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

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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.
ARMY TM 9-2320-365-20-4
AIR FORCE T.O. 36A12-1B-1095-2-4

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. 4 OF 5

TM 9-2320-365-20-4, 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.

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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
0110105

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## LIST OF EFFECTIVE PAGES

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- Change: 1... 1 July 2003

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Unit Maintenance Manual
M1078 SERIES, 2 1/2-TON, 4 x 4,
LIGHT MEDIUM TACTICAL VEHICLES (LMTV)
VOLUME NO. 4 OF 5

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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 4 contains the following major sections in order of appearance:
OVERVIEW (CONT)

- **WARNING SUMMARY.** Provides a summary of the most important warnings that apply throughout the manual.

- **CHAPTER 16, BODY AND CAB MAINTENANCE**

- **CHAPTER 17, 11K SELF-RECOVERY WINCH MAINTENANCE**

- **CHAPTER 18, BODY, CHASSIS, AND ACCESSORY ITEMS MAINTENANCE**

- **CHAPTER 19, HYDRAULIC SYSTEM MAINTENANCE**

- **APPENDIX A, REFERENCES.** Lists publications used with the LMTV.

- **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 4 in alphabetical order and gives the associated paragraph number.

FINDING INFORMATION

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

- **FRONT COVER INDEX.** The front cover index contains a list of the most important topics contained in each volume. It features a black box at the right edge of the cover which corresponds with a black box on the page containing the topic. The topics listed on the front cover are highlighted in the table of contents with a box.

- **TABLE OF CONTENTS.** Lists chapters, sections, appendixes, and indexes with page numbers in order of appearance.
• **CHAPTER INDEXES.** List paragraphs contained in the individual chapters with paragraph and page numbers in order of appearance.

• **SYMPTOM INDEX.** Lists malfunctions contained in the troubleshooting table with page numbers in order of appearance.

---

**TROUBLESHOOTING**

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

---

**TROUBLESHOOTING (CONT)**

• **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 22. 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 16
BODY AND CAB 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

16-1. INTRODUCTION

This chapter contains maintenance instructions for replacing, repairing, and adjusting cab and body components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.
Section II. MAINTENANCE PROCEDURES

16-2. POWER DISTRIBUTION PANEL (PDP) COVER AND LATCH REPLACEMENT/ADJUSTMENT

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INITIAL SETUP

Equipment Conditions
Engine shut down [TM 9-2320-365-10].

Tools and Special Tools
- Tool Kit, Genl Mech (Item 44, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Drill, Portable, Electric (Item 7, Appendix C)

Tools and Special Tools (Cont)
- Drill Set, Twist (Item 6, Appendix C)
- Tool Kit, Blind Rivet (Item 43, Appendix C)

Material/Parts
- Rivet, Blind (4) (Item 221, Appendix C)

a. Removal.

(1) Pull two spring catches (1) and lift two latch levers (2).

(2) Release two latch hooks (3) from two strike plates (4).

(3) Remove PDP cover (5) from dashboard (6).

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

(4) Remove four rivets (7) and two strike plates (4) from PDP cover (5).
(5) Remove four screws (8) and two latches (9) from dashboard (6).

b. Installation.

(1) Install two latches (1) on dashboard (2) with four screws (3).

(1.1) Install PDP decal (10) on PDP cover (5).
(2) Install two strike plates (4) on PDP cover (5) with four rivets (6).

(3) Position PDP cover (5) on dashboard (2).

(4) Fasten two latch hooks (7) on two strike plates (4).

NOTE

PDP cover should be drawn tight against dashboard and some resistance should be felt when closing latches. If PDP cover is loose on dashboard after performing step (5), perform latch adjustment.

(5) Push down on two latch levers (8) until spring catches (9) are engaged.
c. Latch Adjustment.

(1) Pull spring catch (1) and lift latch lever (2).

(2) Release latch hook (3) from strike plate (4).

(3) Loosen jamnut (5) on latch hook (3).

(4) Turn latch hook (3) to the right to tighten or to the left to loosen.

(5) Tighten jamnut (5) on latch hook (3).

(6) Fasten latch hook (3) on strike plate (4).

(7) Push down on latch lever (2) until spring catch (1) is engaged.

End of Task.
16-3. KICK PANEL REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP

Equipment Conditions

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

Tools and Special Tools

Tool Kit, Genl Mech (Item 44, Appendix C)

Tools and Special Tools (Cont)

Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)

Socket Set, Socket Wrench (Item 35, Appendix C)

Material/Parts

Ties, Cable, Plastic (Item 75, Appendix D)

a. Removal.

(1) Pull two spring catches (1) and lift two latch levers (2).

(2) Release two latch hooks (3) from strike plates (4).

(3) Remove PDP cover (5) from dashboard (6).

(4) Remove seven screws (7) and washers (8) from kick panel (9).

(5) Remove kick panel (9) and stiffener (10) from dashboard (6).

NOTE

Remove plastic cable ties as required.

(6) Disconnect air duct hose (11) from kick panel (9).
b. Installation.

NOTE

Install plastic cable ties as required.

(1) Connect air duct hose (1) to kick panel (2).

(2) Position stiffener (3) and kick panel (2) on dashboard (4) with seven washers (5) and screws (6).

(3) Position PDP cover (7) on dashboard (4).

(4) Fasten two latch hooks (8) on strike plates (9).

(5) Push down on two latch levers (10) until spring catches (11) are engaged.

(6) Tighten seven screws (6) to 71-88 lb-in. (8-10 N·m).

End of Task.
16-4. M1081 CAB ROOF REPLACEMENT

This task covers:

a. Removal
b. Installation

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Cab clearance lights removed (para 7-31).
Spare tire retainer and davit prepared for air drop (TM 9-2320-365-10).

Tools and Special Tools

- Sling Assembly, Air Drop Roof (TM 9-2320-365-10)
- Tool Kit, Genl Mech (Item 44, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
- Socket Set, Socket Wrench (Item 34, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
- Screwdriver Attachment, Socket Wrench (Item 47.1, Appendix B)
- Dispenser, Sealant (Item 13.1, Appendix B)

Tools and Special Tools (Cont)

- Screwdriver Attachment, Socket Wrench (Item 45, Appendix B)
- Screwdriver Attachment, Socket Wrench (Item 50, Appendix B)

Material/Parts

- Rubber Strip (Item 251, Appendix F)
- Sealing Compound (Item 68.1, Appendix D)

Personnel Required

(2)

a. Removal.

**WARNING**

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

(1) Attach air drop roof sling assembly to cab roof (1).

(2) Remove four screws (2) and sun visor (3) from cab roof (1).
(3) Disconnect connector P3 (4) from connector J3 (5).

NOTE
Pull down on captive screws after loosening to disengage from cab roof.

(4) Loosen four captive screws (6) in left side cab wall (7).

(5) Loosen ten captive screws (8) in cab rear wall (9).
(6) Loosen four captive screws (10) in right side cab wall (11).

(7) Loosen ten captive screws (12) in cab windshield frame (13).

**NOTE**

Steps (8) through (10.3) require the aid of an assistant.

(8) Remove cab roof (1) from cab (13.1).
(9) Match mark roof hatch (14) to cab roof (1).

**NOTE**

Perform step (10) if cab maintenance has not been previously performed. Replace screws P/N B1834B1205N with screws P/N 12422263 and washers P/N 12422217.

(10) Remove 12 screws (15) and roof hatch (14) from cab roof (1). Discard screws.

**NOTE**

Perform steps (10.1) and (10.2) if cab maintenance has been previously performed.

(10.1) Remove sealant from 12 screws (15), roof hatch (14) and cab roof (1).

(10.2) Remove 12 screws (15), washers (15.1), and roof hatch (14) from cab roof (1).

(10.3) Remove rubber strip (16) from roof hatch (14). Discard rubber strip.

(11) Remove 11 screws (17) and centering cups (18) from cab roof (1).

(12) Remove five screws (19) and centering cones (20) from cab roof (1).

(13) Remove cab clearance lights upper cable assembly (21) from cab roof (1).
b. Installation.

(1) Install cab clearance lights upper cable assembly (1) in cab roof (2).

(2) Position five centering cones (3) on cab roof (2) with five screws (4).

(3) Position 11 centering cups (5) on cab roof (2) with 11 screws (6).

(4) Tighten five screws (4) and 11 screws (6) to 62-124 lb-in. (7-14 N·m).

CAUTION

Begin inside and outside rubber strip installation on opposite sides of each other. Failure to comply may result in damage to equipment.

(5) Install inside rubber strip (7) on roof hatch (8).

(6) Install outside rubber strip (8.1) on roof hatch (8).

(7) Install 6 in. (152.0 mm) back-up rubber strips (8.2) centered on joints of inside and outside rubber strips (7 and 8.1).
NOTE

Steps (8) through (11) require the aid of an assistant.

(8) Position roof hatch (8) on cab roof (2) with matchmarks aligned.

(8.1) Position 12 washers (8.3) and screws (9) in roof hatch (8).

(8.2) Tighten 12 screws (9) to 35-41 lb-ft (48-56 N·m).

WARNING

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

(8.3) Apply 0.625 in. (15.0 mm) bead of sealant to 12 screws (9) and between roof hatch (8) and cab roof (2).
WARNING

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

(9) Attach air drop roof sling assembly to cab roof (2).

(10) Position cab roof (2) on cab (10).

(11) Tighten ten captive screws (11) in cab windshield frame (12).

(12) Tighten four captive screws (13) in right side cab wall (14).
16-4. M1081 CAB ROOF REPLACEMENT (CONT)

(13) Tighten ten captive screws (15) in cab rear wall (16).

(14) Tighten four captive screws (17) in left side cab wall (18).

(15) Connect connector J3 (19) to connector P3 (20).
(16) Position sun visor (21) on cab roof (2) with four screws (22).

(17) Tighten four screws (22) to 40-49 lb-in. (4-5 N·m).

c. **Follow-On Maintenance.**

   Install cab clearance lights (para 7-31).

**End of Task.**
## 16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1081)

This task covers:

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### INITIAL SETUP

**Equipment Conditions**

- Engine shut down [TM 9-2320-365-10].
- Marker light removed (para 7-31).

**Tools and Special Tools**

- Tool Kit, Genl Mech (Item 44, Appendix C)
- Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
- Screwdriver Attachment, Socket Wrench (Item 49, Appendix B)
- Socket Set, Socket Wrench (Item 35, Appendix C)
- Tool Kit, Blind Rivet (Item 43, Appendix C)
- Drill, Portable, Electric (Item 7, Appendix C)
- Drill, Twist (Item 8, Appendix C)
- Wrench, Torque, 0-75 lb-in. (Item 86, Appendix B)

**Materials/Parts**

- Soap, Laundry (Item 68, Appendix D)
- Sealing Compound (Item 61, Appendix D)
- Rivet, Compression (10) (Item 237, Appendix G)
- Grease, Automotive and Artillery (GAA) (Item 23, Appendix D)
- Seal, Nonmetallic (Item 253, Appendix G)
- Rivet, Blind (6) (Item 217.1, Appendix G)

**Personnel Required**

(2)

### NOTE

If complete repair of the door is required, it will be necessary to notify DS maintenance to replace the door side window at the completion of Unit level repairs.

#### a. Window and Window Regulator Removal.

**NOTE**

Left and right windows and window regulators are removed the same way. Right side shown.

1. Remove cover (1) from door handle (2).
2. Remove screw (3), door handle (2), and washer (4) from door (5).
3. Remove four screws (6) and door handle (7) from door (5).
(4) Raise cover (8) from window crank (9).

(5) Remove screw (10), window crank (9), and collar (11) from window regulator (12).

(6) Remove knob (13) from lock stud (14).

(7) Remove ten rivets (15) from door lining (16).

(8) Remove door lining (16) from door (5).

(9) Remove resilient mount (17) from window regulator (12).

(10) Install window crank (9) on window regulator (12).

(11) Lower window (18) completely down.
(12) Remove inner edge seal (19) from window sill (20).

(13) Remove rubber sealing strip (21) from upper portion of window channel (22).

NOTE
Some vehicles had screws attaching upper window channel. Rivets are shown.

(14) Remove six rivets (23) from upper portion of window channel (22).

(15) Install rubber sealing strip (21) so that window (18) can be raised.

(16) Raise window (18) enough to access two lower screws (24).

(17) Remove two screws (24) from bottom of window channel (22).
(18) Lower window (18) completely down.

(19) Remove window channel (22) and rubber sealing strip (21) from door (5).

(20) Raise window (18) enough to access two screws (25) at bottom of window.

**WARNING**

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

**NOTE**

Steps (21) and (22) require the aid of an assistant.

(21) Support window (18) and remove two screws (25) and washers (26) from window regulator (12).

(22) Remove window (18) by holding window at a slight angle and lifting upward out of door (5).

(23) Remove window crank (9) from window regulator (12).
(24) Remove four screws (27) and washers (28) from window regulator (12).

(25) Remove window regulator (12) from door (5).

(26) Remove outer edge seal (29) from window sill (20).

b. Window and Window Regulator Installation.

**NOTE**

Left and right windows and window regulators are installed the same way. Right side shown.

(1) Install outer edge seal (1) on window sill (2).
(2) Position window regulator (3) in door (4).

(3) Align holes in window regulator (3) and mounting holes of door (4).

(4) Position four washers (5) and screws (6) in window regulator (3).

(5) Tighten four screws (6) to 70-85 lb-in. (8-10 N·m).

(6) Position window crank (7) on window regulator (3).

**WARNING**

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

**NOTE**

Steps (7) and (8) require the aid of an assistant.

(7) Position window (8) in door (4) at a slight angle.

(8) Support window (8) and install two washers (9) and screws (10) in window regulator (3).

(9) Lower window (8) until completely down.
(10) Position window channel (11) over window (8) from inside of door (4).

(11) Install window channel (11) on upper door frame (12) with six rivets (13).

(12) Raise window (8) for access to bottom of window channel (11).

(13) Position two screws (14) in bottom of window channel (11).

(13.1) Tighten two screws (14) to 10-14 lb-in. (1-2 N·m).

(14) Lower window (8) until completely down.

NOTE

- Use a solution of soap and water to ease installation of rubber sealing strip.

- It may be necessary to roll window up and down during installation of rubber sealing strip.

(15) Install rubber sealing strip (15) around upper portion of window channel (11).
(16) Install inner edge seal (16) on window sill (17).

(17) Remove window crank (7) from window regulator (3).

(18) Install resilient mount (18) on window regulator (3).

(19) Install door lining (19) on interior side of door (4) with ten rivets (20).

(20) Install knob (21) on lock stud (22).
**WARNING**

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

(21) Apply sealing compound to threads of screw (23).

(22) Position collar (24) and window crank (7) on window regulator (3) with screw (23).

(23) Tighten screw (23) to 50-55 lb-in. (6 N·m).

(24) Install cover (25) on window crank (7).

(25) Position door handle (26) on door (4) with four screws (27).

(26) Tighten four screws (27) to 22-28 lb-in. (2-3 N·m).

(27) Apply sealing compound to threads of screw (28).

(28) Position door handle (29) on door (4) with washer (30) and screw (28).

(29) Tighten screw (28) to 50-55 lb-in. (6 N·m).

(30) Install cover (31) on door handle (29).
c. Door Latch/Lock Disassembly.

NOTE

Left and right door latch/lock assemblies are disassembled the same way. Right door latch/lock assembly shown.

(1) Remove cover (1) from door handle (2).

(2) Remove screw (3), door handle (2), and washer (4) from door (5).

(3) Remove four screws (6) and door handle (7) from door (5).

(4) Raise cover (8) from window crank (9).

(5) Remove screw (10), window crank (9), and collar (11) from window regulator (12).

(6) Remove knob (13) from lock stud (14).

(7) Remove ten rivets (15) from door lining (16).

(8) Remove door lining (16) from door (5).
(9) Remove two screws (17), washers (18), and actuator assembly (19) from door (5).

(10) Disconnect upper end of actuator control rod (20) from release assembly (21).

(11) Remove actuator control rod (20), actuator assembly (19), and seal (22) from door (5). Discard seal.

(12) Remove three screws (23) and latch assembly (24) from door (5).
NOTE

Perform step (13) on vehicle serial numbers 0001 through 3091 that have not had the handle/lock assembly replaced previously.

(13) Remove screw (25) and washer (26) from handle/lock assembly (27).

NOTE

Perform step (14) on vehicle serial numbers 3092 and higher serial numbers, and vehicles that have had the handle/lock assembly replaced previously.

(14) Remove nut (28), washer (26), and setscrew (29) from handle/lock assembly (27).

(15) Push handle/lock assembly (27) toward front of vehicle until rear of handle/lock assembly is released from door (5).

(16) Remove handle/lock assembly (27), control rods (30 and 31), and release assembly (21) from handle/lock opening.
d. Door Latch/Lock Assembly.

**NOTE**

Left and right door latch/lock assemblies are assembled the same way. Right door latch/lock assembly shown.

1. Attach control rods (1 and 2), between handle/lock assembly (3), and release assembly (4).

2. Install release assembly (4) and two control rods (1 and 2), upward through handle/lock assembly opening in door (5).

3. Seat handle/lock assembly (3) into door opening by pushing handle/lock assembly toward front of vehicle until rear of handle/lock assembly can enter opening, then push handle/lock assembly toward rear until handle/lock assembly is fully seated.

**WARNING**

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

4. Apply sealing compound to threads of setscrew (6).

5. Position handle/lock assembly (3) on door (5) with setscrew (6).

6. Tighten setscrew (6) to 39-59 lb-in. (4-7 N·m).

7. Position washer (7) and nut (8) on setscrew (6).

8. Tighten nut (8) to 39-59 lb-in. (4-7 N·m).
(9) Position latch assembly (9) and release assembly (4) on door (5) with three screws (10).

(10) Tighten three screws (10) to 70-85 lb-in. (8-10 N·m).

(11) Install actuator control rod (11) and seal (12) on actuator assembly (13).

(12) Install actuator assembly (13) in door (5).

(13) Attach upper end of actuator control rod (11) to release assembly (4).

(14) Position two washers (14) and screws (15) in actuator assembly (13).

(15) Tighten two screws (15) to 49-60 lb-in. (5-7 N·m).
(16) Install door lining (16) on interior side of door (5) with ten rivets (17).

(17) Install knob (18) on lock stud (19).

**WARNING**

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

(18) Apply sealing compound to threads of screw (20).

(19) Position collar (21) and window crank (22) on window regulator (23) with screw (20).

(20) Tighten screw (20) to 50-55 lb-in. (6 N·m).

(21) Install cover (24) on window crank (22).
(22) Position door handle (25) on door (5) with four screws (26).

(23) Tighten four screws (26) to 22-28 lb-in. (2-3 N·m).

**WARNING**

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

(24) Apply sealing compound to threads of screw (27).

(25) Position door handle (28) on door (5) with washer (29) and screw (27).

(26) Tighten screw (27) to 50-55 lb-in. (6 N·m).

(27) Install cover (30) on door handle (28).

e. Door Removal.

**NOTE**

Both doors are removed the same way. Right side door shown.

(1) Remove four screws (1) and mirror assembly (2) from door (3).
(2) Remove cover (4) from door handle (5).

(3) Remove screw (6), door handle (5), and washer (7) from door (3).

(4) Remove four screws (8) and door handle (9) from door (3).

(5) Raise cover (10) from window crank (11).

(6) Remove screw (12), window crank (11), and collar (13) from window regulator (14).

(7) Remove knob (15) from lock stud (16).

(8) Remove ten rivets (17) from door lining (18).

(9) Remove door lining (18) from door (3).
(10) Remove two screws (19) and door arrestor assembly (20) from bottom of door (3).

(11) Remove screw (21), two spring washers (22), door arrestor assembly (20), and washer (23) from cab.

(12) Remove wiring harness (24) from door (3) by pulling through access hole in forward edge of door (3).

(13) Remove four clip nuts (25) from door (3).

NOTE
Steps (14) through (16) require the aid of an assistant.

(14) Lift door (3) enough to take weight off hinges (26 and 27).

(15) Remove six screws (28) and washers (29) from hinges (26 and 27).

(16) Remove door (3) from cab.
(17) Remove five screws (30), washers (31), and hinge (27) from cab.

(18) Remove five screws (32), washers (33), and hinge (26) from cab.

f. Door Installation.

NOTE
Both doors are installed the same way. Right side door shown.

(1) Position hinge (1) on cab with five washers (2) and screws (3).

(2) Position hinge (4) on cab with five washers (5) and screws (6).
NOTE

Step (3) requires the aid of an assistant.

(3) Position door (7) on cab with hinge (1) in slot in forward edge of door and bolt holes aligned with openings in door.

(4) Position door (7) on hinge (1) with three washers (8) and screws (9).

(5) Position door (7) on hinge (4) with three washers (10) and screws (11).

(6) Adjust door (7) so that gap between door and cab is approximately equal all around.

(7) Tighten three screws (9 and 11) one-half turn.

(8) Open, close, and open door (7) to ensure correct operation.

(9) Tighten three screws (9 and 11) to 22-26 lb-ft (30-35 N·m).

(10) Apply grease to hinges (1 and 4).

(11) Install four clip nuts (12) on door (7).

(12) Install wiring harness (13) through access hole in forward edge of door (7).

(13) Install door arrestor assembly (14) on cab with washer (15), two spring washers (16), and screw (17).

(14) Install door arrestor assembly (14) on bottom of door (7) with two screws (18).
(15) Position mirror assembly (19) on door (7) with four screws (20).

(16) Tighten four screws (20) to 84-96 lb-in. (9-11 N·m).

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g. Door Adjustment.

NOTE

- Steps (1) and (2) require the aid of an assistant.
- Loosen door hinge screws only enough to allow small adjusting movements of door.

(1) Support door (1) and loosen six screws (2) on bottom hinge (3) and top hinge (4).

(2) Adjust door (1) so that gap between door (1) and cab is approximately equal all around.

(3) Open, close, and open door (1) to ensure correct operation.

(4) Tighten six screws (2) on top hinge (4) and bottom hinge (3) to 22-26 lb-ft (30-35 N·m).
(5) Loosen three screws (5) on latch assembly (6) and adjust so latch assembly is centered on strike catch (7).

(6) Tighten three screws (5) to 70-85 lb-in. (8-10 N·m).

(7) Open and close door (1) to ensure correct operation.

(8) Install door lining (8) on interior side of door (1) with ten rivets (9).

(9) Install knob (10) on lock stud (11).

(10) Apply sealing compound to threads of screw (12).

(11) Position collar (13) and window crank (14) on window regulator (15) with screw (12).

(12) Tighten screw (12) to 50-55 lb-in. (6 N·m).

(13) Install cover (16) on window crank (14).

**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.
16-5. DOOR REPAIR/ADJUSTMENT (ALL MODELS EXCEPT M1081) (CONT)

(14) Position door handle (17) on door (1) with four screws (18).

(15) Tighten four screws (18) to 22-28 lb-in. (2-3 N·m).

**WARNING**

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

(16) Apply sealing compound to threads of screw (19).

(17) Position door handle (20) on door (1) with washer (21) and screw (19).

(18) Tighten screw (19) to 50-55 lb-in. (6 N·m).

(19) Install cover (22) on door handle (20).

**h. Follow-On Maintenance.**

(1) Install marker light (para 7-31).

(2) Clean all grease or oil from door.

(3) Clean window glass.

**End of Task.**
16-6. M1081 DOOR REPAIR/ADJUSTMENT

This task covers:

a. Window and Window Regulator Removal  
b. Window and Window Regulator Installation  
c. Door Latch/Lock Disassembly  
d. Door Latch/Lock Assembly  
e. Door Upper-Half Removal  
f. Door Upper-Half Installation  
g. Door Lower-Half Removal  
h. Door Lower-Half Installation  
i. Door Adjustment  
j. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down [TM 9-2320-365-10].  
Marker light removed (para 7-31).  
Upper door-half removed (for lower door-half removal only).

Tools and Special Tools

Tool Kit, Genl Mech (Item 44, Appendix C)  
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)  
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)  
Socket Set, Socket Wrench (Item 35, Appendix C)  
Screwdriver Attachment, Socket Wrench (Item 49, Appendix B)  
Tool Kit, Blind Rivet (Item 43, Appendix C)  
Drill, Portable, Electric (Item 7, Appendix C)

Tools and Special Tools (Cont)

Drill, Twist (Item 8, Appendix C)

Materials/Parts

Sealing Compound (Item 61, Appendix D)  
Grease, Automotive and Artillery (GAA) (Item 23, Appendix D)  
Seal, Nonmetallic (Item 253, Appendix G)  
Soap, Laundry (Item 69, Appendix D)  
Rivet, Compression (12) (Item 237, Appendix G)  
Rivet (6) (P/N 20601-M4W2)

Personnel Required

(2)

NOTE

If complete repair of the door is required, it will be necessary to notify DS maintenance to replace the door side window at the completion of Unit level repairs.

a. Window and Window Regulator Removal.

NOTE

Left and right windows and window regulators are removed the same way. Right side shown.

(1) Remove cover (1) from door handle (2).

(2) Remove screw (3), door handle (2), and washer (4) from door (5).

(3) Remove four screws (6) and handle (7) from door (5).
(4) Raise cover (8) from window crank (9).

(5) Remove screw (10), window crank (9), and collar (11) from window regulator (12).

(6) Remove knob (13) from lock stud (14).

(7) Remove two screws (15) and latch (16) from door (5).

(8) Remove 12 rivets (17) from door lining (18).

(9) Remove door lining (18) from door (5).

(10) Install window crank (9) on window regulator (12).

(11) Lower window (19) until completely down.

(12) Fold in rear view mirror (20).
(12.1) Remove inner and outer edge seals (20.1 and 20.2) from window sill (20.3).

(12.2) Remove rubber sealing strip (20.4) from upper portion of window channel (20.5).

**NOTE**

Some vehicles have screws attaching upper window channel. Rivets are shown.

(12.3) Remove six rivets (20.6) and upper window channel (20.7) from door (5).

(13) Unlatch window frame latch (21) at front of door (5).

(14) Fold window frame (22) down.
(14.1) Remove four screws (22.1) from front and rear lower window channels (22.2).

(14.2) Remove two lower window channels (22.2) and rubber sealing strips (22.3) from door (5).

(15) Raise window (19) enough to access two screws (23) at bottom of window.

**WARNING**

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

**NOTE**

Step (16) requires the aid of an assistant.

(16) Support window (19) and remove two screws (23) and washers (24) from window regulator (12).

(17) Remove window (19) from door (5).
(18) Remove window crank (9) and resilient mount (25) from window regulator (12).

(19) Remove four screws (26) and washers (27) from window regulator (12).

(20) Remove window regulator (12) from door (5).

b. Window and Window Regulator Installation.

**NOTE**

Left and right windows and window regulators are installed the same way. Right side shown.

1. Position window regulator (1) in door (2).

2. Align holes in window regulator (1) and mounting holes in door (2).

3. Position four washers (3) and screws (4) in window regulator (1).

4. Tighten four screws (4) to 70-85 lb-in. (8-10 N·m).

5. Install resilient mount (5) and window crank (6) on window regulator (1).
**WARNING**

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

**NOTE**

Steps (6) and (7) require the aid of an assistant.

(6) Position window (7) in door (2).

(7) Support window (7) and install two washers (8) and screws (9) in window regulator (1).

(8) Lower window (7) until completely down.

(8.1) Position two lower window channels (9.1) over window (7) from inside of door (2).

(8.2) Install two lower window channels (9.1) in door (2) with four screws (9.2).

(8.3) Tighten four screws (9.2) to 10-14 lb-in. (1-2 N·m).

(8.4) Install rubber sealing strips (9.3) in two lower window channels (9.1).

**NOTE**

- Use a solution of soap and water to ease installation of rubber sealing strips.

- It may be necessary to roll window up and down during installation of rubber sealing strips.
(9) Raise window frame (10) to vertical position.

(10) Latch window frame latch (11) at front of door (2).

(10.1) Install upper window channel (11.1) in window frame (10) with six rivets (11.2).

(10.2) Install rubber sealing strip (11.3) in upper window channel (11.1).

(10.3) Install inner and outer edge seals (11.4 and 11.5) in window sill (11.6).

**NOTE**

- Use a solution of soap and water to ease installation of rubber sealing strips.
- It may be necessary to roll window up and down during installation of rubber sealing strips.
(11) Remove window crank (6) from window regulator (1).

(12) Fold out rear view mirror (12).

NOTE
Position door lining inside of strip at bottom of door.

(13) Position door lining (13) on door (2).

(14) Install 12 rivets (14) in door lining (13).

(15) Position latch (15) on door (2) with two screws (16).

(16) Tighten two screws (16) to 65-121 lb-in. (10-14 N-m).

(17) Install knob (17) on lock stud (18).
WARNING

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

(18) Apply sealing compound to threads of screw (19).

(19) Position collar (20) and window crank (6) on window regulator (1) with screw (19).

(20) Tighten screw (19) to 50-55 lb-in. (6 N·m).

(21) Install cover (21) on window crank (6).

(22) Position handle (22) on door (2) with four screws (23).

(23) Tighten four screws (23) to 22-28 lb-in. (2-3 N·m).

WARNING

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

(24) Apply sealing compound to threads of screw (24).

(25) Position door handle (25) on door (2) with washer (26) and screw (24).

(26) Tighten screw (24) to 50-55 lb-in. (6 N·m).

(27) Install cover (27) on door handle (25).
c. Door Latch/Lock Disassembly.

NOTE

Both latch/lock assemblies are removed the same way. Right side shown.

(1) Remove cover (1) from door handle (2).

(2) Remove screw (3), door handle (2), and washer (4) from door (5).

(3) Remove four screws (6) and handle (7) from door (5).

(4) Raise cover (8) from window crank (9).

(5) Remove screw (10), window crank (9), and collar (11) from window regulator (12).

(6) Remove knob (13) from lock stud (14).

(7) Remove two screws (15) and latch (16) from door (5).

(8) Remove 12 rivets (17) from door lining (18).

(9) Remove door lining (18) from door (5).
(10) Remove two screws (19), washers (20), and actuator assembly (21) from door (5).

(11) Disconnect upper end of actuator control rod (22) from release assembly (23).

(12) Remove actuator control rod (22), actuator assembly (21), and seal (24) from door (5). Discard seal.

(13) Remove three screws (25) and latch assembly (26) from door (5).
16-6. M1081 DOOR REPAIR/ADJUSTMENT (CONT)

NOTE

Perform step (14) on vehicle serial numbers 0001 through 3091 that have not had the handle/lock assembly replaced previously.

(14) Remove screw (27) and washer (28) from handle/lock assembly (29).

NOTE

Perform step (15) on vehicle serial numbers 3092 and higher serial numbers, and vehicles that have had the handle/lock assembly replaced previously.

(15) Remove nut (30), washer (28), and setscrew (31) from handle/lock assembly (29).

(16) Push handle/lock (29) toward front of vehicle until rear of handle/lock assembly is released from door (5).

(17) Remove handle/lock (29), two control rods (32 and 33), and release assembly (23) out through handle/lock opening.
d. Door Latch/Lock Assembly.

NOTE

Both latch/lock assemblies are installed the same way. Right side shown.

(1) Attach two control rods (1 and 2) between handle/lock assembly (3) and release assembly (4).

(2) Insert release assembly (4) and two control rods (1 and 2) upward through handle/lock assembly (3) opening in door (5).

(3) Seat handle/lock assembly (3) into door opening by pushing handle/lock assembly toward front of vehicle until rear of handle/lock assembly can enter opening, then push handle/lock assembly toward rear until handle/lock assembly is fully seated.

WARNING

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

(4) Apply sealing compound to threads of setscrew (6).

(5) Position handle/lock assembly (3) on door (5) with setscrew (6).

(6) Tighten setscrew (6) to 70-85 lb-in. (8-10 N·m).

(7) Position washer (7) and nut (8) on setscrew (6).

(8) Tighten nut (8) to 70-85 lb-in. (8-10 N·m).
(9) Position latch assembly (9) and release assembly (10) on door (5) with three screws (11).

(10) Tighten three screws (11) to 70-85 lb-in. (8-10 N·m).

(11) Install actuator control rod (12) and seal (13) on actuator assembly (14).

(12) Insert actuator assembly (14) in door (5).

(13) Attach upper end of actuator control rod (12) to release assembly (10).

(14) Position two washers (15) and screws (16) in actuator assembly (14).

(15) Tighten two screws (16) to 49-60 lb-in. (5-7 N·m).
NOTE
Ensure door lining fits inside of strip at bottom of door.

(16) Position door lining (17) on door (5).

(17) Install 12 rivets (18) in door lining (17).

(18) Position latch (19) on door (5) with two screws (20).

(19) Tighten two screws (20) to 65-121 lb-in. (10-14 N·m).

(20) Install knob (21) on lock stud (22).

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

(21) Apply sealing compound to threads of screw (23).

(22) Position collar (24) and window crank (25) on window regulator (26) with screw (23).

(23) Tighten screw (23) to 50-55 lb-in. (6 N·m).

(24) Install cover (27) on window crank (25).
(25) Position handle (28) on door (5) with four screws (29).

(26) Tighten four screws (29) to 22-28 lb-in. (2-3 N·m).

(27) Apply sealing compound to threads of screw (30).

(28) Position door handle (31) on door (5) with washer (32) and screw (30).

(29) Tighten screw (30) to 50-55 lb-in. (6 N·m).

(30) Install cover (33) on door handle (31).

**e. Door Upper-Half Removal.**

**NOTE**

The hinges are different. Note position of each hinge.

(2) Remove eight bolts (4), washers (5) and two hinges (6) from door (3).

Left and right door upper-halves are removed the same way. Right side shown.

(1) Remove four screws (1) and mirror assembly (2) from door upper-half (3).
(3) Unlatch two latches (7) on door lower-half (8) and remove door upper-half (3).

f. Door Upper-Half Installation.

(1) Install door upper-half (1) on door lower-half (2) with two latches (3).

(2) Position two hinges (4) on door upper-half (1) and door lower-half (2) with eight washers (5) and screws (6).

(3) Tighten eight screws (6) to 22-28 lb-ft (30-38 N·m).

NOTE

Left and right door upper-halves are installed the same way. Right side shown.

(1) Install door upper-half (1) on door lower-half (2) with two latches (3).
(4) Position mirror assembly (7) on door upper-half (1) with four screws (8).

(5) Tighten four screws (8) to 84-96 lb-in. (9-11 N·m).

g. Door Lower-Half Removal.

(1) Remove cover (1) from door handle (2).

(2) Remove screw (3), door handle (2), and washer (4) from door (5).

(3) Remove four screws (6) and handle (7) from door (5).

(4) Raise cover (8) from window crank (9).

(5) Remove screw (10), window crank (9), collar (11), and resilient mount (12) from window regulator (13).

NOTE

Left and right door lower-halves are removed the same way. Right side shown.

(1) Remove cover (1) from door handle (2).

(2) Remove screw (3), door handle (2), and washer (4) from door (5).

(3) Remove four screws (6) and handle (7) from door (5).
(6) Remove knob (14) from lock stud (15).
(7) Remove two screws (16) and latch (17) from door (5).
(8) Remove 12 rivets (18) from door lining (19).
(9) Remove door lining (19) from door (5).

(10) Remove two screws (20) and door arrestor assembly (21) from bottom of door (5).
(11) Remove screw (22), two spring washers (23), door arrestor assembly (21), and washer (24) from cab.

(12) Remove wiring harness (25) from door (5) by pulling through access hole in forward edge of door (5).
(13) Remove four clip nuts (26) from door (5).
16-6. M1081 DOOR REPAIR/ADJUSTMENT (CONT)

NOTE

Steps (14) through (16) require the aid of an assistant.

(14) Lift door (5) enough to take weight off hinges (27 and 28).

(15) Remove six screws (29) and washers (30) from hinges (27 and 28).

(16) Remove door (5) from cab.

(17) Remove five screws (31), washers (32), and hinge (28) from cab.

(18) Remove five screws (33), washers (34), and hinge (27) from cab.

h. Door Lower-Half Installation.

NOTE

Left and right door lower-halves are installed the same way. Right side shown.

(1) Position hinge (1) on cab with five washers (2) and screws (3).

(2) Position hinge (4) on cab with five washers (5) and screws (6).
NOTE

Step (3) requires the aid of an assistant.

(3) Position door (7) on cab with hinge (1) in slot in forward edge of door and bolt holes aligned with openings in door.

(4) Position door (7) on hinge (1) with three washers (8) and screws (9).

(5) Position door (7) on hinge (4) with three washers (10) and screws (11).

(6) Adjust door (7) so that gap between door and cab is approximately equal all around.

(7) Tighten three screws (9) and screws (11) one-half turn.

(8) Open, close, and open door (7) to ensure correct operation.

(9) Tighten three screws (9) and screws (11) to 22-26 lb-ft (30-35 N·m).

(9.1) Apply grease to hinges (1 and 4).

(10) Install four clip nuts (12) on door (7).

(11) Install wiring harness (13) through access hole in forward edge of door (7).
16-6. M1081 DOOR REPAIR/ADJUSTMENT (CONT)

(12) Install door arrestor assembly (14) on cab with washer (15), two spring washers (16), and screw (17).

(13) Install door arrestor assembly (14) on bottom of door (7) with two screws (18).

i. Door Adjustment.

- Steps (1) and (2) require the aid of an assistant.
- Loosen door hinge screws only enough to allow small adjusting movements of door.

(1) Support door (1) and loosen six screws (2) on bottom hinge (3) and top hinge (4).

(2) Adjust door (1) so that gap between door (1) and cab is approximately equal all around.

(3) Open, close, and open door (1) to ensure correct operation.

(4) Tighten six screws (2) on top hinge (4) and bottom hinge (3) to 22-26 lb-ft (30-35 N·m).
(5) Loosen three screws (5) on strike catch (6) and adjust so catch is centered in latch assembly (7) slot, as shown.

(6) Tighten three screws (5) to 70-85 lb-ft (8-10 N·m).

(7) Open and close door (1) to ensure correct operation.

NOTE

Ensure door lining fits inside of strip at bottom of door.

(8) Position door lining (8) on door (1).

(9) Install 12 rivets (9) in door lining (8).

(10) Position latch (10) on door (1) with two screws (11).

(11) Tighten two screws (11) to 65-121 lb-in. (10-14 N·m).

(12) Install knob (12) on lock stud (13).
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 screw (14).

(14) Position collar (15) and window crank (16) on window regulator (17) with screw (14).

(15) Tighten screw (14) to 50-55 lb-in. (6 N·m).

(16) Install cover (18) on window crank (16).

(17) Position handle (19) on door (1) with four screws (20).

(18) Tighten four screws (20) to 22-28 lb-in. (2-3 N·m).

(19) Apply sealing compound to threads of screw (21).

(20) Position door handle (22) on door (1) with washer (23) and screw (21).

(21) Tighten screw (21) to 50-55 lb-in. (6 N·m).

(22) Install cover (24) on door handle (22).

j. Follow-On Maintenance.

(1) Install upper door-half (for lower door-half removal).

(2) Install marker light (para 7-31).

(3) Clean all grease or oil from door.

(4) Clean window glass.

End of Task.
16-7. REAR CAB SUPPORT ASSEMBLY REPLACEMENT

This task covers:

a. Removal
b. Installation

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
Cab air springs deflated (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)
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)

Materials/Parts
Nut, Self-Locking (4) (Item 149, Appendix G)
Nut, Self-Locking (Item 125, Appendix G)
Nut, Self-Locking (8) (Item 140, Appendix G)

Personnel Required
(2)

a. Removal.

(1) Match mark position of cab hydraulic latch (1) on rear cab support (2).

(2) Remove four self-locking nuts (3), washers (4), screws (5), and cab hydraulic latch (1) from rear cab support (2). Discard self-locking nuts.

(3) Remove three screws (6) and cable clamps (7) from rear cab support (2).

(4) Remove self-locking nut (8) and cab leveling valve linkage (9) from rear cab support (2). Discard self-locking nut.
16-7. REAR CAB SUPPORT ASSEMBLY REPLACEMENT (CONT)

NOTE

Left and right sides of rear cab support are removed the same way. Right side shown.

(5) Loosen four self-locking nuts (10) on cab air spring (11).

(6) Remove four self-locking nuts (12) and screws (13) from rear cab support (2). Discard self-locking nuts.

NOTE

Perform step (7) on vehicles equipped with rubber plugs.

(7) Remove rubber plug (14) from rear cab support (2).

(8) Perform steps (5) through (7) on left side rear cab support.

NOTE

Step (9) requires the aid of an assistant.

(9) Remove rear cab support (2) from vehicle.
b. Installation.

**NOTE**

Step (1) requires the aid of an assistant.

1. Position rear cab support (1) on vehicle.

**NOTE**

- Left and right sides of rear cab support are installed the same way. Right side shown.
- Order rubber plugs PN 12420305-027 if vehicle was not originally equipped with them.

2. Install rubber plug (2) on rear cab support (1).

3. Position four screws (3) and self-locking nuts (4) in rear cab support (1).

**NOTE**

Step (4) requires the aid of an assistant.

4. Tighten four self-locking nuts (4) to 45-61 lb-ft (61-83 N·m).

5. Perform steps (2) through (4) on left side of rear cab support.

6. Position cab leveling valve linkage (5) on rear cab support (1) with self-locking nut (6).

7. Tighten self-locking nut (6) to 84-102 lb-in. (9-12 N·m).

8. Install three cable clamps (7) on cab support (1) with screws (8).
(9) Position cab hydraulic latch (9) on rear cab support (1) with matchmarks aligned.

(10) Position four screws (10), washers (11), and self-locking nuts (12) in cab hydraulic latch (9).

(11) Tighten four self-locking nuts (12) to 34-44 lb-ft (46-60 N·m).

**NOTE**

Loosen screws only enough that latches can be moved with some resistance.

(12) Loosen four screws (13) in two cab latches (14).
16-7. REAR CAB SUPPORT ASSEMBLY REPLACEMENT (CONT)

(13) Lower cab [TM 9-2320-365-10].

CAUTION

Latches must be adjusted so that they ride squarely on the latch supports and do not contact the welded area of the latch supports. Failure to comply may result in damage to equipment.

(14) Adjust two latches (14) on latch supports (15).

(15) Raise cab [TM 9-2320-365-10].

CAUTION

Do not allow latches to change position while tightening screws. Failure to comply may result in damage to equipment.

(16) Tighten four screws (13) to 34-44 lb-ft (46-60 N·m).

(17) Lower cab [TM 9-2320-365-10].

(18) Inflate cab air springs [TM 9-2320-365-10].

NOTE

• Perform step (19) on left and right sides of rear cab support.

• Step (19) requires the aid of an assistant.

(19) Tighten four self-locking nuts (16) to 45-61 lb-ft (61-83 N·m).

c. Follow-On Maintenance.

(1) Adjust cab hydraulic latch [para 19-6].

(2) Adjust cab leveling valve [para 16-8].

End of Task.
This task covers:

- a. Removal
- b. Installation
- c. Cab Leveling Valve Adjustment
- d. Follow-On Maintenance

### INITIAL SETUP

**Equipment Conditions**
- Engine shut down (TM 9-2320-365-10)
- Cab air springs deflated (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)
- 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)

**Materials/Parts**
- Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
- Nut, Self-Locking (4) (Item 134, Appendix G)
- Nut, Self-Locking (2) (Item 138, Appendix G)

**Personnel Required**
- (2)

---

a. **Removal.**


**NOTE**

Tag air hoses and connection points prior to disconnecting.

3. Disconnect two air hoses (8) from cab leveling valve (6).

3.1 Disconnect air hose (8.1) from cab leveling valve (6) and tee fitting (8.2).

3.2 Disconnect tee fitting (8.2) from two air hoses (8.3).
(4) Remove self-locking nut (9) and linkage (10) from bracket (11). Discard self-locking nut.

(5) Remove self-locking nut (12) and screw (13) from bracket (7). Discard self-locking nut.

(6) Remove self-locking nut (14), screw (15), terminal lug TL84 (16), washer (17), and bracket (7) from spare tire retainer (18). Discard self-locking nut.

b. Installation.

(1) Position bracket (1) on spare tire retainer (2) with washer (3), terminal lug TL84 (4), screw (5) and self-locking nut (6).

(2) Position screw (7) and self-locking nut (8) in bracket (1).

(3) Tighten self-locking nuts (6 and 8) to 25-31 lb-ft (34-42 N·m).
CAUTION

Linkage must be installed as shown. Failure to comply may result in damage to equipment.

(4) Position linkage (10) on bracket (11) with self-locking nut (12).

(5) Tighten self-locking nut (12) to 84-108 lb-in. (9-12 N·m).

(5.1) Connect tee fitting (12.1) to two air hoses (12.2).

(5.2) Connect air hose (12.3) to tee fitting (12.1) and cab leveling valve (14).

(6) Connect two air hoses (13) to cab leveling valve (14).

(7) Position cab leveling valve (14) on bracket (1) with two screws (15), washers (16), and self-locking nuts (17).

(8) Tighten two self-locking nuts (17) to 84-108 lb-in. (9-12 N·m).

(9) Position linkage (10) on lever (18) with self-locking nut (19).

(10) Tighten self-locking nut (19) to 84-108 lb-in. (9-12 N·m).

(11) Lower cab [TM 9-2320-365-10].

(12) Start engine [TM 9-2320-365-10].

(13) Inflate cab air springs [TM 9-2320-365-10].

(14) Check for air leaks around cab leveling valve (14).

(15) Shut down engine [TM 9-2320-365-10].

(16) Perform cab leveling valve adjustment (sub-para c.).
**c. Cab Leveling Valve Adjustment.**

(1) Lower spare tire [TM 9-2320-365-10].

(2) Start engine [TM 9-2320-365-10].

**NOTE**

Steps (3) through (5) require the aid of an assistant.

(3) Loosen self-locking nut (1) on cab leveling valve (2).

**NOTE**

- Rotating cab leveling valve clockwise (to the right), as seen from right side of vehicle, decreases cab height. Rotating cab leveling valve counterclockwise (to the left), as seen from right side of vehicle, increases cab height.

- Measure air spring to air spring bracket height on both air springs.

- If air spring to air spring bracket height varies between sides, but is no more than 0.25 in. (0.63 cm) outside of upper or lower limit, adjust cab leveling valve so that average for both sides is 2.64-2.87 in. (6.7-7.3 cm).

(4) Adjust cab leveling valve (2) until air spring (3) measures 2.64-2.87 in. (6.7-7.3 cm) from bottom edge of air spring to top surface of air spring bracket (4).

(5) Tighten self-locking nut (1) to 84-108 lb-in. (9-12 N·m).

**d. Follow-On Maintenance.**

(1) Shut down engine [TM 9-2320-365-10].

(2) Raise spare tire [TM 9-2320-365-10].

**End of Task.**
# 16-9. AIR SPRING AND BRACKET REPLACEMENT

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## INITIAL SETUP

### Equipment Conditions
- Cab air springs deflated ([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)
- Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
- Socket Set, Socket Wrench (Item 35, Appendix C)

### Materials/Parts
- Rope, Fibrous (Item 53, Appendix D)
- Antiseize Compound (Item 63, Appendix D)
- Nut, Self-Locking (8) (Item 140, Appendix G)
- Nut, Self-Locking (4) (Item 143, Appendix G)
- Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)

### Personnel Required
- (2)

---

### CAUTION

Vehicle serial numbers 0001 through 3091 were originally equipped with air springs PN 12420795-001/12420795-002. Vehicle serial numbers 3092 and higher are equipped with air springs PN 12421438-001/12421438-002. When air spring replacement is required on a vehicle equipped with air springs PN 12420795-001/12420795-002, both sides must be replaced with air springs PN 12411438-001/12421438-002. Failure to comply may result in damage to equipment.

**a. Right Air Spring and Bracket Removal.**

1. Remove quick release pin (1) from mounting bracket (2).
2. Remove retaining ring (3) from mounting bracket (2).
(3) Remove screw (4) and washer (5) from stoneguard (6).

(4) Remove two screws (7), washers (8), and stoneguard (6) from air spring (9).

(5) Secure rear cab support assembly (10) to spare tire retainer (11).

NOTE

Tag air hoses and connection points prior to disconnecting.

(6) Disconnect air hose (12) from check valve (13).

(7) Disconnect air hose (14) from 90-degree fitting (15).

(8) Remove four self-locking nuts (16) and screws (17) from air spring (9). Discard self-locking nuts.
(9) Remove four self-locking nuts (18), screws (19), and air spring (9) from rear cab support assembly (10). Discard self-locking nuts.

(10) Remove 90-degree fitting (15) from tee fitting (20).

(11) Remove check valve (13) from tee fitting (20).

(12) Remove tee fitting (20) from pipe fitting (21).

(13) Remove pipe fitting (21) from air spring (9).

(14) Remove four self-locking nuts (22), washers (23), screws (24), and mounting bracket (2) from right frame rail (25). Discard self-locking nuts.

b. Right Air Spring and Bracket Installation.

(1) Position mounting bracket (1) on right frame rail (2) with four screws (3), washers (4), and self-locking nuts (5).

NOTE

Step (1.1 and 2) requires the aid of an assistant.

(1.1) Rotate mounting bracket (1) clockwise to the maximum angle permitted by mounting hole clearance.

(2) Tighten four self-locking nuts (5) to 58-76 lb-ft (79-103 N·m).
\textbf{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 pipe fitting (6) and check valve (6.1).

(3.1) Apply antiseize compound to one end of 90-degree fitting (6.2).

(4) Install pipe fitting (6) in air spring (7).

(4.1) Install tee fitting (6.3) on pipe fitting (6).

(4.2) Install check valve (6.1) in tee fitting (6.3).

(4.3) Install 90-degree fitting (6.2) in tee fitting (6.3).

(5) Position air spring (7) on rear cab support assembly (8) with four screws (9) and self-locking nuts (10).

\textbf{NOTE}

Step (6) requires the aid of an assistant.

(6) Tighten four self-locking nuts (10) to 45-61 lb-ft (61-83 N·m).

(7) Position four screws (11) and self-locking nuts (12) in air spring (7).

(8) Connect two air hoses (13) to check valve (6.1) and 90-degree fitting (6.2).

(9) Lower cab [TM 9-2320-365-10].

(10) Inflate cab air springs [TM 9-2320-365-10].

\textbf{NOTE}

Step (11) requires the aid of an assistant.

(11) Tighten four self-locking nuts (12) to 45-61 lb-ft (61-83 N·m).
(12) Remove rear cab support assembly (8) from spare tire retainer (14).

**NOTE**

Dimension measured in step (13) should be 2.64-2.87 in. (67-73 mm). If measurement recorded in step (13) is not within limits, perform cab leveling valve adjustment **para [16-8]** prior to installing stoneguard.

(13) Measure distance from top surface of mounting bracket (1) to bottom edge of air spring (7).

(14) Position stoneguard (15) on air spring (7) with two washers (16) and screws (17).

(15) Position washer (18) and screw (19) in stoneguard (15).

(16) Tighten two screws (17) and screw (19) to 48-72 lb-in. (5-8 N·m).
(17) Install retaining ring (20) on mounting bracket (1).

(18) Install quick release pin (21) in mounting bracket (1).

c. Left Air Spring and Bracket Removal.

(1) Remove quick release pin (1) from mounting bracket (2).

(2) Remove retaining ring (3) from mounting bracket (2).

(3) Remove screw (4) and washer (5) from stoneguard (6).

(4) Remove two screws (7), washers (8), and stoneguard (6) from air spring (9).
(5) Secure rear cab support assembly (10) to spare tire retainer (11).

(6) Disconnect air hose (12) from 90-degree fitting (13).

(7) Remove four self-locking nuts (14) and screws (15) from air spring (9). Discard self-locking nuts.

(8) Remove four self-locking nuts (16), screws (17), and air spring (9) from rear cab support assembly (10). Discard self-locking nuts.

**NOTE**

Note orientation of fitting prior to removal.

(9) Remove 90-degree fitting (13) from nipple (17.1).

(9.1) Remove nipple (17.1) from air spring (9).
(10) Remove three self-locking nuts (18), washers (19), and screws (20) from mounting bracket (2). Discard self-locking nuts.

(11) Remove self-locking nut (21), washer (22), screw (23), and mounting bracket (2) from left frame rail (24). Discard self-locking nut.

d. Left Air Spring and Bracket Installation.

(1) Position mounting bracket (1) on left frame rail (2) with screw (3), washer (4), and self-locking nut (5).

(2) Position three screws (6), washers (7), and self-locking nuts (8) in mounting bracket (1).

NOTE
Steps (2.1) and (3) requires the aid of an assistant.

(2.1) Rotate mounting bracket (1) counterclockwise to the maximum angle permitted by mounting hole clearance.

(3) Tighten self-locking nut (5) and three self-locking nuts (8) to 58-76 lb-ft (79-103 N·m).
WARNING

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

(4) Apply antiseize compound to threads of nipple (9) and 90-degree fitting (9.1).

(5) Install nipple (9) in air spring (10).

(5.1) Install 90-degree fitting (9.1) on nipple (9).

(6) Position air spring (10) on rear cab support assembly (11) with four screws (12) and self-locking nuts (13).

NOTE

Step (7) requires the aid of an assistant.

(7) Tighten four self-locking nuts (13) to 45-61 lb-ft (61-83 N·m).

(8) Position four screws (14) and self-locking nuts (15) in air spring (10).

(9) Connect air hose (16) to 90-degree fitting (9.1).

(10) Lower cab [TM 9-2320-365-10].

(11) Inflate cab air springs [TM 9-2320-365-10].

NOTE

Step (12) requires the aid of an assistant.

(12) Tighten four self-locking nuts (15) to 45-61 lb-ft (61-83 N·m).
(13) Remove rear cab support assembly (11) from spare tire retainer (17).

**NOTE**
Dimension measured in step (14) should be 2.64-2.87 in. (67-73 mm). If measurement recorded in step (14) is not within limits, perform cab leveling valve adjustment (para 16-8) prior to installing stoneguard.

(14) Measure distance from top surface of mounting bracket (1) to bottom edge of air spring (10).

(15) Position stoneguard (18) on air spring (10) with two washers (19) and screws (20).

(16) Position washer (21) and screw (22) in stoneguard (18).

(17) Tighten two screws (20) and screw (22) to 48-72 lb-in. (5-8 N-m).
(18) Install retaining ring (23) on mounting bracket (1).

(19) Install quick release pin (24) in mounting bracket (1).

e. **Follow-On Maintenance.**

(1) Start engine [TM 9-2320-365-10].

(2) Check around air springs and fittings for air leaks.

(3) Shut down engine [TM 9-2320-365-10].

End of Task.
16-10. FENDER AND SPLASH GUARD REPLACEMENT

This task covers:

a. Front Fender Removal (All Models Except M1081)
b. Front Fender Installation (All Models Except M1081)
c. Engine Splash Guard Removal (All Models Except M1081)
d. Engine Splash Guard Installation (All Models Except M1081)
e. Rear Splash Guard Removal
f. Rear Splash Guard Installation
g. Rear Fender Removal
h. Rear Fender Installation
i. M1081 Front Fender Removal
j. M1081 Front Fender Installation
k. M1081 Engine Splash Guard Removal
l. M1081 Engine Splash Guard Installation
m. M1078/M1081 Splash Guard Removal
n. M1078/M1081 Splash Guard Installation
o. M1079 Front Splash Shield Removal
p. M1079 Front Splash Shield Installation
q. M1079 Rear Splash Shield Removal
r. M1079 Rear Splash Shield Installation
s. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
Windshield washer reservoir removed (para 18-2).
Warning and caution placards removed, if required (Chap 2).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Goggles, Industrial (Item 15, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Tool Kit, Blind Rivet (Item 43, Appendix C)
Drill, Portable, Electric (Item 7, Appendix C)

Tools and Special Tools (Cont)
Drill Set, Twist (Item 6, Appendix C)

Materials/Parts
Rivet, Blind (17) (Item 222, Appendix G)
Nut, Self-Locking (11) (Item 148, Appendix G)
Nut, Self-Locking (3) (Item 116, Appendix G)
Nut, Self-Locking (7) (Item 138, Appendix G)
Lockwasher (Item 104, Appendix G)
Nut, Self-Locking (6) (Item 138, Appendix G)

Personnel Required
(2)

WARNING

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

a. Front Fender Removal (All Models Except M1081).

NOTE

Perform step (1) on right side.

(1) Open cab step tread (1) on cab step (2).

(2) Raise cab (TM 9-2320-365-10).
NOTE

Perform steps (3) and (4) on left side.

(3) Remove self-locking nut (3), washer (4), screw (5), washer (6), terminal lug TL94 (7), and lockwasher (8) from front fender (9). Discard self-locking nut and lockwasher.

(4) Remove three self-locking nuts (10), six washers (11), and three screws (12) from front fender (9). Discard self-locking nuts.

NOTE

Perform step (5) on right side.

(5) Remove four self-locking nuts (13), eight washers (14), and four screws (15) from front fender (9). Discard self-locking nuts.

(6) Remove three self-locking nuts (16), six washers (17), and three screws (18) from front fender (9). Discard self-locking nuts.
NOTE

Left and right front fenders are removed the same way. Left side shown.

(7) Remove six screws (19) and washers (20) from front fender (9).

NOTE

Step (8) requires the aid of an assistant.

(8) Remove 12 screws (21), washers (22), and front fender (9) from cab (23).

(9) Remove 12 spacers (24) from front fender (9).

(10) Remove three self-locking nuts (25), screws (26), brackets (27), and step (28) from front fender (9). Discard self-locking nuts.
b. Front Fender Installation (All Models Except M1081).

NOTE

Left and right front fenders are installed the same way. Left side shown.

(1) Position step (1) and three brackets (2) on front fender (3) with three screws (4) and self-locking nuts (5).

(2) Tighten three self-locking nuts (5) to 18-22 lb-ft (24-30 N·m).

(3) Install 12 spacers (6) in front fender (3).

(4) Position front fender (3) on cab (7) with 12 washers (8) and screws (9).

(5) Tighten 12 screws (9) to 18-22 lb-ft (24-30 N·m).

(6) Position six washers (10) and screws (11) in front fender (3).

(7) Tighten six screws (11) to 18-22 lb-ft (24-30 N·m).
16-10. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

(8) Position three screws (12), six washers (13), and three self-locking nuts (14) in front fender (3).

(9) Tighten three self-locking nuts (14) to 18-22 lb-ft (24-30 N·m).

**NOTE**

Perform steps (10) and (11) on right side.

(10) Position four screws (15), eight washers (16), and four self-locking nuts (17) in front fender (3).

(11) Tighten four self-locking nuts (17) to 18-22 lb-ft (24-30 N·m).

(12) Position lockwasher (18) and terminal lug TL94 (19) on front fender (3) with washer (20), screw (21), washer (22), and self-locking nut (23).

(13) Position three screws (24), six washers (25), and three self-locking nuts (26) in front fender (3).

(14) Tighten self-locking nut (23) and three self-locking nuts (26) to 18-22 lb-ft (24-30 N·m).

**NOTE**

Perform steps (12) through (14) on left side.
**NOTE**

Perform step (15) on right side.

(15) Close cab step tread (27) on cab step (28).

(16) Lower cab [TM 9-2320-365-10]

c. Engine Splash Guard Removal (All Models Except M1081).

(1) Raise cab [TM 9-2320-365-10].

**WARNING**

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

**NOTE**

Left and right engine splash guards are removed the same way. Left side shown.

(2) Remove 14 rivets (1), washers (2), and engine splash guard (3) from cab (4).
16-10. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

**WARNING**

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

(3) Remove three rivets (5), washers (6), and engine splash guard (7) from cab (4).

---

d. Engine Splash Guard Installation (All Models Except M1081).

**NOTE**

Left and right engine splash guards are installed the same way. Left side shown.

(1) Install engine splash guard (1) on cab (2) with three washers (3) and rivets (4).

**NOTE**

Step (2) requires the aid of an assistant.

(2) Install engine splash guard (5) on cab (2) with 14 washers (6) and rivets (7).

(3) Lower cab [TM 9-2320-365-10]
e. Rear Splash Guard Removal.

NOTE

Left and right rear splash guards are removed the same way. Right side shown.

Remove three nuts (1), washers (2), spacers (3), screws (4), and rear splash guard (5) from bumper (6).

f. Rear Splash Guard Installation.

NOTE

Left and right rear splash guards are installed the same way. Right side shown.

(1) Position rear splash guard (1) on bumper (2) with three screws (3), spacers (4), washers (5), and nuts (6).

(2) Tighten three nuts (6) to 18-22 lb-ft (24-30 N·m).

g. Rear Fender Removal.

NOTE

Left and right rear fenders are removed the same way. Right side shown.

(1) Remove two nuts (1), four washers (2), two screws (3), and rear fender (4) from bracket (5).
(2) Remove two self-locking nuts (6), washers (7), spacers (8), screws (9), and bracket (10) from rear fender (4). Discard self-locking nuts.

(3) Remove self-locking nut (11), two washers (12), and hook (13) from rear fender (4). Discard self-locking nut.

(4) Remove nut (14) from hook (13).

h. Rear Fender Installation.

NOTE

Left and right rear fenders are installed the same way. Right side shown.

(1) Install nut (1) on hook (2).

(2) Position hook (2) on rear fender (3) with two washers (4) and self-locking nut (5).

(3) Tighten self-locking nut (5) to 18-22 lb-ft (24-30 N·m).
(4) Position bracket (6) on rear fender (3) with two screws (7), spacers (8), washers (9), and self-locking nuts (10).

(5) Tighten two self-locking nuts (10) to 18-22 lb-ft (24-30 N·m).

(6) Position rear fender (3) on bracket (11) with two screws (12), four washers (13), and two nuts (14).

(7) Tighten two nuts (14) to 18-22 lb-ft (24-30 N·m).

i. M1081 Front Fender Removal.

**NOTE**

Perform step (1) on right side.

(1) Open cab step tread (1) on cab step (2).

(2) Raise cab [TM 9-2320-365-10].
16-10. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

**NOTE**

Perform steps (3) and (4) on left side.

(3) Remove self-locking nut (3), washer (4), screw (5), washer (6), terminal lug TL94 (7), and lockwasher (8) from front fender (9). Discard self-locking nut and lockwasher.

(4) Remove three self-locking nuts (10), six washers (11), and three screws (12) from front fender (9). Discard self-locking nuts.

**NOTE**

Perform step (5) on right side.

(5) Remove four self-locking nuts (13), eight washers (14), and four screws (15) from front fender (9). Discard self-locking nuts.

(6) Remove three self-locking nuts (16), six washers (17), and three screws (18) from front fender (9). Discard self-locking nuts.
(7) Remove three screws (19) and washers (20) from front fender (9).

(8) Remove 12 screws (21), washers (22), and front fender (9) from cab (23).

NOTE
Step (8) requires the aid of an assistant.
(8) Remove 12 screws (21), washers (22), and front fender (9) from cab (23).

(9) Remove 12 spacers (24) from front fender (9).

(10) Remove three self-locking nuts (25), screws (26), brackets (27), and step (28) from front fender (9). Discard self-locking nuts.
16-10. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

j. M1081 Front Fender Installation.

NOTE

Left and right M1081 front fenders are installed the same way. Left side shown.

(1) Position step (1) and three brackets (2) on front fender (3) with three screws (4) and self-locking nuts (5).

(2) Tighten three self-locking nuts (5) to 18-22 lb-ft (24-30 N·m).

(3) Install 12 spacers (6) in front fender (3).

NOTE

Step (4) requires the aid of an assistant.

(4) Position front fender (3) on cab (7) with 12 washers (8) and screws (9).

(5) Tighten 12 screws (9) to 18-22 lb-ft (24-30 N·m).

(6) Position three washers (10) and screws (11) in front fender (3).

(7) Tighten three screws (11) to 18-22 lb-ft (24-30 N·m).
(8) Position three screws (12), six washers (13), and three self-locking nuts (14) in front fender (3).

(9) Tighten three self-locking nuts (14) to 18-22 lb-ft (24-30 N·m).

**NOTE**

Perform steps (10) and (11) on right side.

(10) Position four screws (15), eight washers (16), and four self-locking nuts (17) in front fender (3).

(11) Tighten four self-locking nuts (17) to 18-22 lb-ft (24-30 N·m).

**NOTE**

Perform steps (12) through (14) on left side.

(12) Position lockwasher (18) and terminal lug TL94 (19) on front fender (3) with washer (20), screw (21), washer (22), and self-locking nut (23).

(13) Position three screws (24), six washers (25), and three self-locking nuts (26) in front fender (3).

(14) Tighten self-locking nuts (23 and 26) to 18-22 lb-ft (24-30 N·m).
16-10. FENDER AND SPLASH GUARD REPLACEMENT (CONT)

NOTE

Perform step (15) on right side.

(15) Close cab step tread (27) on cab step (28).

(16) Lower cab [TM 9-2320-365-10].

k. M1081 Engine Splash Guard Removal.

NOTE

Left and right M1081 engine splash guards are removed the same way. Left side shown.

(1) Raise cab [TM 9-2320-365-10].

WARNING

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

(2) Remove 14 rivets (1), washers (2), and engine splash guard (3) from cab (4).
(3) Remove three rivets (5), washers (6), and engine splash guard (7) from cab (4).

I. M1081 Engine Splash Guard Installation.

NOTE

Left and right M1081 engine splash guards are installed the same way. Left side shown.

(1) Install engine splash guard (1) on cab (2) with three washers (3) and rivets (4).

NOTE

Step (2) requires the aid of an assistant.

(2) Install engine splash guard (5) on cab (2) with 14 washers (6) and rivets (7).

(3) Lower cab [TM 9-2320-365-10]
m. M1078/M1081 Splash Guard Removal.

**NOTE**
Right and left side splash guards are removed the same way. Right side shown.

1. Remove three self-locking nuts (1), brace (2), splash guard (3), and three bolts (4) from bracket (5). Discard self-locking nuts.

2. Remove two self-locking nuts (1), bracket (5), and two bolts (6) from cargo bed (7). Discard self-locking nuts.

n. M1078/M1081 Splash Guard Installation.

**NOTE**
Right and left side splash guards are installed the same way. Right side shown.

1. Install bracket (1) on cargo bed (2) with two bolts (3) and self-locking nuts (4).

2. Install splash guard (5) and brace (6) on bracket (1) with three bolts (7) and self-locking nuts (4).
o. M1079 Front Splash Shield Removal.

NOTE
Right and left side splash guards are removed the same way. Right side shown.

(1) Remove three self-locking nuts (1), brace (2), splash guard (3), and three screws (4) from bracket (5). Discard self-locking nuts.

(2) Remove two self-locking nuts (6), screws (7) and bracket (5) from clamp (8). Discard self-locking nuts.

NOTE
Note position of clamps on sub-frame prior to removal.

(3) Remove two self-locking nuts (9), clamps (10), screws (11) and clamps (8) from sub-frame (12). Discard self-locking nuts.

p. M1079 Front Splash Shield Installation.

NOTE
Right and left side splash guards are installed the same way. Right side shown.

(1) Position two clamps (1) and clamps (2) on sub-frame (3) with two screws (4) and self-locking nuts (5).

(2) Position bracket (6) on clamp (2) with two screws (7) and self-locking nuts (8).

(3) Tighten self-locking nuts (5).

(4) Tighten self-locking nuts (8) to 26-32 lb-ft (35-43 N·m).

(5) Install splash guard (9) and brace (10) on bracket (6) with three screws (11) and self-locking nuts (12).
q. M1079 Rear Splash Shield Removal.

(1) Remove self-locking nut (1), two washers (2) and hook (3) from bracket (4). Discard self-locking nut.

(2) Remove nut (5) from hook (3).

(3) Remove two self-locking nuts (6), bolts (7), plate (8), and splash shield (9) from bracket (4). Discard self-locking nuts.

(4) Remove two nuts (10), washers (11), screws (12), and bracket (4) from taillight carrier (13).

r. M1079 Rear Splash Shield Installation.

(1) Position bracket (1) on taillight carrier (2) with two screws (3), washers (4), and nuts (5).

(2) Tighten two nuts (5) to 26-32 lb-ft (35-43 N·m).
(3) Position splash shield (6) on bracket (1) with plate (7),
two screws (8), and self-locking nuts (9).

(4) Install nut (10) on hook (11).

(5) Position hook (11) on bracket (1) with two washers (12),
and self-locking nut (13).

(6) Tighten nut (13) and two nuts (9) to 18-22 lb-ft (24-30
N·m).

q. Follow-On Maintenance.

(1) Install windshield washer reservoir [para 18-2].

(2) Install warning and caution placards, if required (Chap 2).

End of Task.
a. Removal.

**NOTE**

Left and right cab steps are removed the same way. Left cab step shown.

1. Open cab step tread (1) on cab step (2).

2. Remove four self-locking nuts (3), eight washers (4), and four screws (5) from cab step (2). Discard self-locking nuts.

3. Remove four self-locking nuts (6), eight washers (7), four screws (8), and cab step (2) from fender (9). Discard self-locking nuts.
(4) Remove two self-locking nuts (10), washers (11), screws (12), and cab step tread (1) from cab step (2). Discard self-locking nuts.

(5) Remove two seals (13) and seal (14) from cab step tread (1). Discard seals.

(6) Remove turnlock receptacle (15) from cab step (2). Discard turnlock receptacle.

(7) Remove pin (16) from stud fastener (17).

(8) Remove stud fastener (17), washer (18), and grommet (19) from cab step tread (1). Discard grommet.

b. Installation.

**NOTE**

Left and right cab steps are installed the same way. Left cab step shown.

(1) Position stud fastener (1) in cab step tread (2) with grommet (3) and washer (4).

(2) Install pin (5) in stud fastener (1).
(3) Install turnlock receptacle (6) on cab step (7).

(4) Cut two seals (8) to 7.25 in. (18.4 cm) long.

(5) Cut one seal (9) to 16.3 in. (41.4 cm) long.

(6) Install seal (9) on cab step tread (2) as shown.

(7) Install two seals (8) on cab step tread (2) as shown.

(8) Position cab step tread (2) on cab step (7) with two washers (10), screws (11), and self-locking nuts (12).

(9) Tighten two self-locking nuts (12) to 21-27 lb-ft (28-37 N·m).

(10) Position cab step (7) on fender (13) with four screws (14), eight washers (15), and four self-locking nuts (16).

(11) Position four screws (17), eight washers (18), and four self-locking nuts (19) in cab step (7).

(12) Tighten four self-locking nuts (16 and 19) to 21-27 lb-ft (28-37 N·m).

(13) Close cab step tread (2) on cab step (7).

e. Follow-On Maintenance.

(1) Lower cab \([\text{TM 9-2320-365-10}]\).

(2) Install windshield washer reservoir and pump (left side cab step) \([\text{para 18-2}]\).

End of Task.
16-12. CAB FLOOR COVERING AND DOOR SEAL REPLACEMENT

This task covers:

a. Right Cab Floor Covering Removal
b. Right Cab Floor Covering Installation
c. Left Cab Floor Covering Removal
d. Left Cab Floor Covering Installation
e. Center Cab Floor Covering Removal
f. Center Cab Floor Covering Installation
g. Door Seal Removal (All Models Except M1081)
h. Door Seal Installation (All Models Except M1081)
i. M1081 Door Seal Removal
j. M1081 Door Seal Installation
k. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Seats removed (para 16-14).

Tools and Special Tools (Cont)
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. Right Cab Floor Covering Removal.

(1) Remove right floor covering (1) from cab floor (2).

(2) Remove four screws (3), washers (4), and molding (5) from cab floor (2).

b. Right Cab Floor Covering Installation.

(1) Position molding (5) on cab floor (2) with four washers (4) and screws (3).

(2) Tighten four screws (3) to 22-26 lb-in. (2-3 N·m).

(3) Install right floor covering (1) on cab floor (2).
16-12. CAB FLOOR COVERING AND DOOR SEAL REPLACEMENT (CONT)

c. Left Cab Floor Covering Removal.

(1) Remove two screws (1) and washers (2) from accelerator pedal (3).

(2) Position accelerator pedal (3) to allow removal of left floor covering (4).

(3) Remove left floor covering (4) from cab floor (5).

(4) Remove four screws (6), washers (7), and molding (8) from cab floor (5).

d. Left Cab Floor Covering Installation.

(1) Position molding (8) on cab floor (5) with four washers (7) and screws (6).

(2) Tighten four screws (6) to 22-26 lb-in. (2-3 N·m).

(3) Install left floor covering (4) on cab floor (5).

(4) Install two washers (2) and screws (1) in accelerator pedal (3).

(5) Tighten two screws (1) to 72-84 lb-in. (8-9 N·m).

e. Center Cab Floor Covering Removal.

Remove center floor covering (1) from cab floor (2).

f. Center Cab Floor Covering Installation.

Install center floor covering (1) on cab floor (2).
g. Door Seal Removal (All Models Except M1081)

NOTE
Left and right door seals are removed the same way. Right side shown.

Remove door seal (1) from cab (2).

h. Door Seal Installation (All Models Except M1081)

NOTE
Left and right door seal are installed the same way. Right side shown.

Install door seal (1) on cab (2).

i. M1081 Door Seal Removal.

NOTE
Left and right door seals are removed the same way. Right side shown.

1. Remove bottom door seal (1) from cab (2).
2. Remove top left door seal (3) from cab (2).
3. Remove top door seal (4) from cab (2).
4. Remove top right door seal (5) from cab (2).
j. M1081 Door Seal Installation.

**NOTE**

Left and right door seals are installed the same way. Right side shown.

1. Cut top right door seal (1) to 25.625 in. (65 cm).
2. Cut top door seal (2) to 29.5 in. (74.9 cm).
3. Cut top left door seal (3) to 22 in. (55.8 cm).
4. Cut bottom door seal (4) to 85 in. (213.3 cm).
5. Install top right door seal (1) on cab (5).
6. Install top door seal (2) on cab (5).
7. Install top left door seal (3) on cab (5).
8. Install bottom door seal (4) on cab (5).
9. Measure from top left of bottom door seal (4) 36 in. (91 cm).
10. Cut rubber seal to plastic clamp.

k. Follow-On Maintenance.

Install seats [para 16-14].

End of Task.
16-13. CAB PANEL LINERS REPLACEMENT

This task covers:

a. Removal
b. Installation

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Cab storage boxes removed (para 16-17).
Seats removed (para 16-14).
Seat belts removed (para 16-15).
Small arms mounts removed (para 21-7).
Rear boarding handles removed (para 16-76).

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

a. Removal.

(1) Remove four screws (1) and washers (2) from rear panel (3).

(2) Remove nine fasteners (4) and rear panel (3) from cab (5).

(3) Deleted.

(4) Remove seven fasteners (9) and left side panel (10) from cab (5).
(5) Deleted.

(6) Remove two screws (14), washers (15), and clip (16) from cab (5).

(7) Remove seven fasteners (17) and right side panel (18) from cab (5).

b. Installation.

(1) Install right side panel (1) in cab (2) with seven fasteners (3).

(2) Install clip (4) in cab (2) with two washers (5) and screws (6).

(3) Deleted.

(4) Install left side panel (10) in cab (2) with seven fasteners (11).

(5) Deleted.
(6) Install rear panel (15) in cab (2) with nine fasteners (16).

(7) Install four washers (17) and screws (18) in rear panel (15).

c. Follow-On Maintenance.

(1) Install rear boarding handle [para 16-76].

(2) Install small arms mounts (para 21-7).

(3) Install seat belts [para 16-15].

(4) Install seats [para 16-14].

(5) Install cab storage boxes [para 16-17].

End of Task.
16-14. SEATS REPLACEMENT/REPAIR

This task covers:

a. Passenger’s Seat Removal
b. Center Seat Removal
c. Driver’s Seat Removal
d. Seat Disassembly
e. Seat Assembly
f. Driver’s Seat Installation
g. Center Seat Installation
h. Passenger’s Seat 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)
Pliers, Hog Ring Staple (Item 36.2, Appendix B)
Goggles, Industrial (Item 15, Appendix C)
Lockwasher (4) (Item 101.1, Appendix G)
Cover, Seat, Vehicular (Item 19.2, Appendix D)
Cover, Seat, Vehicular (Item 19.1, Appendix D)

a. Passenger’s Seat Removal.

(1) Remove fire extinguisher (1) from bracket (2).

(2) Remove four screws (3) and washers (4) from seat mounts (5).

(3) Remove seat (6) and bracket (2) from seat mounts (5).

b. Center Seat Removal.

(1) Remove four screws (1), washers (2), and seat (3) from bracket (4).

(2) Remove four screws (5), washers (6), and bracket (4) from cab floor (7).
c. Driver’s Seat Removal.

(1) Slide seat (1) toward back of vehicle (TM 9-2320-365-10).

(2) Remove two screws (2) and washers (3) from front seat mount (4).

(3) Slide seat (1) toward front of vehicle (TM 9-2320-365-10).

(4) Remove two screws (5) and washers (6) from rear seat mount (7).

(5) Remove seat (1) from seat mounts (4 and 7).

d. Seat Disassembly.

(1) Remove two bolts (1) and washers (2) from two seat hinges (3).

(2) Remove seat bottom (4) from two seat hinges (3).

(3) Remove two bolts (5), washers (6), and two seat hinges (3) from seat back (7).
WARNING

Wear appropriate eye protection when removing hog rings. Hog rings are under tension and can act as projectiles when being removed. Failure to comply may result in injury to personnel.

(4) Remove 10 hog rings (8) from seat bottom cover (9).

(5) Remove seat bottom cover (9) from seat bottom (4).

(6) Remove five hog rings (10) from seat back cover (11).

(7) Remove seat back cover (11) from seat back (7).
e. **Seat Assembly.**

**NOTE**
Plastic film to be provided in replacement seat cover kit.

(1) Position plastic film (1) over seat back (2).

(2) Install two wire supports (3) in seat back cover (4).

(3) Position seat back cover (4) tightly over plastic film (1) and seat back (2).

**WARNING**
Wear appropriate eye protection when installing hog rings. Hog rings are under tension and can act as projectiles when being installed. Failure to comply may result in injury to personnel.

**CAUTION**
Ensure hog rings are crimped over wire support wires on bottom of seat back frame. Failure to comply may result in damage to equipment.

(4) Install five hog rings (5) equally spaced on seat back cover (4).

(5) Position seat bottom cover (6) tightly on seat bottom (7).

(6) Install two hog rings (8) on front of seat bottom cover (6).

(7) Install two hog rings (9) on rear of seat bottom cover (6).

(8) Install six hog rings (10) on left and right side of seat bottom cover (6).
(9) Install two seat hinges (11) on seat back (2) with two washers (12) and bolt (13).

(10) Install seat bottom (7) on two seat hinges (11) with four washers (14) and bolts (15).

f. Driver’s Seat Installation.

(1) Position seat (1) on seat mounts (2 and 3).

(2) Slide seat (1) toward front of vehicle (TM 9-2320-365-10).

(3) Install two washers (4) and screws (5) on rear seat mount (2).

(4) Slide seat (1) toward rear of vehicle [TM 9-2320-365-10].

(5) Install two washers (6) and screws (7) on front seat mount (3).
g. Center Seat Installation.

(1) Install bracket (1) on cab floor (2) with four washers (3) and screws (4).

(2) Install seat (5) on bracket (1) with four washers (6) and screws (7).

h. Passenger’s Seat Installation.

(1) Install seat (1) and bracket (2) on seat mounts (3) with four washers (4) and screws (5).

(2) Install fire extinguisher (6) in bracket (2).

End of Task.
16-15. SEAT BELT REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Cab storage boxes removed (para 16-17).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)

a. Removal.

NOTE

Right and left side seat belts are replaced the same way. Right side shown.

(1) Remove plastic cover (1) from screw (2).

(2) Remove screw (2), washer (3), mounting bracket (4), and spacer (5) from side of cab (6).

(3) Open plastic cover (7).

(4) Remove screw (8), washer (9), seat belt retractor (10), and spacer (11) from side of cab (6).

(5) Remove seat belt (12) from side of cab (6).
NOTE

Perform steps (6) through (8) for center seat belt.

(6) Remove screw (13), washer (14), center seat belt mounting bracket (15), and two spacers (16) from rear bulkhead (17).

(7) Open plastic cover (18).

(8) Remove screw (19), washer (20), center seat belt retractor (21), spacer (22), and center seat belt (23) from rear bulkhead (17).

NOTE

All three seat belt buckles are replaced the same way. Right side shown.

(9) Remove screw (24), seat belt buckle (25), and spacer (26) from cab floor (27).
b. **Installation.**

(1) Position spacer (1) and seat belt buckle (2) with screw (3) on cab floor (4).

(2) Tighten screw (3) to 30-35 lb-ft (41-47 N·m).

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**NOTE**

Perform steps (3) through (7) for center seat belt.

(3) Position spacer (5), center seat belt retractor (6), center seat belt (7), washer (8), and screw (9) on rear bulkhead (10).

(4) Tighten screw (9) to 30-35 lb-ft (41-47 N·m).

(5) Close plastic cover (11).
(6) Position two spacers (12), center seat belt mounting bracket (13), washer (14), and screw (15) on rear bulkhead (10).

(7) Tighten screw (15) to 30-35 lb-ft (41-47 N·m).

(8) Position spacer (16), seat belt retractor (17), seat belt (18), washer (19), and screw (20) on side of cab (21).

(9) Tighten screw (20) to 30-35 lb-ft (41-47 N·m).

(10) Close plastic cover (22).

(11) Position spacer (23), seat belt mounting bracket (24), washer (25), and screw (26) on side of cab (21).

(12) Tighten screw (26) to 30-35 lb-ft (41-47 N·m).

(13) Install plastic cover (27) on screw (26).

c. Follow-On Maintenance.

Install cab storage boxes [para 16-17].

End of Task.
# 16-16. TOOL BOX REPLACEMENT/REPAIR

This task covers:

- a. Removal
- b. Disassembly
- c. Assembly
- d. Installation
- e. Follow-On Maintenance

## INITIAL SETUP

### Equipment Conditions
- Engine shut down (TM 9-2320-365-10).
- Spare tire lowered (TM 9-2320-365-10).
- Tools removed from tool box (TM 9-2320-365-10).
- Hydraulic manifold removed (para 19-4).

### Tools and Special Tools
- Tool Kit, Genl Mech (Item 44, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
- Screwdriver Attachment, Socket Wrench (Item 47, Appendix B)

### Tools and Special Tools (Cont)
- Drill, Electric, Portable (Item 7, Appendix C)
- Drill Set, Twist (Item 6, Appendix C)

### Materials/Parts
- Latch, Bail Head (Item 59, Appendix G)
- Seal, Nonmetallic (Item 252, Appendix G)
- Nut, Self-Locking (8) (Item 139, Appendix G)
- Nut, Self-Locking (2) (Item 140, Appendix G)

### Personnel Required
- (2)

## a. Removal.

1. Remove two screws (1), washers (2), and cover (3) from backup hydraulic pump (4).
2. Remove four self-locking nuts (5) and screws (6) from spare tire retainer assembly (7). Discard self-locking nuts.
3. Remove four self-locking nuts (8) and screws (9) from spare tire retainer assembly (7). Discard self-locking nuts.
(4) Remove two self-locking nuts (10), screws (11), washers (12), and tool box (13) from front lifting beam (14). Discard self-locking nuts.

(5) Remove two screws (15), washers (16), and tool box (13) from backup hydraulic pump (4).

b. Disassembly.

**WARNING**

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

**NOTE**

Tool box doors may be installed with rivets or screws and nuts. Tool box door with rivets shown.

(1) Remove five rivets (1) and tool box door (2) from hinge (3).

(2) Remove five rivets (4) and hinge (3) from tool box (5).
(3) Loosen setscrew (6) in latch pawl (7).

(4) Remove latch pawl (7) from shaft (8). Discard latch pawl and setscrew.

(5) Bend down two tabs on key washer (9).

(6) Remove nut (10), key washer (9), spring washer (11), shaft (8), stop washer (12), bail (13), and plate (14) from tool box door (2). Discard nut, key washer, spring washer, shaft, stop washer, bail and plate.

(7) Remove two seals (15) and seals (16) from tool box door (2). Discard seals.
c. Assembly.

(1) Cut two seals (1) to 8.75 in. (22.2 cm) long.

(2) Cut two seals (2) to 11.15 in. (28.3 cm) long.

(3) Install two seals (1) and seals (2) on tool box door (3) 0.12-0.20 in. (0.3-0.5 cm) offset from edge of tool box door.

(4) Install bail (4) and stop washer (5) on shaft (6).

(5) Install plate (7) and shaft (6) on tool box door (3) with spring washer (8), key washer (9), and nut (10).

(6) Bend up two tabs on key washer (9)

(7) Install latch pawl (11) on shaft (6).

NOTE

Tool boxes disassembled with rivets attaching tool box door, will require tool box door and tool box mounting holes be enlarged to 0.250 in. (0.625 cm).

(7.1) Drill out 5 holes in tool box (13) and tool box door (3).

(8) Install hinge (12) on tool box (13) with five screws (13.1) and nuts (13.2).

(9) Install tool box door (3) on hinge (12) with five screws (14) and nuts (15).
(10) Adjust position of latch pawl (11) on shaft (6) so that tool box door (3) is flush against tool box (13) when bail (4) is turned to locked position.

(11) Tighten setscrew (16) in latch pawl (11).

b. Installation.

(1) Position tool box (1) on backup hydraulic pump (2) with two washers (3) and screws (4).

(2) Tighten two screws (4) to 28-34 lb-ft (38-46 N·m).

NOTE
Step (3) requires the aid of an assistant.

(3) Position tool box (1) on front lifting beam (5) with two washers (6), screws (7), and self-locking nuts (8).

(4) Tighten two self-locking nuts (8) to 43-52 lb-ft (58-71 N·m).
(5) Position four screws (9) and self-locking nuts (10) in spare tire retainer assembly (11).

(6) Position four screws (12) and self-locking nuts (13) in spare tire retainer assembly (11).

(7) Tighten four self-locking nuts (10 and 13) to 24-30 lb-ft (33-41 N·m).

(8) Position cover (14) on backup hydraulic pump (2) with two washers (15) and screws (16).

(9) Tighten two screws (16) to 28-34 lb-ft (38-46 N·m).

c. Follow-On Maintenance.

(1) Place tools in tool box [TM 9-2320-365-10].

(2) Install hydraulic manifold [para 19-4].

(3) Raise spare tire [TM 9-2320-365-10]

End of Task.
16-17. CAB STORAGE BOX REPLACEMENT/REPAIR

This task covers:

a. Removal  
b. Disassembly  
c. Assembly  
d. Installation

INITIAL SETUP

Equipment Conditions
Engine shut down [TM 9-2320-365-10].

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)

Materials/Parts
Pin, Cotter (Item 208, Appendix G)
Grommet, Nonmetallic (Item 46, Appendix G)
Bumper, Rubber (12) (Item 4, Appendix G)
Channel, Rubber (Item 6, Appendix G)
Adhesive (Item 3, Appendix D)

a. Removal.

NOTE

Left and right storage boxes are removed the same way. Left storage box shown.

(1) Open storage box cover (1).
(2) Remove six screws (2) and washers (3) from storage box (4).
(3) Remove storage box (4) from cab floor (5).

b. Disassembly.

(1) Remove six nuts (1), washers (2), screws (3), and storage box cover (4) from storage box (5).
(2) Remove two nuts (6), screws (7) and clamp (8) from storage box cover (4).
(3) Remove cotter pin (9), washer (10), and cover support arm (11) from storage box (5). Discard cotter pin.

(4) Remove rubber grommet (12) from storage box (5). Discard rubber grommet.

(5) Remove two nuts (13), screws (14), and clamp (15) from storage box (5).

(6) Remove four nuts (16), screws (17), and two latches (18) from storage box (5).

(7) Remove 12 rubber bumpers (19) from storage box (5). Discard rubber bumpers.

**NOTE**
Right storage box is equipped with a tray. Perform step (8) on right storage box.

(8) Remove rubber channel (20) from storage box tray (21). Discard rubber channel.
c. Assembly.

**WARNING**

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

**NOTE**

Only right storage box is equipped with a tray. Perform steps (1) and (2) on right storage box.

1. Apply adhesive to top edges of storage box tray (1).
2. Install rubber channel (2) on storage box tray (1).
3. Install 12 rubber bumpers (3) in storage box (4).
4. Install two latches (5) on storage box (4) with four screws (6) and nuts (7).
5. Install clamp (8) on storage box (4) with two screws (9) and nuts (10).
6. Install rubber grommet (11) in storage box (4).
7. Install cover support arm (12) in storage box (4) with washer (13) and cotter pin (14).
d. Installation.

NOTE

Left and right storage boxes are installed the same way. Left storage box shown.

(1) Position storage box (1) in mounting location on cab floor (2).

(2) Position six washers (3) and screws (4) in storage box (1).

(3) Tighten six screws (4) to 70-85 lb-in. (8-10 N·m).

(4) Close storage box cover (5).

End of Task.
16-18. PANEL STOWAGE DOOR ASSEMBLY REPAIR

This task covers:

- a. Removal
- b. Disassembly
- c. Assembly
- d. Installation

INITIAL SETUP

**Equipment Conditions**

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

**Tools and Special Tools**

- Tool Kit, Genl Mech (Item 44, Appendix C)
- Drill Set, Twist (Item 6, Appendix C)
- Drill, Portable, Electric (Item 7, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)

**Tools and Special Tools (Cont)**

- Tool Kit, Blind Rivet (Item 44, Appendix C)

**Materials/Parts**

- Nut, Self-Locking (4) (Item 123, Appendix G)
- Rivet, Blind (10) (Item 235, Appendix G)
- Rivet, Blind (8) (Item 220, Appendix G)

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**a. Removal.**

**WARNING**

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

Remove five rivets (1) and door (2) from stowage box (3).

**b. Disassembly.**

(1) Remove five rivets (1) and hinge (2) from door (3).
(2) Remove four nuts (4), screws (5), and door latch (6) from door (3).

**NOTE**
Perform step (3) on right side door.

(3) Remove eight rivets (7) and two data plates (8) from door (3).

c. Assembly.

(1) Install two data plates (1) on door (2) with eight rivets (3).

(2) Install door latch (4) on door (2) with four screws (5) and nuts (6).

(3) Install hinge (7) on door (2) with five rivets (8).
d. Installation.

Install door (1) on stowage box (2) with five rivets (3).

End of Task.
16-19. M1079 VAN BODY REPLACEMENT

This task covers:

a. Removal
b. Installation

INITIAL SETUP

Equipment Conditions
AC power disconnected (TM 9-2320-365-10).
Batteries disconnected (para 7-48).
Heater kit removed, if equipped (para 20-41).
Air conditioner kit removed, if equipped (para 20-81).

Materials/Parts
Rope, Fibrous (Item 53, Appendix D)
Pad, Cushioning (2) (Item 194, Appendix G)
Pad, Cushioning (2) (Item 195, Appendix G)

Personnel Required
(3)

Tools and Special Tools
Sling, Eye (4) (Item 64, Appendix B)
Link, Chain, End (Item 36, Appendix B)
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Box and Open End, Combination (Item 51.1, Appendix C)

a. Removal.

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

(1) Disconnect connector P173 (1) from connector J173 (2).

NOTE
Left and right van body mounting hardware is removed the same way. Left side shown.

(2) Remove lynch pin (3) from bolt (4).

(3) Remove slotted nut (5), washer (6), bolt (4), and washer (7) from sub-frame (8).
(4) Remove two lynch pins (9) from stud (10).

(5) Remove two slotted nuts (11), washers (12), stud (10), and spring (13) from sub-frame (8).

(6) Perform steps (2) through (5) on right side of van body.

**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.

- 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.

- 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.

**NOTE**

Step (7) requires the aid of two assistants.

(7) Remove van body (14) from sub-frame (8).
(8) Remove two cushioning pads (15) from rear of sub-frame (8). Discard cushioning pads.

(9) Remove two cushioning pads (16) from front of sub-frame (8). Discard cushioning pads.

b. Installation.

(1) Install two cushioning pads (1) front of on sub-frame (2).
(2) Install two cushioning pads (3) on rear of sub-frame (2).

**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.

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

- 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.

**NOTE**

Step (3) requires the aid of two assistants.

(3) Position van body (4) on sub-frame (2).
NOTE

Left and Right van body mounting hardware is installed the same way. Left side shown.

(4) Install spring (5), stud (6), two washers (7), and slotted nuts (8) in sub-frame (2).

(5) Install two lynch pins (9) in stud (6).

(6) Install washer (10), bolt (11), washer (12), and slotted nut (13) in sub-frame (2).

(7) Install lynch pin (14) in bolt (11).

(8) Perform steps (4) through (7) on right side of van body.

(9) Connect connector P173 (15) to connector J173 (16).
16-19. M1079 VAN BODY REPLACEMENT (CONT)

c. Follow-On Maintenance.

(1) Install air conditioner kit, if equipped (para 20-81).

(2) Install heater kit, if equipped (para 20-41).

(3) Connect batteries (para 7-48).

(4) Connect AC power [TM 9-2320-365-10].

End of Task.
16-20. M1079 UPPER SUB-FRAME REPLACEMENT

This task covers:

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

INITIAL SETUP

**Equipment Conditions**
Van body removed (para 16-19).

**Tools and Special Tools**
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Goggles, Industrial (Item 15, Appendix C)
Trestle, Motor Vehicle Maintenance (8) (Item 45, Appendix C)
Sling, Eye (4) (Item 64, Appendix B)
Link, Chain, End (Item 36, Appendix B)

**Materials/Parts**
Rope, Fibrous (as required) (Item 53, Appendix D)
Lockwasher (36) (Item 92, Appendix G)
Rubber Strip (as required) (Item 56, Appendix D)

**Personnel Required**
(3)

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### a. Removal.

**WARNING**

- Van body weighs approximately 3360 lbs (1525 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in serious injury or death to personnel.

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

**NOTE**

Step (1) requires the aid of two assistants.

1. Position van body (1) on four trestles.

2. Position four trestles under upper sub-frame (2).
WARNING

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

(3) Remove 28 screws (3), lockwashers (4), and washers (5) from upper sub-frame (2). Discard lockwashers.

(4) Remove six screws (6), lockwashers (7), and washers (8) from upper sub-frame (2). Discard lockwashers.

(5) Remove two screws (9), lockwashers (10), and washers (11) from upper sub-frame (2). Discard lockwashers.

WARNING

Van body weighs approximately 3360 lbs (1525 kgs) attach a suitable lifting device of adequate capacity prior to removal. Failure to comply may result in serious injury or death to personnel.

NOTE

Step (6) requires the aid of two assistants.

(6) Remove van body (1) from upper sub-frame (2).
(7) Remove rubber strip (12) from upper sub-frame (2). Discard rubber strip.

b. Installation.

(1) Position upper sub-frame on four trestles.
(2) Install rubber strip (2) on upper sub-frame (1).

**WARNING**

- Van body weighs approximately 3360 lbs (1525 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in serious injury or death to personnel.

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

**NOTE**

Step (3) requires the aid of two assistants.

(3) Position van body (3) on upper sub-frame (1).
(4) Position four trestles under van body (3).
(5) Position two washers (4), lockwashers (5), and screws (6) in upper sub-frame (1).

(6) Position six washers (7), lockwashers (8), and screws (9) in upper sub-frame (1).

(7) Position 28 washers (10), lockwashers (11), and screws (12) in upper sub-frame (1).

(8) Tighten two screws (6), six screws (9), and 28 screws (12) to 24-26 lb-ft (33-35 N·m).

NOTE

Step (9) requires the aid of two assistants.

(9) Remove van body (3) from trestles.

c. Follow-On Maintenance.

Install van body on M1079 upper sub-frame (para 16-19).

End of Task.
16-21. M1079 LOWER SPREADER BAR REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
Splash guard removed (right side lower spreader bar) (para 16-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)

Materials/Parts
Grease, Automotive and Artillery (Item 23, Appendix D)

Personnel Required
(2)

a. Removal.

NOTE

Left and right lower spreader bars are removed the same way. Left side shown.

(1) Remove lynch pin (1) from retaining pin (2).

(2) Remove lynch pin (1) from lanyard (3).

(3) Remove lanyard (3) from chain (4).

(4) Remove split ring (5) from retaining pin (2).

(5) Remove split ring (5) from lanyard (3).
(6) Remove two screws (6) and chain (4) from sub-frame (7) and spreader bar (8).

(7) Remove retaining pin (2) from spreader bar (8).

**WARNING**

Spreader bar weighs approximately 100 lbs (45 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

**NOTE**

Step (8) requires the aid of an assistant.

(8) Remove spreader bar (8) from sub-frame (7).

(9) Remove pin (9) and shackle (10) from spreader bar (8).

b. Installation.

(1) Install shackle (1) on spreader bar (2) with pin (3).

(2) Apply a coating of grease to all sides of spreader bar (2).

**WARNING**

Spreader bar weighs approximately 100 lbs (45 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

**NOTE**

Step (3) requires the aid of an assistant.

(3) Install spreader bar (2) in sub-frame (4).

(4) Install retaining pin (5) in spreader bar (2).
(5) Position chain (6) on sub-frame (4) and spreader bar (2) with two screws (7).

(6) Tighten two screws (7) to 13-17 lb-ft (18-23 N·m).

(7) Install split ring (8) on lanyard (9).

(8) Install split ring (8) on retaining pin (5).

(9) Route lanyard (9) through chain (6).

(10) Install lynch pin (10) on lanyard (9).

(11) Install lynch pin (10) in retaining pin (5).

c. Follow-On Maintenance.

Install splash guard (right side lower spreader bar) [para 16-10].

End of Task.
16-22. M1079 POD DOOR AND PANELS REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
- Engine shut down [TM 9-2320-365-10]
- Sling spreader and guides removed (for top rear panels) [para 16-24]
- Cab raised [TM 9-2320-365-10]

Tools and Special Tools
- Tool Kit, Genl Mech (Item 44, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Drill, Portable, Electric (Item 7, Appendix C)
- Drill Set, Twist (Item 6, Appendix C)
- Tool Kit, Blind Rivet (Item 43, Appendix C)

Materials/Parts
- Lockwasher (as required) (Item 82, Appendix G)
- Rivet, Blind (2) (Item 226, Appendix G)
- Rivet, Blind (10) (Item 233, Appendix G)
- Rubber Strip (as required) (Item 55, Appendix D)

WARNING

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

a. Removal.

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

(2) Remove adhesive rubber strip (6) from curbside side panel (4). Discard adhesive rubber strip.
NOTE

Perform step (3) if heater kit is installed.

(3) Remove heater exhaust pipe coupler (7) from heater (8).

(4) Remove 14 screws (9), lockwashers (10), washers (11), and curbside front panel (12) from pod frame (5). Discard lockwashers.

(5) Remove adhesive rubber strip (13) from curbside front panel (12). Discard adhesive rubber strip.

(6) Remove 13 screws (14), lockwashers (15), washers (16), and curbside top front panel (17) from pod frame (5). Discard lockwashers.

(7) Remove adhesive rubber strip (18) from curbside top front panel (17). Discard adhesive rubber strip.

(8) Remove five screws (19), lockwashers (20), washers (21), and curbside top rear panel (22) from pod frame (5). Discard lockwashers.

(9) Remove adhesive rubber strip (23) from curbside top rear panel (22). Discard adhesive rubber strip.
NOTE

Perform steps (10) through (17) on van bodies serial number 191 and higher.

(10) Remove eight screws (24), lockwashers (25), washers (26), and center top rear panel (27) from pod frame (5). Discard lockwashers.

(11) Remove adhesive rubber strip (28) from center top rear panel (27). Discard adhesive rubber strip.

(12) Open two latches (29) on pod frame (5).

(13) Remove eight screws (30), lockwashers (31), washers (32), and center top front panel (33) from pod frame (5). Discard lockwashers.

(14) Remove adhesive rubber strip (34) from center top front panel (33). Discard adhesive rubber strip.

(15) Remove two rivets (35) and latches (29) from pod frame (5).

(16) Remove five rivets (36) and center front panel door (37) from hinge (38).

(17) Remove five rivets (39) and hinge (38) from center top front panel (33).
NOTE

Perform steps (18) through (23) on van body serial numbers 001 through 190.

(18) Open two latches (40) on pod frame (5).

(19) Remove four screws (41), lockwashers (42), washers (43), and center top panel (44) from pod frame (5). Discard lockwashers.

(20) Remove adhesive rubber tape (45) from center top panel (44). Discard adhesive rubber tape.

(21) Remove two rivets (46) and latches (40) from pod frame (5).

(22) Remove five rivets (47) and center front panel door (48) from hinge (49).

(23) Remove five rivets (50) and hinge (49) from center top panel (44).

(24) Remove five screws (51), lockwashers (52), washers (53), and roadside top rear panel (54) from pod frame (5). Discard lockwashers.

(25) Remove adhesive rubber strip (55) from roadside top rear panel (54). Discard adhesive rubber strip.
NOTE

Perform steps (26) and (27) on van bodies serial number 191 and higher.

(26) Remove 13 screws (56), lockwashers (57), washers (58), and roadside top front panel (59) from pod frame (5). Discard lockwashers.

(27) Remove adhesive rubber strip (60) from roadside top front panel (59). Discard adhesive rubber strip.

NOTE

Perform steps (28) and (29) on van body serial numbers 001 through 190.

(28) Remove nine screws (60), lockwashers (61), washers (62), and roadside top front panel (63) from pod frame (5). Discard lockwashers.

(29) Remove adhesive rubber tape (64) from roadside top front panel (63). Discard adhesive rubber tape.

(30) Remove 16 screws (65), lockwashers (66), washers (67), and roadside front panel (68) from pod frame (5). Discard lockwashers.

(31) Remove adhesive rubber strip (69) from roadside front panel (68). Discard adhesive rubber strip.
(32) Remove 15 screws (70), lockwashers (71), washers (72), and roadside side panel (73) from pod frame (5). Discard lockwashers.

(33) Remove adhesive rubber strip (74) from roadside side panel (73). Discard adhesive rubber strip.

b. Installation.

(1) Install adhesive rubber strip (1) on roadside side panel (2).

(2) Install roadside side panel (2) on pod frame (3) with 15 washers (4), lockwashers (5), and screws (6).

(3) Install adhesive rubber strip (7) on roadside front panel (8).

(4) Install roadside front panel (8) on pod frame (3) with 16 washers (9), lockwashers (10), and screws (11).
(5) Install adhesive rubber strip (12) on roadside top front panel (13).

**NOTE**
Perform step (6) on van bodies serial number 191 and higher.

(6) Install roadside top front panel (13) on pod frame (3) with 13 washers (14), lockwashers (15), and screws (16).

**NOTE**
Perform step (7) on van body serial numbers 001 through 190.

(7) Install roadside top front panel (13) on pod frame (3) with nine washers (14), lockwashers (15), and screws (16).

(8) Install adhesive rubber strip (17) on roadside top rear panel (18).

(9) Install roadside top rear panel (18) on pod frame (3) with five washers (19), lockwashers (20), and screws (21).
NOTE

Perform steps (10) through (15) on van body serial numbers 001 through 190.

(10) Install hinge (22) on center top front panel (23) with five rivets (24).

(11) Install center front panel door (25) on hinge (22) with five rivets (26).

(12) Install two latches (27) on pod frame (3) with two rivets (28).

(13) Install adhesive rubber strip (29) on center top front panel (23).

(14) Install center top front panel (23) on pod frame (3) with four washers (30), lockwashers (31), and screws (32).

(15) Close two latches (27) on center front panel door (25).

NOTE

Perform steps (16) through (23) on van bodies serial number 191 and higher.

(16) Install hinge (33) on center top panel (34) with five rivets (35).

(17) Install center front panel door (36) on hinge (33) with five rivets (37).
(18) Install two latches (38) on pod frame (3) with two rivets (39).

(19) Install adhesive rubber tape (40) on center top panel (34).

(20) Install center top panel (34) on pod frame (3) with eight washers (41), lockwashers (42), and screws (43).

(21) Close two latches (38) on center front panel door (36).

(22) Install adhesive rubber strip (44) on center top rear panel (45).

(23) Install center top rear panel (45) on pod frame (3) with eight washers (46), lockwashers (47), and screws (48).

(24) Install adhesive rubber strip (49) on curbside top rear panel (50).

(25) Install curbside top rear panel (50) on pod frame (3) with five washers (51), lockwashers (52), and screws (53).
(26) Install adhesive rubber strip (54) on curbside top front panel (55).

(27) Install curbside top front panel (55) on pod frame (3) with 13 washers (56), lockwashers (57), and screws (58).

(28) Install adhesive rubber strip (59) on curbside front panel (60).

(29) Install curbside front panel (60) on pod frame (3) with 14 washers (61), lockwashers (62), and screws (63).

**NOTE**
Perform step (30) if heater kit installed.

(30) Install heater exhaust pipe coupler (64) on heater (65).

(30) Install adhesive rubber strip (66) on curbside side panel (67).

(31) Install curbside side panel (67) on pod frame (3) with 13 washers (68), lockwashers (69), and screws (70).

c. **Follow-On Maintenance.**

(1) Lower cab [TM 9-2320-365-10]

(2) Install sling spreader and guides, if removed (para 16-24).

**End of Task.**
16-23. M1079 POD FRAME REPLACEMENT/REPAIR

This task covers:

a. Removal
b. Disassembly
c. Assembly
d. Installation
e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Van body removed (para 16-19)
Air conditioner kit removed, if equipped (para 20-81).
Pod doors and panels removed (para 16-22).
Heater kit removed, if equipped (para 20-41).
Fan assembly removed, if equipped (para 16-67).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Goggles, Industrial (Item 15, Appendix C)
Drill, Electric (Item 7, Appendix C)
Drill Set, Twist (Item 6, Appendix C)
Tool Kit, Blind Rivet (Item 43, Appendix C)
Sling, Cargo (2) (Item 31, Appendix C)

Materials/Parts
Sealing Compound (Item 67, Appendix D)
Nut, Blind Rivet (96) (Item 110, Appendix G)
Screw, Machine (96) (Item 241, Appendix G)
Washer, Flat (96) (Item 270, Appendix G)
Lockwasher (96) (Item 97, Appendix G)
Rivet, Blind (as required) (Item 230, Appendix G)
Blade, Hand Hacksaw (Item 14.1, Appendix D)
Frame, Hand Hacksaw (Item 14.1, Appendix B)

Personnel Required
(2)

WARNING

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

• 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.

a. Removal.

(1) Remove sealing compound from edges of pod frame (1).
NOTE

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

(2) Remove 96 rivets (2) from pod frame (1).

CAUTION

Use care when removing pod frame from van body wall. Start at one corner and slowly work pod frame loose from van body corner angles. Do not pry against van body skin. Failure to comply may result in damage to equipment.

(3) Remove pod frame (1) from van body wall (3).

(4) Remove spacers (4,5,6, and 7) from van body wall (3).

(5) Remove sealing compound from spacers (4,5,6, and 7) and van body wall (3).
b. Disassembly

(1) Remove sealing compound from edges of curbside inside panel (1) and curbside bottom panel (2).

(2) Remove 14 blind rivets (3) and curbside inside panel (1) from pod frame (4).

(3) Remove 26 blind rivets (5) and curbside bottom panel (2) from pod frame (4).

(4) Remove sealing compound from curbside inside panel (1), curbside bottom panel (2), and pod frame (4).

(5) Remove sealing compound from edges of roadside inside panel (6) and roadside bottom panel (7).

(6) Remove 12 blind rivets (8) and roadside inside panel (6) from pod frame (4).

(7) Remove 26 blind rivets (9) and roadside bottom panel (7) from pod frame (4).

(8) Remove sealing compound from roadside inside panel (6), roadside bottom panel (7) and pod frame (4).
c. Assembly.

**WARNING**

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

(1) Apply sealing compound to 26 blind rivets (1) and roadside bottom panel (2).

(2) Install roadside bottom panel (2) on pod frame (3) with 26 blind rivets (1).

(3) Apply sealing compound to 12 blind rivets (4) and roadside inside panel (5).

(4) Install roadside inside panel (5) on pod frame (3) with 12 blind rivets (4).
WARNING

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

(5) Apply sealing compound to 26 blind rivets (6) and curbside bottom panel (7).

(6) Install curbside bottom panel (7) on pod frame (3) with 26 blind rivets (6).

(7) Apply sealing compound to 14 blind rivets (8) and curbside inside panel (9).

(8) Install curbside panel (9) on pod frame (3) with 14 blind rivets (8).

d. Installation.

CAUTION

Use Q size twist drill bit to perform steps (1) and (2). Failure to comply may result in damage to equipment.

(1) Enlarge 96 holes in van body wall (1).
(2) Enlarge 71 holes in spacers (2, 3, 4, and 5).

**CAUTION**

Use 100 degree countersink to perform steps (3) and (4). Failure to comply may result in damage to equipment.

(3) Countersink 71 holes in spacers (2, 3, 4, and 5).

(4) Countersink 25 holes in van body trim angle (6).

**WARNING**

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

**NOTE**

Sealing compound will become unusable two hours after being mixed.

(5) Apply sealing compound to 29 blind rivet nuts (7) and spacer (2).

(6) Install spacer (2) on van body wall (1) with 29 blind rivet nuts (7).
WARNING

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

(7) Apply sealing compound to 15 blind rivet nuts (7) and spacers (3 and 4).

(8) Install spacers (3 and 4) on van body wall (1) with 15 blind rivet nuts (7).

(9) Apply sealing compound to 52 blind rivet nuts (7) and spacer (5).

(10) Install spacer (5) on van body wall (1) with 27 blind rivet nuts (7).

(11) Install 25 blind rivet nuts (7) on van body trim angle (6).
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.

- Pod frame weighs approximately 80 lbs. (36 kg). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel and/or damage to equipment.

(12) Install pod frame (3) on van body wall (1) with 96 washers (8), lockwashers (9), and screws (10).

(13) Cut center section (11) from pod frame (3).

e. Follow-On Maintenance.

(1) Install heater kit, if equipped (para 20-41).

(2) Install air conditioner kit, if equipped (para 20-81).

(3) Install fan assembly [para 16-67].

(4) Install pod doors and panels [para 16-22].

(5) Install van body [para 16-19].

End of Task.
16-24. M1079 SLING SPREADER AND GUIDES REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions  
Front clearance and marker lights removed  
Tool Kit, Genl Mech (Item 44, Appendix C)  
Sling, Cargo (Item 31, Appendix C)

Materials/Parts  
Lockwasher (42) (Item 88, Appendix G)  
Sealing Compound (Item 67, Appendix D)

Personnel Required  
(2)

NOTE  
Both sides of spreader bar are rigged the same way. Left side shown.

(1) Remove clevis pin (1) from sling guide (2).

(2) Extend sling guide (2) from sling spreader (3).

(3) Install clevis pin (1) in sling guide (2).

(4) Open end cap (4) on sling guide (2).

(5) Position cargo sling in sling guide (2).

(6) Close end cap (4) on sling guide (2).

(7) Perform steps (1) through (6) on right side of sling spreader (3).
(8) Remove sealing compound from edges of sling spreader (3).

**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.

**CAUTION**

Use care when removing sling spreader. Failure to comply may result in damage to marker light wiring or connectors.

(9) Remove two screws (5), lockwashers (6), washers (7), and lanyards (8) from sling spreader (3). Discard lockwashers.

(10) Remove 40 screws (9), lockwashers (10), and washers (11) from sling spreader (3). Discard lockwashers.

**NOTE**

Step (11) requires the aid of an assistant.

(11) Remove sling spreader (3) from van body (12).

(12) Remove sealing compound from van body (12).

(13) Open two end caps (4) on sling guides (2).

(14) Remove cargo sling from two sling guides (2).
NOTE

Both sling guides are removed the same way. Left side shown.

(15) Remove two screws (13) and end cap (4) from sling guide (2).

(16) Remove screw (14) from sling guide (2).

(17) Remove clevis pin (1) from sling guide (2).

(18) Remove sling guide (2) from sling spreader (3).

(19) Perform steps (15) through (18) on right side of sling spreader (3).

b. Installation.

NOTE

Both sling guides are installed the same way. Left side shown.

(1) Install sling guide (1) in sling spreader (2).

(2) Install clevis pin (3) in sling guide (1) with sling guide in extended position.

(3) Install screw (4) in sling guide (1).

(4) Install end cap (5) on sling guide (1) with two screws (6).

(5) Perform steps (1) through (4) on right side of sling spreader (2).
NOTE

Both sides of sling spreader are rigged the same way. Left side shown.

(6) Open end cap (5) on two sling guides (1).

(7) Route cargo sling through two sling guides (1).

(8) Close end cap (5) on two sling guides (1).

WARNING

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

CAUTION

Use care when installing sling spreader. Failure to comply may result in damage to marker light wiring or connectors.

NOTE

Step (9) requires the aid of an assistant.

(9) Install sling spreader (2) on van body (7) with 40 washers (8), lockwashers (9), and screws (10).
(10) Install two lanyards (11) on sling spreader (2) with two washers (12), lockwashers (13), and screws (14).

**WARNING**

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

(11) Apply sealing compound around edges of sling spreader (2).

(12) Open end cap (5) on two sling guides (1).

(13) Remove cargo sling from two sling guides (1).

(14) Close end cap (5) on two sling guides (1).

(15) Remove two clevis pins (3) from sling guides (1).

(16) Retract two sling guides (1) in sling spreader (2).

(17) Install two clevis pins (3) in sling guides (1).

c. **Follow-On Maintenance.**

Install front clearance and marker lights [para 16-60].

**End of Task.**
# 16-25. M1079 LIFT CASTING REPLACEMENT

This task covers:

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

## INITIAL SETUP

**Equipment Conditions**

Engine shut down [TM 9-2320-365-10](#).

Sling spreader and guides removed (for front lift casting replacement) [para 16-24](#).

**Tools and Special Tools**

Tool Kit, Genl Mech (Item 44, Appendix C)

Screwdriver Attachment, Socket Wrench (van bodies serial number 191 and higher) (Item 42, Appendix B)

Screwdriver Attachment, Socket Wrench (van body serial numbers 001 through 190) (Item 43, Appendix B)

**Materials/Parts**

- Lockwasher (2) (Item 81, Appendix G)
- Sealing Compound (Item 67, Appendix D)

## a. Removal.

**NOTE**

All four lift castings are removed the same way. Left front lift casting shown.

1. Remove sealing compound from edges of lift casting (1).
2. Remove 11 screws (2) from lift casting (1).
3. Remove two screws (3) from lift casting (1).
4. Remove two screws (4), lockwashers (5), and washers (6) from lift casting (1). Discard lockwashers.
(5) Pry lift casting (1) over blind rivet nut heads (7) on top and side of van body (8).

(6) Remove lift casting (1) from van body (8).

(7) Remove sealing compound from van body (8).

b. Installation.

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

**NOTE**
All four lift castings are installed the same way. Left front lift casting shown.

1. Apply sealing compound to van body (1) on area where lift casting (2) attaches.

2. Apply sealing compound to inside surface of lift casting (2).

3. Position lift casting (2) on van body (1).
(4) Install two washers (3), lockwashers (4), and screws (5) in lift casting (2).

(5) Install two screws (6) in lift casting (2).

(6) Install 11 screws (7) in lift casting (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.

(7) Apply sealing compound around edges of lift casting (2).

c. Follow-On Maintenance.

Install sling spreader and guides (front lift casting replacement only) [para 16-24].

End of Task.
16-26. M1079 SLING BEARING ANGLE 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 67, Appendix D)

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

a. Removal.

(1) Remove 24 screws (1) from sling bearing angle (2).

(2) Remove sealing compound from edges of sling bearing angle (2).

(3) Remove sling bearing angle (2) from van body (3).

(4) Remove sealing compound from van body (3).

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 inside edge of sling bearing angle (2).

(2) Install sling bearing angle (2) on van body (3) with 24 screws (1).

(3) Apply sealing compound on edges of sling bearing angle (2).

End of Task.
16-27. M1079 ROOF BAIL HANDLE 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 67, Appendix D)
Lockwasher (4) (Item 78, Appendix G)

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

a. Removal.

(1) Remove sealing compound from heads of four screws (1).

(2) Remove four screws (1), lockwashers (2), washers (3), and bail handle (4) from van body (5). Discard lockwashers.

(3) Remove sealing compound from van body (5).

b. Installation.

(1) Install bail handle (4) on van body (5) with four washers (3), lockwashers (2), and screws (1).

   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 around heads of four screws (1).

End of Task.
16.28. M1079 FOLDING STEP REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP

Equipment Conditions
- Engine shut down [TM 9-2320-365-10]
- LH door closed [TM 9-2320-365-10]

Materials/Parts
- Lockwasher (2) (Item 80, Appendix G)

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

a. Removal.

NOTE

Van body is equipped with seven folding steps. All are removed the same way. One shown.

1) Lower folding step (1).

2) Remove two screws (2), lockwashers (3), washers (4), and folding step (1) from van body (5). Discard lockwashers.

b. Installation.

NOTE

Van body is equipped with seven folding steps. All are installed the same way. One shown.

1) Install folding step (1) on van body (5) with two washers (4), lockwashers (3), and screws (2).

2) Raise folding step (1).

End of Task.
This task covers:

a. Rubber Bumper Removal
b. Rubber Bumper Installation
c. Tee Latch Removal
d. Tee Latch 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
Lockwasher (Item 81, Appendix G)
Lockwasher (4) (Item 77, Appendix G)
Sealing Compound (Item 67, Appendix D)

a. Rubber Bumper Removal.

NOTE

Left and right side rubber bumpers are removed the same way. Left side shown.

(1) Remove screw (1), lockwasher (2), rubber bumper (3), and spacer (4) from van body (5). Discard lock-washer.

(2) Remove sealing compound from van body (5).

b. Rubber Bumper 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 van body (5).

(2) Install spacer (4) and rubber bumper (3) on van body (5) with lockwasher (2) and screw (1).
c. Tee Latch Removal.

NOTE

Left and right side tee latches are removed the same way. Left side shown.

(1) Remove sealing compound from edges of tee latch (1) and heads of four screws (2).

(2) Remove four screws (2), lockwashers (3), washers (4), and tee latch (1) from van body (5). Discard lockwashers.

(3) Remove sealing compound from van body (5) and tee latch (1).

d. Tee Latch Installation.

WARNING

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

NOTE

Left and right side tee latches are installed the same way. Left side shown.

(1) Apply sealing compound on tee latch (1).

(2) Install tee latch (1) on van body (5) with four washers (4), lockwashers (3), and screws (2).

(3) Apply sealing compound on edges of tee latch (1) and heads of screws (2).

End of Task.
This task covers:

a. Door Seal and Retainer Removal
d. Latch Striker Installation
b. Door Seal and Retainer Installation
e. Follow-On Maintenance
c. Latch Striker Removal

INITIAL SETUP

Equipment Conditions

Engine shut down [TM 9-2320-365-10].
LH and RH doors opened [TM 9-2320-365-10].

Tools and Special Tools

Tool Kit, Genl Mech (Item 44, Appendix C)
Drill, Electric, Portable (Item 7, Appendix C)
Drill Twist (Item 6, Appendix C)
Tool Kit, Blind Rivet (Item 43, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

Rivet, Blind (3) (Item 233, Appendix G)
Sealing Compound (Item 67, Appendix D)
Seal, Door (Item 250, Appendix G)
Lockwasher (2) (Item 82, Appendix G)

a. Door Seal and Retainer Removal.

**WARNING**

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

**NOTE**

Top and bottom door seal and retainer are removed the same way. Top door seal and retainer shown.

(1) Remove three rivets (1) and door seal retainer (2) from door jam (3).

(2) Remove door seal (4) from door jam (3). Discard door seal.

(3) Remove sealing compound from door jam (3).
16-30. M1079 DOOR SEAL AND RETAINER REPLACEMENT (CONT)

b. Door Seal and Retainer 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 door seal (1) and door jam (2).

(2) Install door seal (1) on door jam (2).

(3) Apply sealing compound to door seal retainer (3) and door jam (2).

**CAUTION**

Coat all rivets with sealing compound prior to installation. Failure to comply may result in damage to equipment.

(4) Apply sealing compound to three rivets (4).

(5) Install door seal retainer (3) on door jam (2) with three rivets (4).

c. Latch Striker Removal.

**NOTE**

Top and bottom latch strikers are removed the same way. Top latch striker shown.

Remove two screws (1), lockwashers (2), latch striker (3) and shim (4) from van body wall (5). Discard lockwashers.
d. Latch Striker Installation.

NOTE

Top and bottom latch strikers are installed the same way. Top latch striker shown.

Install shim (1) and latch striker (2) on van body wall (3) with two lockwashers (4) and screws (5).

c. Follow-On Maintenance.

Check for proper operation of LH and RH doors (TM 9-2320-365-10).

End of Task.
16-31. M1079 HEATER AND AIR CONDITIONER COVER REPLACEMENT

This task covers:

- a. Heater Cover Removal
- b. Heater Cover Installation
- c. Air Conditioner Cover Removal
- d. Air Conditioner Cover Installation
- e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

- Engine shut down (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 (18) (Item 84, Appendix G)
- Lockwasher (30) (Item 84, Appendix G)

Personnel Required

- (2)

a. Heater Cover Removal.

NOTE

The following step requires the aid of an assistant.

Remove 18 screws (1), lockwashers (2), washers (3), and heater cover (4) from van body wall (5). Discard lockwashers.

b. Heater Cover Installation.

NOTE

The following step requires the aid of an assistant.

Install heater cover (4) on van body wall (5) with 18 washers (3), lockwashers (2), and screws (1).
c. Air Conditioner Cover Removal.

   **NOTE**

   The following step requires the aid of an assistant.

   Remove 30 screws (1), lockwashers (2), washers (3), and air conditioner cover (4) from van body wall (5). Discard lockwashers.

d. Air Conditioner Cover Installation.

   **NOTE**

   The following step requires the aid of an assistant.

   Install air conditioner cover (4) on van wall (5) with 30 washers (3), lockwashers (2), and screws (1).

e. Follow-On Maintenance.

   Close LH and RH doors [TM 9-2320-365-10].

End of Task.
This task covers:

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

INITIAL SETUP

**Equipment Conditions**
- Engine shut down (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)
- Drill, Portable, Electric (Item 7, Appendix C)
- Drill Set, Twist (Item 6, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Blind Rivet (Item 44, Appendix C)

**Materials/Parts**
- Sealing Compound (Item 67, Appendix D)
- Rivet (4) (Item 232, Appendix G)
- Rivet (3) (Item 229, Appendix G)
- Rivet (3) (Item 231, Appendix G)
- Rivet (12) (frame) (Item 227, Appendix G)
- Seal (Item 244, Appendix G)
- Adhesive (Item 5, Appendix D)

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**a. Removal.**

1. Position vent cover (1) on stud base fastener (2).
2. Latch stud base fastener (2).
3. Remove four rivets (3) from vent cover (1).
4. Unlatch stud base fastener (2).
5. Remove vent cover (1) and spacer (4) from van body wall (5).
(6) Remove air filter (6) from filter frame (7).

**WARNING**

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

(7) Remove 12 rivets (8) and filter frame (7) from van body wall (5).

(8) Remove two rivets (9) and stud base fasteners (2 and 10) from van body wall (5).

(9) Remove four rivets (11) and hinge (12) from vent cover (1).

(10) Remove seal (13) from vent cover (1). Discard seal.

(11) Remove sealing compound from vent cover (1).

b. Installation.

(1) Install seal (1) on vent cover (2).

(2) Install hinge (3) on vent cover (2) with three rivets (4).
CAUTION

Coat all rivets with sealing compound prior to installation. Failure to comply may result in damage to equipment.

(3) Apply sealing compound on four rivets (5).

(4) Install stud base fasteners (6 and 7) on van body wall (8) with four rivets (5).

(5) Apply sealing compound on 12 rivets (9).

(6) Install filter frame (10) on van body wall (8) with 12 rivets (9).

(7) Install air filter (11) in filter frame (10).

(8) Position fan vent cover (2) on stud base fastener (7).

(9) Latch stud base fastener (7).

WARNING

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

CAUTION

Coat all rivets with sealing compound prior to installation. Failure to comply may result in damage to equipment.

(10) Apply sealing compound to four rivets (12).

(11) Install spacer (13) and vent cover (2) on van body wall (8) with four rivets (12).
e. **Follow-On Maintenance.**

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

*End of Task.*
16-33. M1079 AIR FILTER REPLACEMENT

This task covers:

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

INITIAL SETUP

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

Materials/Parts
Filter, Air (fan) (Item 19, Appendix G)
Filter, Air (RH door) (Item 20, Appendix G)

a. Removal.

NOTE

Right hand door air filter and fan air filter are removed the same way. Fan air filter shown.

(1) Unlatch stud base fastener (1) on vent cover (2).

(2) Open vent cover (2).

(3) Remove air filter (3) from filter frame (4). Discard air filter.
b. Installation.

**NOTE**

Right hand door air filter and fan air filter are installed the same way. Fan air filter shown.

(1) Install air filter (1) in filter frame (2).

(2) Close vent cover (3).

(3) Latch stud base fastener (4) on vent cover (3).

c. Follow-On Maintenance.

Close LH and RH doors [TM 9-2320-365-10].

End of Task.
# 16-34. M1079 Ladder, Mounting Bracket, and Stowage Bracket Replacement/Repair

This task covers:

- a. Ladder Mounting Bracket Removal
- b. Ladder Mounting Bracket Installation
- c. Ladder Stowage Bracket Removal
- d. Ladder Stowage Bracket Installation
- e. Ladder Disassembly
- f. Ladder Assembly
- g. Follow-On Maintenance

## INITIAL SETUP

### Equipment Conditions
Engine shut down borrower. Ladder removed borrower.

### Tools and Special Tools
- Tool Kit, Genl Mech (Item 44, Appendix C)
- Tool Kit, Blind Rivet (Item 43, Appendix C)
- Drill, Portable Electric (Item 7, Appendix C)
- Drill Set, Twist (Item 6, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Sealing Compound (Item 59, Appendix D)
- Lockwasher (4) (Item 83, Appendix G)
- Lockwasher (3) (Item 941, Appendix G)
- Rivet, Blind (Item 219, Appendix G)
- Rivet, Blind (Item 225, Appendix G)
- Rivet, Blind (2) (Item 235, Appendix G)

## a. Ladder Mounting Bracket Removal.

Remove four screws (1), lockwashers (2), and ladder mounting bracket (3) from van body (4). Discard lockwashers.

## b. Ladder Bracket 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 four screws (1).
2. Install ladder mounting bracket (4) on van body (3) with four lockwashers (2) and screws (1).
c. Ladder Stowage Bracket Removal.

NOTE

Left and right ladder stowage brackets are removed the same way. Left ladder stowage bracket shown.

(1) Remove three screws (1), lockwashers (2), washers (3), and ladder stowage bracket (4) from van body (5). Discard lockwashers.

WARNING

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

NOTE

Perform steps (2) through (5) on left ladder stowage bracket.

(2) Remove rivet (6) and lanyard (7) from ladder stowage bracket (4).

(3) Remove split ring (8) from lanyard (7).

(4) Remove split ring (8) from quick release pin (9).

(5) Remove quick release pin (9) from ladder stowage bracket (4).
d. Ladder Stowage Bracket Installation.

**NOTE**

- Left and right ladder stowage brackets are installed the same way. Left ladder stowage bracket shown.
- Perform steps (1) through (4) on left ladder stowage bracket.

(1) Install quick release pin (1) in ladder stowage bracket (2).

(2) Install split ring (3) on quick release pin (1).

(3) Install split ring (3) on lanyard (4).

(4) Install lanyard (4) on ladder stowage bracket (2) with rivet (5).

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**WARNING**

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

(5) Apply sealing compound to threads of three screws (6).

(6) Install ladder stowage bracket (2) on van body (7) with three washers (8), lockwashers (9), and screws (6).
e. Ladder Disassembly.

(1) Unbuckle strap (1).

(2) Remove handrail (2) from ladder (3).

**WARNING**

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

(3) Remove rivet (4) and strap (1) from hand rail (2).

(4) Remove two lynch pins (5) from ladder (3).

(5) Remove two adjustable legs (6) from ladder (3).
WARNING

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

NOTE

Left and right lanyards are removed the same way. Right lanyard shown.

(6) Remove rivet (7) and lanyard (8) from ladder (3).
(7) Remove split ring (9) from lanyard (8).
(8) Remove split ring (9) from lynch pin (5).
(9) Perform steps (6) through (8) on left side of ladder (3).

f. Ladder Assembly.

NOTE

Left and right lanyards are installed the same way. Right lanyard shown.

(1) Install split ring (1) on lynch pin (2).
(2) Install split ring (1) on lanyard (3).
(3) Install lanyard (3) on ladder (4) with rivet (5).
(4) Perform steps (1) through (3) on left side of ladder (2).
(5) Install two adjustable legs (6) in ladder (4) with lynch pins (2).

(6) Install strap (7) on handrail (8) with rivet (9).

(7) Install handrail (8) on ladder (4).

(8) Fasten strap (7) on ladder (4).

**g. Follow-On Maintenance.**

Stow ladder on van body [(TM 9-2320-365-10)](#).

End of Task.
16-35. M1079 RH DOOR ASSEMBLY REPLACEMENT/REPAIR

This task covers:

a. Removal
b. Disassembly
c. Assembly
d. Installation
e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-365-10).
Ladder installed (TM 9-2320-365-10).
Placards and data plates removed (para 2-11).

Tools and Special Tools

Tool Kit, Genl Mech (Item 44, Appendix C)
Tool Kit, Blind Rivet (Item 43, Appendix C)
Sling, Endless (Item 32, Appendix C)
Goggles, Industrial (Item 15, Appendix C)
Drill, Portable Electric (Item 7, Appendix C)
Drill Set Twist (Item 6, Appendix C)

Materials/Parts

Adhesive (Item 11, Appendix D)
Sealing Compound (Item 67, Appendix D)
M1079 RH Door Gasket (Item E-7, Appendix E)
Filter, Air (Item 20, Appendix G)
Rivet, Blind (3) (Item 217, Appendix G)

Materials/Parts (Cont)

Lockwasher (3) (Item 87, Appendix G)
Rivet, Blind (19) (Item 228, Appendix G)
Rivet, Blind (19) (Item 227, Appendix G)
Nut, Blind Rivet (Item 115, Appendix G)
Nut, Self-Locking (6) (Item 121, Appendix G)
Pin, Cotter (3) (Item 201, Appendix G)
Nut, Self-Locking (2) (Item 117, Appendix G)
Nut, Self-Locking (9) (Item 118, Appendix G)
Lockwasher (4) (Item 82, Appendix G)
Rivet, Blind (6) (Item 215, Appendix G)
Rivet, Blind (4) (Item 216, Appendix G)
Seal (2) (Item 245, Appendix G)
Seal (2) (Item 246, Appendix G)
Nut, Blind Rivet (16) (Item 113, Appendix G)
Washer, Spring (2) (Item 275, Appendix G)

Personnel Required

(2)

a. Removal.

(1) Remove quick release pin (1) from bracket (2).

(2) Remove stay arm (3) from channel (4).
(3) Remove three screws (5) and channel (4) from RH door (6).

(4) Remove three screws (7), lockwashers (8), washers (9), bracket (2), and spacer (10) from van body wall (11). Discard lockwashers.

(5) Remove quick release pin (12) from clip (13).

(6) Remove two screws (14) and clips (13) from RH door (6) and plate (15).

**WARNING**

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

(7) Remove two rivets (16) and lanyards (17) from plate (15).

(8) Remove two rings (18) from lanyards (17).
WARNING

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

(9) Remove two rivets (19) from plate (15).

(10) Remove rivet nut (20) and plate (15) from RH door (6).

(11) Remove sealing compound from plate (15) and RH door (6).

(12) Remove two screws (21), lockwashers (22), washers (23), and bracket (24) from RH door (6). Discard lockwashers.

(13) Remove two screws (25), clamps (26), and conduit (27) from RH door (6).
(14) Remove sealing compound from heads of six screws (28).

**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.

(15) Open RH door (6) (TM 9-2320-365-10).

**NOTE**

Steps (16) and (17) require the aid of an assistant.

(16) Remove six self-locking nuts (29), washers (30), and screws (28) from hinges (31) and van body wall (11). Discard self-locking nuts.

(17) Remove RH door (6) from van body wall (11).

(18) Remove three spacers (32) from van body wall (11).

(19) Remove sealing compound from van body wall (11) and three spacers (32).
b. Disassembly.

(1) Remove gasket (1) from RH door (2). Discard gasket.

(2) Remove two screws (3), washers (4), and handle (5) from RH door (2).

(3) Remove three cotter pins (6), washers (7), pins (8), latch rod (9) and three washers (10), from two latch arms (11) and latch arm (12). Discard cotter pins.

(4) Remove sealing compound from heads of two bolts (13).

(5) Remove two self-locking nuts (14), washers (15), latch arms (11), spring washers (16), spacers (17), sleeves (18), and bolts (13) from RH door (2). Discard self-locking nuts and spring washers.
(6) Remove two spring pins (19) from handle (20) and latch arm (12).

(7) Remove handle (20), latch arm (12), spacer (21), and washer (22) from shaft (23).

(8) Remove sealing compound from around edge of plate (24).

(9) Remove two screws (25) and plate (24) from RH door (2).

(10) Remove shaft (23) from RH door (2).

(11) Remove bushing (26) from plate (24).

(12) Remove sealing compound from around edge of handle assembly (27).

(13) Remove two screws (28) and handle assembly (27) from RH door (2).

NOTE

Perform step (14) on van body serial numbers 001 through 190.

(14) Remove two screws (29) and hasp (30) from RH door (2).

NOTE

Perform step (15) on van bodies serial number 191 and higher.

(15) Remove wing nut (31) and hasp (32) from RH door (2).
(16) Remove sealing compound around edges of three hinges (33).

(17) Remove nine self-locking nuts (34), washers (35), six screws (36), three screws (37), and hinges (33) from RH door (2). Discard self-locking nuts.

(18) Remove sealing compound around edge of latch (38).

(19) Remove four screws (39), lockwashers (40), washers (41), and latch (38) from RH door (2). Discard lockwashers.

(20) Unlatch stud base fastener (42).

(21) Open vent cover (43) on RH door (2).

(22) Remove air filter (44) from filter frame (45).

(23) Close vent cover (43) on RH door (2).
WARNING

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

(24) Remove three rivets (46), vent cover (43), and spacer (47) from RH door (2).

(25) Remove four rivets (48) and two stud base fasteners (42) from RH door (2).

(26) Remove three rivets (49) and hinge (50) from vent cover (43).

(27) Remove seal (51) from vent cover (43). Discard seal.

WARNING

Use care when removing filter frame from RH door. Sealing compound requires starting at one corner and slowly working filter frame loose. Failure to comply may result in damage to equipment.

(28) Remove 16 rivets (52) and filter frame (45) from RH door (2).

(29) Remove sealing compound from filter frame (45) and RH door (2).
(30) Close blackout shield (53).

(31) Remove sealing compound around edges of blackout shield frame (54).

**WARNING**

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

**CAUTION**

Use care when removing blackout shield frame from RH door. Sealing compound requires starting at one corner and slowly working blackout shield frame loose. Failure to comply may result in damage to equipment.

(32) Remove 12 rivets (55) and blackout shield frame (54) from RH door (2).

(33) Remove sealing compound from blackout shield frame (54) and RH door (2).

(34) Remove sealing compound from edges of louver cover (56).

**CAUTION**

Use care when removing louver cover from RH door. Sealing compound requires starting at one corner and slowly working louver cover loose. Failure to comply may result in damage to equipment.

(35) Remove 17 rivets (57) and louver cover (56) from louver frame (58).

(36) Remove sealing compound from edges of louver frame (58).

(37) Remove five rivets (59) and louver frame (58) from RH door (2).

(38) Remove sealing compound from louver cover (56), louver frame (58), and RH door (2).
c. Assembly.

- **WARNING**

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

(39) Remove sealing compound from edges of window glass (60).

(40) Remove glass (60) from RH door window frame (61).

(41) Remove sealing compound from RH door window frame (61).

- **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 on RH door window frame (1).

(2) Install window glass (2) on RH door window frame (1).

(3) Apply sealing compound on edges of RH door window frame (1) and window glass (2).
16-35. M1079 RH DOOR ASSEMBLY REPLACEMENT/REPAIR (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.

**CAUTION**

Coat all rivets with sealing compound prior to installation. Failure to comply may result in damage to equipment.

(4) Apply sealing compound on five rivets (3) and louver frame (4).

(5) Install louver frame (4) on RH door (5) with five rivets (3).

(6) Apply sealing compound on edges of louver frame (4).

(7) Apply sealing compound on 17 rivets (6) and louver cover (7).

(8) Install louver cover (7) on louver frame (4) with 17 rivets (6).

(9) Apply sealing compound on edges of louver cover (7).
WARNING

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

CAUTION

Coat all rivets with sealing compound prior to installation. Failure to comply may result in damage to equipment.

(10) Apply sealing compound to 12 rivets (8).

(11) Install blackout shield frame (9) on RH door (5) with 12 rivets (8).

(12) Apply sealing compound to edges of blackout shield frame (9).

(13) Apply sealing compound on 16 rivets (10) and filter frame (11).

(14) Install filter frame (11) on RH door (5) with 16 rivets (10).
(15) Install seal (12) on vent cover (13).

(16) Install hinge (14) on vent cover (13) with three rivets (15).

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

**CAUTION**
Coat all rivets with sealing compound prior to installation. Failure to comply may result in damage to equipment.

(17) Apply sealing compound to four rivets (16).

(18) Install two stud base fasteners (17) on RH door (5) with four rivets (16).

(19) Apply sealing compound to three rivets (18).

(20) Install spacer (19) and vent cover (13) on RH door (5) with three rivets (18).
(21) Open vent cover (13) on RH door (5).

(22) Install air filter (20) in filter frame (11).

(23) Close vent cover (13) on RH door (5).

(24) Latch stud base fastener (17) on vent cover (13).

(25) Install latch (21) on RH door (5) with four washers (22), lockwashers (23), and screws (24).

**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.

(26) Apply sealing compound around edge of latch (21) and screws (24).
(27) Install three hinges (25) on RH door (5) with three screws (26), six screws (27), nine washers (28), and self-locking nuts (29).

**WARNING**

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

(28) Apply sealing compound around edges of three hinges (25).

(29) Install wing nut (30) and hasp (31) on RH door (5).

**NOTE**

Perform step (29) on van bodies serial number 191 and higher.

(30) Install hasp (32) on RH door (5) with two screws (33).

**NOTE**

Perform step (30) on van body serial numbers 001 through 190.

(31) Apply sealing compound around edges of hasp (32).
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.

(32) Apply sealing compound to surface of handle assembly (34).

(33) Install handle assembly (34) on RH door (5) with two screws (35).

(34) Apply sealing compound around edge of handle assembly (34).

(35) Install bushing (36) on plate (37).

(36) Install shaft (38) on RH door (5).

(37) Install plate (37) on RH door (5) with two screws (39).

(38) Install washer (40), spacer (41), latch arm (42), and handle (43) on shaft (38).

(39) Install two spring pins (44) in latch arm (42) and handle (43).
(40) Install two latch arms (45) on RH door (5) with two bolts (46), sleeve (47), two spacers (48), spring washers (49), washers (50), and self-locking nuts (51).

**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.

(41) Apply sealing compound around heads of two bolts (46).

(42) Install three washers (52) and latch rod (53) on two latch arms (45) and latch arm (42) with three pins (54), washers (55), and cotter pins (56).

(43) Install handle (57) on RH door (5) with two washers (58) and screws (59).
**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 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.

(44) Clean inside edges of RH door (5) with dry cleaning solvent.

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**NOTE**

Apply adhesive no sooner than 30 minutes, nor later than eight hours, after cleaning.

(45) Apply adhesive to inside edge of RH door (5).

(46) Install gasket (60) on RH door (5).
d. 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 van body wall (1) and three spacers (2).

2. Position three spacers (2) on van body wall (1).

**NOTE**

Step (3) requires the aid of an assistant.

3. Position RH door (3) at mounting location.

**WARNING**

RH door assembly weighs approximately 85 lbs (39 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.
(4) Position spacer (2) between upper hinge (4) and van body wall (1).

**NOTE**

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

(5) Position two screws (5) in upper hinge (4) and van body wall (1).

(6) Position washers (6) and self-locking nuts (7) on two screws (5).

(7) Position two spacers (2) between two hinges (8) and van body wall (1).

(8) Position two screws (9) in two hinges (8) and van body wall (1).

(9) Position washers (6) and self-locking nuts (7) on four screws (9).

**NOTE**

Latch should require some force to close completely.

(10) Close RH door (3) [TM 9-2320-365-10]

**NOTE**

Step (11) requires the aid of an assistant.

(11) Tighten six self-locking nuts (7).
WARNING

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

(12) Apply sealing compound around heads of six screws (5 and 9) and completely around edges of three hinges (8).

(13) Install conduit (10) on RH door (3) with two clamps (11) and screws (12).

(14) Position bracket (13) on RH door (3) with two washers (14), lockwashers (15), and screws (16).

(15) Apply sealing compound to two rivets (17) and rivet nut (18).

(16) Install rivet nut (18) in plate (19).

(17) Apply sealing compound to back of plate (19).

(18) Install plate (19) on RH door (3) with two rivets (17).
(19) Install two lanyards (20) on rings (21).

**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 two rivets (22).

(21) Install two lanyards (20) on plate (19) with two rivets (22).

(22) Install two clips (23) on plate (19) and RH door (3) with two screws (24).

(23) Install quick release pin (25) in clip (23).

(24) Install spacer (26) and bracket (27) on van body wall (1) with three washers (28), lockwashers (29), and screws (30).

(25) Install channel (31) on RH door (3) with three screws (32).
(26) Position stay arm (33) in channel (31).

(27) Install quick release pin (25) in bracket (27) and stay arm (33).

(28) Slide bracket (13) to the left until blackout switch (34) contacts bracket (35).

(29) Tighten two screws (16).

e. Follow-On Maintenance.

(1) Install placards and data plates (para 2-11).

(2) Stow ladder [TM 9-2320-365-10]

(3) Check for proper operation of blackout lights system [TM 9-2320-365-10]

End of Task.
16-36. M1079 LH DOOR ASSEMBLY REPLACEMENT/REPAIR

This task covers:

a. Removal  
b. Disassembly  
c. Assembly  
d. Installation  
e. Follow-On Maintenance

INITIAL SETUP

**Equipment Conditions**
- Engine shut down ([TM 9-2320-365-10](#)).
- RH door opened (115 degrees) ([TM 9-2320-365-10](#)).

**Tools and Special Tools**
- Tool Kit, Genl Mech (Item 44, Appendix C)
- Sling, Endless (Item 32, Appendix C)
- Drill, Portable, Electric (Item 7, Appendix C)
- Drill Set, Twist (Item 6, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Tool Kit, Blind Rivet (Item 43, Appendix C)

**Materials/Parts**
- Adhesive (Item 11, Appendix D)
- Sealing Compound (Item 67, Appendix D)
- M1079 LH Door Gasket (Item E-7, Appendix E)

**Materials/Parts (Cont)**
- Lockwasher (4) (Item 81, Appendix G)
- Nut, Blind Rivet (4) (Item 112, Appendix G)
- Lockwasher (9) (Item 87, Appendix G)
- Rivet, Blind (2) (Item 227, Appendix G)
- Rivet, Blind (2) (Item 228, Appendix G)
- Lockwasher (13) (Item 82, Appendix G)
- Lockwasher (3) (Item 94, Appendix G)
- Nut, Self-Locking (2) (Item 117, Appendix G)
- Nut, Self-Locking (9) (Item 118, Appendix G)

**Personnel Required**
- (2)

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**a. Removal.**

1. Remove two screws (1), clamps (2), and conduit (3) from LH door (4).

2. Remove four screws (5), lockwashers (6), and door ajar switch box (7) from plate (8). Discard lockwashers.
WARNING

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

(3) Remove four blind rivet nuts (9) and plate (8) from LH door (4).

(4) Remove quick release pin (10) from bracket (11) and stay arm (12).

(5) Remove stay arm (12) from channel (13).

(6) Remove three screws (14) and channel (13) from LH door (4).

(7) Remove three screws (15), lockwashers (16), washers (17), bracket (11), and spacer (18) from van body wall (19). Discard lockwashers.

(8) Remove quick release pin (20) from clip (21).

(9) Remove two screws (22) and clips (21) from plate (23) and LH door (4).

(10) Remove two rivets (24) and lanyards (25) from plate (23).

(11) Remove two lanyards (25) from rings (26).
WARNING

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

(12) Remove two rivets (27) and plate (23) from LH door (4).

(13) Remove blind rivet nut (28) from plate (23).

(14) Remove sealing compound from heads of six screws (29).

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.

(15) Open LH door (4) [TM 9-2320-365-10]

NOTE

Step (16) requires aid of an assistant.

(16) Remove six self-locking nuts (30), washers (31), and screws (29) from three hinges (32). Discard self-locking nuts.
(17) Remove sealing compound from around three spacers (33).

(18) Remove LH door (4) and spacer(s) (33) from van body wall (19).

b. Disassembly.

(1) Remove nine screws (1), lockwashers (2), washers (3), and door channel (4) from LH door (5). Discard lockwashers.

**CAUTION**
Mark location of striker plate and shims prior to removal. Failure to comply may result in damage to equipment.

**NOTE**
Number of shims installed with each striker plate may vary.

(2) Remove six screws (6), lockwashers (7), three striker plates (8) and shim(s) (9) from door channel (4). Discard lockwashers.
(3) Remove gasket (10) from LH door (5). Discard gasket.

(4) Remove two screws (11), washers (12), and handle (13) from LH door (5).

(5) Remove three screws (14), lockwashers (15), washers (16), and ladder channel (17) from LH door (5). Discard lockwashers.

(6) Remove sealing compound from heads of two bolts (18).

(7) Remove two self-locking nuts (19), washers (20), latches (21), spacers (22), washers (23), and bolts (18) from LH door (5). Discard self-locking nuts.

(8) Remove sealing compound from around edges of three hinges (24).

(9) Remove nine self-locking nuts (25), washers (26), six screws (27), three screws (28), and three hinges (24) from LH door (5). Discard self-locking nuts.
10. Remove sealing compound from around edge of latch (29).

11. Remove four screws (30), lockwashers (31), washers (32), and latch (29) from LH door (5). Discard lockwashers.

c. Assembly.

**WARNING**

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

1. Apply sealing compound to latch (1).

2. Install latch (1) on LH door (2) with four washers (3), lockwashers (4), and screws (5).

3. Apply sealing compound around edge of latch (1).
WARNING

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

4) Apply sealing compound on three hinges (6).

5) Install three hinges (6) on LH door (2) with six screws (7), three screws (8), washers (9), and self-locking nuts (10).

6) Apply sealing compound around edges of three hinges (6).

NOTE

Latches are supposed to spin freely. Do not overtighten self-locking nuts.

7) Install two latches (11) on LH door (2) with bolts (12), washers (13), spacers (14), washers (15), and self-locking nuts (16).

8) Apply sealing compound around heads of two bolts (12).
(9) Install ladder channel (17) on LH door (2) with three washers (18), lockwashers (19), and screws (20).

(10) Install handle (21) on LH door (2) with two washers (22) and screws (23).

**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 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.

(11) Clean inside edge of LH door (2) with dry cleaning solvent.
WARNING

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

NOTE

Apply adhesive no sooner than 30 minutes, nor later than eight hours after cleaning.

(12) Apply adhesive to inside edge of LH door (2).

NOTE

Gasket will be bonded all around LH door.

(13) Install gasket (24) on LH door (2).

(14) Install three strikers (25) and shim(s) (26) on door channel (27) with six lockwashers (28) and screws (29).

(15) Install door channel (27) on LH door (2) with nine washers (30), lockwashers (31), and screws (32).
d. Installation.

**WARNING**

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

**NOTE**

Step (1) requires aid of an assistant.

1. Position LH door (1) at mounting location.

2. Apply sealing compound to spacer(s) (2) and hinges (3).

3. Position spacer(s) (2) between LH door (1), upper hinge (3), and van body wall (4).

4. Install two screws (5) in upper hinge (3).

5. Position two washers (6) and self-locking nuts (7) on screws (5).
(6) Position two spacers (2) between two hinges (3) and van body wall (4).

(7) Position four screws (5) in two hinges (3) and spacers (2).

(8) Position four washers (6) and self-locking nuts (7) on screws (5).

NOTE

Latches should require some force to close completely.

(9) Close LH door (1) [TM 9-2320-365-10].

NOTE

Step (10) requires the aid of an assistant.

(10) Tighten six self-locking nuts (7).

WARNING

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

(11) Apply sealing compound around heads of six screws (5) and around edges of three spacers (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.

CAUTION

Coat all rivets and blind rivet nuts with sealing compound to prior to installation. Failure to comply may result in damage to equipment.

(12) Apply sealing compound to two rivets (8) and blind rivet nut (9).

(13) Install blind rivet nut (9) on plate (10).

(14) Install plate (10) on LH door (1) with two rivets (8).

(15) Install two lanyards (11) on rings (12).

(16) Apply sealing compound to two rivets (13).

(17) Install two lanyards (11) on plate (10) with two rivets (13).

(18) Install two clips (14) on LH door (1) and plate (10) with two screws (15).

(19) Install quick release pin (16) in clip (14).
(20) Install spacer (17) and bracket (18) on van body wall (4) with three washers (19), lockwashers (20), and screws (21).

(21) Install channel (22) on LH door (1) with three screws (23).

(22) Open LH door (1).

(23) Install stay arm (24) in channel (22).

(24) Install stay arm (24) in bracket (18) with quick release pin (25).

(25) Install plate (26) on LH door (1) with four rivet nuts (27).

(26) Install door ajar switch box (28) on LH door (1) with four lockwashers (29) and screws (30).

(27) Install conduit (31) on LH door (1) with two clamps (32) and screws (33).

**e. Follow-On Maintenance.**

(1) Adjust door ajar switch [para 16-55].

(2) Stow ladder [TM 9-2320-365-10].

**End of Task.**
16-37. M1079 BLACKOUT SHIELD AND FRAME REPLACEMENT/REPAIR

This task covers:

a. Removal  
b. Disassembly  
c. Assembly  
d. Installation  
e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-365-10).  
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools

Tool Kit, Genl Mech (Item 44, Appendix C)  
Drill, Portable, Electrical (Item 7, Appendix C)  
Drill Set, Twist (Item 6, Appendix C)  
Goggles, Industrial (Item 15, Appendix C)  
Tool Kit, Blind Rivet (Item 43, Appendix C)

Materials/Parts

Lockwasher (2) (Item 77, Appendix G)  
Rivet, Blind (17) (van bodies serial number 191 and higher) (Item 218, Appendix G)  
Rivet, Blind (29) (van body serial numbers 001 through 190) (Item 218, Appendix G)  
Nut, Self-Locking (2) (Item 122, Appendix G)  
M1079 Blackout Shield Header Seal (Item E-6, Appendix E)  
M1079 Blackout Shield Jamb Seal (2) (Item E-6, Appendix E)  
Sealing Compound (Item 67, Appendix D)  
Seal, Weather (Item 259, Appendix G)  
Tape, Adhesive (Item 72, Appendix D)  
Adhesive (Item 5, Appendix D)

a. Removal.

NOTE

All blackout shields and frames are removed the same way. Left front blackout shield and frame on van body serial number 191 shown.

(1) Remove two screws (1), lockwashers (2), washers (3) and bracket (4) from van body wall (5). Discard lockwashers.
(2) Close blackout shield (6).

**WARNING**

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

**NOTE**

Perform step (3) on van bodies serial number 191 and higher.

(3) Remove 17 rivets (7) and blackout shield assembly (8) from van body wall (5).

**NOTE**

Perform step (4) on van body serial numbers 001 through 190.

(4) Remove 29 rivets (7) and blackout shield assembly (8) from van body wall (5).

b. Disassembly.

(1) Open blackout shield (1).

(2) Remove two screws (2) and left jamb frame (3) from header frame (4).

(3) Remove blackout shield (1) from right jamb frame (5).

(4) Remove two screws (6) and right jamb frame (5) from header frame (4).
(5) Remove two screws (7) and stops (8) from left and right jamb frames (3 and 5).

(6) Remove two seals (9) from left and right jamb frames (3 and 5). Discard seals.

(7) Remove sealing compound from left and right jamb frames (3 and 5).

(8) Remove two screws (10) and keeper (11) from header frame (4).

(9) Remove seal (12) from header frame (4). Discard seal.

(10) Remove sealing compound from header frame (4).

(11) Remove screw (13) and latch (14) from blackout shield (1).

(12) Remove two self-locking nuts (15), washers (16), bracket (17), and two screws (18) from blackout shield (1). Discard self-locking nuts.

(13) Remove tape (19) from latch (14) and blackout shield (1).

(14) Remove weather seal (20) from blackout shield (1). Discard weather seal.
c. Assembly.

(1) Install weather seal (1) in blackout shield (2).

(2) Install bracket (3) on blackout shield (2) with two screws (4), washers (5), and self-locking nuts (6).

(3) Install tape (7) on latch (8).

(4) Install latch (8) on blackout shield (2) with screw (9).

**WARNING**

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

(5) Apply adhesive on header frame (10).

(6) Install seal (11) in header frame (10).

(7) Install bracket (12) on header frame (10) with two screws (13).
WARNING

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

(8) Apply adhesive on left and right jamb frames (14 and 15).

(9) Install two seals (16) in left and right jamb frames (14 and 15).

(10) Install two stops (17) in left and right jamb frames (14 and 15) with two screws (18).

(11) Install right jamb frame (15) on header frame (10) with two screws (19).

(12) Install blackout shield (2) in right jamb frame (15).

(13) Install left jamb frame (14) on header frame (10) with two screws (20).

(14) Close blackout shield (2).
d. 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.

**CAUTION**

Coat all rivets with sealing compound prior to installation. Failure to comply may result in damage to equipment.

**NOTE**

- All blackout shields and frames are installed the same way. Left front blackout shield and frame on van body serial number 191 shown.
- Perform steps (1) and (2) on van bodies serial number 191 and higher.

1. Apply sealing compound to 17 rivets (1).
2. Install blackout shield assembly (2) on van body wall (3) with 17 rivets (1).

**NOTE**

Perform steps (3) and (4) on van body serial numbers 001 through 190.

3. Apply sealing compound to 29 rivets (1).
4. Install blackout shield assembly (2) on van body wall (3) with 29 rivets (1).
(5) Position bracket (4) on van body wall (3) with two washers (5), lockwashers (6), and screws (7).

(6) Press down on bracket (4) until blackout switch (8) contacts bracket (9).

(7) Tighten two screws (7).

e. Follow-On Maintenance.

(1) Check for proper operation of blackout lights (TM 9-2320-365-10).

(2) Close LH and RH doors [TM 9-2320-365-10].

End of Task.
16-38. M1079 WINDOW LATCH AND PROP REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
- Engine shut down [TM 9-2320-365-10].
- Window cover stowed (van bodies serial number 191 and higher) [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
- Adhesive (Item 9, Appendix D)
- Nut, Self-Locking (Item 154, Appendix G)

a. Removal.

NOTE

- Van body serial numbers 001 through 190 are equipped with five side windows, van bodies serial number 191 and higher are equipped with four side windows.
- All window latches and props are removed the same way. Left rear window latch and prop on van body serial number 191 shown.

(1) Lower blackout shield (1).

(2) Remove screen (2) from window main frame (3).

(3) Open transport lock (4) on window main frame (3).

(4) Remove prop (5) from latch (6).

(5) Open window sash assembly (7).

(6) Remove two screws (8) and latch (6) from window main frame (3).

(7) Remove self-locking nut (9), screw (10), and transport lock (4) from window main frame (3). Discard self-locking nut.
(8) Remove two screws (11) and prop (5) from window sash assembly (7).

(9) Remove two screws (12) and prop (5) from window main frame (3).

(10) Remove adhesive from window main frame (3).

b. Installation.

**WARNING**

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

**NOTE**

- Van body serial numbers 001 through 190 are equipped with five side windows, van bodies serial number 191 and higher are equipped with four side windows.
- All window latches and props are installed the same way. Left rear window latch and prop on van body serial number 191 shown.

(1) Apply a bead of adhesive around prop opening in window main frame (1).

(2) Install prop (2) on window main frame (1) with two screws (3).

(3) Install prop (2) on window sash assembly (4) with two screws (5).
(4) Install transport lock (6) on window main frame (1) with screw (7) and self-locking nut (8).

(5) Install latch (9) on window main frame (1) with two screws (10).

(6) Close window sash assembly (4).

(7) Position prop (2) in latch (9).

(8) Close transport lock (6) on window main frame (1).

(9) Install screen (11) in window main frame (1).

(10) Raise blackout shield (12).

c. Follow-On Maintenance.

(1) Lower window cover (van bodies serial number 191 and higher) if required [TM 9-2320-365-10].

(2) Close LH and RH doors [TM 9-2320-365-10].

End of Task.
16-39. M1079 WINDOW SASH ASSEMBLY REPLACEMENT/REPAIR

This task covers:

a. Removal  
b. Disassembly  
c. Assembly  
d. Installation  
e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).  
Window cover stowed (van bodies serial number 191 and higher) (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)  
Drill, Portable, Electric (Item 7, Appendix C)  
Drill Set, Twist (Item 6, Appendix C)  
Goggles, Industrial (Item 15, Appendix C)  
Tool Kit, Blind Rivet (Item 43, Appendix C)

Materials/Parts
Rivet, Blind (4) (Item 225, Appendix G)  
Adhesive (Item 9, Appendix D)  
M1079 Window Sash Top/Bottom Glazing Seal (2) (Item E-8, Appendix E)  
M1079 Window Sash Side Glazing Seal (2) (Item E-8, Appendix E)

Personnel Required
(2)

a. Removal.

NOTE

- Van body serial numbers 001 through 190 are equipped with five window sash assemblies 30 in. (760 mm) tall. Van bodies serial numbers 191 and higher are equipped with four window sash assemblies 14 in. (355 mm) tall.

- All window sash assemblies are removed the same way. Left front window sash assembly on van body serial number 191 shown.

(1) Remove screen (1) from window main frame (2).
(2) Open transport lock (3) on window main frame (2).

(3) Open window sash assembly (4).

(4) Remove two screws (5) and prop (6) from window sash assembly (4).

(5) Remove window sash assembly (4) from window main frame (2).

**WARNING**

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

**NOTE**

Perform step (6) on van bodies serial number 191 and higher.

(6) Remove four rivets (7) and two stud base fasteners (8) from window sash assembly (4).
b. Disassembly.

**WARNING**

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

**NOTE**

- Van body serial numbers 001 through 190 are equipped with window sash assemblies 30 in. (760 mm) tall. Van bodies serial number 191 and higher are equipped with window sash assemblies 14 in. (355 mm) tall.

- All window sash assemblies are dis-assembled the same way. Van body serial number 191 window sash assembly shown.

(1) Remove four screws (1) from RH jamb sash (2).

(2) Remove four screws (3) from LH jamb sash (4).
(3) Remove RH jamb sash (2) from header sash (5) and bottom sash (6).

(4) Remove LH jamb sash (4) from header sash (5) and bottom sash (6).

(5) Remove glazing seals (7 and 8) from RH and LH jamb sashes (2 and 4). Discard glazing seals.

(6) Remove header sash (5) from glass (9).

(7) Remove bottom sash (6) from glass (9).

(8) Remove glazing seals (10 and 11) from header sash (5) and bottom sash (6). Discard glazing seals.

(9) Remove weather seals (12 and 13) from RH and LH jamb sashes (2 and 4). Discard weather seals.

(10) Remove weather seals (14 and 15) from header sash (5) and bottom sash (6). Discard weather seals.
(11) Remove adhesive from RH and LH jamb sashes (2 and 4).

(12) Remove adhesive from header sash (5) and bottom sash (6).

c. Assembly.

**WARNING**

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

**NOTE**

- Van body serial numbers 001 through 190 are equipped with window sash assemblies 30 in. (760 mm) tall. Van bodies serial number 191 and higher are equipped with window sash assemblies 14 in. (355 mm) tall.

- All window sash assemblies are assembled the same way. Van body serial number 191 window sash assembly shown.

(1) Install weather seals (1 and 2) in bottom sash (3) and header sash (4).

(2) Install weather seals (5 and 6) in LH and RH jamb sashes (7 and 8).
(3) Install glazing seal (9) on bottom edge of glass (10).

(4) Install bottom sash (3) on glazing seal (9).

(5) Install glazing seal (11) on top edge of glass (10).

(6) Install header sash (4) on glazing seal (11).

(7) Install glazing seal (12) on left edge of glass (10).

(8) Install LH jamb sash (7) on glazing seal (12).

(9) Install glazing seal (13) on right edge of glass (10).

(10) Install RH jamb sash (8) on glazing seal (13).

(11) Install four screws (14) in LH jamb sash (7).
(12) Install four screws (15) in RH jamb sash (8).

**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, 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 adhesive completely around outside edge of glass (10).

d. Installation.

**NOTE**

- Van body serial numbers 001 through 190 are equipped with five window sash assemblies 30 in. (760 mm) tall. Van bodies serial number 191 and higher are equipped with four window sash assemblies 14 in. (355 mm) tall.

- All window sash assemblies are installed the same way. Left front window sash assembly on van body serial number 191 shown.

- Perform step (1) on van bodies serial number 191 and higher.

(1) Install two stud base fasteners (1) on window sash (2) with four rivets (3).
(2) Install window sash assembly (2) in window main frame (4).

**NOTE**

- Steps (3) and (4) require the aid of an assistant.
- Perform step (3) on van bodies serial number 191 and higher.

(3) Lift lower edge of window cover (5).

**WARNING**

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

(4) Apply adhesive between top edge of window sash assembly (2) and window main frame (4).

(5) Install prop (6) on window sash assembly (2) with two screws (7).

(6) Close window sash assembly (2).

(7) Close transport lock (8) on window main frame (4).
(8) Install screen (9) in window main frame (4).

c. Follow-On Maintenance.

(1) Lower window cover (van bodies serial number 191 and higher) [TM 9-2320-365-10].

(2) Close LH and RH doors [TM 9-2320-365-10].

End of Task.
16-40. M1079 WINDOW MAIN FRAME REPLACEMENT

This task covers:

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

INITIAL SETUP

**Equipment Conditions**
- Window sash assembly removed [para 16-39].
- Latch and prop removed [para 16-38].
- Window cover removed (van bodies serial number 191 and higher) [para 16-41].

**Tools and Special Tools**
- Tool Kit, Genl Mech (Item 44, Appendix C)
- Tool Kit, Blind Rivet (Item 43, Appendix C)
- Drill, Portable, Electric (Item 7, Appendix C)
- Drill Set, Twist (Item 6, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)

**Materials/Parts**
- Sealing Compound (Item 67, Appendix D)
- Rivet, Blind (22) (van body serial numbers 001 through 190) (Item 229, Appendix G)
- Rivet, Blind (11) (van bodies serial number 191 and higher) (Item 229, Appendix G)
- Rivet, Blind (5) (van bodies serial number 191 and higher) (Item 234, Appendix G)

**Personnel Required**
- (2)

**a. Removal.**

**NOTE**
- Van body serial numbers 001 through 190 are equipped with five windows 30 in. (760 mm) tall. Van bodies serial number 191 and higher are equipped with four windows 14 in. (355 mm) tall.
- All windows main frames are removed the same way. Left front window main frame on van body serial number 191 shown.

1. Remove sealing compound from edges of window main frame (1).
WARNING

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

NOTE

Perform steps (2) and (3) on van bodies serial number 191 and higher.

(2) Remove five rivets (2) from window main frame (1).

CAUTION

Use care when removing window main frame from van body. Start at one corner and slowly work frame loose. Failure to comply may result in damage to equipment.

NOTE

Step (3) requires the aid of an assistant.

(3) Remove 11 rivets (3) and window main frame (1) from van body (4).

NOTE

• Perform step (4) on van body serial numbers 001 through 190.

• Step (4) requires the aid of an assistant.

(4) Remove 22 rivets (3) and window main frame (1) from van body (4).
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.

**CAUTION**

Coat all rivets with sealing compound prior to installation. Failure to comply may result in damage to equipment.

**NOTE**

- Van body serial numbers 001 through 190 are equipped with five windows 30 in. (760 mm) tall. Van bodies serial numbers 191 and higher are equipped with four windows 14 in. (355 mm) tall.
- All windows main frames are installed the same way. Left front window main frame on van body serial number 191 shown.

(1) Apply sealing compound around window opening in van body (1).

**NOTE**

Perform steps (2) through (4) on van bodies serial number 191 and higher.

(2) Apply sealing compound to 11 rivets (2) and five rivets (3).

(3) Install window main frame (4) in van body (1) with 11 rivets (2).

(4) Install five rivets (3) in window main frame (4).

**NOTE**

Perform steps (5) and (6) on van body serial numbers 001 through 190.

(5) Apply sealing compound to 22 rivets (2).

(6) Install window main frame (4) in van body (1) with 22 rivets (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.

(7) Apply sealing compound around edges of window main frame (4).

NOTE

Perform step (8) on van body serial numbers 001 through 190.

(8) Apply sealing compound on heads of rivets (2).

NOTE

Perform step (9) on van bodies serial number 190 and higher.

(9) Apply sealing compound on heads of rivets (2 and 3).

c. Follow-On Maintenance.

(1) Install window cover (van bodies serial number 191 and higher) (para 16-41).

(2) Install window latch and prop (para 16-38).

(3) Install window sash assembly (para 16-39).

End of Task.
a. Removal.

**NOTE**

All window covers are removed the same way. Left front window cover shown.

1. Remove sealing compound from top edge of window cover (1) and edges of retainer (2).

2. Position window cover (1) to allow access to retainer (2).

**WARNING**

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

3. Remove six rivets (3), retainer (2), and window cover (1) from window main frame (4).

4. Remove sealing compound from top edge of window main frame (4).
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 top edge of window main frame (1).

(2) Install window cover (2) and retainer (3) on window main frame (1) with six rivets (4).

(3) Position window cover (2) to allow access to top edge of window cover.

(4) Apply sealing compound to top edge of window cover (2) and edges of retainer (3).

End of Task.
16-42. M1079 TAPPING PLATE REPLACEMENT

This task covers:

a. Removal
b. Installation

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Engine shut down [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)
Screwdriver Attachment, Socket Wrench (Item 42, Appendix B)

Personnel Required
(3)

a. Removal.

NOTE

• Van bodies serial number 191 and higher are equipped with tapping plates on the floor and side walls for mounting accessory items.

• Van body serial numbers 001 through 190 can be equipped with tapping plates on the floor for mounting accessory items.

• Removal of floor tapping plates requires the aid of an assistant.

• Removal of side wall tapping plates requires the aid of two assistants.

• All tapping plates are attached by either three, four or five screws. Van body serial number 191 left side wall front tapping plate shown.

Remove four screws (1) and tapping plate (2) from van body left side wall (3).
b. Installation.

NOTE

- Van bodies serial number 191 and higher are equipped with tapping plates on the floor and side walls for mounting accessory items.

- Van body serial numbers 001 through 190 can be equipped with tapping plates on the floor for mounting accessory items.

- Installation of floor tapping plates requires the aid of an assistant.

- Installation of side wall tapping plates requires the aid of two assistants.

- All tapping plates are attached by either three, four or five screws. Van body serial number 191 left side wall front tapping plate shown.

Install tapping plate (1) on van body left side wall (2) with four screws (3).

c. Follow-On Maintenance.

Close LH and RH doors [TM 9-2320-365-10].

End of Task.
16-43. M1079 VAN BODY FLOOR TAPPING PLATE INITIAL INSTALLATION (SERIAL NUMBERS 001 THROUGH 190)

This task covers:

a. Floor Tapping Plate Initial Installation  
b. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
- Engine shut down (TM 9-2320-365-10).
- LH and RH doors opened (115 degrees) (TM 9-2320-365-10).
- Any loose equipment removed (TM 9-2320-365-10).

Tools and Special Tools
- Tool Kit, Genl Mech (Item 44, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)
- Drill Set, Twist (Item 6, Appendix C)
- Drill, Portable, Electric (Item 7, Appendix C)
- Tool Kit, Blind Rivet (Item 43, Appendix C)

Materials/Parts
- Nut, Blind Rivet (26) (Item 111, Appendix G)
- Screw, Machine (26) (Item 240, Appendix G)
- Sealing Compound (Item 67, Appendix D)

Personnel Required
- (2)

a. Floor Tapping Plate Initial Installation.

1. Measure and mark a line (1) on van body floor (2) from van body front wall (3) to van body rear wall (4) 1/2 in. (1.25 cm) from van body left side wall (5).

2. Measure and mark a line (6) on van body floor (2) from van body front wall (3) to van body rear wall (4) 17-11/16 in. (44.9 cm) from van body left side wall (5).
(3) Measure and mark a line (7) on van body floor (2) from van body left side wall (5) to van body right side wall (8) 1 in. (2.54 cm) from van body front wall (3).

NOTE
Step (4) requires the aid of an assistant.

(4) Position tapping plates (9 and 10) on van body floor (2) with left edges of tapping plates aligned with line (1) and front edge of tapping plate (9) aligned with line (7).

(5) Mark locations for drilling pilot holes.

NOTE
Step (6) requires the aid of an assistant.

(6) Position tapping plates (11 and 12) on van body floor (2) with left edges of tapping plates aligned with line (6) and front edge of tapping plate (11) aligned with line (7).

(7) Mark locations for drilling pilot holes.
NOTE

Steps (8) and (9) require the aid of an assistant.

(8) Remove tapping plates (11 and 12) from van body floor (2).

(9) Remove tapping plates (9 and 10) from van body floor (2).

WARNING

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

(10) Drill pilot holes at locations marked in steps (5) and (7).

(11) Enlarge pilot holes to 1/2 in. (1.27 cm).

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.

CAUTION

Coat all rivet nuts with sealing compound prior to installation. Failure to comply may result in damage to equipment.

(12) Apply sealing compound to 14 blind rivet nuts (13).

(13) Install 14 blind rivet nuts (13) in van body floor (2).
NOTE

Steps (14) through (17) require the aid of an assistant.

(14) Install tapping plate (9) on van body floor with three screws (14).

(15) Install tapping plate (11) on van body floor with three screws (15).

(16) Install tapping plate (10) on van body floor (2) with four screws (16).

(17) Install tapping plate (12) on van body floor (2) with four screws (17).
(18) Measure and mark a line (18) on van body floor (2) from van body front wall (3) to van body rear wall (4) 1/2 in. (1.27 cm) from van body right side wall (8).

(19) Measure and mark a line (19) on van body floor (2) from van body front wall (3) to van body rear wall (4) 17-11/16 in. (44.93 cm) from van body right side wall (8).

**NOTE**
Step (20) requires the aid of an assistant.

(20) Position tapping plates (20 and 21) on van body floor (2) with right edges of tapping plates aligned with line (18) and front edge of tapping plate (20) aligned with line (7).

(21) Mark locations for drilling pilot holes.

**NOTE**
Step (22) requires the aid of an assistant.

(22) Position tapping plates (22 and 23) on van body floor (2) with right edges of tapping plates aligned with line (19) and front edge of tapping plate (22) aligned with line (7).

(23) Mark locations for drilling pilot holes.
NOTE

Steps (24) and (25) require the aid of an assistant.

(24) Remove tapping plates (22 and 23) from van body floor (2).

(25) Remove tapping plates (20 and 21) from van body floor (2).

WARNING

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

(26) Drill pilot holes at locations marked in steps (20) and (22).

(27) Enlarge pilot holes to 1/2 in. (1.27 cm).

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.

CAUTION

Coat all rivet nuts with sealing compound prior to installation. Failure to comply may result in damage to equipment.

(28) Apply sealing compound to 12 blind rivet nuts (24).

(29) Install 12 blind rivet nuts (24) in van body floor (2).
NOTE

Steps (30) through (33) require the aid of an assistant.

(30) Install tapping plate (20) on van body floor (2) with three screws (25).

(31) Install tapping plate (22) on van body floor (2) with three screws (26).

(32) Install tapping plate (21) on van body floor (2) with three screws (27).

(33) Install tapping plate (23) on van body floor (2) with three screws (28).

b. Follow-On Maintenance.

(1) Install any loose equipment [TM 9-2320-365-10].

(2) Close LH and RH doors [TM 9-2320-365-10].

End of Task.
16-44. M1079 VAN BODY INTERIOR ACCESSORY MOUNTING LOCATIONS

This task covers:

a. Locating Hardpoints for Accessory Mounting
b. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
- Engine shut down (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)
- Drill Set, Twist (Item 6, Appendix C)
- Drill, Portable, Electric (Item 7, Appendix C)

Tools and Special Tools (Cont)
- Goggles, Industrial (Item 15, Appendix C)
- Tape, Measuring (Item 40, Appendix C)

Materials/Parts
- Sealing Compound (Item 67, Appendix D)

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.

a. Locating Hardpoints for Accessory Mounting.

CAUTION

Accessories mounted in the interior of M1079 Van bodies must be positioned so that mounting fasteners are located in structural frame members. Failure to comply may result in damage to equipment.

NOTE

- This task shows only the hardpoints suitable for supporting mounted accessories. Refer to Figures 16-1 through 16-6. M1079 Van Body Interior Accessory Mounting Hardpoints for details.

- The user is responsible for selecting the correct size and number of blind rivet nuts to be installed. Refer to Table 16-1. M1079 Van Body Accessory Mounting Blind Rivet Nuts for details.

- Alternative blind rivet nuts, not listed in Table 16-1. M1079 Van Body Accessory Mounting Blind Rivet Nuts, may be used if the dimension 0.415 in. (1.05 cm) falls within their grip range and maximum hole size of 0.500 in. (1.27 cm) is not exceeded.
Table 16-1. M1079 Van Body Accessory Mounting Blind Rivet Nuts

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Thread Size</th>
<th>Grip Range</th>
<th>Drill Size</th>
<th>Install Hole Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min.</td>
<td>Max.</td>
</tr>
<tr>
<td>MS27130-47</td>
<td>5/16-18 UNC</td>
<td>0.350-0.425</td>
<td>Z</td>
<td>0.413</td>
</tr>
<tr>
<td>MS27130-53</td>
<td>5/16-24 UNF</td>
<td>0.350-0.425</td>
<td>Z</td>
<td>0.413</td>
</tr>
<tr>
<td>MS27130-59</td>
<td>3/8-16 UNC</td>
<td>0.370-0.455</td>
<td>12.5 mm</td>
<td>0.490</td>
</tr>
<tr>
<td>MS27130-65</td>
<td>3/8-24 UNF</td>
<td>0.370-0.455</td>
<td>12.5 mm</td>
<td>0.490</td>
</tr>
</tbody>
</table>

(1) Determine appropriate mounting location for accessory. Refer to Figure 16-1 through 16-6. M1079 Van Body Interior Accessory Mounting Hardpoints.

**WARNING**

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

(2) Drill pilot hole(s) for blind rivet nut(s).

(3) Enlarge pilot hole(s) to correct size. Refer to Table 16-1. M1079 Van Body Accessory Mounting Blind Rivet Nuts.

**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.

**CAUTION**

Coat all blind rivet nuts with sealing compound prior to installation. Failure to comply may result in damage to equipment.

(4) Coat blind rivet nut(s) with sealing compound.

(5) Install blind rivet nut(s) in hole(s) enlarged in step (3).
Figure 16-1. M1079 Van Body Interior Accessory Mounting Hardpoints.
(Serial Numbers 001 through 190)
Figure 16-2. M1079 Van Body Interior Accessory Mounting Hardpoints.
(Serial Numbers 191 and Higher)
Figure 16-3. M1079 Van Body Interior Accessory Mounting Hardpoints.
Figure 16-4. M1079 Van Body Interior Accessory Mounting Hardpoints.
Figure 16-4. M1079 Van Body Interior Accessory Mounting Hardpoints (Cont).
Figure 16-5. M1079 Van Body Interior Accessory Mounting Hardpoints. (Serial Numbers 001 through 190)
Figure 16-6. M1079 Van Body Interior Accessory Mounting Hardpoints. (Serial Numbers 191 and Higher)
b. Follow-On Maintenance.

(1) Install accessory item(s).

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

End of Task.
16-45. M1079 RACEWAY COVER REPLACEMENT

This task covers:

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

INITIAL SETUP

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

Materials/Parts
Lockwasher (4) (Item 76, Appendix G)

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

a. Removal.

NOTE

Removal of raceway covers with lights or conduits attached can be found in para 16-58 or 16-59.

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

b. Installation.

NOTE

Installation of raceway covers with lights or conduits attached can be found in para 16-58 or 16-59.

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

c. Follow-On Maintenance.

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

End of Task.
## 16-46. M1079 RACEWAY REPLACEMENT

### This task covers:

- a. Front Raceway Removal
- b. Front Raceway Installation
- c. Side Raceway Removal
- d. Side Raceway Installation
- e. Rear Raceway Removal
- f. Rear Raceway Installation
- g. Follow-On Maintenance

### INITIAL SETUP

#### Equipment Conditions

Front Raceway;
- Heater and air conditioner covers removed, if equipped (para 16-31).
- Fan switch/box, and conduit removed (para 16-54).
- Heater thermostat connector removed from raceway (para 16-48).
- Heater connector removed from raceway (para 16-49).
- Air conditioner ECU connector removed from raceway (para 16-47).
- 12/24 vdc power entry connector removed (para 16-71).

Front, Left and Right Side Raceways;
- 110 vac outlet/box and conduit removed (para 16-53).
- 24 vdc binding post/box and conduit removed (para 16-52).
- Field telephone binding post/box and conduit removed (para 16-51).
- Blackout switch removed (para 16-57).

Left Side Rear Raceway;
- Blackout switch removed (para 16-57).

Right Side Rear Raceway;
- 110/208 VAC POWER DISTRIBUTION PANEL removed (para 16-66).
- Blackout switch removed (para 16-57).

#### Equipment Conditions (Cont)

Rear Raceway;
- Fluorescent lights and conduits removed (para 16-59).
- Relay box assembly removed (para 16-63).
- Door ajar switch and conduit removed (para 16-55).
- Raceway cover removed (para 16-45).
- LH and RH doors opened (180 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)
- Ties, Cable, Plastic (Item 76, Appendix D)
- Lockwasher (17) (for front raceway) (Item 80, Appendix G)
- Strain Relief (for side raceways) (Item 263, Appendix G)
- Lockwasher (6) (for rear raceway) (Item 83, Appendix G)
- Splice, Conductor (1) (for front raceway) (Item 261, Appendix G)
- Splice, Conductor (1) (for rear raceway) (Item 261, Appendix G)
- Splice, Conductor (1) (for rear raceway) (Item 262, Appendix G)
a. Front Raceway Removal.

**CAUTION**

Use care when removing heater deflector and cover, electrical cables are attached. Failure to comply may result in damage to equipment.

**NOTE**

- Perform steps (1) through (3) if heater kit is installed.
- Steps (1) through (3) require the aid of an assistant.

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

2. Remove nine screws (6), lockwashers (7), washers (8), and heater cover (5) from van body wall (9). Discard lockwashers.

**NOTE**

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

3. Disconnect connectors J244A (10) and P4A (11) from heater power connector (12) and connector J4 (13).
(4) Remove wire 2010 (14), 2006 (15), 2040 (16), two wires 3086 (17), and two wires 1507 (18) from conduit connector (19).

(5) Remove conduit (20) from wires 2010 (14), 2006 (15), 2040 (16), two wires 3086 (17), and two wires 1507 (18).

(6) Remove wires 2010 (14), 2006 (15), 2040 (16), two wires 3086 (17), and two wires 1507 (18) from conduit connector (21).
NOTE

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

(7) Remove conductor splice (22) from five wires 2040 (23) and wire 2040 (24). Discard conductor splice.

CAUTION

Use care when removing raceway so that wiring is not cut or insulation removed. Failure to comply may result in damage to equipment.

NOTE

Step (8) requires the aid of an assistant.

(8) Remove eight screws (25) and raceway (26) from van body wall (9).
(9) Remove locknut (27) and conduit connector (21) from raceway (26).

b. Front Raceway Installation.

CAUTION
Use care when installing raceway so that wiring is not cut or insulation removed. Failure to comply may result in damage to equipment.

(2) Position five wires 2040 (4) in raceway (2).

NOTE
Step (3) requires the aid of an assistant.

(3) Install raceway (2) on van body wall (5) with eight screws (6).
(4) Install five wires 2040 (4) and wire 2040 (7) in conductor splice (8).

(5) Route two wires 1507 (9), two wires 3086 (10), wires 2040 (11), 2006 (12), and 2010 (13) through conduit connector (1).

(6) Route two wires 1507 (9), two wires 3086 (10), wires 2040 (11), 2006 (12), and 2010 (13) through conduit (14).
NOTE

Install plastic cable ties as required.

(7) Route two wires 1507 (9), two wires 3086 (10), wires 2040 (11), 2006 (12), and 2010 (13) through conduit connector (15).

NOTE

Perform steps (8) through (10) if heater kit is installed.

Steps (8) through (10) require the aid of an assistant.

(8) Connect connectors J244A (16) and P4A (17) to heater power connector (18) and connector J4 (19).

CAUTION

Use care when installing heater cover and deflector, electrical cables are attached. Failure to comply may result in damage to equipment.

(9) Install heater cover (20) on van body wall (5) with nine washers (21), lockwashers (22), and screws (23).
(10) Install heater deflector (24) on heater cover (20) with nine washers (25), lockwashers (26), and screws (27).

c. Side Raceway Removal.

NOTE

Perform steps (1) and (2) on left rear raceway.

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

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

(3) Remove strain relief (8) and wires (9) from raceway (5). Discard strain relief.
NOTE
Perform step (4) on van body serial numbers 001 through 190 for left side rear raceway removal.

(4) Remove strain relief (8) and wires (9) from raceway (5). Discard strain relief.

NOTE
Perform steps (5) through (14) on left side rear raceway if heater kit is installed.

(5) Loosen screw (10) on thermostat cover (11).

(6) Remove thermostat cover (11) from thermostat (12).

NOTE
Tag terminal lugs and connection points prior to removal.

(7) Loosen screw (13) on thermostat (12).

(8) Remove wire 3086C terminal lug (14) from thermostat (12).
(9) Loosen screw (15) on thermostat terminal 1 (16).

(10) Remove wire 1499R terminal lug (17) from thermostat terminal 1 (16).

(11) Loosen screw (18) on thermostat terminal 3 (19).

(12) Remove wire 401 terminal lug (20) from thermostat terminal 3 (19).

(13) Remove wires 1499R (21), 401 (22), and 3086C (23) from thermostat (12).

(14) Remove two screws (24) and thermostat (12) from van body wall (25).
CAUTION

Use care when removing raceway so that wiring is not cut or insulation removed. Failure to comply may result in damage to equipment.

NOTE

Step (15) requires the aid of an assistant.

(15) Remove six screws (26) and raceway (5) from van body wall (25).

NOTE

Perform step (16) on left side rear raceway if heater kit is not installed.

(16) Remove plug (27) from raceway (5).

d. Side Raceway Installation.

NOTE

Perform step (1) on left side rear raceway if heater kit is not installed.

(1) Install plug (1) in raceway (2).

CAUTION

Use care when installing raceway so that wiring is not cut or insulation removed. Failure to comply may result in damage to equipment.

NOTE

Step (2) requires the aid of an assistant.

(2) Install raceway (2) on van body wall (3) with six screws (4).
NOTE

Perform steps (3) through (12) on left side rear raceway if heater kit is installed.

(3) Install thermostat (5) on van body wall (3) with two screws (6).

(4) Route wires 3086C (7), 401 (8), and 1499R (9) in thermostat (5).

(5) Install wire 1499R terminal lug (10) on thermostat terminal 1 (11).

(6) Tighten screw (12) on thermostat terminal 1 (11).

(7) Install wire 401 terminal lug (13) on thermostat 3 terminal (14).

(8) Tighten screw (15) on thermostat terminal 3 (14).

(9) Install wire 3086C terminal lug (16) on thermostat (5).

(10) Tighten screw (17) on thermostat (5).
(11) Install thermostat cover (18) on thermostat (5).

(12) Tighten screw (19) in thermostat cover (18).

NOTE
Perform step (13) on van body serial numbers 001 through 190 for left side rear raceway installation.

(13) Install wires (20) in raceway (4) with strain relief (21).

(14) Install wires (20) in raceway (4) with strain relief (21).
e. Rear Raceway Removal.

**NOTE**

LH and RH door brackets are removed the same way. LH door bracket shown.

1. Remove three screws (1), lockwashers (2), washers (3), and bracket (4) from van body wall (5). Discard lockwashers.

2. Perform step (1) on right side.

3. Remove two screws (6), lockwashers (7), and latch striker (8) from van body wall (5). Discard lockwashers.

**NOTE**

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

4. Remove conductor splice (9) from wire 2040 (10), jumper wire (11), and four wires 2040 (12). Discard conductor splice.
(5) Remove conductor splice (13) from jumper wire (11) and three wires 2040 (14). Discard conductor splice.

CAUTION
Use care when removing raceway so that wiring is not cut or insulation removed. Failure to comply may result in damage to equipment.

NOTE
Step (6) requires the aid of an assistant.

(6) Remove eight screws (15) and raceway (16) from van body wall (5).
f. Rear Raceway Installation.

**CAUTION**

Use care when installing raceway so that wiring is not cut or insulation removed. Failure to comply may result in damage to equipment.

**NOTE**

Step (1) requires the aid of an assistant.

(1) Install raceway (1) on van body wall (2) with eight screws (3).

**NOTE**

Install plastic cable ties as required.

(2) Install conductor splice (4) on three wires 2040 (5) and jumper wire (6).
(3) Install conductor splice (7) on four wires 2040 (8), jumper wire (6), and wire 2040 (9).

(4) Install latch striker (10) on van body wall (2) with two lockwashers (11) and screws (12).

NOTE

LH and RH door brackets are installed the same way. LH door bracket shown.

(5) Install bracket (13) on van body wall (2) with three washers (14), lockwashers (15), and screws (16).

(6) Perform step (5) on right side.
g. Follow-On Maintenance.

Front Raceway:

1. Install air conditioner ECU connector [para 16-47].
2. Install heater connector [para 16-49].
3. Install heater thermostat connector [para 16-48].
4. Install fan switch/box and conduit [para 16-54].
5. Install 12/24 vdc power entry panel connector (para 16-71).
6. Install heater and air conditioner covers, if equipped [para 16-31].

Left and Right Side Front Raceways:

1. Install blackout switch [para 16-57].
2. Install field telephone binding post/box and conduit [para 16-51].
3. Install 24 vdc binding post/box and conduit [para 16-52].
4. Install 110 vac outlet/box and conduit [para 16-53].

Left Side Rear Raceway:

Install blackout switch [para 16-57].

Right Side Rear Raceway:

1. Install blackout switch [para 16-57].
2. Install 110/208 VAC POWER DISTRIBUTION PANEL [para 16-66].

Rear Raceway:

1. Install door ajar switch and conduit [para 16-55].
2. Install relay box assembly [para 16-63].
3. Install fluorescent lights and conduits [para 16-59].

End of Task.
This task covers:

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

**INITIAL SETUP**

**Equipment Conditions**
AC power disconnected (TM 9-2320-365-10).  
Batteries disconnected (para 7-48).  
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

**Tools and Special Tools**
Tool Kit, Genl Mech (Item 44, Appendix C)  
Soldering Iron, Electric (Item 72, Appendix B)  
Heater, Gun Type, Electric (Item 20, Appendix B)

**Materials/Parts**
Lockwasher (4) (Item 79, Appendix G)  
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)  
Lockwasher (16) (Item 76, Appendix G)  
Insulation Sleeving, Electrical (Item 31, Appendix D)  
Solder, Tin Alloy (Item 70, Appendix D)

**a. Removal.**

(1) Remove 16 screws (1), lockwashers (2), washers (3), and raceway cover (4) from raceway (5). Discard lockwashers.

(2) Disconnect connector P166 (6) from connector J166 (7).
NOTE

Perform step (3) if air conditioner kit is installed.

(3) Disconnect connector P242 (8) from connector J242 (9).

(4) Remove dust cap (10) from connector J242 (9).

(5) Remove nut (11), lockwasher (12), dust cap (10), and screw (13) from air conditioner ECU connector J242 (9). Discard lockwasher.

(6) Remove three nuts (14), lockwashers (15), screws (16), and air conditioner ECU connector J242 (9) from raceway (5). Discard lockwashers.

NOTE

Tag wires and connection points prior to removal.

(7) Remove wire 1500 (17) from air conditioner ECU connector J242 PIN A (18).

(8) Remove wire 1501 (19) from air conditioner ECU connector J242 PIN B (20).

(9) Remove wire 1502 (21) from air conditioner ECU connector J242 PIN C (22).
(10) Remove wire 1499M (23) from air conditioner ECU connector J242 PIN D (24).

(11) Remove wire 3085D (25) from air conditioner ECU connector J242 PIN E (26).

(12) Remove insulation sleeving (27) from wires 1500 (17), 1501 (19), and 1502 (21). Discard insulation sleeving.

(13) Remove insulation sleeving (27) from wires 1499M (23) and 3085D (25). Discard insulation sleeving.
b. Installation.

(1) Position insulation sleeving (1) on wires 3085D (2) and 1499M (3).

(2) Strip approximately 1/4 in. (6 mm) of insulation from wires 3085D (2) and 1499M (3).

(3) Position insulation sleeving (1) on wires 1502 (4), 1501 (5), and 1500 (6).

(4) Strip approximately 1/4 in. (6 mm) of insulation from wires 1502 (4), 1501 (5), and 1500 (6).

(5) Solder wire 3085D (2) to air conditioner ECU connector J242 PIN E (7).

(6) Solder wire 1499M (3) to air conditioner ECU connector J242 PIN D (8).
(7) Solder wire 1502 (4) to air conditioner ECU connector J242 PIN C (9).

(8) Solder wire 1501 (5) to air conditioner ECU connector J242 PIN B (10).

(9) Solder wire 1500 (6) to air conditioner ECU connector J242 PIN A (11).

(10) Shrink insulation sleeving (1) on wires 3085D (2), 1499M (3), 1502 (4), 1501 (5), and 1500 (6).

(11) Install air conditioner ECU connector J242 (12) in raceway (13), screws (14), lockwashers (15), and nuts (16).

(12) Install dustcap (17) on air conditioner ECU connector J242 (12), screw (18), lockwasher (19), and nut (20).

**NOTE**

Perform step (13) if air conditioner kit is installed.

(13) Connect connector P242 (21) to connector J242 (12).

(14) Install dust cap (17) on connector J242 (12).
(15) Connect connector P166 (22) to connector J166 (23).

(16) Install raceway cover (24) on raceway (13) with 16 washers (25), lockwashers (26), and screws (27).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

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

(3) Check for proper operation of air conditioner, if installed (TM 9-2320-365-10).

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

End of Task.
16-48. M1079 HEATER THERMOSTAT CONNECTOR REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected (TM 9-2320-365-10).  
Batteries disconnected (para 7-48).  
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)  
Tool Kit, Auto Fuel (Item 42, Appendix C)  
Heater, Gun Type, Electric (Item 20, Appendix B)  
Soldering Iron, Electric (Item 72, Appendix B)

Materials/Parts
Lockwasher (4) (Item 79, Appendix G)  
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)  
Lockwasher (16) (Item 81, Appendix G)  
Insulation Sleeving, Electrical (Item 31, Appendix D)  
Solder, Tin Alloy (Item 70, Appendix D)

a. Removal.

(1) Remove 16 screws (1), lockwashers (2), washers (3), and raceway cover (4) from raceway (5). Discard lockwashers.

(2) Disconnect connector J166 (6) from connector P166 (7).

NOTE
Perform step (3) if heater kit is installed.

(3) Disconnect connector P245 (8) from connector J245 (9).

(4) Remove dust cap (10) from connector J245 (9).

(5) Remove nut (11), lockwasher (12), screw (13) and dustcap (10) from connector J245 (9). Discard lockwasher.
(6) Remove three nuts (14), lockwashers (15), screws (16) and connector J245 (9) from raceway (5). Discard lockwashers.

(7) Remove wire 1499R (17) from connector J245A (18).

(8) Remove wire 3086C (19) from connector J245B (20).

(9) Remove wire 401 (21) from connector J245C (22).

(10) Remove insulation sleeving (23) from wires 1499R (17), 3086C (19), and 401 (21).
b. Installation.

(1) Install insulation sleeving (1) on wires 401 (2), 3086C (3), and 1499R (4).

(2) Strip approximately 1/4 in. (6 mm) of insulation from wires 401 (2), 3086A (3), and 1499R (4).

(3) Solder wire 401 (2) to connector J245C (5).

(4) Solder wire 3086C (3) to connector J245B (6).

(5) Solder wire 1499R (4) to connector J245A (7).

(6) Shrink insulation sleeving (1) on wires 401 (2), 3086C (3), and 1499R (4).

(7) Install connector J245 (8) in raceway (9) with three screws (10), lockwashers (11), and nuts (12).
(8) Install dustcap (13) on connector J245 (8) with screw (14), lockwasher (15), and nut (16).

**NOTE**

Perform step (9) if heater kit is installed.

(9) Connect connector P245 (17) to connector J245 (8).

(10) Install dust cap (13) on connector J245 (8).

(11) Connect connector J166 (18) to connector P166 (19).

(12) Install raceway cover (20) on raceway (9) with 16 washers (21), lockwashers (22), and screws (23).

c. **Follow-On Maintenance.**

(1) Connect batteries (para 7-48).

(2) Connect AC power [TM 9-2320-365-10].

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

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

**End of Task.**
16-49. M1079 HEATER CONNECTOR REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected [TM 9-2320-365-10]
Batteries disconnected (para 7-48).
LH and RH doors opened (115 degrees) (TM 9-2320-
365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Heater, Gun Type, Electric (Item 20, Appendix B)
Soldering Iron, Electric (Item 72, Appendix B)

Materials/Parts
Solder, Tin Alloy (Item 70, Appendix D)
Lockwasher (4) (Item 79, Appendix G)
Dispenser, Pressure Sensitive Adhesive Tape
(Item 21, Appendix D)
Lockwasher (16) (Item 76, Appendix G)
Insulation Sleeving, Electrical (Item 31, Appendix D)

Materials/Parts
Solder, Tin Alloy (Item 70, Appendix D)
Lockwasher (4) (Item 79, Appendix G)
Dispenser, Pressure Sensitive Adhesive Tape
(Item 21, Appendix D)
Lockwasher (16) (Item 76, Appendix G)
Insulation Sleeving, Electrical (Item 31, Appendix D)

a. Removal.

(1) Remove 16 screws (1), lockwashers (2), washers (3),
and raceway cover (4) from raceway (5). Discard
lockwashers.

(2) Disconnect connector J166 (6) from connector P166 (7).

NOTE
Perform step (3) if heater kit is installed.

(3) Disconnect connector P244 (8) from connector J244 (9).

(4) Remove dust cap (10) from connector J244 (9).

(5) Match mark connector J244 (9) to raceway (5).

(6) Remove nut (11), lockwasher (12), screw (13) and
dustcap (10) from connector J244 (9). Discard
lockwasher.
(7) Remove three nuts (14), lockwashers (15), screws (16) and connector J244 (9) from raceway (5). Discard lockwashers.

**NOTE**
Tag wires and connection points prior to removal.

(8) Remove wire 400 (17) from connector J244A (18).
(9) Remove wire 1499A (19) from connector J244C (20).
(10) Remove wire 3085A (21) from connector J244D (22).

(11) Remove insulation sleeving (23) from wires 400 (17), 1499A (19), and 3085A (21).
b. Installation.

(1) Position insulation sleeving (1) on wires 3085A (2), 1499A (3), and 400 (4).

(2) Strip approximately 1/4 in. (6 mm) of insulation from wires 3085A (2), 1499A (3), and 400 (4).

(3) Solder wire 3085A (2) to heater connector J244D (5).

(4) Solder wire 1499A (3) to heater connector J244C (6).

(5) Solder wire 400 (4) to heater connector J244A (7).

(6) Position heater connector J244 (8) in raceway (9) with matchmarks aligned.

(7) Install three screws (10), lockwashers (11), and nuts (12) in heater connector J244 (8).
(8) Install dust cap (13) on connector J244 (8) with screw (14), lockwasher (15), and nut (16).

**NOTE**
Perform step (9) if heater kit is installed.

(9) Connect connector P244 (17) to connector J244 (8).
(10) Install dust cap (13) on connector J244 (8).

(11) Connect connector J166 (18) to connector P166 (19).
(12) Install raceway cover (20) on raceway (9) with 16 washers (21), lockwashers (22), and screws (23).

**c. Follow-On Maintenance.**

(1) Connect batteries (para 7-48).
(2) Connect AC power (TM 9-2320-365-10).
(3) Check for proper operation of van heater, if installed (TM 9-2320-365-10).
(4) Close LH and RH doors (TM 9-2320-365-10).

End of Task.
16-50. M1079 INTERIOR LIGHTS SWITCH/BOX AND CONDUIT REPLACEMENT

This task covers:

a. Removal
b. Installation

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Batteries disconnected (para 7-48).
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)
Tool Kit, Auto Fuel And Electrical Systems Repair (Item 42, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Lockwasher (2) (Item 77, Appendix G)
Terminal, Lug (2) (van bodies serial number 191 and higher) (Item 268, Appendix G)
Strain Relief (van bodies serial number 191 and higher) (Item 263, Appendix G)

Personnel Required
(2)

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a. Removal.

(1) Remove two screws (1) and cover (2) from outlet box (3).

(2) Remove two screws (4) and switch S32 (5) from outlet box (3).
NOTE

Tag wires and connection points prior to disconnecting.

(3) Loosen screw (6) on switch S32 (5).

(4) Remove wire 706C terminal lug (7) from switch S32 (5).

(5) Loosen screw (8) on switch S32 (5).

(6) Remove wire 706B terminal lug (9) from switch S32 (5).

(7) Loosen screw (10) on switch S32 (5).

(8) Remove wire 1505C and 1508A terminal lugs (11 and 12) from switch S32 (5).

(9) Loosen screw (13) on S32 switch (5).

(10) Remove wire 3085E terminal lug (14) from switch S32 (5).

(11) Loosen screw (15) on switch S32 (5).

(12) Remove wire 3085AH terminal lug (16) from switch S32 (5).
NOTE

Perform steps (13) through (19) on van bodies serial number 191 and higher.

(13) Remove two screws (17), lockwashers (18), washers (19), and bracket (20) from RH door (21). Discard lockwashers.

(14) Disconnect wire 1509D terminal lug (22) and 1509E terminal lug (23) from blackout switch S15 (24).

(15) Remove strain relief (25) and wires 1509D and 1509E (26 and 27) from bracket (20). Discard strain relief.

(16) Remove wire 1509D and 1509E terminal lugs (22 and 23) from wires 1509D and 1509E (26 and 27). Discard terminal lugs.

(17) Remove two screws (28), clamps (29), and conduit (30) from RH door (21).

(18) Remove screw (31), clamp (32), and conduit (30) from van body wall (33).

(19) Remove conduit connector (34) from outlet box (3).
(20) Remove wires 1509D and 1509E (26 and 27) from outlet box (3).

(21) Remove screw (35) and wire 3085AH terminal lug (36) from outlet box (3).

(22) Remove conduit nut (37) from conduit connector (38).

(23) Remove two screws (39) and outlet box (3) from van body wall (33).

(24) Remove conduit connector (38) from outlet box (3).

(25) Loosen screw (40) on relay box cover (41).

(26) Open relay box cover (41).
(27) Remove conduit nut (42) and conduit (43) from conduit connector (44).

(28) Remove wires 706C (45), 706B (46), 1505C (47), 1508A (48), and 3085E (49) from conduit connector (44).

**NOTE**

Perform step (29) on van bodies serial number 191 and higher.

(29) Remove wires 1509D (26) and 1509E (27) from conduit connector (44).

(30) Remove locknut (50) and conduit connector (44) from relay box (51).
(31) Remove two ferrules (52) and conduit nuts (37 and 42) from conduit (43).

b. Installation.

(1) Position conduit nuts (1 and 2) and two ferrules (3) on conduit (4).

(2) Install conduit connector (5) in relay box (6) with locknut (7).

NOTE

Perform step (3) on van bodies serial number 191 and higher.

(3) Route wires 1509E (8), and 1509D (9) through conduit connector (5).

(4) Route wires 3085E (10), 1508A (11), 1505C (12), 706B (13), 706C (14) through conduit connector (5).
NOTE

Perform step (5) on van bodies serial number 191 and higher.

(5) Route wires 1509E (8), and 1509D (9) through conduit (4).

(6) Route wires 3085E (10), 1508A (11), 1505C (12), 706B (13), and 706C (14) through conduit (4).

(7) Install conduit nut (1) on conduit connector (5).

(8) Close relay box cover (15).

(9) Tighten screw (16) in relay box cover (15).

(10) Install conduit connector (17) in outlet box (18).

(11) Route wires 1509E (8), and 1509D (9) through conduit connector (17).

(12) Route wires 3085E (10), 1508A (11), 1505C (12), 706B (13), and 706C (14) through conduit connector (17).

(13) Install outlet box (18) on van body wall (19) with two screws (20).

(14) Install conduit nut (2) on conduit connector (17).
(15) Install wire 3085AH terminal lug (21) on outlet box (18) with screw (22).

**NOTE**
Perform steps (16) through (23) on van bodies serial number 191 and higher.

(16) Route wires 1509E and 1509D (8 and 9) through bottom of outlet box (18).

(17) Route wires 1509E and 1509D (8 and 9) through conduit (23).

(18) Install conduit connector (24) in outlet box (18).

(19) Install conduit (23) on van body wall (19) with clamp (25) and screw (26).

(20) Install conduit (23) on RH door (27) with two clamps (28) and screws (29).

(21) Install wire 1509E and 1509D terminal lugs (30 and 31) on wire 1509E and 1509D (8 and 9).
(22) Install wires 1509E and 1509D (8 and 9) in strain relief (32).

(23) Install strain relief (32) in bracket (33).

(24) Connect wire 1509E terminal lug (30) and 1509D terminal lug (31) to blackout switch S15 (34).

(25) Install bracket (33) on RH door (27) with two washers (35), lockwashers (36), and screws (37).

(26) Install wire 3085AH terminal lug (38) on switch S32 (39).

(27) Tighten screw (40) on switch S32 (39).

(28) Install wire 3085E terminal lug (41) on switch S32 (39).

(29) Tighten screw (42) on switch S32 (39).

(30) Install wire 1508A and 1505C terminal lugs (43 and 44) on switch S32 (39).

(31) Tighten screw (45) on switch S32 (39).

(33) Tighten screw (47) on switch S32 (39).

(34) Install wire 706C terminal lug (48) on switch S32 (39).

(35) Tighten screw (49) on switch S32 (39).

(36) Install switch S32 (39) in outlet box (18) with two screws (50).

(37) Install cover (51) on outlet box (18) with two screws (52).

c. Follow-On Maintenance.

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

(2) Connect batteries (para 7-48).

(3) Check proper operation of fluorescent lights (TM 9-2320-365-10).

(4) Check proper operation of blackout lights (TM 9-2320-365-10).

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

End of Task.
This task covers:

- Exterior Field Telephone Binding Post Removal
- Exterior Field Telephone Binding Post Installation
- Interior Field Telephone Binding Post/Box and Conduit Removal
- Interior Field Telephone Binding Post/Box and Conduit Installation
- Follow-On Maintenance

INITIAL SETUP

**Equipment Conditions**

- Field telephone disconnected (TM 9-2320-365-10).
- AC power disconnected (TM 9-2320-365-10).
- Batteries disconnected (para 7-48).
- 110 vac outlet/box and conduit removed (for removal of field telephone box or conduit) (para 16-53).

**Tools and Special Tools**

- Tool Kit, Genl Mech (Item 44, Appendix C)
- Tool Kit, Auto Fuel and Electrical Systems Repair (Item 42, Appendix C)

**Materials/Parts**

- Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
- Lockwasher (28) (van body serial numbers 001 through 190) (Item 77, Appendix G)
- Lockwasher (16) (van bodies serial number 191 and higher) (Item 77, Appendix G)
- Lockwasher (12) (Item 81, Appendix G)
- Terminal, Lug (2) (Item 266, Appendix G)
- Terminal, Lug (4) (Item 269, Appendix G)

**Personnel Required**

- 2

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**a. Exterior Field Telephone Binding Post Removal.**

**NOTE**

- Both exterior field telephone binding posts are removed the same way. Negative exterior field telephone binding post shown.
- Perform step (1) on van body serial numbers 001 through 190.

(1) Remove 28 screws (1), lockwashers (2), washers (3), and cover (4) from 110/208 vac power entry panel (5). Discard lockwashers.
16-51. M1079 FIELD TELEPHONE BINDING POST/BOX AND CONDUIT REPLACEMENT (CONT)

NOTE

Perform step (2) on van bodies serial number 191 and higher.

(2) Remove 16 screws (1), lockwashers (2), washers (3), and cover (4) from 110/208 vac power entry panel (5). Discard lockwashers.

NOTE

Steps (3) through (5) require the aid of an assistant.

Positive field telephone binding post wire number is 424.

(3) Remove nut (6) and wire 425 terminal lug (7) from binding post (8).

(4) Remove nut (9), lockwasher (10), washer (11), and nylon washer (12) from binding post (8). Discard lockwasher.
(5) Remove binding post (8), preformed packing (13), nylon washer (14), and preformed packing (15) from 110/208 vac power entry panel (5).

b. Exterior Field Telephone Binding Post Installation.

1. Install preformed packing (1), nylon washer (2), preformed packing (3), and binding post (4) in 110/208 vac power entry panel (5).

2. Install nylon washer (6), washer (7), lockwasher (8), and nut (9) on binding post (4).

   NOTE
   Positive field telephone binding post wire number is 424.

3. Install wire 425 terminal lug (10) on binding post (4) with nut (11).

   NOTE
   Both exterior field telephone binding posts are installed the same way. Negative exterior field telephone binding post shown.

   Steps (1) through (3) require the aid of an assistant.

   (1) Install preformed packing (1), nylon washer (2), preformed packing (3), and binding post (4) in 110/208 vac power entry panel (5).
16-51. M1079 FIELD TELEPHONE BINDING POST/BOX AND CONDUIT REPLACEMENT (CONT)

NOTE

Perform step (4) on van bodies serial number 191 and higher.

(4) Install cover (12) on 110/208 vac power entry panel (5) with 16 washers (13), lockwashers (14), and screws (15).

NOTE

Perform step (5) on van body serial numbers 001 through 190.

(5) Install cover (12) on 110/208 vac power entry panel (5) with 28 washers (13), lockwashers (14), and screws (15).

c. Interior Field Telephone Binding Post/Box and Conduit Removal.

NOTE

PHONE 1 and PHONE 2 field telephone binding posts/boxes and conduits are removed the same way. PHONE 1 positive field telephone binding post/box and conduit shown.

(1) Remove two screws (1) and cover (2) from outlet box (3).
NOTE

- Tag wires and connection points prior to disconnecting.

- PHONE 1 field telephone binding posts have two wires attached. PHONE 2 field telephone binding posts have one wire attached. Refer to Table 16-2. M1079 Interior Field Telephone Binding Post Wire Numbers for details.

- Perform steps (2) through (4) on positive and negative field telephone binding posts for outlet box and/or conduit removal.

Table 16-2. M1079 Interior Field Telephone Binding Post Wire Numbers

<table>
<thead>
<tr>
<th>Binding Post Identification</th>
<th>Wire Number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHONE 1 Positive (red)</td>
<td>424A, 424</td>
</tr>
<tr>
<td>PHONE 1 Negative (black)</td>
<td>425A, 425</td>
</tr>
<tr>
<td>PHONE 2 Positive (red)</td>
<td>424A</td>
</tr>
<tr>
<td>PHONE 2 Negative (black)</td>
<td>425A</td>
</tr>
</tbody>
</table>

(2) Remove nut (4) and wire terminal lug(s) (5) from binding post (6).

(3) Remove nut (7), lockwasher (8), washer (9), and nylon washer (10) from binding post (6).
(4) Remove binding post (6), preformed packing (11), nylon washer (12), and preformed packing (13) from cover (2).

NOTE
Perform step (5) for PHONE 1 outlet box and/or conduit removal.

(5) Remove wires 702C (14), 702F (15), 3085J (16), and 1499D (17) from bottom of outlet box (3).

NOTE
Perform step (6) for PHONE 2 outlet box and/or conduit removal.

(6) Remove wires 702F (15), 3085G (16), and 1499F (17) from bottom of outlet box (3).
NOTE

PHONE 1 outlet box contains four wires. PHONE 2 outlet box contains two wires. Refer to Table 16-2, M1079 Interior Field Telephone Binding Post Wire Numbers for details.

(7) Remove terminal lugs (5) from wires 424/424A (18) and 425/425A (19).

(8) Remove conduit nut (20) from conduit connector (21).

(9) Remove two screws (22) and outlet box (3) from van body wall (23).

(10) Remove conduit connector (21) from outlet box (3).
NOTE

Perform steps (11) through (18) for conduit removal.

(11) Remove 12 screws (24), lockwashers (25), washers (26), and raceway cover (27) from raceway (28). Discard lockwashers.

NOTE

Perform step (12) for PHONE 1 outlet box and/or conduit removal.

(12) Disconnect blackout light connector J162 (29) from connector P162 (30).

NOTE

Perform step (13) for PHONE 2 outlet box and/or conduit removal.

(13) Disconnect blackout light connector J164 (29) from connector P164 (30).

NOTE

Perform step (14) for PHONE 1 conduit removal.

(14) Remove wires 424 (18), 425 (19), 702C (14), 702F (15), 3085J (16), and 1499D (17) from conduit (31).

NOTE

Perform step (15) for PHONE 2 conduit removal.

(15) Remove wires 424A (18), 425A (19), 702F (15), 3085G (16), and 1499F (17) from conduit (31).
(16) Remove conduit nut (32) from conduit connector (33).

(17) Remove two ferrules (34) and conduit nuts (20 and 32) from conduit (31).

(18) Remove lock nut (35) and conduit connector (33) from raceway (28).

d. Interior Field Telephone Binding Post/Box and Conduit Installation.

NOTE

- PHONE 1 and PHONE 2 field telephone binding posts/boxes and conduits are removed the same way. PHONE 1 positive field telephone binding post/box and conduit shown.

- Perform steps (1) through (8) for conduit installation.

1. Install conduit connector (1) in raceway (2) with lock nut (3).

2. Position conduit nuts (4 and 5) and two ferrules (6) on conduit (7).

3. Install conduit nut (4) on conduit connector (1).
Perform step (4) for PHONE 2 outlet box installation.

(4) Route wires 1499F (8), 3085G (9), 702F (10), 425A (11), and 424A (12) through conduit (7).

Perform step (5) for PHONE 1 outlet box installation.

(5) Route wires 1499D (8), 3085J (9), 702F (10), 702C (13), two wires 425 (11), and two wires 424 (12) through conduit (7).

Perform step (6) for PHONE 2 outlet box and/or conduit installation.

(6) Connect blackout light connector J164 (14) to connector P164 (15).

Perform step (7) for PHONE 1 outlet box and/or conduit installation.

(7) Connect blackout light connector J162 (14) to connector P162 (15).

(8) Install raceway cover (16) on raceway (2) with 12 washers (17), lockwashers (18), and screws (19).
(9) Install conduit connector (20) in outlet box (21).

NOTE
Perform step (10) for PHONE 2 outlet box installation.

(10) Route wires 425A (11), 424A (12), 1499F (8), 3085G (9), and 702F (10) through conduit connector (20).

NOTE
Perform step (11) for PHONE 1 outlet box installation.

(11) Route wires 425 (11), 424 (12), 1499D (8), 3085J (9), 702F (10), and 702C (13) through conduit connector (20).
(12) Install outlet box (21) on van body wall (22) with two screws (23).

(13) Install conduit nut (5) on conduit connector (20).

NOTE

PHONE 1 outlet box contains four wires.
PHONE 2 outlet box contains two wires. Refer to Table 16-2, M1079 Interior Field Telephone Binding Post Wire Numbers for details.

(14) Install terminal lugs (24) on wires 425/425A (11) and 424/424A (12).

NOTE

Perform step (15) on PHONE 2 outlet box.

(15) Route wires 1499F (8), 3085G (9), and 702F (10) through hole in outlet box (21).

NOTE

Perform step (16) on PHONE 1 outlet box.

(16) Route wires 1499D (8), 3085J (9), 702F (10), and 702C (13) through hole in outlet box (21).
NOTE

Perform steps (17) through (19) on positive and negative field telephone binding posts after installation of outlet box.

(17) Install preformed packing (25), nylon washer (26), preformed packing (27), and binding post (28) in cover (29).

(18) Install nylon washer (30), washer (31), lockwasher (32), and nut (33) on binding post (28).

(19) Install wire terminal lug(s) (24) on binding post (28) with nut (34).

NOTE

PHONE 1 field telephone binding posts have two wires attached. PHONE 2 field telephone binding posts have one wire attached. Refer to Table 16-2. M1079 Interior Field Telephone Binding Post Wire Numbers for details.
(20) Install cover (29) on outlet box (21) with two screws (35).

**e. Follow-On Maintenance.**

(1) Install 110/208 vac outlet/box and conduit if removed (para 16-53).

(2) Connect batteries (para 7-48).

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

(4) Connect field telephone (TM 9-2320-365-10).

(5) Check for proper operation of field telephone (TM 9-2320-365-10).

**End of Task.**
16-52. M1079 24 VDC BINDING POST/BOX AND CONDUIT REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected ([TM 9-2320-365-10])
Batteries disconnected (para 7-48).
110 vac outlet/box and conduit removed (for removal of 24 vdc box or conduit) (para 16-53).

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Lockwasher (12) (Item 76, Appendix G)
Terminal, Lug (5) (Item 266, Appendix G)

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Tool Kit, Auto Fuel and Electrical Systems Repair (Item 42, Appendix C)

a. Removal.

NOTE

Left side and right side 24 vdc POS, NEG, and GND binding posts are removed the same way. Right side (J237) 24 vdc POS binding post shown.

(1) Remove two screws (1) and cover (2) from outlet box (3).
16-52. M1079 24 VDC TERMINAL/BOX AND CONDUIT REPLACEMENT (CONT)

NOTE

- Tag wires and connection points prior to removing.

- Right side (J237) 24 vdc POS and GND binding posts, and left side (J236) 24 vdc NEG binding post have two wires attached. The remaining three binding posts have one wire attached. Refer to Table 16-3 M1079 24 VDC Binding Post Wire Numbers for details.

- Perform steps (2) through (4) on 24 VDC POS, NEG, and GND binding posts for outlet box and/or conduit removal.

Table 16-3. M1079 24 VDC Binding Post Wire Numbers

<table>
<thead>
<tr>
<th>Binding Post Identification</th>
<th>Wire Number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>J236 24VDC POS</td>
<td>49A</td>
</tr>
<tr>
<td>J236 24VDC NEG</td>
<td>3086, 3086</td>
</tr>
<tr>
<td>J236 24VDC GND</td>
<td>3085AD</td>
</tr>
<tr>
<td>J237 24VDC POS</td>
<td>49, 49A</td>
</tr>
<tr>
<td>J237 24VDC NEG</td>
<td>3086</td>
</tr>
<tr>
<td>J237 24VDC GND</td>
<td>3085L, 3085AD</td>
</tr>
</tbody>
</table>

(2) Remove nut (4) and terminal lug(s) (5) from binding post (6).

(3) Remove nut (7), lockwasher (8), washer (9), and nylon washer (10) from binding post (6).
(4) Remove binding post (6), preformed packing (11), nylon washer (12), and preformed packing (13) from cover (2).

NOTE
Perform step (5) for right side (J237) outlet box and/or conduit removal.

(5) Remove wires 1499C (14), 3085M (15), 702B (16), and 702E (17) from bottom of outlet box (3).

NOTE
Perform step (6) for left side (J236) outlet box and/or conduit removal.

(6) Remove wires 1499E (14), 3085H (15), and 702E (17) from bottom of outlet box (3).
NOTE
Perform step (7) for right side (J237) outlet box and/or conduit removal.

(7) Remove terminal lugs (5) from wires 49 (18), 49A (19), 3086 (20), 3085AD (21), and 3085L (22). Discard terminal lugs.

NOTE
Perform step (8) for left side (J236) outlet box and/or conduit removal.

(8) Remove terminal lugs (5) from wires 49A (19), 3085AD (21), and two wires 3086 (20). Discard terminal lugs.

(9) Remove conduit nut (23) from conduit connector (24).

(10) Remove two screws (25) and outlet box (3) from van body wall (26).

(11) Remove conduit connector (24) from outlet box (3).
NOTE

Perform steps (12) through (19) for conduit removal.

(12) Remove 12 screws (27), lockwashers (28), washers (29), and raceway cover (30) from raceway (31). Discard lockwashers.

NOTE

Perform step (13) for right side (J237) outlet box and/or conduit removal.

(13) Disconnect blackout light connector J162 (32) from connector P162 (33).

NOTE

Perform step (14) for left side (J236) outlet box and/or conduit removal.

(14) Disconnect blackout light connector J164 (32) from connector P164 (33).

(15) Remove conduit nut (34) and conduit (35) from conduit connector (36).
NOTE

Perform step (16) for right side (J237) conduit removal.

(16) Remove wires 1499C (14), 3085M (15), 702B (16), 702E (17), 49 (18), 49A (19), 3086 (20), 3085AD (21), and 3085L (22) from conduit connector (36).

NOTE

Perform step (17) for left side (J236) conduit removal.

(17) Remove wires 1499E (14), 3085H (15), 702E (17), 49A (19), 3085AD (21), and two wires 3086 (20) from conduit connector (36).

(18) Remove locknut (37) and conduit connector (36) from raceway (31).

(19) Remove two ferrules (38) and conduit nuts (23 and 34) from conduit (35).
b. Installation.

NOTE

Perform steps (1) through (9) for conduit installation.

1. Install conduit nuts (1 and 2) and two ferrules (3) on conduit (4).

2. Install conduit connector (5) in raceway (6) with locknut (7).

NOTE

Perform step (3) for left side (J236) outlet box and conduit installation.

3. Route two wires 3086 (8) and wires 3085AD (9), 49A (10), 702E (11), 3085H (12), and 1499E (13) through conduit connector (5).

NOTE

Perform step (4) for right side (J237) outlet box and conduit installation.

4. Route wires 3086 (8), 3085AD (9), 49A (10), 702E (11), 3085M (12), 1499C (13), 3085L (14), 49 (15), and 702B (16) through conduit connector (5).
NOTE

Perform step (5) for left side (J236) outlet box and conduit installation.

(5) Route two wires 3086 (8) and wires 3085AD (9), 49A (10), 702E (11), 3085AH (12), and 1499E (13) through conduit (4).

NOTE

Perform step (6) for right side (J237) outlet box and conduit installation.

(6) Route wires 3086 (8), 3085AD (9), 49A (10), 702E (11), 3085M (12), 1499C (13), 3085L (14), 49 (15), and 702B (16) through conduit (4).

(7) Install conduit nut (1) on conduit connector (5).
NOTE

Perform step (8) for left side (J236) outlet box and/or conduit installation.

(8) Connect blackout light connector J164 (17) to connector P164 (18).

NOTE

Perform step (9) for right side (J237) outlet box and/or conduit installation.

(9) Connect blackout light connector J162 (17) to connector P162 (18).

(10) Install raceway cover (19) on raceway (6) with 12 washers (20), lockwashers (21), and screws (22).

(11) Install conduit connector (23) in outlet box (24).
NOTE
Perform step (12) for left side (J236) outlet box installation.

(12) Route two wires 3086 (8) and wires 3085AD (9), 49A (10), 702E (11), 3085H (12), and 1499E (13) through conduit connector (23).

NOTE
Perform step (13) for right side (J237) outlet box installation.

(13) Route wires 3086 (8), 3085AD (9), 49A (10), 702E (11), 3085M (12), 1499C (13), 3085L (14), 49 (15), and 702B (16) through conduit connector (23).

(14) Install outlet box (24) on van body wall (25) with two screws (26).

(15) Install conduit nut (2) on conduit connector (23).

NOTE
Perform step (16) on left side (J236) outlet box.

(16) Install terminal lugs (27) on two wires 3086 (8), wires 3085AD (9), and 49A (10).

NOTE
Perform step (17) on right side (J237) outlet box.

(17) Install terminal lugs (27) on wires 3086 (8), 3085AD (9), 49A (10), 3085L (14), and 49 (15).
NOTE

Perform step (18) on left side (J236) outlet box.

(18) Route wires 702E (11), 3085H (12), and 1499E (13) through bottom of outlet box (24).

NOTE

Perform step (19) on right side (J237) outlet box.

(19) Route wires 702E (11), 3085M (12), 1499C (13), and 702B (16) through bottom of outlet box (24).

NOTE

- Left side and right side 24 vdc POS, NEG, and GND binding posts are installed the same way. Right side (J237) 24 vdc POS binding post shown.

- Perform steps (20) through (22) on 24 vdc POS, NEG, and GND binding posts after installation of outlet box.

(20) Install preformed packing (28), nylon washer (29), preformed packing (30), and binding post (31) on cover (32).
(21) Install nylon washer (33), washer (34), lockwasher (35), and nut (36) on binding post (31).

(22) Install terminal lug(s) (27) on binding post (31) with nut (37).

(23) Install cover (32) on outlet box (24) with two screws (38).

**NOTE**

Right side (J237) 24 vdc POS and GND binding posts, and left side (J236) 24 vdc NEG binding post have two wire attached. The remaining three binding posts have one wire attached. Refer to Table 16-3, M1079 24 VDC Binding Post Wire Numbers for details.
c. Follow-On Maintenance.

(1) Install 110 vac outlet/box and conduit, if removed [para 16-53].

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

(2) Connect batteries [TM 9-2320-365-10].

(4) Check for proper operation of 24 vdc system [TM 9-2320-365-10].

End of Task.
16-53. M1079 110 VAC OUTLET/BOX AND CONDUIT REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected [TM 9-2320-365-10]
Batteries disconnected (para 7-48).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Tool Kit, Auto Fuel and Electrical System Repair (Item 42, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Lockwasher (12) (Item 81, Appendix G)
Terminal, Lug (4) (Item 269, Appendix G)

a. Removal.

NOTE

All 110 vac outlets are removed the same way. Left front 110 vac outlet J233 shown.

(1) Remove screw (1) and cover (2) from outlet box (3).

(2) Remove two screws (4) and 110 vac outlet (5) from outlet box (3).
NOTE

- Perform steps (3) through (6) on all 110 vac outlets.
- Tag wires and connection points prior to disconnecting.
- Refer to Table 16-4, M1079 110 VAC Outlet Box Location and Wire Numbers for details.

(3) Loosen screw (6) in receptacle (5).
(4) Remove neutral wire terminal lug (7) from receptacle (5).
(5) Loosen green screw (8) in receptacle (5).
(6) Remove ground wire and jumper wire terminal lugs (9 and 10) from receptacle (5).

<table>
<thead>
<tr>
<th>Location</th>
<th>Outlet Number</th>
<th>Outlet Wiring</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Supply</td>
<td>Neutral</td>
</tr>
<tr>
<td>Left Front</td>
<td>J233</td>
<td>702D (Bottom)</td>
<td>1499G (Top)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left Middle</td>
<td>J234</td>
<td>702E (Bottom)</td>
<td>1499E (Top)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left Rear</td>
<td>J235</td>
<td>702F (Bottom)</td>
<td>1499F (Top)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right Front</td>
<td>J232</td>
<td>702D (Top) 702A (Bottom)</td>
<td>1499B (Top)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right Middle</td>
<td>J231</td>
<td>702E (Top) 702B (Bottom)</td>
<td>1499C (Top)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right Rear</td>
<td>J230</td>
<td>702F (Top) 702C (Bottom)</td>
<td>1499D (Top)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**NOTE**

Perform steps (7) and (8) on left side 110 vac outlets, J233, J234, and J235.

(7) Loosen screw (6) in receptacle (5).

(8) Remove supply wire terminal lug (11) from receptacle (5).

Perform steps (9) and (10) on right side 110 vac outlets J232, J231, and J230.

(9) Loosen two screws (6) in receptacle (5).

(10) Remove two supply wire terminal lugs (11 and 12) from receptacle (5).

(11) Loosen screw (13) on outlet box (3).

(12) Remove ground wire jumper terminal lug (10) from outlet box (3).

(13) Remove two screws (14) from outlet box (3).

(14) Remove conduit nut (15) from conduit connector (16).

(15) Remove outlet box (3) from conduit (17).

(16) Remove conduit connector (16) from outlet box (3).
NOTE

Perform steps (17) through (22) if conduit is being removed from 110 vac outlet box J233 or J232.

(17) Remove 12 screws (18), lockwashers (19), washers (20), and raceway cover (21) from raceway (22). Discard lockwashers.

(18) Remove conduit nut (23) from conduit connector (24).

(19) Remove conduit (17) from conduit connector (24).

(20) Remove two ferrules (25) and conduits nuts (15 and 23) from conduit (17).

(21) Remove supply wire (26), neutral wire (27), and ground wire (28) from conduit connector (24).

(22) Remove locknut (29) and conduit connector (24) from raceway (22).

NOTE

Perform steps (23) through (27) if conduit is being removed from 110 vac outlet box J234, J235, J231, or J230.

(23) Remove terminal lugs (7, 9, 11, and/or 12) from supply wires (26) neutral wire (27) and ground wire (28).

(24) Remove conduit nut (30) and conduit (31) from conduit connector (32).
(25) Remove conduit connector (32) from outlet box (33).

(26) Remove two ferrules (35) and conduit nuts (34 and 30) from conduit (31).

b. Installation.

**NOTE**
Perform steps (1) through (6) if conduit is being installed on 110 vac outlet box J234, J235, J231, or J230.

(1) Install conduit nuts (1 and 2) and two ferrules (3) on conduit (4).
NOTE

110 vac outlet boxes J230, J231, and J232 each contain two supply wires. Refer to Table 16-4. M1079 110 VAC Outlet Box and Wire Numbers for details.

(2) Route supply wire(s) (5), neutral wire (6), and ground wire (7) through conduit connector (8).

(3) Install conduit connector (8) in outlet box (9).

(4) Route supply wire(s) (5), neutral wire (6), and ground wire (7) through conduit (4).

(5) Install conduit (4) on conduit connector (8) with conduit nut (1).

NOTE

Refer to Table 16-4. M1079 110 VAC Outlet Box and Wire Numbers for details.

(6) Install terminal lugs (10, 11, 12, and 13) on supply wire(s) (5), neutral wire (6), and ground wire (7).
NOTE

Perform steps (7) through (12) if conduit is being installed on 110 vac outlet box J233 or J232.

(7) Install conduit connector (14) in raceway (15) with lock nut (16).

(8) Route supply wires (5), neutral wire (6), and ground wire (7) through conduit connector (14).

(9) Install conduit nuts (17 and 18) and two ferrules (19) on conduit (20).

(10) Route supply wires (5), neutral wire (6), and ground wire (7) through conduit (20).

(11) Install conduit (20) on conduit connector (14) with conduit nut (17).

(12) Install raceway cover (21) on raceway (22) with 12 washers (23), lockwashers (24), and screws (25).
(13) Install conduit connector (26) in 110 vac outlet box (27).

(14) Route supply wire(s) (5), neutral wire (6), ground wire (7) through conduit connector (26).

(15) Install conduit nut (18) on conduit connector (26).

(16) Install two screws (28) in outlet box (27).

(17) Install ground jumper wire terminal lug (29) on outlet box (27).

(18) Tighten screw (30) in outlet box (27).

NOTE
Perform step (19) and (20) on right side 110 vac outlets J232, J231, and J230.

(19) Install supply wire terminal lugs (10 and 11) on receptacle (31).

(20) Tighten two screws (32) in receptacle (31).

NOTE
Perform step (21) and (22) on left side 110 vac outlets J233, J234, and J235.

(21) Install supply wire terminal lug (10) on receptacle (31).

(22) Tighten screw (32) in receptacle (31).
NOTE

Perform steps (23) through (28) on all 110 vac outlets.

(23) Install ground wire and ground jumper wire terminal lugs (13 and 33) on receptacle (31).

(24) Tighten screw (34) in receptacle (31).

(25) Install neutral wire terminal lug (12) on receptacle (31).

(26) Tighten screw (35) in receptacle (31).

(27) Install receptacle (31) in outlet box (27) with two screws (36).

(28) Install cover (37) on outlet box (27) with screw (38).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Connect AC power [TM 9-2320-365-10].

(3) Check for proper operation of 110 vac outlet (TM 9-2320-365-10).

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

End of Task.
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).
- Batteries disconnected (para 7-48).
- LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

**Tools and Special Tools**

- Tool Kit, Auto Fuel and Electrical System Repair (Item 42, Appendix C)
- Tool Kit, Genl Mech (Item 44, Appendix C)
- Heater, Gun Type, Electric (Item 20, Appendix B)

**Materials/Parts**

- Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
- Splice, Conductor (Item 261, Appendix G)
- Lockwasher (16) (Item 76, Appendix G)

---

**a. Removal.**

1. Remove two screws (1) and cover (2) from outlet box (3).
2. Remove two screws (4) and switch S35 (5) from outlet box (3).

**NOTE**

Tag wires and connection points prior to disconnecting.

3. Loosen screw (6) on switch S35 (5).
4. Remove wire 415 terminal lug (7) from switch S35 (5).
5. Loosen screw (8) on switch S35 (5).
6. Remove wire 415A terminal lug (9) from switch S35 (5).
(7) Loosen screw (10) on switch S35 (5).

(8) Remove wire 3085X terminal lug (11) and 3085Z terminal lug (12) from switch S35 (5).

(9) Remove conductor splice (13) from wires 1499H (14 and 15). Discard conductor splice.

(10) Loosen screw (16) in outlet box (3).

(11) Remove wire 3085Z terminal lug (17), and wire 3085F terminal lug (18) from screw (16).

(12) Remove conduit nut (19) from conduit connector (20).

(13) Remove conduit nut (21) from conduit connector (22).

(14) Remove conduit (23) from conduit connectors (20 and 22).

(15) Remove wires 3085F (24), 415 (25), and 1499H (15) from conduit (23).

(16) Remove conduit connector (20) from outlet box (3).
(17) Remove conduit nut (26) from conduit connector (27).

(18) Remove conduit nut (28) from conduit connector (29).

(19) Remove conduit (30) from conduit connectors (27 and 29).

(20) Remove two screws (31) from outlet box (3).

(21) Remove outlet box (3) from pipe nipple (32).

(22) Remove 16 screws (33), lockwashers (34), washers (35), and raceway cover (36) from raceway (37). Discard lockwashers.

(23) Disconnect emergency light connector J166 (38) from connector P166 (39).
(24) Remove wires 3085F (24), 415 (25), and 1499H (15) from conduit connector (22).

(25) Remove lock nut (40) and conduit connector (22) from raceway (37).

(26) Remove conduit nuts (19 and 21) and two ferrules (41) from conduit (23).

b. Installation.

(1) Install conduit nuts (1 and 2) and two ferrules (3) on conduit (4).
(2) Install conduit connector (5) in raceway (6) with lock nut (7).

(3) Route wires 1499H (8), 415 (9), and 3085F (10) through conduit connector (5).

(4) Connect emergency light connector J166 (11) to connector P166 (12).

(5) Install raceway cover (13) on raceway (6) with 16 washers (14), lockwashers (15), and screws (16).

(6) Route wires 415A (17), 3085X (18), and 1499H (19) through outlet box (20).

(7) Install outlet box (20) on pipe nipple (21).

(8) Install two screws (22) in outlet box (20).
(9) Install conduit (23) in conduit connectors (24 and 25).
(10) Install conduit nut (26) on conduit connector (24).
(11) Install conduit nut (27) on conduit connector (25).

(12) Install conduit connector (28) in outlet box (20).
(13) Route wires 1499H (8), 415 (9), and 3085F (10) through conduit (4) and outlet box (20).
(14) Install conduit (4) in conduit connectors (5 and 28).
(15) Install conduit nut (1) on conduit connector (5).

(16) Install conduit nut (2) on conduit connector (28).
(17) Install wire 3085F terminal lug (29) and wire 3085Z terminal lug (30) on screw (31).
(18) Tighten screw (31) in outlet box (20).
(19) Install conductor splice (32) on wires 1499H (8 and 19).
(20) Install wire 3085Z terminal lug (33) and wire 3085X terminal lug (34) on switch S35 (35).

(21) Tighten screw (36) on switch S35 (35).

(22) Install wire 415 terminal lug (37) on switch S35 (35).

(23) Tighten screw (38) on switch S35 (35).

(24) Install wire 415A terminal lug (39) on switch S35 (35).

(25) Tighten screw (40) on switch S35 (35).

(26) Install switch S35 (35) in outlet box (20) with two screws (41).

(27) Install cover (42) on outlet box (20) with two screws (43).
c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

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

(3) Check for proper operation of fan (TM 9-2320-365-10).

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

End of Task.
16-55. M1079 DOOR AJAR SWITCH AND CONDUIT REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Batteries disconnected (para 7-48).
LH door closed (TM 9-2320-365-10).

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Lockwasher (11) (Item 81, Appendix G)

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Key, Socket Head Screw (Item 35, Appendix B)

Personnel Required
(2)

a. Removal.

(1) Loosen screw (1) on switch lever (2).

(2) Remove switch lever (2) from switch S17 (3).

(3) Remove three screws (4), lockwashers (5), cover (6), and gasket (7) from switch S17 (3). Discard lockwashers.

NOTE
Tag wires and connection points prior to disconnecting.

(4) Loosen screw 3 (8) in switch S17 (3).

(5) Remove wire 709 (9) from switch S17 (3).

(6) Loosen screw 4 (10) in switch S17 (3).

(7) Remove wire 1509E (11) from switch S17 (3).
(8) Loosen screw 2 (12) in switch S17 (3).

(9) Remove wire 2006 (13) from switch S17 (3).

(10) Loosen screw 1 (14) in switch S17 (3).

(11) Remove wire 1506 (15) from switch S17 (3).

(12) Remove four screws (16), lockwashers (17), and switch S17 (3) from plate (18). Discard lockwashers.

(13) Remove conduit connector (19) from switch S17 (3).

(14) Remove two screws (20), clamps (21), and flexible conduit (22) from LH door (23).
(15) Remove screw (24), clamp (25), and flexible conduit (22) from van body wall (26).

(16) Remove four screws (27), lockwashers (28), washers (29), and cover (30) from raceway (31). Discard lockwashers.

(17) Remove wires 709 (9), 1509E (11), 2006 (13), and 1506 (15) from flexible conduit (22).

(18) Remove locknut (32) and conduit connector (33) from raceway (31).

(19) Remove conduit connectors (19 and 33) from flexible conduit (22).
b. Installation.

(1) Install conduit connectors (1 and 2) in flexible conduit (3).

(2) Install conduit connector (1) in raceway (4) with locknut (5).

(3) Route wires 1506 (6), 2006 (7), 1509E (8), and 709 (9) through flexible conduit (3).

(4) Install cover (10) on raceway (4) with four washers (11), lockwashers (12), and screws (13).

(5) Install flexible conduit (3) on van body wall (14) with clamp (15) and screw (16).
(6) Install flexible conduit (3) on LH door (17) with two clamps (18) and screws (19).

(7) Install switch S17 (20) on conduit connector (2).

(8) Install switch S17 (20) on plate (21) with four lockwashers (22) and screws (23).

(9) Position wire 1506 (6) on switch S17 (20).

(10) Tighten screw 1 (24) in switch S17 (20).

(11) Position wire 2006 (7) on switch S17 (20).

(12) Tighten screw 2 (25) in switch S17 (20).
16-55. M1079 DOOR AJAR SWITCH AND CONDUIT REPLACEMENT (CONT)

(13) Position wire 1509E (8) on switch S17 (20).

(14) Tighten screw 4 (26) in switch S17 (20).

(15) Position wire 709 (9) on switch S17 (20).

(16) Tighten screw 3 (27) in switch S17 (20).

(17) Install gasket (28) and cover (29) on switch S17 (20) with three lockwashers (30) and screws (31).

(18) Position switch lever (32) on switch S17 (20).

(19) Tighten screw (33) on switch lever (32).

c. Adjustment.

(1) Loosen screw (1) on switch lever (2).

(2) Remove switch lever (2) from switch actuator (3).

(3) Close RH door [TM 9-2320-365-10].
Use care while performing adjustment. Failure to comply may result in damage to equipment.

(4) Position switch lever (2) on switch actuator (3).

(5) Loosen screw (4) on switch lever (2).

(6) Position switch lever rod (5) under RH door latch arm (6).

(7) Tighten screw (4) in switch lever (2).

NOTE
Step (8) requires switch actuator to be rotated approximately 30 degrees CCW while switch lever rod remains in contact with right hand door latch arm.

Step (8) requires the aid of an assistant.

(8) Rotate switch actuator (3) approximately 30 degrees CCW.

(9) Tighten screw (1) on switch lever (2).

NOTE
A click will be heard as switch opens and closes.

(10) Unlatch and latch RH door several times (TM 9-2320-365-10).

(11) Repeat steps (8) through (10) as required.

d. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Check for proper operation of van door open light and blackout lights system (TM 9-2320-365-10).

End of Task.
16-56. M1079 BLACKOUT OVERRIDE SWITCH REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected [TM 9-2320-365-10]
Batteries disconnected (para 7-48).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

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

a. Removal.

(1) Loosen screw (1) on cover (2).
(2) Open cover (2) on relay box (3).

NOTE
Perform steps (3) and (4) on switch S34.

(3) Remove screw (4), lockwasher (5), and wire 702AA terminal lug (6) from bottom left terminal of switch S34 (7).
(4) Remove screw (8), lockwasher (9), and wire 701AA terminal lug (10) from bottom right terminal of switch S34 (7).
NOTE
Perform steps (5) through (9) on switch S33.

(5) Remove screw (11), lockwasher (12), and wire 38 terminal lug (13) from top left terminal of switch S33 (14).

(6) Remove screw (15), lockwasher (16), and wire 1508 terminal lug (17) from top center terminal of switch S33 (14).

(7) Remove screw (18), lockwasher (19), and wire 1509 terminal lug (20) from top right terminal of switch S33 (14).

(8) Remove screw (21), lockwasher (22), and wire 707A terminal lug (23) from bottom center terminal of switch S33 (14).

(9) Remove screw (24), lockwasher (25), and wire 1511 terminal lug (26) from bottom left terminal of switch S33 (14).
NOTE
Switches S33 and S34 are removed the same way. Switch S34 shown.

(10) Remove nut (27), lockwasher (28), switch guard (29), switch S34 (7), and key washer (30) from cover (2).

b. Installation.

NOTE
Switches S33 and S34 are installed the same way. Switch S34 shown.

(1) Install key washer (1), switch S34 (2), and switch guard (3) in cover (4) with lockwasher (5), and nut (6).

NOTE
Perform steps (2) through (6) on switch S33.

(2) Install wire 1511 terminal lug (7), lockwasher (8), and screw (9) on bottom left terminal of switch S33 (10).
(3) Install wire 707A terminal lug (11), lockwasher (12), and screw (13) on bottom center terminal of switch S33 (10).

(4) Install wire 1509 terminal lug (14), lockwasher (15), and screw (16) on top right terminal of switch S33 (10).

(5) Install wire 1508 terminal lug (17), lockwasher (18), and screw (19) on top center terminal on switch S33 (10).

(6) Install wire 38 terminal lug (20), lockwasher (21), and screw (22) on top left terminal on switch S33 (10).

NOTE

Perform steps (7) and (8) on switch S34.

(7) Install wire 701AA terminal lug (23) on bottom right terminal of switch S34 (2) with lockwasher (24) and screw (25).

(8) Install wire 702AA (26) on bottom left terminal of switch S34 (2) with lockwasher (27) and screw (28).
(9) Close cover (4) on relay box (29).

(10) Tighten screw (30) in cover (4).

c. **Follow-On Maintenance.**

(1) Connect batteries (para 7-48).

(2) Connect AC power [TM 9-2320-365-10].

(3) Check for proper operation of blackout lights system [TM 9-2320-365-10].

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

**End of Task.**
This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected (TM 9-2320-365-10).
Batteries disconnected (para 7-48).

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Lockwasher (2) (Item 77, Appendix G)
Dispenser, Pressure Sensitive Adhesive
Lockwasher (2) (Item 79, Appendix G)
Strain Relief (Item 263, Appendix G)

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

a. Removal.

NOTE

All blackout switches are removed the same way. Right rear blackout switch S11 shown.

(1) Remove two screws (1), lockwashers (2), washers (3), and bracket (4) from van body wall (5). Discard lockwashers.

(2) Remove two nuts (6), lockwashers (7), washers (8), screws (9), and blackout switch (10) from bracket (4).
NOTE

- Refer to **Table 16-5. M1079 Blackout Switch Location and Wire Numbers** for details.

- Tag wires and connection points prior to disconnecting.

(3) Disconnect supply wire terminal lug (11) and common wire terminal lug (12) from blackout switch (10).

Table 16-5. M1079 Blackout Switch Location and Wire Numbers

<table>
<thead>
<tr>
<th>Blackout Switch Location</th>
<th>Wire Numbers</th>
</tr>
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<tbody>
<tr>
<td>S11 Right Rear</td>
<td>1509A  1509</td>
</tr>
<tr>
<td>S12 Right Front</td>
<td>1509B  1509A</td>
</tr>
<tr>
<td>S13 Left Front</td>
<td>1509C  1509B</td>
</tr>
<tr>
<td>S14 Left Middle</td>
<td>1509D  1509C</td>
</tr>
<tr>
<td>S15 Left Rear</td>
<td>1509E  1509D</td>
</tr>
<tr>
<td>S15 RH Door</td>
<td>1509E  1509D</td>
</tr>
</tbody>
</table>

(4) Remove strain relief (13) and cable (14) from bracket (4). Discard strain relief.
b. Installation.

NOTE

All blackout switches are installed the same way. Right rear blackout switch S11 shown.

(1) Install cable (1) in bracket (2) with strain relief (3).

NOTE

Refer to Table 16-5 M1079 Blackout Switch Location and Wire Numbers for details.

(2) Connect common wire terminal lug (4) and supply wire terminal lug (5) to blackout switch (6).

(3) Install blackout switch (6) on bracket (2) with two screws (7), washers (8), lockwashers (9), and nuts (10).
(4) Position bracket (2) on van body wall (11) with two washers (12), lockwashers (13), and screws (14).

(5) Close blackout shield (15).

(6) Press down on bracket (2) until blackout switch (6) contacts bracket (16).

(7) Tighten two screws (14).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

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

(3) Check blackout lights for proper operation (TM 9-2320-365-10).

End of Task.
16-58. M1079 BLACKOUT/EMERGENCY LIGHT REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected (TM 9-2320-365-10).
Batteries disconnected (para 7-48).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Tool Kit, Blind Rivet (Item 43, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Tools and Special Tools (Cont)
Drill, Portable, Electric (Item 7, Appendix C)
Drill Set, Twist (Item 6, Appendix C)

Materials/Parts
Rivet, Blind (4) (Item 224, Appendix G)
Lockwasher (12) (Item 76, Appendix G)
Lockwasher (4) (for front emergency light) (Item 76, Appendix G)

a. Removal.

NOTE

All blackout/emergency lights are removed the same way. Left side emergency light DS79 shown.

(1) Remove four screws (1) and lens (2) from base (3).

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

(3) Remove lamp (5) from base (3).

Perform step (4) on front raceway cover.

(4) Remove two screws (6), lockwashers (7), and washers (8) from each end of raceway (9). Discard lockwashers.
(5) Remove 12 screws (10), lockwashers (11), washers (12) and raceway cover (9) from raceway (13). Discard lockwashers.

**NOTE**

Refer to Table 16-6. M1079 Blackout/Emergency Light Locations and Connectors for details.

(6) Disconnect blackout/emergency light connector (14) from connector (15).

Table 16-6. M1079 Blackout/Emergency Light Locations and Connectors

<table>
<thead>
<tr>
<th>LIGHT NO.</th>
<th>LOCATION</th>
<th>FUNCTION</th>
<th>JACK CONNECTOR NO.</th>
<th>PLUG CONNECTOR NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS75</td>
<td>Right Side</td>
<td>Blackout</td>
<td>J162</td>
<td>P162</td>
</tr>
<tr>
<td>DS76</td>
<td>Left Side</td>
<td>Blackout</td>
<td>J164</td>
<td>P164</td>
</tr>
<tr>
<td>DS78</td>
<td>Right Side</td>
<td>Emergency</td>
<td>J163</td>
<td>P163</td>
</tr>
<tr>
<td>DS79</td>
<td>Left Side</td>
<td>Emergency</td>
<td>J165</td>
<td>P165</td>
</tr>
<tr>
<td>DS96</td>
<td>Front</td>
<td>Emergency</td>
<td>J166</td>
<td>P166</td>
</tr>
<tr>
<td>DS97</td>
<td>Rear</td>
<td>Emergency</td>
<td>J167</td>
<td>P167</td>
</tr>
</tbody>
</table>

(7) Remove band marker (16) from wire (17).

**WARNING**

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

(8) Remove four rivets (18) and base (3) from raceway cover (9).
b. Installation.

**NOTE**

All blackout/emergency lights are installed the same way. Left side emergency light DS79 shown.

1. Install base (1) on raceway cover (2) with four rivets (3).

2. Install band marker (4) on wire (5).

3. Connect blackout/emergency light connector (6) to connector (7).

4. Install raceway cover (2) on raceway (8) with 12 washers (9), lockwashers (10) and screws (11).

**NOTE**

Perform step (5) on front raceway cover.

5. Install two washers (12), lockwashers (13), and screws (14) in each end of raceway cover (2).

Refer to Table 16-6 M1079 Blackout/Emergency Light Locations and Connectors for details.
(6) Install lamp (15) in base (1).

(7) Install gasket (16) on base (1).

(8) Install lens (17) on base (1) with four screws (18).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Connect AC power [(TM 9-2320-365-10)].

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

(4) Check for proper operation of blackout/emergency lights [(TM 9-2320-365-10)]

End of Task.
16-59. M1079 LIGHTING FIXTURE AND CONDUIT REPLACEMENT

This task covers:

a. Front Lighting Fixture Removal  
b. Front Lighting Fixture Installation  
c. Rear Lighting Fixture Removal  
d. Rear Lighting Fixture Installation  
e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
AC power disconnected (TM 9-2320-365-10).  
Batteries disconnected (para 7-48).  
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)

Personnel Required
(2)

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)  
Goggles, Industrial (Item 15, Appendix C)

WARNING

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

a. Front Lighting Fixture Removal.

NOTE

Left front lighting fixture DS82 and right front lighting fixture DS81 are removed the same way. Right front lighting fixture DS81 shown.

(1) Remove diffuser (1) from lighting fixture DS81 (2).

(2) Remove tube lock holder (3) from each end of two fluorescent lamps (4).

(3) Remove two fluorescent lamps (4) from lighting fixture DS81 (2).

(4) Remove ballast cover (5) from lighting fixture DS81 (2).
NOTE

- Perform step (5) on right front lighting fixture DS81.
- Tag wires and connection points prior to disconnecting.
- Remove plastic cable ties as required.

(5) Remove wire nut (6) from wire 1499J (7) and yellow/green wire (8).

NOTE

Perform step (6) on left front lighting fixture DS82.

(6) Remove wire nut (6) from wire 1499K (7) and yellow/green wire (8).

(7) Remove wire nut (9) from wire 706B (10) and black wire (11).

(8) Loosen nut (12) on filter unit (13).

NOTE

Perform step (9) on right front lighting fixture DS81.

(9) Remove wire 3085AK terminal lug (14) from filter unit (13).

NOTE

Perform step (10) on left front lighting fixture DS82.

(10) Remove wire 3085AJ terminal lug (14) from filter unit (13).
(11) Remove conduit nut (15) from conduit connector (16).

**NOTE**
Step (12) requires the aid of an assistant.

(12) Remove four screws (17) and lighting fixture DS81 (2) from van body ceiling (18).

(13) Remove locknut (19) and conduit connector (16) from lighting fixture DS81 (2).

b. Front Lighting Fixture Installation.

**NOTE**
Left front lighting fixture DS82 and right front lighting fixture DS81 are installed the same way. Right front lighting fixture DS81 shown.

(1) Install conduit connector (1) in lighting fixture DS81 (2) with locknut (3).

**NOTE**
Step (2) requires the aid of an assistant.

(2) Install lighting fixture DS81 (2) on van body ceiling (4) with four screws (5).

(3) Install conduit nut (6) on conduit connector (1).
NOTE

Perform step (4) on right front lighting fixture DS81.

(4) Install wire 3085AK terminal lug (7) on filter unit (8).

NOTE

Perform step (5) on left front lighting fixture DS82.

(5) Install wire 3085AJ terminal lug (7) on filter unit (8).

(6) Tighten nut (9) on filter unit (8).

(7) Connect wire 706B (10) and black wire (11) with wire nut (12).

NOTE

Perform step (8) on right front lighting fixture DS81.

(8) Connect wire 1499J (13) and yellow/green wire (14) with wire nut (15).

NOTE

• Perform step (9) on left front lighting fixture DS82.

• Install plastic cable ties as required.

(9) Connect wire 1499K (13) and yellow/green wire (14) with wire nut (15).
(10) Install ballast cover (16) on lighting fixture DS81 (2).

(11) Install two fluorescent lamps (17) in lighting fixture DS81 (2).

(12) Install tube lock holder (18) at each end of two fluorescent lamps (17).

(13) Install diffuser (19) on lighting fixture DS81 (2).

c. Rear Lighting Fixture Removal.

NOTE

Left rear lighting fixture DS83 and right rear lighting fixture DS80 are removed the same way. Right rear lighting fixture DS80 shown.

(1) Remove front lighting fixture [Para 16-59].

(2) Remove diffuser (1) from lighting fixture DS80 (2).

(3) Remove tube lock holder (3) from each end of two fluorescent lamps (4).

(4) Remove two fluorescent lamps (4) from lighting fixture DS80 (2).

(5) Remove ballast cover (5) from lighting fixture DS80 (2).
NOTE

- Perform steps (6) and (7) on right rear lighting fixture DS80.

- Tag wires, terminal lugs, and connection points prior to disconnecting.

- Remove plastic cable ties as required.

(6) Remove wire nut (6) from two wires 1499J (7) and yellow/green wire (8).

(7) Remove wire nut (9) from three wires 706B (10) and black wire (11).

NOTE

Perform steps (8) and (9) on left rear lighting fixture DS83.

(8) Remove wire nut (6) from two wires 1499K (7) and yellow/green wire (8).

(9) Remove wire nut (9) from two wires 706B (10) and black wire (11).

(10) Loosen nut (12) on filter unit (13).

NOTE

Perform step (11) on right rear lighting fixture DS80.

(11) Remove wire 3085AK and 3085C terminal lugs (14 and 15) from filter unit (13).

NOTE

Perform step (12) on left rear lighting fixture DS83.

(12) Remove wires 3085AJ and 3085B (14 and 15) from filter unit (13).
NOTE
Perform step (13) on right rear lighting fixture DS80.

(13) Remove wires 1499J (7), 706B (11), and 3085AK (16) from conduit (17).

NOTE
Perform step (14) on left rear lighting fixture DS83.

(14) Remove wires 1499K (7), 706B (11), and 3085AJ (16) from conduit (17).

(15) Remove conduit nut (18) from conduit connector (19).

(16) Remove two ferrules (20) and conduit nuts (18) from conduit (17).

(17) Remove conduit nut (21) from conduit connector (22).

NOTE
Step (18) requires the aid of an assistant.

(18) Remove four screws (23) and lighting fixture DS80 (2) from van body ceiling (24).

(19) Remove two locknuts (25) and conduit connectors (19 and 22) from lighting fixture DS80 (2).
(20) Remove ferrule (26) and conduit nut (21) from conduit (27).

(21) Loosen screw (28) on conduit connector (29).

(22) Remove conduit (27) from conduit connector (29).

(23) Remove two screws (30), lockwashers (31), washers (32), and raceway cover (33) from raceway (34). Discard lockwashers.

**NOTE**
Perform step (24) on right side raceway cover.

(24) Remove wires 3085C (35), 706B (10), and 1499J (7) from conduit connector (29).

**NOTE**
Perform step (25) on left side raceway cover.

(25) Remove wires 3085B (35), 706B (10), and 1499K (7) from conduit connector (29).

**NOTE**
Note position of conduit connector prior to removal.

(26) Remove locknut (36) and conduit connector (29) from raceway cover (33).
d. Rear Lighting Fixture Installation.

NOTE

Left rear lighting fixture DS83 and right rear lighting fixture DS80 are installed the same way. Right rear lighting fixture DS80 shown.

(1) Install conduit connector (1) in raceway cover (2) with locknut (3).

NOTE

Perform step (2) on right rear lighting fixture DS80.

(2) Route wires 3085C (4), 706B (5), and 1499J (6) through conduit connector (1).

NOTE

Perform step (3) on left rear lighting fixture DS83.

(3) Route wires 3085B (4), 706B (5), and 1499K (6) through conduit connector (1).

(4) Install raceway cover (2) on raceway (7) with two washers (8), lockwashers (9), and screws (10).

(5) Route wires 3085B (4), 706B (5), and 1499K (6) through conduit (11).
(6) Install conduit (11) in conduit connector (1).

(7) Tighten screw (12) in conduit connector (1).

(8) Install conduit nut (13) and ferrule (14) on conduit (11).

(9) Install conduit connectors (15 and 16) in light fixture (17) with two locknuts (18).

**NOTE**

Step (10) requires the aid of an assistant.

(10) Install light fixture (17) on van body ceiling (19) with four screws (20).

(11) Install conduit nut (13) on conduit connector (15).
(12) Position two conduit nuts (21) and ferrules (22) on conduit (23).

NOTE
Perform step (13) on right rear lighting fixture DS80.

(13) Route wires 3085AK (24) 706B (5) and 1499J (6) through conduit (23).

NOTE
Perform step (14) on left rear lighting fixture DS83.

(14) Route wires 3085AJ (24), 706B (5) and 1499K (6) through conduit (23).

(15) Route wires 3085AJ (24), 706B (5) and 1499K (6) through conduit connector (16).

(16) Install conduit nut (21) on conduit connector (16).

NOTE
Perform step (17) on right rear lighting fixture DS80.

(17) Install wire 3085AK and 3085C terminal lugs (25 and 26) on filter unit (27).

NOTE
Perform step (18) on left rear lighting fixture DS83.

(18) Install wire 3085AJ and 3085B terminal lugs (25 and 26) on filter unit (27).

(19) Tighten nut (28) on filter unit (27).
**NOTE**

Perform steps (20) and (21) on right rear lighting fixture DS80.

(20) Connect three wires 706B (5) and black wire (29) with wire nut (30).

(21) Connect two wires 1499J (6) and yellow/green wire (31) with wire nut (32).

**NOTE**

Perform steps (22) and (23) on left rear lighting fixture DS83.

(22) Connect two wires 706B (5) and black wire (29) with wire nut (30).

**NOTE**

Install plastic cable ties as required.

(23) Connect two wires 1499K (6) and yellow/green wire (31) with wire nut (32).

(24) Install ballast cover (33) on lighting fixture DS80 (17).

(25) Install two fluorescent lamps (34) in lighting fixture DS80 (17).

(26) Install tube lock holder (35) at each end of two fluorescent lamps (34).

(27) Install diffuser (36) on lighting fixture DS80 (17).

(28) Install front lighting fixture (para 16-59).

**e. Follow-On Maintenance.**

(1) Connect batteries (para 7-48).

(2) Connect AC power [TM 9-2320-365-10].

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

(4) Check for proper operation of fluorescent lights (TM 9-2320-365-10).

**End of Task.**
16-60. M1079 CLEARANCE AND MARKER LIGHTS REPLACEMENT

This task covers:

a. Removal
b. Installation

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Batteries disconnected (para 7-48).

Materials/Parts
Lockwasher (4) (Item 77, Appendix G)
Gasket (Item 28, Appendix G)

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

a. Removal.

**NOTE**

All M1079 clearance and marker lights are removed the same way. Right side rear marker light shown.

(1) Remove two screws (1) and lens housing (2) from base (3).

(2) Remove two clips (4) and lens (5) from lens housing (2).

(3) Remove lamp (6) from socket (7).
(4) Remove four screws (8), lockwashers (9), and base (3) from van body (10). Discard lockwashers.

**NOTE**

Refer to Table 16-7. M1079 Clearance and Marker Lights Location and Connectors for details.

(5) Disconnect connector 489 (11) from connector (12).

(6) Remove gasket (13) from van body (10). Discard gasket.

Table 16-7. M1079 Clearance and Marker Lights Location and Connectors

<table>
<thead>
<tr>
<th>CLEARANCE/MARKER LIGHT LOCATION</th>
<th>CONNECTOR NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Front</td>
<td>P150</td>
</tr>
<tr>
<td>Left Front Center</td>
<td>P151</td>
</tr>
<tr>
<td>Front Center</td>
<td>P152</td>
</tr>
<tr>
<td>Right Front Center</td>
<td>P153</td>
</tr>
<tr>
<td>Right Front</td>
<td>P154</td>
</tr>
<tr>
<td>Left Side Rear</td>
<td>P155</td>
</tr>
<tr>
<td>Left Rear</td>
<td>P156</td>
</tr>
<tr>
<td>Left Rear Center</td>
<td>P157</td>
</tr>
<tr>
<td>Rear Center</td>
<td>P158</td>
</tr>
<tr>
<td>Right Rear Center</td>
<td>P159</td>
</tr>
<tr>
<td>Right Rear</td>
<td>P160</td>
</tr>
<tr>
<td>Right Side Rear</td>
<td>P161</td>
</tr>
</tbody>
</table>
b. Installation.

NOTE

- All M1079 clearance and marker lights are installed the same way. Right side rear marker light shown.

- Discard gasket supplied with replacement clearance/marker light.

(1) Position gasket (1) on van body (2).

NOTE

Refer to Table 16-7, M1079 Clearance and Marker Lights Location and Connectors for details.

(2) Connect connector 489 (3) to connector (4).

(3) Install base (5) on van body (2) with four lockwashers (6) and screws (7).

(4) Install lamp (8) in socket (9).
(5) Install lens (10) in lens housing (11) with two clips (12).

(6) Install lens housing (11) on base (5) with two screws (13).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Check operation of clearance and marker lights (TM 9-2320-365-10).

End of Task.
16-61. M1079 5/20 AMP DC CIRCUIT BREAKER REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected (TM 9-2320-365-10).
Batteries disconnected (para 7-48).
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) Loosen screw (1) on cover (2).

(2) Open cover (2) on relay box (3).

NOTE

Perform steps (3) and (4) on circuit breaker CB11.

Tag wires and connection points prior to removal.

(3) Remove screw (4), washer (5), and wires 1507 and 1507A terminal lugs (6 and 7) from left terminal on circuit breaker CB11 (8).

(4) Remove screw (9), washer (10), and wire 49 terminal lug (11) from right terminal on circuit breaker CB11 (8).
NOTE

Perform steps (5) and (6) on circuit breaker CB10.

(5) Remove screw (12), washer (13), and wire 1507A terminal lug (6) from left terminal on circuit breaker CB10 (14).

(6) Remove screw (15), washer (16), and wire 1508 and 1508A terminal lugs (17 and 18) from right terminal on circuit breaker CB10 (14).

NOTE

Circuit breakers CB10 and CB11 are removed the same way. Circuit breaker CB11 shown.

(7) Remove nut (19), lockwasher (20), and circuit breaker CB11 (8) from relay box (3).

b. Installation.

NOTE

Circuit breakers CB10 and CB11 are installed the same way. Circuit breaker CB11 shown.

(1) Install circuit breaker CB11 (1) in relay box (2) with lockwasher (3) and nut (4).
NOTE

Perform steps (2) and (3) on circuit breaker CB10.

(2) Install wire 1508 and 1508A terminal lugs (5 and 6) on right terminal of circuit breaker CB10 (7) with washer (8) and screw (9).

(3) Install wire 1507A terminal lug (10) on left terminal of circuit breaker CB10 (7) with washer (11) and screw (12).

NOTE

Perform steps (4) and (5) on circuit breaker CB11.

(4) Install wire 49 (13) on right terminal of circuit breaker CB11 (1) with washer (14) and screw (15).

(5) Install wire 1507A and 1507 terminal lugs (5 and 16) on left terminal of circuit breaker CB11 (1) with washer (17) and screw (18).

(6) Close cover (19) on relay box (2).

(7) Tighten screw (20) on cover (19).
c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

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

(3) Check for proper operation of blackout override (TM 9-2320-365-10).

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

End of Task.
16-62. M1079 110 VAC AND 24 VDC RELAY REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected [TM 9-2320-365-10]  
Batteries disconnected (para 7-48).  
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

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

a. Removal.

(1) Loosen screw (1) on cover (2).

(2) Open cover (2) on relay box (3).

NOTE

All relays are replaced the same way. Relay K35 shown.

(3) Remove relay K35 (4) from relay socket (5).
b. Installation.

**CAUTION**

Relay can only be installed one way. Ensure pins on relay are aligned with sockets on relay base. Failure to comply may result in damage to equipment.

(1) Install relay K35 (1) in relay socket (2).

(2) Close cover (3) on relay box (4).

(3) Tighten screw (5) on cover (3).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Connect AC Power (TM 9-2320-365-10).

(3) Check for proper operation of relay sub system (TM 9-2320-365-10).

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

End of Task.
## 16-63. M1079 RELAY BOX ASSEMBLY REPLACEMENT/REPAIR

This task covers:

- a. Removal
- b. Disassembly
- c. Assembly
- d. Installation
- e. Follow-On Maintenance

### INITIAL SETUP

**Equipment Conditions**

| AC power disconnected [TM 9-2320-365-10] |
| Batteries disconnected (para 7-48). |
| Interior lights switch/box and conduit removed (para 16-50). |
| Right side fluorescent lights and conduits removed [para 16-59]. |

**Tools and Special Tools**

- Tool Kit, Genl Mech (Item 44, Appendix C)

**Materials/Parts**

- Ties, Cable, Plastic (Item 62, Appendix C)
- Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
- Lockwasher (7) (Item 80, Appendix G)
- Lockwasher (12) (Item 81, Appendix G)
- Lockwasher (4) (Item 86, Appendix G)
- Nut, Blind Rivet (8) (Item 114, Appendix G)

**Personnel Required**

(2)

---

### a. Removal.

**NOTE**

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

1. Remove screw 1 (1) and wire 1506 terminal lug (2) from flasher A22 (3).

2. Remove screw 3 (4), wire 3086 terminal lug (5), and wire 3086B terminal lug (6) from flasher A22 (3).

3. Remove screw 5 (7) and wire 2010 terminal lug (8) from flasher A22 (3).
(4) Loosen screw 6 (9) in relay base K41 (10).

(5) Remove wire 706C (11) from relay base K41 (10).

(6) Loosen screw 2 (12) in relay base K41 (10).

(7) Remove wire 38A (13) from relay base K41 (10).

(8) Loosen screw B (14) in relay base K41 (10).

(9) Remove wires 1499L and 1499Q (15 and 16) from relay base K41 (10).

(10) Loosen screw A (17) in relay base K41 (10).

(11) Remove wires 1511 and 1511B (18 and 19) from relay base K41 (10).

(12) Loosen screw 9 (20) in relay base K41 (10).

(13) Remove wires 708BB and 1510 (21 and 22) from relay base K41 (10).

(14) Loosen screw 8 (23) in relay base K41 (10).

(15) Remove wire 1505A (24) from relay base K41 (10).
(16) Loosen screw 6 (25) in relay base K35 (26).
(17) Remove wire 702C (27) from relay base K35 (26).
(18) Loosen screw 5 (28) in relay base K35 (26).
(19) Remove wire 702B (29) from relay base K35 (26).
(20) Loosen screw 4 (30) in relay base K35 (26).
(21) Remove wires 702A and 702AA (31 and 32) from relay base K35 (26).

(22) Loosen screw B (33) in relay base K35 (26).
(23) Remove wire 1499Q (16) from relay base K35 (26).
(24) Loosen screw A (34) in relay base K35 (26).
(25) Remove wires 1511A and 1511B (35 and 19) from relay base K35 (26).

(26) Loosen screw 9 (36) in relay base K35 (26).
(27) Remove wire 701C (37) from relay base K35 (26).
(28) Loosen screw 8 (38) in relay base K35 (26).
(29) Remove wire 701B (39) from relay base K35 (26).
(30) Loosen screw 7 (40) in relay base K35 (26).
(31) Remove wires 701A and 701AA (41 and 42) from relay base K35 (26).
(32) Loosen screw 6 (43) in relay base K36 (44).

(33) Remove wire 38B (45) from relay base K36 (44).

(34) Loosen screw 2 (46) in relay base K36 (44).

(35) Remove wires 1505 and 1505B (47 and 48) from relay base K36 (44).

(36) Loosen screw 4 (49) in relay base K36 (44).

(37) Remove wire 1511A (35) from relay base K36 (44).

(38) Loosen screw B (50) in relay base K36 (44).

(39) Remove wire 3086B (51) from relay base K36 (44).

(40) Loosen screw A (52) in relay base K36 (44).

(41) Remove wires 38 and 709 (53 and 54) from relay base K36 (44).

NOTE

Note position of gray band on diode prior to removal.

(42) Remove diode (55) from relay base K36 (44).
(43) Loosen screw 9 (56) in relay base K36 (44).

(44) Remove wire 38A (13) from relay base K36 (44).

(45) Loosen screw 8 (57) in relay base K36 (44).

(46) Remove wires 1505A and 1505C (24 and 58) from relay base K36 (44).

(47) Loosen screw 7 (59) in relay base K36 (44).

(48) Remove wires 707A and 1510 (60 and 22) from relay base K36 (44).

(49) Remove screw (61), washer (62), wire 1507 terminal lug (63), and wire 1507A terminal lug (64) from circuit breaker CB11 (65).

(50) Remove screw (66), washer (67), and wire 49 terminal lug (68) from circuit breaker CB11 (65).
(51) Remove screw (69), washer (70), and wire 1507A terminal lug (71) from circuit breaker CB10 (72).

(52) Remove screw (73), washer (74), wire 1508 terminal lug (75), and wire 1508A terminal lug (76) from circuit breaker CB10 (72).

(53) Remove screw (77), lockwasher (78), and wire 701AA terminal lug (79) from switch S34 (80). Discard lockwasher.

(54) Remove screw (81), lockwasher (82), and wire 702AA terminal lug (83) from switch S34 (80). Discard lockwasher.

(55) Remove screw (84), lockwasher (85), and wire 38 terminal lug (86) from switch S33 (87). Discard lockwasher.

(56) Remove screw (88), lockwasher (89), and wire 1508 terminal lug (90) from switch S33 (87). Discard lockwasher.
(57) Remove screw (91), lockwasher (92), and wire 1509 terminal lug (93) from switch S33 (87). Discard lockwasher.

(58) Remove screw (94), lockwasher (95), and wire 707A terminal lug (96) from switch S33 (87). Discard lockwasher.

(59) Remove screw (97), lockwasher (98), and wire 1511 terminal lug (99) from switch S33 (87). Discard lockwasher.

(60) Remove conduit nut (100) from conduit connector (101).

(61) Remove four screws (102), washers (103), and relay box assembly (104) from van body wall (105).

(62) Remove locknut (106) and conduit connector (101) from relay box assembly (104).
(63) Remove four screws (107), lockwashers (108), washers (109), and cover (110) from raceway (111). Discard lockwashers.

(64) Remove wires (112) from conduit (113).

NOTE
Perform step (65) on van bodies serial number 191 and higher.

(65) Remove wires (114) from conduit (113).

(66) Remove conduit nut (115) and conduit (113) from conduit connector (116).

(67) Remove locknut (117) and conduit connector (116) from raceway (111).

(68) Remove two ferrules (118) and conduit nuts (100 and 115) from conduit (113).
b. **Disassembly.**

(1) Remove relay K41 (1) from relay base (2).

(2) Remove relay K35 (3) from relay base (4).

(3) Remove relay K36 (5) from relay base (6).

(4) Remove six screws (7), lockwashers (8), washers (9), and three relay bases (2, 4, and 6) from inner plate (10). Discard lockwashers.

(5) Remove two screws (11), lockwashers (12), washers (13), and flasher A22 (14) from inner plate (10). Discard lockwashers.
(6) Remove nut (15), lockwasher (16), and circuit breaker CB11 (17) from relay box (18). Discard lockwasher.

(7) Remove nut (19), lockwasher (20), and circuit breaker CB10 (21) from relay box (18). Discard lockwasher.

(8) Remove nut (22), lockwasher (23), switch guard (24), key washer (25), and switch S34 (26) from relay box (18). Discard lockwasher.

(9) Remove nut (27), lockwasher (28), switch guard (29), key washer (30), and switch S33 (31) from relay box (18). Discard lockwasher.

(10) Remove four screws (32) and inner plate (10) from relay box (18).

(11) Remove eight blind rivet nuts (33) from inner plate (10).
c. Assembly.

(1) Install eight blind rivet nuts (1) in inner plate (2).

(2) Install inner plate (2) in relay box (3) with four screws (4).

(3) Install switch S33 (5) in relay box (3) with keywasher (6), switch guard (7), lockwasher (8) and nut (9).

(4) Install switch S34 (10) in relay box (3) with keywasher (11), switch guard (12), lockwasher (13) and nut (14).

(5) Install circuit breaker CB10 (15) in relay box (3) with lockwasher (16) and nut (17).

(6) Install circuit breaker CB11 (18) in relay box (3) with lockwasher (19) and nut (20).
(7) Install flasher A22 (21) on inner plate (2) with two washers (22), lockwashers (23), and screws (24).

(8) Install relay bases (25, 26, and 27) on inner plate (2) with six washers (28), lockwashers (29), and screws (30).

(9) Install relay K36 (31) on relay base (25).

(10) Install relay K35 (32) on relay base (26).

(11) Install relay K41 (33) on relay base (27).
d. Installation.

(1) Install conduit nuts (1 and 2) and two ferrules (3) on conduit (4).

(2) Install conduit connector (5) in raceway (6) with locknut (7).

(3) Install conduit (4) on conduit connector (5) with conduit nut (1).

NOTE

Perform step (4) on van bodies serial number 191 and higher.

(4) Route wires (8) through conduit (4).

(5) Route wires (9) through conduit (4).

(6) Install cover (10) on raceway (6) with four washers (11), lockwashers (12), and screws (13).
(7) Install conduit connector (14) in relay box assembly (15) with locknut (16).

**NOTE**

Perform step (8) on van bodies serial number 191 and higher.

(8) Route two wires (8) through conduit connector (14).

(9) Route 20 wires (9) through conduit connector (14).

(10) Install relay box assembly (15) on van body wall (17) with four washers (18) and screws (19).

(11) Install conduit nut (2) on conduit connector (14).

(12) Install wire 1511 terminal lug (20) on switch S33 (21) with lockwasher (22) and screw (23).

(13) Install wire 707A terminal lug (24) on switch S33 (21) with lockwasher (25) and screw (26).

(14) Install wire 1509 terminal lug (27) on switch S33 (21) with lockwasher (28) and screw (29).
(15) Install wire 1508 terminal lug (30) on switch S33 (21) with lockwasher (31) and screw (32).

(16) Install wire 38 terminal lug (33) on switch S33 (21) with lockwasher (34) and screw (35).

(17) Install wire 702AA terminal lug (36) on switch S34 (37) with lockwasher (38) and screw (39).

(18) Install wire 701AA terminal lug (40) on switch S34 (37) with lockwasher (41) and screw (42).

(19) Install wire 1508A terminal lug (43) and wire 1508 terminal lug (44) on circuit breaker CB10 (45) with washer (46) and screw (47).

(20) Install wire 1507A terminal lug (48) on circuit breaker CB10 (45) with washer (49) and screw (50).
(21) Install wire 49 terminal lug (51) on circuit breaker CB11 (52) with washer (53) and screw (54).

(22) Install wire 1507A terminal lug (55) and wire 1507 terminal lug (56) on circuit breaker CB11 (52) with washer (57) and screw (58).

(23) Install wires 1510 and 707A (59 and 60) in relay base K36 (61).

(24) Tighten screw 7 (62) in relay base K36 (61).

(25) Install wires 1505C and 1505A (63 and 64) in relay base K36 (61).

(26) Tighten screw 8 (65) in relay base K36 (61).

(27) Install wire 38A (66) in relay base K36 (61).

(28) Tighten screw 9 (67) in relay base K36 (61).
(29) Install diode (68) on relay base K36 (61).

(30) Install wires 709 and 38 (69 and 70) in relay base K36 (61).

(31) Tighten screw A (71) in relay base K36 (61).

(32) Install wire 3086B (72) in relay base K36 (61).

(33) Tighten screw B (73) in relay base K36 (61).

(34) Install wire 1511A (74) in relay base K36 (61).

(35) Tighten screw 4 (75) in relay base K36 (61).

(36) Install wires 1505B and 1505 (76 and 77) in relay base K36 (61).

(37) Tighten screw 2 (78) in relay base K36 (61).

(38) Install wire 38B (79) in relay base K36 (61).

(39) Tighten screw 6 (80) in relay base K36 (61).
(40) Install wires 701AA and 701A (81 and 82) in relay base K35 (83).

(41) Tighten screw 7 (84) in relay base K35 (83).

(42) Install wire 701B (85) in relay base K35 (83).

(43) Tighten screw 8 (86) in relay base K35 (83).

(44) Install wire 701C (87) in relay base K35 (83).

(45) Tighten screw 9 (88) in relay base K35 (83).

(46) Install wires 1511B and 1511A (89 and 74) in relay base K35 (83).

(47) Tighten screw A (90) in relay base K35 (83).

(48) Install wire 1499Q (91) in relay base K35 (83).

(49) Tighten screw B (92) in relay base K35 (83).

(50) Install wires 702AA and 702A (93 and 94) in relay base K35 (83).

(51) Tighten screw 4 (95) in relay base K35 (83).

(52) Install wire 702B (96) in relay base K35 (83).

(53) Tighten screw 5 (97) in relay base K35 (83).

(54) Install wire 702C (98) in relay base K35 (83).

(55) Tighten screw 6 (99) in relay base K35 (83).
(56) Install wire 1505A (64) in relay base K41 (100).

(57) Tighten screw 8 (101) in relay base K41 (100).

(58) Install wires 1510 and 708BB (59 and 102) in relay base K41 (100).

(59) Tighten screw 9 (103) in relay base K41 (100).

(60) Install wires 1511B and 1511 (89 and 104) in relay base K41 (100).

(61) Tighten screw A (105) in relay base K41 (100).

(62) Install wires 1499Q and 1499L (91 and 106) in relay base K41 (100).

(63) Tighten screw B (107) in relay base K41 (100).

(64) Install wire 38A (66) in relay base K41 (100).

(65) Tighten screw 2 (108) in relay base K41 (100).

(66) Install wire 706C (109) in relay base K41 (100).

(67) Tighten screw 6 (110) in relay base K41 (100).
(68) Install wire 2010 terminal lug (111) on flasher A22 (112) with screw 5 (113).

(69) Install wire 3086B terminal lug (114) and wire 3086 terminal lug (115) on flasher A22 (112) with screw 3 (116).

(70) Install wire 1506 terminal lug (117) on flasher A22 (112) with screw 1 (118).

e. Follow-On Maintenance.

(1) Install right side fluorescent lights and conduits (para 16-59).

(2) Install interior lights switch/box, and conduit [para 16-50].

(3) Connect batteries (para 7-48).

(4) Connect AC power [TM 9-2320-365-10].

(5) Operate van body lighting systems and check for proper operation [TM 9-2320-365-10].

End of Task.
16-64. M1079 15/20/30 AND 50 AMP AC CIRCUIT BREAKER REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected (TM 9-2320-365-10)
Batteries disconnected (para 7-48).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

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

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

a. Removal.

(1) Remove six screws (1) and 110/208 VAC POWER DISTRIBUTION PANEL cover (2) from 110/208 vac power distribution box (3).
NOTE

- Tag wires and connection points prior to removal.
- All eight circuit breakers are removed the same way. Circuit breaker CB8 shown.
- Refer to Table 16-8. M1079 Circuit Breakers and Wire Numbers for details.
- Remove plastic cable ties as required.

(2) Loosen screw (4) on circuit breaker CB8 (5).

(3) Remove wires 400 (6) and 415 (7) from circuit breaker CB8 (5).

(4) Remove circuit breaker CB8 (5) from 110/208 VAC POWER DISTRIBUTION PANEL (8).

Table 16-8. M1079 Circuit Breakers and Wire Numbers

<table>
<thead>
<tr>
<th>Circuit Breaker</th>
<th>Amperage</th>
<th>Wire Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB2</td>
<td>30AMP</td>
<td>1500/1501/1502</td>
</tr>
<tr>
<td>CB3</td>
<td>50AMP</td>
<td>500AA/501BB/502CC</td>
</tr>
<tr>
<td>CB4</td>
<td>15AMP</td>
<td>NOT USED</td>
</tr>
<tr>
<td>CB5</td>
<td>20AMP</td>
<td>701A</td>
</tr>
<tr>
<td>CB6</td>
<td>15AMP</td>
<td>708BB</td>
</tr>
<tr>
<td>CB7</td>
<td>20AMP</td>
<td>701B</td>
</tr>
<tr>
<td>CB8</td>
<td>15AMP</td>
<td>400/415</td>
</tr>
<tr>
<td>CB9</td>
<td>20AMP</td>
<td>701C</td>
</tr>
</tbody>
</table>
b. Installation.

**NOTE**

- All eight circuit breakers are installed the same way. Circuit breaker CB8 shown.
- Refer to Table 16-8, M1079 Circuit Breakers and Wire Numbers for details.
- Install plastic cable ties as required.

(1) Install circuit breaker CB8 (1) on 110/208 VAC POWER DISTRIBUTION PANEL (2).

(2) Install wires 415 (3) and 400 (4) in circuit breaker CB8 (1).

(3) Tighten screw (5) on circuit breaker CB8 (1).

(4) Install cover (6) on 110/208 VAC POWER DISTRIBUTION PANEL (7) with six screws (8).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Connect AC power [TM 9-2320-365-10].

(3) Check for proper operation of affected circuit breaker [TM 9-2320-365-10].

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

End of Task.
16-65. M1079 200 AMP AC CIRCUIT BREAKER REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected [TM 9-2320-365-10]
Batteries disconnected (para 7-48).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, [Appendix C])
Screwdriver Attachment, Socket Wrench (Item 47, [Appendix B])

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

a. Removal.

(1) Remove six screws (1) and cover (2) from 110/208 VAC POWER DISTRIBUTION PANEL (3).
(2) Loosen three screws (4) in 200 amp circuit breaker (5).

**NOTE**
Tag wires and connection points prior to disconnecting.

(3) Remove wires 500 (6), 501 (7), and 502 (8) from 200 amp circuit breaker (5).

(4) Remove two screws (9) from 200 amp circuit breaker (5).

(5) Remove three screws (10), 200 amp circuit breaker (5), and three spacers (11) from 110/208 VAC POWER DISTRIBUTION PANEL (3).

**b. Installation.**

(1) Install three spacers (1) and 200 amp circuit breaker (2) in 110/208 VAC POWER DISTRIBUTION PANEL (3) with three screws (4).

(2) Install two screws (5) in 200 amp circuit breaker (2).

(3) Install wires 502 (6), 501 (7), and 500 (8) in 200 amp circuit breaker (2).

(4) Tighten three screws (9) in 200 amp circuit breaker (2).
(5) Install cover (10) on 110/208 VAC POWER DISTRIBUTION PANEL (3) with six screws (11).

c. **Follow-On Maintenance.**

(1) Connect batteries (para 7-48).

(2) Connect AC power \( \text{TM 9-2320-365-10} \).

(3) Check for proper operation of AC power system (TM 9-2320-365-10).

(4) Close LH and RH doors \( \text{TM 9-2320-365-10} \).

**End of Task.**
This task covers:

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

### INITIAL SETUP

**Equipment Conditions**
15/20/30 and 50 amp AC circuit breakers removed (para 16-64).

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

**Materials/Parts**
- Ties, Cable, Plastic (Item 76, Appendix D)
- Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
- Lockwasher (28) (van body serial numbers 001 through 190) (Item 77, Appendix G)
- Lockwasher (16) (van bodies serial number 191 and higher) (Item 77, Appendix G)
- Lockwasher (12) (Item 76, Appendix G)
- Lockwasher (4) (Item 83, Appendix G)

**Personnel Required**
(2)

---

**NOTE**

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

1. Loosen three screws (1) in 200 amp AC circuit breaker (2).
2. Remove wires 500 (3), 501 (4), and 502 (5) from 200 amp AC circuit breaker (2).

**Materials/Parts (Cont)**
- Lockwasher (28) (van body serial numbers 001 through 190) (Item 77, Appendix G)
- Lockwasher (16) (van bodies serial number 191 and higher) (Item 77, Appendix G)
- Lockwasher (12) (Item 76, Appendix G)
- Lockwasher (4) (Item 83, Appendix G)

**Personnel Required**
(2)

---

**NOTE**

Perform step (3) on van body serial numbers 001 through 190.

1. Loosen three screws (1) in 200 amp AC circuit breaker (2).
2. Remove wires 500 (3), 501 (4), and 502 (5) from 200 amp AC circuit breaker (2).
3. Remove 28 screws (6), lockwashers (7), washers (8), and cover (9) from 110/208 vac power entry panel (10). Discard lockwashers.
NOTE

Perform step (4) on van bodies serial number 191 and higher.

(4) Remove 16 screws (6), lockwashers (7), washers (8), and cover (9) from 110/208 vac power entry panel (10). Discard lockwashers.

(5) Remove nut (11) and wire 425 terminal lug (12) from negative field telephone binding post (13).

(6) Remove nut (14) and wire 424 terminal lug (15) from positive field telephone binding post (16).

(7) Remove wires 425 (17) and 424 (18) from 110/208 vac power entry panel (10).

(8) Loosen screw (19) on terminal board TB4 (20).

(9) Remove wire 1499P (21) from terminal board TB4 (20).

(10) Loosen screw (22) on terminal board TB4 (20).

(11) Remove wire 1499N (23) from terminal board TB4 (20).
NOTE

Tag wires and connection points prior to removal.

(12) Loosen 12 screws (24) on terminal board TB4 (20).


NOTE

Tag wires and connection points prior to removal.

(14) Loosen screw (26) on terminal board TB3 (27).

(15) Remove wire 3085Y (28) from terminal board TB3 (27).

(16) Loosen 13 screws (29) on terminal board TB3 (27).

(17) Remove 13 wires 3085A-W (30) from terminal board TB3 (27).
(18) Remove 12 screws (31), lockwashers (32), washers (33), and raceway cover (34) from raceway (35). Discard lockwashers.

(19) Disconnect emergency light connector J163 (36) from connector P163 (37).

(20) Remove 12 wires 1499 (25), wire 425 (17), wire 424 (18), and three wires 701 (38) from conduit (39).

(21) Remove 13 wires 3085 (30), wire 1500 (40), wire 1501 (41), wire 1502 (42), wire 400 (43), wire 415 (44), and wire 708BB (45) from conduit (46).
(22) Remove two conduit nuts (47) from conduit connectors (48).

(23) Loosen two conduit nuts (49) on conduit connectors (50).

(24) Remove two conduit nuts (51) from conduit connectors (52).

(25) Remove four screws (53) and lockwashers (54) from 110/208 VAC POWER DISTRIBUTION PANEL (55). Discard lockwashers.
NOTE

Steps (26) and (27) require the aid of an assistant.

(26) Lift two conduits (39 and 46) clear of conduit connectors (48).

(27) Remove two conduit nuts (49) from conduit connectors (50).

(28) Remove 110/208 VAC POWER DISTRIBUTION PANEL (55) from two conduits (56).
(29) Remove two locknuts (57) and conduit connectors (48) from 110/208 VAC POWER DISTRIBUTION PANEL (55).

(30) Remove two locknuts (58) and conduit connectors (52) from 110/208 VAC POWER DISTRIBUTION PANEL (55).

(31) Remove two locknuts (59) and conduit connectors (50) from raceway (35).

(32) Remove two ferrules (60) and conduit nuts (47 and 49) from two conduits (39 and 46).
b. Installation.

(1) Install conduit nuts (1 and 2) and two ferrules (3) on two conduits (4 and 5).

(2) Install two conduit connectors (6) in raceway (7) with locknuts (8).

(3) Install two conduit connectors (9) in 110/208 VAC POWER DISTRIBUTION PANEL (10) with locknuts (11).

(4) Install two conduit connectors (12) in 110/208 VAC POWER DISTRIBUTION PANEL (10) with locknuts (13).
(5) Position two conduit nuts (2) on conduit connectors (6).

NOTE

Step (6) requires the aid of an assistant.

(6) Position 110/208 VAC POWER DISTRIBUTION PANEL (10) and two conduits (14).

(7) Install four lockwashers (15) and screws (16) in 110/208 VAC POWER DISTRIBUTION PANEL (10).
(8) Install two conduit nuts (17) on conduits connectors (9).

(9) Install two conduit nuts (2) on conduit connectors (12).

(10) Tighten two conduit nuts (1) on conduit connectors (6).

(11) Route 13 wires 3085A-W (18), wire 1500 (19), wire 1501 (20), wire 1502 (21), wire 400 (22), wire 415 (23), and wire 708BB (24) through conduit (5).
(12) Route three wires 701 (25), wire 424 (26), wire 425 (27), and 12 wires 1499A-M (28) through conduit (4).

(13) Connect emergency light connector J163 (29) to connector P163 (30).

(14) Install raceway cover (31) on raceway (7) with 12 washers (32), lockwashers (33), and screws (34).

(15) Install 13 wires 3085A-W (18) on terminal board TB3 (35).

(16) Tighten 13 screws (36) on terminal board TB3 (35).
(17) Install wire 3085Y (37) in terminal board TB3 (35).

(18) Tighten screw (38) on terminal board TB3 (35).

(19) Install 12 wires 1499A-M (28) on terminal board TB4 (39).

(20) Tighten 12 screws (40) on terminal board TB4 (39).

**NOTE**

Install plastic cable ties as required.

(21) Install wire 1499N (41) on terminal board TB4 (39).

(22) Tighten screw (42) on terminal board TB4 (39).

(23) Install wire 1499P (43) on terminal board TB4 (39).

(24) Tighten screw (44) on terminal board (39).
(25) Route wires 424 (26) and wire 425 (27) in 110/208 vac power entry panel (45).

(26) Install wire 424 terminal lug (46) on positive field telephone binding post (47) with nut (48).

(27) Install wire 425 terminal lug (49) on negative field telephone binding post (50) with nut (51).

NOTE
Perform step (28) on van bodies serial number 191 and higher.

(28) Install cover (52) on 110/208 vac power entry panel (45) with 16 washers (53), lockwashers (54), and screws (55).

NOTE
Perform step (29) on van body serial numbers 001 through 190.

(29) Install cover (52) on 110/208 vac power entry panel (45) with 28 washers (53), lockwashers (54), and screws (55).
(30) Install wires 502 (56), 501 (57), and 500 (58) on 200 amp AC circuit breaker (59).

(31) Tighten three screws (60) in 200 amp AC circuit breaker (59).

c. Follow-On Maintenance.

(1) Install 15/20/30 and 50 amp AC circuit breakers [para 16-64].

(2) Check for proper operation of AC electrical system [TM 9-2320-365-10].

End of Task.
This task covers:

a. Removal
d. Installation
b. Disassembly
e. Follow-On Maintenance
c. Assembly

INITIAL SETUP

Equipment Conditions

AC power disconnected (TM 9-2320-365-10).
Batteries disconnected (para 7-48).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools

Tool Kit, Genl Mech (Item 44, Appendix C)
Tool Kit, Electrical (Item 42, Appendix C)
Heater, Gun Type, Electric (Item 20, Appendix B)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Ties, Cable, Plastic (Item 63, Appendix D)
Insulation Sleeving, Electrical (Item 31, Appendix D)
Splice, Conductor (Item 261, Appendix G)
Lockwasher (32) (Item 82, Appendix G)
Lockwasher (8) (Item 92, Appendix G)

a. Removal.

(1) Remove two screws (1) and cover (2) from outlet box (3).

(2) Remove two screws (4) and switch S35 (5) from outlet box (3).
NOTE

Tag wires and connection points prior to disconnecting.

(3) Loosen screw (6) on switch S35 (5).
(4) Remove wire 415 terminal lug (7) from switch S35 (5).
(5) Loosen screw (8) on switch S35 (5).
(6) Remove wire 415A terminal lug (9) from switch S35 (5).
(7) Loosen screw (10) on switch S35 (5).
(8) Remove wire 3085X terminal lug (11) and 3085Z terminal lug (12) from switch S35 (5).
(9) Remove conductor splice (13) from wire 1499H (14) in outlet box (3). Discard conductor splice.
(10) Unlatch stud base fastener (15).

(11) Open vent cover (16).

(12) Remove air filter (17) from filter frame (18).

(13) Remove 15 screws (19), lockwashers (20), washers (21), and roadside cover (22) from pod frame (23). Discard lockwashers.

(14) Remove 13 screws (24), lockwashers (25), washers (26) and roadside top front cover (27) from pod frame (23). Discard lockwashers.

(15) Remove two screws (28), cover (29), and rubber seal (30) from conduit elbow (31).
(16) Remove wires 3085X (32), 415A (33), and 1499H (14) from conduit elbow (31).

(17) Remove conduit nut (34) from conduit connector (35).

(18) Remove four screws (36), lockwashers (37), washers (38), and fan shroud (39) from van body wall (40). Discard lockwashers.

(19) Remove wires 3085X (32), 415A (33), and 1499H (14) from conduit nut (34).

(20) Remove conduit nut (41) and conduit (42) from conduit elbow (31).

(21) Remove two ferrules (43) and conduit nuts (34 and 41) from conduit (42).

(22) Remove conduit elbow (31) from pipe nipple (44).

(23) Remove pipe nipple (44) from outlet box (3).

(24) Remove four seals (45) from van body wall (40).

(25) Remove sealing compound from van body wall (40).
b. Disassembly.

NOTE

Remove plastic cable ties as required.

(1) Remove wires 3085X, 415A, and 1499H (1, 2, and 3) from conduit connector (4).

(2) Remove locknut (5) and conduit connector (4) from fan shroud (6).

(3) Remove four screws (7), lockwashers (8), washers (9), and fan assembly (10) from fan shroud (6). Discard lockwashers.

(4) Remove four screws (11), lockwashers (12), washers (13), and two brackets (14) from fan assembly (10). Discard lockwashers.

c. Assembly.

(1) Install two brackets (1) on fan assembly (2) with four washers (3), lockwashers (4), and screws (5).
NOTE

Install plastic cable ties as required.

(2) Install fan assembly (2) in fan shroud (6) with four washers (7), lockwashers (8), and screws (9).

(3) Install conduit connector (10) in fan shroud (6) with locknut (11).

(4) Route wires 1499H, 415A, and 3085X (12, 13, and 14) through conduit connector (10).

d. 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 van body wall (1).

(2) Install four seals (2) on van body wall (1).

(3) Install pipe nipple (3) on outlet box (4).

(4) Install conduit elbow (5) on pipe nipple (3).

(5) Position conduit nuts (6 and 7) and ferrules (8) on conduit (9).

(6) Position conduit nut (6) and conduit (9) on conduit elbow (5).
(7) Route wires 1499H (10), 415A (11), and 3085X (12) through conduit (9).

(8) Install fan shroud (13) on van body wall (1) with four washers (14), lockwashers (15), and screws (16).

(9) Install conduit nut (7) on conduit connector (17).

(10) Route wires 1499H (10), 415A (11), and 3085X (12) through pipe nipple (3).

(11) Install rubber seal (18) and cover (19) on conduit elbow (4) with two screws (20).
(12) Install roadside top front cover (21) on pod frame (22) with 13 washers (23), lockwashers (24) and screws (25).

(13) Install roadside cover (26) on pod frame (22) with 15 washers (27), lockwashers (28), and screws (29).

(14) Install air filter (30) in filter frame (31).

(15) Close vent cover (32).

(16) Latch stud base fastener (33).

(17) Connect wires 1499H (10) with conductor splice (34) in outlet box (4).
(18) Install wire 3085X terminal lug (35) and wire 3085Z terminal lug (36) on switch S35 (37).

(19) Tighten screw (38) on switch S35 (37).

(20) Install wire 415A terminal lug (39) on switch S35 (37).

(21) Tighten screw (40) on switch S35 (37).

(22) Install wire 415 terminal lug (41) on switch S35 (37).

(23) Tighten screw (42) on switch S35 (37).

(24) Install switch S35 (37) in outlet box (4) with two screws (43).

(25) Install cover (44) on outlet box (4) with two screws (45).
16-67. M1079 FAN ASSEMBLY REPLACEMENT/REPAIR

e. Follow-On Maintenance.

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

(2) Connect batteries (para 7-48).

(3) Operate van fan check proper operation (TM 9-2320-365-10).

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

End of Task.
16-68. M1079 110/208 VAC POWER IN/OUT CABLE REPLACEMENT

This task covers:

a. 110/208 VAC POWER IN Connector Removal
b. 110/208 VAC POWER IN Connector Installation
c. 110/208 VAC POWER OUT Connector Removal
d. 110/208 VAC POWER OUT Connector Installation
e. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Field telephone wires disconnected, if required, (TM 9-2320-365-10).

AC power disconnected (TM 9-2320-365-10)

Batteries disconnected (para 7-48).

LH and RH door opened (115 degrees) (TM 9-2320-365-10).

Materials/Parts

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

Ties, Cable, Plastic (Item 76, Appendix D)

Sealing Compound (Item 67, Appendix D)

Lockwasher (16) (van bodies serial number 191 and higher) (Item 77, Appendix G)

Lockwasher (28) (van body serial numbers 001 through 190) (Item 77, Appendix G)

Lockwasher (8) (Item 78, Appendix G)

Lockwasher (2) (Item 85, Appendix G)

Personnel Required

(2)

a. 110/208 VAC POWER IN Connector Removal.

NOTE

Perform step (1) on van body serial numbers 001 through 190.

(1) Remove 28 screws (1), lockwashers (2), washers (3), and cover (4) from 110/208 vac power entry panel (5). Discard lockwashers.
NOTE

Perform step (2) on van bodies serial number 191 and higher.

(2) Remove 16 screws (1), lockwashers (2), washers (3), and cover (4) from 110/208 vac power entry panel (5). Discard lockwashers.

NOTE

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

(4) Loosen three screws (9) in 200 amp AC circuit breaker (10).

(5) Remove wires 500 (11), 501 (12), and 502 (13) from 200 amp AC circuit breaker (10).
(6) Loosen screw (14) on terminal board TB4 (15).

(7) Remove wire 1499P (16) from terminal board TB4 (15).

(8) Remove wires 500 (11), 501 (12), 502 (13), and 1499P (16) from conduit (17).

NOTE

Step (9) may require removal of five other terminal lugs.

(9) Remove nut (18), lockwasher (19), washer (20), wire 3085N terminal lug (21), wire 3085P terminal lug (22), wire 3085Q terminal lug (23), and wire 3085R terminal lug (24), from chassis ground lug (25). Discard lockwasher.
(10) Remove dust cap (26) from 110/208 vac POWER IN connector (27).

(11) Remove sealing compound from heads of three screws (28), screw (29), and edges of 110/208 vac POWER IN connector (27).

(12) Remove four nuts (30), lockwashers (31), and washers (32) from three screws (28) and screw (29). Discard lockwashers.

(13) Remove three screws (28) from 110/208 vac POWER IN connector (27).

(14) Remove screw (29), dust cap (26), 110/208 vac POWER IN connector (27), and gasket (33) from 110/208 vac power entry panel (5).

NOTE

Steps (12) through (14) require the aid of an assistant.
b. 110/208 VAC POWER IN Connector Installation.

**NOTE**

Steps (1) through (4) require the aid of an assistant.

(1) Install gasket (1) and 110/208 vac POWER IN connector (2) on 110/208 power entry panel (3) with dust cap (4) and screw (5).

(2) Install three screws (6) in 110/208 vac POWER IN connector (2).

(3) Install four washers (7), lockwashers (8) and nuts (9) on screw (5) and three screws (6).

**WARNING**

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

(4) Apply sealing compound on heads of screws (5 and 6) and edges of 110/208 vac POWER IN connector (2).

(5) Install dust cap (4) on 110/208 vac POWER IN connector (2).
NOTE

Step (6) may require installation of five additional terminal lugs.

(6) Install wire 3085R terminal lug (10), wire 3085Q terminal lug (11), wire 3085P terminal lug (12) and wire 3085N terminal lug (13) on chassis ground lug (14) with washer (15), lockwasher (16), and nut (17).

(7) Route wires 1499P (18), 502 (19), 501 (20), and 500 (21) through conduit (22).

(8) Install wire 1499P (18) on terminal board TB4 (23).

(9) Tighten screw (24) on terminal board TB4 (23).
NOTE

Install plastic cable ties as required.

(10) Install wires 502 (19), 501 (20), and 500 (21) in 200 amp AC circuit breaker (25).

(11) Tighten three screws (26) in 200 amp AC circuit breaker (25).

NOTE

Perform step (13) on van bodies serial number 191 and higher.

(12) Install cover (27) on 110/208 VAC POWER DISTRIBUTION PANEL (28) with six screws (29).

(13) Install cover (30) on 110/208 vac power entry panel (3) with 16 washers (31), lockwashers (32), and screws (33).
NOTE
Perform step (14) on van body serial numbers 001 through 190.

(14) Install cover (30) on 110/208 vac power entry panel (3) with 28 washers (31), lockwashers (32), and screws (33).

c. 110/208 VAC POWER OUT Connector Removal.

NOTE
Perform step (1) on van body serial numbers 001 through 190.

(1) Remove 28 screws (1), lockwashers (2), washers (3), and cover (4) from 110/208 power entry panel (5). Discard lockwashers.

NOTE
Perform step (2) on van bodies serial number 191 and higher.

(2) Remove 16 screws (1), lockwashers (2), washers (3), and cover (4) from 110/208 power entry panel (5). Discard lockwashers.
(3) Remove six screws (6) and cover (7) from 110/208 VAC POWER DISTRIBUTION PANEL (8).

NOTE

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

(4) Loosen three screws (9) in 50 amp AC circuit breaker (10).

(5) Remove wires 500AA (11), 501BB (12), and 502CC (13) from 50 amp AC circuit breaker (10).

(6) Loosen screw (14) in terminal board TB4 (15).

(7) Remove wire 1499N (16) from terminal board TB4 (15).
(8) Remove wires 500AA (11), 501BB (12), 502CC (13), and 1499N (16) from conduit (17).

(9) Remove nut (18), lockwasher (19), washer (20), wire 3085S terminal lug (21), wire 3085T terminal lug (22), wire 3085U terminal lug (23), and wire 3085V terminal lug (24) from chassis ground lug (25). Discard lockwasher.

(10) Remove dust cap (26) from 110/208 vac POWER OUT connector (27).

(11) Remove sealing compound from heads of screws (28 and 29) and edges of 110/208 vac POWER OUT connector (27).
NOTE
Steps (12) through (14) require the aid of an assistant.

(12) Remove four nuts (30), lockwashers (31), and washers (32) from three screws (28) and screw (29). Discard lockwashers.

(13) Remove three screws (28) from 110/208 vac POWER OUT connector (27).

(14) Remove screw (29), dust cap (26), 110/208 vac POWER OUT connector (27) and gasket (33) from 110/208 vac power entry panel (5).

d. 110/208 VAC POWER OUT Connector Installation.

NOTE
Steps (1) through (4) require the aid of an assistant.

(1) Install gasket (1) and 110/208 vac POWER OUT connector (2) on 110/208 vac power entry panel (3) with dust cap (4) and screw (5).

(2) Install three screws (6) in 110/208 vac POWER OUT connector (2).
(3) Install four washers (7), lockwashers (8), and nuts (9) on screw (5) and three screws (6).

**WARNING**

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

(4) Apply sealing compound on heads of screws (5 and 6) and edges of 110/208 vac POWER OUT connector (2).

(5) Install dust cap (4) on 110/208 vac POWER OUT connector (2).
NOTE

Step (6) may require installation of five additional terminal lugs.

(6) Install wire 3085V terminal lug (10), wire 3085U terminal lug (11), wire 3085T terminal lug (12), and wire 3085S terminal lug (13) on chassis ground lug (14) with washer (15), lockwasher (16), and nut (17).

(7) Route wires 1499N (18), 502CC (19), 501BB (20), and 500AA (21) through conduit (22).

(8) Install wire 1499N (18) in terminal board TB4 (23).

(9) Tighten screw (24) in terminal board TB4 (23).
NOTE

Install plastic cable ties as required.

(10) Position wires 502CC (18), 501BB (19), and 500AA (21) in 50 amp AC circuit breaker (25).

(11) Tighten three screws (26) in 50 amp AC circuit breaker (25).

(12) Install cover (27) on 110/208 VAC POWER DISTRIBUTION PANEL (28) with six screws (29).

NOTE

Perform step (13) on van bodies serial number 191 and higher.

(13) Install cover (30) on 110/208 vac power entry panel (3) with 16 washers (31), lockwashers (32), and screws (33).
NOTE

Perform step (14) on van body serial numbers 001 through 190.

(14) Install cover (30) on 110/208 vac power entry panel (3) with 28 washers (31), lockwashers (32), and screws (33).

e. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Connect AC power [TM 9-2320-365-10].

(3) Connect field telephone wires, if required (TM 9-2320-365-10).

(4) Check for proper operation of 110/208 VAC power system [TM 9-2320-365-10].

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

End of Task.
16-69. M1079 CHASSIS GROUND LUG REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected (TM 9-2320-365-10).
Batteries disconnected (para 7-48).
Ground wire removed, if installed (TM 9-2320-365-10).
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Materials/Parts

- Ties, Cable, Plastic (Item 76, Appendix D)
- Lockwasher (16) (van bodies serial number 191 and higher) (Item 77, Appendix G)
- Lockwasher (28) (van body serial numbers 001 through 190) (Item 77, Appendix G)
- Lockwasher (4) (Item 81, Appendix G)

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

Personnel Required
(2)

a. Removal.

NOTE
Perform step (1) on van body serial numbers 001 through 190.

(1) Remove 28 screws (1), lockwashers (2), washers (3), and cover (4) from 110/208 vac power entry panel (5). Discard lockwashers.

NOTE
Perform step (2) on van bodies serial number 191 and higher.

(2) Remove 16 screws (1), lockwashers (2), washers (3), and cover (4) from 110/208 vac power entry panel (5). Discard lockwashers.
NOTE

- Steps (3) and (4) require the aid of an assistant.
- Note position of terminal lugs prior to removal.
- Remove plastic cable ties as required.

(3) Remove nut (6), lockwasher (7), washer (8), and nine terminal lugs (9) from chassis ground lug (10). Discard lockwasher.

(4) Remove nut (11), lockwasher (12), and washer (13) from chassis ground lug (10). Discard lockwasher.

(5) Remove chassis ground lug (10) from 110/208 vac power entry panel (5).

(6) Remove washer (14), lockwasher (15), nut (16), washer (17), lockwasher (18), and nut (19) from chassis ground lug (10).

b. Installation.

(1) Install nut (1), lockwasher (2), washer (3), nut (4), lockwasher (5), and washer (6) on chassis ground lug (7).

(2) Install chassis ground lug (7) in 110/208 vac power entry panel (8).
NOTE
Steps (3) and (4) require the aid of an assistant.

(3) Install washer (9), lockwasher (10), and nut (11) on chassis ground lug (7).

NOTE
Install plastic cable ties as required.

(4) Install nine terminal lugs (12) on chassis ground lug (7) with washer (13), lockwasher (14), and nut (15).

NOTE
Perform step (5) on van bodies serial number 191 and higher.

(5) Install cover (16) on 110/208 vac power entry panel (8) with 16 washers (17), lockwashers (18), and screws (19).

NOTE
Perform step (6) on van body serial numbers 001 through 190.

(6) Install cover (16) on 110/208 vac power entry panel (8) with 28 washers (17), lockwashers (18), and screws (19).
c. Follow-On Maintenance.

(1) Connect ground wire, if installed [TM 9-2320-365-10].

(2) Connect batteries (para 7-48).

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

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

End of Task.
16-70. M1079 110/208 VAC POWER ENTRY PANEL AND CONDUIT REPLACEMENT

This task covers:

a. Removal
b. Installation

This task covers:

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Chassis ground lug removed (para 16-69).

110/208 VAC POWER IN/OUT cables removed (para 16-68).

Field telephone binding posts removed (para 16-51).

Materials/Parts

Sealing Compound (Item 67, Appendix D)

Rivet, Blind (32) (Item 229, Appendix G)

Tools and Special Tools

Tool Kit, Genl Mech (Item 44, Appendix C)

Drill, Portable, Electric (Item 7, Appendix C)

Drill Set, Twist (Item 6, Appendix C)

Goggles, Industrial (Item 15, Appendix C)

Tool Kit, Blind Rivet (Item 43, Appendix C)

Personnel Required

(2)

a. Removal.

(1) Remove sealing compound from edges of 110/208 vac power entry panel (1).

(2) Remove wire 3085Y (2) from conduit (3).

(3) Remove wires 424 (4) and 425 (5) from conduit (6).

(4) Loosen conduit nuts (7 and 8) on conduit connectors (9 and 10).

(5) Loosen conduit nuts (11 and 12) on conduit connectors (13 and 14).
(6) Remove locknuts (15 and 16) from conduit connectors (9 and 10).

(7) Lift conduit connectors (9 and 10) clear of 110/208 vac power entry panel (1).

(8) Remove sealing compound from edges of 110/208 vac power entry panel (1).

**WARNING**

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

**NOTE**

Steps (9 and 10) require the aid of an assistant.

(9) Remove 32 rivets (17) from 110/208 vac power entry panel (1).

**CAUTION**

Start at one corner and slowly work 110/208 vac power entry panel loose. Failure to comply may result in damage to equipment.

(10) Remove 110/208 vac power entry panel (1) from van body wall (18).

(11) Remove sealing compound from van body wall (18).
(12) Remove conduit nuts (11 and 12) from conduit connectors (13 and 14).

(13) Remove conduit nuts (7 and 8) from conduit connectors (9 and 10).

(14) Remove four ferrules (19) and conduit nuts (7, 8, 11, and 12) from conduits (3 and 6).

b. Installation.

(1) Install conduit nuts (1, 2, 3, and 4) and four ferrules (5) on conduits (6 and 7).
(2) Position conduit nuts (1 and 2) on conduit connectors (8 and 9).

(3) Position conduit nuts (3 and 4) on conduit connectors (10 and 11).

**WARNING**

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

(4) Apply sealing compound to van body wall (12).

**CAUTION**

Coat all rivets with sealing compound prior to installation. Failure to comply may result in damage to equipment.

(5) Apply sealing compound to 32 rivets (13).

(6) Install 110/208 vac power entry panel (14) in van body wall (12) with 32 rivets (13).

(7) Apply sealing compound on edges of 110/208 vac power entry panel (14).
(8) Install conduit connectors (8 and 9) in 110/208 vac power entry panel (14) with locknuts (15 and 16).

(9) Tighten conduit nuts (3 and 4) on conduit connectors (10 and 11).

(10) Tighten conduit nuts (1 and 2) on conduit connectors (8 and 9).
(11) Route wires 425 (17) and 424 (18) through conduit (6).

(12) Route wire 3085Y (19) through conduit (7).

WARNING

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

(13) Apply sealing compound around 110/208 vac power entry panel (14).

c. Follow-On Maintenance.

(1) Install field telephone binding posts [para 16-51].

(2) Install 110/208 VAC POWER IN/OUT cables (para 16-68).

(3) Install chassis ground lug [para 16-69].

End of Task.
16-71. M1079 12/24 VDC POWER ENTRY CONNECTOR REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
AC power disconnected (TM 9-2320-365-10)  
Batteries disconnected (para 7-48)  
LH and RH doors opened (115 degrees) (TM 9-2320-365-10).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)  
Heater, Gun Type, Electric (Item 20, Appendix B)  
Soldering Iron, Electric (Item 72, Appendix B)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)  
Insulation Sleeving, Electrical (Item 31, Appendix D)  
Solder, Tin Alloy (Item 70, Appendix D)  
Sealing Compound (Item 67, Appendix D)  
Lockwasher (Item 79, Appendix G)  
Lockwasher (4) (van bodies serial number 191 and higher) (Item 77, Appendix G)  
Lockwasher (16) (van body serial numbers 001 through 190) (Item 77, Appendix G)  
Gasket (Item 29, Appendix G)

Personnel Required
(2)

a. Removal.

NOTE

Perform step (1) on van body serial numbers 001 through 190.

(1) Remove 16 screws (1), lockwashers (2), washers (3), and cover (4) from 12/24 vdc power entry panel (5). Discard lockwashers.
NOTE
Perform step (2) on van bodies serial number 191 and higher.

(2) Remove four screws (1), lockwashers (2), washers (3), and cover (4) from 12/24 vdc power entry panel (5). Discard lockwashers.

(3) Remove dust cap (6) from 12/24 vdc power entry connector J173 (7).

(4) Remove sealing compound from edges of 12/24 vdc power entry connector J173 (7).

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

(5) Remove nut (8), lockwasher (9), dust cap (6), and screw (10) from 12/24 vdc power entry connector J173 (7). Discard lockwasher.

(6) Remove three nuts (11), lockwashers (12), screws (13), 12/24 vdc power entry connector J173 (7), and gasket (14) from 12/24 vdc power entry panel (5). Discard lockwashers.
16-71. M1079 12/24 VDC POWER ENTRY CONNECTOR REPLACEMENT (CONT)

NOTE

- All wires on 12/24 vdc power entry connector are removed the same way. One wire shown.

- Tag wires and connection points prior to disconnecting.

- Refer to Table 16-9. M1079 Connector J173 Pin Letters and Wire Numbers for details.

(7) Remove wire (15) from 12/24 vdc power entry connector J173 pin (16).

(8) Remove insulation sleeving (17) from wire (15).

(9) Perform steps (7) and (8) on remaining wires.

(10) Remove gasket (14) from 12/24 vdc power entry connector J173 (7). Discard gasket.

Table 16-9. M1079 Connector J173 Pin Letters and Wire Numbers

<table>
<thead>
<tr>
<th>PIN LETTER</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIRE NUMBER</td>
<td>2010</td>
<td>3086</td>
<td>2040</td>
<td>3086</td>
<td>UNUSED</td>
<td>2006</td>
<td>1507</td>
<td>1507</td>
</tr>
</tbody>
</table>

b. Installation.

NOTE

- All wires on 12/24 vdc power entry connector are installed the same way. One wire shown.

- Refer to Table 16-9. M1079 Connector J173 Pin Letters and Wire Numbers for details.

(1) Position gasket (1) on 12/24 vdc power entry connector J173 (2).

(2) Position insulation sleeving (3) on wire (4).

(3) Remove approximately 1/4 in. (0.6 cm) of insulation from wire (4).

(4) Solder wire (4) to 12/24 vdc power entry connector J173 pin (5).

(5) Shrink insulation sleeving (3) on wire (4) and 12/24 vdc power entry connector J173 pin (5).
(6) Perform steps (2) through (5) on remaining wires.

**NOTE**

Steps (7) and (8) require the aid of an assistant.

(7) Install gasket (1) and 12/24 vdc power entry connector J173 (2) in 12/24 vdc power entry panel (6) with three screws (7), lockwashers (8), and nuts (9).

(8) Install dust cap (10) on 12/24 vdc power entry connector J173 (2) with screw (11), lockwasher (12), and nut (13).

**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.

(9) Apply sealing compound on edges of 12/24 vdc power entry connector J173 (2).

(10) Install dust cap (10) on 12/24 vdc power entry connector J173 (2).

**NOTE**

Perform step (11) on van bodies serial number 191 and higher.

(11) Install cover (14) on 12/24 vdc power entry panel (6) with four washers (15), lockwashers (16), and screws (17).
NOTE

Perform step (12) on van body serial numbers 001 through 190.

(12) Install cover (14) on 12/24 vdc power entry panel (6) with 16 washers (18), lockwashers (16), and screws (17).

c. Follow-On Maintenance.

(1) Connect batteries (para 7-48).

(2) Connect AC power ([TM 9-2320-365-10]).

(3) Check for proper operation of 12/24 vdc system (TM 9-2320-365-10).

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

End of Task.
a. Removal.

(1) Remove conduit nuts (1 and 2) from conduit connectors (3 and 4).

(2) Remove conduit (5) and wires (6) from conduit connector (3).

(3) Remove locknut (7) and conduit connector (3) from 12/24 vdc power entry panel (8).

(4) Remove sealing compound from edges of 12/24 vdc power entry panel (8).
(5) Remove sealing compound from edges of 12/24 vdc power entry panel (8).

**WARNING**

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

**NOTE**

Perform step (6) on van body serial numbers 001 through 190.

(6) Remove 22 rivets (9) and 12/24 vdc power entry panel (8) from van body wall (10).

**NOTE**

Perform step (7) on van bodies serial number 191 and higher.

(7) Remove 14 rivets (9) and 12/24 vdc power entry panel (8) from van body wall (10).

(8) Remove sealing compound from van body wall (10).

(9) Remove 16 screws (11), lockwashers (12), washers (13), and raceway cover (14) from raceway (15). Discard lockwashers.

(10) Disconnect emergency light connector J166 (16) from connector P166 (17).
(11) Remove conduit (5) from wires (6).

(12) Remove wires (6) from conduit connector (4).

(13) Remove locknut (18) and conduit connector (4) from raceway (15).

(14) Remove conduit nuts (1 and 2) and two ferrules (19) from conduit (5).

b. Installation.

(1) Install two ferrules (1) and conduit nuts (2 and 3) on conduit (4).

(2) Install conduit connector (5) in raceway (6) with locknut (7).

(3) Route wires (8) through conduit connector (5).

(4) Route wires (8) through conduit (4).

(5) Connect emergency light connector J166 (9) to connector P166 (10).

(6) Install raceway cover (11) on raceway (6) with 16 washers (12), lockwashers (13), and screws (14).
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.

CAUTION

Coat all rivets with sealing compound prior to installation. Failure to comply may result in damage to equipment.

(7) Apply sealing compound on van body wall (15) and rivets (16).

NOTE

Perform step (8) on van bodies serial number 191 and higher.

(8) Install 12/24 vdc power entry panel (17) on van body wall (15) with 14 rivets (16).

NOTE

Perform step (9) on van body serial numbers 001 through 190.

(9) Install 12/24 vdc power entry panel (17) on van body wall (15) with 22 rivets (16).

(10) Apply sealing compound on edges of 12/24 vdc power entry panel (17).
**WARNING**

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

(11) Apply sealing compound on edges of 12/24 vdc power entry panel (17).

(12) Install conduit connector (18) in 12/24 vdc power entry panel (17) with locknut (19).

(13) Install wires (8) and conduit (4) in conduit connector (18).

(14) Tighten nuts (2 and 3) on conduit connectors (5 and 18).

c. **Follow-On Maintenance.**

Install 12/24 vdc power entry connector [para 16-71].

End of Task.
This task covers:

a. Preparation

b. Recovery

### INITIAL SETUP

**Equipment Conditions**

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

---

**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.

---

**CAUTION**

PRIOR TO SHIPMENT BY RAIL, PROPERLY STOW, TIE DOWN, AND OR BRACE ALL LOOSE ITEMS AND OTHER ITEMS INSIDE THE VAN. Failure to comply may result in damage to equipment.

---

**NOTE**

All four blackout shields are closed the same way. Right side front shield shown.

(1) Raise and latch blackout shield (1) on van window (2).

---

**CAUTION**

PRIOR TO SHIPMENT BY RAIL, PROPERLY STOW, TIE DOWN, AND OR BRACE ALL LOOSE ITEMS AND OTHER ITEMS INSIDE THE VAN. Failure to comply may result in damage to equipment.
(2) Close blackout shield (3) on right hand side door (4).

(3) Open vent cover (5) on right hand side door (4).

(4) Open fan vent cover (6) on front interior van wall (7).

NOTE
Both drain plugs are loosened the same way.
Rear drain plug shown.

(5) Loosen drain plug (8) from drain hole (9) on van floor (10).

(6) Remove M1079 van body from chassis [para 16-19].

b. Recovery

(1) Install M1079 van body on chassis [para 16-19].

NOTE
Both drain plugs are tightened the same way.
Rear drain plug shown.

(2) Tighten drain plug (1) in drain hole (2) on van floor (3).
(3) Close fan vent cover (4) on front interior wall (5).

(4) Close vent cover (6) on right hand side door (7).

(5) Open blackout shield (8) on right hand side door (7).

NOTE

All four blackout shields are opened the same way. Right side front shield shown.

(6) Lower blackout shield (9) on van window (10).

End of Task.
16-74. LATCH AND CAB LATCH BRACKETS REPLACEMENT

This task covers:

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INITIAL SETUP

Equipment Conditions

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

Tools and Special Tools

Tool Kit, Genl Mech (Item 46, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 58, Appendix C)
Cab Support Tool (Item E-4, Appendix E)

Materials/Parts

Nuts, Self-Locking (2) (Item 149, Appendix G)

Personnel Required

(2)

a. Latch Bracket Removal.

1. Raise cab (TM 9-2320-365-10).
2. Install cab support tool on engine rear lifting eye (1).
3. Lower cab until cab rests on cab support tool (TM 9-2320-365-10).
4. Remove three bolts (2) and washers (3) from latch bracket (4).

NOTE

Perform step (5) on vehicles 0001 through 7167.

5. Remove two self-locking nuts (5), screws (6), spacers (7), washers (8), and latch bracket (4) from cab (9). Discard self-locking nuts and spacers.

NOTE

Perform step (6) on vehicles 7168 and higher.

6. Remove two self-locking nuts (5), screws (6), washers (8), and latch bracket (4) from cab (9). Discard self-locking nuts.
b. Latch Bracket Installation.

(1) Position latch bracket (1) on cab (2) with two washers (3), screws (4), and self-locking nuts (5).

(2) Install three washers (6) and screws (7) in latch bracket (1).

(3) Raise cab slightly and remove cab support tool from engine rear lifting eye (8) (TM 9-2320-366-10-1).

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

NOTE

Outside screws are loosened first, then the center screw.

(5) Loosen three screws (7) on latch bracket (1).
CAUTION

Ensure cab latch brackets on each side of the cab support bridge rest squarely on the support pins.

(6) Tighten three screws (7) to 34-44 lb-ft (44-60 N·m).

(7) Raise cab (TM 9-2320-366-10-1).

(8) Tighten two self-locking nuts (5) to 34-44 lb-ft (44-60 N·m).

(9) Lower cab (TM 9-2320-366-10-1).

c. Cab Latch Bracket Removal.

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

(2) Install cab support tool on engine rear lifting eye (1).

(3) Lower cab until cab rests on cab support tool (TM 9-2320-365-10).
NOTE

Left and right cab latches are removed the same way. Right cab latch shown.

(4) Remove two screws (2), washers (3), and cab latch (4) from cab (5).

d. Cab Latch Bracket Installation.

(2) Raise cab slightly and remove cab support tool from engine rear lifting eye (5) (TM 9-2320-365-10).

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

NOTE

• Left and right cab latches are installed the same way. Right cab latch shown.

• Tighten screws only enough that cab latch can be moved with some resistance.

(1) Position cab latch (1) on cab (2) with two washers (3) and screws (4).
CAUTION

Cab latch must be adjusted so that it rides squarely on the support pins and does not contact the welded area of the support pins. Failure to comply may result in damage to equipment.

(4) Adjust cab latch (1) on support pin (6).

(5) Raise cab (TM 9-2320-365-10).

CAUTION

Do not allow cab latch to change position while tightening screws. Failure to comply may result in damage to equipment.

(6) Tighten two screws (4) to 34-44 lb-ft (44-60 N·m).

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

End of Task.
16-75. ROOF HATCH REPLACEMENT (ALL MODELS EXCEPT M1081)

This task covers:

a. Removal
b. Installation
c. Follow-On

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)
Screwdriver Attachment, Socket Wrench (Item 54.1, Appendix B)
Dispenser, Sealant (Item 13.1, Appendix B)

Materials/Parts
Rubber Strip (Item 251, Appendix G)
Sealing Compound (Item 68.1, Appendix D)

Personnel Required
(2)

a. Removal.

(1) Match mark roof hatch (1) to cab roof (2).

NOTE

• Perform step (2) if cab maintenance has not been previously performed. Replace screws P/N B1834B1205N with screws P/N 12422263 and washers P/N 12422217.

• Store roof hatch for future installation.

(2) Remove 12 screws (3) and roof hatch (1) from cab roof (2). Discard screws.

NOTE

Perform steps (3) and (4) if cab maintenance has been previously performed.

(3) Remove sealant from 12 screws (3), roof hatch (1), and cab roof (2).

(4) Remove 12 screws (3), washers (4), and roof hatch (1) from cab roof (2).

(5) Remove rubber strip (5) from roof hatch (1). Discard rubber strip.
b. Installation.

**CAUTION**

Begin inside and outside rubber strip installation on opposite sides of each other. Failure to comply may result in damage to equipment.

1. Install inside rubber strip (1) on roof hatch (2).
2. Install outside rubber strip (3) on roof hatch (2).
3. Install 6 in. (15.2 cm) back-up rubber strips (4) centered on joints of inside and outside rubber strips (1 and 3).
4. Position roof hatch (2) on cab roof (5) with matchmarks aligned.
5. Position 12 washers (6) and screws (7) in roof hatch (2).
6. Tighten 12 screws (7) to 35-41 lb-ft (48-56 N·m).

**WARNING**

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

7. Apply 0.625 in. (1.5 cm) bead of sealant to 12 screws (7) and between roof hatch (2) and cab roof (5).

End of Task.
16-76. BOARDING HANDLES REPLACEMENT

This task covers:

a. Rear Boarding Handle Removal  
   e. Top Boarding Handle Removal  
b. Rear Boarding Handle Installation  
f. Top Boarding Handle Installation  
c. Front Boarding Handle Removal  
g. Follow-On Maintenance  
d. Front Boarding Handle Installation  

INITIAL SETUP

Equipment Conditions

Engine shut down [TM 9-2320-365-10].  
Instrument panel assembly removed for access (para 7-15).  
Kick panel removed [para 15-3].

Materials/Parts

Tool Kit, Genl Mech (Item 44, Appendix C)  
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)

a. Rear Boarding Handle Removal.

   NOTE

   Passenger side and driver side boarding handles are removed the same way. Driver side shown.

   (1) Remove two screws (1) and washers (2) from boarding handle (3).

   (2) Remove four screws (4), washers (5), and boarding handle (3) from cab (6).
b. Rear Boarding Handle Installation.

NOTE
Passenger side and driver side boarding handles are installed the same way. Driver side shown.

(1) Position rear boarding handle (1) on cab (2) with four washers (3) and screws (4).

(2) Position two washers (5) and screws (6) in rear boarding handle (1).

(3) Tighten two screws (6) and four screws (4) to 70-85 lb-in. (8-10 N·m).

c. Front Boarding Handle Removal.

NOTE
Passenger side and driver side boarding handles are removed the same way. Driver side shown.

(1) Remove two screws (1) and washers (2) from front boarding handle (3).
(2) Remove two screws (4), washers (5) and front boarding handle (3) from cab (6).

d. Front Boarding Handle Installation.

(1) Position front boarding handle (1) in cab (2) with two washers (3) and screws (4).

(2) Position two washers (5) and screws (6) in front boarding handle (1).

(3) Tighten two screws (6) and screws (4) to 70-85 lb-in. (8-10 N·m).

NOTE

Passenger and driver side boarding handles are installed the same way. Driver side shown.

(1) Position front boarding handle (1) in cab (2) with two washers (3) and screws (4).
e. Top Boarding Handle Removal.

NOTE
Passenger side and driver side boarding handle are removed the same way. Driver side shown.

(1) Lift two covers (1) from top boarding handle (2).
(2) Remove four screws (3) and top boarding handle (2) from cab (4).

f. Top Boarding Handle Installation.

NOTE
Passenger side and driver side boarding handles are installed the same way. Driver side shown.

(1) Position top boarding handle (1) in cab (2) with four screws (3).
(2) Tighten four screws (3).
(3) Position two covers (4) on top boarding handle (2).

g. Follow-On Maintenance.

(1) Install instrument panel (para 7-15).
(2) Install kick panel para 16-3.

End of Task.
CHAPTER 17
11K SELF-RECOVERY WINCH (SRW) 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

17-1. INTRODUCTION

This chapter contains maintenance instructions for replacing 11K SRW components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.
Section II. MAINTENANCE PROCEDURES

17-2. 11K SELF-RECOVERY WINCH (SRW) FRONT ROLLER FAIRLEAD REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Front bumper and gravel deflector removed (para 14-2).  
Cab raised [TM 9-2320-365-10].

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)  
Gun, Lubricating (Item 16, Appendix C)  
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts
Grease, Automotive and Artillery (GAA) (Item 23, Appendix D)  
Pin, Spring (2) (Item 210, Appendix G)  
Pin, Spring (Item 211, Appendix G)

WARNING

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

a. Removal.

(1) Remove two lubrication fittings (1) from straight shafts (2 and 3).

(2) Remove retaining pin (4) from straight shaft (2).

CAUTION

 Use a brass punch to remove straight shafts. Failure to comply may damage threads for lubrication fittings.

(3) Remove straight shaft (2) and roller fairlead (5) from bracket (6).
(4) Drive spring pin (7) through bracket (6) and into straight shaft (3) as far as possible.

(5) Remove straight shaft (3) and roller fairlead (8) from bracket (6).

(6) Remove spring pin (7) from straight shaft (3). Discard spring pin.

(7) Remove two lubrication fittings (9) from straight shafts (10 and 11).

(8) Drive spring pin (12) through bracket (6) and into straight shaft (10) as far as possible.

(9) Remove straight shaft (10) and roller fairlead (13) from bracket (6).
(10) Drive spring pin (14) through bracket (6) and into straight shaft (11) as far as possible.

(11) Remove straight shaft (11) and roller fairlead (15) from bracket (6).

(12) Remove spring pins (12 and 14) from straight shafts (10 and 11). Discard spring pins.

b. Installation.

(1) Apply grease to straight shaft (1) and inside of roller fairlead (2).
CAUTION

Use a brass punch to install straight shafts. Failure to comply may damage threads for lubrication fittings.

NOTE

Align hole in straight shaft with hole in bracket.

(2) Install roller fairlead (2) and straight shaft (1) in bracket (3).

(3) Install spring pin (4) through bracket (3) and straight shaft (1).

(4) Apply grease to straight shaft (5) and inside of roller fairlead (6).

NOTE

Align hole in straight shaft with hole in bracket.

(5) Install roller fairlead (6) and straight shaft (5) in bracket (3).

(6) Install spring pin (7) through bracket (3) and straight shaft (5).

(7) Install two lubrication fittings (8) in straight shafts (1 and 5).
(8) Apply grease to straight shaft (9) and inside of roller fairlead (10).

**NOTE**
- Install straight shaft so that lubrication fitting is toward bottom.
- Align hole in straight shaft with hole in bracket.

(9) Install roller fairlead (10) and straight shaft (9) in bracket (3).

(10) Install spring pin (11) through bracket (3) and straight shaft (9).

(11) Apply grease to straight shaft (12) and inside of roller fairlead (13).

**NOTE**
Install straight shaft so that lubrication fitting is toward bottom.

(12) Install roller fairlead (13) and straight shaft (12) in bracket (3).

**NOTE**
Align hole in straight shaft with hole in bracket.

(13) Install retaining pin (14) through bracket (3) and straight shaft (12).

(14) Install two lubrication fittings (15) in straight shafts (9 and 12).

**c. Follow-On Maintenance.**

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

(2) Install front bumper and gravel deflector (para 14-2).

(3) Lubricate front rollers [Appendix H](#).

**End of Task.**
17-3. 11K SELF-RECOVERY WINCH (SRW) REAR ROLLER FAIRLEAD REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions

Engine shut down [TM 9-2320-365-10].
11K SRW cable removed from rear roller fairlead, if required [TM 9-2320-365-10].
Right composite taillight assembly removed (para 7-32).
Right marker light assemblies removed (para 7-31).

Tools and Special Tools

Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-600 lb-ft (Item 59, Appendix C)
Gun, Lubricating (Item 16, Appendix C)
Wrench, Set Socket (Item 48, Appendix C)

Materials/Parts

Grease, Automotive and Artillery (GAA) (Item 23 Appendix D)
Nut, Self-Locking (4) (Item 144, Appendix G)
Nut, Self-Locking (2) (Item 140, Appendix G)
Pin, Spring (3) (Item 210, Appendix G)
Pin, Spring (Item 211, Appendix G)
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)

a. Removal.

(1) Pull rear lights cable assembly (1) through right frame rail (2).
(1.1) Remove four lubrication fittings (1.1) from straight shafts (2.1, 3, 4, and 5).

(2) Remove retaining pin (6) from straight shaft (2.1).

**CAUTION**

Use a brass punch to remove straight shafts. Failure to comply may damage threads for lubrication fittings.

(3) Remove straight shaft (2.1) and fairlead roller (7) from roller bracket (8).

(4) Remove two self-locking nuts (9) and screws (10) from roller bracket (8). Discard self-locking nuts.

(5) Deleted

(6) Deleted

(7) Deleted
(10) Remove four self-locking nuts (26), screws (27), taillight bracket (21), and roller bracket (8) from mounting bracket (28). Discard self-locking nuts.
17-3. 11K SELF-RECOVERY WINCH (SRW) REAR ROLLER FAIRLEAD REPLACEMENT (CONT)

(11) Drive spring pin (29) in straight shaft (3) as far as possible.

(12) Remove straight shaft (3) and fairlead roller (30) from roller bracket (8).

(13) Remove spring pin (29) from straight shaft (3). Discard spring pin.

(14) Drive two spring pins (31) in straight shafts (4 and 5).

(15) Remove straight shafts (4 and 5) and fairlead rollers (32 and 33) from roller bracket (8).
(16) Remove two spring pins (31) from straight shafts (4 and 5). Discard spring pins.

b. Installation.

(1) Apply grease to straight shafts (1 and 2) and inside of fairlead rollers (3 and 4).

CAUTION
Use a brass punch to install straight shafts. Failure to comply may result in damage to threads for lubrication fittings.

NOTE
- Install straight shafts so that lubrication fittings are toward curbside of vehicle.
- Align hole in straight shafts with holes in bracket.

(2) Install fairlead rollers (3 and 4) and straight shafts (1 and 2) in roller bracket (5).

(3) Install two spring pins (6) through roller bracket (5) and straight shafts (1 and 2).
(4) Apply grease to straight shaft (7) and inside of fairlead roller (8).

**NOTE**

- Install straight shaft so that lubrication fitting faces toward bottom.
- Align hole in straight shaft with hole in bracket.

(5) Install fairlead roller (8) and straight shaft (7) in roller bracket (5).

(6) Install spring pin (9) through roller bracket (5) and straight shaft (7).

(7) Position roller bracket (5) and taillight bracket (10) on mounting bracket (11) with two screws (12) and self-locking nuts (13).

(8) Position two screws (14) in mounting bracket (11) with two self-locking nuts (15).

(9) Position two screws (16) in taillight bracket (10) with two self-locking nuts (17).

(10) Tighten two screws (12) to 149-182 lb-ft (202-247 N·m).

(11) Tighten two self-locking nuts (15) to 149-182 lb-ft (202-247 N·m).

(12) Tighten two screws (16) to 26-32 lb-ft (35-43 N·m).
NOTE
If straight shaft is being replaced, a replacement spring pin must be installed.

(13) Apply grease to straight shaft (18) and inside of fairlead roller (19).

NOTE
Install straight shaft so that lubrication fitting faces toward bottom.

(14) Install fairlead roller (19) and straight shaft (18) in roller bracket (5).

(15) Install retaining pin (20) through roller bracket (5) and straight shaft (18).

(16) Install four lubrication fittings (21) in straight shafts (1, 2, 7, and 18).

(17) Deleted
17-3. 11K SELF-RECOVERY WINCH (SRW) REAR ROLLER FAIRLEAD REPLACEMENT (CONT)

Deleted

Deleted

Deleted

Deleted

Position rear lights cable assembly (22) through right frame rail (23).

c. Follow-On Maintenance.

(1) Install right marker light assemblies (para 7-31).

(2) Install right composite taillight assembly (para 7-32).

(3) Install 11K SRW cable in rear roller fairlead, if required \(\text{(TM 9-2320-365-10)}\).

(4) Lubricate rear rollers \(\text{Appendix H}\).

End of Task.
17-4. 11K SELF-RECOVERY WINCH (SRW) CABLE PULLEYS REPLACEMENT

This task covers:

- Front Pulley Removal
- Front Pulley Installation
- Rear Pulley Removal
- Rear Pulley Installation
- Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
- Engine shut down (TM 9-2320-365-10)
- Cab raised (TM 9-2320-365-10)
- 11K SRW cable extended approximately 3 ft (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)
- Hammer, Hand (Item 17, Appendix C)
- Gloves, Welder’s (Item 14, Appendix C)
- Goggles, Industrial (Item 15, Appendix C)

Materials/Parts
- Nut, Self-Locking (2) (Item 134, Appendix G)
- Nut, Self-Locking (2) (Item 149, Appendix G)

WARNING

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

a. Front Pulley Removal.

(1) Remove 11K SRW cable (1) from front cable pulley (2).

(2) Remove nut (3), washer (4), and cable pulley (2) from mounting bracket (5).

(3) Remove two screws (6), self-locking nuts (7), and brackets (8) from mounting bracket (5). Discard self-locking nuts.
(4) Remove two screws (9), self-locking nuts (10), mounting bracket (5), and mounting plate (11) from frame (12). Discard self-locking nuts.

b. Front Pulley Installation.

(1) Position mounting plate (1) and mounting bracket (2) to frame (3) with two screws (4) and self-locking nuts (5).

(2) Tighten two self-locking nuts (5) to 114-140 lb-ft (155-190 N·m).

(3) Position two brackets (6) on mounting bracket (2) with two screws (7) and self-locking nuts (8).

(4) Tighten two self-locking nuts (8) to 58-79 lb-ft (79-107 N·m).

(5) Install cable pulley (9) on mounting bracket (2) with washer (10) and nut (11).
(6) Route 11K SRW cable (12) through front cable pulley (9).

c. Rear Pulley Removal.

(1) Remove 11K SRW cable (1) from rear cable pulley (2).

(2) Remove self-locking nut (3) from screw (4). Discard self-locking nut.

(3) Remove screw (4), cable pulley (2), and mounting bracket (5) from bracket assembly (6).

(4) Remove four screws (7), self-locking nuts (8), and bracket (6) from frame (9). Discard self-locking nuts.
17-4. 11K SELF-RECOVERY WINCH (SRW) CABLE PULLEYS REPLACEMENT
(CONT)

d. Rear Pulley Installation.

1. Position bracket (1) on frame (2) with four screws (3) and self-locking nuts (4).

2. Tighten four self-locking nuts (4) to 114-140 lb-ft (155-190 N·m).

3. Position cable pulley (5) and mounting bracket (6) on bracket (1) with screw (7) and self-locking nut (8).

4. Tighten self-locking nut (8) to 114-140 lb-ft (155-190 N·m).

5. Route 11K SRW cable (9) through rear cable pulley (5).

e. Follow-On Maintenance.

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

2. Operate 11K SRW and check for proper operation (TM 9-2320-365-10).


End of Task.
17-5. 11K SELF-RECOVERY WINCH (SRW) CABLE REPLACEMENT

This task covers:

a. Removal
b. Installation

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
11K SRW cable payed-out completely from front of vehicle [TM 9-2320-365-10].
Engine shut down [TM 9-2320-365-10].

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Gloves, Welder’s (Item 14, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Personnel Required
(3)

WARNING

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

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

a. Removal.

(1) Remove cable wedge (1) and 11K SRW cable (2) from flange (3).

(2) Pull 11K SRW cable (2) from flange (3).

(3) Remove 11K SRW cable (2) from drum (4).
(4) Pull 11K SRW cable (2) out through roller fairleads (5) at front of vehicle.

b. Installation.

(1) Route 11K SRW cable (1) through roller fairleads (2) at front of vehicle.

(2) Route 11K SRW cable (1) through front cable pulley (3) on frame (4).
(3) Route 11K SRW cable (1) through cable guides (5 and 6) behind fuel tank (7).

(4) Route 11K SRW cable (1) over cable guide roller (8).

NOTE

Position 11K SRW cable on drum so it will spool properly.

(5) Route 11K SRW cable (1) over and around drum (9).

(6) Insert 11K SRW cable (1) through slot (10) in side of drum (9).

(7) Route 11K SRW cable (1) up through flange (11) and back down into flange, making a loop.

(8) Insert wedge (12) in loop and pull 11K SRW cable (1) and wedge into flange (11).

(9) Drive wedge (12) and 11K SRW cable (1) down into flange (11) until fully seated.
17-5. 11K SELF-RECOVERY WINCH (SRW) CABLE REPLACEMENT (CONT)

(10) Start engine \(\text{TM 9-2320-365-10}\).

(11) Engage PTO \(\text{TM 9-2320-365-10}\).

(12) Push and hold winch switch \(\text{TM 9-2320-365-10}\).

**NOTE**

- After one complete layer of 11K SRW cable is on drum, provide tension on 11K SRW cable by physically pulling on 11K SRW cable so that 11K SRW cable spools on tightly. Leave enough 11K SRW cable unspooled to allow installation of hook block.

- Step (13) requires the aid of two assistants.

(13) Rewind 11K SRW cable (1) onto drum (9) \(\text{TM 9-2320-365-10}\).

c. **Follow-On Maintenance.**

(1) Disengage PTO \(\text{TM 9-2320-365-10}\).

(2) Shut down engine \(\text{TM 9-2320-365-10}\).

(3) Lubricate 11K SRW cable \(\text{Appendix H}\).

End of Task.
17-6. WINCH CONTROL VALVE ASSEMBLY 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
Goggles, Industrial (Item 15, Appendix C)
Pan, Drain (Item 24, Appendix C)
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)

Materials/Parts
Cap and Plug Set (Item 15, Appendix D)
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Packing, Preformed (5) (Item 159, Appendix G)
Ties, Cable, Plastic (Item 76, 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

CAUTION
Cap or plug hoses and connection points to prevent contamination of hydraulic system. Failure to comply may result in damage to equipment.

NOTE

• Remove plastic cable ties as required.

• Tag hoses and connection points prior to disconnecting.

(1) Disconnect five hoses (1) from winch control valve (2).
NOTE

Tag connectors and connection points prior to disconnecting.

(2) Loosen two captive screws (3) and disconnect connectors L4 (4) and L5 (5) from winch control valve (2).

(3) Remove nut (6), screw (7), washer (8), terminal lug TL320 (9), and washer (10) from winch control valve (2).

(4) Remove three nuts (11), screws (12), washers (13), and winch control valve (2) from right frame rail (14).

(5) Remove four screws (15), washers (16) and two brackets (17) from winch control valve (2).
(6) Remove five fittings (18) from winch control valve (2).

(7) Remove five preformed packings (19) from fittings (18). Discard preformed packings.

b. Installation

(1) Install preformed packing (1) on each of five fittings (2).

(2) Install five fittings (2) in winch control valve (3).

(3) Position two brackets (4) on winch control valve (3) with four washers (5) and screws (6).

(4) Tighten four screws (6) to 11-13 lb-ft (15-17 N·m).
(5) Position winch control valve (3) on right frame rail (7) with three washers (8), screws (9), and nuts (10).

(6) Position washer (11) and terminal lug TL320 (12) on winch control valve (3) with washer (13) screw (14), and nut (15).

(7) Tighten three nuts (10) and nut (15) to 20-24 lb-ft (27-33 N·m).

NOTE
Install plastic cable ties as required.

(8) Connect connectors L5 (16) and L4 (17) to winch control valve (3).

(9) Tighten two captive screws (18) in connectors L5 (16) and L4 (17).

(10) Install five hoses (19) on winch control valve (3).
c. Follow-On Maintenance.

(1) Start engine (TM 9-2320-365-10).

(2) Operate 11K SRW and check for proper operation and for hydraulic leaks around winch control valve and hoses (TM 9-2320-365-10).

End of Task.
17-7. 11K SELF-RECOVERY WINCH (SRW) HOSES REPLACEMENT

This task covers:

a. Hydraulic Hose Locations
b. Follow-On Maintenance

INITIAL SETUP

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

Tools and Special Tools (Cont)
Crowfoot Attachment, Socket Wrench (Item 12, Appendix B)
Crowfoot Attachment, Socket Wrench (Item 11, Appendix B)

Materials/Parts
Cap and Plug Set (Item 15, Appendix D)
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Ties, Cable, Plastic (Item 76, Appendix D)
Oil, Lubricating, OE/HDO 10 (Item 43, Appendix D)

a. Hydraulic 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.

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

CAUTION

Cap or plug hoses and connection points to prevent contamination of 11K SRW hydraulic system. Failure to comply may result in damage to equipment.

NOTE

- Refer to Table 17-1. 11K Self-Recovery Winch (SRW) Hydraulic Hose Locations for locations of hydraulic hoses on the 11K SRW. It may not be necessary to remove all hydraulic hoses at one time.

- Tag hoses and connection points prior to removal.

- Remove plastic cable ties as required.

- Remove clamps and support brackets as required.

- Position drain pan to collect oil.
Figure 17-1. 11K Self-Recovery Winch (SRW) Hydraulic Hose Locations

Table 17-1. 11K Self-Recovery Winch (SRW) Hydraulic Hose Locations

<table>
<thead>
<tr>
<th>Hydraulic Hose Name</th>
<th>From</th>
<th>To</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump Suction Hose</td>
<td>Hydraulic tank fitting (1)</td>
<td>Hydraulic pump fitting (2)</td>
<td>207-229 lb-ft</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(281-311 N·m)</td>
</tr>
<tr>
<td>Pump Pressure Hose</td>
<td>Hydraulic pump fitting (3)</td>
<td>Control valve fitting (4)</td>
<td>107-120 lb-ft</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(145-163 N·m)</td>
</tr>
<tr>
<td>Rear Return Hose</td>
<td>Control valve fitting (5)</td>
<td>Bulkhead tee fitting (6)</td>
<td>107-120 lb-ft</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(145-163 N·m)</td>
</tr>
<tr>
<td>Control Valve Bypass Hose</td>
<td>Control valve fitting (7)</td>
<td>Bulkhead tee fitting (8)</td>
<td>107-120 lb-ft</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(145-163 N·m)</td>
</tr>
</tbody>
</table>
17-7. 11K SELF-RECOVERY WINCH (SRW) HOSE REPLACEMENT (CONT)

Figure 17-1. 11K Self-Recovery Winch (SRW) Hydraulic Hose Locations (Cont)

Table 17-1. 11K Self-Recovery Winch (SRW) Hydraulic Hose Locations (Cont)

<table>
<thead>
<tr>
<th>Hydraulic Hose Name</th>
<th>From</th>
<th>To</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate Return Hose</td>
<td>Bulkhead tee fitting (9)</td>
<td>Hydraulic oil filter fitting (10)</td>
<td>107-120 lb-ft (145-163 N·m)</td>
</tr>
<tr>
<td>Front Return Hose</td>
<td>Hydraulic oil filter fitting (11)</td>
<td>Hydraulic tank fitting (12)</td>
<td>107-120 lb-ft (143-163 N·m)</td>
</tr>
<tr>
<td>Front Winch Motor Hose</td>
<td>Control valve fitting (13)</td>
<td>11K SRW holding valve fitting (14)</td>
<td>107-120 lb-ft (143-163 N·m)</td>
</tr>
<tr>
<td>Rear Winch Motor Hose</td>
<td>Control valve fitting (15)</td>
<td>11K SRW holding valve fitting (16)</td>
<td>107-120 lb-ft (143-163 N·m)</td>
</tr>
</tbody>
</table>

b. Follow-On Maintenance.

(1) Fill hydraulic reservoir with oil [Appendix H].

(2) Check around hoses for oil leaks.

(3) Operate 11K SRW and check for oil leaks (TM 9-2320-365-10).

End of Task.
CHAPTER 18
BODY, CHASSIS, AND ACCESSORY ITEMS 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

18-1. INTRODUCTION

This chapter contains maintenance instructions for replacing the vehicle body, chassis, and accessory components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.
Section II. MAINTENANCE PROCEDURES

18-2. WINDSHIELD WASHER RESERVOIR AND PUMP 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)

Materials/Parts
Cleaning Compound, Windshield (Item 16, Appendix D)
Grommet, Nonmetallic (Item 47, Appendix G)

a. Removal.

(1) Turn screw (1) to the left to unlock cab step tread (2).

(2) Remove two nuts (3), washers (4), and screw (5) from cab step tread (2).

NOTE
Screw will remain attached to cab step.

(3) Remove cab step tread (2) from screw (6).

(4) Remove strap (7) from two brackets (8).

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

(6) Disconnect connector P125 (11) from windshield washer pump (12).
(7) Lift windshield washer reservoir (13) partially out of left cab step (14).

(8) Disconnect windshield washer supply tube (15) from windshield washer pump (12).

(9) Remove windshield washer reservoir (13) from left cab step (14).

(10) Remove cap (16) from windshield washer reservoir (13).

(11) Remove windshield washer pump (12) from windshield washer reservoir (13).

(12) Remove grommet (17) from windshield washer reservoir (13). Discard grommet.

b. Installation.

(1) Install grommet (1) in windshield washer reservoir (2).

(2) Install windshield washer pump (3) in windshield washer reservoir (2).

(3) Install cap (4) on windshield washer reservoir (2).
18-2. WINDSHIELD WASHER RESERVOIR AND PUMP REPLACEMENT (CONT)

(4) Connect windshield washer supply tube (5) to windshield washer pump (3).

(5) Install windshield washer reservoir (2) in left cab step (6).

(6) Connect connector P125 (7) to windshield washer pump (3).

(7) Connect connector J25 (8) to connector P25 (9).

(8) Connect strap (10) to two brackets (11).

(9) Position cab step tread (12) on screw (13).
(10) Install screw (14), two washers (15), and nuts (16) in cab step tread (12).

(11) Lock cab step tread (12) by turning screw (17) one half turn to the right.

c. Follow-On Maintenance.

(1) Fill windshield washer reservoir [TM 9-2320-365-10].

(2) Operate windshield washer and check for proper operation [TM 9-2320-365-10].

End of Task.
### 18-3. WINDSHIELD WIPER AND NOZZLE REPLACEMENT

This task covers:

- a. Removal
- b. Disassembly
- c. Assembly
- d. Installation
- e. Follow-On Maintenance

### INITIAL SETUP

**Equipment Conditions**

Engine shut down ([TM 9-2320-365-10](#)).

**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)

**Materials/Parts**

- Washer, Spring (Item 279, Appendix G)
- Wiper, Refill (Item 283, Appendix G)

---

**a. Removal.**

**NOTE**

All windshield wipers are removed the same way. Left side shown.

1. Disconnect windshield washer hose (1) from fitting (2).
2. Lift cover (3) at base of wiper arm (4).
3. Remove nut (5) and spring washer (6) from wiper arm shaft (7). Discard spring washer.

**NOTE**

Mark position of wiper arm prior to removal.

4. Remove wiper arm (4) from wiper arm shaft (7).
b. Disassembly.

(1) Depress clip (1) and separate wiper arm (2) and wiper blade (3).

(2) Remove clip (1) from wiper blade (3).

(3) Remove wiper (4) from wiper blade (3). Discard wiper.

(4) Lift up clip (5) and remove windshield washer nozzle (6) from wiper arm (2).

(5) Squeeze clip (7) and remove clip and windshield washer hose (8) from wiper arm (2).

c. Assembly.

(1) Install windshield wiper hose (1) and clip (2) on wiper arm (3).

(2) Install windshield washer nozzle (4) and clip (5) on wiper arm (3).
(3) Install wiper (6) on wiper blade (7).

(4) Install clip (8) on wiper blade (7).

(5) Install wiper blade (7) on wiper arm (3).

d. Installation.

NOTE

All windshield wipers are installed the same way. Left side shown.

(1) Position wiper arm (1) on wiper arm shaft (2).

(2) Lift cover (3) on wiper arm shaft (2).

(3) Position spring washer (4) and nut (5) on wiper arm shaft (2).

(4) Tighten nut (5) to 120-168 lb-in. (14-19 N·m).

(5) Snap cover (3) in place on wiper arm (1).

(6) Connect windshield washer hose (6) to fitting (7).

e. Follow-On Maintenance.

Operate windshield wipers and check for proper operation [TM 9-2320-365-10].

End of Task.
18-4. WINDSHIELD WIPER MOTOR 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).

Materials/Parts
Ties, Cable, Plastic (Item 76, Appendix D)
Nut, Self-Locking (Item 153, Appendix G)

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque 0-200 lb-in. (Item 58, Appendix C)
Wrench, Torque 0-175 lb-ft (Item 57, Appendix C)
Wrench Set, Socket (Item 49, 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) Disconnect connector PX22 (5) from wiper motor (6).

(5) Remove self-locking nut (7) and washer (8) from wiper motor (6). Discard self-locking nut.

NOTE
Note orientation of wiper arm prior to removal.

(6) Remove wiper arm (9) from wiper motor (6).
(7) Remove three screws (10), washers (11), wiper motor (6), and wiper motor bracket (12) from vehicle.

b. Installation.

(1) Position wiper motor (1) and wiper motor bracket (2) on vehicle with three washers (3) and screws (4).

(2) Tighten three screws (4) to 96-120 lb-in. (11-14 N·m).

NOTE
Use orientation noted from removal of wiper arm.

(3) Install wiper arm (5) on wiper motor (1) with washer (6) and self-locking nut (7).

NOTE
Install plastic cable ties as required.

(4) Connect connector PX22 (8) to wiper motor (1).
(5) Install PDP (9) on dashboard (10) with three screws (11).

(6) Install three washers (12) and screws (13) in PDP (9).

c. Follow-On Maintenance.

(1) Install PDP cover [para 16-2].

(2) Connect batteries (para 7-48).

(3) Check windshield wiper operation [TM 9-2320-365-10]

End of Task.
18-5. WINDSHIELD WIPER LINKAGE REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions

- Batteries disconnected (para 7-48).
- Windshield wipers and nozzles removed (para 18-3).
- PDP cover removed (para 16-2).
- Personnel heater removed (para 18-9).
- Instrument panel assembly removed for access (para 7-15).

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)

Material/Parts

- Washer, Flat Rubber (3) (Item 272, Appendix G)
- Nut, Self-Locking (6) (Item 116, Appendix G)
- Nut, Self-Locking (Item 153, Appendix G)

a. Removal.

(1) Remove three collars (1), nuts (2), washers (3), and rubber washers (4) from wiper shafts (5).

(2) Remove three screws (6) and washers (7) from PDP (8).

(3) Remove three screws (9) from PDP (8).

(4) Lift PDP (8) outward to gain access.
(5) Remove self-locking nut (10) and washer (11) from wiper motor (12). Discard self-locking nut.

(6) Remove windshield wiper linkage (13) from wiper motor (12).

NOTE

Perform steps (7) and (8) on all models except M1081.

(7) Remove six screws (14), washers (15), and defroster plenum (16) from dashboard (17).

(8) Remove six self-locking nuts (18), washers (19), and screws (20) from three linkage mounting brackets (21). Discard self-locking nuts.
18-5. WINDSHIELD WIPER LINKAGE REPLACEMENT (CONT)

NOTE

Perform step (9) on M1081.

(9) Remove six screws (22) from three linkage mounting brackets (21).

(10) Remove windshield wiper linkage (13) from dashboard (17).

(11) Remove three sleeve spacers (23) and linkage mounting brackets (21) from windshield wiper linkage (13).

b. Installation.

(1) Install three linkage mounting brackets (1) and sleeve spacers (2) on windshield wiper linkage (3).
(2) Position windshield wiper linkage (3) in dashboard (4).

**NOTE**

Perform steps (3) and (4) on model M1081.

(3) Position six screws (5) in three linkage mounting brackets (1).

(4) Tighten six screws (5) to 96-120 lb-in. (11-14 N·m).

**NOTE**

Perform steps (5) through (7) on all models except M1081.

(5) Position six screws (6), washers (5), and self-locking nuts (7) in three linkage mounting brackets (1).

(6) Tighten six self-locking nuts (7) to 96-120 lb-in. (11-14 N·m).

(7) Install defroster plenum (8) on dashboard (4) with six washers (9) and screws (10).
18-5. WINDSHIELD WIPER LINKAGE REPLACEMENT (CONT)

(8) Position windshield wiper linkage (3) to full left position.

NOTE

Wiper arm should be in a straight line with windshield wiper linkage prior to installing on wiper motor.

(9) Position wiper arm (11) on wiper motor (12) with washer (13) and self-locking nut (14).

(10) Tighten self-locking nut (14) to 20-26 lb-ft (27-35 N m).

(11) Install PDP (15) on dashboard (4) with three screws (16).

(12) Install three washers (17) and screws (18) in PDP (15).

(13) Install three rubber washers (19), washers (20), nuts (21), and collars (22) on wiper shafts (23).
c. Follow-On Maintenance.

(1) Install instrument panel assembly (para 7-15).

(2) Install personnel heater (para 18-9).

(3) Install PDP cover (para 16-2).

(4) Install windshield wipers and nozzles (para 18-3).

(5) Connect batteries (para 7-48).

(6) Check windshield wiper operation (TM 9-2320-365-10).

End of Task.
18-6. WINDSHIELD WASHER HOSES AND CONNECTOR REPLACEMENT

This task covers:

a. Removal
b. Installation

c. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Batteries disconnected (para 7-48).
Personnel heater removed (para 18-9).
Instrument panel assembly removed for access (para 7-15).

Material/Parts
Grommet, Nonmetallic (Item 46, Appendix G)
Lockwire (Item 32, Appendix D)

Personnel Required
(2)

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

a. Removal.

(1) Turn screw (1) to the left to unlock cab step tread (2).

(2) Open cab step tread (2).

(3) Remove strap (3) from two brackets (4).

(4)
(4) Lift windshield washer reservoir (5) partially out of left cab step (6).

(5) Disconnect hose (7) from windshield washer pump (8).

(6) Pull hose (7) out through hole at back of left cab step (6).

(7) Remove grommet (9) and hose (7) from cab step mount (10).

(8) Remove grommet (9) from hose (7). Discard grommet.

(9) Attach a length of lockwire to bottom end of hose (7).

NOTE

All three hoses and connectors are removed the same way. Center hose and connector shown.

(10) Disconnect three hoses (7) from three connectors (11).

NOTE

Step (11) requires the aid of an assistant.

(11) Remove three nuts (12) and connectors (11) from cab (13).

NOTE

Note routing of hoses prior to removal.

(12) Remove three hoses (7) from dashboard (14).
18-6. WINDSHIELD WASHER HOSES AND CONNECTOR REPLACEMENT (CONT)

(13) Remove bottom end of hose (7) from lockwire.

(14) Disconnect three hoses (7) from wye splitter (15).

(15) Disconnect three hoses (7) from check valve (16).

b. Installation.

(1) Connect three hoses (1) to check valve (2).

(2) Connect three hoses (1) to wye splitter (3).

NOTE
Steps (3) and (4) require the aid of an assistant.

(3) Route three hoses (1) through dashboard (4).

NOTE
All three connectors and hoses are installed the same way. Center connector and hose shown.

(4) Install three connectors (5) and nuts (6) in cab (7).

(5) Connect three hoses (1) to three connectors (5).
(6) Attach lockwire to bottom end of hose (1).

(7) Pull lockwire and hose (1) through hole at bottom corner of cab (7).

(8) Remove lockwire from hose (1).

(9) Install grommet (8) on hose (1).

(10) Route hose (1) through cab step mount (9).

(11) Install grommet (8) in cab step mount (9).

(12) Route hose (1) through hole at back of left cab step (10).

(13) Connect hose (1) to windshield washer pump (11).

(14) Install windshield washer reservoir (12) in left cab step (10).

(15) Connect strap (13) to two brackets (14).

(16) Close cab step tread (15).
(17) Turn screw (16) to the right to lock cab step tread (15).

c. Follow-On Maintenance.

(1) Install instrument panel assembly (para 7-15).

(2) Install personnel heater (para 18-9).

(3) Connect batteries (para 7-48).

(4) Check fluid level in windshield washer reservoir (TM 9-2320-365-10).

(5) Operate windshield washer and check for proper operation (TM 9-2320-365-10).

End of Task.
18-7. CAB MIRROR 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)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)
Screwdriver Attachment, Socket Wrench (Item 43, Appendix B)

Tools and Special Tools (Cont)

Materials/Parts
Nut, Self-Locking (2) (Item 148, Appendix G)
Nut, Self-Locking (2) (Item 128, Appendix G)

a. Removal.

NOTE
Left and right cab mirrors are removed the same way. Left side shown.

(1) Remove two self-locking nuts (1), washers (2), and mirror (3) from mirror arm (4). Discard self-locking nuts.

(2) Remove self-locking nut (5), washer (6), and screw (7) from upper bracket (8). Discard self-locking nut.
(3) Remove self-locking nut (9), washer (10), screw (11), mirror arm (4), and clip (12) from lower bracket (13). Discard self-locking nut.

(4) Remove four screws (14), washers (15), and brackets (8 and 13) from cab (16).

b. Installation.

NOTE
Left and right cab mirrors are installed the same way. Left side shown.

(1) Position brackets (1 and 2) on cab (3) with four washers (4) and screws (5).

(2) Tighten four screws (5) to 80-98 lb-in. (9-11 N·m).
(3) Position clip (6) and mirror arm (7) on lower bracket (1) with screw (8), washer (9), and self-locking nut (10).

(4) Position mirror arm (7) on upper bracket (2) with screw (11), washer (12), and self-locking nut (13).

(5) Tighten self-locking nuts (10 and 13) to 21-27 lb-ft (28-37 N·m).

(6) Position mirror (14) on mirror arm (7) with two washers (15) and self-locking nuts (16).

(7) Tighten two self-locking nuts (16) to 53-61 lb-in. (6-8 N·m).

End of Task.
# 18-8. DEFROST COVER REPLACEMENT

## This task covers:

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## INITIAL SETUP

### Equipment Conditions
- Engine shut down (TM 9-2320-365-10).
- M1081 cab roof removed (para 16-4).

### 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 34, Appendix C)

### Materials/Parts
- Seal, Urethane Foam (86.75 in. (220.3 cm)) (Item 256, Appendix G) (all models except M1081)
- Seal, Urethane Foam (102.25 in. (259.7 cm)) (Item 258, Appendix G) (all models except M1081)
- Seal, Urethane Foam (36.25 in. (92.1 cm)) (Item 257, Appendix G) (M1081)
- Seal, Urethane Foam (37.5 in. (95.2 cm)) (Item 256, Appendix G) (M1081)

### Personnel Required
- (2)

---

### a. Removal (All Models Except M1081).

1. Remove six screws (1), washers (2), and defrost cover (3) from dashboard (4).

2. Remove six clip nuts (5) from dashboard (4).

**NOTE**

Note position of seals prior to removal.

3. Remove seals (6 and 7) and two seals (8) from defrost cover (3). Discard seals.

4. Remove two seals (9) from defrost cover (3). Discard seals.

---

![Diagram of defrost cover replacement process]
b. Installation (All Models Except M1081).

(1) Cut two seals (1) to 2.5 in. (6.3 cm).

(2) Cut seal (2) to 86 3/4 in. (220.3 cm).

(3) Cut seal (3) to 86 3/4 in. (220.3 cm).

(4) Cut two seals (4) to 5.25 in. (13.3 cm).

(5) Install seals (2 and 3) and two seals (4) on defrost cover (5).

(6) Install six clip nuts (6) in dashboard (7).

(7) Position defrost cover (5) on vehicle with six washers (8) and screws (9).

(8) Tighten four screws (9) to 22-27 lb-in. (2-3 N·m).

c. M1081 Removal.

(1) Release two latches (1) and fold down windshield frame (2).
NOTE

Left and right defrost covers are removed the same way. Left defrost cover shown.

(2) Remove four screws (3), washers (4), and defrost cover (5) from windshield frame (2).

(3) Remove seal (6) from defrost cover (5). Discard seal.

(4) Remove seal (7) from defrost cover (5). Discard seal.

(5) Remove seal (8) from defrost cover (5). Discard seal.

d. M1081 Installation.

NOTE

Left and right defrost covers are installed the same way. Left defrost cover shown.

(1) Cut seal (1) to 1 3/4 in. (4.5 cm).

(2) Install seal (1) on defrost cover (2).
(3) Cut seal (3) to 71 in. (180.1 cm).

(4) Cut seal (4) to 75 in. (190.1 cm).

(5) Install seals (3 and 4) on defrost cover (2).

(6) Install defrost cover (2) on windshield frame (5) with four washers (6) and screws (7).

(7) Fold up windshield frame (5) and fasten two latches (8).

e. Follow-On Maintenance.

Install M1081 cab roof [para 16-4].

End of Task.
18-9. PERSONNEL HEATER REPLACEMENT/REPAIR

This task covers:

a. Removal
b. Disassembly
c. Cleaning/Inspection
d. Assembly
e. Installation
f. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
CTIS ECU removed (para 12-6).
Auxiliary panel removed, if equipped (para 7-8).
Kick panel removed (para 16-3).

Tools and Special Tools
Pan, Drain (Item 24, Appendix C)
Goggles, Industrial (Item 15, Appendix C)
Gloves, Rubber (Item 13, 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)
Socket Set, Socket Wrench (Item 35, Appendix C)
Tool Kit, Blind Rivet (Item 43, Appendix C)
Drill, Portable, Electric (Item 7, Appendix C)
Drill Set, Twist (Item 6, Appendix C)

Materials/Parts
Cap and Plug Set (Item 15, Appendix D)
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Ties, Cable, Plastic (Item 76, Appendix D)
Strap, Tiedown, Electrical Components (Item 71.1, Appendix D)

NOTE
Perform steps (1) through (25) to remove personnel heater for access.

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) Position drain pan under radiator draincock (1).

(2) Open radiator draincock (1) and drain approximately 15-20 qt (14-19 L) of coolant from radiator (2).

(3) Close radiator draincock (1).
(4) Remove two screws (3) and washers (4) from front grille (5).

(5) Remove screw (6) and washer (7) from front grille (5).

(6) Remove front grille (5) from cab (8).

(7) Loosen two clamps (9) on heater outlet hose (10) and heater inlet hose (11).

**NOTE**

Tag heater hoses prior to disconnecting.

(8) Disconnect heater outlet hose (10) and heater inlet hose (11) from return fitting (12) and supply fitting (13).

(9) Remove two clamps (9) from heater outlet hose (10) and heater inlet hose (11).
(10) Raise cab (TM 9-2320-365-10).

(11) Remove eight screws (14) and washers (15) from cab floor (16).

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

NOTE

Remove plastic cable ties as required.

(13) Remove personnel heater air duct (17) from personnel heater (18).

(14) Remove personnel heater air duct (19) from personnel heater (18).
(15) Remove two roll pins (20) and knobs (21 and 22) from SYSTEM PARK valve (23) and TRAILER AIR SUPPLY valve (24).

(16) Remove two nuts (25) from SYSTEM PARK valve (23) and TRAILER AIR SUPPLY valve (24).

(17) Remove six screws (26) and valve panel (27) from personnel heater (18).

NOTE
Perform step (18) on vehicles equipped with auxiliary panel.

(18) Remove auxiliary panel cable assembly (28) from personnel heater (18).
(19) Route CTIS ECU cable P110 (29) in through hole in side of personnel heater (18).

(20) Pull personnel heater (18) out enough to access personnel heater connector (30).

(21) Remove connector clamp (31) from personnel heater connector (30).

(22) Disconnect personnel heater connector (30) from connector PX25 (32).

**NOTE**

Tag personnel heater hoses and grommet opening in cab floor.

(23) Remove personnel heater (18) and hoses (10 and 11) from vehicle.
b. Disassembly.

(1) Loosen two set screws (1) in fan switch knob (2).

(2) Remove fan switch knob (2) from fan switch (3).

NOTE

Perform steps (3) and (5) on vehicle serial numbers 0001 through 3696 equipped with original personnel heaters.

(3) Loosen three self-locking nuts (4) on knobs (5, 6, and 7).

(4) Remove knobs (5, 6, and 7) from HEAT control cable (8), VENT control cable (9), and DEFR control cable (10).

(5) Remove three self-locking nuts (4) from HEAT control cable (8), VENT control cable (9), and DEFR control cable (10). Discard self-locking nuts.

(6) Remove six screws (11) and control panel (12) from personnel heater (13).
18-9. PERSONNEL HEATER REPLACEMENT/REPAIR (CONT)

NOTE

Perform step (7) on vehicles equipped with personnel heater control guard.

(7) Remove four screws (14), washers (15), and personnel heater control guard (16) from personnel heater (17).

NOTE

Perform step (8) on vehicles not equipped with personnel heater control guard.

(8) Remove four screws (18) from personnel heater (17). Discard screws.

(9) Remove seven screws (18) and cover (19) from personnel heater (17).

CAUTION

Use care when releasing four retaining clips on each louver and removing louvers from cover. Failure to comply may result in damage to equipment.

NOTE

Note position of louvers prior to removal.

(10) Remove three louvers (20) from cover (19).
CAUTION

Cap or plug hoses and personnel heater coil to prevent contamination of cooling system. Failure to comply may result in damage to equipment.

NOTE

- Tag hoses prior to disconnecting.
- Remove plastic cable ties as required.

11) Loosen clamps (21 and 22) on hoses (23 and 24).

12) Disconnect hoses (23 and 24) from personnel heater coil (25).

13) Remove clamps (21 and 22) from hoses (23 and 24).

14) Remove personnel heater coil (25) from personnel heater (17).

15) Remove seal (26) from personnel heater coil (25).

16) Remove hose (24) from personnel heater (17).

17) Loosen clamp (27) on hose (23).

18) Disconnect hose (23) from valve (28).

19) Remove clamp (27) from hose (23).
(20) Remove push nut (29) from valve shaft (30).

(21) Match mark valve shaft (30) to valve (28).

(22) Remove screw (31) and cable clamp (32) from valve (28).

(23) Remove HEAT control cable (8) from valve shaft (30).

(24) Remove valve (28) and hose (33) from personnel heater (17).

(25) Loosen clamp (34) on hose (33).

(26) Disconnect hose (33) from valve (28).

(27) Remove clamp (34) from hose (33).
(28) Remove locking nut (35) from HEAT control cable (8).

**NOTE**

Tag cables prior to removal.

(29) Remove HEAT control cable (8) from control plate (36).

(30) Remove locking nut (37) from VENT control cable (9).

(31) Remove VENT control cable (9) from control plate (36).

(32) Remove locking nut (38) from DEFR control cable (10).

(33) Remove DEFR control cable (10) from control plate (36).

(34) Remove two lamp sockets (39) from control plate (36).

(35) Remove two lamps (40) from lamp sockets (39).
NOTE
Tag connectors and connection points prior to disconnecting.

(36) Disconnect connectors (41 and 42) from fan switch (3).

(37) Remove locking nut (43) and fan switch (3) from control plate (36).

(38) Disconnect connectors (44 and 45) from electrical harness (46).

(39) Remove blower (47) from personnel heater (17).

(40) Remove two screws (48) and control plate (36) from blower plate (49).

(41) Remove six screws (50), self-locking nuts (51), and blower plate (49) from blower motor (52). Discard self-locking nuts.

(42) Remove seal (53) from blower plate (49). Discard seal.

(43) Remove seal (54) from blower plate (49). Discard seal.
(44) Remove two grommets (55) from personnel heater (17).
(45) Loosen clamps (56 and 57) on duct (58).
(46) Disconnect duct (58) from personnel heater (17).
(47) Remove clamps (56 and 57) from duct (58).
(48) Remove grommet (59) from personnel heater (17).

NOTE
Perform steps (49) and (50) on vehicles not equipped with auxiliary panel.

(49) Remove plug (60) from personnel heater (17).
(50) Remove decal (61) from personnel heater (17). Discard decal.

(51) Remove seven rivets (62) and cover (63) from personnel heater (17).
(52) Remove push nut (64) from vent door shaft (65).
(53) Remove screw (66) and cable clamp (67) from bracket (68).
(54) Remove VENT control cable (9) from vent door shaft (65).
(55) Remove VENT control cable (9) from personnel heater (17).
(56) Remove cable clamp (67) from VENT control cable (9).
(57) Remove push nut (69) from defrost door shaft (70).

(58) Remove screw (71) and cable clamp (72) from bracket (73).

(59) Remove DEFR control cable (10) from defrost door shaft (70).

(60) Remove DEFR control cable (10) from personnel heater (17).

(61) Remove cable clamp (72) from DEFR control cable (10).

(62) Remove grommet (74) from personnel heater (17).

(63) Remove two push nuts (75) from shafts (76).

(64) Remove two shafts (76) and air seals (77) from personnel heater (17).
(65) Remove cable stay (78) from electrical harness (44).

(66) Remove grommet (79) and electrical harness (44) from personnel heater (17).

(67) Remove five rivets (80) and left case (81) from personnel heater (17).

(68) Remove gaskets (82 and 83) from personnel heater (17). Discard gaskets.

(69) Remove gaskets (84) from defrost door (85). Discard gaskets.

(70) Remove gaskets (86) from personnel heater (17). Discard gaskets.
(71) Remove seal (87) from personnel heater (17).

(72) Remove seal (88) from personnel heater (17).
c. Cleaning/Inspection.

**WARNING**

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

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

(1) Clean metal parts with dry cleaning solvent.

**NOTE**

Replace any part that fails visual inspection.

(2) Inspect all parts for visible cracks or damage.

**NOTE**

Perform step (3) if personnel heater coil is to be reused.

(3) Clean personnel heater coil (1) with soap and water.

**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.

(4) Dry personnel heater coil (1) with compressed air.
d. Assembly

**CAUTION**

Seals used on the personnel heater have double-sided tape attached. Use care when installing these seals. Failure to comply may result in damage to equipment.

(1) Install seal (1) on personnel heater (2).

(2) Install seal (3) on personnel heater (2).

(3) Install gasket (4) on personnel heater (2).

(4) Install gasket (5) on defrost door (6).

(5) Install gaskets (7 and 8) on personnel heater (2).
(6) Install left case (9) on personnel heater (2) with five rivets (10).

(7) Install electrical harness (11) and grommet (12) in personnel heater (2).

(8) Install cable stay (13) on electrical harness (11).

(9) Position two air seals (14) on shafts (15) in personnel heater (2).

(10) Install two push nuts (16) on shafts (15).
(11) Install grommet (17) in personnel heater (2).

(12) Position cable clamp (18) on DEFR control cable (19).

(13) Position DEFR control cable (19) in personnel heater (2).

(14) Position DEFR control cable (19) on defrost door shaft (20).

(15) Install cable clamp (18) on bracket (21) with screw (22).

(16) Install push nut (23) on defrost shaft (20).

(17) Position cable clamp (24) on VENT control cable (25).

(18) Position VENT control cable (25) in personnel heater (2).

(19) Position VENT control cable (25) on vent door shaft (26).

(20) Install cable clamp (24) on bracket (27) with screw (28).

(21) Install push nut (29) on vent door shaft (26).

(22) Install cover (30) on personnel heater (2) with seven rivets (31).
NOTE

Perform steps (23) and (24) on vehicles not equipped with auxiliary panel.

(23) Install decal (32) on personnel heater (2).

(24) Install plug (33) in personnel heater (2).

(25) Install grommet (34) in personnel heater (2).

(26) Install duct (35) on personnel heater (2) with clamps (36 and 37).

(27) Install two grommets (38) in personnel heater (2).

(28) Install seal (39) on blower plate (40).

(29) Install seal (41) on blower plate (40).

(30) Install blower plate (40) on blower (42) with six screws (43) and self-locking nuts (44).

(31) Install control plate (45) on blower plate (40) with two screws (46).
(32) Position blower (42) in personnel heater (2).

(33) Connect connectors (47 and 48) to electrical harness (11).

(34) Install fan switch (49) on control plate (45) with locking nut (50).

(35) Connect connectors (51 and 52) to fan switch (49).

(36) Install two lamps (53) in lamp sockets (54).

(37) Install two lamp sockets (54) on control plate (45).
CAUTION

Secure all wiring with tie wraps to prevent contact with fan switch coils. Failure to comply may result in damage to equipment.

(38) Position DEFR control cable (19) on control plate (45).
(39) Install locking nut (55) on DEFR control cable (19).
(40) Position VENT control cable (25) on control plate (45).
(41) Install locking nut (56) on VENT control cable (25).
(42) Position HEAT control cable (57) on control plate (45).
(43) Install locking nut (58) on HEAT control cable (57).

(44) Position clamp (59) on hose (60).
(45) Connect hose (60) to valve (61).
(46) Tighten clamp (59) to 35-45 lb-in. (4-5 N·m).

(47) Position hose (60) and valve (61) in personnel heater (2).
(48) Position HEAT control cable (57) on valve shaft (62) with matchmarks aligned.

(49) Install cable clamp (63) on valve (61) with screw (64).

(50) Install push nut (65) on valve shaft (62).

(51) Position clamp (66) on hose (67).

(52) Connect hose (67) to valve (61).

(53) Tighten clamp (66) to 35-45 lb-in. (4-5 N·m).

(54) Position hose (68) in personnel heater (2).

(55) Install seal (69) on personnel heater coil (70).

(56) Position personnel heater coil (70) in personnel heater (2).

(57) Position clamps (71 and 72) on hoses (67 and 68).

(58) Connect hoses (67 and 68) to personnel heater coil (70).

(59) Tighten clamps (71 and 72) to 35-45 lb-in. (4-5 N·m).
(60) Install three louvers (73) on cover (74).

(61) Install cover (74) on personnel heater (2) with seven screws (75).

(62) Position personnel heater control guard (76) on cover (74) with four washers (77) and screws (78).

(63) Tighten four screws (78) to 39-59 lb-in. (4-7 N·m).

(64) Install control panel (79) on personnel heater (2) with six screws (80).

NOTE

Perform steps (65) and (67) on vehicle serial numbers 0001 through 3696 equipped with original personnel heaters.

(65) Position three self-locking nuts (81) on DEFR control cable (19), VENT control cable (25), and HEAT control cable (57).

(66) Install knobs (82, 83, and 84) on DEFR control cable (19), VENT control cable (25), and HEAT control cable (57).

(67) Tighten three self-locking nuts (81) on knobs (82, 83, and 84).
(68) Position fan switch knob (85) on fan switch (49).

(69) Tighten two set screws (86) on fan switch knob (85).

e. Installation.

NOTE
Install plastic cable ties as required.

(1) Position personnel heater (1) in vehicle.

(2) Position heater outlet hose (2) and heater inlet hose (3) through cab floor (4).

(3) Connect connector PX25 (5) to personnel heater connector (6).

(4) Install connector clamp (7) on personnel heater connector (6).

(5) Position personnel heater (1) in mounting position.
(6) Position CTIS ECU cable P110 (8) in personnel heater (1).

(7) Position auxiliary panel cable assembly (9) through personnel heater (1).

NOTE
Perform step (7) on vehicles equipped with auxiliary panel.

(8) Install valve panel (10) on personnel heater (1) with six screws (11).

(9) Install self-locking nuts (12) on TRAILER AIR SUPPLY valve (13) and SYSTEM PARK valve (14).
(10) Install knobs (15 and 16) on TRAILER AIR SUPPLY valve (13) and SYSTEM PARK valve (14) with roll pins (17).

(11) Install personnel heater air duct (18) on personnel heater (1).

**WARNING**

Ensure heater air duct does not interfere with the operation of the accelerator or brake pedal. Failure to comply may result in serious injury or death to personnel.

(12) Install personnel heater air duct (19) on personnel heater (1).
(13) Raise cab (TM 9-2320-365-10).

(14) Position eight washers (20) and screws (21) in cab floor (4).

(15) Tighten eight screws (21) to 14-18 lb-ft (19-24 N-m).

(16) Lower cab (TM 9-2320-365-10)

(17) Loosen two screws (22) in clamps (23) as far as possible without disengaging screws from D-nuts (24).

(18) Unhook clamp tabs (25) from tab windows (26).
CAUTION

Ensure clamp tongue is started in clamp groove. Failure to comply may result in damage to equipment.

(19) Position clamp (23) on heater outlet hose (2).

(20) Position clamp (23) on heater inlet hose (3).

NOTE

Heater outlet hose is marked with an arrow pointing down.

(21) Position heater outlet hose (2) on return fitting (27).

NOTE

Heater inlet hose is marked with an arrow pointing up.

(22) Position heater inlet hose (3) on supply fitting (28).

(23) Engage as many clamp tabs (25) as possible in tab windows (26) allowing little or no play between clamps (23) and heater outlet hose (2) and heater inlet hose (3).

(24) Tighten two clamps (23) to 12-18 lb-in. (1-2 N-m).

NOTE

Minimum allowable gap between ends of clamp is 0.2 in. (0.5 cm). If gap is less than 0.2 in. (0.5 cm), remove and re-install clamp.

(25) Measure gap between ends of two clamps (23).
(26) Position front grille (29) on cab (30) with washer (31) and screw (32).

(27) Position two washers (33) and screws (34) in front grille (29).

(28) Tighten screw (32) to 48-60 lb-in. (5-7 N·m).

(29) Tighten two screws (34) to 24 lb-in. (3 N·m).


(1) Install kick panel [para 16-3].

(2) Install auxiliary panel (para 7-8), if equipped.

(3) Install CTIS ECU (para 12-6).

(4) Start engine and check for leaks [TM 9-2320-365-10].

(5) Add coolant as required [TM 9-2320-365-10].

(6) Operate personnel heater, checking for proper operation and for coolant leaks [TM 9-2320-365-10].

(7) Shut down engine [TM 9-2320-365-10].

End of Task.
18-10. HEATER FAN CONTROL SWITCH REPLACEMENT

This task covers:

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

INITIAL SETUP

Equipment Conditions
Batteries disconnected (para 7-48).
CTIS ECU removed (para 12-6).

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

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Nut, Self-Locking (3) (vehicle serial numbers 0001 through 3696 equipped with original personnel heaters) (Item 156, Appendix G)

a. Removal.

(1) Loosen two setscrews (1) in heater fan control switch knob (2).

(2) Remove heater fan control switch knob (2) from heater fan control switch (3).

NOTE
Perform steps (3) and (5) on vehicle serial numbers 0001 through 3696 equipped with original personnel heaters.

(3) Loosen three self-locking nuts (4) on knobs (5, 6, and 7).

(4) Remove knobs (5, 6, and 7) from HEAT control cable (8), VENT control cable (9), and DEFR control cable (10).

(5) Remove three self-locking nuts (4) from HEAT control cable (8), VENT control cable (9), and DEFR control cable (10). Discard self-locking nuts.
(6) Remove six screws (11) and control panel (12) from personnel heater (13).

(7) Remove 12 screws (14) and cover (15) from personnel heater (13).

(8) Remove nut (16) and heater fan control switch (3) from personnel heater (13).

**NOTE**

Tag connectors and connection points prior to disconnecting.

(9) Disconnect two connectors 1601 (17) from heater fan control switch (3).
b. Installation.

(1) Connect two connectors 1601 (1) to heater fan control switch (2).

(2) Install heater fan control switch (2) in personnel heater (3) with nut (4).

(3) Install cover (5) on personnel heater (3) with 12 screws (6).

(4) Install control panel (7) on cover (5) with 12 screws (8).
NOTE

Perform steps (5) and (7) on vehicle serial numbers 0001 through 3696 equipped with original personnel heaters.

(5) Position three self-locking nuts (9) on DEFR control cable (10), VENT control cable (11), and HEAT control cable (12).

(6) Install knobs (13, 14, and 15) on DEFR control cable (10), VENT control cable (11), and HEAT control cable (12).

(7) Tighten three self-locking nuts (9) on knobs (13, 14, and 15).

(8) Position heater fan control switch knob (16) on heater fan control switch (2).

(9) Tighten two setscrews (17) in heater fan control switch knob (16).

c. Follow-On Maintenance.

(1) Install CTIS ECU (para 12-6).

(2) Connect batteries (para 7-48).

(3) Check heater fan operation [TM 9-2320-365-10]  

End of Task.
18-11. PERSONNEL HEATER CONTROL GUARD 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 34, Appendix C)

a. Removal.

Remove four screws (1), washers (2), and personnel heater control guard (3) from personnel heater (4).

b. Installation

NOTE
Perform step (1) on vehicles not equipped with personnel heater guard.

(1) Remove four screws (1) from personnel heater (2). Discard screws.
(2) Position personnel heater control guard (3) on personnel heater (2) with four washers (4) and screws (5).

(3) Tighten screws (5) to 39-59 lb-in. (5-7 N·m).

End of Task.
18-12. COLD WEATHER RADIATOR COVER INSTALLATION/REMOVAL

This task covers:

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

INITIAL SETUP

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<td>Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)</td>
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a. Installation.

**CAUTION**

Install cold weather radiator cover when outside temperature is below 40°F (4°C). Cold weather radiator cover must remain on vehicle in outside temperatures of -26°F to -50°F (-32°C to -46°C). Failure to comply may result in damage to equipment.

**NOTE**

Left and right sides of cold weather radiator cover are installed the same way. Left side shown.

(1) Remove two screws (1) from charge air cooler (2).
(2) Remove two screws (3) and washers (4) from bottom corners of radiator (5).

(3) Position cold weather radiator cover (6) over charge air cooler (2) with two screws (1).

(4) Tighten two screws (1) to 21-26 lb-ft (28-35 N·m).
(5) Position cold weather radiator cover (6) over radiator (5) with two straps (7), washers (4), and screws (3).

(6) Tighten two screws (3) to 21-26 lb-ft (28-35 N·m).

(7) Tighten two straps (7) until all slack is removed from cold weather radiator cover (6).

(8) Perform steps (1) through (7) on right side of cold weather radiator cover.

b. Removal.

Cold weather radiator cover should be removed when outside temperature is above 40°F (4°C). Cold weather radiator cover may be removed any time outside temperature is above 32°F (0°C), and must be removed before outside temperature reaches 70°F (21°C). Failure to comply may result in damage to equipment.

NOTE
Left and right sides of cold weather radiator cover are removed the same way. Left side shown.

(1) Loosen two straps (1) on cold weather radiator cover (2).

(2) Remove two screws (3), washers (4), and cold weather radiator cover (2) from bottom corners of radiator (5).

(3) Position two washers (4) and screws (3) in radiator (5).

(4) Tighten two screws (3) to 21-26 lb-ft (28-35 N·m).
(5) Remove two screws (6) and cold weather radiator cover (2) from charge air cooler (7).

(6) Position two screws (6) in charge air cooler (7).

(7) Tighten two screws (6) to 21-26 lb-ft (28-35 N-m).

(8) Perform steps (1) through (7) on right side of cold weather radiator cover.

c. **Follow-On Maintenance.**

   Lower cab [TM 9-2320-365-10].

**End of Task.**
CHAPTER 19
HYDRAULIC 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.

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Section I. INTRODUCTION

19-1. INTRODUCTION

This chapter contains maintenance instructions for replacing, repairing, and servicing hydraulic system components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.
Section II. MAINTENANCE PROCEDURES

19-2. BACK-UP HYDRAULIC PUMP 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)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Gloves, Rubber (Item 13, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts
Cap and Plug Set (Item 15, Appendix D)
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Packing, Preformed (2) (Item 166, Appendix G)
Hydraulic Fluid A (Item 26, Appendix D)

a. Removal.

(1) Remove two screws (1), washers (2), and cover (3) from back-up hydraulic pump (4).

**WARNING**

Hydraulic fluid (MIL-L-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.

**CAUTION**

Cap or plug hydraulic hoses and connection points to prevent contamination of hydraulic system. Failure to comply may result in damage to equipment.

**NOTE**

Tag hoses and connection points prior to disconnecting.

(2) Disconnect two hydraulic hoses (5) from 90-degree fittings (6).
(3) Remove two screws (7), washers (8), and back-up hydraulic pump (4) from tool box (9).

(4) Remove two 90-degree fittings (6) from back-up hydraulic pump (4).

(5) Remove two preformed packings (10) from 90-degree fittings (6). Discard preformed packings.

b. Installation.

(1) Install two preformed packings (1) on 90-degree fittings (2).

(2) Install two 90-degree fittings (2) in back-up hydraulic pump (3).
(3) Position back-up hydraulic pump (3) on tool box (4) with two washers (5) and screws (6).

(4) Install two hydraulic hoses (7) on 90-degree fittings (2).

(5) Position cover (8) on back-up hydraulic pump (3) with two washers (9) and screws (10).

(6) Tighten screws (6 and 10) to 18-28 lb-ft (24-38 N·m).

c. Follow-On Maintenance.

Fill air transportability hydraulic system [Appendix H].

End of Task.
19-3. AIR/HYDRAULIC POWER UNIT AND BRACKET REPLACEMENT/REPAIR

This task covers:

a. Air/Hydraulic Power Unit Removal
b. Air/Hydraulic Power Unit Disassembly
c. Air/Hydraulic Power Unit Cleaning/Inspection
d. Air/Hydraulic Power Unit Assembly
e. Air/Hydraulic Power Unit Installation
f. Bracket Removal
g. Bracket Installation
h. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions

Engine shut down (TM 9-2320-365-10).
Spare tire lowered (TM 9-2320-365-10).
M13 decontamination unit removed, if equipped (TM 3-4230-214-12&P).
Air springs deflated (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)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Wrench Set, Socket (Item 47, Appendix C)
Pan, Drain (Item 24, Appendix C)
Gloves, Rubber (Item 13, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts

Cap and Plug Set (Item 15, Appendix D)
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Antiseize Compound (Item 63, Appendix D)
Washer, Spring (4) (Item 279, Appendix G)
Packing, Preformed (2) (Item 166, Appendix G)
Nut, Self-Locking (4) (Item 149, Appendix G)
Hydraulic Fluid A (Item 26, Appendix D)

Materials/Parts (Cont)

Gasket (Item 32, Appendix G)
Packing, Preformed (2) (Item 168.1, Appendix G)
Packing, Preformed (Item 184.1, Appendix G)
Packing, Preformed (Item 174.2, Appendix G)
Gasket (Item 26.1, Appendix G)
Washer, Flat (2) (Item 271.1, Appendix G)
Lockwasher (3) (101.2, Appendix G)
Packing, Preformed (174.1, Appendix G)
Packing, Preformed (2) (171.2, Appendix G)
Retainer, Packing (2) (213.2, Appendix G)
Retainer, Packing (2) (213.3, Appendix G)
Rag, Wiping (Item 51, Appendix D)

References

TM 3-4230-214-12&P
a. Air/Hydraulic Power Unit Removal.

(1) Remove two nuts (1), four washers (2), and two screws (3) from decontamination unit mounting bracket (4).

(2) Remove two screws (5), washers (6), and decontamination unit mounting bracket (4) from air/hydraulic unit mounting bracket (7).

(3) Remove four self-locking nuts (8) and screws (9) from decontamination unit mounting bracket (4). Discard self-locking nuts.

(4) Disconnect air hose (10) from fitting (11).

(5) Remove fitting (11) from air/hydraulic power unit (12).
WARNING

Hydraulic fluid (MIL-H-5606A) 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.

CAUTION

Cap or plug hydraulic hoses and connection points to prevent contamination to hydraulic system. Failure to comply may result in damage to equipment.

NOTE

Tag hoses and connection points prior to disconnecting.

(6) Disconnect two hydraulic hoses (13) from fittings (14).

(7) Remove two fittings (14) from air/hydraulic power unit (12).

(8) Remove two preformed packings (15) from fittings (14). Discard preformed packings.

(9) Remove four screws (16), spring washers (17), washers (18) and air/hydraulic power unit (12) from air/hydraulic power unit mounting bracket (7). Discard spring washers.
b. Air/Hydraulic Power Unit Disassembly.

**WARNING**

Hydraulic fluid (MIL-L-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. Failure to comply may result in injury to personnel.

1. Remove dipstick (1) from manifold body (2).
2. Remove two fittings (3) from manifold body (2).
3. Remove two preformed packings (4) from fittings (3). Discard preformed packings.
4. Remove pressure plug (5) from manifold body (2).
5. Remove 90-degree fitting (6) from air intake body (7).
6. Remove muffler (8) from manifold body (2).
7. Remove six screws (9), cover (10), and gasket (11) from reservoir (12). Discard gasket.
8. Drain oil from reservoir (12).
9. Remove two screws (13), air intake body (7), and preformed packing (14) from cover (10). Discard preformed packing.
10. Remove plug (15) from air intake body (7).
(11) Remove pipe (16) from cover (10).

(12) Remove screw (17) and washer (18) from cover (10).

(13) Remove four screws (19), manifold body (2), two preformed packings (20), and cover (10) from pump (21). Discard preformed packings.

(14) Remove two preformed packings (22) and gasket (23) from pump (21). Discard preformed packings and gasket.

(15) Remove relief valve (24) from pump (21).

(16) Remove filter adapter (25), washer (26), and bearing (27) from pump (21).

(17) Remove retaining ring (28) and filter (29) from filter adapter (25).

(18) Remove screw (30) and washer (31) from pump (21).
WARNING

Use care when removing screws. Pump is under spring tension. Failure to comply may result in injury to personnel.

(19) Remove four screws (32), cover (33), air cylinder (34), and spring (35) from pump (21).

(20) Remove guide (36), bumper (37), and washer (38) from spring (35).

(21) Remove screw (39), spring (40), and preformed packing (41) from cover (33). Discard preformed packing.

(22) Remove piston (42) from air cylinder (34).

(23) Remove two preformed packings (43) from piston (42). Discard preformed packings.

(24) Remove three screws (44), lockwashers (45), piston end plate (46), spring (47), and gasket (48) from piston (42). Discard lockwashers and gasket.

(25) Remove retainer (49) and piston poppet (50) from piston end plate (46).

(26) Remove preformed packing (51) from piston poppet (50). Discard preformed packing.
(27) Remove check valve retainer (52), spring (53), guide (54), and bearing (55) from pump (21).

(28) Remove preformed packing (56) from check valve retainer (52). Discard preformed packing.

(29) Remove bushing (57) from pump (21).

(30) Remove two preformed packings (58) and backup rings (59) from bushing (57). Discard preformed packings and bushing rings.

(31) Remove preformed packing (60) from pump (21). Discard preformed packing.

(32) Remove cylinder (61) and washer (62) from pump (21).

**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.

(33) Remove retaining ring (63), retainer (64), and preformed packing (65) from cylinder (61). Discard preformed packing.
c. Air/Hydraulic Power Unit 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 of 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 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 serious injury or death to personnel.

1. Clean all metal parts and filter thoroughly with dry cleaning solvent.

   **NOTE**

   Replace any part that fails visual inspection.

2. Inspect all parts for visible cracks or damage.

3. Inspect filter for clogged or punctured screen.

d. Air/Hydraulic Power Unit Assembly.

**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.

1. Install preformed packing (1) and retainer (2) in cylinder (3) with retaining ring (4).

2. Position cylinder (3) and washer (5) in pump (6).

3. Tighten cylinder (3) to 90-100 lb-ft (122-136 N·m).

4. Position preformed packing (7) on pump (6).
(5) Install two backup rings (8) and preformed packings (9) on bushing (10).

(6) Install bushing (10) in pump (6).

(7) Install preformed packing (11) on check valve retainer (12).

(8) Install bearing (13), guide (14), and spring (15) in pump (6) with check valve retainer (12).

(9) Install preformed packing (16) on piston poppet (17).

(10) Install piston poppet (17) in end plate (18) with retainer (19).

(11) Position spring (20), gasket (21), and piston end plate (18) in piston (22) with three lockwashers (23) and screws (24).

(12) Tighten three screws (24) to 50-55 lb-in. (6-7 N·m).
(13) Install two preformed packings (25) on piston (22).

(14) Position piston (22) in air cylinder (26).

(15) Position preformed packing (27) and spring (28) in cover (29) with screw (30).

(16) Tighten screw (30) to 12-18 lb-in. (1-2 N·m).

WARNING

Use care when installing screws, pump is under spring tension. Failure to comply may result in injury to personnel.

NOTE

Locate groove in air cylinder assembly on upper half of pump assembly with chambered end toward rear head.

(17) Install bumper (31), washer (32), and spring (33) on guide (34).

(18) Position spring (33), air cylinder (26), and cover (29) on pump (6) with four screws (35).

(19) Tighten four screws (35) to 85-95 lb-in. (10-11 N·m) in sequence shown.
(20) Position washer (36) and screw (37) in pump (6).

(21) Tighten screw (37) to 90-110 lb-in. (10-12 N·m).

(22) Install filter (38) in filter adapter (39) with retaining ring (40).

(23) Position bearing (41), washer (42), and filter (39) in pump (6).

(24) Tighten filter adapter (39) to 40-50 lb-ft (54-68 N·m).

(25) Install relief valve (43) in pump (6).

(26) Position gasket (44) and two preformed packings (45) on pump (6).

(27) Position cover (46), two preformed packings (47), and manifold body (48) on pump (6) with four screws (49).

(28) Tighten four screws (49) to 50-60 lb-in. (6-7 N·m).

(29) Position washer (50) and screw (51) in cover (46).

(30) Tighten screw (51) to 90-110 lb-in. (10-12 N·m).

(31) Install pipe (52) in cover (46).
(32) Install plug (53) in air intake body (54).

(33) Position preformed packing (55), and air intake body (54) on pump (6) with two screws (56).

(34) Tighten two screws (56) to 50-60 lb-in. (6-7 N·m).

(35) Fill reservoir (57) with oil.

(36) Install gasket (58) and pump (6) on reservoir (57) with six screws (59).

(37) Install muffler (60) on manifold body (48).

(38) Install 90-degree fitting (61) in air intake body (54).

(39) Install pressure plug (62) in manifold body (48).

(40) Install two preformed packings (63) on fittings (64).

(41) Install two fittings (64) in manifold body (48).

(42) Install dipstick (65) in manifold body (48).
e. Air/Hydraulic Power Unit Installation.

(1) Position air/hydraulic power unit (1) on air/hydraulic unit mounting bracket (2) with four washers (3), spring washers (4), and screws (5).

(2) Tighten four screws (5) to 18-22 lb-ft (24-30 N·m).

(3) Install two preformed packings (6) on fittings (7).

(4) Install two fittings (7) in air/hydraulic power unit (1).

(5) Connect two hydraulic hoses (8) to fittings (7).

**WARNING**

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

(6) Apply antiseize compound to threads of fitting (9).

(7) Install fitting (9) in air/hydraulic power unit (1).

(8) Connect air hose (10) to fitting (9).
19-3. AIR/HYDRAULIC POWER UNIT AND BRACKET REPLACEMENT/REPAIR (CONT)

(9) Install four screws (11) and self-locking nuts (12) in decontamination unit mounting bracket (13).

(10) Position decontamination unit mounting bracket (13) on air/hydraulic power unit mounting bracket (2) with two washers (14) and screws (15).

(11) Position four washers (16), two screws (17), and nuts (18) in decontamination unit mounting bracket (13).

(12) Tighten two screws (15) and nuts (18) to 18-22 lb-ft (24-30 N·m).

f. Bracket Removal.

Remove four self-locking nuts (1), screws (2), and air/hydraulic power unit mounting bracket (3) from spare tire retainer (4). Discard self-locking nuts.

g. Bracket Installation.

(1) Position air/hydraulic power unit mounting bracket (3) on spare tire retainer (4) with four screws (2) and self-locking nuts (1).

(2) Tighten four self-locking nuts (1) to 48-58 lb-ft (65-79 N·m).
h. Follow-On Maintenance.

(1) Fill air/hydraulic power unit [Appendix H].

(2) Start engine [TM 9-2320-365-10].

(3) Inflate air springs [TM 9-2320-365-10].

(4) Operate air/hydraulic power unit, check for leaks and proper operation [TM 9-2320-365-10].

(5) Install M13 unit, if equipped (TM 3-4230-214-12&P).

(6) Raise spare tire [TM 9-2320-365-10].

(7) Shut down engine [TM 9-2320-365-10].

End of Task.
19-4. HYDRAULIC MANIFOLD REPLACEMENT/REPAIR

This task covers:

a. Removal
b. Disassembly (PN HFC32598)
c. Assembly (PN HFC32598)
d. Disassembly (PN 65234)
e. Assembly (PN 65234)
f. Installation
g. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
- Engine shut down [TM 9-2320-365-10]
- Air tanks drained [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)
- Goggles, Industrial (Item 15, Appendix C)
- Gloves, Rubber (Item 13, Appendix C)
- Pan, Drain (Item 24, 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)
- Puller Kit, Mechanical (Item 27, Appendix C)
- Screwdriver Attachment, Socket Wrench (Item 51, Appendix B)

Materials/Parts
- Dispenser, Pressure Sensitive Tape (Item 21, Appendix D)
- Cap and Plug Set (Item 15, Appendix D)
- Ties, Cable, Plastic (Item 76, Appendix D)
- Antiseize Compound (Item 63, Appendix D)
- Sealing Compound (Item 58, Appendix D)

Materials/Parts (Cont)
- Oil, Lubricating, OE/HDO 10W (Item 44, Appendix D)
- Hydraulic Fluid A (Item 26, Appendix D)
- Filter Assembly (2) (Item 12, Appendix G)
- Parts Kit, Seal Replacement (Item 197, Appendix G)
- Parts Kit, Seal Replacement (Item 198, Appendix G)
- Parts Kit, Seal Replacement (Item 199, Appendix G)
- Nut, Self-Locking (Item 134, Appendix G)
- Packing, Preformed (11) (Item 165, Appendix G)
- Nut, Self-Locking (2) (Item 163, Appendix G)
- Filter Element, Fluid (2) (Item 14.1, Appendix G)
- Packing, Preformed (2) (Item 162.1, Appendix G)
- Packing, Preformed (2) (Item 171.1, Appendix G)
- Packing, Preformed (2) (Item 171.3, Appendix G)
NOTE

Refer to Figure 19-1. Hydraulic Manifold PN HFC32598 Rear View and Figure 19-1.1 Hydraulic Manifold PN 65234 Rear View for hoses location.

a. Removal.

(1) Open tool box (1).

(2) Remove two screws (2) and spacers (3) from hydraulic manifold (4).

(3) Remove two screws (5), spacers (6), and spacers (7) from hydraulic manifold (4).

Figure 19-1. Hydraulic Manifold PN HFC32598 Rear View
Figure 19-1.1. Hydraulic Manifold PN 65234 Rear View
(4) Remove self-locking nut (8), bolt (9), and clamp (10) from bracket (11). Discard self-locking nut.

NOTE
Tag hoses and connection points prior to disconnecting.
Remove plastic cable ties as required.
Perform step (5) on vehicle serial number 4203 and higher, and vehicle serial numbers 0001 through 4202 that have previously had pneumatic fitting or air hose replaced.

(5) Disconnect four air hoses (12) from fittings (13).

NOTE
Perform steps (6) and (7) on vehicle serial numbers 0001 through 4202 that have not previously had pneumatic fitting or air hose replaced.

(6) Disconnect four air hoses (12) from fitting (13).

(7) Cut four air hose couplings (14) from air hoses (12). Discard air hose couplings.
(8) Position drain pan under hydraulic manifold (4).

**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.

**CAUTION**

Cap or plug hydraulic hoses and connection points to prevent contamination of hydraulic system. Failure to comply may result in damage to equipment.

(9) Disconnect two hydraulic hoses (15) from 45-degree fittings (16).

(10) Disconnect eight hydraulic hoses (17) from fittings (18).

(11) Remove hydraulic manifold (4) from vehicle.

b. Disassembly (PN HFC32598).

(1) Remove retaining pin (1) from hydraulic manifold (2) and open cover (3).

(2) Remove two screws (4), lanyard (5), and plate (6) from hydraulic manifold (2).
**NOTE**

Note position of spacer prior to removal.

(3) Remove two self-locking nuts (7), screws (8), spacer (9), and cover (3) from hinge (10). Discard self-locking nuts.

(4) Remove two screws (11), hinge (10), three screws (12), and plate (13) from hydraulic manifold (2).

**NOTE**

Note position and location of valves, plugs, and fittings prior to disassembly.

(5) Remove two 45-degree fittings (14) from hydraulic manifold (2).

(6) Remove two preformed packings (15) from 45-degree fittings (14). Discard preformed packings.

(7) Remove eight fittings (16) from hydraulic manifold (2).

(8) Remove eight preformed packings (17) from fittings (16). Discard preformed packings.
NOTE

Perform step (9) on vehicle serial number 4203 and higher and vehicle serial numbers 0001 through 4202 that have previously had pneumatic fitting or air hose replaced.

(9) Remove four fittings (18) from hydraulic manifold (2).

NOTE

Perform step (10) on vehicle serial numbers 0001 through 4202 that have not previously had pneumatic fitting or air hose replaced.

(10) Remove four fittings (19) from hydraulic manifold (2). Discard fittings.
(11) Remove muffler (20) from check valve (21).

(12) Remove check valve (21) from adapter (22).

(13) Remove preformed packing (23) from check valve (21). Discard preformed packing and check valve.

(14) Remove adapter (22) from hydraulic manifold (2).

(15) Remove plug (24) from hydraulic manifold (2).


(17) Remove two plugs (26) from hydraulic manifold (2).

(18) Remove two preformed packings (27) from plugs (26). Discard preformed packings and plugs.

(19) Remove two retainers (28), filters (29), and springs (30) from hydraulic manifold (2). Discard retainers, filters, and springs.

(20) Remove plug (31), spring (32), and ball seat (33) from hydraulic manifold (2). Discard plug, spring, and ball seat.

(21) Remove preformed packing (34) from plug (31). Discard preformed packing and plug.
(22) Remove cartridge valves (35 and 36) from hydraulic manifold (2).

(23) Remove preformed packings (37 and 38) and back-up ring (39) from cartridge valve (35). Discard preformed packings and back-up ring.

(24) Remove preformed packings (40, 41, and 42) and back-up rings (43 and 44) from cartridge valve (36). Discard preformed packings and back-up rings.

(25) Remove plug (45), spring (46), and ball seat (47) from hydraulic manifold (2). Discard plug, spring, and ball seat.

(26) Remove preformed packing (48) from plug (45). Discard preformed packing and plug.

(27) Remove cartridge valve (49) from hydraulic manifold (2).

(28) Remove preformed packings (50 and 51) and back-up ring (52) from cartridge valve (49). Discard preformed packings and back-up ring.

NOTE

Top three manifold valves are two position valves, bottom manifold valve is a three position. Note position of manifold valves prior to removal.

(29) Remove four screws (53) and knobs (54) from hydraulic manifold (2).

(30) Remove four manifold valves (55) from hydraulic manifold (2).
(31) Remove four preformed packings (57, 58, and 59) and eight back-up rings (60, 61, and 62) from four manifold valves (55). Discard preformed packings and back-up rings.

(32) Remove four preformed packings (63) from manifold valves (55). Discard preformed packings.

(33) Remove two orifice filters (64) from manifold valves (55). Discard orifice filters.

(34) Remove two orifice plugs (65) from hydraulic manifold (2).

(35) Remove air valves (66 and 67) from hydraulic manifold (2).

(36) Remove two preformed packings (68, 69, and 70) from air valves (66 and 67). Discard preformed packings.
(37) Remove six screws (71) and plate (72) from hydraulic manifold (2).

c. Assembly (PN HFC32598).

(1) Install plate (1) on hydraulic manifold (2) with six screws (3).

NOTE
Lubricate parts with oil as required.

(2) Install two preformed packings (4, 5, and 6) on air valves (7 and 8).

(3) Install air valves (7 and 8) in hydraulic manifold (2).
(4) Install two orifice plugs (9) in hydraulic manifold (2).

(5) Install two orifice filters (10) in manifold valves (11).

(6) Install four preformed packings (12) on manifold valves (11).

(7) Install four preformed packings (13, 14, and 15) and eight back-up rings (16, 17, and 18) on four manifold valves (11).

**NOTE**

Position manifold valves as noted during disassembly.

(8) Install four manifold valves (11) in hydraulic manifold (2).

(9) Install four knobs (19) on manifold valves (11) with screws (20).
(10) Install preformed packings (21 and 22) and back-up ring (23) on cartridge valve (24).

(11) Install cartridge valve (24) in hydraulic manifold (2).

(12) Install preformed packing (25) on plug (26).

(13) Install ball seat (27), spring (28), and plug (26) in hydraulic manifold (2).

(14) Install preformed packings (29, 30, and 31) and back-up rings (32 and 33) on cartridge valve (34).

(15) Install preformed packings (35 and 36) and back-up ring (37) on cartridge valve (38).

(16) Install cartridge valves (34 and 38) in hydraulic manifold (2).

(17) Install preformed packing (39) on plug (40).

(18) Install ball seat (41), spring (42), and plug (40) in hydraulic manifold (2).
(19) Position two springs (43) and filters (44) in hydraulic manifold (2) with two retainers (45).

(20) Install two preformed packings (46) on plugs (47).

(21) Install two plugs (47) in hydraulic manifold (2).

(22) Install preformed packing (48) on plug (49).

(23) Install plug (49) in hydraulic manifold (2).

(24) Install adapter (50) in hydraulic manifold (2).

(25) Install preformed packing (51) on check valve (52).

(26) Install check valve (52) in adapter (50).

(27) Install muffler (53) in check valve (52).

**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.

(28) Apply antiseize compound to four fittings (54).

(29) Install four fittings (54) in hydraulic manifold (2).
(30) Install eight preformed packings (55) on fittings (56).

(31) Install eight fittings (56) in hydraulic manifold (2).

(32) Install two preformed packings (57) on 45-degree fittings (58).

(33) Install two 45-degree fittings (58) in hydraulic manifold (2).

(34) Position spacer (59) on hydraulic manifold (2) with three screws (60).

(35) Tighten three screws (60) to 72-120 lb-in. (8-14 N·m).

(36) Position hinge (61) on plate (59) with two screws (62).

(37) Tighten two screws (62) to 18-22 lb-ft (24-30 N·m).

(38) Position spacer (63) and cover (64) on hinge (61) with two screws (65) and self-locking nuts (66).

(39) Tighten two self-locking nuts (66) to 18-22 lb-ft (24-30 N·m).
(40) Position plate (67) and lanyard (68) on hydraulic manifold (2) with two screws (69).

(41) Tighten two screws (69) to 18-22 lb-ft (24-30 N·m).

(42) Close cover (64) and install retaining pin (70).

d. Disassembly (PN 65234).

(1) Remove retaining pin (1) from hydraulic manifold (2) and open cover (3).

(2) Remove two screws (4), lanyard (5), and plate (6) from hydraulic manifold (2).

(3) Remove two self-locking nuts (7), screws (8), spacer (9), and cover (3) from hinge (10). Discard self-locking nuts.

(4) Remove two screws (11), hinge (10), three screws (12), and plate (13) from hydraulic manifold (2).

NOTE

Note position of spacer prior to removal.

Change 1 19-20.5
19-4. HYDRAULIC MANIFOLD REPLACEMENT/REPAIR (CONT)

NOTE

Note position and location of valves, plugs, and fittings prior to disassembly.

(5) Remove two 45-degree fittings (14) from hydraulic manifold (2).

(6) Remove two preformed packings (15) from 45-degree fittings (14). Discard preformed packings.

(7) Remove eight fittings (16) from hydraulic manifold (2).

(8) Remove eight preformed packings (17) from fittings (16). Discard preformed packings.

(9) Remove four air fittings (18) from hydraulic manifold (2).

(10) Remove breather cap (19) from hydraulic manifold (2).

(11) Remove plug (20), setscrew (21), check valve (22), and preformed packing (23) from hydraulic manifold (2).

(12) Remove plug (24) from hydraulic manifold (2).

(13) Remove preformed packing (25) from plug (24). Discard preformed packing.
(14) Remove two plugs (26) and filters (27) from hydraulic manifold (2). Discard filters.

(15) Remove two preformed packings (28) from plugs (26). Discard preformed packings.

(16) Remove plug (29), setscrew (30), spacer (31), preformed packing (32), and check valve (33) from CV1 orifice (34). Discard preformed packing.

(17) Remove cartridge valve (35) from hydraulic manifold (2).

(18) Remove preformed packings (36, 37, and 38) and back-up rings (39 and 40) from cartridge valve (35). Discard preformed packings and back-up rings.

**NOTE**

Top three manifold valves are two position valves. Bottom manifold valve is a three position. Note position of manifold valves and retainer rings prior to removal.

(19) Remove four nuts (41), name plates (42), knobs (43), springs (44), spacers (45), retainer rings (46), and dust boots (47) from manifold valves (48).

(20) Remove four manifold valves (48) from hydraulic manifold (2).
(21) Remove two orifice filters (49) from hydraulic manifold (2). Discard orifice filters.

(22) Remove two orifice plugs (50) from hydraulic manifold (2).

(23) Remove four preformed packings (51, 52, and 53) and eight back-up rings (54, 55, and 56) from four manifold valves (48). Discard preformed packings and back-up rings.

(24) Remove four preformed packings (57) from manifold valves (48). Discard preformed packings.

(25) Remove two plugs (58), setscrews (59), spacers (62), preformed packings (61), and check valves (62) from CV2 orifice (63) and CV3 orifice (64). Discard preformed packings.

(26) Remove plug (58), setscrew (59), check valve (60), and preformed packing (61) from CV4 orifice (65). Discard preformed packing.
(27) Remove air valves (66 and 67) and valves (68 and 69) from hydraulic manifold (2).

(28) Remove six preformed packings (70) from air valves (66 and 67) and valves (68 and 69). Discard preformed packings.

(29) Remove six screws (71) and plate (72) from hydraulic manifold (2).

e. Assembly (PN 65234).

(1) Install plate (1) on hydraulic manifold (2) with six screws (3).
(2) Install six preformed packings (4) on valves (5 and 6) and air valves (7 and 8).

**NOTE**

Lubricate parts with oil as required.

(3) Install valves (5 and 6) and air valves (7 and 8) in hydraulic manifold (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.

(4) Apply sealing compound to threads of three plugs (9).

(5) Position preformed packing (10), check valve (11), setscrew (12), and plug (9) in CV4 orifice (13).

(6) Position two check valves (11), preformed packings (10), spacers (14), setscrews (12), and plugs (9) in CV2 orifice (15) and CV3 orifice (16).

(7) Tighten three plugs (9) to 21 lb-ft (28 N·m).
(8) Install four preformed packings (17) on manifold valves (18).

(9) Install four preformed packings (19, 20, and 21) and eight back-up rings (22, 23, and 24) on four manifold valves (18).

(10) Install two orifice plugs (25) in hydraulic manifold (2).

(11) Install two orifice filters (26) in hydraulic manifold (2).

NOTE
Position retainer rings and manifold valves as noted during disassembly.

(12) Position four manifold valves (18) in hydraulic manifold (2).

(13) Tighten four manifold valves (18) to 40 lb-ft (54 N·m).

(14) Position four dust boots (27), retainer rings (28), spacers (29), springs (30), knobs (31), and name plates (32) on manifold valves (18) with nuts (33).

(15) Tighten four nuts (33) to 40 lb-in. (5 N·m).
(16) Install preformed packings (34, 35, and 36) and back-up rings (37 and 38) on cartridge valve (39).

(17) Position cartridge valve (39) in hydraulic manifold (2).

(18) Tighten cartridge valve (39) to 40 lb-ft (54 N·m).

**WARNING**

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

(19) Apply sealing compound to threads of plug (40).

(20) Position check valve (41), preformed packing (42), spacer (43), setscrew (44), and plug (40) in CV1 orifice (45).

(21) Tighten plug (40) to 21 lb-ft (28 N·m).

(22) Install two preformed packings (46) on plugs (47).

(23) Install two filters (48) and plugs (47) in hydraulic manifold (2).
(24) Install preformed packing (49) on plug (50).

(25) Position plug (50) in hydraulic manifold (2).

(26) Tighten plug (50) to 13 lb-ft (18 N·m).

**WARNING**

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

(27) Apply sealing compound to threads of plug (51).

(28) Position preformed packing (52), check valve (53), setscrew (54), and plug (51) in hydraulic manifold (2).

(29) Tighten plug (51) to 21 lb-ft (28 N·m).

(30) Install breather cap (55) in hydraulic manifold (2).

(31) Apply antiseize compound to four air fittings (56).

(32) Install four air fittings (56) in hydraulic manifold (2).

(33) Install eight preformed packings (57) on fittings (58).

(34) Install eight fittings (58) in hydraulic manifold (2).

(35) Install two preformed packings (59) on 45-degree fittings (60).

(36) Install two 45-degree fittings (60) in hydraulic manifold (2).
19-4. HYDRAULIC MANIFOLD REPLACEMENT/REPAIR (CONT)

(37) Position spacer (61) on hydraulic manifold (2) with three screws (62).

(38) Tighten three screws (62) to 72-120 lb-in. (8-14 N·m).

(39) Position hinge (63) on spacer (61) with two screws (64).

(40) Tighten two screws (64) to 18-22 lb-ft (24-30 N·m).

(41) Position spacer (65) and cover (66) on hinge (63) with two screws (67) and self-locking nuts (68).

(42) Tighten two self-locking nuts (68) to 18-22 lb-ft (24-30 N·m).

(43) Position plate (69) and lanyard (70) on hydraulic manifold (2) with two screws (71).

(44) Tighten two screws (71) to 18-22 lb-ft (24-30 N·m).

(45) Close cover (66) and install retaining pin (72).

f. Installation.

(1) Connect eight hydraulic hoses (1) to fittings (2).

(2) Connect two hydraulic hoses (3) to 45-degree fittings (4).

(3) Connect four air hoses (5) to air fittings (6).
NOTE

Install plastic cable ties as required.

(4) Position clamp (7) on bracket (8) with bolt (9) and self-locking nut (10).

(5) Tighten self-locking nut (10) to 84-132 lb-in. (9-15 N·m).

(6) Position hydraulic manifold (11) on tool box (12) with two spacers (13), spacers (14), and screws (15).

(7) Position two spacers (16) and screws (17) in hydraulic manifold (11).

(8) Tighten two screws (15) and screws (17) to 18-22 lb-ft (24-30 N·m).

(9) Close tool box door (18).

g. Follow-On Maintenance.

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

(2) Fill hydraulic system [Appendix H].

(3) Raise cab and check hydraulic manifold for oil leaks [TM 9-2320-365-10].

End of Task.
19-5. HYDRAULIC MANIFOLD FILTER 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)  
Gloves, Rubber (Item 13, Appendix C)  
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts
Filter Assembly (2) (Item 12, Appendix G)  
Hydraulic Fluid A (Item 26, Appendix D)

a. Removal.

WARNING

Hydraulic fluid (MIL-L-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.

(1) Remove two plugs (1) from hydraulic manifold (2).

(2) Remove two preformed packings (3) from plugs (1). Discard preformed packings and plugs.

(3) Remove two retainers (4), filters (5), and springs (6) from hydraulic manifold (2). Discard retainers, filters, and springs.
b. Installation.

(1) Position two springs (1) and filters (2) in hydraulic manifold (3) with two retainers (4).

(2) Install two preformed packings (5) on plugs (6).

(3) Install two plugs (6) in hydraulic manifold (3).

c. Follow-On Maintenance.

Fill air transportability hydraulic system [Appendix H].

End of Task.
19-6. CAB HYDRAULIC LATCH REPLACEMENT/ADJUSTMENT

This task covers:

a. Removal
b. Installation
c. Adjustment
d. 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)
Goggles, Industrial (Item 15, Appendix C)
Gloves, Rubber (Item 13, Appendix C)
Pan, Drain (Item 24, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)

Materials/Parts
Cap and Plug Set (Item 15, Appendix D)
Nut, Self-Locking (4) (Item 149, Appendix G)
Hydraulic Fluid A (Item 26, Appendix D)

a. Removal.

(1) Position drain pan under hydraulic hose (1).

**WARNING**

Hydraulic fluid (MIL-H-5606A) 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.

**CAUTION**

Cap or plug hydraulic hose and connection point to prevent contamination of hydraulic system. Failure to comply may result in damage to equipment.

(2) Disconnect hydraulic hose (1) from 90-degree fitting (2).

(3) Remove four self-locking nuts (3), washers (4), screws (5), and hydraulic latch (6) from cab support assembly (7). Discard self-locking nuts.

(4) Remove 90-degree fitting (2) from hydraulic latch (6).
b. Installation.

(1) Install 90-degree fitting (1) in hydraulic latch (2).

(2) Install hydraulic latch (2) on cab support assembly (3) with four screws (4), washers (5), and self-locking nuts (6).

(3) Connect hydraulic hose (7) to 90-degree fitting (1).

c. Adjustment.

(1) Loosen four nuts (1) on hydraulic latch (2).

**NOTE**

Perform step (2) and note position of cab latching hook assembly when it is near hydraulic latch.

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

(3) Raise cab [TM 9-2320-365-10].

(4) Position hydraulic latch (2) to engage cab latching hook assembly (3).

(5) Tighten four self-locking nuts (1) to 34-44 lb-ft (46-60 N·m).

(6) Lower cab [TM 9-2320-365-10].

(7) Check cab latching hook assembly (3) for proper operation.

(8) Perform steps (1) through (7), as required.
d. Follow-On Maintenance.

Fill air transportability hydraulic system [Appendix H].

End of Task.
19-7. AIR TRANSPORTABILITY HYDRAULIC SYSTEM SERVICE

This task covers:

a. Purging
b. Follow-On Maintenance

INITIAL SETUP

Equipment Conditions
Engine shut down (TM 9-2320-365-10).
Air tanks drained (TM 9-2320-365-10).
M13 decontamination unit removed, if equipped (TM 3-4230-214-12&P).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Pan, Drain (Item 24, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Gloves, Rubber (Item 13, Appendix C)
Goggles, Industrial (Item 15, Appendix C)

Materials/Parts
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)
Solvent, Dry Cleaning (Item 71, Appendix D)
Washer, Spring (4) (Item 279, Appendix G)
Gasket (Item 32, Appendix G)
Filter Assembly (2) (Item 12, Appendix G)
Packing, Preformed (Item 166, Appendix G)
Hydraulic Fluid A (Item 26, Appendix D)

References
TM 3-4230-214-12&P

WARNING

Hydraulic fluid (MIL-H-5606A) 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.

a. Purging.

NOTE

Perform the following steps to ensure all air and contaminants are removed from air transportability hydraulic system.

(1) Remove two screws (1), washers (2) and cover (3) from back-up hydraulic pump (4).

(2) Position drain pan under back-up hydraulic pump (4).

NOTE

Tag hoses and connection points prior to disconnecting.

(3) Disconnect hydraulic hoses (5 and 6) from 90-degree fittings (7 and 8).

(4) Operate back-up hydraulic pump (4) until hydraulic fluid stops flowing (TM 9-2320-365-10).
(5) Remove filler plug (9) from back-up hydraulic pump (4).

(6) Fill back-up hydraulic pump (4) with hydraulic fluid [Appendix H].

(7) Install filler plug (9) in back-up hydraulic pump (4).

(8) Operate back-up hydraulic pump (4) until hydraulic fluid starts flowing (TM 9-2320-365-10).

(9) Install bottom hydraulic hose (6) on 90-degree fitting (8).

(10) Repeat steps (5) through (7).

(11) Raise cab with back-up hydraulic pump (4) (TM 9-2320-365-10).

(12) Repeat steps (5) through (7).

(13) Lower cab with back-up hydraulic pump (4) (TM 9-2320-365-10).

(14) Repeat steps (5) through (7).

(15) Repeat steps (11) through (14) until hydraulic fluid is cleared of foam, grit, and other contaminants.
(16) Lower spare tire with back-up hydraulic pump (4) (TM 9-2320-365-10).

(17) Repeat steps (5) through (7).

(18) Raise spare tire with back-up hydraulic pump (4) (TM 9-2320-365-10).

(19) Repeat steps (5) through (7).

(20) Repeat steps (16) through (19) until hydraulic fluid is cleared of foam, grit, and other contaminants.

(21) Position FUNCTION SELECT knob (10) to TRUCK SUSPENSION.

(22) Position SUSPENSION knob (11) to RAISE.

(23) Extend suspension cylinder with back-up hydraulic pump (4) (TM 9-2320-365-10).

(24) Repeat steps (5) through (7).

(25) Position SUSPENSION knob (11) to LOWER.

(26) Retract suspension cylinder with back-up hydraulic pump (4) (TM 9-2320-365-10).

(27) Repeat steps (5) through (7).

(28) Repeat steps (22) through (27) until hydraulic fluid is cleared of foam, grit, and other contaminants.
(29) Remove two plugs (12) from hydraulic manifold (13). Discard plugs.

(30) Remove two retainers (14), filters (15), and springs (16) from hydraulic manifold (13). Discard retainers, filters, and springs.

(31) Position two springs (16) and filters (15) in hydraulic manifold (13) with two retainers (14).

(32) Install two preformed packings (17) on plugs (12).

(33) Install two plugs (12) in hydraulic manifold (13).

(34) Install top hydraulic hose (5) on 90-degree fitting (7).

(35) Position cover (3) on back-up hydraulic pump (4) with two washers (2) and screws (1).

(36) Tighten two screws (1) to 19-28 lb-ft (24-38 N·m).
(37) Lower spare tire retainer with back-up hydraulic pump (TM 9-2320-365-10).

(38) Remove two nuts (18), four washers (19), and two screws (20) from decontamination unit mounting bracket (21).

(39) Remove two screws (22), washers (23), and decontamination unit mounting bracket (21) from spare tire retainer (24).

**CAUTION**

Cap or plug hoses and connection points prior to disconnecting to prevent contamination of system. Failure to comply may result in damage to equipment.

(40) Disconnect air hose (25) from 90-degree fitting (26).

(41) Disconnect hydraulic hoses (27 and 28) from fittings (29 and 30).
(42) Remove four screws (31), spring washers (32), washers (33) and air/hydraulic power unit (34) from spare tire retainer (24). Discard spring washers.

(43) Remove air/hydraulic power unit (34) from vehicle.

(44) Remove six screws (35), pump assembly (36) and gasket (37) from reservoir (38). Discard gasket.

**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 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.

(45) Drain hydraulic oil from reservoir (38) and flush with dry cleaning solvent.
(46) Remove retaining ring (39) and strainer (40) from pump assembly (36).

(47) Flush strainer (40) and pump assembly (36) with dry cleaning solvent.

(48) Install strainer (40) on pump assembly (36) with retaining ring (39).

(49) Install gasket (37) and pump assembly (36) on reservoir (38) with six screws (35).

(50) Position air/hydraulic power unit (34) on spare tire retainer (24) with four washers (33), spring washers (32) and screws (31).

(51) Tighten four screws (31) to 18-22 lb-ft (24-34 N·m).
(52) Connect hydraulic hose (27) to fitting (29).

(53) Connect air hose (25) to 90-degree fitting (26).

(54) Remove dipstick (41) from air/hydraulic power unit (34).

(55) Fill air/hydraulic power unit (34) to second groove from bottom on dipstick [Appendix H].

(56) Install dipstick (41) in air/hydraulic power unit (34) and hand tighten.

(57) Start engine and allow air system to pressurize (TM 9-2320-365-10).

NOTE

Remove plug from end of hydraulic hose prior to performing step (58).

(58) Raise and lower cab using hydraulic manifold (TM 9-2320-365-10) until hydraulic fluid is cleared of foam, grit, and other contaminants.

(59) Repeat steps (54) through (56) as required.

(60) Connect hydraulic hose (28) to fitting (30).
(61) Remove dipstick (41) from air/hydraulic power unit (34).

(62) Remove preformed packing (42) from dipstick (41). Discard preformed packing.

(63) Install preformed packing (42) on dipstick (41).

(64) Install dipstick (41) in air/hydraulic power unit (34) and hand tighten.

(65) Position decontamination unit mounting bracket (21) on spare tire retainer (24) with two washers (23) and screws (22).

(66) Position four washers (19), two screws (20), and nuts (18) in decontamination unit mounting bracket (21).

(67) Tighten two screws (22) and nuts (18) to 18-22 lb-ft (24-30 N·m).

(68) Remove filler plug (9) from back-up hydraulic pump (4).

(69) Remove preformed packing (43) from filler plug (9). Discard preformed packing.

(70) Fill back-up hydraulic pump (4) with hydraulic fluid.

(71) Install preformed packing (43) on filler plug (9).

(72) Install filler plug (9) in back-up hydraulic pump (4).
b. Follow-On Maintenance.

Raise and lower cab (TM 9-2320-365-10) and check for hydraulic fluid leaks around hoses and fittings.

End of Task.
19-8. EMERGENCY CAB LIFT PROCEDURE

This task covers:

a. Cab Lift

b. 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)
Goggles, Industrial (Item 15, Appendix C)
Gloves, Rubber (Item 13, Appendix C)
Pan, Drain (Item 24, Appendix C)

Cab Support Tool (Item E-4, Appendix E)

Materials/Parts

Cap and Plug Set (Item 15, Appendix D)
Nut, Self-Locking (4) (Item 149, Appendix G)

Personnel Required

(2)

a. Cab Lift.

CAUTION

Perform this task in the event that the air/hydraulic power unit and the back-up hydraulic pump are inoperative at the same time.

(1) Position drain pan under hydraulic hose (1).

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.

CAUTION

Cap or plug hose and connection point to prevent contamination of hydraulic system. Failure to comply may result in damage to equipment.

(2) Disconnect hydraulic hose (1) from 90-degree fitting (2).

(3) Remove four self-locking nuts (3), washers (4), and screws (5) from cab hydraulic latch (6) and cab support assembly (7). Discard self-locking nuts.
WARNING

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

NOTE

Steps (4) through (6) require the aid of an assistant.

(4) Raise cab.

(5) Install cab support tool on rear engine lift bracket (8).

(6) Lower cab on cab support tool.

b. Follow-On Maintenance.

(1) Perform air transportability hydraulic system troubleshooting to determine cause of malfunction.

(2) Install cab hydraulic latch (para 19-6).

End of Task.
19-9. SUSPENSION CYLINDER 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)
Goggles, Industrial (Item 15, Appendix C)
Gloves, Rubber (Item 13, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench, Torque, 0-600 lb-ft (Item 59, Appendix C)
Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)
Socket Set, Socket Wrench (Item 34, Appendix C)
Wrench Set, Socket (Item 48, Appendix C)

Materials/Parts
Cap and Plug Set (Item 15, Appendix D)
Packing, Preformed (2) (Item 166, Appendix G)
Nut, Self-Locking (Item 116, Appendix G)
Pin, Cotter (Item 204, Appendix G)
Hydraulic Fluid A (Item 26, Appendix D)

Personnel Required
(2)

a. Removal.

NOTE
Left and right suspension cylinders are removed the same way. Right side shown.

(1) Remove two quick release pins (1) from suspension cylinder (2).

(2) Remove screw (3) and two lanyards (4) from suspension cylinder (2).
19-9. SUSPENSION CYLINDER REPLACEMENT (CONT)

**WARNING**

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

**CAUTION**

Cap or plug hydraulic hoses and connection points to prevent contamination of hydraulic system. Failure to comply may result in damage to equipment.

**NOTE**

Tag hydraulic hoses and connection points prior to disconnecting.

(3) Disconnect two hydraulic hoses (5) from 90-degree fittings (6).

**WARNING**

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

**NOTE**

Step (4) requires the aid of an assistant.

(4) Remove self-locking nut (7), screw (8), and clamp (9) from frame rail (10). Discard self-locking nut.
(5) Remove spring pin (11) and suspension compression plate (12) from suspension compression plate stud (13).

**NOTE**

Step (6) requires the aid of an assistant.

(6) Remove three screws (14), plate (15), and suspension cylinder (2) from frame rail (10).

(7) Remove cotter pin (16), pin (17), and shackle (18) from suspension cylinder (2). Discard cotter pin.

**NOTE**

Note orientation of fittings prior to removal.

(8) Remove two 90-degree fittings (6) from suspension cylinder (2).

(9) Remove two preformed packings (19) from 90-degree fittings (6). Discard preformed packings.
b. Installation.

NOTE

Left and right side suspension cylinders are installed the same way. Right side shown.

1. Install two preformed packings (1) on 90-degree fittings (2).

2. Install two 90-degree fittings (2) in suspension cylinder (3).

3. Install shackle (4) on suspension cylinder (3) with pin (5) and cotter pin (6).
(4) Install suspension compression plate (7) on suspension compression plate stud (8) with spring pin (9).

**WARNING**

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

**NOTE**

Steps (5) through (8) require the aid of an assistant.

(5) Position suspension cylinder (3) on frame rail (10) with plate (11) and three screws (12).

(6) Tighten three screws (12) to 149-183 lb-ft (202-248 N·m).

(7) Position clamp (13) on frame rail (10) with screw (14), and self-locking nut (15).

(8) Tighten self-locking nut (15) to 84-108 lb-in. (9-12 N·m).
(9) Connect two hydraulic hoses (16) to 90-degree fittings (2).

(10) Position two lanyards (17) on suspension cylinder (3) with screw (18).

(11) Tighten screw (18) to 18-22 lb-ft (24-30 N·m).

(12) Install two quick release pins (19) in suspension cylinder (3).

c. Follow-On Maintenance.

(1) Fill air transportability hydraulic system [Appendix H].

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

End of Task.
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

<table>
<thead>
<tr>
<th>Tool Kit, Genl Mech (Item 44, Appendix C)</th>
<th>Wrench, Torque, 0-600 lb-ft (Item 59, Appendix C)</th>
<th>Wrench Set, Socket (Item 48, Appendix C)</th>
<th>Pan, Drain (Item 24, Appendix C)</th>
<th>Sling, Endless (Item 32, Appendix C)</th>
<th>Gloves, Rubber (Item 13, Appendix C)</th>
<th>Goggles, Industrial (Item 15, Appendix C)</th>
<th>Cab Support Tool (Item E-4, Appendix E)</th>
</tr>
</thead>
</table>

Materials/Parts

|------------------------------------|-------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|--------------------------------|

Personnel Required

(2)
a. Removal.

(1) Position drain pan under cab hydraulic cylinder (1).

**WARNING**

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

**NOTE**

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

(2) Disconnect hoses (2 and 3) from 90-degree fittings (4 and 5).
(3) Connect hoses (2 and 3) to tube nipple.

(4) Turn FUNCTION SELECT valve (6) to CAB TILT position.

(5) Turn CAB TILT valve (7) to the RAISE position.

CAUTION

Use only the backup hydraulic pump to unlatch cab. Failure to comply may result in damage to equipment.

(6) Operate backup hydraulic pump (TM 9-2320-365-10).
**WARNING**

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

**NOTE**

Steps (7) through (9) require the aid of an assistant.

(7) Raise cab.

(8) Install cab support tool on engine rear lifting bracket (8).

(9) Lower cab on cab support tool.

(10) Remove cotter pin (9), washer (10), and preformed packing (11) from cab hydraulic cylinder mounting bolt (12). Discard cotter pin and preformed packing.

(11) Disengage pivot arm (13) and spacer (14) from cab hydraulic cylinder mounting bolt (12).

(12) Remove self-locking nut (15), cab hydraulic cylinder mounting bolt (12), and cab hydraulic cylinder (1) from cab frame (16). Discard self-locking nut.
(13) Remove cotter pin (17), spring washer (18), and cab hydraulic cylinder (1) from stud (19). Discard cotter pin and spring washer.

(14) Remove control cam (20) and spring washer (21) from mounting bracket (22). Discard spring washer.

(15) Loosen jamnut (23) under mounting bracket (22) until jamnut (23) bottoms out on threads.

(16) Remove mounting bracket (22) from cab hydraulic cylinder (1).

(17) Remove 90-degree fittings (4 and 5) from cab hydraulic cylinder (1).

(18) Remove two preformed packings (24) from 90-degree fittings (4 and 5). Discard preformed packings.
b. **Installation.**

(1) Install two preformed packings (1) on 90-degree fittings (2 and 3).

(2) Install 90-degree fittings (2 and 3) in cab hydraulic cylinder (4).

(3) Install mounting bracket (5) on cab hydraulic cylinder (4) until mounting bracket bottoms out on threads.

(4) Tighten jamnut (6) against mounting bracket (5).

(5) Align mounting bracket (5) so arrow (7) on top of mounting bracket is aligned 180 degrees opposite tube (8) on cab hydraulic cylinder (4).
(6) Apply grease to inside of mounting bracket (5).

(7) Assemble control cam (9) and spring washer (10) and insert in mounting bracket (5) with long side of control cam aligned in long slot of mounting bracket.

NOTE

Cab hydraulic cylinder is installed so that hydraulic fittings face away from engine and arrow on top of mounting bracket points toward front of vehicle.

(8) Install cab hydraulic cylinder (4) on stud (11) with spring washer (12) and cotter pin (13).

(9) Remove hoses (14 and 15) from tube nipple.
NOTE

Install plastic cable ties as required.

(10) Install hoses (14 and 15) on 90-degree fittings (2 and 3).

(11) Position cab hydraulic cylinder (4) between cab frame (16) with cab hydraulic cylinder mounting bolt (17) and self-locking nut (18).

CAUTION

Ensure long side of control cam remains aligned with long slot in mounting bracket. Failure to comply may result in damage to equipment.

(12) Tighten self-locking nut (18) to 180-232 lb-ft (244-314 N-m).
19-10. CAB HYDRAULIC CYLINDER REPLACEMENT (CONT)

(13) Position spacer (19) between pivot arm (20) and install cab hydraulic cylinder mounting bolt (17) through locking arms.

(14) Raise cab.

(15) Install preformed packing (21), washer (22), and cotter pin (23) on cab hydraulic cylinder mounting bolt (17).

(16) Remove lifting device.

(17) Remove cab support tool from engine rear lifting bracket (24).

(18) Lower cab.

c. Follow-On Maintenance.

Perform air transportability hydraulic system service (para 19-7).

End of Task.
19-11. AIR TRANSPORTABILITY HYDRAULIC HOSE REPLACEMENT

This task covers:

a. Hydraulic Hose Locations  

b. Follow-On Maintenance

INITIAL SETUP

**Equipment Conditions**

- Engine shut down (TM 9-2320-365-10).
- Cab raised, if required (TM 9-2320-365-10).
- Spare tire lowered, if required (TM 9-2320-365-10).
- Manifold removed from tool box (para 19-4).
- Hand pump protective cover removed, if required.
- Air/hydraulic power unit protective cover removed, if required (para 19-3).

**Tools and Special Tools**

- Tool Kit, General Mech (Item 44, Appendix C)
- Pan, Drain (Item 24, 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)
- Cap and Plug Set (Item 15, Appendix D)
- Ties, Cable, Plastic (Item 76, Appendix D)
- Rag, Wiping (Item 51, Appendix D)

---

**a. Hydraulic 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.

- Hydraulic fluid (MIL-H-5606A) is TOXIC. Wear protective goggles and gloves; use only in well ventilated areas; 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.

**CAUTION**

Cap or plug hose connection points and hoses when removed to prevent contamination of air transportability hydraulic system. Failure to comply may result in damage to equipment.

**NOTE**

- Refer to [Table 19-1] Air Transportability Hydraulic Hose Locations for location of hydraulic hoses on the air transportability system. It may not be necessary to remove all hydraulic hoses at one time.

- Tag hoses and connection points prior to removal.

- Remove plastic cable ties as required.

- Remove clamps and support brackets as required.

- Position drain pan to collect hydraulic fluid.
Figure 19-1.2. Air Transportability Hydraulic Hose Locations

Table 19-1. Air Transportability Hydraulic Hose Locations

<table>
<thead>
<tr>
<th>Hydraulic Hose Name (Number)</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Pressure (515)</td>
<td>Air/Hydraulic power unit fitting (1)</td>
<td>Fitting P1 (2)</td>
</tr>
<tr>
<td>Main Return (514)</td>
<td>Air/Hydraulic power unit fitting (3)</td>
<td>Fitting T1 (4)</td>
</tr>
<tr>
<td>Hand Pump Pressure (521)</td>
<td>Hand pump fitting (7)</td>
<td>Fitting P2 (6)</td>
</tr>
<tr>
<td>Hand Pump Return (520)</td>
<td>Hand pump fitting (5)</td>
<td>Fitting T2 (8)</td>
</tr>
</tbody>
</table>
Figure 19-1.2. Air Transportability Hydraulic Hose Locations (Cont)

Table 19-1. Air Transportability Hydraulic Hose Locations (Cont)

<table>
<thead>
<tr>
<th>Hydraulic Hose Name (Number)</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspension Lower (512)</td>
<td>SUSP COMPRESS fitting (9)</td>
<td>Three way tee fitting (10)</td>
</tr>
<tr>
<td>Suspension Lower, Left (510)</td>
<td>Three way tee fitting (11)</td>
<td>Left suspension hydraulic cylinder fitting (12)</td>
</tr>
<tr>
<td>Suspension Lower, Right (508)</td>
<td>Three way tee fitting (13)</td>
<td>Right suspension hydraulic cylinder fitting (14)</td>
</tr>
<tr>
<td>Suspension Normal (513)</td>
<td>PILOT fitting (15)</td>
<td>Three way tee fitting (16)</td>
</tr>
<tr>
<td>Suspension Normal, Left (511)</td>
<td>Three way tee fitting (17)</td>
<td>Left suspension hydraulic cylinder fitting (18)</td>
</tr>
</tbody>
</table>
Figure 19-1.2. Air Transportability Hydraulic Hose Locations (Cont)

Table 19-1. Air Transportability Hydraulic Hose Locations (Cont)

<table>
<thead>
<tr>
<th>Hydraulic Hose Name (Number)</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspension Normal Right (509)</td>
<td>Three way tee fitting (19)</td>
<td>Right suspension hydraulic cylinder fitting (20)</td>
</tr>
<tr>
<td>Spare Tire Retract (517)</td>
<td>SPARE RET. fitting (21)</td>
<td>Spare tire carrier hydraulic cylinder fitting (22)</td>
</tr>
<tr>
<td>Spare Tire Extend (516)</td>
<td>SPARE EXT. fitting (23)</td>
<td>Spare tire carrier hydraulic cylinder fitting (24)</td>
</tr>
<tr>
<td>Cab Tilt Retract Rear (518)</td>
<td>CAB LOWER fitting (25)</td>
<td>Bulkhead fitting (26)</td>
</tr>
<tr>
<td>Cab Tilt Retract Forward</td>
<td>Bulkhead fitting (27)</td>
<td>Cab tilt hydraulic fitting (28)</td>
</tr>
</tbody>
</table>
Figure 19-1.2. Air Transportability Hydraulic Hose Locations (Cont)

Table 19-1. Air Transportability Hydraulic Hose Locations (Cont)

<table>
<thead>
<tr>
<th>Hydraulic Hose Name (Number)</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cab Tilt Extend Rear (519)</td>
<td>CAB RAISE fitting (29)</td>
<td>Bulkhead fitting (30)</td>
</tr>
<tr>
<td>Cab Tilt Extend Forward</td>
<td>Bulkhead fitting (31)</td>
<td>Cab tilt hydraulic cylinder fitting (32)</td>
</tr>
<tr>
<td>Cab Latch</td>
<td>Bulkhead fitting (33)</td>
<td>Rear cab latch fitting (34)</td>
</tr>
</tbody>
</table>

b. Follow-On Maintenance.

(1) Service air transportability hydraulic system as required Appendix H.

(2) Operate air transportability system, check for proper operation TM 9-2320-365-10.

(3) Check for hydraulic fluid leaks.

End of Task
19-12. HYDRAULIC OIL FILTER ASSEMBLY SERVICE/REPLACEMENT

This task covers:

a. Service  
b. Removal  
c. Installation  
d. 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)  
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)  
Pan, Drain (Item 24, Appendix C)

Materials/Parts
Filter Element, Fluid (Item 17, Appendix G) (Service)  
Seal, Plain (Item 255.1, Appendix G) (Service)  
Dispenser, Pressure Sensitive Adhesive Tape (Item 21, Appendix D)  
Packing, Preformed (2) (Item 162, Appendix G)  
Oil, Lubricating, OE/HDO 10W (Item 44, Appendix D)  
Tape, Antiseizing (Item 73, Appendix D)

a. Service.

(1) Remove hydraulic oil filter assembly bowl (1) from filter assembly base (2).

(2) Remove fluid filter element (3) from oil filter assembly bowl (1). Discard fluid filter element.

(3) Remove seal (4) from hydraulic oil filter assembly bowl (1). Discard seal.

**NOTE**

Apply lubricating oil to seal prior to installation.

(4) Install seal (4) on hydraulic oil filter assembly bowl (1).

(5) Install fluid filter element (3) in hydraulic oil filter assembly bowl (1).

(6) Install hydraulic oil filter assembly bowl (1) on filter assembly base (2) and hand tighten.
b. Removal.

NOTE

Tag hoses and connection points prior to disconnecting.

(1) Position drain pan under hydraulic oil filter assembly (1).

(2) Disconnect two hoses (2) from hydraulic oil filter assembly (1).

(3) Remove fitting (3) from hydraulic oil filter assembly (1).

(4) Remove preformed packing (4) from fitting (3). Discard preformed packing.

(5) Remove adapter (5) from hydraulic oil filter assembly (1).

(6) Remove preformed packing (6) from adapter (5). Discard preformed packing.

(7) Remove hydraulic oil sampling valve (7) from adapter (5).

(8) Remove four screws (8), washers (9), and hydraulic oil filter assembly (1) from bracket (10).
19-12. HYDRAULIC OIL FILTER ASSEMBLY SERVICE/REPLACEMENT (CONT)

c. Installation.

NOTE

Apply lubricating oil to preformed packings during installation.

(1) Install hydraulic oil filter assembly (1) on bracket (2) with four washers (3) and screws (4).

(2) Tighten four screws (4) to 20-24 ft-lb (27-33 N•m).

(3) Apply antiseizing tape to threads of hydraulic oil sampling valve (5).

(4) Install hydraulic oil sampling valve (5) in adapter (6).

(5) Install preformed packing (7) on adapter (6).

(6) Install adapter (6) in hydraulic oil filter assembly (1).

(7) Install preformed packing (8) on fitting (9).

(8) Install fitting (9) on hydraulic oil filter assembly (1).

(9) Connect hose (10) to fitting (9).

(10) Connect hose (11) to adapter (6).

d. Follow-On Maintenance.

(1) Fill hydraulic reservoir [Appendix H].

(2) Start engine [TM 9-2320-365-10].

(3) Check for oil leaks around hydraulic oil filter.

(4) Shut down engine [TM 9-2320-365-10].

End of Task.
This task covers:

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

INITIAL SETUP

Equipment Conditions
Hydraulic oil filter assembly removed (para 19-12).

Tools and Special Tools
Tool Kit, Genl Mech (Item 44, Appendix C)
Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)
Wrench Set, Socket (Item 49, Appendix C)
Container (30 gal (113 L) capacity)

Materials/Parts
Cap and Plug Set (Item 15, Appendix D)
Packing, Preformed (2) (Item 164, Appendix G)
Sealing Compound (Item 62, Appendix D)
Oil, Lubricating, OE/HDO 10W (Item 44, Appendix D)
Dispenser, Pressure Sensitive Adhesive Tape
(Item 21, Appendix D)
Nut, Self-Locking (Item 136, Appendix G)
Nut, Self-Locking (4) (Item 140, Appendix G)
Insulator, Tank (Item 52, Appendix G)
Insulator, Tank (Item 53, Appendix G)

Personnel Required
(2)

---

a. Removal.

**CAUTION**

Cap or plug hydraulic connections and connection points to prevent contamination of hydraulic system. Failure to comply may result in damage to equipment.

**NOTE**

Tag hoses and connection points prior to disconnecting.

1. Remove cap (1) from hydraulic reservoir (2).
2. Position container under drain plug (3).
3. Remove drain plug (3) from hydraulic reservoir (2) and drain oil.
4. Install drain plug (3) in hydraulic reservoir (2).
5. Install cap (1) on hydraulic reservoir (2).
(6) Remove hose (4) from 90-degree fitting (5).

(7) Disconnect hose (6) from fitting (7).

(8) Remove nut (8) from strap (9).

(9) Remove hydraulic reservoir (2) from support (10).

(10) Remove 90-degree fitting (5) from hydraulic reservoir (2).

(11) Remove preformed packing (11) from 90-degree fitting (5). Discard preformed packing.

(12) Remove fitting (7) from hydraulic reservoir (2).

(13) Remove preformed packing (12) from fitting (7). Discard preformed packing.

(14) Remove self-locking nut (13), bolt (14), and strap (9) from bracket (15). Discard self-locking nut.

(15) Remove insulator strap (16) from strap (9).

(16) Remove insulators (17 and 18) from bracket (15). Discard insulators.
(17) Remove self-locking nut (19) and bolt (20) from bracket (15). Discard self-locking nut.

(18) Remove self-locking nut (21) and bolt (22) from bracket (15). Discard self-locking nut.

(19) Remove two self-locking nuts (23), bolts (24), and bracket (15) from frame rail (25). Discard self-locking nuts.

b. Installation.

(1) Position bracket (1) on frame rail (2) with two bolts (3) and self-locking nuts (4).

(2) Position bolt (5) and self-locking nut (6) in bracket (1).

(3) Position bolt (7) and self-locking nut (8) in bracket (1).

(4) Tighten two self-locking nuts (4) and self-locking nuts (6 and 8) to 210-225 lb-ft (285-305 N·m).

(5) Install insulators (9 and 10) on bracket (1).

(6) Install insulator strap (11) on strap (12).

(7) Position strap (12) on bracket (1) with bolt (13) and self-locking nut (14).

(8) Tighten self-locking nut (14) to 39-47 lb-ft (52-64 N·m).
19-13. HYDRAULIC RESERVOIR AND BRACKET REPLACEMENT (CONT)

**NOTE**

Apply lubricating oil to preformed packings during installation.

(9) Install preformed packing (15) on 90-degree fitting (16).

(10) Install 90-degree fitting (16) in hydraulic reservoir (17).

(11) Install preformed packing (18) on fitting (19).

(12) Install fitting (19) in hydraulic reservoir (17).

(13) Position hydraulic reservoir (17) in bracket (1) with strap (12) positioned around hydraulic reservoir (17).

**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.

(14) Apply sealing compound to threads of nut (20).

(15) Position nut (20) on strap (12).

(16) Tighten nut (20) to 42-52 ft-lb (57-71 N\(\text{m}\)).

(17) Connect hose (21) to fitting (19).

(18) Connect hose (22) to 90-degree fitting (16).

c. **Follow-On Maintenance.**

(1) Install hydraulic oil filter assembly **(para 19-12)**.

(2) Fill hydraulic reservoir **(TM 9-2320-365-10)**

End of Task.
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) ................................................ TB 11-5820-401-10-1
Operator’s Manual, Radio Set, AN/VRC-46 ............................................ TM 9-4910-571-12&P

A-2 Change 1
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°F 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
Route Reconnaissance and Classification .................................................... FM 5-36
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.

Airdrop of Supplies and Equipment: Rigging 2 1/2-Ton Trucks ........................................ FM 10-520
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: 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 including fault location/troubleshooting, removal/installation, and disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. **Overhaul.** That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. **Rebuild.** Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

B-3. **Explanation of Columns in the MAC, Section II.**

a. **Column 1, Group Number.** Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly.

b. **Column 2, Component/Assembly.** Column 2 contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. **Column 3, Maintenance Function.** Column 3 lists the functions to be performed on the items listed in Column 2. (For detailed explanation of these functions, see Paragraph B-2).

d. **Column 4, Maintenance Level.** Column 4 specifies each level of maintenance authorized to perform each function listed in Column 3, by indicating work time required (expressed in man-hours in whole hours or decimals) in the appropriate subcolumn. This work-time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work-time figures are to be shown for each level. The work-time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions.

---

1Services - Inspect, test, service, adjust, align calibrate, and/or replace.

2Fault location/troubleshooting - The process of investigating and detecting the cause of equipment malfunction; the act of isolating a fault within a system or Unit Under Test (UUT).

3Disassembly/assembly - The step-by-step breakdown (taking apart) of a spare/functional group coded item, to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

4Actions - Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.
This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows:

C .................... Operator or crew maintenance  
O .................... Unit maintenance  
F .................... Direct Support maintenance  
L ..................... Specialized Repair Activity (SRA)\(^5\)  
H ................... General Support maintenance  
D ................... Depot maintenance

e. **Column 5, Tools and Test Equipment Reference Code.** Column 5 specifies, by code, those common tools sets (not individual tools), common TMDE, and special tools, special TMDE, and special support equipment required to perform the designated functions. Codes are keyed to tools and test equipment in Section III.

f. **Column 6, Remarks.** When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks contained in Section IV.

**B-4. Explanation of Columns in Tool and Test Equipment Requirements, Section III.**

a. **Column 1, Reference Code.** The tool and test equipment reference code correlates with a code used in the MAC, Section II column 5.

b. **Column 2, Maintenance Level.** The lowest level of maintenance authorized to use the tool or test equipment.

c. **Column 3, Nomenclature.** Name or identification of the tool or test equipment.

d. **Column 4, National Stock Number.** The National Stock Number of tool or test equipment.

e. **Column 5, Tool Number.** The manufacturer’s part number, model number, or type number.

**B-5. Explanation of Columns in Remarks, Section IV.**

a. **Column 1, Remarks Code.** The code recorded in column 6, Section II.

b. **Column 2, Remarks.** This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

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\(^5\)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

<table>
<thead>
<tr>
<th>Group Number</th>
<th>Component/Assembly</th>
<th>Maintenance Function</th>
<th>Unit</th>
<th>Direct Support</th>
<th>General Support</th>
<th>Depot</th>
<th>Tools and Equipment Ref Code</th>
<th>Remarks Code</th>
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**Remarks Code**

- C: Direct Support
- O: General Support
- F: Depot
- H: Depot
- D: Depot

**Tools and Equipment Ref Code**

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- 45, 50, 57, 59, 78
- 43, 47, 57, 59, 64, 72, 76, 78
- 20, 35, 36, 42, 43, 47, 57, 59, 64, 72, 76, 78
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### Section III. TOOLS AND TEST EQUIPMENT FOR LMTV VEHICLES

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**Section III. TOOLS AND TEST EQUIPMENT FOR LMTV VEHICLES**

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**Section IV. REMARKS FOR THE LMTV VEHICLE**

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<td>B</td>
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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

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<tr>
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<td>VISE, MACHINIST</td>
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<td>PART NUMBER</td>
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<td>WRENCH, TORQUE, 0-200 lb-in.</td>
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<td>SW130-301</td>
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### 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

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Level</th>
<th>National Stock Number</th>
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<th>Unit of Measure</th>
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<td>1</td>
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<td>4730-00-248-9340</td>
<td>Adapter, Pipe to Tube (81343) 4-4 010103B</td>
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<td>1.1</td>
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<td>4730-01-453-9651</td>
<td>Adapter, Straight, Pipe to Boss (19207) 12421890-001</td>
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<td>2</td>
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<td>Adhesive (81348) MMM-A-121</td>
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<td>3</td>
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<td>Adhesive (81348) MMM-A-1617 TY 3</td>
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<td>4</td>
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## Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (CONT)

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<td>8040-01-331-7473</td>
<td>Adhesive (81349) (MIL-A-46106 GP3TY1)</td>
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<td>8040-01-331-7470</td>
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<td>11.1</td>
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<td>8040-00-728-3088</td>
<td>Adhesive (78500) 1199-T-3842 6 oz</td>
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<td>12</td>
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<td>6850-00-174-1806</td>
<td>Antifreeze, Arctic Type (81349) (MIL-A-11755) 55 gl drum</td>
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<tr>
<td>13</td>
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<td>6850-00-181-7940</td>
<td>Antifreeze, Ethylene Glycol, Permanent (81349) (MIL-A-46153) 55 gl drum</td>
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<td>14</td>
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<td>8030-00-597-5367</td>
<td>Antiseize Compound (81349) (MIL-A-907) lb</td>
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<td>14.1</td>
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<td>Blade, Hand Hacksaw (54940) 31-51024 ea</td>
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<td>Bracket, Angle (0FW39) 12421859-001 ea</td>
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<td>Cap and Plug Set 10935405 ea</td>
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<td>6850-00-926-2275</td>
<td>Cleaning Compound, Windshield (81349) O-C-1901 16 oz bottle</td>
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<td>7920-00-044-9281</td>
<td>Cloth, Cleaning (81349) (MIL-C-85043) bx</td>
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<td>18</td>
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<td>8030-00-033-4291</td>
<td>Corrosion Preventive Compound (81349) (MIL-C-16173) 8 oz can</td>
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<td>8030-00-062-6950</td>
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<td>Damping Fluid (81348) VV-D-1078 1 lb can</td>
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<td>7520-01-209-1152</td>
<td>Dispenser, Pressure Sensitive Adhesive Tape (75037) STD-0-9 ea</td>
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### Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (CONT)

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## Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (CONT)

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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

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<td>Brake Plunger Seal Driver</td>
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<td>12416381P32</td>
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<td>Steering Gear Return Hose</td>
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<td>12418460-001</td>
<td>Transmission Oil Cooler Hose</td>
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<td>3256-H-1048</td>
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<td>3256-K-1051</td>
<td>Wheel Hub Grease Seal Driver</td>
<td>E-19</td>
</tr>
</tbody>
</table>

Dimmer Switch Test Wire
Purge Valve Tool
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.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
<th>Material Description</th>
<th>Size</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N/A</td>
<td>Steel, ASTM A569 Sheet, Hot Rolled</td>
<td>6.0 in. (152.4 mm) x 6.0 in. (152.4 mm) x 0.134 in. (3.4 cm)</td>
<td>2</td>
</tr>
</tbody>
</table>

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.
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.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
<th>Material Description</th>
<th>Size</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N/A</td>
<td>Steel, Flat Bar</td>
<td>4.0 in. (10.2 cm) X 33.38 in. X (84.8 cm) X 0.38 in. (0.96 cm)</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>N/A</td>
<td>Steel, Flat Bar</td>
<td>4.0 in. (10.2 cm) X 12.0 in. (30.5 cm) X 0.38 in. (0.96 cm)</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>N/A</td>
<td>Angle Iron</td>
<td>2.0 in. (5.1 cm) X 2.0 in. (5.1 cm) X 3.5 in. (8.9 cm)</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>H.S.105VW-1</td>
<td>Insulgrip, CSA 105 C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
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.
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.
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.

<table>
<thead>
<tr>
<th>Description</th>
<th>Material Part Number</th>
<th>CAGE Code</th>
<th>Cut Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blackout Shield Header Seal</td>
<td>942P00001</td>
<td>0SHR6</td>
<td>28-3/4 in. (730 mm)</td>
</tr>
<tr>
<td>Blackout Shield Jamb Seal (van body</td>
<td>942P00001</td>
<td>0SHR6</td>
<td>63-3/8 in. (1610 mm)</td>
</tr>
<tr>
<td>serial numbers 001 through 190)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blackout Shield Jamb Seal (van body</td>
<td>942P00001</td>
<td>0SHR6</td>
<td>33 in. (838 mm)</td>
</tr>
<tr>
<td>serial number 191 and higher)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Description</th>
<th>Material Part Number</th>
<th>CAGE Code</th>
<th>Cut Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>LH Door Gasket</td>
<td>12416417</td>
<td>19207</td>
<td>214 in. (5435 mm)</td>
</tr>
<tr>
<td>RH Door Gasket</td>
<td>12416417</td>
<td>19207</td>
<td>197 in. (5004 mm)</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Description</th>
<th>Material Part Number</th>
<th>CAGE Code</th>
<th>Cut Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window Sash Top/Bottom Seal</td>
<td>941P00001</td>
<td>0SHR6</td>
<td>26-13/16 in. (681 mm)</td>
</tr>
<tr>
<td>Window Sash Side Seal (van body serial numbers 001 through 190)</td>
<td>941P00001</td>
<td>0SHR6</td>
<td>28-1/2 in. (724 mm)</td>
</tr>
<tr>
<td>Window Sash Side Seal (van body serial number 191 and higher)</td>
<td>941P00001</td>
<td>0SHR6</td>
<td>12-11/16 in. (322 mm)</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Material Description</th>
<th>National Stock Number</th>
<th>Cut Length</th>
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</thead>
<tbody>
<tr>
<td>Wire, Electrical (MIL-W-16878)</td>
<td>6145-00-330-3318</td>
<td>6 in. (152 mm)</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>National Stock Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>QQ-T-570</td>
<td>9510-00-866-1037</td>
<td>Bar, Metal</td>
</tr>
</tbody>
</table>

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.
Cut pneumatic tubes from bulk tubing stock listed in Table E-1. Pneumatic Tube Lengths. Use a fine-toothed hacksaw or suitable cutting device and cut tubing to required length.

<table>
<thead>
<tr>
<th>Tube Part Number</th>
<th>Bulk Tubing Part Number</th>
<th>Cut Length</th>
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<tbody>
<tr>
<td>12414690-001</td>
<td>NT-100-4 (79470)</td>
<td>18.1 46.0</td>
</tr>
<tr>
<td>12414690-002</td>
<td>NT-100-4 (79470)</td>
<td>16.0 40.6</td>
</tr>
<tr>
<td>12414690-004</td>
<td>NT-100-4 (79470)</td>
<td>74.8 190.0</td>
</tr>
<tr>
<td>12414690-005</td>
<td>NT-100-4 (79470)</td>
<td>69.7 177.0</td>
</tr>
<tr>
<td>12414690-010</td>
<td>NT-100-4 (79470)</td>
<td>180.0 457.2</td>
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<tr>
<td>12414690-101</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>18.0 45.7</td>
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<td>35.4 90.0</td>
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<td>20.9 53.0</td>
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<td>J844TYBSIZE 3/8 (81343)</td>
<td>13.8 35.0</td>
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<tr>
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<td>J844TYBSIZE 3/8 (81343)</td>
<td>11.8 30.0</td>
</tr>
<tr>
<td>12414690-106</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>20.5 52.0</td>
</tr>
<tr>
<td>12414690-107</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>39.0 99.0</td>
</tr>
<tr>
<td>12414690-108</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>15.4 39.0</td>
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<tr>
<td>12414690-109</td>
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<td>23.0 58.4</td>
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<td>12414690-112</td>
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<td>80.0 198.0</td>
</tr>
<tr>
<td>12414690-113</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>11.4 29.0</td>
</tr>
<tr>
<td>12414690-115</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>82.8 210.2</td>
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<tr>
<td>12414690-117</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>156.5 397.5</td>
</tr>
<tr>
<td>12414690-118</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>11.8 30.0</td>
</tr>
<tr>
<td>12414690-119</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>269.5 684.5</td>
</tr>
<tr>
<td>12414690-120</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>11.9 30.2</td>
</tr>
<tr>
<td>12414690-121</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>43.0 109.2</td>
</tr>
<tr>
<td>12414690-122</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>44.1 112.0</td>
</tr>
<tr>
<td>12414690-123</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>259.4 659.0</td>
</tr>
<tr>
<td>12414690-124</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>288.2 732.0</td>
</tr>
<tr>
<td>12414690-125</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>10.8 27.3</td>
</tr>
<tr>
<td>12414690-126</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>17.0 43.2</td>
</tr>
<tr>
<td>12414690-127</td>
<td>J844TYBSIZE 3/8 (81343)</td>
<td>17.0 43.2</td>
</tr>
</tbody>
</table>
### Table E-1. Pneumatic Tube Lengths (Cont)

<table>
<thead>
<tr>
<th>Tube Part Number</th>
<th>Bulk Tubing Part Number</th>
<th>Cut Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>inches</td>
</tr>
<tr>
<td>12414690-201</td>
<td>C608-100BLK (13174)</td>
<td>14.8</td>
</tr>
<tr>
<td>12414690-202</td>
<td>C608-100BLK (13174)</td>
<td>14.0</td>
</tr>
<tr>
<td>12414690-203</td>
<td>C608-100BLK (13174)</td>
<td>6.5</td>
</tr>
<tr>
<td>12414690-205</td>
<td>C608-100BLK (13174)</td>
<td>14.5</td>
</tr>
<tr>
<td>12414690-206</td>
<td>C608-100BLK (13174)</td>
<td>14.9</td>
</tr>
<tr>
<td>12414690-207</td>
<td>C608-100BLK (13174)</td>
<td>15.5</td>
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<tr>
<td>12414690-208</td>
<td>C608-100BLK (13174)</td>
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</tr>
<tr>
<td>12414690-209</td>
<td>C608-100BLK (13174)</td>
<td>19.5</td>
</tr>
<tr>
<td>12414690-210</td>
<td>C608-100BLK (13174)</td>
<td>15.5</td>
</tr>
<tr>
<td>12414690-211</td>
<td>C608-100BLK (13174)</td>
<td>8.0</td>
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<td>12414690-212</td>
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<td>12414690-213</td>
<td>C608-100BLK (13174)</td>
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</tr>
<tr>
<td>12414690-214</td>
<td>C608-100BLK (13174)</td>
<td>124.0</td>
</tr>
<tr>
<td>12414690-215</td>
<td>C608-100BLK (13174)</td>
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<tr>
<td>12414690-216</td>
<td>C608-100BLK (13174)</td>
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<tr>
<td>12414690-217</td>
<td>C608-100BLK (13174)</td>
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</tr>
<tr>
<td>12414690-218</td>
<td>C608-100BLK (13174)</td>
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<tr>
<td>12414690-219</td>
<td>C608-100BLK (13174)</td>
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</tr>
<tr>
<td>12414690-220</td>
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</tr>
<tr>
<td>12414690-221</td>
<td>C608-100BLK (13174)</td>
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</tr>
<tr>
<td>12414690-222</td>
<td>C608-100BLK (13174)</td>
<td>5.5</td>
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<tr>
<td>12414690-223</td>
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<tr>
<td>12414690-225</td>
<td>C608-100BLK (13174)</td>
<td>174.0</td>
</tr>
<tr>
<td>12414690-226</td>
<td>C608-100BLK (13174)</td>
<td>103.5</td>
</tr>
<tr>
<td>12414690-227</td>
<td>C608-100BLK (13174)</td>
<td>32.8</td>
</tr>
<tr>
<td>12414690-228</td>
<td>C608-100BLK (13174)</td>
<td>3.5</td>
</tr>
<tr>
<td>12414690-229</td>
<td>C608-100BLK (13174)</td>
<td>62.2</td>
</tr>
<tr>
<td>12414690-230</td>
<td>C608-100BLK (13174)</td>
<td>14.6</td>
</tr>
<tr>
<td>12414690-231</td>
<td>C608-100BLK (13174)</td>
<td>60.5</td>
</tr>
<tr>
<td>12414690-301</td>
<td>PFT-10B-BLK-100 (61424)</td>
<td>19.0</td>
</tr>
<tr>
<td>12414690-302</td>
<td>PFT-10B-BLK-100 (61424)</td>
<td>56.0</td>
</tr>
<tr>
<td>12414690-303</td>
<td>PFT-10B-BLK-100 (61424)</td>
<td>118.1</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Tube Part Number</th>
<th>Bulk Tube Part Number</th>
<th>Cut Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>inch</td>
</tr>
<tr>
<td>12416381P1</td>
<td>49008</td>
<td>8.9</td>
</tr>
<tr>
<td>12416381P10</td>
<td>49008</td>
<td>17.8</td>
</tr>
<tr>
<td>12416381P11</td>
<td>49008</td>
<td>29.9</td>
</tr>
<tr>
<td>12416381P12</td>
<td>49008</td>
<td>33.0</td>
</tr>
<tr>
<td>12416381P13</td>
<td>49008</td>
<td>13.9</td>
</tr>
<tr>
<td>12416381P14</td>
<td>49008</td>
<td>4.0</td>
</tr>
<tr>
<td>12416381P15</td>
<td>49008</td>
<td>17.4</td>
</tr>
<tr>
<td>12416381P16</td>
<td>49008</td>
<td>3.2</td>
</tr>
<tr>
<td>12416381P17</td>
<td>49008</td>
<td>4.5</td>
</tr>
<tr>
<td>12416381P19</td>
<td>49008</td>
<td>16.2</td>
</tr>
<tr>
<td>12416381P20</td>
<td>27413</td>
<td>32.8</td>
</tr>
<tr>
<td>12416381P21</td>
<td>27413</td>
<td>9.2</td>
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<td>12416381P22</td>
<td>27413</td>
<td>8.0</td>
</tr>
<tr>
<td>12416381P23</td>
<td>27413</td>
<td>23.3</td>
</tr>
<tr>
<td>12416381P26</td>
<td>49008</td>
<td>2.5</td>
</tr>
<tr>
<td>12416381P27</td>
<td>27413</td>
<td>7.3</td>
</tr>
<tr>
<td>12416381P29</td>
<td>49007</td>
<td>17.0</td>
</tr>
<tr>
<td>12416381P32</td>
<td>49005</td>
<td>1.7</td>
</tr>
<tr>
<td>12416381P34</td>
<td>49005</td>
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<td>49005</td>
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<td>12416381P36</td>
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<td>7.7</td>
</tr>
<tr>
<td>12416381P43</td>
<td>49008</td>
<td>26.7</td>
</tr>
<tr>
<td>12416381P44</td>
<td>49008</td>
<td>5.2</td>
</tr>
<tr>
<td>12416381P45</td>
<td>49008</td>
<td>16.8</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Hose Part Number</th>
<th>Bulk Hose Part Number</th>
<th>Cut Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>12418037</td>
<td>A110 (30327)</td>
<td>75.5 in. 191.7 cm</td>
</tr>
<tr>
<td>12418460-001</td>
<td>MS521302B110360 (96906)</td>
<td>17.5 in. 44.4 cm</td>
</tr>
<tr>
<td>12418460-002</td>
<td>MS521301A206R (96906)</td>
<td>16.0 in. 40.6 cm</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
<th>Material Description</th>
<th>Size</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MIL-W-83420 Type 1, Comp B</td>
<td>1/16 in. stranded wire cable</td>
<td>4 in. (102 mm)</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>MS51844-22</td>
<td>Sleeve</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>N/A</td>
<td>Tab, Stainless Steel ASTM A617</td>
<td>.06 in. (16 cm) X .37 in. (9.5 mm) X 1.25 in. (32 mm)</td>
<td>1</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Hose Part Number</th>
<th>Bulk Hose Part Number</th>
<th>Cut Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>inches</td>
</tr>
<tr>
<td>12420197-001</td>
<td>483666 (02280)</td>
<td>180.0</td>
</tr>
<tr>
<td>12420197-002</td>
<td>483666 (02280)</td>
<td>120.0</td>
</tr>
<tr>
<td>12420197-003</td>
<td>483666 (02280)</td>
<td>96.0</td>
</tr>
<tr>
<td>12420197-004</td>
<td>483666 (02280)</td>
<td>36.0</td>
</tr>
<tr>
<td>12420197-005</td>
<td>483666 (02280)</td>
<td>156.0</td>
</tr>
<tr>
<td>12420197-006</td>
<td>483666 (02280)</td>
<td>72.0</td>
</tr>
<tr>
<td>12420198-001</td>
<td>881-16 (98441)</td>
<td>120.0</td>
</tr>
<tr>
<td>12420198-002</td>
<td>11657469</td>
<td>36.0</td>
</tr>
</tbody>
</table>

E-16. PERSONNEL HEATER AIR DUCT HOSE FABRICATION

Cut the following hoses from bulk hose using a fine-toothed hacksaw or suitable cutting device.

<table>
<thead>
<tr>
<th>Hose Part Number</th>
<th>Bulk Hose Part Number</th>
<th>Cut Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>inches</td>
</tr>
<tr>
<td>12420308-457</td>
<td>8711054 (19207)</td>
<td>18.3</td>
</tr>
<tr>
<td>12420308-760</td>
<td>8711054 (19207)</td>
<td>30.4</td>
</tr>
</tbody>
</table>

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.

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-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.
Fabricate the dimmer switch test wire according to the following steps. Refer to the following parts list for materials.

<table>
<thead>
<tr>
<th>Material Description</th>
<th>National Stock Number</th>
<th>Quantity</th>
<th>Cut Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire, Electrical (M168678/14BKE9)</td>
<td>6145-01-229-4134</td>
<td>1</td>
<td>12 in (305 mm)</td>
</tr>
<tr>
<td>Pin, Grooved, Headless (12258939-1)</td>
<td>5315-01-156-6314</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Contact, Electrical (12258939-2)</td>
<td>5999-01-150-8808</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
<th>Material Description</th>
<th>Size</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N/A</td>
<td>Steel, ASTM A 108 or A576 Grade 1015-1025, BAR (Ref UNS G10150-G10250). Finish Black Oxide Coat, Class I, IAW MIL-C-13924.</td>
<td>14.0 in. (356 mm)</td>
<td>1</td>
</tr>
</tbody>
</table>

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.
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.
APPENDIX F
TORQUE LIMITS

Table F-1. Dry Torque Limits for SAE and ANSI Screws and Free Spinning Nuts

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Threads per inch</th>
<th>Material Grade Markings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SAE Grade 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XAPPF02A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XAPPF05A</td>
</tr>
</tbody>
</table>

**NOTE**
Manufacturer’s marks may vary. These are all SAE Grade 5.

<table>
<thead>
<tr>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>inch</td>
</tr>
<tr>
<td>1/4</td>
</tr>
<tr>
<td>1/4</td>
</tr>
<tr>
<td>1/4</td>
</tr>
<tr>
<td>5/16</td>
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<tr>
<td>5/16</td>
</tr>
<tr>
<td>5/16</td>
</tr>
<tr>
<td>3/8</td>
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<td>3/8</td>
</tr>
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<td>3/8</td>
</tr>
<tr>
<td>7/16</td>
</tr>
<tr>
<td>7/16</td>
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Table F-1. Dry Torque Limits for SAE and ANSI Screws and Free Spinning Nuts (Cont)

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APPENDIX F
TORQUE LIMITS

Table F-2. Dry Torque Limits for SAE and ANSI Prevailing Torque Nuts

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Note: Torque values are in lb-ft and N·m.
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# APPENDIX F
## TORQUE LIMITS

Table F-4. Dry Torque Limits for Metric Prevailing Torque Nuts

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**Table F-5. Wet Torque Limits for SAE and ANSI Screws and Free Spinning Nuts**

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**NOTE**
Manufacturer’s marks may vary. These are all SAE Grade 5.
Table F-5. Wet Torque Limits for SAE and ANSI Screws and Free Spinning Nuts (Cont)

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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

- **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.
- **Column (2) - Nomenclature.** Name or identification of the part.
- **Column (3) - Part Number.** The manufacturer’s part number.
- **Column (4) - National Stock Number.** The National stock number of the part.

### Section II. MANDATORY REPLACEMENT PARTS LIST

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Change 1  G-11/(G-12 Blank)
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

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<td>Lubricating Oil, Internal Combustion Engine, Combat/Tactical Service</td>
</tr>
<tr>
<td></td>
<td>MIL-L-46167 (OEA)</td>
<td>Lubricating Oil, Internal Combustion Engine, Arctic</td>
</tr>
<tr>
<td></td>
<td>MIL-L-2105 (GO)</td>
<td>Lubricating Oil, Gear, Multipurpose</td>
</tr>
<tr>
<td></td>
<td>MIL-G-10924 (GAA)</td>
<td>Grease, Automotive and Artillery</td>
</tr>
<tr>
<td></td>
<td>MIL-G-18458 (GW)</td>
<td>Grease, Wire-Rope and Exposed Gear</td>
</tr>
<tr>
<td></td>
<td>MIL-H-5606 (OHA)</td>
<td>Hydraulic Fluid, Petroleum Base, Aircraft, Missile, and Ordnance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>CAPACITY</th>
<th>EXPECTED TEMPERATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Above +40°F (Above +4°C)</td>
</tr>
<tr>
<td>Engine crankcase</td>
<td>25 qt (24 L)</td>
<td>OE/HDO-15/40</td>
</tr>
<tr>
<td>Transmission</td>
<td>43.3 qt (41 L)</td>
<td>OE/HDO-15/40</td>
</tr>
<tr>
<td>Transmission (at oil change)</td>
<td>31.8 qt (30.0 L)</td>
<td>OE/HDO-15/40</td>
</tr>
<tr>
<td>Transmission (after overhaul)</td>
<td>39.0 qt (37.0 L)</td>
<td>OE/HDO-15/40</td>
</tr>
<tr>
<td>Steering system</td>
<td>5 qt (4.8 L)</td>
<td>OE/HDO-10</td>
</tr>
<tr>
<td>Hydraulic reservoir</td>
<td>27 gal (102.2 L)</td>
<td>OE/HDO-10</td>
</tr>
<tr>
<td>Front axle differential (maximum capacity)</td>
<td>9.5 qt (9.0 L)</td>
<td>GO-80/90</td>
</tr>
<tr>
<td>Rear axle differential (maximum capacity)</td>
<td>18.05 qt (17.1 L)</td>
<td>GO-80/90</td>
</tr>
<tr>
<td>Front axle planetary hubs</td>
<td>11-13 oz (0.33-0.38 L)</td>
<td>GO-80/90</td>
</tr>
<tr>
<td>11K Self-Recovery Winch (SRW)</td>
<td>As Required</td>
<td>GO-85/140</td>
</tr>
<tr>
<td>Propeller shaft universal and slip joints</td>
<td>As Required</td>
<td>GAA</td>
</tr>
<tr>
<td>Tie rod ends</td>
<td>As Required</td>
<td>GAA</td>
</tr>
<tr>
<td>Towing pintle assembly</td>
<td>As Required</td>
<td>GAA</td>
</tr>
<tr>
<td>Spring bolts and spring shackles</td>
<td>As Required</td>
<td>GAA</td>
</tr>
<tr>
<td>Front axle shaft U-joints and steering knuckles</td>
<td>As Required</td>
<td>GAA</td>
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</table>
### H-5. LUBRICATION KEY (CONT)

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>CAPACITY</th>
<th>EXPECTED TEMPERATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Above +40°F (Above +4°C)</td>
</tr>
<tr>
<td>Front axle inner wheel bearing</td>
<td>As Required</td>
<td>GAA</td>
</tr>
<tr>
<td>Rear axle inner wheel bearing</td>
<td>As Required</td>
<td>GAA</td>
</tr>
<tr>
<td>Front lifting beam</td>
<td>As Required</td>
<td>GAA</td>
</tr>
<tr>
<td>11K Self-Recovery Winch (SRW) cable</td>
<td>As Required</td>
<td>GW</td>
</tr>
<tr>
<td>Air/hydraulic power unit</td>
<td>3 pt (1.4 L)</td>
<td>OHA</td>
</tr>
<tr>
<td>Backup hydraulic pump</td>
<td>19 oz (562 ml)</td>
<td>OHA</td>
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### COOLANT

<table>
<thead>
<tr>
<th>Specification</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>MIL-A-11755</td>
<td>Antifreeze, Arctic-Type</td>
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<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>CAPACITY</th>
<th>EXPECTED TEMPERATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Above +40°F (Above +4°C)</td>
</tr>
<tr>
<td>Cooling system (engine only)</td>
<td>14 qt (13 L)</td>
<td>MIL-A-46153</td>
</tr>
<tr>
<td>Cooling system (total system)</td>
<td>43.8 qt (41.5 L)</td>
<td>MIL-A-46153</td>
</tr>
<tr>
<td>Cooling system, Arctic (total system)</td>
<td>58.3 qt (55.2 L)</td>
<td>N/A</td>
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### CLEANING AGENT

<table>
<thead>
<tr>
<th>Specification</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>P-D-680</td>
<td>Dry Cleaning Solvent, SD-II</td>
</tr>
<tr>
<td>O-C-1901</td>
<td>Cleaning Compound, Windshield</td>
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</table>
### DESCRIPTION

<table>
<thead>
<tr>
<th>Description</th>
<th>Capacity</th>
<th>Expected Temperatures</th>
</tr>
</thead>
<tbody>
<tr>
<td>All metal parts as required</td>
<td>N/A</td>
<td>SD-II (all temperatures)</td>
</tr>
<tr>
<td>Windshield washer reservoir</td>
<td>7.5 qt (7.1 L)</td>
<td>2/3 water to 1/3 O-C-1901</td>
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</table>

For arctic operation refer to FM 9-207.

### H-6. LUBRICATION INTERVALS

<table>
<thead>
<tr>
<th>Intervals</th>
<th>Total Man-Hours</th>
</tr>
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<tbody>
<tr>
<td>Quarterly (Q)</td>
<td>2.0</td>
</tr>
<tr>
<td>Semi-annually (S)</td>
<td>2.5</td>
</tr>
<tr>
<td>Annually (A)</td>
<td>1.5</td>
</tr>
<tr>
<td>Biennially (B)</td>
<td>3.5</td>
</tr>
<tr>
<td>3K</td>
<td>1.0</td>
</tr>
<tr>
<td>6K</td>
<td>1.0</td>
</tr>
<tr>
<td>12K</td>
<td>4.0</td>
</tr>
<tr>
<td>24K</td>
<td>0.5</td>
</tr>
</tbody>
</table>

* Whichever occurs first.
** No calendar interval.
H-7. LUBRICATION LOCATOR VIEWS

<table>
<thead>
<tr>
<th>LUBRICANT INTERVAL</th>
<th>INTERVAL LUBRICANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Crankcase Breather (O) (See note 17 and view A)</td>
<td>Engine Oil Filter (O) (See note 2 and view C)</td>
</tr>
<tr>
<td>Fuel Filter (O) (See note 6 and view A)</td>
<td>Crankcase Drain and Fill (O) (See note 1 and views C and D)</td>
</tr>
<tr>
<td>Fuel/Water Separator (O) (See note 5 and view B)</td>
<td>Front Axle Inner Wheel Bearing Repack (O) (See note 22)</td>
</tr>
<tr>
<td>Cooling System (O) (See note 7)</td>
<td>Power Steering Reservoir Drain and Fill (O) (See note 4 and view G)</td>
</tr>
<tr>
<td>Transmission Filter (O) (See note 3 and view F)</td>
<td>Power Steering Filter (O) (See note 4 and view G)</td>
</tr>
<tr>
<td>Transmission Drain and Fill (O) (See note 3 and views D, E, and F)</td>
<td>Spring Bolt Fill (O) (See note 18 and view H)</td>
</tr>
<tr>
<td>Towing Pintle Fill (O) (See note 16 and views J and K)</td>
<td>Spring Shackle Fill (O) (See note 18 and view AE)</td>
</tr>
</tbody>
</table>

CHASSIS

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)

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)

CHASSIS

NOTE: Dashed arrows indicate lubrication on both sides of vehicle.

H-8 Change 1
H-8. LUBRICATION LOCAL VIEWS (CONT)

E. TRANSMISSION DRAIN PLUG

F. TRANSFER CASE DRAIN PLUG

G. POWER STEERING RESERVOIR

H. SPRING BOLT
H-8. LUBRICATION LOCAL VIEWS (CONT)
H-8. LUBRICATION LOCAL VIEWS (CONT)
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 \([\text{TM 9-2320-365-10}]\).
   (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 \([\text{TM 9-2320-365-10}]\).

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) \([\text{Appendix D}]\) to plug and position plug in top hole.
   (6) Rotate drum until open hole is at top.
   (7) Apply adhesive (Item 2) \([\text{Appendix D}]\) to plug and position plug in top hole.
   (8) Tighten plugs to 13-15 lb-ft (18-20 N·m).
b. Change oil as follows:

1. Shift the freespool mechanism to the disengage position so the drum can be freely rotated.
2. Rotate the drum to where either plug is near the top of the 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

<table>
<thead>
<tr>
<th>(1) National Stock Number</th>
<th>(2) Description (CAGE) Part Number</th>
<th>(3) U/M</th>
<th>(4) Qty Auth</th>
</tr>
</thead>
<tbody>
<tr>
<td>6685-01-193-1733</td>
<td>10,000 PSI Transducer: (19207) 12258956</td>
<td>EA</td>
<td>1</td>
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</tbody>
</table>
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.

---

<table>
<thead>
<tr>
<th>(1) Installed Controls or Controls Being Installed</th>
<th>(2) Installed Transmission or Transmission Being Installed</th>
<th>(3) Required Modification (Refer to Section III)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTEC II (with 24-pin connector)</td>
<td>PRE-ID w/ 24-pin connector (transmission serial number prior to 6510032369)</td>
<td>No modification required.</td>
</tr>
<tr>
<td>WTEC II (with 24-pin connector)</td>
<td>PRE-ID w/ 31-pin connector (transmission serial number 6510032369 to 6510090785)</td>
<td>Install 31-pin connector.</td>
</tr>
<tr>
<td>WTEC II (with 24-pin connector)</td>
<td>TID 1 (transmission serial number 6510090786 to 6510142171)</td>
<td>Install 31-pin connector.</td>
</tr>
<tr>
<td>WTEC II (with 24-pin connector)</td>
<td>TID 2 (transmission serial number 6510142172 to 6510262116)</td>
<td>Install 31-pin connector and replace transmission internal wiring harness.</td>
</tr>
<tr>
<td>(1) Installed Controls or Controls Being Installed</td>
<td>(2) Installed Transmission or Transmission Being Installed</td>
<td>(3) Required Modification (Refer to Section III)</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>WTEC II (with 24-pin connector)</td>
<td>TID 3 (transmission serial number 6510262117 and subsequent)</td>
<td>Install 31-pin connector, replace transmission internal wiring harness, and reprogram WTEC II TEPSS. ¹</td>
</tr>
<tr>
<td>WTEC II (with 31-pin connector)</td>
<td>PRE-ID w/ 24-pin connector (transmission serial number prior to 6510032369)</td>
<td>Install adapter cable assembly.</td>
</tr>
<tr>
<td>WTEC II (with 31-pin connector)</td>
<td>PRE-ID w/ 31-pin connector (transmission serial number 6510032369 to 6510090785)</td>
<td>No modification required.</td>
</tr>
<tr>
<td>WTEC II (with 31-pin connector)</td>
<td>TID 1 (transmission serial number 6510090786 to 6510142171)</td>
<td>No modification required.</td>
</tr>
<tr>
<td>WTEC II (with 31-pin connector)</td>
<td>TID 2 (transmission serial number 6510142172 to 6510262116)</td>
<td>Replace transmission internal wiring harness.</td>
</tr>
<tr>
<td>WTEC II (with 31-pin connector)</td>
<td>TID 3 (transmission serial number 6510262117 and subsequent)</td>
<td>Replace transmission internal wiring harness and reprogram WTEC II TEPSS. ¹</td>
</tr>
<tr>
<td>WTEC III (with ECU manufactured prior to October 1999) ²</td>
<td>PRE-ID w/ 24-pin connector (transmission serial number prior to 6510032369)</td>
<td>Install adapter cable assembly and ID harness.</td>
</tr>
<tr>
<td>WTEC III (with ECU manufactured prior to October 1999) ²</td>
<td>PRE-ID w/ 31-pin connector (transmission serial number 6510032369 to 6510090785)</td>
<td>Install ID harness.</td>
</tr>
<tr>
<td>WTEC III (with ECU manufactured prior to October 1999) ²</td>
<td>TID 1 (transmission serial number 6510090786 to 6510142171)</td>
<td>No modification required.</td>
</tr>
<tr>
<td>WTEC III (with ECU manufactured prior to October 1999) ²</td>
<td>TID 2 (transmission serial number 6510142172 to 6510262116)</td>
<td>No modification required.</td>
</tr>
<tr>
<td>WTEC III (with ECU manufactured prior to October 1999) ²</td>
<td>TID 3 (transmission serial number 6510262117 and subsequent)</td>
<td>Reprogram WTEC III ECU ¹ or install new WTEC III ECU (P/N 12421787-002).</td>
</tr>
<tr>
<td>WTEC III (with ECU manufactured after to October 1999) ³</td>
<td>PRE-ID w/ 24-pin connector (transmission serial number prior to 6510032369)</td>
<td>Install adapter cable assembly and ID harness.</td>
</tr>
<tr>
<td>WTEC III (with ECU manufactured after to October 1999) ³</td>
<td>PRE-ID w/ 31-pin connector (transmission serial number 6510032369 to 6510090785)</td>
<td>Install ID harness.</td>
</tr>
<tr>
<td>WTEC III (with ECU manufactured after to October 1999) ³</td>
<td>TID 1 (transmission serial number 6510090786 to 6510142171)</td>
<td>No modification required.</td>
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</tbody>
</table>

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.
Section III.

MODIFICATION PARTS IDENTIFICATION

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<td>31-pin connector</td>
<td>29519127</td>
<td>Converts a transmission external wiring harness from a 24-pin (&quot;D&quot; type) connector to a 31-pin (round type) connector.</td>
</tr>
<tr>
<td>Transmission internal wiring harness</td>
<td>29529474</td>
<td>Converts a TID 2 transmission to a TID 1 configuration to allow WTEC II controls to communicate with the transmission.</td>
</tr>
<tr>
<td>ID harness</td>
<td>200100</td>
<td>Allows WTEC III controls to communicate with a PRE-ID transmission.</td>
</tr>
<tr>
<td>Adapter cable assembly</td>
<td>29519210</td>
<td>Adapts a PRE-ID transmission with 24-pin (&quot;D&quot; type) connector to a transmission external wiring harness with a 31-pin (round) connector.</td>
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<td>STE/ICE-R</td>
<td>Simplified Test Equipment/Internal Combustion Engine-Reprogrammable</td>
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<tr>
<td>TEPSS</td>
<td>Transmission ECU Pushbutton Shift Selector</td>
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<tr>
<td>TPS</td>
<td>Throttle Position Sensor</td>
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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:

DENNIS J. REIMER
General, United States Army
Chief of Staff

Official:

Administrative Assistant to the
Secretary of the Army
04994

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<th>LINE</th>
<th>FIGURE NO.</th>
<th>TABLE</th>
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<td></td>
<td>19-6</td>
<td>19-2</td>
<td></td>
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<td>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.</td>
</tr>
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* 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
### PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

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### 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.)

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DA FORM 2028, FEB 74

REPLACES DA FORM 2028, 1 DEC 68, WHICH WILL BE USED.
# PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

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USAPA V3.01
FIGURE F0-1 ELECTRICAL SYSTEM SCHEMATIC
FOLDOUT 5 OF 34

Change 1
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<td>3 130</td>
<td>AIR COMPRESSOR</td>
</tr>
<tr>
<td>3 125</td>
<td>AIR DRIER</td>
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<tr>
<td>3 122</td>
<td>AIR PRESSURE TRANSMITTER</td>
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<td>3 139</td>
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<tr>
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<td>CONTROL VALVE</td>
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<td>4 127</td>
<td>CTM MANIFOLD VALVE</td>
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**FIGURE F0-5 AIR TRANSPORTABILITY HYDRAULIC/PNEUMATIC SYSTEM SCHEMATIC**
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<tr>
<td>1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches</td>
</tr>
<tr>
<td>1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches</td>
</tr>
<tr>
<td>1 Kilometer = 1000 Meters = 0.621 Miles</td>
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<table>
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<tr>
<td>1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches</td>
</tr>
<tr>
<td>1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet</td>
</tr>
<tr>
<td>1 Sq Kilometer = 1,000,000 Sq Meters = 3.86 Sq Miles</td>
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<tr>
<td>1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces</td>
</tr>
<tr>
<td>1 Kilogram = 1000 Grams = 2.2 Lb</td>
</tr>
<tr>
<td>1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons</td>
</tr>
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<table>
<thead>
<tr>
<th>CUBIC MEASURE</th>
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<tbody>
<tr>
<td>1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches</td>
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<tr>
<td>1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet</td>
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<th>LIQUID MEASURE</th>
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<td>1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces</td>
</tr>
<tr>
<td>1 Liter = 1000 Milliliters = 33.82 Fluid Ounces</td>
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<td>5/9 (°F - 32) = °C</td>
</tr>
<tr>
<td>212° Fahrenheit is equivalent to 100° Celsius</td>
</tr>
<tr>
<td>90° Fahrenheit is equivalent to 32.2° Celsius</td>
</tr>
<tr>
<td>32° Fahrenheit is equivalent to 0° Celsius</td>
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<tr>
<td>9/5 C° + 32 = °F</td>
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<tr>
<td>Inches ............... Millimeters .......... 25.4</td>
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<tr>
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</tr>
<tr>
<td>Yards ................. Meters ........... 0.914</td>
</tr>
<tr>
<td>Miles ................. Feet ............... 3.280</td>
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<tr>
<td>Square Inches ...... Square Centimeters .. 6.451</td>
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<tr>
<td>Square Feet .......... Square Meters ...... 0.093</td>
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<tr>
<td>Square Yards .......... Square Feet ........ 0.836</td>
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<tr>
<td>Square Miles .......... Square Kilometers .. 2.590</td>
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<tr>
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<tr>
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<tr>
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<td>Pounds/Sq Inch ........ Kilopascals ........ 6.895</td>
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<tr>
<td>Miles per Hour .......... Kilometers per Hour . 1.609</td>
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<tr>
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<td>Meters ........... Yards .............. 1.094</td>
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<td>Kilometers .......... Miles ............ 0.621</td>
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<td>Square Meters ...... Square Feet ........ 10.764</td>
</tr>
<tr>
<td>Square Meters ...... Square Yards ........ 1.196</td>
</tr>
<tr>
<td>Square Kilometers . . Square Miles ........ 0.386</td>
</tr>
<tr>
<td>Sq Hectometers .... Acres .............. 2.471</td>
</tr>
<tr>
<td>Cubic Meters ........ Cubic Feet ......... 35.315</td>
</tr>
<tr>
<td>Cubic Meters ........ Cubic Yards .......... 1.308</td>
</tr>
<tr>
<td>Milliliters .......... Fluid Ounces ........ 0.034</td>
</tr>
<tr>
<td>Liters ............ Pints ............ 2.113</td>
</tr>
<tr>
<td>Liters ............ Quarts ............. 1.057</td>
</tr>
<tr>
<td>Liters ............ Gallons ........... 0.264</td>
</tr>
<tr>
<td>Grams ........... Ounces ............ 0.035</td>
</tr>
<tr>
<td>Kilograms ......... Pounds ........... 2.205</td>
</tr>
<tr>
<td>Newtons .......... Pounds (force) ...... 0.2248</td>
</tr>
<tr>
<td>Metric Tons ........ Short Tons ........ 1.102</td>
</tr>
<tr>
<td>Newton-Meters .......... Pound-Feet ....... 0.738</td>
</tr>
<tr>
<td>Kilopascals ........ Pounds per Sq Inch .. 0.145</td>
</tr>
<tr>
<td>Km per Liter .......... Miles per Gallon ... 2.354</td>
</tr>
<tr>
<td>Km per Hour .......... Miles per Hour .......... 0.621</td>
</tr>
</tbody>
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