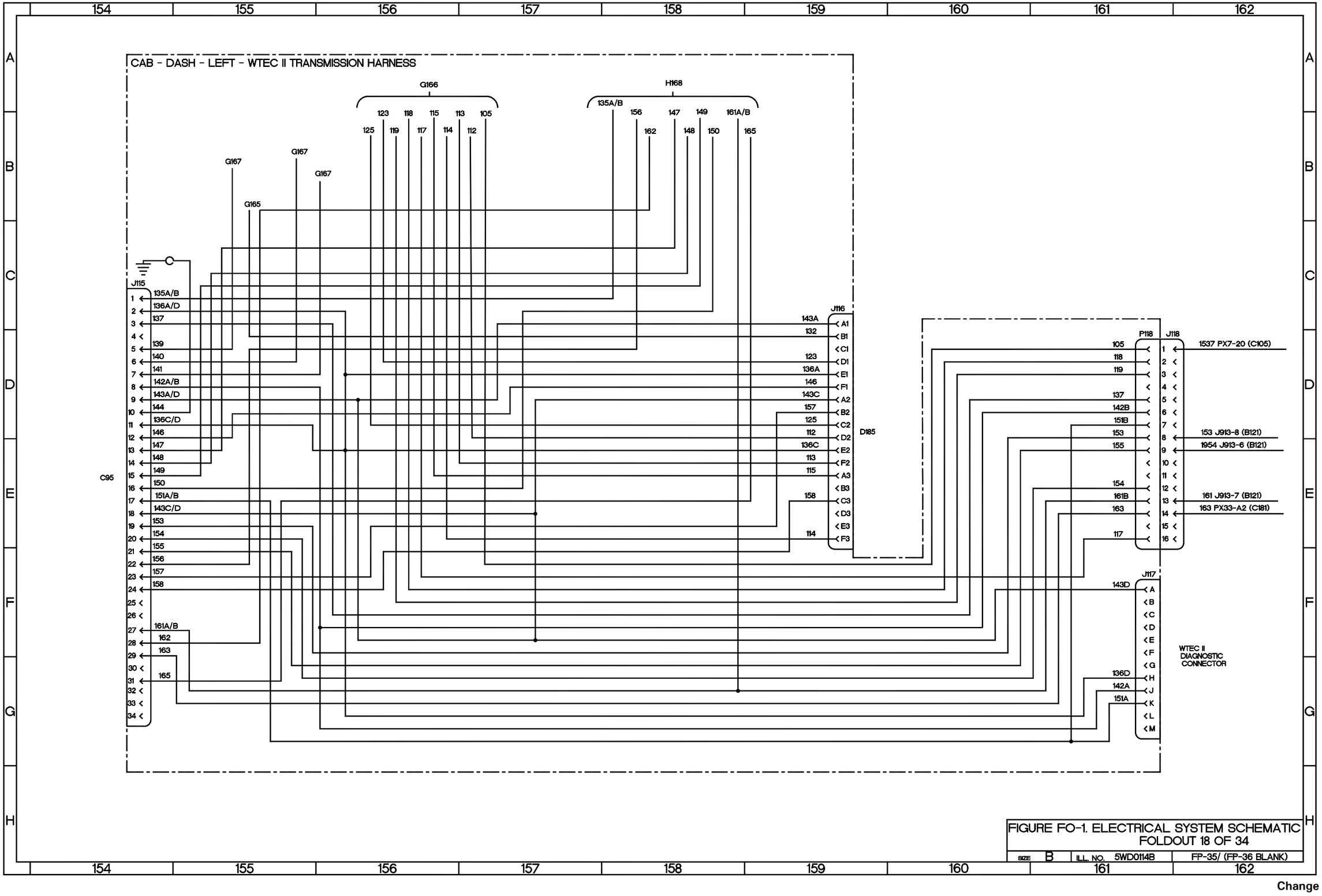


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 18 OF 34

SIZE B | ILL. NO. 5WD0114B | FP-35/ (FP-36 BLANK)

CAB - DASH - LEFT - WTEC II TRANSMISSION HARNESS

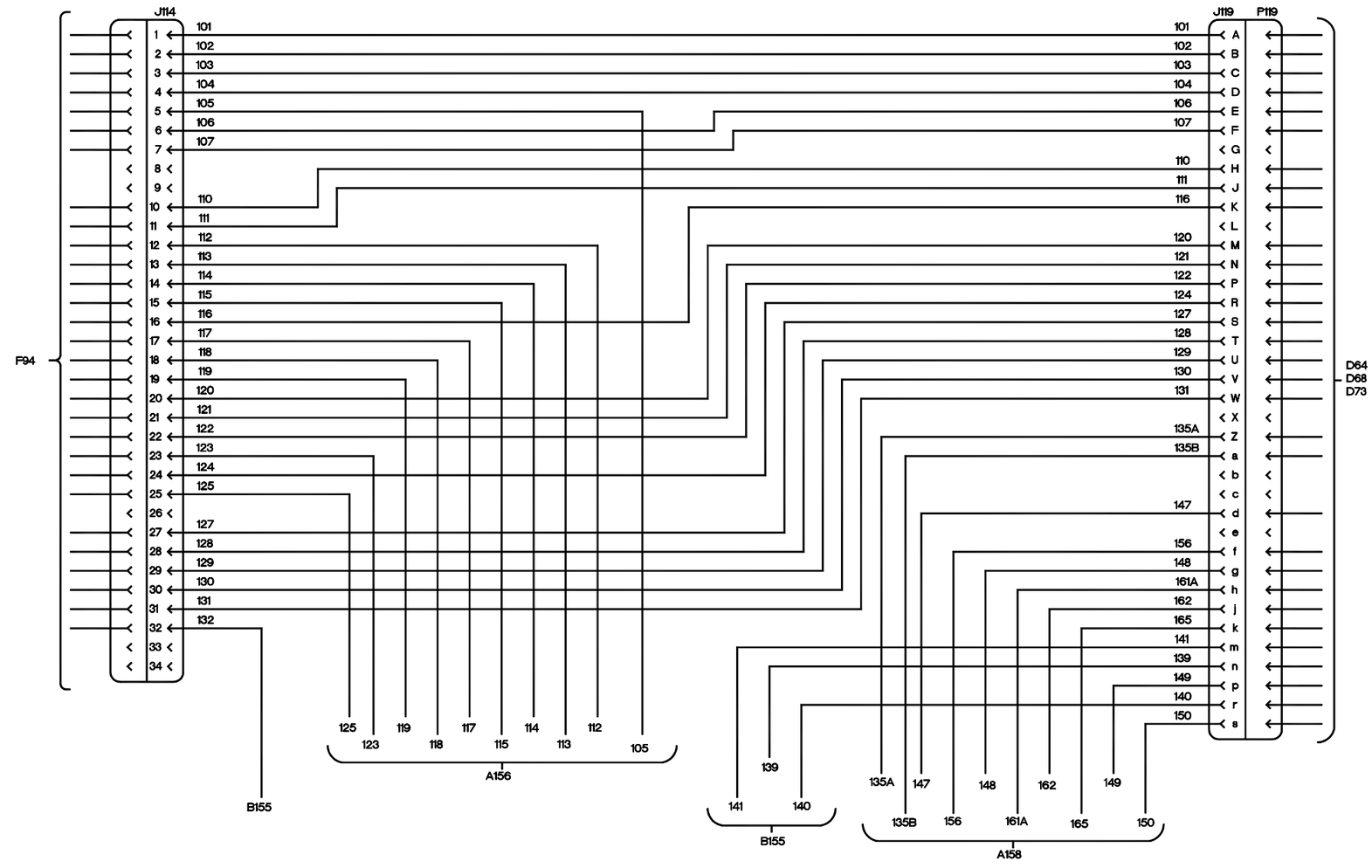


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 19 OF 34

SIZE	ILL. NO.	
B	5WD0115B	FP-37/ (FP-38 BLANK)

CAB - DASH - LEFT - UNDERDASH

STE / ICE RECEPTACLE

P83

f 1610
AB 1437
AD 1431
z 1446
x 1427
p 1423
m 1438
AA 1436
g 1612
k 1439
n 1421
w 1425
y 1447
AC 1429
R 1441
N 1452
P 3A
d 1432
c 1433
v 1435
u 1428
O 1453
E 1471
V 1472
Y 1474
T 1480
S 1479
M 1478
F 1475
X 1476
W 1477
h R2
j
s R6
U 1482
Z 1482
a 1482 E71
b 1482

JUNCTION BOX (BJ1)

1610 1610
1437 1430
1431
1446
1427
1423
1438
1436
1612
1439
1421
1425
1447
1429

BLUE
BROWN
GREEN
RED
YELLOW
BLACK
WHITE

R5
R4

J31X

1441 1
1452 2
3A 3
1432 4
1433 5
1430 6
1435 7
1434 8
1428 9
1453 10

D55

J43X

1471 1
1472 2
1474 3
1480 4
1479 5
1478 6
1475 7
1476 8
1477 9

F42

COLUMN SWITCH (S3)

P18

1 16A to K8-86 (F152)
2 16 to K7-86 (F153)
3 16 to PX15-M (E116)
4 1569 to CB37/1 (B152)
5 1527 to J2-5 (B186)
6 1590 to J2-1 (A186)
7 1597 to PX21-6 (B133)
8 1424 to PX21-5 (B133)
9 1599 to PX21-1 (A133)
10
11
12 25 to K32-86 (A147)

HORN PUSHBUTTON SWITCH

COLUMN SWITCH (S3)

J19

1 1581 to TB1-46 (E129)
2 461B to D1B-4 (C138)
3 460B to D2A-2 (D138)
4 1524 to TB1-43 (E129)
5 1566 to PX14-2 (G113)
6 1594 to K10-30 (F150)
7
8
9
10
11
12 1568 to PX14-6 (G113)

FREQUENCY DIVIDER (A7)

INPUT (+)
OUTPUT (+)
+24V POWER
INPUT (-)
OUTPUT (-)
GROUND

PX26

1 1550 to J913-12 (C121)
2 1444 to J31-8 (F55)
3 1433 to J31-26 (H55)
4 1692 to TB1-36 (G129)
5 3083 to J31-16 (G55)
6 1432 to J31-25 (H55)
3083 to TB2-26 (F133)

STOP LIGHT SWITCH (S10A)

TL152 TL153 3043 3043 to TB2/47 (C131)
1594 1594 to K6-85 (F143)

STOP LIGHT SWITCH (S10B)

TL154 TL155 3043
1594

FRONT AIR PRESSURE TRANSMITTER

SENSOR (MT4) / SWITCH (S20)

TL150 1791 to PX4-4 (G97)
P
N/C
TL156 1530 to PX7-25 (D105)

REAR AIR PRESSURE TRANSMITTER

SENSOR (MT5) / SWITCH (S29)

TL151 1792 to PX5-4 (B97)
P
N/C
TL157 1525 to PX7-13 (C105)

FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 20 OF 34

SIZE B | ILL. NO. 5WD0116B | FP-39/ (FP-40 BLANK)

CAB - DASH - RIGHT - UNDERDASH

WINDSHIELD WIPER MOTOR (B2)

B2

PX22

EMI FILTER (FL2)

P2 J2

1590 to P18-6 (B178)
1569 to CB37/1 (B152)
3037 to TB2-39 (G135)
1916 to PX21-3 (A133)
1527 to P18-5 (B178)

TRANSMISSION DIMMER MODULE

J7

1426 to TB1-9 (F127)
1408 to K29-86 (F142)
3099 to TB2-58 (B132)
158

WTEC II VEHICLE INTERFACE MODULE (A10)

PX33

to J51-2 (D42) 490
to J118-14 (E162) 163
to J913-7 (B121) 161
to CB73/8 (E150) 1903
to TB1-60 (B129) 1460
1697
to TB1-33 (G129) 1692
to J913-14 (D121) 2019
to J913-15 (D121) 1904
to TB1-34 (G129) 1692
to K1-86 (F149) 1691
to PX8-4 (G103) 1793
to CB35/2 (E149) 1900
to CB35/2 (E149) 1900
158
to TB2-16 (F132) 3101
to TB2-17 (G132) 3102

REV
SF02
SF04
10A
RW
SF01
SF4
SF02
NS
FL
10A
NS
SF3
S02
S03

132
125
146
113
114
157
136A
136C
158
143A
143C
123
112
115

P116

143A 132 123 136A 146 143C 157 125 112 136C 113 115 158 114

D159

TURN SIGNAL FLASHER (A1)

OUTPUT
INPUT
GROUND

PX20

1568 to PX14-6 (G113)
1567 to PX14-5 (G113)
3049 to TB2-55 (C132)

PX50

to TB2-14 (F132) 3008
(WTEC II) 1697
(WTEC III) K34-87A (B293) 1697

ROTARY WARNING LIGHTS CONNECTION

P65 J65

to K13-87 (B149) 509 — 509 to J62-B (E88)

CHEMICAL ALARM CONNECTION

P99 J99

to J43-6 (H42) 1803 — 1803 to TL88 (B88)
to J43-7 (H42) 1804 — 1804 to TL98 (B88)

FAN SOLENOID (L1)

to K15-86 (A141) 1806
to PX1-1 (A92) 1806
to TB2-79 (C135) 3011

PX34

L

CAB RADIO CONNECTION

J78

to TB2-21 (G133) 3018
to K53-87A (H141) 1906
to TB2-23 (G133) 3019

J113

G123

CTIS PRESSURE TRANSDUCER

CTIS PNEUMATIC CONTROLLER

FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 21 OF 34

SIZE B | ILL. NO. 5WD0117B | FP-41/ (FP-42 BLANK)

REAR LIGHTS

CAB-DASH-RIGHT-POWER DISTRIBUTION PANEL

D43 — P51

1	490
2	21
3	460B
4	461B
5	23
6	489
7	23T
8	489T
9	484T
10	460B
11	461B
12	22C
13	1404
14	461T
15	460T
16	24
17	

E21 — P53R — F200

3094	1
489T	2
3094	3
1404	4
460T	5
23T	6
484T	7
461T	8
484T	9
484T	10

E14 — E20 — P52R — B203

21	1
	2
489	3
3045	4
461B	5
22C	6
460B	7

3045 / 3095 — TL92

E19

E18

TL93

E17

E16 — LH REAR COMPOSITE LIGHT

P85	489	DS65	LH SIDE MARKER LIGHT
	3094	TL15	
P86	489	DS66	LH REAR MARKER LIGHT
	3094	TL16	
P74	461B	DS37	LH TURN AND STOPLIGHT
P78	21	DS72	LH TAILLIGHT
P76	24	DS51	BLACKOUT MARKER LH REAR
P77	23	DS35	BLACKOUT STOP LH REAR
	3094	TL18	
	3094		
P87	490	DS45	BACKUP LIGHT
	3094	TL17	

E15 — RH REAR COMPOSITE LIGHT

P54	489	DS69	LEFT REAR MARKER
	3094	TL30	
P56	489	DS70	MIDDLE REAR MARKER
	3094	TL31	
P58	489	DS71	RIGHT REAR MARKER
	3094	TL32	
P61	460B	DS38	RH TURN AND STOPLIGHT
P64	21	DS73	RH TAILLIGHT
P62	24	DS52	BLACKOUT MARKER RH REAR
P63	23	DS36	BLACKOUT STOP RH REAR
	3095	TL21	
	3095		
P89	489	DS68	RH REAR MARKER LIGHT
	3095	TL20	
P88	489	DS67	RH SIDE MARKER LIGHT
	3095	TL19	

FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 22 OF 34

SIZE	ILL. NO.	
B	5WD0118B	FP-43/ (FP-44 BLANK)

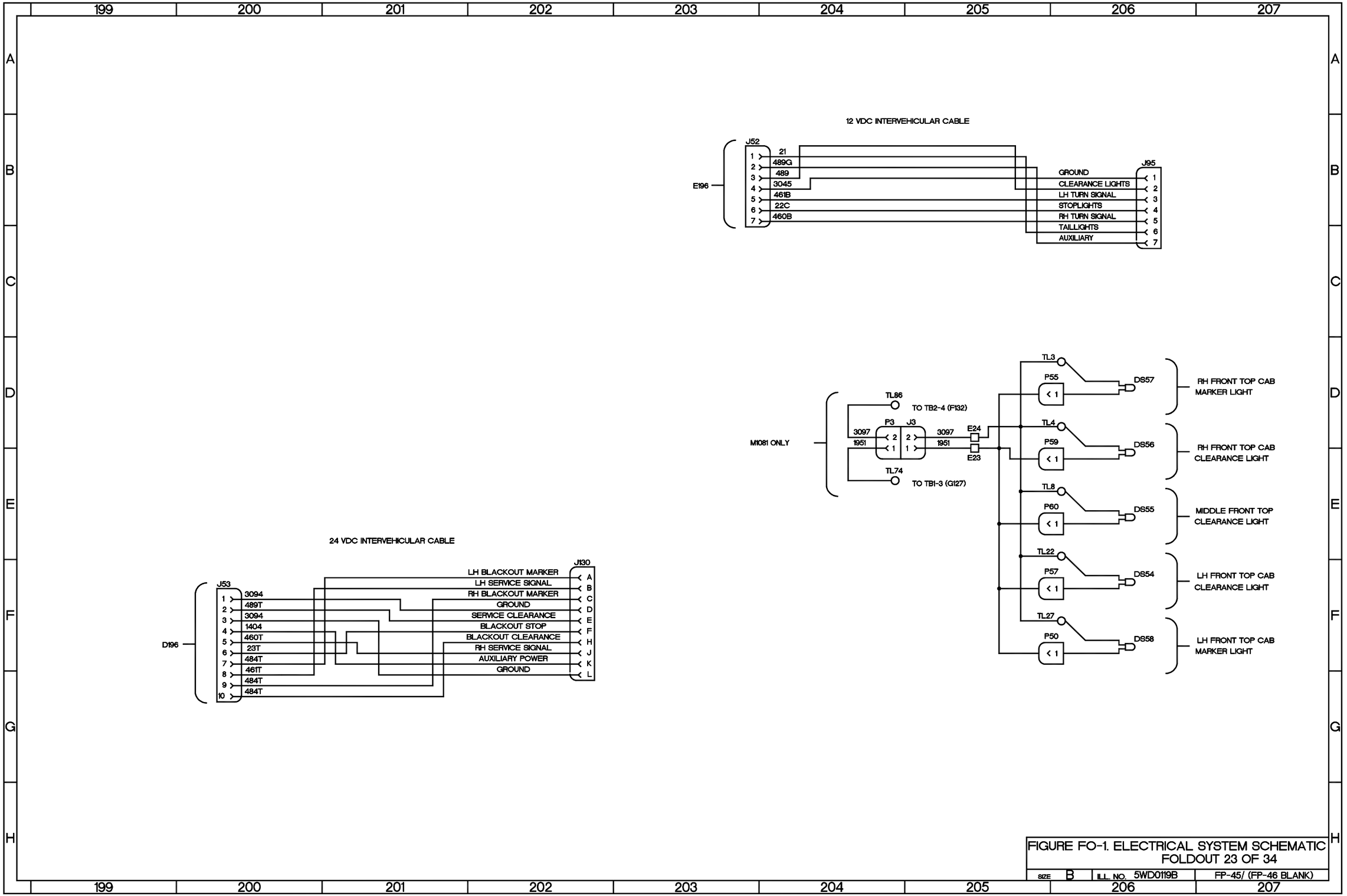


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 23 OF 34

SIZE	ILL. NO.	
B	5WD0119B	FP-45/ (FP-46 BLANK)

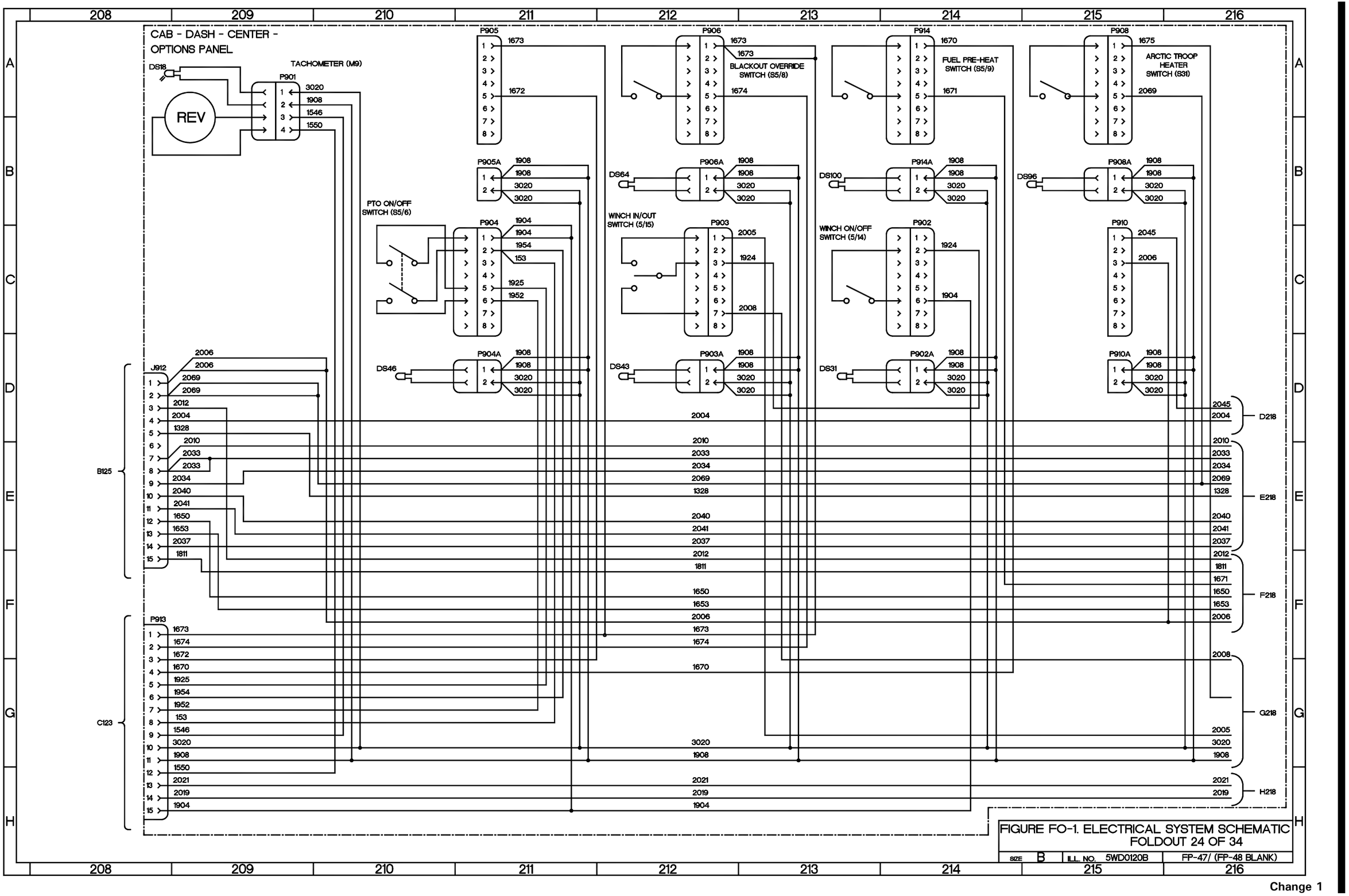


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 24 OF 34

SIZE B | ILL. NO. 5WD0120B | FP-47/ (FP-48 BLANK)

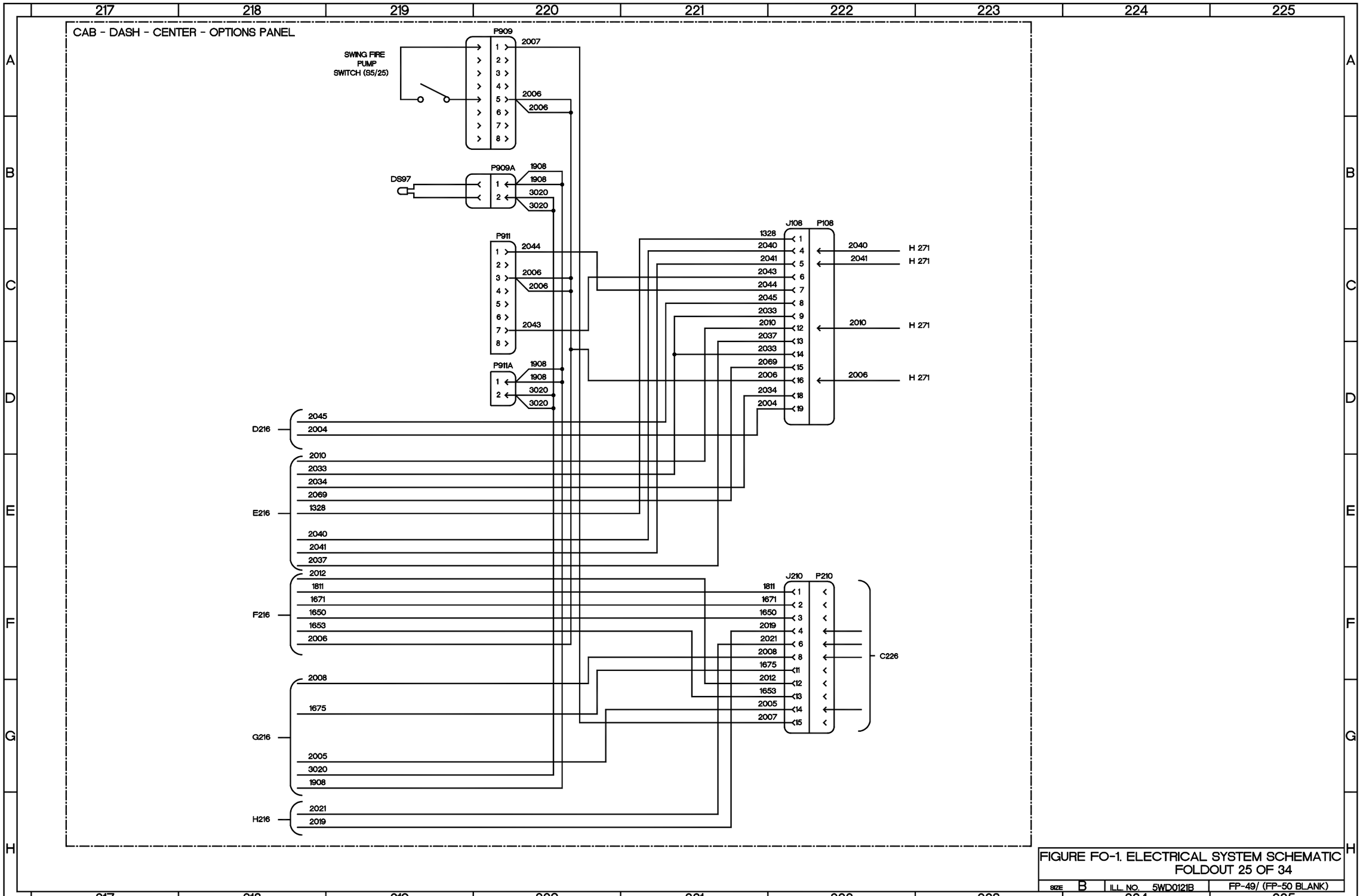


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 25 OF 34

SIZE	ILL. NO.	
B	5WD0121B	FP-49/ (FP-50 BLANK)

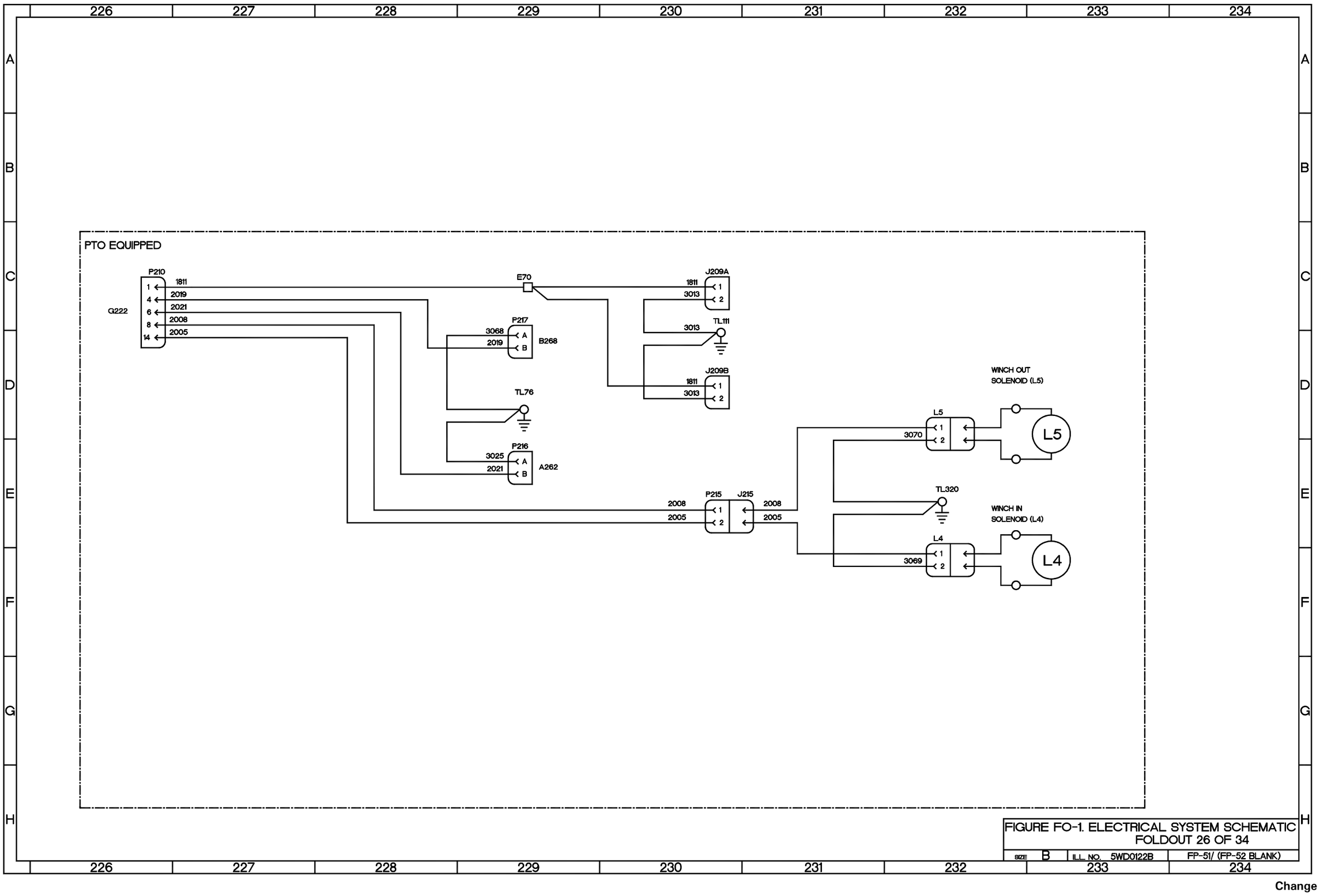


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 26 OF 34

SIZE	ILL NO.	
B	5WD0122B	FP-51/ (FP-52 BLANK)

DELETED

FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 27 OF 34

SIZE B | ILL. NO. 5WD0123B | FP-53/ (FP-54 BLANK)

DELETED

FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 28 OF 34

SIZE B | ILL. NO. 5WD0124B | FP-55/ (FP-56 BLANK)

DELETED

FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 29 OF 34

SIZE	ILL. NO.	
B	5WD0125B	FP-57/ (FP-58 BLANK)

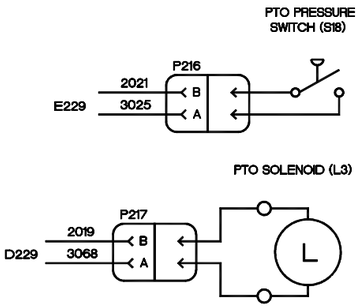


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 30 OF 34

SIZE B | ILL. NO. 5WD0126B | FP-59/ (FP-60 BLANK)

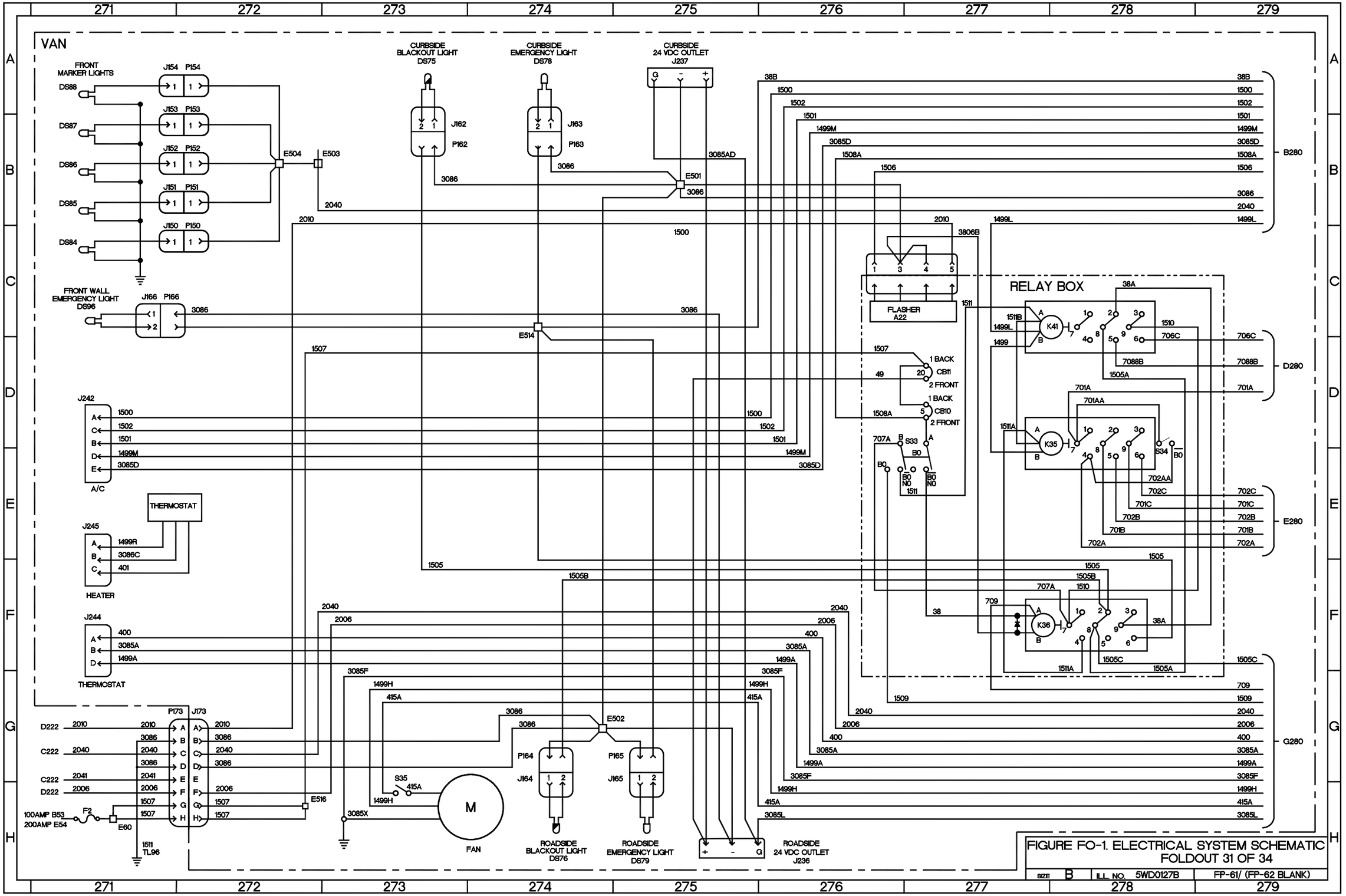


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 31 OF 34

SIZE B | ILL. NO. 5WD0127B | FP-61/ (FP-62 BLANK)

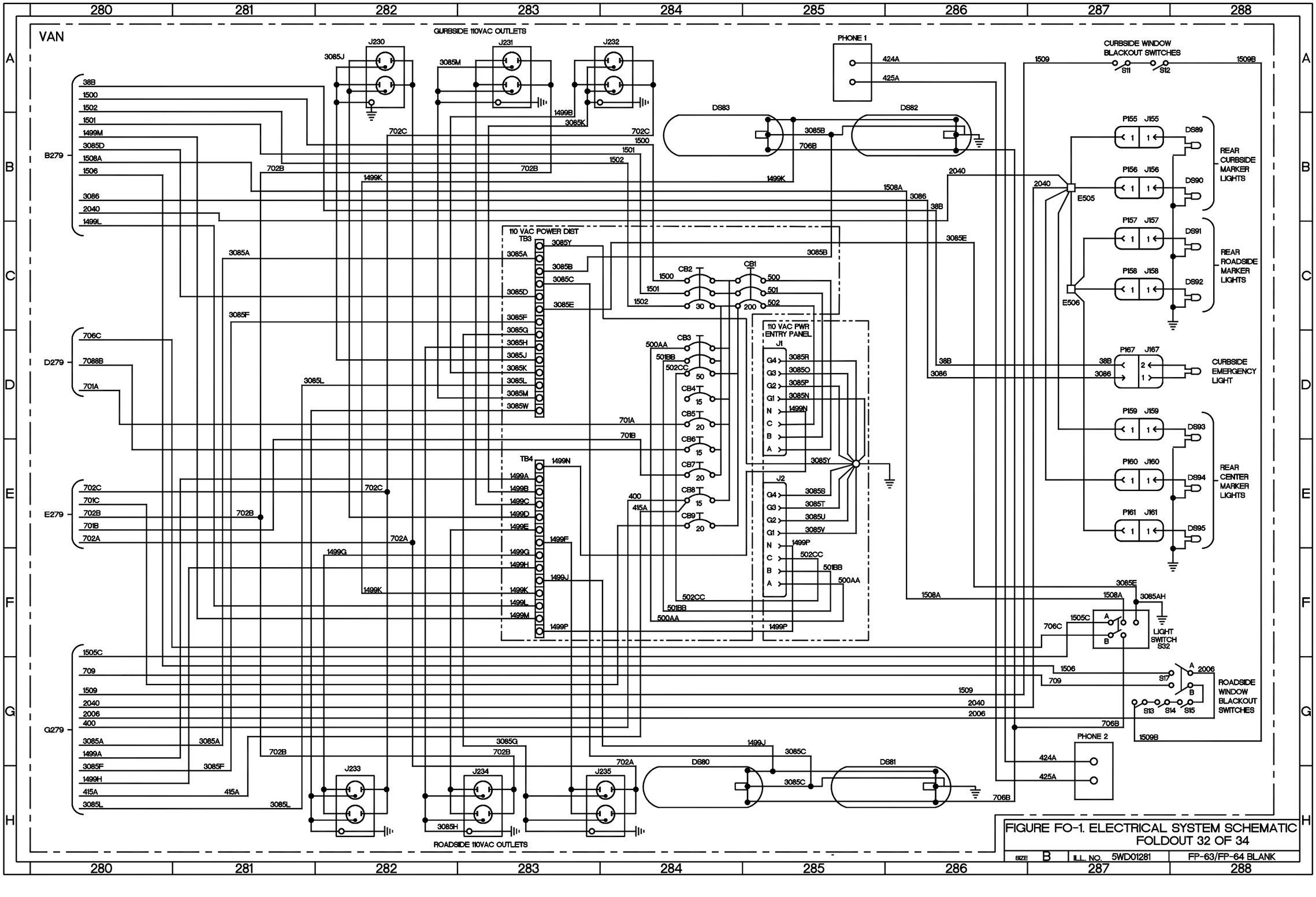


FIGURE FO-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 32 OF 34

SIZE B | ILL. NO. 5WD01281 | FP-63/FP-64 BLANK

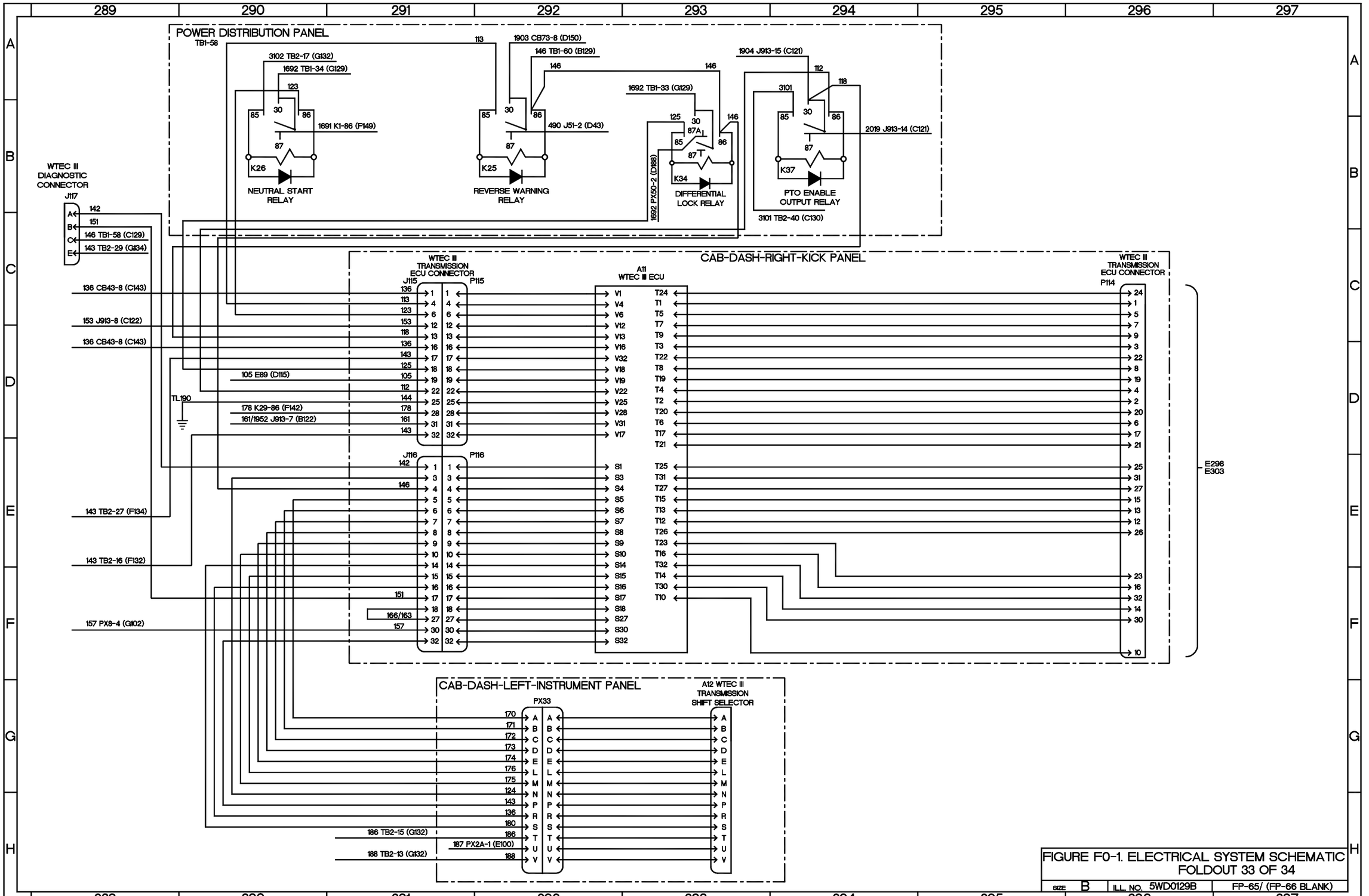
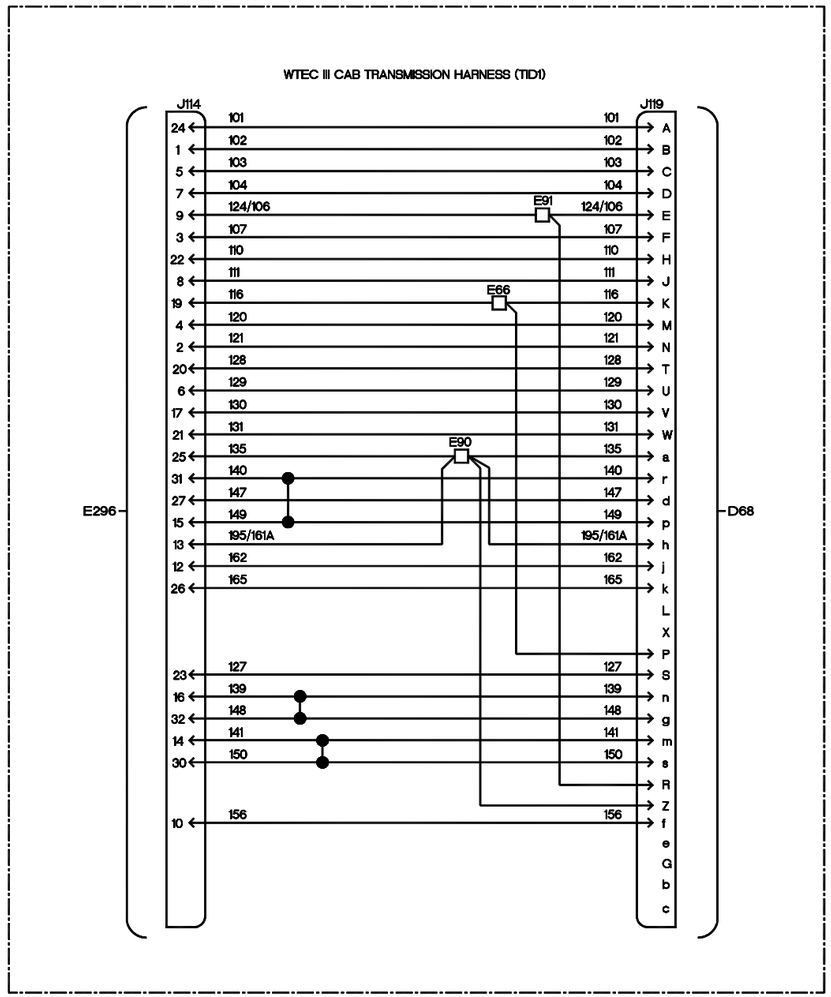


FIGURE F0-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 33 OF 34

SIZE	ILL. NO.	
B	5WD0129B	FP-65/ (FP-66 BLANK)

TRANSMISSION SERIAL #: 6510090785 AND LOWER



TRANSMISSION SERIAL #: 6510090786 AND HIGHER

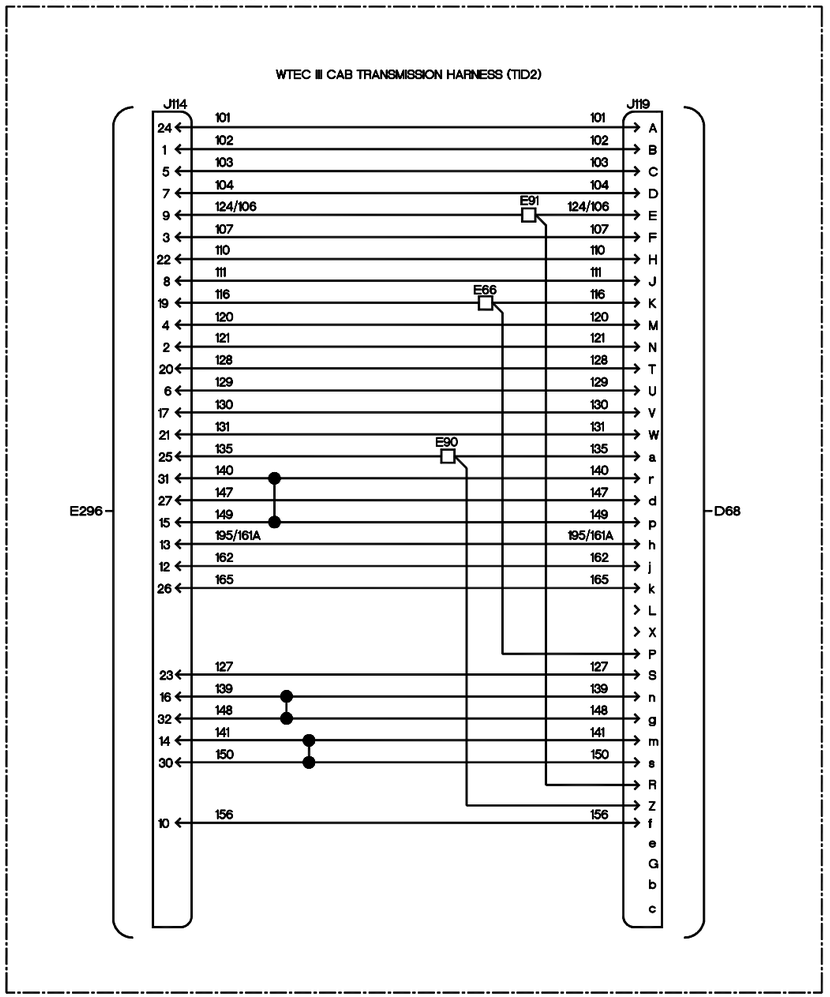


FIGURE F0-1. ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 34 OF 34

SIZE B | ILL. NO. 5WD0130B | FP-67/ (FP-68 BLANK)

REAR AXLE BRAKE CHAMBER	FRONT AXLE BRAKE CHAMBER	COUPLER AIR BRAKE	AIR DRYER	AIR CLEANER INTAKE	AIR COMPRESSOR WITH GOVERNOR	AIR TANKS	DASH GAUGE
MANUAL VALVE	ONE WAY CHECK VALVE	FAN CLUTCH	MODULATED CONTROL VALVE	QUICK RELEASE VAVLE	TWO WAY CHECK VALVE	TIRE	PRESSURE SWITCH
PRESSURE RELIEF VALVE	FOOT CONTROL VALVE	PARK CONTROL VALVE (HAND OPERATED)	TRAILER AIR SUPPLY VALVE (HAND OPERATED)	LOAD SENSING VALVE (MECHANICALLY CONTROLLED)	DIRECTIONAL RELAY VALVE	CONTROL VALVE WITH TWO WAY CHECK VALVE	STOPLIGHT SWITCH
CONNECTION	SUPPLY AIR HOSE	NO CONNECTION	DELIVERY AIR HOSE	PARK/EMERGENCY AIR HOSE	AIR BRAKE PROTECTING VALVE	CTIS MANIFOLD VALVE	AIR BR AKE PRESSURE TRANSMITTER
EXH KNEELING VALVE	AIR/HYDRAULIC INVERSION VALVE	DELIVERY AIR HOSE NO CONNECTION	WHEEL VALVE	EXH BLEED VALVE			

FIGURE F0-2 PNEUMATIC SYSTEM SCHEMATIC
FOLDOUT 1 OF 4

SIZE B | ILL. NO. 5PD01AL1 | FP-1/FP-2 BLANK

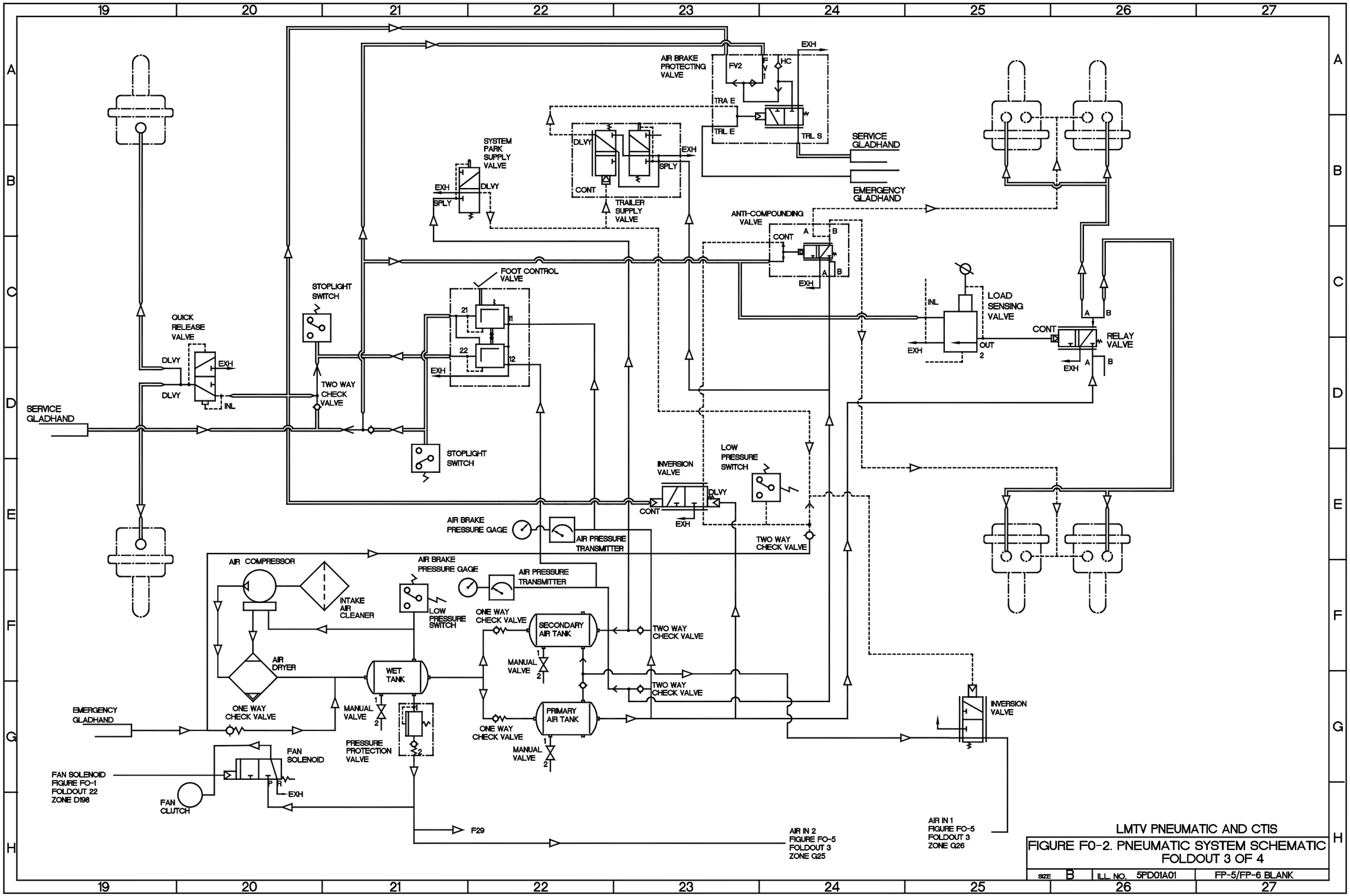
SH	ZONE	DESCRIPTION
3	E22	AIR BRAKE PRESSURE GAGE
3	F22	AIR BRAKE PRESSURE GAGE
3	A23	AIR BRAKE PROTECTING VALVE
3	F20	AIR COMPRESSOR
3	F20	AIR DRYER
3	E22	AIR PRESSURE TRANSMITTER
3	E22	AIR PRESSURE TRANSMITTER
3	C24	ANTI-COMPOUNDING VALVE
4	E31	CONTROL VALVE
4	E31	CTIS MANIFOLD VALVE
4	E32	DEFLATE VALVE
3	G19	EMERGENCY GLADHAND
3	B24	EMERGENCY GLADHAND
3	H20	FAN CLUTCH
3	G20	FAN SOLENOID
3	C22	FOOT CONTROL VALVE
3	F20	INTAKE AIR CLEANER
3	G25	INVERSION VALVE
3	E23	INVERSION VALVE
4	C28	KNEELING VALVE
4	E28	KNEELING VALVE
3	C25	LOAD SENSING VALVE
3	E23	LOW PRESSURE SWITCH
3	F21	LOW PRESSURE SWITCH
3	F22	MANUAL VALVE
3	G22	MANUAL VALVE
3	G21	MANUAL VALVE
3	F22	ONE WAY CHECK VALVE
3	G22	ONE WAY CHECK VALVE
3	G20	ONE WAY CHECK VALVE
3	G21	PRESSURE PROTECTION VALVE
3	G22	PRIMARY AIR TANK
3	C20	QUICK RELEASE VALVE
4	C34	QUICK RELEASE VALVE
4	D30	QUICK RELEASE VALVE
3	D26	RELAY VALVE
3	F22	SECONDARY AIR TANK

SH	ZONE	DESCRIPTION
3	D19	SERVICE GLADHAND
3	B24	SERVICE GLADHAND
3	C20	STOPLIGHT SWITCH
3	E21	STOPLIGHT SWITCH
4	F32	SUPPLY VALVE
3	B21	SYSTEM PARK SUPPLY VALVE
3	B22	TRAILER SUPPLY VALVE
3	D21	TWO WAY CHECK VALVE
3	E24	TWO WAY CHECK VALVE
3	F23	TWO WAY CHECK VALVE
3	G23	TWO WAY CHECK VALVE
3	F21	WET TANK
4	C29	WHEEL VALVE
4	C33	WHEEL VALVE
4	E29	WHEEL VALVE
4	E33	WHEEL VALVE

LMTV PNEUMATIC AND CTIS

FIGURE F0-2. PNEUMATIC SYSTEM SCHEMATIC FOLDOUT 2 OF 4

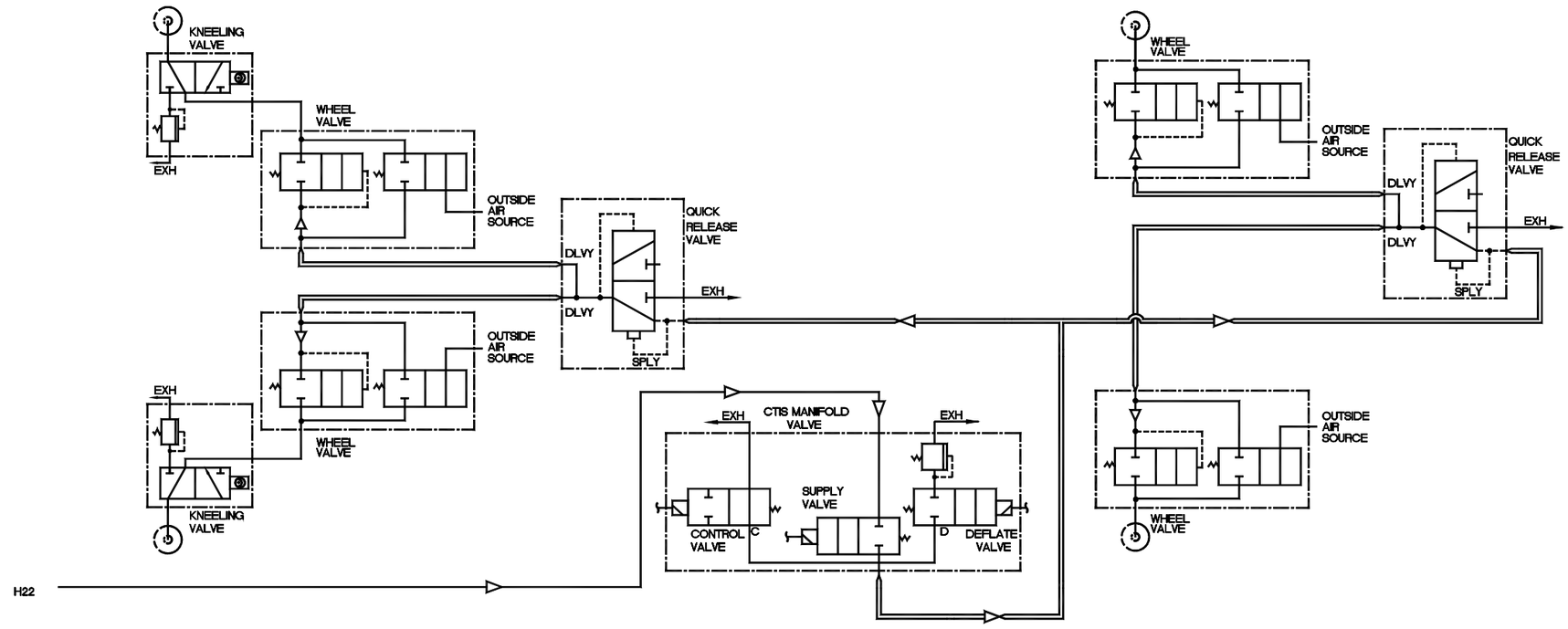
SIZE B | ILL. NO. 5PD01AL2 | FP-3/FP-4 BLANK



LMTV PNEUMATIC AND CTIS

FIGURE FO-2. PNEUMATIC SYSTEM SCHEMATIC FOLDOUT 3 OF 4

SIZE	ILL. NO.	
B	5PD01A01	FP-5/FP-6 BLANK



LMTV PNEUMATIC AND CTIS

FIGURE F0-2. PNEUMATIC SYSTEM SCHEMATIC FOLDOUT 4 OF 4

SIZE	ILL. NO.	
B	5PD01A02	FP-7/FP-8 BLANK

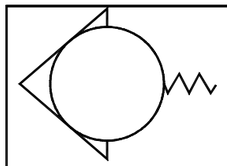
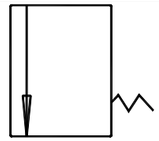
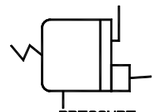
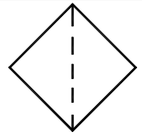
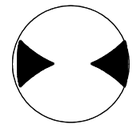
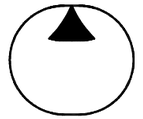
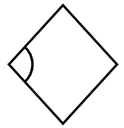
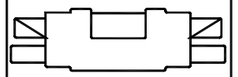
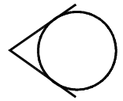
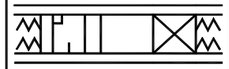
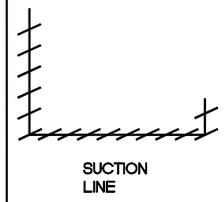
 CHECK VALVE	 BYPASS VALVE	 PRESSURE CONTROL VALVE	 AIR OR OIL FILTER	 MOTOR	 PUMP	 PTO
 AIR LINE LUBRICATOR	 CYLINDER	 CHECK VALVE	 FLOW CONTROL VALVE	 SUCTION LINE	 RESERVOIR	

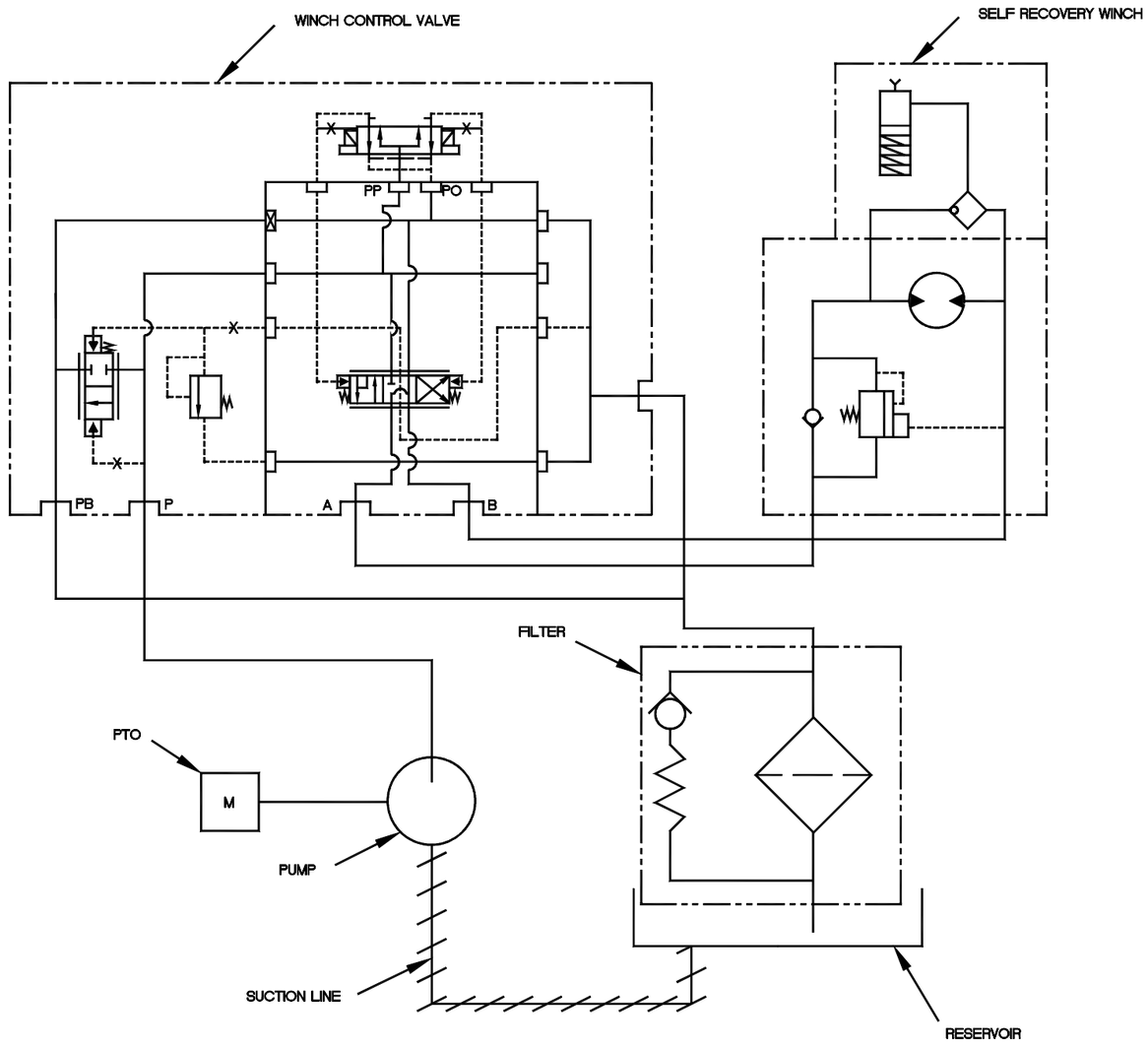
FIGURE FO-3 HYDRAULIC SYSTEM SCHEMATIC
FOLDOUT 1 OF 3

SIZE B | ILL. NO. 5HD01AL1 | FP-1/FP-2 BLANK

SHEET	ZONE	DESCRIPTION
3	B21	WINCH CONTROL VALVE
3	B24	SELF RECOVERY WINCH
3	F21	PTO
3	F22	PUMP
3	E23	FILTER
3	G23	RESERVOIR
3	G22	SUCTION LINE

FIGURE FO-3 HYDRAULIC SYSTEM SCHEMATIC
FOLDOUT 2 OF 3

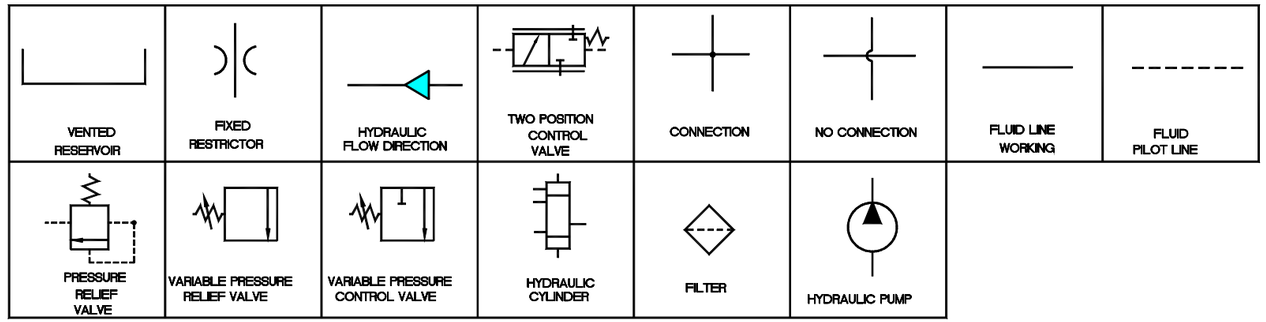
SIZE B | ILL NO. 5HD01-L2 | FP-3/FP-4 BLANK



LMTV TRUCK W/WINCH

FIGURE F0-3. HYDRAULIC SYSTEM SCHEMATIC
FOLDOUT 3 OF 3

SIZE	ILL. NO.	
B	5HD01-01	FP-5/FP-6 BLANK



SH	ZONE	DESCRIPTION
2	D11	FILTER
2	D14	FIXED RESTRICTOR
2	E17	HYDRAULIC CYLINDER
2	E13	HYDRAULIC PUMP
2	C13	PRESSURE RELIEF VALVE
2	D13	TWO POSITION CONTROL VALVE
2	E16	VARIABLE PRESSURE CONTROL VALVE
2	E16	VARIABLE PRESSURE RELIEF VALVE
2	C11	VENTED RESERVOIR

FIGURE FO-4 HYDRAULIC STEERING SYSTEM

FOLDOUT 1 OF 2

SIZE B | ILL NO. YSD01AL1 | FP-1/FP-2 BLANK

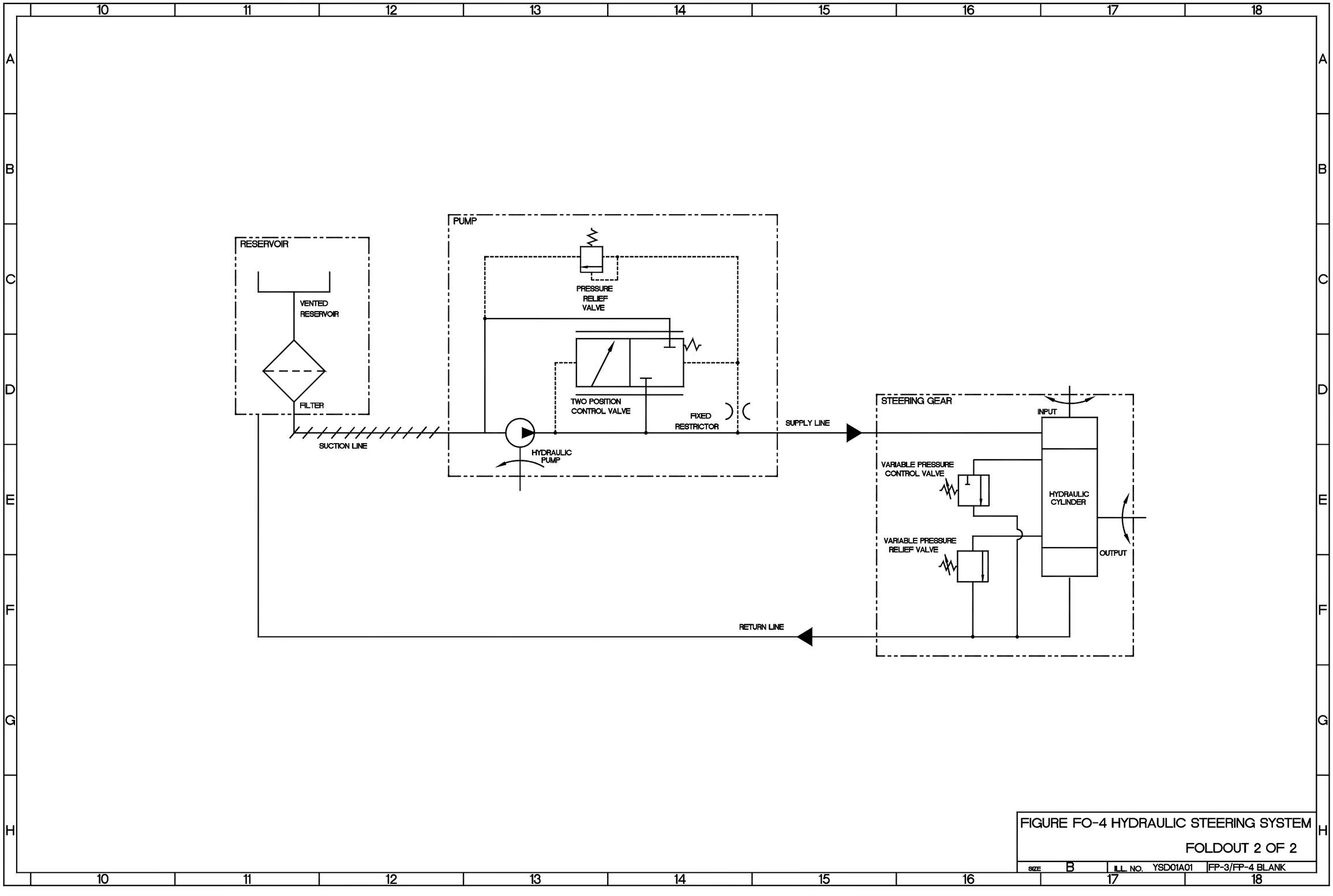


FIGURE FO-4 HYDRAULIC STEERING SYSTEM

FOLDOUT 2 OF 2

SIZE	ILL. NO.	
B	YSD01A01	FP-3/FP-4 BLANK

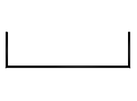
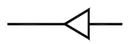
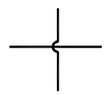
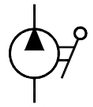
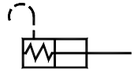
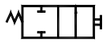
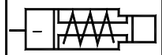
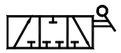
 VENTED RESERVOIR	 ABOVE FLUID LEVEL RESERVOIR	 HYDRAULIC FLOW DIRECTION	 PNEUMATIC FLOW DIRECTION	 CONNECTION	 NO CONNECTION	FLUID LINE WORKING	FLUID PILOT LINE
 FIXED RESTRICTOR	 CHECK VALVE	 VARIABLE CONTROL CHECK VALVE	 CHECK PILOT	 PRESSURE RELIEF VALVE	 FILTER	 HAND PUMP	 DETENT
 TWO POSITION CAB SUSPENSION VALVE	 MUFFLER	 HYDRAULIC CYLINDER	 CAB AIR SUSPENSION W/DAMPER	 REAR CAB LATCH	 TWO POSITION AIR PUMP VALVE	 PRESSURE INTENSIFIER	 HEIGHT CONTROL VALVE
TWO POSITION CAB TILT VALVE	TWO POSITION SUSPENSION VALVE	TWO POSITION SPARE TIRE VALVE	THREE POSITION SELECTION VALVE				

FIGURE F0-5 AIR TRANSPORTABILITY
HYDRAULIC/PNEUMATIC SYSTEM SCHEMATIC

FOLDOUT 1 OF 3

SIZE B | ILL NO. YAD01AL1 | FP-1/FP-2 BLANK

SH	ZONE	DESCRIPTION
3	A25	CAB AIR SUSPENSION W/DAMPER
3	F21	CHECK PILOT
3	A22	CHECK VALVE
3	A23	CHECK VALVE
3	B22	CHECK VALVE
3	B23	CHECK VALVE
3	B25	CHECK VALVE
3	C20	CHECK VALVE
3	C21	CHECK VALVE
3	E19	CHECK VALVE
3	E24	CHECK VALVE
3	E25	CHECK VALVE
3	F19	CHECK VALVE
3	F21	CHECK VALVE
3	G21	CHECK VALVE
3	A22	FILTER
3	B22	FILTER
3	A24	FILTER
3	B24	FILTER
3	D19	FILTER
3	D20	FILTER
3	D21	FILTER
3	E19	FILTER
3	G19	FILTER
3	G21	FILTER
3	A22	FIXED RESTRICTOR
3	B22	FIXED RESTRICTOR
3	A23	FIXED RESTRICTOR
3	B23	FIXED RESTRICTOR
3	F19	HAND PUMP
3	B25	HEIGHT CONTROL VALVE
3	B22	HYDRAULIC CYLINDER
3	B23	HYDRAULIC CYLINDER
3	C21	HYDRAULIC CYLINDER
3	F20	MUFFLER
3	F21	PRESSURE INTENSIFIER
3	F19	PRESSURE RELIEF VALVE
3	A24	REAR CAB LATCH
3	E21	THREE POSITION SELECTION VALVE
3	D26	TWO POSITION AIR PUMP VALVE
3	D25	TWO POSITION CAB SUSPENSION VALVE
3	C24	TWO POSITION CAB TILT VALVE
3	C23	TWO POSITION SPARE TIRE VALVE
3	D21	TWO POSITION SUSPENSION VALVE
3	G22	VARIABLE CONTROL CHECK VALVE
3	G22	VENTED RESERVOIR

FIGURE F0-5 AIR TRANSPORTABILITY
HYDRAULIC/PNEUMATIC SYSTEM SCHEMATIC
FOLDOUT 2 OF 3

SIZE B | ILL NO. YAD01AL2 | FP-3/FP-4 BLANK

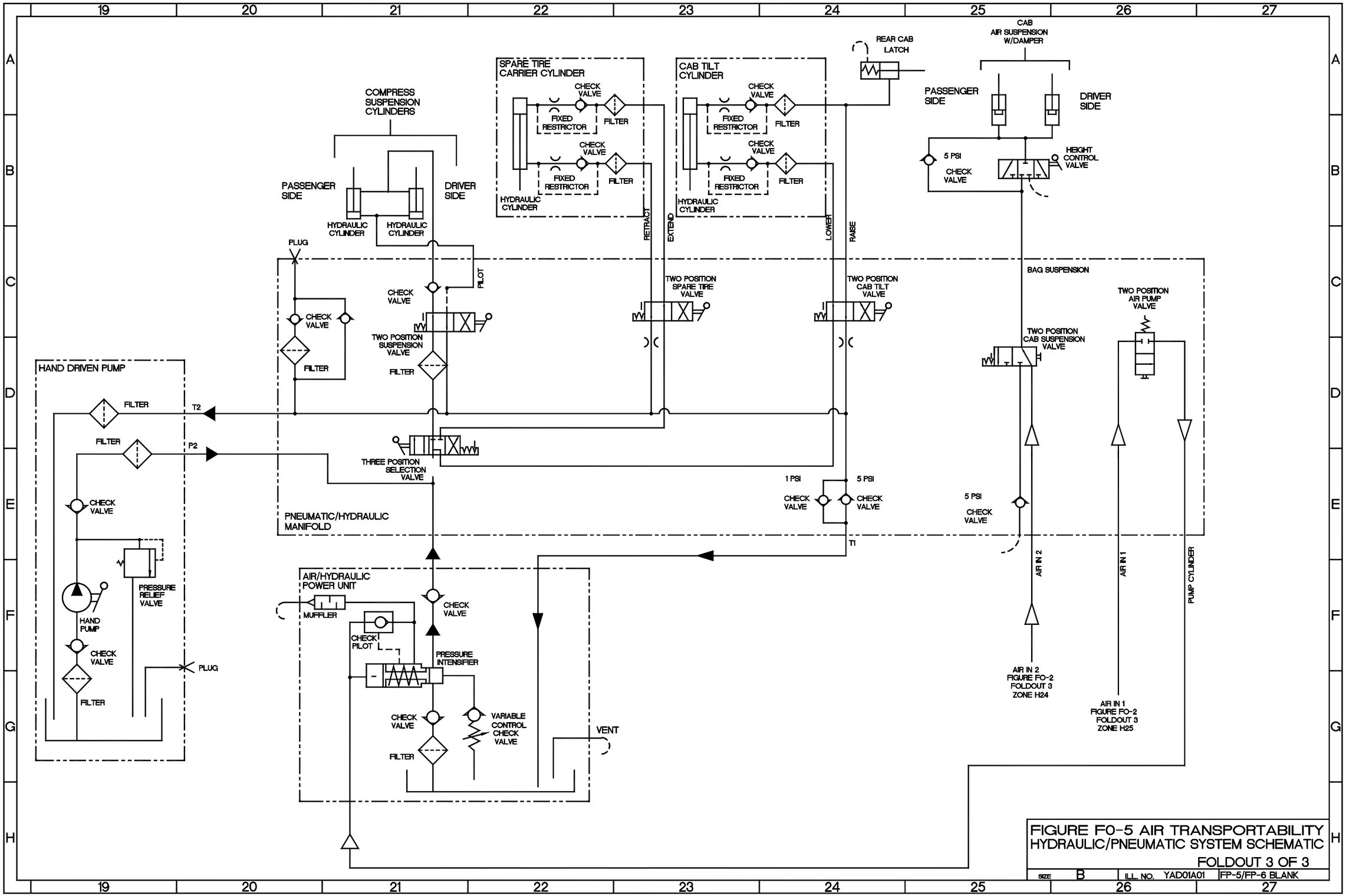


FIGURE FO-5 AIR TRANSPORTABILITY HYDRAULIC/PNEUMATIC SYSTEM SCHEMATIC
FOLDOUT 3 OF 3

SIZE B | ILL NO. YAD01A01 | FP-5/FP-6 BLANK

RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is OAASA	Use Part II *(reverse)* for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE Date you filled out this form
TO: *(Forward to proponent of publication or form) (Include ZIP Code)*	FROM: *(Activity and location) (Include ZIP Code)* Enter your mailing address	

PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

PUBLICATION/FORM NUMBER	DATE	TITLE
	Publication Date	Publication Title

ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON
10	15-33 19-6	15-7 19-2		4		Item 10. Change Illustration. Reason: Text calls out 90-degree fitting. Art shows straight fitting. Text is correct. Step (4) of removal says to disconnect four hydraulic hoses from manifold. The correct number of hydraulic hoses is five. correct the text to reflect the actual quantity of hydraulic hoses. The supporting illustration is correct.

SAMPLE

** Reference to line numbers within the paragraph or subparagraph.*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
Your title	Your telephone number	Your signature

TO: *(Forward direct to addressee listed in publication)*	FROM: *(Activity and location) (Include ZIP Code)*	DATE
	Enter your mailing address	Date you filled out this form.

PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER	DATE	TITLE
	Publication Date	Your Title

PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

PART III - REMARKS *(Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
Your title	Your telephone number	Your signature

SAMPLE

RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is OAASA	Use Part II *(reverse)* for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE
TO: *(Forward to proponent of publication or form) (Include ZIP Code)*	**FROM:** *(Activity and location) (Include ZIP Code)*	

PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

PUBLICATION/FORM NUMBER	DATE	TITLE

ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON

** Reference to line numbers within the paragraph or subparagraph.*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

TO: *(Forward direct to addressee listed in publication)*	**FROM:** *(Activity and location) (Include ZIP Code)*	**DATE**

PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER	DATE	TITLE

PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is OAASA	Use Part II *(reverse)* for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE
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PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

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PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

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TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

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

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 Lb
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

CUBIC MEASURE

1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches
1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

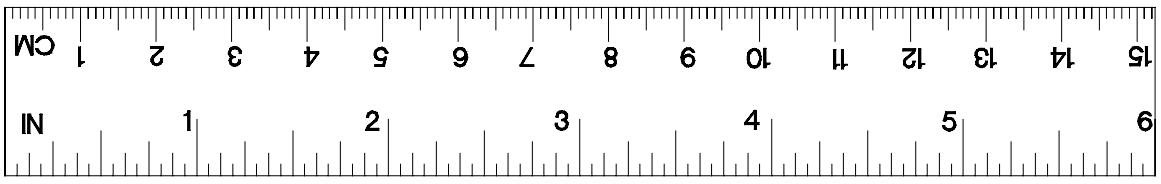
TEMPERATURE

5/9 (°F - 32) = °C
212° Fahrenheit is equivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5 C° + 32 = F°

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Inches	Millimeters	25.4
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	29.57
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.35
Pounds	Kilograms	0.454
Pounds (force)	Newtons	4.448
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds/Sq Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Millimeters	Inches	0.0394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Sq Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Sq Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Newtons	Pounds (force)	0.2248
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Sq Inch	0.145
Km per Liter	Miles per Gallon	2.354
Km per Hour	Miles per Hour	0.621



YMET001A